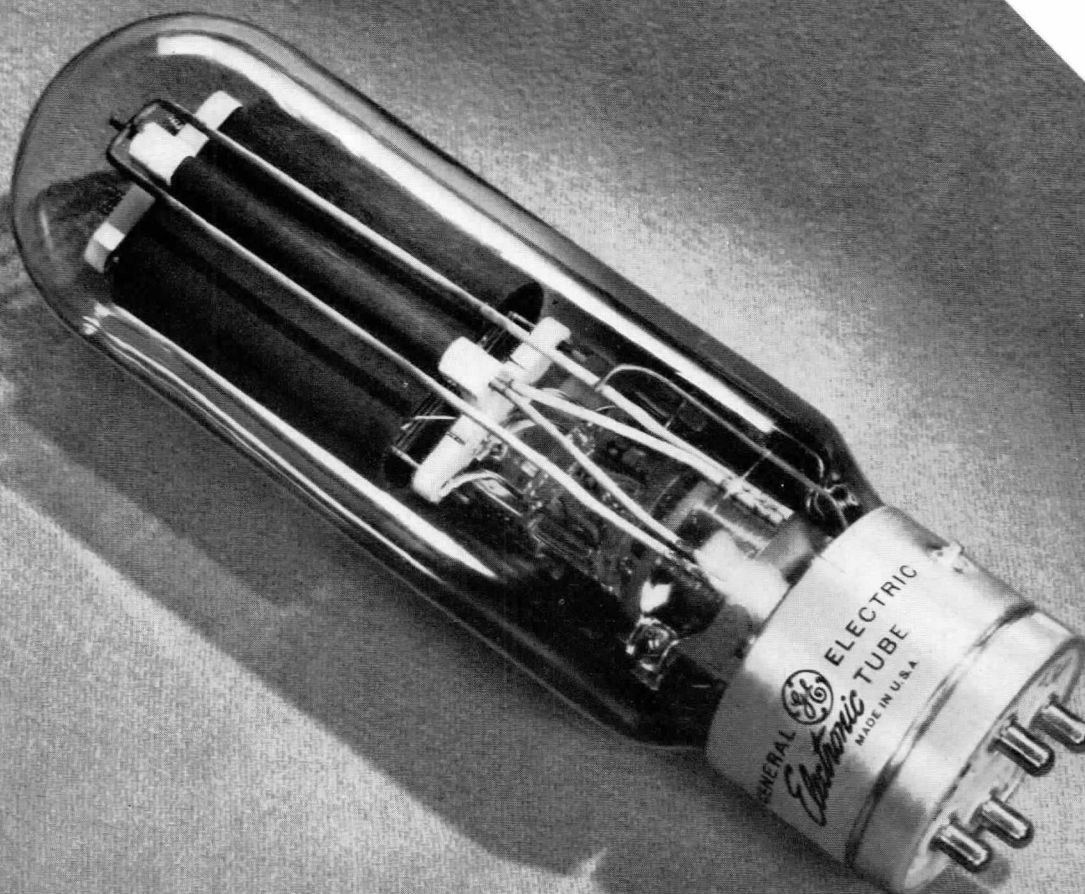




TRIODE

DESCRIPTION

The GL-276-A is a three-electrode tube for use as a Class B and C radio-frequency power amplifier and Class C oscillator. It may also serve as an

audio-frequency amplifier or modulator (Class A or B). The GL-276-A can be operated at maximum ratings at frequencies as high as 20 megacycles.

TECHNICAL INFORMATION

These data are for reference only. For design information refer to specifications.

GENERAL CHARACTERISTICS

Number of electrodes	3
Electrical	
Cathode—Filamentary	
Filament voltage	10 volts
Filament current	3.0 amperes
Amplification factor, $I_b = .060$	12
Grid-plate transconductance	3600 micromhos
Direct interelectrode capacitances	
Grid-plate	9 micromicrofarads
Grid-cathode	6 micromicrofarads
Plate-cathode	4 micromicrofarads
Frequency for maximum ratings	20 megacycles



GENERAL ELECTRIC

Supersedes ETX-138 dated 5-46

TECHNICAL INFORMATION (CONT'D)

Mechanical

Base	jumbo 4-large pin
Net weight, approx.	8 ounces
Shipping weight, approx.	4 pounds
Operating position	vertical, base up or down—horizontal filament in vertical plane
Type of cooling	convection
Maximum ambient temperature	60 centigrade

