

# da Vinci 1.0 Pro User Manual

Product Safety

Product Description

Printer screen menu, functions and messages

Functional operations and descriptions

Print

Support Details

**WARNING:** This 3D Printer - when used with a styrene filament (ABS / HIPS / or PC-ABS) can expose you to chemicals, including Styrene, which is known to the State of California to cause cancer. For more information, visit www.p65warnings.ca.gov

ENG



The purpose of this user manual is to help users understand and use the da Vinci 1.0 Professional 3D printer correctly. It contains the operating instructions, maintenance information and application skills of the da Vinci 1.0 Professional 3D printer.

For the latest information about da Vinci 1.0 Professional 3D printer and XYZprinting products, please contact your sales representative or visit XYZprinting website: http://www.xyzprinting.com



#### Safety and Compliance

Before you use, operate the product, change or remove any parts, components or materials of the product, or maintain the printer, please ensure that you carefully read this User Manual and the safety instructions described below, and strictly follow the instructions of such safety information.

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

#### Important Safety Information



- Do not place the printer in humid or dusty environment such as bathrooms and high traffic areas.
- Do not place the printer on an unbalanced or unstable surface. Printer may fall or tumble causing harm and /or injury.
- Do not let children operate this device without adult supervision. Moving parts can cause serious injury.
- Please use the grounded power cord supplied with the printer to prevent a possible electrical shock.
- Insert and secure the power cord firmly for proper usage and to avoid potential electricity and fire dangers.
- Do not disassemble or replace the printer cover with none XYZprinting covers.
- Do not place any objects on top of the printer. Liquids and objects that fall into the printer can lead to printer damage or safety risks.
- Do not use flammable chemicals or alcohol wipes to clean this device.
- The process of heating the filament will produce a light non-toxic odor. Having a well ventilated area will ensure a more comfortable environment.
- Make sure to set the power switch to the off position and remove the power cord before transporting the device.
- Do not touch the interior of the print while printing as it may be hot and include moving parts.
- Some components of the printer are moving during operation. Do not attempt to touch or change anything inside before power off the printer.
- Do not attempt to service the printer beyond the instructions specified in this document. In the case of irrecoverable problem, contact XYZprinting service center or your sales representative.

#### Trademarks

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



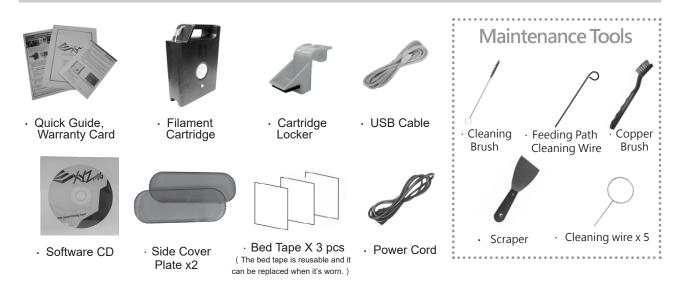
## **Product Description**

### **Product Overview**



Levelness of the Print Bed may be susceptible to vibration during transportation, which may influence print quality. Please adjust the bed with reference to <sup>r</sup> Print Bed Adjustment <sup>J</sup> before printing.

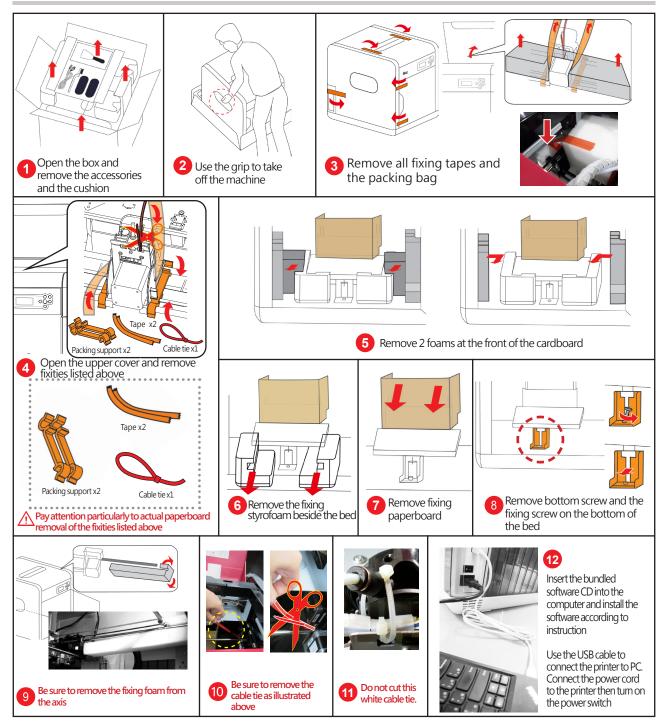
### **Accessory Checklist**





## **Product Description**

**Open the box** Note: Please removal all fixed materials before turning on the printer to prevent the machine from damage



### **Important Safety Notes**

- Do not use the printer in dust rich, highly humid or outdoor environments.
- Do not use the printer on a soft or tilt table to prevent the machine from falling, which may result in damage or personal injury.
- Do not put your hand into the machine during operation to avoid collision risk due to movement of the machine or to avoid burn due to high temperature.



