

Pyxis AIO Panel

Descriptions And Operations Manual

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Document Revision

Revision	Date	Author	Notes
0.1	12/16/10	David Nicol	Draft
1.0	01/27/11	David Nielsen	Initial AAEON Release
1.1	03/10/11	David Nicol	Update from Carefusion
1.2	05/12/11	David Nielsen	Corrected part number for CN11 of docking board
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Introduction

How This Manual is Organized

This manual is divided into the following sections:

- | | | | |
|------|------------------------|------|---------------------------|
| I. | Introduction | V. | Docking Board |
| II. | System Specifications | VI. | USB/RS232 Auxiliary Board |
| III. | CPU Mainboard | VII. | BIOS Setup Information |
| IV. | I/O Interconnect Board | | |

General Description

The CareFusion P/N Series 351300-XX is a full-featured All-In-One (AIO) Computer based on the Intel D510 Dual Core Atom Processor and the Intel 82801HBM I/O controller hub (ICH8M). It is used in conjunction with a docking station such as the CareFusion P/N Series 351253-XX Docking Assembly. The AIO is made up of two main circuit boards and an auxiliary circuit board. The two main boards are the CPU Mainboard and the Panel I/O Board. The AIO structure contains an internal metal cage and a slide-in tray which carries the CPU Mainboard. The metal cage structure is enclosed in a plastic bezel and rear cover. Mounting of the AIO is via a VESA 100 mounting pattern which is part of the internal metal cage structure. Attachment of the AIO to the Docking Assembly is through a single self aligning connector set and piloted by mechanical features on the AIO mounting plate and the Docking Assembly. This document describes the board set for the AIO and the Docking Assembly.

Support and Service

Customer Service:	AAEON Electronics, Inc. 3 Crown Plaza Hazlet, NJ 07730 (732) 203-9300 (732) 203-9311 Fax
Technical Support Hotline:	(732) 203-9300 x125
Technical Support Email	tech@aaeon.com
Warranty Repair Service:	http://us.aaeon.com/rma/rma01.asp?t=1
RMA Contact Email:	epcrma@aaeon.com

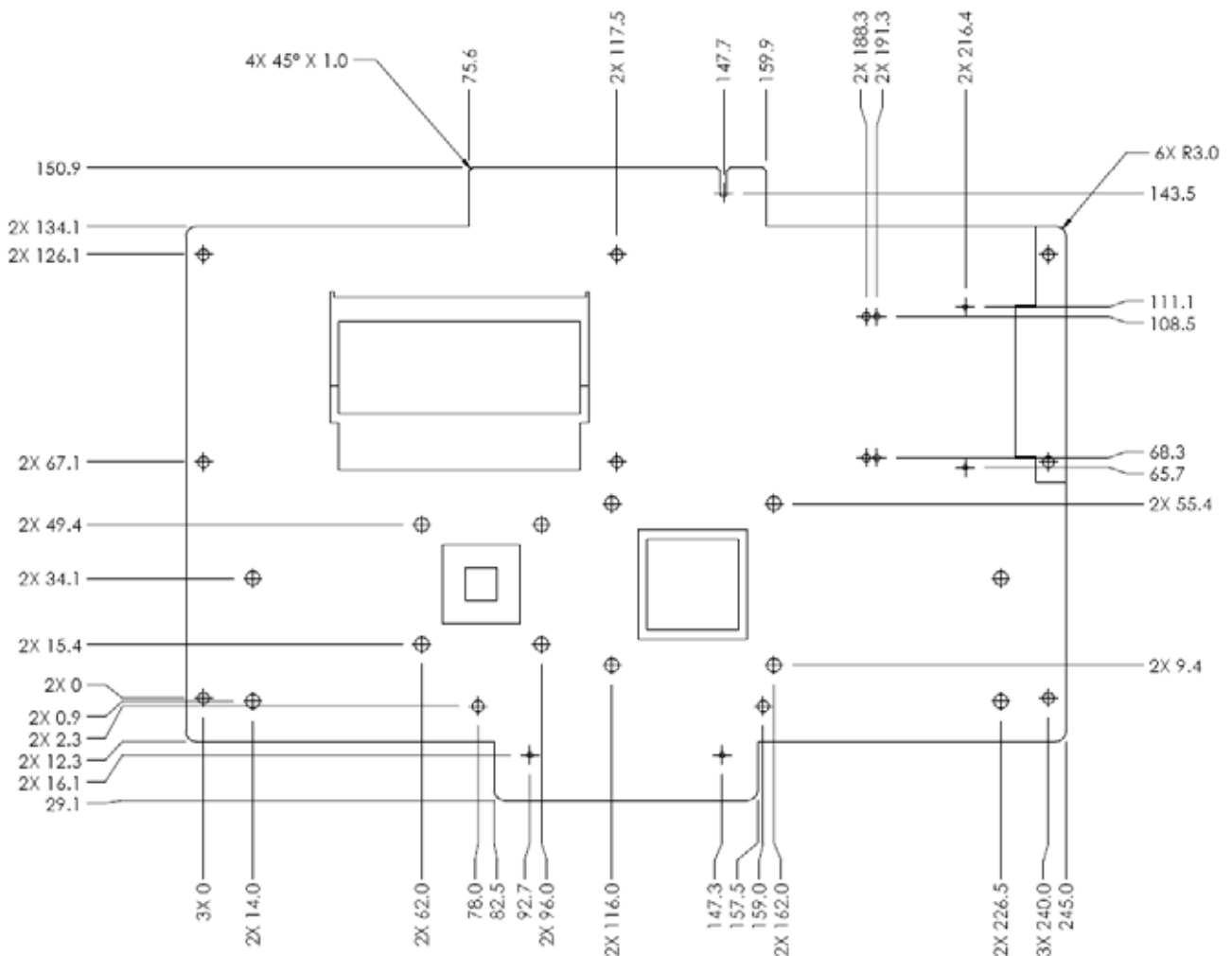
System Specifications

CPU:	Intel® D510 @1.66GHz
Chipset:	Intel® 82801HBM (ICH8M)
Memory:	2 SODIMM sockets Supports single channel DDR2-667/800 4 GB maximum support
Expansion:	CPU Mainboard 1 miniCard socket Panel Board Interface connector to I/O board Defined in connector pin definition Panel I/O board 2 miniCard sockets
Video:	Integrated Intel® Graphics Media Accelerator 3150 1. Primary interface: 18-bit LVDS (3 colors x 6-bits)
Storage:	Intel 82801HBM 1. Supports 1 SATA interface through the Panel Board Interface Connector 2. CompactFlash socket on CPU Mainboard
EC:	ITE IT8513 Embedded Controller 1. Two UART ports 2. Ten USB ports 3. Supports keyboard and mouse ports (for test only)
Audio:	Via 1708B 1. 2W/channel amplified output
Network:	Two 10/100/1000 Ethernet Ports via Panel Board Interface Connector 1. Intel 82567V 2. Realtek RTL-8111C Two wireless ports 1. WiFi IEEE 802.11b/g/n 2. Bluetooth 3.0 + HS class II
Hardware Monitor:	Hardware Monitor Circuit (IT8712F) 1. Temperature Sensing 2. Critical Voltage Measurement
BIOS:	See Appendix A
Power:	12VDC Nominal 1. Range 10.8V to 13.2V 2. Current 6 Amperes maximum
Operating Environment:	Temperature: 7 to 45 degrees Celsius Humidity: 20% - 80% non-condensing
Supported Operating Systems:	Microsoft Windows Embedded Standard, Win 7 32 and 64 bits.

