

Manual name

V0.0.2_REV33_English

Revision history

Version	Description	Name (username)
V0.0.2	Finishing chapter 1 Using GIT (The basics) (1+ hours) <ul style="list-style-type: none">• Checked the grammar• Checked the sentence structure• Added more words to the references	Peter (traffic-light)
V0.0.1	First release (3 hours) <ul style="list-style-type: none">• Created a layout• Added first chapters• Added a FAQ	Peter (traffic-light)
Total working time (V0.0.2_REV33): 01:38:58		

0. Introduction

Thank you for downloading this manual. We hope that this manual will help you to understand things like GIT, compiling your firmware, change you're marlin configuration and many more.

With this first release I hope that you guys understand what I'm trying to teach you. When you don't understand it, please send me a message with some hints and tips to make this manual better.

I hope you guys find this manual useful. Let me know what you think!

0.1 How to read this manual

This is just a short how to for now. This will be changed in the next release. This release is only for the layout and some text to see if you guys understand my writing style.

A difficult word

In this manual you will sometimes find words you think: What is this word. To explain this, the first time this word will be found it looks like this: *difficult word*^[romaine number].

Where [romaine number] indicates the location in the reference chapter.

At the end of this manual there is a reference for all these words, see *chapter 5 Url's, references &.. on page 13*. There is a small explanation what it means. When pressing the word you will be brought to this page. When you click on the name (example: *difficult word*) at the reference page, it brings you back to where you came from.

Keyboard combinations

Sometimes there is a key combination in the program you're using. This makes it easier and faster to use.

When there is a certain key-combination it will be displayed as following: **Alt** + **T**

This means you've got to press these keys. The character (in this example T) must be always pressed as last. (All the letters are lower case. Even if it's displayed as uppercase)

Links to websites

When text in blue and is underlined, its a link. When you click this it will bring you to a websites.

Example: [example text with URL](#) *This is not a link*

0.2 Give feedback or submit idea's

To make it easy to see all feedback and idea's you should use the issue function on GitHub to do this.

So please don't message me but use the issue functionality on GitHub.

See chapter *1.4 Create issues on GitHub on page 8* for an explanation how to create an issue.

When creating an issue, for this manual, you should use the right tag:

- For new idea's use the idea tag
- For feedback use the feedback tag
- For faulty information use the Faulty information tag
-

Thank you in advance!

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1. Using GIT (The basics)

In this chapter you will read how to download a [GIT^I repo^{II}](#), clone it to your computer and keep it updated. Some basic GIT commands and tools will also be explained.

In this chapter will be explained how to download git from the website and via a computer program.

There some benefits for choosing to download via a computer program.

You can read this in *chapter 1.3 Clone and update a repo on page 7*.

In *chapter 2 Compiling your firmware on page 9* you can read how to compile the firmware (which you want to download after my explanation perhaps)

1.1 Download a repo from git via a website

Downloading the complete git repo knows two way's. The first one is via the website and the other one is through a [clone^{III}](#) of the repo.

This chapter describes the way to do it via the website.

For cloning a repo and the benefits of doing this, see *chapter 1.3 Clone and update a repo on page 7*.

Note: The screenshots that are used in this manual are from GitHub. Other git websites may locate the things differently.

1.1.1 Download the complete repo

When you want to download a repo you have to be in the root of the project. In the root of the folder there is this a green button above the repo content on the right.

Pressing this button will open the menu to download the repo (see **Figure 1 - Download menu git repo on page 5**)

In this menu, press the button *Download zip* to download the complete repo.

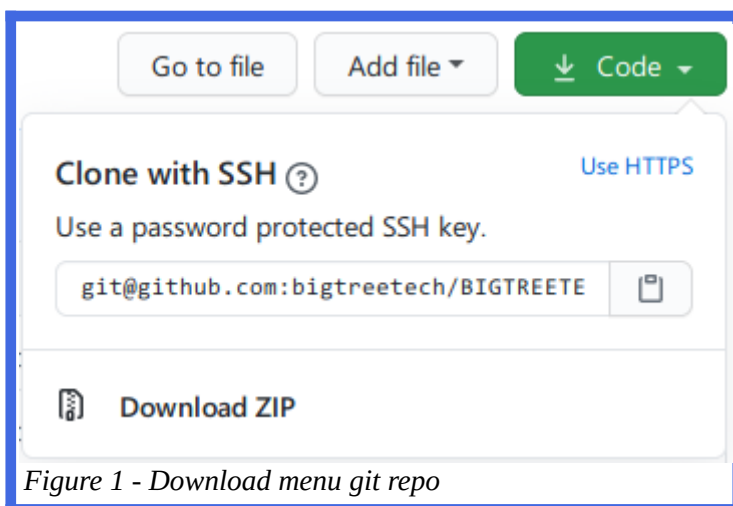


Figure 1 - Download menu git repo

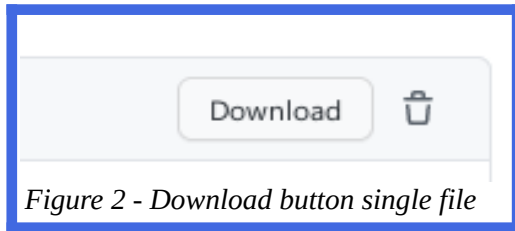
1.1.2 Downloading a folder

Downloading a specific folder from git is not possible. The only way to do this is downloading the complete repro. See *chapter 1.1.1 Download the complete repo on page 5*.

