

TB148 (Rev1) - Installing An Aaeon PCM-6890B In An M15

Overview

This document describes the procedure for installing the Aaeon PCM-6890B motherboard in an M15-6 Clr, or newer, color console. This motherboard is a replacement in systems that have an Acrosser motherboard and an NEC 10.4" LCD screen. Below you will find a list of all the components that you should have received with the Aaeon motherboard.

Aaeon Kit

1. Aaeon PCM-6890B Motherboard, complete with CPU and memory
2. Heat sink, fan w/ mounting bracket, and 2 nylon spacers (.244")
3. LCD descrambler card LCD_DES 020703, 50 Pin
4. 50 pin LCD cable
5. ATX Power Supply
6. Aaeon Hard Drive cable
7. Aaeon Keyboard and mouse cables
8. Ethernet Cable
9. Inverter/drive power cable, fan/probe power cable, splitter with double standard connectors and splitter with one standard and one floppy connector. Also need 4-pin brown Molex connector with pins to convert the floppy connector on the ATX power supply.

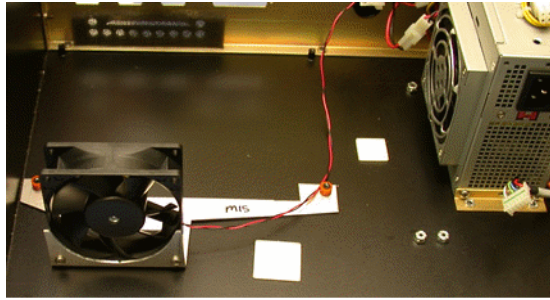
Also you will need to retain the following parts from the M15 for use with the Aaeon motherboard:

1. Floppy Drive cable
2. LPT1 cable
3. Serial cable
4. ATX power supply, if fitted

Installation

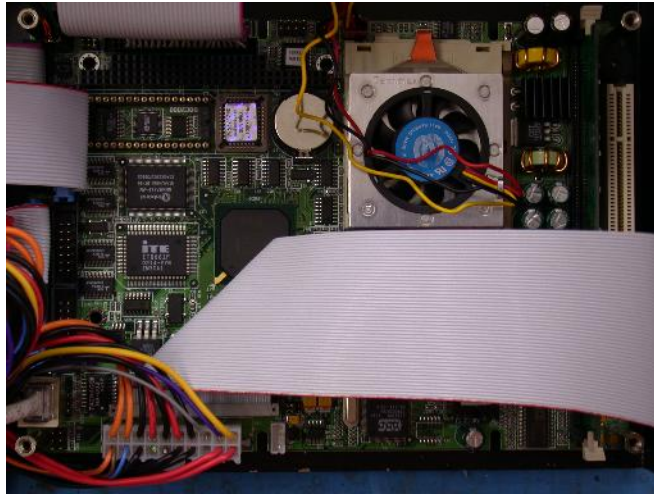
The first step in the installation process is to remove all of the old components. You must remove the old motherboard assembly, complete with CPU, memory and heatsink. Also you must remove the old descrambler card and LCD cable. You will no longer need the existing Ethernet cable, mouse cable, keyboard cable or hard drive cable. If the power supply is not of the ATX type, then you will also need to remove it. This document contains the recommended installation procedure. You must follow it exactly to avoid any problems. If there is any confusion over any of the instructions, please refer to picture 4 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. Now place the bracket and fan on the floor of the console over top of the front standoffs. Then put the spacers on top of the bracket over the standoffs, so that when you install the motherboard the bracket will be held in place. (See picture 1)



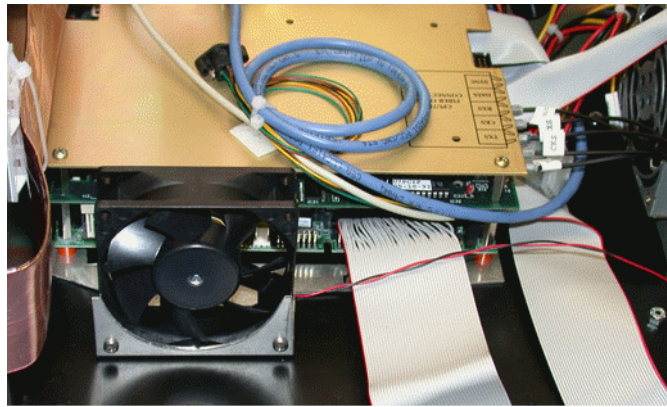
Picture 1: Cooling fan and bracket mounted in M15 console

2. Install the Aeon motherboard on the existing motherboard standoffs at the bottom of the case.
3. Attach the new 50-pin descrambler card to the LCD screen using the existing screws and spacers. It is important that you use the new LCD descrambler card; failure to do so will damage both the motherboard and LCD.
4. Install the LCD cable; one end connects to the LCD descrambler card, and the other to CN10 on the motherboard. It is vital that the red stripe on the cable is attached to Pin 1 at each end. On the motherboard Pin 1 is towards the edge of the motherboard, next to the Ethernet socket.
5. Attach Hard Drive cable to CN6 on the motherboard and the other end to the hard drive. This cable should be keyed. If not the red stripe goes to Pin 1, which is towards the CPU Socket, CPU1
6. Attach old floppy drive cable to CN17 on the motherboard, it is also keyed
7. Attach old serial cable to CN16. This socket is not keyed; pin 1 marked by the red stripe must be aligned with pin 1 on the motherboard end. Pin 1 on CN16 is next to CN17
8. Attach old LPT1 cable to CN14 on the motherboard. This socket is keyed and can only go one way.
9. Connect new Ethernet cable to CN15 on the motherboard
10. Plug ATX power connector into CN9. It will only plug in one way.
11. Connect the new keyboard/mouse cable to CN11. 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 up and over the RAM. You will only need to make one fold in the cable (See 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. Convert the floppy connector on the ATX to the brown Molex connector. Then plug the inverter/drive power cable into the standard connector that is on the same wire as the floppy connector you've just changed. The other power cable coming from the ATX connect the fan/probe cable to the first connector and the double standard splitter to the end of the ATX cable. Now plug the cooling fan into one and the standard/floppy splitter into the other and connect them to the hard drive and floppy drive respectively.



