In Reply Refer To: March 16, 2005
Mail Stop 415

OFFICE OF SURFACE WATER TECHNICAL MEMORANDUM 2005.04

SUBJECT: Release of WinRiver Software version 10.06 for Computing Streamflow from
Acoustic Profiler Data

The purpose of this memorandum is to announce the availability of WinRiver 10.06 for
collecting and processing data collected with RD Instruments (RDI) acoustic profilers
(Broadband, Rio Grande, Workhorse, and others). The WinRiver software was developed by
RDI, in cooperation with the USGS, as a part of a Cooperative Research and Development
Agreement (CRADA). The use of WinRiver software by USGS offices was announced in Office
of Surface Water (OSW) Technical Memorandums No. 2000.03, 2002.03, and 2003.04.

This release of WinRiver (10.06) fixes a problem in WinRiver 10.05 that resulted in WinRiver
not being able to decode GPS data with some combinations of GPS receivers and laptops and
does not involve major changes to the software. Therefore, it is NOT necessary to reprocess
discharge measurements made with 10.05. Attachment A contains a list of changes made from
WinRiver version 10.05 to version 10.06.

All USGS users who collect streamflow data using RDI ADCP's should upgrade to WinRiver
10.06. The software is available for download from the Office of Surface Water's (OSW)
Hydroacoustics pages at http://hydroacoustics.usgs.gov/software/ . Although WinRiver 10.06
has been available from the manufacturer for some time, the OSW has not released this memo
until now due to reported problems in the use of GPS with WinRiver.   OSW has subsequently
determined that these problems were not caused by the WinRiver software.

OSW Technical Memo 2003.04 (http://hydroacoustics.usgs.gov/memos/OSW2003-04.pdf),
which documented the release of WinRiver 10.05, contains policies that are is still in force and
should be followed when using WinRiver 10.06. As a reminder, the following policies and
guidance are restated from Technical Memo 2003.04. (More detailed explanations of items 1 – 4
below are available in OSW Technical Memo 2003.04.)
  1. OSW strongly recommends that users use the file-locking feature. Proper use of this
     feature will help insure that (a) inadvertent changes are not made to the data after the
     streamflow record is finalized and (b) ADCP data files are not archived with possible
     inadvertent changes.
  2. Use of the Discharge Measurement Wizard (DMW) is mandatory for discharge
     measurements made in the basic streamflow data collection program. Use of the wizard
     will help standardize measurement summaries and make reviewing measurements easier.
     The ultimate goal is to import the measurement summary information into NWIS.
  3. Users should always use the Configuration Wizard (CW) rather than existing
     configuration files. Each time a site is visited, the CW should be used in order to insure

that current site conditions are reflected in the measurement configuration. If any user commands are used to override direct commands created by the configuration wizard, users must document the reason for their use in the measurement notes. See OSW Technical Memo 2002.03 for details on the CW.

4. With the implementation of new extrapolation techniques, OSW does not believe that there is <u>any</u> instance where a user should set the bottom extrapolation method to *Constant*.

For further information on use of the WinRiver, please refer to the *Help* menu and to the software release notes and documentation. If you have any questions or comments about the policies and guidance in this memo, please contact Kevin Oberg (kaoberg@usgs.gov) or the OSW Hydroacoustics Work Group (hawg@simon.er.usgs.gov).

/signed/
Stephen F. Blanchard
Chief, Office of Surface Water

Attachment A   (See attached file: sw2005-04AttachmentA.pdf)

Distribution: Data Chiefs
                Surface-Water Specialists
                Office of Surface Water
                HAWG
                Cc: A, B, District Chiefs

Attachment A – Description of Important Enhancements in WinRiver 10.06

- Fixed problem with receiving/decoding GPS data.
- Fixed problem when switching from Playback to Acquire Mode after installation.
- Changed wording for the User Options - Expert Tab - Data Recording description.
- Fixed problem with generating unnecessary message when attempting to load sequential transect after transect x99 (where x = 1... 9).
- Fixed problem with rounding of negative discharge in Q Measurement Wizard.
- Changed calculation of % Diff in Q Measurement Wizard (average discharge rounded to 3 significant digits).
- Fixed problem with Q Measurement Wizard that saved unlocked files as locked.
- Fixed problem with Configuration Wizard and Mode 11.
- Added resolution for latitude and longitude display.
- Fixed some views that displayed data referenced to "Bottom Track" even though "None" was selected.
- Changed order of "Set ADCP clock", "Set PC clock" items on the menu.
- Changed Discharge Profile plot not to display "Power Fit" line if "No Slip" method is selected.
- Fixed problem with vertical scaling of all plots when manually entering WK command in Acquire mode.
- Added upper limitation on WV calculated in Configuration Wizard (480 cm/s for Broadband and 700 cm/s for Workhorse).
- Changed Reference selection description on menu from "None" to "None (Boat Speed = 0)".
- Changed velocity reference description in Summary File and Discharge History Tabular from "ADCP" to "BTM".
- Enabled GGA quality code 9.