UNITED ELECTRONICS

TYPE UE-196

A-F AND R-F AMPLIFIER, OSCILLATOR

ENGINEERING INFORMATION

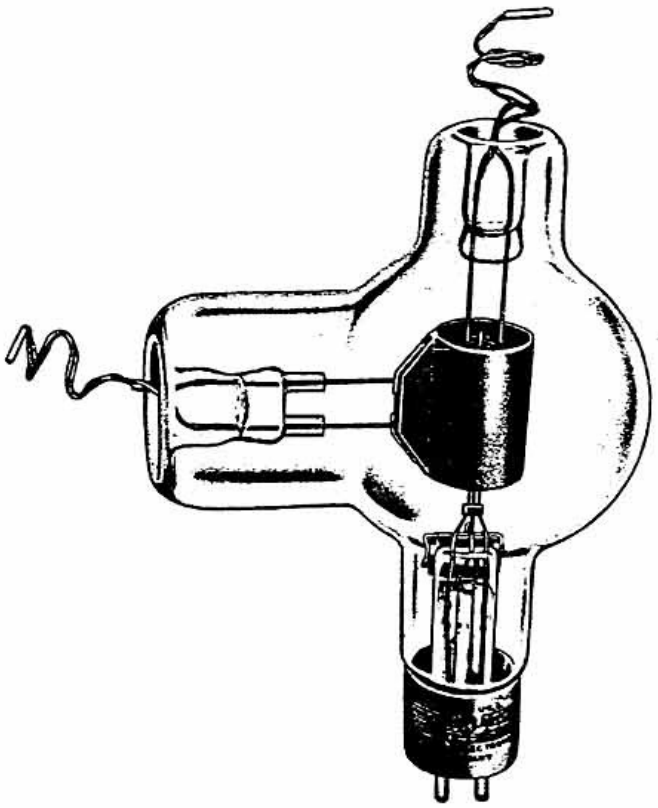
GENERAL RATINGS

Number of Electrodes	3
Filament Voltage	10 volts
Current	3.25 amperes
Type	Thoriated Tungsten
Amplification Factor	35
Mutual Conductance	1600 micromhos
Average Direct Interelectrode Capacities:	
Grid to Plate	3 uuf
Grid to Filament	2.4 uuf
Plate to Filament	1.4 uuf
Maximum Overall Dimensions:	
Length	8½ inches
Diameter	6⅛ inches
Bulb	GT-30
Base	UX
Type of Cooling	Air
Net Weight	8 oz.

MAXIMUM RATINGS

Maximum D-C Plate Voltage Unmodulated	3000	volts
Maximum D-C Plate Current Unmodulated	150	ma.
Maximum Plate Dissipation	125	watts
Maximum D-C Grid Current	40	ma.
Frequency Rating for Operating Conditions with Maximum Rated Power Input and Nominal Output:		
Below	30	megacycles
Above	10	meters
*Maximum Frequency Rating with Reduced Power Input and Output:		
Below	100	megacycles
Above	3	meters

* For operation at the higher frequencies, the plate voltage, plate current, plate dissipation, and d-c grid current should not exceed 50% of the Maximum Ratings. The R-F grid current should never exceed the maximum rated value.



UNITED TYPE UE-196

Type UE-196 is used principally as a renewal tube in early diathermy machines. Replaces WL-196 and GL-196.

INSTALLATION

The base of the UNITED UE-196 is designed for mounting in a standard UX type socket of the four-pin, bayonet type. The tube should always be mounted vertically with ample air space provided for ventilation.

The filament of the UE-196 should be operated at the rated value of 10 volts. Operation at other than the rated value may result in loss of filament emission and short life.

While the ratings printed herein are conservative, it is important to observe the requirements of good engineering practice as to transmitter design and operation. Adequate cabinet ventilation should be provided to carry off the heat dissipated during operation. Tube sockets should be inspected to avoid high resistane contacts to the base-pin terminals.

