



da Vinci Color mini

User manual ENG



Safety Precautions	2
Product Descriptions	3
Unpacking and Installation	5
Touch Screen Menu, Functions and Messages	7
Function Operation and Instructions	8
Printing	18
Support detail	19

The manual is mainly intended for users to understand how to use the da Vinci Color mini 3D printer ("Color mini") correctly. In this manual, users can learn more about the operating tips, application skills and maintenance of the Color mini 3D printer.

New member is required to register account on <http://support.xyzprinting.com> before able to download latest manual & software for better user experience.

For more information on the Color mini, please contact your local dealer or visit the official website of XYZprinting: <http://www.xyzprinting.com>.



HD23FCM1197

Safety Precautions

► Safety and Compliance

Please read through this manual and all safety precautions carefully before using, operating, unpacking, replacing, removing any part or maintaining this product. Please also comply with the instructions of relevant safety precautions.

► Important Safety Precautions



- Do not move the machine by yourself as it is heavy.
- Do not place the printer in a dusty, humid or outdoor environment.
- Do not place the printer on a soft or tilted surface. Otherwise, the machine will fall / flip over and become damaged or cause personal injury.
- Do not leave the product or power cord to unattended children. Otherwise, personal injury or electric shock might occur.
- Use the provided power cord. Otherwise, incorrect grounding might lead to damage.
- Do not place any liquid container on top of the product. Otherwise, overflow or spill might go into the machine and pose the risks of danger or safety concern.
- Do not wipe the printer with alcohol or flammable chemicals. Otherwise, danger might occur.
- Do not move the machine when it's powered on.
- Do not reach into the machine with your hands during operation. Otherwise, risks of impact from moving printing parts or burn from high temperature might occur.
- The machine becomes hot during operation and thus run in high temperature. Do not touch or replace parts when they are not cooled down.
- After startup, the parts in the machine will heat up or move depending on the user's instructions. During product operation, do not touch or block the operation of the parts.
- Weak odors may be generated during the printing process. We recommend working in a well-ventilated and open area to ensure operational comfort.
- Defect reparation must be carried out according to the contents of this instruction manual. Where the defect cannot be repaired, please contact your printer dealer or the customer service center.

► Trademarks

All trademarks and registered trademarks are the properties of their respective owners.

► Maintenance and Service

When the printer needs to be serviced during the term of the warranty, it is recommended that the machine is packed with original packaging materials prior to shipment. For this purpose, the packaging materials are better to be kept. If other packaging materials are used instead, the printer might be damaged during transportation. We reserve the right to assess relevant service fees.

This equipment must be grounded. The power cord for product should connect to a socket-outlet with earthing connection.



WARNING: Hazardous Moving Parts. Keep Fingers and Other Body Parts Away.

AVERTISSEMENT: Dangereux Les Parties Mobiles. Evitez tout contact avec les doigts et toute autre partie du corps.



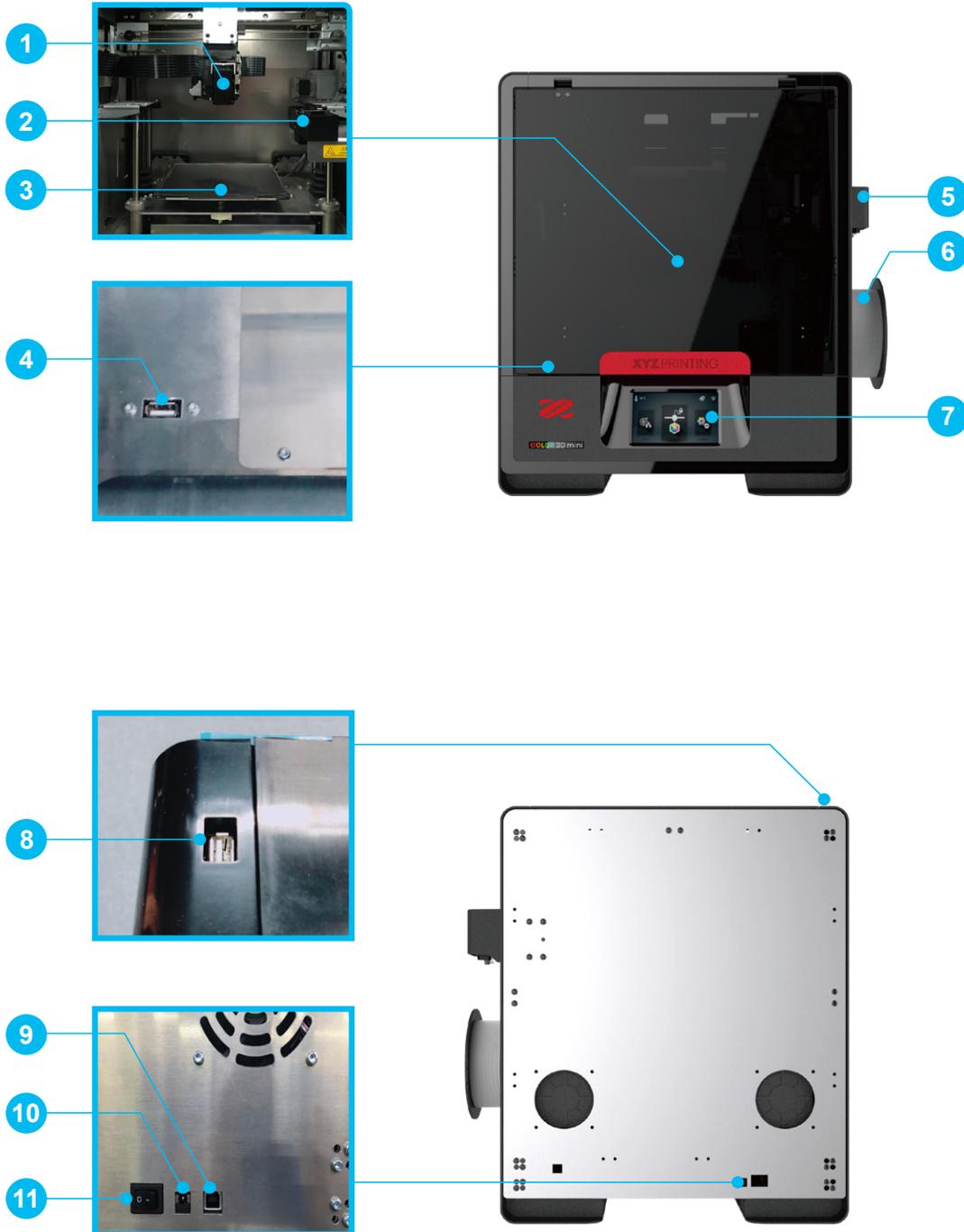
Hot parts! Burned fingers when handling the parts. **Do Not Touch.**

