

L-McCULLOUGH,
SAN BRUNO, CALIFORNIA

LOW-MU TRIODE

1

Two 3X3000F1's in class-AB₁ audio service will deliver up to 10 kilowatts maximum-signal plate power output at 6000 plate volts without drawing grid current.

ELECTRICAL

[illegible]

Grid-Plate	-	-	-	-	-	-	-	-	-	-	-	17	$\mu\mu fd$
Grid-Filament	-	-	-	-	-	-	-	-	-	-	-	29	$\mu\mu fd$
Plate-Filament	-	-	-	-	-	-	-	-	-	-	-	2.5	$\mu\mu fd$

Transconductance ($I_b = 1.0$ amp., $E_b = 3000$ v.) - - - - - 11,000 μ mhos

[illegible]

Mounting Position - - - - - **Vertical, base down or up**

[illegible]

Maximum Temperatures:

Grid and Filament Seals.

Anode Cooler Core - - - - - 150°C

Maximum Overall Dimensions:

Length - - - - - 9.0 inches

Diameter - - - - - 4.16 inches

Net Weight - - - - - 7.5 pounds

Shipping Weight	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17 pounds
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TYPICAL OPERATION (Sinusoidal wave, two tube unless otherwise specified)

Class-AB₁

MAXIMUM RATINGS (Per tube)

D-C PLATE VOLTAGE - - - - - 6000 MAX. VOLTS

D-C PLATE CURRENT - - - - - 2.5 MAX. AMPERES

PLATE DISSIPATION - - - - - 3000 MAX. WATTS

GRID DISSIPATION - - - - - 50 MAX. WATTS

TYPICAL OPERATION (Sinusoidal wave, two tube unless otherwise specified)					
D-C Plate Voltage	-	3000	4000	5000	6000 volts
D-C Grid Voltage (approx.) ¹	-	-600	-860	-1080	-1300 volts
Zero-Signal D-C Plate Current	-	665	500	400	335 ma
Max-Signal D-C Plate Current	-	3.35	3.00	2.80	2.65 amps
Effective Load, Plate-to-Plate	-	1170	2160	3320	4560 ohms
Peak A-F Grid Input Voltage (per tube)	-	-	-	-	-
	-	555	760	995	1250 volts
Max-Signal Driving Power (approx.)	-	0	0	0	0 watts
Max-Signal Plate Power Input	-	10,000	12,000	14,000	16,000 watts
Max-Signal Plate Dissipation (per tube)	-	-	-	-	-
	-	3000	3000	3000	3000 watts
Max-Signal Plate Power Output	-	4000	6000	8000	10,000 watts
Total Harmonic Distortion ²	-	2.7	1.8	2.6	2.1 per cent

¹Adjust to stated Zero-Signal D-C Plate Current. Can be expected to vary $\pm 15\%$. Effective grid-circuit resistance must not exceed 200,000 ohms.
²At maximum signal without negative feedback.

Filament Voltage—The filament voltage, as measured directly at the tube, should be the rated value of 7.5 volts. Variations should be held within the range of 7.12 to 7.87 volts.

Cooling—The 3X3000F1 requires an air-flow of 150 cubic feet per minute through the anode cooler. This corresponds to a pressure drop across the cooler of 2.2 inches of water. A flow of 6 cubic feet per minute must also be directed into the filament stem structure, between the inner and outer filament conductors.

The air-flow must be started when power is applied to the filament, and must continue without interruption

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until all electrode voltages have been removed from the tube. It is advisable to permit the air-cooling system to operate for two minutes or more after the removal of power.

These air requirements are based upon operation at an ambient temperature of 20°C and at sea level.

Cooling conditions for the 3X3000F1 may be considered satisfactory if the temperature of the anode cooler core and of the metal parts of the metal-to-glass seals is not allowed to exceed 150°C. A convenient accessory for the measurement of these temperatures is "Tempilaq", a temperature-sensitive lacquer manufactured by the Tempil Corporation, 132 West 22nd St., New York 11. N. Y.



