XYZprinting 3D Printer

da Vinci Color User manual ENG

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

Please refer support.http://support.xyzprinting.com to download latest manual & software for better user experience.

New member is required to register account on the website before able to access to those resources.

For more information on the da Vinci Color 3D printer and the complete XYZprinting product line, please contact your local dealer or visit the official website of XYZprinting: http://www.xyzprinting.com.

HD23FC1X119

CHI 您可以透過XYZmaker對列印機韌體及軟體進行手動更新，建議您初次使用列印機時，先利用網路連線執行乙次手動更新以獲得最新資源。

ZH 您可以透过XYZmaker对打印机韧体及软体进行手动更新，建议您初次使用打印机时，先利用网络连线执行几次手动更新以获得最新资源。

ENG You may use XYZmaker 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 manual update once to obtain the latest resources.

DEU Sie können mit XYZmaker manuelle Aktualisierungen der Drucker-Firmware und -Software starten. Wenn Sie den Drucker das erste Mal benutzen, sollten Sie eine Internetverbindung herstellen und die manuelle Aktualisierung zum Erhalt der aktuellsten Ressourcen einmal ausführen.

FRA Vous pouvez utiliser XYZmaker pour lancer des mises à jour manuelles du logiciel et du firmware de l'imprimante. En cas d'utilisation de l'imprimante pour la première fois, nous vous conseillons de vous connecter à Internet et d'effectuer une mise à jour manuelle une fois pour obtenir les dernières ressources.

ITA È possibilie utilizzare XYZmaker per avviare l'aggiornamento manuale di firmware e software della stampante. Quando si utilizza la stampante per la prima volta, si raccomanda di eseguire il collegamento ad Internet e di eseguire una volta l'aggiornamento manuale per ottenere le risorse più aggiornate.

ESP Puede utilizar XYZmaker para iniciar actualizaciones manuales en el firmware y software de la impresora. Cuando utilice la impresora por primera vez, le recomendamos conectarse a Internet y realizar la actualización manual una vez para obtener los recursos más recientes.

POR Você pode usar o XYZmaker para iniciar atualizações manuais para o firmware da impressora e software. Ao utilizar a impressora pela primeira vez, recomendamos conectar à Internet e realizar atualização manual uma vez para obter os recursos mais recentes.

JPN 本機での印刷の前に、お使いのＰＣと本機をUSB接続し、XYZmakerをインストールし、「情報」ボタンをクリック、「ファームウェアアップグレード」をクリックして最新版のファームウェアに本機をアップグレードしてください。

KOR XYZmaker를 사용하여 프린터 펌웨어 및 소프트웨어의 수동 업데이트를 시작할 수 있습니다. 처음으로 프린터를 사용할 경우, 인터넷에 연결한 후 수동으로 업데이트하여 최신 리소스를 획득할 것을 권장합니다.

THA คุณสามารถใช้ XYZmaker เพื่อการปรับปรุงเฟิร์มแวร์และซอฟต์แวร์ของเครื่องพิมพ์ เมื่อเริ่มใช้งานเครื่องพิมพ์เป็นครั้งแรก เราขอแนะนำให้คุณเชื่อมต่ออินเทอร์เน็ต และทำการอัปเดตด้วยตนเองเพื่อขอรับข้อมูลล่าสุด

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 printing. We reserve the right to assess relevant service fees.

Product Descriptions

▶ Product exterior

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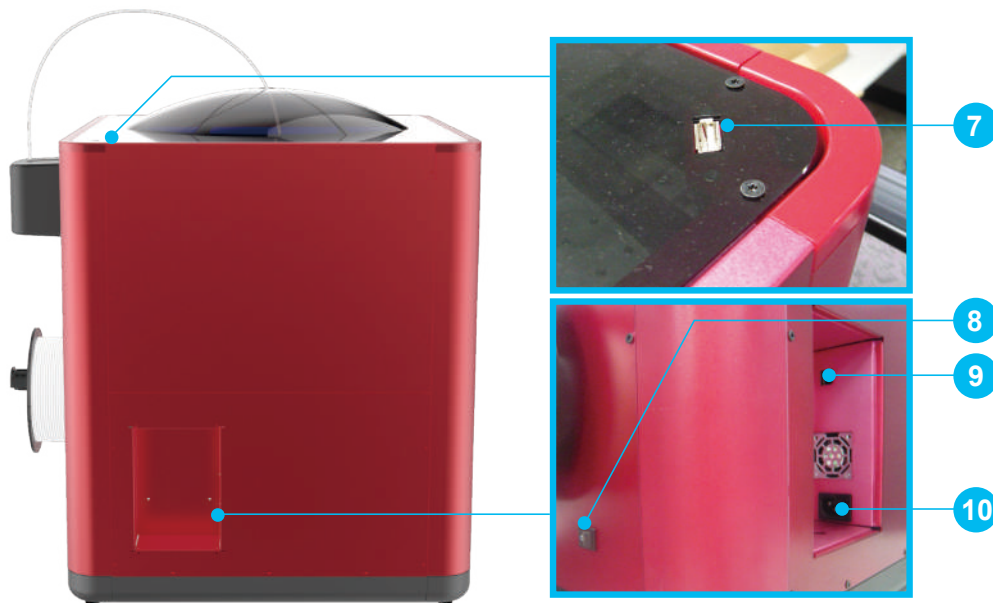
Product Descriptions

▶ Accessory Checklist

1. Quick Guide
2. USB drive
3. 3D Color-inkjet PLA
4. Power cord
5. USB cable
6. EZ Removable Rubber Magnet
7. Top Cover
8. Guide Tube
9. PC Mylar x 2
10. Mask Tape
11. WiFi Dongle
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.

1. Scraper
2. Wire brush
3. Gear cleaning brush
4. Feed hole cleaning wire
5. Print head cleaning wire
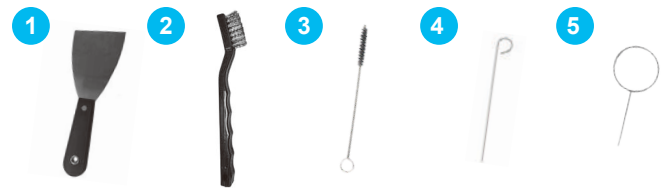
- Make sure the maintenance work of the printer is carried out when the print bed has cooled down.
- When printing is completed and the print bed is cooled down to room temperature, the printed object can be removed from the print bed with the scraper.
- Filament residues generated during the course 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)	600* 581* 640 mm
Net weight	32 Kg
Gross weight	43 Kg

Performance

Printing dimensions (W*D*H)	**Mono color printing (without inkjet printing)**
	200 x 200 x 150 mm
	Full color printing
	185 x 185 x 150 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, Tough PLA, PETG
Filament diameter	1.75 mm
Ink type	CMYK cartridge with separate colors

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	XYZmaker
Supported file format	AMF, PLY, OBJ, STL, 3CP
Operating system	Mac OS X 10.10 / 10.11 / 10.12
	Windows 7 /8/10 (64-bit)
	Linux 14.04

Temperature

Machine operating temperature	15-30°C
Cartridge storage temperature	15-35°C
Filament storage temperature	0-38°C

Unpacking and Installation

1

Move the printer to a table or platform. (Do not move the printer by yourself as it is heavy.)