Parties Chaudes! Brûler les doigts lorsque de la manipulation des composants. **Ne pas toucher.**

Product Descriptions

► Product exterior

- | | | | |
|---|--------------------------|-----------------------------|------------------|
| 1. Print head | 4. USB Port | 7. 5 inch color touch panel | 10. Power jack |
| 2. Ink service station | 5. Auto-feeding module | 8. USB Port (WiFi dongle) | 11. Power switch |
| 3. Print bed+EZ removable rubber magnet | 6. Filament spool holder | 9. USB Port (To PC) | |



Product Descriptions

► Accessory Checklist

- | | | | | |
|------------------------|------------------|-------------------------------|----------------------|----------------|
| 1. User Manual | 4. Power Cord | 7. EZ Removable Rubber Magnet | 10. Mask Tape x 3pcs | 13. Clear Tube |
| 2. USB Drive | 5. Power Adapter | 8. Guide Tube | 11. WiFi Dongle | |
| 3. 3D Color-inkjet PLA | 6. USB Cable | 9. PC Mylar x 2pcs | 12. Pair Of Gloves | |



► Precautions and Instructions of Maintenance Tools

The following tools are intended for use under the guidance or guardianship of an adult only. Do not allow children unfamiliar with the tools to have access to them in case of danger.



- Make sure the maintenance work of the printer is carried out when the print bed has cooled down.
- When printing is completed and the print bed is cooled down to room temperature, the printed object can be removed from the print bed with the scraper.
- Filament residues generated during the course of printing may be stuck on the print head and gears of the printing module. The printing quality and printer operation as well as the measurement of the print bed may be affected. When this happens, clean the printing module with the wire brush.

► Specifications

Printing

Printing technology	2D pattern: Inkjet printing 3D structure: Fused filament fabrication (FFF)
---------------------	---

Dimensions and Weight

Dimensions (W*D*H)	447x 447x 541 mm
Net weight	24 Kg
Gross weight	29 Kg

Performance

Printing dimensions (W*D*H)	130 x 130 x130 mm
Thickness of printed layer	0.1 mm ~0.4 mm
Alignment precision	X/Y : 0.0125 mm
Auto calibration	Yes
Auto feeding	Yes
Offline standalone printing	Yes

Materials

3D printing materials	3D Color-inkjet PLA / PLA / Antibacterial PLA / Tough PLA / PETG / *Premium Metallic PLA / *XYZ Carbon Fiber (*Option Hardened Steel Extruder)
Filament diameter	1.75 mm
Ink type	CMY 3in1 ink cartridge

Hardware

Print head diameter	0.4mm
User interface	5" color touch screen
Print bed	Non-heated, removable
Transmission	USB 2.0 drive / USB cable / wireless transmission

Software

User software	XYZprint / XYZmaker
Supported file format	AMF, OBJ, STL, XYZ Format (.3w), .3CP, .3MF
Operating system	Mac OS X 10.10 / 10.11 / 10.12 Windows 7 /8/10 (64-bit)

Temperature

Machine operating temperature	15-35°C
Cartridge storage temperature	-5-35°C
Filament storage temperature	0-38°C

Unpacking and Installation

► Unpacking



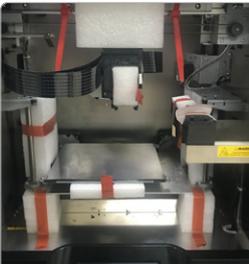
1. Remove the PP belt.



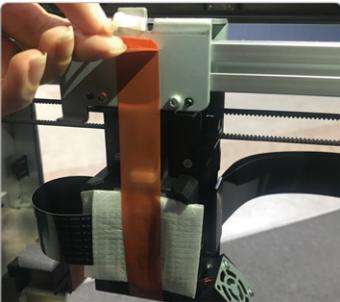
2. Remove the packaging materials, accessory box and plastic cover.



3. Remove the tape on the body.



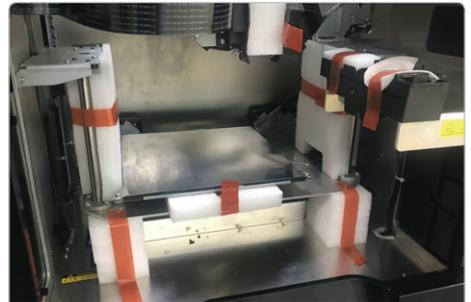
4. Open front door, remove all tape as shown in Illustration.



