



Leapfrog
3D Printers

Manual Xeed

Create the Future



lpfrg.com

Dear customer,

Congratulations with the purchase of your very own Leapfrog Xeed 3d-printer. We want to help you make your first 3d-print with the very first Leapfrog stand-alone printer.

To make your first impression the best one possible, we want to provide you with our manual which will take you through the first steps and make you more familiar with your Xeed. For maximum 3D-print pleasure.

It is possible that after reading this document or while operating your printer you have a question that is not listed in this document. Therefore, we also explain you how to contact our support department.

We wish you happy printing!

With kind regards,

The **Leapfrog** team

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1. Installation

The following steps are steps you only have to follow when your brand new Xeed arrives at your doorstep for the first time. Please follow each step thoroughly to make sure the installation will be successful and you will find yourself to be a member of the leapfrog eco-system.

This section contains the following:

1.1 Unpack

- How to unpack your Xeed and where you plug the power cord and usb cable.

1.1 Unpack

In this step we will show you how to unpack your Xeed when it arrives at your doorstep. Before you start, make sure that you have cleared a spot where you want to place the printer. We advise you to not place the Xeed next to a window or at a place where it is draughty.

- Unscrew the 4 screws in the bottom left and right sides of the shipping crate and lift the covering crate straight up. Do this gently and push aside any cushioning material that is impeding movement.
- Lift it with preferably 4 people from the bottom plate.
- Remove all the plastic from the printer and be careful not to hook the plastic on the glass corners of the door.
- Open the filament drawer and remove the door handle and power cord. Attach the door handle onto the door.
- Insert the power cord in the outlet at the back of the printer as shown in the next picture. Then turn on your Xeed using the power switch next to the outlet.

NB: Make sure that you connect the power cord to a grounded outlet!



2. Printing

The following steps are general steps which you need to follow when making a 3D print with your Xeed.

2.0 Initial setup

2.1 Turning on your printer and loading your filament

- How to turn on the Xeed and load the filament for printing

2.2 Heating the extruders

- How to manually preheat your extruders

2.3 Manually controlling your Xeed

- How to control the movements of your Xeed manually

2.4 Uploading your 3D model

- How to connect with your Xeed to upload new models

2.5 Making your print

- How to make the Xeed print your uploaded models

2.6 After the print

- What to do when your print is finished

2.0.1 Initial setup

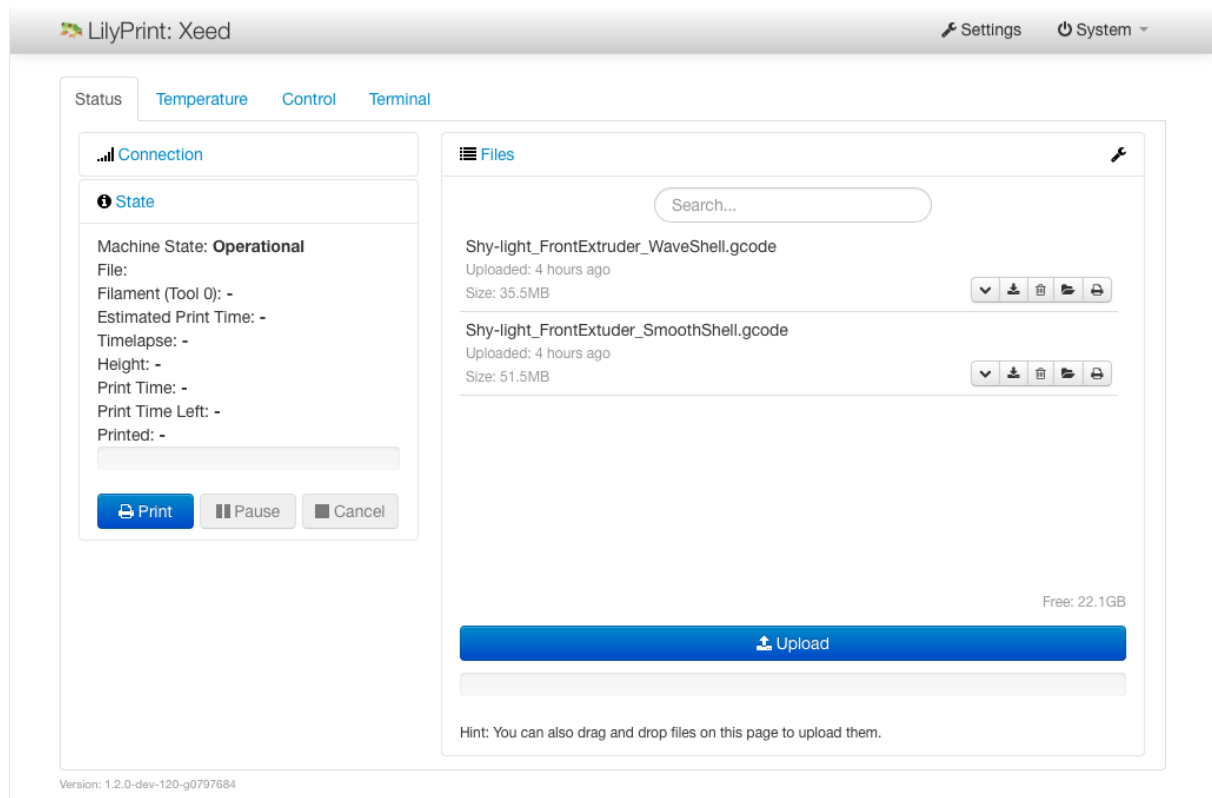
Before you can use the Xeed, we have to go through the initial setup. This will make sure the Xeed is connected to the network and is up-to-date. This will allow you to access the Xeed through a LAN network later, which allows remote control of the printer, remote upload from Gcode files and more.

For the setup you will need the following:

- USB keyboard
- USB mouse
- Ethernet cable to Xeed with Internet access

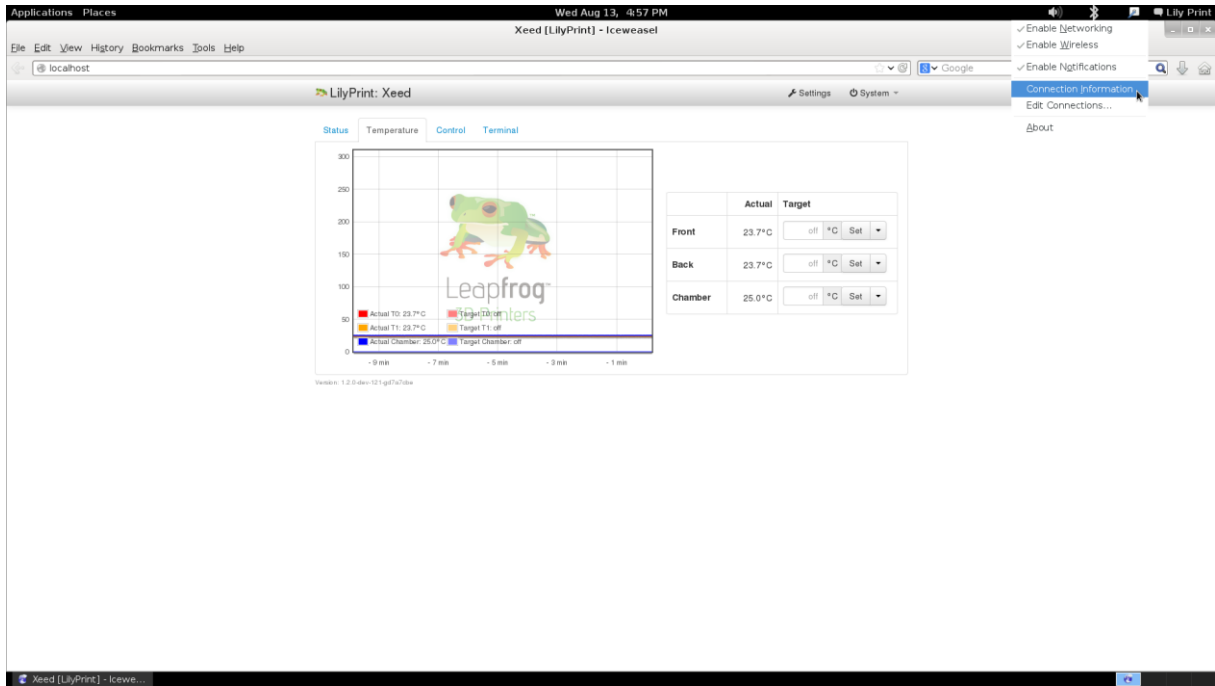
Plug in the keyboard, mouse and Ethernet cable at the back of the Xeed. Turn on the Xeed by switching the button next to the power inlet. The keyboard and mouse are only needed during this initial setup.

The Xeed will start-up, usually this takes around 30-60 seconds. The screen can show some text scrolling during this start up period. When the Xeed is started up the home page of the software running on the Xeed, LilyPrint, is shown on the 7" touch screen.

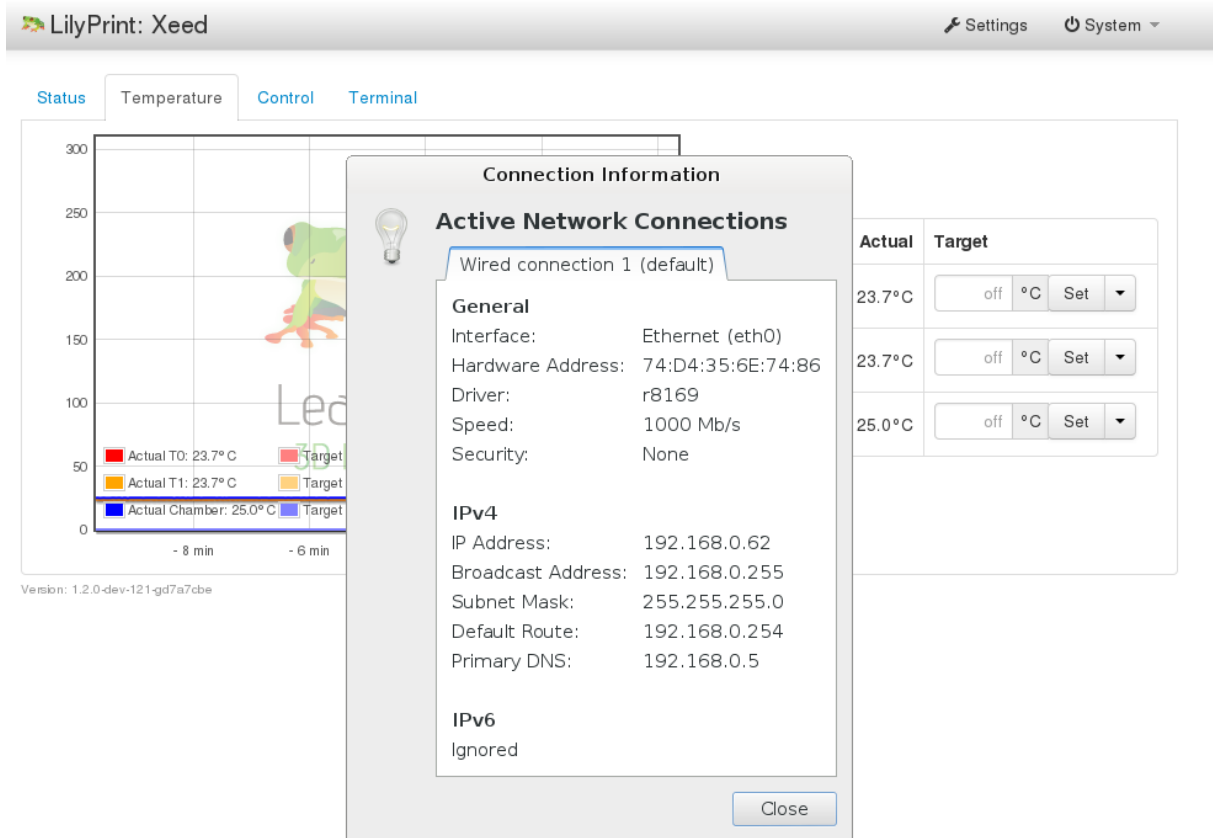


2.0.2 Setup Internet

Press F11 on the keyboard to exit full screen mode of LilyPrint, a black application menu bar will appear on the top of the screen. Right click on the network icon in the right top corner next to LilyPrint. In the menu that appears click on Connection Information.