2

Remove the plastic wrap and PP.

3

Remove the packaging materials, top cover box, assessory box and plastic cover.
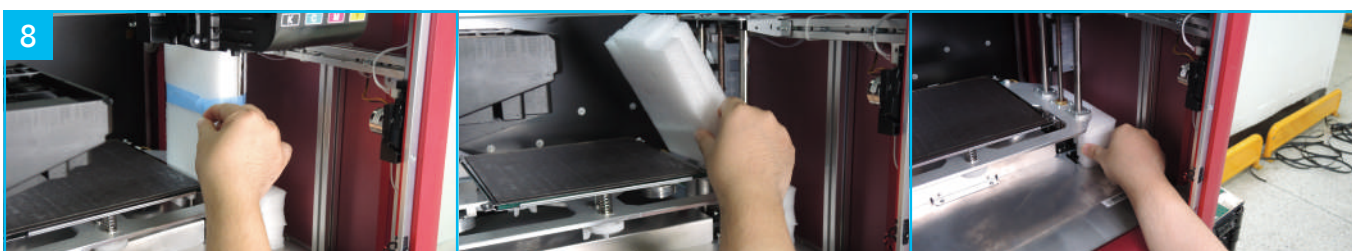
4

Remove the tape on the body (4 in total).

5

Open front door, remove the tape at mark printer door post

6

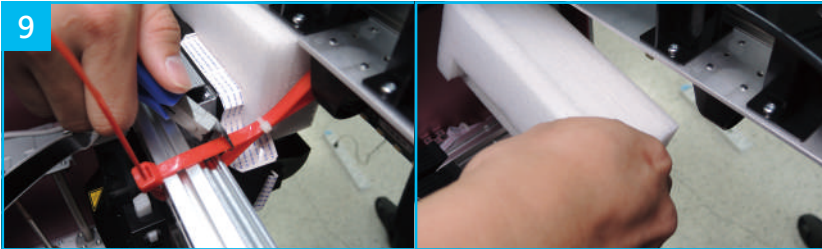Open the front door. Remove the tape from the supporting aterials and print bed.

7

Remove the foam on the cartridge holder.

8

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

9

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

10

Insert the guide tube through the top cover, and then insert one end into the printing module.

11

Place the top cover down with the guide tube going through the hole in the top.

12

Insert the other end of the guide tube into the feed module and secure it tightly.
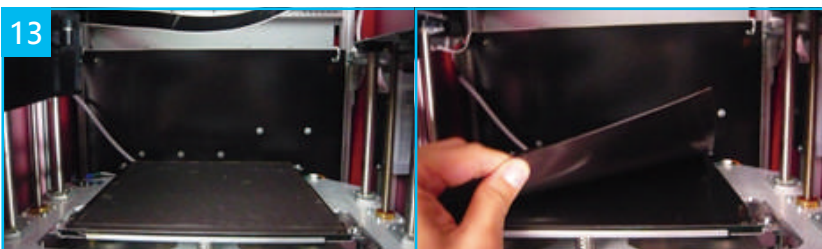
13

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.

Precautions
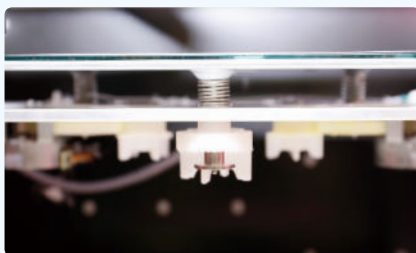
1. Check if the print bed calibration screws was stuck.

2. Used to 2 thumb to push up the print-bed to release the calibration screw.

▶ Main screen
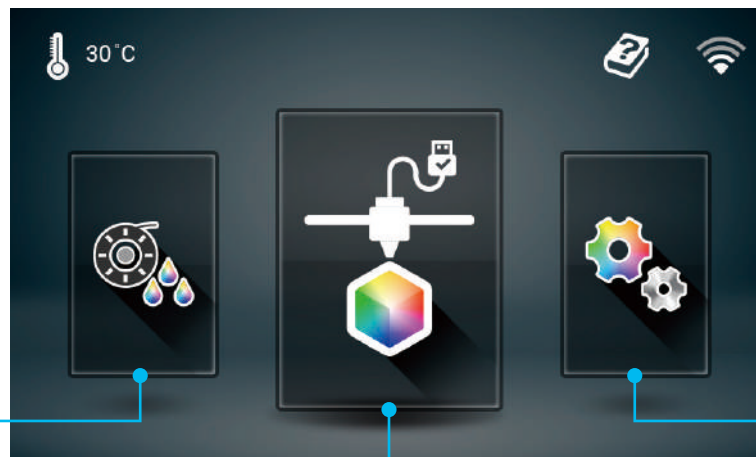
Filament/Ink loading and unloading
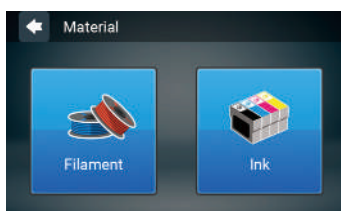
This includes Filament, Ink Load and Unload.

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
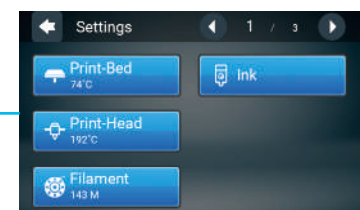
This includes the functions in Home Page 1:
Settings of the Print-Bed, Print-Head, Filament and Ink.
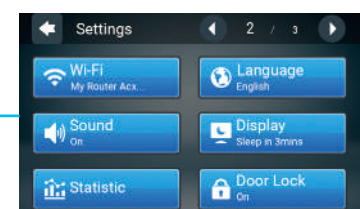
Next page includes WiFi, Sound, Statistics, Language and Display.
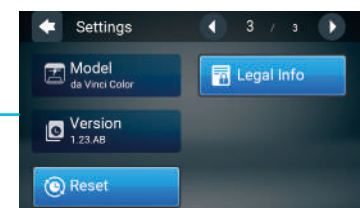
The last page includes Model, Version, Reset and Legal Info.

