



# **Repton Map Display & Repton Map Decoder**

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## **User Instructions**

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## Introduction

The Repton Map Display was originally designed to convert the BBC Micro Repton 3 data files for use by the Commodore 64 version of Repton 3. This was because the Around The World In Forty Screens, Life Of Repton and Repton Thru' Time add-on screens were never released for the Commodore 64, and to convert them manually and distribute them freely would have been too labour intensive. Also, the screens are still covered by copyright and therefore cannot be distributed freely.

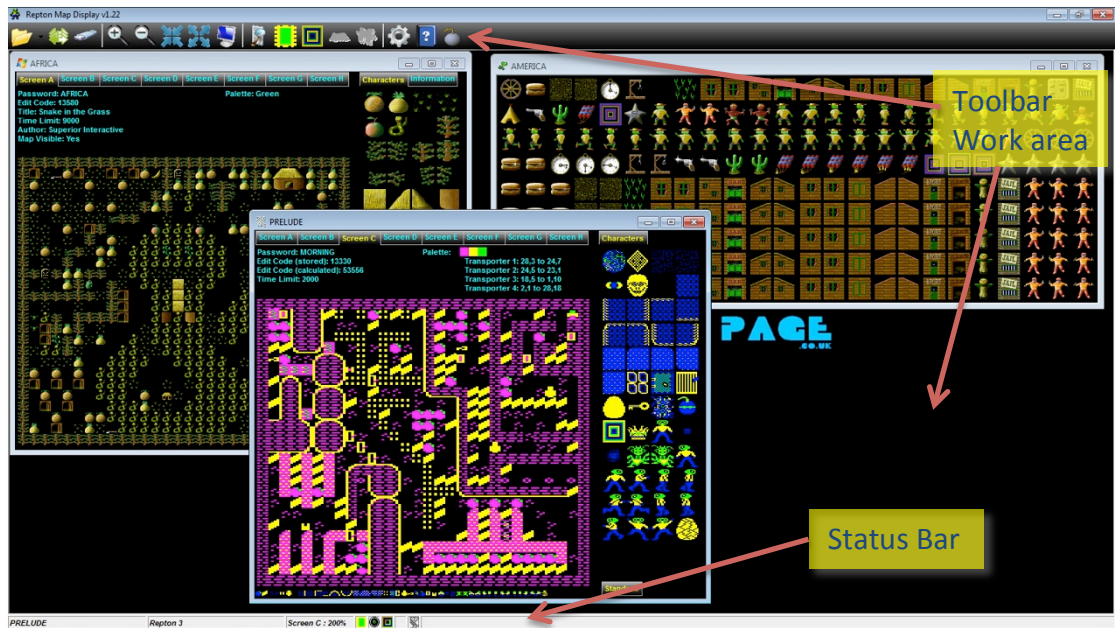
Repton Map Display has developed, and evolved, from this basis and now incorporates decoding the Repton and Repton 2 maps and characters, and even the new Repton The Lost Realms maps and characters, as well as Repton Infinity and the PC version of Repton 3. Further additions are planned, including, if I can source a copy, the Spectrum version of Repton 3.

Repton Map Display is now used to create the graphics for the Repton Resource Page website, and even helps out the developers of iRepton and Android Repton.

If you are interested in the internal formats of the various formats of the Repton files, there is a companion booklet to this called "Decoding Repton". This, however, will not have details of the PC formats.

The Repton Map Decoder was developed for where one might have a screen grab of a Repton level (currently only PC Repton 1 and 2), but required a full size map, with 64x64 pixel characters. In future, it is hoped, that these two applications might get merged into the single application. However, until that point, instructions for both are included here.

# Screen Layout



The screen is laid out like a normal MDI (multiple document interface) application, and is capable of opening many different 'documents' at the same.

## The Toolbar

The buttons (most of which are shortcuts to menu items) are:

### File Actions

- Open File
- Bulk Convert
- Export

### Zoom Actions

- Zoom In
- Zoom Out
- Zoom to 50%
- Zoom to 100%
- Fit to window

### Map Actions

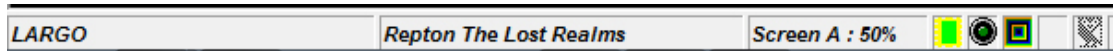
- Scenario analysis
- Show maps using map/full characters
- Show/hide transporter details on map
- Show/hide volcano details on map
- Show/hide puzzle piece details on map

### Miscellaneous Actions










- Preferences
- About

- Exit Application

## Status Bar



The Status Bar shows various details about the currently open file:

- Scenario name (normally the filename, minus any extension)
- Format of file
- Zoom factor of currently selected screen within file (and screen indicator)
- Whether maps are shown with map characters (as above) or full characters
- Edit mode on or off (currently not used)
- Whether transporter details are shown on the map (as above) or not; or if volcano details are shown ()
- Whether puzzle piece details are shown on the map () or not (as above)
- Platform of file:
  -  Acorn Electron
  -  Acorn Archimedes (earlier than RISC OS 3.50)
  -  BBC Micro
  -  Commodore 64
  -  RISC OS (3.50 or later)
  -  Sinclair ZX Spectrum
  -  Windows PC

## Opening a Data File

Click on the Open icon (or File -> Open menu item), and this will open up a dialogue box where you can browse for the desired file. Alternatively, you can also drag the desired file from the Windows Explorer onto the work area. If the file is recognised, and can be decoded, it will be opened and displayed in the work area.

### Formats Recognised and Loaded

The list of files, and whether they can be opened are:

- BBC Micro Repton
- BBC Micro Repton 2
- BBC Micro Repton 3
- BBC Micro Repton Infinity
- BBC Micro Repton The Lost Realms
- Acorn Electron Repton
- Acorn Electron Repton 2
- Acorn Electron Repton 3
- Acorn Electron Repton Infinity
- Acorn Electron Repton The Lost Realms
- Sinclair Spectrum Repton
- Sinclair Spectrum Repton 2
- Commodore 64 Repton 3
- Archimedes Repton 2
- Archimedes Repton 3
- RiscPC Repton
- RiscPC Repton 2
- EGO: Repton 4
- Desktop Repton
- Desktop Repton 2
- Desktop Repton 3 Low Res
- Desktop Repton 3 High Res
- PC Repton 3 (Locked feature – password required)
- PC Repton 3 graphics
- BBC Micro Bonecruncher
- Acorn Electron Bonecruncher
- Harry Wood's PC version of Repton 3

### Disc Images

Repton Map Display can also extract data from certain disc images. Currently, the supported disc formats are:

- SSD (Acorn DFS Single Sided)
- DSD (Acorn DFS Double Sided)
- ADF (Acorn ADFS, old map)
- DSK (Sinclair/Amstrad disc)

- Z80 (Sinclair snapshot file)
- D64 (Commodore 1541 image)
- D71 (Commodore 1571 image)
- D81 (Commodore 1581 image)

If more than one game is found within a disc image, you will be prompted to select which game you wish to load.

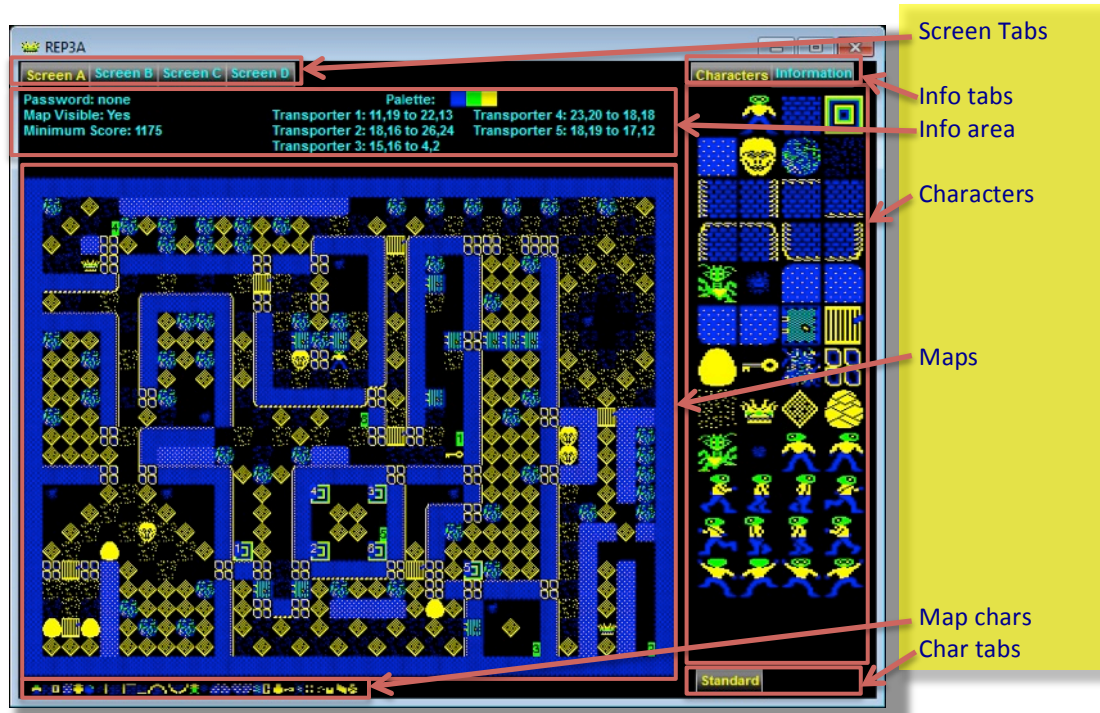
There are plans to add the ability to read in the ADFS new map images and Commodore Amiga adf images, plus to import Commodore 64 and Amiga Bonecruncher files.

