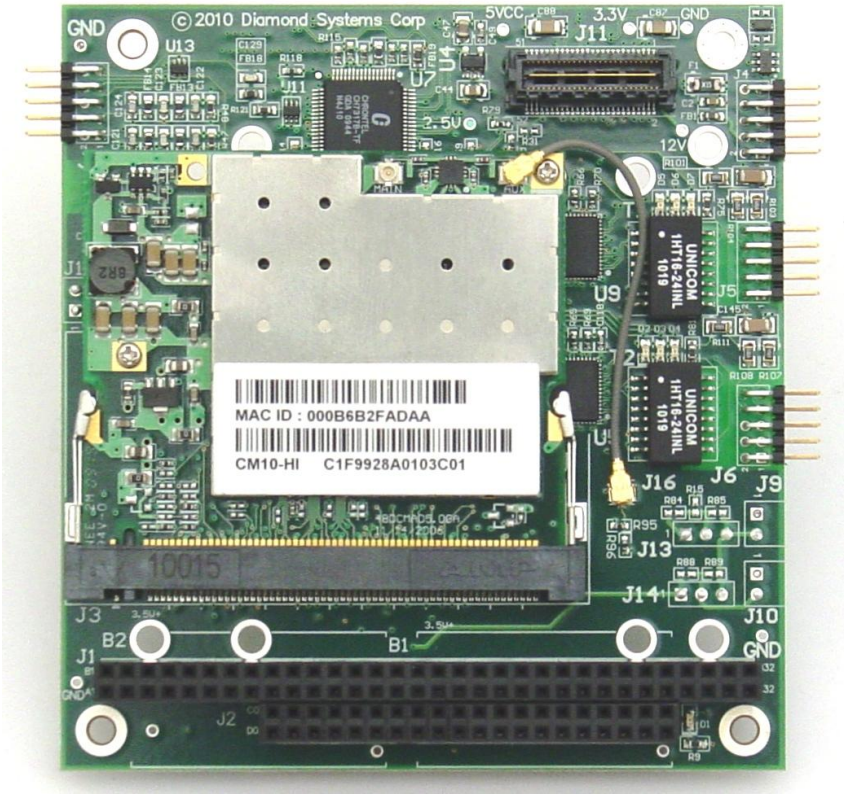
Corona

SUMIT-ISM Wireless and Ethernet Communications Module

Revision A.11 December 2012



Revision	Date	Comment
A	12/13/2010	Initial Release
A.1	2/8/2012	Rev B Update
A.11	12/3/2012	Minor updates

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CONTENTS

1. IMPORTANT SAFE HANDLING INFORMATION

WARNING!

ESD-Sensitive Electronic Equipment

Observe ESD-safe handling procedures when working with this product.

Always use this product in a properly grounded work area and wear appropriate ESD-preventive clothing and/or accessories.

Always store this product in ESD-protective packaging when not in use.

Safe Handling Precautions

The Corona board contains a high density connector with many connections to sensitive electronic components. This creates many opportunities for accidental damage during handling, installation and connection to other equipment. The list here describes common causes of failure found on boards returned to Diamond Systems for repair. This information is provided as a source of advice to help you prevent damaging your Diamond (or any vendor's) embedded computer boards.

ESD damage – This type of damage is usually almost impossible to detect, because there is no visual sign of failure or damage. The symptom is that the board eventually simply stops working, because some component becomes defective. Usually the failure can be identified and the chip can be replaced. To prevent ESD damage, always follow proper ESD-prevention practices when handling computer boards.

Damage during handling or storage – On some boards we have noticed physical damage from mishandling. A common observation is that a screwdriver slipped while installing the board, causing a gouge in the PCB surface and cutting signal traces or damaging components.

Another common observation is damaged board corners, indicating the board was dropped. This may or may not cause damage to the circuitry, depending on what is near the corner. Most of our boards are designed with at least 25 mils clearance between the board edge and any component pad, and ground / power planes are at least 20 mils from the edge to avoid possible shorting from this type of damage. However these design rules are not sufficient to prevent damage in all situations.

A third cause of failure is when a metal screwdriver tip slips, or a screw drops onto the board while it is powered on, causing a short between a power pin and a signal pin on a component. This can cause overvoltage / power supply problems described below. To avoid this type of failure, only perform assembly operations when the system is powered off.

Sometimes boards are stored in racks with slots that grip the edge of the board. This is a common practice for board manufacturers. However our boards are generally very dense, and if the board has components very close to the board edge, they can be damaged or even knocked off the board when the board tilts back in the rack. Diamond recommends that all our boards be stored only in individual ESD-safe packaging. If multiple boards are stored together, they should be contained in bins with dividers between boards. Do not pile boards on top of each other or cram too many boards into a small location. This can cause damage to connector pins or fragile components.