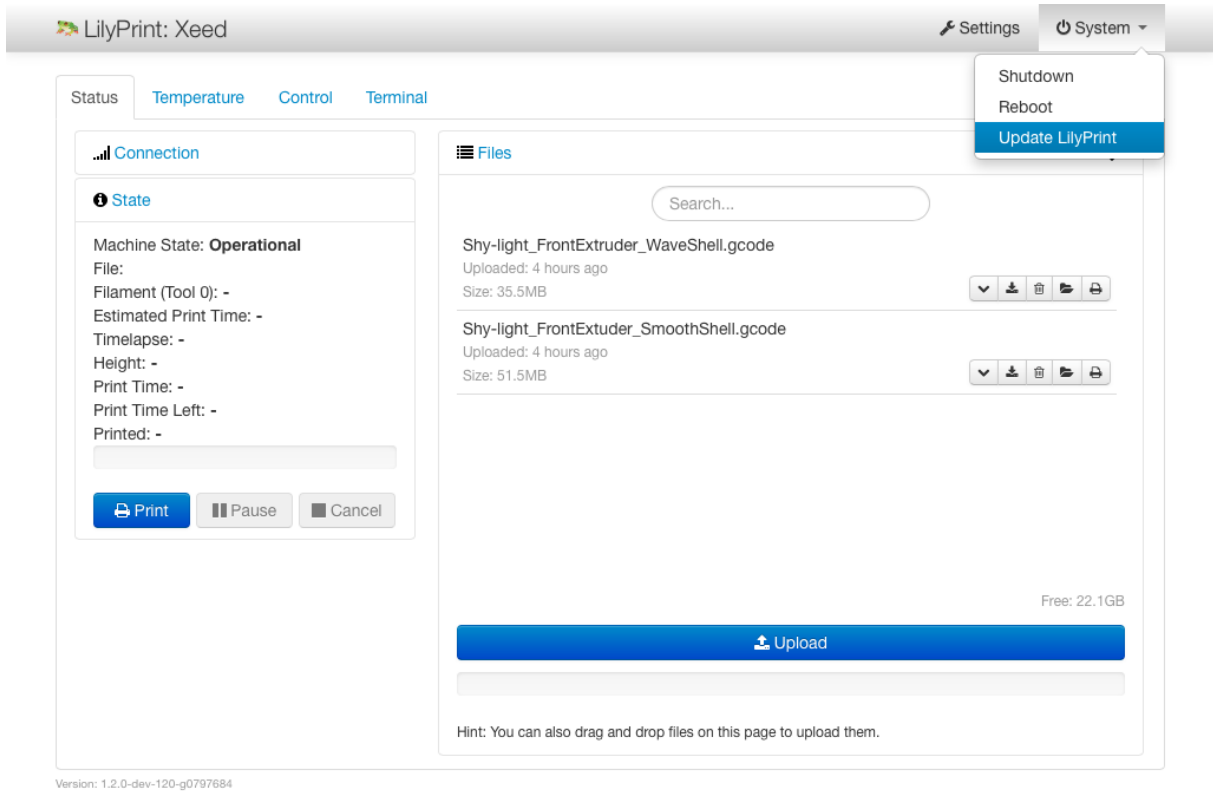
In the pop-up that appears note the IP Address under the IPv4 section, you can use this later to access LilyPrint from your own computer in the same network.



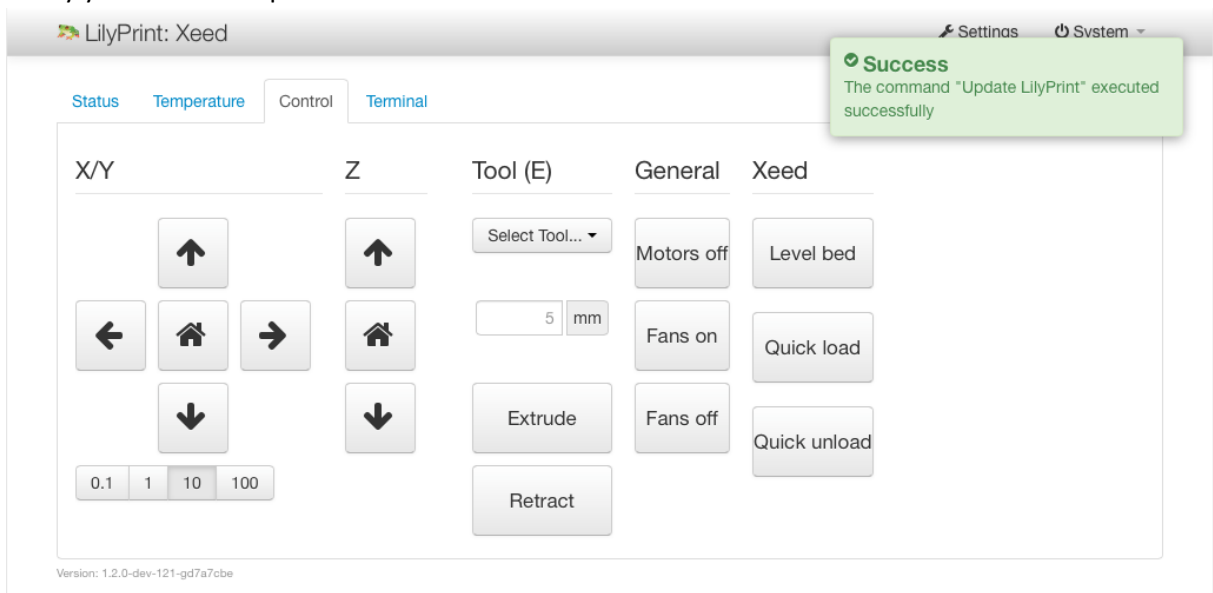
To connect to a WiFi network, left click on the network icon and select the wifi network. In the pop-up enter the WiFi password. (If it asks for admin password it is "lily").

//Update LilyPrint

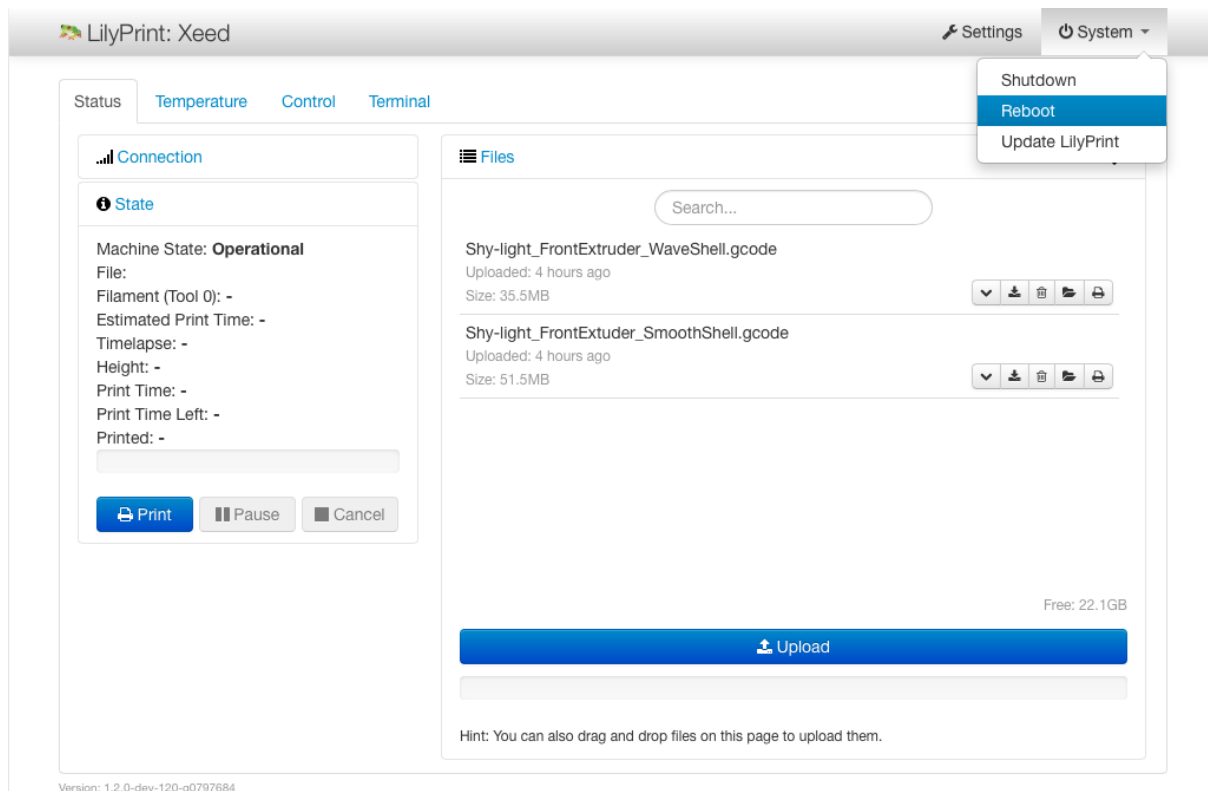
LilyPrint has an update feature, we will run this to make sure that it is up-to-date before we start. Click on the System menu in the top bar of LilyPrint and select "Update LilyPrint", confirm the notification to start the update. Make sure you have Internet connection!



(If there is no system menu and it asks for a login, username: "lily"; password: "lily". Refresh browser with F5 if the login does not show right away.) A pop-up on the right top corner of the screen will notify you when the update has succeeded.



When the update is complete reboot the system by clicking on the System Menu and selecting Reboot. (Update regularly to get new features!)



