

IRIS 7.31 Release Notes

These notes cover changes made in IRIS since release 7.30 of 18 July 2002. If you are upgrading from an earlier release, please read those notes also.

Data Format Changes

1. The IRIS `ymds_time` structure now includes flags in the upper bits of the milliseconds field. These flags document whether the recorded time is in UTC, and whether summer time is in effect. IRIS handles these new flags correctly, but if you have an analysis program which reads the milliseconds, it should now mask to use only the lowest 10 bits. The field was renamed to make sure programmer's check their code. See the *IRIS Programmer's Manual* for the format details.
2. Other time related format changes were made to the `product_end` and `ingest_configuration` structures: The local time offset and timezone names were added. This information was also added to the recorded **ascope** data in the structure `asc_stats`. Timezone labels were added to most window headers, and to the internal log files. Also repaired the missing the version number in `asc_stats`.

Important Upgrade Changes

1. IRIS now has a new manual, called the *IRIS Radar Manual*. This was formed from part of the *IRIS User's Manual*, the remainder is renamed the *IRIS Product & Display Manual*. This manual is now in the **manuals** utility, as well as various help pages. When upgrading, you must add the following line to your `${IRIS_CONFIG}/profile` file:

```
export IRIS_MANUALS_IRISRAD="${IRIS_ROOT}/manuals/IrisRadar.ilcab/irisrpdf/irisrad/"
```

Setup Changes

1. Removed AZ and EL scan speed multipliers from Ingest / *Scanning Options*. If the automatic computed speed is not correct for your task, then enter an explicit value.
2. *Radar systems only*: The serial link between IRIS and the RCP is no longer configured by the `${IRIS_CONFIG}antenna_init` script. You now enter the baud rate and parity in the RCP section just after the device file. When upgrading, examine the `antenna_init` script to get the values. Set parity to "none" if the `stty` command has the `-parmenb` flag.
3. Many Speak/Beep questions now changeable at run time with **setup_change**.
4. Added the new question "Timezone for data recording" to the General / *Modes and Protocols* section. You can now select either local time or UTC for recording. Selecting "Local time" gives you the previous behavior. Selecting "UTC" gives the new feature allowing IRIS to record times in UTC, while the computer's local time is set to any desired value. SIGMET recommends that you do not record data using local time if you use a time which changes by 1 hour between summer and winter. IRIS will signal a

warning if you start up recording summer time, and if the timezone changes while running. A similar question was added to the RCP / *Process Control and Serial I/O* section. This specifies the timezone for the time packets. On systems which set time from the RCP, be sure to set this correctly.

5. The dsp and antenna drivers in IRIS are now official public APIs. The dsp_lib.h and antenna_lib.h header files are now commented extensively, making them much easier to use by programmers linking to these SIGMET drivers. The source code to these libraries is included in the release for documentation purposes. It is not expected that customers will change change this. There are two example programs using the antenna library in the utils/examples directory, called "ant_example.c" and "orda_example.C".

Bug Repairs

1. Added an error message when you add a product to the product scheduler, but the "add for" is set to no sites.
2. Fixed some bugs in the **IrisToArchive2** pipe: The range resolution is now controlled by the configuration file. The filename extension now starts from 000 each day and increments. The data pointers were off by 36. Data types were mixed up in some cases. The data pointers were also wrong in **archive2view**.
3. IRIS was displaying a message for the wrong fault for BITE faults where the field number was larger than 32. Bug introduced on 11 June 2002 in 7.30.
4. **Zcal** was showing the horiz calibration for Vert only radars.
5. Repaired a range mask bug when the range mask spacings were not all the same for each pulsewidth.
6. The product configuration menu now requires a minimum max range of 1.0 km.
7. *NORDRAD users only*: Output crashes no longer leave a temporary file. Fixed broken output of RAIN1 and RAINN products. Bug introduced in 7.17 on 3/30/00 with the introduction of the rain units control. Also added optional timezone to the NORDRAD_AREAS.DAT so local time can be stored.
8. The IRIS output to JPEG quality was raised from 75 to 95.
9. In the VVP product configuration, the bin quota max was raised from 10000 to 50000. SIGMET recommends setting this to a minimum of 10000.
10. The output options load command worked only for the first device. This bug dates back to 1996.

New Features

1. The serial antenna driver is rewritten to add new features:
Packet delays are significantly reduced.

The “antcheck –chat” utility now runs with pretty much no perceptible delays!

The antenna_init script is a thing of the past. You now setup the antenna parameters entirely in **setup**.

In general, anything that does I/O to a real TTY can now work with a pair of FIFO descriptors. This makes it really easy to build hardware-less loopback connections, as well as quick interfaces to third party software, anywhere that a TTY would normally be used.

2. The IRIS antenna driver is now an officially supported public API. You can link your program with SIGMET's supplied antenna driver. SIGMET recommends programming in C++ and including our antenna_lib.h file. The source to libs/antenna is now open, and included on our release. This is for documentation purposes, and we discourage making changes to the driver.
3. Raised the max number of catch definition files from 5 to 20.
4. IRIS input and output pipes are now always supplied with a command line option “–device:%d” to specify which device they are. This allows the same pipe program to use different configurations for different inputs or outputs.
5. A major new feature in IRIS 7.31 is better support for recording data timezones. IRIS always recorded the time offset from recorded standard time to UTC. This is now augmented by the summer time flag, the timezone ASCII string, as well as the local time offset. This allows IRIS to display time in either Local, Default, or UTC on the displays. This is controlled by the output options menu in POM, and QLW. Previous to 7.31, the local timezone ASCII names were not recorded, so old data will display as hours east of UTC, for example “–05” for US EST.
6. *Linux platforms only:* Another major new feature in IRIS 7.31 is the IRIS Web interface. This allows viewing IRIS product files from any web browser using Java. Please contact SIGMET if you would like to buy this feature. This is a separately licensed feature, which requires special installation setup.