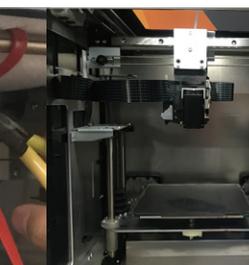
5. Remove the tape and foam from the rear print head installation position.



6. Remove the foam on the ink service station.



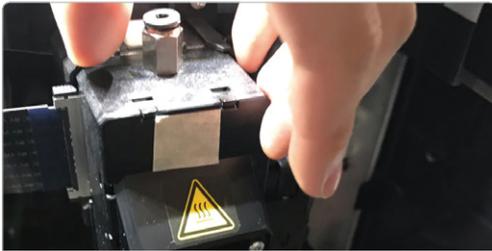
7. Remove the foam next to the guide screws on both sides, and then remove the foam under the print bed.



8. Remove the cable tie and foam in front and back of the front door.

Unpacking and Installation

► Installing the Extruder module and the guide tube



1. Make sure that the printer is powered off. Place the extruder module that the fitting pin is secured the proper location.



2. Connect the bus (make sure it clicks into place).



3. Insert one end into the feed module, ensure that the guide tube has been tightly inserted into the port.



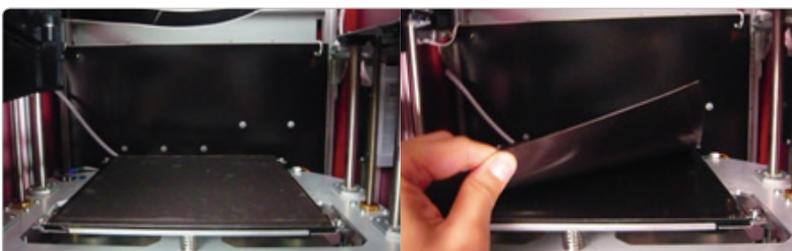
4. Pass the guide tube going through the top. Then insert the other end into the clear tube (Accessory 13).



5. Insert the other end of the guide tube into the feed module and secure it tightly.



6. Please follow the order as image instruction, attach the PC mylar and mask tape on the EZ removable rubber magnet.



7. Confirm the rubber magnet is well placed on the print bed.

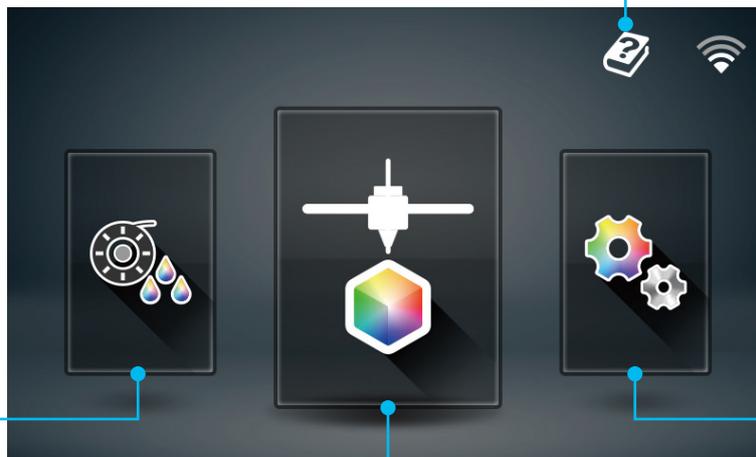
Note

There is a sheet of PC film to rubber magnet with a double sided adhesive, this PC film is replaceable, please replace it when it's dirty or broken.

Touch Screen Menu, Functions and Messages

► Main screen

Function Guide



Filament/Ink loading and unloading



This includes Filament, Ink Load and Unload.

USB Printing Menu



This menu can be used to import files (.3cp) from a USB drive to the machine for printing without a computer.

Settings



This includes the functions in Home Page 1: Settings of the Print-Bed, Print-Head, Filament and Ink.



Next page includes WiFi, Sound, Statistics, Language and Display.

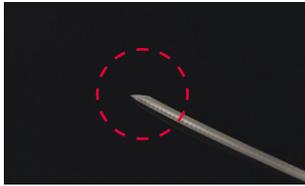


The last page includes Model, Version, Reset and Legal Info.

Function Operation and Instructions

A. Load/unload filaments

A1 Filament Load filaments



1. Please cut the filament at 45 angle before auto loading the filament into the printer. During loading filament process, the filament should be straighten at least 4" of the Filament end as shown in pictures.



2. Place the filament on the spool holder.

Note Make sure the filament rotates clockwise when pulled.



3. Tap Filament Load and Unload in the main screen and select Filament.



4. Tap Filament.



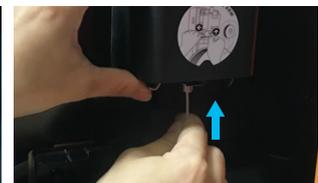
5. Tap Load.



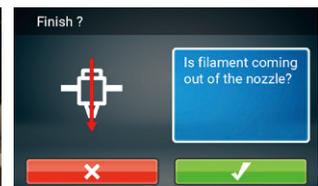
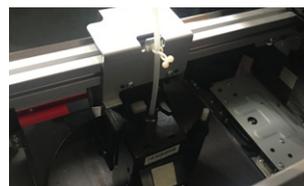
6. Confirm the operation.



7. Insert the filament into the feed module, it will be automatically loaded.



8. Check if the temperature of the print head goes up to its operating temperature (Color PLA from XYZprinting) after the filament is loaded. Once the set temperature is reached, the feeding motor will feed the filament along the guide tube into the print head.



9. Once filament has extruded from the print head, the filament will be successfully loaded. Tap the screen to confirm and continue.