The screenshot displays the LilyPrint: Xeed web interface. At the top, there is a header with the LilyPrint logo and the text "LilyPrint: Xeed". To the right of the header are two menu items: "Settings" and "System". The "System" menu is currently open, showing three options: "Shutdown", "Reboot" (which is highlighted in blue), and "Update LilyPrint".

Below the header, the interface is divided into several sections. On the left, there is a "Status" section with tabs for "Temperature", "Control", and "Terminal". Under "Status", there is a "Connection" section and a "State" section. The "State" section shows the "Machine State: Operational" and lists various print parameters such as "File:", "Filament (Tool 0): -", "Estimated Print Time: -", "Timelapse: -", "Height: -", "Print Time: -", "Print Time Left: -", and "Printed: -". Below these parameters are three buttons: "Print", "Pause", and "Cancel".

On the right side, there is a "Files" section with a search bar. It lists two files: "Shy-light_FrontExtruder_WaveShell.gcode" (35.5MB) and "Shy-light_FrontExtruder_SmoothShell.gcode" (51.5MB). Each file has a set of action icons (download, delete, share, print). At the bottom of the "Files" section, there is a "Free: 22.1GB" indicator and a large blue "Upload" button. A hint at the bottom states: "Hint: You can also drag and drop files on this page to upload them."

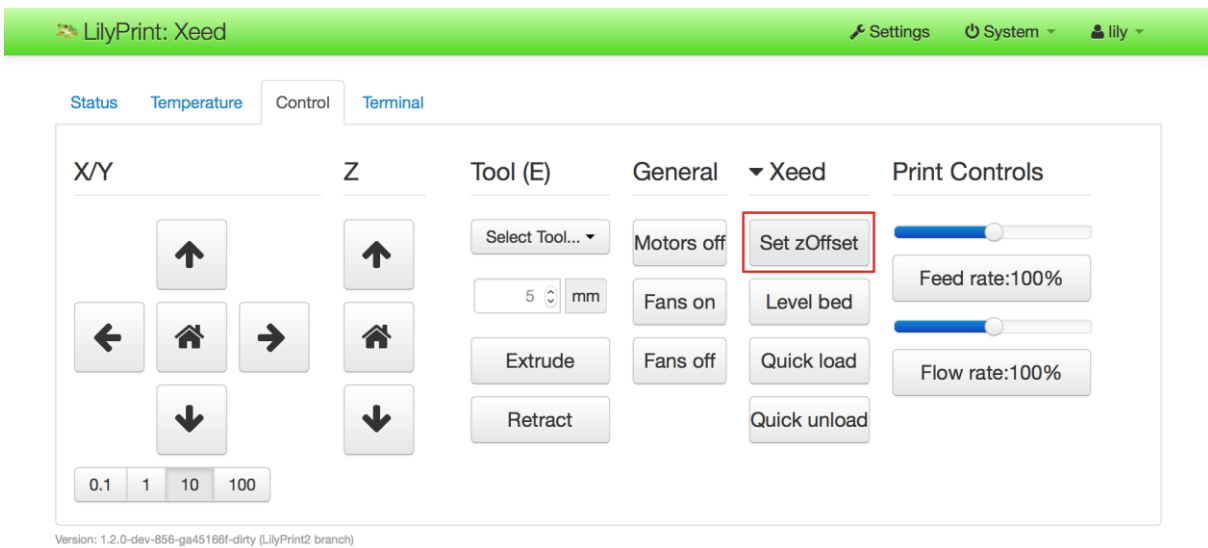
At the very bottom left of the interface, the version number "Version: 1.2.0-dev-120-g0797684" is displayed.

LilyPrint is now updated to the latest version.

//Setting z-Offset

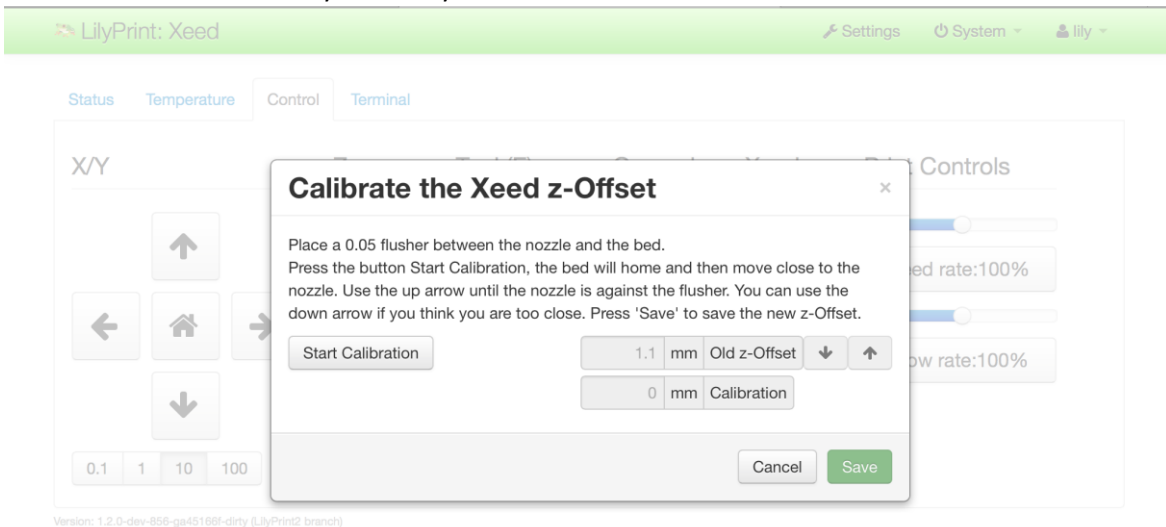
The Xeed uses a variable called z-Offset to calibrate the distance between the z-stop and the nozzle. It basically depicts the distance between the nozzle and the bed at the start of a print and is very important. This setting can be found under the LilyPrint settings in z-offset section. Default is 0 mm, but it slightly differs per printer or changes when you use a different bed for example. If you notice at the start of a print that the nozzle is not close enough to the bed, you have to increase the z-offset. Once calibrated there is often no need to adjust it any more until a change in the printer happens. The Xeed comes calibrated, but transport might have changed the calibration.

LilyPrint has a z-offset wizard, clicking the “Set z-offset” button in the Control menu will start the wizard. Be careful of the extra height that a print sticker or other adhesives might add to the print bed.



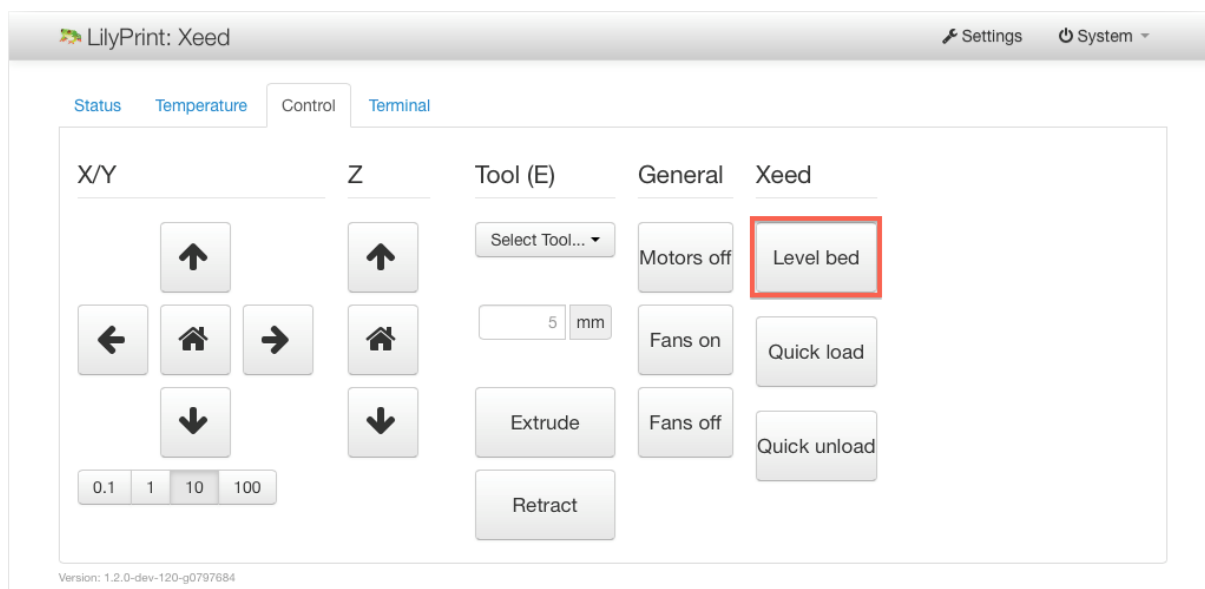
Follow the instructions carefully.

Place a 0.05 flusher between the nozzle and the bed. Press the button Start Calibration, the bed will home and then move close to the nozzle. Use the up arrow until the nozzle is against the flusher. You can use the down arrow if you think you are too close. Press 'Save' to save the new z-offset.



//Level bed

Before we start to print we want to make sure that the bed is levelled. Under the "Control" tab in LilyPrint there is a "Xeed" section. Press the "LEVEL BED" button to start the sequence. It will probe 5 spots on the bed and make sure it is levelled. This can take up to 4-5 sequences.



2.1 Loading your filament

We need filament loaded in the printer to start printing. This section will guide you through the process.

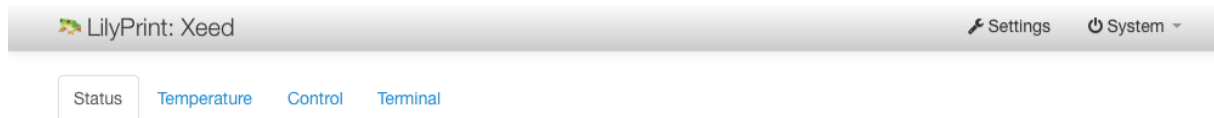
Load your filament into the filament drawer. The filament drawer is located at the left side of the printer and can be opened by gently pushing on the bottom of the drawer as shown in the next picture



Once you have opened the drawer you can place your spool(s) of filament in it as shown in the following picture. To make sure that the filament will be grabbed by the driver gear which is indicated with a green arrow you need to clamp the filament by the driver gear. This can be done by pushing the lever which is indicated with the other green arrow such that space opens up to push the filament through. When you let go of the lever the filament will be stuck which is good. Make sure that you push the filament through all the way into the hole after the driver gear such that it will flow nicely when pulling it in later on. We will explain later how to actually load the filament into the extruder.

2.2 Extruding filament

The software that is used to control the Xeed is called LilyPrint. In the next screenshot we have outlined real brief what all the tabs in the main screen. During this manual we will explain each option and its functions starting with the heating of your extruders.



Status – Printer status and upload files

Temperature – Control and set temperature. Temperature graph

Control – Control the printer manually. Home axis. Extrude, load filaments, level bed, etc.

