

7C5

RMA 1000-102

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.

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

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JETEC DATA
JOINT ELECTRON TUBE ENGINEERING COUNCIL
COMMITTEE ON RECEIVING TUBES

Release No. 162A

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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	%

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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"