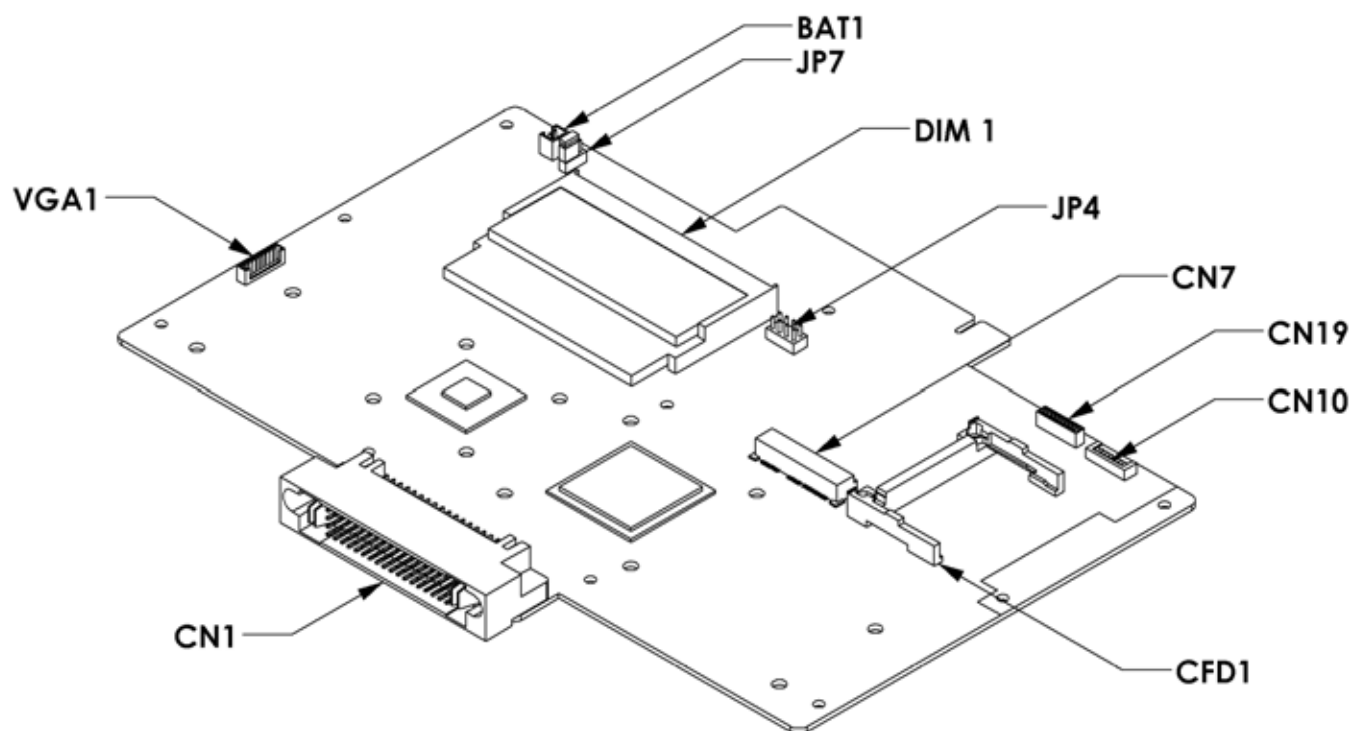
CPU Mainboard

The CPU Mainboard is packaged as a slide-in module with an integrated heat sink. The circuit board of the module contains the CPU (Intel® D510 @1.66GHz), the support chipset (Intel® 82801HBM ICH8M), and has 2 SODIMM sockets which supports up to 4 GB of single channel DDR2-667/800 memory. The circuit board also contains 1 miniCard socket for future expansion. The board is connected to the touch screen, LCD, and other system devices through the Panel Board Interface connector to Panel I/O board. The video driver is an Integrated Intel® Graphics Media Accelerator 3150, also located on the CPU Mainboard. The interface to storage devices is through an Intel 82801HBM controller. The controller supports 1 SATA interface through the Docking Connector. The controller also provides an interface to a CompactFlash socket on the CPU Mainboard. An onboard ITE IT8513 Embedded Controller provides 2 UART ports and supports keyboard and mouse ports (for test only). Dimensions of the CPU Mainboard PWB and connector layout are shown in following two figures. The Connector Index follows these figures and defines the function of the connectors. The detail of the signal lines within each connector follows in this section.

CPU Mainboard PWB Dimensions



CPU Mainboard Isometric View



Connector Index

<u>Reference Designation</u>	<u>Functional Description</u>	<u>Connector Type</u>
CN1	Docking Connector	FCI 51740-10107201
CN2	Panel Board Edge Connector	Card Edge/Gold Fingers
CN7	MiniCard Connector	MiniCard Socket
CN8	MiniCard Holder for Half-size	Bracket only (DNI)
CN9	SCI/SMI	2-pin header (DNI)
CN10	EC Debug Port	30P_FPC_0.5mm_90D_SMD
CN19	LPC Debug Port	Catch 1204-700-12SMP
BAT1	CMOS Battery Interface	2 pin wafer connector
CFD1	CompactFlash Socket	
DIMM 1&2	DDR2 SODIMM Sockets	200 pin SODIMM
VGA1	VGA interface	13 pin box wafer 13 x 1_1.25mm_DIP (DNI)

Connector Pin Assignments

CN1: Docking Connector (PIN numbers match schematic of PCB, values in “()” match the pin definition of connector)

Pin	Description	Pin	Description	Pin	Description	Pin	Description
P1	VIN	P3	VIN	P5	VIN	P7	VIN
P2	VIN	P4	VIN	P6	VIN	P8	VIN
A1(D1)	SATATXP	B1(C1)	SATATXN	C1(B1)	GBE1MID3N	D1(A1)	GBE1MID3P
A2(D2)	GND	B2(C2)	GND	C2(B2)	GND	D2(A2)	GND
A3(D3)	SATARXP	B3(C3)	SATARXN	C3(B3)	GBE1MID2P	D3(A3)	GBE1MID2P
A4(D4)	GND	B4(C4)	GBE2ACTLED	C4(B4)	GND	D4(A4)	GBE1ACTLEDN
A5(D5)	GBE1MID0P	B5(C5)	GBE1MID0N	C5(B5)	GBE1DMID1N	D5(A5)	GBE1DMID1P
A6(D6)	GBE2MID3P	B6(C6)	GBE2MID3N	C6(B6)	GBE2DMID2N	D6(A6)	GBE2DMID2P
A7(D7)	GBE2MID1N	B7(C7)	GBE2MID1P	C7(B7)	GBE1CTREF	D7(A7)	GND
A8(D8)	GND	B8(C8)	USB7_0N	C8(B8)	GBE2MID0N	D8(A8)	GBE2MID0P
A9(D9)	USB7_0P	B9(C9)	GND	C9(B9)	GBE2CTREF	D9(A9)	USB67_VCC
A10(D10)	USB7_1N	B10(C10)	USB7_1P	C10(B10)	PS0N#	D10(A10)	PWRBTN#
A11(D11)	GND	B11(C11)	USB3N	C11(B11)	WIRELESSLED#	D11(A11)	USB23_VCC
A12(D12)	USB3P	B12(C12)	GND	C12(B12)	DISKLED#	D12(A12)	USB5N
A13(D13)	USB2N	B13(C13)	USB2P	C13(B13)	USB5P	D13(A13)	USB45_VCC
A14(D14)	GND	B14(C14)	USB1N	C14(B14)	GND	D14(A14)	USB01_VCC
A15(D15)	USB1P	B15(C15)	GND	C15(B15)	GND	D15(A15)	GND
A16(D16)	USB0N	B16(C16)	USB0P	C16(B16)	SMBDATA	D16(A16)	SMBCLK
A17(D17)	GND	B17(C17)	USB4N	C17(B17)	VCC5	D17(A17)	LINEOUT-R
A18(D18)	USB4P	B18(C18)	3VDUAL	C18(B18)	LINEOUT-L	D18(A18)	JACK_DETECT
G1	GND	G3	GND	G5	GND	G7	GND
G2	GND	G4	GND	G6	GND	G8	GND