Function Operation and Instructions

A. USB printing

1. Check if the USB drive is plugged to the machine.
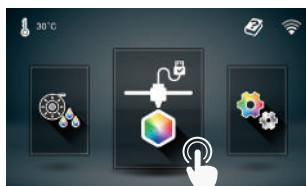
2. Tap the USB Printing Menu in the main screen.
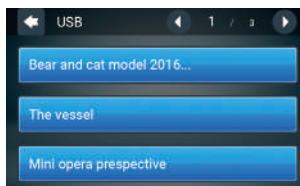
3. Select the file you want to print.
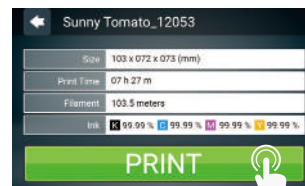
4. Check file information and tap "Print".

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

Note
By default, the front door will be locked when printing. If you want to change this setting, go to Setting > Door Lock to change it.

A1   Unload the prints

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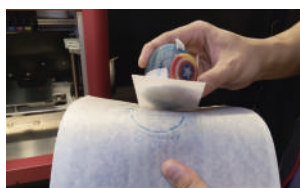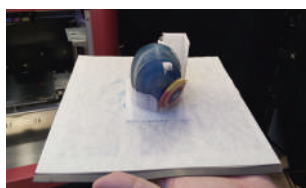
Please removed the EZ Removable Rubber Magnet with printed object together from the printer.And peel off the printed object from the rubber magnet.

B. Load/unload filaments

B1   Filament   Load filaments
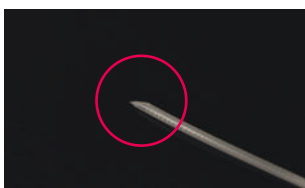
1. Please cut the filament at 45 angle before auto loading the filament into the printer. During loading filament process, the filament should be straighten at least 4" of the Filament end as shown in pictures.

2. Place the filament on the spool holder.

Note	Make sure the filament rotates clockwise when pulled.
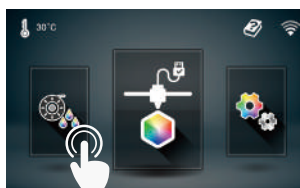
3. Tap Filament Load and Unload in the main screen and select Filament.
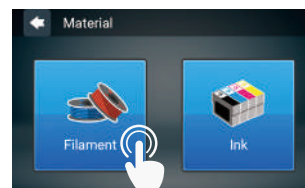
4. Tap Filament.
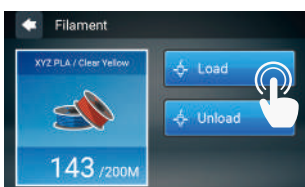
5. Tap Load.
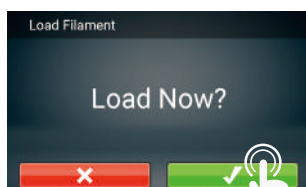
6. Confirm the operation.

7. Insert the filament into the feed module, it will be automatically loaded.
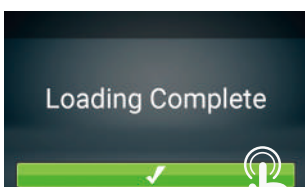
8. Check if the temperature of the print head goes up to 210 °C (Color PLA from XYZprinting) after the filament is loaded. Once the set temperature is reached, the feeding motor will feed the filament along the guide tube into the print head.
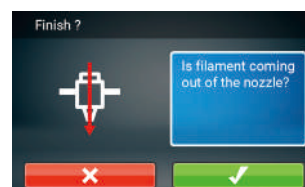
9. Once filament has extruded from the print head, the filament will be successfully loaded. Tap the screen to confirm and continue.
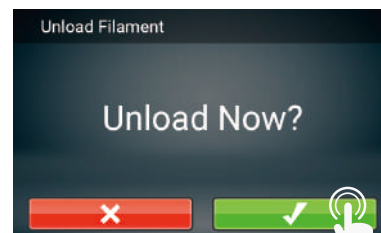
Function Operation and Instructions

B2   Filament   >   Unloading filaments
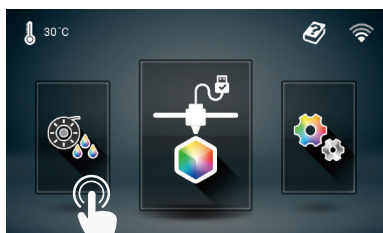
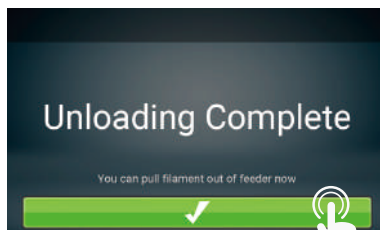1. Tap Filament Load and Unload on the main screen.

2. Tap "Unload" and confirm the operation.

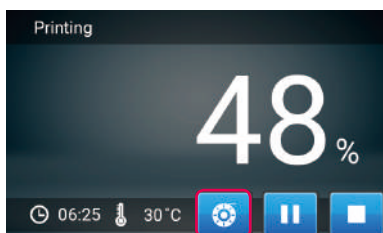3. Confirm the unloading operation.

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.
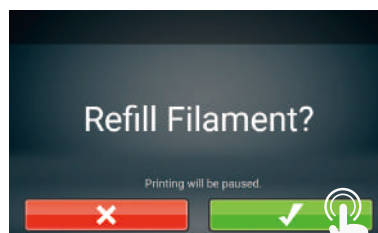
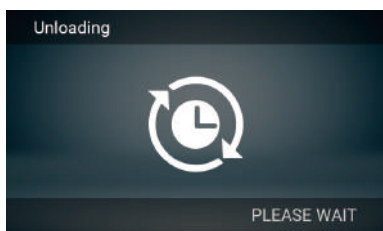## B3   Filament   >   Refill Material

