D P M® SP

Manual Update

PEAVEY®

SP MEMORY EXPANSION

The standard SP comes with 1 megaword (2 megabytes) of RAM in the form of a pair of 1 meg x 8 SIMMs (single in-line memory modules). These are standard Macintosh variety SIMMs. *They are* **not** *the same as the IBM 1 meg x 9 SIMMs or the Macintosh IIfx types.* Upgrading the memory in your SP is as easy as buying and installing more of these standard Mac SIMMs. The SIMMs must be 100 nanosecond (nsec) or faster and must be added in **matched pairs of the same size.** (But not necessarily the same speed. See the following section for more information.)

The SP has four pairs of SIMM sockets, thus a stock SP can accept up to three additional pairs of 1 meg SIMMs. A pair of jumpers near the SIMM sockets can be switched to set up the SP to use 4 meg x 8 SIMMs instead of the 1 meg x 8 SIMMs. When power is turned on, the SP automatically checks the amount of memory installed. With versions of the SP software older than version 1.3, the 1 meg SIMMs which came with the unit could not be used in combination with 4 meg SIMMs. With SP version 1.3 and later, it is possible to combine the two SIMM sizes, so if you buy fewer than four pairs of 4 meg SIMMs, you can still use 1 meg SIMMs to fill some empty sockets. You cannot, however, use three 1 meg pairs with one 4 meg pair.

ADDING MEMORY—THE GUIDELINES

All SIMM types:
As previously mentioned, SIMMs *must* be 1 meg x 8 or 4 meg x 8 standard Macintiosh SIMMs with a speed of **100 nsec** or faster (e.g., **80 nsec**).

SIMMs *must* be installed in matching pairs according to size, into paired SIMM sockets. That is, you must use *two 1 meg* SIMMs or *two 4 meg* SIMMs in any given pair of sockets (the speeds of the parts do not need to be matched as long as both are 100 nsec or faster).

Note: Socket pairs are identified as sockets that are physically attached to each other.

After completing memory installation, it is a good idea to check how much memory the SP thinks is installed. To do this:

1. Make sure that there are no samples loaded.
2. Press the *Wave* button.
3. Press the +/*inc* button.
4. Press the +/*inc* button a second time to see the amount of space available. This is shown in kilowords. Consult the following table for kiloword equivalents.
5. If the amount of memory shown is the same as what you expected, great! Otherwise check your math and the following table to make sure you calculated correctly.

Remember: It takes two 1 meg SIMMs to equal 1 megaword. Similarly, it takes two 4 meg SIMMs to equal 4 megawords.

SIMMs installed	total megawords	"space avail" should be:
2—1 meg.	1 megaword	1024kw
4—1 meg.	2 megawords	2048kw
6—1 meg.	3 megawords	3072kw
8—1 meg. *or* 2—4 meg.	4 megawords	4096kw
2—4 meg. *plus* 2—1 meg.	5 megawords	5120kw
2—4 meg. *plus* 4—1 meg.	6 megawords	6144kw
4—4 meg.	8 megawords	8192kw
4—4 meg. *plus* 2—1 meg.	9 megawords	9216kw
4—4 meg. *plus* 4—1 meg.	10 megawords	10240kw
6—4 meg.	12 megawords	12288kw
6—4 meg. *plus* 2—1 meg.	13 megawords	13312kw
8—4 meg.	16 megawords	16384kw

Note: The SIMM combinations listed in the table are the only valid combinations! Any other combinations are invalid and may cause unpredictable results.

It is also possible to have defective SIMMs. This will also cause the "space avail" screen to show something other than the installed memory. Remove any defective SIMMs immediately.

It is possible to install memory in the SP in three configurations:

- 1 meg SIMMs only
- 4 meg SIMMs only
- 1 & 4 meg SIMMs combined

The following three sections discuss the specific rules for each configuration.

Note: In each configuration it may be necessary to change the position of the jumpered connectors labeled **P1001** and **P1002**.

Using 1 meg SIMMs

When using only 1 meg SIMMs it is necessary for the jumpered connectors labeled **P1001** and **P1002** to *have the jumpers located toward the rear of the SP*. This is position that the jumpers are in when shipped from the factory.

If you have a total of two pairs of 1 meg SIMMs:
If you are installing one pair of SIMMs to a factory "stock" unit, just place the SIMMs you are installing in the socket pair next to the SIMMs already there. Otherwise you need to install the SIMMs in either the two left-most socket pairs, the two right-most socket pairs, or the two outer socket pairs (this would leave the two middle socket pairs empty).

