

da Vinci Jr. 2.0 Mix Quick Guide

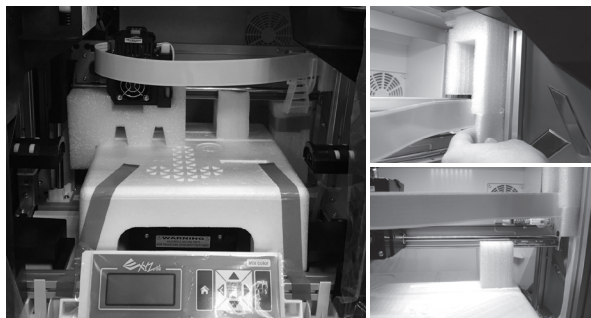
The purpose of this user manual is to help users understand and use the da Vinci Jr. 2.0 Mix 3D printer correctly. It contains the operating instructions, maintenance information and application skills of the da Vinci Jr. 2.0 Mix 3D printer. To learn more about the latest news of the da Vinci Jr. 2.0 Mix 3D printer, please contact local dealers or visit the official website of XYZprinting: <http://www.xyzprinting.com>

Trademarks

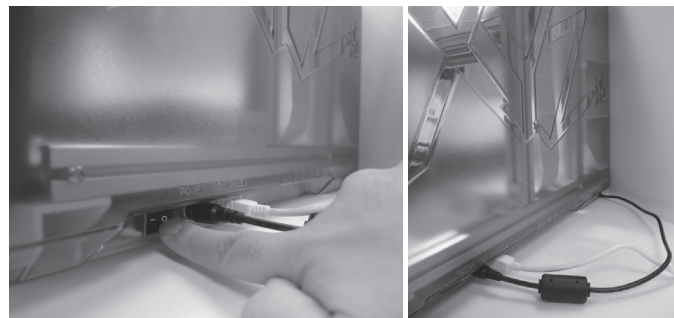
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Print History

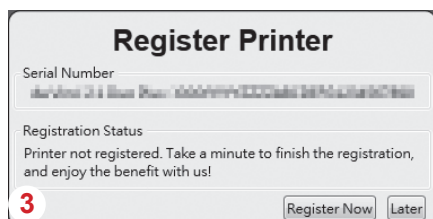
New editions of this manual incorporate new and changed material different from previous editions. Minor corrections and updates may be incorporated into reprints of the current edition without releasing additional announcements or documentation regarding the updated version. The User Manual is for user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



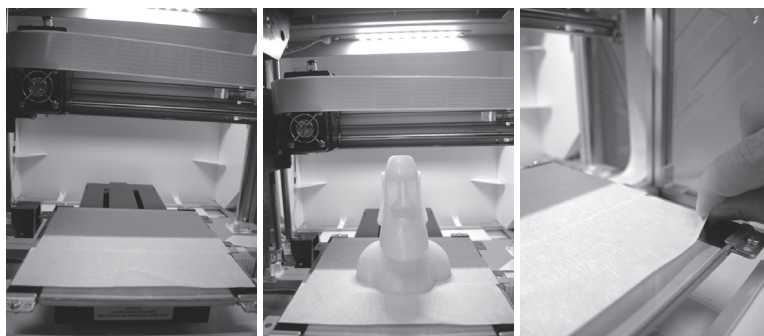
- 1 Before using this printer, please first remove the fixed materials from the printing module and printing bed. Switching on the printer's power without removing these fixed materials may damage the machine.



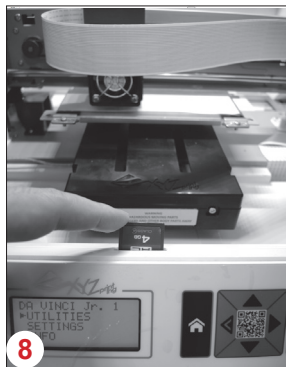
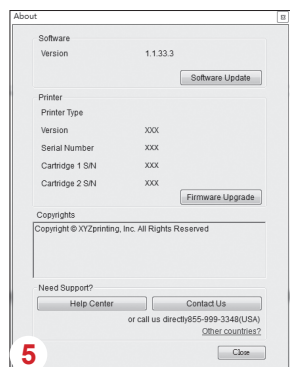
- 2 Before launching XYZware, connect the PC to the printer using the USB cable. For a better user experience, it is strongly advised that you follow the instructions detailed below.



- 3 Registration via XYZware before your first print is strongly recommended. When registered with XYZprinting, you will receive the latest technical support and updates. To register, simply click "Register Now" to begin.



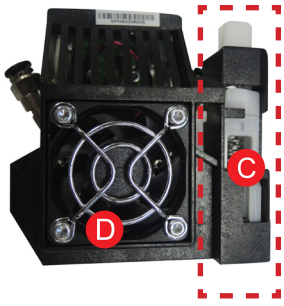
- 4 Before you start printing, please affix the bed tape on the print bed. The bed tape may be removed after printing is complete. (Bed tape can be reused.)



