Motherboard Identification

If you ever have the occasion to have to call our Service-Line it is important that, in order to give you correct information, that we know exactly what we're dealing with. That is especially true when trying to diagnose a problem over the telephone without the benefit of being able to personally observe the symptoms. Here is how to tell the different types of motherboards (main logic boards) apart.

Background

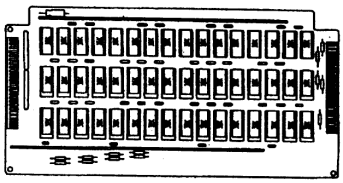
There are two types of Apple /// main logic and memory board combinations.
They are typically referred to as either being "5-volt" or "12-volt".

Since there are two types of boards found in Apple ///s, the first step in servicing yours is to identify whether the system contains 5 or 12-volt boards. Systems above serial number 100,000 are 5-volt systems. When the Apple /// was first introduced, 64K random-access memory (RAM) chips were too expensive to incorporate into its design. Approximately a year later they became economically feasible and began to replace the mixture of 16K and 32K RAM chips used until then. An additional advantage was that a 256K system would actually draw less power than the original "mixed" 128K system.

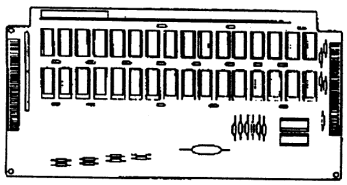
Here's what to look for

The first and best way is to look at the part numbers of the ROM chips at locations C11 and C13. (see map page 32) Here is what to look for:

5-volt		12-volt	
Location	Part #	Location	Part #
C11	341-0061	C11	341-0044
C13	341-0062 (128K) or	C13	341-0042
C13	341-0063 (256K)		



12 Volt Memory Board



5 Volt Memory Board

The 342-0063 part number works for either a 128K or 256K configuration.The second method of verifying which main logic you are working with is to look at R58, which is located just above location C13.(see map page 32) On a 12-volt logic board a 27 ohm, 1/4 watt resistor will be present. On a 5-volt logic board R58 will be missing and a solder bridge will connect the small solder pads on the logic board under R58's mounting position on the board.

No mixing of boards

There are also two different types of Apple /// memory boards. The 12-volt board has three rows of RAM on it. Two rows are filled with 16K RAM (Apple part # 334-0002) and one row with 32K RAM (part # 333-0002). A 256K 5-volt board has two rows of 64K RAM (part # 334-0003) mounted on it. A 128K 5-volt board has one row filled with RAM and one row empty. Five-volt boards are also marked "5-Volt Memory Board" on the top center of the card.

The two memory boards and the two logic boards are not totally interchangeable. Always remember that logic and memory boards of the same voltage must be used together. Main logic boards can be modified to work with either type of memory board, but memory boards cannot.

Upgrade Kits are available for both types of systems if you would like to swap for more memory from 128K to 256K.

Standard Map of Motherboard Apple ///