### Notes and Description for Use of Maintenance Tools

	<ul> <li>The following tools can be used only in an environment with guidance or monitoring by adult. Do not allow children to obtain maintenance tools in unfamiliar situations in order to avoid danger.</li> <li>Please make sure to maintain the printer as the bed is cooled.</li> </ul>

• After print is finished and the print bed is cooled to room temperature, the printing object may be taken off with Scraper.



 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 25 hours of print to clear residuals with nozzle cleaning wire.or feeding path cleaning wire. (Filament should be unloaded from the extruder before cleaning the feeding path.)

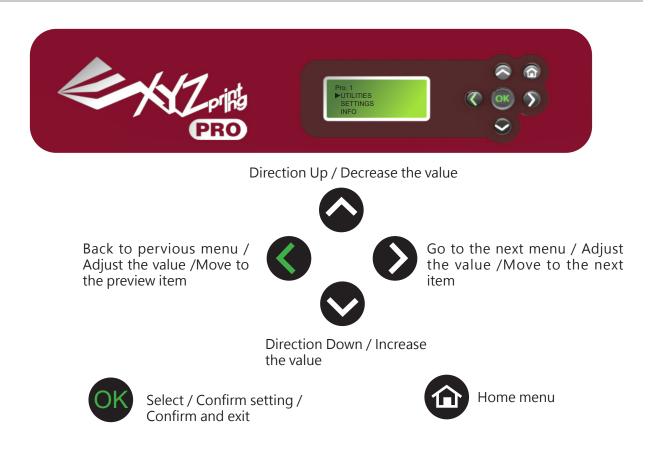


Filament residuals produced during print may also attach onto nozzle and gear of print module to influence print quality, printer operation, as well as measurement result of bed. For such situation, please use cooper brush to
 clean the print module.

#### 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 print-er may be damaged during the transportation process. In such situation, the XYZprinting the right to charge repair fee.

