LE CATHOSCOPE FRANÇAIS

50, Rue J.-P. Timbaud - COURBEVOIE - FRANCE

1st Sept. 1960

21 FC P4

Cathode Ray Tube

Electrostatic focus	19.1/16" x 15.1/16" screen
Magnetic deflection	13.1/2" length
110 degree deflection angle	aluminized screen

GENERAL DESCRIPTION

The 21 FC P4 is an electrostatic focus and magnetic deflection, direct viewing picture tube. Features of this tube include a short overall length, a small neck diameter, an aluminized screen and a non-ion trap gun.

Heater, for unipotential cathode

Heater voltage (a.c. or d.c.)	6.3 volts
Heater current	0.3 amp. ± 5 %
Warm-up time (average)	11 seconds (*)

Direct interelectrode capacitances

Grid n°1 to all other electrodes	6 uuF
Cathode to all other electrodes	5 uuF
External conductive coating to anode	
maximum	2 500 uuF
minimum	2 000 uuF

Phosphor P4 sulfide type

Fluorescence	white
Phosphorescence	white
Persistence	short

Focusing method : electrostatic
Deflecting method : magnetic

Deflection angle (approx.)

diagonal	110°
horizontal	105°
vertical	87°

Electron gun : type requiring no ion trap magnet.

Tube dimensions

Overall length	13.1/2" ± 5/16"
Greatest width	20.1/4" ± 1/8"
Greatest height	16.3/8" ± 1/8"
Diagonal	21.3/8" ± 1/8"
Neck length	4.1/4" ± 1/8"

Screen dimensions (minimum)

Greatest width	19.1/16"
Greatest height	15.1/16"
Diagonal	20.1/4"
Projected area	262 sq. inches
Weight (approx.)	23 lbs
Bulb	J 171-G1
Cap ..... Recessed small cavity	JEDEC J1-21
Base	B7-208
Basing	8 HR

Socket connections

Pin n°1	=	Heater
Pin n°2	=	Grid n°1
Pin n°3	=	Grid n°2
Pin n°4	=	Grid n°4
Pin n°6	=	Grid n°1
Pin n°7	=	Cathode
Pin n°8	=	Heater
Cap	=	Anode

(*) The time required for the voltage across the heater to reach 80 per cent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

MAXIMUM RATINGS

Design Maximum Values

Cathode drive service

Unless otherwise specified, voltage values are positive with respect to grid n°1.

Anode to grid n°1 voltage	18 000 max. volts
	12 000 min. volts
Grid n°4 to grid n°1 voltage	
positive value	1 000 max. volts
negative value	500 max. volts
Grid n°2 to grid n°1	640 max. volts
Grid n°2 to cathode voltage	500 max. volts

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Cathode to grid n°1 voltage	
Positive peak value	200 max. volts
Positive bias value	140 max. volts
Negative bias value	0 max. volts
Negative peak value	2 max. volts
Peak heater-cathode voltage	
- Heater negative with respect to cathode :	
During warm-up period not exceeding 15 seconds	410 max. volts
After equipment warm-up period	180 max. volts
- Heater positive with respect to cathode	180 max. volts
Grid n°1 circuit resistance	1.5 max. megohms

