

GPH_EDITOR - beta 00.06 - User Manual

GPH_EDITOR is an utility to extract and then repack, data from the graphics database files used by RTx system.

Graphic database files are the *.gph files you can found under the subfolder of **'/Data_base/Graphics'** folder in the upgrade CD (version 8.11 and 7.11).

Extracted data are saved in files placed in a subfolder of source file folder, so GPH_EDITOR doesn't work directly with the upgrade CD files as source, but you must copy the GPH files on your hard drive. Working subfolder have the fixed name GPHFILES.TMP. Under GPHFILES.TMP there should be other subfolders, depend of the data contents of the source file.

GPH files are divided in sections. Each section has a name identifier of 8 character length. At this first release GPH_EDITOR know only few sections. They are:

- **TEXT2006:** present in file **GEN_xx.gph** placed in the **"/xx"** folder, where **xx** is the 2 letter language identifier, such IT, EN, FR, SP, DE, etc.
- **TXUR2000:** present in file **GEN_HAnn.gph** placed in the **"/HARMnn** folder, where **nn** is the numeric value from 00 to 06. HARMnn folders are used by the system to store graphics image for the 5 RTx color themes. The last 2 folder HARM05 and HARM06 are not used (I suppose).
- **TXCO2000:** present in file GEN_HAnn.gph. It is a color table for text messages.
- **RAWD2000:** present in file MapGfx.gph placed in the **"/Day"** and **"/Night"** folders. These are symbols used to draw the navigation map on screen.

Help to discover the meaning of the unmanaged section is appreciated.

Export function

All the sections present in the source file, listed in the main page of GPH_EDITOR, are extracted when click on the Export button, is not possible to extract a single section at a time. Extraction produce several files of different type depending by the section type.

Section TEXT2006

Extraction of this section produce in the GPHFILES.TMP folder a **Unicode text file** with the fixed name **TEXT.TXT**. It can be opened and modified by programs like Notepad for Windows or Excel.

Each line of the file start with a numeric identifier follow by a tabulate character to divide from the text message. Each line is a message displayed by the system. Some messages are multiline messages, to specify the break line position is used the pipe character | (ascii 124).

Section TXUR2000

Extraction of this section produce in the GPHFILES.TMP a lot of bitmap files. Bitmap files have name **TXURxxxx.BMP**, where xxxx is the hexadecimal index of the image inside the section. From beta version 00.06 of GPH_EDITOR all image types are supported and converted to regular .BMP files.

Supported image type are converted in this mode:

source GPH		output BMP
BMP 32	->	BMP 32
BMP 8 palette 24bit	->	BMP 8
BMP 8 palette 32bit	->	BMP 8
DXT1	->	BMP 32
DXT5	->	BMP 32

RTx system use 32bit RGBT color scheme, where T is a transparency level, from 00 = full transparent to FF = opaque. Since some graphics editor do not use RGBT color scheme, GPH_EDITOR create in the GPHFILES.TMP folder a transparency mask file TXURxxxx_TM.BMP for each bitmap file exported in which are stored the transparency bytes values. The file TXURxxxx_TM.BMP is always a 8 bit gray scale bitmap.

In the GPHFILES.TMP folder is also create a log file TXURlist.txt with a description of all the image found in the TXUR section of the source GPH file.

Known images are:

- TXUR0000.BMP right frame in main page
- TXUR0001.BMP background for alphanumeric input box when selected
- TXUR0003.BMP background for alphanumeric input box when selectable but not selected
- TXUR0004.BMP background for alphanumeric input box when modify is active
- TXUR0009.BMP shadow in bottom side of map view
- TXUR0017.BMP background for many settings popup windows
- TXUR0022.BMP background for other popup windows, like audio scene or source change
- TXUR0028.BMP background for little popup windows
- TXUR002F.BMP background for menu item selection box
- TXUR003B.BMP left frame in main page
- TXUR003E.BMP background for buttons when not selectable
- TXUR003F.BMP background for selected item in menu

- TXUR0042.BMP background for buttons when selectable but not selected
- TXUR006D.BMP background for buttons
- TXUR006E.BMP bar graph interior
- TXUR006F.BMP bar graph frame
- TXUR008C.BMP background for input box when not selectable
- TXUR0119.BMP background for time stamp area
- TXUR011C.BMP background for buttons when selected
- TXUR0136.BMP left frame in main page used with guidance active
- TXUR0189.BMP main menu background
- TXUR01B5.BMP the upper horizontal frame in main page
- TXUR0212.BMP background for selection box in menu

Section TXCO2000

Extraction of this section produce in the GPHFILES.TMP folder the file TXCO.PAL. It is a standard windows palette file. It contain 256 color palette table, but only 11 color in the first 22 index are used by the system, all the other are black in the .PAL file and not present in source GPH file.

Used colors are:

0. Title of popup window or frame
1. Normal text
2. Not used
3. Brightest text or selected text
4. Used but unknown by me
5. Used but unknown by me
6. Button or menu option not available
7. Temperature and time in main page
8. Not used
9. Not used
10. Not used
11. Not used
12. Not used
13. Not used
14. Not used
15. Not used
16. Not used
17. Not used
18. Used but unknown by me
19. Used but unknown by me
20. Used but unknown by me
21. Used but unknown by me

Section RAWD2000

Extraction of this section produce in the GPHFILES.TMP a lot of subfolder and files of various type. File name and subfolder name are the same present in the source file. Generated files are an exact copy of the

source data, no conversion is done. A lot of these files are standard *.DDS files and can be viewed/modified with programs like DirectX Texture Tool (DxTex.EXE) present in the MS DirectX SDK.

