

TB192 (Rev1) - Installing An Aaeon PCM-6893 In An M15

Overview

This document describes the procedure for installing the Aaeon PCM-6893 motherboard in an M15-6 Clr, or newer, color console. This motherboard is a replacement in systems that have an industrial motherboard and an NEC 10.4" LCD screen. If you have an NEC 9.4" Color LCD screen, you will need a different LCD cable. Below you will find a list of all the components that you should have received with the Aaeon motherboard.

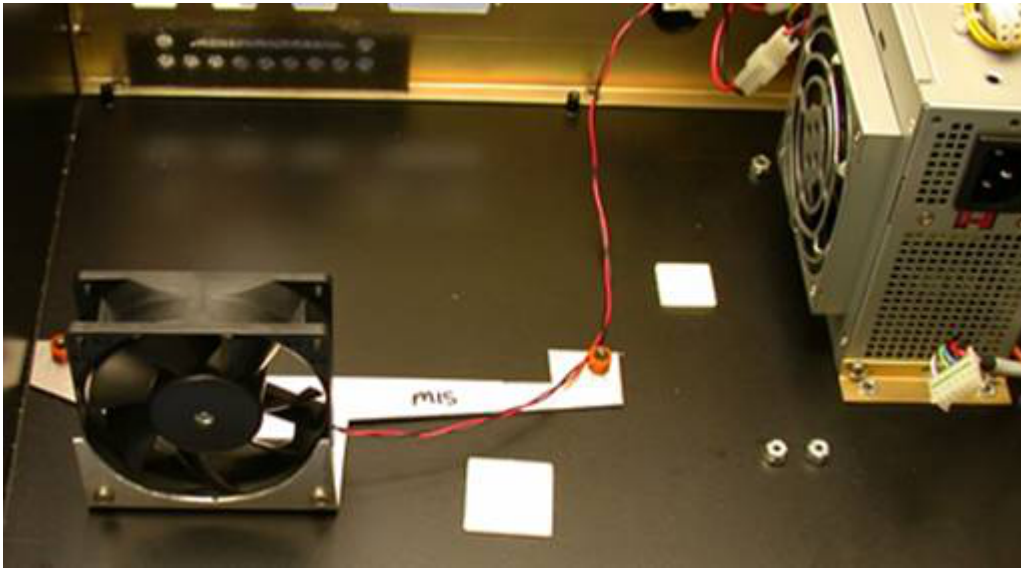
- * Aaeon PCM-6893 Motherboard, complete with CPU and memory
- * Heat sink, fan w/ mounting bracket, and 2 nylon spacers (.244")
- * LCD Cable
- * ATX Power Supply
- * Aaeon Hard Drive cable and Floppy cable
- * Aaeon Keyboard and mouse cables
- * Serial and Parallel cables
- * Ethernet Cable
- * Drive/inverter power cable
- * Fan/probe power cable
- * Misc. power extension cables
- * USB cable with 1 USB extension

Installation

The first step in the installation process is to remove all of the old components. You must remove the old motherboard assembly, complete with CPU, memory and heatsink. You must also remove the old LCD descrambler card and LCD cable. You will no longer need the existing Ethernet cable, keyboard/mouse cable, or hard drive cable and floppy cable. If the power supply is not of the ATX type or is a Morex PS, then you will need to remove it as well. This document contains the recommended installation procedure. Follow it exactly to avoid any problems. If there is any confusion, please refer to picture 3 of an Aaeon motherboard with cables connected.

1. Before installing the Aaeon motherboard, put a piece of 2-sided foam tape on the bottom of the fan bracket to avoid unwanted vibration. The fan bracket will need the mounting holes drilled out to $\frac{1}{4}$ " to fit over standoffs. Now place the fan bracket assembly over top of the front standoffs. Install the nylon spacers over the standoffs, on top of the bracket. When you install the motherboard the bracket will now be held in place. (See picture 1)
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Picture 1: Cooling fan and bracket mounted in M15 console