CN2: Panel Board Interface

Pin	Description	Pin	Description	Pin	Description	Pin	Description
A1	W_DISABLE2	B1	W_DISABLE	A42	GND	B42	LVD_A_DATA2#
A2	GND	B2	GND	A43	N/C	B43	GND
A3	CLK_PCIE_1	B3	CLK_PCIE_0	A44	N/C	B44	GND
A4	CLK_PCIE_1#	B4	CLK_PCIE_0#	A45	GND	B45	N/C
A5	GND	B5	GND	A46	GND	B46	N/C
A6	ICH_PCIE_TXP1	B6	ICH_PCIE_TXP0	A47	N/C	B47	GND
A7	ICH_PCIE_TXN1	B7	ICH_PCIE_TXN0	A48	N/C	B48	+5V_DUAL
A8	GND	B8	GND	A49	GND	B49	GND
A9	ICH_PCIE_RXP1	B9	ICH_PCIE_RXP0	A50	3.3V	B50	LVD_A_CLK
A10	ICH_PCIE_RXN1	B10	ICH_PCIE_RXN0	A51	GND	B51	LVD_A_CLK#
A11	GND	B11	GND	A52	EC_BKLTEN/PWROK	B52	GND
A12	USB_PP9	B12	USB_PP82	A53	BRCON	B53	GND
A13	USB_PN9	B13	USB_PN82	A54	GND	B54	LDDC_CLK_R
A14	GND	B14	GND	A55	GND	B55	LDDC_DATA_R
A15	MINICARD2_WAKE#	B15	MINICARD_WAKE#	A56	LBKLT_CTL_R	B56	GND
A16	WLAN2#	B16	WLAN#	A57	LBKLT_EN_R/PWROK	B57	GND
A17	WWAN2#	B17	WWAN#	A58	GND	B58	LVDD_EN_R
A18	GND	B18	GND	A59	GND	B59	5V
A19	PBRST#	B19	SPKR-RP	A60	3.3V	B60	GND
A20	TXD1	B20	SPKR-RN	A61	3.3V	B61	GND
A21	RXD1	B21	GND	A62	GND	B62	5V
A22	DTR1	B22	GND	A63	GND	B63	5V
A23	GND	B23	MIC1-C	A64	3.3V	B64	GND
A24	GND	B24	MIC2-C	A65	3.3V	B65	GND

CN2: Panel Board Interface

Pin	Description	Pin	Description	Pin	Description	Pin	Description
A25	3.3V	B25	GND	A66	GND	B66	+5V_DUAL
A26	3.3V	B26	USB_OC#8-9	A67	GND	B67	RTS2
A27	GND	B27	USB_PN81	A68	+3.3V_DUA	B68	GND
A28	GND	B28	USB_PP81	A69	+3.3V_DUA	B69	GND
A29	SMBDAT_SBY	B29	GND	A70	GND	B70	RXD2
A30	SMBCLK_SBY	B30	LSSENSOR+	A71	GND	B71	DTR2
A31	GND	B31	LSSENSOR	A72	VCC12	B72	GND
A32	N/C	B32	GND	A73	VCC12	B73	GND
A33	N/C	B33	LVD_A_DATA0	A74	GND	B74	DSR2
A34	GND	B34	LVD_A_DATA0#	A75	GND	B75	CTS2
A35	WPAN2#	B35	GND	A76	USB_PP83 23	B76	GND
A36	WPAN#	B36	GND	A77	USB_PN83 23	B77	GND
A37	GND	B37	LVD_A_DATA1	A78	GND	B78	DCD2
A38	GND	B38	LVD_A_DATA1#	A79	GND	B79	TXD2
A39	BT Disable#	B39	GND	A80	SPKR-LP 25	B80	GND
A40	N/C	B40	GND	A81	SPKR-LN 25	B81	1.5V/NC
A41	GND	B41	LVD_A_DATA2	A82	GND	B82	1.5V/NC

CN7: MiniCard Socket

Pin Number	Description	Pin Number	Description
1	WAKE#	2	+3.3V
3	RESERVED	4	GND
5	RESERVED	6	+1.5V
7	N/C (CLKREQ#)	8	N/C (UIM_PWR)
9	GND	10	N/C (UIM_DATA)
11	REFCLK-	12	N/C (UIM_CLK)
13	REFCLK+	14	N/C (UIM_RESET)
15	GND	16	N/C (UIM_VPP)
17	N/C (UIM_C8)	18	GND
19	N/C (UIM_C4)	20	W_DISABLE#
21	GND	22	PERST#
23	PERn0	24	+3.3Vaux
25	PERp0	26	GND
27	GND	28	+1.5V
29	GND	30	SMB_CLK
31	PETn0	32	SMB_DATA
33	PETp0	34	GND
35	GND	36	USB_D-
37	Reserved	38	USB_D+
39	Reserved	40	GND
41	Reserved	42	N/C (LED_WWAN#)
43	Reserved	44	N/C (LED_WLAN#)
45	Reserved	46	N/C (LED_WPAN#)
47	Reserved	48	+1.5V
49	Reserved	50	GND
51	Reserved	52	+3.3V

CN8: MiniCard Socket Mechanical Hold Down – Half size Card Only – Not Installed**CN9:**

Pin Number	Description
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1	SCI#
2	SMI#

CN10: EC Debug Port

Pin Number	Description	Pin Number	Description
1	N/C	16	N/C
2	N/C	17	N/C
3	GND (TP27)	18	KSO6 (TP35)
4	N/C	19	KSI5 (TP34)
5	N/C	20	KSI4 (TP37)
6	KSO3 (TP28)	21	KSO5 (TP36)
7	N/C	22	KSI3 (TP38)
8	N/C	23	KSO4 (TP39)
9	KSO1 (TP31)	24	KSI2 (TP41)
10	N/C	25	KSO3 (TP40)
11	N/C	26	KSI1 (TP43)
12	KSO10 (TP32)	27	KSO2 (TP42)
13	KSO9 (TP30)	28	KSO1 (TP44)
14	KSO8 (TP29)	29	KSI0 (TP46)
15	KSO7 (TP33)	30	KSO0 (TP45)

CN19: LPC Debug Port

Pin Number	Description
1	LAD0
2	LAD1
3	LAD2
4	LAD3
5	3.3V
6	LFRAME#
7	FWHPLT_RST#
8	GND
9	LPC_CLK33/PCI0_CLK33(N/C)
10	LDRQ0#
11	LDRQ1#
12	ICH_SERIRQ

BAT1: CMOS Battery Interface

Pin Number	Definition
1	+3.3V_DUAL
2	GND

CFD1: Compact Flash Socket

Pin Number	Description	Pin Number	Description
1	GND	26	GND
2	IDE_PDD3	27	IDE_PDD11
3	IDE_PDD4	28	IDE_PDD12
4	IDE_PDD5	29	IDE_PDD13
5	IDE_PDD6	30	IDE_PDD14
6	IDE_PDD7	31	IDE_PDD15
7	IDE_DCS#1	32	IDE_DCS#3
8	GND	33	GND
9	GND	34	IDE_PDIO#

10	GND	35	IDE_PDIOW#
11	GND	36	CF_VCC
12	GND	37	INT_IRQ14
13	CF_VCC (N/C)	38	CF_VCC
14	GND	39	GND / CF_VCC (N/C)
15	GND	40	N/C
16	GND	41	IDERST# / IDERST2# (N/C)
17	GND	42	IDE_PDIORDY
18	IDE_PDA2	43	IDE_PDDREQ
19	IDE_PDA1	44	IDE_PDDACK#
20	IDE_PDA0	45	HDLED# / CF_VCC (N/C)
21	IDE_PDD0	46	IDE_PATADET / GND
22	IDE_PDD1	47	IDE_PDD8
23	IDE_PDD2	48	IDE_PDD9
24	N/C	49	IDE_PDD10
25	GND	50	GND

VGA1: Analog Video Output

Pin Number	Description	Pin Number	Description
1	CN_VSYNC	8	GND
2	CN_HSYNC	9	GREEN
3	GND	10	GND
4	CN_DDC_CLK	11	RED
5	CN_DDC_DAT	12	GND
6	CRT_PLUG#	13	CRT_VCC
7	BLUE		

