

Model KG506 Transmitter Power Control Adjustments

The KG506 Transmitter is a broad-band circuit that requires no tuning to operate at any specific frequency within the assigned band.

Power Control

Adjustment of the power output is accomplished by circuitry that changes the bias to a control pin of the power output module PM501. The High and Low power control adjustments control the bias on IC502 control amplifier in the PA. Automatic power control circuitry maintains the power at the proper level by sampling the power output and also applying control to IC502. The output of this amplifier in turn controls the voltage supplied to the control pin of the PA module PM501.

High Power Settings

To set the maximum power and the system operating power of the radio:

- o Program the radio for high power.
- o Adjust FVR3 (located on the logic board) to maximum power (CCW).
- o Adjust FVR504 (located on the PA board) to the desired maximum power output.
- o Note that 25 W is the continuous duty rating but it is safe to operate at 30 W for 20% duty applications.
- o After performing the above steps, adjust FVR3 to the desired power for the system.

Low Power Settings

For systems operating at power levels of 15W or less, a signal from the CPU switches in FVR4 for control of Low power.

- o Program the radio for low power.
- o Adjust FVR3 and FVR4 (located on the logic board) to maximum power (CCW).
- o Adjust FVR504 (located on the PA board) to the desired maximum power output of 15W or less.
- o After performing the above steps, adjust FVR4 to the desired power for the system.

Power Alarm

A Low Power Alarm feature warns of reduced power from the transmitter. This is set to activate an amber LED on the front panel if the power drops by approximately 3dB. If the power setting has been changed, it is advisable to reset the alarm threshold. After setting the desired power using the above procedures:

- o Using FVR3 (high power systems) or FVR4 (low power systems), set the power to $\frac{1}{2}$ of the desired system power.
- o Adjust FVR503 (on the PA board) until the alarm just lights (threshold). Note that there is a red LED indicator located near the control.
- o Readjust FVR3 or FVR4 to the original power setting. The LED should go out.

Software Control

The functions under software control by the CPU are the operating frequency and the high/low power switching.