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

CLASS A AUDIO-FREQUENCY AMPLIFIER AND MODULATOR

Maximum Ratings, Absolute Values

D-c plate voltage	1250 volts
Plate dissipation	85 watts

Typical Operation

D-c plate voltage	1000	1250 volts
D-c grid voltage	-56	-75 volts
Peak grid swing, approx.	56	75 volts
D-c plate current	0.053	0.060 ampere
Plate resistance	3800	3600 ohms
Load resistance	7600	9200 ohms
Plate power output, 5 per cent second harmonic	12	20 watts

CLASS B AUDIO-FREQUENCY POWER AMPLIFIER (TWO TUBES)

Maximum Ratings, Absolute Values

D-c plate voltage	1250 volts
Max signal plate current, per tube†	0.125 ampere
D-c max signal plate input, per tube†	150 watts
Plate dissipation, per tube†	100 watts

Typical Operation

D-c plate voltage	1000	1250 volts
D-c grid voltage	-72	-95 volts
Peak a-f grid input voltage	320	390 volts
Zero signal plate current	0.020	0.020 ampere
Maximum signal plate current	0.250	0.250 ampere
Maximum signal plate input†	250	312 watts
Max signal driving power, approx.	7	7.5 watts
Effective load, plate-to-plate	7000	9000 ohms
Max signal plate power output	135	175 watts

CLASS B RADIO-FREQUENCY POWER AMPLIFIER

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

Maximum Ratings, Absolute Values

D-c plate voltage	1250 volts
D-c plate current	0.125 ampere
Plate input	150 watts
Plate dissipation	100 watts

Typical Operation

D-c plate voltage	1000	1250 volts
D-c grid voltage	-72	-95 volts
D-c plate current	0.125	0.120 ampere
Peak r-f grid input voltage	125	145 volts
Driving power, approx†	10	10 watts
Plate power output	42	50 watts

TECHNICAL INFORMATION (CONT'D)

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—PLATE MODULATED

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

Maximum Ratings, Absolute Values

D-c plate voltage.....	1000 volts
D-c grid voltage.....	—400 volts
D-c plate current.....	0.125 ampere
D-c grid current, approx.....	0.050 ampere
Plate input.....	125 watts
Plate dissipation.....	67 watts

Typical Operation

D-c plate voltage.....	750	1000 volts
D-c grid voltage.....	—200	—260 volts
D-c plate current.....	0.125	0.125 ampere
D-c grid current, approx.....	0.035	0.035 ampere
Peak r-f grid input voltage, approx.....	325	385 volts
Driving power, approx.....	12	14 watts
Plate power output.....	55	85 watts

†Averaged over any audio-frequency cycle.

‡At crest of audio-frequency cycle.

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Key-down conditions per tube without modulation§

Maximum Ratings, Absolute Values

D-c plate voltage.....	1250 volts
D-c grid voltage.....	—400 volts
D-c plate current.....	0.125 ampere
D-c grid current, approx.....	0.050 ampere
Plate input.....	156 watts
Plate dissipation.....	100 watts

Typical Operation

D-c plate voltage.....	1000	1250 volts
D-c grid voltage.....	—175	—225 volts
D-c plate current.....	0.125	0.125 ampere
D-c grid current, approx.....	0.020	0.020 ampere
Peak r-f grid input voltage, approx.....	290	350 volts
Driving power, approx.....	6	7 watts
Plate power output.....	85	100 watts

