

WESTINGHOUSE

ELECTRON TUBE TYPE 899-A

MODULATOR, AMPLIFIER AND OSCILLATOR

GENERAL CHARACTERISTICS

Water-Cooled Triode #	
Filament Voltage #	14.5 Volts
Filament Current*	180 Amperes
Amplification Factor	27
Capacitance, Grid-Plate	23 uuf
Capacitance, Grid-Filament	10 uuf
Capacitance, Plate-Filament	5 uuf
Net Weight	25 lbs.
Shipping Weight	125 lbs.

MAXIMUM RATINGS AND TYPICAL OPERATION CONDITIONS

R-F Power Amplifier, Class B

Carrier conditions per tube for use with a maximum modulation factor of 1.0.

Maximum Ratings

Plate Volts, D-C	18000
Plate Current, D-C, Ampere	2.5
Plate Input, Watts	30000
Plate Dissipation, Watts	20000
Plate Volts and Input for 5 MC	100%
Plate Volts and Input for 15 MC	75%
Plate Volts and Input for 60 MC	50%

Typical Operation

Plate Volts, D-C	10000	15000
Plate Current, D-C, Amperes	1.65	1.70
Grid Volts, D-C*	-200	-400
Grid Volts, Peak R-F	800	900
Grid Current, D-C, Ampere	0.10	0.07
Driving Power, Watts **	540	660
Power Output, Watts	5000	8000

Plate-Modulated R-F Power Amplifier, Class C

Carrier conditions per tube for use with a maximum modulation factor of 1.0.

Maximum Ratings

Plate Volts, D-C	10000
Plate Current, D-C, Amperes	2.5
Plate Input, Watts	15000
Plate Dissipation, Watts	15000
Plate Volts and Input for 5 MC	100%
Plate Volts and Input for 15 MC	75%
Plate Volts and Input for 60 MC	50%
Grid Volts, D-C	-3000
Grid Current, D-C, Amperes	0.5

ELECTRON TUBE TYPE 899-A (Continued)

Typical Operation

Plate Volts, D-C	8000	10000
Plate Current, D-C, Amperes	1.35	1.25
Grid Volts, D-C	-1500	-1600
Grid Volts, Peak R-F	2600	2700
Grid Current, D-C, Ampere	0.28	0.33
Driving Power, Watts	730	850
Power Output, Watts	8000	10000

R-F Power Amplifier and Oscillator, Class C

Key-down conditions per tube without modulation ##

Maximum Ratings

Plate Volts, D-C	18000
Plate Current, D-C, Ampere	5.0
Plate Input, Watts	60000
Plate Dissipation, Watts	30000
Plate Volts and Input for 5 MC	100%
Plate Volts and Input for 15 MC	75%
Plate Volts and Input for 60 MC	50%
Grid Volts, D-C	-3000
Grid Current, D-C, Ampere	0.6

Typical Operation

Plate Volts, D-C	10000	15000	18000
Plate Current, D-C, Amperes	2.0	2.8	2.8
Grid Volts, D-C	-1400	-1800	-2000
Grid Volts, Peak R-F	2700	3200	3600
Grid Current, D-C Amp	0.30	0.25	0.15
Driving Power, Watts	800	800	480
Power Output, Watts	15000	25000	35000

NOTES:

Water flow of 8 to 16 gallons per minute must be provided for cooling of the anode. Water temperatures must not exceed 70° C under any conditions of operation. The filament and the grid stem can be properly cooled by supplying five cubic feet of air per minute to each. Both the water and air cooling must be applied before application of any voltages and continue for at least 10 minutes after they are removed.

‡ This tube can often be operated with reduced filament voltage when the load conditions are lower than maximum. When the filament voltage is to be removed, it should be reduced gradually in six equal steps over a period of three minutes.

* With A-C filament supply. When D-C is used, the grid voltage value should be reduced by 10 volts.

** At crest of audio-frequency cycle with modulation factor of 1.0.

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

WESTINGHOUSE LAMP DIVISION
WESTINGHOUSE
ELECTRIC & MANUFACTURING COMPANY
BLOOMFIELD, N. J.

SPECIFICATION NO.

DATE 1-22-41

SUPERSEDES

DATED

899A

