Installing and Testing the PoCa Host Watchdog Timer

The Watchdog Timer cycles power to the computer if the latter has hung. It consists of a board in the PC, as well as a Remote Unit that actually cycles the power. During normal operation, the computer periodically runs a program to clear a counter on the Timer board. If the computer hangs, this program does not get run. This allows the counter to reach a terminal count, which causes a flipflop to be set, which in turn signals the Remote Unit to shut off power. The Timer board continues to operate by battery. The flipflop is cleared after a small delay, which causes the Remote Unit to restore power to the PC.

The Watchdog Timer's NiCd battery will have discharged itself over the summer. I suspect that if the Timer is run without a sufficiently charged battery, a reset condition will cause an extremely brief power outage -- much less than a second (as soon as the power is removed, the signal to remove power is also removed, bringing power back up again). I can't predict what will happen to the computer under this condition. Quite possibly, it would simply hang, eventually causing another reset condition. It is also possible that much worse will happen.... Needless to say, this is a scenario to be avoided. **To this end, the PC should be run for a day or so without the Watchdog Timer Remote Unit in place.** This will give the battery a chance to recharge.

The following instructions cover charging the battery as well as testing the Watchdog Timer.

--Titus Mathews Jr 940913

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1. **INSTALL THE SHORTING PLUG IN THE PC (9-pin socket, RH bottom of backplane)!** Without this plug, the battery is disconnected from the charging circuit.

2. Plug the PC's power cord into the regulated power bar, and turn the PC on.

3. **Allow the PC to run continuously for at least 24 hrs.** Please note any unusual behaviour.

4. Turn off power to the PC.

5. Plug the PC's power cord into the Remote Unit.

6. Connect the Watchdog Timer cable to the Remote Unit and the PC (9-pin port above shorting plug, item 1 above).

7. Plug in the Watchdog Timer Remote. ****DISARM**** the Watchdog Timer. The "power" LED should be lit, and the "armed" LED extinguished.

8. Turn on the PC, and let run for a few hours. Note any odd behavior, please.

9. Arm the Watchdog Timer. Make sure no programs are running. After a few hours, check to see that the Watchdog Timer has indeed cycled power to the computer (this should be evident in the bootup log, C:\IMAGES\LOG\BOOTLOG.???). Measured cycle time 2h42m43s, 960904.

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