da Vinci Color 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" .
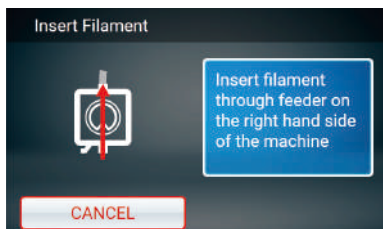
6. The nozzle will be preheat and notify you when to insert filament into the feed module.
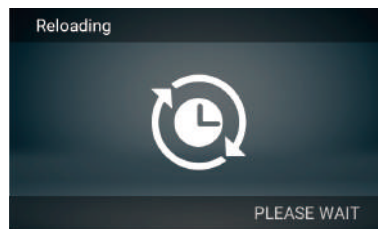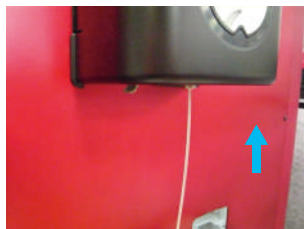
7. The filament will be automatically loaded.
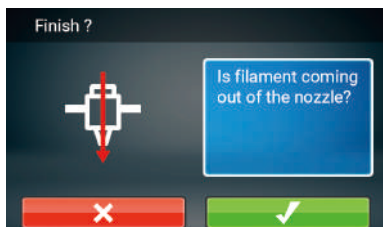
8. Check if filament is extruded from the nozzle, after confirmation, the printer will resume printing.
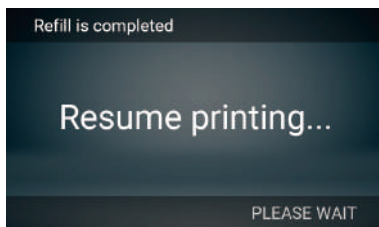
C. Ink Cartridge Installation

The da Vinci Color uses four color inks which can be replaced separately.

Ink Guidance

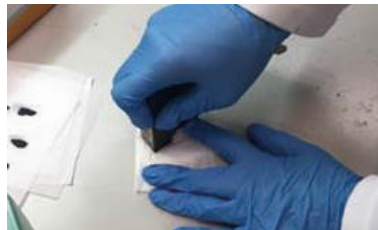1. Prepare several paper towels and the ink cartridge.
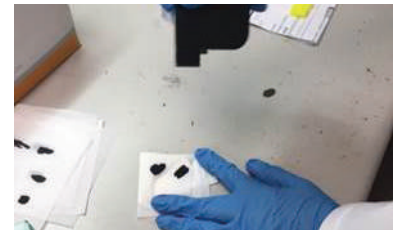
2. Unpack the ink cartridge.

3. Remove the cartridge cover.

4. Press the cartridge head against the paper towel to transfer some ink onto it.

5. If the ink did not transfer well, try putting the paper towel on the table and hold the ink pressed on the paper towel.

6. Check if the ink transferred to the paper towel displays two straight lines. If so, ink guidance is successfully completed. Once ink guidance is done, install the ink cartridge.
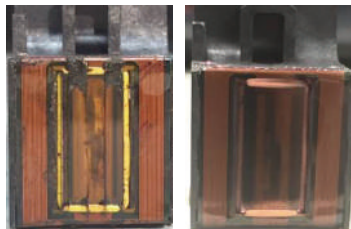
7. If the ink did not transfer well, please wet the paper towel with 75% Alcohol to wipe the ink. After you clean the inkjet, check to see if the ink transferred.
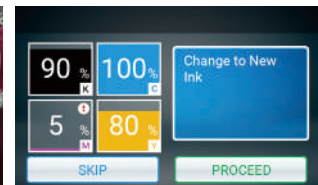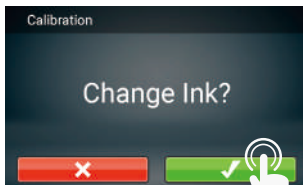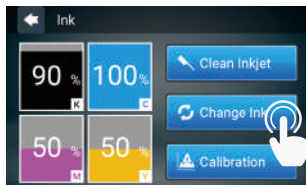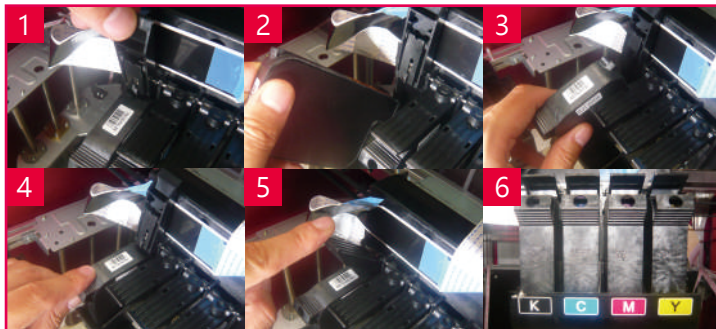
Function Operation and Instructions
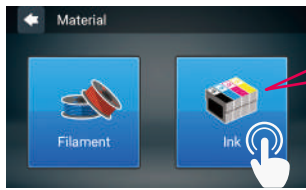
Tap the ink, the screen will show the status of the ink, including "Ink Low", "No Ink", "Invalid Ink", and "Invalid Color"

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. Lift up the plate upwards.
2. Take out the cartridge.
3. Put in a new cartridge.
4. Check if the cartridge is placed properly.
5. Press down the plate on top.
6. Check if the order of the ink color is K(Black), C(Cyan), M(Magenta) and Y(Yellow) from left to right.

Note : Replacement of any ink cartridge, please conduct inkjet calibration test.

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.
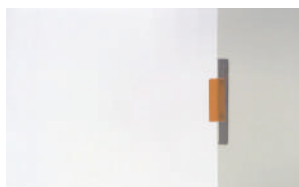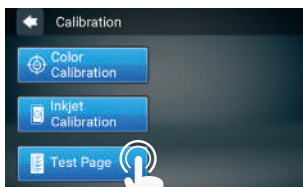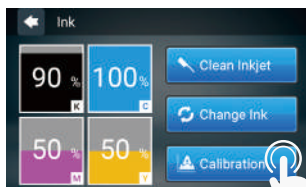
1. Tap Calibration.

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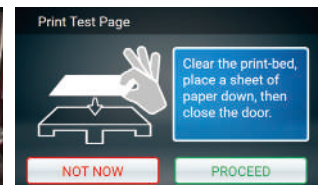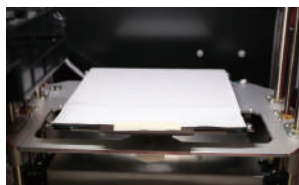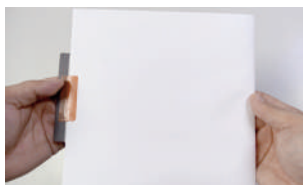
5. Fold tightly the excess A4 paper to the back of the rubber magnet.

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.

Function Operation and Instructions

Pic 1

Picture 1 shows an example of normal test page.

Pic 2

Picture 2 show some slight color offset on

horizontal part of test page.