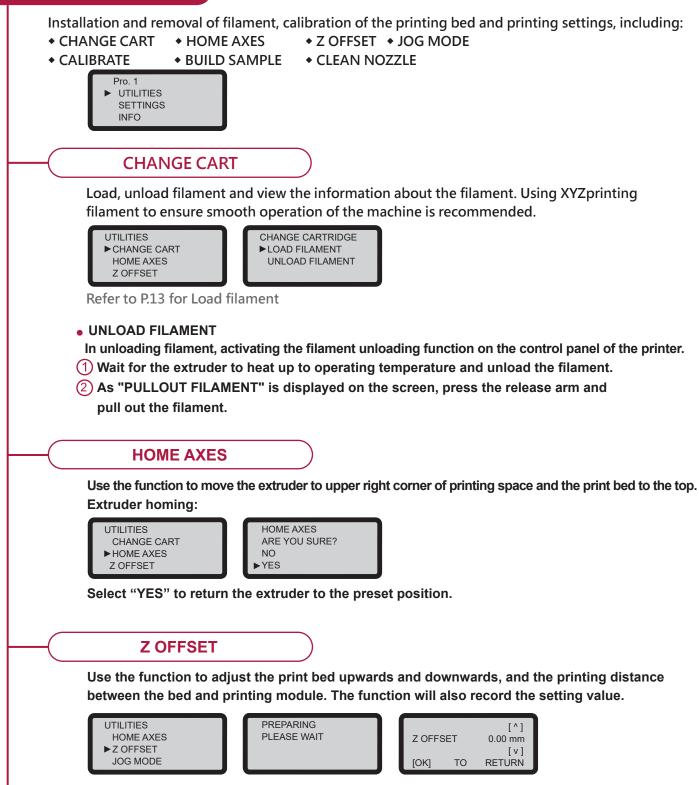
### **Display and Control Panel**





### Printer screen menu, functions and messages

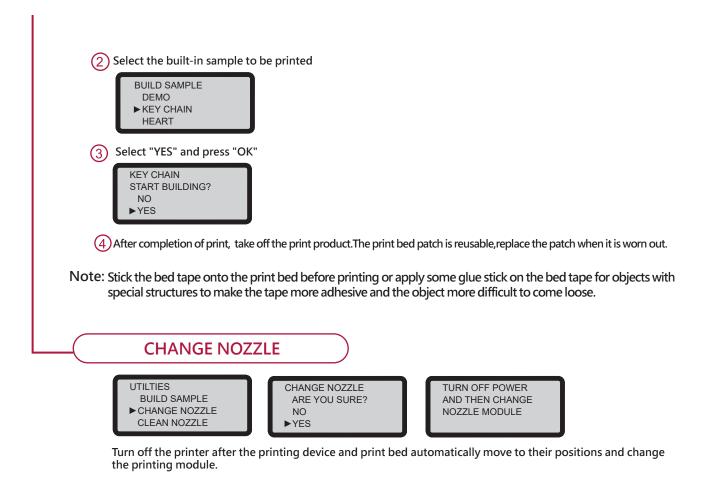
#### UTILITIES





JOG MODE )
Manually adjust the movement of X/Y/Z Axis for printer maintenance.
How to move the extruder:
UTILITIES       JOG MODE         Z OFFSET       ►X-AXIS         ► JOG MODE       Y-AXIS         CALIBRATE       Z-AXIS
1 Select a target to move:
<ul> <li>Select "X-AXIS" to move extruder rightwards and leftwards</li> </ul>
• Select "Y-AXIS" to move extruder forwards and backwards
• Select "Z-AXIS" to move the print bed (Conduct "Home AXES" function first
and then to adjust "Z-AXIS" print bed.)
2 Adjust the distance
<ul> <li>Use "UP" and "DOWN" buttons to select the moving distance. Then, select "- "based on the desired distance and press the "TO THE LEFT" button or select "+" and press the "TO THE RIGHT" button to adjust the moving distance.</li> </ul>
• Press the "TO THE LEFT" button: The extruder will be adjusted rightwards/backwards or closer to the print bed.
• Press the "TO THERIGHT" button: The extruder will be adjusted leftwards/forwards or away from the print bed.
CALIBRATE
Use the function to adjust the print bed and make adjustment based on the reference value. The printing quality will be affected by the levelness of the print bed. If you want to confirm the levelness of the print bed, turn on the function to measure and check recommended adjustment.
UTILITIESCALIBRATEJOG MODEARE YOU SURE?► CALIBRATE► NOBUILD SAMPLEYES
Refer to P.15 for CALIBRATE
BUILD SAMPLE
3 built-in samples are stored in the printer. You can learn to use the printer through building samples.
UTILITIES CALIBRATE ► BUILD SAMPLE CHANGE NOZZLE
1 Stick the bed tape onto the print bed before printing





Levelness of the Print Bed may be susceptible to vibration during transportation, which may influence print quality. Please adjust the bed with reference to reference to during transportation, which may

printing Insert Page information.(P.15)

## Printer screen menu, functions and messages

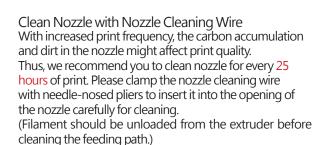
### **Printer Maintenance**

#### UTILITIES > CLEAN NOZZLE

Regular cleaning of the print nozzle facilitates to not only extending service life of the printer, but also improves print quality.

Enable "CLEAN NOZZLE" (nozzle cleaning) function. Clean the nozzle after the nozzle is heated up, the bed has been lowered and the extruder has been moved to the front end, and "READY FOR CLEAN" is displayed on screen.

Clean the detecting pin with Copper Brush Filament residues produced during printing may become attached to the nozzle and gear of print module to influence print quality, operation of the printer, and measurement result of the bed. If such a situation is encountered, please use a copper brush to clean the print module by brushing off residue and dirt on the detecting pin.



Wipe Measurement Points After the bed is lowered, please switch off power to cool the bed, followed by wiping 4 measurement points with damp cloth

