

## RCP02 V23 Release Notes

These notes cover changes made to the RCP02 code since release V22 of 27 December 1999. If you are upgrading from an earlier release, please read those notes also.

### Bug Repairs

1. A bug was repaired that prevented a Dual/Redundant system from being controlled via the local “Monitor Angles” command.

### New Features

1. The Dual/Redundant system code is now capable of switching between systems in response to requests from the host computer. The RCV05 and XMT05 serial formats now include two more bits to control these transitions. One bit (*WouldUse*) announces that the host computer would like to use the antenna (whether or not it is actually available); and the other bit (*Relinquish*) indicates that control can be voluntarily relinquished to the other system.

When the RCP02 receives a *Relinquish* offer, it checks the other unit to verify that a) it is communicating properly, b) it is not indicating any faults, and c) it has *WouldUse* TRUE and *Relinquish* FALSE. Under these conditions, if control were offered to the other unit, it would actually be in a position to accept it; and so, the switch-over is made at that instant. Since the algorithm will only flip to a system that is actually ready to go, it automatically optimizes scheduling of the antenna as each radar is able to use it.

The additional logic variables *drpc\_woulduse*, *drpc\_relinquish*, *other\_drpc\_woulduse*, and *other\_drpc\_relinquish* will appear in the control logic editor whenever voluntary flipping is enabled.

2. The elevation position servo will now work properly over the complete 360-degree interval from –90 to +270 degrees. Servo motion will always be directed “over the top” when the antenna moves from one position to another. For example if the antenna is at +200 degrees, and a request is made to move to –30 degrees, then the antenna will traverse the 230-degree sector passing through 90-degrees. This is different from what would happen on the azimuth axis, where the shorter 130-degree path would be taken.
3. Elevation angles that are displayed by the RCP02 are now shown on a –90 to +270 degree span. This includes all elevation angles appearing on the front panel display; plus those printed from the various “Monitor” commands. You may still request negative elevation angles less than –90, but they will always be displayed in the –90 to +270 interval. For example, in the “Monitor Angles” command, typing “ep –170” will bring the antenna to a position indicated as “+190”.

### Setup Changes

1. A new setup question appears in the “Site Custom” Dual/Redundant system section: “Allow voluntary flipping between units: YES”. This selects whether an RCP02 pair will

- respond to requests from the host computer to change which unit is active (See New Feature #1. ).
2. A new setup question in the “Site Custom” Dual/Redundant system section: “*Include Data Processor NST faults*”, allows you to include the fault status of the Data Processor reported by IRIS when determining whether a given channel is okay. Answering “YES” means that both the Data Processor and the Radar Workstation must be working in order for the channel to be considered “okay”. Answering “NO” (the previous default) causes only the Radar Workstation to be checked.
  3. The elevation axis bounds for the soft and hard limit angles have been increased to a full –90 to +270 degrees. This is to handle antennas with a large range of motion on the elevation axis (See New Feature #2. ).