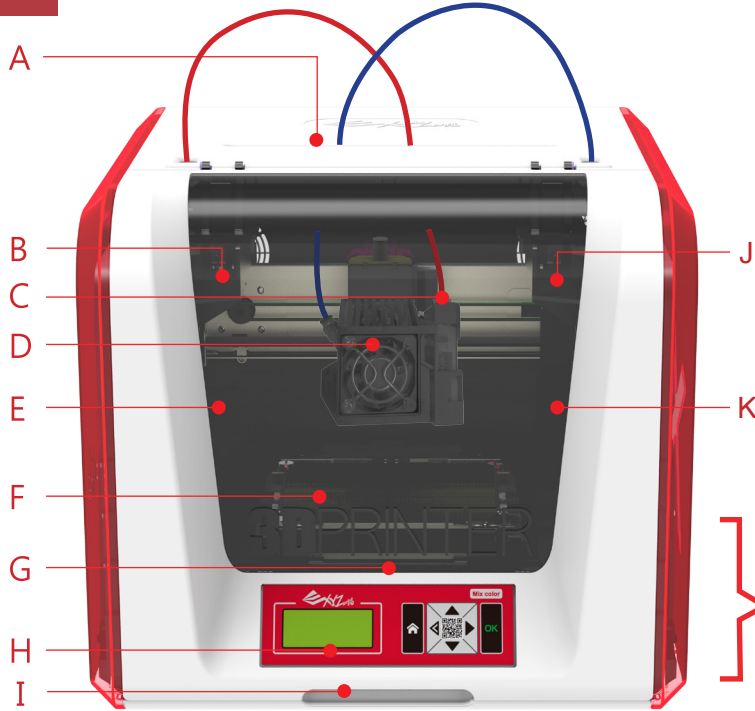
- 5 You may use XYZware to initiate manual updates to the printer firmware and software. When using the printer for the first time, we recommend connecting to the Internet and performing a manual update once to obtain the latest resources.
- 6 The optimal room temperature for printing is 15-26 °C (60-78 °F). Printing quality may be affected if room temperature is higher or lower.
- 7 If you need more detailed technical support and program resources, visit the website: http://support.xyzprinting.com/global_en/Support
- 8 Before operating the printer, insert the SD card in the SD card port to make sure that the printing program is able to run properly.

Please carefully read the contents of the product instruction manual before using this product.

Product Overview



- A: Filament movement area
- B: Feed module 1
- C: Detector
- D: Extruder
- E: Filament 1
- F: Print bed



G: SD card port
(Storage format: FAT32
Systems are compatible with SDHC
cards up to 32GB in size.)

H: Control and display panel

I: Front cover

J: Feed module 2

K: Filament 2



USB Port

Power Connector

Power Switch

Accessory Checklist



Important Safety Instruction for Use of Maintenance Tools



- The maintenance tools provided should be only handled by an adult. Please keep the tools away from children.



- Store the gear cleaning brush properly. This tool shall only be used to clean the specified parts of the machine and to prevent damage to the machine should not be used to clean other areas.



- The scraper is used to remove the object from the print bed when printing has finished. The bed tape is reusable and it can be replaced when it has worn out.

Important Safety Instruction

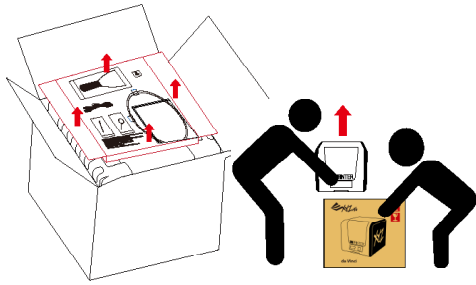


- Do not place the printer in humid or dusty environment such as bathrooms and high traffic areas.
- Do not place the printer on a rickety surface and/or inclined position. Printer may fall down/or tumble and it may cause serious injury.

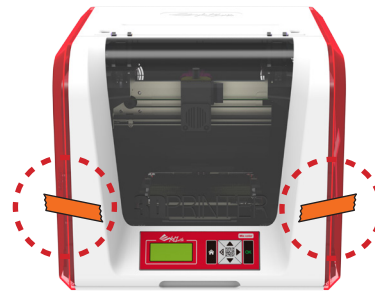


- Please keep the front door closed during printing to avoid injury.
- Do not touch the interior of the printer while printing. As it may be hot and include moving parts.

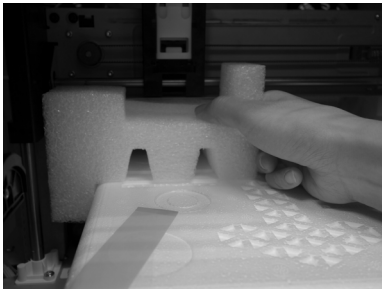
Product Overview



1 Open the box and remove the accessories and cushions.



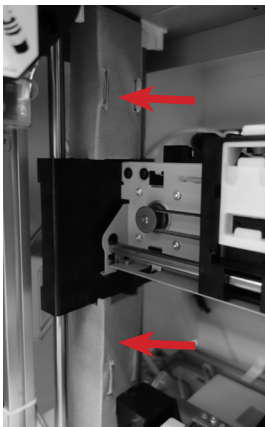
2 Remove the plastic bag and the tape.



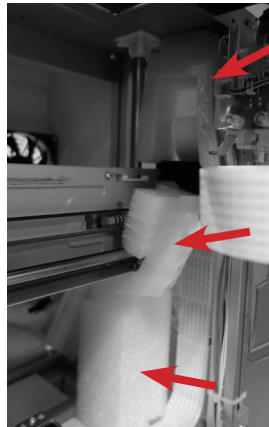
3 Remove all fixing tape and the cushion between print bed and extruder module.



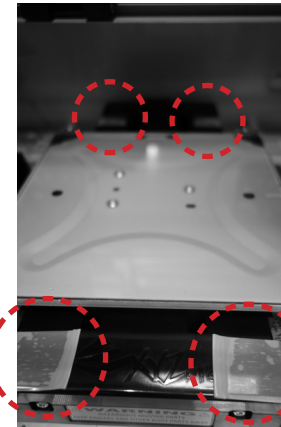
4 Remove the securing styrofoam and fixing tape on the print bed.



5 Be sure to remove the paper cardboard on the left side.



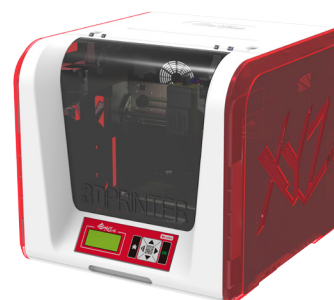
6 Be sure to remove the fixing cushion on the right side.



