

IRIS 8.06 Release Notes

These notes cover changes made in IRIS since release 8.05 of 24 February 2004. If you are upgrading from an earlier release, please read those notes also.

Important Upgrade Changes

1. Starting with release 8.06, the separate IRIS and RDA release cdroms have been combined into one. This new cdrom also is a boot-and-go cdrom for Linux which will automatically install RHEL Linux using the Linux cdroms. The directory structure of the cdrom has changed as a result. See the updated installation manual.
2. *Linux customers only:* Starting with IRIS 8.05.6 we now are supplying IRIS releases on RHEL3. For a limited time we will continue to supply IRIS releases under RH 7.1. The new RHEL is required for customers using NORDRAD2, or using the IRIS Webserver.
3. For IRIS Webserver customers, the new RHEL webserver daemons work better than the old versions. It is no longer necessary to restart the httpd process during bootup. When upgrading, you can remove the following lines from you /etc/rc.d/rc.local file:

```
sleep 6  
/etc/init.d/httpd reload
```

4. *For Bird and Aircraft tracking systems only:* We have changed the way DWELL product works on WARN inputs. It now takes the input centroid name, and adds a trailing “d”. Previously it was changing the centroid name to “dwellwarn”. This allows the customer to have several different kinds of DWELLS running on the same system. We also automatically rotate the icons in WARN products to orient with the direction of motion. After upgrading, you will need to change your tracking icons so they point North.
5. The config files storing the IRIS Product Output Menu’s output options have been converted from binary to ASCII format. You should run **makeAsciiSetups** after an upgrade to convert them. The files in the \${IRIS_MENU} directory of the format *.POM files will change to *.pom_options.
6. Real-Time Display V1 data format was changed slightly to support RHI displays. This means that once you upgrade one end, **rtdisp** will not work until the other end is upgraded. Also the **rtd_echo** program now takes a 3-character site code as the second argument replacing the site number. RTD site number are now entirely removed. You must make sure all your radars transmit different site codes to prevent confusion. The configurations files used by **rtdisp** were also converted from binary to ASCII format. The old files will be automatically read and converted the first time you run **rtdisp**. You will see messages about this on the terminal.

Bug Repairs

1. On systems configured to simulate the RVP8 processor, the **ingest** process was printing out the task name each time a sweep started. This bug was introduced in 8.04.1.

2. Fixed mistakes in the PVOL data produced by **IrisToHDF5**. The lat/lon were reversed, as well as the range resolution and stop time were wrong. The data array was reversed in azimuth, and missing rays were not filled with nodata tags.
3. The real-time display transmitter software could not handle data with a negative start range. Also there were changes made in how the RTD deals with sector blanking. It used to freeze while in a blanked sector. Now it displays blank data once a second.
4. A mistake was made in the /usr/sigmat/config/images/iris_startup.gif files shipped with our IRIS releases 8.03, 8.04, and 8.05. We were shipping the Belgo Control picture, not our standard IRIS image. If you get the wrong picture by mistake, you can copy the correct one from /usr/sigmat/config_template/images.
5. The SLINE product was not correctly setting all the protected areas it went through. It was marking the end point correctly. This was caused by floating point rounding errors, so it varied on different platforms, and OS versions.
6. The LLWAS integrator **tdwr_llwas_int** was incorrectly setting the radar's sitename to the local machine's. This bug was introduced in version 7.30 on 16 August 2002. We have now removed all references to the local license setup file, so the product sitename will be set the same as the radar sitename.
7. **Ascope** is using the IRIS sitename as part of the filenames used for recorded data. There was a bug in the Record/Playback menu such that it might not display a list of the recorded ascope files. Depending on the sitename, it might also not be able to parse the filenames to get descriptive information. This is all repaired for new data, in some cases you may need to rename your files to remove things like imbedded spaces and dots.
8. Bug in the task configuration menu. If a custom major mode name was longer than 10 characters, we would overflow the form. This caused the pop-ups to fail for File->Open, File->Delete and Data types. As a work around, simply grab the side of the window and widen it a bit.
9. When using **DspExport**, some SIGMET applications were not correctly reading their DSP related setup information from the source machine. This was fixed in **agcal**, **antenna**, **ascope**, **gaincal**, **gaintest**, **trigger**, **utils**, and **zauto**.
10. Fixed memory leak in **N2RelayIn**.
11. Repaired bugs in the product generator using some of the newer projections. Blank **Gnomonic** projection was not implemented. It would signal Invalid map projection if you asked for it. Blank **Gaussian** and named **Gnomonic** and **Perspective** were also broken. **Perspective** would work correctly if you were over the equator, which is normal for geosynchronous satellites.
12. Repaired a bug in the COMP product scheduling. Rule 4 was changed to wait longer. It will now allow multiple inputs to arrive for some sites while it continues to wait for a missing site. This is the only way to get it to correctly composite radars with different recording periods. Also fixed the product generation time in the COMP product headers. It was copying the generation time of the first input, not using the current time.

