

Rapidlogger Systems

First Power-On Checklist for New or Replacement Main Boards

This tech note describes the checks to make the first time a replacement Rapidlogger main board is powered on, before assuming a hardware fault and returning the board. It also applies to a new unit on its first power-on. Most first power-on problems are configuration, and the list below finds them in the order that costs the least time.

What Comes With a Replacement Board

A replacement main board is tested at the factory before it ships and arrives in the following state:

- A new NetBurner CPU module is fitted. The unit serial number is the MAC address of the NetBurner module, so the unit has a new serial number after the board is changed. The old serial number does not carry over.
- The default variable list for the application the unit was ordered for (cementing, fracturing, coiled tubing and so on) is loaded. The customer's own multipliers, offsets, display selections and variable names are not on the board.
- The current firmware release is loaded (9.13a at the date of this note).
- The network address is the factory default, 192.168.0.5.
- The 1 A main fuse and the clock battery are installed.

NOTE: RapidVu does not depend on the unit serial number. The RapidDCC density control and the CT fatigue module are licensed against the serial number; if the unit has either of these, send the old and new serial numbers to Rapidlogger for a new licence before the unit goes back on a job.

Before Removing the Old Board

1. If the old board still runs, connect with the Rapidlogger System Utility, click 'Read All from Unit' and then 'Write Vars File' to save the variable setup to the PC (Tech Note #13). This file holds every multiplier, offset and name that has been set on the unit.
2. If the old board does not run, locate the last variable file saved for the unit. Rapidlogger keeps a copy of the

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setup that shipped with each unit; request it with the unit serial number if no customer copy exists.

3. Write down the unit serial number from the label or the last boot screen (Tech Note #2).
4. Write down the network address if it was ever changed from 192.168.0.5 (keypad F6, F6, F1), and which variables are shown on the LCD (Tech Note #25).
5. Replace the board as described in Tech Note #44.

First Power-On Checklist

Work through the steps in order. Each one takes a minute or two and the whole list can be done on the bench before the unit is re-installed.

1. Power on and watch the display. Text appears within 10 to 20 seconds; the TFT shows the Rapidlogger logo first. If the backlight does not come on, check the fuse (Tech Note #32). Tech Note #105 covers display problems at power-on.
2. Look at the LEDs on the main board. On a running board three LEDs are lit steadily and two are flashing.
3. Record the serial number from the boot screen (Tech Note #2). It is the MAC address of the new CPU and is different from the old one. Send the old and the new serial number to Rapidlogger so that the warranty and support records follow the unit.
4. Check the keypad. The bottom line of the main screen shows zero, undo, Enter and Exit. Press F6 to open the menu, then F6 again: the system menu shows Net, DISPL, Time, Generic, DIAG and USB/SD.
5. Check the time and date and set them if wrong (Tech Note #18): keypad F6, F6, F3, or 'Sync Time' in the Utility. A time that is years out after power-on means the clock battery is not making contact.
6. Read the firmware version from the boot screen or the Utility and compare it with the current release (Tech Note #3).
7. Connect a PC and test the network. Ping 192.168.0.5, then click 'Find Rapidlogger' in the Utility. If the unit used a different address before, set it now from the keypad (F6, F6, F1) and connect again.

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8. Load the variable setup. In the Utility click 'Read All from Unit' and note that the board holds the default list. Restore the saved variable file (Tech Note #43), or enter the multipliers and offsets by hand from the old file, then write them to the unit and power cycle.
1. Verify each sensor input against a known value. Pressure transducers should read close to zero with no pressure applied, the density meter its air or water value, and a pump sensor should show pulses on the frequency diagnostics screen (F6, F6, F5, F2) when the pump turns. The analog diagnostics screen is F6, F6, F5, F1.
2. Select the variables to be shown on the LCD (Tech Note #25) and check any shutdown or relay setting the unit uses to trip a pump.
3. Power cycle the unit twice and confirm that the time, the network address and the variable setup are still in place.

If a Step Fails

Most first power-on problems are configuration, not hardware: a default variable list that looks like missing calibration, a changed network address, or a sensor cable left unplugged. If a step cannot be completed, contact support@rapidlogger.com with the old and new serial numbers, the firmware version and the number of the step that failed, before returning the board.

The replacement board is now in service with the unit's own setup. Keep the variable file and the new serial number with the unit's records.