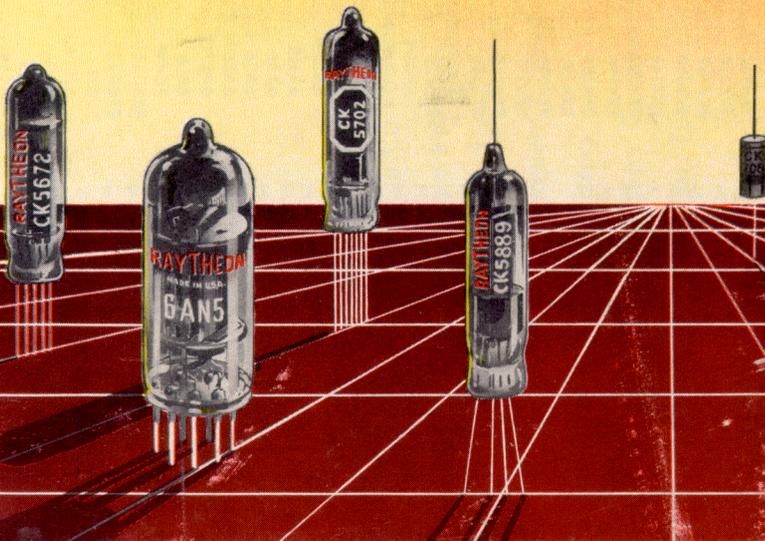


# RAYTHEON

## SPECIAL PURPOSE **TUBE** **CHARACTERISTICS**

SUBMINIATURE  
HEARING AID  
RELIABLE  
RUGGED  
TRANSISTORS  
CRYSTAL DIODES  
NUCLEONIC  
VOLTAGE  
REGULATOR  
RECTIFIER  
TRANSMITTING  
MAGNETRON  
KLYSTRON



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## NOTES

<sup>1</sup> Fully shielded by metallic coating.

<sup>2</sup> Leads are 0.016" diameter and 0.200" long.

<sup>3</sup> Conversion Conductance.

<sup>4</sup> Voltage Gain (times).

<sup>5</sup> Space-Charge tube, value given is cascade gain.

<sup>6</sup> Measured at 50 microwatts input to emitter.

<sup>7</sup> This type has an 8-lead subminiature button base.

<sup>8</sup> Water cooled.

<sup>9</sup> Filament center-tap provided for 1.25 or 2.5 volt operation. Type is designed for intermittent service operation.



# SUBMINIATURE TUBES



| TYPE   | CONSTRUCTION | TYPICAL APPLICATION | HTR or FILAMENT |     |      | TERM. CONN. | MAX. DIMENSIONS inches |             |            | PLATE VOLTS | GRID 1 VOLTS  | GRID 2 VOLTS | GRID 3 VOLTS | PLATE CURR. ma. | GRID 2 CURR. ma. | AMP. FACT. | PLATE RESIST meg. | MUT. COND. μmhos | OUTPUT milliwatts                     | LOAD RESIST. meg. | TYPE   |
|--|--------------|---------------------|-----------------|-----|------|-------------|------------------------|-------------|------------|-------------|---------------|--------------|--------------|-----------------|------------------|------------|-------------------|------------------|---------------------------------------|-------------------|--|
|  |              |                     | Volts           | Ma. | Type |             | Length                 | Width       | Thick-ness |             |               |              |              |                 |                  |            |                   |                  |                                       |                   |  |
|  |              |                     |                 |     |      |             |                        |             |            |             |               |              |              |                 |                  |            |                   |                  |                                       |                   |  |
| <b>1AD4<sup>1</sup></b>                              | Pentode      | R-F Amplifier       | 1.25            | 100 | Fil  | 5A          | 1.5                    | .385        | .285       | 45          | Rg = 2 meg.   | 45           |              | 2.8             | 0.8              |            | 0.5               | 2000             |                                       |                   | <b>1AD4<sup>1</sup></b>                              |
| <b>1AE5</b>  | Heptode      | Mixer               | 1.25            | 60  | Fil  | 6A          | 1.5                    | .400        | .300       | 45          | Rg = 0.2 meg. | 45           | 0            | 0.9             | 2                |            | 0.2               | 200 <sup>3</sup> |                                       |                   | <b>1AE5</b>  |
| <b>1AG4</b>  | Pentode      | Power Amp.          | 1.25            | 40  | Fil  | 5J          | 1.5                    | .385        | .285       | 41.4        | -3.6          | 41.4         |              | 2.4             | 0.6              |            | 0.18              | 1000             | 35                                    | 0.012             | <b>1AG4</b>  |
| <b>1AG5</b>  | Diode-Pent.  | Det.-Amplifier      | 1.25            | 30  | Fil  | 6B          | 1.5                    | .385        | .285       | 45          | Rg = 5 meg.   | 45           |              | 0.8             | 0.25             |            | 0.26              | 350              |                                       |                   | <b>1AG5</b>  |
| <b>1AH4<sup>1</sup></b>                              | Pentode      | R-F Amplifier       | 1.25            | 40  | Fil  | 5A          | 1.5                    | .385        | .285       | 45          | Rg = 5 meg.   | 45           |              | 0.75            | 0.2              |            | 1.5               | 750              |                                       |                   | <b>1AH4<sup>1</sup></b>                              |
| <b>1V6</b>   | Triode-Pent. | Converter           | 1.25            | 40  | Fil  | 7BC         | 1.5                    | .410        | .285       | 45          | Rg = 5 meg.   | 45           |              | 0.40            | 0.15             |            | 1.0               | 200 <sup>3</sup> | Eb Triode = 45<br>lb Triode = 0.4 ma. |                   | <b>1V6</b>   |
| <b>2E31<sup>1</sup></b><br><b>2E32<sup>1-2</sup></b> | Pentode      | R-F Amplifier       | 1.25            | 50  | Fil  | 5D          | 1.5                    | .385        | .285       | 22.5        | 0             | 22.5         |              | 0.4             | 0.3              |            | 0.35              | 500              |                                       |                   | <b>2E31<sup>1</sup></b><br><b>2E32<sup>1-2</sup></b> |
| <b>2E35</b><br><b>2E36<sup>2</sup></b>               | Pentode      | Power Amp.          | 1.25            | 30  | Fil  | 5B          | 1.5                    | .385        | .285       | 45          | -1.25         | 45           |              | 0.6             | 0.11             |            | 0.25              | 525              | 6                                     | 0.1               | <b>2E35</b><br><b>2E36<sup>2</sup></b>               |
| <b>2G21</b><br><b>2G22<sup>2</sup></b>               | Triode-Hept. | Converter           | 1.25            | 50  | Fil  | 7B          | 1 1/16                 | .385        | .285       | 22.5        | Rg = 50,000   | 22.5         | 0            | 0.2             | 0.3              |            | 0.5               | 60 <sup>3</sup>  | Eb Triode = 22.5<br>lb Triode = 1 ma. |                   | <b>2G21</b><br><b>2G22<sup>2</sup></b>               |
| <b>CK501AX</b>                                       | Pentode      | Voltage Amp.        | 1.25            | 30  | Fil  | 5J          | 1.5                    | .385        | .285       | 45          | 0             | 45           |              | 0.65            | 0.25             |            | 1.0               | 750              | 45 <sup>4</sup>                       |                   | <b>CK501AX</b>                                       |
| <b>CK502AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 30  | Fil  | 5J          | 1.5                    | .385        | .285       | 45          | -1.25         | 45           |              | 0.6             | 0.15             |            | 0.2               | 550              | 6                                     | 0.1               | <b>CK502AX</b>                                       |
| <b>CK503AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 30  | Fil  | 5J          | 1.5                    | .385        | .285       | 45          | -2            | 45           |              | 0.8             | 0.25             |            | 0.35              | 550              | 9.5                                   | 0.05              | <b>CK503AX</b>                                       |
| <b>CK505AX</b>                                       | Pentode      | Voltage Amp.        | 0.625           | 30  | Fil  | 5J          | 1.25                   | .385        | .285       | 22.5        | -0.625        | 22.5         |              | 0.125           | 0.040            |            | 1.1               | 180              | 38 <sup>4</sup>                       |                   | <b>CK505AX</b>                                       |
| <b>CK506AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 50  | Fil  | 5J          | 1.5                    | .385        | .285       | 45          | -4.5          | 45           |              | 1.25            | 0.4              |            | 0.12              | 500              | 25                                    | 0.03              | <b>CK506AX</b>                                       |
| <b>CK507AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 45  | Fil  | 5J          | 1.5                    | .385        | .285       | 45          | -2            | 45           |              | 0.9             | 0.3              |            | 0.3               | 575              | 11                                    | 0.05              | <b>CK507AX</b>                                       |
| <b>CK509AX</b>                                       | Triode       | Voltage Amp.        | 0.625           | 30  | Fil  | 4B          | 1.25                   | .385        | .285       | 45          | 0             |              |              | 0.15            |                  |            | 0.15              | 160              | 16 <sup>4</sup>                       |                   | <b>CK509AX</b>                                       |
| <b>CK510AX</b>                                       | Dble-Tetr.   | Voltage Amp.        | 0.625           | 50  | Fil  | 7D          | 1.25                   | .400        | .285       | 45          | 0             |              |              | 0.06            |                  |            | 0.5               | 65               | 150 <sup>5</sup>                      |                   | <b>CK510AX</b>                                       |
| <b>CK511X</b>  | Pentode      | Voltage Amp.        | 1.25            | 50  | Fil  | 6C          | 1.75                   | Dia. = .550 |            | 45          | 0             | 45           |              | 0.24            | 0.2              |            | 0.22              | 220              | 30 <sup>4</sup>                       | 1.0               | <b>CK511X</b>  |
| <b>CK512AX</b>                                       | Pentode      | Voltage Amp.        | 0.625           | 20  | Fil  | 5J          | 1.25                   | .385        | .285       | 22.5        | -0.625        | 22.5         |              | 0.125           | 0.040            |            | 1.25              | 160              | 37 <sup>4</sup>                       |                   | <b>CK512AX</b>                                       |
| <b>CK515BX</b>                                       | Triode       | Voltage Amp.        | 0.625           | 30  | Fil  | 4B          | 1.19                   | Dia. = .315 |            | 45          | 0             |              |              | 0.15            |                  | 24         |                   | 160              | 16 <sup>4</sup>                       | 1.0               | <b>CK515BX</b>                                       |
| <b>CK516AX</b>                                       | Triode       | Voltage Amp.        | 0.625           | 20  | Fil  | 5M          | 1.25                   | .385        | .285       | 22.5        | -0.625        |              |              | 0.15            |                  |            | 0.05              | 200              | 7.5 <sup>4</sup>                      | 1.0               | <b>CK516AX</b>                                       |
| <b>CK518AX<sup>1</sup></b>                           | Pentode      | Power Amp.          | 1.25            | 30  | Fil  | 5E          | 1.515                  | .380        | .290       | 45          | -2            | 45           |              | 0.8             | 0.25             |            | 0.35              | 550              | 9.5                                   | 0.5               | <b>CK518AX<sup>1</sup></b>                           |
| <b>CK520AX</b>                                       | Pentode      | Power Amp.          | 0.625           | 50  | Fil  | 5J          | 1.25                   | .385        | .285       | 45          | -2.5          | 45           |              | 0.24            | 0.075            |            | 1.0               | 150              | 3.5                                   | 0.15              | <b>CK520AX</b>                                       |
| <b>CK521AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 50  | Fil  | 5J          | 1.5                    | .385        | .285       | 22.5        | -3            | 22.5         |              | 0.8             | 0.22             |            | 0.22              | 400              | 6                                     | 0.02              | <b>CK521AX</b>                                       |
| <b>CK522AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5J          | 1.5                    | .385        | .285       | 22.5        | 0             | 22.5         |              | 0.3             | 0.08             |            | 0.6               | 450              | 1.2                                   | 0.2               | <b>CK522AX</b>                                       |
| <b>CK523AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 30  | Fil  | 5J          | 1.5                    | .385        | .285       | 22.5        | -1.2          | 22.5         |              | 0.3             | 0.075            |            | 0.3               | 360              | 2.5                                   | 0.075             | <b>CK523AX</b>                                       |
| <b>CK524AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 30  | Fil  | 5J          | 1.5                    | .385        | .285       | 15          | -1.75         | 15           |              | 0.45            | 0.125            |            | 0.2               | 300              | 2.2                                   | 0.03              | <b>CK524AX</b>                                       |
| <b>CK525AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5J          | 1.5                    | .385        | .285       | 22.5        | -1.2          | 22.5         |              | 0.25            | 0.06             |            | 0.33              | 325              | 2.2                                   | 0.06              | <b>CK525AX</b>                                       |
| <b>CK526AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5J          | 1.5                    | .385        | .285       | 22.5        | -1.5          | 22.5         |              | 0.45            | 0.12             |            | 0.22              | 400              | 3.75                                  | 0.05              | <b>CK526AX</b>                                       |
| <b>CK527AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 15  | Fil  | 5J          | 1.5                    | .385        | .285       | 22.5        | 0             | 22.5         |              | 0.1             | 0.025            |            | 1.8               | 225              | 0.75                                  | 0.3               | <b>CK527AX</b>                                       |
| <b>CK528AX<sup>1</sup></b>                           | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5E          | 1.515                  | .390        | .290       | 22.5        | 0             | 22.5         |              | 0.3             | 0.08             |            | 0.6               | 450              | 1.2                                   | 0.2               | <b>CK528AX</b>                                       |
| <b>CK529AX<sup>1</sup></b>                           | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5E          | 1.515                  | .390        | .290       | 15          | -1.25         | 15           |              | 0.32            | 0.075            |            | 0.3               | 350              | 1.6                                   | 0.05              | <b>CK529AX<sup>1</sup></b>                           |
| <b>CK531DX</b>                                       | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5J          | 1.25                   | .285        | .220       | 15          | -1.5          | 15           |              | 0.30            | 0.090            |            | 0.25              | 275              | 1.6                                   | 0.06              | <b>CK531DX</b>                                       |
| <b>CK532DX</b>                                       | Pentode      | Power Amp.          | 1.25            | 15  | Fil  | 5J          | 1.25                   | .285        | .220       | 22.5        | 0             | 22.5         |              | 0.40            | 0.125            |            | 0.18              | 450              | 1.8                                   | 0.1               | <b>CK532DX</b>                                       |
| <b>CK533AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 15  | Fil  | 5J          | 1.5                    | .385        | .285       | 22.5        | 0             | 22.5         |              | 0.36            | 0.09             |            | 0.5               | 400              | 1.8                                   | 0.075             | <b>CK533AX</b>                                       |
| <b>CK534AX</b>                                       | Pentode      | Voltage Amp.        | 0.625           | 15  | Fil  | 5J          | 1.25                   | .385        | .285       | 15          | -0.625        | 15           |              | 0.0047          | 0.0014           |            | 12                | 20               | 30 <sup>4</sup>                       | 2.2               | <b>CK534AX</b>                                       |
| <b>CK535AX</b>                                       | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5J          | 1.5                    | .385        | .285       | 15          | -1.25         | 15           |              | 0.32            | 0.075            |            | 0.3               | 350              | 1.6                                   | 0.05              | <b>CK535AX</b>                                       |
| <b>CK536AX<sup>1</sup></b>                           | Pentode      | Power Amp.          | 1.25            | 15  | Fil  | 5E          | 1.5                    | .385        | .285       | 22.5        | 0             | 22.5         |              | 0.36            | 0.09             |            | 0.5               | 400              | 1.8                                   | 0.075             | <b>CK536AX<sup>1</sup></b>                           |
| <b>CK537AX<sup>1</sup></b>                           | Pentode      | Power Amp.          | 1.25            | 20  | Fil  | 5E          | 1.515                  | .390        | .290       | 22.5        | -1.5          | 22.5         |              | 0.45            | 0.12             |            | 0.22              | 400              | 3.75                                  | 0.05              | <b>CK537AX<sup>1</sup></b>                           |
| <b>CK538DX</b>                                       | Pentode      | Voltage Amp.        | 0.625           | 15  | Fil  | 5J          | 1.0                    | .285        | .220       | 15          | -0.625        | 15           |              | 0.0046          | 0.002            |            | 10                | 18               | 28 <sup>4</sup>                       | 2.2               | <b>CK538DX</b>                                       |

See page 3 for reference notes — See pages 18 and 19 for basing diagrams and terminal connections. This data is compiled as a Raytheon service to the Field, it is not intended to indicate type availability.