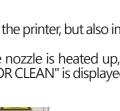






UTILITIES **BUILD SAMPLE** 

CHANGE NOZZLE CLEAN NOZZLE



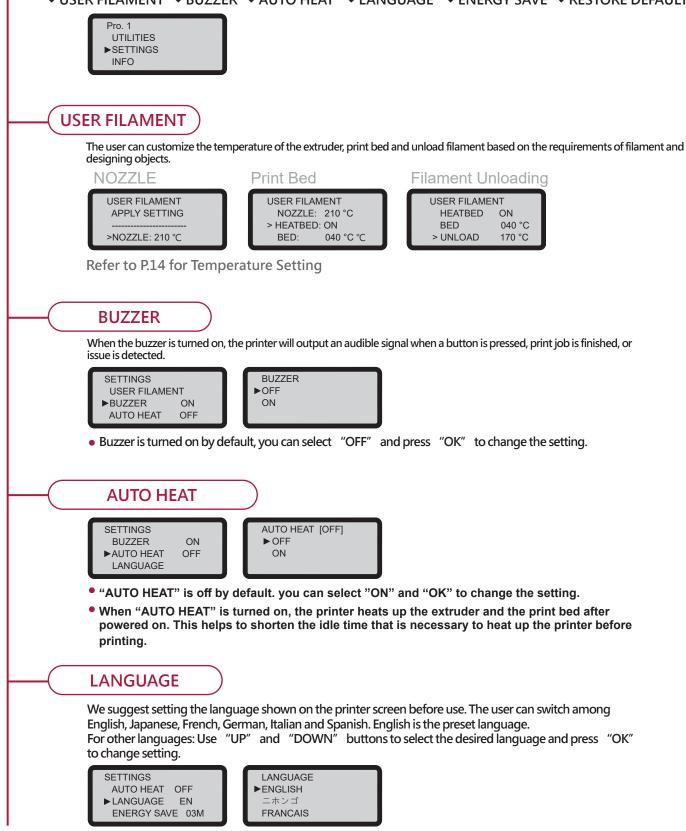


V2

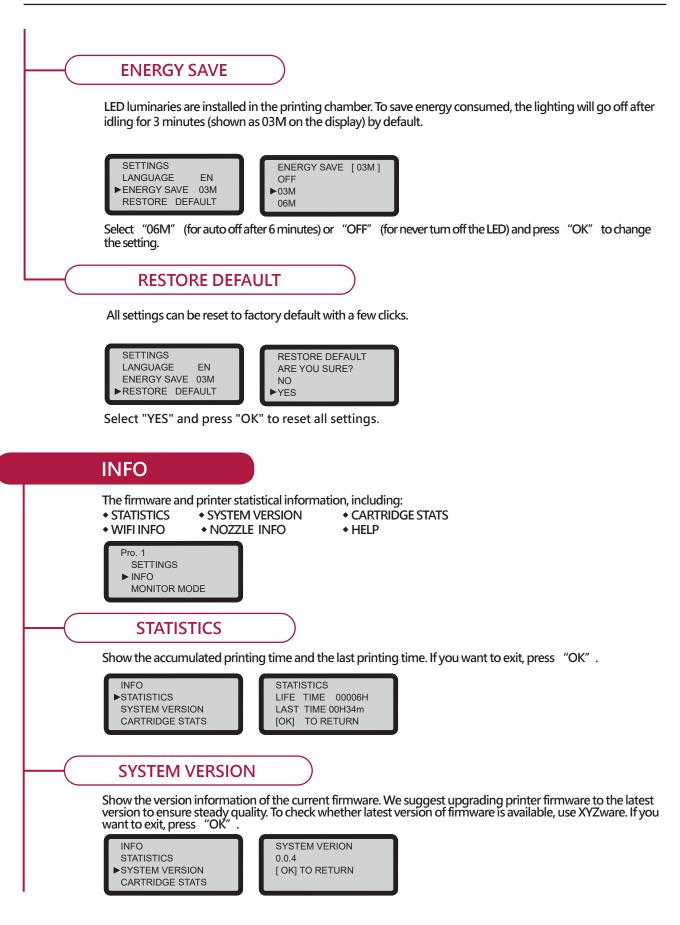


#### SETTINGS

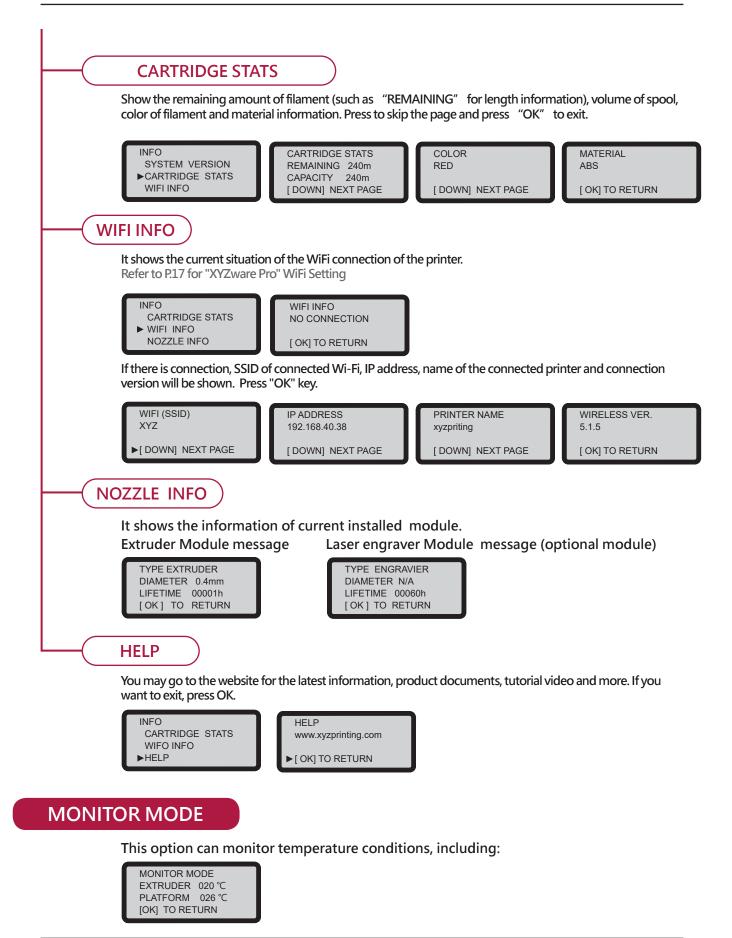
- The basic settings of the machine, functions, selection and adjustment of printing values, including:
- ◆ USER FILAMENT ◆ BUZZER ◆ AUTO HEAT ◆ LANGUAGE ◆ ENERGY SAVE ◆ RESTORE DEFAULT







