Diagnostic worksheet for ComfortZone and Early CZ infrared heaters.

Models: 1000 Watt, 1500 Watt – Plastic or Wood units

In order to facilitate the diagnosis of these heaters it is helpful to understand the basic configuration of the major components in the heater. The wiring harness is really quite simple.

- Power from plug goes to the power transformer and to the connection block.
- The neutral leg from the power cord (that is on the connection block) goes directly to the fan relay switch and the left side of the infrared elements (looking at the heater from the front). Note: The neutral leg on the connection block is also connected to the UV bulb and to the ionizer on the CZ models with air purification.
- The "Hot" leg from the power cord (that is on the connection block) goes directly to the high-limit switch and then to the right side of the PC board.

That's it. Everything else is superfluous.

Diagnostics are as follows:

1. Fan Problems – Note: On early models there are two DC fans that operate off of their own PC board with built-in fan switch. On later models, the fan operates independently of the PC Board and is controlled by the fan relay switch. This switch or mini PC board turns the fan on and off depending upon the temperature inside the chassis. Common fan problems are as follows:

- ☐ Noisy Fan – oil or replace
- ☐ No fan – 1) fan plug may be loose (early models are wired direct with no plug), or 2) fan relay switch may be defective, or 3) fan motor is dead and needs replacing. The fan switch can be checked by simply putting a jumper wire across the fan switch. If the fan doesn't turn on, then look for the problem at the fan plug (if so equipped) or you have a bad motor.
- ☐ Fan keeps running – fan relay switch or micro PC board w/relay is defective

2. Heating problems

- ☐ Partial heat – burnt out infrared tube or faulty relay on PC board. There are two relays, one controlling each set of 2 bulbs.
- ☐ No heat – 1) defective high-limit switch, 2) burnt out infrared tubes, or 3) faulty relays on PC board.
- ☐ Heat cycles on & off continuously – 1) faulty high limit switch, or, 2) slow fan motor – replace.
- ☐ Heat stays on – PC board thermostat or thermostat sensor is defective. 99% of time it's the board.

3. PC board malfunctions

- ☐ Lights go out after 3 minutes except for bottom row – normal sleep mode function.
- ☐ Flickering – line load to breaker box has another motor on it, or faulty fan relay switch will cause flickering, or PC board itself.

- ☐ DOFL appears on the LED display – the thermostat sensor is disconnected or the PC board is defective. Usually caused by a power failure and then a power surge.

4. UV Bulb problems

- ☐ NO UV when the air filtration system is activated (PA models only) – faulty UV bulb or ballast. Usually the bulb.