# SUBMINIATURE TUBES



| TYPE                  | CONSTRUCTION | TYPICAL APPLICATION | HTR or FILAMENT |           |      | TERM. CONN. | MAX. DIMENSIONS Inches |             |            | PLATE VOLTS   | GRID 1 VOLTS | GRID 2 VOLTS | GRID 3 VOLTS | PLATE CURR. ma. | GRID 2 CURR. ma. | AMP. FACT. | PLATE RESIST. meg. | MUT. COND. μmhos | OUTPUT milliwatts | LOAD RESIST. meg. | TYPE                  |   |
|-----------------------|--------------|---------------------|-----------------|-----------|------|-------------|------------------------|-------------|------------|---|--------------|--------------|--------------|-----------------|------------------|------------|--------------------|------------------|-------------------|-------------------|-----------------------|---|
|                       |              |                     | Volts           | Ma.       | Type |             | Length                 | Width       | Thick-ness |   |              |              |              |                 |                  |            |                    |                  |                   |                   |                       |   |
|                       |              |                     |                 |           |      |             |                        |             |            |   |              |              |              |                 |                  |            |                    |                  |                   |                   |                       |   |
| CK539DX               | Pentode      | Power Amp.          | 1.25            | 15        | Fil  | 5J          | 1.25                   | .285        | .220       | 22.5  | -1.4         | 22.5         |              | 0.25            | 0.075            |            | 0.25               | 300              | 2.2               | 0.1               | CK539DX               |   |
| CK541DX               | Pentode      | Power Amp.          | 1.25            | 15        | Fil  | 5J          | 1.25                   | .285        | .220       | 30  | 0            | 30           |              | 0.25            | 0.075            |            | 0.5                | 425              | 1.4               | 0.2               | CK541DX               |   |
| CK542DX               | Pentode      | Power Amp.          | 1.25            | 15        | Fil  | 5J          | 1.25                   | .285        | .220       | 22.5  | -2.0         | 22.5         |              | 0.425           | 0.13             |            | 0.15               | 325              | 3.75              | 0.05              | CK542DX               |   |
| CK542DXS <sup>1</sup> | Pentode      | Power Amp.          | 1.25            | 15        | Fil  | 5J          | 1.4                    | .290        | .225       | 22.5  | -2           | 22.5         |              | 0.425           | 0.13             |            | 0.15               | 325              | 3.75              | 0.05              | CK542DXS <sup>1</sup> |   |
| CK543DX               | Pentode      | Voltage Amp.        | 0.625           | 15        | Fil  | 5J          | 1.0                    | .285        | .220       | 15  | -0.625       | 15           |              | 0.005           | 0.0022           |            | 5.0                | 15               | 20 <sup>4</sup>   |                   | CK543DX               |   |
| CK544DX               | Pentode      | Power Amp.          | 1.25            | 10        | Fil  | 5J          | 1.25                   | .285        | .220       | 30  | 0            | 30           |              | 0.135           | 0.035            |            | 1.2                | 325              | 0.52              | 0.2               | CK544DX               |   |
| CK545DX               | Pentode      | Voltage Amp.        | 0.625           | 7.5       | Fil  | 5F          | 1.0                    | .290        | .235       | 15  | -0.625       | 15           |              | 0.0046          | 0.002            |            | 12                 | 16               | 25 <sup>4</sup>   | 2.2               | CK545DX               |   |
| CK546DX               | Pentode      | Power Amp.          | 1.25            | 10        | Fil  | 5J          | 1.25                   | .285        | .220       | 22.5  | 0            | 22.5         |              | 0.375           | 0.085            |            | 0.2                | 425              | 1.75              | 0.1               | CK546DX               |   |
| CK547DX               | Pentode      | Power Amp.          | 1.25            | 10        | Fil  | 5J          | 1.25                   | .285        | .220       | 30  | 0            | 30           |              | 0.240           | 0.060            |            | 0.5                | 425              | 1.35              | 0.2               | CK547DX               |   |
| CK548DX               | Pentode      | Power Amp.          | 1.25            | 10        | Fil  | 5J          | 1.25                   | .285        | .220       | 22.5  | -1.4         | 22.5         |              | 0.240           | 0.060            |            | 0.25               | 300              | 2.1               | 0.1               | CK548DX               |   |
| CK549DX               | Pentode      | Voltage Amp.        | 0.625           | 10        | Fil  | 5J          | 1.0                    | .285        | .220       | 15  | -0.625       | 15           |              | 0.0046          | 0.002            |            | 12.0               | 17               | 27 <sup>4</sup>   |                   | CK549DX               |   |
| CK574AX <sup>1</sup>  | Pentode      | R-F Amplifier       | 0.625           | 20        | Fil  | 5E          | 1.25                   | .390        | .290       | 22.5  | -0.625       | 22.5         |              | 0.125           | 0.040            |            | 1.25               | 160              |                   |                   | CK574AX <sup>1</sup>  |   |
| CK1034                | Gas Diode    | GM Counter          |                 |           | Cold | 3A          | 2 5/8                  | Dia. = .400 |            | See Radiation Counter Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK1034  |
| CK1035                | Gas Diode    | GM Counter          |                 |           | Cold | 3A          | 1.5                    | .385        | .285       | See Radiation Counter Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK1035  |
| CK1036                | Gas Diode    | HW Rectifier        |                 |           | Cold | 5P          | 1 13/16                | Dia. = .400 |            | See Rectifier Tube Section for Characteristics                          |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK1036  |
| CK1037                | Gas Diode    | Voltage Reg.        |                 |           | Cold | 3A          | 1.75                   | Dia. = .400 |            | See Voltage Regulator Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK1037  |
| CK1038                | Gas Diode    | Voltage Reg.        |                 |           | Cold | 3A          | 1.75                   | Dia. = .400 |            | See Voltage Regulator Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK1038  |
| CK1039                | Gas Diode    | Voltage Reg.        |                 |           | Cold | 3A          | 1.75                   | Dia. = .400 |            | See Voltage Regulator Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK1039  |
| CK1042                | Gas Diode    | HW Rectifier        |                 |           | Cold | 5N          | 2 1/8                  | Dia. = .400 |            | See Rectifier Tube Section for Characteristics                          |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK1042  |
| CK5672                | Pentode      | Power Amp.          | 1.25            | 50        | Fil  | 5F          | 1.5                    | .385        | .285       | 67.5  | -6.5         | 67.5         |              | 3.25            | 1.1              |            |                    | 650              | 65                | 0.020             | CK5672                |   |
| CK5676                | Triode       | UHF Osc.            | 1.25            | 120       | Fil  | 4B          | 1.5                    | .385        | .285       | 135   | -5           |              |              | 4               |                  | 15         |                    | 1600             |                   |                   | CK5676                |   |
| CK5677                | Triode       | UHF Osc.            | 1.25            | 60        | Fil  | 4A          | 1.5                    | .385        | .285       | 135   | -5.5         |              |              | 1.9             |                  | 16         |                    | 850              |                   |                   | CK5677                |   |
| CK5678 <sup>1</sup>   | Pentode      | R-F Amplifier       | 1.25            | 50        | Fil  | 5A          | 1.5                    | .385        | .285       | 67.5  | 5 meg        | 67.5         |              | 1.8             | 0.48             |            | 1.0                | 1100             |                   |                   | CK5678 <sup>1</sup>   |   |
| CK5697                | Triode       | Electrometer        | 0.625           | 20        | Fil  | 4C          | 1.25                   | .400        | .285       | 12  | -3           |              |              | 0.22            |                  | 2.1        |                    | 135              |                   |                   | CK5697                |   |
|                       |              |                     |                 |           |      |             |                        |             |            |   |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | Max. I <sub>c1</sub> = 5x10 <sup>-13</sup> amp. |
| CK5702                | Pentode      | R-F Amplifier       | 6.3             | 200       | Htr  | 7C          | 1.5                    | Dia. = .400 |            | 120   | Rk200        | 120          |              | 7.5             | 2.5              |            | 0.34               | 5000             |                   |                   | CK5702                |   |
| CK5702WA              | Pentode      | R-F Amplifier       | 6.3             | 200       | Htr  | 7C          | 1.5                    | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics      |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5702WA  |
| CK5703                | Triode       | UHF Osc.            | 6.3             | 200       | Htr  | 5G          | 1.5                    | Dia. = .400 |            | 120   | Rk220        |              | 9            |                 | 25               |            | 5000               |                  |                   |                   | CK5703                |   |
| CK5703WA              | Triode       | UHF Osc.            | 6.3             | 200       | Htr  | 5G          | 1.5                    | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics      |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5703WA  |
| CK5704                | Diode        | Detector            | 6.3             | 150       | Htr  | 4D          | 1.5                    | Dia. = .315 |            | Max. RMS Plate Voltage = 150v; Max. I <sub>o</sub> = 9 mdc              |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5704  |
| CK5744                | Triode       | Amp.-HF Osc.        | 6.3             | 200       | Htr  | 5H          | 1.5                    | Dia. = .400 |            | 250   | Rk500        |              | 4            |                 | 70               |            | 4000               |                  |                   |                   | CK5744                |   |
| CK5744WA              | Triode       | Amp.-HF Osc.        | 6.3             | 200       | Htr  | 5H          | 1.5                    | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics      |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5744WA  |
| CK5783                | Gas Diode    | Volt. Reference     |                 |           | Cold | 3A          | 1 3/8                  | Dia. = .400 |            | See Voltage Reference Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5783  |
| CK5783WA              | Gas Diode    | Volt. Reference     |                 |           | Cold | 3A          | 1 3/8                  | Dia. = .400 |            | See Voltage Reference Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5783WA  |
| CK5784                | Pentode      | Mixer-Gated Amp.    | 6.3             | 200       | Htr  | 7A          | 1.5                    | Dia. = .400 |            | 120   | -2           | 120          | 0            | 5.2             | 3.5              |            |                    | 3200             |                   |                   | CK5784                |   |
| CK5784WA              | Pentode      | Mixer-Gated Amp.    | 6.3             | 200       | Htr  | 7A          | 1.5                    | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics      |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5784WA  |
| CK5785                | Diode        | HW Rectifier        | 1.25            | 15        | Fil  | 7F          | 1.5                    | .400        | .300       | See Rectifier Tube Section for Characteristics                          |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5785  |
| CK5787                | Gas Diode    | Volt. Regulator     |                 |           | Cold | 3A          | 2 1/16                 | Dia. = .400 |            | See Voltage Regulator Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5787  |
| CK5787WA              | Gas Diode    | Volt. Regulator     |                 |           | Cold | 3A          | 2 1/16                 | Dia. = .400 |            | See Voltage Regulator Tube Section for Characteristics                  |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5787WA  |
| CK5829                | Dble. Diode  | Detector            | 6.3             | 150       | Htr  | 7FA         | 1.5                    | .410        | .385       | Max. Inverse Peak Voltage = 330v; Max. I <sub>o</sub> = 5 ma. per plate |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5829  |
| CK5829WA              | Dble. Diode  | Detector            | 6.3             | 150       | Htr  | 7FA         | 1.5                    | .410        | .385       | See Reliable Cathode Type Subminiature Section for Characteristics      |              |              |              |                 |                  |            |                    |                  |                   |                   |                       | CK5829WA  |
| CK5851 <sup>7</sup>   | Beam Pent.   | R-F Pwr. Amp        | 1.25<br>2.5     | 110<br>55 | Fil  | 8CA         | 1.6                    | Dia. = .400 |            | 125   | -7.5         | 125          |              | 5.5             | 0.9              |            | 0.175              | 1600             |                   |                   | CK5851 <sup>7</sup>   |   |
| CK5854                | Pentode      | Power Amp.          | 1.25            | 30        | Fil  | 5J          | 1.5                    | .385        | .285       | 45  | -2.0         | 45           |              | 0.8             | 0.25             |            | 0.35               | 550              | 9.5               | 0.05              | CK5854                |   |
| CK5873 <sup>7</sup>   | Dble. Triode | Voltage Amp.        | 6.3             | 300       | Htr  | 8K          | 1.5                    | Dia. = .400 |            | 150   | -3.0         |              |              | 9.0             |                  | 22         |                    | 2900             | (Each Unit)       |                   | CK 5873 <sup>7</sup>  |   |
| CK5875 <sup>1</sup>   | Pentode      | Radiosonde          | 1.25            | 100       | Fil  | 5A          | 1.5                    | .385        | .285       | 90  | 0            | 90           |              | 3.5             | 1.0              |            |                    | 2500             |                   |                   | CK5875 <sup>1</sup>   |   |

See page 3 for reference notes — See pages 18 and 19 for basing diagrams and terminal connections. This data is compiled as a Raytheon service to the field, it is not intended to indicate type availability.