Power supply wired backwards – Our power supplies and boards are not designed to withstand a reverse power supply connection. This will destroy each IC that is connected to the power supply (i.e. almost all ICs). In this case the board will most likely will be unrepairable and must be replaced. A chip destroyed by reverse power or by excessive power will often have a visible hole on the top or show some deformation on the top surface due to vaporization inside the package. **Check twice before applying power!**

Overvoltage on analog input – If a voltage applied to an analog input exceeds the design specification of the board, the input multiplexor and/or parts behind it can be damaged. Most of our boards will withstand an erroneous connection of up to ±35V on the analog inputs, even when the board is powered off, but not all boards, and not in all conditions.

Overvoltage on analog output – If an analog output is accidentally connected to another output signal or a power supply voltage, the output can be damaged. On most of our boards, a short circuit to ground on an analog output will not cause trouble.

Overvoltage on digital I/O line – If a digital I/O signal is connected to a voltage above the maximum specified voltage, the digital circuitry can be damaged. On most of our boards the acceptable range of voltages connected to digital I/O signals is 0-5V, and they can withstand about 0.5V beyond that (-0.5 to 5.5V) before being damaged. However logic signals at 12V and even 24V are common, and if one of these is connected to a 5V logic chip, the chip will be damaged, and the damage could even extend past that chip to others in the circuit.

2. INTRODUCTION

Corona is a SUMIT-ISM form factor wireless and Ethernet Communications module with SUMIT-A and PC/104 (ISA) expandability.

High Power Output

Diamond's Corona SUMIT Communications module offers high powered performance in a compact form factor, with peak wireless power up to 600mW. The on-module heatsink assures consistent power output.

Designed for Outdoor Applications

Corona was designed with outdoor applications in mind. It is ideal for access point applications or a wide range of other embedded computing applications.

Rugged and Robust

Extended temperature operation of -40°C to +85°C is tested and guaranteed. The mini-PCI wireless module mounts securely to the carrier through a standoff and screw.

Expandability

The Corona SUMIT Communications module has both SUMIT-A and PC/104 (ISA) stackthrough expandability. Therefore it can be used in legacy PC/104 stacks as well as new SUMIT-based architectures.

2.1 Features

WiFi module

- 802.11a/b/g mini-PCI wireless LAN
- Up to 108Mbps transmit & receive rates
- Average power up to 23dBm
- Peak power up to 28dBm
- Reliable high radio power
- Module secured to carrier board

I/O

- Dual on-board 10/100Base-T Ethernet ports
- Dual USB 2.0 Ports
- SDVO to VGA Converter

Miscellaneous

- SUMIT-A and PC/104 (ISA) stackable expansion
- Extremely rugged -40°C to +85°C (-40°F to +185°F) operating temperature
- WiFi support for Windows XP and Linux

2.2 SUMIT Socket Resources

Corona's SUMIT-A expansion socket uses the resources indicated in the table below. For further details on the SUMIT expansion standard, visit SFF-SIG.org/sumit.html.

SUMIT Resources		
	SUMIT A	SUMIT B
PCIe x1	1	
PCIe x4		
USB	4	
ExpressCard	–	
LPC	–	
SPI /uWire	–	
SMBus/ I_2C	–	
+12V	–	
+5V	√	
+5Vsb	–	
+3.3V	√	

