

## Res2DInv Release History

<b>Date</b>	<b>Version</b>	<b>History</b>
30-7-2021	4.10.14	<b>Corrected bugs</b> <ul style="list-style-type: none"><li>• For inversion models with block width&gt;1, exports to vtk-format were incorrect. This bug has been fixed.</li><li>• Inversion models for certain data sets and inversion settings would incorrectly be output to vtk-files where cells would have zero width. This problem has been fixed.</li><li>• Inversion models based on data sets with underwater electrodes and a specified, nonzero water level, would be incorrectly output to vtk-files. This problem has been fixed.</li><li>• The ‘modify depth to layers’-feature was not correctly working for models with more than 28 layers. It has now been fixed.</li></ul>
19-4-2021	4.10.11	<b>New features</b> <ul style="list-style-type: none"><li>• License check now automatically uses windows proxy server settings (if applicable).</li></ul> <b>Corrected bugs</b> <ul style="list-style-type: none"><li>• When displaying modelled vs. observed IP data using the RMS error statistics option, the program would erroneously always display modelled apparent IP values from the first inversion iteration. This bug has been resolved.</li><li>• The function for concatenating multiple 2D data sets into a single data sets introduced a bug when the concatenated files included remote electrode positions specified in their respective headers. This bug has now been corrected, and a warning will be issued if inconsistent remote electrode positions are specified.</li></ul>
15-2-2021	4.10.8	<b>New features</b> <ul style="list-style-type: none"><li>• Updated user interface for choosing which time steps to show in the display functions for time lapse models.</li><li>• Option added to select which reference time step is used for displays that compare two time steps in in a time lapse model.</li><li>• The new AGS XYZ format can now be output when running batch inversions.</li></ul> <b>Corrected bugs</b> <ul style="list-style-type: none"><li>• When loading data sets with a large number of electrodes in display mode, Res2dInv would sometimes crash. This has been fixed.</li><li>• For some of the time lapse displays that compare two time steps, the shown time step numbers were sometimes incorrect. This has been fixed.</li><li>• The function for collating multiple Res2dInv file into to a Res3DInv dataset would produce erroneous results if 2D data was given as resistances. This bug has been fixed.</li><li>• The function for combining individual 2D data sets into a time lapse file suffered from the following bug: If one or more measurements were missing for a given electrode</li></ul>

configuration, and if, when prompted by Res2DInv, the user would select to filter out such missing points, the resulting time lapse file would contain measurements with resistivities at wrong times/electrode positions. The issue has been fixed.

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11-1-2021 4.10.4

### **New features**

- Option to override limitations governing maximum possible number of timelapse timesteps, number of electrodes and number of boreholes. This e.g. allows for time lapse inversions with several 100s of timesteps.
- AGS XYZ export: New and simpler option to output grid values and position to a fixed- format text file that can be readily imported, analysed, and displayed using 3rd-party software.

### **Corrected bugs**

- Sensitivity, uncertainty, and resolution displays would sometimes not show for borehole-inversion models. This issue has been fixed.
- In certain situations when displaying plots including topography, the thickness of the lowermost model layer was slightly incorrect. This bug has now been fixed.
- When loading DOI-calculated inversion models with topography and exporting (to xyz, surfer and other formats), res2dinv would require the model to be displayed before export with topography was possible. This has now been fixed.
- Progress indicators for certain procedures run during time lapse inversions were faulty. These have been fixed.

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25-08-2020 4.10.3

### **New features**

- License server security update

### **Corrected bugs**

- For some datasets, the plots of modelled vs observed apparent resistivities in the 'RMS error statistics' function would plot the wrong values against each other, and data trimming by RMS error would therefore also lead to an erroneous selection of measurements. This has now been fixed.

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25-05-2020 4.10.2

### **Corrected bugs**

- In display mode, the 'RMS error statistics' function in the 'edit data' menu displayed data points wrongly under some circumstances for general array data sets. This bug, which arose in version 4.10.1, has been fixed.

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19-03-2020 4.10.1

### **New features**

- Output the positions of all 4 electrodes in xyz file.
- Different plotting order of general array data in 'remove bad data points'. Results in less messy plots.

### **Corrected bugs**

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- Option to automatically combine repeated data points by taking the average of the apparent resistivity and IP values.
- Change in VTK file header that caused rounding errors in some programs
- Fixed bug causing error calculations from repeated or reciprocal data points not to work properly for unsorted data.
- Removed cause of memory leak occurring in certain situations.

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12-11-2019 4.9.11

### Corrected bugs

- Fixed possible bug in setting model refinement options when loading inversion settings from .ivp file.
- Fixed bug causing program to crash in rare instances if failing to erase temporary files during inversion.

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29-05-2019 4.9.3

### Corrected bugs

- Fixed error when exporting VTK files with global coordinates.

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23-05-2019 4.9.1

### New features

- Options to calculate and display the model resolution point-spread function values. Model resolution values are included in xyz output file for data with global coordinates.
- Export of VTK file with electrode positions

### Corrected bugs

- Various bug fixes

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05-03-2019 4.8.18

### New features

- Check added for missing and negative apparent resistivity values.
- Option to remove data points with missing or negative values added.

### Corrected bugs

- Fixed bug that forced positive apparent resistivity values for general array data sets.
- Fixed bug in exporting time-lapse model to Lund format.

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10-12-2018 4.8.12

### Corrected bugs

- Fix of redraw and rescale error for exterminate bad data points.
- Added message when data has been automatically converted from resistance to apparent resistivity for a borehole data set.

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16-10-2018 4.8.9

### New features

- Removal of message boxes during batch inversion that could cause the inversion to pause.

### Corrected bugs

- Missing line change on export of large VTK files fixed.

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28-08-2018 4.8.3

### Corrected bugs

- Fixed bug in display of IP profiles in option to 'Exterminate bad data points'
- Fixed bug in detecting gamma array type

## Res2DInv Release History

- Shows correct support and update dates for Aarhus GeoSoftware license
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07-05-2018 4.8.1

### **New features**

- Model with borehole electrodes saved to xyz file with global coordinates if present
  - Option to save output model in Paraview vtk format. I.P. model values automatically saved with resistivity values and a second vtk file is automatically generated if global coordinates present
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20-04-2018 4.7.25

### **New features**

- The possibility to add or remove a series of data points in the “exterminate bad data points” window is added. This is done by right clicking the first and last data point in the series to be removed.