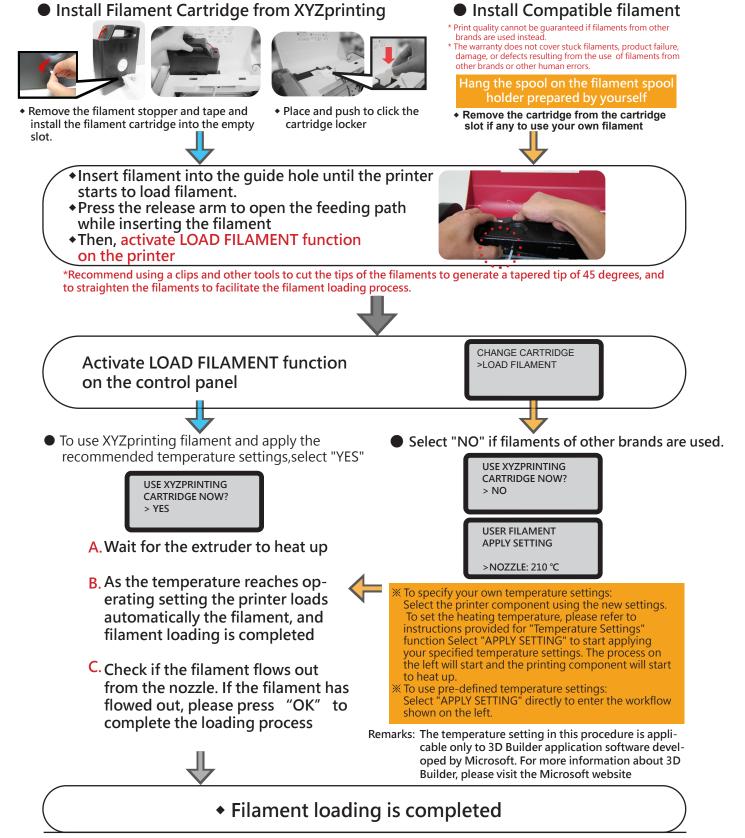






## **Functional operations and descriptions**

### Install and Load Filament UTILITIES > CHANGE CART > LOAD FILAMENT



## **Functional operations and descriptions**

### **Unloading Filament**

UTILITIES > CHANGE CART > UNLOAD FILAMENT

In unloading filament, activating the filament unloading function on the control panel of the printer 1. Wait for the extruder to heat up to operating temperature and unload the filament.

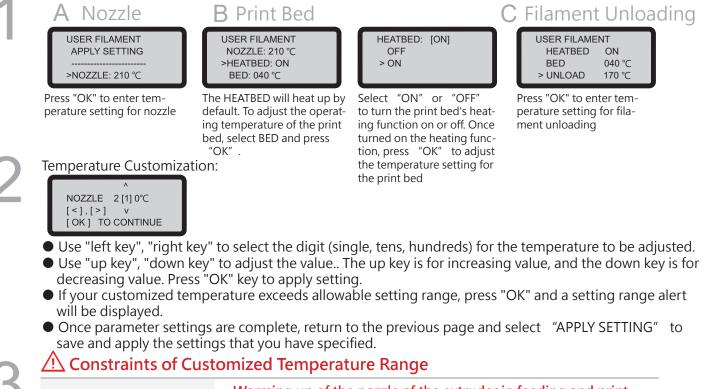
2. As "PULLOUT FILAMENT" is displayed on the screen, press the release arm and pull out the filament.

