WALCHEM
Iwaki America Inc.

INSTRUCTIONS FOR REPLACING WEBMASTER BOARDS
(RELAY, POWER SUPPLY, CORE INTERFACE, CORE, DISPLAY)

⚠ **CAUTION!** There are live circuits inside the controller even when the power switch on the front panel is in the OFF position! The front panel must never be opened before power to the controller is REMOVED!
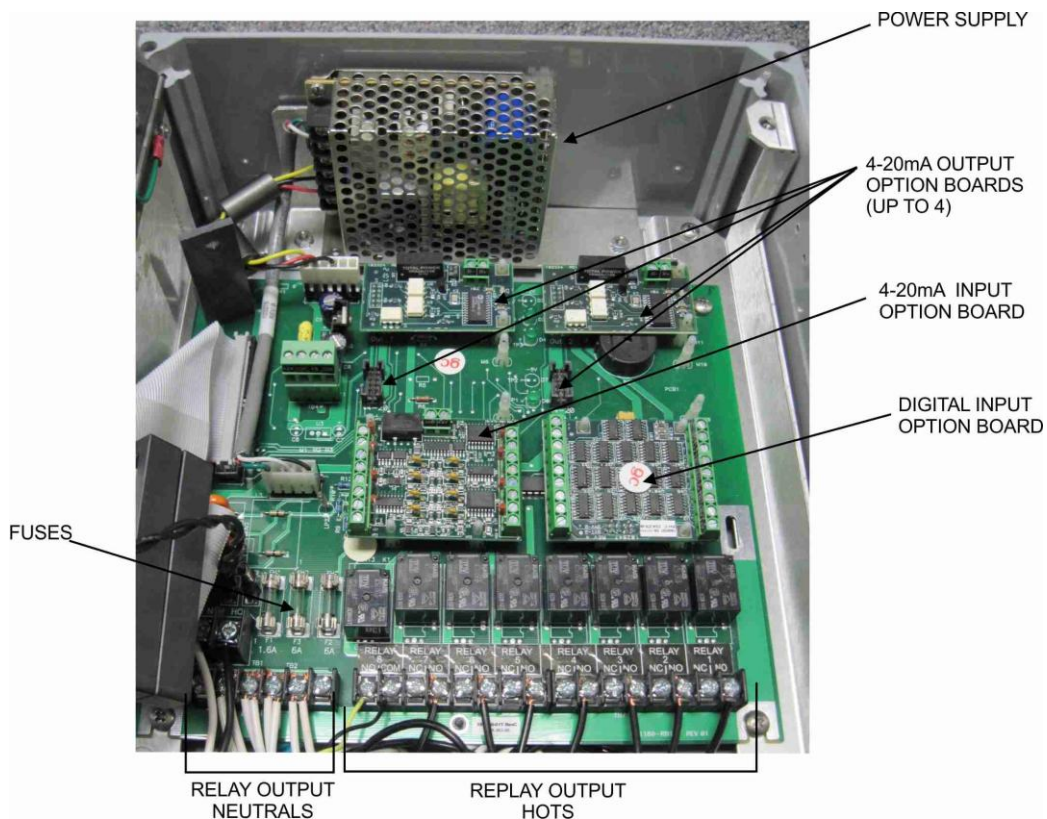
⚠ **CAUTION!** The inner hinged face panel is secured with Phillips (#1) screws, which require a tool to open. No user adjustments are inside. The electrical installation or modification of the controller must be done by trained personnel only and conform to all applicable National, State and Local codes!

ELECTROSTATIC DISCHARGE PRECAUTIONS
The following practices minimize the possible damage to the circuit boards due to improper handling.
- Keep the boards in the anti-static bag until ready to install
- Touch a known ground (metal pipe, etc.) to discharge any static before handling the circuit board
- Handling the circuit board by the edges, do not touch any components.
- Do not slide the circuit boards across any surface
- Note the orientation of the part being removed, and install the new part in the same orientation
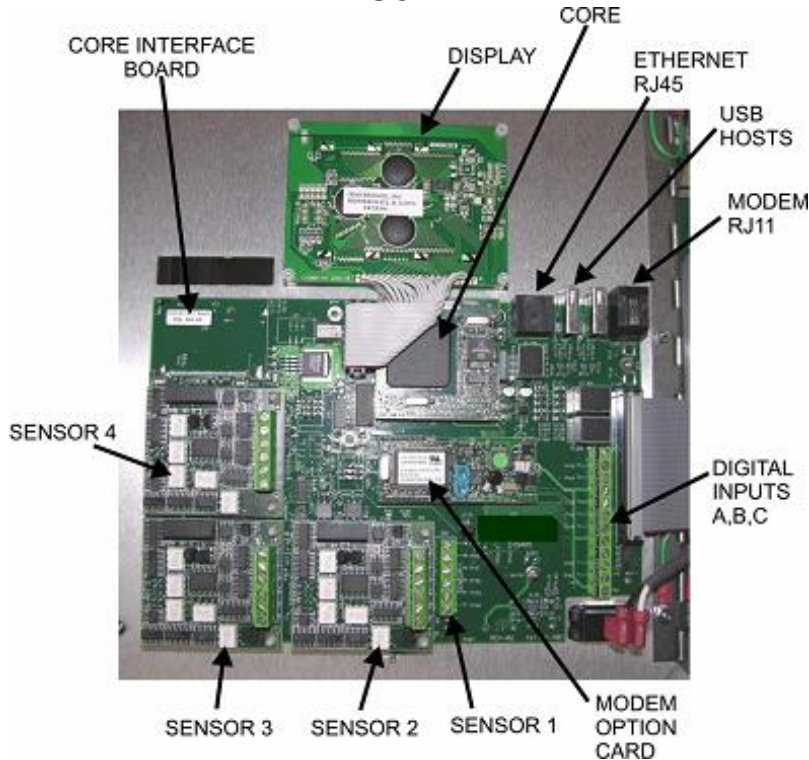
FIGURE 1

