

RComp v0.01 2006/08/13

This help file has been converted from the original Psion Write file using it's own RTF output...



Introduction

Welcome to *RComp*. This little program attempts to compress your data to allow you to store more things on your SSDs, or the internal 'disc'.

- * This software can only compress and decompress as directed by you. It is not a filing system, so you will need to decompress files before using them.
- * The algorithm used is a form of RLE (that I devised many years ago for on-the-fly image (de)compression). For this reason, it is best suited to files with a lot of repetition (such as large images like "Screen.pic" that is created when you press Ctrl-Shift-Acorn-S). It usually fares badly with non-repetitive input (such as word processor files).
- * You'll notice that this compression is quite simple, yet it shows up something monotonous that OPL isn't terribly fast at doing...

Data security

RComp will overwrite the destination file *WITHOUT* prompting. This could lead to data loss if the source file is a compressed file that is damaged or corrupt.

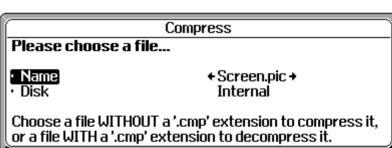
Using RComp

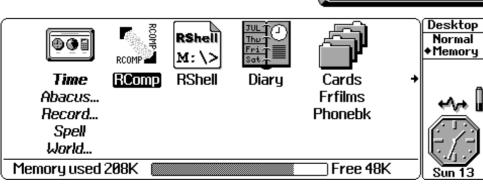
RComp has only two rules:

- 1. The compressed files have a "cmp" extension. *Always*.
- 2. When compressing, the filename used is that of the source, only with a "cmp" extension. It therefore follows that *RComp* will use the same filename when *de*compressing, only restoring the correct file extension.

You can start *RComp* in one of two ways...

The first way is to simply choose the *RComp* logo on the Desktop (system screen). You will be presented with a dialogue asking you to choose a file.





The second way, which may be quicker for some users, is to highlight the *RComp* logo on the Desktop and then press TAB in order to call up the file selection dialogue. Once you've chosen a file, press Enter on it and *RComp* will be invoked to (de)compress it straight away.

A slidey-bar thing will show you the progress, and you'll see some statistics afterwards.

```
Compressing: LOC::M:\SCREEN.PIC
as: LOC::M:\SCREEN.CMP

Starting compression (please be patient, this is slow)

***/

Finished.

Process took 35 seconds.
Input file was 19232 bytes, output file is 3208 bytes.
Compression saved 16024 bytes.

[press a key to exit]
```

When you compress a file, the output filename will be the same as the input, only with a "cmp" extension: \WRD\Mydoc.wrd becomes \WRD\Mydoc.cmp

To decompress, simply choose the "cmp" file. The output will be the same as the input, again, only this time the original extension will be restored.

```
Decompressing: LOC::M:\SCREEN.CMP
as: LOC::M:\SCREEN.PIC

Starting decompression (please be patient, this is slow)

99%

Finished.

Process took 32 seconds.

[press a key to exit]
```

The algorithm

The compressed file has a 12 byte header.

The first 8 bytes are "CMPFIL**".

The next byte is the value used as the marker byte. This is *usually* ASCII value 255, but may be altered if required (in the source).

The final 3 bytes are the original file extension (i.e. "wrd").

The following data is a stream. If it is not <255> then it is a byte to be written to the output when decompressing. If it is <255>, then it is followed by the byte value, and then a count (between 1 and 255) of how many times to write this byte. If, upon compressing, a single <255> is encountered, then the following would be output: <255><255><1> (repeat byte <255> 1 time).

Here is an example: 12345555678888888890

would become: 1234<255>5<5>67<255>8<8>90

We have compressed 21 bytes down to 14.

Another example: <255><0><255><0>

would become: <255><255><1><0><255><255><1><0>

This time we have 'compressed' 4 bytes up to 8!

As you can see, this system works best when there are large repetitions (such as image files) and it is likely not to bring much benefit to files with few repetitions (this file, for example). The worst case would be files with a large number of single <255> bytes (which would each require 3 bytes to encode).

There is no requirement for the marker byte to be <255>. If this issue catches you out a lot, a simple analysis of a random sampling of files will show which byte value is least used (or, perhaps, most in long repeats and least in singles). You may then modify the source to use this value as the marker byte... Because the marker byte value is included in the header, if you modify *your* marker byte, unmodified versions of *RComp* running on other computers will *still* be able to decompress your files!

This software was primarily written to compress images.

Licence

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I would appreciate it if you could notify me of corrections or additions that you make.

You are *not* permitted to release modified versions of this software without my permission. You may, however, distribute the original provided that you are distributing an exact duplicate of what is available from my website. Please, no poking in "file_id.diz" and the like.

If you include this software on the likes of a compilation CD, I would appreciate a gratis copy of that CD in return.

This software is provided as-is with no guarantees. No liability will be accepted for any loss or damage, howsoever caused. You use this software entirely at your own risk.

There is no support offered on this software. However, generally I will endeavour to correct any issues raised if you send me a polite and descriptive email (note my limited access to the Internet, below). In lieu of this, if you cannot reach me or if I am not able to reproduce or correct the problem that you have encountered... you do have access to the source code.

Contact details

You can contact me by email:

rmurray -at- heyrick -dot- com

Please note that I am only (usually) able to access the Internet for half an hour a week at my local library, so my responses will not be as quick as I'd like them to be...

Alternatively, you may visit my PocketBook II web page to see what is new:

http://www.heyrick.co.uk/software/pb2/

RComp?

This software is called "RComp" from *R*ick's *Comp*ressor (original, huh?). Neither it or I have any relation to the Acorn/RISC OS related company of the same name.

Thank you

...to mom, John & Irene, Frédérique, Anne, Françoise B, Glenn, and Ewen...

Music supplied by *Laura Pausini* and *Evanescence*.

2006/08/13