

# CHROMA - SYNC TELETRON

## Developmental Type B1103

### Tentative Specifications

# DU MONT

#### DESCRIPTION

The Du Mont Chroma-Sync Teletron B1103 is a 19-inch, three-color picture tube employing 60° magnetic deflection and electrostatic focus and convergence. It provides for a useful picture size measuring 12-9/16" x 16-9/16", or 185 square inches stated in screen area. Its design combines large screen size with short overall length; construction simplicity with mechanical and electrical stability.

The three color phosphors are applied directly to the inside surface of the viewing screen. A domed, self-supporting and self-locating shadow mask completes the face assembly. The three-beam electron gun assembly used in the B1103 is a new Du Mont development incorporating the Du Mont Hi-R principle to achieve synchronous convergence of the three color beams with a single convergence lens.

#### GENERAL CHARACTERISTICS

##### Electrical Data

Electron guns, three	Blue, Green, Red
Focusing Method	Electrostatic
Convergence Method	Electrostatic
Deflecting Method	Magnetic
Deflection Angle, Approximate	60 Degrees

##### Direct Interelectrode Capacitances, Approximate

All cathodes (connected together externally) to all other electrodes	16.5	uuf
Grid No. 1 (of any gun) to all other electrodes (except the No. 1 Grids of the other two guns)	6.0	uuf
Focusing electrode (focusing electrode of each gun tied together within tube) to all other electrodes	8.5	uuf
Convergence electrode (common to the three guns) to all other electrodes	10.5	uuf
External conductive coating to Accelerator	3,000	max. uuf
	1,500	min. uuf

##### Optical Data

Fluorescent Color of the separate phosphors	Red	Blue	Green
Phosphorescent Color of the separate phosphors	Red	Blue	Green
Persistence	Medium	Medium	Medium

##### Screen (an envelope face panel)

Metal-backed, Tricolor Phosphor-Dot Type

Phosphor-Dot Arrangement	Approximately 438,000 triangular groups, each consisting of a blue dot, green dot, and red dot (total of 1,314,000 dots)
Size	16 9/16 x 12 7/16 inches
Area	185 sq. inches

##### Mechanical Data

Overall Length	25 ± 3/8 inches
Greatest Diameter of Bulb	19 5/16 ± 3/16 inches
Greatest Diameter of Metal Flange	20.800 inches max.
Neck Length	9 15/32 ± 1/4 inches
Bulb Contact	Metal flange
Base (small-shell bidecal 14-pin)	B14-103
Preferred Rotation	With any single gun on top

#### RATINGS (Design Center Values)

Heater Voltage	6.3 volts
Heater Current at 6.3 Volts	1.8 ± 10% amperes
Accelerator Voltage	20,000 max. volts DC
Convergence Electrode Voltage (Grid No. 4)	12,000 max. volts DC
Focusing Electrode Voltage (Grid No. 3)	5,000 max. volts DC
Grid No. 2 Voltage (each gun)	500 max. volts DC
Grid No. 1 Voltage (each gun)	
Negative Bias Value	200 max. volts DC
Positive Bias Value	0 max. volts DC
Positive Peak Value	2 max. volts



- 185 Square Inch Picture
- 25-Inch Overall Length
- Electrostatic Mono-Convergence
- 1,300,000 Color Phosphor Dots
- Domed, Self-Supporting Shadow Mask

##### Peak Heater-Cathode Voltage (each gun)

Heater negative with respect to cathode	
During equipment warm-up period not to exceed 15 seconds	410 max. volts DC
After equipment warm-up period	180 max. volts DC
Heater positive with respect to cathode	180 max. volts DC

#### TYPICAL OPERATING CONDITIONS

Accelerator Voltage	20,000 volts
Convergence Electrode Voltage (Note 1)	9,300 volts
Focusing Electrode Voltage	3,100 volts
Grid No. 2 Voltage	200 volts
Grid No. 1 Voltage for visual extinction of focused raster	-45 to -100 volts