RELAY BOARD REPLACEMENT (Figure 1)

1. Open the front panel of the controller AFTER POWER HAS BEEN REMOVED. The Relay Board as shown in Figure 1 may have up to 6 smaller boards, 4 cables and a number of discrete wires attached to it. These will have to be removed and later reinstalled on the new board.

2. Remove the power connection wires by loosening the screw terminals, noting the colors to Hot and Neu terminals.

3. Remove the large ribbon cable, noting the position of the red line.

4. Remove the two flag terminals connecting the power switch to the board, noting the colors (BLK = Hot, WHT = Neu). Use needle-nosed pliers to grip the connectors.

5. Remove the two cables connecting the power supply to the relay board. These are keyed to go on only one way. Pull on the connector, not the wires.

6. If any option cards are installed, remove these by squeezing the top of the locking stand-offs with needle-nosed pliers while pulling **straight up** on the card. Note the location of any analog output cards so these can be replaced in the same place.

7. Remove the discrete wires from the screw terminals. **Mark the wires so they can be reattached to the replacement board in the same position!**

8. Remove the four 10-32 screws that secure the relay board. Carefully remove the relay board.

9. Double check that the relay board you are installing is the same as the one you are removing.

10. Install the new relay board. Secure with four 10-32 screws, reinstall grounding studs, nuts and wires, reattach all discrete wires, plug in all cables, and plug in all option boards.

11. See the Controller Instruction Manual for further information on wiring the Inputs/Outputs.

12. Close the front panel of the controller, secure the front panel screws and restore power. See the Instruction Manual for detailed information about the verification and control of the Relay Board.

POWER SUPPLY REPLACEMENT (Figure 1)

1. Open the front panel of the controller AFTER POWER HAS BEEN REMOVED.
2. Two wire harnesses connect the power supply to the relay board. Unplug the two wiring headers at the relay board end by pulling up on the connector, not the wires.
3. Remove the power supply bracket by removing the two mounting nuts.
4. Remove the defective power supply from the bracket.
5. Install the new power supply on the bracket.
6. Replace the bracket in the enclosure.
7. Reconnect the wiring headers. These connectors are keyed to go on one way.

FIGURE 2

CORE INTERFACE BOARD REPLACEMENT (Figure 2)

1. Open the front panel of the controller AFTER POWER HAS BEEN REMOVED. The Core Interface Board as shown in Figure 2 may have up to 5 smaller boards, 2 cables and a number of discrete wires attached to it. These will have to be removed and later reinstalled on the new board.

2. Remove the large ribbon cable connecting to the relay card, noting the position of the red line.

3. Remove the smaller ribbon cable to the display, noting the position of the red line.

4. If any option cards are installed, remove these by squeezing the top of the locking stand-offs with needle-nosed pliers while pulling **straight up** on the card. Note the location of any sensor input cards so these can be replaced in the same place.
   The PSTN modem option card does not have any locking stand-offs.

5. If the replacement core interface board does not have a core board on it, remove the core board by gently prying up with a small screwdriver, from the left side then the right side a little at a time, until it can be pulled straight up. **Note the orientation of the core board so it may be replaced correctly on the new core interface board!**

6. Remove any telephone or Ethernet cables from their jacks.

7. Remove the discrete wires from the screw terminals. **Mark the wires so they can be reattached to the replacement board in the same position!**

8. Double check that the core interface board you are installing is the same as the one you are removing.

9. Remove the twelve 6-32 screws that secure the core interface board. Carefully remove the core interface board.

10. Install the new core interface board. Secure with twelve 6-32 screws, reattach all discrete wires, plug in all cables, and plug in all option boards.

11. See the Controller Instruction Manual for further information on wiring the Inputs/Outputs.

12. Close the front panel of the controller, secure the front panel screws and restore power. See the Instruction Manual for detailed information about the verification and control of the Core Interface Board.

CORE COMPUTER BOARD REPLACEMENT (Figure 2)

1. Open the front panel of the controller AFTER POWER HAS BEEN REMOVED.
Remove the core board by gently prying up with a small screwdriver, from the left side then the right side a little at a time, until it can be pulled straight up. Note the orientation of the core board so it may be replaced correctly on the new core interface board!

2. Insert the new core in the same orientation as the one removed.

3. Restore power to the controller and while it's booting, check the firmware version in the lower left corner of the LCD. If it is not v3.0 or higher go to this web page (http://www.walchem.com/techsupport/WebM/Upgrading_Firmware_WM.htm), download the new firmware file, and follow the instructions on the web page to install it.

DISPLAY BOARD REPLACEMENT (Figure 2)

1. Open the front panel of the controller AFTER POWER HAS BEEN REMOVED.
Remove the display by removing the four nuts that hold it in place and pulling the ribbon cable connector up off the mating pins. **Note the orientation of the ribbon cable so it may be replaced correctly on the new core interface board!**

2. Install the new display in the same orientation as the one removed.