TIMELINE

☑ **OPTIONAL**

☑ **RECOMMENDED – with Version 4.0 Software Upgrade**

❑ **MANDATORY**

RAM upgrade Instructions for MMR/MMP

DATE: 8/23/99

MODEL: MMR-8 and MMP-16

REQUIRED HARDWARE: PCI Video Card   AT Keyboard
                          Monitor

DESCRIPTION:

Many users have found that playback performance with heavily edited 24-bit files on the MMR-8 and especially the MMP-16 is enhanced by upgrading the unit to 64 MB of RAM. New features in the 4.0 release such as ProTools volume automation playback and ViewNet Audio can also benefit from increased system memory. The following instructions and diagrams outline the procedures for upgrading the RAM.

Procedure # 1 covers the Asus TX-97 motherboard, which is identified by the "TX-97" silk screened in between PCI slots 3 and 4.

Procedure # 2 covers the Chaintech 5TDM2 motherboard, which is identified by the "5TDM2" silk-screened in between PCI slots 2 and 3.

Procedure # 3 covers the Tyan S1751S motherboard, which is identified by the "S1751S" silk screened next to ISA slot 1.

 On all motherboards the PCI and ISA slots are numbered from 1 to 4 with slot 1 located closest to the power supply.

It is recommended that a PCI video card and monitor be installed when performing this upgrade. When the upgrade is completed and the system is rebooted the BIOS will perform a memory check. Make sure that the memory count is >64,000-KB. If it is not, then the memory modules have been installed improperly.

Please note that due to limitations in the Microsoft DOS operating system (the platform on which the MMR/MMP application software runs) installing more than 64-MB of RAM is unnecessary, as anything beyond that point cannot be accessed by the system.

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PROCEDURES:

Install a PCI video card in the empty PCI slot and connect a monitor and keyboard. If the unit has a network card, remove it and replace it with the video card.

Note: The market for RAM is constantly changing. Current price and availability of PC-100 RAM provides an additional option to the procedures described in the following pages. If you decide to use PC-100, replace all RAM installed on a motherboard with one 64-MB module.

Procedure # 1 (Asus TX-97)

1) Locate "TX 97" between PCI slots 3 and 4. (fig. 1)

2) Locate DIMM (Dual In-Line Memory Module) sockets 1 – 3. (fig. 1)

3) Remove the three 16 MB DIMM from the sockets. Pressing down the plastic levers located on both sides of the socket to approximately a 45-degree angle should free the module. Care must be taken when removing memory modules to avoid damage to the surrounding cables.

4) Replace the 16-MB DIMMs with two 32-MB DIMMs. The 32-MB modules must be 3.3Volt Unbuffered Synchronous DRAM, and **must be installed in sockets 1 and 2**. Another option is to replace the 16 MB DIMMs with one 64-MB PC-100 module. The modules will fit the sockets in only one direction. Please note the direction of the 16-MB modules upon removal, and install the new modules accordingly. Apply pressure evenly to the modules when inserting. If done properly the levers will retract to an upright position.

Procedure # 2 (Chaintech 5TDM2)

1) Locate "5TDM2" between PCI slots 2 and 3. (fig. 2)   Note: This motherboard uses either DIMM or SIMM RAM, so there are two possible configurations. The factory configuration uses SIMM RAM.

2) Locate SIMM banks 0 and 2 (fig. 2) The factory configuration uses two 16-MB modules and two 8-MB modules. Locate the two 8-MB modules, which will be in either Bank 0 or Bank 2.

3) Remove the two 8-MB modules. Pressing down on the silver levers located on both sides of each socket will free the modules. The modules will tip to a 45-degree angle when released.

4) Replace the two 8 MB SIMMs with two 16-MB SIMMs. The 16-MB SIMMs must be 5V, 60ns, EDO. Place the new modules in at a 45-degree angle and push them sideways to a 90-degree angle. If properly installed the modules will be locked in place by the socket levers.