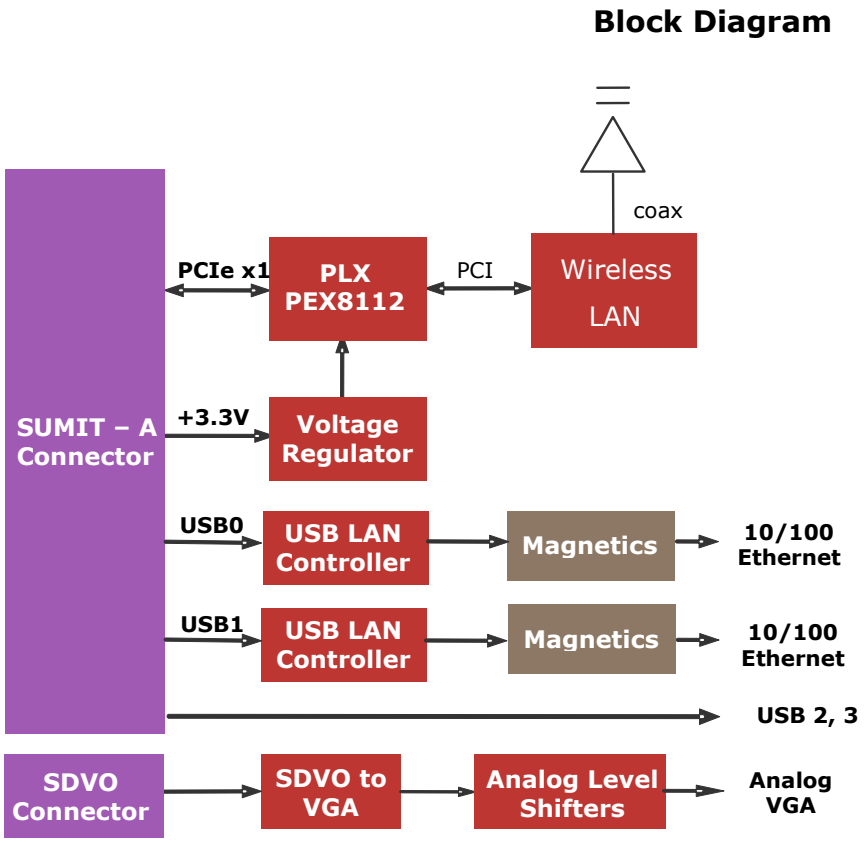
2.3 Cable Kit

A cable kit, C-COR-KIT, is available for Corona. It contains the cables in the following table.

Part Number	*Quantity*	*Description*
6981080	2	Ethernet cable, 2mm 2x5 crimp to RJ-45 socket
6981082	1	Dual USB cable, 2mm 2x5 to Dual USB
6981084	1	VGA cable, 2mm 2x5 crimp to DD15F

3. FUNCTIONAL OVERVIEW

3.1 Functional Block Diagram



The Corona SUMIT Communications module features both wireless and networking connectivity in the SUMIT-ISM Type I form factor. The product contains a WiFi card connected via a mini-PCI socket, two 10/100Base-T Ethernet ports, two USB 2.0 ports if supported by the host system, an SDVO to VGA converter, and both a SUMIT-A connector and a PC104 (ISA) connector for expansion.

The wireless WiFi card is a mini-PCI IEEE 802.11 wireless LAN. Its average power is up to 200mW with peak power up to 600mW.

The on-board dual 10/100Base-T Ethernet ports provide a high speed option for communication with remote hosts.

The SDVO to VGA converter takes an externally provided SDVO input and converts it to an analog VGA output. It is designed for use with Diamond's Aurora single board computer.

3.2 WiFi Module

The WiFi module is an industrial grade, high power 600mW (28dBm) IEEE802.11a/b/g 108Mbps Wifi mini-PCI module with two U.FL RF connectors designed specifically for operation in high temperature and high performance-critical applications.

With industrial grade components and a high power design, the module is ideal for embedding into new or existing industrial grade systems for rugged outdoor point to point or building to building wireless Access Point/Bridge connections, and rugged application-specific devices used in many vertical markets.

3.3 PLX PEX8112 PCIe to PCI Bridge Chip

The PEX 8112 supports forward and reverse bridging as defined by the PCI Express-to-PCI/PCI-X Bridge Specification 1.0. In forward mode, the bridge allows legacy PCI chips and adapters to be used with new PCI Express processor systems.

PCIE Interface

- PCI Express Base 1.0a compliant
- X1 Link, dual-simplex, 2.5Gbps per direction
- Automatic LVDS polarity reversal

PCI Interface

- PCI v.3.0: 32bit, up to 66Mhz
- 3.3VI/O and 5V tolerant PCI
- Provides PCI clock output

3.4 Dual 10/100 USB LAN Controllers

- Single Chip Hi-Speed USB 2.0 to 10/100 Ethernet Controller
- Integrated 10/100 Ethernet MAC with Full Duplex and HP Auto-MDX support
- Integrated USB 2.0 High Speed PHY and Device Controller
- +/- 8kV HBM ESD protection (component level)
- +/- 8kV contact-discharge, +/-15kV air discharge ESB protection per IEC61000-4-2

