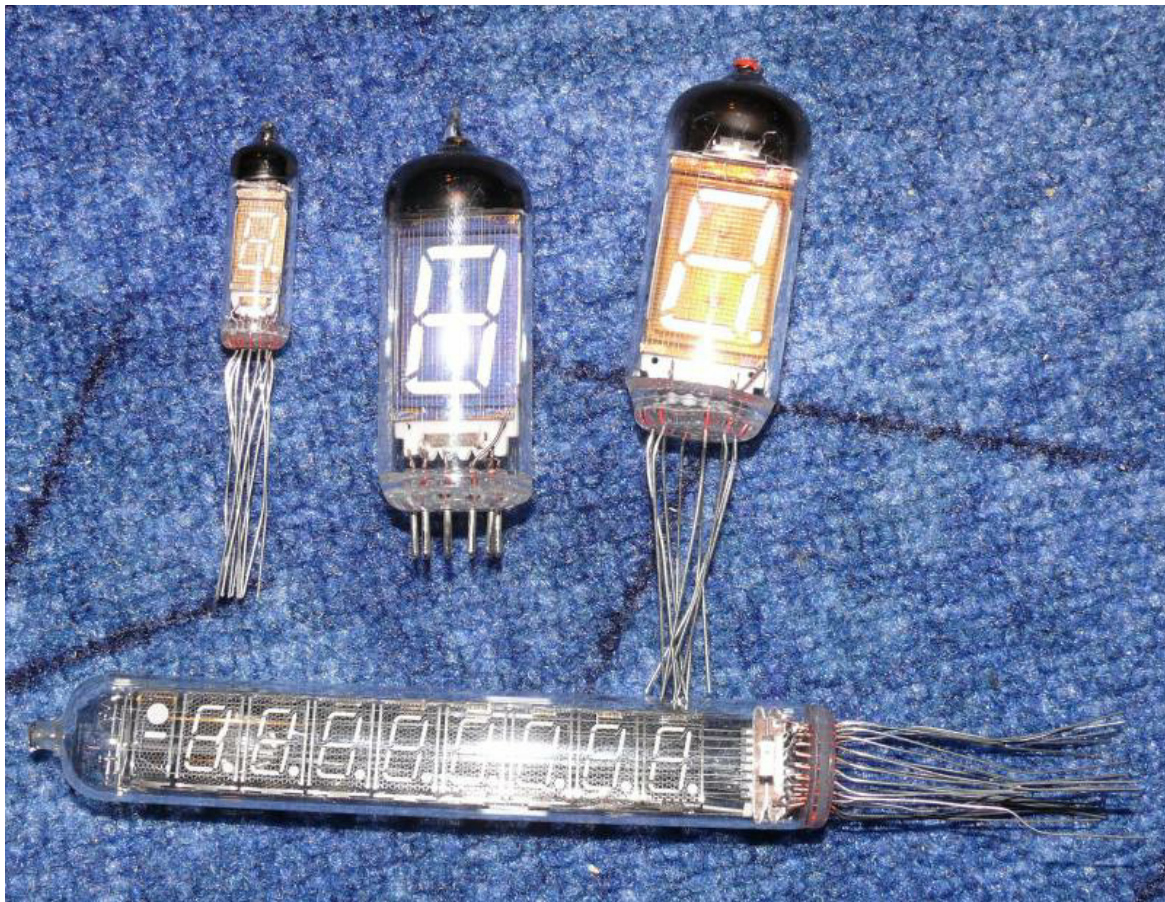


VFD – Vacuum-Fluorescence-Displays

VFDs are tubes that are similar in function to tuning eyes. There are various types, for example 7-segment displays, alpha numeric displays or arbitrary special signs – like those used in video tape recorders. Also there are tube like formats as well as flat panel formats.

The segments of the display are the anodes coated with a light emitting substance. The cathode is the filament (direct heating). In between there is a grid that is needed to perform the blanking in multiplexed mode. The electrons hit the currently active segments (anodes) and activate the light emitting surface.

Following some examples of tube shaped types:



VFDs are easy to test. The filament is heated. All anodes and the grid are connected to a positive voltage. Then all segments must glow equally bright. Heater and anode voltage can be achieved from the data sheets.

Example:

The russian iv-12:

Filament voltage 1,5V

Anode voltage 25 V

As tube type a "VFD" was created. There was defined that the anodes and G1 must be connected to a positive supply.

The iv-12 fits into a dekal socket (many VFDs have special sockets, so either socket adapters have to be built or the connections must be done using alligator clips). The tube pins will automatically be switched correctly using the settings in the tube data. For VFDs with specific connections the pins must be connected together in a meaningful way.

We start the test in manual mode:

The screenshot displays the RoeTest software interface. The top section shows measurement results for H-Spannung, A-Spannung, H-Strom, and A-Strom, all at 0.00. The middle section shows the tube data for 'iv-12 russ' with a dekal B10C socket, 1.5V filament voltage, and 0.1A filament current. The bottom section shows the manual mode settings, including the filament voltage set to 1.50V and the anode voltage set to 25.00V. The software also displays a table of pin assignments and a table of system data.

PinNr	=	Röhrenart	VFD
1	A	Anodenspannung (V):	25,0
2	F2	G1-Spannung (V):	0,00
3	F1	G2-Spannung (V):	0,0
4	G1	G3-Spannung (V):	0,0
5	A	Anodenstrom (mA):	13,50
6	A	G2-Strom (mA):	0,00
7	A	Heizspannung (V):	1,5
8	A	Heizstrom (A):	0,1
9	A		
10	A		

System	System A	System B	System C
System A			
System B			
System C			



All segments of a VFD glow equally bright. With the slider the brightness of the display can be controlled.