### **Character Padding**

The Acorn Electron formats of Repton 3 and The Lost Realms have 12x28 size characters, whereas the BBC equivalents are 16x32. To compensate for this, to allow the exporting of such files to BBC/Commodore/Archimedes, these characters can be padded out to 16x32. This is covered in the Preferences section of the manual.



# Map Window



## Screen Tabs

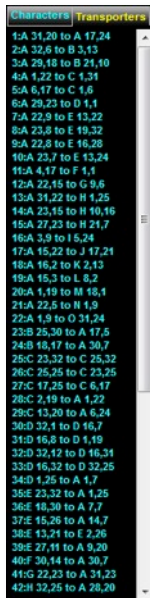
These allow you to navigate through the screens.

## Information Tabs

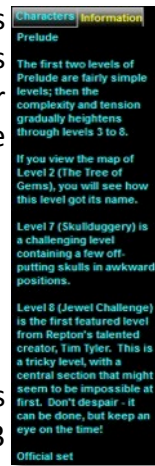
On some formats, there is extra information that is accessible with these. Repton 2 will have a Transporters tab, PC Repton 3 will have the scenario information under an Information tab, and Repton Infinity will also have extra information under an Information tab.

### Information Area

This displays information about the current screen:



- For Repton 1, 3, Infinity, 4 and TLR: **Password**.
- For Repton 3: **Edit Code (stored)** – this is what is stored in the file. These codes are valid for most Repton 3 versions, except those below.
  - For Repton 3 (not PC): **Edit Code (calculated)** – this is what is calculated based on the map contents. These codes are only valid for Archimedes Repton 3 and Desktop Repton 3.
  - For Repton 1, 3 and TLR: **Time Limit**.
- For all except Repton 4: **Colours used** (when displaying PC Repton 3, with the high quality graphics, the colour scheme will be displayed).
- For Repton 3, Infinity, 4 and TLR: **Transporters** – listed as source X, Y to destination X, Y.



- For PC Repton 3, BBC/Electron Repton Infinity and TLR: **Map Visible**.
- For Desktop Repton 1, and PC Repton 3: **Author**.
- For Repton Infinity: **Minimum Score**.
- For PC Repton 3: **Title**.
- For Repton TLR: **Absorbency**, **Fungi Rate**, and **Freeze Time**.

## Characters



Shows all the characters used in the scenario. The colours used are those used by Screen A of the scenario. Clicking on a character will zoom in and display it's name, and clicking on it again, will then display all of them again.

### Character Tabs

Some formats will have more characters that can fit onto a single page. In these cases extra tabs will be supplied. With Repton 2, this will be for the puzzle pieces, and PC Repton 3 will have the extra 48 blue characters on a second tab with the 5 other colours on the third to fifth tabs.



## Map Characters

On the Commodore 64 version of Repton 3, the characters used to display the maps are stored within the data file. This means that they can be changed, if one wanted to. However, this feature was never fully explored on the Commodore 64 editor. Luckily, Repton Map Display does utilise this, and it is expanded upon later in this guide.

When Repton Infinity was designed, one could redefine these map characters and these are also stored in the files, and displayed in this area. One can also choose to display the maps using these map characters, instead of the full size characters.

These map characters are displayed here for Repton, Repton 3 (not PC), Repton Infinity and Repton The Lost Realms.

## Zooming the maps

You can also expand the maps to full size, or reduce them to a smaller size. When the map is bigger than the display size, you can use the scroll bars to move around the map. Alternatively, the image can be panned by clicking on it and dragging.

There are five buttons on the toolbar provided for zooming: Zoom in, Zoom out, 50% size, 100% size, and Fit to window. The latter button will resize the map to fit into the window keeping the aspect ratio constant.

## Displaying extra information on the maps

In the preferences, you can define how you would like the maps to open up by default:

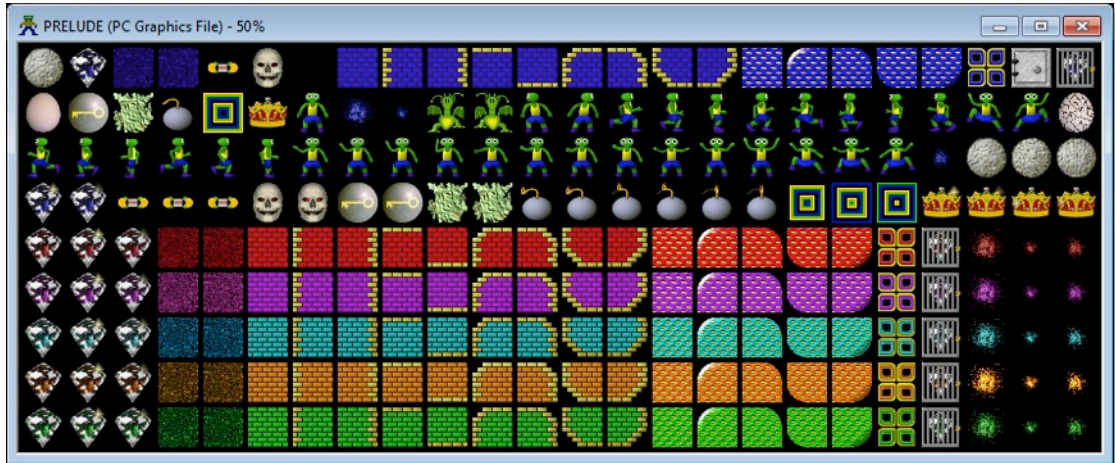
- Whether the maps are displayed using the full size characters or map characters (Repton 3 – not PC, Infinity, The Lost Realms)

- Whether transporter source and destinations are shown (Repton 2, 3, Infinity, 4, The Lost Realms)
- Whether volcano locations are shown (Bonecruncher)
- Whether puzzle piece information is shown (EGO: Repton 4)

These above preferences can also be changed, after the file is loaded, by clicking on the appropriate icon on the toolbar, or the menu item under Tools. Clicking on these will not change the default preferences, but will change how the filenames are changed according to the wildcards specified.

## Loading PC Graphics

The Repton Map Display is capable of loading and displaying the PC Graphics files (\*.r3g), and saving them in a way that can be loaded into the PC Repton 3 Editor.



You can make the characters bigger, or smaller, using the zoom tools on the toolbar. Buttons are provided for 50% and 100%, while the other two buttons will increase or decrease the zoom level by half (or double).

## Exporting a Data File

Exporting a file will save the file, as displayed, in the chosen format. Currently, the only formats that can be exported are:

- **BBC Micro Repton 3** to BBC Repton 3, Acorn Electron Repton 3, Archimedes Repton 3, and Commodore 64 Repton 3.
- **Acorn Electron Repton 3** to BBC Repton 3, Acorn Electron Repton 3, Archimedes Repton 3, and Commodore 64 Repton 3.
- **Commodore 64 Repton 3** to BBC Repton 3, Acorn Electron Repton 3, Archimedes Repton 3, and Commodore 64 Repton 3.
- **Archimedes Repton 3/Desktop Repton 3 Low Res** to BBC Repton 3, Acorn Electron Repton 3, Archimedes Repton 3, and Commodore 64 Repton 3.
- **PC Repton 3** to BBC Repton 3, Acorn Electron Repton 3, Archimedes Repton 3 and Commodore Repton 3. Note that this is only possible if you choose to load the file using the Archimedes character set.
- **BBC Micro Repton Infinity** to BBC Micro Repton Infinity: this can split the G.\* file into the component M.\*, O.\* and S.\* files.
- **Acorn Electron Repton Infinity** to Acorn Electron Repton Infinity: this can split the eG.\* file into the component eM.\*, eO.\* and eS.\* files.
- **Anything** to Bitmaps/GIFs/PNGs/CSV Summary.

Whether something can be exported also depends on what preferences are selected for loading. You can also analyse scenarios and export that as a CSV file – see Scenario Analysis on page 15.

## Bulk Conversion

The Repton Map Display can automatically load and export a number of files automatically.



In this window you can select the source folder (by clicking on **Source Folder**), in which all compatible files will be imported, and the destination folder (selected by clicking on **Destination**

**Folder**), into which these files will be exported as whatever format is specified at the bottom of the window.

Between the source and destination folders is a red arrow – clicking this will copy the source folder into the destination folder, in cases when both are similar.

The process will load, and open a window, before exporting and closing the window. It will do this for each and every file found, that it could open.

If it finds a disc image with multiple games, the first game is automatically selected and converted. Currently, there is no option to iterate through all games on the image.