It is under acceptance range. If the rprint of the test page gets worst, please proceed with the cleaning procedure.
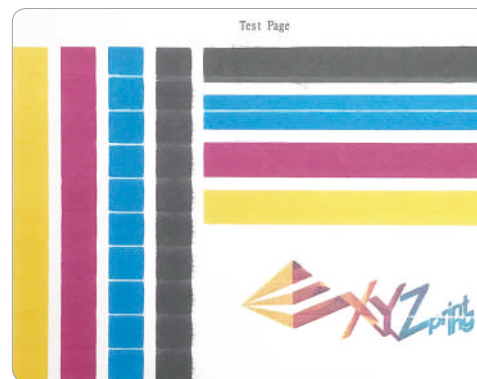

Pic 2-1

Picture 2-1 shown some slighly black ink smudge on the horizontal & vertical part, it may happen to other color.

This is within accaptable range

Pic 3

Picture 3 show example of no good test page.

While line was shown horizontal and vertical color of bars.

Please conduct the below steps accordingly.

Step 1

Please reinstall the cartridge and print the test page.

If problem not solved, please proceed with step 2.

Step 2

Check for any torn cable or damaged contacting pad in shown example.

If found torn cable, please change new cartridge

If found damaged contacting pad and also the pin in cartridge station was also damaged, contact support for replacement.

NG Cartridge (Torn cable & pad) | **Normal Cartridge**
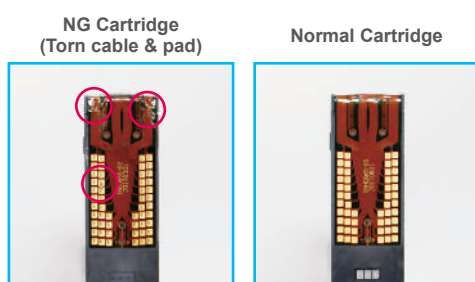
Note : Please refer to our support website for latest ink cartridge cleaning procedure.
Please refer C2-1 for preparing the A4 test page.

Step 3

Check for possible clog ink head cartridge as example shown.

Please conduct cartridge cleaning process in Pg 10 ink guidance paragraph.

If problem not solved, please proceed with step 4.

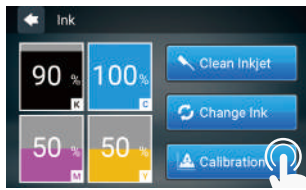**Clean Ink Head** | **Clog/dirty Ink Head**

Step 4

Using paper towel to cover the ink cartdrigde as shown in the picture 4 and downward. If the ink comes out, please print the test page

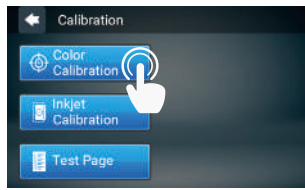If not solved, please change the new ink cartridge.

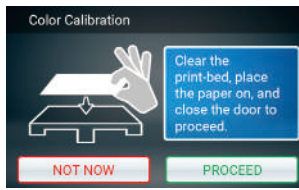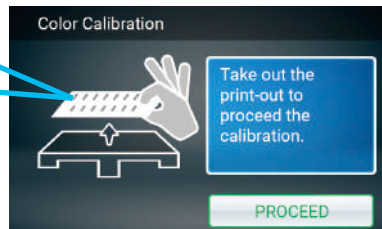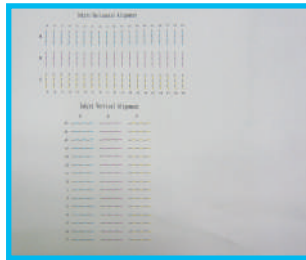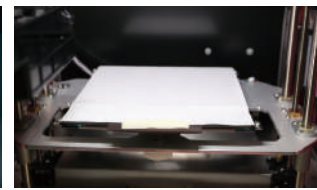## C2-2　Ink　Calibration　Color Calibration
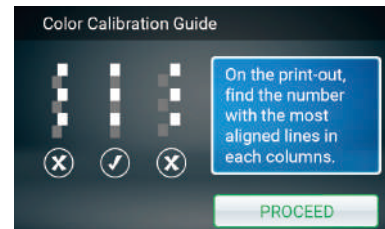
1. Tap Calibration.

2. Tap Color.

3. Please fix the printing paper onto the print bed.

4. Take out the printed paper and tap PROCEED.

5. Check the printed calibration chart using the on-screen instructions. For each color select the line that is the best aligned with black (K).

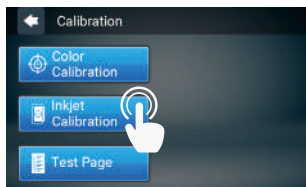6. For horizontal alignment, enter each color's corresponding number. After entering the number, tap PROCEED.

7. For vertical alignment, enter each color's corresponding number. After entering the number, tap PROCEED.
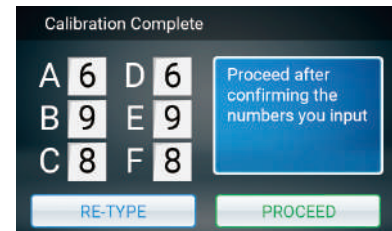
8. Confirm the numbers entered in the boxes and tap PROCEED.
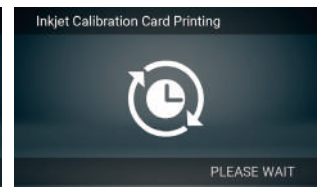
C2-3　Ink　Calibration　Inkjet Calibration

1. Tap Ink Calibration.

Caution: Please ensure the EZ Removable Rubber Magnet had placed in the printbed
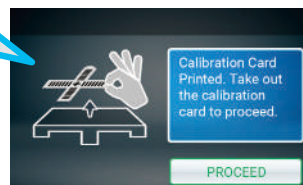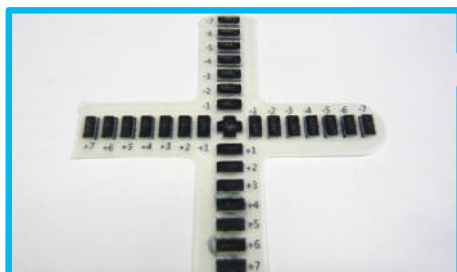
2. Check that the print bed is clear,

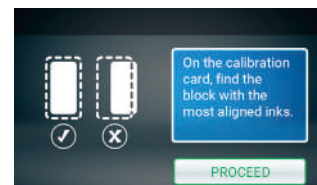3. The printing operation will start once the print nozzle is warmed up.