13. Repaired several bugs in the TRACK product. It was crashing when run on MAX products as inputs. This has been broken since release 7.16 on 24 March 2000. Also the calculation of storm motion for both MAX and VIL was broken. This was never working. There was a rounding error in `fdata_to_user()` function which caused it to output small negative numbers for VIL data sometimes.
14. There were extensive changes made to the “antenna chatting” feature of the SIGMET antenna library. The program **antcheck** was renamed to **antx**. The the default chat mode sense was reversed, so “antx” was previously “antcheck –chat”, and “antx –nochat” was previously “antcheck”. We now prevent 2 clients from running chat mode at the same time. Previously if you ran **antx** twice you would get half the characters at each. Any programmer’s who are using chat mode in their code should contact SIGMET for details.

There were changes made to support **antx** running on systems with 2 RCP8 threads. There is a new command line option to specify the desired host, for example:

```
$ antx -host:rcp8
```

means you wish to chat with the rcp8. **Antx** detects how many hosts have recently transmitted, and will refuse to run without an explicit host on a multi-host system. It will print out a message showing what host choices you have.

15. The **HDF5ToIris** pipe program was not correctly reading the `/how/nodes` attribute. The program would crash if you has more than 1 node.
16. The QLW cursor point was not correctly redrawn when the displayed data was changed. This bug was introduced in 8.03 with the cleanup of the excessive red-X drawing.
17. The QLW TrackTool now computes the propagation speed and direction even if forecast is turned off. This fixes some tracking bugs.
18. The new RVP8 **tsarchive** code was causing **ps_iris** to generate spurious hits on similar looking executable names with “ts” in them.
19. The **SRI** product was broken in the sense that it was always running the convection test. This dates back to the start of the **SRI** product.
20. SGI Platforms only: The CAPPI Product Configuration Menu was crashing when the Data:Display button was pressed. This bug was introduced in release 8.02.
21. The velocity correction for shipboard platform motion was not being applied. This bug introduced in release 7.28. While repairing this, we added support for applying the correction on 2-byte velocity data. Also added a `–shipvel` command line option to **change_raw**. This allows you to apply the missing velocity correction in post analysis.
22. IRIS was not handling multiple SIGCHLD signal at the same time. This had the effect that zombie processes could be created. The only known way to produce this case was to turn off the ingest process from the RST menu when you had multiple real-time display transmit processes.

23. The RAIN1 and RAINN scheduling (case 2) was broken if recording using local time. This bug dates back to 7.31 9/16/02. It was running early in the Eastern hemisphere, and late in the Western hemisphere.
24. Fixed a bug in **sigbru**. It was failing on a large operation with the status window enabled, the status window would overflow and stop the program. It also was slowing down the inventory program. Instead of writing each file to the window, we now:
 - If doing a Make Inventory then every second put a “.” in the sigbru status window.
 - If doing a Backup or Restore only put the directory in the sigbru status window if the directory has changed.