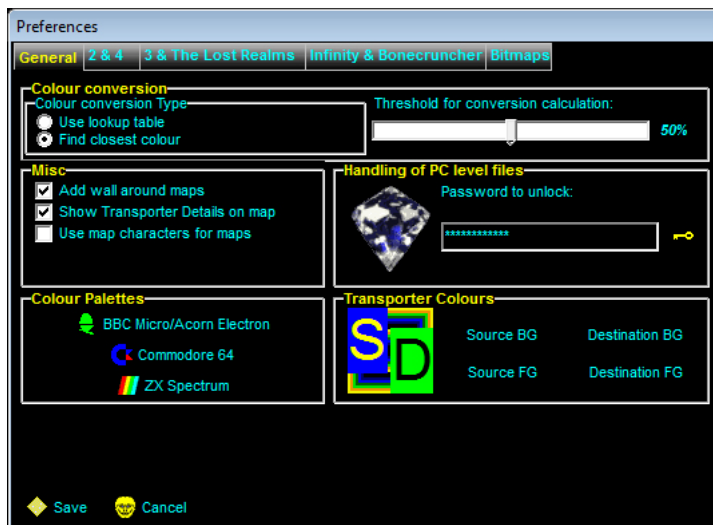
# The Preferences Window

There are various different preferences that can be specified to enhance what is displayed and how the files are loaded and exported. These preferences will only affect the data files that are loaded afterwards, and do not affect those that are currently loaded, unless the preference in question refers to exporting.

## General Tab

### Colour Conversion

These options are used for when exporting from the higher colour formats (PC/Archimedes) to the lower colour formats (BBC/Commodore/etc).



### Colour Conversion Type:

This specifies whether you want to use a lookup table, or find the closest colour. This is largely hit and miss, and results may vary.

### Threshold for conversion calculation:

There is a threshold of how much Red, Green and Blue will constitute the subsequent colour on the lower colour formats. For example, if there was a colour of 60%

red, this will become red (effectively 100%) on the BBC Micro, but a colour of 40%, will become black.

**Handling of PC level files:** If you have the correct password, you can enter it here to unlock the feature to load PC Repton files. When it is locked, you will see a Repton 3 safe, but you will see a Diamond when it is unlocked (as shown). For the latest password, please contact Richard Hanson at Superior Interactive.

**Add wall around maps:** This specifies with you would like a wall put around the maps.

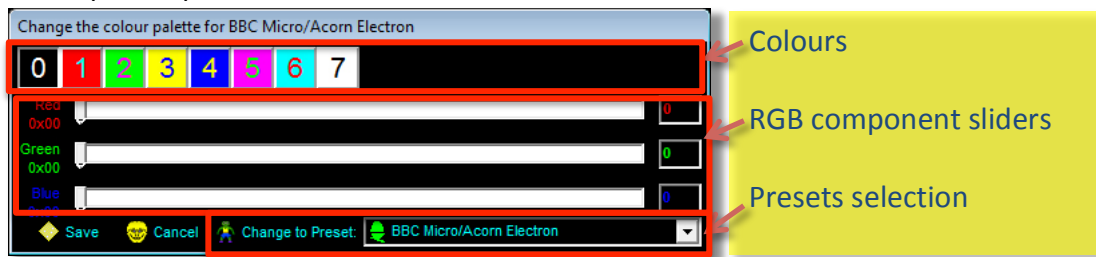
**Show Transporter Destinations on map:** This will display, on every map that has transporters, where the transporter will materialise you. In addition, on Repton 2, it will also display either the transporter numbers, or the screen where the transporter will take you over the transporters. It will also display the corresponding information for the transporter destination. This information is overlaid on the maps.

**Use map characters for maps:** Where available, the maps will be displayed using the map characters instead of the full size characters.

**Transporter Colours:** You have the option to change the background and foreground colours when the transporter details are shown on the map. Each of the four buttons, Source BG, Source FG, Destination BG, and Destination FG, will open a standard Windows colour dialogue box where you can specify the specific colour.



**Colour Palettes:** You are able to change the colour palettes used to create the characters and maps for the BBC Micro, Acorn Electron, Commodore 64 and ZX Spectrum. All other platforms have the colour palettes stored within the data files, or a separate palette file.



Clicking on any of the three buttons will bring up the dialogue box, shown above. Within this, there are the 16 colours (along the top), numbered as the colour numbers that you would expect from the native hardware. You may note that the BBC Micro/Acorn Electron colours 8 to 15 inclusive are just a repeat of the first 8, instead of the flashing colours that the hardware produces.

Clicking on these will change the three sliders, and number representation, in the middle of the window. This shows the Red, Green and Blue components of each colour, and allows you to adjust it in 24bits per colour (8 bits per component).

Finally, you can reset these colours to a preset – either the default for the platform, or a different platform. In the case of the Commodore 64, there is also an alternative palette to choose from. In order to change to a preset, just select from the drop down menu, and then click on **Change to Preset**.

## Repton 2 & EGO Repton 4 Tab

### Repton 2 - Transporters

The preferences given here will only take effect if the **Show Transporter Destinations on Map** is ticked on the previous tab.



**Show Source and Destination as Transporter numbers:** This will label the transporters (and their destinations) with a number from 1 to 64.

**Show Source and Destination as Level:** This will label the transporters (and their destinations) with the level number that you will be taken to (or from).

**Show Completed Puzzle on Screen A:** In addition to their initial positions, this option will place all 42 puzzle pieces at the bottom of Screen A.

## EGO: Repton 4

**Display characters as they appear:** This will display all the characters as they appear in the game. This means that disappearing trees, etc. will be shown as trees, instead of blanks, and hidden gems will be shown hidden instead of gems.

**Display puzzle piece positions:** Similar to transporters, this will display a number, from 1 to 25, of the puzzle pieces in the order they appear in the puzzle.

**Display completed puzzle:** This will show the completed puzzle in the middle of the map on every screen.

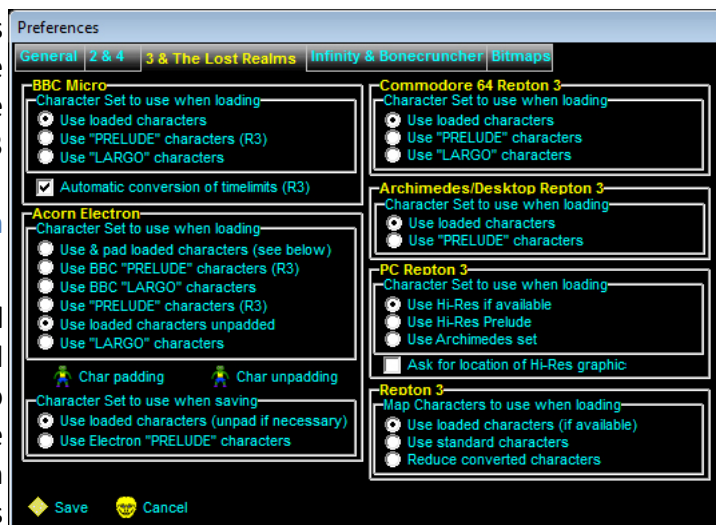
**Puzzle Piece Colours:** Like with the transporters, you can specify the overlay colours for these numbers.

## Repton 3 Tab

This tab gives various different preferences for the loading, or saving, of the various formats of Repton 3 data files.

### Character Set to use when loading

**Use (& pad) loaded characters:** This will just load the files as is with no changes. The only difference is that the Electron characters are padded out, as specified (see below).



**Use "PRELUDE" characters:** Use the pre-loaded default character set, as used in the PRELUDE scenario, for that platform. The Electron has an additional option to use the PRELUDE characters from the BBC.



**Use The Lost Realms "LARGO" characters:** For a bit of fun, you can use the pre-loaded default character set, as used in The Lost Realms LARGO scenario. The Repton Map Display will pick the 48 characters more suited from the 58 The Lost Realms set.

**(Electron Only) Use loaded characters unpadded:** This will load the Electron characters as

is, with no padding. This will also mean that you cannot export the scenario as anything other than Acorn Electron format or Bitmaps. Note that loading an Electron file with the standard PRELUDE characters will load them unpadding, as with this option.

**(PC Only) Use Hi-Res if available:** If the r3g file can be found, then it will be loaded and the graphics used (the file must be either in the same folder as the r3l file, or in the Graphics folder). If the file cannot be found, the standard Archimedes graphics will be used instead.

**(PC Only) Use Hi-Res Prelude:** Always use the standard Hi-Res graphics. In the PC Repton 3 file format, there are two sets of level data. One set is for when themed graphics are selected, while the other set is for when unthemed, or Prelude, graphics are selected. The Repton Map Display will also select the appropriate set of data.

**(PC Only) Use Archimedes Set:** Always use the Archimedes set stored in the file. Note that if you select this option, the options relating to the Archimedes will apply here as well.

In addition the following extra options are available:

**Automatic conversion of timelimits:** The time limits used by the Commodore 64 tend to be much higher than the corresponding BBC Micro time limits. For this reason, Repton Map Display will multiply/divide the time limit by a factor of 1.9 (to a maximum of 9999).