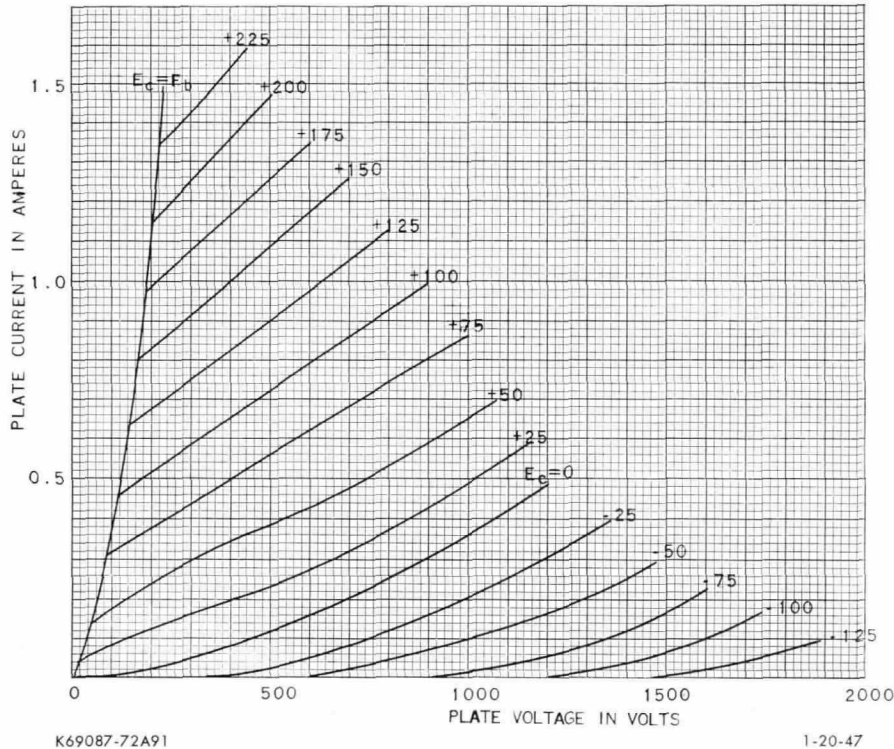
§Modulation, essentially negative, may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

APPLICATION NOTES

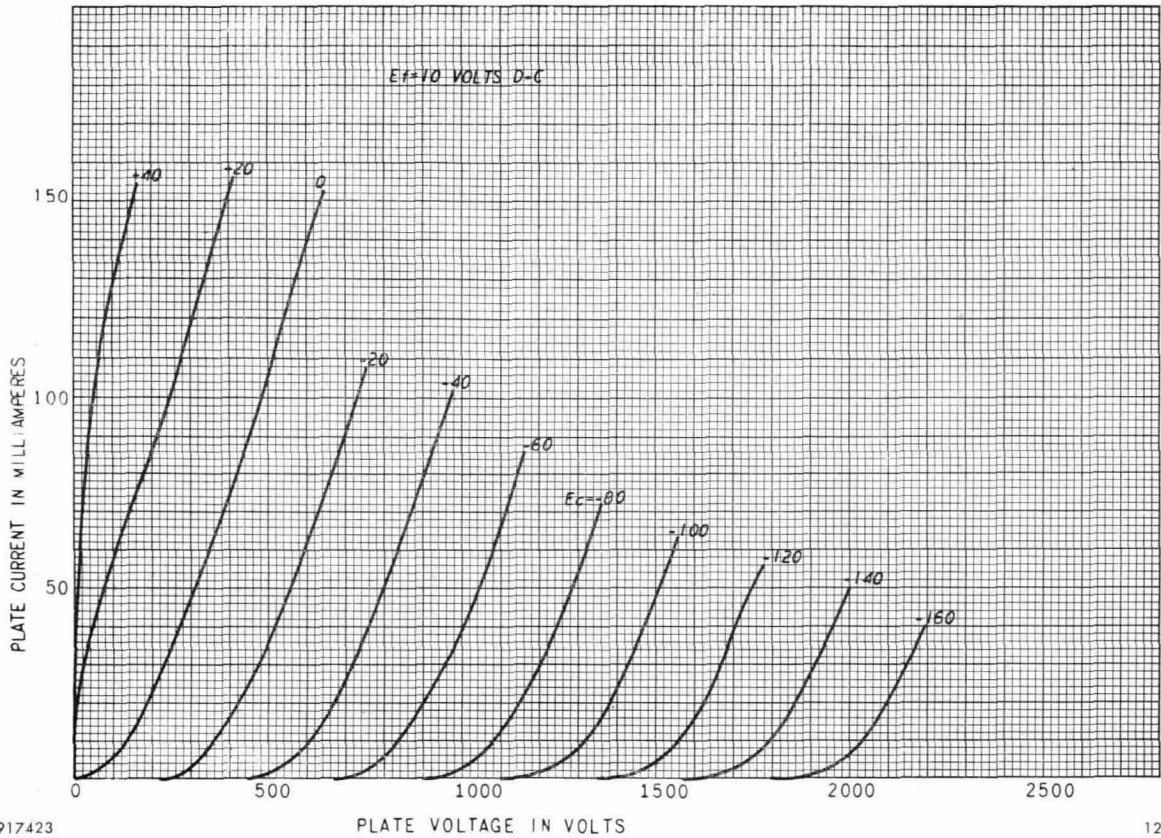
The GL-276-A can be operated at frequencies as high as 20 megacycles. The tube may be operated at higher frequencies provided the maximum values of plate voltage and power input are reduced as the frequency is raised (other maximum ratings are the same as shown above). The tabulation below shows the highest percentage of maximum plate voltage and power input that can be used up to 100 megacycles for the various classes of service. Special attention should be given to adequate ventilation of the bulb at these frequencies.

