RTmap38 *mk2*

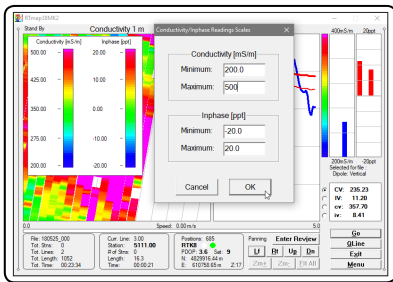*New Version*

data logging & mapping system

for MS Windows based tablets & laptops

The **RTmap** system for Geonics EM38-MK2 consists of two programs: data acquisition program **RTmap38MK2** for MS Windows 10/7 field tablets/laptops and data processing program **RTM38MK2**.

The **RTmap38MK2** system will provide unmatched real time QA/QC and speed in the field. Viewing the displayed spatial color image will allow the user to adjust the survey speed according to where anomalies are seen. The **RTmap38MK2** will allow you to per-

Specifying colour scale for real time image

form surveys faster by covering sites with uniformly spaced lines while avoiding skipping areas, and preventing the potential unnecessary overlap of survey lines.

Appending data files option provides a view of any previously collected data set and it will assists the operator to return to previously recorded stations.

The **RTmap38MK2** program works with virtually any GPS receiver by supporting several NMEA messages and with selected Trimble and Leica Robotic Total Stations, and collects EM38-MK2 and GPS data into one file simultaneously, while providing a graphical view of amplitude (pseudo-grid) in real time.

The RTmap features also the simultaneous full control of the EM38-MK2 output, data quality, EM38-MK2 settings, as well as GPS receiver or Robotic Total Station parameters and GPS warning mask.

In the event of any field obstruction you can resume your survey line at a precise location, without using conventional methods of positioning (tapes, stakes, etc.). You can complete your survey even with low visibility or darkness and still maintain full control over the area of coverage and the quality of electromagnetic instrument readings.

In addition to acquiring EM38-MK2 data the **RTmap** system will convert your field computer to a stand-alone logger for GPS/DGPS/RTK data collection, taking away the need to purchase additional more expensive GPS components.
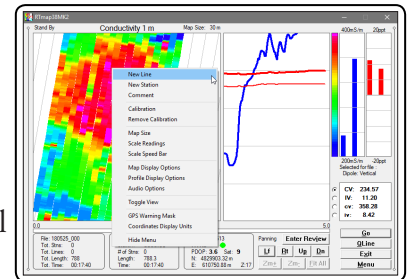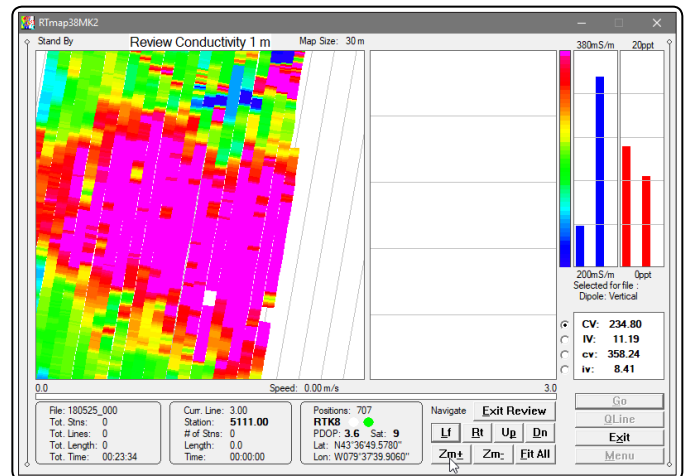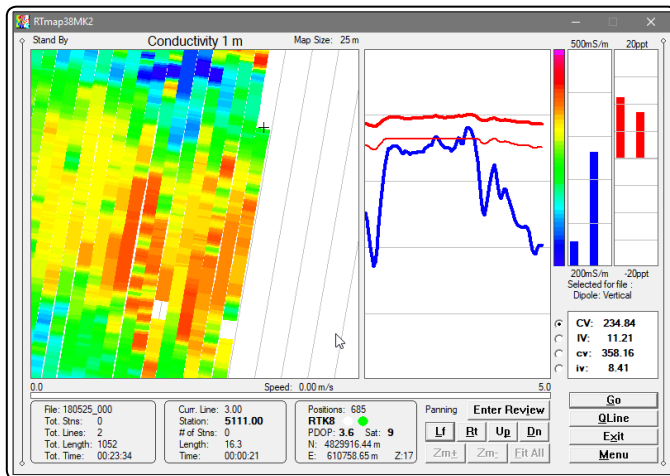