**(PC Only) Ask for location of Hi-Res graphics:** You will be asked for which r3g file to use when loading an r3l file.

#### Map Characters to use when loading

What you would like to do about the map characters used by the Commodore 64 version. This is included for all as the conversion is done when loading the file, and not when exporting:

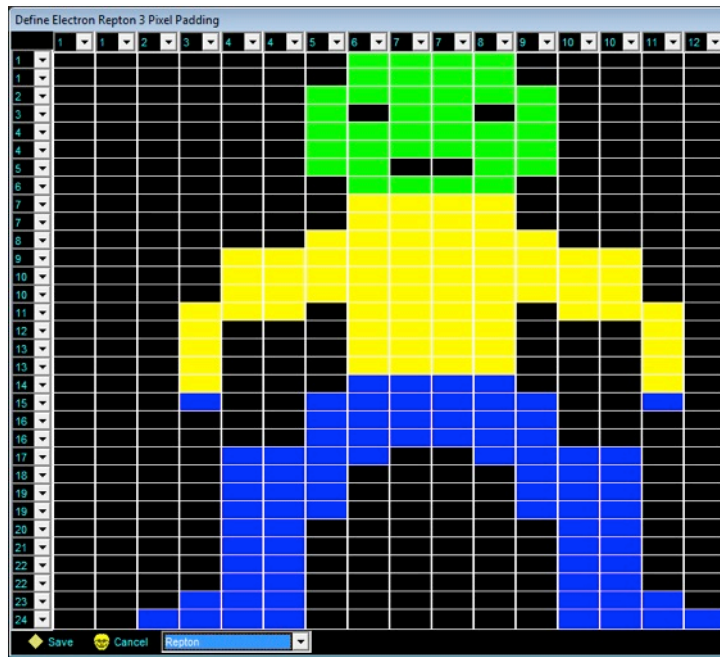
**Use loaded characters (if available):** This is only valid for when loading Commodore 64 files – it will just use what is stored in the file. If it is not a Commodore 64 file that is loaded, it will default to the next option.

**Use standard characters:** Overwrite any map characters (for Commodore 64 files) with the characters from the Prelude set.

**Reduce the converted characters:** This will pick out certain rows and columns from the full size characters in an attempt to produce a smaller version. The results of this can vary.

#### Padding The Electron Characters

Because the characters are stored, and manipulated, as 32x32 pixel characters (the BBC and Commodore 64 characters are 16x32, so each column is used twice) and the Electron characters are 12x24, there will be some padding that is required to make them up to 32x32 (or, rather, 16x32 with each column used twice). By clicking on the Define Character Padding button on the Acorn Electron Tab, the following window will open:



The main part of the window is taken up with a blown up 16x32 representation of one of the Electron character set which, by default, this will be Repton. Using the drop down menu at the bottom of the window can change this.

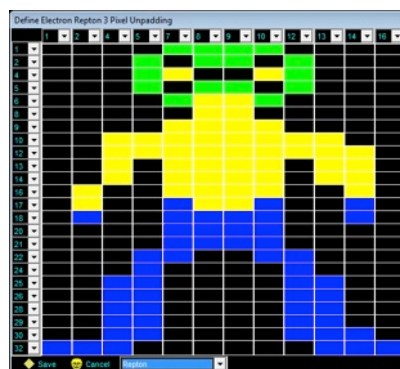
Along the top, and down the side, are drop down options to select which row or column is used for each of the 16 columns and 32 rows. Each can have a value of B (blank), or 1 to 12 (or 24 for the rows) that will correspond to the row/column of the Electron character.

### Saving "As Electron"

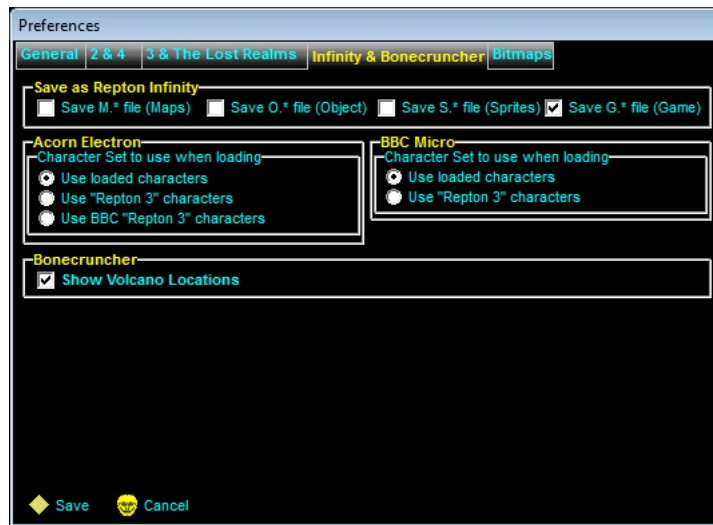
The same problem exists to save a file in the Acorn Electron format. There are extra options allowing you to select whether you wish to have rows and columns removed (unpadding), or to substitute the set with the standard Electron set (from Prelude).

### Unpadding The Electron Characters

Similarly, you can define which rows and columns are used, and not used, when exporting to Electron Formats. The window is fairly similar, albeit smaller:



## Repton Infinity & Bonecruncher Tab



### Save as Repton Infinity:

This provides some preferences when saving a Repton Infinity file. Where you can only load G.\* files (or eG.\* files), you can split them into their component parts (i.e. M.\*, O.\* and S.\*; or eM.\*, eO.\* and eS.\*), as well as saving the linked file (G.\* or eG.\*).

As with Repton 3, Repton Map Display provides options to substitute the

character set for Repton Infinity.

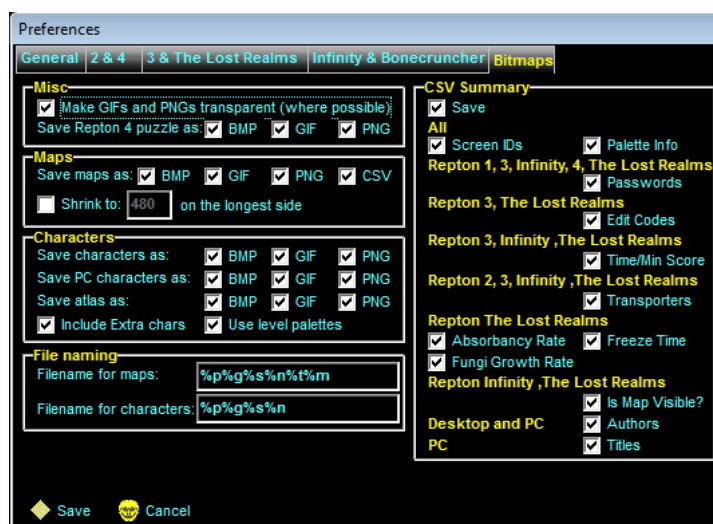
**Acorn Electron:** You can either use the characters from the file, use those from the Electron version of “Rep3A” and “Rep3B”, or those from the BBC version of “Rep3A” and “Rep3B”.

**BBC Micro:** Here you only have the two options, as you will not be able to substitute the loaded characters with the Electron characters.

### Bonecruncher

**Show Volcano Locations:** This will show or hide a ‘V’ where the volcanoes are located on the Bonecruncher maps.

## Bitmaps Tab



With the Repton Map Display, you can export the maps, characters and the information for use other than with the Repton games. One main example of this is the maps are exported as GIF images for the Repton Resource Page website. The preferences available are:

### Make GIFs and PNGs transparent:

This will attempt to make any

images saved in the GIF or PNG format have a transparent background.

**Save Repton 4 puzzle as:** This will save the completed puzzle picture, for EGO: Repton 4, using the map filename plus the suffix ‘-puzzle’, in BMP, GIF or PNG. Note that GIFs and PNGs will not be transparent for these.



## Maps

- **Save maps as:** (BMP/GIF/PNG) Save all the displayed maps as a Windows BMP, GIF or PNG (with or without transparent background), according to the filename given and the following preferences.
- **Save maps as:** (CSV) Save all the displayed maps as a CSV (comma separated values) file, with each number representing a character number.
- **Shrink to:** Save as a shrunk image. The image size will be whatever is specified in the box underneath, in pixels, along the longest side (i.e. the aspect ratio is maintained).

## Characters

- **Save characters as:** Save all the characters as Windows BMP, GIF or PNG (with or without transparent background), according to the filename given, followed by the character name.
- **Save PC Graphics as:** Saves the loaded PC characters (only applies to r3g files, not r3l files) as Windows BMP, GIF or PNG (with or without transparent background). The filename given will be used as the parent folder, as all the characters will be saved as character numbers and in the colour folders.
- **Save atlas as:** Save all the characters as an atlas (all characters in one file) in Windows BMP, GIF or PNG format (with or without transparent background). The filename given will be the filename given, followed by "Char Map".
- **Include Extra Chars:** When saving an atlas (character map) of the Repton 2 characters, this will include all the puzzle pieces in addition to the rest of the characters. Also, it will include the animation characters if you load a PC r3l file, and have it load an r3g file to use.
- **Use Level Palettes:** This will save an atlas for each level of the scenario, in the palette for that level.

## CSV Summary

- **Save:** Save a summary of selected information in a CSV file. Note that it will be a separate CSV file for every scenario, even during a bulk convert. If the information is not available in the current data file, it will not be saved.

