NEW FEATURE LIST RT-21

[### is a future software release]

1. Variable intensity of LCD backlight or VFD ('D' versions) display. 10 levels on LCD, 4 levels on VFD

2. One software load covers AC, DC and relay control systems.

3. New OPTIONS
    a. TIC-PST - Implements additional protection by disallowing motor runs when pot is NOT in the correct portion of its range.
    b. Orion - Implements defaults to proper soft limit and counter settings.
    c. SPID - Implements defaults to proper counter settings.

4. Speed setting of AC Motor added, changing PWM freq to low value for AC motors, but defaults to full speed. This means separate generic software isn't needed to use AC motor speed control. (See #2)

5. Min Speed added to allow setting of ramp start-up speed independent of the Max speed setting. Actual motor speed added to display.

6. 10 ramping settings for wider range of ramp control.

7. Ramp up AND down on button press. The button release ramp is minimal, but does reduce the stop shock of none.

8. Both Reversal and Brake delays are now set with just one "Delays" setting.

9. Computer commands will take the "shortest" route to new heading for units that provide over-travel capability. Uses Soft Limit settings to determine if it can go shorter route.

10. On-Board jumper added for Pro-Sis-Tel rotors that use 1 turn of a 10 turn pot.

11. Vanity boot display for LCD added. (must have upgraded LCD)

12. Computer control now up to 1/10th degree resolution. Naturally, can only be as good as the feedback mechanism. eg.

    a. A full range pot for 360 degrees would yield about 1/3 degree resolution
    b. A TIC RIngrotor pot could yield 1/2 degree resolution
    c. An Orion with > 11 pulses/degree would yield 1/10th degree resolution

In order to make use of this for satellite tracking applications, GH Tracker is currently the only software that supports the new 10th degree commands. We can supply this information to other software providers as we go. GH Tracker is "middleware" that intercepts headings from all the popular tracking programs and transmits turn commands to the RT-20/21 for actual movement to the users' resolution requirements.

13. Large expansion to the serial (and USB) protocols to add remote and computer features:
    a. Direct reading and writing of all EE values and calibration parameters (POT A/D values for CCW and CW endpoints. Storage to named files for later recall
    b. Force CAL CCW and CAL CW
    c. Direct reading of the rotor's POT A/D values
    d. Reading of Firmware version #

e. Setting of Security levels
    i. User - can only operate but cannot enter SETUP, Calibrate, or RESET EE
    ii. Admin - Access to SETUP

14. Unit comes with RT-21 SETUP software that makes use of many of these features. New Preset Calibration features allow quick cal of most units to within a few degrees.

15. Controller default is N center (OFFSET = 180).

16. Counter-rotate Slave goes back to center of rotation when pressing CANCEL to temporarily suspend counter-rotate functionality. This will place the upper antennas tracking with the lower one.

17. Counter-rotate Slave goes back to last independent heading when pressing CANCEL to return from temporary suspension of Counter-Rotate function. ***

18. Adjustable No Motion Timeout (used to be “Position Fail” in RT-20) from serial port (or SETUP software)

19. Serial Commands on 232 OR USB port. Software downloads only on 232 port.