A2 Filament Unloading filaments



1. Tap Filament Load and Unload on the main screen.



2. Tap "Unload" and confirm the operation.



3. Confirm the unloading operation.



4. When the print head has been warmed up to 220 °C, the feeding motor will eject the filament.

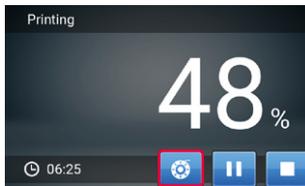


5. When the unloading operation completes, tap to confirm.

Function Operation and Instructions

A3 Filament Refill Material

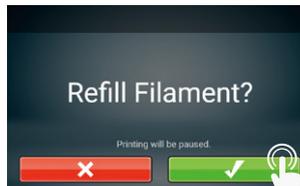
Color mini will prompt you to refill material.



1. Tap the icon when printing.



2. The screen will show filament status, please tap "Refill" .



3. Confirm the operation.



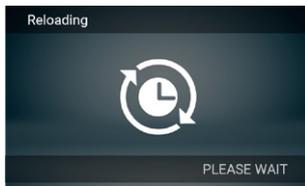
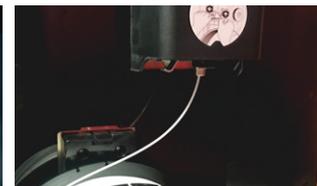
4. The nozzle will be preheated and the filament will be unloaded automatically.



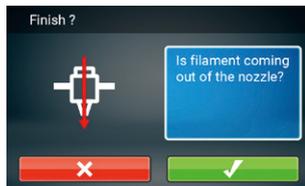
5. Replace the empty spool with a new one. (please refer to the LOADING section in this manual) and then tap "PROCEED" .



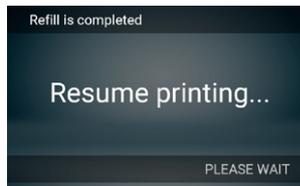
6. The nozzle will be preheat and notify you when to insert filament into the feed module.



7. The filament will be automatically loaded.



8. Check if filament is extruded from the nozzle, after confirmation, the printer will resume printing.



B. USB printing



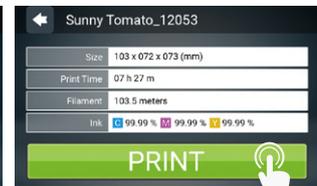
1. Check if the USB drive is plugged to the machine.



2. Tap the USB Printing Menu in the main screen.



3. Select the file you want to print.

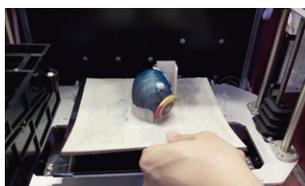


4. Check file information and tap "Print".

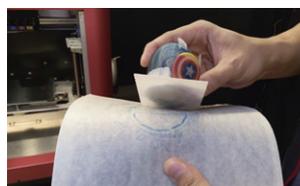
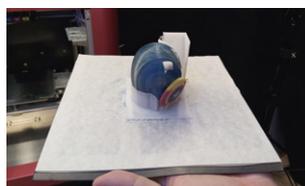


5. The screen will show the print percentage when printing. The Pause, Stop, and Refill are shown below the print percentage.

B1 Unload the prints



Please removed the EZ Removable Rubber Magnet with printed object together from the printer. And peel off the printed object from the rubber magnet.



Please avoid touching the led strip of the printer because the LED strip will be slight hot due to long hours of been light on.

Function Operation and Instructions

C. Ink Cartridge Installation



The Color mini uses three color inks.

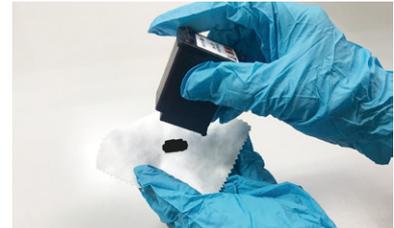
Ink Guidance



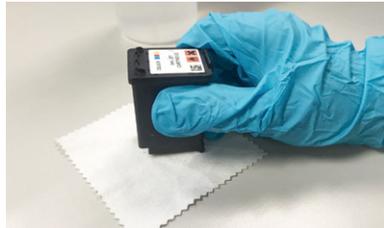
1. Prepare lens wiping cloth/ lens paper and the ink cartridge.



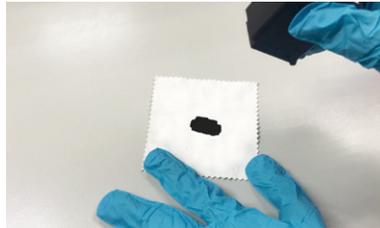
2. Remove the cartridge cover.



3. Press the cartridge head against the lens wiping cloth/ lens paper to transfer some ink onto it.



4. If the ink did not transfer well, try putting the lens wiping cloth/ lens paper on the table and hold the ink pressed on the lens wiping cloth/ lens paper.



5. Check if the ink transferred to the lens wiping cloth/ lens paper. If so, ink guidance is successfully completed. Once ink guidance is done, install the ink cartridge.



6. If the ink did not transfer well, please wet the lens wiping cloth/ lens paper with 75% Alcohol and wipe the ink, then hold the ink pressed on the lens wiping cloth/ lens paper again. After you clean the inkjet, check to see if the ink transferred.

Note

To prevent the opened ink cartridge from drying out when a print is finished or the printer will be idle for days, follow the procedure to store the cartridge:

1. Clean the nozzle of the ink cartridge with alcohol.
 2. Seal the ink cartridge with the protective cover, and store the cartridge in room temperature at 15 ~ 35 degree.
- For the best print quality, clean the nozzle of the cartridge with alcohol after removing the protective cover from the cartridge, and then install the cartridge back to the printer before the next print.

