



# 2F21 MONOSCOPE

5-INCH MAGNETIC-DEFLECTION TYPE

*Supersedes Type 1809*

2F21

## General:

Heater, for Unipotential Cathode:

Voltage. . . . . 6.3 ± 10% . . . . . ac or dc volts

Current. . . . . 0.6 . . . . . amp

Direct Interelectrode Capacitances:

Grid No.1 to All Other Electrodes. . . . . 7 . . . . . μμf

Pattern Electrode to Grid No.4 . . . . . 5 . . . . . μμf

Pattern:

Type . . . . . See illustration on next page

Dimensions (Approx.) . . . . . 2-5/16" x 3-1/16"

Calibration. . . . . Up to 500 lines

Focusing Method. . . . . Electrostatic

Deflection Method . . . . . Magnetic

Maximum Solid Deflection Angle . . . . . 40°

Overall Length . . . . . 12-7/16" + 1/4" - 7/16"

Greatest Diameter of Bulb. . . . . 5-1/16" max.

Caps (Two) . . . . . Recessed Small Ball

Mounting Position. . . . . Any

Base . . . . . Long-Shell Medium 6-Pin

Basing Designation for BOTTOM VIEW . . . . . 6BV

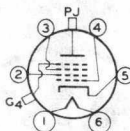
Pin 1-Heater

Pin 2-Grid No.2

Pin 3-Grid No.3

Pin 4-Grid No.1

Pin 5-Cathode



Pin 6 -Heater

End Cap -Pattern

Electrode

Side Cap-Grid No.4

## Maximum Ratings, Design-Center Values:

PATTERN-ELECTRODE VOLTAGE. . . . . 1500 max. volts

GRID-No.4 (COLLECTOR) VOLTAGE. . . . . 1500 max. volts

GRID-No.3 (FOCUSING ELECTRODE) VOLTAGE . . . . . 600 max. volts

GRID-No.2 (ACCELERATING ELECTRODE) VOLT. . . . . 1600 max. volts

GRID-No.1 (CONTROL ELECTRODE) VOLTAGE:

Negative Bias Value. . . . . 125 max. volts

Positive Bias Value. . . . . 0 max. volts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode . . . . . 125 max. volts

Heater positive with respect to cathode . . . . . 125 max. volts

## Typical Operation: †

Pattern-Electrode Voltage. . . . . 1000 . . . volts

Grid-No.4 Voltage. . . . . 1050 . . . volts

Grid-No.3 Voltage for Focus at

0.5 μamp Grid-No.4 Current▲ . . . . . 300 approx. volts

Grid-No.2 Voltage. . . . . 1000 . . . volts

Grid-No.1 Voltage for

Visual Cutoff on Monitor# . . . . . -50 approx. volts

Internal Resistance between

Grid No.4 and Pattern Electrode . . . . . Greater than 1 meg.

Grid-No.4 Current. . . . . 0.5 . . . μamp

†, ▲, #: See next page.

JUNE 20, 1946

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA

2F21



2F21

## MONOSCOPE

Pattern-Electrode Signal Current

(Peak-to-Peak)

0.5 approx.  $\mu$ ampResolution Capability<sup>▲▲</sup>

. . . . .

500 . . . lines

Maximum Circuit Value:

Grid-No.1-Circuit Resistance . . . . .

1.5 max. megohms

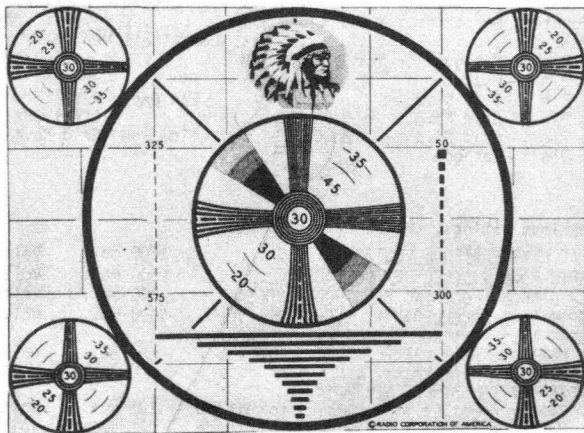
▲ Individual tubes may require between + 20% and - 20% of these values.

† Deflection must be maintained at all times. When scanned area does not cover entire pattern, the beam current should be reduced accordingly and time of operation limited to prevent damaging the pattern.

# Supply should be adjustable between + 40% and - 80% of this value.

▲▲ with full scanning.

## PATTERN



92CS-6665

JUNE 20, 1946

TUBE DIVISION

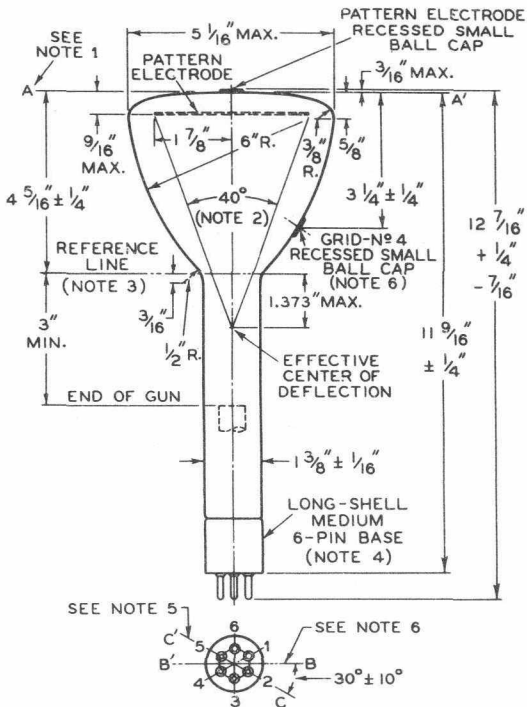
TENTATIVE DATA

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# 2F21 MONOSCOPE



BOTTOM VIEW

92CM-6653

NOTE 1: LINE AA' IS PERPENDICULAR TO THE AXIS OF THE TUBE AND INTERSECTS THE FACE CONTOUR  $\frac{1}{2}$ " FROM THE AXIS OF THE TUBE.

NOTE 2: DEFLECTION ANGLE BETWEEN DIAGONALLY OPPOSITE CORNERS OF PATTERN.

NOTE 3: REFERENCE LINE IS DETERMINED BY POSITION WHERE GAUGE  $1.438" \pm .003$  I.D. AND 2" LONG WILL REST ON BULB CONE.

NOTE 4:  $\phi$  OF BULB WILL NOT DEViate MORE THAN  $2^\circ$  IN ANY DIRECTION FROM THE PERPENDICULAR ERECTED AT THE CENTER OF THE BOTTOM OF THE BASE.

NOTE 5: MINOR AXIS OF PATTERN ELECTRODE MAY VARY FROM PLANE CC' THROUGH PIN 2 AND TUBE AXIS BY  $10^\circ$ . TOP EDGE OF PATTERN IS ON SAME SIDE OF TUBE AS PIN 5.

NOTE 6: BB' INDICATES PLANE THROUGH TUBE AXIS AND GRID-No.4 TERMINAL.

