PMC-EVR Installation Instructions

For MVME-6100

V1.0

Overview:
This document provides instruction for installation of a MicroResearch PCI Mezzanine Card Event Receiver onto Motorola VME computer model MVME-6100.

MVME-6100 Installation

The procedure involves four steps:

1. Selecting the PMC slot on the MVME-6100
2. Removing the metal filler panel from the CPU's front panel
3. Setting the PMC module configuration jumpers
4. Installing the PMC-EVR onto the 6100

It is important to set the jumpers properly – DAMAGE TO THE CPU – may result from improperly set jumpers!

Preparing for installation:

PMC-EVR200 Preparation:
The PMC-EVR requires no preparation. There are no configuration jumpers or switches on the board the need to be set up. All setup and configuration are handled by software controller registers.

MVME6100 Preparation:
Before the PMC-EVR can be installed onto the MVME6100 IOC, the PMC slot 1 front panel filler plate needs to be removed and the proper jumpers must be set on the IOC.

1) Slot Selection:
The PMC-EVR provides three hardware triggers via its front panel. It also supplies fourteen more triggers using the PMC bus P4 user I/O connector. This connector maps the triggers to the host processor's mating connector. The host processor then provides some facility for getting the PMC's P4 user I/O signals out to some usable format. In the case of the MVME-6100, it maps the user I/O connections from both of its PCI slots to the VME P2 connector. In this way, the PMC-EVR can use the same type of rear transition modules are the VME-EVR – provided that things are configured correctly.

For the MVME-6100, the mapping of PMC user I/O from PMC slots 1 & 2 to VME P2 differs for each one, which drives the choice of which slot the PMC-EVR should be installed into. PMC slot 1 maps its user I/O to P2 rows A & C (with some special conditions), while PMC slot 2 maps its I/O to VME P2 rows D & Z.

It is recommended that the PMC-EVR be installed into PMC slot 1 on the MVME6100. From a PCIbus interface standpoint, either PMC slot could be used, but in order to utilize the rear transition module triggers, slot 1 must be used. This should be done even if the target subsystem requirements do not call for it as this allows for future expandability. Doing so does not adversely affect PMC-EVR function in any way.

As shipped from the factory, the MVME-6100 has its PMC slot 1 configured for IPMC mode. In this mode, the PMC I/O mapping is set up for the special Motorola IPMC modules. These modules provide legacy support for the MVME761 & MVME712M rear transition modules; which contain serial, parallel, ethernet and SCSI interfaces.

Physically, in IPMC mode, the mapping of the wires from the PMC module J4 I/O connector to the VME P2 connector is different. In order to use an EVR rear I/O trigger transition module when the PMC-EVR is in slot 1, slot 1's PMC to VME P2 user I/O mapping must be configured for PMC mode. Jumpers on the MVME-6100 control this IPMC/PMC mode selection.

2) Remove the front panel filler plate:
Locate PMC slot 1 on the MVME6100 (see figure 1). The front panel filler plate is easily removed by simply pushing it out by applying a small force with one's fingers from the back side of the front panel. Once the filler plate is removed, the on-board jumpers need to be set