### **Temperature Setting**

#### SETTINGS > USER FILAMENT

The user may customize nozzle temperature, print bed temperature and filament unloading temperature in accordance with requirements of different filaments and design objects:

#### Select the item for temperature setting



NOZZLE	ing: 170°C ~ 240°C
BED(ON)	Temperature elevation range of the print bed: 41°C ~90°C
UNLOAD	Temperature elevation range of the extruder in unloading: 170℃ ~240℃

Remarks: The temperature setting in this procedure is applicable only to 3D Builder application software developed by Microsoft. For more information about 3D Builder, please visit the Microsoft website

- If the temperature for print bed is specified as [OFF], room temperature printing will be enabled and the print bed will not be heated.
- Excessively low extruder temperature may result in poor filament feeding, result in poor filament feeding that prevents proper extrusion of the filament through the nozzle. Hence, please adjust the operating temperature of the extruder first.



UNLOAD FILAMENT

UTILITIES CHANGE CART

SETTINGS USER FILAMENT

## **Functional operations and descriptions**

### Print Bed Adjustment

Before first printing, please calibrate the bed to guarantee an appropriate levelness of the bed for printing.

#### UTILITIES > CALIBRATE

After the printer is heated up to an appropriate temperature, the distances between measurement points on bed edge (1, (2), (3), (4) and probes are measured automatically to determine levelness of the bed.

 If the automatic detection function determines that there is no need to adjust levelness of the bed, "PERFECT" will be displayed on screen. At this moment, press "NO" to exit.
 If you see "UNLEVEL BED" in the detection results, you will have to ad-

just the bed levelness. A prompt window for initiating the calibration process should appear.

Instruction for Direction

Adjustment:

Calibration Instruction



LEFT KNOB Description for Instruction on Screen TURN LEFT KNOB BACKWARDS - Turn the left knob backwards FORWARDS - Turn the left knob forwards

> TIPS FOR TURNING 1 STEP=90 DEGREE 4 STEPS=1 CIRCLE [ OK] TO CONTINUE

TURN FRONT KNOB TO THE RIGHT : 8.7 STEPS [OK] TO NEXT indicate a complete circle of rotation of the knob as shown in the messages on screen. Press "OK" key to continue viewing adjustment instructions.

Knobs corresponding to this procedure Turning direction Number of turning steps (each step indicates 1 tick/90 degrees of rotation)

After flicking knob in accordance with prompt, press "OK" key to continue

FRONT KNOB

TO THE RIGHT - Turn the front knob rightwards

TO THE LEFT - Turn the front knob leftwards

Description for Instruction on Screen

TURN FRONT KNOB

There are three white 4-step knobs under the bed. Each step

of turning indicates 90 degrees of rotation, and 4 steps of flick

After executing calibration of platform, please make Z-OFFSET vertical calibration, in order to guarantee that the nozzle can print material on platform smoothly.

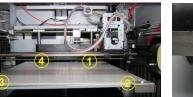
1. Move the extruder to the center of platform. The distance between nozzle and platform is suggested to enable two piece of A4 paper to be pulled out smoothly.

2. Distance between nozzle and platform is changed positively with the value.

3. After adjustment, press OK to save settings.

Calibration fail will be caused, in case of any smudginess at the measurement points on platform, or too long or short of the distance between platform and nozzle. Please adjust as follows: 1. clean platform and nozzle 2. adjust the detection distance between platform and nozzle .

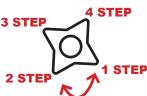
Please execute "CALIBRATION" again after each operation step is completed, until the detection result displays "perfect". \*Please refer to the tutorial video provided on the official website, for detail operation process of calibration.





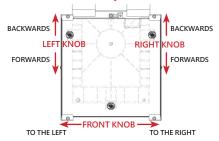
> YES

NO



(There are three white 4-step knobs under the bed. Each step of turning indicates 90 degrees of rotation and 4 steps of flick indicate a complete circle of rotation of the knob.)

**Knob Location and Adjustment Direction** 







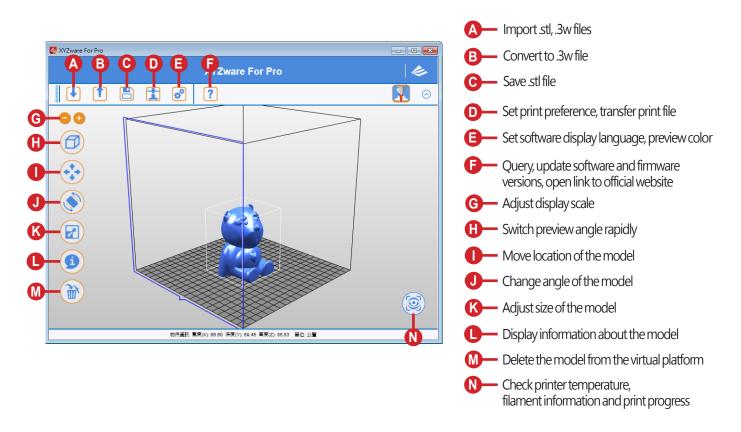
UTILITIES CALIBRATE



## Print

### Transfer print file through computer software "XYZware Pro"

Connect the printer and the computer with USB cable and install "XYZware Pro" in the computer to transfer print file.



