



OPERATING INSTRUCTIONS GATED RF PULSE AMPLIFIER MODEL GA 2500

The Model GA 2500 Gated RF Pulse Amplifier is a high power, limited duty cycle instrument designed to produce high amplitude RF tone bursts derived from either a continuous wave RF signal or from an externally generated RF tone burst. It covers two decades of frequency selected by the user within the frequency range of 40 kHz to 5 MHz. The specified output pulse power is 2000W rms which is approximately 900 Volts peak-to-peak into 50 Ohms. Output level is controlled by a ten turn potentiometer on the front panel. Total gain available, when operating into a 50 Ohm load, is approximately 70 dB. Specified maximum duty cycle for the instrument is 0.3%, but it will actually function up to approximately 0.4% under some conditions. Duty cycle should not be programmed higher than 0.2% when turning on the “High Voltage”. A large charging current is drawn from the high voltage supplies at turn on, and the built-in current limit in the supply will be activated if the duty cycle exceeds 0.5% along with the charge current. The instrument will not normally be damaged by operating into an infinite VSWR, although such operation is, obviously, not recommended.

To place the unit into operation it must be supplied with an appropriate AC line source (100, 120, 220, or 240 V rms at 50-60 Hz); a positive TTL gate and either a CW source or a tone burst (coincident with the gate) at a 500 mV peak-to-peak level. If the RF pulse must be coherent with the gate, that function must be provided externally. There are two power switches; the one labeled “Power” controls the low voltage supplies; the one labeled “High Voltage” controls the +48V and +200V supplies. The unit is in a stand-by mode when the high voltage supplies are not energized. When first turning on the unit, the “RF Power Level” control should be set at its maximum counter clockwise position, and the device to be driven by the instrument should be connected to the “Signal Out” connector. (There is an approximate 10 second delay in the turn-on time of the +200 V supply.) The output may be observed at the “RF Pulse Monitor” connector. This monitor point is at a -40 dB level (when operating into a 50 Ohm load) with respect to the “Signal Out” connector. A positive TTL level gate must be connected to the “Gate In” connector and either a CW signal or a tone burst (coincident with the gate) applied to the “Signal In” connector. The “Power” switch may now be turned on and the “High Voltage” switch. As the “RF Power Level” control is turned up (clockwise rotation of the control) a signal should be observed at the monitor point. The drive level may be increased until distortion occurs in the signal. (Distortion is typically seen as a squaring of the normal sinusoidal output.)

This unit is shipped with the AC line selector set for 220 V operation. To change to one of the other permissible line voltages remove the line cord from the power entry module, pry out the line voltage selector cover with a small screwdriver, and set the selector card so that the small indicator will protrude the correct voltage indication on the cover.