



The purpose of this user manual is to help users understand and use the da Vinci 1.1 Plus 3D printer correctly. It contains the operating instructions, maintenance information and application skills of the da Vinci 1.1 Plus 3D printer. To learn more about the latest news of the da Vinci 1.1 Plus 3D printer, please contact local dealers or visit the official website of XYZprinting: http://www.xyzprinting.com

Trademarks

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Printing History

New editions of this manual incorporate new and changed material since the previous edition. Minor corrections and updates may be incorporated into reprints of the current edition without releasing additional announcements or documents regarding the updated version. The User Manual is for the user's reference only. If you need to obtain the latest information, you are welcome to visit XYZprinting website: www.xyzprinting.com

Warranty and Service Plan

After purchasing da Vinci 1.1 Plus, you may obtain the related warranty and service plans that we provide. You can contact the dealer or get the latest information from our official website.

Doc Edition	Month	Year
V1.2	Apr	2015



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Chapter 1 Important Safety Instruction

Please read this manual carefully before operating the printer. The following warnings and attention notices are a best effort attempt to cover all scenarios; unfortunately it is not possible to do so. In the case of performing maintenance procedures that are not described in this manual the burden of safety falls to the customer side.

For basic safety and precautions adhere to the following:

Warning

- Do not let children operate this device without adult supervision. Electric shock hazard. Moving parts can cause serious injury.
- Do not place the printer on an unbalanced or unstable surface. Printer may fall or tumble causing harm and/or injury.
- Do not place any objects on top of the printer. Liquids and objects that fall into the printer can lead to printer damage or safety risks.
- Do not use flammable chemicals or alcohol wipes to clean this device.
- Do not disassemble or replace the printer cover with none XYZprinter covers.
- Do not touch heated surfaces during or after operation. Heated surfaces can cause severe burns.
- Insert and secure the power cord firmly for proper usage and to avoid potential electricity and fire dangers.
- Do not attempt to service the printer beyond the instructions specified in this document. In the case of irrecoverable problem, contact XYZprinting service center or your sales representative.

Attention

- Please place and use the printer in a well ventilated area. The process of heating the filament will produce a small amount of non-toxic odor. Having a well ventilated area will ensure a more comfortable environment
- This printer is only to be used with filament specified by XYZprinting.
- Make sure to set the power switch to the off position and remove the power cord before transporting the device.
- Some components of the printer are moving during operation. Do not attempt to touch or change anything inside before power off the printer.

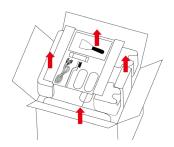


Chapter 2 Unpacking and Setup



Note: All packaging materials should be removed before powering up the printer.

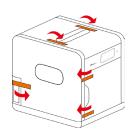
Open the box



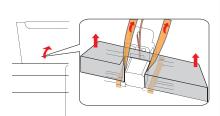
Open the box and remove the accessories and the cushion.



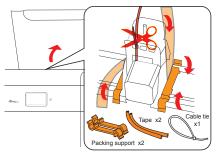
Take out the printer by the grip holds.



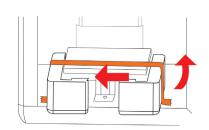
Remove plastic bag and all tapes.



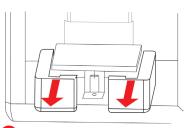
Open the top cover, and remove the cushions by the extruder



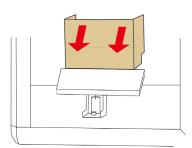
Remove the packaging supports and tapes from inside.



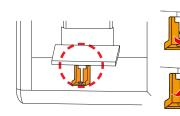
Remove the tape on the print bed.



7 Remove the cushions by the print bed.



8 Remove the cardboard.



9 Remove the bottom screw and plastic piece under print bed.



10 Insert the USB flash drive to install XYZware for printing.



11 Use the USB cable to connect the printer to PC. Connect the power cord to the printer then turn on the power switch.



Chapter 3 Product Overview / Accessory Checklist



Control Panel: used to operate functions in the printer.

Extruder Module: used for printing 3D objects.

Z-Axis Rod: used to lift heated bed module during printing.

Front Door: open to get printing sample or for maintenance.

Print bed: provides a flat surface to lay the 3D model.

