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Macintosh Power Sweep Voltage Adjustment

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Security: Everyone

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PROBLEM DESCRIPTION: Macintosh Plus, 512Ke, 512K has no video output or clicking sound is emitted from the power supply.

CAUSE: The voltage on the Power/Sweep board might need adjustment.

CURE: Use the following procedure in order to adjust the voltage inside the Macintosh:

POWER/SWEEP ADJUSTMENT

The voltages must be verified whenever the logic board or the power/sweep board is exchanged. If the voltages are outside of the specified tolerances, the adjustments must be performed.

The adjustments are done with the power on, and all voltage measurements are taken on the disk drive port with no peripheral device attached. The internal disk drive should not be running when the measurements are being taken.

EQUIPMENT REQUIRED: Digital Voltmeter (accurate to 0.1 volts)
Macintosh voltage test cable
Plastic alignment tool

NOTE: If you don't have the test cable, you may use wire that has been stripped of insulation at both ends. Insert one wire into one of the drive port pin locations indicated for ground (Pin 1 or Pin 2 of the DB 19). Connect the other end of this wire to the ground probe of the voltmeter. Insert the other wire into

the drive port pin location indicated for 5 or 12 volts (pin 6 for 5 volts or pin 7 for 12 volts). ALWAYS DOUBLE-CHECK THAT YOU ARE READING THE VOLTAGES FROM THE CORRECT PINS.

CAUTION: If the banana plugs on the test cable short one another, the Macintosh will be damaged. Make sure that the banana plugs are insulated by their rubber hoods when not in use.

1. The power should be off, and the back cover removed. Connect the black test lead to the ground, set the proper range on the the voltmeter and plug the connector into the disk drive port on the rear of the Macintosh.

2. Connect the orange test lead (12 volts) to the input on the voltmeter. Power on the Macintosh.

The voltage reading must be between 11.90 and 12.75 volts. If the voltage is not within these tolerances, use the alignment tool to adjust the voltage regulator on the power/sweep board to 11.90 to 12.75 volts. Access to voltage regulator is gained from the noncomponent side of the power/sweep board through the hole just above the 11 o'clock position of the speaker.

3. Power off the Macintosh. Disconnect the orange test lead and replace its insulating hood.

4. Connect the red test lead (5 volts) to the input on the voltmeter. Power on the Macintosh.

The voltage reading must be between 4.85 and 5.15 volts. If the voltage is not within these tolerances, use the alignment tool to adjust the voltage regulator (see step 2 for location of the voltage regulator access hole) on the power/sweep board to the specified limits.

6. Power off the Macintosh. Disconnect the red test lead and replace its insulating hood.

7. Return and repeat steps 2 through 6 to verify that both voltages are within the specified tolerance ranges.

IMPORTANT: If the power/sweep board cannot be adjusted so that BOTH voltages fall within the tolerances indicated above, it should be exchanged.

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