RMS INSTRUMENTS
For Geophysical Exploration

6877-1 Goreway Drive
Mississauga, Ontario
Canada, L4V-1L9

Tel: (905) 677-5533
Fax: (905) 677-5030
e-mail: rms@rmsinst.com
http://www.rmsinst.com

RELEASE NOTES

AARC5XX Support Software – Oct/2020

Documentation & Compatibility –

The Support Software is fully documented in Appendix G of the AARC5XX User's Guide. Refer always to the most recent version of the user's guide.

		Full Compatibility	Partial Compatibility
AARC500 Host FW:	*Gen-1:*	*- - - - - - - -*	*≥ RMS1878-02-F*
	Gen-2:	*≥ RMS11029-03-E*	*≥ RMS11029-01-A*
AARC510 Host FW:		*≥ RMS11031-02-G*	*≥ RMS11031-01-B*
AARC51 Host FW:		*≥ RMS11093-01-G*	*≥ RMS11093-01-B*
AARC52 Host FW:		*≥ RMS11122-02-B*	*≥ RMS11122-01-F*
Front End FW:		*≥ RMS1877-04-E*	*≥ RMS1877-03-E*

ExportDAARC (Windows-Based Data Exporting):

v3.3	Oct/2020	– *ExportMag* page: Support line number. – *ExportMag*, *ExportSerial*, *ExportAnalog*, *ExprtEth* pages: Ensure that Event #0 to #3 fields in GBN files are treated as unsigned values. – *ExportSerial* page: The name of '.gbn' output files must always be based on the name of the input file. (Re-naming, per '.txt' output, does not apply to '.gbn' files.) **NOTE: N/A to AARC5XX data exporting.** – *Merge* and *Export&Merge* pages: Handle gracefully non-numeric tokens in auxiliary files; identify with '–9.999999999e+009'. Header information for '.xyz' output now in generic form. – *ExportEth* page: In time-aligned raw output mode, when scanning was at a rate slower than the incoming data block rate, the program can now automatically generate fiducial values for the intermediate blocks (based on a user-defined 'delta-FID' parameter). Event tags for such intermediate blocks are derived from the last valid tag read. Any leading input preceding the first pre-amble is now eliminated from the output (in time-aligned raw output mode). – General: Changed the ordering and initial focus of tabs.
v3.2	Apr/2020	– *ExportLog* page: Support options to export data files transmitted by (D)AARC5XX system in *fixed-length binary* format. *ExportSerial* page: Support RAW-TS (Raw, Time Stamped) output mode.
v3.1	Sep/2018	– *ExportMag* page: Support option to export barometric-pressure and temperature data in units of 'mbar' and '°C', respectively. Intended for systems that include the embedded sensors option. Protect against potential issue when exporting auxiliary GPS fields for '.gbn' data files.
v3.0	Jan/2017	– *ExportMag* and *ExportLog* pages: The software supports data recorded in systems with GPS output set to 'On-Full' mode. This mode was introduced in systems with firmware per the 'full compatibility' section under 'Documentation & Compatibility' (above). In this mode

