

3 Installing the LPX30WB, System Memory, CPUs, and Peripherals

This section explains how to install the LPX30WB system board, SIMMs, CPUs, and peripherals.

Warning:

Before installing or removing any peripherals or components, make sure you have a clear work space and that you adhere to all anti-static precautions described on page 2-1. Micronics recommends that only trained technicians operate on the system board. Damage which occurs to the board while adding or removing peripherals or components may void the warranty.

If problems arise while installing peripherals, contact the computer outlet where you purchased the peripheral or Micronics' Technical Support Department.

Installation of the LPX30WB

The installation of the LPX30WB system board depends on the type of case you use. The LPX30WB is an integrated, low profile LPX system board and should be limited to installation in a low profile chassis.

Prior to installing the LPX30WB, make sure you have a clear work space available and adhere to all anti-static precautions.

If you are unfamiliar with installing a system board, Micronics highly recommends you read the computer user's manual or contact your dealer's technical support department.

Tools Required

Micronics recommends using the following tools to install the LPX30WB:

- ⌘ Small Phillips screwdriver.
- ⌘ Tweezers or a pair of needle-nose pliers.
- ⌘ Tray (to hold loose screws).

Equipment Required

Micronics recommends using the following equipment with the LPX30WB for a typical configuration:

- ⌘ LPX or Low Profile Chassis.
- ⌘ A high quality power supply capable of providing continuous power within a 5 volt range, plus or minus 5% (eg., 4.75 to 5.25). A power filter may be used with a noisy AC power source..
- ⌘ PS/2 style keyboard and mouse.
- ⌘ Eight ohm speaker.
- ⌘ Standard ribbon cables for internal connections.
- ⌘ Standard power cord (grounded).
- ⌘ Heat sink with cooling fan.

System Memory

System memory devices, commonly known as SIMMs (Single Inline Memory Modules), are necessary to operate the LPX30WB system board. The LPX30WB has four SIMM sockets and can be upgraded to 128 Megabytes of RAM. This section will explain the type of SIMMs supported, list the memory configurations supported, and show how to physically install the new SIMMs.

SIMMs Supported

The LPX30WB supports the following 72 pin, 60 or 70ns SIMMs:

4MB (1Mx36 or 1Mx32)
8MB (2Mx36 or 2Mx32)
16MB (4Mx36 or 4Mx32)
32MB (8Mx36 or 8Mx32)

The LPX30WB supports both parity (XMx36) and non-parity SIMMs (XMx32). However, these modules cannot be mixed. If your system has parity SIMMs, you can only add parity SIMMs. If your system has non-parity SIMMs, you can only add non-parity SIMMs.

Note:

For long term reliability, Micronics recommends using SIMMs with tin-plated contacts. The use of gold-plated contacts may conflict with the tin alloy of the SIMM socket.

Memory Configurations

The following table (Figure 3-1) lists the most common memory configurations supported.

Memory	Bank 0	Bank 1	Bank 2	Bank 3
4MB	1MBx36			
8MB	2MBx36			
8MB	1MBx36	1MBx36		
12MB	1MBx36	1MBx36	1MBx36	
16MB	1MBx36	1MBx36	1MBx36	1MBx36
16MB	4MBx36			
16MB	2MBx36	2MBx36		
24MB	2MBx36	2MBx36	2MBx36	
24MB	2MBx36	2MBx36	1MBx36	1MBx36
32MB	8MBx36			
32MB	4MBx36	4MBx36		
32MB	2MBx36	2MBx36	2MBx36	2MBx36
40MB	4MBx36	4MBx36	1MBx36	1MBx36
48MB	4MBx36	4MBx36	2MBx36	2MBx36
48MB	4MBx36	4MBx36	4MBx36	
64MB	8MBx36	8MBx36		
64MB	4MBx36	4MBx36	4MBx36	4MBx36
72MB	8MBx36	8MBx36	1MBx36	1MBx36
80MB	8MBx36	8MBx36	2MBx36	2MBx36
96MB	8MBx36	8MBx36	8MBx36	
96MB	8MBx36	8MBx36	4MBx36	4MBx36
128MB	8MBx36	8MBx36	8MBx36	8MBx36

Table 3-1 Common Memory Configurations

Installing the SIMMs

To install the SIMMs, locate the SIMM sockets on the system board.

Start with bank 0 and perform the following steps to install the SIMMs:

1. Hold the SIMM so that the notched edge is aligned with the notch on the SIMM socket (Figure 3-1).
2. Insert the SIMM at a 45 degree angle.
3. Gently push the SIMM into an upright position until it locks into place (past the release tabs).