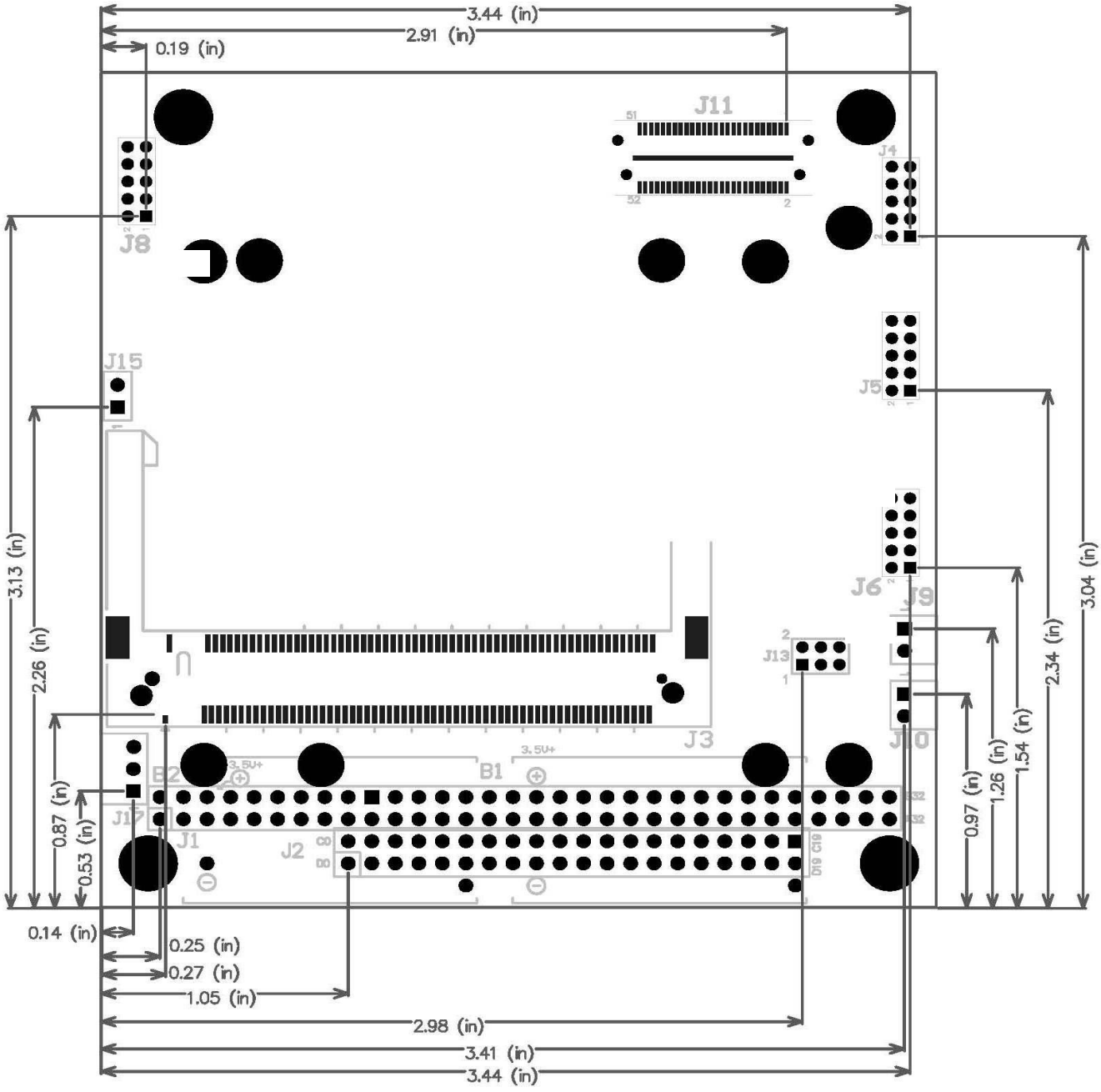
3.5 Chrontel CH7317B SDVO to VGA Controller

- Supporting analog RGB outputs for a display monitor
- Supporting maximum pixel rate of 165MP/s or graphics resolutions up to 1920x1200
- High-speed SDVO (1G~2Gbps) AC-coupled serial differential RGB inputs
- Supporting monitor connection detection

