

FWA-6480 Security Platform

2U Rackmount Intel® Dual Xeon® Dual/Quad Core processor, Intel® 5100P Platform

with 8 Gigabit Ethernet Ports & LCD Display

Startup Manual

Packing List

Before installation, please make sure that the following items have been received:

1. One FWA-6480 Security Platform
2. One warranty certificate

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/Products/acrobat/readstep2.html (Acrobat is a trademark of Adobe)

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This manual is for the FWA-6480 series, Rev. A.

Part No. 2002648001

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Specifications

Standard PC functions

- **CPU:** 2 x Intel Dual-Core 5100/5200 series processors or 2 x Intel Quad-Core 5300/5400 series processors
- **System Bus:** FSB 1066/1333MHz
- **System Chipsets:** Intel 5100P (San Clemente) + ICH9R
- **Memory:** DDR2 533/667 MHz ECC registered. Up to 16GB with 4 DIMMs, 4G dual rank memory module.
- **Bus:**
 - 2 x PCI-E x8 connector to IO board
 - 1 x PCI-E x4 connector to IO board
 - 1 x PCI-E x8 slot for riser card
- **Ethernet:**

Management port	1 x Intel 82573E GbE controller support 10/100 Ethernet for management
Interface	4 x 10/100/1000 Mbps via RJ-45 interface and 4 x GbE via SFP interface from Intel 82571 GbE controllers
LAN Bypass	2 segments LAN bypass
- **Storage:**
 - 2 x 3.5" SATA HDD docks
 - 1 x CompactFlash socket
- **Peripherals:**

USB	2 x USB 2.0 ports on front panel
Serial	1 x front console port RJ-45
LCD Module	1
- **Dimensions (W x H x D):** 430 x 88 x 515 mm
(16.9" x 3.5" x 20.3")
- **Weight:** 18 kg (40 lb)
- **Environment:**

	Operating	Non-operating
• Temperature:	0~40° C (32~104° F)	-20~75° C (-4~167° F)
• Humidity:	5~85% @ 40° C (104° F)	5~95%

Front Panel Features

The FWA-6480 system has a simple but elegant front panel with easily accessible features. The LCD display module, HDD status LED, power LED, RJ-45 connectors, SFP connectors, RJ-45 console port, management port, 2 x USB 2.0 ports, and 2 hot-swappable HDDs are all accessible from the front panel.

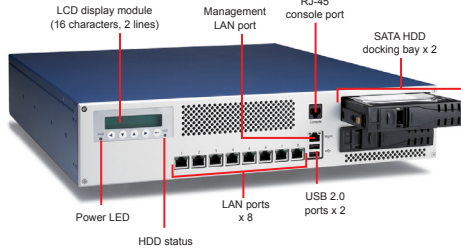


Figure 1A: Front Panel FWA-6480CRE



Figure 1B: Front Panel FWA-6480CFE

Installation

Installing the CPUs

1. Locate the CPU sockets on the board.
2. Taking one CPU at a time, remove the protective shield, if present, and press the load lever and move it until it is clear of the retention tab, and raise it.
3. Raise the load plate.
4. Make sure that the alignment triangle on the CPU lines up with correct corner of the socket, and ease the CPU into place.
5. Close the load plate and push the load lever back down until it engages the retention tab.

