



CATHODE-RAY TUBE

DESCRIPTION

The GL-3MP1 is an electrostatic focus and deflection type of cathode-ray tube intended for oscillograph use. The short length of this three-

inch diameter tube adapts it for use in small portable equipment.

TECHNICAL INFORMATION

These data are for reference only. For design information refer to specifications.

GENERAL

Electrical Data

Heater voltage	6.3 volts
Heater current	0.6 $\pm$ 10% amperes
Focusing method—Electrostatic	
Deflecting method—Electrostatic	
Phosphor—P1	
Fluorescence—Green	
Persistence—Medium	
Direct interelectrode capacitances, approximate	
Cathode to all other electrodes	2.2 uuf
Grid No. 1 to all other electrodes	10.3 uuf
D1 to D2	1.3 uuf
D3 to D4	1.2 uuf
D1 to all other electrodes except D2	4.4 uuf


Electronic
 TUBE

GENERAL  ELECTRIC

TECHNICAL INFORMATION (CONT'D)

D2 to all other electrodes except D1	5.6	uuf
D3 to all other electrodes except D4	5.0	uuf
D4 to all other electrodes except D3	4.5	uuf

Mechanical Data

Over-all length	$8 \pm \frac{1}{4}$	inches
Greatest diameter of bulb	$3 \pm \frac{1}{16}$	inches
Minimum useful screen diameter	$2 \frac{3}{4}$	inches
Base, small-shell duodecal—12 pin		
Basing, 12F		
Base alignment		
D1-D2 trace aligns with pin No. 4 and tube axis	± 10	degrees
Positive voltage on D1 deflects beam approx toward pin No. 4		
Positive voltage on D3 deflects beam approx toward pin No. 1		

MAXIMUM RATINGS Design Center Values

Anode No. 1 voltage	1000 max	volts d-c
Anode No. 2 voltage	2500 max	volts d-c
Grid No. 1 voltage		
Negative-bias value	200 max	volts d-c
Positive-bias value	2 max	volts d-c
Peak heater cathode voltage*		
Heater negative with respect to cathode		
During equipment warm-up period not exceeding 15 seconds	410 max	volts d-c
After equipment warm-up period not exceeding 15 seconds	140 max	volts d-c
Heater positive with respect to cathode	140 max	volts d-c
Peak voltage between anode No. 2 and any deflection electrode	500 max	volts

EQUIPMENT DESIGN RANGES

Anode No. 1 voltage	20% to 35% of E_{b2}	volts
Grid No. 1 voltage for visual cutoff spot	0% to 6.3% of E_{b2}	volts
Anode No. 1 current for any operating condition	-15 to +10	microamperes
Deflection factors		
D1 and D2	115 to 145	volts d-c per inch per kv of E_{b2}
D3 and D4	110 to 140	volts d-c per inch per kv of E_{b2}