## File naming

Here you can specify how the files are named when saving them. There are different specifications for the maps and for the characters:

- **Filename for maps:** Just enter text that you wish to be put into every map filename. There are some wildcards that can be used:
  - **%g:** Game id (1: Repton, 2: Repton 2, 3:Repton 3, 4: EGO: Repton 4, 5: Repton The Lost Realms, and I: Repton Infinity)
  - **%p:** Platform id (B: BBC Micro, E: Acorn Electron, C: Commodore 64, P: Windows PC)
  - **%n:** Level id as a numeric (0, 1, 2, etc.)
  - **%a:** Level id as a letter (A, B, C, etc.)

- **%s**: Scenario name – this will actually be whatever is in the ‘Filename’ box on the Save As dialogue box when saving, which defaults to the scenario name.
- **%t**: Adds a ‘T’ if Transporter information is displayed on the map.
- **%j**: Adds a ‘P’ if Puzzle Piece information is displayed on the map (EGO Repton 4).
- **%c**: Adds a ‘C’ if the completed EGO Repton 4 puzzle is shown on the map.
- **%m**: Adds a ‘M’ if the map is displayed using the map characters.
- **%v**: Adds a ‘V’ if the Bonecruncher volcano locations are displayed on the map.
- **Filename for characters**: Similarly for the characters, but the wildcards are slightly different:
  - **%g**: Game id (1: Repton, 2: Repton 2, 3:Repton 3, 4: EGO: Repton 4, 5: Repton The Lost Realms, and I: Repton Infinity)
  - **%p**: Platform id (B: BBC Micro, E: Acorn Electron, C: Commodore 64, P: Windows PC)
  - **%c**: Character name
  - **%n**: Character number
  - **%s**: Scenario name – this will actually be whatever is in the ‘Filename’ box on the Save As dialogue box when saving, which defaults to the scenario name.

# Changes Log

## Changes from 1.12 to 1.13

- Option to show transporter Repton 2 source and destinations as either transporter number or level number
- Moved the destination transporter id to right hand half of sprite
- Bulk convert selects the first game from a multi-game disc image
- Click on the word 'Character' when viewing Repton 2 will change to displaying transporter source and destinations
- Fixed a bug where Repton 2 transporter information would be output, even when summary option is not ticked
- Fixed a bug where the last character of some of the information in PC Repton 3 would be lost
- Display Electron Repton 3 characters 'as Electron' (i.e. no padding) - as per Repton 2
- Electron padding/unpadding Dialogue - large pixels are created dynamically, thereby reducing the file size of the application
- Wildcard prefix for saving files (%p for Platform and %g for Game) - not just bulk
- Added a Recently opened file list
- Fixed a bug where opening a Desktop Repton 1 file crashed the application
- Fixed a bug where no palette information is saved when exporting Desktop Repton 1 summary
- Option to change colours for transporter source/destinations
- Can open EGO: Repton 4 Allmaps file - passwords and characters are held internally
- Extra options for EGO: Repton 4
- Transporter co-ordinates are now displayed as 1,1 being the top left (not 0,0 as before)
- Changed the font in the map display from MS Sans Serif to Arial
- Loads Repton Infinity character sets and maps
- Fixed a bug where the wrong transporter number would be printed on the map
- Re-arranged Options Dialogue to accommodate Repton Infinity
- Removed Save As Text file (just keeping CSV)
- Repton 3 files are checked to ensure they are valid Repton 3 files
- Wildcard suffix for saving files (%p for Platform and %g for Game)
- Loads Desktop Repton 2 files
- Fixed bug with the Notes/Transporter panel on Repton 2, PC Repton 3 and Repton Infinity
- Option to put Repton 2 puzzle pieces at the bottom of Screen A
- Removed the space under the map when no map characters are displayed (i.e. not Repton 3 or Infinity)



### Changes from 1.13 to 1.14

- Fixed a bug where Repton 3 transporters were displayed when there were no transporters
- Fixed a bug where no author info was output on CSV for PC Repton 3
- Changed filename option - removed prefix and suffix and just made the whole thing wildcarded
- Made wildcarded filename just valid for maps, and added similar feature for characters
- Added outputting map title to CSV output for PC Repton 3
- Fixed a bug where the PC Graphics window was too big on resize
- Fixed a bug where the PC Graphics file was not added to the MRU
- Changed the initial size of the PC Graphics from 100% to 50%
- Changed the initial size of the PC Graphics window to fit in 24x9 characters
- All the images for PC Graphics window are now created dynamically
- Images in the PC Graphics window are now only moved or resized if needed
- Tidies up the registry from previous versions where values are no longer used
- Changed the font throughout the rest of the application to Arial
- Redesigned the character/info panel on the map window
- Fixed a bug where the map would be incorrectly positioned
- Increased the number of pages on the map display window so all PC characters are shown
- Dialogue added for unpadding of Electron characters
- Added defaults for options (instead of all off)
- Merged some registry entries
- Added options for saving as Repton Infinity
- Redesigned the bulk conversion window
- Fixed a bug where certain Repton 3 scenarios would not open
- Repton Infinity files can now be saved, and split
- Changed the titles of the Electron padding and unpadding dialogues
- Re-arranged the options dialogue
- Loads Repton 3, Infinity and TLR data files from a disc image
- Converts BBC to Electron and Electron to BBC characters for Repton Infinity
- Fixed a bug where if a Repton 3 file had no Repton, Time bomb or Crown on a level it would not load
- Message changed when invalid files are loaded
- No errors are issued when user cancels game select dialogue
- Reports validity errors on BBC, Electron, Commodore 64, Archimedes and Desktop Repton 3 maps

### Changes from 1.14 to 1.15

- Status bar at the bottom - currently displays scenario name
- Removed validity reporting on the map displays
- Opens Sinclair ZX Spectrum Repton from Repton Mania DSK image
- Increased the resolution of all characters from 16x32 to 32x32 pixels
- Opens Sinclair ZX Spectrum Repton 2 from Repton Mania DSK image

- Moved the transporter and puzzle piece info overlays to bottom right of the tile. This also fixed a bug where it would bleed into the next tile
- Fixed a bug where the 'OK' button was enabled with nothing selected on the game selector dialogue box
- Fixed a bug where Desktop Repton 2 information was not put into the CSV output file
- Improved colour handling routines
- Removed option to save Scoring Data
- Added Scenario Analysis with the ability to export the data as a CSV file
- Changed the icon for Options, and changed it to "Preferences"
- Can load Sinclair ZX Spectrum Repton from Z80 file
- Can load Sinclair ZX Spectrum Repton 2 from Z80 file

### Changes from 1.15 to 1.16

- Loads Archimedes/RiscPC Repton
- Doubled the pixel resolution for High Res Desktop Repton 3 to 64x64 pixels
- Adjusted the map position for all versions of Repton (except Spectrum)
- Loads the version 1 Z80 Repton file produced by the Emulator Toolkit System
- Loads RiscPC Repton 2
- Repton 2 Transporter CSV output co-ordinates match the map window co-ordinates
- Map window is now resizable and allows re-sizing of maps, with scrolling/panning of map
- Adjusted the map position for all versions of Repton 3
- Loads Archimedes Repton 2
- BBC/Electron Repton 2 now shows open levels as open (i.e. no wall across the top)
- Changed the Map Shrinking options to a single option with the ability to specify size to shrink to
- Improved how the character bitmaps are built
- Harmonised the character names across the versions
- PC Repton 3 - if the standard character set (Prelude) is selected for loading in the options, then the 'unthemed' map data is loaded
- Shows map characters for Repton
- Changed the mouse cursor for the maps, to indicate that they can be panned
- Only creates enough image controls for the specific number of map characters
- Increased the resolution for map characters to 16x16px

### Changes from 1.16 to 1.17

- Checks RRP website if there is a newer version
- Checks RRP website for PC Password
- Fixed a bug where the PC Graphics were saved at the wrong size
- Fixed a bug where r3l map colours were wrong
- Can now load data files from an ADFS image, including 800K old map
- Can extract files from D64, D71, and D81 images

- Now reports that it cannot find any Repton data from the disc image, instead of Unrecognised
- Fixed a bug where the .dsd file extension from a DSD image file was not removed
- Indicator added on the status bar for future use of 'Edit Mode' on scenarios
- 'Edit Mode' and 'New Data File' menu items added for future use of 'Edit Mode' on scenarios
- When loading from disc image, the scenario name is no longer the image filename
- Registry clean-up