5) Alternatively it is possible to use DIMM RAM, either two 32-MB modules or one 64-MB module, with the Chaintech motherboard. If this option is chosen please follow the directions in Procedure # 1 for proper installation. Figure 2 shows the location of the DIMM sockets. **<u>With this option all SIMMs must be removed, as the motherboard will not support a mix of SIMM and DIMM RAM!</u>**

Procedure # 3 (Tyan S1751S)

1) Locate the "S1751S" next to ISA slot # 1.

2) Locate DIMM banks 0 and 1 (Fig. 3) The factory configuration uses one 32-MB module, and one 16-MB module. The 32-MB will be identifiable by 4 ICs, and the 16-MB module will be identifiable by 8 ICs.

3) Remove the 16-MB module from DIMM bank 1. Pressing down the plastic levers located on both sides of the socket to approximately a 45-degree angle should free the module. Care must be taken when removing memory modules to avoid damage to the surrounding cables.

4) Replace the 16-MB DIMM with a 32-MB DIMM. The 32-MB module must be 3.3Volt, Unbuffered, Synchronous DRAM. The module is keyed, and will fit the socket in only one direction. Please note the direction of the 16-MB module upon removal, and install the 32-MB module accordingly. Apply pressure evenly to the module when inserting. If done properly the levers will retract to an upright position and lock the module into place.
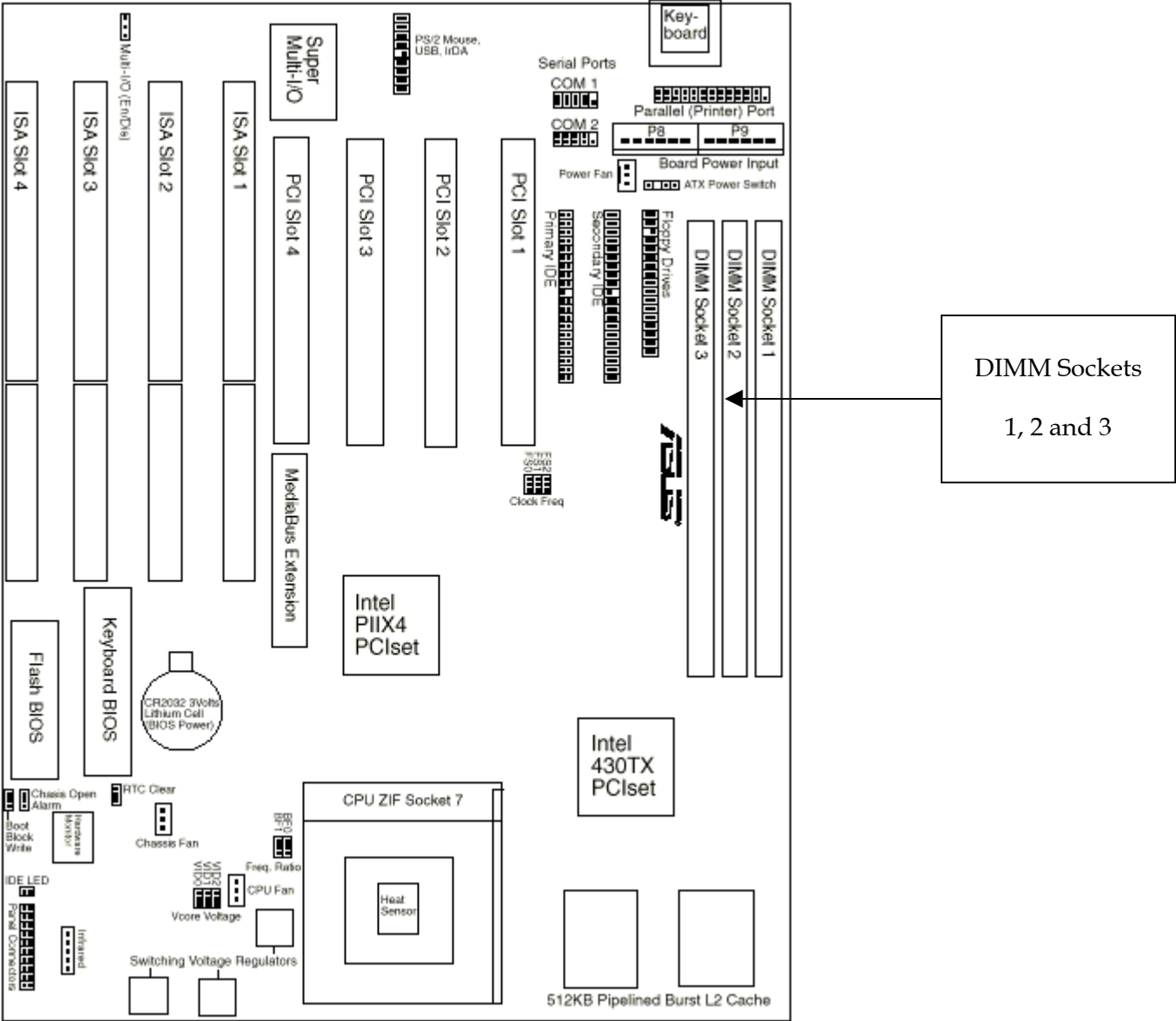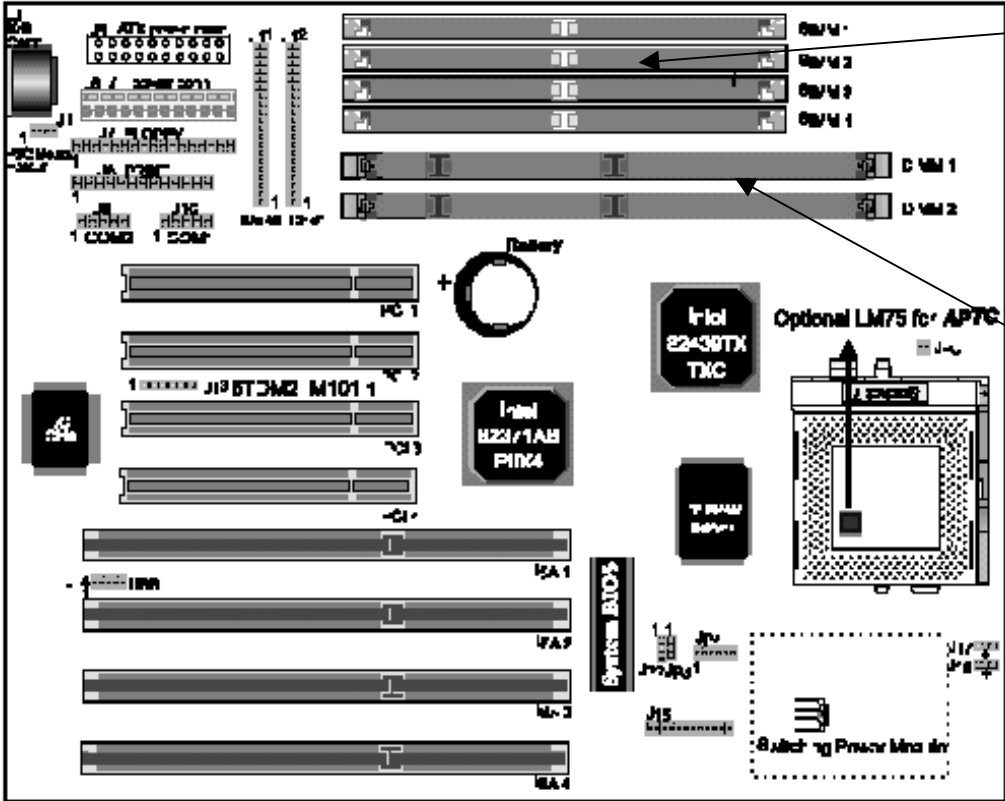
ASUS TX-97