4. The printer will print the calibration card automatically. This takes approximately 15 minutes. (Make sure you have loaded the filament.)
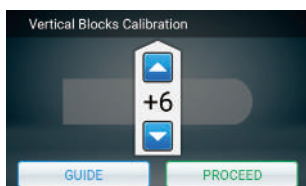
5. After the printing is completed, take out the calibration card.

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

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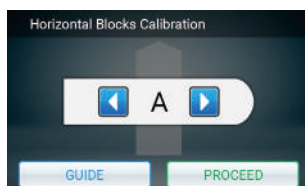
8. Horizontal direction: Enter the number of the box you think the filament and ink align the most, and then tap PROCEED.

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

D. Setting

Settings 1/3	
D1 Print-Bed 74°C	Ink
D2 Print-Head 192°C	
D3 Filament 143 M	

Settings 2/3	
D4 Wi-Fi My Router Acx.	Language English D5
D6 Sound On	Display Sleep in 3mins D7
D8 Statistic	Door Lock On D9

Settings 3/3	
Model da Vinci Color	Legal Info
Version 1.23.AB	
D10 Reset	

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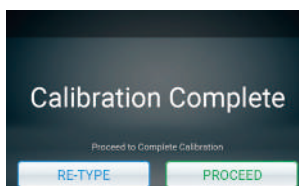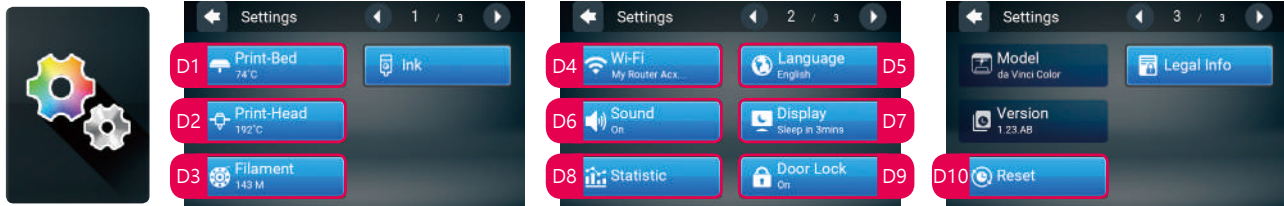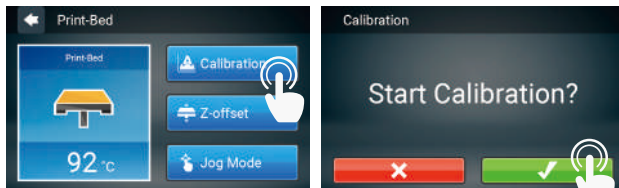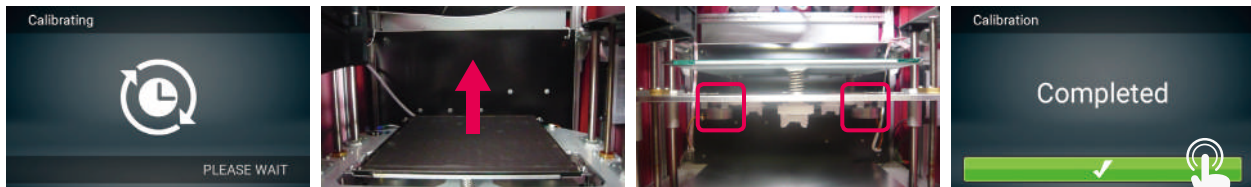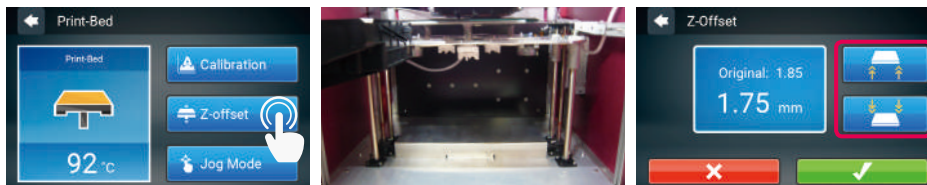Caution: Please ensure the EZ Removable Rubber Magnet had placed in the printbed

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. 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. Return to the Home point. Always return to the Home point prior to any movement in any direction.

2. Move along the X-axis.

3. Move along the Y-axis.

4. Move along the Z-axis. (Do not increase/shift upwards when print head at home position avoid hitting the print bed.)
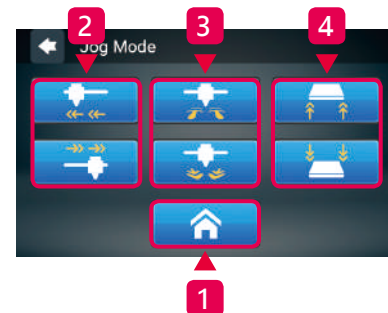
Function Operation and Instructions
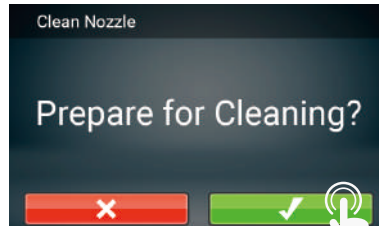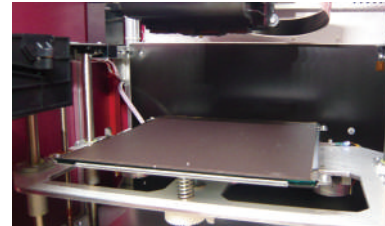
D2-1 Print-Head Clean Nozzle

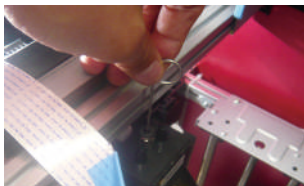1. Tap Clean Nozzle in the print head section.

2. 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.
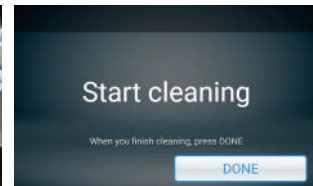

3. Inset the feed hole cleaning wire into the feed hole and push it downwards to drive out the filament from the print head. (It is recommended that the operation is performed from the top of the machine.)

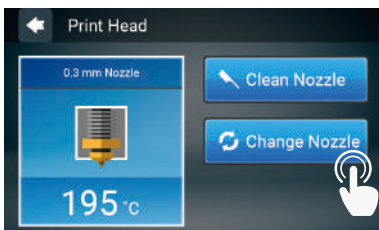4. Remove the filament residue from the print head with a wire brush.

