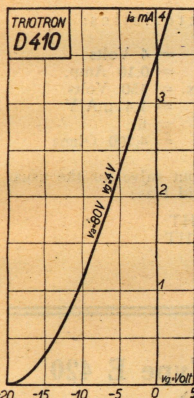


TRIOTRON

4 Volt General Purpose Valves



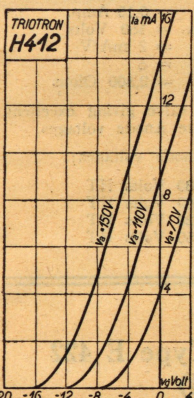
Double Grid Valve Type D 410 (MD 4)

Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.08 Amp.
Anode voltage	V_a	= 10–20 Volts
Spacecharge Grid volt.	$V_{g'}$	= 10–20 Volts
Slope	S	= 1 mA/V
Amplification Factor	μ	= 4.5

Double Grid valve D 410 is specially suitable for Superheterodyne receivers where it works as combined Oscillator and Modulator (first Detector). For this purpose, the Anode voltage should be 70 to 90 Volts and the Control grid connected to LT+.

Owing to the low Anode voltages and the steep slope if auxiliary electrode is connected as spacecharge grid, it will give very good results in portable receivers.

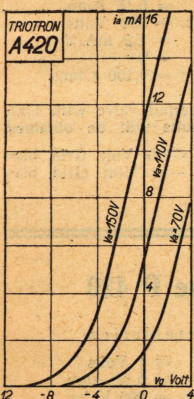


High Frequency amplifier Type H 412 (RD 4)

Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.075 Amp.
Max. Anode voltage	V_a max.	= 150 Volts
Slope	S	= 1.2 mA/V
Amplification Factor	μ	= 9
Impedance	R_i	= 7,500 Ohms

Type H 412 is an excellent valve for tuned HF and for Detector stages. When used as Detector 0.0002 Grid condenser and 0.5–2 Megohm Grid leak are recommended.



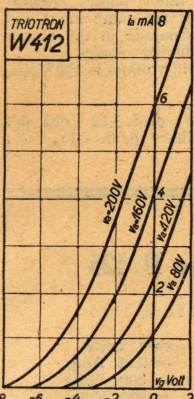
Super Detector Type A 420 (SD 4)

Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.09 Amp.
Max. Plate voltage	V_a max.	= 150 Volts
Slope	S	= 2 mA/V
Amplification Factor	μ	= 15
Impedance	R_i	= 7,500 Ohms

Type A 420 is an excellent Detector valve with high Amplification and straight rectification characteristic. When working as leaky grid detector, the grid condenser should be 0.0002 to 0.0003 MF and the grid leak 0.5 to 3 Megohms.

If used as LF amplifier, Grid bias must be applied, –3 Volts at 100 Volts HT and –4.5 Volts at 150 Volts HT.



Resistance coupling Type W 412 (WD 4)

Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.075 Amp.
Max. Plate voltage	V_a max.	= 200 Volts
Slope	S	= 1.2 mA/V
Amplification Factor	μ	= 25
Impedance	R_i	= 21,000 Ohms

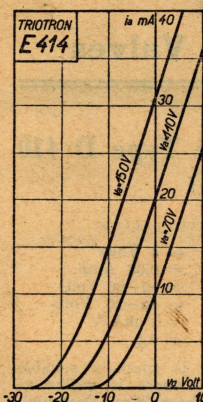
This type is suitable for resistance coupled Detector and LF stages. The following coupling elements are recommended:

Coupling condenser 0.005 MF
Grid leak 2 Megohm
Anode resistance 1 Megohm

When working as LF amplifier 2 Volts negative Grid bias should be applied at 200 Volts HT.