EXAMPLES OF USE OF DESIGN RANGES

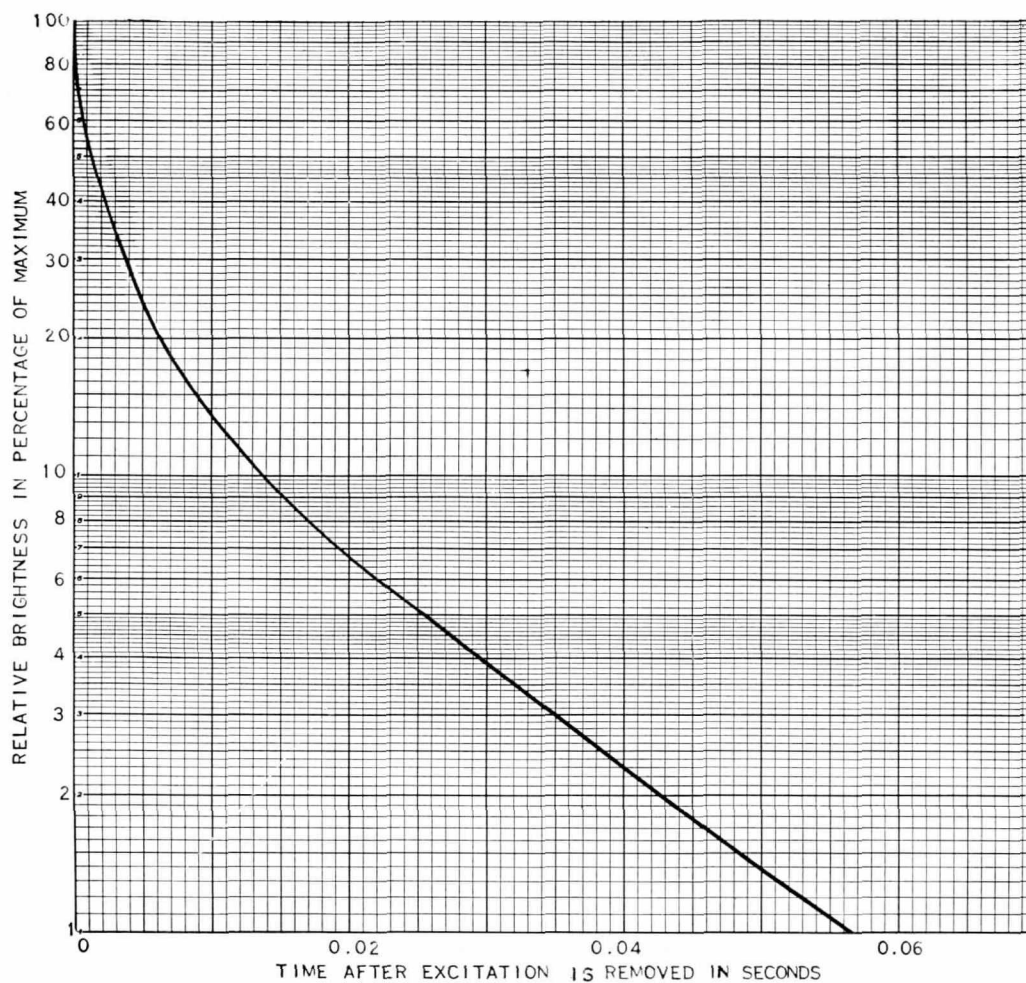
For anode No. 2 voltage of	1000	2000	volts
Anode No. 1 voltage	200 to 350	400 to 700	volts
Grid No. 1 voltage for visual cutoff	0 to 63	0 to 126	volts
Deflection factors			
D1 and D2	115 to 145	230 to 290	volts d-c per inch
D3 and D4	110 to 140	220 to 280	volts d-c per inch

MAXIMUM CIRCUIT VALUES

Grid No. 1 circuit resistance	$\dagger 1.5$ max	megohms
Resistance in any deflecting—electrode circuit	5.0 max	megohms

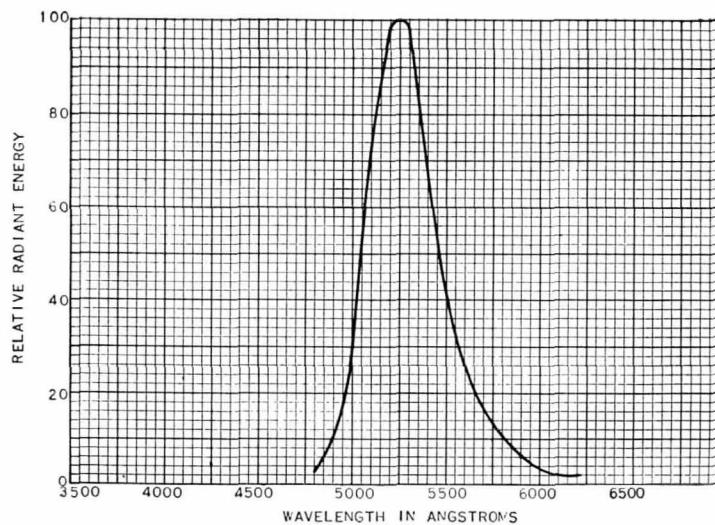
*Cathode should be returned to one side or to the mid-tap of the heater transformer winding.

$\dagger$ It is recommended that the deflecting-electrode-circuit resistance be approximately equal.

PERSISTENCE CHARACTERISTIC
P1 PHOSPHOR

K-69087-72A326

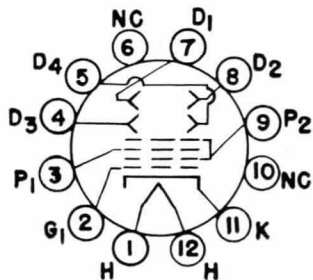
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SPECTRAL-ENERGY EMISSION CHARACTERISTIC
P1 PHOSPHOR

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Schenectady, N. Y.