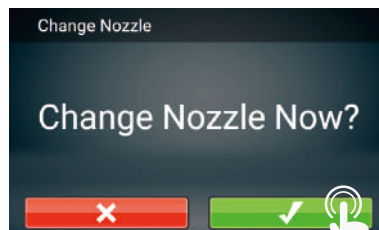5. Insert the print head cleaning wire into the nozzle from the bottom to clean it.

6. After the cleaning operation is completed, tap DONE.
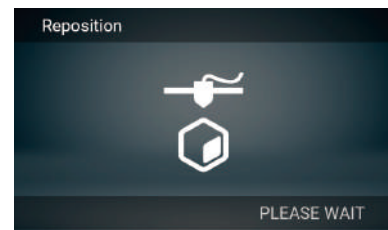
D2-2 Print-Head Change Nozzle

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.
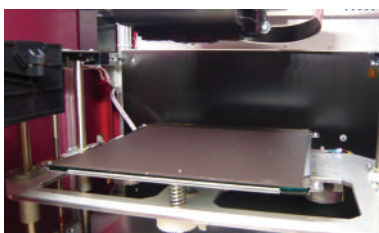
4. The position of the print head change is shown above.
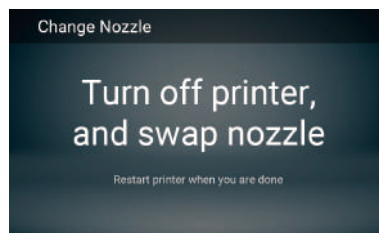
5. Turn off the power before changing the print head.

6. Change the print head from above the machine.

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.

D3 Filament

Refer to the Change Filament function in the main screen.

D4 WiFi

Before POWER ON, please insert the WiFi dongle into USB port on the top of printer & proceed with the WiFi setup

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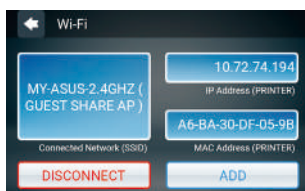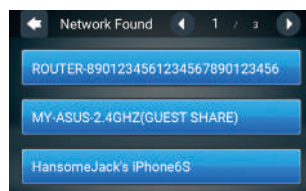
2. Tap the access point to be used.
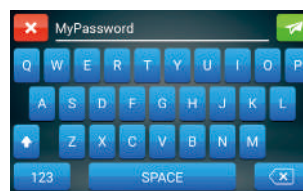
3. Enter the password for the access point.
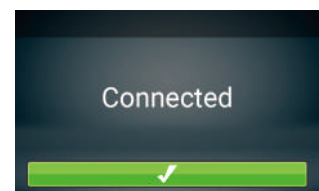
4. Confirm the connection is completed.

Use the XYZmaker to verify if the WiFi connection is established successfully

- Use a USB cable to connect the printer to the computer and run the XYZmaker.
- Check if the WiFi function is activated on the computer and connect to the access point.
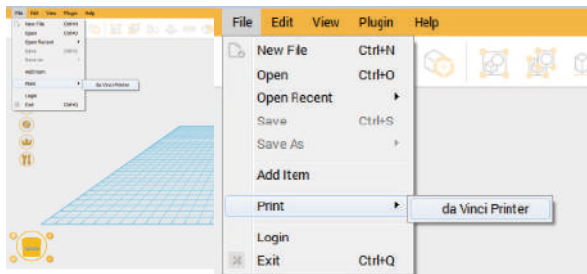
1. Run the XYZmaker. Click on File > Print > da Vinci Printer.
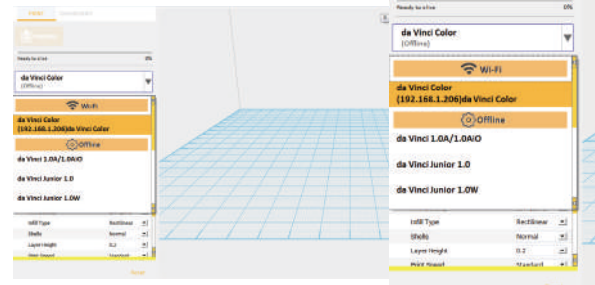
2. Select the printer to be used.
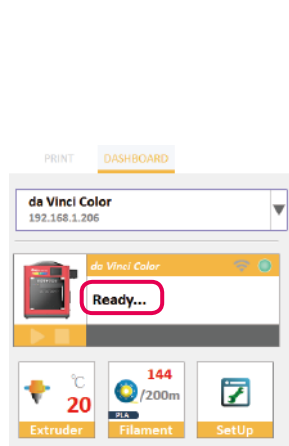
3. When the software displays "READY", the connection is established successfully. Now, you can click on "DASHBOARD" to monitor the printer or "PRINT" to print a file.
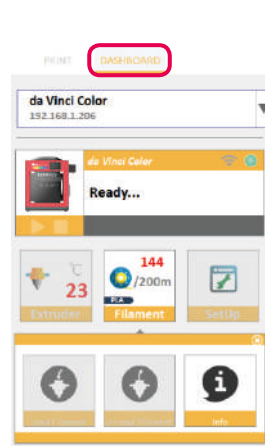
DASHBOARD: Monitor print head temperature, filament used and filament loading / unloading.
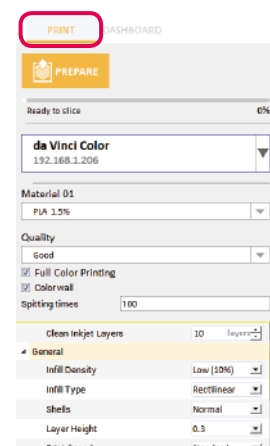
PRINT: Set printing parameters and quality. If only a file conversion is needed, tap "PRE-PARE".

Function Operation and Instructions

D5 Language

Change Language Setting
The da Vinci Color 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
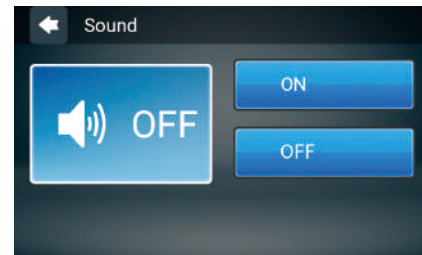
The Sound option can be set to ON or OFF to control the sound emitted when the touch screen is tapped

D7 Display
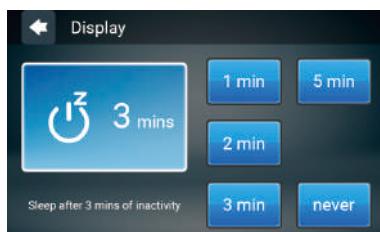
The Display setting can set the touch screen to turn off when it remains inactive after a set time. There are five settings, including one minute, two minutes, three minutes, five minutes and always on.