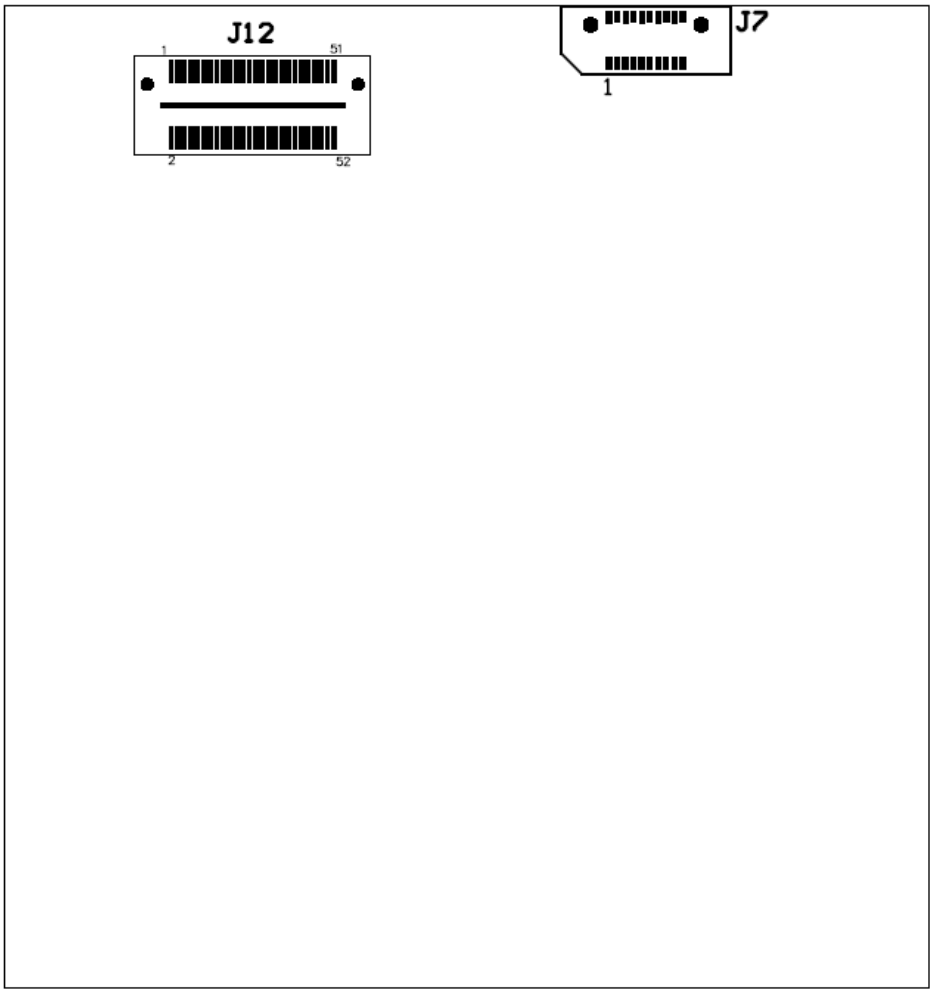
4. BOARD OUTLINE AND LAYOUT

4.1 Corona Board Drawing

The following diagram shows locations for all connectors identified in the next section.



Corona Top



Corona Bottom

5. CONNECTOR AND JUMPER LIST

The following table summarizes the functions of Corona's interface connectors and jumpers. Please refer to the drawings in Section 4 for the locations of these connectors and jumpers on Corona. Signal functions relating to all of Corona's interface connectors and jumpers are discussed in greater detail in Section 6 of this document. Other connectors and jumper blocks on Corona are reserved for Diamond's use only.

Connector	*Function*
J1	64 pin 40 ISA connector
J2	40 pin ISA connector
J3	Mini PCI connector
J4	USB2, 3 connectors
J5	LAN1 Ethernet pin header
J6	LAN2 Ethernet pin header
J7	SDVO video input connector
J8	VGA output connector
J11	SUMIT-A connector top side
J12	SUMIT-A connector bottom side

Jumper	*Function*
J13	PCIe routing

6. CONNECTOR AND JUMPER PINOUT AND PIN DESCRIPTION

6.1 PC/104 Connector (J1, J2)

The PC/104 bus is essentially identical to the ISA bus except for the physical design. It specifies two pin and socket connectors for the bus signals. A 64-pin connector, J1, incorporates the 64-pin 8-bit bus connector signals, and a 40-pin connector, J2, incorporates the 36-pin 16-bit bus connector signals. The additional pins on the PC/104 connectors are used as ground or key pins. The female sockets on the top of the board enable stacking another PC/104 board on top of Corona, while the male pins on the bottom enable the board to plug into another board below it. The PC/104 bus connector pinout and signal functions are defined by the latest version of the PC/104 Consortium's "PC/104 Specification" (see http://www.pc104.org). In the pinout figures below, the tops correspond to the left edge of the connector when the board is viewed from the primary side (side with the mini-PCI connector and the female end of the PC/104 connector) and the board is oriented so that the PC/104 connectors are along the bottom edge of the board.

J2: PC/104 16-bit bus connector

IOCHK-	A1	B1	Ground
SD7	A2	B2	RESET
SD6	A3	B3	+5V
SD5	A4	B4	IRQ9
SD4	A5	B5	-5V
SD3	A6	B6	DRQ2
SD2	A7	B7	-12V
SD1	A8	B8	OWS-
SD0	A9	B9	+12V
IOCHRDY	A10	B10	KEY
AEN	A11	B11	SMEMW-W
SA19	A12	B12	SMEMR-
SA18	A13	B13	IOW-
SA17	A14	B14	IOR-
SA16	A15	B15	DACK3-
SA15	A16	B16	DRQ3
SA14	A17	B17	DACK1-
SA13	A18	B18	DRQ1
SA12	A19	B19	REFRESH-
SA11	A20	B20	SYSCLK
SA10	A21	B21	IRQ7
SA9	A22	B22	IRQ6
SA8	A23	B23	IRQ5
SA7	A24	B24	IRQ4
SA6	A25	B25	IRQ3
SA5	A26	B26	DACK2-
SA4	A27	B27	TC
SA3	A28	B28	BALE
SA2	A29	B29	+5V
SA1	A30	B30	OSC
SA0	A31	B31	Ground
Ground	A32	B32	Ground

