



CONVERTING THE MODEL 302A WAVE ANALYZER FOR USE WITH GROUNDED-INPUT RECORDERS

It is occasionally desirable to use the 302A Wave Analyzer with a grounded-input recorder instead of the more common floating-input type. This is easily accomplished; the change described in this application note is the only step necessary to completely isolate the RECORDER output of the 302A from system ground and make the Analyzer compatible with all recorders.

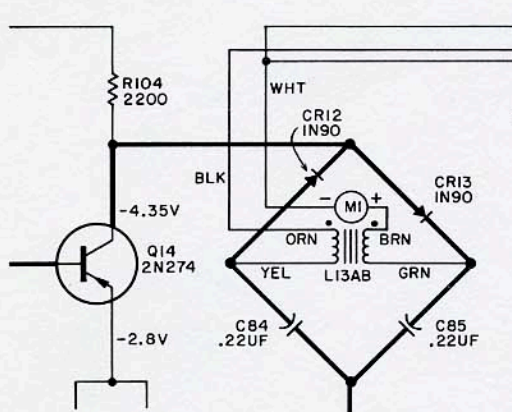
The output is already ac isolated by the bifilar choke coil (L13A and B) presently in the meter-rectifier circuit; it is the dc path to the collector of Q14 (the final stage of the meter amplifier) which fixes the Analyzer output with respect to ground. A 0.22 microfarad blocking capacitor, inserted in series with the amplifier as shown below, is all that is needed to fully float the RECORDER output.

An electrolytic capacitor should not be used in this modification; the high leakage current which characterizes these units could cause a significant shift in the dc operating point of Q14. Any other type is satis-

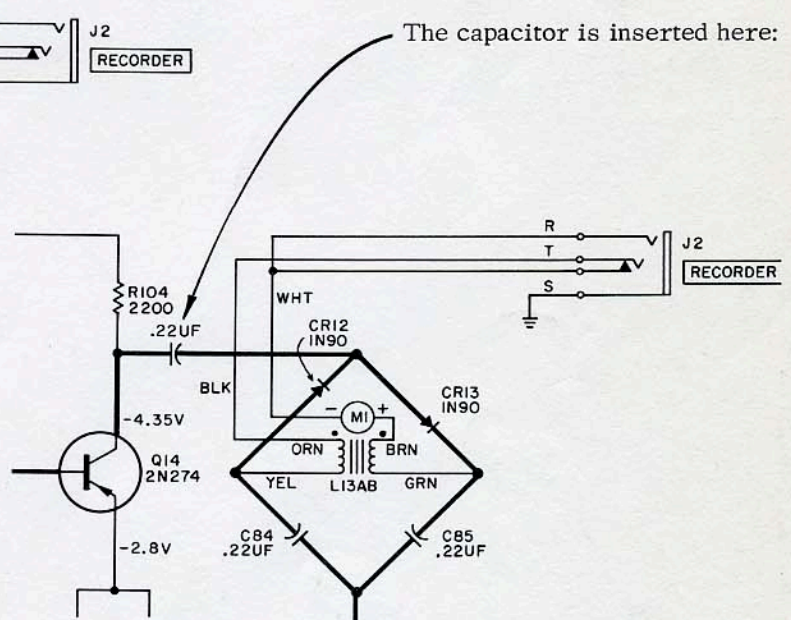
factory, however; a capacitor such as C84 or C85 (mylar, 200 vdcw, stock no: 0170-0038) would be suitable.

The ac output of the amplifier is unchanged by this addition, so the performance of the Analyzer is not affected or degraded in any way. The signal from the RECORDER output is still a 0-1 ma full scale dc current capable of driving any recorder input with an impedance of less than 1500 ohms. Now, however, the recorder input need no longer be floating; it can be grounded on either side, or can be biased at some fixed dc level with respect to ground.

This modification can be performed successfully on all 302A Wave Analyzers except the very earliest models. These first instruments, all of which may be identified by their serial number prefix (149-), were not equipped with the bifilar choke coils which are now standard, and would not benefit from this change.



Output meter-rectifier circuit in standard Model 302A Wave Analyzer



Output meter-rectifier circuit modified as described above for use with grounded-input recorders

2/1/62

01168-2