Alpha 87A - Using AlphaMax firmware Functions

When the AlphaMax (Autotune) firmware is installed in the 87A, the TUNE and LOAD LEDs will blink to indicate what the AlphaMax program would do if it was enabled.

An addendum to the 87A manual was included with AlphaMax kits that were installed in the field, or you can download a copy of the new version of the 87A manual (with instructions for using AlphaMax) from our web site:

http://www.rfconcepts.com

You should tune up the amp with your antennas on each band/segment and save the settings in USER memories. You do this by pressing ENTER and then while the ENTER LED is flashing, press the segment that you are on. When changing bands the 87A first goes to the USER memory setting. If further tuning is needed it will make the adjustments if the Autotune mode (AlphaMax) is enabled. If it is not enabled, the TUNE and/or LOAD LEDs will blink to indicate what direction those would be moved.

If it is not in Autotune and the user settings are not at all close to desirable, it will fall back to factory-saved default settings (for a 50 ohm load) and the DEFAULT LED will light solid.

The Autotune function is enabled by pressing the LOAD^ and ENTER buttons at the same time when the amp is in operate and warmed up. The DEFAULT LED will flash when Autotune is enabled and the amp is in operate and warmed up.

The DEFAULT LED indicates 3 conditions of the amp:

1) not lit means it is in original 87A function of automatically measuring transmitted frequency and recalling memory settings for band segment closest to that frequency detected.

2) blinking means that autotune (AlphaMax) is enabled, amp will dynamically retune if drive changes (as when yelling louder than normal in a pileup, etc).

3) lit solid means the factory memory setting has been recalled
Please note that the TUNE meter is a rough indicator to allow the amp to be tuned with low drive levels so that it is close to being set for 1500w output. Once you increase the drive and are close to 1500w out, fine tune by adjusting the TUNE and LOAD controls for maximum output at the drive level you are at. This should correspond to a dip in the plate current. The TUNE LED may be a number of LEDs off center to either side. The most useful multimeter parameter to monitor when transmitting is the Ip (plate current), also watching the Ig (grid current).

The TUNE meter is calibrated on 20m when the amp is tuned up for 1500w out, with new tubes. As the tubes age, it will indicate off center a bit. Line voltage that is not at the nominal value for each range (200, 220 or 240v) may also affect the TUNE calibration.

Since the 87A has memories that should be saved for the tuneup settings for each band segment, the TUNE meter isn’t really as useful as it is with a manually tuned amp (Alpha 89/91B/99).