J1: PC/104 8-bit bus connector

Ground	C0	D0	Ground
SBHE-	C1	D1	MEMCS16-
LA23	C2	D2	IOCS16-
LA22	C3	D3	IRQ10
LA21	C4	D4	IRQ11
LA20	C5	D5	IRQ12
LA19	C6	D6	IRQ15
LA18	C7	D7	IRQ14
LA17	C8	D8	DACK0-
MEMR-	C9	D9	DRQ0
MEMW-	C10	D10	DACK5-
SD8	C11	D11	DRQ5
SD9	C12	D12	DACK6-
SD10	C13	D13	DRQ6
SD11	C14	D14	DACK7-
SD12	C15	D15	DRQ7
SD13	C16	D16	+5V
SD14	C17	D17	MASTER-
SD15	C18	D18	Ground
KEY	C19	D19	Ground

Connector type:

Connectors J1 and J2 provide a standard PC/104 ISA stackable expansion bus. There is no PC/104 functionality on Corona. This board simply passes-through the signals of the PC/104 bus.

6.2 Mini-PCI Connector (J3)

Mini-PCI Card Type III, System Connector Pinout

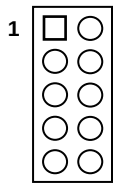
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
I	TIP	**2**	RING	**63**	3.3V	**64**	FRAME#
	Key		Key	**65**	CLKRUN#	**66**	TRDY#
3	8PMJ-3	**4**	8PMJ-1	**67**	SERR#	**68**	STOP#
5	8PMJ-6	**6**	8PMJ-2	**69**	GROUND	**70**	3.3V
7	8PMJ-7	**8**	8PMJ-4	**71**	PERR#	**72**	DEVSEL#
9	8PMJ-8	**10**	8PMJ-5	**73**	C/BE[1]#	**74**	GROUND
11	LED1_GRNP	**12**	LED2_YELP	**75**	AD[14]	**76**	AD[15]
13	LED1_GRNN	**14**	LED2_YELN	**77**	GROUND	**78**	AD[13]
15	CHSGND	**15**	RESERVED	**79**	AD[12]	**80**	AD[11]
17	INTB#	**18**	5V	**81**	AD[10]	**62**	GROUND
19	3.3V	**21**	INTA#	**83**	GROUND	**84**	AD[09]
21	RESERVED	**22**	RESERVED	**85**	AD[08]	**86**	C/BE[0]#
23	GROUND	**24**	3,3VAUX	**87**	AD[07]	**88**	3.3V
25	CLK	**26**	RST#	**89**	3.3V	**90**	AD[06]
27	GROUND	**28**	3.3V	**91**	AD[05]	**92**	AD[04]
29	REQ#	**30**	GNT#	**93**	RESERVED	**94**	AD[02]
31	3.3V	**32**	GROUND	**95**	AD[03]	**96**	AD[00]
33	AD[31]	**34**	PME#	**97**	5V	**98**	RESERVED_WIP
35	AD[29]	**36**	RESERVED	**99**	AD[01]	**100**	RESERVED_WIP
37	GROUND	**38**	AD[30]	**101**	GROUND	**102**	GROUND
39	AD[27]	**40**	3.3V	**103**	AC_SYNC	**104**	M66EN
41	AD[25]	**42**	AD[28]	**105**	AC_SDATA_IN	**106**	AC_SDATA_OUT
43	RESERVED	**44**	AD[26]	**107**	AC_BIT_CLK	**108**	AC_CODE_ID0#
45	C/BE[3]#	**46**	AD[24]	**109**	AC_CODEC_ID1#	**110**	AC_RESET#
47	AD[23]	**48**	IDSEL	**111**	MOD_AUDIO_MON	**112**	RESERVED
49	GROUND	**50**	GROUND	**113**	AUDIO GND	**114**	GROUND
51	AD[21]	**52**	AD[22]	**115**	SYS_AUDIO_OUT	**116**	SYS_AUDIO_IN
53	AD[19]	**54**	AD[20]	**117**	SYS_AUDIO_OUT GND	**118**	SYS_AUDIO_IN GND
55	GROUND	**56**	PAR	**119**	AUDIO_GND	**120**	AUDIO_GND
57	AD[17]	**58**	AD[18]	**121**	RESERVED	**122**	MPCIACT#
59	C/BE[2]#	**60**	AD[16]	**123**	VCC5VA	**124**	3.3VAUX
61	IRDY#	**62**	GROUND				

Connector type: **Mini-PCI Card Type III**

6.3 USB2 and USB3 (J4)

Corona features two USB 2.0 ports on a pin header. Connector J4 interfaces to USB ports 2 and 3. USB 2.0 provides a 480Mbps maximum data transfer rate. The shield pin is tied to system ground. Diamond Systems' cable number 6981082 mates with this connector. These USB signals are driven by the host system that Corona is connected to. Therefore these USB ports are dependent upon the host to provide the signals. Some host systems may only provide one USB port to this connector; others none at all.

