

Nineteen-inch black-and-white Pan-O-Ply television picture tube with integral implosion protection, low-voltage electrostatic focus, 114-degree magnetic deflection, and an aluminized P4 screen. The design eliminates a separate safety-glass window and improves picture contrast.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Cathode Ray	
MAXIMUM PLATE VOLTAGE	23000 V
MAXIMUM SCREEN VOLTAGE	550 V
Cathode-drive P4 picture tube with adjustable centering magnet.	

RCA-19DQP4 is a black-and-white pan-o-ply picture tube which eliminates the need for either an integral protective window or a separate safety-glass window and its companion dust seal in the receiver. Thereby internal reflections are reduced; consequently, picture contrast is improved. Integral implosion protection in the pan-o-ply picture tube is provided by means of a formed rim band and a welded tension band around the periphery of the tube panel. The 19DQP4 is a rectangular glass picture tube having an aluminized screen with nearly straight sides and slightly rounded corners. Features of the 19DQP4 include: ® Pan-O-Ply—Integral Implosion Protection i 14° Magnetic Deflection Low-Voltage Electrostatic Focus Aluminized Screen Electron Gun Requiring No Ion-Trap Magnet t1.625" Max. Overall Length 4.125" Neck Length 12.000" x 15.187" Screen 6.3 Volt/4s50 Ma Heater ® 23 kv Max. Anode V

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
i	14	i 14° Magnetic Deflection
6.3 Volt/4s50 Ma Heater	0 V	6.3 Volt/4s50 Ma Heater
®	23	® 23 kv Max. Anode Voltage
Focusing Method. ,Electrostatic Diagonal	100	Focusing Method. ,Electrostatic Diagonal. 18732" & .100°
Horizontal	17.562	Horizontal. . . . - 109° Diagonal. 17.562"
Vertical, . o B5° Greatest width. . ,	15.187	Vertical, . o B5° Greatest width. . , ... 15.187"
Cathode to all other electrodes	172 pF	Cathode to all other electrodes . 5 pf Area. 172 L.
GridNo.1 te all other electrodes	1 pF	GridNo.1 te all other electrodes . 6 pf CBulbDDe'..signaT'ion. A -R- - d s .1.1'] (1_,'49'[;1
1 1500 max. pf aP esignation ma No.J1.21	21 pF	1 1500 max. pf aP esignation ma No.J1.21
Heater Current at	2085 V	Heater Current at 6.3 volts 450 % 20 ma Arrangement 1, (JEDEC ND-B7'2085
in the test circuit shown in Fig.] for the voltage (E) Pin	1	in the test circuit shown in Fig.] for the voltage (E) Pin 1: Heater
0.8 of rated heater voltage. Pin 3: erld N012	3	0.8 of rated heater voltage. Pin 3: erld N012
Anode Voltage J2	3000 V	Anode Voltage J23,000 max. volts conditions.
11,000 min. volts C Measured between the heater terminals.	11000 V	11,000 min. volts C Measured between the heater terminals.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No	9	Grid-No.4 Voltage: 9 Cathode drive is the operating condition in which
Negative value,	550 V	Negative value, ... 550 max. volts respect to grid No.1 and the other electrodes.
. 550 max. volts The grid-No.4 voltage required for optimum focus	4 V	. 550 max. volts The grid-No.4 voltage required for optimum focus
Grid-No	200 V	Grid-No.2 Voltage 200 max volts of any individual tube will have a value anywhere
min. between	400 V	. min. between 0 and +400 volts with the combined grid-No.1
Negative peak value	2 V	Negative peak value 220 max. volts anode current of 200 microamperes on a 13-1/2-inch
Negative bias value	1 V	Negative bias value 155 max. volts by 18-inch pattern from an KCA-2F21 monoscope, or
Positive bias value	0 V	Positive bias value . 0 max. volts f ;f''''ale";' Ref ot ble P]
Positive peak value	4 V	Positive peak value 2 max volts magnet should not exceed 2-1/4 inches, The specifieg
Heater Voltage	6.9 V	Heater Voltage 6.9 max volts centering magnet compensates only for the effect
5.7 min. volts which mechanical tube tolerances may have on the	5.7 V	5.7 min. volts which mechanical tube tolerances may have on the
15 seconds. 450 max. volts 16000 volts	16000 V	15 seconds. 450 max. volts 16000 volts
perioj, e e e	300 V	perioj, e e e 300 max. volts The equipment manufacturer must determine and supply
Combined AC & DC Voltage	200 V	Combined AC & DC Voltage. . . 200 max. volts sation should preferably be applied as part of the
DC Component.,	100 V	DC Component., ... 100 max. volts magnetic field of the deflecting yoke.
Anode Voltage f(,	0 V	Anode Voltage f(, 000 volts X-Radiation Warning., When operated at anode
Grid-No	16 V	Grid-No. 4 Vilt;g;e. T 900 volts voltages up to 16 kilovolts, this picture tube

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical anode/ultor voltage	16000 V	PictureTubeService
Maximum grid No.2 voltage	550 V	—
Typical grid No.2 voltage	300 V	PictureTubeService
Focus-voltage range minimum	0 V	OptimumFocus
Focus-voltage range maximum	400 V	OptimumFocus
Visual-extinction voltage range minimum	28 V	FocusedRasterExtinction
Visual-extinction voltage range maximum	62 V	FocusedRasterExtinction
Maximum grid No.1 circuit resistance	1.5 megohm	—
X-ray shielding warning	Present	HighAnodeVoltage
Maximum negative grid No.1 peak voltage	220 V	—
Maximum negative grid No.1 bias magnitude	155 V	—
Maximum positive grid No.1 peak voltage	2 V	—
Peak heater-cathode voltage during warm-up	450 V	HeaterNegative;Warmup<=15s
Peak heater-cathode voltage after warm-up	300 V	HeaterNegative
Peak heater-cathode voltage heater positive	200 V	HeaterPositive
Adjustable centering magnet field strength maximum	8 gauss	Approximate

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Focusing method	LowVoltageElectrostatic	—
Deflection method	Magnetic	—
Phosphor	P4	—
Screen type	White	P4

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Deflection angle	114 deg	Approximate

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode to all other electrodes capacitance	5 pF	Approximate

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