Jumper Index and Settings

Index

Reference Designation	Functional Description	Connector Type
JP1	SPI BIOS Programming Interface	8 pin
JP3	Warm Reset Button	2 pin
JP4	Embedded Controller Programming Interface	8 pin
JP5	Hard Reset	2 pin
JP6	Power Button	2 pin
JP7	Clear CMOS	3 pin

Settings JP1: SPI BIOS Programming Interface

Pin Number	Description	Pin Number	Description
1	SPI_3.3V	2	GND
3	SPI_CS#0	4	SPI_CLK
5	SPI_MISO	6	SPI_MOSI
7	NC	8	NC

JP3: Reset Button

Jumper Position	Functional Description
Momentary Contact	Warm Reboot

JP4: Embedded Controller Programming Interface

Pin Number	Description	Pin Number	Description
1	EC_VCC	2	GND
3	FSCE#	4	FSCK
5	FMISO	6	FMOSI
7	NC	8	NC

JP5: Hardware Reset

<u>Jumper Position</u>	<u>Functional Description</u>
Momentary Contact	Hardware Reset

JP6: Power Button

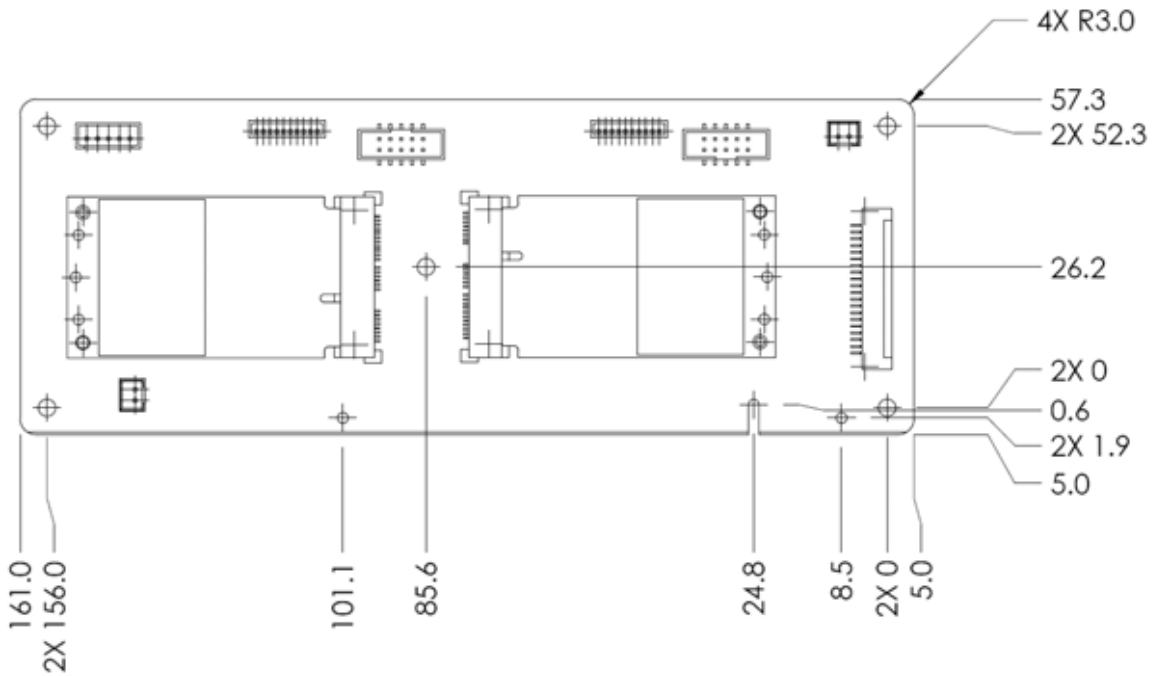
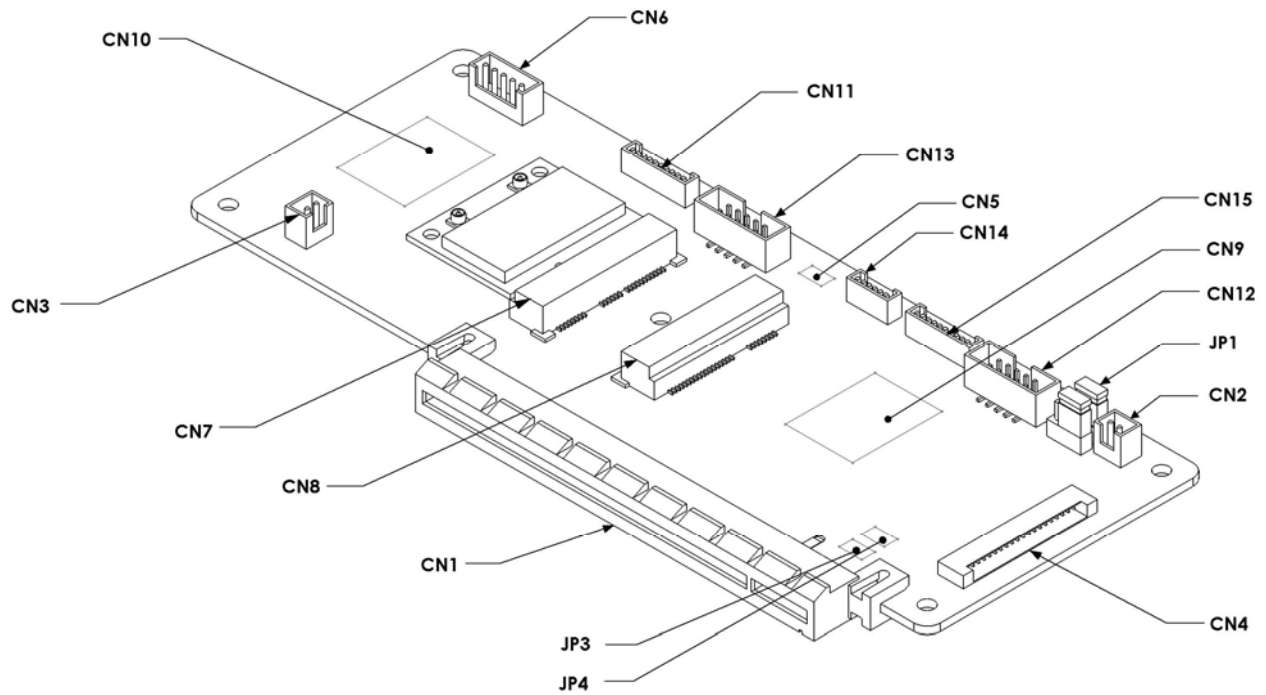
<u>Jumper Position</u>	<u>Functional Description</u>
Momentary Contact	Power Button

JP7: Clear CMOS

<u>Jumper Position</u>	<u>Functional Description</u>
1-2 Shunted	Protect
2-3 Shunted	Clear CMOS

Panel I/O Board

The Panel I/O Board is the interface between the CPU Mainboard and some of the input/output system components. The Panel I/O Board connects the LCD and CCFL backlight to the LVDS drive and backlight inverter respectively. This board also connects the USB interface from the touch screen controller and Auxiliary USB/RS232 board through Panel Board Interface connector to the Intel 82801HBM controller. The Panel I/O Board also has two MiniCard sockets; one populated with a combo WiFi and Bluetooth module. The second socket is available for future expansion. The audio speakers and microphone are also connected through this board. The following two figures show the mechanical dimensions of the I/O Panel Board and the locations of the various connectors and jumper headers. The Connector Index which follows these figures defines the function of the connector. The detail of the signal lines within each connector follows in this section, along with the jumper functions.