Key	1	2	Ground
Ground	3	4	Ground
USB2 Data+	5	6	USB3 Data +
USB2 Data-	7	8	USB3 Data-
Power+	9	10	Power+

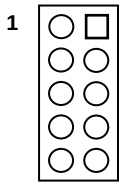


Connector type: 2x5 standard 2mm dual row straight pin header with gold flash plating

6.4 LAN 1 and 2 Ports (J5, J6)

Dual 10/100 Base-T, full-duplex Ethernet interfaces are provided by connectors J5 and J6. Diamond Systems' cable number 6981084 mates with these connectors.

N/A	**1**	**2**	Key
RX+	**3**	**4**	RX-
TX+	**5**	**6**	TX-
N/A	**7**	**8**	N/A
N/A	**9**	**10**	N/A



Connector type: 2x5 standard 2mm dual row straight pin header with gold flash plating**.**

6.5 SDVO Video Input (J7)

Connector J7 is used to bring SDVO video in for the purposes of conversion to VGA output. This connector mates to a corresponding connector on Diamond's Aurora single board computer.

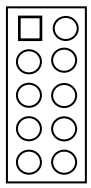
1	SDVO_B_BLUE#
2	BUF_PLT_RST#
3	SDVO_B_BLUE
4	Ground
5	Ground
6	SDVO_B_GREEN#
7	SDVO_CTRLCLK
8	SDVO_B_GREEN
9	SDVO_CTRLDATA
10	Ground
11	Ground
12	SDVO_B_CLK_N
13	+3.3V
14	SDVO_B_CLK_P
15	+3.3V
16	Ground
17	+5V
18	SDVO_B_RED#
19	+5V
20	SDVO_B_RED

Connector type: 20 pin Samtec stacking connector ERF8-010-07.0-L-DV-TR

6.6 VGA Video Output (J8)

Connector J8 is used to connect a VGA monitor. Although the DDC serial detection pins are present, a 5V power supply is not provided, and the legacy "Monitor ID" pins are also not used. Diamond Systems' cable number 6981084 mates with this connector.

RED	1	2	Ground
GREEN	3	4	**Key**
BLUE	5	6	Ground
HSYNC	7	8	DDC-Data
VSYNC	9	10	DDC-Clock



Connector type: 2x5 standard 2mm dual row straight pin header with gold flash plating

6.7 PCIe Routing Jumper (J13)

Jumper block, J13, determines the PCIe bus routing on Corona. The default setting routes the PCIe bus to the PLX switch for the mini-PCI WiFi module. For applications not using the WiFi module, the PCIe bus can be rerouted to the SUMIT-A connector and passed up the stack.

Pins 7 and 8 on jumper block J13 determine the PCIe routing. All of the other pins and jumpers are reserved for factory use only.

Jumper Block J13

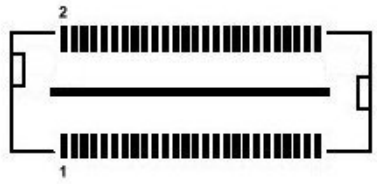
Reserved	1	2	Reserved
Reserved	3	4	Reserved
Reserved	5	6	Reserved
Ground	7	8	PCIe select

J13 Pins 7 / 8	Description
	Short: PCIe routed to PLX switch (default)
	Open: PCIe routed to SUMIT-A

6.8 SUMIT-A Expansion Bus (J11)

The SUMIT-A stackable bus is a 52-pin connector. Corona uses the following SUMIT bus functions:

- 1 PCIe x1 lane
- 3 USB 2.0 channels



Corona's signal assignments of the SUMIT-A connector appear in below. Note: For more information on the SUMIT specification, visit the SFF-SIG website at http://www.sff-sig.org.

+5VSB	1	2	+12V
3.3V	3	4	SMB/I2C_DATA
3.3V	5	6	SMB/I2C_CLK
EXPCD_REQ#	7	8	SMB/I2C_ALERT#
EXPCD_PRSNT#	9	10	SPI/uWire_DO
USB_OC#	11	12	SPI/uWire_DI
Reserved	13	14	SPI/uWire_CLK
+5V	15	16	SPI/uWire_CS0#
USB3+	17	18	SPI/uWire_CS1#
USB3-	19	20	Reserved
+5V	21	22	LPC_DRQ
USB2+	23	24	LPC_AD0
USB2-	25	26	LPC_AD1
+5V	27	28	LPC_AD2
USB1+	29	30	LPC_AD3
USB1-	31	32	LPC_FRAME#
+5V	33	34	SERIRQ#
USB0+	35	36	LPC_PRSNT# / Ground
USB0-	37	38	CLK_33MHz
Ground	39	40	Ground
A_PETp0	41	42	A_PERp0
A)PETn0	43	44	A_PERn0
Ground	45	46	APRSNT# / Ground
PERST#	47	48	A_CLKp
WAKE#	49	50	A_CLKn
+5V	51	52	Ground

7. INSTALLATION AND CONFIGURATION

Corona SUMIT Communications modules are available in two configurations: COR-LANWIFI-XT and COR-LAN2-XT.

