UNITED ELECTRONICS

TYPE UXCV-11

MODULATOR, A-F AND R-F POWER AMPLIFIER, OSCILLATOR

ENGINEERING INFORMATION

GENERAL RATINGS

Number of Electrodes	3
Filament Voltage	10 volts
Current	2.5 amperes
Type	Thoriated Tungsten
Average Characteristic Values Calculated at: 65 ma. Plate Current	
Amplification Factor	14
Plate Resistance	3500 ohms
Mutual Conductance	4000 micromhos
Average Direct Interelectrode Capacities:	
Grid to Plate	9.0 uuf
Grid to Filament	5.0 uuf
Plate to Filament	2.4 uuf
Maximum Overall Dimensions:	
Length	7 1/4 inches
Diameter	2 1/16 inches
Bulb	T-16
Cap	Medium Metal
Base	Medium 4-Pin
Type of Cooling	Air
Net Weight	5½ oz.

MAXIMUM RATINGS

Maximum D-C Plate Voltage Modulated	1250	volts
Maximum D-C Plate Voltage Unmodulated	1500	volts
Maximum D-C Plate Current Modulated	125	ma.
Maximum D-C Plate Current Unmodulated	150	ma.
Maximum Plate Dissipation	65	watts
Maximum D-C Grid Current	25	ma.
Maximum R-F Grid Current	6	amp.
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	*85	megacycles
Above	*3.5	meters

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

UNITED TYPE UXCV-11

This sturdy triode has a plate dissipation of 65 watts for class C telegraph and class B service. A pair of these tubes in class B audio service will deliver 215 watts output.

INSTALLATION

The base of the UNITED UXCV-11 is designed for mounting in a standard Medium 4-Pin, bayonet type socket. The tube may be mounted either vertically, or horizontally with the plane of the filament on edge. Ample air space should be provided for ventilation.

The filament of the UXCV-11 should be operated at the rated value of 10 volts. Operation at other than rated value may result in loss of filament emission and short life. Except in cases where freedom from hum is essential, the filament of the UXCV-11 should be operated from an a-c source.

The plate dissipation of the UXCV-11 should never exceed the values given under Maximum Ratings and Typical Operation Conditions.

GRAPHITE ANODE

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.

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

United

A-F POWER AMPLIFIER AND MODULATOR—CLASS B

Maximum D-C Plate Voltage			1500	volts
Maximum D-C Plate Current	Averaged over any audio-freq. cycle		150	ma.
Maximum Plate Dissipation			65	watts
Typical Operation (2 tubes):				
Filament Voltage	10	10	10 a-c	volts
D-C Plate Voltage	1000	1250	1500	volts
Grid Voltage	—70	—90	—110	volts
Zero-Sig. Plate Cur.	30	30	30	ma.
Max.-Sig. Plate Cur.	240	240	225	ma.
Load Res. (plate to plate)	8000	11200	14400	ohms
Power Output (2 tubes)	185	200	215	watts

R-F POWER AMPLIFIER—CLASS B TELEPHONY

(Carrier Conditions—Modulation Factor = 1.0)

Maximum D-C Plate Voltage			1500	volts
Maximum D-C Plate Current			120	ma.
Maximum Plate Dissipation			65	watts
Maximum R-F Grid Current			6	amp.
Typical Operation:				
Filament Voltage	10	10	10 a-c	volts
D-C Plate Voltage	1000	1250	1500	volts
Grid Voltage	—70	—90	—110	volts
D-C Plate Current	95	80	65	ma.
Peak Power Output	120	128	128	watts
Nominal Carrier Power Output	30	32	32	watts

PLATE MODULATED R-F POWER AMPLIFIER CLASS C TELEPHONY

(Carrier Conditions—Modulation Factor = 1.0)

Maximum D-C Plate Voltage			1250	volts
Maximum D-C Plate Current			150	ma.
Maximum Plate Dissipation			30	watts
Maximum R-F Grid Current			5	amp.
Maximum D-C Grid Current			25	ma.
Typical Operation:				
Filament Voltage	10	10	a-c	volts
D-C Plate Voltage	1000	1250		volts
Grid Voltage	—200	—250		volts
D-C Plate Current	120	130		ma.
D-C Grid Current†	7	6		ma.
Driving Power†	3	3		watts
Power Output	84	120		watts

R-F POWER AMPLIFIER AND OSCILLATOR CLASS C TELEGRAPHY

(Key-down Conditions)

Maximum D-C Plate Voltage			1500	volts
Maximum D-C Plate Current			150	ma.
Maximum Plate Dissipation			65	watts
Maximum R-F Grid Current			6	amp.
Maximum D-C Grid Current			25	ma.
Typical Operation:				
Filament Voltage	10	10	10 a-c	volts
D-C Plate Voltage	1000	1250	1500	volts
Grid Voltage	—145	—180	—215	volts
D-C Plate Current	130	120	120	ma.
D-C Grid Current†	6	7	6	ma.
Driving Power†	3	3	3	watts
Power Output	90	115	140	watts

† Subject to wide variations depending on the impedance of the load circuit. The driver stage should have a tank circuit of good regulation and should be capable of delivering considerably more than the required driving power.