

**NAME**

rgbfix — Game Boy checksum fixer

**SYNOPSIS**

```
rgbfix [-Ccjsv] [-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 filetype operations, such as truncation. The arguments are as follows:

- C Set the Game Boy Color-only flag: *0x143* = *0xC0*. If both this and the *-c* flag are set, this takes precedence.
- c Set the Game Boy Color-compatible flag: *0x143* = *0x80*. If both this and the *-C* flag are set, *-C* takes precedence.
- i *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 Set the non-Japanese region flag: *0x14A* = 1.
- k *licensee\_str*  
Set the new licensee string (*0x144–0x145*) to a given string, truncated to at most two characters.
- l *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*  
Set the MBC type, *0x147*, to a given value from 0 to *0xFF*.
- n *rom\_version*  
Set the ROM version, *0x14C*, to a given value from 0 to *0xFF*.
- p *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 32KiB, 64KiB, 128KiB, ..., 8192KiB and give a warning thereafter. The cartridge size byte (*0x148*) will be changed to reflect this new size.
- r *ram\_size*  
Set the RAM size, *0x149*, to a given value from 0 to *0xFF*.
- s Set the SGB flag: *0x146* = 3.
- t *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 Validate the header and fix checksums: the Nintendo character area (*0x104–0x133*), the header checksum (*0x14D*), and the global checksum (*0x14E–0x14F*).

**EXAMPLES**

Most values in the ROM header are only cosmetic. The bare minimum requirements for a workable image are checksums, 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 multiple of 32KiB).

The following will make a plain, no-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 multiple of 32KiB. (The Game Boy itself does not use the title, but some emulators or ROM managers might.)

```
$ rgbfix -vcs -l 0x33 -p 0 -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
```

#### SEE ALSO

*rgbasm(1)*, *rgblink(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/rednex/rgbds>.