SIMM Memory

CAUTION: SIMMS ARE VERY STATIC SENSITIVE. ALWAYS WEAR A GROUNDED ANTI-STATIC WRIST STRAP WHEN HANDLING SIMMS. ALSO, AVOID TOUCHING THE CONTACTS AS THIS CAN LEAD TO SURFACE CORROSION.

1 Introduction

Single Inline Memory Modules are used in all Lightworks products to provide the main system RAM. Different machine configurations require different amounts of memory and different motherboards take different types of SIMMs.

The table below shows which types of SIMM can be used in which motherboards.

➤ Note that you should only use RAM approved for use in Lightworks products. Non-approved SIMMs could lead to unreliable operation and even system crashes.

Table 1 - Approved SIMMs

Manufacturer	Model	Size	Format	Part Number
NEC	MC-424000A9BA-70	4MByte	4Mx9[1] - 30-pin	
Hyundai	HYM594000AM-70	4MByte	4Mx9[1] - 30-pin	
Hitachi	HB56A49BR-7B	4MByte	4Mx9[1] - 30-pin	
Hitachi	HB56D436BR-7A	16MByte	4Mx36[2] - 72-pin	
TI	TM497MBK36Q-60	16MByte	4Mx36[2] - 72-pin	
PNY	P364000-70	16MByte	4Mx36[2] - 72-pin	
		32MByte	8Mx36[3] - 72-pin	
		32MByte	8Mx36[3] - 72-pin	

[1] Can be used in all motherboards with 30-pin SIMM sockets.

[2] Used in Enterprise IV motherboard.

[3] Used in DTI ESP3520 motherboard.

➤ All the SIMMs in the above table can be used in any Lightworks product, depending on the type of motherboard fitted.

■ The main memory on a motherboard is made up of one or more 'Banks' of SIMMs. Depending on the type of motherboard and the number of pins on the memory modules, a bank may be composed of one, two or four SIMMs. The Banks are always labelled on the motherboard and details are also given in the motherboard data sheets.

2 Adding Extra Memory

If you need to increase the amount of RAM fitted to your machine, try to add exactly the same type of SIMMs that are fitted already. Please also note the following:

1. DO NOT use RAM which does not have parity checking - this cannot be mixed with the type of RAM which will already be fitted in the machine.
2. DO NOT mix SIMMs with different access speeds.
3. DO NOT use SIMMs which have different arrangements of ICs - for example, some have a row of nine chips on one side, others have six chips on each side.
4. ALWAYS fill a complete SIMM Bank on the motherboard. If you are using 30-pin SIMMs, you usually have to fit four in a Bank; 72-pin SIMMs usually require one or two per bank, depending on the motherboard.

➤ When the amount of RAM is changed, the motherboard BIOS will detect this change the next time the machine is switched on and display the following message:

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CMOS Memory Size Mismatch - Press <Del> to run Setup
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The new memory size has been automatically detected, but the BIOS settings have not yet been updated. To update the BIOS CMOS settings simply enter the setup program and select 'Save Settings' from the menu. The machine should then reboot with the correct memory configuration.

➤ If the motherboard has and EISA bus, the EISA memory control section must also be updated with the new RAM size. Please run the ECU program and set up the appropriate memory configuration. *See the EISA Setting Data Sheet* for details.

3 Installing a SIMM

1. Fit a grounding strap to your wrist and connect the ground lead to a clean metal part of the chassis of the Main Crate.

2. Hold the SIMM by its edges at an angle of approximately 30° and slide it gently into the socket, pressing firmly downwards to ensure full seating WHILE STILL AT AN ANGLE.