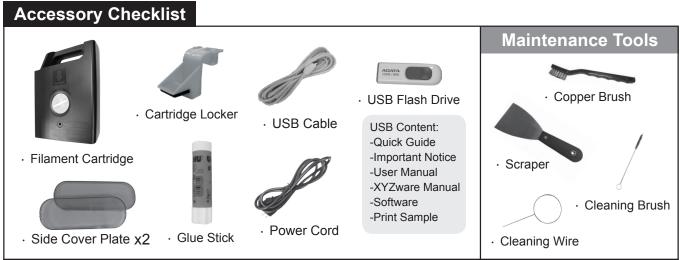
Cartridge Slot: space for placing the filament cartridge.

LAN Port: used for connecting the Network cable. USB Port: used for connecting the USB cable.

Power switch: this switch turns on/off the power of the printer.

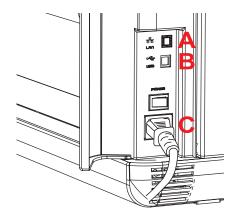
Power Connector: used to connect the power cord.







Chapter 4 Connect the Cable



A. LAN Port:

Make sure the printer is connected with Internet and plug the cable tightly.

Please use RJ-45 Network cable.

B. USB Port:

Make sure USB cable is connected with computer.

C. Power Outlet:

Make sure power cord is properly connected.

Warning

- Make sure to set the power switch to the "off" position before inserting the power cord.
- Make sure the power cord is properly connected. Incorrect use may cause damage to the printer.
- Make sure to remove the power cord from printer if you are storing or not using the printer for an extended period of time.
- Make sure to avoid power strips to power the printer . Use a wall outlet.

Turn on the power

Press the power switch | Power up the printer, until the screen loading screen disappears, you can begin to manipulate printer.



Press the power button behind the printer.



Loading, please wait.

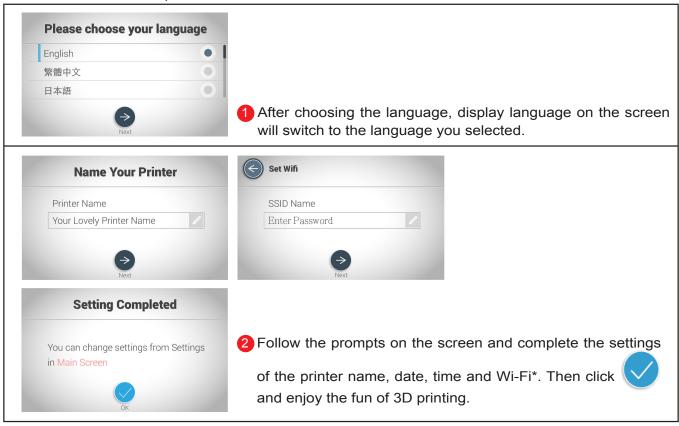


Boot completed.



Chapter 5 Opening Settings

Complete the basic settings of the printer after turning it on for the first time and follow the prompts on the screen to set the printer.

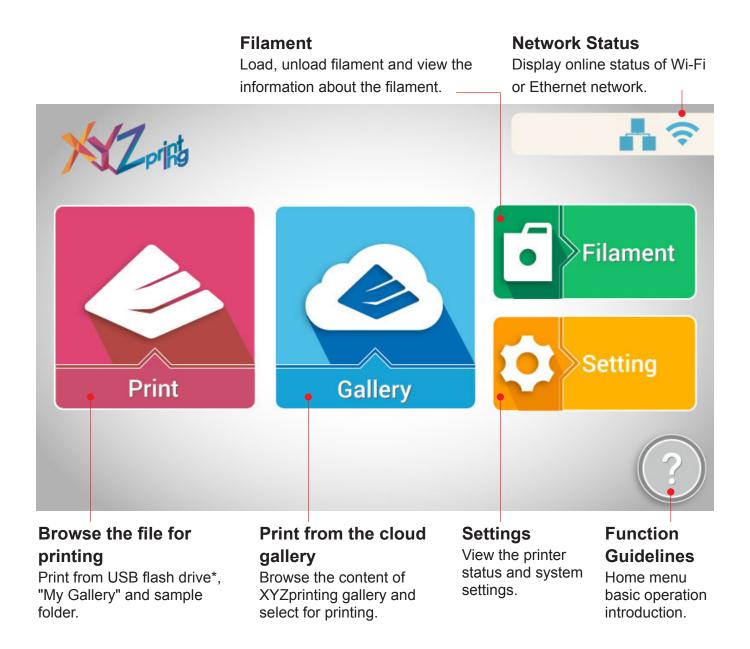


^{*} Skip the Wi-Fi setting if it is not necessary.



