Alpha 9500 – Version 2.27 Firmware Notes

This version of the firmware includes features for operators and also for developers of remote software that may be used to control the amplifier, e.g. DDUtil. Developers of remote software should contact RF Concepts directly for information on these features.

1. The Auto algorithm in the amplifier has been significantly overhauled. There had been a number of bug reports particularly regarding faults that could be generated when switching bands with the Auto light on. These faults have been eliminated and the Auto light can comfortably be left on during SSB and CW transmissions. RF Concepts continues to suggest that you save tune and load settings for your station in User memories as indicated in the manual

2. Fast(er) warm-up countdown sequence. Anytime the amplifier is turned on and HV applied, the user can push the RCL button, followed by the DIM button and the amplifier will sample the plate current and once tube emissions are detected will switch to 30 seconds remaining

3. Frequency counter ignore in bypass. Pushing the RCL button followed by SND will cause the amplifier to ignore the frequency counter in Standby. This is a sticky control, i.e. once you set the frequency counter ignore in Standby, it will remain in that mode (through multiple on/off cycles) until you toggle it back on again with the same key sequence

4. Occasional Fault 19 problems on 10 m have been significantly reduced if not eliminated

5. Display waste heat on the Vp LED bargraph. Push RCL followed by Vp and the plate voltage LED's will now display waste heat in watts. Use this to get the amplifier properly tuned with key down output and switch back to the Vp display by pushing RCL followed by Vp again

Molly comments on the Waste Heat display: Our amps are designed to be most efficient at 1500 W out. What the waste heat display will show you is that you may not be "saving" the amp by running with only 1000 W output – you may have very similar waste heat at 1000 W compared to 1500 W. A few other comments about the waste heat numbers. You should note that around 10% of the waste heat goes into tank circuit losses and around 5% into other miscellaneous losses, so not all of the waste heat is dissipated in the tube. There is also approximately a +/- 8% uncertainty in the real value (5% from the wattmeter and 3% from HV and Ip measurements). All of this means that the usefulness of this parameter is to minimize waste heat, rather than to be too concerned about the actual value. Miscellaneous (non-tube) losses go up with frequency – have you ever noticed the heat sinks on the straps from the bandswitch to the tank coil on 10/12 and 15 m ?? Note also that the waste heat measurement is essentially meaningless under CW and SSB conditions. It should be used to set the amp up at PEP, normally 1500 W, using key-down drive. Minimize the waste heat in this configuration and then toggle back to displaying Vp.