

## **Troubleshooting Standard Ice Qube Air Conditioners**

### **Sequence of Operations**

When electrical power is connected to the air conditioner, the evaporator fan will begin operation immediately (except T models) and the controller will display the conditioned air temperature returning to air inlet (enclosure air).

**Cooling mode** - When the temperature on the display is at or above the 'cooling on' set point (factory set 80°F), the controller will sense a need for cooling. If the controller's 3.5 minute cycle delay timer has expired, the Cool LED will light and the compressor and condenser blower will begin operation. If the controller's 3.5 minute cycle delay timer has not expired, the Cool LED will flash until the timer has expired. At that time, the Cool LED will light and the compressor and condenser blower will begin operation.

***Note:** When units are equipped with condenser fan cycling control, there will be a condenser blower time delay, typically 0.5 to 2 minutes, pending operating conditions. The compressor and condenser blower will continue operation until the enclosure temperature is 7°F below the 'cooling on' temperature (7°F differential).*

**Optional heating mode** - When the temperature on the display is at or below the 'heating on' temperature (factory set at 50°F), the controller will sense a need for heating. There is no time delay setting for heating and the Heat LED will light and the heater will be energized. The heater will continue operation until the enclosure temperature is 7°F above the heating on temperature (7°F differential). Please note that not all units will have the heat option. Verify with order or contact Ice Qube Inc.

### **Symptom:**

#### **Unit not cooling.**

Is the evaporator fan operating ?

*If the evaporator fan is operating ...*

What is the status of the Cool LED on the display ?

If the Cool LED is flashing, within 3.5 minutes, the Cool LED should be lit continuous, and cooling should begin. When the Cool LED is lit continuous, the compressor and condenser blower should be operating.

Controller displays 32, EO, or CO.

Above messages on the display indicate an open sensor or the sensor harness connector has lost connection to the controller. Inspect the sensor cable for damage and check that it is plugged into the rear of the controller.

Controller displays 212, EC, or CC.

Above messages on the display indicate a shorted sensor. Inspect the sensor cable for damage.

Controller displays 3.10, 3.12, or 3.14 ...

Check power supply for high or low voltage condition. May indicate damage caused by power spike.

Controller display blank.

This indicates loss of power to the controller or a defective controller. Check the output voltage at the transformer secondary. The voltage should be a nominal 24 VAC. If the proper voltage is available at the transformer and the controller harness is secure to the controller, the controller is most likely faulty.

*If the evaporator fan is not operating ...*

Check power supply to unit.

If proper power supply is available to the unit and the fan is not operating, the blower is defective or there may be a problem with the unit wiring.

#### **Unit cooling, but cabinet temperature too high (High Temperature Alarm)**

Check the settings of the temperature controller. Decrease cool on temperature if required.

Has equipment recently been added to the enclosure ?

Is the condenser air filter clean ? *See operation manual for instructions.*

What is the temperature differential of the return air inlet and the cold air outlet “

This temperature differential should be a minimum of 10°F within 15 to 30 minutes of compressor operation unless the air is very humid.

Are doors on the enclosure closed ?

Are there openings on the enclosure allowing warm air to enter the enclosure ?

Is the cooling system sized properly ?

Is the return air sensor in the proper location ?

#### **Unit cooling, cabinet temperature too cold.**

Check the settings of the temperature controller. Increase cool on temperature if required.

Does the Cool LED turn off at the proper temperature ?

If yes, more than likely the contacts of the cooling relay are welded closed.

If no, the controller is more than likely providing a continuous output to the cool relay. Please verify controller settings.

### **Unit short cycling.**

Is there adequate air flow ?

Check to see the cold air outlet is not obstructed by equipment causing the cold air supply to short circuit to the return air inlet.

Is the return air sensor in the proper location ?

Check to see that the sensor is mounted securely in the return air stream.

### **Controller will not accept programming code.**

Has someone tampered with the code setting ?

Are you entering the code quickly ?

Does the code LED flash several times each time a button is pressed ?

### **Unit tripping fuses or circuit breakers.**

Is the fuse or breaker a properly sized time delay type ?

Has more equipment been recently added to the circuit ?

Are electrical connections clean and tight ?

### **Unit producing excess condensate.**

Is the gasket installed between the air conditioner and the cabinet surface and in good condition ?

Have the doors on the enclosure been opened ?

Are there any openings on the enclosure that will allow humid air to enter the enclosure ?

### **Unit evaporator coil frosted or frozen.**

Are ambient conditions lower than normal ?

Is the unit cycling off normally ?

*See Unit cooling, cabinet temperature too cold.*

### **Unit in alarm.**

In all alarm conditions, the Alarm LED will be on.

\*If the alarm condition is caused by a *high or low enclosure temperature*, the set alarm Hi or Lo LED will be lit along with the Alarm LED. This alarm will clear automatically when the enclosure temperature again becomes satisfactory or the PIN code is entered.

\*If the alarm condition is caused by *high condenser temperature*, the Filt LED will be lit, the display will alternately flash the enclosure temperature and the condenser sensor temperature. This alarm will clear automatically if the condenser temperature becomes satisfactory or the PIN code is entered.

\*If the alarm is caused by the *filter days timer*, the Filt LED will be lit, the display will alternately flash the enclosure temperature and FIL. This alarm may be cleared by pressing the Exit (4) button.

### **Unit making unusual noise.**

All units are factory inspected before packaging and shipping. Unusual noises are usually the result of improper handling during shipping, improper storage, or a foreign object entering the system during unpacking, installation or operation.

*Please remove power from the unit immediately and contact the factory.*

*Remember that the unit warranty is void if the unit is opened during the warranty period unless authorized by the factory.*

*Above troubleshooting symptoms and checks are meant only as a general guide to assist in determining the reason for a unit fault. Units should only be serviced by qualified personnel experienced in the repair of similar type equipment. Ice Qube assumes no responsibility or liability for damages while trouble shooting or field repair. For further assistance, contact the factory.*