



PartPro120 xP 3D Printer

(Model No.)

Operation Manual



Please always refer to the updated version of PartPro120 xP operation manual <https://pro.xyzprinting.com/>

For safe and correct use, be sure to read the Safety Precautions before using the machine.



Document History

Date	Description	Version	Editor
2019-12	Initial Release	1.0	Andy Yan



INTRODUCTION

The PartPro120 xP is a DLP 3D printer and using 3D printing (additive manufacturing) technology which utilizes led light source to cure the liquid resin to make solid parts and products.

DISCLAIMER

This manual is designed for users to understand how to use the PartPro120 xP printer in a safe manner. Please read through all sections especially the safety guide carefully before unpacking, operating, replacing, and removing any part of this product.

INTENDED USE

- User must read and understand the contents of this installation and user manual as following. Failure to read the manual may lead to personal injury, inferior results or damage to the PartPro120 xP.
- Before performing any operations on the machine and/or packaging of the various parties should read this entire instruction manual. This contains important information for the safety of persons engaged in routine maintenance, the persons involved in the use and operation of the machine.
- This manual refers to the machine on which the model number is indicated on the title. XYZprinting reserves the right to make technical changes on the machines and manuals without prior notice.
- No part of this manual may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, recording, or otherwise, without the prior written permission of XYZprinting. For this entire user guide, please contact authorized reseller or XYZprinting customer service for providing.
- Requests for additional copies of this manual should be directed to customer service of XYZprinting.

LIMITATION OF WARRANTY AND LIABILITY

XYZprinting is responsible for the device in its original configuration. Any changes to the configuration of the machine must be performed or authorized by the XYZprinting technical department. XYZprinting is not responsible for the problems and warranty dues to the use of not original spare parts or printing materials.

TRADEMARK

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SAFETY AND COMPLIANCE

IMPORTANT SAFETY PRECAUTIONS

Please read through all sections especially the safety guide carefully before unpacking, assembling, operating, replacing, and removing any part of this product. Please also comply with the instructions of relevant safety precautions.



Label		Safety Notic
1	 CAUTION Do not stare at the LED light directly. Please keep the lid closed during printing.  VORSICHT Schauen Sie nicht direkt in den LED-Licht. Bitte halten Sie den Deckel während des Druckvorgangs geschlossen.  ATTENTION Ne regardez pas directement la Lumière LED. Veuillez maintenir le couvercle fermé pendant l'impression.  PRECAUCIÓN No mire directamente la Luz LED. Mantenga la tapa cerrada durante la impresión.  ATTENZIONE Non guardare in corrispondenza del Luce a led. Tenere il coperchio chiuso durante la stampa.  警告 LED光を直視しないでください。 印刷時、必ずカバーをかぶせてから印刷を行ってください。  주의 LED 조명 바로 쳐다보지 마십시오. 인쇄 중에는 커버를 닫아주십시오.  警告 請勿直視LED光源。 列印時請蓋妥保護蓋。  警告 請勿直視LED光。 打印時請蓋妥保護蓋。	CAUTION: Do not stare at the LED light directly. Please keep the lid closed during printing.



SAFETY AND REGULATION

Please carefully read this notice, all safety precautions, and comply with safety rules when using, operating, unboxing this product, replacing or removing any components, or maintaining this product. For more information related to the PartPro120 xP 3D Printer or XYZprinting, visit the official website (<https://pro.xyzprinting.com/>) or contact a sales representative.

HANDLING AND OPERATING PRECAUTIONS

- Only trained personnel may operate the machine.
- Do not try to disassemble, modify the product, otherwise fire, electric shock, or damage may result.
- Do not open the covers or remove the screws or parts other than instructed in the user manual, otherwise fire, electric shock, or damage may result.
- If you notice any strange noises, smoke or strange odors, shut down the power of the product immediately and contact service for further instruction.
- Do not try to disable or cheat any sensors on the product, otherwise injury or electric shock may result.
- Be sure to read the Material Safety Data Sheet of each material and follow the handling instructions before using the product.
- Wipe off any printing material spilt on any components of the product immediately with a dry cleaning wiper or dampened with water or ethanol, or the spillage may cause malfunction of the product or fire.
- Make sure to set the power switch to the off position and remove the power cord before transporting the device.
- Only use the grounded power adapter and power cord supplied with the printer to prevent possible electrical shocking.