2. Install the Aeon motherboard on the existing motherboard standoffs at the bottom of the case. Refer to Picture 2 for orientation.
3. Attach the new LCD Cable to CN3 on the motherboard and the other end to the LCD screen using the existing screws, standoffs, and LCD Cable Mounting Bracket. The cable is keyed so, it can only be plugged in one way. The mounting bracket goes over the LCD Connector to hold in place on the LCD.
4. Attach the Hard Drive cable to IDE1 on the motherboard. The red stripe goes to Pin 1, which is towards the CPU Socket.
5. Attach the floppy drive cable to FDC1 on the motherboard (pin one closest to the standoff).
6. Attach the serial cable to CN6 on the motherboard. This socket is keyed and can only go on one way.
7. Attach the LPT1 cable to LPT1 on the motherboard. This socket is keyed and can only go one way.
8. Attach the USB cable to USB2 on the motherboard. Pin 1 is labeled with an Arrow and is the Red wire on the USB Cable.
9. Connect new Ethernet cable to LAN1 on the motherboard.
10. Plug ATX power connector into PWR1. It will only plug in one way.
11. Connect the new keyboard/mouse cable to CN7. It will only connect one way.
12. After all cables are installed you will carefully need to route all the cables so that they do not obstruct the CPU7. The LCD cable can be routed around the RAM as shown in Picture 2. Extra care must be taken with the ATX power connector so that it does not interfere with the bottom of the CPU7 card.
13. If the M15 was not fitted with an ATX style power supply, then you will have to drill new mounting holes for the new ATX power supply. Mount the ATX power supply as shown in Picture 1 above. Use the angled bracket and the pre-existing bracket on the power supply to secure it to the console.
14. Power up console to verify MB will boot. You may need to go into the CMOS setup to change some settings. To do this, hit the DEL key on the keyboard when the control does the Memory check. Go into STANDARD CMOS SETUP. Change the Screen Resolution to 640x480 TT1. You must change the HALT option to ALL, BUT KEYBOARD. Go in to the Power Management Setup and change PWRON after PWR-Fail to ON.

Note: If the motherboard was not setup at Centroid you may need to momentarily jumper pins 1 & 2 on CN9 while power is applied to the motherboard. The motherboard will turn on and allow you to enter the BIOS. You must change the power management as described above. Remove power before continuing with next step.

Picture 2: Aaeon motherboard installed in an M15



15. Re-install the CPU7; you may need to use 1/16" spacer on the top and bottom of each standoff. Ensure that the CPU7 is inserted all the way into the socket. Also be sure that the CPU7 will line up correctly with the back panel.

16. Temporarily connect IDE and floppy cables to sshdd and floppy drive. Power up again to verify system boots up into CNC10 software. If ok then power down and continue to reassemble M15. If it doesn't boot into the cnc10 software, see the notes below for troubleshooting. Note: If using the flash card reader supplied by Centroid, verify JP4 has the two pins closest to the IDE connector jumpered.

