

**NAME**

**rgbfix** — Game Boy header utility and checksum fixer

**SYNOPSIS**

```
rgbfix [-jsvv] [-C | -c] [-f fix_spec] [-i game_id] [-k licensee_str]
  [-l licensee_id] [-m mbc_type] [-n rom_version] [-p pad_value]
  [-r ram_size] [-t title_str] file
```

**DESCRIPTION**

The **rgbfix** program changes headers of Game Boy ROM images. It also performs other correctness operations, such as padding.

Note that options can be abbreviated as long as the abbreviation is unambiguous: **--verb** is **--verbose**, but **--ver** is invalid because it could also be **--version**. The arguments are as follows:

**-C, --color-only**

Set the Game Boy Color-only flag: *0x143* = 0xC0. If both this and the **-c** flag are set, this takes precedence.

**-c, --color-compatible**

Set the Game Boy Color-compatible flag: *0x143* = 0x80. If both this and the **-C** flag are set, **-C** takes precedence.

**-f fix\_spec, --fix-spec fix\_spec**

Fix certain header values that the Game Boy checks for correctness. Alternatively, intentionally trash these values by writing their binary inverse instead. *fix\_spec* is a string containing any combination of the following characters:

- l** Fix the Nintendo logo (*0x104–0x133*).
- L** Trash the Nintendo logo.
- h** Fix the header checksum (*0x14D*).
- H** Trash the header checksum.
- g** Fix the global checksum (*0x14E–0x14F*).
- G** Trash the global checksum.

**-i game\_id, --game-id game\_id**

Set the game ID string (*0x13F–0x142*) to a given string of exactly 4 characters. If both this and the title are set, the game ID will overwrite the overlapping portion of the title.

**-j, --non-japanese**

Set the non-Japanese region flag: *0x14A* = 1.

**-k licensee\_str, --new-licensee licensee\_str**

Set the new licensee string (*0x144–0x145*) to a given string, truncated to at most two characters.

**-l licensee\_id, --old-licensee licensee\_id**

Set the old licensee code, *0x14B*, to a given value from 0 to 0xFF. This value is deprecated and should be set to 0x33 in all new software.

**-m mbc\_type, --mbc-type mbc\_type**

Set the MBC type, *0x147*, to a given value from 0 to 0xFF.

**-n rom\_version, --rom-version rom\_version**

Set the ROM version, *0x14C*, to a given value from 0 to 0xFF.

**-p pad\_value, --pad-value pad\_value**

Pad the image to a valid size with a given pad value from 0 to 0xFF. **rgbfix** will automatically pick a size from 32 KiB, 64 KiB, 128 KiB, ..., 8192 KiB. The cartridge size byte (*0x148*) will be

changed to reflect this new size.

- r** *ram\_size*, **--ram-size** *ram\_size*  
Set the RAM size, *0x149*, to a given value from 0 to 0xFF.
- s**, **--sgb-compatible**  
Set the SGB flag: *0x146 = 3*. This flag will be ignored by the SGB unless the old licensee code is 0x33!
- t** *title*, **--title** *title*  
Set the title string (*0x134-0x143*) to a given string, truncated to at most 16 characters. It is recommended to use 15 characters instead, to avoid clashing with the CGB flag (**-c** or **-C**). If both this and the game ID are set, the game ID will overwrite the overlapping portion of the title.
- V**, **--version**  
Print the version of the program and exit.
- v**, **--validate**  
Equivalent to **-f lhg**.

## EXAMPLES

Most values in the ROM header are only cosmetic. The bare minimum requirements for a workable program are the header checksum, the Nintendo logo, and (if needed) the CGB/SGB flags. It is a good idea to pad the image to a valid size as well (“valid” meaning a power of 2, times 32 KiB).

The following will make a plain, non-color Game Boy game without checking for a valid size:

```
$ rgbfix -v foo.gb
```

The following will make a SGB-enabled, color-enabled game with a title of “foobar”, and pad it to a valid size. (The Game Boy itself does not use the title, but some emulators or ROM managers do.)

```
$ rgbfix -vcs -l 0x33 -p 255 -t foobar baz.gb
```

The following will duplicate the header (sans global checksum) of the game “Survival Kids”:

```
$ rgbfix -cjsv -k A4 -l 0x33 -m 0x1B -p 0xFF -r 3 -t SURVIVALKIDAVKE SurvivalKids.gbc
```

## BUGS

Please report bugs on *GitHub*: <https://github.com/gbdev/rgbds/issues>

## SEE ALSO

[rgbasm\(1\)](#), [rgbblink\(1\)](#), [rgbds\(7\)](#)

## HISTORY

**rgbfix** was originally released by Carsten Sørensen as a standalone program called *gbfix*, and was later packaged in RGBDS by Justin Lloyd. It is now maintained by a number of contributors at <https://github.com/gbdev/rgbds>