# SUBMINIATURE TUBES



| TYPE                         | CONSTRUCTION | TYPICAL APPLICATION | HTR or FILAMENT |             |      | TERM. CONN. | MAX. DIMENSIONS Inches |             |            | PLATE VOLTS  | GRID 1 VOLTS | GRID 2 VOLTS | GRID 3 VOLTS | PLATE CURR. ma. | GRID 2 CURR. ma. | AMP. FACT. | PLATE RESIST. meg. | MUT. COND. $\mu$ mhos                 | OUTPUT milliwatts                     | LOAD RESIST. meg.          | TYPE                         |
|------------------------------|--------------|---------------------|-----------------|-------------|------|-------------|------------------------|-------------|------------|--|--------------|--------------|--------------|-----------------|------------------|------------|--------------------|---------------------------------------|---------------------------------------|----------------------------|------------------------------|
|                              |              |                     | Volts           | Ma.         | Type |             | Length                 | Width       | Thick-ness |  |              |              |              |                 |                  |            |                    |                                       |                                       |                            |                              |
| <b>CK5884</b>                | Dble. Tetr.  | Electrometer        | 1.25            | 10          | Fil  | 5K          | 1.625                  | .400        | .285       | 4.5  | -3.0         |              |              | 0.02            |                  | 0.75       |                    | 15                                    | Nom. $I_c^1 = 1 \times 10^{-14}$      | <b>CK5884</b>              |                              |
| <b>CK5885</b> <sup>7</sup>   | Dble. Tetr.  | Electrometer        | 1.25            | 20          | Fil  | 8CC         | 1.625                  | Dia. = .389 |            | 13.5   | -3.0         |              |              | 0.185           |                  | 2.4        |                    | 160                                   | Nom. $I_c^1 = 1 \times 10^{-12}$      | <b>CK5885</b> <sup>7</sup> |                              |
| <b>CK5886</b>                | Pentode      | Electrometer        | 1.25            | 10          | Fil  | 5C          | 1.5                    | .400        | .285       | 10.5   | 3            | Triode Conn. | 0.2          |                 | 2                |            | 160                | Max. $I_c^1 = 2 \times 10^{-13}$ amp. | <b>CK5886</b>                         |                            |                              |
| <b>CK5889</b>                | Pentode      | Electrometer        | 1.25            | 7.5         | Fil  | 4G          | 1.6                    | Dia. = .400 |            | 12   | -2.0         | 4.5          |              | 0.005           | 0.005            |            | 18                 | 14                                    | Max. $I_c^1 = 3 \times 10^{-15}$ amp. | <b>CK5889</b>              |                              |
| <b>CK5967</b> <sup>7</sup>   | Dble. Triode | R-F Amplifier       | 1.25            | 120         | Fil  | 8CK         | 1.75                   | Dia. = .400 |            | 45   | Rg = 5 meg.  |              |              | 3.0             |                  | 18         |                    | 2000                                  | (Each Unit)                           | <b>CK5967</b> <sup>7</sup> |                              |
| <b>CK5968</b> <sup>7</sup>   | Dble. Triode | Mixer               | 1.25            | 120         | Fil  | 8CE         | 1.75                   | Dia. = .400 |            | 45   | 0            |              |              | 0.7             |                  | 45         |                    | 1300                                  | (Each Unit)                           | <b>CK5968</b> <sup>7</sup> |                              |
| <b>CK5969</b> <sup>7</sup>   | Dble. Tetr.  | R-F Pwr. Amp.       | 1.25            | 200         | Fil  | 8CB         | 1.62                   | Dia. = .400 |            | 135  | -3           | 45           |              | 6.0             | 0.5              |            |                    | 1700                                  | (Each Unit)                           | <b>CK5969</b> <sup>7</sup> |                              |
| <b>CK5970</b> <sup>7</sup>   | Dble. Pent.  | R-F Amplifier       | 1.25            | 160         | Fil  | 8CD         | 1.75                   | Dia. = .400 |            | 45   | Rg = 5 meg.  | 45           |              | 3.0             | 0.9              |            | 0.17               | 1850                                  | (Each Unit)                           | <b>CK5970</b> <sup>7</sup> |                              |
| <b>CK5971</b>                | Triode       | Amp.-Osc.           | 1.25            | 80          | Fil  | 7CD         | 1.5                    | .385        | .285       | 135  | -3           |              |              | 4.0             |                  | 23         |                    | 2150                                  |                                       | <b>CK5971</b>              |                              |
| <b>CK5972</b> <sup>1</sup>   | Pentode      | R-F Amplifier       | 1.25            | 60          | Fil  | 5A          | 1.5                    | .400        | .300       | 67.5   | Rg = 2 meg.  | 67.5         |              | 1.9             | 0.5              |            | 1.0                | 1150                                  |                                       | <b>CK5972</b> <sup>1</sup> |                              |
| <b>CK5975</b>                | Triode       | Amp.-Osc.           | 6.3             | 175         | Htr  | 7BB         | 1.5                    | Dia. = .400 |            | 100  | Rk270        |              |              | 10              |                  | 17.5       |                    | 5100                                  |                                       | <b>CK5975</b>              |                              |
| <b>CK5995</b>                | Diode        | HW Rectifier        | 6.3             | 300         | Htr  | 7BA         | 1.75                   | Dia. = .400 |            | See Rectifier Tube Section for Characteristics                     |              |              |              |                 |                  |            |                    |                                       |                                       | <b>CK5995</b>              |                              |
| <b>CK6021</b> <sup>7</sup>   | Dble. Triode | Voltage Amp.        | 6.3             | 300         | Htr  | 8CF         | 1 3/4                  | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics |              |              |              |                 |                  |            |                    |                                       |                                       | <b>CK6021</b> <sup>7</sup> |                              |
| <b>CK6029</b>                | Triode       | UHF Osc.            | 1.25            | 200         | Fil  | 4A          | 1.5                    | .385        | .285       | 90   | -4           |              |              | 11              |                  | 8.5        |                    | 2000                                  |                                       | <b>CK6029</b>              |                              |
| <b>CK6050</b>                | Triode       | UHF Osc.            | 1.25            | 120         | Fil  | 4A          | 1.5                    | .385        | .285       | 135  | -5           |              |              | 4.0             |                  | 16         |                    | 1600                                  |                                       | <b>CK6050</b>              |                              |
| <b>CK6051</b>                | Pentode      | Power Amp.          | 1.25            | 100         | Fil  | 5L          | 1.5                    | .385        | .285       | 45   | -4           | 45           |              | 3.0             | 0.9              |            | 0.035              | 1200                                  | 50                                    | 0.02                       | <b>CK6051</b>                |
| <b>CK6088</b>                | Pentode      | Power Amp.          | 1.25            | 20          | Fil  | 5F          | 1.5                    | .385        | .285       | 45   | -1.25        | 45           |              | 0.55            | 0.135            |            | 0.85               | 550                                   | 9.5                                   | 0.2                        | <b>CK6088</b>                |
| <b>CK6092</b>                | Pentode      | Power Amp.          | 1.25            | 50          | Fil  | 5F          | 1.5                    | .385        | .285       | 67.5   | -6.5         | 67.5         |              | 2.9             | 0.8              |            |                    | 750                                   | 80                                    | 0.02                       | <b>CK6092</b>                |
| <b>CK6110</b> <sup>7</sup>   | Dble. Diode  | FW Rectifier        | 6.3             | 150         | Htr  | 8CH         | 1 3/4                  | Dia. = .400 |            | See Rectifier Tube Section for Characteristics                     |              |              |              |                 |                  |            |                    |                                       |                                       | <b>CK6110</b> <sup>7</sup> |                              |
| <b>CK6111</b> <sup>7</sup>   | Dble. Triode | Voltage Amp.        | 6.3             | 300         | Htr  | 8CF         | 1 3/4                  | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics |              |              |              |                 |                  |            |                    |                                       |                                       | <b>CK6111</b> <sup>7</sup> |                              |
| <b>CK6112</b> <sup>7</sup>   | Dble. Triode | Voltage Amp.        | 6.3             | 300         | Htr  | 8CF         | 1 3/4                  | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics |              |              |              |                 |                  |            |                    |                                       |                                       | <b>CK6112</b> <sup>7</sup> |                              |
| <b>CK6147</b> <sup>7-9</sup> | Beam Pentode | RF Pwr Amp.         | 1.25<br>2.5     | 125<br>62.5 | Fil  | 8CG         | 1.6                    | Dia. = .400 |            | 125  | -7.5         | 125          |              | 5.5             | 0.9              |            | 0.175              | 1600                                  |                                       |                            | <b>CK6147</b> <sup>7-9</sup> |
| <b>CK6152</b>                | Triode       | Amp.-Osc.           | 6.3             | 200         | Htr  | 7BB         | 1.5                    | Dia. = .400 |            | See Reliable Cathode Type Subminiature Section for Characteristics |              |              |              |                 |                  |            |                    |                                       |                                       | <b>CK6152</b>              |                              |
| <b>CK6213</b>                | Gas Diode    | Voltage Ref.        |                 |             | Cold | 3A          | 1 3/4                  | Dia. = .400 |            | See Voltage Reference Tube Section for Characteristics             |              |              |              |                 |                  |            |                    |                                       |                                       | <b>CK6213</b>              |                              |



# RUGGED TUBES



| TYPE           | CONSTRUCTION | TYPICAL APPLICATION | HTR or FILAMENT |            |      | BASING | MAX. DIMENSIONS                 |                                | PLATE VOLTS   | GRID 1 VOLTS | GRID 2 VOLTS | GRID 3 VOLTS | PLATE CURR. ma. | GRID 2 CURR. ma. | AMP. FACT. | PLATE RESIST. meg. | MUT. COND. $\mu$ mhos | TYPE           |
|----------------|--------------|---------------------|-----------------|------------|------|--------|---------------------------------|--------------------------------|---|--------------|--------------|--------------|-----------------|------------------|------------|--------------------|-----------------------|----------------|
|                |              |                     | Volts           | Amps       | Type |        | Height                          | Diam.                          |   |              |              |              |                 |                  |            |                    |                       |                |
| <b>RK3B24W</b> | Diode        | HW Rectifier        | 2.5<br>5.0      | 3.0<br>3.0 | Fil  | 8EA    | 4 <sup>13</sup> / <sub>16</sub> | 1 1/2                          | See Rectifier Tube Section for Characteristics        |              |              |              |                 |                  |            |                    |                       | <b>RK3B24W</b> |
| <b>5R4WGY</b>  | Dble. Diode  | FW Rectifier        | 5.0             | 2.0        | Fil  | 8WB    | 5 <sup>5</sup> / <sub>16</sub>  | 2 <sup>1</sup> / <sub>16</sub> | See Rectifier Tube Section for Characteristics        |              |              |              |                 |                  |            |                    |                       | <b>5R4WGY</b>  |
| <b>6AK5W</b>   | Pentode      | RF Amplifier        | 6.3             | 0.175      | Htr  | 7BD    | 1 <sup>3</sup> / <sub>4</sub>   | 3/4                            | 120   | -2           | 120          |              | 7.5             | 2.5              |            | 0.34               | 5000                  | <b>6AK5W</b>   |
| <b>6AL5W</b>   | Dble. Diode  | Detector            | 6.3             | 0.3        | Htr  | 9M     | 1 <sup>3</sup> / <sub>4</sub>   | 3/4                            | Max. Peak Inverse = 330 v; Max. Io = 9 madc per plate |              |              |              |                 |                  |            |                    |                       | <b>6AL5W</b>   |
| <b>6AS6W</b>   | Pentode      | Mixer-Gated Amp.    | 6.3             | 0.175      | Htr  | 9P     | 1 <sup>3</sup> / <sub>4</sub>   | 3/4                            | 120   | -2           | 120          | 0            | 5.2             | 3.5              |            |                    | 3200                  | <b>6AS6W</b>   |
| <b>6C4W</b>    | Triode       | Osc.-Amplifier      | 6.3             | 0.15       | Htr  | 9U     | 1 <sup>3</sup> / <sub>4</sub>   | 3/4                            | 250   | -8.5         |              |              | 10.5            |                  | 17         |                    | 2200                  | <b>6C4W</b>    |
| <b>6J5WGT</b>  | Triode       | Voltage Amplifier   | 6.3             | 0.3        | Htr  | 9R     | 3 <sup>5</sup> / <sub>16</sub>  | 1 <sup>5</sup> / <sub>16</sub> | 250   | -8           |              |              | 9.0             |                  | 20         |                    | 2600                  | <b>6J5WGT</b>  |
| <b>6J6W</b>    | Dble. Triode | UHF Oscillator      | 6.3             | 0.45       | Htr  | 7BF    | 2 <sup>1</sup> / <sub>4</sub>   | 3/4                            | 100   | Rk50         |              |              | 8.5             |                  | 38         |                    | 5300 (Each Unit)      | <b>6J6W</b>    |
| <b>6SA7WGT</b> | Heptode      | Converter           | 6.3             | 0.3        | Htr  | 9V     | 3 <sup>5</sup> / <sub>16</sub>  | 1 <sup>9</sup> / <sub>32</sub> | 250   | Rg = 20000   | 100          | -2           | 3.5             | 8.3              |            | 1.0                | 450 <sup>3</sup>      | <b>6SA7WGT</b> |
| <b>6SJ7WGT</b> | Pentode      | RF-AF Amplifier     | 6.3             | 0.3        | Htr  | 9L     | 3 <sup>5</sup> / <sub>16</sub>  | 1 <sup>5</sup> / <sub>16</sub> | 250   | -3           | 100          | 0            | 3.0             | 0.8              |            | > 1.0              | 1650                  | <b>6SJ7WGT</b> |
| <b>6SN7WGT</b> | Dble. Triode | Voltage Amplifier   | 6.3             | 0.6        | Htr  | 8BD    | 3 <sup>5</sup> / <sub>16</sub>  | 1 <sup>5</sup> / <sub>16</sub> | 250   | -8           |              |              | 9.0             |                  | 20         |                    | 2600 (Each Unit)      | <b>6SN7WGT</b> |
| <b>6X4W</b>    | Dble. Diode  | FW Rectifier        | 6.3             | 0.6        | Htr  | 9Q     | 2 <sup>5</sup> / <sub>8</sub>   | 3/4                            | See Rectifier Tube Section for Characteristics        |              |              |              |                 |                  |            |                    |                       | <b>6X4W</b>    |
| <b>6X5WGT</b>  | Dble. Diode  | FW Rectifier        | 6.3             | 0.6        | Htr. | 8XB    | 3 <sup>5</sup> / <sub>16</sub>  | 1 <sup>5</sup> / <sub>16</sub> | See Rectifier Tube Section for Characteristics        |              |              |              |                 |                  |            |                    |                       | <b>6X5WGT</b>  |
| <b>12J5WGT</b> | Triode       | Voltage Amplifier   | 12.6            | 0.15       | Htr  | 9R     | 3 <sup>5</sup> / <sub>16</sub>  | 1 <sup>5</sup> / <sub>16</sub> | 250   | -8           |              |              | 9.0             |                  | 20         |                    | 2600                  | <b>12J5WGT</b> |

## RADIATION COUNTER (GEMMERT-MUELLER) TUBES

(All glass, self-quenching)

| TYPE          | MAX. DIMENSIONS<br>Inches |                                | TERM.<br>CONN. | OPERATING<br>VOLTAGE<br>RANGE<br>Volts dc | PLATEAU<br>LENGTH<br>Volts dc | RELATIVE<br>PLATEAU<br>SLOPE<br>Per 100v | GEMMERT<br>THRESHOLD<br>Volts dc<br>max. | BACKGROUND<br>Unshielded<br>counts/min. | AMBIENT<br>TEMP. RANGE<br>°Cent. | WALL WEIGHT<br>Nominal<br>mg./sq.cm. | EFFICIENCY<br>% | LIFE<br>counts     | TYPE          |
|---------------|---------------------------|--------------------------------|----------------|---|-------------------------------|--|--|---|----------------------------------|--------------------------------------|-----------------|--------------------|---------------|
|               | Length                    | Diam.                          |                |   |                               |  |  |   |                                  |                                      |                 |                    |               |
| <b>CK1B90</b> | 8 1/4                     | 1 <sup>3</sup> / <sub>16</sub> | 8HA            | Thres. +50                                | > 150                         | 3%                                       | 1100                                     | 60                                      | -40 to +50                       | 35                                   | 90              | 10 <sup>8</sup>    | <b>CK1B90</b> |
| <b>CK1018</b> | 8 1/4                     | 1 <sup>3</sup> / <sub>16</sub> | 8HA            | 850-950                                   | > 150                         | 3%                                       | 850                                      | 60                                      | -40 to +55                       | 35                                   | 90              | 10 <sup>8</sup>    | <b>CK1018</b> |
| <b>CK1019</b> | 8 1/4                     | 1 <sup>3</sup> / <sub>16</sub> | 8HA            | 875-975                                   | > 150                         | 3%                                       | 880                                      | 60                                      | -40 to +55                       | 35                                   | 90              | 10 <sup>8</sup>    | <b>CK1019</b> |
| <b>CK1020</b> | 6                         | 3/4                            | 9S             | 850-950                                   | > 150                         | 3%                                       | 850                                      | 60                                      | -40 to +55                       | 35                                   | 90              | 10 <sup>8</sup>    | <b>CK1020</b> |
| <b>CK1021</b> | 5 1/4                     | 2 <sup>1</sup> / <sub>32</sub> | 9S             | 850-950                                   | > 150                         | 3%                                       | 850                                      | 60                                      | -40 to +55                       | 35                                   | 90              | 10 <sup>8</sup>    | <b>CK1021</b> |
| <b>CK1023</b> | 5                         | 3/4                            | 5DA            | 850-950                                   | > 150                         | 3%                                       | 850                                      | 60                                      | -40 to +55                       | 35                                   | 90              | 10 <sup>8</sup>    | <b>CK1023</b> |
| <b>CK1026</b> | 3                         | 3/4                            | 8HB            | 850-950                                   | > 150                         | 30%                                      | 760                                      | 30                                      | -70 to +50                       | 175                                  |                 | 10 <sup>8</sup>    | <b>CK1026</b> |
| <b>CK1029</b> | 5 1/4                     | 2 <sup>1</sup> / <sub>32</sub> | 9S             | 850-950                                   | > 150                         | 3%                                       | 850                                      | 60                                      | -40 to +55                       | 35                                   | 90              | 10 <sup>8</sup>    | <b>CK1029</b> |
| <b>CK1032</b> | 3                         | 3/4                            | 8HB            | 1050-1200                                 | > 150                         | 30%                                      | 1000                                     | 30                                      | -70 to +50                       | 175                                  |                 | 10 <sup>8</sup>    | <b>CK1032</b> |
| <b>CK1034</b> | 2 3/4                     | 0.400                          | 3A             | 700                                       |                               | 20%                                      | 585                                      |   | -55 to +70                       | Hvy                                  |                 | > 10 <sup>10</sup> | <b>CK1034</b> |
| <b>CK1035</b> | 1.5                       | W = .385<br>Th = .285          | 3A             | 700                                       |                               |  | 585                                      |   | -55 to +70                       | Hvy                                  |                 | > 10 <sup>10</sup> | <b>CK1035</b> |

See page 3 for reference notes — See pages 18 and 19 for basing diagrams and terminal connections. This data is compiled as a Raytheon service to the Field, it is not intended to indicate type availability.