		auxiliary GPS data (QI, # of satellites, HDOP, age-of-differential, and undulation) are multiplexed. With the GPS output set to 'On-Basic' (which corresponds to the setting 'Enabled' in earlier firmware revisions) the only auxiliary variable recorded is the QI. The export software will automatically split the multiplexed variables into separate fields in output files (flat-ASCII and '.gbn'). When working on files recorded in 'On-Basic' mode, the program will correctly identify the QI as the only auxiliary field encoded in packets; all other auxiliary fields will be output as 0's in flat-ASCII files, and Geosoft's place-holders ('*') in '.gbn' files. – *Merge* and *Export&Merge* pages: For output to '.xyz' files, the header accounts properly for optional FE-analog data and the new multiplexed auxiliary GPS data (see above). When merging with the GPS option, one may set 'Line Number = 0' so that a single line (Line 0) is assumed for the complete file. (Without the GPS option, 'Line Number = 0' is used to select the last field in the NAV data as the line number.)
v2.6	Aug/2016	– *ExportMag* page: Corrected problem when exporting in *conventional* units, whereby Lat values between 0° and 1° South, or Long values between 0° and 1° West, would be displayed with '+' instead of '–' prefix. The problem did not affect output using *native* units, nor the '.gbn' output file.
v2.5	Sep/2015	– *ExportLog* page: Extended support of 'Raw *n* Mag' format to any number of mag channels (*n*), in the range 1–8. In the past, only 4- or 8-channel formats were supported.
v2.4	Sep/2014	– Direct output to Geosoft '.gbn' binary format now supported in *ExportMag*, *ExportSerial*, *ExportAnalog* and *ExportEth* pages.
v2.3	Jan/2014	– *Merge* and *Export&Merge* pages: The header in the output file generated when using 'xyz' format, now displays the units of variables taking into account the setting of the 'use conventional units' option in ExportMag. (In the past, *native* units were always shown.) – *ExportMag* page: When exporting with the 'test format' option enabled, event tags are now output as four 3-digit decimal numbers (instead of one 8-digit hexadecimal number). This simplifies importing into some analysis software packages. For the same purpose, the time field is in the format 'hh mm ss.sss' (instead of 'hh:mm:sss.sss').
v2.2	Aug/2013	– *ExportMag* page: Extended support to up to 8 TF channels and 3 gradients (from the original 4 TF channels and 3 gradients).
v2.1	Jan/2013	– *ExportMag* page: The program handles cleanly total-field values that are out-of-range. – *ExportSerial* page: Supports a new Raw-Logs protocol, which generates separate log files for a channel that recorded multiple GPS logs (for post-flight corrections) in raw form. **NOTE: N/A to AARC5XX data exporting.**
v2.0	Sep/2012	– *ExportMag* page: With embedded GPS data in the 'd' file, the option to include in the output the GPS quality indicator (QI) has been replaced with an option to use for output 'conventional' units instead of the 'default' units native to the system. While default units are more efficient, conventional units facilitate interpretation. The QI is now always included in the output. (In past versions, this was optional to allow compatibility with now outdated versions of firmware.) Note that the default (disabled) setting of past versions ('do not include QI'), corresponds to output using the default units that have always been employed in the past. The option 'include time field in output' has been re-labeled, 'use test format (includes time field)'. – *Merge* and *Export&Merge* pages: The merge process for 'embedded GPS option' takes into account the type of output units selected for ExportMag; i.e., if conventional units are selected, this will be reflected in the output of the merge.
v1.9	Sep/2012	– Merge and Export&Merge pages: The merge process for 'embedded GPS option' now uses a different algorithm to generate the output. It requires much less memory than the previous one, with negligible difference in execution time. Improved error reporting for insufficient memory conditions.
v1.8	Mar/2012	Baseline

Console-Based Data Exporting Programs:

ExportMag

v3.0	Jan/2017	–	The software supports data recorded in systems with GPS output set to 'On-Full' mode. This mode was introduced in systems with firmware per the 'full compatibility' section under 'Documentation & Compatibility' (above). In this mode auxiliary GPS data (QI, # of satellites, HDOP, age-of-differential, and undulation) are multiplexed. With the GPS output set to 'On-Basic' (which corresponds to the setting 'Enabled' in earlier firmware revisions) the only auxiliary variable recorded is the QI. The export software will automatically split the multiplexed variables into separate fields in output files. When working on files recorded in 'On-Basic' mode, the program will correctly identify the QI as the only auxiliary field encoded in packets; all other auxiliary fields will be output as 0's.
v2.9	Aug/2016	–	Corrected problem when exporting in *conventional* units, whereby Lat values between 0° and 1° South, or Long values between 0° and 1° West, would be displayed with '+' instead of '–' prefix. The problem did not affect output using *native* units.
v2.8	Jan/2014	–	When exporting with the 'test format' option enabled, event tags are now output as four 3-digit decimal numbers (instead of one 8-digit hexadecimal number). This simplifies importing into some analysis software packages. For the same purpose, the time field is in the format 'hh mm ss.sss' (instead of hh:mm:sss.sss'.
v2.7	Aug/2013	–	Extended support to up to 8 TF channels and 3 gradients (from the original 4 TF channels and 3 gradients). Additional protection against out-of-range input to various prompts.
v2.6	Jan/2013	–	The program handles cleanly total-field values that are out-of-range.
v2.5	Sep/2012	–	The option to include in the output the GPS quality indicator (QI) has been replaced with an option to use for output 'conventional' units instead of the 'default' units native to the system. While default units are more efficient, conventional units facilitate interpretation. The QI is now always included in the output. (In past versions, this was optional to allow compatibility with now outdated versions of firmware.) Note that the default reply to the prompt per the previous interpretation ('0' = do not include QI), corresponds to output using the default units that have always been employed in the past. The option to 'include time field in output' has been re-labeled, 'use test format (includes time field)'.
v2.4	Apr/2011	–	Minor, cosmetic changes.
v2.3	Jan/2011	–	The program supports data packets recorded with AARC5XX systems with the GPS receiver option, that include the *GPS quality indicator.* These are systems with Front End FW ≥ RMS1877-03-D and Host FW ≥ RMS1878-02-F.
v2.2	May/2010	–	The program supports data packets from AARC5XX systems that include the *Front-End-sampled analog inputs option*. The program identifies whether analog data are present and, if so, appends the values at the end of magnetics and (if applicable) GPS data in the output file.
v2.1	Jan/2010	Baseline	