7 Be sure to remove the fixing tape at the back and front of the print bed.



8 Refer to page 5 to install the filament guide tube and extruder, and then insert the SD card that came with the printer into your computer or download the latest XYZware from the official Website and install it on the computer.



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

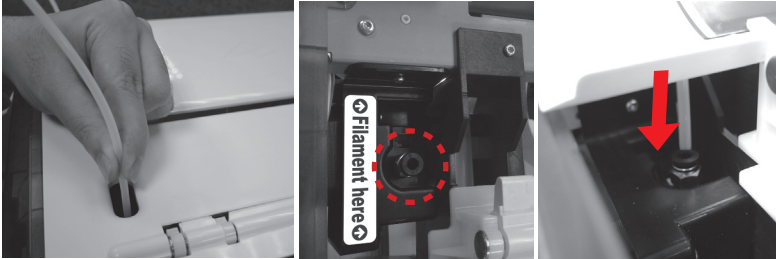


Note: please use the original power adapter and power cord along with the printer in order to prevent product damage or safety hazards caused by differences in voltage specifications.

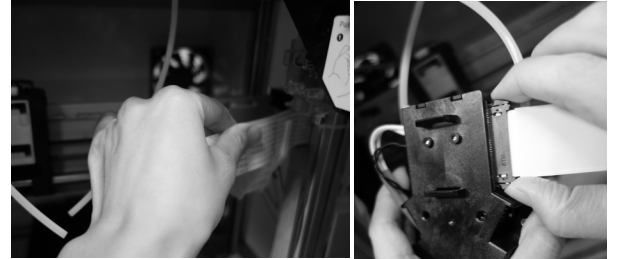
Unpacking the Product

⚠ Note: Please follow these steps and ensure that the guide tube and extruder are properly installed before starting the "LOAD FILAMENT" function. Failure to install the guide tube will disrupt filament feed.

Install the Filament Guide Tube and Extruder



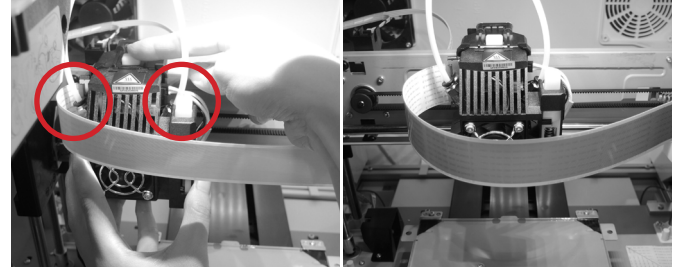
1 Insert the filament guide tube into the feed module tube port and finish two sides installation.



2 Take the flat cable out from the right side of the printer and connect it to the extruder.

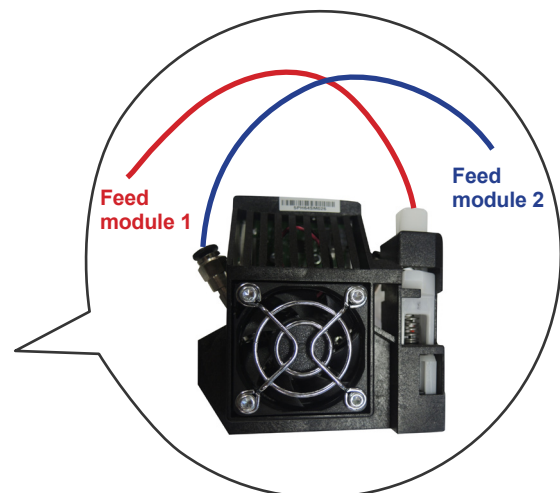
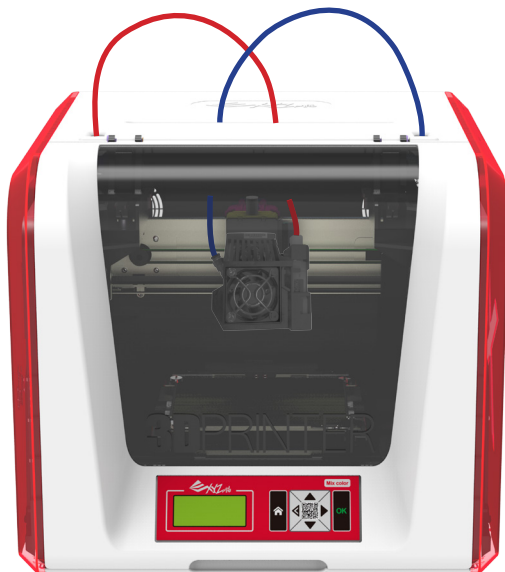


3 Connect the filament guide tube to the extruder. Insert the guide tube into feed module 1 and 2. Make sure it goes all the way down, as shown in the illustration.



4 Install the extruder. Align the extruder with the bracket and press the extruder to attach it to the socket.

Reminder: When installing the filament guide tubes, please attach them in an intersecting way as shown below. Turn on the power once the installation process is complete.

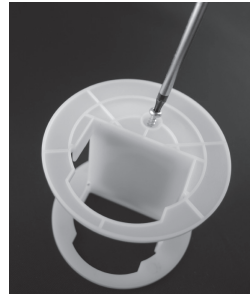


Installing the Accessories

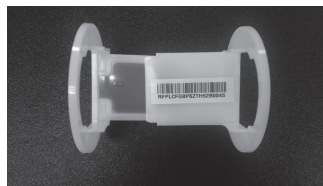
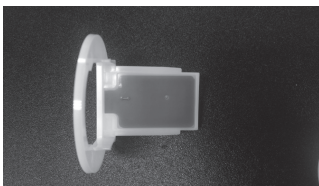
Chang Spool



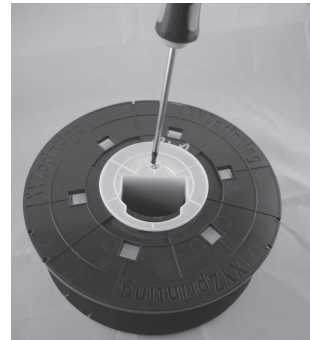
- 1 First retrieve the filament spool to install the filament spool axle ring.



