

## **IF-101 Theory of Operation**

The IF-101 Transmitter is designed to transmit an electromagnetic field in all directions as a method of containing a pet, which wears a receiver collar with means of correction, within a predetermined area. The size of the containment area is based on the Boundary Switch and Boundary Control dial settings. The consumer is able to adjust the range of the containment area to fit the size of their yard. The maximum range is approximately 90 feet.

As long as the pet stays within the containment area, the receiver collar receives the signal from the transmitter and no warning tone or static correction is delivered to the pet. If the pet tries to leave the containment area and the receiver collar loses the signal from the transmitter, the pet receives a warning tone and a static correction in order to keep it within the containment area. Once the pet returns to the containment area and the receiver collar acquires the transmitter signal, the warning beep and static correction is stopped, and the pet knows he is within the containment area. As a safety precaution if the pet does not return to the containment area, the receiver collar will stop the static correction after 30 seconds.

The IF-101 Transmitter also has a 5 second power up delay built into the ASIC. This was added into the design to prevent the receiver collar from delivering a false static correction during power failures and when the power “flickers”.

The IF-101 Transmitter frequency is 18.72kHz, has a bandwidth of 30Hz, and uses phase modulation. The transmit time is continuous and has continuous output power regulation.