### Changes from 1.17 to 1.18

- Code tidy up to re-use code and use resources only when needed
- Fixed a bug where files extracted from a D71 or D81 image were reported as invalid
- Fixed a bug where when loading Repton 3 using TLR characters, not all the characters were displayed
- Fixed a potential bug with the map displays, where it may, or may not, have added a wall around the edges
- Displays the zoom factor in the status display
- Minor bug fixes
- Maps are now created as 8bpp, except for PC maps which are still 32bpp
- Faster method of changing the palettes for each map and character atlas
- Desktop Repton 3 map characters are now used for Archimedes and Desktop Repton 3
- Commodore 64 maps now use the BBC Prelude character set, as the 'standard' set
- Preferences changed so that 'Use BBC/C64 "PRELUDE" characters' is now just 'Use "PRELUDE" characters'
- Removed redundant resources
- Tweaked the default colour palettes for Commodore and Spectrum
- The colour palettes are now stored in the registry, and can be edited via Preferences
- Fixed a bug where Save As Repton 3 would not save
- Fixed a bug where saving Electron padding/unpadding dialogue, would still remember the settings even if Preferences dialogue was cancelled
- Removed the 'Use Archimedes PRELUDE characters' option from the preferences
- Re-arranged Repton 3 tab in Preferences
- Added option to load Archimedes Repton 3 files with PRELUDE
- Can save a PC Repton 3 file as BBC, Electron, Commodore, or Archimedes Repton 3 file
- Added option to load Electron Repton Infinity with "Repton 3" character set, either Electron or BBC
- Added option to load BBC Repton Infinity with "Repton 3" character set
- Added option to load Electron Repton 3 with Electron PRELUDE character set

- Shows Repton The Lost Realms map characters
- Improved 16 colour to 4 colour conversion, with a lookup table
- Improved 16 colour to 4 colour conversion, with a find closest colour
- Added option to select whether to use lookup table or find closest colour
- Fixed a bug with the Commodore 64 to BBC Repton 3 colour conversion
- Fixed a bug where exporting as Repton 3 would not correctly terminate the passwords
- Fixed a bug where loading a file with an uppercase extension would fail to load
- Multi-loads files from disc images (except for Spectrum DSK)
- Added option to display maps using the map characters for certain formats
- Updated the default preferences
- Enabled the 'on-the-fly' changing from using map characters to full characters, and vice-versa
- Expanded and updated the Repton 3 integrity checking - user has option to fix issue, ignore issue or stop loading scenario
- Integrity checks now expanded to Repton The Lost Realms
- Some resources have been compressed to save space and reduce the executable's size
- Moved the "File Format" information into the main status bar
- Now correctly shows open levels as open in Desktop Repton 2
- Added new wildcards for map filenames - '%t' for transporter destinations, '%j' for puzzle pieces and '%m' for map characters
- Re-arranged status panels
- Added new status panel for whether transporters destinations are shown
- Added new status panel for whether puzzle pieces (EGO Repton 4) are shown
- Fixed a bug where a '%%' in the wildcard expressions could cause an issue
- Can now import Bonecruncher discs for BBC and Electron
- Detects whether 'file' is a directory or a file
- Removed platform from datatype string
- Added platform icon on status bar
- Changed method of reporting datatype string
- Added new wildcard for map filenames - '%v' for Bonecruncher volcanos
- Shows/hides transporter details on the fly
- Shows/hides Repton 4 Puzzle Piece details on the fly
- Shows/hides volcano information on the fly
- Changed Repton Infinity tab in Preferences to Repton Infinity & Bonecruncher
- Option to display volcano positions on Bonecruncher map

### Changes from 1.18 to 1.19

- Loads Electron Repton The Lost Realms
- Fixed a bug where Electron Repton 3 map characters are not displayed correctly on the map
- Changed the Spectrum logo on the preferences page as the original did not have the red stripe

- Added an icon to the presets drop down menu on the colour palette page

### Changes from 1.19 to 1.20

- BBC and Electron Repton 2 now gets Repton's starting position from the data
- BBC and Electron Repton 2 now gets the level palettes from the data
- Loads BBC Repton 2 from an imaged original floppy (with hidden file)
- Fixed a bug where opening a PC graphics file would cause multiple errors
- Fixed a bug where the overlay colours were getting redefined on different screens
- Fixed a bug with minimum window size - make window bigger, then click on Transporter/Puzzle Piece/Volcano/etc.
- Loads A&B Computing's Ripton from disc image (not the cheat version)
- Removed certain assumptions about Electron Repton 2 characters, and now gets the data from the files
- No longer accepts the 'AllMaps,ffd' file for EGO: Repton 4, but instead accepts the !Repton4 folder
- EGO: Repton 4 now gets the passwords and level order from the data
- Improved the buffer handling on loading files
- Added extra integrity checks for PC Repton 3
- Fixed a bug where loading PC Repton 3 with Archimedes graphics would crash
- Fixed a bug where the maps and atlases produced from PC Repton 3 would not correctly render PNG or GIF transparencies
- Code tidy up
- Only checks the PC password on startup and when entered in the Options window
- No longer 'hides' a wrong password in the options window
- Transparent BMP colour is now taken as the bottom left most pixel, and not assumed to be colour number 0
- Loads the datafiles from Harry Wood's PC version of Repton 3
- Fixed a bug with exporting Commodore 64 Repton 3 files where the passwords were not getting padded with spaces
- EGO: Repton 4 now decodes the puzzles and displays them on the map
- Fixed a bug where invalid filenames might be entered
- New option for EGO Repton 4 - show completed puzzle in centre of map
- New option for EGO Repton 4 - export completed puzzle as BMP/GIF/PNG
- Extra wildcard for EGO Repton 4 maps with completed puzzle: %c
- Re-arranged Bitmaps preferences page
- EGO Repton 4 now uses the graphics supplied
- EGO Repton 4 graphics resources removed from executable
- Transparencies for PNG/GIF removed for EGO Repton 4 map and atlas output
- Atlas output for EGO Repton 4 changed to take account of the transparent bitmaps
- CSV summary file details changed for EGO Repton 4 - no longer has time limit, but now has transporters

### Changes from 1.20 to 1.21

- Fixed a bug where loading a disc image, with a single data file on, would crash
- Fixed a bug where loading an incomplete EGO: Repton 4 could have unpredictable results
- Fixed a bug where the Superior Collection Repton loaded incorrectly
- Now loads the Ripton Cheat version

### Changes from 1.21 to 1.22

- Fixed a bug where Spectrum Repton would crash on loading
- Fixed a bug where the map is redrawn leaving the minimum window height as the user left it
- Fixed a bug where the map window is maximised and the map is redrawn, it leaves the window in an intermediate state
- Fixed a bug where redrawing a Repton 4 map will make the window grow in height
- Source is now compiled in a newer compiler. This introduced a number of issues, and highlighted some previously unfound bugs
- Newer-style open and save dialogue boxes are now used
- Fixed a bug in loading EGO: Repton 4 where it could crash on closing the window
- Restructured the data decoder, speeding up the processing and reducing the memory used
- Rewritten the disc image analysis allowing for a greater range of different versions of Reptons
- Can now load Acorn Electron Repton 2 from an image with a single Repton 2 file
- Extra options to save maps, characters and puzzles as JPEGs
- Extra setting for JPEG quality
- Extra option for displaying loading screens (where available)
- Loads Acorn Atom Repton
- Option for TLR loading - BBC load BBC LARGO chars - now implemented
- Option for TLR loading - Electron load BBC LARGO chars - now implemented
- Option for TLR loading - Electron load Electron LARGO chars - now implemented
- New options window to enable configuration of TLR to R3 and R3 to TLR character conversions
- New registry value for TLR to R3 character conversion
- Changed how the loading of TLR characters into a R3 scenario works
- Option for TLR loading - BBC load BBC PRELUDE chars - now implemented
- Option for TLR loading - Electron load BBC PRELUDE chars - now implemented
- Option for TLR loading - Electron load Electron PRELUDE chars - now implemented
- Icon added to transporter and puzzle piece colour selection buttons on options window
- Option for TLR loading - pad characters (Electron) - now implemented

- Competition Codes for BBC and Electron Repton 3 are now displayed on the validity window
- Fixed a bug where BBC Repton 3 scenarios do not display any icons in the status bar
- Fixed a bug where loading ZX Spectrum Repton 1 or 2 Z80 image crashes
- Fixed a bug where switching between transporter details and no transporter details with PC Repton 3 crashes
- Fixed a bug where loading Desktop Repton 2 MapData,ffd the data was getting corrupted
- Fixed a bug with the Hi-Res Archimedes Repton 3 where the maps as map characters are small
- Option for keeping the background colour purple, if applicable, when loading PC Graphics files
- File access code changed for faster, more reliable, method
- Fixed a bug where the toolbar controls would be enabled and de-enabled many times on a form opening
- Made the tool bar buttons bigger and gave them higher res icons
- Removed the 7 'Save As' buttons for one single 'Export As' button, leading to an Export As dialogue box
- Split the 'Show Transporter/Volcano Details' into 2 separate buttons
- Fixed a bug where a scenario loaded off a disc image would have it's name truncated by 4 characters
- Removed the menus and moved the 'Most Recently Used' down to the Open File button
- Added/changed keyboard shortcuts
- Progress Bar now disables all other application windows
- Changed application main icon
- Changed icon for the map displays - icon now reflects platform of the map
- Changed icon for the PC graphics to Ego (Repton 4)
- Changed icon for the Scenario Analysis window
- Toolbar hint now shows the keyboard shortcuts
- Can now save Electron Repton 3, when loaded with Electron size characters, as BBC, C64 or Archimedes
- New "Changes" Dialogue box to display changes from previous versions
- Exports Repton The Lost Realms to BBC or Electron format, converting where necessary
- Fixed a bug where Loading Electron Repton 3/TLR with Electron LARGO chars does not work
- Show Puzzle Piece button now shows/hides the completed puzzle in all versions of Repton 2
- The Repton Infinity routine has been completely rewritten, and the data is now re-encoded instead of just reusing the loaded data
- Changed the text in the Repton Infinty Preferences tab from "PRELUDE" to "Rep3A"
- Characters only can now be exported to a separate file (not PC graphics)