1.1.3 Download a single file

When you need just a single file to download browse to the file via git. You can do this by clicking the correct folders. When you've found the correct file, click on its name. Now you see the raw file.

There is a preview of the file. This only occurs when this is a known text, image or PDF file recognized by GitHub. When this is neither of them it will display the text “view raw”.



To download the file, press the button Download in the upper right corner.

See **Figure 2 - Download button single file** on page 5

1.2 Install git on your computer

There's a lot of programs you can use for downloading and maintain a repo on your computer, and if needed online. This chapter will describe two program types you can use. A more graphical way and a text based version.

1.2.1 Install GitKraken

I've chosen to explain GitKraken as a graphical interface for downloading and maintain your git repo. The reason for the is the easiness of use and the possibility to use on Windows, Mac and Linux.

Installation for windows

1. Go to the website <https://www.gitkraken.com/>
2. Press the Download for free button (if you need another version press the link underneath it)
3. Install the software by opening 'GitKrakenSetup.exe' and follow the instructions
4. Now it's time to configure GitKraken. See **1.2.2 Start and configure GitKraken** on page 7.

Installation for mac

Installation for linux

Depending on your linux distro you can automatically install it via the software package manger.

I'll explain it for some popular distributions. I use the command line for this.

Almost every linux distro have this key-combination shortcut for it **Ctrl** + **Alt** + **T**

Ubuntu

1. Open the terminal **Ctrl** + **Alt** + **T**
2. Install GitKraken with snap


```
sudo snap install gitkraken
```
3. Now it's time to configure gitkraken. See **1.2.2 Start and configure GitKraken** on page 7.

Debian

Fedora

Manjoro/ Arch-linux

1. Open the terminal **Ctrl** + **Alt** + **T**
2. Update your system


```
sudo pacman -Sy
```
3. Install gitkraken OHNEE.. TOCH NIET Het is in de AUR

1.2.2 Start and configure GitKraken

When the installation of GitKraken is done, you need to start GitKraken. At first you will see a splash screen on top of your other windows. When GitKraken is ready, you see the home-screen. They immediately ask you to sign in (with a GitKraken or GitHub account) or to create a GitKraken account.

1. Choose GitHub account
2. You're web-browser will open a new page
3. You need authorize GitKraken to your GitHub account
 1. When you're not logged-in you should login
No account?
Create an account by following the first paragraph in chapter **1.4 Create issues on GitHub on page 8**
4. When you're logged-in, the website will ask for Authorization. Press the green button
5. Now the website shows you who and what is getting the authorization. Press the green button
6. A password prompt is shown to confirm the authorization.
7. You will see a page with the big letters Success! When GitKraken is successfully authorized.
You also receive an email from GitHub notifying what you did.
8. You can now close the web-browser and go back to GitKraken.
9. Now you can setup you're profile. Use the same email address as you used on GitHub

Now you're done. At this moment you can do some different things. In *chapter 1.3 Clone and update a repo on page 7* will explain the first basic things you can do with GitKraken.

1.3 Clone and update a repo

Cloning a repo from git is a little bit tougher then just download it from GitHub. But when you know how to do this it's pretty useful and can help you updating you're firmware without changing the default config.ini to your needs. This chapter will explain how to do it and in the end the benefits.

Please read chapter **1.2 Install git on your computer on page 6** before reading this chapter.

1.3.1 The benefits of cloning

When using the clone function to update you're GIT your own changes remain in the file. The only thing you've got to do is checking the files that are changed (*See chapter 1.3.3 Update you're clone on page 8 how this works*)

1.3.2 Clone the git

- Go to the root of the repository you want to download
- Press the green button above the repo content on the right
- Copy the URL that's inside the text field
(*See **Figure 3: Download menu Git (clone link)***)
- Paste this link in you're preferred tool for cloning
 - For GitKraken
 - Select in the main-page "Clone a repo"
 - Select the location where you want the clone to be placed by pressing the browse button
 - Insert the URL obtained before in the URL box.
 - Press the green button with the text "Clone the repo!"
- When cloning is done you will be notified