If you have a total of three pairs 1 meg SIMMs:
It is necessary for you to install the SIMMs so that either one of the middle socket pairs is empty. *The SP will not see memory if it is installed in any other configurations!*

If you have a total of four pairs of 1 meg SIMMs:
Just install them in all of the socket pairs!

Using 4 meg SIMMs

When using 4 meg SIMMs it is necessary for the jumpered connectors labeled **P1001** and **P1002** to *have the jumpers located toward the front of the SP.* **This is opposite from the position the jumpers are shipped in from the factory.**

If you have a total of two pairs of 4 meg SIMMs:
These need to be installed in consecutive socket pairs. It doesn't matter which consecutive socket pairs as long as they are kept together.

If you have a total of three pairs of 4 meg SIMMs:
Install these so that either the left-most or right most socket pair is empty. *The SP will not see memory if it is installed in any other configurations!*

If you have a total of four pairs of 4 meg SIMMs:
Just install them in all of the socket pairs!

Combining 1 & 4 meg SIMMs

When combining 1 & 4 meg SIMMs it is necessary for you to be using software (ROM) version 1.3 or higher and it is necessary for the jumpered connectors labeled **P1001** and **P1002** to *have the jumpers located toward the front of the SP.* **This is opposite from the position the jumpers are shipped in from the factory.**

If you are using *one* pair of 1 meg SIMMs and *one, two,* or *three* pairs of 4 meg SIMMs:
Place your 4 meg SIMM pairs into any adjacent socket pairs and place the 1 meg SIMMs in the socket pair right next to them.

If you are using two pairs of 1 meg SIMMs and one, or two pair of 4 meg SIMMs:
Place the 4 meg SIMMs into the middle socket pairs and place the 1 meg SIMMs on either side of them. The 4 meg SIMMs must be "sandwiched" between the 1 meg SIMMs without any gaps in socket pairs.

Improper SIMM Installation Configurations

The following SIMM installation configurations will **not** work properly:

- two or more pairs of 1 meg SIMM pairs in consecutive socket pairs (when mixed with 4 meg SIMMs).
- pairs of 1 meg SIMMs "sandwiched" between pairs of 4 meg SIMMs.
- three pairs of 1 meg SIMMs in combination with one pair of 4 meg SIMMs.

INSTALLING SIMM MODULES

Installing SIMM modules is easy if you observe the following rules:

- Use the proper grounding strap when handling any static-sensitive devices. If this is not possible, try to be in a static-free environment. Failure to do this could result in damage to the SP's circuit board.
- Make sure the SP's power cord is disconnected.
- Work in a well lighted area.
- Read and understand the previous section on SIMM pairing.
- When looking at the SP from the front the SIMM modules will lay to the right when installed. *It is therefore best to install SIMM modules from right to left.*

Note: Installing SIMM modules is much easier than removing them. Have a plan in mind before you begin.

To install SIMM modules:

1. Start at the right-most socket pair that you plan to use.
2. Hold the SIMM module so that the ICs are on the left side of the circuit board.
3. Carefully insert the gold fingered edge connector straight (vertically) down into the socket.
4. When you feel the SIMM is properly positioned, gently push the SIMM *down* and to the *right* (you are trying to make it "lay down") until it snaps into place. The socket grips located on the sides of the SIMM sockets will hold the SIMM in place.
5. Repeat steps 1 through 4 until all the SIMMs are in place.
6. When you have finished installing your SIMMs, use the procedure discussed earlier to view the "space available." Make sure it matches the amount of memory you have installed.

REMOVING SIMM MODULES

Use the rules listed above for installing SIMM modules. Then:

1. *Gently* release the socket grips one at time. This might be best accomplished with a small flat blade screwdriver.

Note: The socket grips will either be plastic (like the socket) or metal. In either case it is easy to break the grips if to much pressure is applied. If you break the grips, the SIMM module will not be properly held when installed. It is recommended that you avoid breaking the grips!

2. Push the SIMM module *up* and to the *left* (the goal here is to make it vertical).
3. Remove the SIMM module by pulling it straight up.

AUTOMATIC BOOTING FROM SCSI

It is now possible for the SP to autoboot from SCSI when your system is turned on. *It is necessary for a* **Peavey Authorized Service Center** *to perform all internal modifications to the DPM SP.* To set-up the SP to autoboot from SCSI it is necessary to add a jumper shorting the fourth row of pins on header HDR201.

Note: You may have more jumpers depending on your SCSI ID. For more information on SCSI ID numbers see section 9.2 of your DPM SP's User's Guide.

Remember: *All internal modifications to the DPM SP must be performed by a Peavey Authorized Service Center!*