



ELECTRONIC TUBE REFERENCE

905

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

CATHODERAY

Early electrostatic cathode-ray oscillograph tube intended for observation or recording of electrical phenomena, with manufacturer-defined focusing, deflection, and fluorescent-screen characteristics for type 905.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	— / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Cathode Ray

No fixed ratings recorded.

Source-derived section; identical dual beam-power sections compressed where applicable.

RCA-905 is a high—vacuum cathode-ray tube with TYPICAL OPERATION: Anode No.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1940 RCA

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

1940 RCA

Section 1 · Cathode Ray

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
L RMA release #	399 mA	L RMA release # 399,
Anode No	2000 V	Anode No.2 Voltage 1500 2000 volts
a fluorescent viewing screen five inches in dia— Anode	0.1 in	a fluorescent viewing screen five inches in dia— Anode 0.1 voltage for Focus
meter. This tube, designed for oscillographic at	75 V	meter. This tube, designed for oscillographic at 75% of Grid Voltage for
Cut	338 V	Cut-Off # 338 uso0 volts
trostatic electrodes for deflection of the elec— off ##	35 V	trostatic electrodes for deflection of the elec— off ## -26 ~35 volts
tron beam. The	0.221 V	tron beam. The 905 produces a brilliant lumin-DJy and DJ 0.295 0.221 mm/volt d.c.
ous spot having a greenish hue, and is suitable DJg and DJdy	0.262 V	ous spot having a greenish hue, and is suitable DJg and DJdy 0.3u9 0.262 mm/volt d.c.
for the observation and photography of recurrent DJy and DJp	115 V	for the observation and photography of recurrent DJy and DJp 86.2 115 volts d.c./in.
and transient phenomena,. DJ3 and DJy	97 V	and transient phenomena,. DJ3 and DJy 72.7 97 volts d.c./in.
and two anodes constitute an electron gun which less than	1500 V	and two anodes constitute an electron gun which less than 1500 volts.
HEATER VOLTAGE (A.C or D.c.)	5 V	HEATER VOLTAGE (A.C or D.c.) 2 .5 volts
Electrodes DJ3 and DJy lower): nearest to base The heater is designed to operate at	2.5 V	Electrodes DJ3 and DJy lower): nearest to base The heater is designed to operate at 2.5 volts.
Electrodes	9 pF	Electrodes 9.0 upf

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
deflecting Electrode DJ	2 pF	deflecting Electrode DJ 2.0 uuf equately insulated to withstand the high voltage.
deflecting Electrode DJj	1 pF	deflecting Electrode DJj 1.0 ppf The cathode is connected within the tube to
ANODE No	2 V	ANODE No.2 (High-voltage Electrode) vacuum-tube rectifier. Since a cathode-ray tube
VOLTAGE	2200 V	VOLTAGE 2200 max. Volts
VOLTAGE	660 V	VOLTAGE 660 max., Volts
RANGE never positive) to	-125 V	RANGE never positive) to -125 max. Volts age doubler type. Likewise, the filter require~
PEAK VOLTAGE BETWEEN ANODE No	2 V	PEAK VOLTAGE BETWEEN ANODE No.2
and ANY DEFLECTING ELECTRODE	2 V	and ANY DEFLECTING ELECTRODE 1100 max. Volts ments are simple. A 0.5 to 2 pf condenser will
GRID~CIRCUIT RES!STANCE	1.5 ohm	GRID~CIRCUIT RES!STANCE 1.5 max. Megohms ordinarily provide sufficient filtering. If this
THESE CURVES ARE GENERAL FOR CATHODE-RAY TYPES] electrodes for typical anode No	2 V	: THESE CURVES ARE GENERAL FOR CATHODE-RAY TYPES] electrodes for typical anode No.2 voltages is
3 0.20 recommended that the positive high-voltage ter-	0.2 V	3 0.20 recommended that the positive high-voltage ter-
4 - respect to ground, +ihe dangerous voltages can	4 V	4 - respect to ground, +ihe dangerous voltages can
HIGH-VOLTAGE ELECTRODE (ANODE N2	20 V	HIGH-VOLTAGE ELECTRODE (ANODE N22) KILOVOLTS 3 o020 of
zero axis should be permanently deflected, it is HIGH -VOLTAGE ELECTRODE (ANODE Ne	2 V	zero axis should be permanently deflected, it is HIGH -VOLTAGE ELECTRODE (ANODE Ne 2) MICROAMP,
C, = FILTER CONDENSER	0.125 ohm	C, = FILTER CONDENSER 0.5 TO 2 uf R, - 0.125 MEGOHM
R, - 0.45 MEGOHM Rg — SEE TEXT, PAGE 2 ~ 100	100 ohm	R, - 0.45 MEGOHM Rg — SEE TEXT, PAGE 2 ~ 100
Ry - 0.10 MEGOHM V — VOLTMETER =80	80 ohm	Ry - 0.10 MEGOHM V — VOLTMETER =80
densers C,C3C)Cq should have a high voltage rating. =	40 V	densers C,C3C)Cq should have a high voltage rating. =40
be low-voltage condensers	4 V	be low-voltage condensers. 4

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
is usually adequate. A variable d-c voltage for	5 V	is usually adequate. A variable d-c voltage for 5 N
TIME - SECONDS	5380 s	TIME - SECONDS 92C-5380
ratio of anode No	2 V	ratio of anode No.2 voltage to anode No.1 volt—screen if the spot is allowed to remain station-
ment of anode No.1 voltage. mended that +the beam be kept	1 V	ment of anode No.1 voltage. mended that +the beam be kept 1in motion by the
accomplished by varying anode No	2 V	accomplished by varying anode No.2 current and/ by adjustment of the control-electrode voltage.
or voltage. The current to anode No	2 V	or voltage. The current to anode No.2 may be The spot may also be prevented from burning the
increase d by decreasing the bias voltage applied screen by removal of the voltage from anode No	2 V	increase d by decreasing the bias voltage applied screen by removal of the voltage from anode No.2.
HEf=	4 V	HEf=2.5 VOLTS 4 SMALL .
I1 ANODE N2! .VOLTS ADJUSTED TO GIVE FOCUS] Ne	3 V	I1 ANODE N2! .VOLTS ADJUSTED TO GIVE FOCUS] Ne 3907 DJ3 +3y ,

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
€3 C3 € Cg — SEE NOTE BELOW R2 - 0.025 MEGOHM PERSISTENCE CHARACTERIST	0.025 ohm	€3 C3 € Cg — SEE NOTE BELOW R2 - 0.025 MEGOHM PERSISTENCE CHARACTERISTIC