RCP02 V25 Release Notes

These notes cover changes made to the RCP02 code since release V24 of 3 January 2001. If you are upgrading from an earlier release, please read those notes also.

Bug Repairs

1. The formatting of the "Ambiguous Variable Name" error within the "Control Logic" command was not working properly. The text was fine on a local TTY, but was missing a few characters when seen in chat-mode.

2. The soft position limits were not behaving properly when the antenna happened to be positioned precisely at those limits. Drive impulses of ±100 D-Units would sometimes be output for a few milliseconds while the limits were being enforced. This has been repaired.

New Features

1. All of the XMTnn serial I/O data formats now include a bit indicating that the pulse width is not to be changed. This allows the host computer to freely send command packets without having to worry about accidently changing the RCP02's current pulse width. The "don't change" indicator is Bit #5 of Control Word #1.

2. Support for transmit polarization control has been added to the XMT05 and RCV05 serial packets. A 3-bit polarization request is encoded in the low bits of Char #15 of each XMT05 transmission; and the same 3-bit field is echoed back in the low bits of Char #19 of each RCP05 record, along with an "okay" bit. A value of seven in the XMT05 packet means that the RCP02's current polarization should not be changed. Please see Tables C-6 and C-7 of the *RCP02 User's Manual* for more details.

3. Several new logic variables have been added in support of polarization control. The control variables **cpol_horiz**, **cpol_vert**, **cpol_alter**, and **cpol_simul** indicate the requested polarization state, according to the most recent XMT05 record that actually made a request to set the polarization. The variable **cpol_changed** will be TRUE for 0.25 seconds whenever any changes are made to the requested polarization.

   Likewise, the status variable **spol_okay** should be used to indicate when the external polarization hardware has reached its requested state. This variable creates the "polarization okay" bit in the RCV05 serial stream, and has a default value of TRUE. If your polarization hardware takes an appreciable amount of time to switch, then you should use logic equations and timers to set **spol_okay** FALSE immediately after seeing **cpol_changed** become TRUE.

4. New logic variables have been added to help with trigger blanking within protected sectors. The eight control variables **use_sect1** ... **use_sect8** can be used to selectively enable/disable any of the blanking sectors. Setting one of these variables to FALSE will disable trigger blanking from the corresponding sector definition. Also the new status

variable **trig_is_blanked** indicates when the trigger is being blanked for any reason. This is handy because you can write equations to control other variables based on trigger blanking, e.g., turn off RADIATE in order to prevent transmitting within a protected sector.