

# Microwave Generator Manual

## EIO RF SUB-SYSTEM VOLTAGE ADJUSTMENT

CPI Extended Interaction Oscillators (EIOs) operated with VPW2827 series power supplies may require adjustments to the cathode voltage and anode voltage to optimize the RF power output and frequency, whenever the mechanical tuner is re-positioned. Generally, the dominant effect to changes in cathode voltage will be to change the RF frequency. Changes to the anode voltage will predominantly change the EIO beam current and thus the RF power output. For the same mechanical tuner position and anode voltage, Figure 1 (in [Test Data Sheet](#)) is a typical plot of RF power output vs. cathode voltage and Figure 2 (also in [Test Data Sheet](#)) is RF frequency vs. cathode voltage.

After a mechanical tuner change, the cathode voltage can be adjusted to operate the EIO near it's maximum RF power output (see Figure 1). If the RF power output needs to be changed, adjust the anode voltage to change the beam (cathode) current. There is some measure of inter-action between these two adjustments.

### VPW2827 EIO Power Supply Operation

After the Heater Time Delay (high voltage delay) has expired, cathode voltage is applied by depressing the "OPERATE" push-button. By then depressing the "RF ON" push-button, anode voltage is applied, enabling beam current and RF power output. VPW2827 series power supply adjustments require a password to prevent inadvertent adjustments. Depress the push-button under "MORE" until "WARNINGS \_\_\_\_ EVENT MORE" is displayed. Depressing the push-button under the "\_\_\_\_" display will access the password entry screen. enter 35451 by scrolling the adjustment knob in alternating directions. DO NOT depress the "CAL" push-button (this is only used for factory calibration and NOT for voltage adjustment). Depress "MORE" push-button until "Ea" (anode voltage) or "Ek" (cathode voltage) is displayed in the lower left display position. By depressing the push-button beneath this display, the adjustment knob is used to change the voltage value. Operating values for cathode and anode voltage can be pre-selected before applying the voltages by following the same procedure described above. A blank cursor symbol next to the value indicates pre-selection.

[CW Extended Interaction Oscillator \(EIO\)](#)

[CW Extended Interaction Klystron \(EIK\)](#)

[Test Data Sheet](#)

[Warranty Information](#)

[Operating Hazards](#)

[Coolant Installation Instruction](#)

Waveguide-frequency-bands: <http://miwv.com/images/Waveguide-Chart.pdf>