# RELIABLE TUBES

Since the announcement in October 1951 of the first five RELIABLE cathode type subminiature tubes, Raytheon has been requested by the Armed Services to change the type numbers originally registered to new numbers which would more clearly identify each tube's association with its prototype. Accordingly, type 6148 is now known as type 5702WA, type 6149 as 5703WA, type 6150 as 5784WA, and type 6151 as 5744WA. This change is in type number only and in no way affects the quality of the tubes offered for sale. Type 6152, having no prototype with 0.200 amp. heater, remains unchanged in type designation.

Although certain minor modifications in tube structure have been made to meet new test requirements, the entire line of RELIABLE cathode type subminiature tubes, with the exception of the button stem types, is basically the same group

## TUBE RELIABILITY

Today RELIABILITY is a very important word in the electronic industry. More reliable component parts, particularly electron tubes, are essential to the success of most modern electronic applications. To be considered reliable, an electron tube must be capable of performing a desired function in an equipment with a very low probability of failure for some definite life period. The "desired function" which any particular tube type may be expected to perform may vary widely from one application to another. In one equipment, stability of some particular electrical characteristic may be the prime consideration — in another, mechanical stability under vibration or shock; still another, may require very long life under normal or perhaps even a high ambient temperature, and so on. Unfortunately, the design and processing of any one particular tube type to meet these various and in some cases conflicting reliability requirements is limited not only by the ingenuity of the manufacturer but in many cases by the Laws of Nature. Tube manufacture is a series of compromises and the most reliable tubes are made by the manufacturer who through his experience and knowledge of application requirements makes the most judicious compromises in his design and manufacturing procedures.

Raytheon's field experience with the prototypes of the flat press Reliable tube types has indicated the desirability of sacrificing heater power for improved reliability of certain performance characteristics. These types have been designed with somewhat higher heater current and higher cathode temperature than has been common in other cathode type subminiatures of this general class. The higher cathode temperature results in:

1. Lower vibrational output since it permits tighter cathode to mica spacer fit (limited by heat loss through spacers on lower temperature cathodes)
2. Improved low heater voltage performance
3. Improved peak current output for class C and pulse applications
4. Improved high temperature life performance by increasing resistance of cathode to gas poisoning
5. Reduced shot effect noise and partition noise by maintaining a higher

of special purpose subminiature tubes which Raytheon has been producing since 1941. This line of subminiature tubes has been in *continuous* production for the past five years. Filament type subminiatures with many similar structural features have been in continuous production for twelve years. Button stem types have been in low scale production for the last two years. Sufficient field and design test data have now been accumulated to permit announcement of these tubes as RELIABLE types.

It is planned to add additional types to the Raytheon RELIABLE line in succeeding months. These new types will all carry RELIABLE ratings and will be released as soon as sufficient long life and other performance data are accumulated to insure reliable field results.

transconductance level at lower heater supply voltage conditions and throughout life.

In analyzing the factors influencing reliability in electron tubes, consideration must be given to the causes of failure of tubes now in service. A tube may fail prematurely in service for one of two basic reasons; either it was improperly manufactured or it was improperly used. *Manufacturing* defects may be either electrical or mechanical in nature and are the result of poor workmanship on the part of the tube supplier. *Application* defects may be either mechanical or electrical in nature and are a result of insufficient knowledge on the part of tube user of the limitations of the tube type involved.

Factors which influence manufacturing defects are:

1. Improper tube design
2. Inadequate personnel training and supervision
3. Improper equipment setup, maintenance and operation
4. Inadequate processing schedules
5. Insufficient quality control.

There is no substitute for *manufacturing* experience in the control of these factors. Continuity of production is the best guarantee of low probability of failure caused by manufacturing defects.

Factors which influence application defects are:

1. Insufficient published data on tube characteristics
  2. Low margin of safety on published ratings
  3. Low margin of safety in circuit design;
    - a. failure to take into account normal characteristics spread,
    - b. use of tubes outside of published ratings,
    - c. lack of appreciation of characteristics changes during life.
  4. Circuit design dependence upon uncontrolled tube characteristic
- Good liaison between the tube producer and the tube user is the best guarantee of low probability of failure caused by application defects.



# RELIABLE CATHODE TYPE SUBMINIATURE TUBES



| TYPE                      | CONSTRUCTION | TYPICAL APPLICATION | HEATER |       | TERM. CONN. | MAX. DIMENSIONS |                       | PLATE VOLTS  | GRID 1 VOLTS | GRID 2 VOLTS | GRID 3 VOLTS | PLATE CURR. ma. | GRID 2 CURR. ma. | AMP. FACT. | PLATE RESIST. meg. | MUT. COND. umhos | TYPE                      |
|---------------------------|--------------|---------------------|--------|-------|-------------|-----------------|-----------------------|--|--------------|--------------|--------------|-----------------|------------------|------------|--------------------|------------------|---------------------------|
|                           |              |                     | Volts  | Amps. |             | Height          | Diam.                 |  |              |              |              |                 |                  |            |                    |                  |                           |
| <b>CK5702WA</b>           | Pentode      | RF Amplifier        | 6.3    | 0.2   | 7C          | 1.5             | .400                  | 120  | Rk200        | 120          | 0            | 7.5             | 2.5              |            | 0.34               | 5000             | <b>CK5702WA</b>           |
| <b>CK5703WA</b>           | Triode       | UHF Osc.            | 6.3    | 0.2   | 5G          | 1.5             | .400                  | 120  | Rk200        |              |              | 9.0             |                  | 25         |                    | 5000             | <b>CK5703WA</b>           |
| <b>CK5744WA</b>           | Triode       | Amp.-HF Osc.        | 6.3    | 0.2   | 5H          | 1.5             | .400                  | 250  | Rk500        |              |              | 4.0             |                  | 70         |                    | 4000             | <b>CK5744WA</b>           |
| <b>CK5783WA</b>           | Gas Diode    | Volt. Reference     | Cold   |       | 3A          | 1 3/8           | .400                  | See Voltage Reference Tube Section for Characteristics                   |              |              |              |                 |                  |            |                    |                  | <b>CK5783WA</b>           |
| <b>CK5784WA</b>           | Pentode      | Mixer-Gated Amp.    | 6.3    | 0.2   | 7A          | 1.5             | .400                  | 120  | -2           | 120          | 0            | 5.2             | 3.5              |            |                    | 3200             | <b>CK5784WA</b>           |
| <b>CK5787WA</b>           | Gas Diode    | Volt. Regulator     | Cold   |       | 3A          | 2 1/16          | .400                  | See Voltage Regulator Tube Section for Characteristics                   |              |              |              |                 |                  |            |                    |                  | <b>CK5787WA</b>           |
| <b>CK5829WA</b>           | Dble. Diode  | Detector            | 6.3    | .015  | 7FA         | 1.5             | W = .410<br>Th = .385 | Max. Inverse Peak Voltage = 330 v; Max. I <sub>o</sub> = 5 ma. per plate |              |              |              |                 |                  |            |                    |                  | <b>CK5829WA</b>           |
| <b>CK6021<sup>7</sup></b> | Dble. Triode | Voltage Amp.        | 6.3    | 0.3   | 8CF         | 1 3/8           | .400                  | 100  | Rk150        |              |              | 6.5             |                  | 35         |                    | 5400 (Each Unit) | <b>CK6021<sup>7</sup></b> |
| <b>CK6110<sup>7</sup></b> | Dble. Diode  | FW Rectifier        | 6.3    | 0.15  | 8CH         | 1 3/8           | .400                  | See Rectifier Tube Section for Characteristics                           |              |              |              |                 |                  |            |                    |                  | <b>CK6110<sup>7</sup></b> |
| <b>CK6111<sup>7</sup></b> | Dble. Triode | Voltage Amp.        | 6.3    | 0.3   | 8CF         | 1 3/8           | .400                  | 100  | Rk220        |              |              | 8.5             |                  | 20         |                    | 5000 (Each Unit) | <b>CK6111<sup>7</sup></b> |
| <b>CK6112<sup>7</sup></b> | Dble. Triode | Voltage Amp.        | 6.3    | 0.3   | 8CF         | 1 3/8           | .400                  | 100  | Rk1500       |              |              | 0.8             |                  | 70         |                    | 1800 (Each Unit) | <b>CK6112<sup>7</sup></b> |
| <b>CK6152</b>             | Triode       | Amp.-Osc.           | 6.3    | 0.2   | 7BB         | 1.5             | .400                  | 200  | Rk680        |              |              | 12.5            |                  | 15.5       |                    | 4000             | <b>CK6152</b>             |

## RELIABLE MINIATURE TUBES

| TYPE          | CONSTRUCTION | TYPICAL APPLICATION | HTR or FILAMENT |               |      | BAS-ING | MAX. DIMENSIONS Inches |       | PLATE VOLTS  | GRID 1 VOLTS | GRID 2 VOLTS | GRID 3 VOLTS | PLATE CURR. ma. | GRID 2 CURR. ma. | AMP. FACT. | PLATE RESIST. meg. | MUT. COND. umhos | OUT-PUT watts | LOAD RESIST. ohms | TYPE          |
|---------------|--------------|---------------------|-----------------|---------------|------|---------|------------------------|-------|--|--------------|--------------|--------------|-----------------|------------------|------------|--------------------|------------------|---------------|-------------------|---------------|
|               |              |                     | Volts           | Amps.         | Type |         | Height                 | Diam. |  |              |              |              |                 |                  |            |                    |                  |               |                   |               |
| <b>CK5654</b> | Pentode      | R-F Amplifier       | 6.3             | 0.175         | Htr  | 7BD     | 1 3/4                  | 3/4   | 120  | Rk200        | 120          |              | 7.5             | 2.5              |            | 0.34               | 5000             |               |                   | <b>CK5654</b> |
| <b>CK5670</b> | Dble. Triode | Voltage Amp.        | 6.3             | 0.35          | Htr  | 8CJ     | 1 3/4                  | 7/8   | 150  | Rk240        |              |              | 8.2             |                  | 35         |                    | 5500             | (Each Unit)   |                   | <b>CK5670</b> |
| <b>CK5686</b> | Pentode      | RF-AF Power Amp.    | 6.3             | 0.35          | Htr  | 9J      | 2 3/16                 | 7/8   | 250  | -12.5        | 250          |              | 27              | 3.0              |            |                    | 3300             | 2.7           | 9000              | <b>CK5686</b> |
| <b>CK5725</b> | Pentode      | Mixer-Gated Amp.    | 6.3             | 0.175         | Htr  | 9P      | 1 3/4                  | 3/4   | 120  | -2           | 120          | 0            | 5.2             | 3.5              |            |                    | 3200             |               |                   | <b>CK5725</b> |
| <b>CK5726</b> | Dble. Diode  | Same as 6AL5        | 6.3             | 0.3           | Htr  | 9M      | 1 3/4                  | 3/4   | Max. Peak Inverse = 330v; Max. I <sub>o</sub> = 9 mdc per Plate. |              |              |              |                 |                  |            |                    |                  |               |                   | <b>CK5726</b> |
| <b>CK5749</b> | Pentode      | R-F Amplifier       | 6.3             | 0.3           | Htr  | 9X      | 2 1/8                  | 3/4   | 250  | Rk68         | 100          | 0            | 11              | 4.2              |            | 1.0                | 4400             |               |                   | <b>CK5749</b> |
| <b>CK5750</b> | Heptode      | Converter           | 6.3             | 0.3           | Htr  | 8Z      | 2 1/4                  | 3/4   | 250  | Rg20k        | 100          | -1.5         | 2.6             | 7.5              |            | 1.0                | 475 <sup>8</sup> |               |                   | <b>CK5750</b> |
| <b>CK5751</b> | Dble. Triode | Voltage Amp.        | 6.3<br>12.6     | 0.35<br>0.175 | Htr  | 9W      | 2 3/16                 | 7/8   | 250  | -3           |              |              | 1.0             |                  | 70         | 0.058              | 1200             | (Each Unit)   |                   | <b>CK5751</b> |
| <b>CK5814</b> | Dble. Triode | Voltage Amp.        | 6.3<br>12.6     | 0.35<br>0.175 | Htr  | 9W      | 2 3/16                 | 7/8   | 250  | -8.5         |              |              | 10.5            |                  | 17         | 0.0077             | 2200             | (Each Unit)   |                   | <b>CK5814</b> |
| <b>CK6186</b> | Pentode      | RF Amplifier        | 6.3             | 0.3           | Htr  | 7BD     | 2 1/8                  | 0.75  | 250  | Rk200        | 150          |              | 7.0             | 2.0              |            | 0.8                | 5000             |               |                   | <b>CK6186</b> |
| <b>CK6187</b> | Pentode      | Mixer-Gated Amp.    | 6.3             | 0.15          | Htr  | 9P      | 1 3/4                  | 0.75  | 120  | -2           | 120          | 0            | 5.2             | 3.5              |            |                    | 3200             |               |                   | <b>CK6187</b> |



# GERMANIUM CRYSTAL DIODES



| TYPE         | TYPICAL APPLICATION | TERM. CONN. | MAX. DIMENSIONS<br>Inches |                  |             | MAX. DC INVERSE VOLT-AGE              | MAX. PEAK ANODE CURR. ma. | MAX. AVERAGE DC ANODE CURR. ma. | MIN. FOR- WARD CURRENT AT +1 Volt ma.          | MAX. INVERSE CURRENT AT -5 Volts ma. | MAX. INVERSE CURRENT AT -10 Volts ma. | MAX. INVERSE CURRENT AT -50 Volts ma. | MAX. INVERSE CURRENT AT -100 Volts ma. | MIN. INVERSE VOLTAGE FOR ZERO DYNAMIC RESIST. | AVE. INVERSE CURRENT AT -50 Volts 70°C. ma. | SHUNT CAP. mmf. | AMBIENT TEMP. RANGE °Cent. | TYPE         |
|--------------|---------------------|-------------|---------------------------|------------------|-------------|---------------------------------------|---------------------------|---------------------------------|--|--------------------------------------|---------------------------------------|---------------------------------------|--|---|---|-----------------|----------------------------|--------------|
|              |                     |             | Length                    | Diam.            | Lead Length |                                       |                           |                                 |  |                                      |                                       |                                       |  |   |   |                 |                            |              |
| <b>1N66</b>  | Gen. Purpose Diode  | 7CC         | 0.400                     | 0.175            | 1           | 60                                    | 150                       | 50                              | 5.0  |                                      | 0.05                                  | 0.8                                   |  | 70  | 0.43  | 1.0             | -50 to +100                | <b>1N66</b>  |
| <b>1N67</b>  | 50V DC Restorer     | 7CC         | 0.400                     | 0.175            | 1           | 80                                    | 100                       | 35                              | 4.0  | 0.005                                |                                       | 0.05                                  |  | 100   | 0.1   | 1.0             | -50 to +100                | <b>1N67</b>  |
| <b>1N68</b>  | 100V DC Restorer    | 7CC         | 0.400                     | 0.175            | 1           | 100                                   | 100                       | 35                              | 3.0  |                                      |                                       |                                       |  | 120   | 0.15  | 1.0             | -50 to +100                | <b>1N68</b>  |
| <b>CK705</b> | Gen. Purpose Diode  | 7CC         | 0.400                     | 0.175            | 1           | 60                                    | 150                       | 50                              | 5.0  |                                      | 0.05                                  | 0.8                                   |  | 70  | 0.43  | 1.0             | -50 to +100                | <b>CK705</b> |
| <b>CK706</b> | Video Detector      | 7CC         | 0.385                     | 0.140            | 1           | RF efficiency at 60 MC is approx. 50% |                           |                                 |  |                                      | 0.20                                  |                                       |  | 50  |   |                 | -50 to +100                | <b>CK706</b> |
| <b>CK707</b> | 50V DC Restorer     | 7CC         | 0.400                     | 0.175            | 1           | 80                                    | 100                       | 35                              | 3.5  | 0.008                                |                                       | 0.10                                  |  | 100   | 0.18  | 1.0             | -50 to +100                | <b>CK707</b> |
| <b>CK708</b> | 100V DC Restorer    | 7CC         | 0.400                     | 0.175            | 1           | 100                                   | 100                       | 35                              | 3.0  |                                      |                                       |                                       | 0.625                                  | 120   | 0.15  | 1.0             | -50 to +100                | <b>CK708</b> |
| <b>CK709</b> | 4 Matched Diodes    | 8L          | 2 $\frac{5}{8}$           | 1 $\frac{5}{16}$ | Octal Base  | 60                                    | 150                       | 50                              | Matched within 2.5% at +1 Volt.                |                                      |                                       |                                       |  |   |   |                 | -50 to +100                | <b>CK709</b> |
| <b>CK710</b> | UHF Converter       | 7CC         | 0.385                     | 0.140            | 1           | 3                                     | 150                       | 50                              | 3.0at 0.5v                                     | 0.2at -0.6v                          |                                       |                                       |  |   |   | 1.7             | -50 to +100                | <b>CK710</b> |
| <b>CK711</b> | 4 Matched Diodes    | 8L          | 1.75                      | 1 $\frac{3}{16}$ | Octal Base  | 80                                    | 100                       | 35                              | Special matched sections. Refer to Data Sheet. |                                      |                                       |                                       |  |   |   |                 | -50 to +100                | <b>CK711</b> |
| <b>CK712</b> | 200 Volt Diode      | 7CC         | 0.400                     | 0.175            | 1           | 200                                   | 70                        | 22.5                            | 1.0  | Max. dissipation 80 mw at 25°C.      |                                       | 0.8 at -200v                          | 225                                    |   |   | 1.0             | -50 to +100                | <b>CK712</b> |
| <b>CK713</b> | Computer Diode      | 7CC         | 0.400                     | 0.175            | 1           | 75                                    | 150                       | 50                              | 21 at +2v                                      |                                      |                                       | 0.25 at -40v                          | (DC characteristics at 50°C.)          |   | 1.0   | -50 to +100     | <b>CK713</b>               |              |
| <b>CK715</b> | Freq. Multiplier    | 7CC         | 0.385                     | 0.140            | 1           | 40                                    | 125                       | 35                              | 10   |                                      | 0.20                                  |                                       |  | 50  |   |                 | -50 to +100                | <b>CK715</b> |

Note: DC characteristics change with temperature, unless otherwise noted all characteristics are at 25°C.