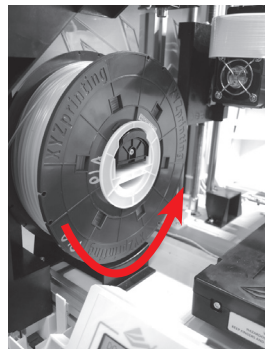
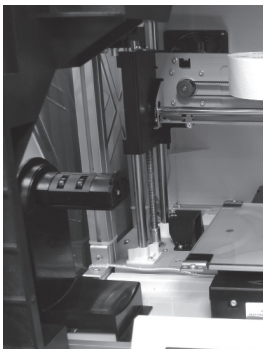
- 2 Take out and separate the filament spool axle ring into its two components.



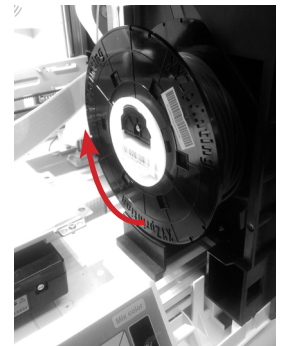
- 3 Install the sensor chip. Please pay attention to the position of the installation holes on the chip.



- 4 Insert the filament spool axle ring components to either side of the filament spool, and use a phillips screwdriver to tighten and secure the rings to the axle to complete the installation of the filament spool axle rings.



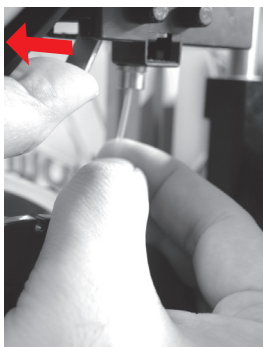
- 5 Place the assembled filament spool (with the spool axle ring) on the filament holder on the left side of the printer.



- 6 Pull out a section of the filament and insert it into the feed port.

Caution: Pay attention to the direction the filament is being pulled out and ensure that the filament spool axle is rotating smoothly.

Note : Before pushing the filament into the guide hole, please cut the tip of the filament off at a 45°

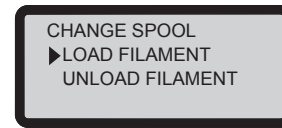
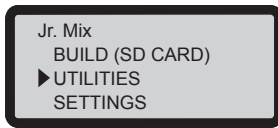


- 7 Open the release arm and push the filament all the way to the top so that the front end of the filament is completely inserted into the feed module. Make sure that the filament is past the motor and that you can see it in the filament guide tube.

Load Filament

Auto-loading Filament

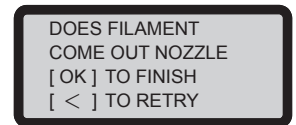
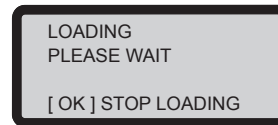
- 1 Select "UTILITIES" > "CHANGE SPOOL" > "LOAD FILAMENT".



- 2 Wait for the screen to show "INSERT FILAMENT", and insert the filament into the filament hole. The printer will automatically feed the filament to the extruder module via the guide tube.



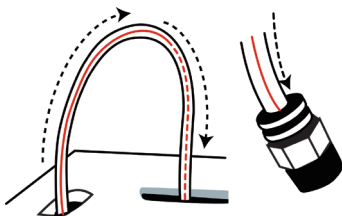
- 3 After installing both filaments, press "OK" to continue. Wait for the extruder to heat up and load the filament. Check if the nozzle is extruding filament and press "OK" to go back to the main menu.



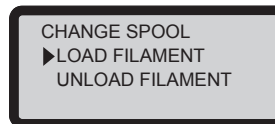
Please ensure both filaments are inserted, the printer cannot start with only one filament. If the printer cannot load the filament successfully, please reboot the printer and try again.

Manual Loading Filament

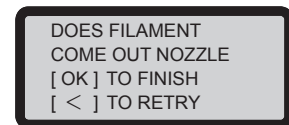
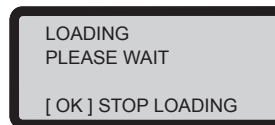
- 1 Please insert the two filaments through the filament hole, making sure that the filament passes through the guide tube and meets with the extruder module. Next, use the control panel to load the filament.



- 2 Select "LOAD FILAMENT" on the printer.

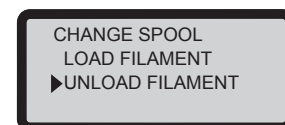
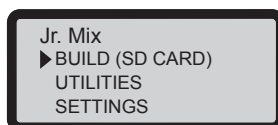


- 3 Wait for the extruder to heat up and load filament. Check if the nozzle extrudes filament and press "OK" to go back to main menu.

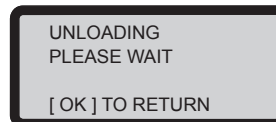
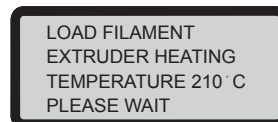


Unload Filament

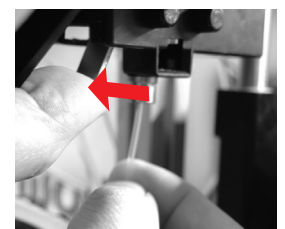
First unload both filaments using the control panel on the printer...



- 1 Select "UTILITIES" > "CHANGE SPOOL" > "UNLOAD FILAMENT".