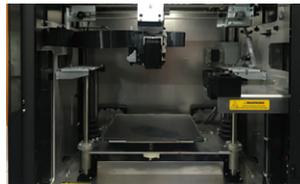
Function Operation and Instructions



Tap the ink, the screen will show the status of the ink, including "Ink Low", "No Ink", "Invalid Ink"



C1 Ink Change Ink



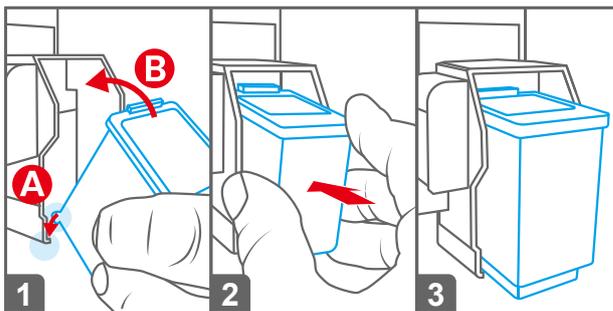
1. Tap Change Ink and tap to confirm.

2. Confirm the operation.

3. Wait until the cartridge moves to the center of the print bed, and then change the ink.

4. Tap the PROCEED after you change.

▶ Cartridge Installation



1. Place the ink cartridge along the ink cartridge slot.
2. Snap the ink cartridge into the ink slot.
3. Check if the cartridge is placed properly, ink installation is complete.

Note: Be sure to turn off the power before replacing the ink cartridge. After the replacement is complete, please conduct inkjet calibration test.

Function Operation and Instructions

C2-1 Ink Calibration Test Page

We suggest you print a test page after you install the ink cartridge. Please prepare a sheet of paper.



1. Tap Calibration.

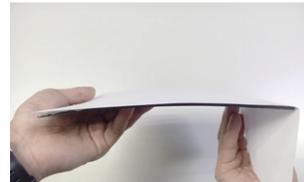
2. Tap Test Page.



3. Take out the EZ Removable Rubber Magnet. Use tape to secure the A4 in the portrait direction on the front side of the rubber magnet.



4. Tighten/pull the A4 paper so it is flat(no gap) on the rubber magnet.



5. Fold tightly the excess A4 paper to the back of the rubber magnet.



6. Put the rubber magnet back to print bed accordingly.

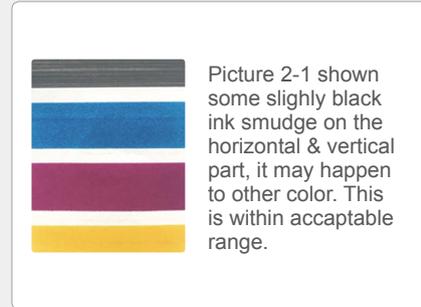
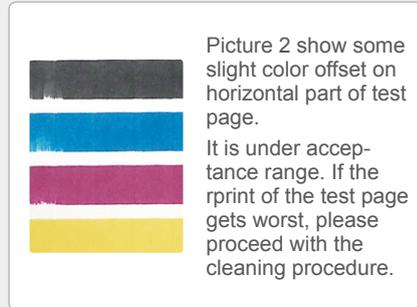


7. Fix the paper onto the print bed and then tap PROCEED, the printer will do a test print.



8. Remove the test page and tap PROCEED.

▶ Test Page print examination



Function Operation and Instructions

C2-2 Ink Calibration Inkjet Calibration Calibration



1. Tap Inkjet Calibration.



2. Inkjet Calibration.



3. Check that the print bed is clear, then close the door.

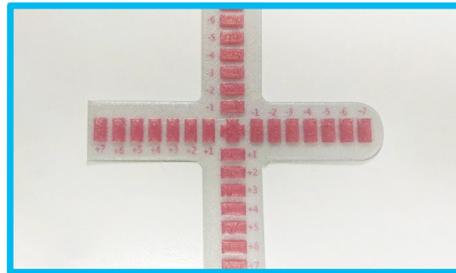


4. The printing operation will start once the print nozzle is warmed up.

Caution: Please ensure the EZ Removable Rubber Magnet had placed in the printbed.



5. The printer will print the calibration card automatically. This takes approximately 15 minutes. (Make sure you have loaded the filament.)



6. After the printing is completed, take out the calibration card.



7. Horizontally and vertically, find the box where the ink is the most aligned, and then tap PROCEED.



8. Vertical direction: Enter the number of the box you think the filament and ink align the most, and then tap PROCEED.

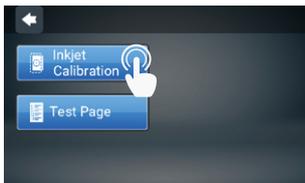


9. Horizontal direction: Enter the number of the box you think the filament and ink align the most, and then tap PROCEED.

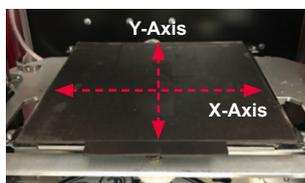


10. After the calibration is completed, tap PROCEED to finish the ink calibration.

C2-3 Ink Calibration Inkjet Calibration Manual Adjust



1. After the color object is printed, if you find color shift, you can adjust the print position manually.

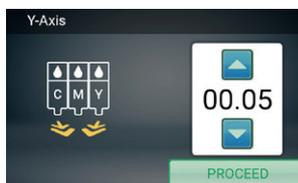


2. The adjustment position of X-Axis and Y-Axis was the sample position, when facing the printer.



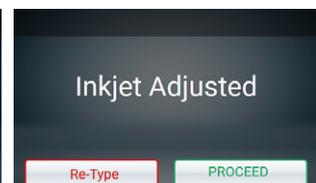
Manually adjust the movement of X-Axis

Select "X-AXIS" to move rightwards and leftwards. Press the "Left" or "Right" button to select the direction and distance to be adjusted, each adjust has a step of 0.05 mm.