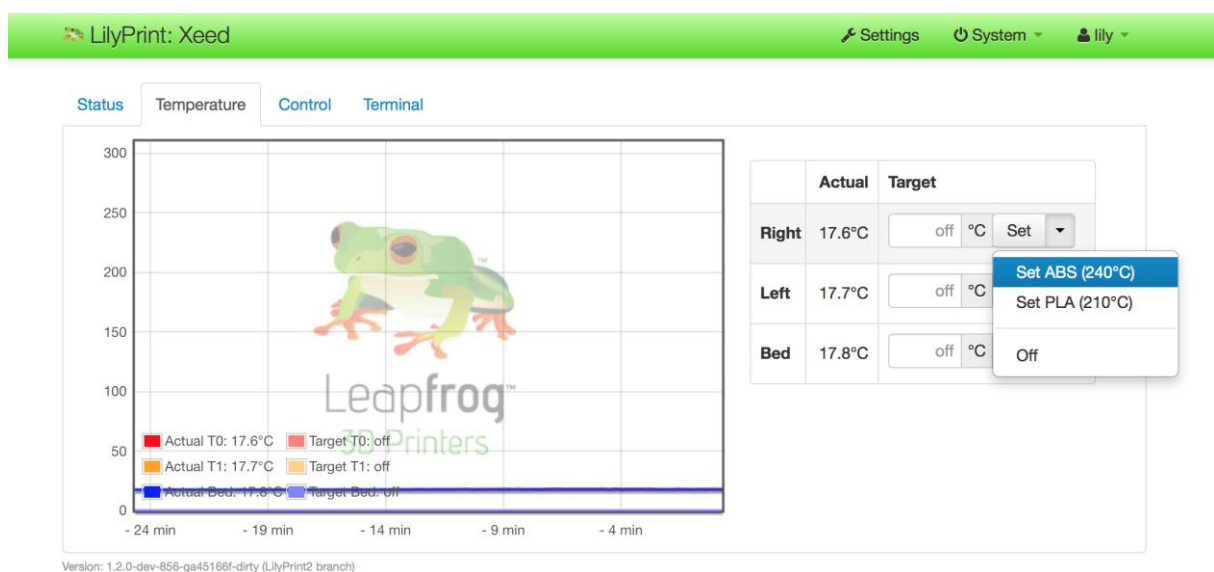
Terminal – Terminal that shows all communications with the printer. Advanced users can send commands.

Settings – Houses most of the LilyPrint settings. At the moment, only z-offset is of real importance.

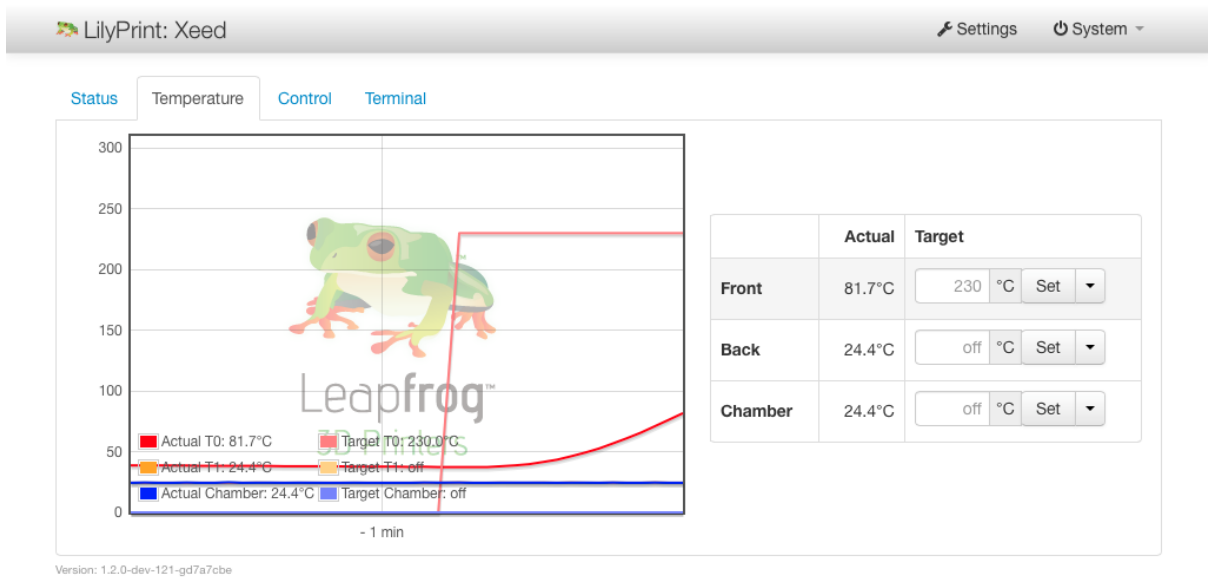
System – allows for an update of LilyPrint, as well as shutdown and reboot.

To heat up your extruders you have to go to the **“Temperature tab”**. In the temperature tab you can control the temperature of the front and back extruder.

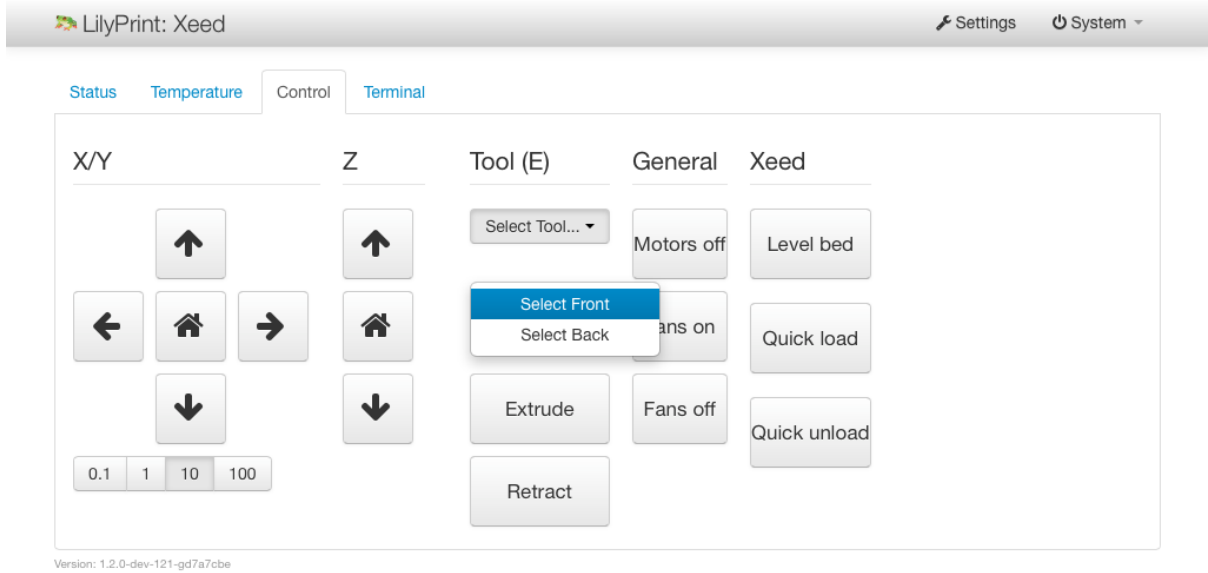
To set the extruder to a certain temperature tap on the down arrow to select one of the pre-defined settings. In the example below the temperature for the front extruder is set to 200 degrees Celsius. This is the standard temperature for printing PLA.



You can notice that the temperature graph of the front extruder shows the current and target temperature.



To load your filament into the extruder you can use the **“EXTRUDE”** button, located on the control tab. Make sure your filament is placed correctly in the filament drawer and that your extruders are heated to the correct temperature for your filament type. Select the correct tool that you want to extrude.



After pushing the Extrude button, the filament will be guided through the tube towards the extruder head and covers a small distance inside the tube each time you press this button. This is a good way clear your nozzles with newly molten filament before starting a new print.

For the reverse process push **“RETRACT”**

//Quick Load and quick Unload

If you want to load filament quickly then push the **“QUICK LOAD”** button which automatically guides the filament all the way to the extruder head. Before pressing **“QUICK LOAD”** it is best to open the filament drawer fully. This allows for you to check if the filament is still being loaded and reduces any risk of jamming due to resistance in the cables. The process takes about one minute, where filament is first loaded quickly and slows down in the last half not to clog the nozzle. **ONLY PRESS QUICK LOAD WHEN FILAMENT HAS NOT BEEN LOADED!** The nozzles cannot cope with the high feeding rate and will likely get clogged. If no filament is seen after quick loading, use the **“EXTRUDE”** button to extrude the last part of the filament.

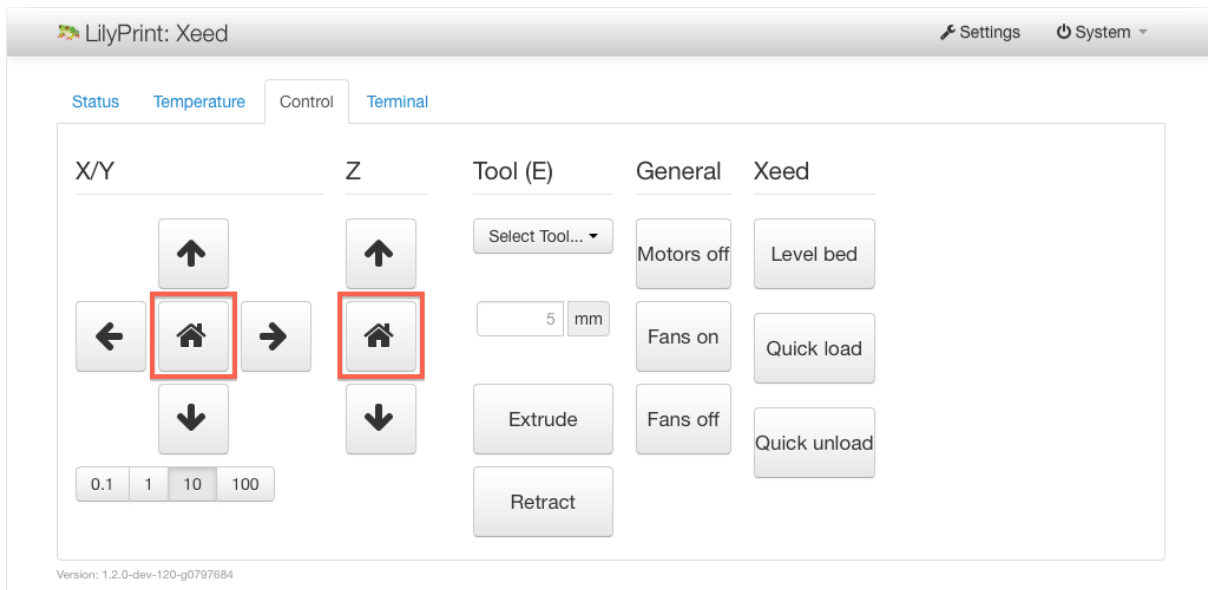
The reverse process happens during **“QUICK UNLOAD”**. Again, this process is best done with the filament drawer open. It will first slowly retract filament from the nozzle and will then quickly retract the remaining distance. It is useful to help the filament roll in rotating to ensure the filament returns to the roll properly. If the filament did not retract fully, pull the knob on the filament driver unit and manually retract the last part of filament. It is possible the filament catches in the driver unit because the molten filament created a blob. In this case, please refer to the appendix (**removing catching filament from the filament drive unit**). Please be aware that these functions only work with the nozzles heated up to avoid clogging the nozzles.

