

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), *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/gbdev/rgbds>.