GRAPHITE ANODE AND ISOLATED GETTER TRAP

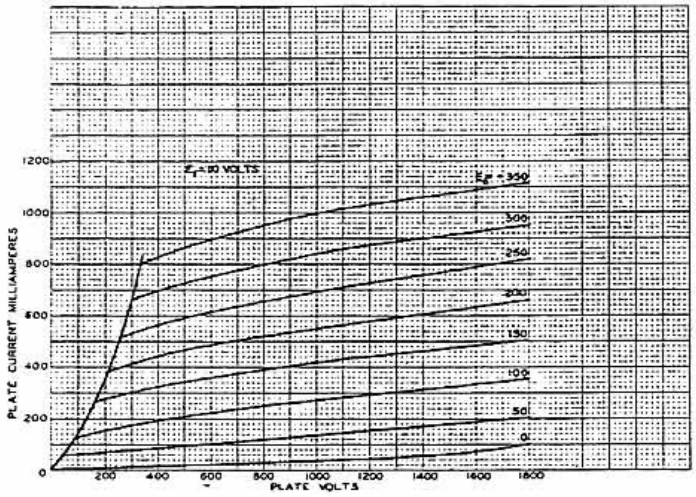
A specially processed graphite anode is used in this tube type because of several specific advantages over metals such as tantalum, molybdenum, and nickel. The radiating area of graphite is approximately twice the projected anode area because of its surface porosity and it will dissipate at least four times more heat than metal.

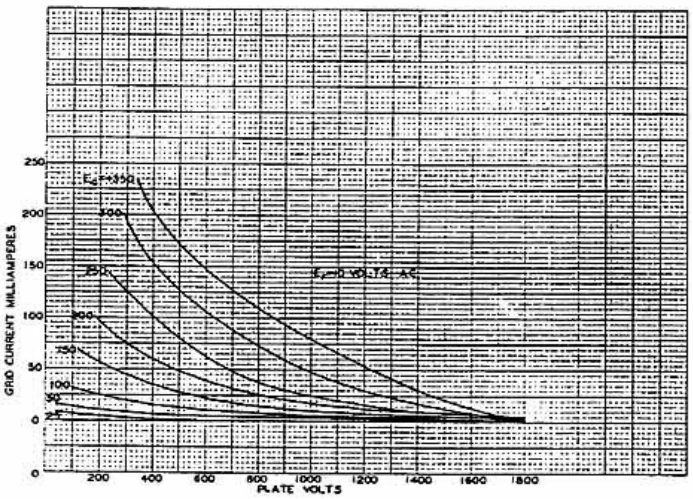
Graphite, being infusible will not warp or twist. The exact form of graphite is maintained under all temperatures; hence constant inter-element relationships and uniform characteristics result. The inherent advantages of graphite over metal are of primary importance in designing tubes of this type for long and satisfactory service.

Type UE-196 employs the new UNITED isolated getter trap which keeps tube free from gas and preserves filament emission.

All ratings given are for continuous service. Higher ratings are permissible for intermittent operation. Additional data will be furnished upon request.

United





MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

R-F POWER AMPLIFIER AND OSCILLATOR, CLASS C
Telegraph and Therapy Service
(Key-down Conditions Without Modulation*)

MAXIMUM RATINGS

Plate Volts, A-C, RMS	3000
Plate Volts, D-C, Unfiltered	3000
Plate Current, D-C, Ma.	150
Plate Input, Watts	450
Plate Dissipation, Watts	125
Plate Volts and Input for 15 MC	100%
Plate Volts and Input for 30 MC	80%
Plate Volts and Input for 60 MC	60%
Grid Volts, D-C	—500
Grid Volts, R-F	750
Grid Current, D-C, Ma.	40

TYPICAL OPERATION, CLASS C

Plate Volts, A-C, RMS	2000	2500	3000
Plate Volts, D-C, Unfiltered	1800	2250	2700
Plate Current, D-C, Ma.	150	132	116
Plate Input, Watts	335	365	385
Plate Dissipation, Watts	110	110	110
Grid Volts, D-C	—75	—100	—125
Grid Volts, R-F, Peak	250	250	300
Grid Current, Ma.	20	15	15

*Modulation, essentially negative, may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.