



## ELECTRONIC TUBE REFERENCE

# 8501

Power - Beam (NOT sweep) (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL  
DATA

**1 SECTION**  
CONSTRUCTION  
**BEAMPOWER**

Forced-air-cooled Cermolox beam-power tube for UHF television and high-power RF service, capable of approximately 5.5 kW output near 890 MHz.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | —             |
| NOMINAL HEATER      | 4.5 V / 125 A     | PARALLEL HEATER      | — / —         |
| HEATING             | Direct            | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

| SECTION1 Beam Power                                         |         |
|-------------------------------------------------------------|---------|
| AMPLIFICATION FACTOR                                        | 16      |
| MAXIMUM PLATE VOLTAGE                                       | 7000 V  |
| MAXIMUM SCREEN VOLTAGE                                      | 1500 V  |
| MAXIMUM PLATE DISSIPATION                                   | 10000 W |
| MAXIMUM SCREEN DISSIPATION                                  | 150 W   |
| MAXIMUM GRID DISSIPATION                                    | 100 W   |
| MAXIMUM CATHODE CURRENT                                     | 4 A     |
| <i>Published screen-to-control-grid mu factor promoted.</i> |         |

Forced-air-cooled Cermolox beam-power tube for UHF television and high-power RF service, rated for about 5.5 kW RF output at 890 MHz.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1964 RMA EIA

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1964 RMA EIA

## Section 1 · Beam Power

| OTHER                             |                 |                                         |
|-----------------------------------|-----------------|-----------------------------------------|
| PARAMETER                         | PUBLISHED VALUE | CONDITION / NOTE                        |
| Filament voltage maximum          | 5 V             | —                                       |
| Filament starting current maximum | 300 A           | —                                       |
| Plate voltage maximum             | 7000 V          | CCS                                     |
| Screen-grid voltage maximum       | 1500 V          | CCS                                     |
| Plate current maximum             | 4 A             | CCS                                     |
| Plate dissipation maximum         | 10000 W         | CCS                                     |
| Screen-grid input maximum         | 150 W           | CCS                                     |
| Control-grid input maximum        | 100 W           | CCS                                     |
| Plate voltage                     | 5700 V          | ClassB;Television;CathodeDrive;f=890MHz |
| Screen-grid voltage               | 1000 V          | ClassB;Television;CathodeDrive;f=890MHz |
| Control-grid voltage              | -40 V           | ClassB;Television;CathodeDrive;f=890MHz |
| RF output power                   | 5500 W          | f=890MHz                                |

| CHARACTERISTICS                  |                 |                         |
|----------------------------------|-----------------|-------------------------|
| PARAMETER                        | PUBLISHED VALUE | CONDITION / NOTE        |
| Minimum heating time             | 15 s            | —                       |
| Grid No.2 to grid No.1 mu factor | 16 ratio        | Va=1200V;Vg2=900V;Ia=8A |

| CAPACITANCE                            |                 |                  |
|----------------------------------------|-----------------|------------------|
| PARAMETER                              | PUBLISHED VALUE | CONDITION / NOTE |
| Grid No.1 to plate capacitance maximum | 0.32 pF         | —                |
| Grid No.1 to filament capacitance      | 65 pF           | —                |

| PARAMETER                             | PUBLISHED VALUE | CONDITION / NOTE |
|---------------------------------------|-----------------|------------------|
| Plate to filament capacitance maximum | 0.04 pF         | —                |
| Grid No.1 to grid No.2 capacitance    | 70 pF           | —                |
| Grid No.2 to plate capacitance        | 13 pF           | —                |



SOURCE DATA APPENDIX

## SOURCE OPERATING CONDITIONS

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# 1971 RCA HB3 Binder 6 of 7

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 RCA HB3 BINDER 6 OF 7

## Section 1 · Beam Power

| OTHER                   |                 |                  |
|-------------------------|-----------------|------------------|
| PARAMETER               | PUBLISHED VALUE | CONDITION / NOTE |
| Heater/filament voltage | 4.5 V           | —                |
| Heater/filament current | 125 A           | —                |
| Minimum heating time    | 15 s            | —                |
| Maximum plate voltage   | 7000 V          | —                |
| Maximum screen voltage  | 1500 V          | —                |
| Maximum plate current   | 4 A             | —                |
| Plate dissipation       | 10000 W         | —                |
| Typical plate voltage   | 5700 V          | ClassBTV;890MHz  |
| Typical screen voltage  | 1000 V          | ClassBTV;890MHz  |
| Useful power output     | 5500 W          | 890MHz           |

| CHARACTERISTIC                   |                 |                                      |
|----------------------------------|-----------------|--------------------------------------|
| PARAMETER                        | PUBLISHED VALUE | CONDITION / NOTE                     |
| Grid No.2 to grid No.1 mu factor | 16              | Plate1200V;Screen900V;PlateCurrent8A |

| CAPACITANCE                       |                 |                  |
|-----------------------------------|-----------------|------------------|
| PARAMETER                         | PUBLISHED VALUE | CONDITION / NOTE |
| Grid No.1-to-plate capacitance    | 0.32 pF         | Maximum          |
| Grid No.1-to-filament capacitance | 65 pF           | —                |
| Grid No.2-to-plate capacitance    | 13 pF           | —                |