The COR-LANWIFI-XT model includes the Corona communication board with a WiFi module and one antenna terminator installed. An external SMA wireless antenna can be ordered from Diamond Systems as an accessory, part number ACC-ANT-01, or supplied by the customer.

COR-LAN2-XT is the Corona communications board only, with none of the WiFi components installed.

7.1 Attaching Corona to the Aurora SBC

Install the four 0.3" 4-40 spacers that are included with the Aurora SBC on the four mounting posts attached to Aurora in the four corners of the SBC.

Align the Corona board over the top of the Aurora SBC so that the PC/104 and SUMIT-A connectors on Corona align with the mating connectors on Aurora.

Push evenly on all four sides of Corona until it firmly seats onto the Aurora SBC.

Secure Corona to Aurora with four screws (4-40 x ¼" pan head) inserted into the four mounting holes on the corners of the board.

Connect the VGA cable, part number 6891084, between connector J8 and the desired VGA display.

7.2 Attaching External Antennas to the WiFi Module

For COR-LANWIFI-XT model only.

The WiFi module has provisions for two antenna outputs. Both antenna connections must be terminated if not used or there is a strong possibility that the output power amplifier will become non-functional. The COR-LANWIFI-XT model has a 50 ohm termination resistor designed into the PCB. A short 2.5" transition cable, Diamond part number 6970022, comes installed on antenna connector 2 and terminates this antenna connection.

The antennas attach to the two small round connectors at the top of the WiFi module on the end away from the mini-PCI connector. To connect an external antenna to COR-LANWIFI-XT

- Attach the antenna cable to the available connector on COR-LANWIFI-XT.
- Mount the external antenna to your housing or enclosure.

If you are using a second external antenna, first remove the transition cable by disconnecting it from both the WiFi module and the COR-LANWIFI-XT board itself. Then install the second antenna as per the steps above.

An external SMA wireless antenna is available from Diamond Systems as an accessory, part number ACC-ANT-01.

7.3 Installing WiFi Drivers

Diamond Systems provides both Windows XP and Linux wireless drivers for the COR-LANWIFI-XT model. These drivers can be found on the Diamond Systems CD shipped with the product under the Corona product entry, or can be downloaded at the Corona webpage, www.diamondsystems.com/products/smtcoms.

Install the appropriate driver into the operating system of your choice just like any other I/O driver would be installed in the system.

8. SPECIFICATIONS

Wireless	
Wireless module	IEEE 802.11a/b/g
Frequency Range	802.11a mode: 5.15~5.35GHz & 5.725~5.85GHz for US 4.9~5.35GHz for Japan 5.15~5.35GHz & 5.47~5.725GHz for ETSI 5.725~5.85~GHz for China 802.11b/g mode: 2.400~2.4835GHz for US, Canada, Japan, ETSI, and China
Channel Bandwidth	802.11a mode: 40MHz, 20MHz, 10MHz, and 5MHz 802.11b mode: 20MHz 802.11g mode: 40MHz, 20MHz, 10MHz, and 5MHz
Transmit & Receive Rates	Up to 108Mbps
Average power	23dBm (200mW)
Peak power	28dBm (600mW)
Operating system support	Windows XP driver Linux MADWiFi driver
General	
Networking	2 10/100Base-T Ethernet ports
USB	2 USB 2.0 ports (dependent on host system)
Mass storage	1 2.5” SATA solid state disk mounting location
Graphics	VGA, 1920 x 1200 maximum resolution
Expansion	SUMIT-A stackable expansion PC/104 (ISA) stackable expansion
Power supply	+5VDC ±5% +3.3VDC ±5%
Power consumption	COR-LANWIFI-XT: 2.84W maximum COR-LAN2-XT: 2.24W maximum
Dimensions	3.55 x 3.775 in. (90 x 96 mm)
Operating temperature	-40°C to +85°C (-40°F to +185°F)
Weight	COR-LANWIFI-XT: 3.4oz (96g) COR-LAN2-XT: 3.0oz (86g)
Shock	MIL-STD-202G Table 213-1 J Half-Sine Wave Shock 30 G, 11ms: 3 time shocks at both directions per axis: Vertical / Transverse / Longitudinal
Vibration	MIL-STD-202G Method 204, Modified Condition I A Random Vibration Axes: Vertical / Transverse / Longitudinal 20-2000Hz: 20-100Hz at 6dB/octave, 100-1000Hz at 0.04G^2/Hz, 1000-2000Hz at -6dB/octave Sine Sweep Vibration Axes: Vertical / Transverse / Longitudinal 10-2000Hz: 10-57Hz at 0.6", 57-2000Hz at 10G, sweep rate 20 minutes per cycle
RoHS	Compliant