TYPICAL OPERATING CONDITIONS

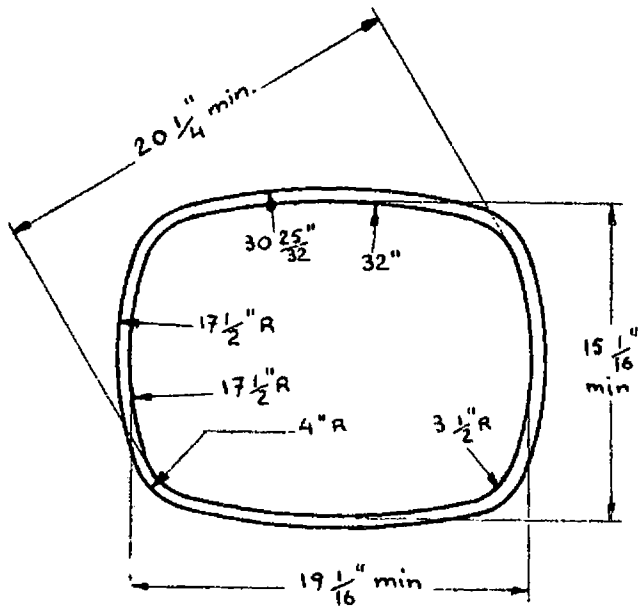
Cathode drive Service

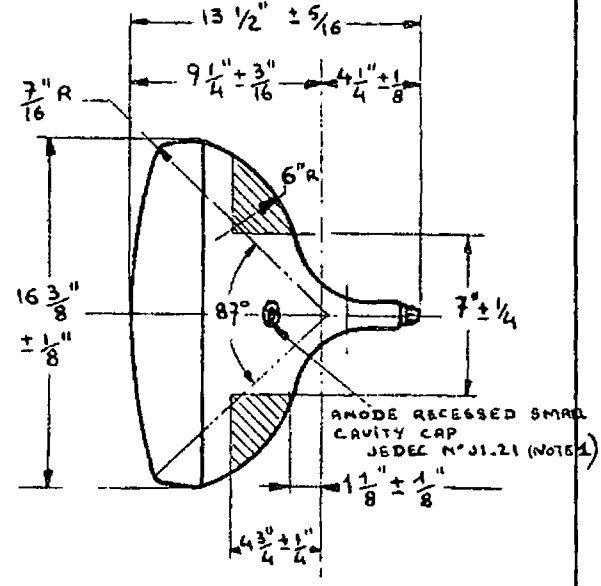
Anode to grid n°1 Voltage	16 000 volts
Grid n°2 to grid n°1 voltage	300 volts
Grid n°2 current	-15 to +15 ua
Grid n°4 to grid n°1 voltage	0 to 400 volts
Grid n°4 current	-25 to +25 ua
Cathode to grid n°1 voltage for visual extinction of focused raster	34 to 63 volts
Field strength of adjustable centering magnet	0 to 8 gausses

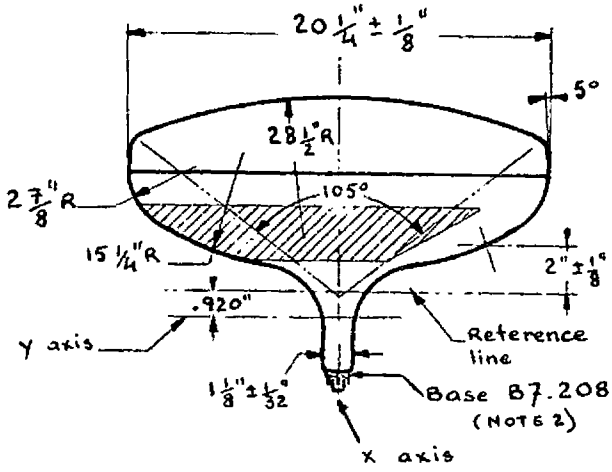
Note 1 - The plane through the tube axis and pin 4 may vary from the plane through the tube axis and anode terminal by angular tolerance (measured about the tube axis) of ± 30°. Anode terminal is on same side as pin 4.

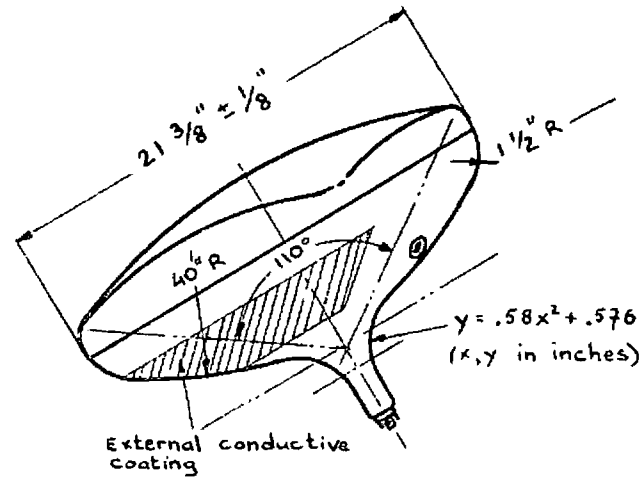
Note 2 - Socket for this base should not be rigidly mounted; it should have flexible leads and be allowed to move freely. The design of the socket should be such that the circuit wiring cannot impress lateral strains through the socket contacts on the base pins. Bottom circumference of base wafer will fall within a circle concentric with bulb axis and having a diameter of 1.3/4".

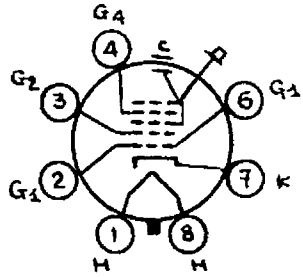
Note 3 - Width of undisturbed region between sold-match line and splice line is 3/4" minimum. This should be the maximum width of tube support band.

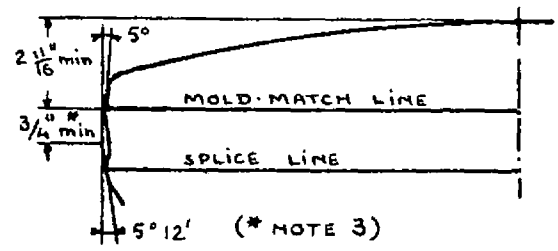












C . External conductive coating.

Cap : G3 , G5 , collector.

CODE