

IRIS 7.26 Release Notes

These notes cover changes made in IRIS since release 7.25 of 13 April 2001. If you are upgrading from an earlier release, please read those notes also.

Installation Changes

1. The upgrade procedure now removes all symbolic links from the bin directory tree. This means that any message catalog language customization with links should be moved out of the bin/nls directory.
2. The Z-calibration file is changed. You must run **makeAsciiSetups** after upgrading to convert this.

Bug Repairs

1. Repaired a bug in **ascope** that was causing the DSP setup information to be replaced with old data whenever a saved configuration was loaded. This has been broken since 29 Dec 2000 (7.23).
2. Fixed the display of the remote hostname in **setup**. It was only correct on the main menu.
3. Several changes were made to the new DWELL product: Removed the ANG diagnostic. Changed the speed search step 3 -> 4 m/s. Changed the area blocked by the contrastor to be displayed as area-not-scanned. Allow interrupting the product in the middle.
4. Fixed wrong results count in COMP of WARN. This effectively made the composite of WARN product not work in 7.25.
5. Repaired the TRACK product, which was broken in 7.25.
6. *Linux platforms only:* All IRIS tape features were not working correctly if the tape drive was left in fixed block size mode by a previous program. IRIS now forces it to variable block size mode. It is possible to display and set the block size using the **mt** command.
7. *Linux platforms only:* Fixed a bug causing the setup utility to crash when run using the new Metro Link Motif 1.5 or the OpenMotif supplied with RedHat 7.1.
8. Added the ability to interrupt the COMP product in the middle. This is important because it can run for a long time. Also qiris will interrupt it.
9. The RTI product was always running on the first sweep in continuous scans. The time displayed was the correct sweep time. The RTI product data was also wrong if the task start range was not equal to zero. It was also not working correctly on area-non-scanned with 1-byte data.
10. IRIS now signals a warning if the desired elevation angle is not reached for the noise sample.

11. Fixed broken parsing of the WARNING command in catch definition files. Also fixed a bug in the catchment name text size. This was broken on 2/23/01 in release 7.24.
12. The “Wild Time” button was not working correctly in the Ingest Summary Menu.
13. The Fallspeed correction flag was displayed wrong in **rays**.
14. Fixed a bug in the TCF menu in the DSP Data popup. Many of the toggles were desensitized.
15. Enhanced the UfToIris.conf file to allow specifying a dBZo to the task table used when converting a UF file to IRIS format. This turns out to be important because it is used in the reflectivity gradients in the XSECT and CAPPI products.
16. The listing file did not include the new “Inputs” section.
17. Fixed header lines in the POM. They used to only save up to 14 radar sites for output. We now support 17 sites with the full list, also up to 31 sites with a summary message like “31 Sites”.
18. Fixed a bug in **antenna**. Some of the status and command values were displayed blank on initial startup. They will always display correctly once they changed.
19. Fixed **irisnet** crashing when doing a “Show Iris Versions” and some of the remote IRIS systems were before release 7.23.1.

New Features

1. Changes have been made to IRIS ingest in support of the Burst Pulse Tracker that was added in the RVP7 V21 code. If the transmitter is ON at the start of a task but the burst pulse is missing, then a hunt for the missing burst will be initiated. A signal will be added to the log each time this happens.
2. The IRIS COMP product now supports compositing the new DB_TIME2 data type.
3. IRIS now supports drawing icons non-centered using hotspots. All the .xbm file in the template/overlay directory now contain explicit hot spots. For backwards compatibility, any icon with a hotspot of (0,0) has it changed to the center.
4. IRIS now supports intervening attenuation correction.
5. The **checkup_iris** utility now verifies that all users listed in IRIS_OPERATORS and IRIS_OBSERVERS are running 'ksh' as their default shell.
6. IRIS now ships with newer 1998 NORDRAD API files.
7. A major new feature in IRIS 7.26 is better support for calibration on dual polarization radars. There are changes in the following areas:

A) The Z-calibration file is changed. It was called “ZSLOPES1.DAT”, and now is called “zcalib.conf”. The new file is ASCII format. You must run **makeAsciiSetups** after upgrad-

ing to convert this. The new format contains copies of all values for all pulse widths and for both horizontal and vertical polarization. The old format had separate calibration offsets for each pulsewidth, but only 1 copy of the other numbers.