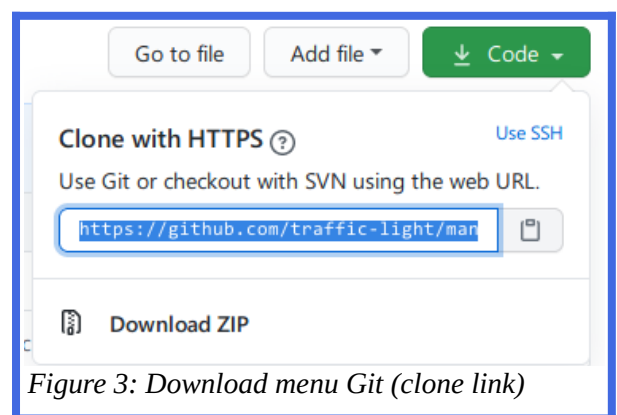


Figure 3: Download menu Git (clone link)

Note: There is also the possibility to use ssh (see the link in **Figure 3: Download menu Git (clone link)** “Use SSH”). Using SSH is only possible when you did setup SSH keys on you're computer and GitHub. This is out of scope for this manual and will not be explained here.

1.3.3 Update you're clone

..

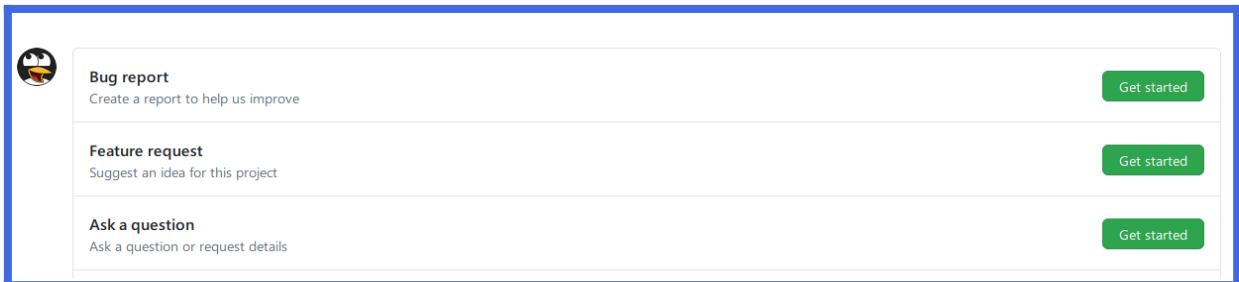
1.4 Create issues on GitHub

When you noticed a bug, have a question or a feature request for the git project, you can use issues. You can also do this for this manual

For making issues on GitHub you need a GitHub account. You can create one for free at GitHub.com At the homepage on <https://github.com> you immediately see a form for creating a GitHub account.

- Go to the issue tab on the git repo you want to create one.
- Press the green button that describes “New issue”
- Most repo's have predefined labels for a issue. Choose the one that fit's what you want to do.

For example:



The screenshot shows the GitHub 'New issue' form. On the left, there is a GitHub logo. The form has three sections, each with a title, a description, and a 'Get started' button:

- Bug report**: Create a report to help us improve
- Feature request**: Suggest an idea for this project
- Ask a question**: Ask a question or request details

- Use a title that describes your problem, question or whatsoever as short as possible
- Fill out the form with the things the repository want's to know
- Press the button “Submit new issue” at the end of the form toe create the new issue

Note: You can use markdown in you're message to make things more clear or whatsoever. For a small manual about markdown, see the special [GitHub page](#)¹.

2. Compiling your firmware

When download the new firmware for you main-board or TFT-screen you need to compile it. When it's done compiling it you can update it with the generated .bin file.

To do this you need to have vs code with Platform-io and the knowledge how to compile the software.

In this chapter this will be explained step by step.

2.1 Install vs code and Platform-io

1. Download VS-code from <https://code.visualstudio.com/>
2. Install it by opening the executable.
3. Install Platform-io
4. This was it for now. I've got to switch to windows for it....

3. FAQ

In this FAQ you can find all Frequently Asked Questions on Facebook and GitHub. This FAQ is specifically made for BigTreeTech and marlin related questions.

3.1 BTT's TFT screen related

Q When rotating the rotatory encoder the print speed changes

Answer: This problem happens because the encoder is hard wired to main-board. So every turn and click will be received by Marlin. When Marlin is in the home screen it will change the print speed according to the turns of the rotatory encoder movement.

At this moment there is no good solution for it. There is only a dirty fix. See issue [#915](#)² for the fix.

WARNING: When you click the wheel/ rotate the wheel this can bring unsuspected behaviour, depending to the screen Marlin is in. Use with care!

Q Switching to Marlin mode is giving me a empty screen

Answer: Check your ribbon cable connections to the TFT screen.

When this problem doesn't occur when first booting in Marlin mode, you should try rotating the encoder wheel. This way Marlin is forced to redraw the screen

Using an "E3" based mainboard, make sure that ONLY the "CR10_STOCKDISPLAY" is activated in Configuration.h.

