

Songbird

The sign of a good product. The emblem of accuracy, beauty and durability. The trade mark of things built by experienced craftsmen.

Guarantee

SONGBIRD TUBES are warranted to give perfect service under all conditions. A new tube will be given for any which has failed to give full satisfaction.



Songbird



Quality
Radio Products

W. T. GRANT COMPANY

STORES IN PRINCIPAL CITIES

AMPLIFIERS



Amplifier-Detector TYPE 201-A

Filament Voltage _____ 5.
Filament Current _____ .25
Plate Voltage _____ 45-135
Amplification Constant _____ 8.
Mutual Conductance _____ 800



TYPE X-140 High Mu Amplifier

Filament Voltage _____ 5.
Filament Current _____ .25
Plate Voltage _____ 135-180
Amplification Constant _____ 30
Plate Coupling Resistance
Recommended (ohms) _____ 250,000



TYPE 199 Amplifier-Detector

Filament Voltage _____ 3.
Filament Current _____ .06
Plate Voltage _____ 22-90
Amplification Constant _____ 6.5
Mutual Conductance _____ 430



TYPES 11 and 12 Amplifiers-Detectors

Filament Voltage _____ 1.1
Filament Current _____ .25
Plate Voltage _____ 22-90
Amplification Constant _____ 6.
Mutual Conductance _____ 380



Power Amplifiers

TYPE X-120

Filament Voltage _____ 3.
Filament Current _____ .125
Plate Voltage _____ 90-135
Neg. Grid Bias _____ 16-22
Amplification Constant _____ 3.4
Mutual Conductance _____ 500



TYPE X-112A

Filament Voltage _____ 5.
Filament Current _____ .25
Plate Voltage _____ 90-157
Neg. Grid Bias _____ 6-10½
Amplification Constant _____ 8.
Mutual Conductance _____ 1600



TYPE X-171A

Filament Voltage _____ 5.
Filament Current _____ .25
Plate Voltage _____ 135-180
Neg. Grid Bias _____ 27-40
Amplification Constant _____ 3.
Mutual Conductance _____ 1400



TYPE X-250 Super Power Amplifier

Filament Voltage _____ 7.5
Filament Current _____ 1.25
Plate Voltage _____ 250-450
Negative Grid Bias _____ 43-84
Plate M. A. _____ 30-60
Amplification Constant _____ 3.8
Mutual Conductance _____ 2100



TYPE X-210A Amplifier and Oscillator

Filament Voltage	_____	7.5
Filament Current	_____	1.25
Plate Voltage	_____	225-425
Negative Grid Bias	_____	16-35
Plate M. A.	_____	10-20
Amplification Constant	_____	8.
Mutual Conductance	_____	1600

210 A Oxide Coated Filament

As a power amplifier in push pull and straight audio circuits this new tube excels all others for home reception.



TYPE 200AA Power Detector

Filament Voltage	_____	5.
Filament Current	_____	.25
Plate Voltage	_____	67-135
Amplification Constant	_____	20
Grid Return	_____	Filament Positive
Grid Bias (Megohms)	_____	2-5

200 A A Oxide Coated Filament

A vastly improved power detector.

Instant in operation, without hiss or roar, common in the old gas type 200 A.

Alternating Current Amplifier and Detector



TYPE X-226 Amplifier

Filament Voltage	_____	1.5
Filament Current	_____	1.05
Plate Voltage	_____	90-180
Negative Grid Bias	_____	6-13 1/2
Amplification Constant	_____	8.
Mutual Conductance	_____	1100

Oxide coated filament tube, used in electrically operated sets for audio and radio amplification.



TYPE X-227 (Heater Type) Detector-Amplifier

Heater Voltage	_____	2.5
Heater Current	_____	1.75
Negative Grid Bias	_____	3-13 1/2
Plate Voltage	_____	45-180
Amplification Constant	_____	8.
Mutual Conductance	_____	950

Oxide coated cathode type tube for use as a detector in electrically operated sets using type 226 in the audio and radio stages.

RECTIFIERS



TYPE X-280 Full Wave Rectifier

Filament Voltage	_____	5.
Filament Current	_____	2.
A. C. Plate Voltage (maximum per plate)	_____	300
D. C. Output Current (maximum)	_____	125
Milliamperes	_____	



TYPE X-281 Half-Wave Rectifier

Filament Voltage	_____	7.5
Filament Current	_____	1.25
A. C. Plate Voltage (maximum per plate)	_____	450
D. C. Output Current (maximum)	_____	110
Milliamperes	_____	



G H Rectifier

A. C. Plate Voltage (maximum per plate)	_____	300
D. C. Output Current (maximum)	_____	125
Milliamperes	_____	



TYPE X-222 Shielded Grid Amplifier

Filament Voltage	_____	3.3
Filament Current	_____	.130
Plate Voltage	_____	135-180
Negative Grid Bias	_____	1.5
Outer Grid Voltage	_____	22-45
Amplification Constant	_____	300
Plate Impedance (ohms)	_____	850,000
Mutual Conductance	_____	350

This new four element tube has unlimited possibilities as both a radio and audio frequency amplifier, due to its tremendous amplification factor, which is rated at 35 times that of the 201A. Owing to circuit limitations, however, this varies.

In audio circuits the additional amplification does not cause distortion, because of the flat frequency amplifying curve of the tube.

The remarkable characteristics of this tube may be attributed to the additional element, the screen grid. This practically eliminates all tube capacity.

The screen grid is connected to the grid prong of the standard base, while the regular or control grid is connected to a terminal at the top of the tube, permitting it to be used in the standard UX socket.

222 A.C.

Heater Voltage 2.25
Heater Current 1.75

All other characteristics of this tube are identical to those of the X222.

Made with an oxide coated heater, similar to the 227 type and fitted with a standard five prong base.