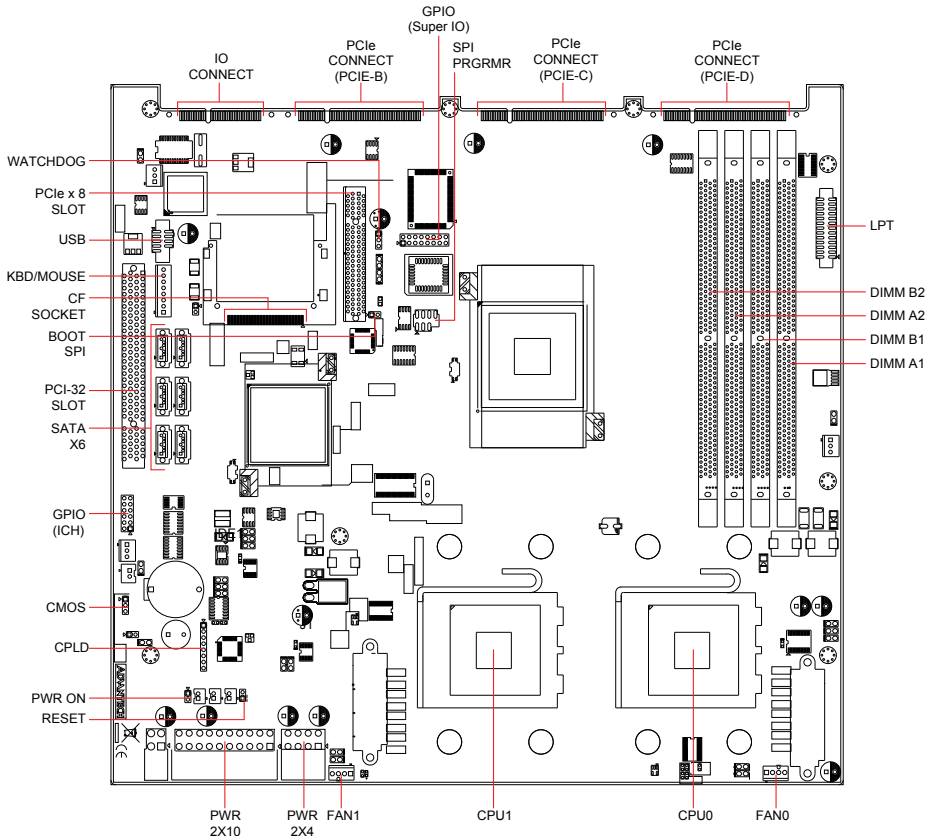
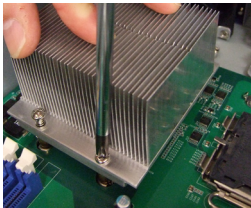


Figure 2: FWA-6480 Motherboard Layout

Installing the Heatsinks

- 1. Taking one heatsink at a time, apply a small dab of heat transfer compound to the top of the installed CPU, and then align and carefully lower the heatsink into place.
- 2. Insert and loosely engage each heatsink screw. After all the screws have been started, snug them to secure the heatsink.



Installing System Memory

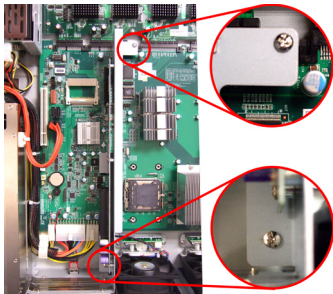
The FWA-6480 can support four DDR2 memory modules. Each DIMM supports 533/667 ECC registered modules only. Channel assignments are as follows:

DIMM Memory Channels	
Channel A	DIMMA1
	DIMMB1
Channel B	DIMMA2
	DIMMB2

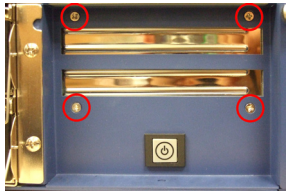
Installing the Riser Card

The FWA-6480 comes with a riser card that can support two PCIe x8 slots with PCIe x4 lanes. The main board provides a PCIe x8 slot to support the riser card. It is right next to the CF socket.

- 1. Press the riser card bracket until the golden fingers completely mate with the slot and the bracket aligns with the rear panel.
- 2. Tighten the riser card bracket screws, shown in the following photo.



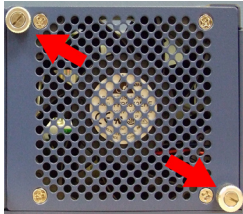
- 3. After the riser card bracket aligns with the rear panel, secure it with four screws through the panel.



Installing System Fans

The FWA-6480 provides two easy-install system fans for the rear panel.

Use the supplied screws; tighten finger tight.



Declaration of Conformity

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

Safety Instructions - Rack Mount

A) Temperature: Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not brought about due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the potential for overloading of circuits, along with possible effects this might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).


Jumpers and Switch Settings

Connector and Jumper List

CN7	KB/MS PIN Header 1x8 PIN
CN8	USB PIN Header 2x5 PIN
LPT1	LPT PIN Header 1x13 PIN
JP-CMOS	CMOS Header 1x3 PIN
FAN2, FAN3	FAN Header 1x4 PIN
CN6	CPLD JTAG Header 1x8 PIN
CN4	Compact Flash socket 50PIN
CN-SPI	SPI Programming Header 2x4 PIN
JP-SPI	Boot from SPI Header 1x2 PIN
JP-WDT	Watchdog Header 1x3 PIN
J15	Power-ON Header
J12	System Reset Header
J16 (reserved)	GPIO Header 2x6 PIN (From ICH)
JP-GPIO (reserved)	GPIO Header 2x8 PIN (From SIO)
SW-PCIE-MCH	PCIe Switch (From MCH)
SW-PCIE-ICH	PCIe Switch (From ICH)

Keyboard & Mouse Header (CN7)

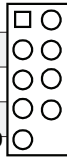
Pin	Signal
1	KB_CLK
2	KB_DATA
3	VCC
4	GND
5	MS_CLK
6	MS_DATA
7	VCC
8	GND



This header provides PS/2 functionality, including keyboard and mouse.

