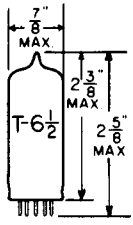
TUNG-SOL

SHEET-BEAM TUBE

MINIATURE TYPE



GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER
6.3 VOLTS 0.3 AMP.
AC OR DC

ANY MOUNTING POSITION

BOTTOM VIEW
SMALL BUTTON
9 PIN BASE
9DP

PIN #5 SHOULD BE CONNECTED DIRECTLY TO GROUND.

THE 6AR8 IS A DOUBLE-PLATE SHEET-BEAM TUBE CONTAINING A PAIR OF BALANCED DEFLECTORS TO DIRECT THE ELECTRON BEAM TO EITHER OF THE TWO PLATES AND A CONTROL GRID TO VARY THE INTENSITY OF THE BEAM. IT IS DESIGNED FOR USE AS A SYNCHRONOUS DETECTOR IN COLOR TELEVISION RECEIVERS. IT IS ALSO SUITABLE IN THE BURST GATE CIRCUIT OF COLOR TELEVISION AND A VARIETY OF OTHER SWITCHING AND GATING APPLICATIONS.

DIRECT INTERELECTRODE CAPACITANCES — APPROX.
WITH NO EXTERNAL SHIELD

DEFLECTOR #1 TO ALL	4.8	μμf
DEFLECTOR #2 TO ALL	4.8	μμf
GRID #1 TO ALL EXCEPT PLATES	7.5	μμf
PLATE #1 TO ALL	5.0	μμf
PLATE #2 TO ALL	5.0	μμf
GRID #1 TO DEFLECTOR #1	0.040	μμf
GRID #1 TO DEFLECTOR #2	0.060	μμf
PLATE #1 TO PLATE #2	0.4	μμf
DEFLECTOR #1 TO DEFLECTOR #2	0.38	μμf

RATINGS
INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE	6.3	VOLTS
MAXIMUM PLATE #1 VOLTAGE	300	VOLTS
MAXIMUM PLATE #2 VOLTAGE	300	VOLTS
MAXIMUM ACCELERATOR VOLTAGE	300	VOLTS
MAXIMUM PEAK POSITIVE DEFLECTOR #1 VOLTAGE	150	VOLTS
MAXIMUM PEAK NEGATIVE DEFLECTOR #1 VOLTAGE	150	VOLTS
MAXIMUM PEAK POSITIVE DEFLECTOR #2 VOLTAGE	150	VOLTS
MAXIMUM PEAK NEGATIVE DEFLECTOR #2 VOLTAGE	150	VOLTS
MAXIMUM POSITIVE DC GRID #1 VOLTAGE	0	VOLTS
MAXIMUM PLATE #1 DISSIPATION	2.0	WATTS
MAXIMUM PLATE #2 DISSIPATION	2.0	WATTS
MAXIMUM DC CATHODE CURRENT	30	MA.
MAXIMUM GRID #1 CIRCUIT RESISTANCE:		
FIXED BIAS	0.1	MEGOHM
CATHODE BIAS	0.25	MEGOHM

CONTINUED ON FOLLOWING PAGE

→ INDICATES A CHANGE.

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CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DEFLECTORS GROUNDED

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.3	AMP.
PLATE #1 VOLTAGE	250	VOLTS
PLATE #2 CONNECTED TO PLATE #1 ACCELERATOR VOLTAGE	250	VOLTS
DEFLECTOR #1 VOLTAGE	0	VOLTS
DEFLECTOR #2 VOLTAGE	0	VOLTS
CATHODE-BIAS RESISTOR	300	OHMS
TOTAL PLATE CURRENT	10	MA.
ACCELERATOR CURRENT	0.4	MA.
GRID #1 TRANSCONDUCTANCE	4 000	μMHOS
GRID #1 VOLTAGE (APPROX.) I_b = 10 μAMP.	−14	VOLTS

DEFLECTOR CHARACTERISTICS

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.3	AMP.
PLATE #1 VOLTAGE	250	VOLTS
PLATE #2 VOLTAGE	250	VOLTS
ACCELERATOR VOLTAGE	250	VOLTS
CATHODE-BIAS RESISTOR	300	OHMS
DEFLECTING SWITCHING VOLTAGE (MAX.)	20	VOLTS
DEFLECTOR-BIAS VOLTAGE FOR MINIMUM DEFLECTOR SWITCHING VOLTAGE[A]	−8	VOLTS
VOLTAGE DIFFERENCE BETWEEN DEFLECTORS FOR $I_{b1} = I_{b2}$ (APPROX.)	0	VOLTS
PLATE #1 CURRENT (MAX.) E_{d1} = −15 VOLTS, E_{d2} = +15 VOLTS	1.0	MA.
PLATE #2 CURRENT (MAX.) E_{d1} = +15 VOLTS, E_{d2} = −15 VOLTS	1.0	MA.
DEFLECTOR #1 CURRENT (MAX.) E_{d1} = +25 VOLTS, E_{d2} = −25 VOLTS	0.5	MA.
DEFLECTOR #2 CURRENT (MAX.) E_{d1} = −25 VOLTS, E_{d2} = +25 VOLTS	0.5	MA.