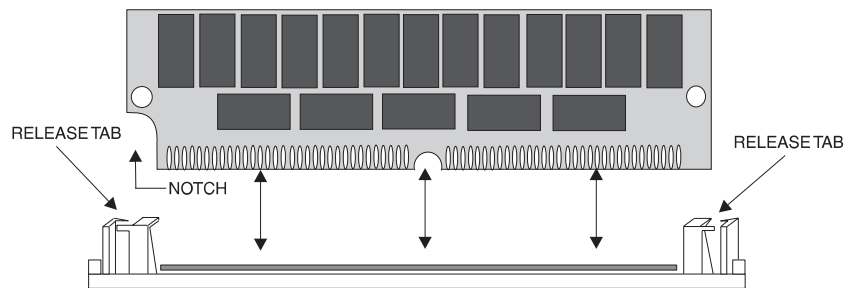


Figure 3-1 Installing a 72-Pin SIMM

Removing SIMMs

Perform the following steps to remove SIMMs, if necessary:

1. With both thumbs (or fingers), press the release tabs away from the socket.
2. With the SIMM free from the release tabs, lift the module up and place in an anti-static bag or package.

Installing a CPU

The LPX30WB is designed to support a large variety of 486 processors. If you want to upgrade your processor, it is recommended you bring your system and this manual to your local dealer or a qualified repair center.

Installing 128K of Cache Memory

In addition to the internal (L1) cache built into the CPU, the LPX30WB also supports external (L2) cache. The LPX30WB is available with 128K or 256K external cache.

To install 128K of external cache, carefully install five 32Kx8-15ns SRAM chips into SRAM sockets U47, U48, U49, U50, and U23. (Figure 3-2) After installing the cache upgrade, refer to Table 2-2 for the correct external cache jumper settings.

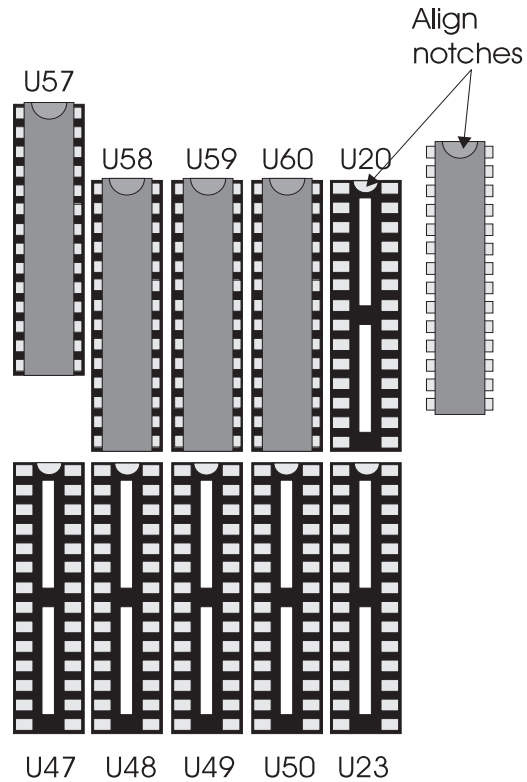


Figure 3-2 Upgrading to 128K External Cache

Installing 256K of Cache Memory

To upgrade to 256K cache, carefully install five (or ten) 32Kx8-15ns SRAMs into the open SRAM sockets (Figure 3-3). After installing the cache upgrade, refer to Table 2-2 for the correct external cache jumper settings.

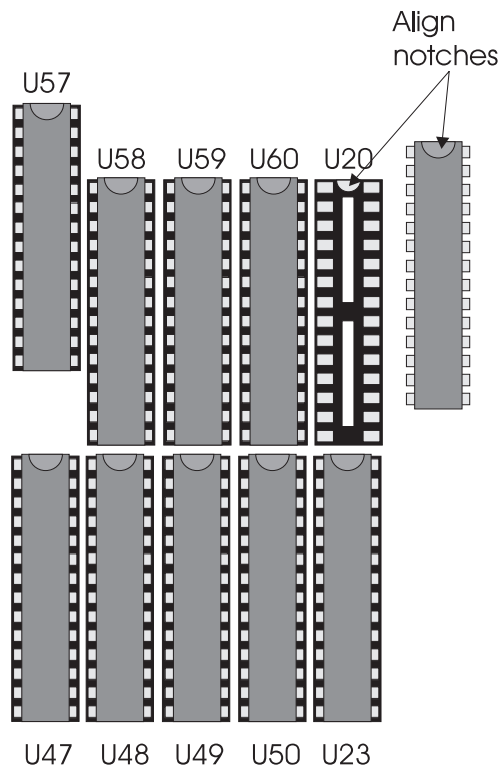


Figure 3-3 Upgrading to 256K External Cache

Video Memory- Upgrading to 1 MB

The LPX30WB is available with 512K, 1MB, or 2MB of video memory. To upgrade to 1MB from 512K, install one 256K x 16-60ns video memory chip into socket U303 (Figure 3-3).

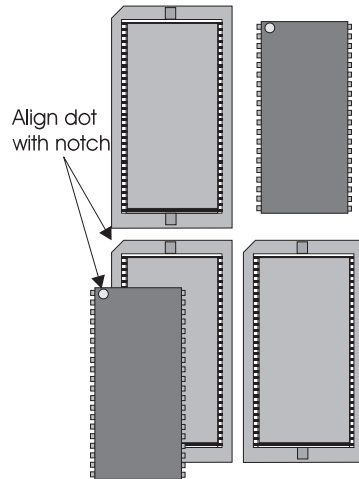


Figure 3-3 Upgrading to 1MB of Video RAM

Note:

Make sure the notches on the video memory match the notches on the sockets.

