TB230 (Rev1) - PCM-8152 3rd Generation Aaeon motherboard kit Installation Instructions for M15-6 to M15-10 Consoles

Introduction: This document will provide you with the necessary instructions to install a PCM-8152 motherboard kit in an M15-6 through M15-10 console. Make sure you read the entire document before going to do the install.

Materials List:

- PCM-8152 motherboard
- PC104 extender board
- DVI to TTL daughter board and cable
- LCD cable and descrambler shaped bracket
- 1Gb DDR RAM
- 80 strand IDE cable
- PS2 keyboard & mouse cable
- COM port ribbon cable
- 2 port USB cable
- RJ45 Ethernet cable
- 300W ATX PS w/ brackets and power cable
- SSHD w/ Linux software install mounted on bracket
- Motherboard mounting plate
- 5x 6-32x1/2 standoffs with threaded holes on both ends
- 4x 6-32x1/2 standoffs
- 4x custom 5mm offset standoffs
- 4x 6-32x1 standoffs
- 4x 6-32x1/2 setscrews
- 3x DB9 ribbon cable extenders
- USB connector panel
- DB25, KB, & Ethernet blank out covers
- Console fan/DP4 power cable
- Drive/inverter power cable
- 60cfm 80mm fan w/ Molex connector
- 2x L-brackets for mounting 80mm fan

Note: The kit will come with the Aaeon MB and 80mm fan mounted to the mounting plate and the special standoffs mounted onto the MB.

Procedure:

1. Remove floppy drive bay, CPU7, MB, and power supply from M15.

2. Mark and drill the 4 holes for the motherboard mounting plate. (see picture 1)
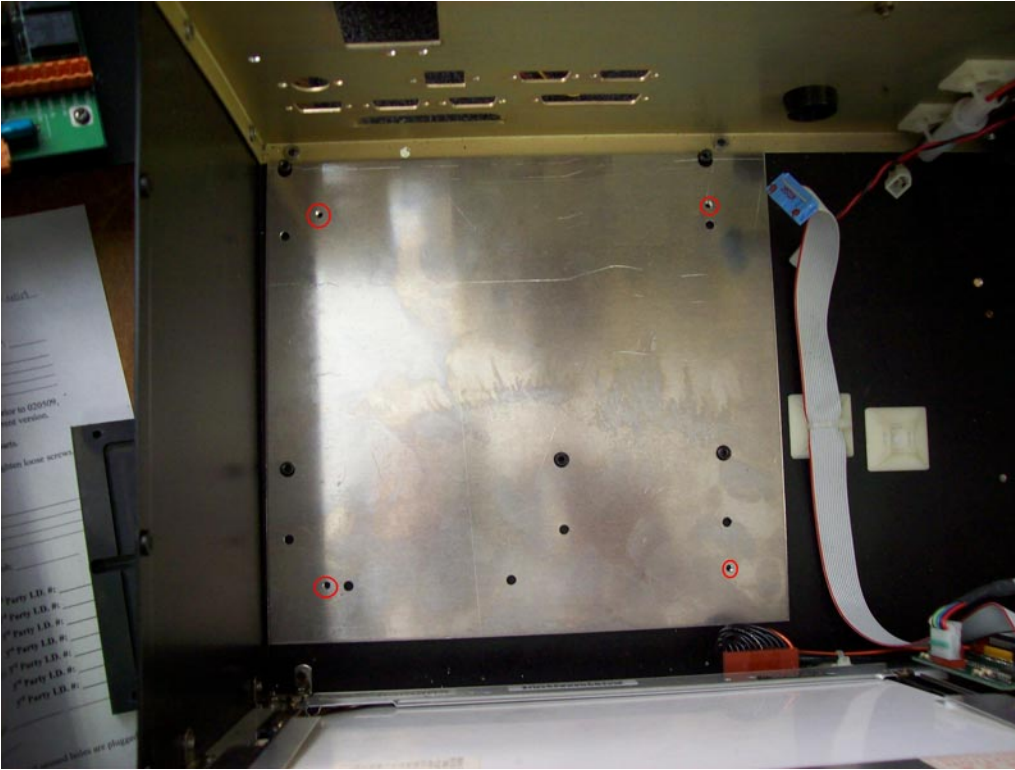
Picture 1: Red circles indicate the 4 holes you need to mark on the M15 base to drill and mount the MB mounting plate.

3. Position the ATX power supply so the fan is blowing towards the MB. Make sure the angle bracket is on the bottom of the ATX PS and mark your two holes. If possible try to reuse at least one of the existing holes to avoid turning the bottom of the M15 into Swiss cheese. Drill your hole(s) and mount the PS to the bottom of the M15.