Manually adjust the movement of Y-Axis

Select "Y-AXIS" to move upwards and downwards. Press the "Up" or "Down" button to select the direction and distance to be adjusted, each adjust has a step of 0.05 mm.



Once parameter settings are completed, tap "PROCEED" to save and apply the settings that you have specified.

If you want to reset, select "Re-Type" to return to the X-Axis moving position setting.

Function Operation and Instructions

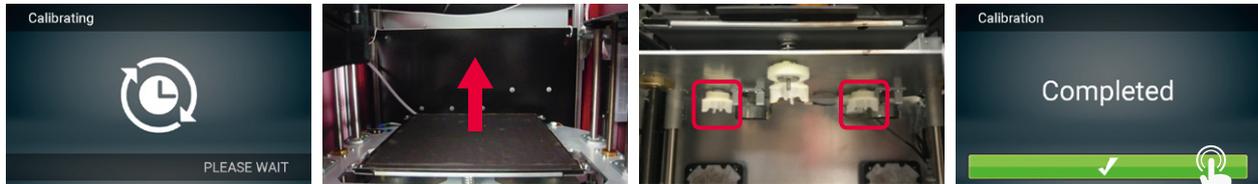
D. Setting



D1-1 Print-Bed Calibration (leveling)

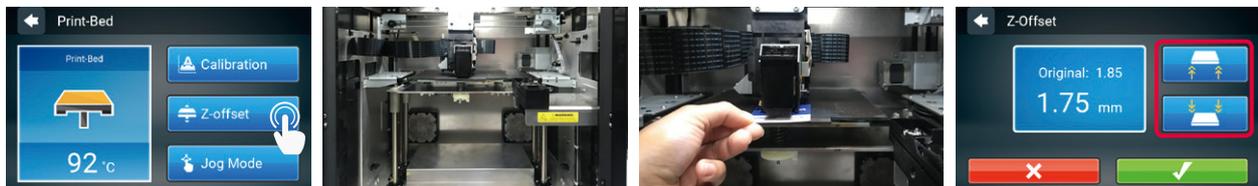


1. Select Calibration.
2. Confirm the operation.



3. Wait while the sensor measures the height of the print bed at three different locations. Once the measurement is complete, the printer will automatically level the print bed.
Caution: Please ensure the EZ Removable Rubber Magnet had placed in the printbed.
4. After the calibration is successfully completed, tap to confirm.

D1-2 Print-Bed Z-offset



1. Tap Z-offset.
2. Move the print head to the center of the print bed. Use a business card to check the distance between the nozzle and the print bed. It is recommended that the space between the print head and the print bed just touch and the nozzle can move smoothly on the print bed.
3. Users can tap the icon to higher or lower the print bed, the higher value the bigger distance and vice versa.

D1-3 Print-Bed Jog Mode



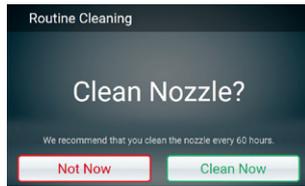
Jog mode lets manually move the print head via the touch screen.

How to move the print head:

1. Move along the X-axis.
2. Move along the Y-axis.
3. Move along the Z-axis. (Do not increase/shift upwards when print head at home position avoid hitting the print bed.)

Function Operation and Instructions

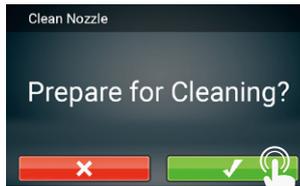
D2-1 Print-Head Clean Nozzle



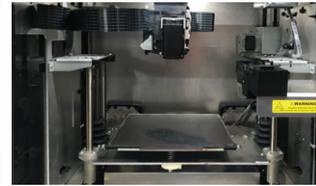
1. Please clean the nozzle after printing 60 hours.



2. Tap Clean Nozzle in the print head section.

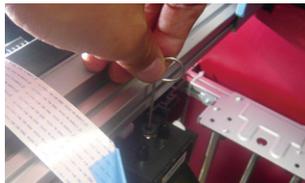


3. Check if cleaning is necessary. Tap Check to clean it.



When the temperature of the print head reaches the operating temperature, the cleaning operation will start.

Note: do not touch the metal part of the print head as it becomes hot during the operation.



4. Insert the feed hole cleaning wire into the feed hole and push it downwards to drive out the filament from the print head. (It is recommended that the operation is performed from the top of the machine.)



5. Remove the filament residue from the print head with a wire brush.



6. Insert the print head cleaning wire into the nozzle from the bottom to clean it.



7. After the cleaning operation is completed, tap DONE.

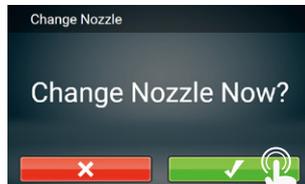
Note

In order to prevent print quality from impact due to residual and accumulated filament, which results in poor discharge, after long-term use of print nozzle, it is recommended to enable the "CLEAN NOZZLE" (nozzle cleaning) function of the printer every 60 hours of print to clear residuals with nozzle cleaning wire or feeding path cleaning wire. (Filament should be unloaded from the extruder and remove the guide tube before cleaning the feeding path.)