Panel I/O Board) Dimensions**Panel I/O Board Isometric View**

Connector, Jumper, and Switch References

Connector Index

Reference Designation	Functional Description	Connector Type
CN1	Panel Board Interface	PCIe x16
CN2	Speaker- Left	JST2-HD-2M
CN3	Speaker- Right	JST2-HD-2M
CN4	LVDS	20P_DF14_1.25mm_90D_SMD
CN5	Light Sensor	2-pin header (not populated)
CN6	LCD Brightness/ BKLT Control	5 pin header 2.00mm
CN7	MiniCard	Socket
CN8	MiniCard	Socket
CN9	SIM	Socket
CN10	SIM	Socket
CN11	USB/RS232	10 pin box wafer 10x1_1.25mm_DIP
CN12	RS232	10 pin box header 5x2_2.0mm_SMD
CN13	Bluetooth	10 pin box header 5x2_2.0mm_SMD
CN14	Microphone	6 pin box wafer 6x1_1.25mm_DIP
CN15	USB/RS232	10 pin box wafer 10x1_1.25mm_DIP

Connector Pin Assignments

CN1: Panel I/O Board Interface

Pin	Description	Pin	Description	Pin	Description	Pin	Description
A1	W_DISABLE2	B1	W_DISABLE	A42	GND	B42	LA_DATAN2
A2	GND	B2	GND	A43	N/C	B43	GND
A3	PCIE3_CLK	B3	PCIE0_CLK	A44	N/C	B44	GND
A4	PCIE3_CLK#	B4	PCIE0_CLK#	A45	GND	B45	N/C
A5	GND	B5	GND	A46	GND	B46	N/C
A6	PCIE_TXP3	B6	PCIE_TXP0	A47	N/C	B47	GND
A7	PCIE_TXN3	B7	PCIE_TXN0	A48	N/C	B48	5V_DUAL
A8	GND	B8	GND	A49	GND	B49	GND
A9	PCIE_RXP3	B9	PCIE_RXP0	A50	VCC3	B50	LA_CLKP
A10	PCIE_RXN3	B10	PCIE_RXN0	A51	GND	B51	LA_CLKN
A11	GND	B11	GND	A52	EC_BKLTEN	B52	GND
A12	USB_PP63	B12	USB_PP62	A53	EC_BRCON	B53	GND
A13	USB_PN63	B13	USB_PN62	A54	GND	B54	N/C
A14	GND	B14	GND	A55	GND	B55	N/C
A15	PCIE_WAK2E#	B15	PCIE_WAKE#	A56	L_BKLTCTL	B56	GND
A16	WLAN2#	B16	WLAN#	A57	L_BKLTEN	B57	GND
A17	WWAN2#	B17	WWAN#	A58	GND	B58	LVDD_EN_R
A18	GND	B18	GND	A59	GND	B59	VCC5
A19	PBRST#	B19	SPKR-RP	A60	VCC3	B60	GND
A20	TXD1	B20	SPKR-RN	A61	VCC3	B61	GND
A21	RXD1	B21	GND	A62	GND	B62	VCC5
A22	DTR1	B22	GND	A63	GND	B63	VCC5
A23	GND	B23	MIC1-C	A64	VCC3	B64	GND
A24	GND	B24	MIC2-C	A65	VCC3	B65	GND
A25	VCC3	B25	GND	A66	GND	B66	5V_DUAL
A26	VCC3	B26	N/C	A67	GND	B67	RTS2
A27	GND	B27	USB_PN61	A68	3VDUAL	B68	GND

CN1: Panel I/O Board Interface

Pin	Description	Pin	Description	Pin	Description	Pin	Description
A28	GND	B28	USB_PP61	A69	3VDUAL	B69	GND
A29	SMBDAT_SBY	B29	GND	A70	GND	B70	RXD2
A30	SMBCLK_SBY	B30	LSSENSOR+	A71	GND	B71	DTR2
A31	GND	B31	LSSENSOR	A72	+12V2	B72	GND
A32	N/C	B32	GND	A73	+12V2	B73	GND
A33	N/C	B33	LA_DATAP0	A74	GND	B74	DSR2
A34	GND	B34	LA_DATAN0	A75	GND	B75	CTS2
A35	WPAN2#	B35	GND	A76	USB_PP83	B76	GND
A36	WPAN#	B36	GND	A77	USB_PN83	B77	GND
A37	GND	B37	LA_DATAP1	A78	GND	B78	DCD2
A38	GND	B38	LA_DATAN1	A79	GND	B79	TXD2
A39	BT_Disable#	B39	GND	A80	SPKR-LP	B80	GND
A40	N/C	B40	GND	A81	SPKR-LN	B81	+1.5V
A41	GND	B41	LA_DATAP2	A82	GND	B82	+1.5V

CN2: Speaker - Left

Pin Number	Definition
1	Speaker-LP
2	Speaker-LN

CN3: Speaker - Right

Pin Number	Definition
1	Speaker-RP
2	Speaker-RN

CN4: LVDS

Pin Number	Definition
1	MSL
2	DPS
3	GND
4	LA_DATAN3 (4th Data Pair/Not used for 18 bit output)
5	LA_DATAP3 (4th Data Pair/Not used for 18 bit output)
6	LA_CLKP
7	LA_CLKN
8	GND
9	LA_DATAP2
10	LA_DATAN2
11	GND
12	LA_DATAP1
13	LA_DATAN1
14	GND
15	LA_DATAP0
16	LA_DATAN0
17	GND
18	GND
19	LVDS1VCC
20	LVDS1VCC

CN5: Light Sensor

Pin Number	Definition
1	LSENSOR+
2	LSENSOR-

CN6: Backlight Control

Pin Number	Definition
1	Inverter VCC
2	Brightness Control
3	GND
4	GND
5	Backlight Enable

CN7: MiniCard Socket

Pin Number	Description	Pin Number	Description
1	WAKE#	2	+3.3V
3	RESERVED	4	GND
5	BT_Disable#2	6	+1.5V
7	N/C (CLKREQ#)	8	UIM_PWR
9	GND	10	UIM_DATA
11	REFCLK-	12	UIM_CLK
13	REFCLK+	14	UIM_RESET
15	GND	16	UIM_VPP
17	N/C (UIM_C8)	18	GND
19	N/C (UIM_C4)	20	W_DISABLE#
21	GND	22	PERST#
23	PERn0	24	+3.3Vaux
25	PERp0	26	GND
27	GND	28	+1.5V
29	GND	30	SMB_CLK
31	PETn0	32	SMB_DATA
33	PETp0	34	GND
35	GND	36	USB_D-
37	Reserved	38	USB_D+
39	3VDUAL	40	GND
41	3VDUAL	42	WWAN2#
43	Reserved	44	WLAN2#
45	Reserved	46	WPAN2#
47	Reserved	48	+1.5V
49	Reserved	50	GND
51	Reserved	52	+3.3V

CN8: MiniCard Socket

Pin Number	Description	Pin Number	Description
1	WAKE#	2	+3.3V
3	RESERVED	4	GND
5	BT_Disable#1	6	+1.5V
7	N/C (CLKREQ#)	8	UIM_PWR
9	GND	10	UIM_DATA
11	REFCLK-	12	UIM_CLK
13	REFCLK+	14	UIM_RESET

CN8: MiniCard Socket

Pin Number	Description	Pin Number	Description
15	GND	16	UIM_VPP
17	N/C (UIM_C8)	18	GND
19	N/C (UIM_C4)	20	W_DISABLE#
21	GND	22	PERST#
23	PERn0	24	+3.3Vaux
25	PERp0	26	GND
27	GND	28	+1.5V
29	GND	30	SMB_CLK
31	PETn0	32	SMB_DATA
33	PETp0	34	GND
35	GND	36	USB_D-
37	Reserved	38	USB_D+
39	3VDUAL	40	GND
41	3VDUAL	42	WWAN1#
43	Reserved	44	WLAN1#
45	Reserved	46	WPAN1#
47	Reserved	48	+1.5V
49	Reserved	50	GND
51	Reserved	52	+3.3V

CN9 and CN10: SIM Socket (not installed, shares signals with Mini-Card sockets)