## TRANSISTORS

| TYPE         | CONSTRUCTION  | TYPICAL APPLICATION | BASING | MAX. DIMENSIONS<br>Inches |       | COLLECTOR VOLTS | EMITTER VOLTS | COLLECTOR CURR. ma. | EMITTER CURR. ma. | CURRENT AMPLIFICATION minimum | FREQ. RESPONSE minimum | NOISE FIGURE at 1 KC maximum | TYPE         |
|--------------|---------------|---------------------|--------|---------------------------|-------|-----------------|---------------|---------------------|-------------------|-------------------------------|------------------------|------------------------------|--------------|
|              |               |                     |        | Height                    | Diam. |                 |               |                     |                   |                               |                        |                              |              |
| <b>CK716</b> | Point Contact | AF-RF Amplifier     | 9N     | 0.65                      | 0.255 | -15             | 0.5           | 2.5                 | 1.0               | 1.2                           | 100 kc                 | 65 db.                       | <b>CK716</b> |



# RECTIFIER TUBES



| TYPE                      | CONSTRUCTION              | HEATER or FILAMENT |            |            | BASING   | MAX. DIMENSIONS<br>Inches |                     | MAX. PEAK<br>INVERSE<br>VOLTAGE | MAX. PEAK<br>PLATE<br>CURRENT<br>PER PLATE | MAX. DC<br>OUTPUT<br>CURRENT | AVERAGE<br>TUBE<br>DROP<br>Volts | BASE           | TYPE                      |
|---------------------------|---------------------------|--------------------|------------|------------|----------|---------------------------|---------------------|---------------------------------|--|------------------------------|----------------------------------|----------------|---------------------------|
|                           |                           | Volts              | Amps.      | Type       |          | Height                    | Diam.               |                                 |  |                              |                                  |                |                           |
|                           |                           |                    |            |            |          |                           |                     |                                 |  |                              |                                  |                |                           |
| <b>BH</b>                 | Full Wave—Gas             |                    |            | Cold       | 8EC      | 4 $\frac{3}{8}$           | 1 $\frac{13}{16}$   | 1,000                           | 400 ma.                                    | 125 ma.                      | 90                               | 4-pin          | <b>BH</b>                 |
| <b>0Z4A/<br/>CK1003</b>   | Full Wave—Gas             |                    |            | Cold       | 8XA      | 2 $\frac{1}{2}$           | 1 $\frac{5}{16}$    | 880                             | 330 ma.                                    | 110 ma.                      | 24                               | Octal          | <b>0Z4A/<br/>CK1003</b>   |
| <b>2X2A</b>               | Half Wave—High Vacuum     | 2.5                | 1.75       | Htr        | 8ED      | 4 $\frac{17}{32}$         | 1 $\frac{9}{16}$    | 12,500                          | 60 ma.                                     | 7.5 ma.                      |                                  | 4-pin          | <b>2X2A</b>               |
| <b>3B24W</b>              | Half Wave—High Vacuum     | 2.5<br>5.0         | 3.0<br>3.0 | Htr<br>Fil | 8EA      | 4 $\frac{13}{16}$         | 1 $\frac{1}{2}$     | 20,000<br>20,000                | 150 ma.<br>300 ma.                         | 30 ma.<br>60 ma.             |                                  | 4-pin          | <b>3B24W</b>              |
| <b>3B26</b>               | Clipper Diode—High Vacuum | 2.5                | 4.75       | Htr        | 8X       | 4 $\frac{3}{8}$           | 1 $\frac{5}{16}$    | 15,000                          | 8 amp.                                     | 20 ma.                       | 130                              | Octal          | <b>3B26</b>               |
| <b>3B29</b>               | Half Wave—High Vacuum     | 2.5                | 4.75       | Htr        | See Data | 5 $\frac{3}{8}$           | 1 $\frac{9}{16}$    | 16,000                          | 250 ma.                                    | 65 ma.                       | 130                              | 4-pin          | <b>3B29</b>               |
| <b>4B31</b>               | Clipper Diode—High Vacuum | 5.0                | 5.25       | Htr        | See Data | 6 $\frac{3}{8}$           | 2 $\frac{9}{16}$    | 16,000                          | 16 amp.                                    | 60 ma.                       | 150                              | Jumbo 4-pin    | <b>4B31</b>               |
| <b>5R4GY</b>              | Full Wave—High Vacuum     | 5.0                | 2.0        | Fil.       | 8WB      | 5 $\frac{5}{16}$          | 2 $\frac{1}{16}$    | 2,800                           | 650 ma.                                    | 175 ma.                      |                                  | Octal          | <b>5R4GY</b>              |
| <b>5R4WGY</b>             | Full Wave—High Vacuum     | 5.0                | 2.0        | Fil.       | 8WB      | 5 $\frac{5}{16}$          | 2 $\frac{1}{16}$    | 2,800                           | 650 ma.                                    | 175 ma.                      |                                  | Octal          | <b>5R4WGY</b>             |
| <b>6X4W</b>               | Full Wave—High Vacuum     | 6.3                | 0.6        | Htr        | 9Q       | 2 $\frac{3}{8}$           | 0.75                | 1,250                           | 210 ma.                                    | 70 ma.                       |                                  | Octal          | <b>6X4W</b>               |
| <b>6X5WGT</b>             | Full Wave—High Vacuum     | 6.3                | 0.6        | Htr        | 8XB      | 3 $\frac{5}{16}$          | 1 $\frac{5}{16}$    | 1,250                           | 210 ma.                                    | 70 ma.                       | 22                               | Octal          | <b>6X5WGT</b>             |
| <b>RK72</b>               | Half Wave—High Vacuum     | 2.5                | 3.0        | Fil.       | 8EB      | 4 $\frac{13}{16}$         | 1 $\frac{1}{2}$     | 20,000                          | 150 ma.                                    | 30 ma.                       | 200                              | 4-pin          | <b>RK72</b>               |
| <b>RK73</b>               | Half Wave—High Vacuum     | 2.5                | 4.25       | Fil.       | 8AB      | 4 $\frac{3}{8}$           | 1 $\frac{5}{16}$    | 13,000                          | 3 amp.                                     | 20 ma.                       | 135                              | Octal          | <b>RK73</b>               |
| <b>RX120</b>              | Half Wave—Mercury, Argon  | 2.5                | 30.0       | Htr        | See Data | 8 $\frac{15}{16}$         | 3 $\frac{13}{16}$   | 150                             | 120 amp.                                   | 20 amp.                      | 5                                | Mogul          | <b>RX120</b>              |
| <b>RX120A</b>             | Half Wave—Mercury         | 2.5                | 30.0       | Htr        | See Data | 8 $\frac{15}{16}$         | 3 $\frac{13}{16}$   | 300<br>750                      | 120 amp.<br>120 amp.                       | 20 amp.<br>10 amp.           | 6<br>6                           | Mogul          | <b>RX120A</b>             |
| <b>RX212</b>              | Half Wave—Mercury         | 2.5                | 30.0       | Htr        | See Data | 12                        | 3 $\frac{3}{8}$     | 1,000                           | 120 amp.                                   | 20 amp.                      | 10                               | Mogul          | <b>RX212</b>              |
| <b>RX215</b>              | Full Wave—Mercury         | 2.5                | 30.0       | Htr        | See Data | 8                         | 3 $\frac{3}{8}$     | 500                             | 90 amp.                                    | 15 amp.                      | 10                               | S. Jumbo 4-pin | <b>RX215</b>              |
| <b>RK816</b>              | Half Wave—Mercury         | 2.5                | 2.0        | Fil.       | 8EB      | 4 $\frac{11}{16}$         | 1 $\frac{9}{16}$    | 7,500                           | 500 ma.                                    | 125 ma.                      |                                  | 4-pin          | <b>RK816</b>              |
| <b>RK866A</b>             | Half Wave—Mercury         | 2.5                | 5.0        | Fil.       | 8EB      | 6 $\frac{9}{16}$          | 2 $\frac{7}{16}$    | 10,000                          | 1 amp.                                     | 250 ma.                      | 15                               | 4-pin          | <b>RK866A</b>             |
| <b>RK872A</b>             | Half Wave—Mercury         | 5.0                | 7.5        | Fil.       | See Data | 8 $\frac{1}{2}$           | 2 $\frac{9}{16}$    | 10,000                          | 5 amp.                                     | 1.25 amp.                    | 10                               | Jumbo 4-pin    | <b>RK872A</b>             |
| <b>CK1005</b>             | Full Wave—Gas             | 6.3                | 0.1        | Note Below | 8Y       | 2 $\frac{3}{8}$           | 1 $\frac{5}{16}$    | 450                             | 210 ma.                                    | 70 ma.                       | 20                               | Octal          | <b>CK1005</b>             |
| <b>CK1006</b>             | Full Wave—Gas             | 1.75               | 2.0        | Note Below | 8EF      | 4 $\frac{11}{16}$         | 1 $\frac{13}{16}$   | 1,600                           | 600 ma.                                    | 200 ma.                      | 20                               | 4-pin          | <b>CK1006</b>             |
| <b>CK1007</b>             | Full Wave—Gas             | 1.0                | 1.2        | Note Below | 8WA      | 2 $\frac{3}{8}$           | 1 $\frac{5}{16}$    | 980                             | 330 ma.                                    | 110 ma.                      | 24                               | Octal          | <b>CK1007</b>             |
| <b>CK1012</b>             | Full Wave—Gas             | 1.75               | 2.0        | Note Below | 8EF      | 4 $\frac{11}{16}$         | 1 $\frac{13}{16}$   | 1,200                           | 900 ma.                                    | 300 ma.                      | 25                               | 4-pin Med.     | <b>CK1012</b>             |
| <b>CK1024</b>             | Full Wave—Gas             |                    |            | Cold       | 8XA      | 2 $\frac{3}{8}$           | 1 $\frac{5}{16}$    | 1,000                           | 480 ma.                                    | 175 ma.                      | 24                               | Octal          | <b>CK1024</b>             |
| <b>CK1028</b>             | Half Wave—Gas             | 6.3                | 0.55       | Fil.       | 8VA      | 2 $\frac{1}{4}$           | $\frac{3}{4}$       | 2,500                           | 300 ma.                                    | 100 ma.                      | 15                               | 7-pin Min.     | <b>CK1028</b>             |
| <b>CK1036</b>             | Half Wave—Gas             |                    |            | Cold       | 5P       | 1 $\frac{13}{16}$         | 0.400               | 1,500                           | 10 ma.                                     | 100 $\mu$ a.                 |                                  | Flex. Leads    | <b>CK1036</b>             |
| <b>CK1042</b>             | Half Wave—Gas             |                    |            | Cold       | 5N       | 2 $\frac{1}{8}$           | 0.400               | 2,800                           | 30 ma.                                     | 8 ma.                        | 120                              | Flex. Leads    | <b>CK1042</b>             |
| <b>1641/RK60</b>          | Full Wave—High Vacuum     | 5.0                | 3.0        | Fil.       | 8E       | 5 $\frac{3}{8}$           | 2 $\frac{1}{16}$    | 4,500<br>2,500                  | 150 ma.<br>330 ma.                         | 50 ma.<br>250 ma.            | 60                               | 4-pin          | <b>1641/RK60</b>          |
| <b>CK5517</b>             | Half Wave—Gas             |                    |            | Cold       | 7CB      | 2 $\frac{1}{4}$           | $\frac{3}{4}$       | 2,800                           | 100 ma.                                    | 12 ma.                       | 100                              | 7-pin Min.     | <b>CK5517</b>             |
| <b>CK5642</b>             | Half Wave—High Vacuum     | 1.25               | 0.14       | Fil.       | 5DB      | 2                         | 0.210               | 10,000                          | Television Pulse Rect.                     |                              |                                  | Flex. Leads    | <b>CK5642</b>             |
| <b>CK5785</b>             | Half Wave—High Vacuum     | 1.25               | 0.015      | Fil.       | 7F       | 1 $\frac{1}{2}$           | W = 0.4<br>Th = 0.3 | 3,500                           | 450 $\mu$ a.                               | 100 $\mu$ a.                 | 17                               | Flex. Leads    | <b>CK5785</b>             |
| <b>CK5995</b>             | Half Wave—Gas             | 6.3                | 0.3        | Htr        | 7BA      | 1 $\frac{3}{4}$           | 0.400               | 850                             | 275 ma.                                    | 45 ma.                       | 25                               | Flex. Leads    | <b>CK5995</b>             |
| <b>CK6110<sup>7</sup></b> | Full Wave—High Vacuum     | 6.3                | 0.15       | Htr        | 8CH      | 1 $\frac{3}{8}$           | 0.400               | 460                             | 26.5 ma.                                   | 8 ma.                        |                                  | Flex. Leads    | <b>CK6110<sup>7</sup></b> |
| <b>CK6174</b>             | Half Wave—Gas             |                    |            | Cold       | 7CB      | 2 $\frac{1}{4}$           | $\frac{3}{4}$       | 2,800                           | 30 ma.                                     | 3 ma.                        | 100                              | 7-pin Min.     | <b>CK6174</b>             |

See page 3 for reference notes — See pages 18 and 19 for basing diagrams and terminal connections.  
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 Note: May be used as ionic heated cathode rectifier under some conditions.