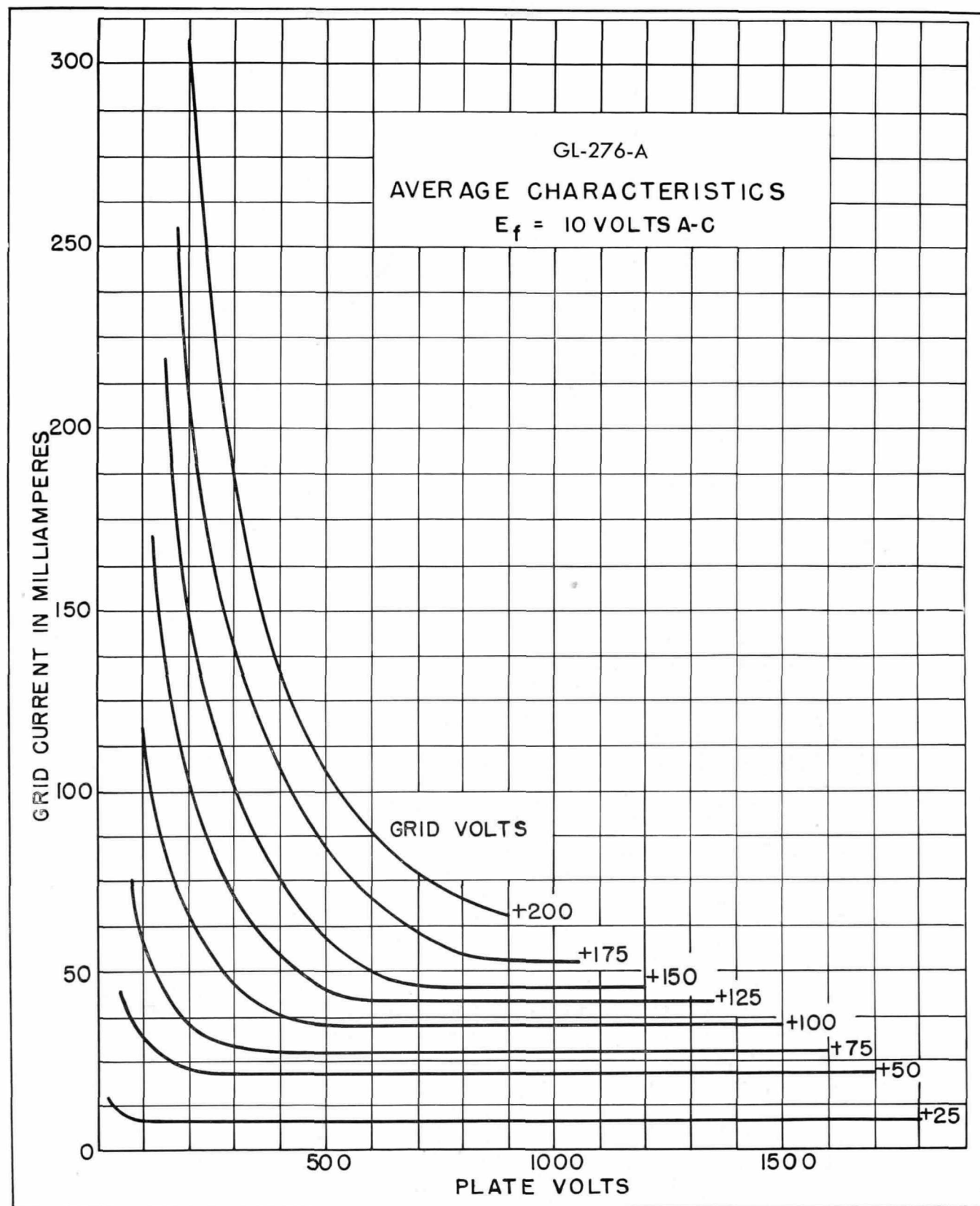
Frequency.....	20	45	100 megacycles
Maximum permissible percentage of maximum rated plate voltage and plate input:			
Class B, r-f.....	100	85	70 per cent
Class C } plate modulated.....	100	75	50 per cent
} unmodulated.....			