WORK PLACE REQUIREMENTS

- Avoid exposing the product to direct sunlight or other UV radiation. The printing materials inside the product may get cured when exposed to external UV source and result in malfunction.
- Please do not place any containers with water on (or around) the product; if liquid spills out or into the machine, it may lead to risk or safety concerns.
- Place and use the printer in a well-ventilated area. The process of printing will produce a small amount of non-toxic odor.
- Prohibit use of fire, sparks and heat source.
- For a stable printing performance, do not touch or move the product during production.
- This machine is not suitable for use in location where children are likely to be present.

RECOMMENDED PROTECTIVE EQUIPMENT

- Chemical-resistant gloves.

PRECAUTIONS BEFORE OPENING THE PROTECTIVE COVERS

- Always wear the chemical-resistant gloves to prevent direct contacting with printing materials.



RESIN CARE

- Wear proper protective equipment, avoid raw material contact and vapor inhalation.
- Chemical-resistant gloves should be worn when you make contact with resin.
- Resin should preferably be stored at temperatures between 10-32°C (50-89.6°F), localized heat sources (i.e., drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing.
- Never pour the waste resin back to the bottle or down the sink, as it may pollute the remaining resin or clog the drain.
- You may pour resin waste into plastic bag and expose it to sunlight or UV light source to cure the resin. The cured resin can then be discarded.
- Avoid dripping resin on anything other than the platform or the resin tank, or the printer may malfunction.
- Please ensure that the recommended operating conditions are adhered to. (Operating temperature 20-30°C (68-86°F) / humidity 40 ~ 60% RH; If a different operating temperature is printed on the label on the resin bottle, please adhere to recommended conditions on the label.)
- For the best printing quality, resin should be used up within 3 months after purchasing and within 1 month of opening.

RESIN TANK CARE

- The resin tank is consumable. It should be replaced when the bottom is damaged or gets cloudy to ensure the printing quality.
- It is suggested to use isolated resin tank while different color resin is going to be used to ensure printing quality.

PRINTING PROCESS

- Keep the covers securely closed during printing.
- The printing quality may be affected if resin temperature is changed due to opening the cover(s).

LED LIGHT

- The LED light will emitted the light after the printing starts.
- The LED light will be automatically shut down if any of the protective cover is open.

NOTE ON POWER SUPPLY

- Do not use with damaged cord or plug. To unplug grasp the plug, not the cord. Do not handle plug or machine with wet hands. Turn off the power switch before unplugging.
- Do not run the machine over cord. Keep cord away from heated surfaces.
- If the system is left in idle mode for an extended amount of time, turn off the main switch.

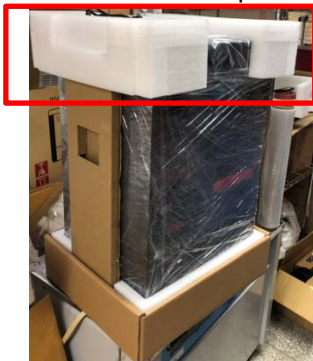


1. UNPACKING AND INSTALLATIONS

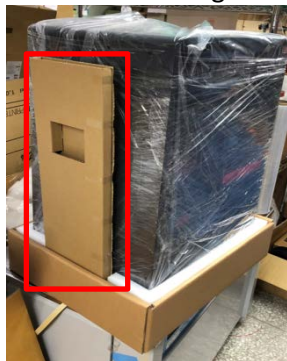
UNPACKING

Unpack the product follow instructions closely. Damage to parts may result if the procedure is not followed. Keep original packaging material in the event of sending the unit for service or repair.