Pin Number	Description	Pin Number	Description
1	UIM_PWR	4	GND
2	UIM_RST	5	UIM-Vpp
3	UIM_CLK	6	UIM DATA

CN11: USB and RS-232 (to RS232/USB Board)

Pin Number	Description
1	USB_VCC
2	D-
3	D+
4	USB_VCC
5	GND
6	GND
7	TX
8	RX
9	DTR
10	GND

CN12: RS-232 (To JP1 of Touch Controller)

Pin Number	Description	Pin Number	Description
1	DCD2	2	RXD2
3	TXD2	4	DTR2
5	GND	6	DSR2
7	RTS2	8	CTS2
9	VCC5	10	NC

CN14: Microphone Input

Pin Number	Definition
1	MIC1-C
2	GNDAUD
3	GNDAUD
4	MIC2-C
5	GNDAUD
6	GNDAUD

CN15: USB and RS-232

Pin Number	Description
1	USB_VCC
2	D-
3	D+
4	USB_VCC
5	GND
6	GND
7	TX
8	RX
9	DTR
10	GND

Jumper Index

<u>Reference Designation</u>	<u>Functional Description</u>	<u>Connector Type</u>
JP1	Panel/Inverter Voltage Select	3 x 2 pin
JP3	Panel/Inverter Voltage Select	3 pin
JP4	MSL(Display Input Map)	3 pin

JP1: Panel/Inverter Voltage Select

<u>Jumper Position</u>	<u>Functional Description</u>
Pins 1 and 3 shunted	Panel Voltage = 5V
Pins 3 and 5 shunted	Panel Voltage = 3V
Pins 2 and 4 shunted	Inverter Voltage = 5V
Pins 4 and 6 shunted	Inverter Voltage = 12V

JP3: PANEL Configuration MSL

<u>Jumper Position</u>	<u>Functional Description</u>
Pins 1 and 2 shunted	Pull High (MAP A)
Pins 2 and 3 shunted	Pull Low (MAP B)

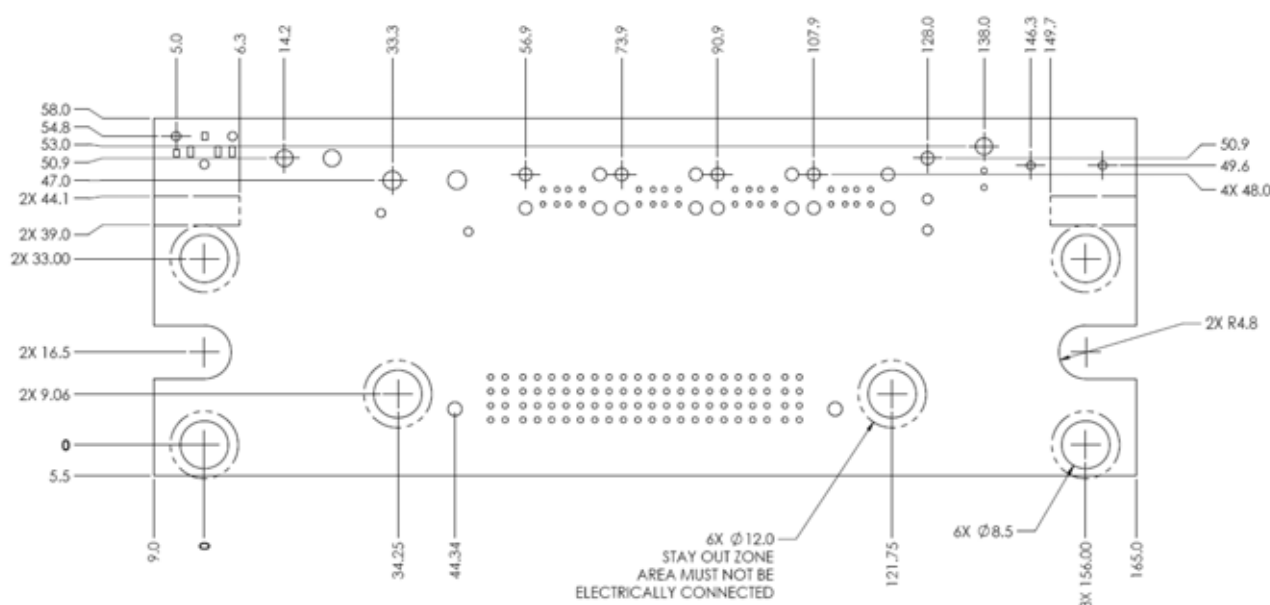
JP4: PANEL Configuration DPS

<u>Jumper Position</u>	<u>Functional Description</u>
Pins 1 and 2 shunted	Pull High
Pins 2 and 3 shunted	Pull Low

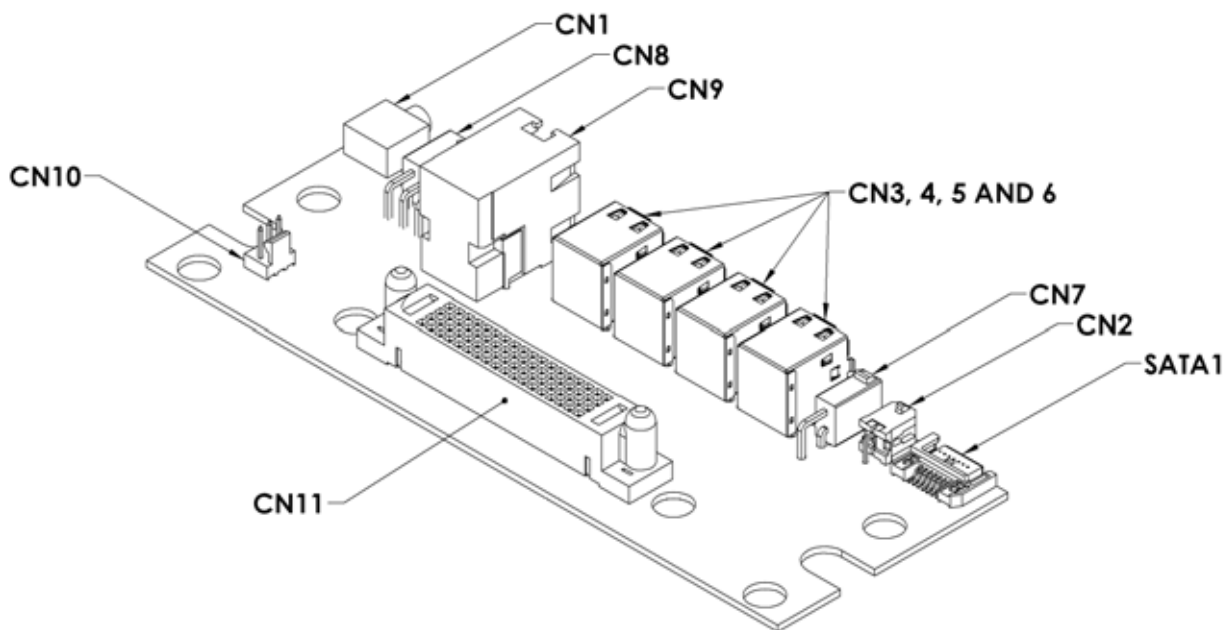
Docking Board

The Docking Board routes electrical power and signals into and out of the CPU Mainboard. The connectors on this board include; 4 dual USB Type A, 1 dual RJ45 Ethernet, SATA power, SATA signal (5VDC), input DC power, DC printer power out, headphone audio jack, optional fan (not used), and the AIO docking connector. The docking connector on the Docking Board is the interface between the peripheral devices and the AIO CPU Mainboard. The Docking Board mechanically “floats” at the 6 mounting points and is electrically grounded to a docking bracket through spring contacts. The mechanical float allows the Docking Board to align itself to the AIO when the AIO is inserted into the docking bracket to which the Docking Board is mounted.