- 2 Wait for the extruder to heat up and unload filament. Press "OK" and pull out the filament.



When finishing "UNLOAD FILAMENT"

First open the release arm and then pull out the remaining filament. Arrange it properly for later use.

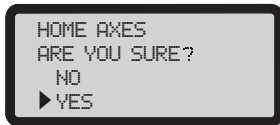
Note: Always implement the "UNLOAD FILAMENT" function when replacing the Spool in order to ensure proper removal of the filament. Cutting filament too closely to the Extruder Module may result in residual filament blocking and causing damage to your Extruder Module.

Unload Filament

HOME AXES

"HOME AXES" moves the extruder to the lower left corner, The "Y-AXIS" print bed will move to the back.

To home axes:

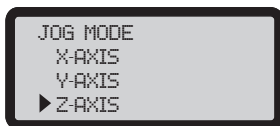


Select "YES" to proceed.

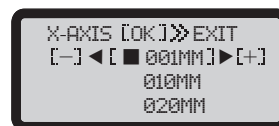
JOG MODE

"JOG MODE" is used to manually move the extruder and the print bed.

To move the extruder:



1. Select "X-AXIS" (to move right and left) and "Z-AXIS" (to move up and down). Execute "Home Axes" function first to move "Z-AXIS". "Y-AXIS" (to move print bed backwards and forwards).

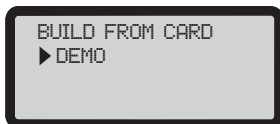


2. Select desired increment of travel with and buttons, and press (or hold) or button for desired direction to move the extruder.

BUILD FROM CARD

1 sample model is built into the printer. You may begin your first 3D print with this sample.

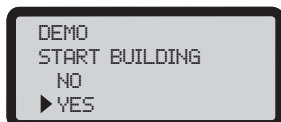
To print a sample:



1. Select a sample to print



2. Put the bed tape on the print bed.



3. Select "YES" to start printing



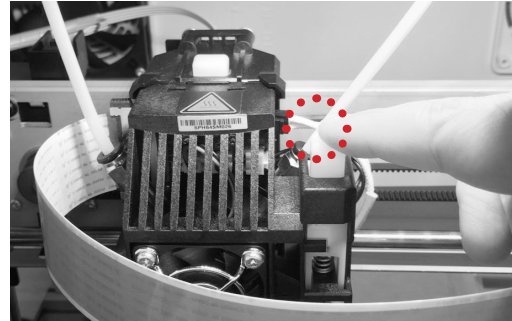
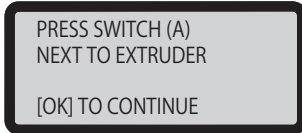
4. Remove the printed object when the printing has finished and the print bed has moved forward. The bed tape is reusable and it can be replaced when it's worn.

UTILITIES

CALIBRATE

Calibration is enabled for this new extruder module. Please update printer firmware via XYZware before using the new extruder.

1. Active print bed calibration by selecting "UTILITIES">"CALIBRATE">"YES" on the screen.
2. Press the detection head on the right side of the extruder module as shown in the screen message, then press OK.



3. Wait for the printer to auto-calibrate.

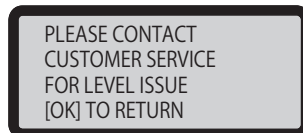
4-1A. If "CALIB COMPLETED" is shown for the detection result, and "AUTO-LEVELING IS DISABLED NOW" is shown on the screen, it indicates the print bed is level. Press "OK" to exit and print.



4-1B. If you see "AUTO-LEVELING IS ENABLED NOW", this indicates that the print bed is slightly unlevelled. The printer will adjust the configuration based on the detecting result automatically while "AUTO LEVEL" is enabled. The printing mode helps to improve printing quality with slower printing speed. You may switch off the function under "Settings".



4-2A. If the detecting result is shown as "CALIB FAILED", press "OK" to go to next page, and press "OK" again to exit.

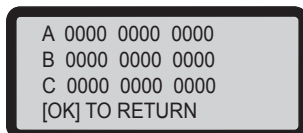


4-2B. And check the detecting result by going to "INFO">"LEVELING INFO". Contact customer service for the issue and provide the details of leveling information.



Note:

1. The dirt on the detection pin and the top of Extruder module will influence detection result. Make sure that any dirt is cleaned before calibration.
2. If residue is on the top of the Extruder module, the detection result will be shown as follows. Clean the dirt before recalibration.



3. The printer may enable or disable auto-level based on the result of calibration. You may switch off the function manually under "Settings".

CALIBRATE

! Note: The machine can be turned off only when the cooling fan of the print head stops running after the print is completed. Turning off the power directly may clog the print head.



References:
Please refer to
UTILITIES>CLEAN NOZZLE
to unclog the print head.

This section describes how to clean the feed module. After using the printer repetitively, if feeding of material becomes difficult or impossible, please follow these steps.