USB Header (CN8)

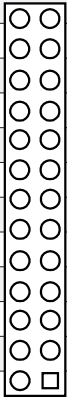
Pin	Signal
1	VCC (5V)
2	VCC (5V)
3	USBD1-
4	USBD0-
5	USBD1+
6	USBD0+
7	GND
8	GND
9	GND



This header provides USB functionality. Over-current sensing for USB is provided by resistor dividers. A footprint for ESD protection devices must be provided for each USB pair on the system board. The bulk capacitor for the front ports is included in the cable assembly.

LPT Header (LPT1)

Pin	Signal
1	STB
2	AFD#
3	PD0
4	ERR#
5	PD1
6	INIT#
7	PD2
8	SLIN#
9	PD3
10	GND
11	PD4
12	GND
13	PD5
14	GND
15	PD6
16	GND
17	PD7
18	GND
19	ACK#
20	GND
21	BUSY
22	GND
23	PE



LPT Header (LPT1)	
24	GND
25	SLCT
26	NC

This header provides for an LCM interface module on the front panel.

Clear CMOS Header (JP-CMOS)	
Setting	Function
1-2	Normal operation*
2-3	Clear CMOS

The Clear CMOS header must have a jumper. To clear CMOS: Power off. Set jumper to 2-3. Reset jumper to 1-2. Then power on again.

Fan Header (FAN2, FAN3)	
Pin	Signal
1	PWM
2	ROTATION
3	VCC (5V)
4	GND

The number of fans may vary according to platform. Locations of the fan headers accommodate the circulation of fresh air from the front of the chassis. The fan headers are MOLEX 22-23-2051 type.

CPLD JTAG Header (CN6)	
Pin	Signal
1	VCC (3.3 V)
2	TDO
3	TDI
4	NC
5	NC
6	TMS
7	GND
8	TCK

Compact Flash Socket (CN4)	
Pin	Signal
1	GND
2	IDE_DD3
3	IDE_DD4
4	IDE_DD5
5	IDE_DD6
6	IDE_DD7
7	IDE_CSO#
8	GND
9	GND
10	GND
11	GND
12	GND
13	VCC (5V)
14	GND
15	GND
16	GND
17	GND
18	IDE_DA2
19	IDE_DA1
20	IDE_DA0
21	IDE_DD0
22	IDE_DD1
23	IDE_DD2
24	NC
25	GND
26	GND
27	IDE_DD11
28	IDE_DD12
29	IDE_DD13
30	IDE_DD14
31	IDE_DD15
32	IDE_CS1#
33	NC
34	IDE_DIOR#
35	IDE_DIOW#
36	VCC (5V)
37	IDE_INTRQ
38	VCC (5V)

Compact Flash Socket (CN4)	
39	CF_MODE
40	NC
41	RESET#
42	IDE_IORDY
43	IDE_DMARQ
44	IDE_DMACK#
45	CF_LED#
46	IDE_DECT
47	IDE_DD8
48	IDE_DD9
49	IDE_DD10
50	GND

SPI Programming Header (CN-SPI)	
Pin	Signal
1	VCC3SBY
2	GND
3	SPI_CS#
4	SPI_CLK
5	SPI_MISO
6	SPI_MOSI
8	NC

Boot from SPI Header (JP-SPI)	
Setting	Function
(none)	Boot from FWH*
1-2	Boot from SPI

Watchdog Header (JP-WDT)	
Setting	Function
1-2	to #WG_BYPASS*
2-3	to SYS_RST#

Note: Watchdog header requires a jumper.

Power-ON Header (J15)	
Setting	Function
(none)	normal operation
1-2	Start signal to PSU

System Reset Header (J12)	
Setting	Function
(none)	normal operation
1-2	Reset

PCIe Switch from MCH (SW-PCIE-MCH)		CN2 PCIe x8 slot		PCI-E-B PCIe x8 right angle		PCI-E-C PCIe x8 right angle	
Setting		Port 2	Port 3	Port 4	Port 5	Port 6	Port 7
SW1	SW2	PCIe x8 slot		PCIe x8 slot		PCIe x8 slot	
OFF*	OFF*	x8		x4	x4	x4	x4
OFF	ON	x8		x4	x4	x8	
ON	OFF	x8		x8		x4	x4
ON	ON	x8		x8		x8	

PCIe Switch from ICH (SW-PCIE-ICH)	
Setting	Function
SW1	SW2
OFF*	OFF*
ON	ON