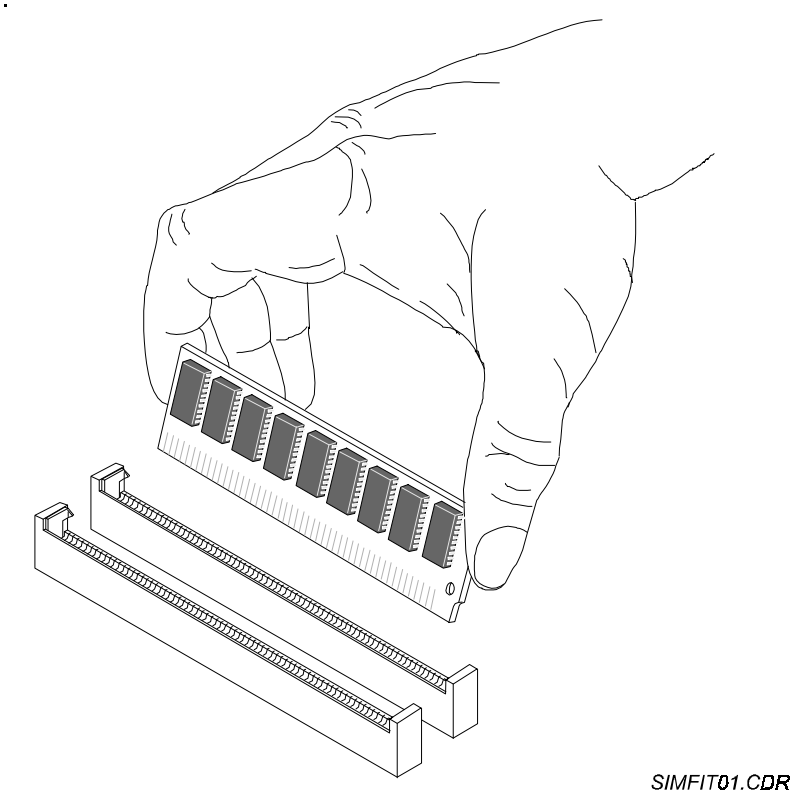

Fig. 1 - Fitting a SIMM

3. When the SIMM is firmly seated, it can be 'snapped' fully into its socket by pressing the module towards its vertical position. The side retaining clips will click into place and hold the SIMM firmly in position.

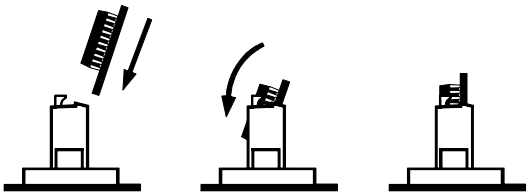

Fig. 2 - Inserting SIMM memory

4. Repeat the above steps to fit the other SIMMs in the Bank.

5. Turn on the machine and when the “Memory Size Mismatch” message appears on the Data Monitor, run the Setup utility as prompted.

6. Save the CMOS settings and exit the utility. Reboot the machine.

7. If the motherboard has an EISA bus, run the ECU program and set up the new memory configuration.

8. Reboot the machine again.

4 Removing a SIMM

1. Fit a grounding strap to your wrist and connect the ground lead to a clean metal part of the Main Crate.

2. Gently, but firmly, press the top edge of the SIMM in a direction to unclip it from its socket.

3. If the SIMM does not ‘snap’ out of the socket, DON’T FORCE IT!: Whilst still applying pressure to the top of the module, bend both spring contacts away from the ends of the SIMM and it should then be released.

   The released SIMM will now be resting at a slight angle, still sitting in its socket. Carefully lift the module out and place it on a grounded anti-static surface.

5 Memory Device Driver

In all machines, the memory above 640KBytes is known as ‘Extended Memory’ which cannot be directly controlled by DOS. A device driver is loaded during bootup to handle this memory.

The memory device driver, used in all Lightworks Products, lives in the root of the C:drive. The file is:

HIMEM.SYS Date: 06/11/92 Size: 13,824 bytes

➤ Note that this is the MS-DOS version 6 driver, even on machines running with the MS-DOS version 5.0 operating system. If you need to replace the device driver, please DO NOT copy it from a P.C. - always use a Lightworks maintenance disk, such as a boot floppy, or copy the file from another Lightworks machine.

➤ Note also that there should not be a HIMEM.SYS file in the DOS directory as this could be the wrong version and get confused with the correct version in the root.