

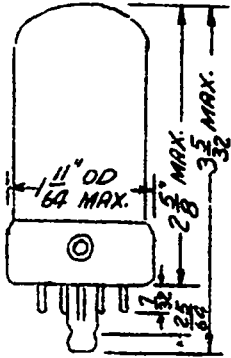
7C5

RMA Release # 162

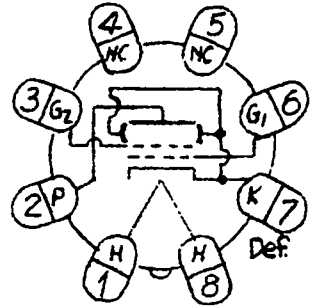
7C5

TENTATIVE DATA  
RAYTHEON TYPE 7C5

TETRODE  
POWER AMPLIFIER  
Heater Type  
Glass Bulb Loktal Base



The 7C5 is a tetrode type power amplifier tube designed for use in the output stage of radio receivers.



BOTTOM VIEW OF SOCKET

NOMINAL RATINGS

|                             |      |       |
|-----------------------------|------|-------|
| Heater Voltage (a-c or d-c) | 7.0  | volts |
| Heater Current              | 0.48 | amp   |
| Maximum Plate Voltage       | 250  | volts |
| Maximum Screen Voltage      | 250  | volts |

TYPICAL AMPLIFIER - CLASS A CONDITIONS

|                                    |      |       |         |
|------------------------------------|------|-------|---------|
| Heater Voltage                     | 6.3  | 6.3   | volts   |
| Heater Current                     | 0.45 | 0.45  | amp     |
| Plate Voltage                      | 180  | 250   | volts   |
| Screen Voltage                     | 180  | 250   | volts   |
| Grid Bias                          | -8.5 | -12.5 | volts   |
| Amplification Factor (approximate) | 210  | 218   |         |
| Transconductance                   | 3500 | 4100  | umhos   |
| Max.-Signal Voltage (RMS)          | 6.0  | 8.84  |         |
| No-Signal Plate Current            | 29   | 45    | ma      |
| Max.-Signal Plate Current          | 30   | 47    | ma      |
| No-Signal Screen Current           | 3    | 4.5   | ma      |
| Max.-Signal Screen Current         | 4    | 6.5   | ma      |
| Load Resistance                    | 5500 | 5000  | ohms    |
| Total Harmonic Distortion          | 6    | 6     | percent |
| 2nd Harmonic Distortion            | 5.5  | 4.5   | percent |
| 3rd Harmonic Distortion            | 2.5  | 3.5   | percent |
| Max.-Signal Power Output           | 2    | 4.25  | watts   |

TYPICAL AMPLIFIER - PUSH-PULL - CLASS AB CONDITIONS - TWO TUBES

|  |       |         |
|--|-------|---------|
| Heater Voltage                           | 6.3   | volts   |
| Heater Current                           | 0.45  | amp     |
| Plate Voltage                            | 250   | volts   |
| Screen Voltage                           | 250   | volts   |
| Grid Bias                                | -15   | volts   |
| Max.-Signal Voltage - Grid to Grid (RMS) | 21.2  | volts   |
| No-Signal Plate Current                  | 70    | ma      |
| Max.-Signal Plate Current                | 79    | ma      |
| No-Signal Screen Current                 | 5     | ma      |
| Max.-Signal Screen Current               | 12    | ma      |
| Load Resistance                          | 10000 | ohms    |
| Total Harmonic Distortion                | 4     | percent |
| 3rd Harmonic Distortion                  | 3.5   | percent |
| Max.-Signal Power Output                 | 8.5   | watts   |

from RMA release #162, Feb. 16, 1939

JETEC DATA  
 JOINT ELECTRON TUBE ENGINEERING COUNCIL  
 COMMITTEE ON RECEIVING TUBES

Release No. 162A

J5-7C5

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Dec. 15, 1950

JETEC TYPE 7C5

BEAM PENTODE

MECHANICAL DATA

Coated unipotential cathode  
 Outline drawing. . . . . 9-31      Bulb. . . . . T-9  
 Base . . . . . D8-1 lock-in 8-pin  
 Maximum diameter . . . . . 1-3/16"  
 Maximum overall length . . . . . 3-5/32"  
 Maximum seated height. . . . . 2-5/8"  
 Pin connections. . . . . Basing 6AA  
     Pin 1 - Heater                      Pin 5 - No connection  
     Pin 2 - Plate                      Pin 6 - Grid #1  
     Pin 3 - Grid #2                    Pin 7 - Cathode, beam plates  
     Pin 4 - No connection            Pin 8 - Heater  
 Mounting position. . . . . Any