"XYZware Pro" may run in Windows 7 and above and Mac OS 10.8 and above operating systems. You may install it from the bundled CD or download the installation file from the XYZprinting official website.

#### Basic Operation Flow

After opening the software, click "Import" to select the model file you desire to print and load it. The user may change relevant settings through "File Conversion" function to satisfy adjustment of print speed and effect.

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

When the model is sliced, click on the "Print" button to send the file for printing.

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



### **Print**

### WiFi Connection

The printer supports Wi-Fi connection printing.

Install "XYZware Pro", and activate Wi-Fi setting of the printer in accordance with the following instruction to switch the printer to wireless control mode, such that the print file may be subsequently transferred wirelessly.

#### Preparation Prior to Setting

- 1. The network print function is provided mainly for Intranet application. Please set the printer and the computer in the same domain, that is, link them to the same wireless base station (Access Point)
- 2. Before linking the printer, settings would be adjusted for the connected wireless base station. For detailed setting way, please refer to the operation instruction of the product or original vendor relevant information.
- 3. Channel Width may be set to 20 MHz for use of wireless print function. Please refer to original vendor operating instruction of wireless base station to understand adjustment way
- 4. Please keep the wireless network function in the on state
- 5. The machine supports the following link security modes. Public key information would be requested to enter in setting printer connection MAC 1838 | 368 | Qo (This image is for reference only)

✓ 欧用無線 LAP

安全傑式 預元共用金鑰 詳經金鑰更新計時書

□ 原始 熱道道理 作用調道

XYZprinting

Channe 直道- 4 20 MH+ ×

My Printer

Scan

My Printer

Scan

H-04 2427MHz 🗸 🗹 自動爆撃構成

12345678 600 (19 )

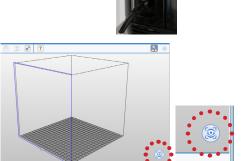
WEP WPA2 WPA

Wi-Fi Settings

Please use a USB cable to link the computer and the printer, and open XYZware Pro.

Click the "Printer Monitoring" function icon on the lower 2-1 right corner on the screen, open "Printer Monitoring" window, click "My Printer" > "Scan" to enter the page for printer search, and click "Wireless Network Settings" to enter the page for wireless print settings.





X

Vireless Setting

Connect by IP

Connect



## Print

### **WiFi Connection**

Please enter printer name (either English or numeric name), press "Scan" function to obtain wireless base station information with dropdown menu, and select the name of the wireless network you desire to connect.

Printer Name	Name your printer here		Update
reless Connection	Scan & Select One	•	Scan
Password	Show Password		
Printer IP			

4

After successful connection, Wi-Fi name will be displayed on screen of the printer.

WIRELESS CONNECTING	
PLEASE WAIT	

At this moment, USB cable may be taken off to continue the print process.

If connection is to be disconnected, please connect USB back between the computer and the printer, and open XYZware Pro again.

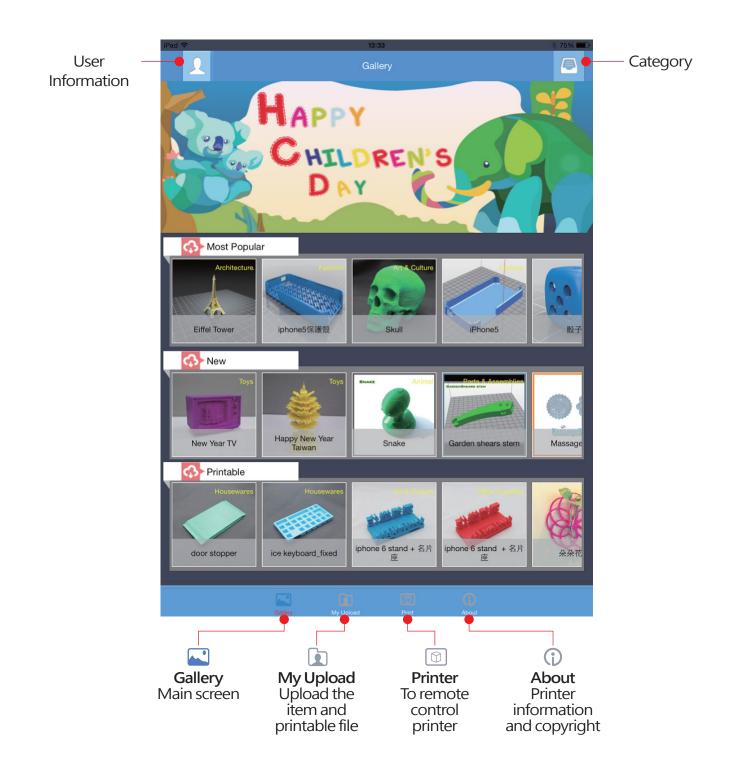
### **Product Specification**

Print Technology	Fuse Filament Fabrication (FFF)	Weight	26 KG
Print Dimension	20 x 20 x 20 cm	Print Material	ABS/PLA
Print Resolution	0.1/0.2/0.3/0.4 mm	Filament Diameter	1.75 mm
Display Screen	2.6 inch LCM	Nozzle Diameter	0.4 mm
Connection Method	USB 2.0 / WiFi	Operating System	Win 7 and above Mac OSX 10.8 and above
Print Software	XYZware Pro	File Format	3w/stl



