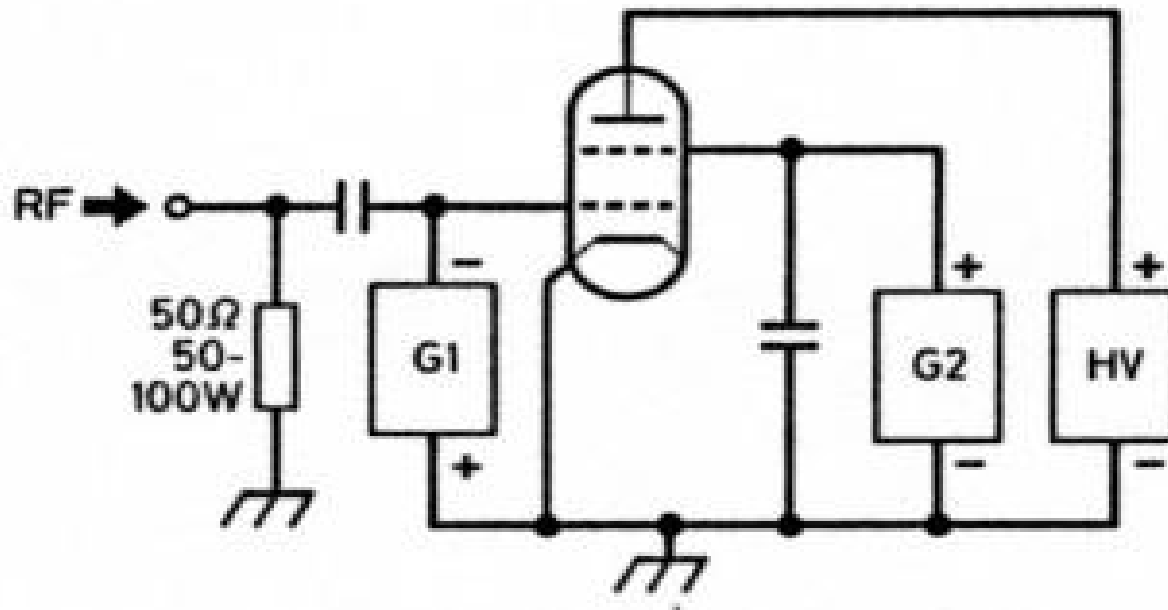


The moral is that **grounded-grid tetrodes are really not as simple as they seem**, and need some careful thought and planning about the DC arrangements.

**Another alternative**, which retains the advantages of **no input tuning**, transceiver-compatible drive requirements and **no need for neutralization**, is '**passive grid**' (Fig 3). Here the cathode is grounded and the RF drive voltage to the control grid is developed across a 50 Ohms input resistor which provides a **fairly constant wideband input impedance** and greatly **improves the amplifier's stability** against oscillation. **Passive grid is suitable for the entire HF band**, up to the frequency where the valve's input capacitance begins to affect the input impedance. Although the power supplies are still more complex than for a grounded-grid triode, operating a tetrode in passive grid does have the advantage that all the necessary supplies have one rail at or very close to DC ground.



**Fig 3: 'Passive grid' with grounded cathode is a popular option for using tetrodes at HF.**

Tetrodes are wonderful - and sometimes they're the only available way to go - but if you're not prepared to meet their biasing requirements, steer well clear and use a genuine triode instead.