ELECTRICAL DATA

Ratings

Heater voltage (nominal) (ac or dc) . . . . . 7.0 volts  
 Maximum heater-cathode voltage . . . . . 90 volts  
 Maximum plate voltage. . . . . 315 volts  
 Maximum grid #2 voltage. . . . . 285 volts  
 Maximum plate dissipation. . . . . 12 watts  
 Maximum grid #2 dissipation. . . . . 2 watts

Typical Operating Conditions and Characteristics, Class A1 Amplifier (single tube)

|   |        |        |        |       |
|---|--------|--------|--------|-------|
| Heater voltage . . . . .                      | 6.3    | 6.3    | 6.3    | volts |
| Heater current . . . . .                      | 450    | 450    | 450    | ma.   |
| Plate voltage. . . . .                        | 180    | 250    | 315    | volts |
| Grid #2 voltage. . . . .                      | 180    | 250    | 225    | volts |
| Grid #1 voltage* . . . . .                    | -8.5   | -12.5  | -13.0  | volts |
| Peak AF grid #1 voltage. . . . .              | 8.5    | 12.5   | 13.0   | volts |
| Zero signal plate current. . . . .            | 29     | 45     | 34     | ma.   |
| Maximum signal plate current . . . . .        | 30     | 47     | 35     | ma.   |
| Zero signal grid #2 current. . . . .          | 3.0    | 4.5    | 2.2    | ma.   |
| Maximum signal grid #2 current . . . . .      | 4.0    | 7.0    | 6.0    | ma.   |
| Plate resistance (approx.) . . . . .          | 58,000 | 52,000 | 77,000 | ohms  |
| Transconductance. . . . .                     | 3700   | 4100   | 3750   | μmhos |
| Load resistance. . . . .                      | 5500   | 5000   | 8500   | ohms  |
| Maximum signal power output. . . . .          | 2.0    | 4.5    | 5.5    | watts |
| Total harmonic distortion (approx.) . . . . . | 8      | 8      | 12     | %     |

Continued on Page 2

ELECTRICAL DATA (Continued)Typical Operating Conditions and Characteristics,  
Class AB-1 Push-Pull Amplifier\*\*

|  |        |       |        |
|--|--------|-------|--------|
| Heater voltage . . . . .                     | 6.3    | 6.3   | volts  |
| Heater current . . . . .                     | 0.90   | 0.90  | ampere |
| Plate voltage . . . . .                      | 250    | 285   | volts  |
| Grid #2 voltage . . . . .                    | 250    | 285   | volts  |
| Grid #1 voltage* . . . . .                   | -15    | -19   | volts  |
| Peak AF grid #1 to grid #1 voltage . . . . . | 30     | 38    | volts  |
| Zero-signal plate current . . . . .          | 70     | 70    | ma.    |
| Maximum-signal grid #2 current . . . . .     | 13     | 13.5  | ma.    |
| Maximum-signal plate current . . . . .       | 79     | 92    | ma.    |
| Zero-signal grid #2 current . . . . .        | 5      | 4     | ma.    |
| Plate-to-plate load resistance . . . . .     | 10,000 | 8,000 | ohms   |
| Maximum-signal power output . . . . .        | 10     | 14    | watts  |
| Total harmonic distortion . . . . .          | 5      | 3.5   | %      |

\*Maximum grid #1 circuit resistance for fixed bias = 0.1 megohm.

Maximum grid #1 circuit resistance for cathode bias = 0.5 megohm.

\*\*Unless otherwise specified values are for two tubes.

Refer to "Interpretation of Receiving Tube Ratings"