New Features

1. Announcing the new QLW “Live” button. Live is a feature which allows the customer to generate and display products interactively without having to use the product configuration menu or product scheduler menu, or product output menu. Many adjustable parameters such as maximum range, center position, smoothing, CAPPI height are all interactively adjusted using slide bars. Please check this out and let us know what you think.
2. **Zauto** now supports single point calibration, as well as calibration from the RVP8’s built in noise source. There are some changes to setup to support this. In the *RVP/Calibration* section, there is a new question “Cal signal bandwidth”. This can be set to “Narrow”, or to “Broad”. The Narrow case gives the legacy behavior, i.e. it is assumed that you are using a signal generator to calibrate the radar, and that the signal generator’s bandwidth is far smaller than the RVP8 receiver bandwidth. The Broad case indicates that you are calibrating with a broad band noise source. In this case you will be prompted to enter the “Noise source ENR value”. When calibrating this way, you do not need to enter a signal generator power level in to **zauto**. If you wish to compare the 2 calibration methods, simply run one way, then change the setup question and run the other way.
3. The real-time display now supports RHI type displays, and rectangular window sizes. The display will automatically switch format when an RHI scan starts. Please check the Real-Time Display chapter of the *IRIS Radar Manual* for details.
4. Our **checkup_iris** utility program is renamed **sigmet_env**. This is to emphasize that it checks the OS environment required for many sigmet products, not just IRIS. It now takes an “-rda” command line option to check the environment required for RDA. The default is the IRIS check.
5. The SRI product can now run without T (Total power) data. In such a mode, it cannot apply the “lowest clutter-free bin” feature, but otherwise can run. This is required on systems which import radar data and do not include T data.
6. There was a problem with the QLW introduced with the new ability to dismiss all the tool and information panels from the window: How to get them back. You can get them back using the right mouse button, but unfortunately on touch screen displays there is no

- right button. We have now change the window such that if you touch the screen in the 100x100 pixel upper left corner it will restore the tools and information panels.
7. Added a new live feature for making XSECTs. Now if the XSECT Tool is popped up, just moving the line will cause IRIS to make continuous XSECTs.
 8. Changes were made to the DWELL and RAIN1 product configuration menus. Both of these product require specifying an input product. Now when the input product is specified, it reads information from the most recent version of that input on disk. Previously it read information from the product configuration files. These were missing or incorrect on a system which is not making the input files.
 9. The DWELL product tracking feature was enhanced to better support airplane tracking. It now allows speeds up to 999 knots. It also allows the user to select the spacing of the different track speeds and directions which are considered.
 10. There is a new features in the antenna library now working. This is called **AntExport**. This is the ability for a controlling antenna library to export it's state over the network. In such a mode, importing systems could also run the **antenna** utility to both see status and control the antenna. The setup configuration information from the exporting system is automatically sent to all importers.
 11. The **HDF5ToIris** now has good control over the product name of the produced IRIS product.
 12. The display of WARN products made by the DWELL product will now automatically rotate the icon to match the direction of motion of the target. You should make your icon pixmap aimed straight North for this to work. Customers who are upgrading the bird tracking will need to make a new icon aimed North. We are shipping 3 2-color icons with the system: plane, plane2, and triangle.
 13. IRIS now starts up all it's processes as daemons. This means that any stray diagnostic printouts will not appear anywhere, and will not crash the process. It also means that you cannot cause a sudden shutdown of IRIS by killing the process group or session leader. If you need the legacy behavior for some reason, run **siris** with the **-debug** option. Note that all IRIS pipes should have the LOG line in the .conf file set to NONE or FILE. In an operational system there is no reason to use terminal logging.
 14. **Show_iris** now displays the product name of in-use products. This may help debugging.

Setup Changes

1. Added **setup** questions for noise source calibration. See new features 1. for details.
2. The License section of **setup** has changed significantly. You can now type in multiple licenses, and add comments to end of the license strings. Here are some of the great uses for this:

If you are a backup system: You can now enter both the normal operational license and the backup license in **setup**. IRIS will automatically use the correct licenses at startup time.

If you are testing a new feature such as composite: You can not enter both the normal operational license and the temporary test license. IRIS will automatically accumulate all the currently licensed features at startup time. Once the temporary license expires, IRIS will continue to work with the old features. It only complains if all the licenses have expired.

3. There was a bug in the antenna library which caused the sense of the reset line to be set by TR power sense **setup** question. If you have problems after upgrading, please check the reset control sense, and set it the same as the TR power sense.
4. We have added 2 new special colors to **color_setup**. These are “Wind Barb Color”, and “Range Ring Color”. The Wind Barb Color is used to draw the wind barbs for NDOP, VVP, and WIND product displays and overlays. The Range Ring Color is used for range rings, lat/long grid, as well as the RHI, XSECT, BEAM, RTI, and VVP grids. Previously these were drawn in the “Overlay1 Color”, which continues for: Overlay lines, Protected areas, Catch boundaries & text, Catch Icons, Messages on the window bottom, WARN icons, Centroid text and tracks. If these colors are wrong after an upgrade, please set them as desired in **color_setup**.