Docking Board Mechanical Dimensions



Docking Board Isometric View



Connector Index

Reference Designation	Functional Description	Connector Type
CN1	Line-out	Phono jack
CN2	SATA Power	2 Pin
CN3	USB (6,7)	1654808201
CN4	USB (4,5)	1654808201
CN5	USB (0,1)	1654808201
CN6	USB (2,3)	1654808201
CN7	24V	2 Pin Right Angle
CN8	Power	6 Pin Right Angle
CN9	Ethernet x 2	RJ45 x 2 Right Angle
CN10	Fan (reserved)	3 Pin Header
CN11	Docking Connector	FCI 51750-104LF
SATA1	SATA Signal	Molex SD-47080-001

CN1: Audio Out – 2.5mm Stereo Audio Jack

CN2: SATA Power

Pin Number	Definition
1	5V
2	GND

CN3: USB (6,7) Type A Standard Interface

Pin Number	Definition
1	VDD
2	D-
3	D+
4	GND

CN4: USB (4,5) Type A Standard Interface

Pin Number	Definition
1	VDD
2	D-
3	D+
4	GND

CN5: USB (0,1) Type A Standard Interface

Pin Number	Definition
1	VDD
2	D-
3	D+
4	GND

CN6: USB (2,3) Type A Standard Interface

Pin Number	Definition
1	VDD
2	D-
3	D+
4	GND

CN7: 24V

Pin Number	Definition
1	5V
2	GND

CN8: Power

Pin Number	Description	Pin Number	Description
1	24V_RTN	4	12V
2	24V	5	PWRBTN#
3	12V_RTN	6	PS_ON#

CN9: Ethernet - Dual, stacked RJ-45 Ethernet Connectors**CN10: Fan (reserved)**

Pin Number	Definition
1	GND
2	5V
3	NC

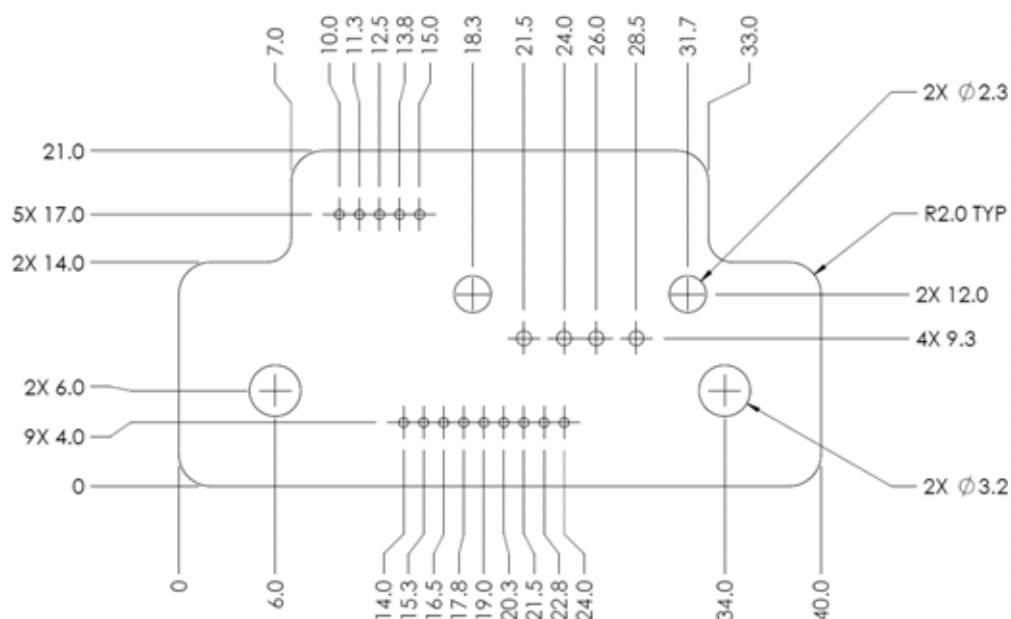
CN11: Docking Connector (PIN numbers match silkscreen and schematic of PCB, values in “()” match the pin definition of connector)

Pin	Description	Pin	Description	Pin	Description	Pin	Description
P1	VIN	P3	VIN	P5	VIN	P7	VIN
P2	VIN	P4	VIN	P6	VIN	P8	VIN
A1(D1)	SATATXP	B1(C1)	SATATXN	C1(B1)	GBE1MID3N	D1(A1)	GBE1MID3P
A2(D2)	GND	B2(C2)	GND	C2(B2)	GND	D2(A2)	GND
A3(D3)	SATARXP	B3(C3)	SATARXN	C3(B3)	GBE1MID2P	D3(A3)	GBE1MID2P
A4(D4)	GND	B4(C4)	GBE2ACTLED	C4(B4)	GND	D4(A4)	GBE1ACTLEDN
A5(D5)	GBE1MID0P	B5(C5)	GBE1MID0N	C5(B5)	GBE1DMID1N	D5(A5)	GBE1DMID1P
A6(D6)	GBE2MID3P	B6(C6)	GBE2MID3N	C6(B6)	GBE2DMID2N	D6(A6)	GBE1DMID2P
A7(D7)	GBE2MID1N	B7(C7)	GBE2MID1P	C7(B7)	GBE1CTREF	D7(A7)	GND
A8(D8)	GND	B8(C8)	USB7_0N	C8(B8)	GBE2MID0N	D8(A8)	GBE2MID0P
A9(D9)	USB7_0P	B9(C9)	GND	C9(B9)	GBE2CTREF	D9(A9)	USB67_VCC
A10(D10)	USB7_1N	B10(C10)	USB7_1P	C10(B10)	PS0N#	D10(A10)	PWRBTN#
A11(D11)	GND	B11(C11)	USB3N	C11(B11)	WIRELESSLED#	D11(A11)	USB23_VCC
A12(D12)	USB3P	B12(C12)	GND	C12(B12)	DISKLED#	D12(A12)	USB5N
A13(D13)	USB2N	B13(C13)	USB2P	C13(B13)	USB5P	D13(A13)	USB45_VCC
A14(D14)	GND	B14(C14)	USB1N	C14(B14)	GND	D14(A14)	USB01_VCC
A15(D15)	USB1P	B15(C15)	GND	C15(B15)	GND	D15(A15)	GND
A16(D16)	USB0N	B16(C16)	USB0P	C16(B16)	SMBDATA	D16(A16)	SMBCLK
A17(D17)	GND	B17(C17)	USB4N	C17(B17)	VCC5	D17(A17)	LINEOUT-R
A18(D18)	USB4P	B18(C18)	3VDUAL	C18(B18)	LINEOUT-L	D18(A18)	JACK_DETECT
G1	GND	G3	GND	G5	GND	G7	GND
G2	GND	G4	GND	G6	GND	G8	GND

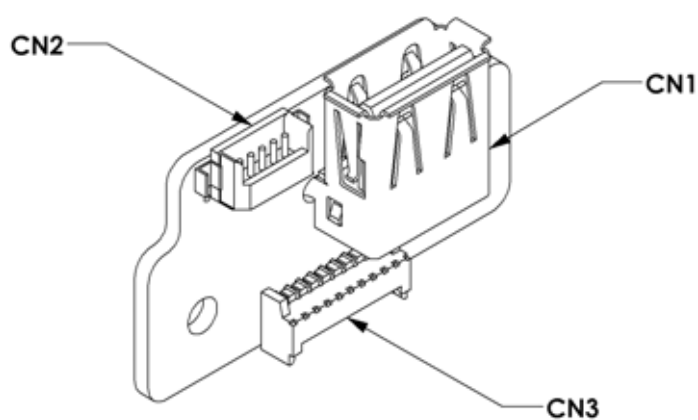
USB/RS232 Auxiliary Board

The Auxiliary Board provides one USB Type A connector and one RS232 port configured as a right angle 5 pin connector. The Auxiliary board interfaces to the I/O Interconnect board through a 9 pin connection.

