SECTION VI
MALFUNCTIONS AND PROBABLE CAUSE

SYMPTOM	PROBABLE CAUSE
1. Main fuse blows when filament switch turned on.	1-1. Shorted capacitor C55 or C56. 1-2. Internally shorting tube or tubes.
2. Main fuse blows when high B+ turned on.	2-1. Shielding on M2 or M3 shorting to ground at meter connections. 2-2. Internally shorting tubes. 2-3. Insulators ST-1, ST-2, ST-3 or ST-4 punctured and shorting. 2-4. Shorted capacitors C27, C60 or C53.
3. Buzzing relay or relays.	3-1. AC line voltage too low or too high. 3-2. Filings between armature and core of noisy relay.
4. No modulation.	4-1. Open coil on RLY 4. 4-2. Bad speech or modulator tubes.
5. Rough VFO note.	5-1. Weak 6AU6 tube. 5-2. Gassy 6CB6 tube.
6. Final screen current excessive or insufficient.	6-1. Weak 4-250A tube. 6-2. Improper antenna loading. 6-3. Insufficient grid drive to final.
7. Exciter B+ goes on when filament switch turned on.	7-1. Shorted capacitor, C55 or C56.
8. Excessive final plate current swing when modulating.	8-1. Excessive antenna reactance causing poor loading. 8-2. Capacity of the house wiring being exceeded. 8-3. Function Switch on CW instead of Phone position.
9. Push-to-talk provision inoperative.	9-1. RLY3 requires adjustment or replacement. 9-2. Shorted capacitor C40. 9-3. Defective rectifier SR1.
10. Inoperative VFO.	10-1. Defective rectifier SR2 or SR3. 10-2. Defective 6AU6 or 6CB6 tube.

SECTION VII
ANTENNA CONSIDERATIONS

7-1. ANTENNA CONSIDERATIONS.

7-2. The GLOBE KING 500B uses a PI-NET final tank circuit which has the capability of matching a considerable range of non-reactive load impedances. As the reactive component increases in the antenna and feed line, the range of match possible is reduced, as the PI-NET has to compensate with an opposite reactive component, thereby reducing it's capability to match higher impedances. In some cases where the reactive load may be large enough, as compared to the resistive load, the matching range may be reduced to as little as 50-100 ohms. It is to the operators advantage to correctly measure the impedance at the transmitter end of the feed line and to correct a large reactance at the antenna, rather than trying to tune it out with the PI-NET. Many low power transmitters have a greater capability to tune out reactance from an antenna system than is possible with the 500B. This is due to the fact that components in the average low power transmitter can have a high capacity etc., and still have only a very low power rating. These same components will stand a very high power loss without failure in most cases. In a 500 watt transmitter these components are impractical as they become too large physically, so the compromise consists of not being able to handle as large a reactive load. The capability of handling a LARGE RESISTIVE LOAD is however still present in the 500B transmitter.

7-3. The WINDOM antenna, when properly constructed, will most likely come closest to giving a reasonable impedance to match on all bands, without using an antenna tuner. There