FIG. 1

CHAINTECH 5TDM2
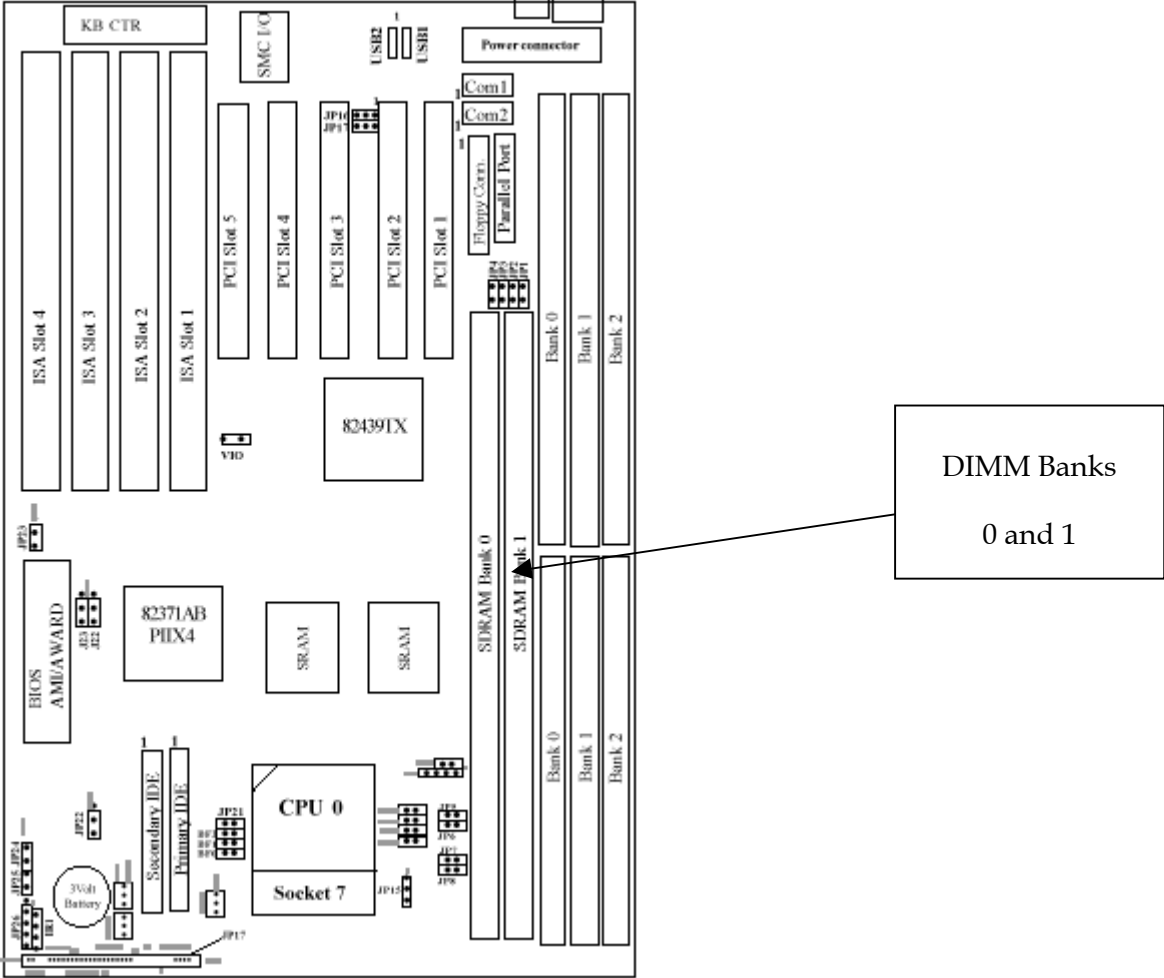

SIMM Banks

0 and 2

DIMM Banks

1 and 2

FIG. 2

TYAN S1751S

FIG. 3