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Power Macintosh 8100: Power Supply Voltage Test (11/95)

Article Created: 2 August 1995

Article Reviewed/Updated: 10 November 1995

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TOPIC -----

Is there any way to test the voltages on the power supply without the main logic board connected? I need this to determine the difference between a power supply and main logic board type issue.

See the Tech Info Library article, "Macintosh 800/840AV/8100: Power Supply Pinouts" for related information.

DISCUSSION -----

Here is how to check the voltages on the Power Macintosh 8100 power supply* when removed from the main unit. This is not supported by Apple as a way to troubleshoot power problems. Replacing the power supply as a whole module exchange is recommended.

Place a jumper from pin 12 to pin 21. This supplies the +5 trickle voltage, pin 12, to the power fail warning line at pin 21. You will be able to measure the voltage at each of the connector pins while pins 12 and 21 are jumped together. To shut off the supply after the measurements are completed, remove the jumper from pins 12 and 21.

Pinouts for the power supply used in the Power Macintosh 8100:

	Signal	Pin
. 1 0 0 12	-----	---
. 2 0 0 13		
. 3 0 0 14	+5V	1,2,3,4,13,14,15,16
. 4 0 0 15	GND	5,6,7,8,9,17,18,19,20
. 5 0 0 16	-12V	11
. 6 0 0 17	+12V	22
. 7 0 0 18	5V_TRKL	12
. 8 0 0 19	/PFW	21
. 9 0 0 20		
. 10 X 0 21	Pin 10 is not used	
. 11 0 0 22		

SCSI device power connector:

.		Signal	Pin
.		-----	---
.	1 0\	+12V	1
.	2 0	GND	2
.	3 0	GND	3
.	4 0/	+5V	4

In normal operation, the logic board when instructed to startup places +5V trickle on pin 12. After the power supply starts the trickle voltage is removed and pin 12 monitors the +5V dc main output lines, pins 1,2,3,4,13,14,15 and 16.

For the purpose of measuring the power supplies voltages while not connected to the logic board, shorting pins 12 to 21 for a short period of time is OK. The power supply is not to be used with those pins shorted together for any extended length of time, as this would defeat the safety feature of the Power Fail Warning Line, pin 21.

The measurements should fall within this range:

+5V	+4.90V to +5.20 V dc
+5V_TRKL	+4.90V to +5.20 V dc
+12V	+11.50V to +12.80 V dc
-12V	-13.20V to -10.80 V dc

*Note: In addition to the Power Macintosh 8100, this power supply (Apple part number: 661-1687) is used in the Macintosh Quadra 800/840AV and Workgroup Server 80 as well.

Article Change History:

10 Nov 1995 - Updated with part number information.

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Keywords: hts

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19960215 11:05:19.00

Tech Info Library Article Number: 18292