D2-2 Print-Head Change Nozzle



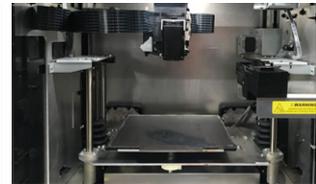
1. Tap Change Nozzle.



2. Tap to confirm that you want to change the nozzle.



3. Wait until the print head moves to a proper position for change.



4. The position of the print head change is shown above.



5. Turn off the power before changing the print head.



6. Change the print head from above the machine. (If there is a guide tube installed, please make sure that the material has been returned and then removed the guide tube.)



7. Press the white release button to separate the print head.



8. Hold the print head with one hand and remove the bus with the other. The removal of the print head is completed.

► Installation sequence of new print head:

1. Connect the bus.
2. Press the white release button on the print head and assemble the print head and the mechanism. After attaching the print head, check to see that it is secure and does not shake.
3. Turn on and use the printer.

D2-3 Print-Head Calibration

This function can be operated if the printing device is colliding with the ink service station at which will automatically calibrated to the correct position.



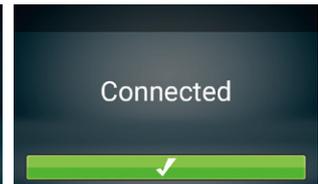
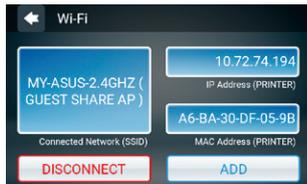
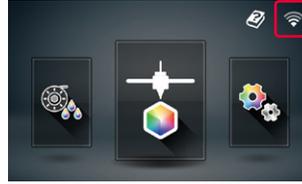
Function Operation and Instructions

D3 Filament

Refer to the Change Filament function in the main screen. **Unused filament for one day of longer should be stored in zip-lock bag.**

D4 WiFi

Before turning on the printer and setting up the WiFi network, please insert the WiFi dongle into the USB port on the top of printer.



1. Tap ADD and the printer will start to search for available access points.
2. Tap the access point to be used.
3. Enter the password for the access point.
4. Confirm the connection is completed.

Use the XYZprint to establish WiFi connection

1. Use a USB cable to connect the printer to the computer and run the XYZprint.
 - Check if the WiFi function is activated on the computer and connect to the access point.



2. After the printer operation function window opens, select "Dashboard">"Setup">, click on "Wireless" to enter the wireless network setup screen.



3. Click "TURN WIFI BACK ON"



4. Please select a wireless network name that you want to connect to and click twice.



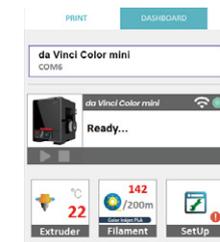
5. Then enter the password network name that you want to connect to and click on "Connection" to wait for the connection.



6. After the screen shows completing WiFi setup, click "Confirm".



7. Then connect the printing machine name above to the COM port, pull down the menu to the same new connection wireless network, click "Back".



8. Once the connection method has been changed from USB to Wi-Fi, you can unplug the USB cable and continue with the printing process.

* Please refer to the XYZprint user manual.

For more information on software update, operation instructions and technical supports, please visit the XYZprinting official website: <http://www.xyzprinting.com/>

Function Operation and Instructions

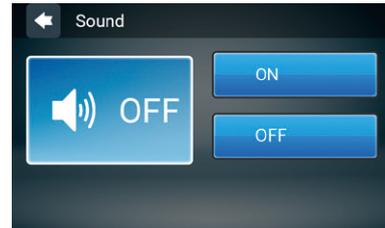
D5 Language



Change Language Setting

The Color mini provides eight display languages, including traditional and simplified Chinese, English, Japanese, German, Italian, Spanish and French. The language setting can be changed by tapping Settings > Languages in the main screen.

D6 Sound



The Sound option can be set to ON or OFF to control the sound emitted when the touch screen is tapped

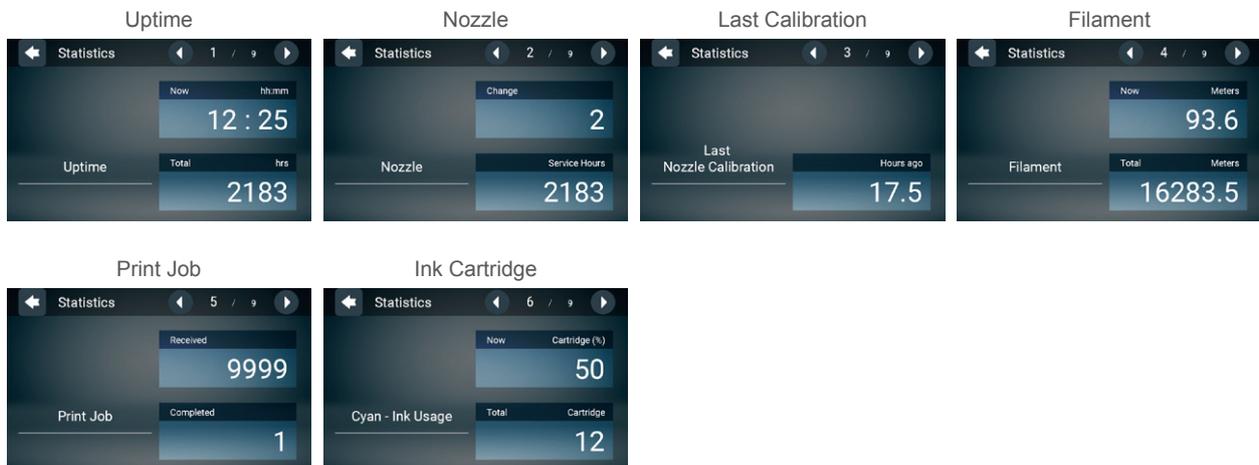
D7 Display



The Display setting can set the touch screen to turn off when it remains inactive after a set time. There are five settings, including one minute, two minutes, three minutes, five minutes and always on.