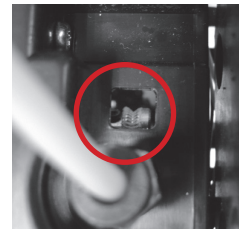
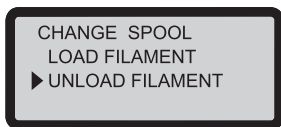
Preparation of Tools



A. Cleaning brush that comes with the printer

B. Screwdriver (T10) for standard cleaning procedure

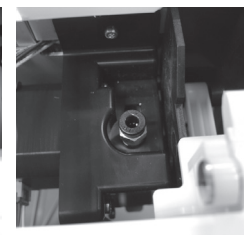
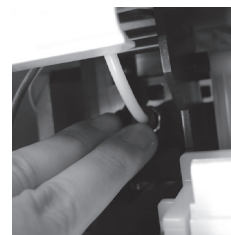
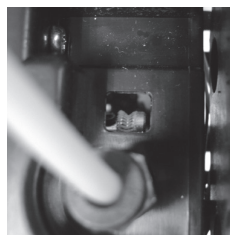
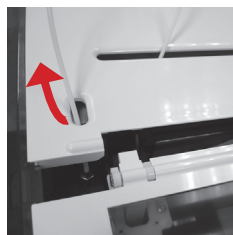
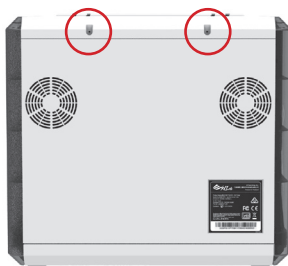
A. Quick Cleaning



1 Use the "UNLOAD FILAMENT" function to loosen and remove the filament.

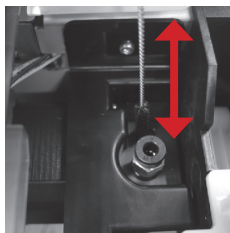
2 Use the cleaning brush to scrub the feed gear back and forth to remove the chips of filament out of the gear. Replace the wire after the cleaning is completed.

B. Standard Cleaning



1 Use the screwdriver to remove the screw and open the top cover.

2 Press the black rubber fixer on top of hole and pull the guide tube out.



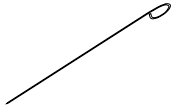
3 Use the cleaning brush to scrub the gear; after removing residues of filament on the gear, you can insert the guide tube and put the cover back and then enjoy printing again.

Clean Instruction

CLEAN NOZZLE

Over time, carbon deposits or filament dust buildup in the nozzle may decrease its performance. It is advised to clean the nozzle after every time of printing. Also, if the print bed calibration shows "ERR" or if there is any residue on your prints, you may want to try to clean the nozzle.

For more detailed cleaning methods, please visit Support / FAQ page on website.

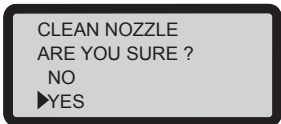


A. Feeding Path Cleaning Pin

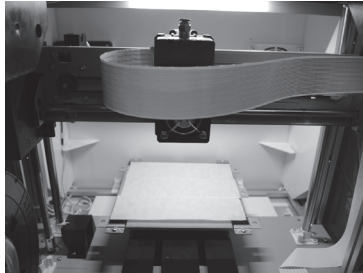


B. Cleaner Wire

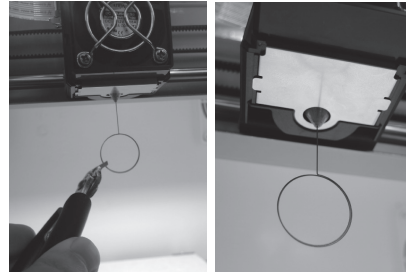
To clean the nozzle:



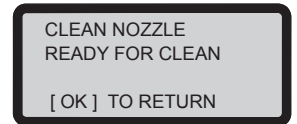
1. Select "YES" to begin.



2. Wait until the extruder heats up and moves to the front, and the screen shows "READY FOR CLEAN"



3. Hold the cleaning wire with the pliers, and carefully pass the wire through the nozzle opening.



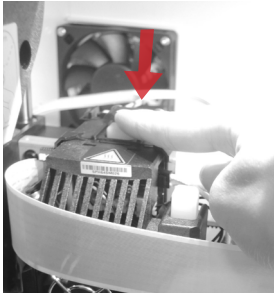
4. Select "OK" to return.

If the cleaning cycle does not unclog the extruder, try cleaning the feeding path by following the steps below.

1. Unload filament correctly (refer to "UNLOAD FILAMENT").

2. Move the extruder and the print bed to the home position by using the HOME AXES function.

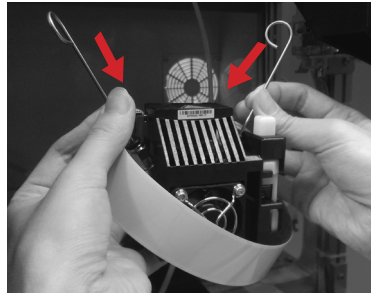
3. Activate "UNLOAD FILAMENT" again and wait until the extruder heats up to 150°C. (Care should be taken during the operation to avoid potential burn injuries.)



4. Press the white button at the back of the extruder to release it.



5. Lightly press the spring around the feed hole and remove the filament guide tube (do not disconnect the white flat cable)



6. Insert the two leaning pins into the two feeding paths all the way down at the same time and "floss" the inside of the nozzle to pull the residue out.



7. After cleaning the feeding path, reinstall the guide tube to the top of the extruder and install the extruder to the bracket.

Z OFFSET (adjust the printer module)

The user may use the Z OFFSET function to adjust the gap between the printing nozzle and the printing bed.

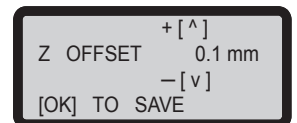
Caution: This printer has already been tested and adjusted to the optimal gap between the printing nozzle and printing bed before shipping. We recommend recording the original settings before carrying out any adjustments.

If the filament comes out from the nozzle, but doesn't come out for the first layer while printing, please adjust Z-OFFSET.

Z OFFSET settings adjustment

1. The recommended distance between the nozzle and print bed (with bed tape securely fastened) is 0.3mm.

This should allow two sheets of copy paper to be drawn out smoothly but six sheets of copy paper cannot be passed.



2. Increase/decrease the value based on a scale of 0.05mm.

Increasing the value will increase the gap between the print module and print bed by 0.05mm

Decreasing the value will also decrease the gap between the print module and print bed by 0.05mm

UTILITIES

PRINTING

This is the unique multicolor function mode of da Vinci Jr. 2.0 Mix. You can choose from "Multicolor Mode" and "Blending Mode". First, open the XYZware software and then select the printer da Vinci Jr. 2.0 Mix in the settings.