4. Make whatever modifications necessary to connect the ATX PS 110VAC cable to the 110VAC connection on the back panel of the M15.

5. Install the 3x DB9 ribbon cable extenders to the back panel; make sure you mount the blue connectors to the back panel. Plug the KB, Ethernet, and DB25 holes in the back panel with the supplied plugs and covers.

6. Place the motherboard mounting pan with the MB mounted on it into the M15 and secure with 4x 6-32x1/4 screws.

7. Connect ATX power connector into MB and LCD cable into the LCD, and then connect the ATX PS to the 80mm fan, the console fan/digitizer power cable, and the inverter/drive power cable. Power up the MB and verify it powers on. If that looks ok, install the CPU7P3 card into the PC104 socket and connect the IDE cable to the SSHD. Now power on and verify the system boots into the software. (see picture 2)
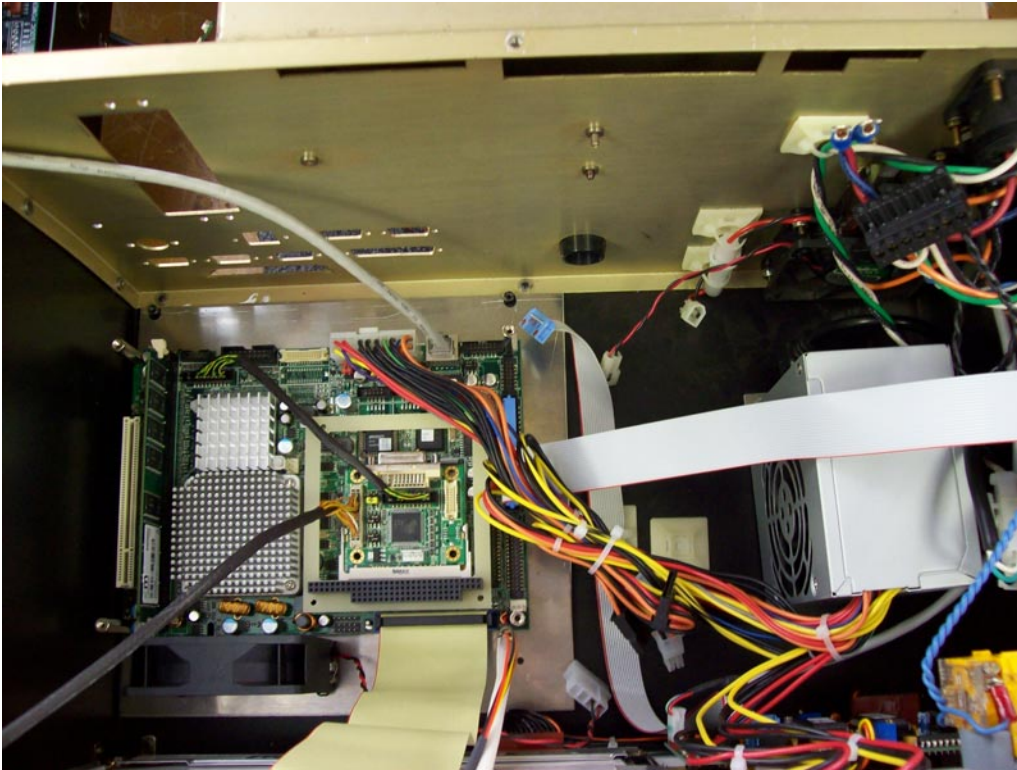
 Picture 2: Shows the MB and ATX PS mounted in the M15.

8. If the console boots up into the software, shut it down. Then connect the ribbon cable extenders to the CPU7, the jog panel cable to the CPU7 and install standoffs and metal cover over the CPU7. Using the metal spacers and 6-32x1/2? screws used to secure the descrambler board, secure the metal bracket provided with the kit that has the same shape as a descrambler board.

9. Mount USB cables, Ethernet, KB and mouse connectors to I/O panel. Take the floppy drive bay and flip it 180 degrees from its normal orientation, so the bottom is against the side wall of the M15. Mount the SSHD into the floppy drive bay. Place the I/O panel where the plastic went for the floppy drive door, then place the floppy drive bay against the I/O panel and secure from the back with 6-32 screws. (see picture 2)


 Picture 2: This is how the I/O panel and floppy drive bay w/ SSHD should be mounted.

10. Re-connect the PLC/drive lid to the M15, and then plug in a keyboard and power up the console. Install your Linux configuration or refer to TB167 to convert your DOS CNC7 files to Linux CNC10 files.

11. Once the configuration and program files are loaded onto the system re-install the M15 control onto the machine and test it out.