Unmanaged sections

All data in unmanaged section are saved as is in the GHPFILES.TMP folder, in a binary file with name composed by the first 4 character of the section name and **.BIN** extension.

Import function

All the section present in the source file are rebuild from the files present in the GHPFILES.TMP folder, when you click on the Import button. Is not possible to import a single section at a time.

Import process start making a copy of the source file in the source folder. Copied file have the same name of source file plus the .ORG extension. This file is created only one time, if it already exist GPH_EDITOR don't overwrite it. This is done to allow GPH_EDITOR to repeat the import process when the previous import was failed.

Section TEXT2006

File TEXT.TXT must be present under GHPFILES.TMP folder. It **must be** a **Unicode** text file. Each line of the file must start with a number followed by a tab character. Number must be in ascending order and in range from 0 to the total number of text in source file. Empty line are not allowed. Pipe characters | (ascii 124) are converted in carriage return character, and it is used in the multi line messages to mark the line break.

After conversion of TEXT.TXT file a new file **TEXT.BIN** is created in GHPFILES.TMP. It is a binary image of the newly TEXT2006 section, for internal use of GPH_EDITOR.

Section TXUR2000

As many files TXURxxxx.BMP as are the image present in the source file, must be present in the GHPFILES.TMP folder. Bitmap file must have same dimension of source file, and must match the color depth of the source image in this way:

- If source image is BMP 8 bit, imported BMP file must be a 8 bit.
- If source image is BMP 32 bit, imported BMP file can be either 24 or 32 bit.
- If source image is DXT1, imported BMP file can be either 24 or 32 bit.
- If source image is DXT5, imported BMP file can be either 24 or 32 bit.

To help recognition of image type and dimensions, use the log file TXURlist.txt present in the GHPFILES.TMP folder. This log file is not used during Import process, can be freely modified or deleted.

If a transparency mask file TXURxxxx_TM.BMP is present in the GHPFILES.TMP folder it is used to read the transparency level for pixels of the correspondent bitmap TXURxxxx.BMP. This file must a 8 bit color depth bitmap with the same width and height of the correspondent bitmap. Color table of transparency mask file is not used, transparency level is set to the color index of pixel in the bitmap data.

If a transparency mask file TXURxxxx_TM.BMP is not present in the GHPFILES.TMP folder, the correspondent bitmap TXURxxxx.BMP, **must be** coded with RGBT color scheme, or in case of 24 bit image, the transparency value will be set to opaque (=255).

Import of 8 bit color depth bitmap, may produce different result due to leak of color table entry if a lot of transparency and color combination are present in the imported file.

Also import of DXT1 or DXT5 compressed images may produce slightly difference in the image colors, due to the loss compression method.

After conversion of all bitmap files a new file **TXUR.BIN** is created in GHPFILES.TMP. It is a binary image of the newly created TXUR2000 section, for internal use of GHP_EDITOR.

Section TXCO2000

The file TXCO.PAL must be present in the GHPFILES.TMP folder. It must be a standard windows palette definition file (version 3.00) with 256 color table entry. Only the color present in the source file will be imported. Colors are in the RBGQUAD format. Since RTx system use also the fourth byte (as a transparency level "I suppose") but window don't fill it, import process of TXCO section substitute the fourth byte in .PAL with the source file value. Only 11 colors are used by the system, see export description to know what they are.

After conversion of TXCO.PAL file a new file **TXCO.BIN** is created in GHPFILES.TMP. It is a binary image of the newly created TXCO2000 section, for internal use of GHP_EDITOR.

Section RAWD2000

Under GHPFILES.TMP must exist all the files and subfolders present in the source GPH file. All the files must have the same dimension they have in the source GPH file. No other check is done on the file format.

After conversion of all files a new file **RAWD.BIN** is created in GHPFILES.TMP. It is a binary image of the newly RAWD2000 section, for internal use of GHP_EDITOR.

Unmanaged sections

Binary files for each unmanaged section must be present in the GHPFILES.TMP folder. File name must be the first 4 character of the section name with .BIN extension. No check is done on them, leave them unchanged.

Version history

B00.01 15/09/2009 first beta version
B00.02

B00.03 17/09/2009 add section TXCO

B00.04 28/09/2009 add transparency mask file

B00.05 06/10/2009 add support for import 24 bit BMP

B00.06 15/10/2009 add support for DXT1 and DXT5 compressed texture image

Notes

Since I am the last arrived in the RTX world, I must specify that my work is based on what has been done by others people before me, to which I want to thank:

dmatos for the info given to me in private, and those present in his wiki page
<http://rt4.wikidot.com>

Janfi67 for the info given to me in private and for all programs and documents he made public on
<http://www.planete-citroen.com>

all users of the forums that I attend, that shared with the others information in their possession

<http://www.passionepeugeot.it>

<http://www.citroen-c-club.com>

<http://www.c4atreros.es>

<http://www.eurovan2.com>