Only use 256Kx16-60ns (2CAS) Wide DRAMs.

Video Memory- Upgrading to 2 MB

To upgrade to 2MB of video memory, install one 256K x 16-60ns video memory chip into each of the open sockets (Figure 3-4).

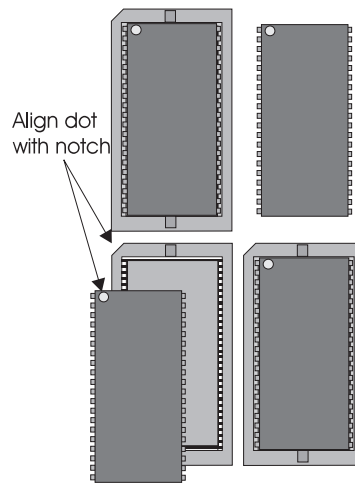


Figure 3-4 Upgrading to 2MB of Video RAM

Note:

Make sure the notches on the video memory match the notches on the sockets.

Only use 256Kx16-60ns (2CAS) Wide DRAMs.

Installing an ISA/VL Riser Card

The LPX30WB includes a riser card which is required for proper system operation. If the system board is not installed in a chassis, perform the following steps to install the riser card:

1. Locate the LPX30WB's slot (refer to Figure 2-1).
2. Make sure no peripherals are installed on the riser card.
3. Insert the card with the bottom edge level. **Never insert the card at an angle.**
4. Holding the card at the center of the top edge, gently push straight in. Do not force the card. If it does not fit, take it out and try again.
5. Make sure the card is fully inserted and use the case screws to secure the riser card in place.

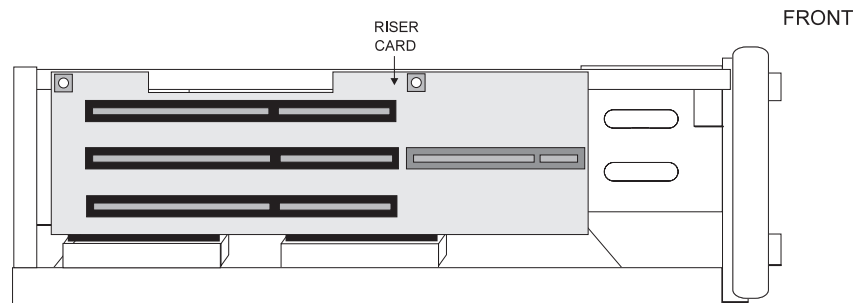


Figure 3-5 Inserting the LPX30WB Riser Card

Installing a VL-Bus Peripheral Card

Micronics VL-Bus slots accommodate all VL-Bus cards which meet the VESA specifications. Complete the following steps to install a VL-Bus card:

1. Turn the computer system off and remove the cover.
2. Choose an unused VL-Bus slot on the riser card and remove the slot cover.
3. Insert the card with the bottom edge level to the slot. **Never insert the card at an angle!**
4. Carefully push the card straight in while securing the other side of the riser card with your free hand. Make sure the card is fully inserted.
5. Replace the screw which holds the card into place.
6. Replace the cover.
7. Read the card's manual for additional instructions concerning installation and software drivers.

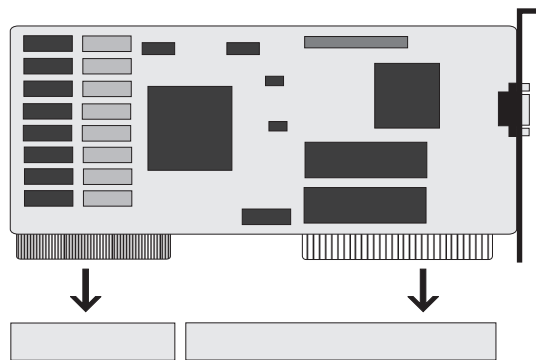


Figure 3-6 Installing a VL-Bus Card

Installing an ISA Peripheral Card

Micronics ISA slots accommodate all standard ISA peripherals. Complete the following steps to install a ISA card:

1. Turn the computer system off and remove the cover.
2. Choose an unused ISA slot on the riser card and remove the slot cover.
3. Insert the card with the bottom edge level to the slot. **Never insert the card at an angle!**
4. Carefully push the card straight in while securing the other side of the riser card with your free hand. Make sure the card is fully inserted.
5. Replace the screw which holds the card into place.
6. Replace the cover.
7. Read the card's manual for additional instructions concerning installation and software drivers.

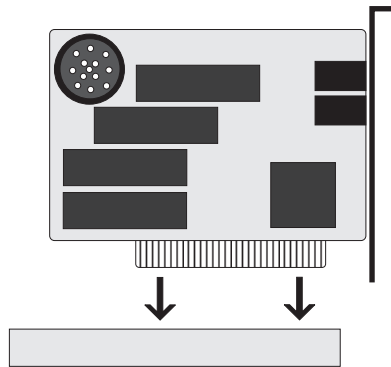


Figure 3-7 Installing a ISA Card