EAB 1 Triple diode

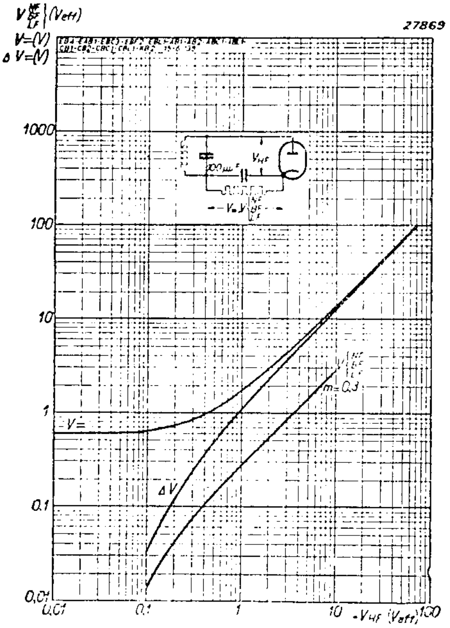

Fig. 3
Direct voltage V and direct voltage curve (Δ V) between the terminals of the grid leak connected to one of the diodes of the EAB1, as a function of the unmodulated R.F. voltage.
L.F. voltage V_{LF} between the terminals of the grid leak as a function of the R.F. voltage modulated to a depth of 30 % (m = 30 %). These characteristics apply to grid leaks of from 0.1 to 1 megohm.

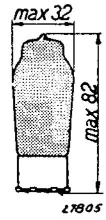

Fig. 1
Dimensions in mm.

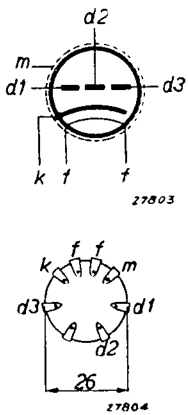

Fig. 2
Arrangement of electrodes and base connections.

The triple diode EAB 1 consists of three diodes arranged about a common, horizontally mounted, cathode, having been especially developed for 3-diode circuits. The object of this type of circuit is to eliminate distortion and other unpleasant effects arising from the use of delayed automatic gain control and it involves an arrangement employing three diodes, one of which serves as detector and one for the A.G.C., whilst the third is used for the delaying effect. With a view to suppressing hum, the detector diode, which is shown as d_1 in the diagram of base connections, Fig. 2, is mounted farthest from the heater. The diode nearest to the filament and marked d_2 in the diagram has a very low capacitance with respect to the detector diode, this being less than 0.08 $\mu\mu$F. Since the A.G.C. diode, for many reasons, is usually connected to the primary circuit of the preceding band-filter, the amount of capacitance between this diode and the detector diode is extremely important. As the reader is doubtless aware, this capacitance acts as a coupling between the two band-filter circuits and tends to have an adverse effect on the selectivity. It is for this reason that diode d_1 is employed for the A.G.C. Diode d_2, located between d_1 and d_3, is then available for other purposes, in particular to provide the delaying effect for the A.G.C. as employed in this type of circuit.

Heater ratings

Heating: indirect, A.C. or D.C., series or parallel supply.

Heater voltage	V_f	= 6.3 V
Heater current	I_f	= 0.200 A

Capacitances

Diodes d_1 — d_2	$C_{d_1d_2}$	< 0.65 $\mu\mu$F
Diodes d_1 — d_3	$C_{d_1d_3}$	< 0.08 $\mu\mu$F
Diodes d_2 — d_3	$C_{d_2d_3}$	< 0.4 $\mu\mu$F
Diode d_1 — cathode	C_{d_1k}	= 1.5 $\mu\mu$F
Diode d_2 — cathode	C_{d_2k}	= 1.35 $\mu\mu$F
Diode d_3 — cathode	C_{d_3k}	= 2.2 $\mu\mu$F

Maximum ratings

Voltage on d_1 (peak value)	V_{d1}	= max. 200 V
Voltage on d_2 (peak value)	V_{d2}	= max. 200 V
Voltage on d_3 (peak value)	V_{d3}	= max. 200 V
Direct current to d_1	I_{d1}	= max. 0.8 mA
Direct current to d_2	I_{d2}	= max. 0.8 mA
Direct current to d_3	I_{d3}	= max. 0.8 mA
External resistance between filament and cathode	R_{fk}	= max. 20,000 ohms
Potential difference between filament and cathode (D.C. voltage or effective value of alternating voltage)	V_{fk}	= max. 100 V
Voltage on diode at diode current start	$(I_{d1} = +0.3\ \mu A)\ V_{d1}$ $(I_{d2} = +0.3\ \mu A)\ V_{d2}$ $(I_{d3} = +0.3\ \mu A)\ V_{d3}$	= max. −1.3 V