Chapter 6 Home Menu Display and Change Cartridge

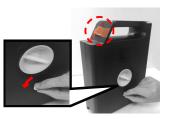
Home Menu



^{*}Please export .stl files into .3w format via XYZware before printing.



Load Filament



Remove the filament stopper and tape.



Install the new filament cartridge into the empty slot.



Place and push to click the cartridge.







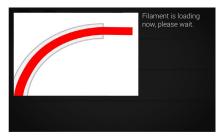
4 Select "Filament" > "Cartridge " > "Load".



5 Insert filament into the guide hole until the printer starts to load filament.

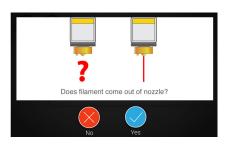
(When the loading begins, you will hear the sound of motor and can see filament is pulled into the printer.)

Note: Before pushing the filament into the guide hole, avoid bending the filament while loading filament and cut the tip of the filament off at a 45° angle with a cutting pliers, filament loading will be easier.





6 Wait for the printer to install filament and heating extruder.



7 If filament doesn't come out from the nozzle, please press





. When filament is dripping off the nozzle, tap



to finish.



Unload filament

Note: Always "UNLOAD FILAMENT" as described below before changing the cartridge. Do not cut the filament off.



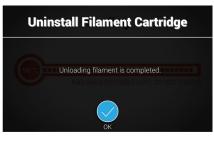




1 Select "Filament" > "Cartridge" > "Unload" on the screen



Filament is unloaded from extruder automatically. Gently pull filament out from the guide hole when prompted.



When filament is pulled out, press .



4 Remove cartridge locker and the catridge.

Filament troubleshooting

When the filament is loaded automatically or is stuck in the extruder module, please first unload filament by following the steps above. And then press on the black rubber fixers on either ends of the filament tube. You may also follow the instructions on the screen for troubleshooting.





Status



If the filament is stuck in the extruder module, press the release arm on the side of the extruder module to extract the stuck filament.



If the filament is stuck at the entrance of the guide tube, please press the release arm by the entrance to extract the stuck filament.



After removing the filament, plug the filament tube directly back to its original position to complete the re-installation.



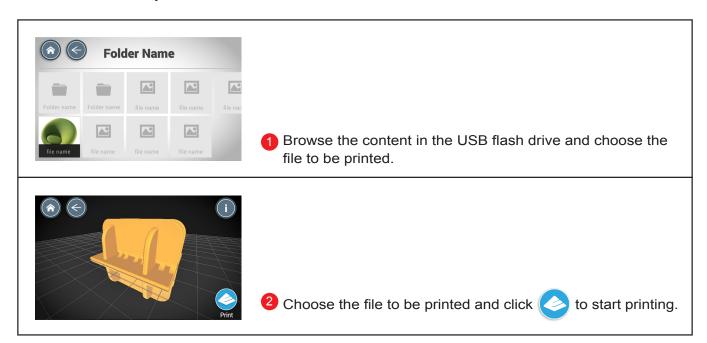
Chapter 7 Print Menu Display

Choose the files for Choose the file for Choose the file for printing from Sample that printing from the USB printing from My flash drive. come with the printer. Gallery. **My Gallery** Sample **USB** Log out from the Remove the USB **Basic operation** flash drive securely. gallery. introduction of the printing menu.



USB flash drive: Choose .3w files from the USB flash drive

The .3w file is generated by XYZware and contains slicing information. Before choosing the file from the USB flash drive, you must use XYZware to save as a 3D file.



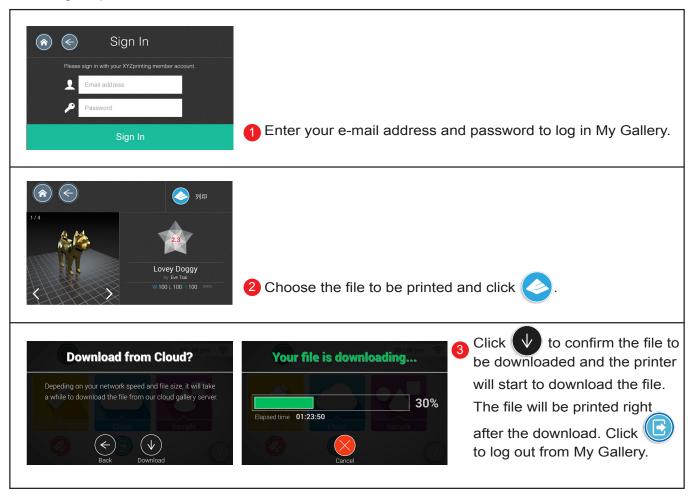
To remove the USB flash drive security, click to remove it securely.