USB/RS232 Auxiliary Board Mechanical Dimensions



USB/RS232 Auxiliary Board Isometric View



Connector Index

Reference Designation	Functional Description	Connector Type
CN1	RS232 OUT	5 PIN 1.25mm
CN2	USB OUT	10 PIN 1.25mm
CN3	USB/RS232 IN	1654808201

CN1: RS-232 Output

Pin Number	Definition
1	TXD
2	GND
3	RXD
4	GND
5	DTR

CN2: USB Type A Standard Interface

Pin Number	Definition
1	VDD
2	D-
3	D+
4	GND

CN3: USB and RS-232 (to Panel I/O Board)

Pin Number	Description
1	USB_VCC
2	D-
3	D+
4	USB_VCC
5	GND
6	GND
7	TX
8	RX
9	DTR
10	GND

APPENDIX A

CUSTOM BIOS SETTINGS

BIOS Setup Menu

Main

System Language

This option allows the user to set the system default language: *English* or *French*

System Date

This option allows the user to set the date on the system real-time clock RTC. Simply navigate to the month, day, or year and type in the correct numeric value.

System Time

This option allows the user to set the time on the RTC. Simply navigate to the hour, minute, or second and type in the correct numeric value.

Advanced

Launch PXE OpROM

Enable or *disable* boot option for legacy network device.

PCI Subsystem settings

PCI Latency Timer

This option sets latency of all PCI devices on the PCI bus. The settings are in units equal to PCI clocks. The settings are 32, 64, 96, 128, 160, 192, 224, or 248. The Optimal and Fail-Safe default settings are 32.

ACPI Settings

Enable ACPI Auto Config

ACPI Sleep State

Enable or *disable* BIOS ACPI auto configuration

Suspend disabled, *S1(CPU Stop clock)*, or *S3(Suspend to RAM)* is selected for the highest ACPI sleep state the system will enter, when the SUSPEND button is pressed.

CPU Configuration

Hyper-Threading

Enable or *disable* Hyper-Threading.

(This option is present only if a processor supporting Hyper-Threading Technology is installed.)

IDE Configuration

ATA/IDE Configuration

Select ATA/IDE configuration

Disabled: Disabled SATA controller.

Compatible: PATA and SATA are combined

Enhanced: Enable both SATA and PATA .

Configure SATA as

Legacy IDE Channels

IDE or *AHCI* for SATA controller. Subsection for *Disabled* or *Enhanced*. *SATA only*, *SATA Pri/PATA Sec*, or *PATA only* for legacy IDE channel configuration. Subsection for *Compatible*.

Intel IGD SWSCI OpRegion

DVMT Mode Select

DVMT/FIXED Memory

DVMT or *Fixed* mode.

128 MB, *256 MB*, or *Maximum* for DVMT/Fixed mode memory size used by internal graphic device

IGD – Boot Type

LFP or *CRT+LFP* for the video device which will be activated during POST. This has no effect if external graphic present.

LCD Panel Type

Select LCD panel used by internal graphic device by selecting the appropriate setup item.

USB Configuration

Legacy USB Support

Select ATA/IDE configuration

Enabled: Support USB devices.

Disabled: Support USB devices only for EFI applications

Auto: Disable USB devices support if devices are not connected.

Port 60h/64h emulation

Enable or *disable* emulation. Enabling configures the complete USB keyboard legacy support for non-USB aware Oss at port 60h/64h.

Super IO Configuration

Serial Port 0 Configuration

Serial Port

Enable or disable serial port.

Change Settings

Select an optimal setting for super IO device.

Device Mode

Normal or High speed.

Serial Port 1 Configuration

Serial Port

Enable or disable serial port.

Change Settings

Select an optimal setting for super IO device.

Device Mode

Normal or High speed.**Chipset****Host Bridge**

On chip VGA Configuration

Share Memory Size

1 MB or 8 MB for share memory size.

Initiate Graphic Adapter

IGD or PCI/IGD for graphic controller to use as the primary boot device.**South Bridge**

HD Audio Controller

Enable or disable HD audio controller

USB Function

Display number of ports functioning.

USB 2.0(EHCI) Support

Enable or disable USB 2.0 (EHCI) support .

SMBus Controller

Enable or disable SMBus controller.**Boot****Quiet Boot**

Enable or disable Quiet Boot. This BIOS feature determines if the BIOS should hide the normal POST messages with the motherboard or system manufacturer's full-screen logo. When it is enabled, the BIOS will display the full-screen logo during the boot-up sequence, hiding normal POST messages. When it is disabled, the BIOS will display the normal POST messages, instead of the full-screen logo.

Setup Prompt Timeout*1 to 65535 (0xFFFF)* number of seconds to wait for the setup activation key.**Bootup Numlock State***On or Off* the keyboard Num lock state.**GateA20 Active**

This option is useful when any RT code is executed above 1MB.

Upon Request: GA20 can be disabled using BIOS services.*Always:* do not allow disabling GA20.**Option ROM Messages**

Set display mode for option ROM.

Boot Option #1

Show the system boot order of connected (SATA, PATA, or USB) bootable devices.

(Changing the order will be overwritten by the priority set in HardDrive BBS Priorities)

Hard Drive BBS Priorities

Boot Option #1

Disable or sets the boot order of the legacy devices connected.
(A USB connected device selection is a volatile configuration)

Security**Administrator Password**

Administrator Password limits access to changing the BIOS setup. It is only asked when attempting to enter setup if User Password is not assigned. The default Password is U\$3th3forc3.

User Password	User Password limits access to the machine at boot and any attempts to enter BIOS setup. If a password is assigned, User will have Administrator rights. No default password is assigned.
----------------------	---

HDD Password	This function only appears if a drive is connected.
User Password	Set User password to enable drive security. No default password is assigned.
Master Password	Set Master password to enable drive security. No default password is assigned.

Save & Exit

Save Changes and Exit	When you have completed the system configuration changes, select this option to leave BIOS setup environment and the new system configuration parameters can take effect.
------------------------------	---

Discard Changes and Exit	Leave BIOS setup environment without saving any changes.
---------------------------------	--

Save Change and Reset	When you have completed the system configuration changes, select this option to leave BIOS setup environment and reboot the computer so the new system configuration parameters can take effect.
------------------------------	--

Discard Changes and Reset	Reboot the computer without saving any changes
----------------------------------	--

Save Changes	Save changes done so far to any of the setup options.
---------------------	---

Discard Changes	Discard changes done so far to any of the setup options.
------------------------	--

Restore Defaults	Load default value for all setup options.
-------------------------	---

Save as User Defaults	Save the changes done so far as user default.
------------------------------	---

Restore User Defaults	Restore the user default to all the setup options.
------------------------------	--

Launch EFI from filesystem device	Attempts to launch EFI shell application from one of the available file system devices.
--	---

Firmware Version History

AIO (CFN 351300-XX)	AIO (CFN P/N Rev)	BIOS version	EC version	TS version	Notes
351300-01	n/a	0.07	0f	1.04-1.05	Prototype prior to production release
351300-01	0A	1.1	1.0	1.06	Initial production release
351300-01	0B	1.1	0f	1.01	Update for 12VDC measurement
351300-01	0B	1.1	1.2	1.101	Update for higher frequency to drive backlight and same 12VDC measurement as in 0f. Begin in AIO S/N P11C1496.
351300-02	0A	1.1	1.2	1.101	Release new AIO for PASES requirements
351300-02	0B	1.1	1.2	1.101	CareFusion documentation update
351300-03	0A	1.3	1.2	1.101	Update startup sequence for Bluetooth power up and changed default setting of Legacy USB to Enabled from Disabled.
351300-12	0A	1.1	1.2	1.101	Same as 351300-02 but with 4 GB memory.
351300-13	0A	1.3	1.2	1.101	Same as 351300-03 but with 4 GB memory.
351300-04	0A	1.5	1.2	1.101	Same as 351300-03 but new BIOS and WiFi.

Appendix A

15.21

Federal Communications Commission (FCC) Statement

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/oet/ea/fccid on the FCC ID:OHB351300