[A] DEFLECTOR SWITCHING VOLTAGE IS DEFINED AS THE TOTAL VOLTAGE CHANGE ON EITHER DEFLECTOR WITH AN EQUAL AND OPPOSITE CHANGE ON THE OTHER DEFLECTOR REQUIRED TO SWITCH THE PLATE CURRENT FROM ONE PLATE TO THE OTHER.

NOTE: THE 6AR8 SHOULD BE SO LOCATED IN THE RECEIVER THAT IT IS NOT SUBJECTED TO STRAY MAGNETIC FIELDS.

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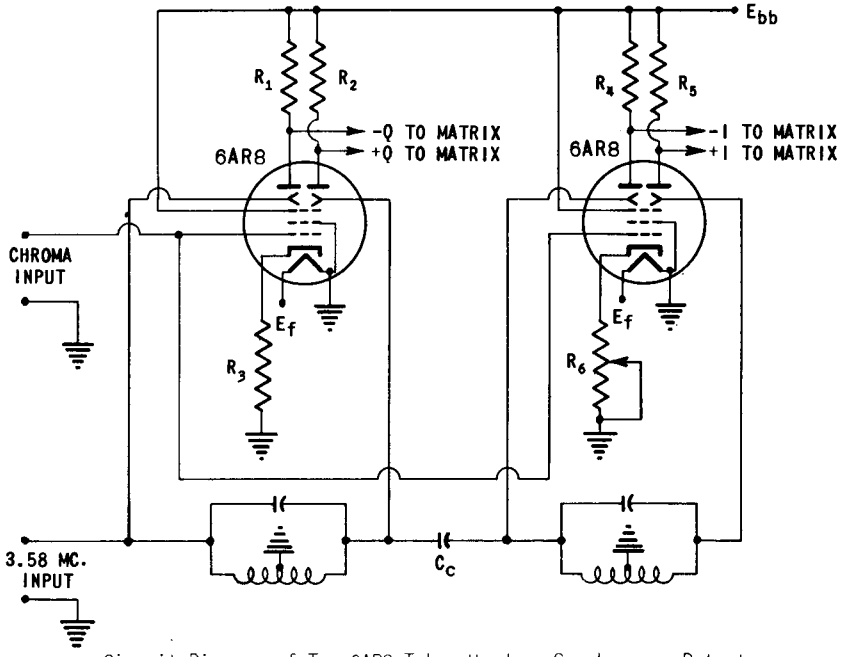
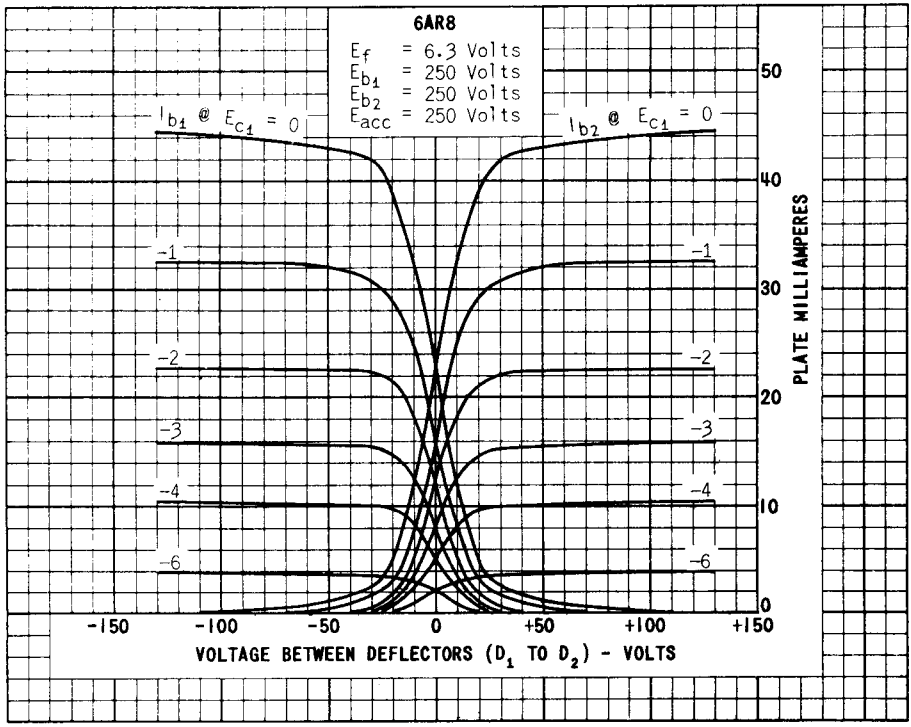
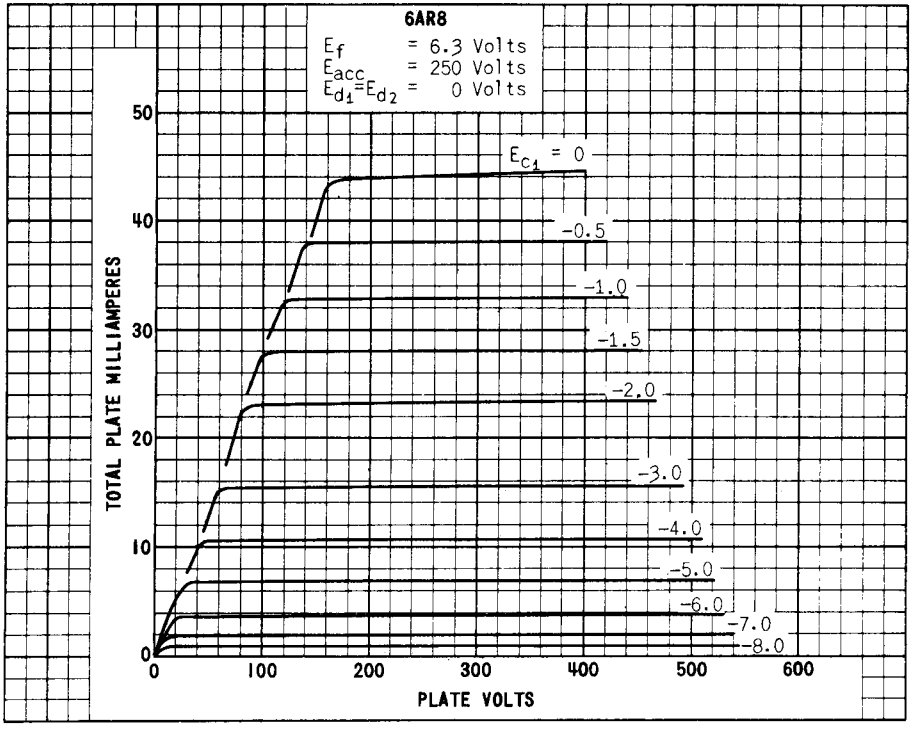