My Gallery: Choose 3D models from private XYZprinting gallery

You may register an account on the XYZprinting official website and upload your 3D creations. After uploading your works, you may download it for printing directly on the printer.

Choosing Steps:



Note: Please connect the printer to the network and log your XYZprinting account to use this function.



Sample: Print from the built in samples

There are 3 single color 3D model stored in the printer. You can start printing without the need to select any settings.

To select a sample:



1 Browse the sample in Build Sample.



Select a sample to print, and tap to print.

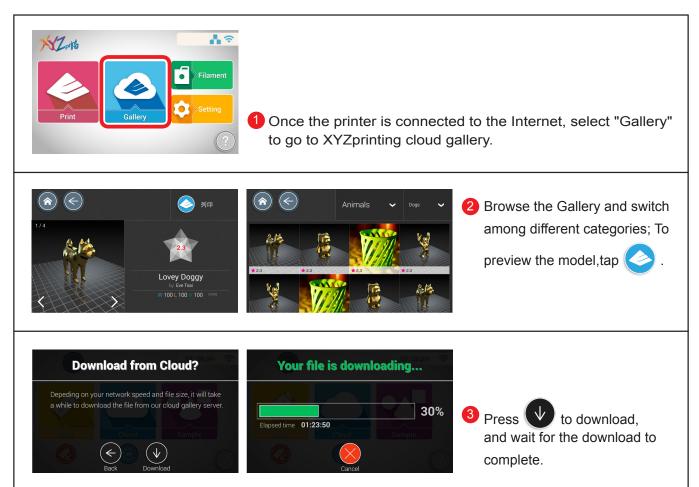




Cloud Gallery: Print from cloud gallery

XYZprinting provides a wealth of free 3D models in the cloud gallery. You can download and print through the Internet directly without logging in.

Downloading Steps:



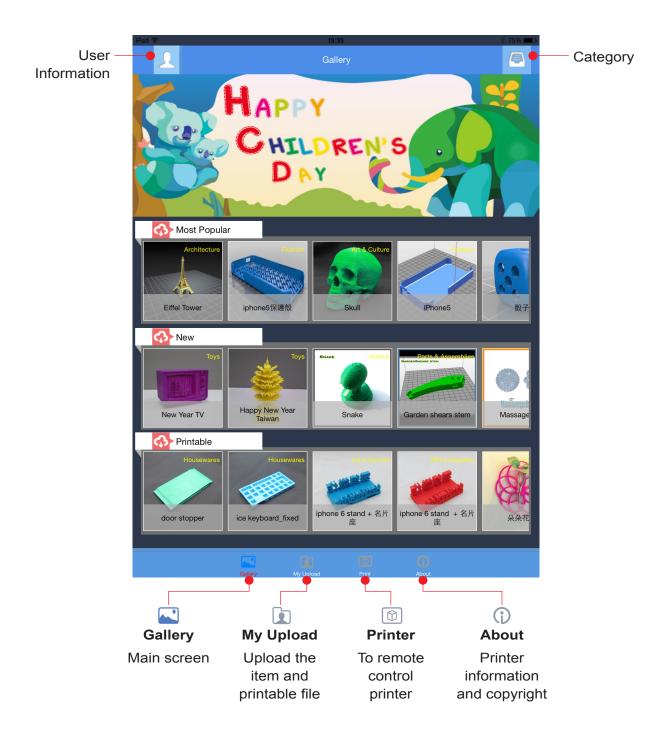
Caution:

Make sure printer is connected to Internet.



Print From A Mobile Application

- 1. The mobile device needs to support wireless printing.
- 2.Install XYZprinting App from Android or iOS system.







1 Open the Play Store from your Android browser or App store of iOS system to search "XYZprinting" and download the application to your device.



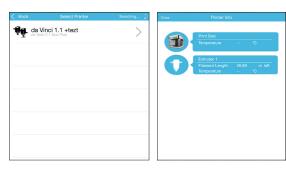
Please register an account at XYZprinting official website before logging in.



