

# Air Conditioning System

## Updating a Dometic 4-button CCC to a 12-button System

### Buying the parts is easy!

Two Dometic Circuit Control Boxes w/boards, #3312020.000, which cost \$108.00 each (new circuit boards are used with the new Dometic twelve button CCC).

One Dometic Twelve Button CCC, #3312024.023, which cost \$100.50, plus shipping \$7.99, for a Total cost of \$324.49.

### Now for the fun part!

When you get the new control circuit board, it is mounted inside a metal box with all the wiring harnesses and quick disconnect plugs... **no directions are included.**

### **The first thing I did was turn off all the AC & DC power to and in the coach!**

**Up on the coach roof:** I took the top plastic shroud off the A-C unit and then took the cover off the circuit board enclosure on the starboard (right) side of the A-C. Inside this small - little - tight space is the circuit board along with the compressor starting capacitor and relay. There was no way the new circuit board mounted inside the new metal box was going to fit inside that space. Therefore, after a careful study of the situation, measuring and noting where the wiring attached and what it was supposed to connect to, I concluded that I would have to remove the new circuit board from the new metal box and mount it where the old circuit board was located. I had to remove the old circuit board from its mounting posts. Before doing so, you first have to remove two screws that hold the mounting plate for the capacitor, relay, and pull that unit up and out of the way. It was not necessary to disconnect any wires in order to move the mounting plate. Then you can get to the four small plastic mounting clips that hold the circuit board in place. I pulled the old circuit board out a short distance and systematically began removing one wire at a time and plugging the wire onto the new circuit board. Several of the quick disconnect plugs on the new circuit board were not relevant and were discarded along with the new metal mounting box... (My conclusion was that this circuit board and metal mounting box was made for several different models of A-C unit that now have quick plug in features). All of the existing wiring had connectors that fasten to the new board. There was only one new ground wire that attached to the circuit board, which had to be wired into the existing wiring harness. The old icing sensor, which is fastened to the evaporator coil tubing, had to be removed and replaced with a new thermistor sensor, included with the circuit control board kit. The wiring for this sensor is routed through the wall of the box that houses the evaporator coil and connects, with a quick disconnect plug, to the new circuit board. I tried to use the old sensor but it was not compatible with the new control board. You need to set the dipswitches on each circuit control board to correspond to the location of the board (zone 1 - front/main and Zone 2 - rear in my case) and the heating and

cooling systems which are connected to the AC unit in that particular zone (i.e. heat strip, furnace, heat pump, etc.).

**Inside the coach:** I disconnected the old 4-button CCC from the RJ-11 cable and removed the old mounting plate. I mounted the new CCC mounting plate to the wall (required a larger hole in the wall for the round protruding plastic case to recess into the wall. I plugged the new unit into the RJ-11 phone cable and turned the AC and DC power back on. You have to initialize the CCC so that it reads the various heating and air conditioning components that are in the system.

To do a **System reset, for a 12-button CCC 2** make sure the thermostat is in the OFF mode. Simultaneously press the **MODE** and **ZONE** buttons. The LCD display will display **IniT** and all available zones. Release the **MODE** and **ZONE** buttons and press the on/off button to exit system set up.

The above reset must be done for any changes in the system configuration that involves changing the dipswitches. The CCC also reads the setting of the dipswitches and determines how many zones are being controlled. Having done that I turned the thermostat on and selected Zone 1, Air Conditioner.... bingo ... after a short pause ....the A-C unit came to life. I did the same thing for Zone 2 and SUCCESS. I have not been able to test the furnace or heat strips because the ambient air temperature is too high to allow the systems to come on. I am confident they will work fine since the A-C units do. Having had success I went back up on the roof and put the covers back on the circuit board enclosures and put the plastic shrouds back on top of the air conditioners.

So there you have it.... about fours of work (could do it a lot faster now that I've determined what and how things need to be done) and a lot less investment than two new air conditioning units and a thermostat. We are so happy it is fixed and that we no longer have to deal with the old erratic 4-button unit.