For all other mainboards, ONLY the "REPRAP_DISCOUNT_FULL_GRAPHIC_SMART_CONTROLLER" has to be activated.

Q How to preview 3D-models on the TFT-screen

Answer: For previewing the 3D model on the TFT screen there are some things you should do.

Note: To use the 3D-model preview you need to use the newest TFT firmware

1. Install the Cura plug-in: <https://github.com/bigtreotech/Bigtree3DPlugin>
--> Please read the readme on this GitHub page!
2. Transfer the generated g-code to your sd-card or pen-drive.
3. Make sure that the file-list settings is set to false in the feature menu
4. insert your sd-card or pen-drive
5. In the print menu you can see the 3D-preview for your g-code.

When printing it's displayed on the bottom half of the screen.



Figure 4: 3D-preview

Q Touchscreen doesn't respond/ stays in the "Choose mode" selection

Answer: The screen is touching the frame where it's mounted in. Create more clearance in between the touchscreen and the frame where you mounted it.

Q Filament sensor triggers with filament when filament is inserted

Answer: When you connect the filament-sensor to the TFT screen and you've got the message "No filament" on you're screen it could be that you need to invert the filament sensor.

To do this you should go to Menu -> Settings -> feature and search for invert filament sensor. Toggle this one. It should be solved and be working correctly

Q Can't update the firmware for my TFT35 V2.0

Answer: there is a bug in the bootloader on your screen. You should update this.
See this the GitHub page for more information and new bootloader: [Go to the git³](#)!

Q Scrambled icons and/ org fonts after firmware update

Answer: when you update you're firmware you always should check if there are also changes to the TFTxx folder (where xx stands for screen size). When these are new you should also upload this folder to your TFT screen.

When updating the firmware it's always a good idea to update your config.ini. this will prevent unexpected behaviour.

See **Figure 5: Scrambled icons** for an example of a scrambled screen. You clearly see that it didn't load the image correctly.

The reason for this is that it's trying to get the picture from the wrong address in the memory.

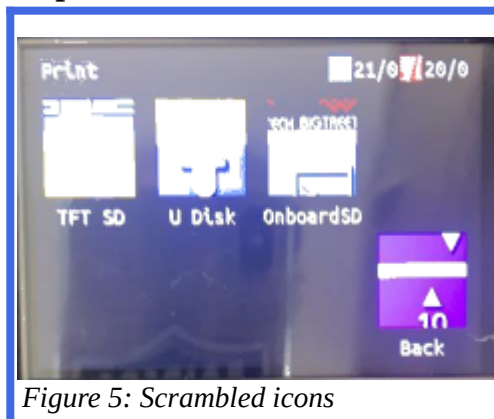


Figure 5: Scrambled icons

Q I received the error “Faith height off. What does it mean and what to do?”

Answer: Faith height is a setting for auto bed level. This message will appear when you configured auto bed levelling on your printer.

The reason you receive this message is because you didn't setup the fade height. Faith height is made too smoothen the bed level mesh.


Set this to 1 or higher to get rid of this error

Q q

Answer:

4. Credits

In this chapter I'll like to thank the people that helped me with this manual.
You can see who helped me and how.

User with a  in front of the name indicates it's a GitHub username

Thomas White	• Giving me the idea for recognizing when there are changes to a repo file (not yet implemented in text)
---------------------	--

Shawn Boisvert	• For a picture that shows scrambled icons (<i>Figure 5: Scrambled icons</i>)
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 Oldman4u	• Ideas for the FAQ
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 Radek8	• Ideas for the FAQ
---	---------------------

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5. Url's, references &..

On the next page will be all references made in the main text. These reference try to make clear what a certain word means. With reading this references it could become easier to understand the main text.

Is there a word you don't understand? Please make an issue on the GitHub page.

- 1 Url to the GitHub markdown page:
<https://guides.github.com/features/mastering-markdown/>
- 2 Url to the explantion about disabling encoderwheel in TFT mode:
<https://github.com/bigtreetech/BIGTREETECH-TouchScreenFirmware/issues/915#issuecomment-670661218>
- 3 Url to the download location of the new bootloader for TFT35_V2:
https://github.com/bigtreetech/BIGTREETECH-TouchScreenFirmware/tree/master/TFT35_V2%20Bootloader%20fix

I **GIT**

This is a program that can manage big projects for you. There are many websites where you can host all your git-files. (GitHub, GitLab, BitBucket and many more).

For more information about git: <https://en.wikipedia.org/wiki/Git>

II **Repo**

This is just the shortened version of repository. In a repository you can find all the files needed.

III **Clone**

This is an option in git. It's possible to clone a repository to your local computer. See *chapter 1.3*

Clone and update a repo on page 7 to learn how to clone a repository.