MVME-6100 Layout: Showing PMC Slot and Jumper Block Locations

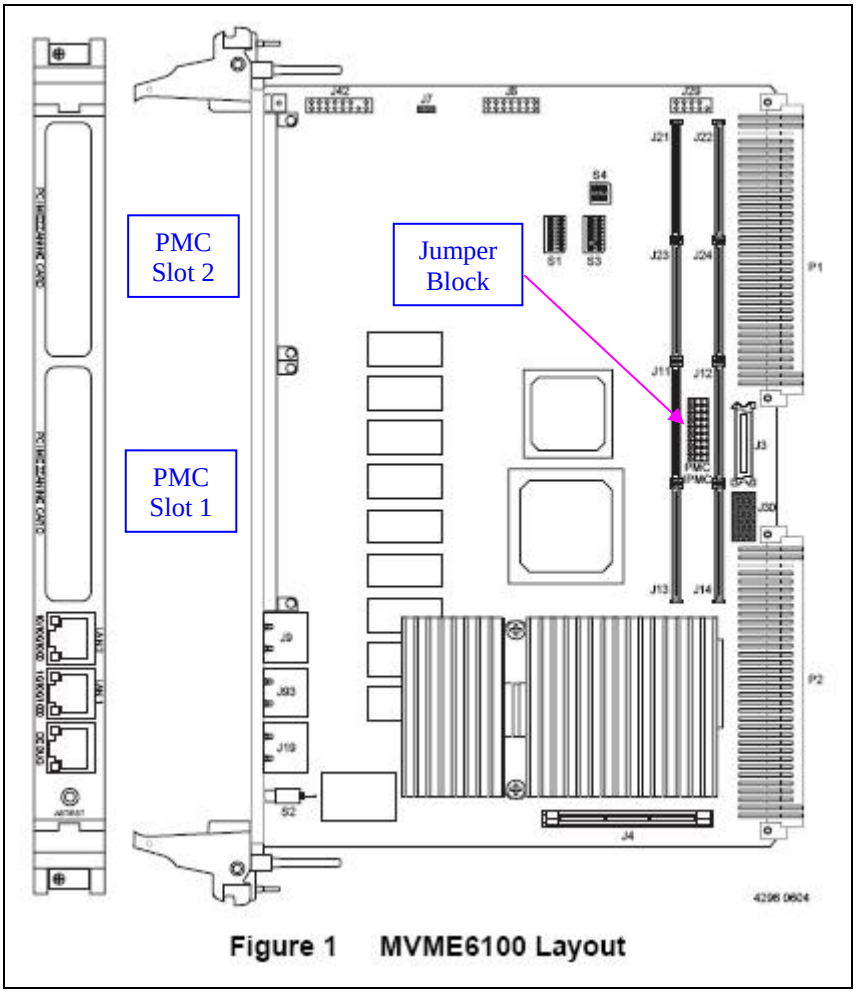

Figure 1 MVME6100 Layout

3) Jumper Configuration for PMC mode:
Note that the jumpers must be configured BEFORE the PMC-EVR is installed into slot 1.

Locate jumpers J10, J11 – J18, J25 - J28. This is a block of 27 pins, arranged in a 3x9 pattern located between the J11 and J12 connectors on the board (see fig 1). The jumpers themselves a small gray or black plastic items straddling two pins. In the factory-default configuration, which is IPMC mode, the jumpers are sitting across positions 2 & 3 for J10. For PMC mode, the jumpers need to be moved to positions 1 & 2. The figure below describe the jumper positioning.

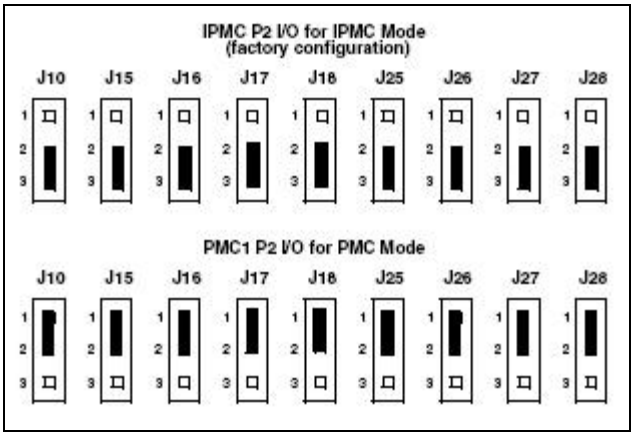

Figure 2: Jumper Settings

As seen in Figure 2, PMC mode requires all nine jumpers to be moved "up", sitting between positions 1 & 2. Using a pair of fine needle-nosed pliers, remove each individual jumper from positions 2 & 3 and re-install into positions 1 & 2. Experience has shown that is may be easier to remove all the jumpers at one and then reinstall them one at a time. Note that the MVME-6100's PCB silkscreen is fairly well marked, indicating the jumper locations as well as the positions for IPMC and PMC modes, respectively. Note also that these jumper do not affect PMC slot 2.

4) Installing the PMC-EVR:
The EVR board essentially snaps into the slot when it has been aligned properly. The PMC-EVR is installed by turning it upside down so that its three white PMC connectors are facing downwards. The PMC board is mounted into the 6100's PMC slot by first carefully tilting it downwards towards the left and inserting the EVR's front panel through the rear of the 6100's front panel opening. The EVR is pushed forward until its front panel is flush with the 6100's. Then the right side of the PMC board is pivoted downwards so that its connectors align with the CPU board's. There is a metal alignment pin on the 6100 located between the upper and lower pairs of PMC connectors. The pin will make first contact with the PMC and is used to guide the EVR onto the connectors. The EVR mates to the 6100 with a firm snap.

End of Procedure

Reference photos:
The next several pages contain reference photos of the PMC-EVR, MVME-6100 and the final assembled unit. These photos can be referred to when following the above instructions.

Motorola Computer Group MVME-6100 IZC

MicroResearch PMC-EVR-200 (top view)
Note the three white connectors on the right hand side – these mate with the black connectors on the MVME-6100

The complete unit: MVME-6100 with PMC-EVR Installed into Slot1