### **Print From A Mobile Application**

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





#### Step



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



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





- 3 After log in, you will see " most popular", "new" and "printable\*" three folders for you to choose.
- 4 Select the object you want to print.

30 30	選擇列印機	提琴中 〇	< 38日	印表機會	WiR.	
da Vinc	inci 1.0 Pro	>		da Vinci 1.1 Plu 印表级用型 IP地址	s da Vinci 1.1 P 10.0.0.47	lus
				<u>線材匣1</u> 線材匣材料 線材匣板度	ABS 62.16	m
			a a a a a a a a a a a a a a a a a a a	列印工作 列印時間 線材需求	No data 19.24	m
			混群:			
			當地列印號	生素大小、明路建修以及列印	確認列成集。	0

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

#### Note:

1. Ensure the mobile device and the printer are connected on the same wireless network.

2. Transferring a print file over a wireless network may take more time than transferring a print file from a USB mass storage device. 3. When a .3w file with incompatible slicing is selected, the message of "Printer Type does not match" will be displayed. We suggest selecting other files or downloading .stl to slice before printing.

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



## **Support Details**

As the printer encounters issues, please refer to the following troubleshooting instruction to fix the issues. If the issue cannot be removed, please contact customer service center

Error message and Action In the event of problems, related service code will be shown on the printer screen and/or software interface. Please refer to the description table of the service code for preliminary examination.

Service Code	Symptom	Action
0 0 0 3 (software)	Print bed heating problem	Confirm whether the heater works normally and whether the senor and heating rod are installed correctly or work normally. Problems may occur when the printer works under 25 °C . Please move the printer to the environment at proper temperature.
0 0 0 7 (software)	"UNIDENTIFIED CARTRIDGE" shown on the printer screen indicates filament chip anomaly.	Reinstall or replace the filament cartridge.
0 0 0 8 (software)	"UNIDENTIFIED CARTRIDGE" shown on the printer screen indicates filament chip anomaly.	Reinstall or replace the filament cartridge.
0010	Print bed heating problem	Confirm whether the heater works normally and whether the senor and heating rod are installed correctly or work normally. Problems may occur when the printer works under 25 °C . Please move the printer to the environment at proper temperature.
0011	Extruder heating problem	Confirm whether the nozzle works normally and whether the senor and heating rod are installed correctly or work normally. Problems may occur when the printer works under 25 °C . Please move the printer to the environment at proper temperature.
0013	Print bed heating problem	Confirm whether the heater works normally and whether the senor and heating rod are installed correctly or work normally. Problems may occur when the printer works under 25 °C . Please move the printer to the environment at proper temperature.
0014	Extruder heating problem	Confirm whether the nozzle works normally and whether the senor and heating rod are installed correctly or work normally. Problems may occur when the printer works under 25 °C. Please move the printer to the environment at proper temperature.
0028 (software)	NO CARTRIDGE (Filament is not installed correctly)	Reload or replace the filament
0 0 2 9 (software)	CARTRIDGE EMPTY	Replace filament immediately
0030	X-axis movement abnormalities	Check motor/sensor connections. Check sensor position.
0031	Y-axis movement abnormalities	Check motor/sensor connections. Check sensor position.
0032	Z-axis movement abnormalities	Check motor/sensor connections. Check sensor position.
0050	Internal storage error	Reboot the printer
0051	flash ram access error	Reboot the printer
0 0 5 2	Nozzle internal memory error	Please contact our Customer Service center



## Support Details

Error Status	Recommended Process Ways
Printer is busy	Try again after current task is completed, and examine the information displayed on screen of the printer
Firmware of the printer cannot be updated	Check internet connection / Update firmware later
Nozzle is clogged	Unload the filament to clean the nozzle, and then reload the filament
Filament cannot be loaded	Unload and reload the filament
NO CARTRIDGE Filament is not installed correctly	Reload or replace the filament
CARTRIDGE EMPTY Filament ran out prior to a print : remain 0%	Replace filament immediately
FILAMENT LOW Filament residual is low: remain 30%	Replace filament if necessary
FILAMENT END Filament ran out while printing : remain 0%	Replace filament immediately

### 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.