ExportEth

v1.0	Feb/2009	–	Initial release. Program to export Ethernet (TCP/IP) files, `tDDHHMM`.

ExportLog

v1.3	Sep/2015	–	Extended support to any number of mag channels, in the range 1–8. In the past, only 4- or 8-channel formats were supported.
v1.2	Apr/2008	–	Initial release: data exporting for (D)AARC500 raw.dat files (80-Hz/160-Hz test-mode data, or calibration data), and Front End raw data.

Configuration Reader:

SeeInDAARC

v2.00	Oct/2020	– Supports new parameters: Secondary TCP/IP streaming input connection; recording-mode for primary and secondary TCP/IP connections. Remote Control port operating mode: legacy, extended, line number.
v1.50	Apr/2020	– Supports new parameters (DAARC500): TCP/IP streaming output; fixed-length-binary magnetics data output format; thresholds for calibration-quality measure; auto-reset RLSQ initial conditions option.
v1.40	Jul/2019	– Supports new parameters: FOM-display options; redundant recording option; remote control status packet mode; gradient geometry parameters, MAD parameters.
v1.31	Sep/2018	– Outputs 'Mag Monitor Mode' parameter for AARC52 device type. – Corrects an issue with the displaying of the 'TCP/IP Data Recording Status' parameter for AARC52 device type.
v1.30	Apr/2018	– Supports new device type, AARC52. – For AARC51/52 device types, the *margin* parameter for *altitude-controlled calibrations* has units of 'counts' (*source* = voltage-normal or voltage-reversed), or 'meters' (*source* = GPS altitude). – For DAARC500/DAS500/AARC500/AARC510 device types, the *margin* parameter for *auto-adaptive mode* has units of 'counts' (*source* = voltage-normal or voltage-reversed), or 'meters' (*source* = GPS altitude).
v1.21	Jan/2017	– Supports three possible settings for the variable that defines the GPS output mode: 'Off', 'On-Basic' and 'On-Full'. The first two correspond to the only two settings supported in the past, 'Disabled' and 'Enabled'. – Includes (preliminary) support for Auto-Adaptive Mode parameters.
v1.20	Jan/2016	– Full support of AARC51-type devices. In previous versions, configurations from AARC51 units had to be processed under AARC510 type, which left out a few parameters unique to the AARC51. – Corrected a problem whereby in AARC500, AARC510, and AARC51 devices, signal IDs with index numbers ≥ 88 were displayed incorrectly. – The 'device type' menu now includes an entry for DAS500 devices. – Added protection against partially initialized 'xlist' files, which may contain scan rate divider factors set to zero. – Corrected a problem in the display of the TCP/IP output parameter for AARC510 (and AARC51) devices.
v1.12	Sep/2015	– Corrected a problem in the displaying of scaling factors for traces in the Screen Graph table. – The scroll direction and grid on/off status are no longer shown below the Screen Graph table – they are not effectively part of the configuration, and default to 'TB' and 'OFF'.
v1.11	Sep/2014	– Some areas of the output file have been reformatted to improve readability. In places where the device sampling rate or other periodic signal is derived from the *host sampling rate* (F_{SH}) and a divisor, the resulting rate is shown as well as the divisor. – Host sampling rates up to 160 Hz can now be accommodated by the output format. – A new button (*Extra*) has been added to the main dialog box. It is presently reserved for future use.
v1.10	Jan/2014	Baseline.