Picture 3: Aaeon with cables inserted correctly



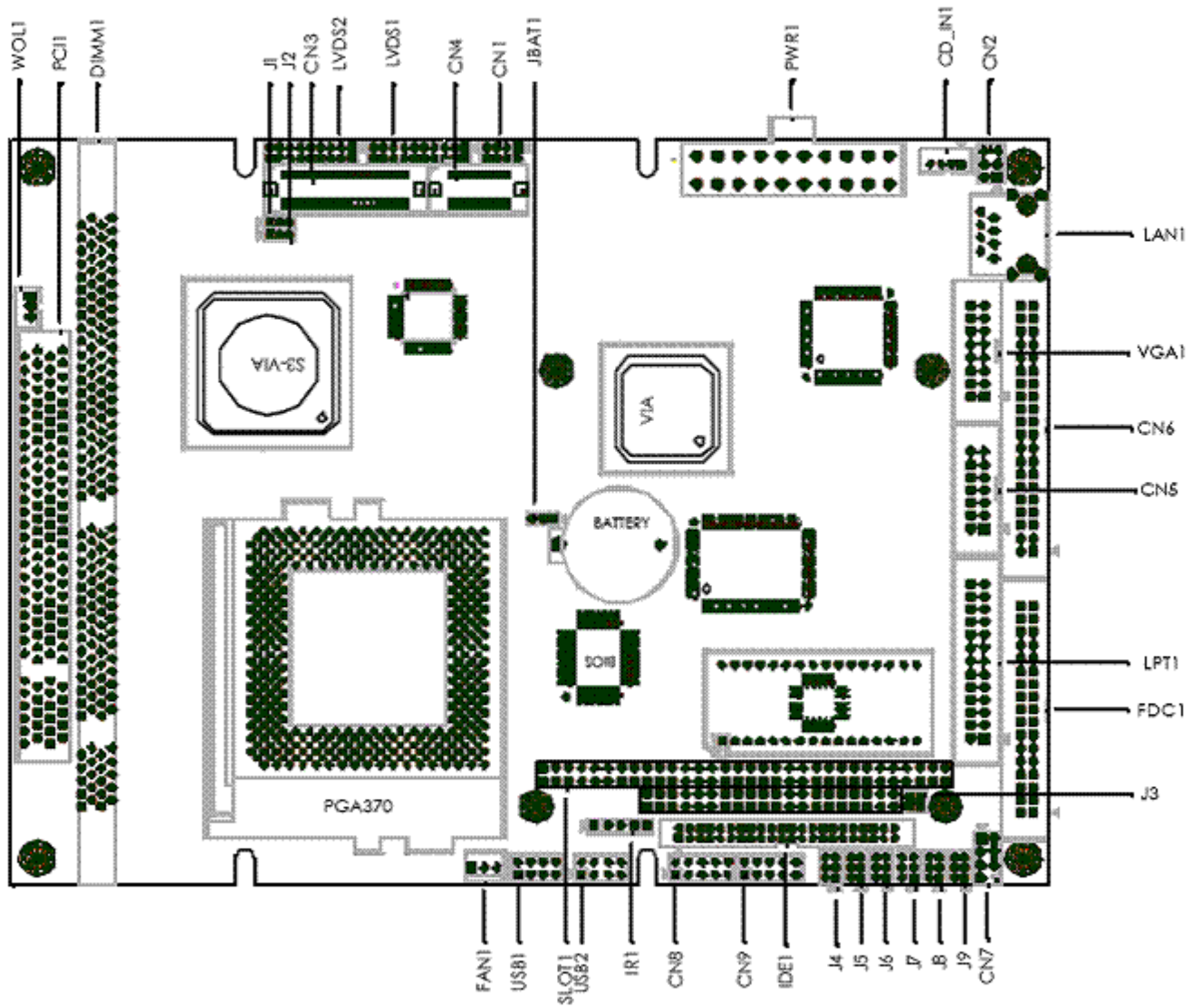
Notes:

- * Be very careful with the routing of the cables. The pictures above show our recommended cable routing.
- * You must ensure the CPU7 board is pressed fully down into the socket on the motherboard; failure to do so will cause a 64180 Timeout not responding error message when loading CNC7.
- * Check the clearance between the Motherboard and the CPU7. Ensure none of the cables are pinched by the CPU7. You may need to trim the ATX power connector to allow the wires to fold down either side as shown in the picture above.

Connectors

Label	Function
CN1	TV Output Connector
CN2	LAN1 Status Connector
CN3	Primary LCD Panel Connector
CN4	Secondary LCD Panel Connector
CN5	Audio Output Connector
CN6	Serial Port 1 / 2 / 3 / 4 Connector
CN7	Keyboard / PS2 Mouse Connector
CN8	GPIO Connector
CN9	Front Panel Connector
VGA1	CRT Connector
LVDS1	LVDS Connector
LVDS2	LVDS Connector
LAN1	10/100 Base-Tx Ethernet 1 Connector
IDE1	Primary Device Connector
CF1	Compact Flash Connector
PWR1	ATX Power Connector
PWR2	AT Power connector
FAN1	CPU Fan Connector
LPT1	Printer Port Connector
SOLT1	PC/104 Connector
WOL1	Wake On LAN Connector
FDC1	Floppy Connector

Locating connectors and jumpers (component side)



Document History

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