Click "Import" to browse and select the model file to be printed. After loading the file, you can adjust the size, printing position and angle of the object.

- **Multicolor Mode** - Set different colors for models from different file sources.

These are the monochromatic colors and colors toned in different proportion by the software.

To print the model in multiple colors at one time, please check the "Enable Blending Zone" box. To print the model in monochromatic color scheme, please uncheck the box.

Once the Palette function is enabled, the machine will build filament separation walls and the printable area will be 14 x 15 x 15 cm (W x D x H).

- **Mixer Mode** - Split color blocks according to the height. Each block contains single color or a set of gradation color blocks.

Add a set of colors

Object color height (Add a color node according to the height of the object.)

This is the color in which the object will be printed

After setting up the model at the desired size, location and placement, you can also adjust the printing preferences, such as print speed and layer height by clicking the "Export" icon. Click the "Export" button to slice the file. When the model is sliced, click on the "Print" button to send the file for printing.

- **Color Suggestion:**

Mixer / Multi-Color Mode	
Suggestion	Use both spools as clear filament
limitations	Strongly recommend NOT to use un-clear filament like black, white, blue, and neon green to print. Using opaque color filaments to blend will overlay the light ones and affect the gradation and multicolor effect.
Opaque Color	Black, White, Blue, Neon Green

Wireless printing

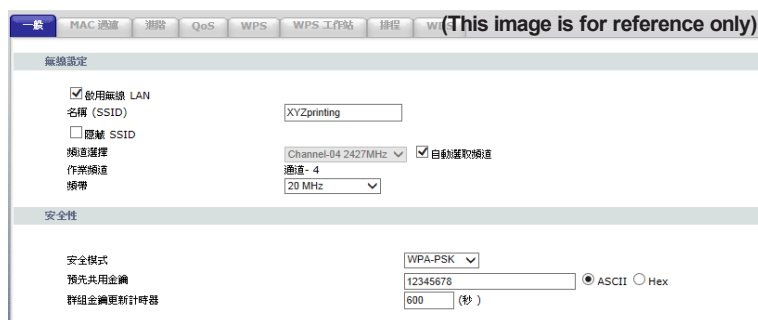
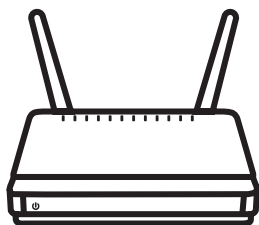
This chapter introduces how to carry out the setting correctly and to operate the wireless printing function. To understand if your product is designed with wireless printing function, please refer to the table below.

- da Vinci 1.1 Plus
- da Vinci Jr. 1.0w
- da Vinci Jr. 1.0 3-in-1
- da Vinci Jr. 2.0 Mix

Pre-setting preparation

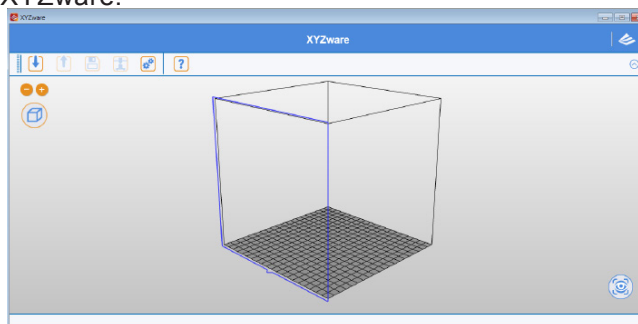
1. The network printing function is mainly provided for the Intranet. Please set the printer and the computer in same network domain, i.e. connecting to the same Wireless Access Point.
2. Before connecting the printer, adjust the set value of the connected Wireless Access Point. For details of setting method, please refer to the Production Operation Manual or the information provided by the original factory.
3. The Channel Width that can be used by the wireless printing function is **20MHz**. Please refer to the Operation Manual compiled by the original factory for the Wireless Access Point to understand the adjusting method.
4. Please maintain the wireless network function in open status.
5. This machine can support the following connection safety mode. When setting the printer in online status, it is required to input the Public Key related information.

- WEP
- WPA
- WPA2

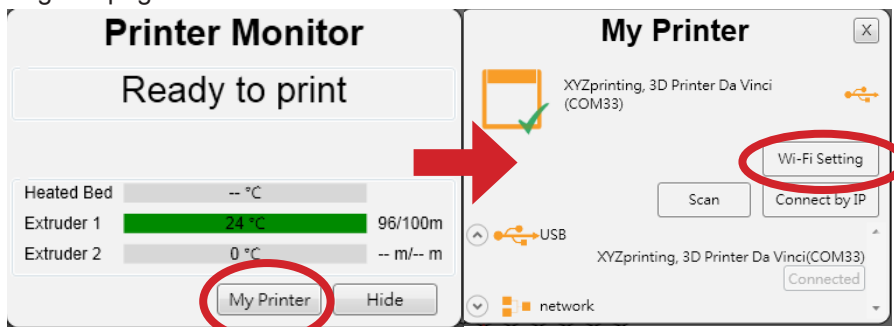
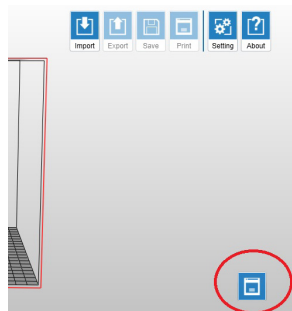


Start the setting

1. Please make sure the computer and printer are connected properly. After completing the connection, activate the XYZware.



2. Click on the printer monitoring function to open the printer-related information and then click "My Printer" > "Use Wi-Fi" to access the Wireless Printing Set page.



