

**XZEL
MAGNETRON POWER SUPPLY
SPECIFICATIONS**

3/15/02

GENERAL: The power supply provides both dc filament and
APPLICATION negative high voltage to operate a National NL-10250
(2KW) magnetron.

OUTPUTS: Output 1 is a dc regulated Filament Voltage. The
Filament Voltage varies over a range decreasing as
magnetron anode current increases. The rate of
decrease with anode current is selected by an
internal DIP switch.

For the NL-10250 magnetron, the filament voltage
varies from 4.8 to 3.4 volts as the anode current
increases from 0 to 850 m.a.

The filament output is capable of delivering 20
Amps.

The filament output negative terminal is internally
connected to the high voltage output.

Output 2 is a Negative High Voltage output with
respect to earth which provides anode power to the
magnetron so as to maintain a regulated anode
current from .2 to .80 Amps. Compliance range of the
power supply is 2,500 to 3,800 volts.

The high voltage output uses a 20 Khz internal
carrier frequency thus operates above the audio
band.

INPUT 208 VAC \pm 10%, three phase, 15 Amps per phase,
POWER: 50/60 Hertz.

INPUT
CIRCUIT The power supply has a triple pole circuit
BREAKER: breaker/switch.

ANALOG Magnetron output current is controlled by an input
CONTROL: analog control signal ranging from 0 to 5 VDC.

ON-OFF High Voltage Output is controlled by an external
CONTROL: logic signal. An active low signal of less than 0.8
volts will maintain the H.V. output in the on state.

HIGH VOLTAGE RIPPLE: Ripple voltage is less than 100 volts peak-to-peak.

DELAY: Filament voltage is present upon turn-on of the input circuit breaker. High Voltage is delayed for ten seconds after the input circuit breaker is turned on to allow filament warming.

OVER VOLTAGE SHUTDOWN: The anode supply shuts down and remains in the off condition if a voltage of $4,000 \pm 5\%$ occurs. Reset of the Over-Voltage-Shutdown is achieved by turning the supply off with the circuit breaker.

VOLTAGE TEST POINTS: The power supply has test points to measure the output voltage. The test point voltage ranges from 0 to 4.0 volts representing 0 to 4.0 KV.

CURRENT TEST POINTS: The power supply has test points to measure the anode current. The test point voltage ranges from 0 to .85 volts representing 0 to .85 Amps.

STATUS LED'S: The power supply has three status LED's:

1. an LED to indicate input power
2. an LED to indicate the presence of filament current
3. an LED to indicate the presence of high voltage

CONNECTIONS: Power supply has three external connectors:

- 1: 208 V three phase input plus earth ground
- 2: H.V./Filament Output, two contacts
- 3: Analog and control signals, 3 contacts

COOLING: The power supply includes two 100 CFM fans.

MECHANICAL: Power supply is completely enclosed in an aluminum sheet metal box with an alodine finish. Size of the box is 15.5 x 10 x 5.75 inches high including fans.