- Fixed a bug where if a file cannot be found, it was wrongly reported as an unrecognised file
- Changed some of the texts in the error boxes
- '%c' wildcard for maps, when Repton 3/TLR/Infinity, indicates character set used (blank when loaded used)
- '%c' wildcard for maps, when Repton 2, indicates completed puzzle (as EGO Repton 4)
- Fixed a bug where if more than 1 PC Repton 3 scenario is loaded at a time a 'file not recognised' was reported
- Fixed a bug where the wrong pixel was being sampled for background colour on PC Repton 3 colours
- Right click on a map brings up a sub menu to Export screen or Blank screen
- In the Bulk Convert dialogue box, the paths last used will be remembered
- Changed the Bitmap/GIF button text on Bulk Convert dialogue box to 'Maps and Characters'
- Fixed a bug where Acorn Electron Bonecruncher fails to load
- When loading PC Repton 3 level files, if a graphics file cannot be found (and is not specified), the standard 'PRELUDE' set are now used
- Preferences page has been re-jigged to create more space, including splitting the Repton 3/TLR page into 2 pages
- New setting added for specifying the background transparent colour in PC Repton 3 graphics
- New setting added to specify sampling bottom left pixel for transparent colour in PC Repton 3 graphics
- EGO Repton 4 option 'Display characters as they appear' changed to 'Do not show hidden items', as it explains the option better
- 'Lock' pop-up menu item added to 'Zoom To Fit' to resize the map as the window resizes
- No longer checks online on startup for PC Repton 3 password everytime - only the first time
- PC Unlock password entry box and button are now disabled once application is unlocked
- More validity checks upon loading PC Repton 3 files



# Repton Map Decoder

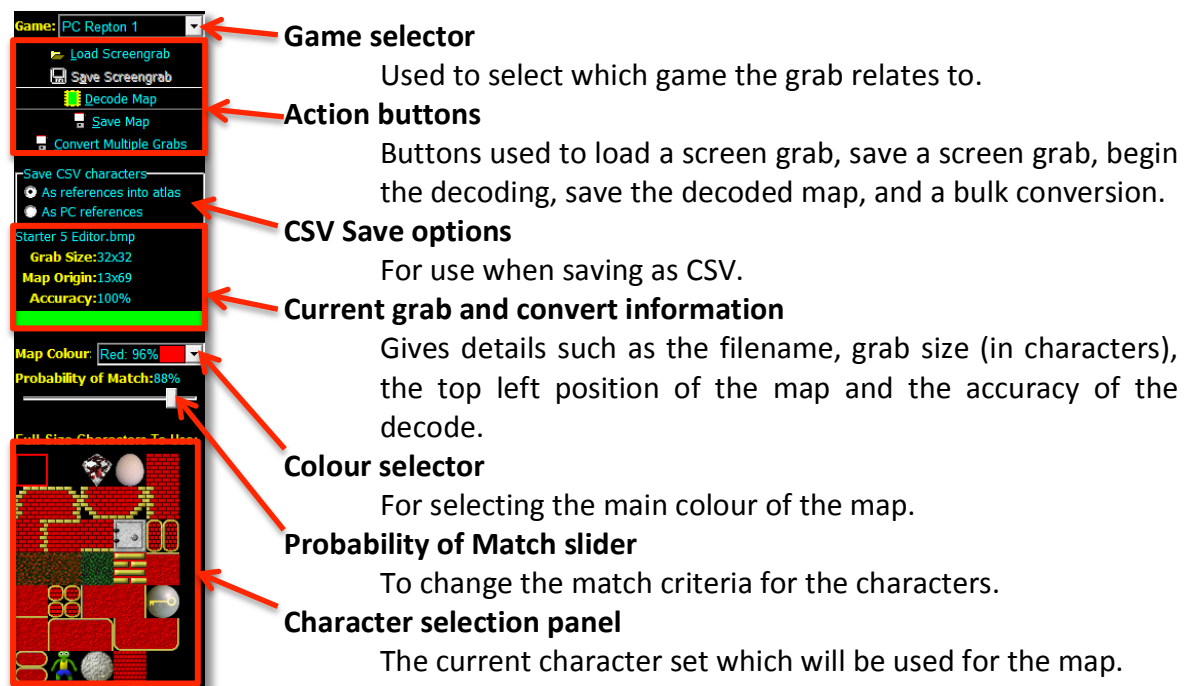
The Repton Map Decoder is a simple tool where one can load in a screen grabbed image of a PC Repton 1 or 2 map, and produce a high res full map of that same level, in a variety of image formats, as well as a comma separated value file.

## Main Screen



Down the left hand side are three tabs – **Original Screenshot**, **Converted Map** and **About**. On the right hand side is the control panel, which also includes the action buttons.

## Control Panel



The game selector and colour selector are used to select the character set, at the bottom of the panel, to the appropriate set for the level being loaded. This can be selected prior to loading in a screen grab, but the application will analyse the grab upon loading and will more than likely change these to what it thinks is correct. Of course, they can also be changed after a grab has been loaded.

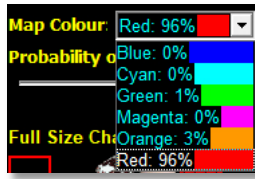
### Loading a Screenshot

To start, click on **Load Screenshot** to show the Open File Dialogue box. Only Windows Bitmaps, Graphics Interchange Formats (GIF), Portable Network Graphics (PNG) or JPEGs can be loaded. The application will confirm that the file being loaded is indeed one of these by looking internally in the file upon loading (basically meaning, if it doesn't have the appropriate file extension, it can still be loaded). The file will then get loaded into the **Original Screenshot** tab (as shown above).

Maps can be screen grabbed and loaded in from the editors or from the games, and the application will detect this (in fact, it will use this extra information to determine the game itself). However, you can also load in a cropped image of just the map itself. The application will then analyse the image to determine:

1. It is a valid PC Repton 1 or 2 map image  
This first check is just on the resolution of the loaded image.
2. The map size (e.g. 32x32 characters)  
After the resolution has been determined, if it is found that the grab is 512x480 or lower then it will assume that the map has been cropped from the editor or game window. It will then calculate the size of the map, in characters, and if it is found it is not of a valid size will be rejected as invalid.
3. Whether it is a Repton 1 or 2 map  
Simple test for Repton 1 is if the map is 32x32 characters in size. Smaller sizes will suggest a Repton 2 map. However, if it is found that the grab includes the editor or game window, then it look for the character panel in the editor window, or the status panel for the game. Once found, the position of Repton will then be searched for which will give away which game it is.
4. Where the top-left corner of the map is  
Once it knows whether it is a Repton 1 or 2 editor or game window, the application knows the offset from the appropriate panel to the top left corner of the map.
5. Re-check the size  
The initial check on the map size was done by resolution based on the map being cropped out of the editor or game. For grabs that are from the editor or game, the map size is still not known. But, the top-left corner now is, so it can find the map. It looks for the tell-tale signs of the top corner of the map.
6. The main colour of the map  
The final step is to work out what colour the map is. This is simply counting the number of each colour found, in the map, and the one colour that appears the most is assumed to be the map's colour. The application actually ignores Blacks, Whites, Yellows and Greys, and any other colour it works out which of Blue, Cyan, Green, Magenta, Orange or Red it is closest to.

There are occasions when it does not manage to correctly determine the game, or colour. In these occasions, you can use the two drop-down menu boxes to override these.



After loading a screen grab, the colour drop-down menu will show the colour analysis as a percentage of number of that colour found against total number of pixels (minus Black, White, Grey or Yellow pixels). The grab size, and map origin will also be reported in the Control Panel.

Once you are happy with the analysis, or have set the correct game/colour, just click on **Decode Map** to commence the detailed analysis and production of a full high res map.



At this point, the **Accuracy** will be reported with a coloured bar underneath. This bar goes from Red (bad), Magenta, Yellow, to Green (good) depending on the accuracy. If you are happy with the result, just click on **Save Map** to save the resultant image to disc. Alternatively, by pressing **CTRL + C**, you can then copy the resultant image onto the clipboard.

### Adjusting Sensitivity

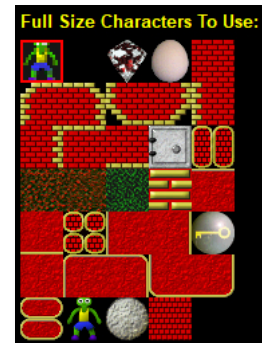
The way that the application works is by comparing each 16x15 block of pixels, taken from the screen grab, with a known reference, i.e. map characters taken from the game itself. Adjusting the colour to the map colour will select the appropriate set of reference characters, as well as the bigger map characters. As each block is compared with every character, a score is produced between 0 and 100%. The **Probability of Match** setting is then taken into account. If the score, of the highest scoring character, is equal, or more than, this **Probability of Match** then the character is deemed to be a match and is placed on the map. If it is below this mark, then that block, from the grab, is stretched and drawn onto the map, and marked as an 'error', which is reported as a percentage in the **Accuracy** field. By playing around with this setting, you can increase, or decrease, the number of errors produced.