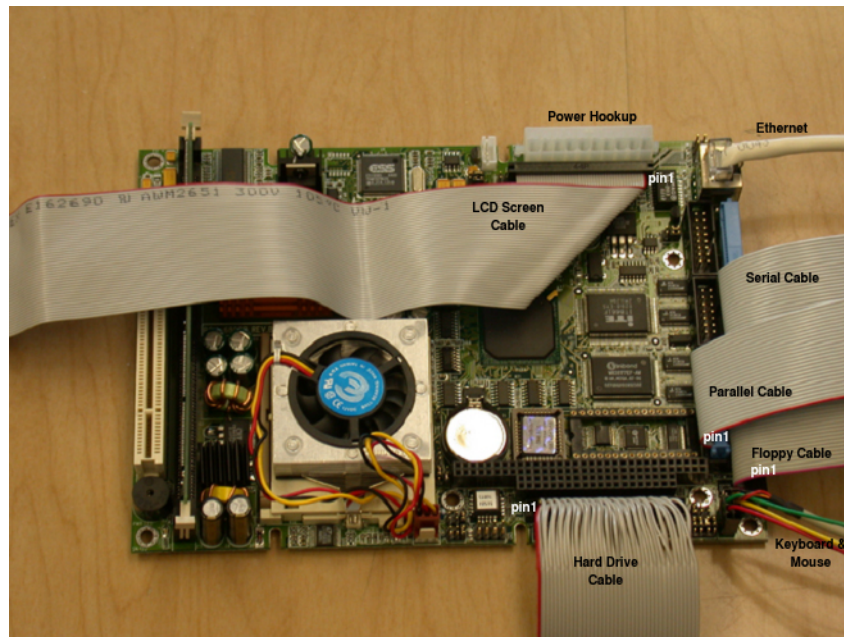
Picture 2: Aaeon motherboard installed in an M15

13. 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. (See Picture 3)



Picture 3: Completed installation of Aaeon motherboard with CPU7

15. After powering on the M15, you may need to go into the CMOS setup to change the LCD screen resolution. To do this, hit the DEL key on the keyboard when the control does the Memory check. Go into STANDARD CMOS SETUP. Change the PANEL type to 640x480 18 Bit for NEC 10.4" LCD screens or 640x480 12 bit for the 9.4" LCD screens.



Picture 4: Proper routing of cables for M15 installation

Notes:

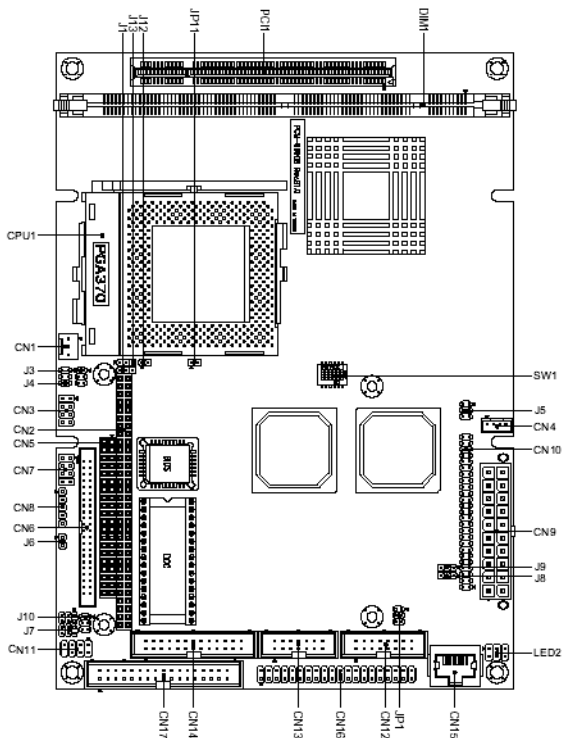
1. Be very careful with the routing of the cables. The pictures above show our recommended cable routing.
 2. You must ensure the CPU7 board is pressed fully down into the socket on the motherboard; failure to do so will cause a 64180 Timeout not responding error message when loading CNC7.
 3. Ensure the LCD descrambler card and cable are correctly inserted.
 4. 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.
 5. The current LCD descrambler for the Aeon motherboards will ONLY work with a NEC 10.4"Color screen. If your M15 has a 9.4" color or monochrome then it will not function.
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Jumpers and Connectors

Connectors

Label	Function
CN1	CPU fan power connector
CN2	PC/104 connector
CN3	USB ports connector
CN4	CD-ROM signal input connector
CN6	IDE drive connector
CN7	Front panel connector
CN8	IrDA connector
CN9	ATX power connector
CN10	LCD display connector
CN11	Keyboard and PS/2 mouse connector
CN12	VGA display connector
CN13	Audio connector
CN14	Printer port connector
CN15	100Base-T Ethernet connector
CN16	Serial ports connector
CN17	Floppy drive connector
U18	DiskOnChip socket
LED2	Ethernet Tx/Rx/Link LED connector

Locating jumpers & connectors



Document History

Rev1 Created on **2002-07-24**