

# 12DU7

## Twin Diode—Power Tetrode

### 9-PIN MINIATURE TYPE

For Automobile Radio Receivers Operating  
Directly from 6-Cell Storage Batteries

#### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathode:

Voltage range (DC) . . . . . 10 to 15.9 volts

*For longest life, it is recommended that the heater be operated within the voltage range of 11 to 14 volts.*

Current (Approx.) at 12.6 volts . . . . . 0.25 amp

Direct Interelectrode Capacitances:▲

#### Tetrode Unit:

Grid No.1 to plate. . . . . 0.6  $\mu$ f

Grid No.1 to cathode, grid No.2,  
and heater. . . . . 11  $\mu$ f

Plate to cathode, grid No.2,  
and heater. . . . . 3.6  $\mu$ f

Tetrode grid No.1 to diode-No.1  
plate . . . . . 0.22 max.  $\mu$ f

Tetrode grid No.1 to diode-No.2  
plate . . . . . 0.12 max.  $\mu$ f

#### Characteristics, Class A<sub>1</sub> Amplifier (Tetrode Unit):

Heater Voltage. . . . . 12.6 volts

Plate Voltage . . . . . 12.6 volts

Grid-No.2 Voltage . . . . . 12.6 volts

Grid-No.1 Resistor (Bypassed) . . . . . 2.2 megohms

Plate Resistance (Approx.) . . . . . 6000 ohms

Transconductance. . . . . 6200  $\mu$ mhos

Plate Current . . . . . 12 ma

Grid-No.2 Current . . . . . 1.5 ma

#### Mechanical:

Operating Position. . . . . Any

Maximum Overall Length. . . . . 2-3/16"

Maximum Seated Length . . . . . 1-15/16"

Length, Base Seat to Bulb Top (Excluding tip). 1-9/16"  $\pm$  3/32"

Diameter. . . . . 0.750" to 0.875"

Dimensional Outline . . . . . See *General Section*

Bulb. . . . . T6-1/2

Base. . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)

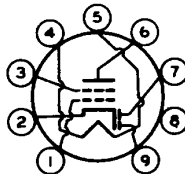
Basing Designation for BOTTOM VIEW. . . . . 9JX

Pin 1—Tetrode  
Grid No.1

Pin 2—Cathode  
Pin 3—Tetrode  
Grid No.2

Pin 4—Heater  
Pin 5—Heater

Pin 6—Tetrode Plate



Pin 7—Diode-No.2  
Plate

Pin 8—Internal Con-  
nection—  
Do Not Use

Pin 9—Diode-No.1  
Plate



RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA  
3-61

# 12DU7

## TETRODE UNIT — AUDIO DRIVER

### Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE . . . . .	16 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE . . . . .	16 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. . . . .	16 max.	volts
Heater positive with respect to cathode. . . . .	16 max.	volts

### Typical Operation:

Heater Voltage. . . . .	12.6	volts
Plate Voltage . . . . .	12.6	volts
Grid-No.2 Voltage . . . . .	12.6	volts
Grid-No.1 Voltage . . . . .	<i>Obtained by rectification through 2.2-megohm grid-No.1 resistor</i>	
Peak AF Grid-No.1 Voltage . . . . .	2.2	volts
Load Resistance . . . . .	2700	ohms
Total Harmonic Distortion . . . . .	10	%
Max.-Signal Power Output. . . . .	25	mw

### Maximum Circuit Values:

Grid-No.1-Circuit Resistance. . . . .	10 max.	megohms
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## DIODE UNITS — Two

*Values are for Each Unit*

### Maximum Ratings, Design-Maximum Values:

PLATE CURRENT . . . . .	1 max.	ma
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### Characteristics, Instantaneous Test Condition:

Heater Voltage. . . . .	12.6	volts
Plate Current for plate volts = 10. . . . .	1.3	ma

▲ Without external shield.