# VOLTAGE REGULATOR-VOLTAGE REFERENCE TUBES



| TYPE             | TYPICAL APPLICATION | BASING | MAX. DIMENSIONS<br>Inches |        | MIN. STARTING VOLTAGE SUPPLY | OPERATING VOLTAGE<br>Approx. | MIN. OPERATING CURRENT<br>ma. | MAX. OPERATING CURRENT<br>ma. | MAX. REGULATION<br>Volts | TYPE             |
|------------------|---------------------|--------|---------------------------|--------|------------------------------|------------------------------|-------------------------------|-------------------------------|--------------------------|------------------|
|                  |                     |        | Height                    | Diam.  |                              |                              |                               |                               |                          |                  |
| <b>0A2</b>       | Voltage Regulator   | 7G     | 2 3/8                     | 3/4    | 185                          | 150                          | 5                             | 30                            | 6                        | <b>0A2</b>       |
| <b>0A3/VR75</b>  | Voltage Regulator   | 9T     | 4 1/8                     | 1 9/16 | 105                          | 75                           | 5                             | 40                            | 5                        | <b>0A3/VR75</b>  |
| <b>0B2</b>       | Voltage Regulator   | 7G     | 2 3/8                     | 3/4    | 133                          | 108                          | 5                             | 30                            | 4                        | <b>0B2</b>       |
| <b>0B3/VR90</b>  | Voltage Regulator   | 9T     | 4 1/8                     | 1 9/16 | 125                          | 90                           | 10                            | 30                            | 8                        | <b>0B3/VR90</b>  |
| <b>0C3/VR105</b> | Voltage Regulator   | 9T     | 4 1/8                     | 1 9/16 | 133                          | 105                          | 5                             | 40                            | 4                        | <b>0C3/VR105</b> |
| <b>0D3/VR150</b> | Voltage Regulator   | 9T     | 4 1/8                     | 1 9/16 | 185                          | 150                          | 5                             | 40                            | 5.5                      | <b>0D3/VR150</b> |
| <b>1B46</b>      | Voltage Regulator   | 9Z     | 1.66                      | 0.63   | 250                          | 82                           | 1                             | 2                             | 3                        | <b>1B46</b>      |
| <b>1B47</b>      | Voltage Regulator   | 9Z     | 1.66                      | 0.63   | 250                          | 82                           | 1                             | 2                             | 3                        | <b>1B47</b>      |
| <b>CK1017</b>    | Voltage Regulator   | 7H     | 2 11/16                   | 3/4    | 800                          | 700                          | 0.005                         | 0.055                         | 20                       | <b>CK1017</b>    |
| <b>CK1022</b>    | Voltage Regulator   | 7H     | 2 11/16                   | 3/4    | 1100                         | 1000                         | 0.005                         | 0.055                         | 20                       | <b>CK1022</b>    |
| <b>CK1037</b>    | Voltage Regulator   | 3A     | 1.75                      | 0.400  | 730                          | 700                          | 0.005                         | 0.100                         | 15                       | <b>CK1037</b>    |
| <b>CK1038</b>    | Voltage Regulator   | 3A     | 1.75                      | 0.400  | 930                          | 900                          | 0.005                         | 0.055                         | 15                       | <b>CK1038</b>    |
| <b>CK1039</b>    | Voltage Regulator   | 3A     | 1.75                      | 0.400  | 1230                         | 1200                         | 0.005                         | 0.100                         | 25                       | <b>CK1039</b>    |
| <b>CK5651</b>    | Voltage Reference   | 7G     | 2 1/8                     | 3/4    | 115                          | 82-92                        | 1.5                           | 3.5                           | 3                        | <b>CK5651</b>    |
| <b>CK5783</b>    | Voltage Reference   | 3A     | 1 1/8                     | 0.400  | 115                          | 82-92                        | 1.5                           | 3.5                           | 3                        | <b>CK5783</b>    |
| <b>CK5783WA</b>  | Voltage Reference   | 3A     | 1 3/8                     | 0.400  | 115                          | 82-92                        | 1.5                           | 3.5                           | 3                        | <b>CK5783WA</b>  |
| <b>CK5787</b>    | Voltage Regulator   | 3A     | 2 1/16                    | 0.400  | 145                          | 100                          | 5                             | 30                            | 6                        | <b>CK5787</b>    |
| <b>CK5787WA</b>  | Voltage Regulator   | 3A     | 2 1/16                    | 0.400  | 145                          | 100                          | 1                             | 25                            | 4                        | <b>CK5787WA</b>  |
| <b>CK5962</b>    | Voltage Regulator   | 8W     | 2 11/16                   | 3/4    | 730                          | 700                          | 0.002                         | 0.055                         | 15                       | <b>CK5962</b>    |
| <b>CK6073</b>    | Voltage Regulator   | 7G     | 2 3/8                     | 3/4    | 185                          | 150                          | 5                             | 30                            | 6                        | <b>CK6073</b>    |
| <b>CK6074</b>    | Voltage Regulator   | 7G     | 2 3/8                     | 3/4    | 133                          | 108                          | 5                             | 30                            | 4                        | <b>CK6074</b>    |
| <b>CK6213</b>    | Voltage Reference   | 3A     | 1 3/8                     | 0.400  | 200                          | 127-133                      | 1                             | 2.5                           | 2                        | <b>CK6213</b>    |

## THYRATRON TUBES

| TYPE               | CONSTRUCTION | TYPICAL APPLICATION          | HTR or FILAMENT |      |      | BASING | MAX. DIMENSIONS |         | MAX. PEAK INVERSE ANODE VOLTS  | PEAK STARTER-ANODE BREAKDOWN VOLTS | MAX. PEAK CATHODE CURRENT | MAX. AVERAGE CATHODE CURRENT | TYPE               |
|--------------------|--------------|------------------------------|-----------------|------|------|--------|-----------------|---------|--------------------------------|------------------------------------|---------------------------|------------------------------|--------------------|
|                    |              |                              | Volts           | Amps | Type |        | Height          | Diam.   |                                |                                    |                           |                              |                    |
| <b>0A4G</b>        | Gas Triode   | Relay Service                |                 |      | Cold | 8CT    | 4 1/8           | 1 9/16  | 225                            | +75 to +90                         | 100 ma.                   | 25 ma.                       | <b>0A4G</b>        |
| <b>2C33/RX233A</b> | Gas Triode   | Trigger Service              | 2.5             | 2.5  | Fil. | 8A     | 4 5/16          | 1 17/64 | 1500                           |                                    | 1.5 amp.                  | 25 ma.                       | <b>2C33/RX233A</b> |
| <b>4C35</b>        | Gas Triode   | Pulsing or Switching Service | 6.3             | 6.1  | Fil. |        | 7               | 2 3/16  | 2500                           |                                    | 90 amp.                   | 100 ma.                      | <b>4C35</b>        |
| <b>RK61</b>        | Gas Triode   | Model Aircraft Control       | 1.4             | 0.05 | Fil. | 4E     | 1 13/16         | 0.55    | Special Circuit—Write for Data |                                    |                           |                              | <b>RK61</b>        |
| <b>RX884</b>       | Gas Triode   | Sweep Oscillator             | 6.3             | 0.6  | Htr. | 8H     | 4 1/8           | 1 9/16  | 350                            |                                    | 300 ma.                   | 75 ma.                       | <b>RX884</b>       |
| <b>RX885</b>       | Gas Triode   | Sweep Oscillator             | 2.5             | 1.5  | Htr. | 8F     | 4 3/16          | 1 9/16  | 350                            |                                    | 300 ma.                   | 75 ma.                       | <b>RX885</b>       |
| <b>CK1089</b>      | Gas Tetrode  | Relay or Indicator Service   |                 |      | Cold | 4F     | 2               | 3/4     |                                | 75                                 | 20 ma.                    | 15 ma.                       | <b>CK1089</b>      |
| <b>2050</b>        | Gas Tetrode  | Relay Service                | 6.3             | 0.6  | Htr. | 8J     | 4 1/8           | 1 9/16  | 1300                           |                                    | 1 amp.                    | 100 ma.                      | <b>2050</b>        |
| <b>2051</b>        | Gas Tetrode  | Relay Service                | 6.3             | 0.6  | Htr. | 8J     | 4 1/8           | 1 9/16  | 700                            |                                    | 375 ma.                   | 75 ma.                       | <b>2051</b>        |

See page 3 for reference notes — See pages 18 and 19 for basing diagrams and terminal connections. This data is compiled as a Raytheon service to the Field, it is not intended to indicate type availability.



# SPECIAL PURPOSE TUBES



| TYPE           | CONSTRUCTION  | TYPICAL APPLICATION | HTR or FILAMENT |              |      | BAS-ING | MAX. DIMENSIONS Inches |         | PLATE VOLTS   | GRID 1 VOLTS | GRID 2 VOLTS | GRID 3 VOLTS | PLATE CURR. ma. | GRID 2 CURR. ma. | AMP. FACT.  | PLATE RESIST. meg. | MUT. COND. μmhos | OUT-PUT watts    | LOAD RESIST. ohms | TYPE          |  |  |                |
|----------------|---------------|---------------------|-----------------|--------------|------|---------|------------------------|---------|---|--------------|--------------|--------------|-----------------|------------------|-------------|--------------------|------------------|------------------|-------------------|---------------|--|--|----------------|
|                |               |                     | Volts           | Amps.        | Type |         | Height                 | Diam.   |   |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  |                |
|                |               |                     |                 |              |      |         |                        |         |   |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  |                |
| <b>1AE4</b>    | Pentode       | R-F Amplifier       | 1.25            | 0.1          | Fil  | 8YA     | 2 1/8                  | 3/4     | 90  | 0            | 90           |              | 3.5             | 1.2              |             | 0.5                |                  |                  |                   | <b>1AE4</b>   |  |  |                |
| <b>2C50</b>    | Dble. Triode  | Power Amplifier     | 12.6            | 0.3          | Htr  | 8BD     | 3 3/16                 | 1 5/16  | 300   | -24          |              |              | 12.5            |                  | 9.5         |                    | 1750             | (Each Unit)      |                   | <b>2C50</b>   |  |  |                |
| <b>2C52</b>    | Dble. Triode  | Voltage Amp.        | 12.6            | 0.3          | Htr  | 8BD     | 3 3/16                 | 1 5/16  | 250   | -2           |              |              | 1.3             |                  | 90          |                    | 1900             | (Each Unit)      |                   | <b>2C52</b>   |  |  |                |
| <b>3A4</b>     | Pentode       | RF-AF Pwr. Amp.     | 2.8<br>1.4      | 0.4<br>0.2   | Fil  | 7BX     | 2 1/8                  | 3/4     | 150   | -8.4         | 90           |              | 13.3            | 2.2              |             | 0.1                | 1900             | 0.7              | 8000              | <b>3A4</b>    |  |  |                |
| <b>3A5</b>     | Dble. Triode  | AF-RF Amp. Osc.     | 2.8<br>1.4      | 0.11<br>0.22 | Fil  | 7BW     | 2 1/8                  | 3/4     | 90  | -2.5         |              |              | 3.7             |                  | 15          |                    | 1800             |                  |                   | <b>3A5</b>    |  |  |                |
| <b>3B4</b>     | Beam Pentode  | RF Amp. Osc.        | 2.5             | 0.16         | Fil  | 7BU     | 2 1/8                  | 3/4     | 150   | -38          | 135          |              | 25              | 6.2              | (Ic1=55 ma) |                    |                  | 1.25 (at 100 Mc) |                   | <b>3B4</b>    |  |  |                |
| <b>6AJ5</b>    | Pentode       | RF-AF Amplifier     | 6.3             | 0.175        | Htr  | 7BD     | 1 3/4                  | 3/4     | 28  | Rk200        | 28           |              | 3               | 1.2              |             | 0.090              | 2750             |                  |                   | <b>6AJ5</b>   |  |  |                |
| <b>6AN5</b>    | Pentode       | RF-AF Pwr. Amp.     | 6.3             | 0.45         | Htr  | 7BD     | 2 1/8                  | 3/4     | 120   | Rk120        | 120          |              | 35              | 12               |             | 0.0125             | 8000             | 1.3              | 2500              | <b>6AN5</b>   |  |  |                |
| <b>6AR6</b>    | Pentode       | Power Amp.          | 6.3             | 1.2          | Htr  | 9Y      | 3 15/32                | 1 7/16  | 250   | -22.5        | 250          |              | 75              | 5.0              |             | 0.021              | 5400             |                  |                   | <b>6AR6</b>   |  |  |                |
| <b>6AS6</b>    | Pentode       | Mixer-Gated Amp.    | 6.3             | 0.175        | Htr  | 9P      | 1 3/4                  | 3/4     | 120   | -2           | 120          | 0            | 5.2             | 3.5              |             |                    | 3200             |                  |                   | <b>6AS6</b>   |  |  |                |
| <b>6AS7G</b>   | Dble. Triode  | DC Amplifier        | 6.3             | 2.5          | Htr  | 8BD     | 5 5/16                 | 2 1/16  | 135   | Rk250        |              |              | 125             |                  | 2.1         |                    | 7500             |                  |                   | <b>6AS7G</b>  |  |  |                |
| <b>6J4</b>     | Triode        | UHF Amplifier       | 6.3             | 0.4          | Htr  | 7BT     | 2 1/4                  | 3/4     | 100   | Rk100        |              |              | 10              |                  | 55          |                    | 11000            |                  |                   | <b>6J4</b>    |  |  |                |
| <b>6N4</b>     | Triode        | HF Oscillator       | 6.3             | 0.2          | Htr  | 7CA     | 1 3/4                  | 3/4     | 180   | -3.5         |              |              | 12              |                  | 32          |                    | 6000             |                  |                   | <b>6N4</b>    |  |  |                |
| <b>7AK7</b>    | Pentode       | Mixer-Gated Amp.    | 6.3             | 0.8          | Htr  | 8V      | 3 3/32                 | 1 5/16  | 150   | 0            | 90           | 0            | 40              | 21               |             | 0.0115             | 6500             |                  |                   | <b>7AK7</b>   |  |  |                |
| <b>CK108</b>   | Pentode       | R-F Amplifier       | 6.3             | 0.3          | Htr  | 8G      | 4 17/32                | 1 9/16  | 250   | -3           | 100          |              | 2.3             | 0.5              |             | 1.5                | 1250             |                  |                   | <b>CK108</b>  |  |  |                |
| <b>CK118</b>   | Thermal Relay | Overload Protect.   |                 |              |      | 8S      | 2 1/8                  | 1.275   | Operating volt. = 6.9 ± 0.2v; Release volt = 2.0 to 3.5 volts. Write for data |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  | <b>CK118</b>   |
| <b>310A</b>    | Pentode       | RF-AF Amplifier     | 10.0            | 0.315        | Htr  | 7K      | 4 9/32                 | 1 9/16  | 135   | -3           | 135          |              | 5.5             |                  |             | 0.75               | 1800             |                  |                   | <b>310A</b>   |  |  |                |
| <b>954</b>     | Pentode       | UHF Amplifier       | 6.3             | 0.15         | Htr  | 8B      | 1 7/8                  | 1 5/32  | 250   | -3           | 100          |              | 2               | 0.7              |             | > 1                | 1400             |                  |                   | <b>954</b>    |  |  |                |
| <b>955</b>     | Triode        | UHF Oscillator      | 6.3             | 0.15         | Htr  | 8D      | 1 3/4                  | 1 5/32  | 250   | -7           |              |              | 6.3             |                  | 25          |                    | 2200             |                  |                   | <b>955</b>    |  |  |                |
| <b>956</b>     | Pentode       | UHF Amplifier       | 6.3             | 0.15         | Htr  | 8B      | 1 7/8                  | 1 5/32  | 250   | -3           | 100          |              | 6.7             | 2.7              |             | 0.7                | 1800             |                  |                   | <b>956</b>    |  |  |                |
| <b>957</b>     | Triode        | UHF Oscillator      | 1.25            | 0.05         | Fil  | 8C      | 1 3/4                  | 1 5/32  | 135   | -5           |              |              | 2               |                  | 13.5        |                    | 650              |                  |                   | <b>957</b>    |  |  |                |
| <b>CK1030</b>  | Spark Gap     | Overvolt. Protect.  |                 |              |      | None    | 1 5/16                 | 5/8     | Breakdown Voltage = 1500 to 2000 volts; Min. External Imped. = 5000 ohms.     |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  | <b>CK1030</b>  |
| <b>CK1031</b>  | Spark Gap     | Overvolt. Protect.  |                 |              |      | None    | 1 5/16                 | 5/8     | Breakdown Voltage = 3000 to 3500 volts; Min. External Imped. = 10,000 ohms.   |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  | <b>CK1031</b>  |
| <b>CK1033</b>  | Spark Gap     | Overvolt. Protect.  |                 |              |      | None    | 1 5/16                 | 5/8     | Breakdown Voltage = 4200 to 4600 volts; Min. External Imped. = 10,000 ohms.   |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  | <b>CK1033</b>  |
| <b>CK5608</b>  | Dble. Triode  | Control Equip.      | 2.5             | 2            | Htr  | 7J      | 4 11/16                | 1 13/16 | 300   | -6           |              |              | 6               |                  | 32          |                    | 2450             |                  |                   | <b>CK5608</b> |  |  |                |
| <b>CK5608A</b> | Dble. Triode  | Control Equip.      | 2.5             | 2            | Htr  | 8EG     | 4 11/16                | 1 13/16 | Same characteristics as CK5608. Heaters are connected in series internally    |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  | <b>CK5608A</b> |
| <b>CK5656</b>  | Dble. Tetrode | R-F Power Amp.      | 6.3             | 0.4          | Htr  | 9K      | 2 3/16                 | 7/8     | 150   | -2           | 120          |              | 15              | 2.7              |             | 0.06               | 5800             | (Each Unit)      |                   | <b>CK5656</b> |  |  |                |
| <b>CK5694</b>  | Dble. Triode  | Power Amplifier     | 6.3             | 0.8          | Htr  | 8CS     | 4 7/8                  | 1 13/16 | 294   | -6           |              |              | 7               |                  | 35          |                    | 3200             | (Each Unit)      |                   | <b>CK5694</b> |  |  |                |
| <b>CK5910</b>  | Pentode       | Radiosonde          | 1.4             | 0.05         | Fil  | 8YA     | 2 1/8                  | 3/4     | 90  | 0            | 90           |              | 1.6             | 0.45             |             | 1.5                | 900              |                  |                   | <b>CK5910</b> |  |  |                |
| <b>9001</b>    | Pentode       | UHF Amplifier       | 6.3             | 0.15         | Htr  | 7BD     | 1 13/16                | 3/4     | 250   | -3           | 100          |              | 2               | 0.7              |             | > 1                | 1400             |                  |                   | <b>9001</b>   |  |  |                |
| <b>9002</b>    | Triode        | UHF Oscillator      | 6.3             | 0.15         | Htr  | 7BS     | 1 13/16                | 3/4     | 250   | -7           |              |              | 6.3             |                  | 25          |                    | 2200             |                  |                   | <b>9002</b>   |  |  |                |
| <b>9003</b>    | Pentode       | UHF Amplifier       | 6.3             | 0.15         | Htr  | 7BD     | 1 13/16                | 3/4     | 250   | -3           | 100          |              | 6.7             | 2.7              |             | 0.7                | 1800             |                  |                   | <b>9003</b>   |  |  |                |
| <b>9005</b>    | Diode         | Detector            | 3.6             | 0.165        | Htr  | 8DA     | 1 3/4                  | 5/8     | Max. Plate Voltage (RMS) = 117v; Max. Io = 1.0 ma.                            |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  | <b>9005</b>    |
| <b>9006</b>    | Dble. Diode   | Detector            | 6.3             | 0.15         | Htr  | 7BV     | 1 13/16                | 3/4     | Max. Peak Inverse = 750 v; Max. Io = 5 ma.                                    |              |              |              |                 |                  |             |                    |                  |                  |                   |               |  |  | <b>9006</b>    |