Circuit Diagram of Two 6AR8 Tubes Used as Synchronous Detectors



6AR8



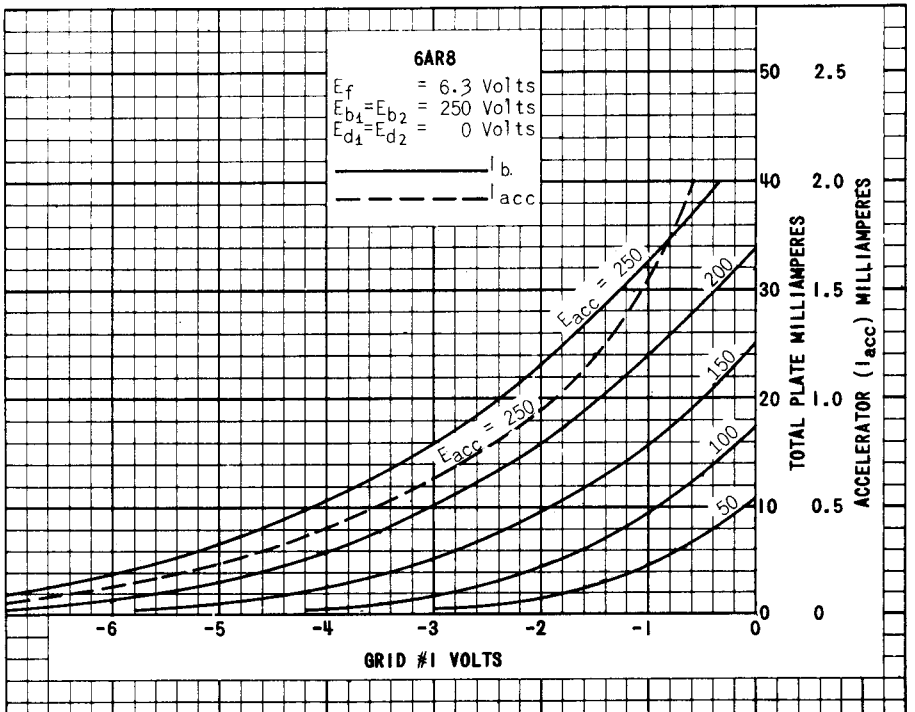


PLATE #4278 MARCH 1, 1955 TUNG-SOL ELECTRIC INC. ELECTRON TUBE DIVISION BLOOMFIELD, NEW JERSEY, U.S.A.