D8 Statistics

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

Uptime

Nozzle

Last Calibration

Filament

Print Job

Ink Cartridge

Temperature
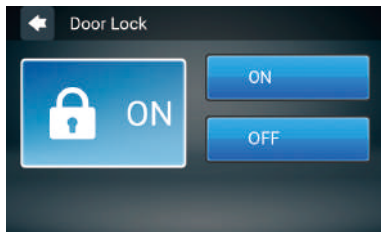
D9 Door Lock

1. Door lock on (ON) : when printing, the door will be locked; 60 sec after the print ends, the door will unlock. The door will be unlocked when users tap Pause or Stop during printing. The door will lock again, when the door is closed and printing is resumed.
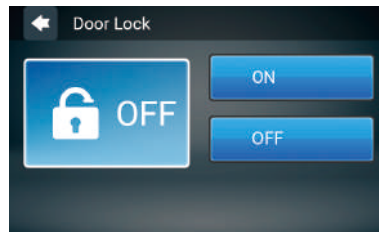
2. Door lock off (OFF) : the door won't be locked during printing, pause, or stop status.

D10 Reset
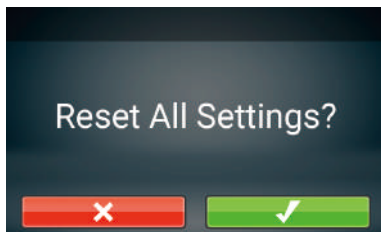
Printer information will be deleted, and returned to factory settings.

Printing

▶ First-time printing

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

Calibration	Z-offset	Load Filament	Change Ink	Calibration - Test Page - Color Calibration - Ink Calibration	Prepare the file and then execute the printing
D1-1	D1-2	B	C	C	A

▶ Transfer files to be printed via the PC software "XYZ Maker"

Internet access is required for product registration and software login.

Connect the printer and computer with a USB cable and install the "XYZmaker" on the computer to transfer the files you want to print.

The "XYZmaker" 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.

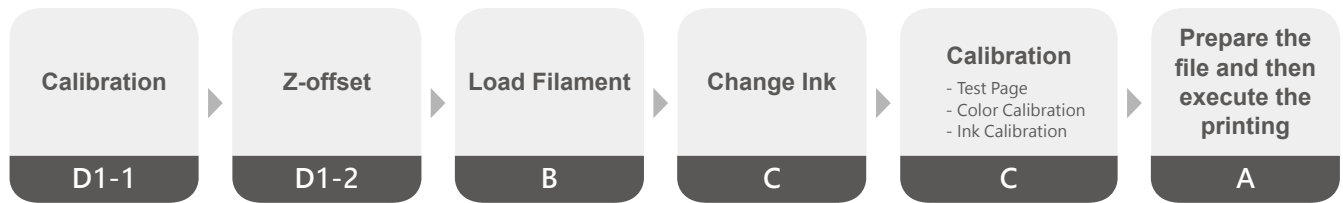For details, visit the official website: http://www.xyzprinting.com/
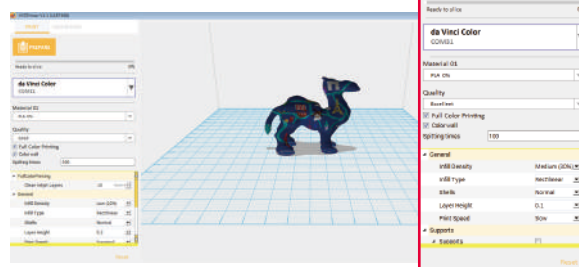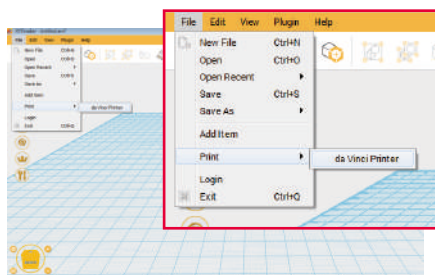
1. Connect the computer and printer and select da Vinci COLOR.
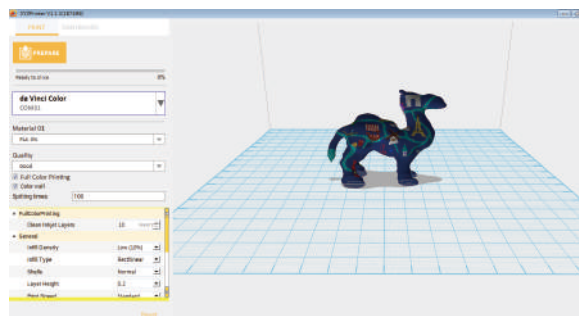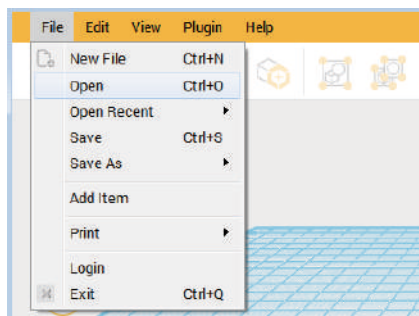
2. Click on OPEN to select the model file to be printed from the folder. You can adjust the object size, printing position and angle once the file is loaded.   To print color objects, save the file to be printed in the obj format and load it in the XYZmaker.

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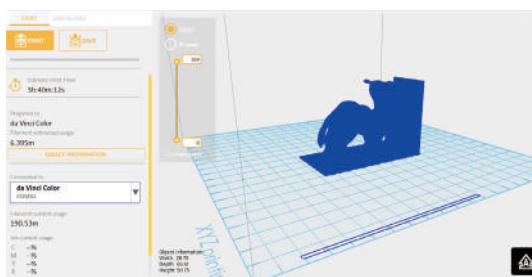
4. The Prepare function can convert a obj file to a .3cp file. Once the file is edited and adjusted, click on Print to output the object. The printing operation will start after the file is sliced.

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
OO11	Print head heated for too long	please check the Flexible flat cable and reboot
OO14	Print head heated issue -- temperature exceed	
OO30	Abnormal--X axis	check the cable of the motor and the sensor, and check the position of the sensor
OO31	Abnormal--Y axis	
OO32	Abnormal--Z axis	
OO50	Internal communication error -- memory error	reboot the printer
OO52	Print head memory error	replace the print head
OO55	inkjet head error	replace the inkjet head
OO56	inkjet data error	reboot the printer

▶ 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.