# TRANSMITTING TUBES



| TYPE                  | CONSTRUCTION   | TYPICAL APPLICATION | FILAMENT     |            |           | MAXIMUM VOLTAGES |        |        |        | MAX. CURRENT MA. |        |        | POWER—WATTS  |       |        | CAPACITANCES |       |        | BASE        | TYPE                  |
|-----------------------|----------------|---------------------|--------------|------------|-----------|------------------|--------|--------|--------|------------------|--------|--------|--------------|-------|--------|--------------|-------|--------|-------------|-----------------------|
|                       |                |                     | Volts        | Amps       | Type      | Plate            | Grid 1 | Grid 2 | Grid 3 | Plate            | Grid 1 | Grid 2 | Dis-sipation | Drive | Output | G-P          | Input | Output |             |                       |
| <b>2C34/<br/>RK34</b> | Dual Triode    | H-F Oscillator-Amp. | 6.3          | 0.8        | Heater    | 300              | -36    |        |        | 80*              | 20*    |        | 10*          | 1.8*  | 16*    | 2.4          | 3.4   | 0.5    | 7-Pin       | <b>2C34/<br/>RK34</b> |
| <b>2E24</b>           | Beam Pentode   | VHF Oscil.-Amp.     | 6.0          | 0.65       | Oxide     | 600              | -175   | 200    |        | 85               | 3.5    | 12.5   | 13.5         | 2.0   | 16.5   | 0.11         | 8.5   | 6.5    | Octal       | <b>2E24</b>           |
| <b>2E26</b>           | Beam Pentode   | VHF Oscil.-Amp.     | 6.0          | 0.8        | Cathode   | 600              | -175   | 200    |        | 75               | 3.5    | 12.5   | 13.5         | 0.17  | 27     | 0.20         | 13    | 7      | Octal       | <b>2E26</b>           |
| <b>2E30</b>           | Beam Pentode   | RF-AF Amplifier     | 6.0          | 0.65       | Fil.      | 250              | -150   | 250    | 0      | 60               | 3      |        | 10           | 0.2   | 7.5    | 0.18         | 9.6   | 14     | 7-Pin Min.  | <b>2E30</b>           |
| <b>RK4D22</b>         | Beam Tetrode   | R-F Oscillator-Amp. | 25.2<br>12.6 | 0.8<br>1.6 | Cathode   | 750              | -200   | 350    |        | 300              | 15     | 35     | 50           | 1.5   | 135    | 0.27         | 28.0  | 13.0   | Spec. 7-Pin | <b>RK4D22</b>         |
| <b>RK4D32</b>         | Beam Tetrode   | R-F Oscillator-Amp. | 6.3          | 3.75       | Cathode   | 750              | -200   | 350    |        | 300              | 15     | 35     | 50           | 1.5   | 135    | 0.27         | 28.0  | 13.0   | Spec. 7-Pin | <b>RK4D32</b>         |
| <b>5D23/<br/>RK65</b> | R-F Tetrode    | R-F Amplifier       | 5.0          | 14.0       | Thoriated | 3000             | -250   | 500    |        | 250              | 40     | 80     | 215          | 15.0  | 565    | 0.42         | 10.0  | 5.0    | Jmb. 4-Pin  | <b>5D23/<br/>RK65</b> |
| <b>RK6D21</b>         | Tetrode        | Pulse Amp.          | 8.2          | 20         | Thoriated | 40Kv             |        | 2500   |        |                  |        |        | 400          |       |        |              |       |        | Giant 5-Pin | <b>RK6D21</b>         |
| <b>RK6D22</b>         | Tetrode        | R-F, A-F Amp.       | 5.0          | 28.5       | Thoriated | 3500             | -250   | 500    |        | 500              | 100    | 165    | 450          | 22.0  | 1000   | 0.5          | 22.0  | 10.0   | Jmb. 4-Pin  | <b>RK6D22</b>         |
| <b>RK25</b>           | R-F Pentode    | Suppressor Mod.     | 6.3          | 0.9        | Heater    | 500              | -90    | 200    | +45    | 55               | 8      | 38     | 10           | 0.5   | 22     | 0.2          | 10.0  | 10.0   | 7-Pin       | <b>RK25</b>           |
| <b>RK38</b>           | Triode         | R-F, A-F Amp.       | 5.0          | 8.0        | Thoriated | 3000             | -200   |        |        | 165              | 40     |        | 100          | 10.0  | 225    | 4.3          | 4.6   | 0.9    | Med. 5-Pin  | <b>RK38</b>           |
| <b>RK59</b>           | Dual Triode    | Quick Heat'g        | 6.3          | 1.0        | Oxide     | 500              | -60    |        |        | 90*              | 14*    |        | 15*          | 1.3*  | 32*    | 9.0          | 5.0   | 1.0    | 4-Pin       | <b>RK59</b>           |
| <b>RK75</b>           | Pentode        | R-F Oscil.-Amp.     | 5.5          | 1.0        | Oxide     | 500              | -100   | 250    |        | 60               | 7      | 25     | 15           |       | 15     | 0.55         | 15    | 12     | Med. 5-Pin  | <b>RK75</b>           |
| <b>RK715C</b>         | Tetrode        | Pulse Modulator     | 27.0         | 2.15       | Cathode   | 18000            | -1000  | 1350   |        | 15 amp.          |        |        | 60           |       |        | 1.1          | 38    | 7      | Spec. 4-Pin | <b>RK715C</b>         |
| <b>RK807</b>          | Beam Tetrode   | R-F Oscil.-Amp.     | 6.3          | 0.9        | Heater    | 600              | -200   | 300    |        | 100              | 5      | 12     | 30           | 0.2   | 50     | 0.2          | 11.0  | 7.0    | Med. 5-Pin  | <b>RK807</b>          |
| <b>RK811A</b>         | Triode         | RF-AF Amplifier     | 6.3          | 4          | Fil.      | 1500             | -200   |        |        | 175              | 50     |        | 65           | 7.1   | 200    | 5.6          | 5.9   | 0.7    | 4-Pin       | <b>RK811A</b>         |
| <b>RK812A</b>         | Triode         | RF-AF Amplifier     | 6.3          | 4          | Fil.      | 1500             | -200   |        |        | 175              | 35     |        | 65           | 6.5   | 190    | 5.5          | 5.4   | 0.77   | 4-Pin       | <b>RK812A</b>         |
| <b>RK813</b>          | Beam Tetrode   | R-F Oscil.-Amp.     | 10.0         | 5          | Thoriated | 2250             | -300   | 400    |        | 225              | 30     | 55     | 125          | 4.0   | 375    | 0.25         | 16.3  | 14     | Giant 7-Pin | <b>RK813</b>          |
| <b>RK814</b>          | Beam Tetrode   | R-F Oscil.-Amp.     | 10.0         | 3.25       | Thoriated | 1250             | -300   | 300    |        | 150              | 15     | 34     | 65           | 1.5   | 130    | 0.12         | 13.0  | 10.0   | Med. 5-Pin  | <b>RK814</b>          |
| <b>RK829B</b>         | Dual Beam Tet. | R-F Oscil.-Amp.     | 12.6         | 1.125      | Cathode   | 750              | -175   | 225    |        | 240*             | 15*    | 30*    | 40*          | 0.8*  | 87*    | 0.12         | 14.5  | 7.0    | Med. 7-Pin  | <b>RK829B</b>         |
| <b>RK832A</b>         | Dual Beam Tet. | R-F Oscil.-Amp.     | 6.3          | 0.8        | Cathode   | 750              | -100   | 250    |        | 90               | 6      | 20     | 15           | 0.19  | 26     | 0.05         | 7.5   | 3.8    | Spec. 7-Pin | <b>RK832A</b>         |
| <b>RK837</b>          | R-F Pentode    | R-F Oscil.-Amp.     | 12.6         | 0.7        | Heater    | 500              | -200   | 200    | +40    | 80               | 8      | 40     | 12           | 0.4   | 22     | 0.2          | 16.0  | 10.0   | Med. 7-Pin  | <b>RK837</b>          |
| <b>RK1625</b>         | Beam Tetrode   | R-F Oscil.-Amp.     | 12.6         | 0.45       | Cathode   | 600              | -200   | 300    |        | 100              | 5      | 12     | 30           | 0.2   | 40     | 0.2          | 11    | 7      | Med. 7-Pin  | <b>RK1625</b>         |
| <b>CK5763</b>         | Beam Pentode   | R-F Oscil.-Amp.     | 6.0          | 0.75       | Heater    | 300              | -125   | 250    | 0      | 50               | 5      | 15     | 12           | 0.35  | 8      | 0.3          | 9.5   | 4.5    | 9-Pin Min.  | <b>CK5763</b>         |
| <b>RK6146</b>         | Beam Pentode   | RF-AF Amp.          | 6.3          | 1.25       | Heater    | 750              | -150   | 250    |        | 150              | 4      |        | 25           | 0.3   | 69     | 0.22         | 13.5  | 9      | Octal       | <b>RK6146</b>         |

See page 3 for reference notes — See pages 18 and 19 for basing diagrams and terminal connections. This data is compiled as a Raytheon service to the Field, it is not intended to indicate type availability. \*Indicates value for both sections combined.