After log in, you will see " most popular", "new" and "printable*" three folders for you to choose.



4 Select the object you want to print.



5 Select the printer and confirm the printer information, tap "Confirm to print", the file will be sent to the printer and ready to print.



6 You may remote control the printing status.

Note:

- 1.Ensure the mobile device and the printer are connected on the same wireless network.
- 2. Transferring a print file over a wireless network may take more time than transferring a print file from a USB mass storage device.

*The printable file is .3w format which can print from App directly. Some prints are stl files that need to export into .3w format via XYZware before printing. If the file requires payment, please follow the payment instruction.



Chapter 8 Printing Steps

After choosing the files from the USB flash drive, My Gallery, Sample or Cloud Gallery, or transmitting the files to the printer from XYZware...



1 Apply glue stick gently and evenly to the print bed base on the size of the printing object previewed on screen.



2 Press to print or press to change filament.





Printing process is shown on the screen. You may click for Printer info during printing and tap cancel or pause to stop printing.



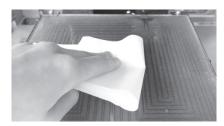




After the printing, the screen will show the temperature of the print bed. Take out the printed object after the temperature of the print bed is cooling down to the room temperature.



3 Remove the printed object when the print bed has descended.



4 Cover a damp cloth on the cold print bed for 2-3 minutes, and wipe the glue off gently (Scrape off the glue if necessary).



Auto Feed Gear Cleaning Instruction

When the machine's auto-feeder / ejector has encountered any abnormal situations, use the gear cleaning brush to clear away the remained filament and particles from the gears.

Preparation of Tools:

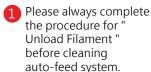


Cleaning brush that comes with the printer.

Note: The cleaning brush shall only be used to clean the specified parts of the machine and should not be used for the cleaning of other parts to prevent damaging the machine.

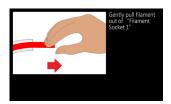
Step 1. Unload Filament







Select "Filament" > "Cartridge" > "Unload" on the screen.



Gently pull filament out from the guide hole when prompted.



Make sure the filament is pull out from the printer and star to active cleaning auto feed system.

Maintenance

Step 2. Active Cleaning Auto Feed System Function







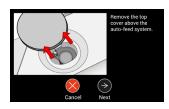






Select "Printer Settings" > "Printer Maintenance" > "Clean Auto-Feed System" on the screen.

Step 3. Start to Clean Auto Feed System





Remove the top cover above the auto-feed system.

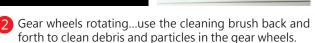




After cleaning, press Next to finish or retry to re-rotate wheels again in order to continue.











Replace the top cover on the printer after the cleaning is completed .Press OK to return Maintenance screen.



Chapter 9 Settings

Setting Menu

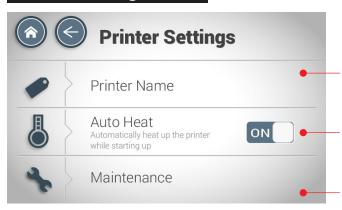


Check the temperature of the printer and the information of the filament cartridge.

Change the printer settings and operate the printer maintenance functions.

Change the settings of the network, LCD display, sound, language, date and time, and check the system information.

Printer Setting Menu

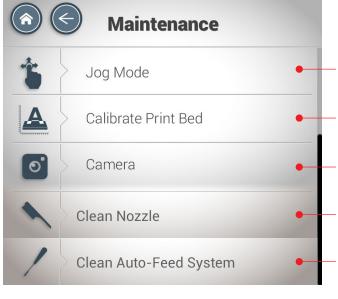


Printer Name: Change the printer name (Max 24 characters).

Auto Heat: The printer heats up automatically while starting up. When this function is activated, the operation temperature of the printer can be kept during the work. The printer will start printing once receiving the file.

Maintenance: Printer maintenance functions such as operating the jogging mode, calibrating the print bed and camera.

Maintenance Menu



Manually control the location of the printing module and print bed.

Detect the horizontal level of the print bed. (Refer to P22 for more information).

Use the camera to check the printing progress.

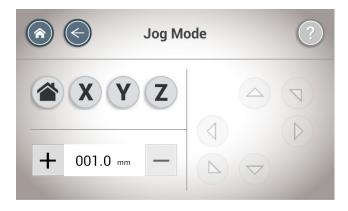
Clean the nozzle and detecting pin (Refer to P23 for more information).