Numerous survey procedure options are available

Mapping Mode

Examples of RTmap38MK2 for MS Windows 10 display modes

Review Mode

GEOMAR SOFTWARE INC.
Tel: 905.306.9215

Tools for the Field Geophysicist

E-mail: geomar@geomar.com

www.geomar.com

GEOMAR Software Inc.

RTmap38MK2 Features (data acquisition program)

New in Version 2.00:

- New enhanced real time colour imaging for recorded amplitudes of Conductivity or Inphase at user specified range of colour scale
- Completely new graphic engine that makes program smoother during screen scrolls and faster map re-draw during re-scaling. Also, faster graphic operation will provide more uniform data
- Instrument offset from GPS antenna calculated and displayed on the map in real time
- Append data files option
- Guiding lines with user specified separation and tilt angle
- Grid setup (alternative to Guide Lines) - unlimited number of cells
- New Audio functions: Tik-Tak during indicating data recording, Alarm Ring for any hardware (EM38-MK2 or GPS) disconnection, Alarm (more gentle than Alarm Ring) for GPS Warning Mask setting
- Improved interface for Windows 10/7 based tablets are employed. Most fonts and dialogs are enlarged to make easier touch screen operation, and dialogs are positioned for easy soft keyboard entry
- Increased max. of positions in one data file, (no limit for EM data)

Main display functions:

- Real time color mapping and navigation, current location indicator shown as cursor, recorded EM38-MK2 readings displayed as color image - color corresponds to amplitude of selected component
- User specified map scale (meters or feet), guide (or grid) lines intervals and tilt angle, and cursor band; screen scrolls once the cursor band limit is reached
- Conductivity and Inphase data (for both separations) is shown as moving graphic bars and in numeric form, dipole mode is monitored
- GPS antenna position in Latitude/Longitude or UTM m/ft, type of differential corrections (DGPS, various RTK), PDOP or equivalent, number of satellites, and number of GPS or RTS positions in the file
- Monitoring of GPS signal and user specified GPS Warning Mask
- Continuous display of the actual speed of the system
- Review mode: collected data can be reviewed in form of pseudo-grid using Zoom In and Out, Fit All, and Pan function in any direction, step for Zoom and Pan, and selection of viewed component

GPS functions:

- Configuration of logger serial port to accommodate any GPS settings
- GPS output monitoring, GPS Warning Mask, disconnection alarm
- Support for NMEA messages: GGA, GGA/GSA, GLL, POS, LLQ, LLK, GGK, and stream from Trimble or Leica Robotics Total Station
- Offset for GPS antenna in any direction
- Option to act as a stand-alone GPS logger