2.3 Manually controlling your Xeed

The manual controls give you full control over all movement and actions of your printer when it is not running a print job.

2.3.1 Movements

The movements of the printer are done at the control tab. Before moving the printer head and bed manually it is highly recommended to home these first. This will make sure the printer does not move in a direction it cannot move. Press both the X/Y- and Z-home button to home all three axes. This means that the bed will be in its most upward position and the print head is located in the left-back corner of the printer.



After this you can use the arrows to move the extruder head or the printer bed.

2.4 Uploading your 3D model.

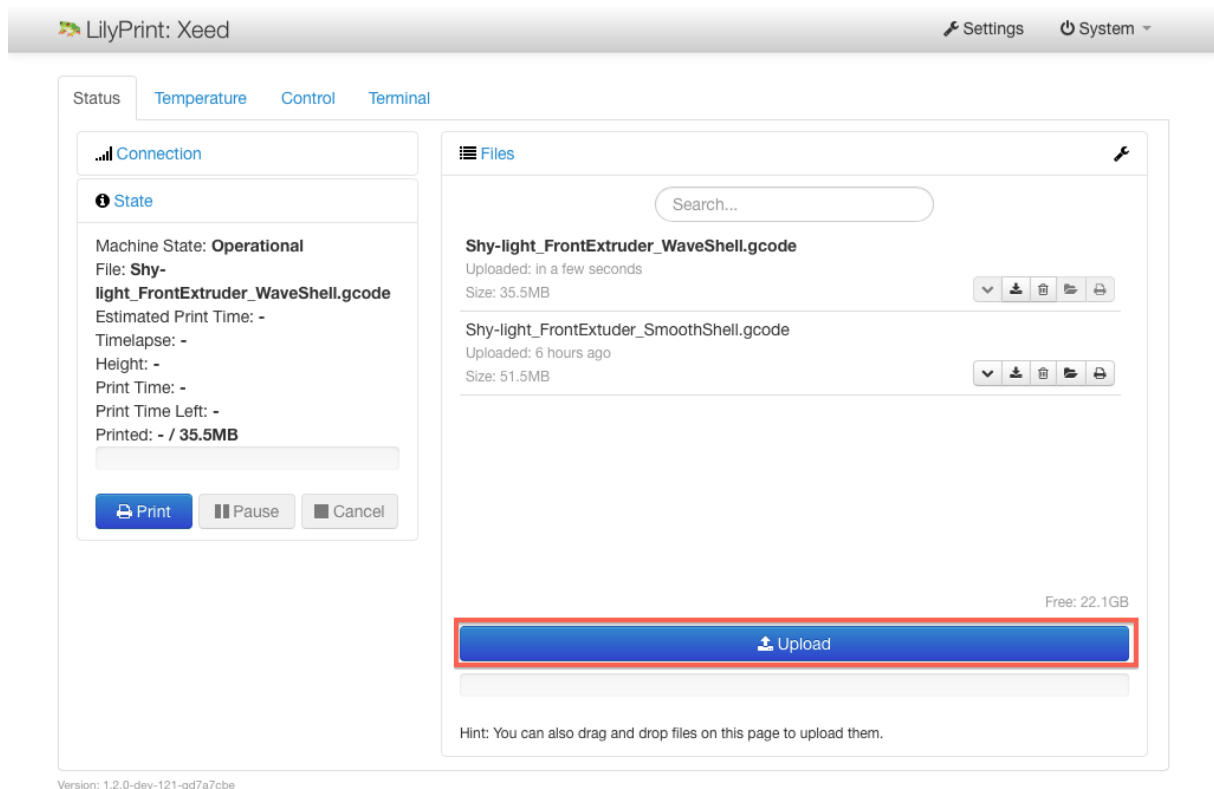
Now that you have loaded the filament and the printer is on, it is time to load the model that you wish to print. This section explains the steps to follow when uploading your 3D models.

Go to the **"Status"** tab in the upper left corner. .

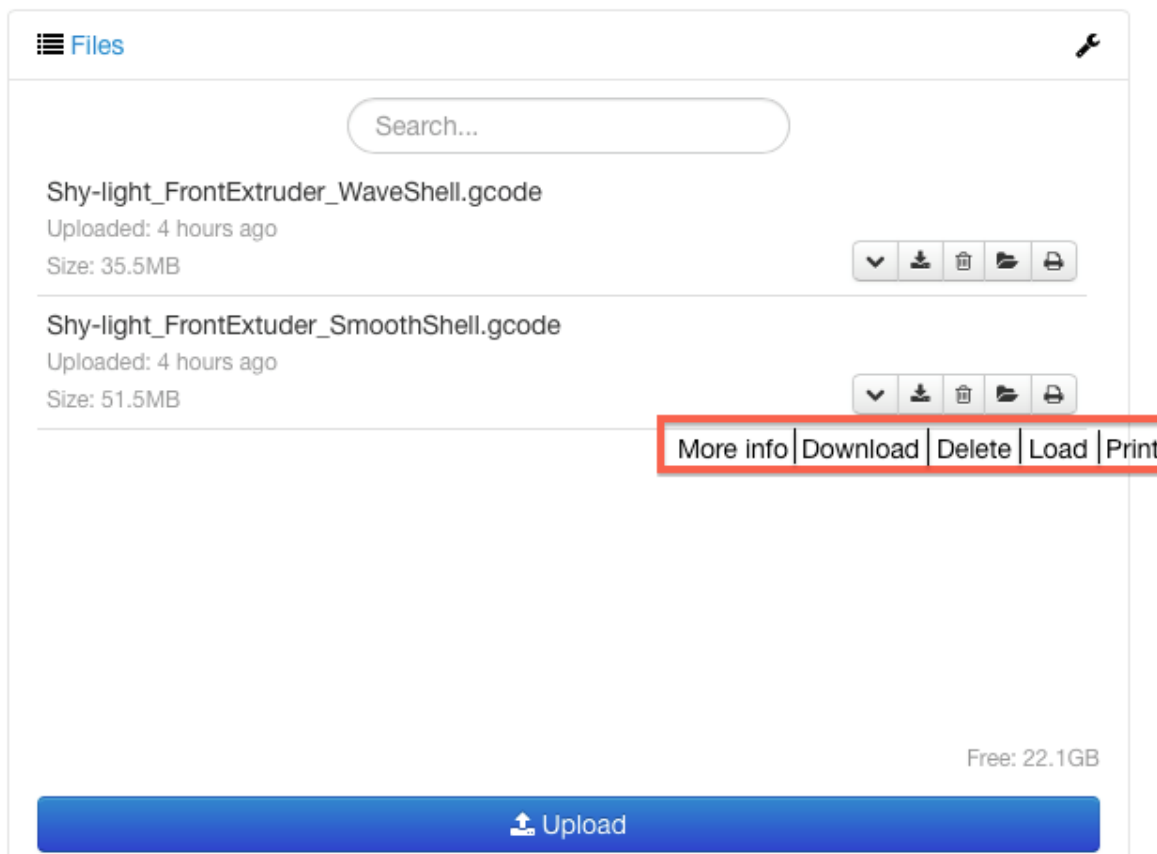
There are two ways to upload your models to the Xeed. You can use a portable USB device, which you can insert in the back of the printer or you can use a network connection that allows you to connect your Xeed with your computer through your network.

2.4.1 Uploading a model from a USB device

To upload a Gcode-file from your USB device plug the device in the back of the printer and tap on the **"Upload"**-button. In that menu select the removable device and select your Gcode.



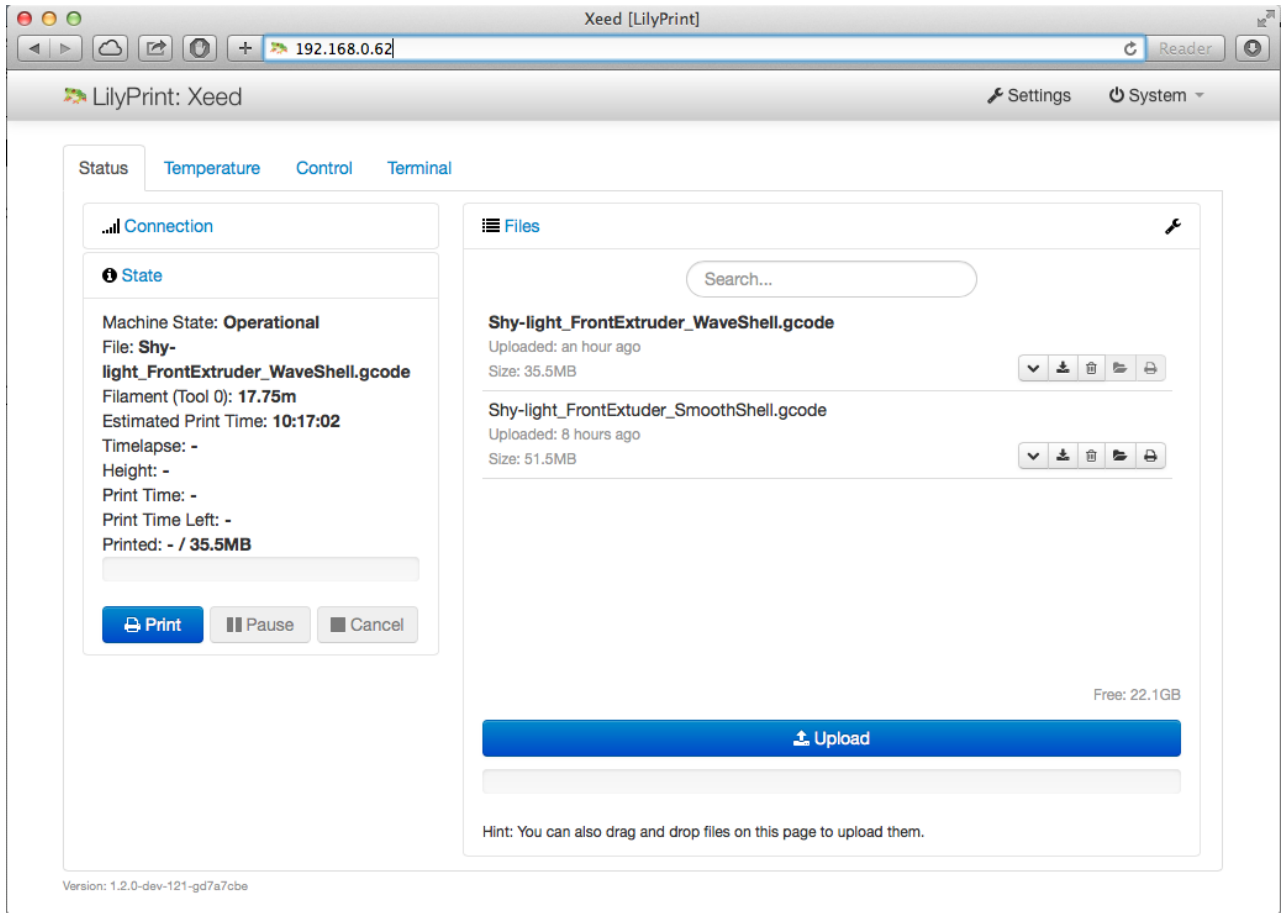
To upload the model from your USB device select it and tap on **"CHOOSE"**. The model will be added to the model list in the Status tab. Below is a screenshot with keywords for the 5 icons.



