3.1 Initial Power-up Procedures

These steps summarize the operating procedures you should use for the initial operation of the transmitter. More detailed information follows.

⚠ CAUTION

Possible equipment damage!

Before operating the transmitter for the first time, check for the proper AC line voltage setting and frequency selection as described in sections 2.2 and 2.3.

1. Turn on the DC breaker.

Illustration 3–1 DC Breaker

2. Turn on the main power switch.

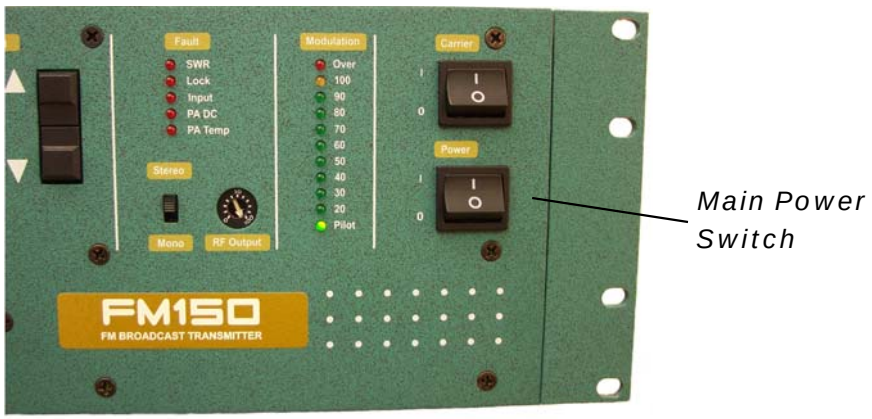

Illustration 3–2 Front Panel Power Switch

3. Verify the following:

   A. The bottom cooling fan runs continuously.
   B. The Lock Fault indicator flashes for approximately 5 seconds, then goes off.

4. Set the Input Gain switches for mid-scale wideband gain reduction on an average program level (see section 3.4).

5. Set the Processing control (see section 3.5; normal setting is “50”).

6. Set the Stereo-Mono switch to Stereo (see section 3.6).

7. Turn on the Carrier switch.

8. Check the following parameters on the front panel multimeter:

   A. RF Power should be 29–33 watts for the FM30, 145–165 watts for the FM150, and 300–330 watts for the FM300.

   B. SWR should be less than 1.1. (A reading greater than 1.25 indicates an antenna mismatch.

   C. ALC should be between 4.00 and 6.00 volts.

   D. PA DC Volts should be 26–30 volts for the FM30, 25–35 volts for the FM150, and 37–52 volts for the FM300. (Varies with antenna match, power, and frequency.)

   E. PA DC Amperes should be 1.5–2.5 amps for the FM30, 5.5–7.5 amps for the FM150, and 7.0–9.0 amps for the FM300. (Varies with antenna match, power, and frequency.)

   F. PA Temperature should initially read 20–35 degrees C (room temperature). After one hour the reading should be 35–50 degrees C.

   G. Supply DC Volts should display a typical reading of 45 V with the carrier on and 50 V with the carrier off for both the FM30 and FM150 products. For the FM300, the readings should be 65 V with the carrier on and 75 V with carrier off.

   H. Voltmeter should be reading 0.0.

   The remainder of this section describes the functions of the front panel indicators and switches.

3.2 Power Switches

3.2.1 DC Breaker

The DC breaker, on the rear panel, must be on (up) for transmitter operation, even when using AC power. Electrically, the DC breaker is located immediately after diodes which isolate the DC and AC power supplies.

3.2.2 Power Switch

The main on/off power switch controls both the 120/240 VAC and the DC battery power input.

3.2.3 Carrier Switch

This switch controls power to the RF amplifiers and supplies a logic high to the voltage regulator board, which enables the supply for the RF driver. In addition, the Carrier Switch controls the operating voltage needed by the switching power regulator.
A "Lock Fault" or a low pin 17 (/Carrier Off) on the Remote I/O connector will hold the carrier off. (See section 2.12.)

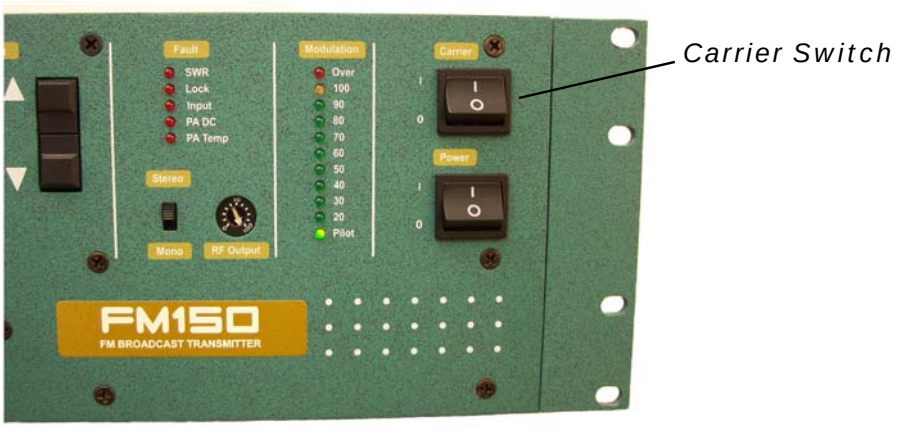

Illustration 3–3 Front Panel Carrier Switch