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4 Volt Power Valves



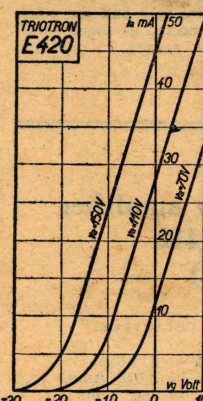
Power Type E 414 (UD 4)

Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.10 Amp.
Max. Plate voltage	V_a max.	= 150 Volts
Slope	S	= 1.4 mA/V
Amplification Factor	μ	= 6
Impedance	R_i	= 4,300 Ohms

Type E 414 is a good output valve for the usual type cone speaker. Correct Grid bias:

–9 Volts at 100 Volts HT
–15 Volts at 150 Volts HT



Super Power Type E 420 (XD 4)

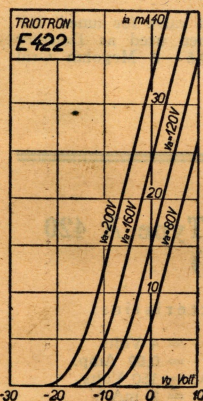
Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.15 Amp.
Max. Plate voltage	V_a max.	= 150 Volts
Slope	S	= 2 mA/V
Amplification Factor	μ	= 5
Impedance	R_i	= 2,500 Ohms

Type E 420 is an output valve giving excellent loudspeaker results at moderate Anode voltages.

Correct Grid bias and Anode voltages:

–9 Volts Grid bias at 80 Volts HT
–12 Volts Grid bias at 100 Volts HT
–15 Volts Grid bias at 120 Volts HT
–18 Volts Grid bias at 150 Volts HT



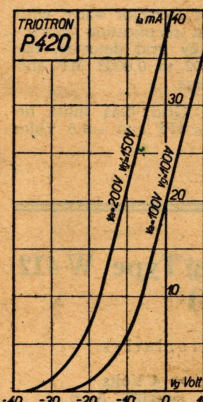
Super Power Type E 422 (YD 4)

Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.15 Amp.
Max. Plate voltage	V_a max.	= 200 Volts
Slope	S	= 2.2 mA/V
Amplification Factor	μ	= 9
Impedance	R_i	= 4,100 Ohms

Type E 422 is a 4 Volt output valve with high amplification factor. Best results will be obtained

with 150 Volts HT and –7.5 Volt Grid bias or 200 Volts HT and –10 Volt Grid bias



Pentode Type P 420

Average Characteristics:

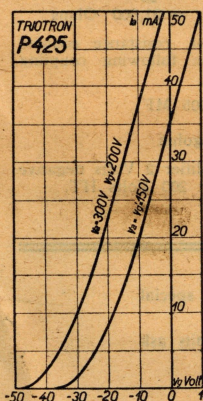
Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.15 Amp.
Max. Plate voltage	V_a max.	= 200 Volts
Max. Auxil. Grid voltage	$V_{g'}$ max.	= 150 Volts
Slope	S	= 2 mA/V
Amplification Factor	μ	= 60
Impedance	R_i	= 30,000 Ohms

Pentode type P 420 gives much higher amplification than the usual Triode at the same input and anode voltage. The use of a Pentode in the output stage replaces two LF amplifying stages.

Max. Plate and auxiliary grid voltage is 150 Volts.

Grid bias:

At 120 Volts on the auxiliary grid –12 Volts and at 150 Volts on the auxiliary grid –15 Volts



Pentode Type P 425

Average Characteristics:

Filament voltage	V_f	= 4 Volts
Filament current	I_f	= 0.25 Amp.
Max. Plate voltage	V_a max.	= 300 Volts
Auxiliary Grid voltage	$V_{g'}$ max.	= 200 Volts
Slope	S	= 2.5 mA/V
Amplification Factor	μ	= 60
Impedance	R_i	= 24,000 Ohms

Type P 425 is a 6 Watt Power Pentode. For best reproduction 300 Volts should be used on the Anode and 200 Volts on the auxiliary grid.

Correct Grid bias:

At 150 Volts on the auxiliary grid –15 V at 200 Volts on the auxiliary grid –20 V

For further particulars of all our valves see special Valve-booklet.

Regarding Loudspeakers and loudspeaker Units ask for our Loudspeaker Catalogue.