This behaviour was introduced because of the Repton 2 puzzle pieces. These, of course, do not appear as a character in any of the character sets, so needs to be copied from the original grab.

The **Probability of Match** setting does not affect the matching of the colour pixels, or Repton, in the original analysis when the screen grab is loaded.

## Replacing Characters

Once a decoded map is produced, the characters can be replaced with either a copy from the original grab, at that position, or by any of the other characters. However, once the full size map has been produced, the colour and game cannot be changed without losing the produced map (you cannot have characters of different colours or games on the same map).

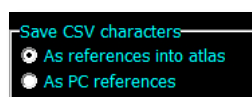


If you switch back to the **Original Screengrab** tab, you will find that as you move the mouse across it, a red box will follow. In addition to this, the top left hand character in the character selection box will change (which will actually be a copy of what is under the cursor). Clicking on the grab will then copied onto the produced map, but the error count will not be affected. Similarly, you can select any other character to place onto the map, just by clicking on the appropriate character in the selection box, then clicking on the appropriate place on the screen grab.

## Zooming In and Out

Both the full size map and the original screen grab can be magnified, or made smaller, by simply pressing **CTRL + +** and **CTRL + -** on the keyboard. Depending on which tab is selected will zoom in or out on the map.

## Comma Separated Values



When you save as a CSV, you have the option of saving with the values being a reference into the character atlas, or the actual character reference that PC Repton 1 or 2 uses in the scenario files.

In addition, all CSV files are saved with the colour name as the first line.

## Save Screengrab

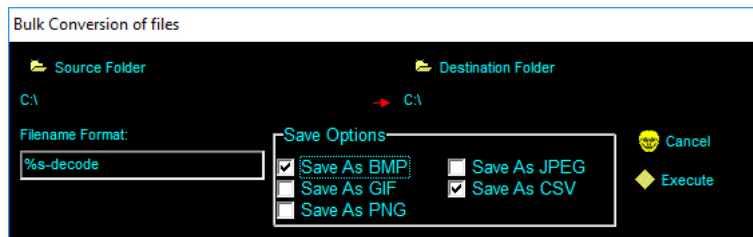
Instead of loading a screen grab from a file, if you were to have a screen grab held in the clipboard, then clicking on **CTRL + V** will load the screen grab from the clipboard. Having done this, the filename will show as **<clipboard>** and the **Save Screengrab** button will be enabled, allowing you to save this image out to disc.

This essentially means that you can have the editor, or game, running alongside the Repton Map Decoder, and by pressing **ALT + PrintScr** followed by **ALT + TAB** (to get back to the Repton Map Decoder), and then finally **CTRL + V**, you will get the current map into the application ready for turning into a full size map.

## Bulk Conversion

Of course, you may have many screen grabs that you would like to turn into a full size map. It can be a laborious task loading each one, clicking on Decode, and then saving. However, there is a quicker, automated, way to do this. The down side is that it will rely solely on the automatic detection of game, size and colour, so you will need to make sure you are happy with the sensitivity settings.

Quite simply, click on **Convert Multiple Grabs** to open the dialogue box:



Here you select where the originals are held (**Source Folder**), and where you would like then saved to (**Destination Folder**). You can also specify the format of the filename, using switches:

- %g : to specify which game
- %s : to specify the original screen grab filename (minus the extension)

Finally, the output image format needs to be specified, which can be any of Windows Bitmap (BMP), Graphics Interchange Format (GIF), Portable Network Graphics (PNG), Joint Photographic Experts Group (JPEG) or Comma Separated Values (CSV).

## Keyboard Shortcuts

There are various keyboard shortcuts employed by the application:

- Load screen grab from clipboard: **CTRL + V**
- Save decoded map to clipboard: **CTRL + C**
- Zoom in: **CTRL + +**
- Zoom out: **CTRL + -**
- Switch to **Original Screenshot** tab: **CTRL + 1**
- Switch to **Converted Map** tab: **CTRL + 2**

## Changes Log

### Version 1.05

- Method to work out the difference between two integers changed to a system supplied routine
- Game selection can now be changed after screen grab has been loaded
- Colour count on colour drop down menu changed to percentage of occurrence
- Code tidied up with more comments
- Some variable types changed to reduce memory use and increase speed
- Improved the accuracy of map colour detection using closest colour method
- Accuracy of decoded map is now calculated and reported. This is based on the number of characters it is able to identify

- The map colour character selector can now be changed after decoding. However, this will lose the decoded map
- The Screen Grab image now appears in the top left corner every time, even if it is considered an invalid image
- Detects whether grab is Repton 1 or 2. There are still some instances when it can not determine which game (e.g. map size is 32x32)
- In-game grabs from Repton 2 will now detect the size
- Detail labels now different colour from the detail, and their alignment changed slightly
- Button to save screengrab when loaded from clipboard
- Improved accuracy of character detection by using the closest colour method to work out probability of a character match
- New registry values added for the pixel match probability (in game and editor screens) and Repton match probability (in game screen)

#### Version 1.04

- Improved the checking of screen grabs to ensure it can be decoded
- Improved the seeking of the map origin
- Added functionality to decode grabs saved from the Repton 1 game
- CTRL+V will now load a screen grab from the clipboard
- CTRL+C will now save a decoded map to the clipboard
- Clicking on a character on the original screengrab will stretch and draw into onto the appropriate position on the full size map
- Full size characters added on right hand pane. Clicking on one will select it, and can then be placed onto full size map
- Extra character added for "Character under cursor"
- Cursor changed for full size map to indicate it can be panned around
- CTRL + and CTRL - now magnifies the full size map in and out (12.5%, 25%, 50%, & 100%)
- Screen grab can now be zoomed in and out (100%, 200% & 400%)
- Removed the thin grey lines in the window
- Added a game selector drop down
- Rearranged the right hand panel
- Fixed a bug where a small screen grab would crash the application when loaded in
- Will now decode PC Repton 2 maps, detecting the appropriate size, even in an editor window
- Fixed a bug where the application would sometimes crash on changing character sets
- Changed the detection system to use a configurable probability match system
- Added a slider to set the percentage for a successful probability match
- Changed it so that any character below the probability match percentage is a stretched version of the character from the original grab
- Re-ordered the Tab order
- Added keyboard shortcuts for the four buttons



- Re-arranged the about panel - the text is now central
- Improved the colour detection
- CTRL+1 now selects the Screen Grab Tab, and CTRL+2 selects the Converted Map Tab
- Improved the speed of decoding the maps
- Drop down map colour selector now gets locked once a map is decoded
- Clicking on the Repton Resource Page banner will take the user to the website
- Save Map button no longer uses the format options, but is user selectable on the save dialogue
- New Bulk Conversion dialogue box with source and destination folders
- Now able to specify filename with switches: %g for game and %s for input filename (same as Repton Map Display)
- Moved save format options to bulk convert dialogue box
- CSVs are no longer saved with PC Repton 1 or 2 references - this is now a configurable option, with a new selector on the screen
- CSVs now output the colour of the map in the first line
- Bulk convert now removes final decoded map and screengrab upon completion
- Registry entries moved into a subtree 'MapDecoder', and all keys renamed
- Colour counter added to the map colour drop down

### Version 1.03

- Compressed reference and full size characters to reduce executable size
- Removed the full size character display at the bottom of the window
- Added Repton Resource Page logo at the top of the window
- Removed the colour detected bar
- Changed the windows background colour to black
- Drop down box is now provided to force a map colour, in case of incorrectly detected colour
- Will only convert maps where the screengrab is bigger than 512x480 and smaller than 1024x768 (or equal to)
- Changed the green RGB reference for colour detection
- Moved the tab position to the left hand side
- Added a Bulk Decode button to decode all files held in a directory
- Validates file is an image before loading
- No longer assumes screen grabs of whole editor window is the same size, and map origin in the same place
- Decoded map can be scrolled by panning with the mouse
- CSVs are saved with PC Repton 1 character references
- Options box for choosing what format to save the graphics files as (BMP, GIF, PNG, JPEG and CSV), which are saved to the registry
- Removes any decoded map upon loading a new screengrab
- Progress Bar added to show the progress of map decoding and of saving
- About tab added, and application title bar changed to just show the application title and version number

### **Version 1.02**

- Extraneous characters removed
- Continual development for decoding each character - now uses RGB components, converted to YUV, instead of colour number
- Detects map colour using RGB instead of colour number

### **Version 1.01**

- No longer requires the user to load a character atlas
- Removed all the buttons and options for full size character atlas
- Uses improved method for decoding maps. Accuracy is now at 99% on maps from the RRP website
- Save map now also saves a CSV of the map
- Colour detection is now limited to the six known colours. Defaults to red if not found
- Automatically switches the page to the appropriate one when loading or decoding maps

### **Version 1.00 - initial version**





**Repton Map Display written by and ©2009-2018 Gerald J Holdsworth**

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