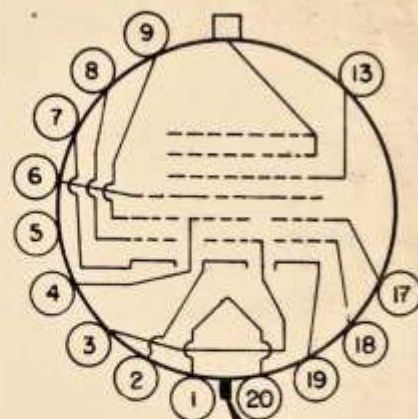
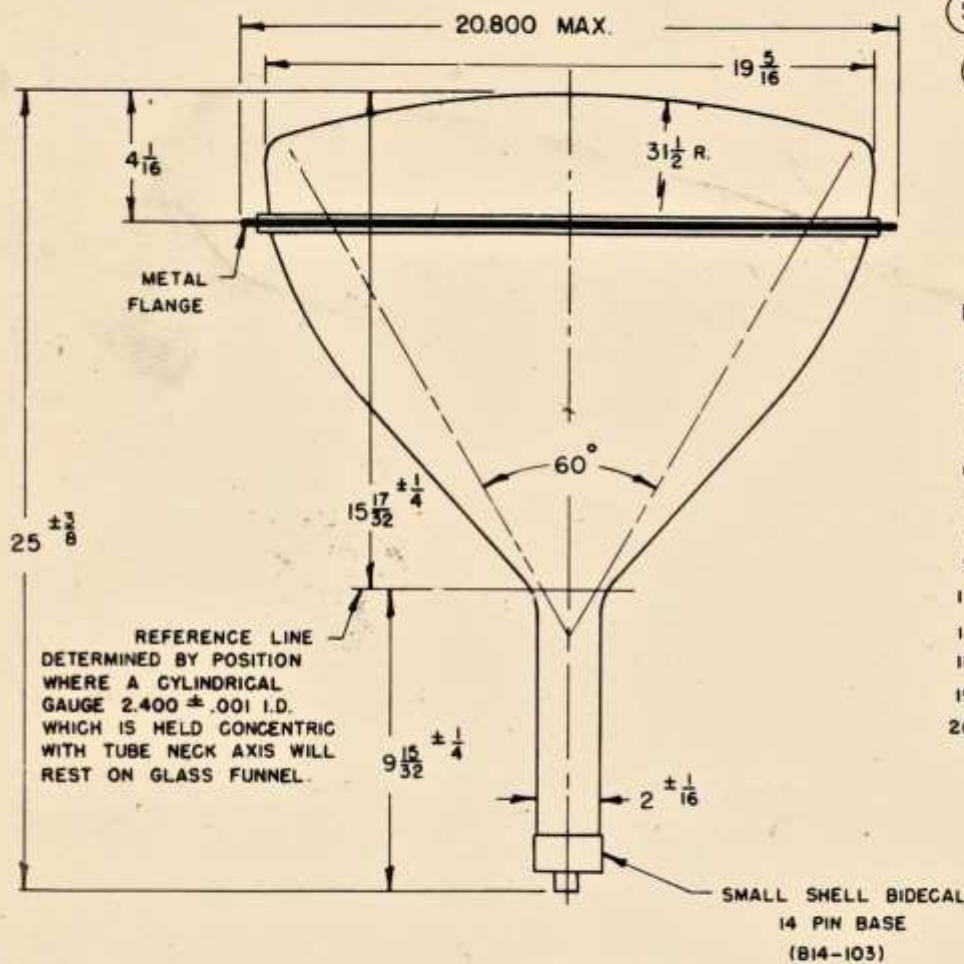
#### CIRCUIT VALUES

Grid No. 1 Circuit Resistance (each gun)	1.5 max. megohms
Dynamic Convergence Voltage, Approximate (Note 2)	1,200 volts
Dynamic Focusing Voltage, Approximate (Note 2)	400 volts

#### NOTES

1. For convergence in center of screen.
2. Peak to peak value. This ac voltage having essentially parabolic waveform is synchronized with scanning and does not include any voltage developed during the blanking time.

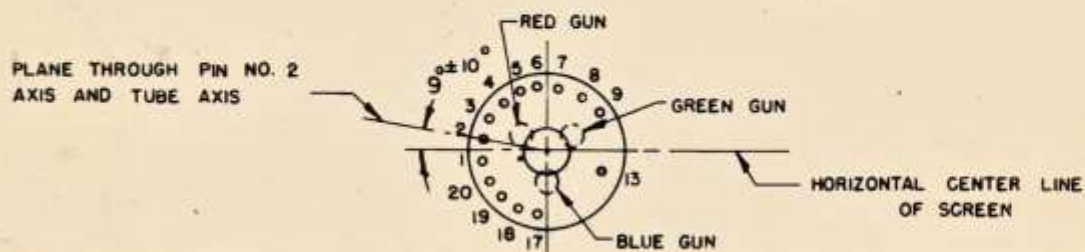
# B1103 CATHODE-RAY TUBE



KEY  
BOTTOM VIEW OF BASE

PIN NO.	ELEMENT
1	HEATER
2	CATHODE OF RED GUN
3	GRID NO. 1 OF RED GUN
4	GRID NO. 2 OF RED GUN
6	FOCUSING ELECTRODES
7	CATHODE OF GREEN GUN
8	GRID NO. 1 OF GREEN GUN
9	GRID NO. 2 OF GREEN GUN
13	CONVERGENCE ELECTRODE
17	GRID NO. 2 OF BLUE GUN
18	GRID NO. 1 OF BLUE GUN
19	CATHODE OF BLUE GUN
20	HEATER

METAL FLANGE - ACCELERATOR



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