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Macintosh II Family: How the ADB Keyboard Power-On Switch Works

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TOPIC -----

Can you explain how the power-on switch on the ADB keyboard works for the Macintosh II family of computers?

DISCUSSION -----

The power-on switch on these Macintosh computers does not simply connect and disconnect AC power to/from the power supply. Instead, these computers have a power-control circuit that turns on the power supply in response to a signal from the ADB keyboard.

When you press the power-on switch on the ADB keyboard, a capacitor discharges, generating a signal to the power supply that causes the power supply to turn itself on and begin functioning normally within 1.5 to 2.0 seconds. The capacitor is kept charged by two 3-volt lithium batteries.

In the Macintosh IICx and Macintosh IICi, the capacitor is kept charged by a trickle current from the power supply. If the capacitor in a Macintosh IICx or Macintosh IICi is completely discharged, it takes approximately 5 seconds to charge, once AC power is applied to the power supply.

Assuming that a Macintosh IICx or Macintosh IICi is unplugged for an extended period, the system would require approximately 5 seconds from the time it is plugged in before the power-control circuit could turn on the power supply, and another 1.5 to 2.0 seconds for the system to come on once the power-on switch is pressed.

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