



## Tech Tips

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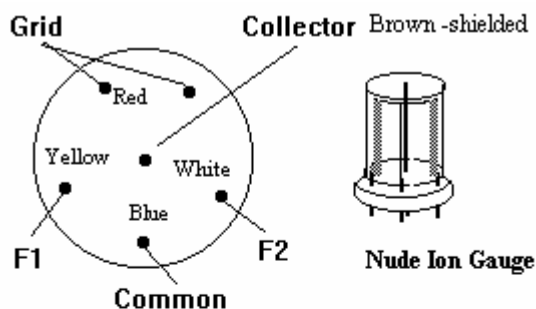
### Ion Gauge Filament Replacement Procedure

One of the most commonly asked questions is: How do I change my ion gauge (DIG) filament? Named after the Digital Ion Gauge control, the DIG filament provides a reading of system pressure and also prevents catastrophic system damage when over-pressurization occurs (system dump). After years of usage, or after a system dump, the filament may become open and need to be replaced. There are two filaments on each ion gauge assembly. Unfortunately, the DIG controls (Ultrek DIG, DIG II, and PHI DIGIII) do not allow for the filament to be switched at the control. Varian DIGs (green and yellow buttons on front panel) do allow the filament to be switched at the control.

**Note:** If one filament is open, it is necessary to switch the outside filament wires directly on the ion gauge. The gauge is usually located on the vacuum chamber just below the table tops on the back left side. Below is a drawing which shows the layout of the 2 3/4" ion gauge flange connections and the pin outs of the ionization gauge connector on the vacuum console.

#### To switch the filament:

1. Make sure that the DIG supply is OFF!  
During normal operation 180 VDC is present on the grid and collector leads.
2. Switch the outside two filament leads (white and yellow). You will be moving the "hot" filament lead to the good filament.
3. After turning the DIG supply back on, check the set points if necessary.



#### To replace the filament assembly:

If both filaments are bad and you need to replace the filament assembly, face the filaments down towards the bottom of the vacuum chamber when you re-install the ion gauge. This will ensure that any contamination caused by a system dump will fall away from the emission grid, should the system ever be dumped.