When encountering any abnormal situations, use cleaning brush to clear away the filament debris from the gear.



Jog Mode

When manually adjusting the location of the printing module and the print bed is needed or the print head needs to be returned to its original position, use this function to manually adjust the location of the X, Y and Z axes.



To adjust the location of the X-axis, Y-axis and Z-axis:

1 Click **X Y** or **Z** to choose the desired direction axis to be moved.

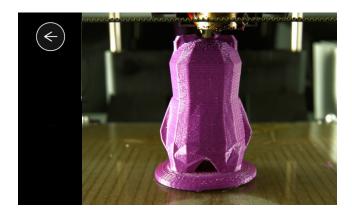
2 Use or to change the job space

3 Press and hold + or - to adjust the location.

Click to move the print head to its original position.

Camera

Use the camera to check the printing progress and status.





This print bed has been calibrated by our professional technician before shipment. Do not adjust the platform yourself unless necessary, or contact the customer service center.



Print Bed Calibration

1. Check for firmware update

In XYZware, select "About" > "Firmware Update".

2. Activate Calibration



Select "Setting">"Printer Settings">
"Maintenance" >"Calibrate Print Bed" and press to perform calibration.



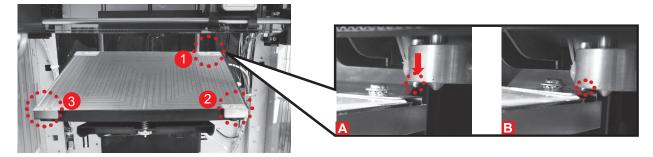
The printer starts automatic measurement. Wait for 2~3 minutes and verify the data shown.

Note: During the measurement process, the print bed and extruder module will be heated. Care should be taken during operation!

3. Wait for detecting

What does "detecting" do:

The printer measures the distance between the detecting pin and 3 measurement points at the corners of the print bed to check if the platform is leveled. When the height of the 3 points are no more than ± 0.2 from each other, the print bed is leveled.



4. Check the detecting result on the display

- 1."Calibration Completed"
- ready to print

The print bed is leveled; adjustment to the print bed is not required.



Skip step 5 & 6, and press vo to finish.

2."Calibration Not Completed" and "Error" is shown - cleaning & leveling is required

The detecting point is too high/ low for detection or the pin/ measurement point is covered by molten plastic.



Press and proceed step 5 and 6.

3. "Calibration Not Completed"

- leveling is required

Unleveled print bed may affect printout quality. Please level the printbed based on the value of P1, P2 and P3.



Press and proceed step 6.

P 23 V1.2



5.Clean the detecting pin

Select "Clean Nozzle" function, and brush the molten filament and dust from the detecting pin while the extruder is heated up.

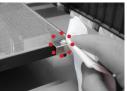
Clean the detecting pin with the copper brush



Activate "Setting" > "Printer Settings" > "Maintenance" > "Clean Nozzle".

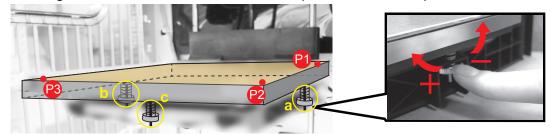


Clean the 3 measurement points



6.Level the print bed

- 1. The value indicates the height of point (2), (2), (2); greater value indicates the higher the detected point is.
- 2. Turn the 3 turning screws at location "a", "b", "c" under the print bed to level the platform.



How to adjust:

- Turn clockwise to raise, turn counterclockwise to lower.
- Adjust screw a and b may offset the diagonal. (e.g. Left turn screw b will lead to the descendant of point 2.)
- Tuning the screw for a full circle will change the value by 0.5. A single push to the screw will change the value by 0.2 to 0.25.

Thumb of rules:

- Adjust the values to the 2.3-2.6 range.
- 3 values should be no more than ±0.2 from each other.

When finishing the adjustment, repeat the calibration from step 2 until it shows "Calibration Completed".

