Advantest R3132 Spectrum analyzer (SA)

A nice instrument with some major issues.

After the power switch is turned on, the instrument presents a power up dialogue. Every time it boots, the Backup RAM presents as "NG". If "NG" means it is No Good, then there is no way for the CPU to reload data from the RAM. This could be bad components, or possibly a backup battery that is dead. I did not open the case to investigate because I didn't want to violate the manufacturer stickers placed at every seam.
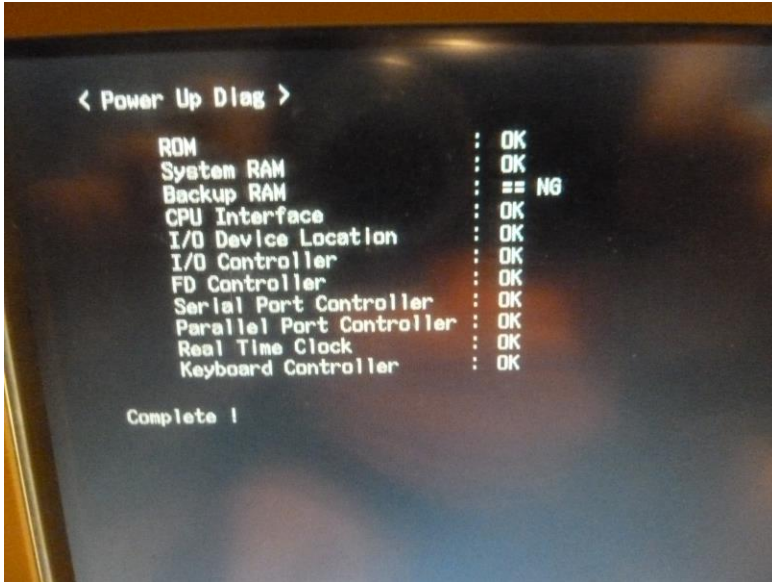

After it booted, I asked for a self-test, during which, the CPU fails every time. This could be a bad component, but all other CPU functions (display, keyboard, etc.) seem to work properly. It is possible that the "NG" backup RAM is causing the CPU to fail this test. Please note, that this test also shows the 50.0 MHz signal off-center, indicating that the instrument is off frequency.
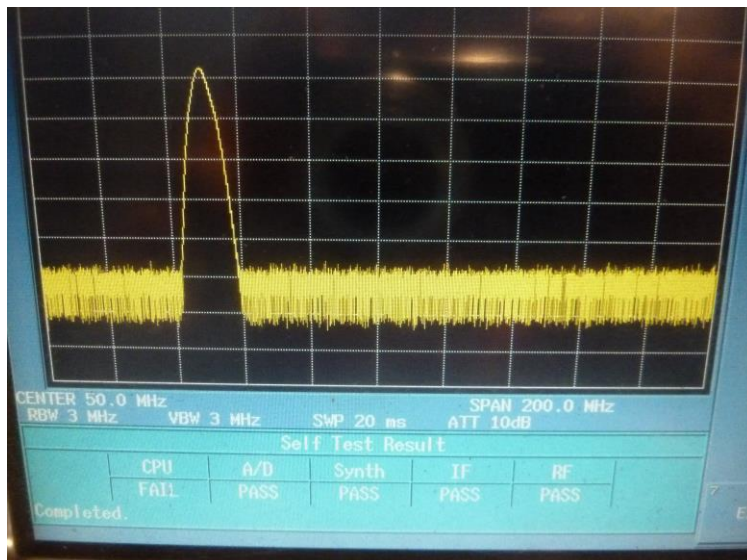
Next, I connected the 30 MHz CAL output to the Input port on the front of the instrument and asked it to calibrate. Note that the instruction manual advises "Wait at least 30 minutes after turning on the spectrum analyzer before attempting to perform any measurements, or the measurements may not be accurate.". I found this to be good advice, as occasionally the instrument fails the calibration if done when first turned on.

After calibration the 50.0 MHz signal is centered, indicating that the frequency error is gone.
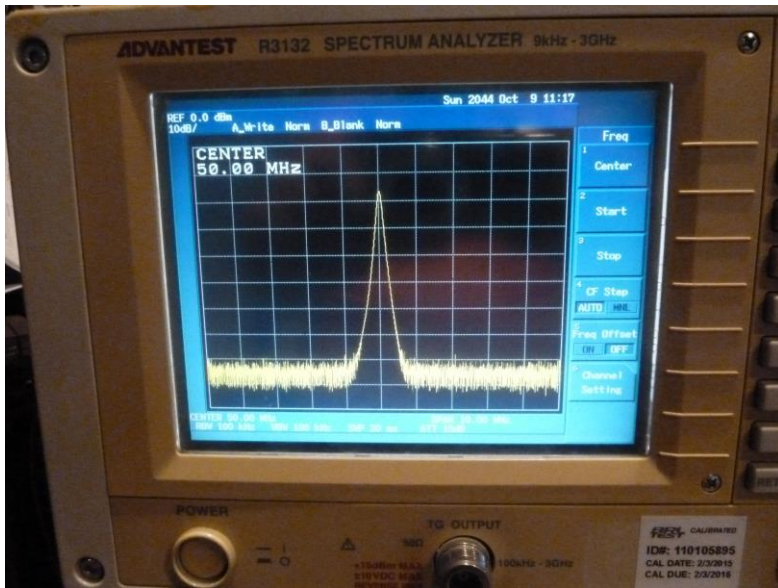
I tested the tracking generator (option installed) by connecting the output to my Instek SA and noted the signal moving as it should as I changed tracking generator features on the 3132.