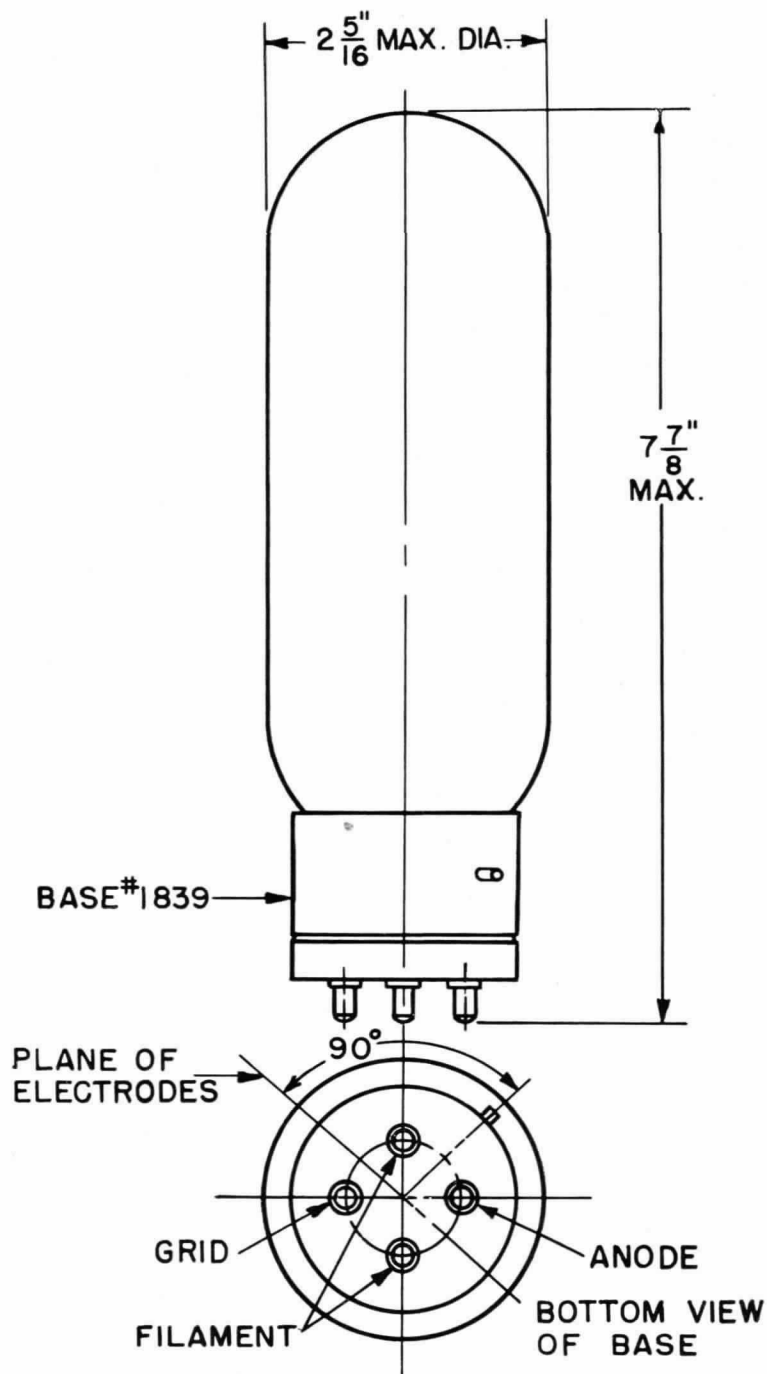
GL-276A
AVERAGE PLATE CHARACTERISTICS
 $E_i = 10$ VOLTS A-C



GL-276-A AVERAGE PLATE CHARACTERISTICS







GL-276-A OUTLINE

K-5302946

8-7-45

Electronics Department
GENERAL ELECTRIC
 Schenectady, N. Y.