2.4.2 Uploading a model from your computer

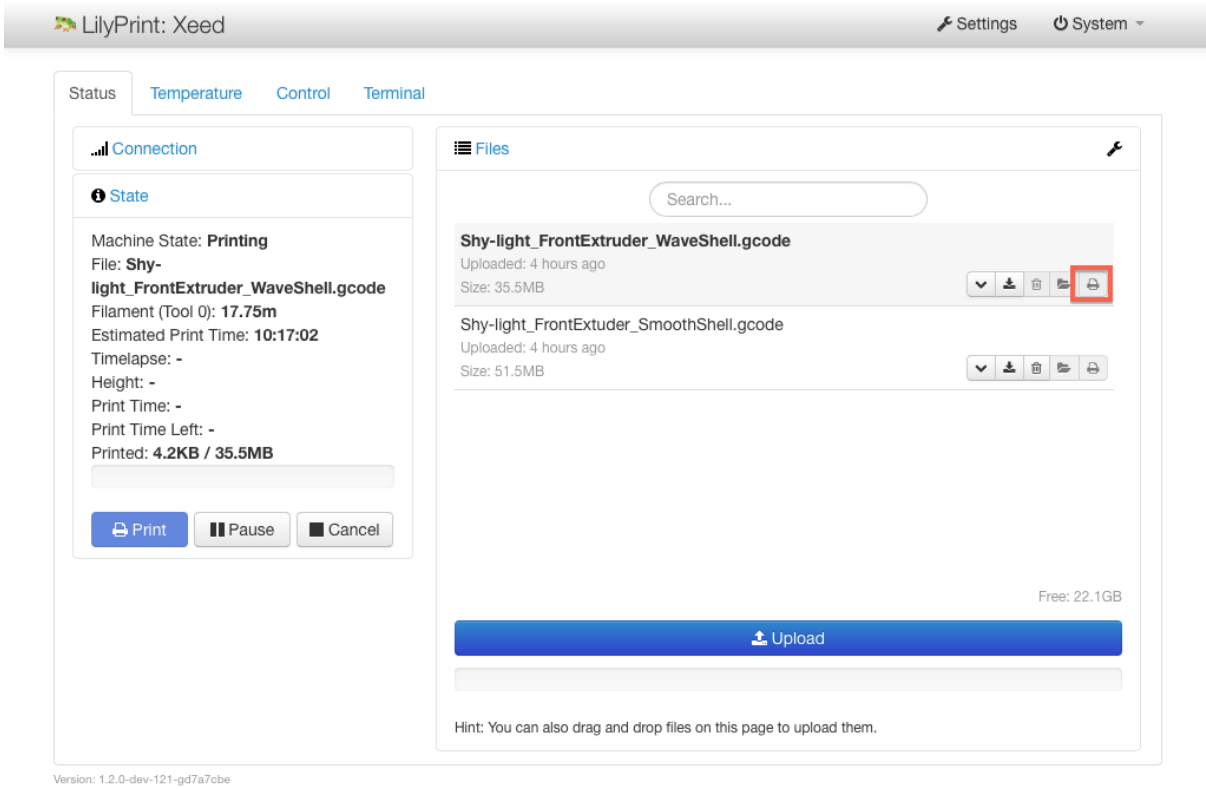
To upload a model from your computer you will have to connect your Xeed to your network. This can be done in two ways, either by Wi-Fi or using an Ethernet cable. For instructions see the Initial Setup chapter of this manual.

It is really easy to access LilyPrint via your browser, just enter the IP number you have noted down from the initial setup and input that into your browser. Make sure you are in the same internal network as the printer (for example both "192.168.0.X"). You will have access to exactly the same controls as on the touchscreen. Pressing upload will now guide you to your local hard drive where you can select any GCODE and it will be uploaded to your printer.



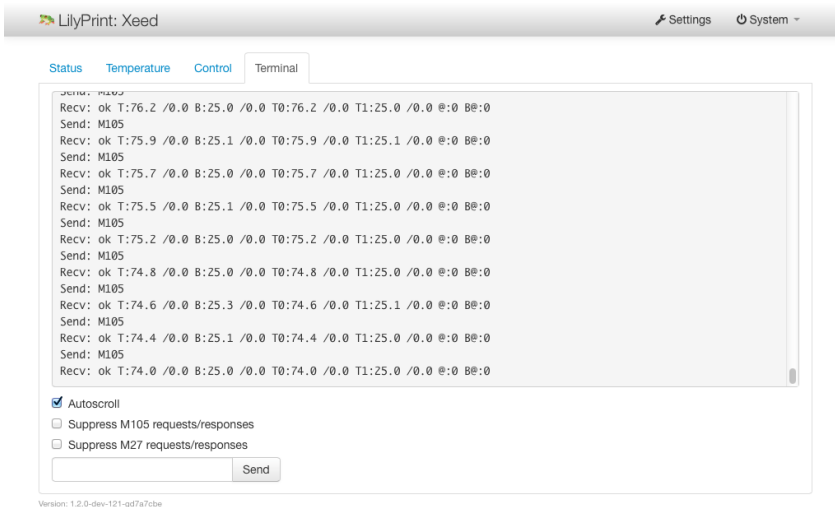
2.4.3 Start a print

It is very easy to start a print. Just press on the printer icon on the model and the printer will start the GCODE. In the "State" field it will show the progress, time elapsed and time left(estimated).



2.4.4 The terminal

The terminal tab shows all the communication between the printer and the software. This is useful if there is an error or the printer is not working. Advanced users can also send manual GCODE commands to the printer on this tab.



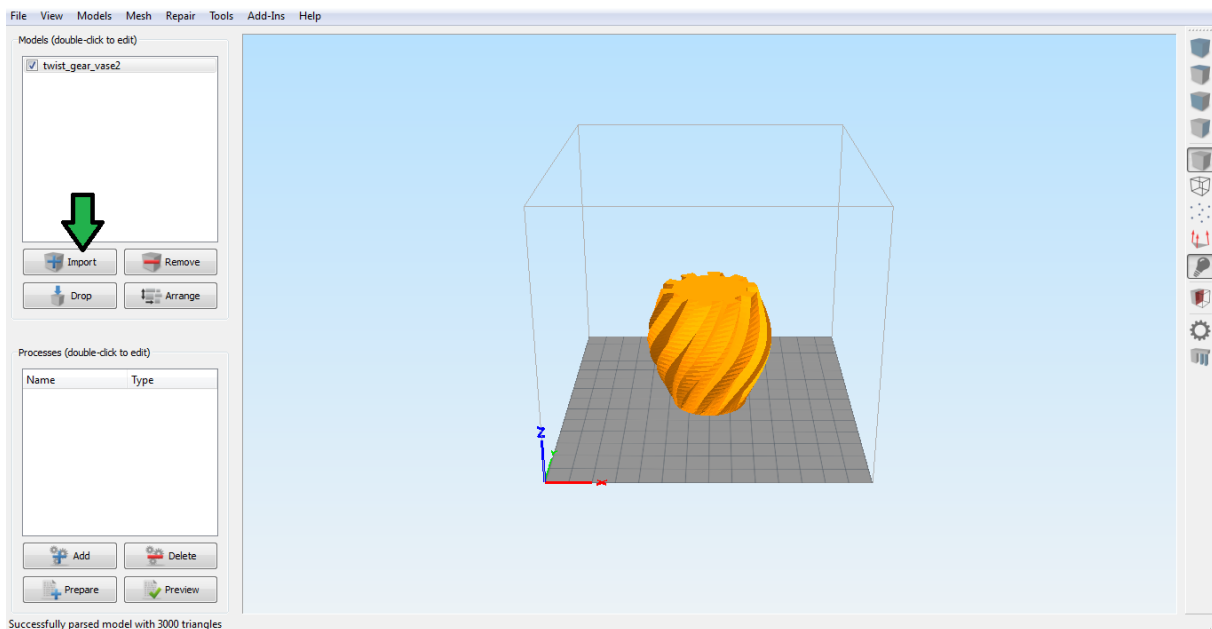
2.5 Making your print.

You received Simplify 3D slicing software with download instructions for your PC, which allows you to “fine tune” your print settings for printing even the most complex 3D models.

The Simplify 3D Software comes with an integrated Quick Start Printing Guide that walks you through the entire print process, beginning to end. We cover only the basics in this manual.

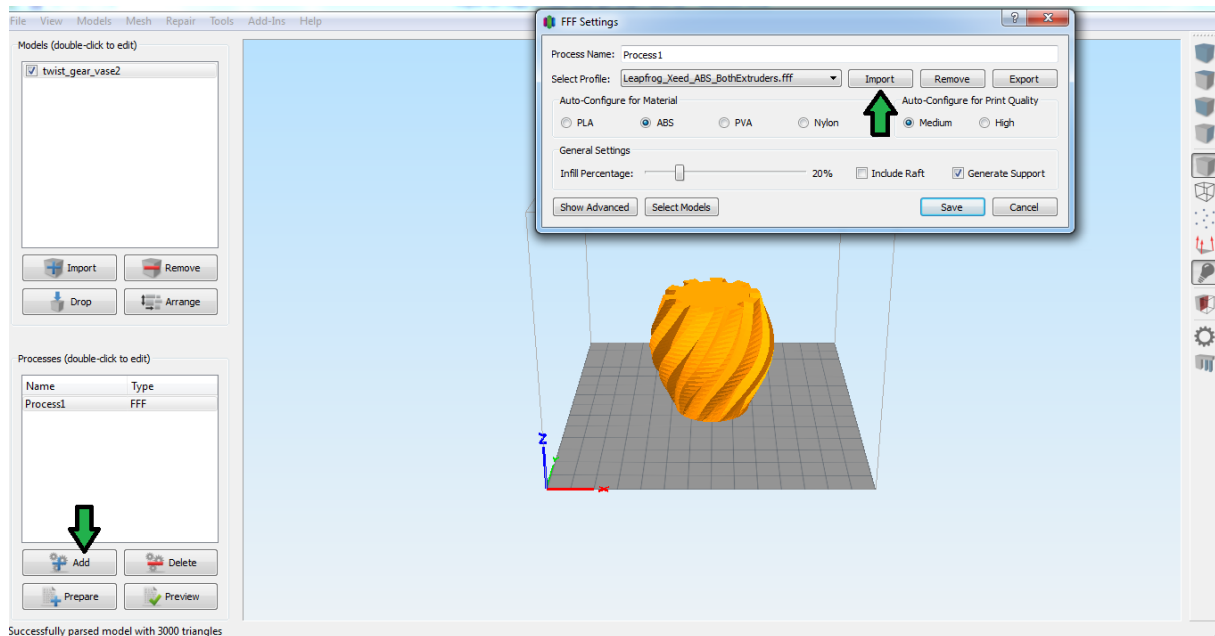
The first step is to import your 3D print model (STL-file) in the left upper window by pressing the “Import” button as shown in the picture below.