B) The **zcal** utility is enhanced to print out information for multiple polarizations if applicable.

C) There are changes to **setup**, discussed below.

D) There are changes to **zauto7** to allow specification of which polarization is being calibrated. Also there is a new ID push button. This allow users to set zcal date and ID.

E) There are changes to the RCP02 and the antenna serial format to include control and reporting of the polarization. The **antenna** utility program was enhanced to show the polarization state, and to remove the control of pulse width. The correct way to control both the pulse width and the polarization is to use **ascope**, or the task configuration menu. Note that if you select “H” or “V” on a radar which does not support H-only, but has H+V mode, it will select that mode in the RCP02.

F) **Ascope** is modified to load the correct calibration based on the selected polarization and pulse width. The value is displayed in the lower right corner. This number can now no longer be manually overridden.

G) Ingest is modified to load the correct calibration based on the selected polarization. The correct calibration is the H one except in the following cases:

- * If you selected H+V on a radar which also supports H-only transmission, then the calibration from H-only is used modified by the differences between the losses in H-only and H+V modes.

- * If you selected V then use the V calibration.

8. It is now possible to specify an antenna scan speed in the TCF menu for an RHI scan. The scan rate in degrees/second is what would be attained at the 0-degree portion of the RHI scan, even if the RHI does not actually include zero degrees. This change gives you better control of the RHI scan speed in cases where the DSP time can not be estimated accurately, e.g., for Dual-PRT modes that are limited by duty cycle rather than effective PRF. Also, the 0-degree RHI scan speed is now stored in the “iscan_speed” slot of the recorded INGEST header. Previously this field was always zero.
9. The **ascope** signal simulator has been improved so that Dual-PRF and Dual-PRT time series are correctly simulated for all DSP major modes. When you switch into an unfolding mode, the dimensionless velocities that are computed will match the simulator’s velocity, i.e., the measured velocity in meters/sec is scaled up by the unfolding ratio. Widths behave differently; both the dimensionless and the physical widths will be scaled up by the unfolding ratio.

Setup Changes

1. Removed **setup** question “raw product file system shared with others”. This was usually answered wrong, set to “Separate”. Now the file quotas are only applied separately.

2. There is a whole new section “*Intervening Attenuation Correction*” added to the **setup** Ingest menu. This allows selecting the 4 tuning parameters for intervening attenuation. This is turned on/off in the task configuration menu.

3. Added the following new polarization questions to the **setup** RVP section “*Optional Data Parameters*”. This allows you to fully specify what your radar hardware can do. For dual polarization radars, please check this section after upgrading. The list of polarization choices in various places is controlled by these questions. The “Max wait for polarization change” is how long in seconds after you request a new polarization before you expect that it has changed. If the confirmation does not arrive in this time, then signal an error. I have shown appropriate values for our first two dual-polarization radars.

| | Kwaj | NPOL |
|----------------------------------|------|------|
| Max wait for polarization change | 0.0 | 15.0 |
| Polarization receiver scheme | Dual | Dual |
| XMT Supports Horizontal only | No | Yes |
| XMT Supports Vertical only | No | Yes |
| XMT Supports Alternation | No | Yes |
| XMT Supports Simultaneous | Yes | Yes |

4. Added the following new polarization related loss questions to the **setup** RVP section “*System Parameters*”. This allows you to fully specify how your polarization is implemented. For dual polarization radars, please check this section after upgrading. The assumption here is that you have 1 transmit power. If you have different losses in different polarization switches, the losses are specified here. The example values below are for a case with 1 dB loss in the waveguide, and a 3dB splitter used for the H+V mode which gives slightly more power out the H side. Note that questions not applicable to your system are not listed.

| | |
|----------------------------|-----|
| Horiz Transmit loss H only | 1.0 |
| Horiz Transmit loss H+V | 3.9 |
| Horiz Receive loss | 1.0 |
| Horiz Test signal loss | 0.0 |
| Vert Transmit loss V only | 1.0 |
| Vert Transmit loss H+V | 4.1 |
| Vert Receive loss | 1.0 |
| Vert Test signal loss | 0.0 |

5. The maximum length of the custom trigger periods that can be defined in IRIS has been increased from 32 to 64 pulses. This matches the maximum length permitted by the RVP7.