

## SCE Model 4800 Power Supply

This dual output, full military, high voltage supply powered a Direct View Storage CRT in an aircraft environment. The design of the 10KV/750Amp section is conventional.

Besides the normal requirements on the -2KV output, the spec also required that upon turn-on the focus voltage rise at a specified ramp rate and that during very severe load transients - which are characteristic of a DVST, during erase/refresh - the focus voltage change by less than 1V.

We achieved ramp control using a digital technique. The load transient requirement was met with an active cancellation scheme which applied the correction voltage directly to the supply output, thus circumventing unavoidable delays through the high voltage stage.

### SPECIFICATIONS

#### Electrical

Input:

- Voltage 19 to 29VDC
- Power 27W, max.

Output:

Anode:

- Voltage 10KV fixed output ( $\pm 2\%$ )
- Current 750 $\mu$ A max
- Regulation  $\pm 3\%$  load,  $\pm 3\%$  line
- Ripple 0.2% (20V) p-p, maximum
- Test Output -5V "2KV good" output indicator

Focus:

- Voltage -2000V, fixed output ( $\pm 2\%$ )
- Current 600 $\mu$ A
- Regulation  $\pm 0.05\%$  line,  $\pm 0.1\%$  load. Output will not vary by more than 1V under any input or output conditions
- Ripple 1V p-p, maximum
- Test Output -5V "2KV good" output indicator

### Protection Circuits

- Output Overload Supply protected against excessive load on output
- Short Circuit Protected against output shorts for an indefinite period
- Reverse Polarity Inputs protected against reverse polarity

### Environmental

- Operating Temperature -55°C to + 85°C
- Humidity To 100% (fully sealed construction)
- 25G's, 50G Crash safety
- Altitude 30,000 feet

Construction: Sealed steel case with internal aluminum sub plate

- Weight 5.0 lbs., max.
- Marking Photo anodized aluminum label
- Potting HV section is vacuum filled with silicone