D8 Statistics

The Statistics function can record the history data since the printer was turned on, including:



D9 Reset



Printer information will be deleted, and returned to factory settings.

Printing

► First-time printing

Users are able to do a first print by following the steps below.



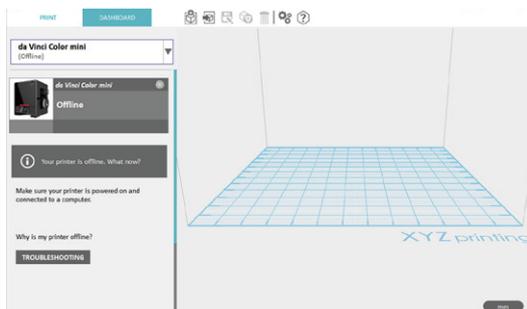
► Transfer files to be printed via the computer software “XYZprint”

Internet access is required for product registration and software login.

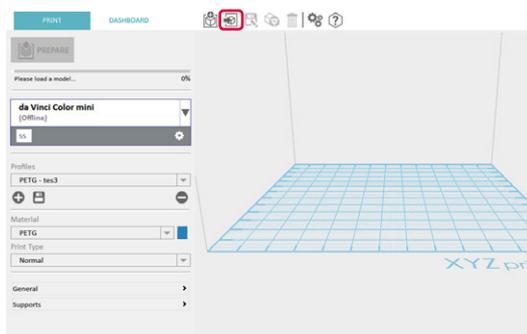
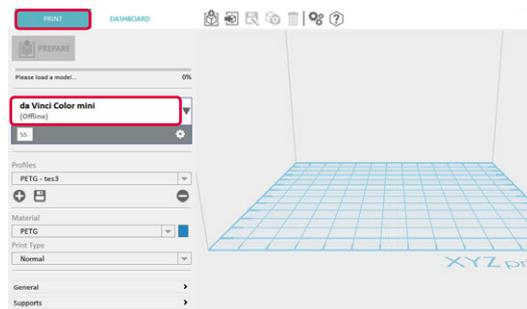
Connect the printer and computer with a USB cable and install the “XYZmaker Suite” on the computer and start “XYZprint” to transfer the files you want to print.

The “XYZmaker Suite” is compatible with 64 bit operating systems of Windows and Mac OS 10.10 10.11 and 10.12. You can install it by using the included USB drive or downloading the installer from the official XYZprinting website. The user manual of the software can also be downloaded from the official website.

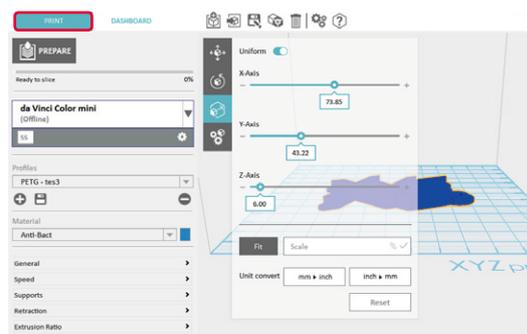
For details, visit the official website: <http://www.xyzprinting.com/>



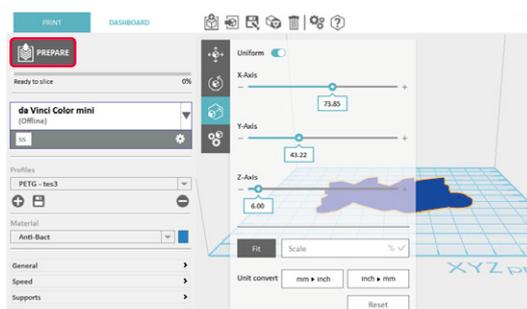
1. Run the XYZprint. And select the printer to be used.



2. Click on OPEN to select the model file to be printed from the folder. You can adjust the object size, printing position and angle once the file is loaded. To print color objects, save the file to be printed in the obj format and load it in the XYZprint.



3. You can change related settings to the desired printing result and effect.



4. The Prepare function can convert a obj file to a .3cp file. Once the file is edited and adjusted, click on Print to output the object. The printing operation will start after the file is sliced.

Support detail

When the problem occurs with the printer, please refer to the following troubleshooting instructions. If the problem persists, please contact the Customer Service Center.

► Problem code and handling

When a problem occurs with the printer, the service code will be displayed on the printer screen and / or the software interface. Please refer to this service code description form for preliminary testing.

Service Code	Symptom	Action
0011	Print head heated for too long	please check the Flexible flat cable and reboot
0014	Print head heated issue -- temperature exceed	
0030	Abnormal--X axis	check the cable of the motor and the sensor, and check the position of the sensor
0031	Abnormal--Y axis	
0032	Abnormal--Z axis	
0050	Internal communication error -- memory error	reboot the printer
0052	Print head memory error	replace the print head
0057	Abnormal- Ink cartridge temperature	reboot the printer; or re-plug the bus / or replace the ink cartridge after shutting down
0058	Abnormal- Problem with the ink cartridge	
0059	Ink cartridge control error	
0060	Ink cartridge data error	

► Maintenance and Service

Keep original packaging material in the event of sending your unit back for repair during the warranty period. If other packing materials are used instead, the printer may be damaged during the transportation process.. In such situation, the XYZprinting the right to charge repair fee.

► 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.