“Double click” on your Imported model and enter numeric positioning information for shifting, rotating or scaling your model.



The second step is to click on the “Add” button in the left lower window. After pressing this button the “FFF window” pops up where you can select a standard print profile in the drop down menu.

Leapfrog is continuously testing and developing Profiles with standard print settings in order to establish the best print results and therefore might send you additional Profiles applicable to your printer which you can add to your software by clicking the “Import” button in the FFF window.



At the time of writing we developed three Profiles:

1. “Leapfrog_Xeed ABS_BackExtruder.fff” most ideal settings for printing a random 3D model in ABS with only the back extruder
2. “Leapfrog_Xeed ABS_FrontExtruder.fff” most ideal settings for printing a random 3D model in ABS with only the front extruder
3. “Leapfrog_Xeed ABS_BothExtruder.fff” most ideal settings for printing a random 3D model in ABS with both the front and back extruder

With step three you can choose your own settings to optimize print results for your personal 3D models and start exploring the 3D printing boundaries.

FFF Settings shown in the picture below allow you to easily select “Medium” or “High” print quality. Be noted that printing in High quality increases the printing time.

Further it is possible to select:

-“Material” depending on the “Selected Profile” you are able to select optimal settings for printing in PLA, ABS, PVA or Nylon.

-“Infill Percentage” changes the interior solidity (strength) of your print.

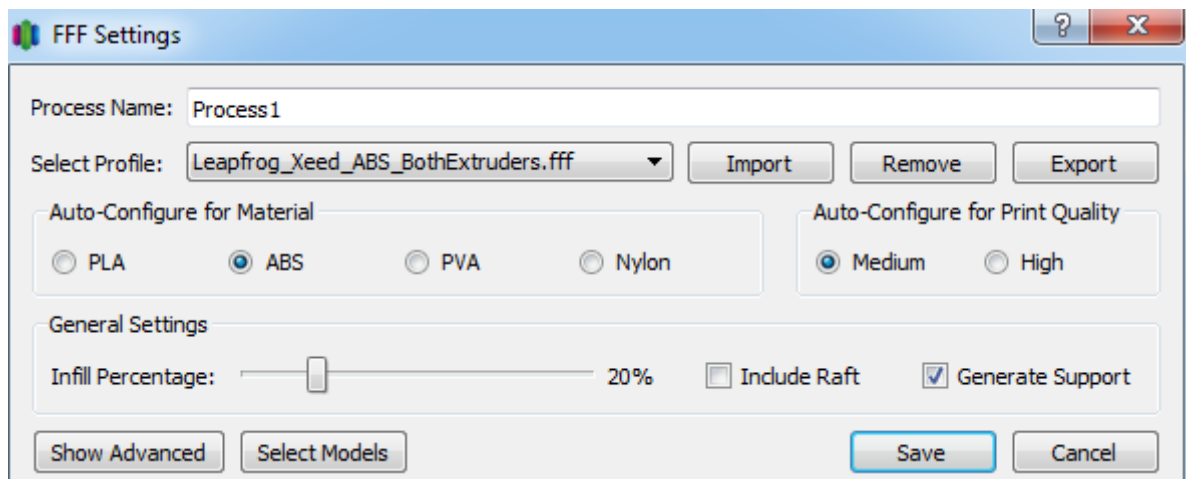
-“Include Raft” generates raft or support between the bed and your print for optimal cohesion.

-“Generate support” automatically generates support for steep overhangs.

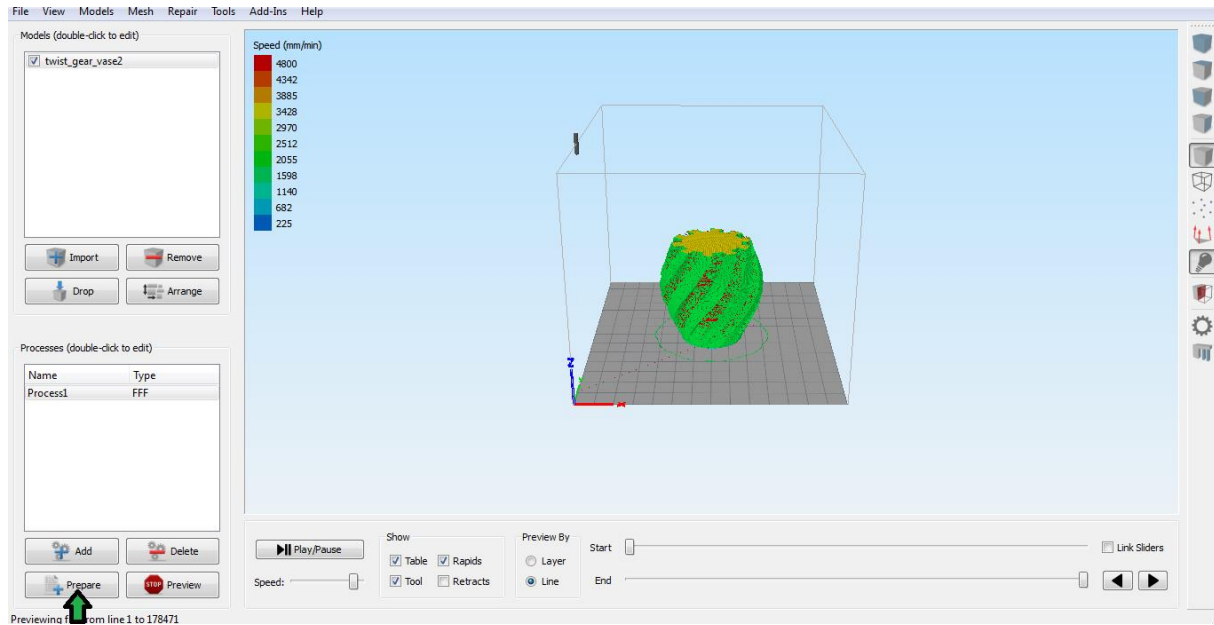
Above mentioned functionalities are further explained in the integrated Quick Start Printing Guide.

For exploring the 3D print boundaries you have the option to select “Show Advanced” settings.

Click “Save” when you have finished configuring your settings in the FFF window.



The final step after saving your settings is to press the “Prepare” button in the left lower window to generate, save and preview your G-code.



The G-code can now be uploaded by your printer through a computer connection as explained in paragraph “2.4.2. Uploading a model from your computer” and is ready to be printed!

2.6 After the print.

This section will explain what to do when your Xeed has finished the print job.

After the print you have to wait until the Xeed goes into its home position. It will home your x- and y-axis and it will bring down your print bed, so it is easier for you to access your print. You can open the doors and take your model off the print bed, you can also take out your print bed. This is needed if the model is stuck to the bed. If you take out the print bed you can access your print from more angles so it is possible to take off the model without damaging it.

3. Support

In case anything in the manual is unclear and you still have some remaining questions or if you are experiencing some kind of problem with your Xeed or your prints we are there to help you. This section explains to you how to contact us with your questions so that we can help you as soon as possible. This section contains the following:

3.1 Need support?

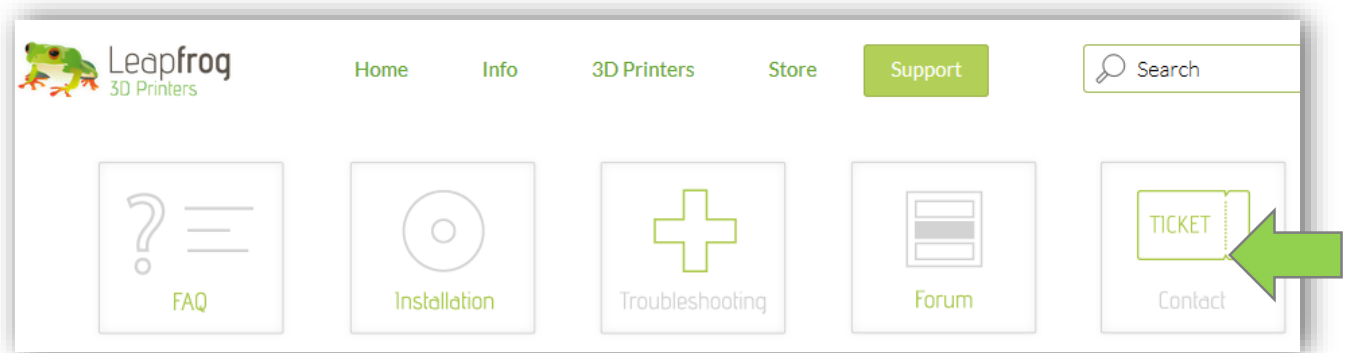
- How to contact the Leapfrog support team

3.1 Need support?

Of course it is possible that you run into something that was not explained in this document. Here we explain you what to do in such a case.

- Go to <https://www.lpfrg.com/support/>.

- If you cannot find the solution to your problem at **FAQ**, **Knowledgebase** or on our **Forum**, you can always ask our support team by creating a ticket.