Specifications

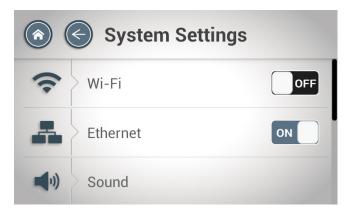
Model Name	da Vinci 1.1 Plus 3D Printer	
Print Technology	Fused Filament Fabrication(FFF)	
Print Head	Single Head	
Build Volume	20 x 20 x 20 cm	
(W x D x H)		
Layer Resolution Setting	Standard 200 microns	
	Speed 300 microns	
	Ultra fast 400 microns	
	Custom 100-400 microns	
Filament Diameter	1.75mm	

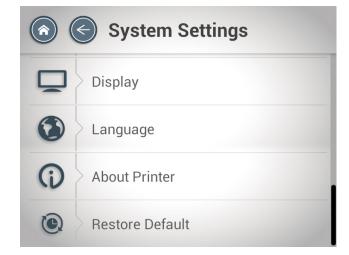
Nozzle Diameter	0.4mm		
AC Input	100-127V~ 4.0A 50/60Hz 200-240V~ 2.0A 50/60Hz		
Connectivity	USB 2.0 WiFi LAN USB Flash Drive		
Display	5" TFT LCD		
Control Method	Touch Panel		
Indicator	Speaker		
Weight	27 Kg		



System Setting Menu

The operation system of the printer can be setup manually if necessary.

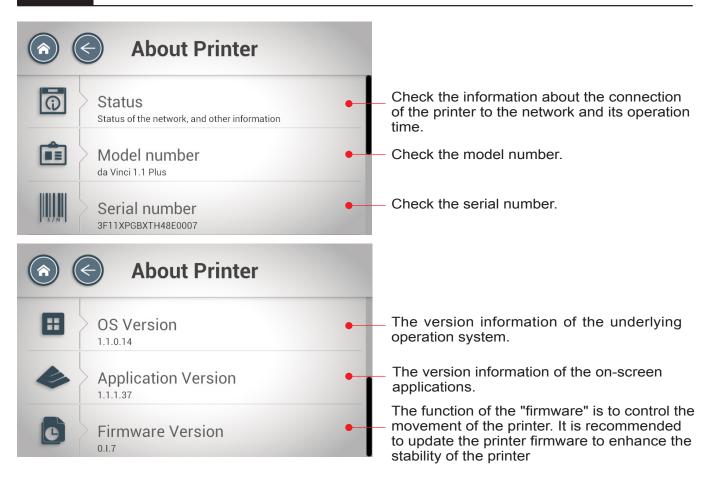




Follow the instructions on the screen to change the settings of the network, display, sound, and language. Then check the printer information and return to the default value.



About



Update the system, program and firmware versions via XYZware. After XYZware is connected to the printer, you will be informed when the software is checking the latest version. You only need to follow the XYZware instructions to update the printer easily.



Chapter 10 Support Details

The troubleshooting instruction may guide you to fix the problem. If any error persists, please contact customer service center for support.

Customer Support Center: http://support.xyzprinting.com

Technical Support (US):supportus@xyzprinting.com

Technical Support (EU):supporteu@xyzprinting.com

Other Region:support@xyzprinting.com

Service Code	Symptom	Action	Service Code	Symptom	Action
0010	Print bed heating problem	Check connections, reboot the printer.	0032	Z-axis movement abnormalities	Check motor/sensor connections. Check sensor position.
0011	Extruder 1 heating problem	Check connections, reboot the printer.	0040	Internal storage error	Check if SD card is inserted correctly.
0013	Print bed heating problem	Check connections, reboot the printer.	0050	Memory error	Reboot the printer.
0014	Extruder 1 heating problem	Check connections, reboot the printer.	0060	Internal communication error	Reboot the printer.
0030	X-axis movement abnormalities	Check motor/sensor connections. Check sensor position.	0201	Connection error between PC and printer	Reconnect PC to printer, or hotplug the cable between printer and PC.
0031	Y-axis movement abnormalities	Check motor/sensor connections. Check sensor position.	0201		

Error message	Action	
The printer is handling other task	Try again after all tasks are completed. Also check the information shown on printer display.	
Unable to update printer firmware	Check Internet connectivity/Update firmware again later.	
Filament 1 jammed	Unload and reload cartridge 1 and clean the nozzle.	
Filament 1 loading problem	Unload and reload cartridge 1.	
Filament 1 installation problem	Reinstall the cartridge 1 or change a new cartridge.	
Top cover open	Close the top cover.	
Filament 1 level low: 30m left	Replace cartridge 1 when necessary.	
Filament 1 level low: 5m left	Replace cartridge 1 immediately.	

Federal Communications Commission (FCC) Statement

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

XYZprinting is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.