PCM-8152 Motherboard Connection Diagram
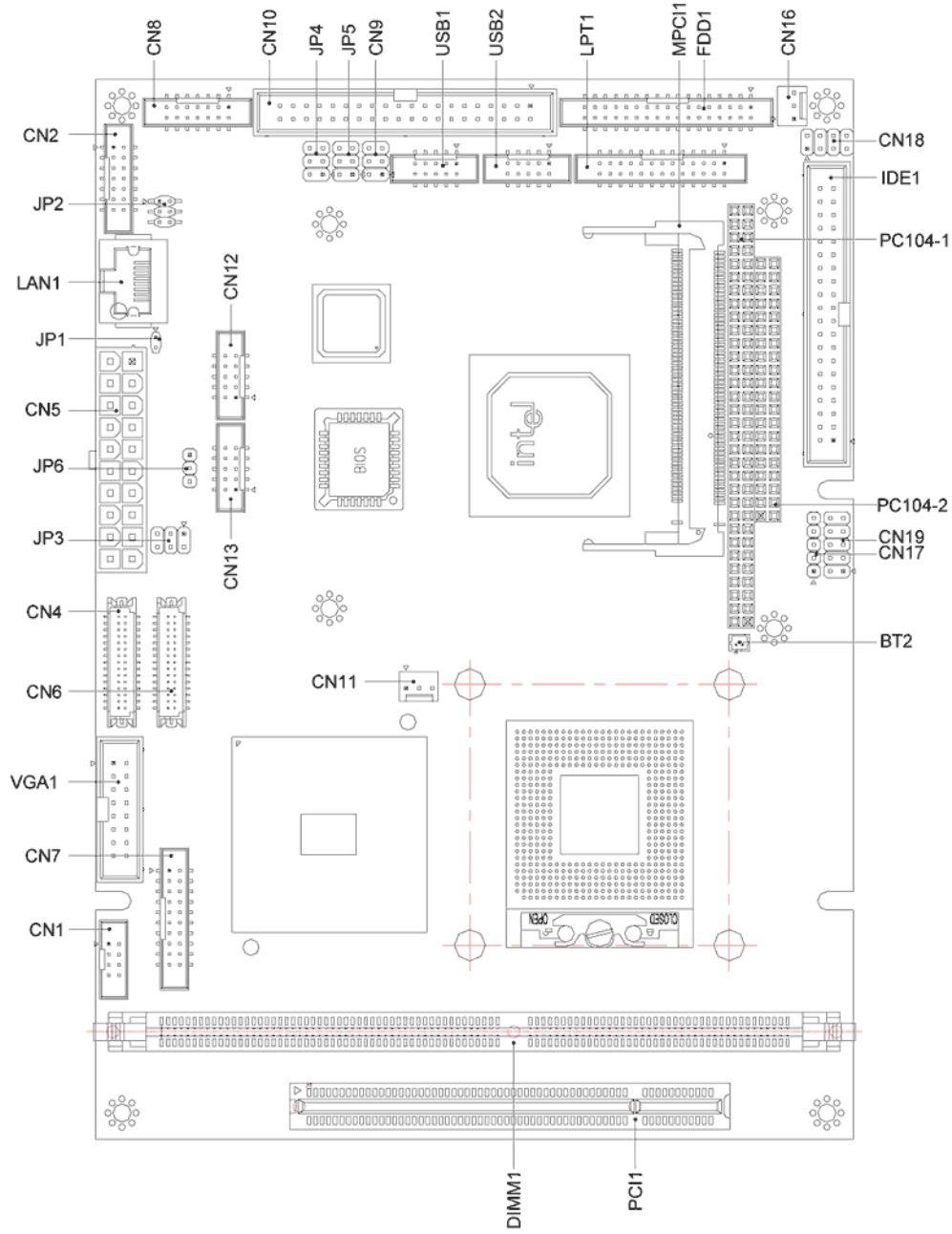
PCM-8152 Motherboard Connection Table

Connector Label	Function
CN1	TV_Out Connector
CN2	Audio SPDIF Connector
CN4	Internal LVDS Connector
CN5	ATX Power Connector
CN6	Extension LVDS Connector (Optional)
CN7	DVI Connector
CN8	Audio Connector
CN9	LAN LED Connector
CN10	COM1-4 Connector
CN11	CPU Fan Connector
CN12	Digital I/O-1 Connector (801H)
CN13	Digital I/O-2 Connector (800H)
CN16	System Fan Connector
CN17	IrDA Connector
CN18	Internal Keyboard and Mouse Connector
CN19	Front Panel Connector
FDD1	Floppy Connector

Document History

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