I tested the 3132 by connecting to the tracking generator of my Instek at 30, 300, 600, 900 and 1000 MHz and tuning the 3132 to each frequency. In each case the signal was exactly where it should be on the 3132.

I connected my signal generator, tuned to 50 MHz, to the SA and let it run all day with no change in waveform display.

With the backup RAM testing "NG" the instrument reverts to off-frequency every time it is turned off, as on startup it loads factory default parameters and cannot restore the values corrected during the calibration procedure.
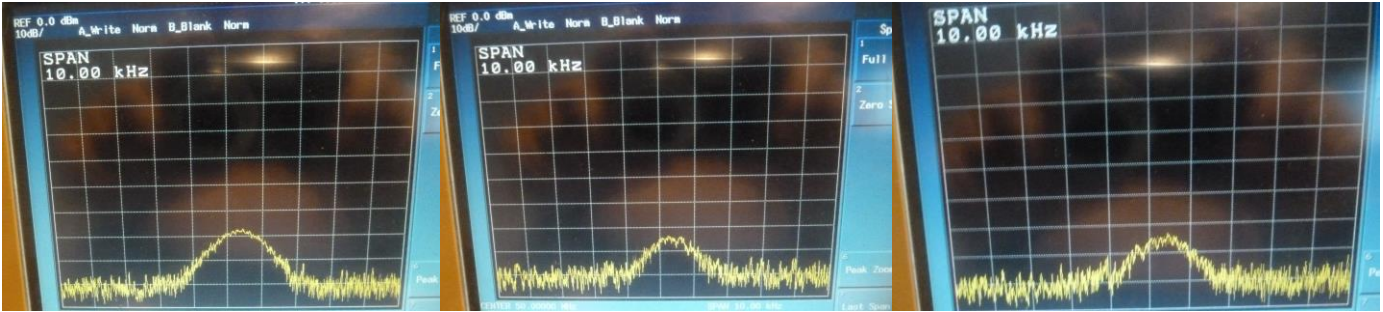
When I turned the instrument on for the third day of testing it would not calibrate. I tried several times that day and on two consecutive days, so it appears to have a problem beyond what I have noted above.
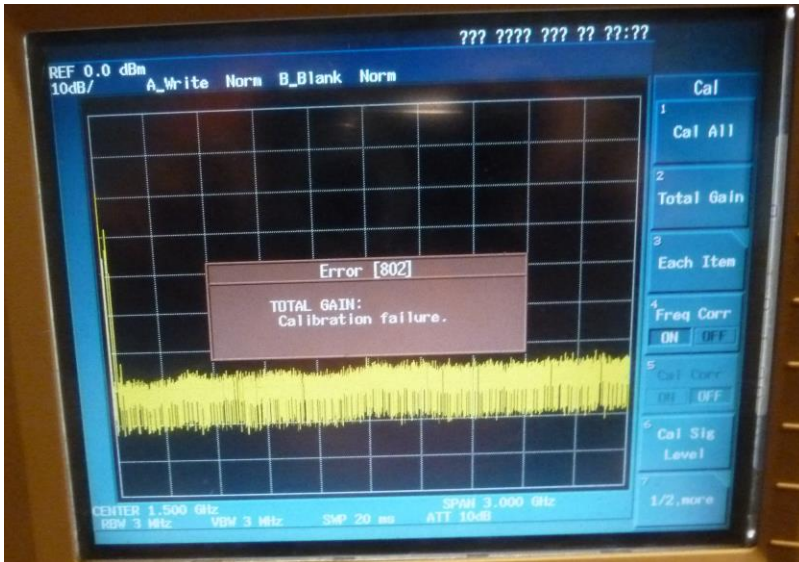
I also noted that reducing the span to 5.000 MHz now shows that there is some interference on the displayed signal.
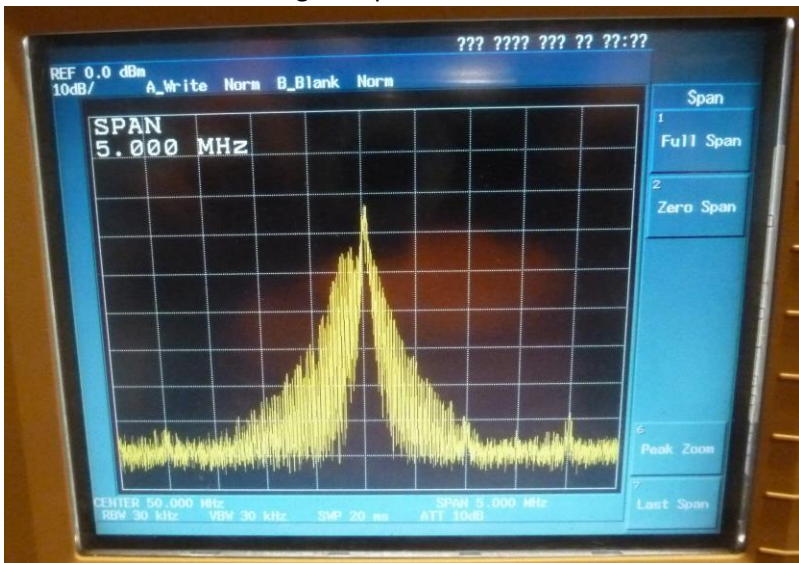
Reducing the span to 10 KHz shows that the interference is traveling in frequency over time, which may indicate that one of the VCO's is unlocked.

At this point I stopped testing.