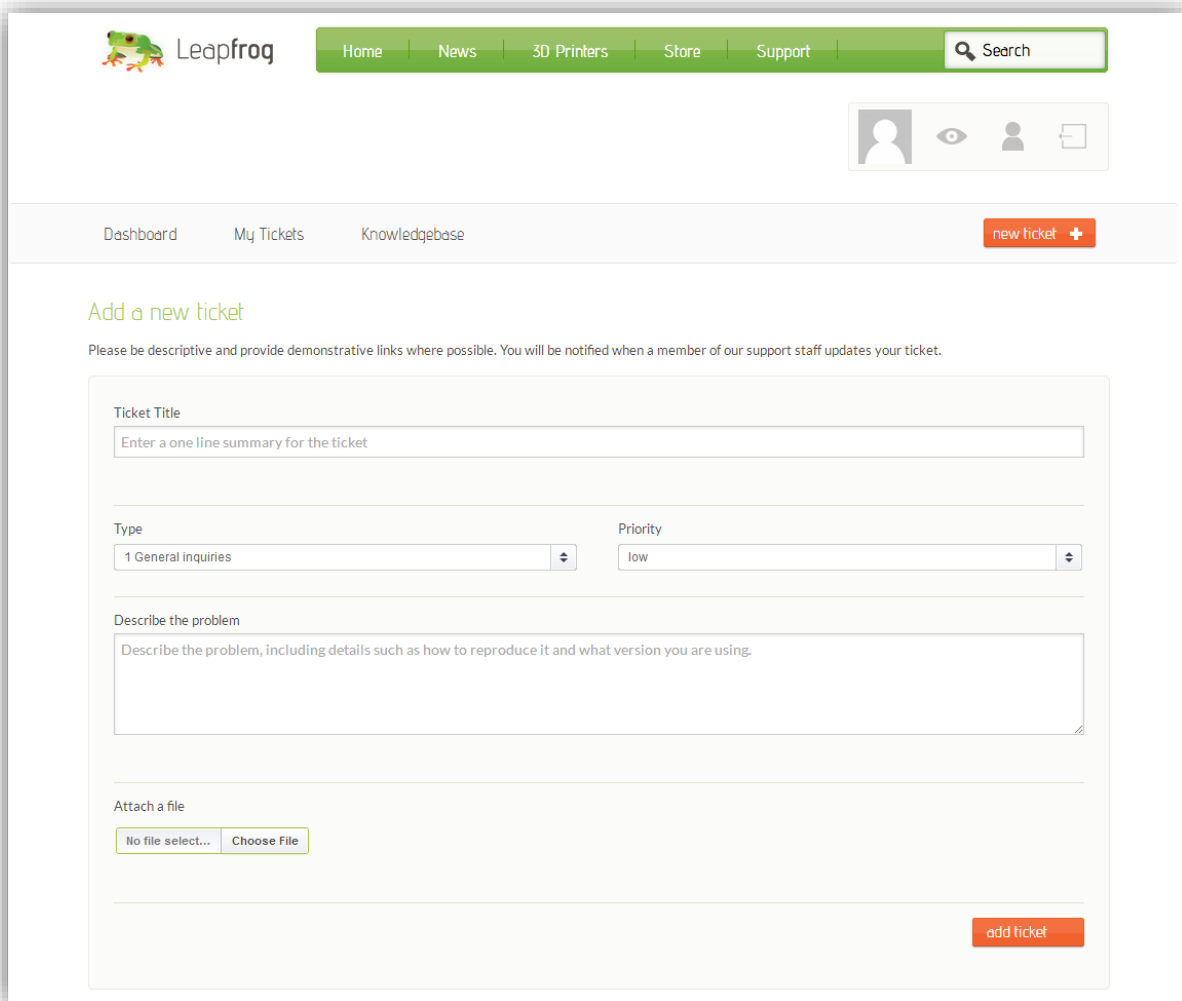
- Click on the button with the Ticket icon, select **Existing customer** and log in with your account. If you do not have an account or if you have forgotten your account, please create one.

- In our support ticket system you can again see the **Knowledgebase**. If you have not yet checked if your question is listed here, please do so.

If your question is not to be found in the Knowledgebase, create a new ticket by clicking on **New ticket**.

- Summarize your question in one sentence and enter this in the **Ticket title** field.
- Select the category which best suits your question.
- Select the priority of your question.
- Next, please describe your question as detailed as possible so our support team can answer you as best as possible.
- Clarifying your question with pic's and movies will significantly increase the speed of providing a clear answer, you can add files below **Attach a file**.

You will receive an automatic email when your ticket has been updated. This way, you do not have to check if you have received an answer but we will let you know.



The screenshot shows the Leapfrog support portal interface. At the top left is the Leapfrog logo. A green navigation bar contains links for Home, News, 3D Printers, Store, and Support, along with a search bar. Below the navigation bar are user profile icons. A secondary navigation bar includes Dashboard, My Tickets, Knowledgebase, and a red 'new ticket +' button. The main content area is titled 'Add a new ticket' and includes a descriptive instruction. The form fields are: 'Ticket Title' (text input), 'Type' (dropdown menu with '1 General inquiries' selected), 'Priority' (dropdown menu with 'low' selected), 'Describe the problem' (text area), and 'Attach a file' (file selection buttons). A red 'add ticket' button is located at the bottom right of the form.

Leapfrog

Home | News | 3D Printers | Store | Support | Search

Dashboard | My Tickets | Knowledgebase | new ticket +

Add a new ticket

Please be descriptive and provide demonstrative links where possible. You will be notified when a member of our support staff updates your ticket.

Ticket Title
Enter a one line summary for the ticket

Type | **Priority**
1 General inquiries | low

Describe the problem
Describe the problem, including details such as how to reproduce it and what version you are using.

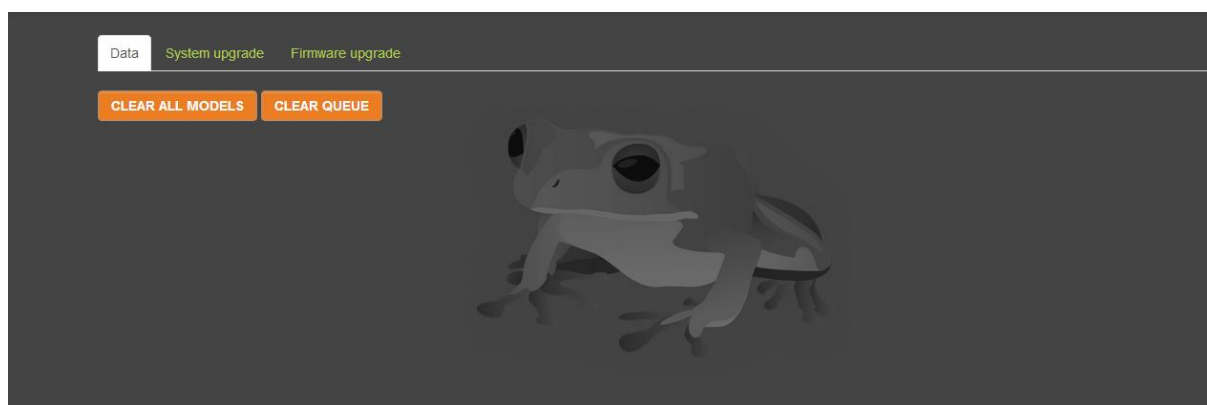
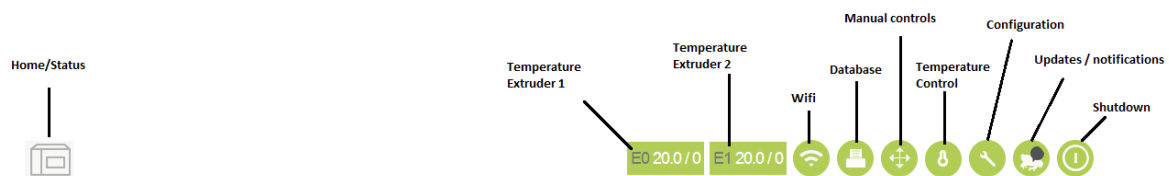
Attach a file
No file select... | Choose File

add ticket

3.2. Updates

We will be able to remotely send updates to your Xeed which will be announced through the **“Updates / notifications”** button.

If you receive an update go to **“Configuration”** and select **“System upgrade”** or **“Firmware upgrade”** as shown below and follow any given instructions.



3.3. Troubleshooting

Although we work very hard on minimizing possible troubles some might occur while or even before operating the machine. In general these troubles can be tackled quite easily.

We listed 5 possible troubles that could occur and how you can tackle them.

3.3.1. Transporting, Unpacking and Positioning the Xeed

Transporting

Think carefully before delivery or (local) pick up how to transport your Xeed to its final destination.

Xeed weighs around 75KG with outer dimensions: 900 x 580 x 640 mm.

Xeed + Crate + filament weighs up to 135KG with outer dimensions: 1150 x 980 x 850 mm.

On arrival at destination (office, facility etc.) we advise to move the Xeed as far as possible inside its wooden protection crate preferable by a forklift or pallet truck.

Avoid (strong) vibrations and tip the machine as little as possible to secure its print quality

Unpacking & Positioning

Disassemble the crate preferably in such a way that the side and top panels are removed leaving the Xeed standing on just the bottom panel.

Have preferably 4 people available to lift the Xeed and position the machine at around 1 meter height on for instance a stable and strong table, cabinet or the wooden crate after rebuilding.

Avoid positioning the Xeed in wet, cold and windy areas to secure its print quality

3.3.2. Turning off and (re)starting the Xeed

Turning off the Xeed should be done by pressing the digital shutdown button on the screen in Icosl. This will shutdown the screen and motherboard first. After this you can switch off manually the power button at the back of the machine.

Avoid shutting down the Xeed with the power switch only, this might damage the motherboard

After pushing the shutdown button and switching *off* the power button wait around 5 seconds to switch *on* the power button again. If you switch on to quickly Icosl might not start.

After turning off your Xeed wait at least 5 seconds before switching on your Xeed

If an error occurred in the turning off or restarting process you might see an alternative start up screen, with a black background and white instruction letters. Follow up the instructions by plugging in a keyboard in the USB port at the back of the Xeed and press the key applicable to your situation.

3.3.3. Filament slipping

Before loading the filament make sure that filament on the spool is free and not entangled which can occur after removing and replacing the spool. Take the time to make sure that the filament is inserted properly in the driver gear. Depending on the spool size it might help to place it upside down in the drawer so that filament rolls off from the bottom instead of the top. Push the filament manually as far until it reaches the white tube. After "QUICK LOADING" the filament up to the extruder head, check again if the filament is positioned correctly in the driver gear. Sometimes you must use the "EXTRUDE"-button to push the filament through the extruder head step by step.

Take your time loading the filament correctly to prevent slipping and use the "EXTRUDE"-button

3.3.4. Removing your print from the bed

The advantage of using a plastic bed is that your object sticks well to the bed preventing it from shifting. The disadvantage can be that your print sticks so well, that it is hard to remove.

Make sure that you remove your print just after the printing process finished when the print, surroundings and print bed are still warm.

Use a spatula to slide in-between the print and the bed and gently wiggle and twitch to loosen the print from the bed.

Another technique would be to remove the bed completely and bend the bed, so that the object detaches itself from the bed. You need quite some force to establish this.

3.3.5. Replacing your print bed

Like a print sticker (in general used on a glass print platform) has to be replaced after it is wear out, sometimes also the plastic print bed needs to be replaced.

Prints will leave marks on the bed, which can positively intensify the cohesion between the bed and the print, however if the bed is damaged too much your print will not stick or stays levelled on the surface (bed).

To increase the user time of the bed remove prints as soon as the printing process finishes and the print, the bed and its surroundings are still warm. If the bed is damaged you can flip it upside down or rotate it, to keep on printing a little longer.

3.3.5. removing catching filament from the filament drive unit

- remove push-in coupling, clip the filament, manually remove filament by pulling knob.