### Add real time mapping capabilities to your EM38-MK2 surveys
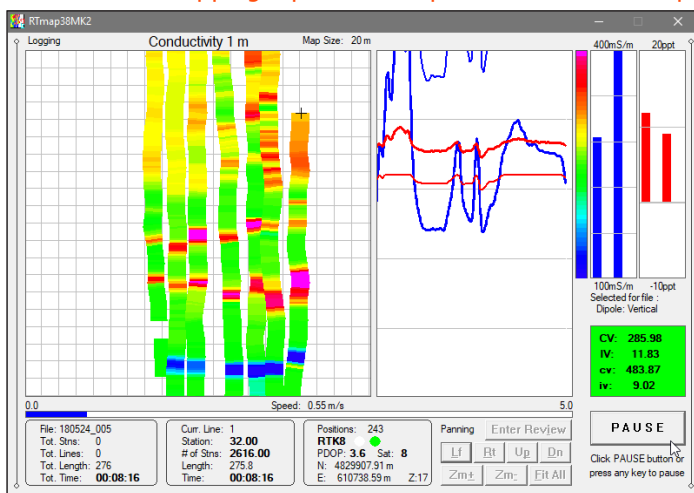
RTmap38MK2 - Logging mode, green background in numeric window confirms recording visually

RTM38MK2 Features (data processing program)

Position EM38-MK2 readings and create XYZ file based on standalone RTmap38MK2 file:

- Apply GPS antenna offset in any direction (as entered in the field with option of correcting this parameter during data processing)
- Include elevation data with correction for antenna height
- Filters the quality of positioned data based on GPS parameters as PDOP (or equivalent) and the degree of differential corrections
- Further enhancement in filtering of the collected EM38-MK2 readings positions is obtained by specifying the GPS Time Gap and GPS Minimum Interval.
- Choice of coordinates in generated XYZ file: Geodetic coordinates (Latitude/Longitude in degrees) or in UTM coordinates (meters, feet or US Survey Feet, WGS1984 datum)
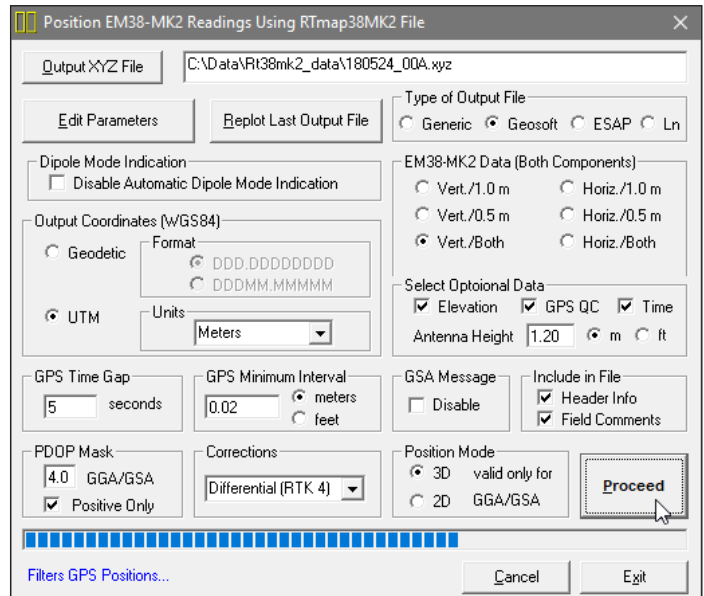
Position EM38-MK2 readings and create XYZ file based on external GPS file *(This function is used when real time GPS differential corrections are not available, or when further post processing of GPS data may improve positioning accuracy. It is assumed that GPS positions are logged in RTmap38MK2 and in GPS logger simultaneously.)*

- Apply GPS antenna offset in any direction (as entered in the field with option of correcting this parameter during data processing)
- Further enhancement of the collected EM38-MK2 readings position is obtained by specifying the GPS Time Gap and GPS Minimum Interval
- Coordinates system, units and GPS positioning accuracy is determined by a content of an external GPS file

Miscellaneous:

- Field QC parameters (Quality Indicator, number of Satellites and PDOP) are written into the generated XYZ file
- Convert RTmap38MK2 files to Geonics DAT38MK2 format
- Convert RTmap38MK2 files to general format ASCII file
- Convert GXY file to ASCII file containing positions and elevations
- Retrieve and position field comments from RTmap38MK2 file
- Apply System Time Constant delay (lag) in generated XYZ file
- Separate XYZ file dedicated for GPS positions
- Edit, view, and save RTmap38MK2 file contents