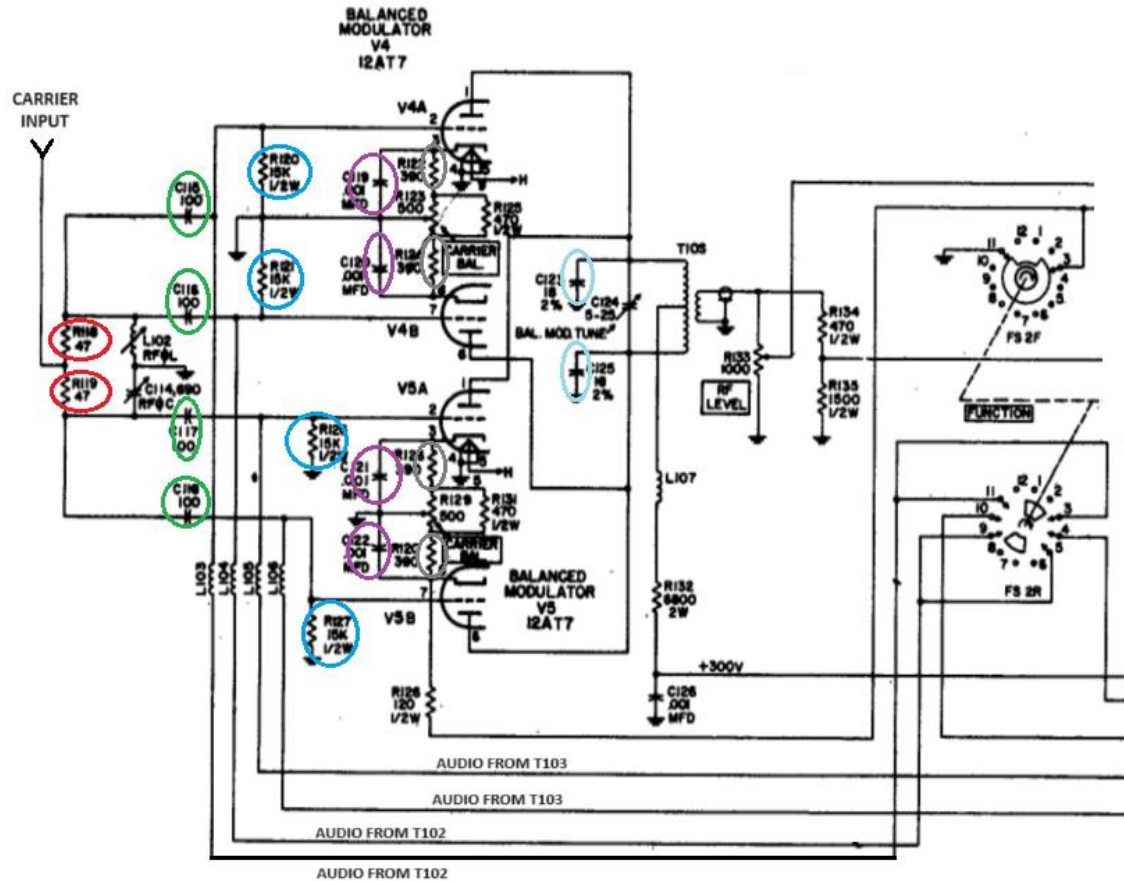


HT-37 BALLANCED MODULATOR OPTOMIZATION



The key to understanding the operation of the balanced modulator is in its name, *balanced*. All the PAIRS must be balanced or of equal value. The pairs in each dual triode must be equal. The two 12AT7's must be equal. The rest of the sub circuit has pairs of capacitors and resistors that should be equal. The pairs of resistors and capacitors in the V4 circuits must equal their counter parts in V5. Over the years I have found that the disc capacitors are the biggest drifters. In the drawing above follow the color coding. The HT-37 is now 2 to 3 times older than the shelf life of most of its components. And for the most part that is ok. The +/- 20% rule applies to MOST of the components, but NOT to the parts in the balanced modulator. And by the way all this also applies to the HT-44.