



**United States Department of the Interior**  
**U.S. GEOLOGICAL SURVEY**  
Reston, Virginia 20192

In Reply Refer To:  
Mail Stop 415

February 23, 2017

Memorandum

**OFFICE OF SURFACE WATER TECHNICAL MEMORANDUM 2017.04**

**SUBJECT:** Policy for Minimum Required Software and Firmware for Collection and Process of Streamflow Measurements with Hydroacoustic Instruments

The purpose of this memorandum is to update the minimum required software and firmware for hydroacoustics instrument used to measure streamflow and the procedures that will be used to establish and communicate future changes to these requirements. New versions of software and firmware for hydroacoustic instruments are released by the manufacturers to fix identified bugs and to add new features. The policy in this memorandum supersedes Office of Surface Water (OSW) Technical Memorandum 2011.04 which established policy on the use of hydroacoustic software and firmware.

OSW will maintain continue to maintain information on software and firmware for commonly used hydroacoustic instruments on the OSW Hydroacoustics website (<http://hydroacoustics.usgs.gov>), as originally established by OSW Technical Memorandum 2011.04. The required versions of software and firmware, along with known issues and improvements associated with subsequent releases will be listed on the website. Users should determine the firmware/software version appropriate for their use from the website. Software and firmware versions listed on the OSW Hydroacoustics website are identified as belonging to one of five categories described below:

1. required minimum,
2. recommended,
3. allowed,
4. testing, or
5. do not use.

The current required minimum versions of software and firmware are documented in this memorandum. Future changes to the required minimum will be reflected on the OSW Hydroacoustic website and communicated to the field through the Hawg representatives, email to Data Chiefs, and postings to the Hydroacoustic Forum. Bureau computer staff will be notified so that packages to install software on field computers can be prepared. Firmware and software may also be obtained directly from the instruments manufacturer.

**Status Categories**

The following categories will be used to identify the status for each software and firmware version listed on the Hydroacoustics website.

- 1) Required Minimum – The minimum version that should be used. This version has proven stable and may contain enhancements that are significant over previous required versions. Typically a version that has been recommended for at least 4 months will become the minimum required version if no substantial issues with the version have been identified.
- 2) Recommended – A version shown to have been reliable and containing features that result in a recommended upgrade over the required minimum version. Any known issues or limitations will be listed. A version will typically become recommended after 2 months in the testing category if no substantial issues with the version have been identified. Most users should be upgraded to this version.
- 3) Allowed – Software version deemed reliable during initial testing. Any known issues will be listed along with improvements over prior versions. Use of allowed versions may be desired in cases when the changes benefit a significant number of the user’s particular conditions or equipment. For example: a new version of software is released that adds support for a new hardware. If the user has this hardware, they would need to upgrade to the newer software before it becomes recommended or required. Use of these versions by experienced users will also help OSW identify any unknown issues.
- 4) Testing - OSW is currently testing this version of the software; any known issues or advantages over prior releases will be listed. Experienced users are encouraged to use this version and provided feedback on irregularities or problems observed.
- 5) Do Not Use: A version either prior to the required minimum or that contains issues that adversely affect measurements. \*Note: A version may remain in Allowed or Testing status indefinitely. Example: A new version is released while the prior version is still in Testing. In this case, the prior version may remain in Testing and future testing efforts placed on the newer version.

**Current Required Minimums**

<b>Manufacturer</b>	<b>Software / Firmware</b>	<b>Version</b>
Teledyne RD Instruments	<b>Software</b>	
	WinRiver II	2.18
	Section by Section Pro	1.15
	<b>Firmware</b>	
	Rio Grande	10.17
	StreamPro	31.15
	RiverRay	44.18
	RiverPro	56.04
SonTek	<b>Software</b>	
	RiverSurveyor Live	4.0
	RiverSurveyor Live Stationary	3.90
	FlowTracker	2.30
	FlowTracker2	1.20
	<b>Firmware</b>	
	RiverSurveyor M9	4.02
	RiverSurveyor S5	4.02

	FlowTracker	3.90
	FlowTracker 2	1.17
U.S. Geological Survey	<b>Software</b>	
	QRev	3.21

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Distribution: All WMA Employees