



## CATHODE RAY TUBE

### E-4205-B-7 OSCILLOGRAPHIC TUBE, 2 $\frac{3}{4}$ " SCREEN

#### DESCRIPTION

The G.E.C. cathode ray tube, type E-4205-B-7 is a small high vacuum cathode ray tube with indirectly heated cathode and is designed for electrostatic focus and deflection. As the cathode is brought out separately from the heater, modulation voltage can be applied between modulator and cathode without distortion of the wave form which might be caused by the capacitance to earth of the heater and transformer.

This tube is intended for use in portable oscillographic apparatus such as that used for radio servicing and may also be employed where a visual means of studying transient or recurrent phenomena is required.

Feature of the type E-4205-B-7 are the small overall length and comparatively low operating voltage with a screen of adequate dimensions.

The screen has a green fluorescence of negligible persistence.

#### RATINGS

Heater voltage	...	...	...	...	...	4.0 ± 5%	volts
Heater current	...	...	...	...	...	1.0	approx. amps
First anode voltage (VA1)	}	internally connected	...	...	...	600	min. volts
Third anode voltage (VA3)							1500
Second anode voltage (VA2)	...	...	...	...	...	VA3 × 0.15	mean volts
Brightness control (modulator or grid) voltage (VM)	...	...	...	...	...	-(VA1 × 0.03)	max. volts

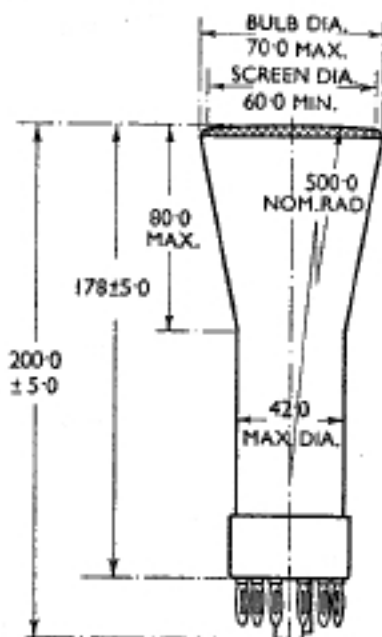
#### Deflection Sensitivity :

1. Deflectors nearest base X1 and X2	...	...	...	...	...	$\frac{170}{VA3}$	mm/v
2. Deflectors nearest screen Y1 and Y2	...	...	...	...	...	$\frac{170}{VA3}$	mm/v

#### Capacitances :

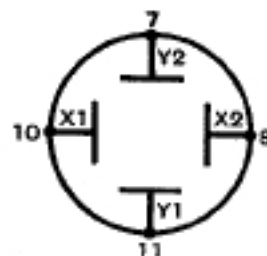
Modulator (grid) to all other electrodes	...	...	...	...	...	20	max. pF
Either X or Y Deflector to all other electrodes	...	...	...	...	...	15	max. pF
Either X to either Y deflector all other electrodes earthed	...	...	...	...	...	5	max. pF

#### DIMENSIONS



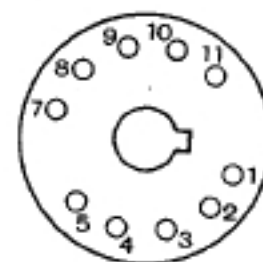
All dimensions are in mm. and are the maximum except where otherwise stated.

#### DEFLECTOR PLATES



With the tube viewed from the screen end and with the spigot uppermost, a positive potential applied to pin 10 will deflect the spot to the left and a positive potential applied to pin 11 will deflect the spot downwards.

#### BASE



View of underside of base

#### PIN CONNECTIONS

Pin 1 :	Cathode
2 :	Modulator
3 :	Heater
4 :	Heater
5 :	A2
6 :	Pin omitted
7 :	Y2 deflector
8 :	X2 deflector
9 :	A3 and A1
10 :	X1 deflector
11 :	Y1 deflector
12 :	Pin omitted

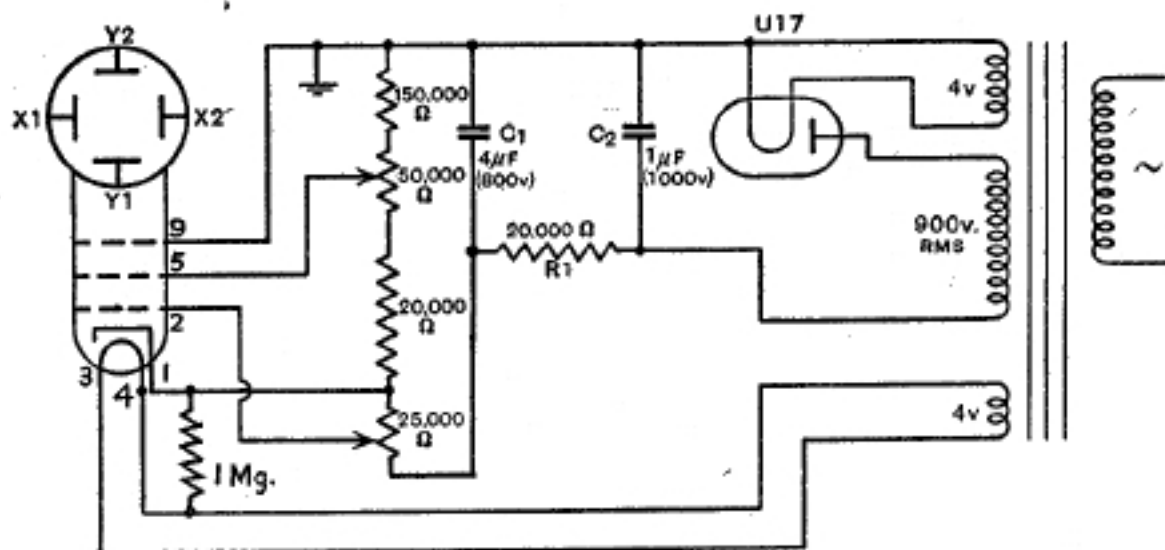
# TYPE E-4205-B-7

## OPERATING CONDITIONS

The attention of the user is drawn to the CODE OF PRACTICE FOR THE USE OF CATHODE RAY TUBES IN EQUIPMENT B.S.1147, 1943. Failure to observe the recommendations contained therein may result in poor performance of, or damage to, both tube and equipment.

A.C. supplies for operating these tubes should be obtained from transformers provided with an earthed screen between primary and secondary windings in order to protect the main supplies from any high voltage surges produced under fault conditions in the equipment.

Supplies for the tube may be conveniently obtained from A.C. mains by the use of the rectifier circuit shown below.



TYPICAL CIRCUIT SHOWING HIGH VOLTAGE POWER SUPPLY TO E-4205-B-7.