# REFLEX KLYSTRONS



| TYPE          | MAXIMUM FREQUENCY RANGE MEGACYCLES                | FREQUENCY MEGACYCLES | TYPE OF TUNING | TYPICAL OPERATION       |      |                                |                       | FOCUS or CONTROL POTENTIAL D.C. Volts | ELECTRONIC TUNING E.REF. / P.O. / 2 Megacycles | MAXIMUM THERMAL DRIFT Mc/c° | FILAMENT CURRENT AT 6.3 V. AMPERES | TYPE OF CAVITY | TYPE          |
|---------------|---|----------------------|----------------|-------------------------|------|--------------------------------|-----------------------|---------------------------------------|--|-----------------------------|------------------------------------|----------------|---------------|
|               |   |                      |                | POWER OUTPUT MILLIWATTS |      | REFLECTOR POTENTIAL D.C. Volts | BEAM VOLT. D.C. Volts |                                       |  |                             |                                    |                |               |
|               |   |                      |                | Ave.                    | Min. |                                |                       |                                       |  |                             |                                    |                |               |
| <b>2K22</b>   | 4240-4910   | 4775                 | Mech.-Cap.     | 115                     | 75   | -120 to -180                   | 300                   |                                       | 30 min.  | -0.1 to +0.5                | 0.440                              | Self Cont.     | <b>2K22</b>   |
| <b>2K25</b>   | 8500-9660   | 9370                 | Mech.-Cap.     | 32                      | 20   | -128 to -123                   | 300                   |                                       | 55 ave.  | 0 to -0.2                   | 0.440                              | Self Cont.     | <b>2K25</b>   |
| <b>2K26</b>   | 6250-7060   | 6660                 | Mech.-Cap.     | 100                     | 80   | -70 to -115                    | 300                   |                                       | 32 min.  | 0 to -0.2                   | 0.440                              | Self Cont.     | <b>2K26</b>   |
| <b>2K28</b>   | 1200-3750   | 3315-3680            | Mech.-Ind.     | 140                     | 80   | -140 to -300                   | 300                   | 300                                   | 20 min.  | ±.15                        | 0.650                              | External       | <b>2K28</b>   |
| <b>2K29</b>   | 3400-3960   | 3560                 | Mech.-Cap.     | 106                     | 85   | -75 to -180                    | 300                   |                                       | 28 min.  | -0.1 to +.05                | 0.440                              | Self-Cont.     | <b>2K29</b>   |
| <b>2K33</b>   | 22,000-25,000                                     | 22,000-25,000        | Mech.-Cap.     | 40                      | 10   | -80 to -220                    | 1800                  | -20 to -100                           | 40 ave.  | 0 to -1.0                   | 0.650                              | Self. Cont.    | <b>2K33</b>   |
| <b>2K45</b>   | 8500-9660   | 9660                 | Therm.-Cap.    | 32                      | 20   | -95 to -145                    | 300                   |                                       | 70 ave.  |                             | 0.762                              | Self Cont.     | <b>2K45</b>   |
| <b>2K48</b>   | 4000-11,000                                       | 6900-10,850          | Mech.-Ind.     |                         | 25   | -175 to -300                   | 1250                  |                                       |  |                             | 0.515                              | External       | <b>2K48</b>   |
| <b>2K56</b>   | 3840-4460   | 4150                 | Mech.-Cap.     | 100                     | 80   | -85 to -150                    | 300                   |                                       | 30 min.  | -0.1 to +.05                | 0.440                              | Self Cont.     | <b>2K56</b>   |
| <b>6BL6</b>   | 1600-5500   | 2110-4355            | Mech.-Ind.     | 50                      | 25   | -30 to -330                    | 300                   | 0                                     |  |                             | 0.675                              | External       | <b>6BL6</b>   |
| <b>QK140</b>  |   | 29,700-33,520        | Mech.-Cap.     | 20                      | 10   | -50 to -200                    | 2250                  | -20 to -250                           | 45 ave.  |                             | 0.650                              | Self Cont.     | <b>QK140</b>  |
| <b>QK226</b>  |   | 37,100-42,600        | Mech.-Cap.     | 5                       |      | -50 to -200                    | 2500                  | -20 to -200                           |  |                             | 0.650                              | Self Cont.     | <b>QK226</b>  |
| <b>QK227</b>  |   | 41,700-50,000        | Mech.-Cap.     | 5                       |      | -50 to -200                    | 3000                  | -20 to -200                           |  |                             | 0.650                              | Self Cont.     | <b>QK227</b>  |
| <b>QK289</b>  |   | 27,270-30,000        | Mech.-Cap.     | 20                      | 10   | -50 to -200                    | 2250                  | -20 to -250                           | 45 ave.  |                             | 0.650                              | Self Cont.     | <b>QK289</b>  |
| <b>QK290</b>  |   | 29,700-33,520        | Mech.-Cap.     | 20                      | 10   | -50 to -200                    | 2250                  | -20 to -250                           | 45 ave.  |                             | 0.650                              | Self Cont.     | <b>QK290</b>  |
| <b>QK291</b>  |   | 33,520-36,250        | Mech.-Cap.     | 18                      | 5    | -50 to -200                    | 2250                  | -20 to -250                           | 45 ave.  |                             | 0.650                              | Self Cont.     | <b>QK291</b>  |
| <b>QK292</b>  |   | 35,100-39,700        | Mech.-Cap.     | 10                      | 5    | -50 to -200                    | 2500                  | -20 to -200                           | 45 ave.  |                             | 0.650                              | Self Cont.     | <b>QK292</b>  |
| <b>QK293</b>  |   | 37,100-42,600        | Mech.-Cap.     | 5                       |      | -50 to -200                    | 2500                  | -20 to -200                           |  |                             | 0.650                              | Self Cont.     | <b>QK293</b>  |
| <b>QK294</b>  |   | 41,700-50,000        | Mech.-Cap.     | 5                       |      | -50 to -200                    | 3000                  | -20 to -200                           |  |                             | 0.650                              | Self Cont.     | <b>QK294</b>  |
| <b>QK295</b>  | Two tubes necessary to cover 50,000 to 60,000 Mc. |                      | Mech. Cap.     | To be specified         |      | -50 to -200                    | 3500                  | -20 to -200                           |  |                             | 0.650                              | Self Cont.     | <b>QK295</b>  |
| <b>QK306</b>  | 18,000-22,000                                     | 18,000-22,000        | Mech.-Cap.     | 40                      | 10   | -80 to -220                    | 1800                  | -20 to -100                           | 40 ave.  | 0 to -1.0                   | 0.650                              | Self Cont.     | <b>QK306</b>  |
| <b>RK726C</b> | 2700-2960   | 2800                 | Mech.-Cap.     | 100                     | 85   | -75 to -135                    | 300                   |                                       | 25 min.  | -0.1 to +.05                | 0.440                              | Self Cont.     | <b>RK726C</b> |
| <b>RK5721</b> | 3500-12,000                                       | 4290-8340            | Mech.-Ind.     | 125                     | 100  | -60 to -625                    | 1000                  | +4 to +18                             | 12 min.  | ±.025                       | 0.580                              | External       | <b>RK5721</b> |
| <b>RK5976</b> | 6250-7460   | 6750                 | Mech.-Cap.     | 110                     | 85   | -78 to -158                    | 300                   |                                       | 32 min.  | 0 to -0.2                   | 0.440                              | Self Cont.     | <b>RK5976</b> |
| <b>RK5981</b> | 1245-1460   | 1245-1460            | Mech.-Cap.     | 100                     | 40   | -30 to -330                    | 225                   |                                       | 2.5 min.                                       | ±0.05                       | 0.455                              | Self Cont.     | <b>RK5981</b> |
| <b>RK6043</b> | 2950-3275   | 3200                 | Mech.-Ind.     | 175                     | 150  | -100 to -175                   | 300                   | 300                                   | 20   | ±0.15                       | 0.650                              | Self Cont.     | <b>RK6043</b> |
| <b>RK6115</b> | 5100-5900   | 5500                 | Mech.-Cap.     | 100                     | 70   | -115 to -175                   | 300                   |                                       | 30 min.  | -0.1 to +.05                | 0.440                              | Self Cont.     | <b>RK6115</b> |

## TR TUBES

| TYPE        | DESCRIPTION | CAVITY   | FREQUENCY RANGE Megacycles | IGNITOR CURRENT $\mu$ dc | MAX. PEAK DISSIPATION Watts | MAX. AVE. DISSIPATION Watts | RECOVERY TIME     | TYPE        |
|-------------|-------------|----------|----------------------------|--------------------------|-----------------------------|-----------------------------|-------------------|-------------|
| <b>721B</b> | Tunable     | External | 2800-3330                  | 60-110                   | 100                         | 1                           | 7 $\mu$ sec. max. | <b>721B</b> |



# CAVITY MAGNETRON TUBES



| TYPE    | HEATER |      | CLASS                  | BAND or RANGE<br>Mc. | Anode<br>Kv | MAXIMUM RATINGS |               | Input<br>Watts | Anode<br>Kv | Anode<br>Amps | TYPICAL OPERATION |               | P.P.S. | Pk.P.O.<br>Kw | TYPE    |
|---------|--------|------|------------------------|----------------------|-------------|-----------------|---------------|----------------|-------------|---------------|-------------------|---------------|--------|---------------|---------|
|         | Volts  | Amps |                        |                      |             | Anode<br>Amps   | Duty<br>Cycle |                |             |               | Field<br>Gauss    | Pulse<br>µsec |        |               |         |
| RK2J23  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 3071—3100            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 2400              | 1.0           | 1000   | 275           | RK2J23  |
| RK2J24  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 3047—3071            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 2400              | 1.0           | 1000   | 275           | RK2J24  |
| RK2J25  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 3019—3047            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 2400              | 1.0           | 1000   | 275           | RK2J25  |
| RK2J26  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2992—3019            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 2400              | 1.0           | 1000   | 275           | RK2J26  |
| RK2J27  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2965—2992            | 22.0        | 30.0            | .012          | 600            | 20.0        | 30.0          | 2400              | 1.0           | 1000   | 275           | RK2J27  |
| RK2J28  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2939—2965            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 2400              | 1.0           | 1000   | 275           | RK2J28  |
| RK2J29  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2914—2939            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 2400              | 1.0           | 1000   | 275           | RK2J29  |
| RK2J30  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2860—2900            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 1900              | 1.0           | 1000   | 285           | RK2J30  |
| RK2J31  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2820—2860            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 1900              | 1.0           | 1000   | 285           | RK2J31  |
| RK2J32  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2780—2820            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 1900              | 1.0           | 1000   | 285           | RK2J32  |
| RK2J33  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2740—2780            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 1900              | 1.0           | 1000   | 285           | RK2J33  |
| RK2J34  | 6.3    | 1.5  | Fixed Frequency—Pulsed | 2700—2740            | 22.0        | 30.0            | .002          | 600            | 20.0        | 30.0          | 1900              | 1.0           | 1000   | 285           | RK2J34  |
| RK2J42  | 6.3    | 0.48 | Fixed Frequency—Pulsed | 9345—9405            | 6           | 5.5             | .0025         | 82.5           | 5.5         | 4.5           | Pkg.              | 1             | 2000   | 7             | RK2J42  |
| RK2J51  | 6.3    | 1.1  | Tunable—Pulsed         | 8500—9600            | 16          | 16              | .0012         | 230            | 15          | 14            | Pkg.              | 1             | 1000   | 45            | RK2J51  |
| RK2J55  | 6.3    | 1.0  | Fixed Frequency—Pulsed | 9345—9405            | 16.0        | 16.0            | .001          | 180            | 12.8        | 12.0          | Pkg.              | 1.0           | 1000   | 50.0          | RK2J55  |
| RK2J56  | 6.3    | 1.0  | Fixed Frequency—Pulsed | 9215—9275            | 16.0        | 16.0            | .001          | 180            | 12.8        | 12.0          | Pkg.              | 1.0           | 1000   | 50.0          | RK2J56  |
| RK2J61A | 6.3    | 1.5  | Tunable—Pulsed         | 3000—3100            | 15.0        | 15.0            | .002          | 250            | 10.7        | 12.5          | 1300              | 1.0           | 2000   | 35.0          | RK2J61A |
| RK2J62A | 6.3    | 1.5  | Tunable—Pulsed         | 2914—3010            | 15.0        | 15.0            | .002          | 250            | 10.2        | 12.5          | 1300              | 1.0           | 2000   | 35.0          | RK2J62A |
| RK2J66  | 6.3    | 1.5  | Tunable—Pulsed         | 2845—2905            | 20.0        | 25.0            | .001          | 400            | 18.0        | 25.0          | 1700              | 1.0           | 1000   | 150           | RK2J66  |
| RK2J67  | 6.3    | 1.5  | Tunable—Pulsed         | 2795—2855            | 20.0        | 25.0            | .001          | 400            | 18.0        | 25.0          | 1700              | 1.0           | 1000   | 150           | RK2J67  |
| RK2J68  | 6.3    | 1.5  | Tunable—Pulsed         | 2745—2805            | 20.0        | 25.0            | .001          | 400            | 18.0        | 25.0          | 1700              | 1.0           | 1000   | 150           | RK2J68  |
| RK2J69  | 6.3    | 1.5  | Tunable—Pulsed         | 2695—2755            | 20.0        | 25.0            | .001          | 400            | 18.0        | 25.0          | 1700              | 1.0           | 1000   | 150           | RK2J69  |
| RK2J70  | 6.3    | 1.25 | Fixed Frequency—Pulsed | 3030—3110            | 7.5         | 15.0            | .002          | 200            | 7.0         | 8.0           | Pkg.              | 0.5           | 1000   | 20            | RK2J70  |
| RK2J71  | 6.3    | 1.25 | Fixed Frequency—Pulsed | 3190—3201            | 5.5         | 8.0             | .002          | 100            | 5.0         | 5.0           | Pkg.              | 1.0           | 2000   | 6             | RK2J71  |
| RK4J31  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 2860—2900            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2700              | 1.0           | 400    | 900           | RK4J31  |
| RK4J32  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 2820—2860            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2700              | 1.0           | 400    | 900           | RK4J32  |
| RK4J3   | 16.0   | 3.1  | Fixed Frequency—Pulsed | 2780—2820            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2700              | 1.0           | 400    | 900           | RK4J33  |
| RK4J34  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 2740—2780            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2700              | 1.0           | 400    | 900           | RK4J34  |
| RK4J35  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 2700—2740            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2700              | 1.0           | 400    | 900           | RK4J35  |
| RK4J36  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 3650—3700            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2500              | 1.0           | 400    | 750           | RK4J36  |
| RK4J37  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 3600—3650            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2500              | 1.0           | 400    | 750           | RK4J37  |
| RK4J38  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 3550—3600            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2500              | 1.0           | 400    | 750           | RK4J38  |
| RK4J39  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 3500—3550            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2500              | 1.0           | 400    | 750           | RK4J39  |
| RK4J40  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 3450—3500            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2500              | 1.0           | 400    | 750           | RK4J40  |
| RK4J41  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 3400—3450            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2500              | 1.0           | 400    | 750           | RK4J41  |
| RK4J43  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 2992—3019            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2700              | 1.0           | 400    | 900           | RK4J43  |
| RK4J44  | 16.0   | 3.1  | Fixed Frequency—Pulsed | 2965—2992            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0          | 2700              | 1.0           | 400    | 900           | RK4J44  |
| RK4J54  | 12.6   | 3.75 | Fixed Frequency—Pulsed | 6875—6775            | 25.0        | 35.0            | .001          | 650            | 17.5        | 30.0          | Pkg.              | 1.0           | 1000   | 200           | RK4J54  |
| RK4J55  | 12.6   | 3.75 | Fixed Frequency—Pulsed | 6775—6675            | 25.0        | 35.0            | .001          | 650            | 17.5        | 30.0          | Pkg.              | 1.0           | 1000   | 200           | RK4J55  |
| RK4J56  | 12.6   | 3.75 | Fixed Frequency—Pulsed | 6675—6575            | 25.0        | 35.0            | .001          | 650            | 17.5        | 30.0          | Pkg.              | 1.0           | 1000   | 200           | RK4J56  |

See page 3 for reference notes — See pages 18 and 19 for basing diagrams and terminal connections.  
This data is compiled as a Raytheon service to the Field, it is not intended to indicate type availability.



## CAVITY MAGNETRON TUBES

| TYPE          | HEATER |      | CLASS                  | BAND or RANGE<br>Mc. | Anode<br>Kv | MAXIMUM RATINGS |               | Input<br>Watts | Anode<br>Kv | Anode<br>Amps. | TYPICAL OPERATION |               | P.P.S. | Pk.P.O.<br>Kw | TYPE          |
|---------------|--------|------|------------------------|----------------------|-------------|-----------------|---------------|----------------|-------------|----------------|-------------------|---------------|--------|---------------|---------------|
|               | Volts  | Amps |                        |                      |             | Anode<br>Amps   | Duty<br>Cycle |                |             |                | Field<br>Gauss    | Pulse<br>μsec |        |               |               |
| <b>RK4J57</b> | 12.6   | 3.75 | Fixed Frequency—Pulsed | 6575—6475            | 25.0        | 35.0            | .001          | 650            | 17.5        | 30.0           | Pkg.              | 1.0           | 1000   | 200           | <b>RK4J57</b> |
| <b>RK4J58</b> | 12.6   | 3.75 | Fixed Frequency—Pulsed | 6475—6375            | 25.0        | 35.0            | .001          | 650            | 17.5        | 30.0           | Pkg.              | 1.0           | 1000   | 200           | <b>RK4J58</b> |
| <b>RK4J59</b> | 12.6   | 3.75 | Fixed Frequency—Pulsed | 6375—6275            | 25.0        | 35.0            | .001          | 650            | 17.5        | 30.0           | Pkg.              | 1.0           | 1000   | 200           | <b>RK4J59</b> |
| <b>RK5J26</b> | 23.5   | 2.2  | Tunable—Pulsed         | 1220—1350            | 31.0        | 60.0            | .002          | 1800           | 27.5        | 46             | 1400              | 4             | 225    | 400           | <b>RK5J26</b> |
| <b>QK174C</b> | 4.0    | 3.1  | Tunable—CW-FM          | 1990—2110            | 2.2         | 0.18            | —             | 198            | 1.85        | 0.15           | Pkg.              | —             | —      | 0.07          | <b>QK174C</b> |
| <b>QK312</b>  | 8.5    | 32   | Fixed Freq.—CW         | 2425—2475            | 7.0         | 2.5             | CW            | 3600           | 5.1         | 0.58           | Pkg.              | CW            | CW     | 1.5           | <b>QK312</b>  |
| <b>RK730A</b> | 6.3    | 1.1  | Fixed Frequency—Pulsed | 9345—9405            | 16          | 16              | .001          | 180            | 13          | 12             | 5400              | 1             | 1000   | 40            | <b>RK730A</b> |
| <b>RK5586</b> | 16.0   | 3.1  | Tunable—Pulsed         | 2700—2900            | 30.0        | 70.0            | .001          | 1200           | 28.0        | 70.0           | 2700              | 1             | 400    | 900           | <b>RK5586</b> |
| <b>RK5609</b> | 6.3    | 3.8  | Fixed Freq.—CW         | 2425—2475            | 1.7         | 0.15            | CW            | 200            | 1.5         | 0.125          | Pkg.              |               |        | 0.125         | <b>RK5609</b> |
| <b>RK5657</b> | 16     | 3.4  | Tunable—Pulsed         | 2900—3100            | 32.5        | 70              | .001          | 1300           | 32.5        | 70             | 2700              | 1             | 500    | 800           | <b>RK5657</b> |
| <b>RK5982</b> | 6.3    | 3.2  | Fixed Frequency—Pulsed | 9335—9415            | 15.5        | 14.5            | .001          | 225            | 15.5        | 13.4           | Pkg.              | 4.5           | 200    | 75.5          | <b>RK5982</b> |



Subminiature types viewed with Red Dot on right hand side; other types viewed from bottom of base.