Wi-Fi Printing

3. Please enter the printer name and then press “SCAN” to scroll down the menu for obtaining the exact Wireless Access Point related information. The description sample will use XYZprinting as the name of Wireless Access Point. After obtaining the desired information, enter the Public Key password and then press “Use Wi-Fi” and XYZware will update the online setting value of printer through USB connecting wire.



Note: Please name the printer and Wireless Access Point in English.

Note: If the printer cannot complete the connection with the Access Point within 90 seconds, then XYZware will discontinue the detection. In this case, please check the operation steps and the network are set correctly.

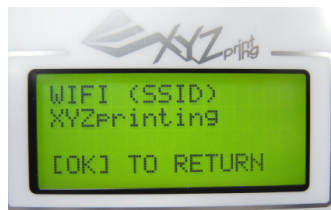
Note: For the password of Public Key, please refer to the information indicated on the Wireless Access Point setting page, and the length of the password will vary.

4. After connecting, please press the “X” key at upper right corner to leave.

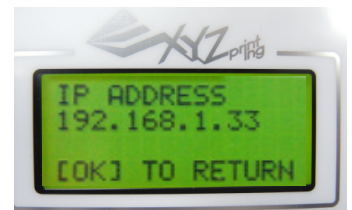
To reset the wireless network connection, press “STOP WIRELESS NETWORK/CHANGE SETTING” function keys to clear the value set before.



INFO>WIFI(SSID)



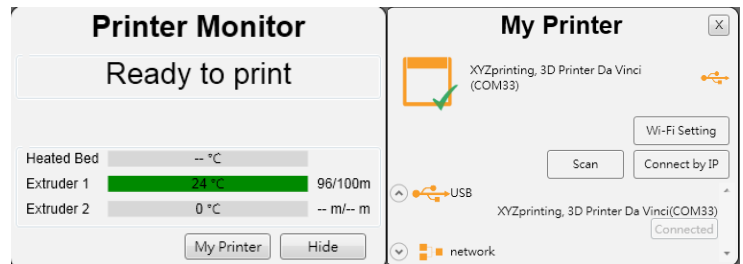
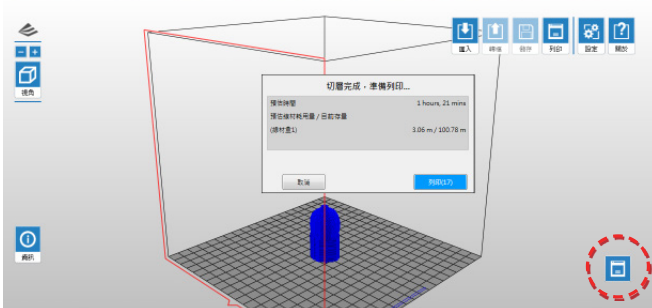
INFO>IP ADDRESS



XYZware secures the IP address of the printer and the connection is successful.

At this time, confirm the connection is completed through the information displayed on the printer.

5. Remove the USB connecting wire and then restart XYZware and the machine is ready for online printing again.



The monitoring function of printer can be used to confirm the online status and the IP information of the connected printer.

Note: After restarting the printer, IP information will be erased. Please setting again.
 Note: The performance of wireless network may be affected due to various environment and power of machine. For detailed information, please contact the wireless equipment provider or refer to the original factory's manual. XYZprinting cannot provide tested data for specific equipment.

Wi-Fi Printing

da Vinci Junior 2.0 Mix 3D Printer

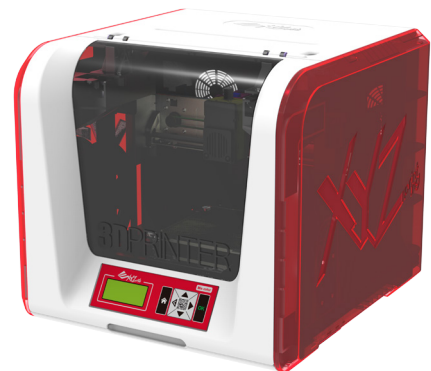
Model Name	da Vinci Junior 2.0 Mix 3D Printer
Dimensions	16.54 x 16.93 x 14.96 inches (420 x 430 x 380 mm)
Weight	26.46 lbs (12kg)
Display	2.6" FSTN LCM
Language	Multi language
Connection method	USB Wire / SD Card / WiFi
Print Technology	FFF (Fused Filament Fabrication)
Build Volume	5.9 x 5.9 x 5.9 inches (15 x15x15cm)
Print resolution	200 - 400 microns
Print module	Dual Feed / Single Nozzle
Nozzle diameter	0.4 mm
Filament diameter	1.75 mm
Files supported	.stl , XYZ Format(.3w)
Operating system	Windows 7 - 8 above (for PC) Mac OSX 10.9 64-bit above (for Mac)
Hardware requirement	X86 32/64-bit compatible PCs with 4GB+ DRAM (for PC) X86 64-bit compatible Macs with 4GB+ DRAM (for Mac)

Environmentally friendly materials-PLA

PLA filaments are made using polymerized lactic acid, which is extracted from corn, sugarcane or other sugar-containing crops, and is regarded as the most environmentally friendly 3D printing material. Unwanted PLA printed objects can be simply discarded in the soil where it will naturally decompose.

PLA materials printed at low temperatures are not only suitable for family settings, its bright texture also makes it a favorite amongst our clients. You may observe the characteristics of PLA during printing.

- Despite their harmlessness, PLA placed in an environment or water bath exceeding 50 °C (122 °F) will soften and deform.
- Hence, overly humid areas are not suitable storage environments for PLA. We recommend properly sealing and stashing away unused PLA filaments.
- A sugary smell is often generated when printing with PLA filaments, giving yet another attractive feature.



Specifications