1. Remove all external packing materials including EPE Foam, Pad Support, Plastic Bag and Tapes.



EPE Foam



Pad Support



Tape

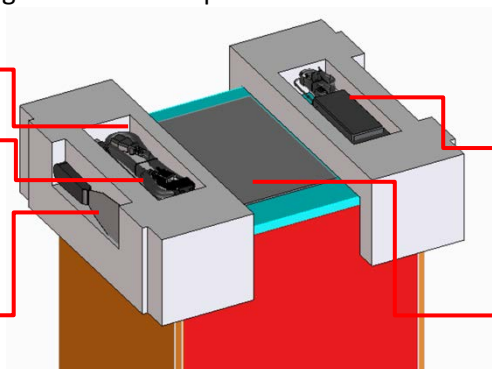
2. Get the Metal Scraper, USB Cable, Power Cord, Bag and Power Adapter from the EPE Foam.



Power Cord

USB Cable

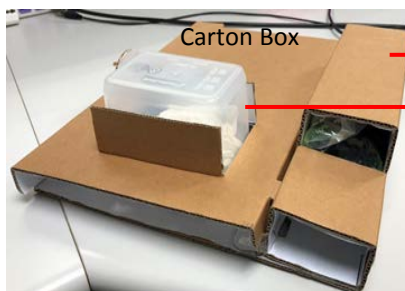
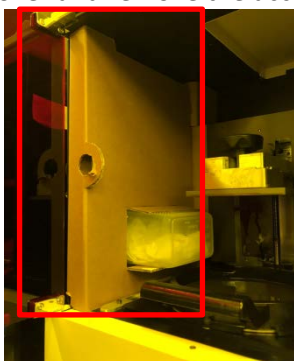
Metal Scraper



Power Adapter

Bag

3. Open the front cover and remove the accessories carton box.



Carton Box

Resin Bottle

Cleaning Box

4. Remove the Resin Bottle and Cleaning Tank out of the carton box.



Resin Bottle

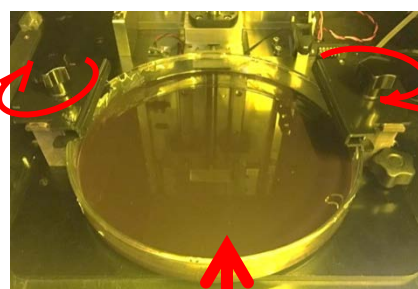


HARDWARE INSTALLATION

1. Install resin tank to the printer chamber. Push the resin tank to fix position, then fasten the left and right screw

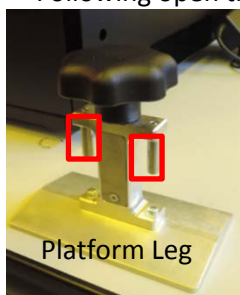


Resin Tank

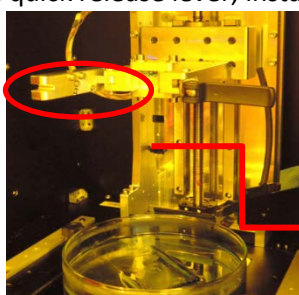


Fasten left and right screw

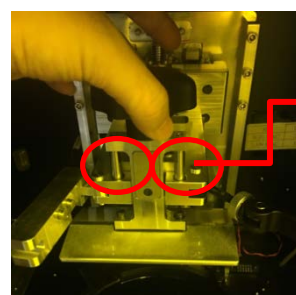
2. Following open the quick release lever, install the platform.



Platform Leg

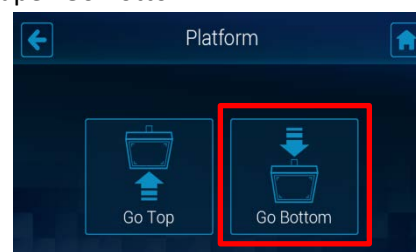
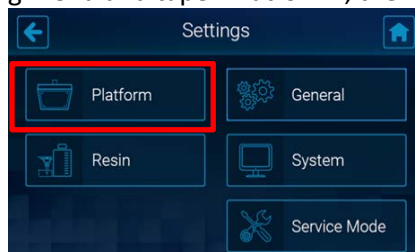
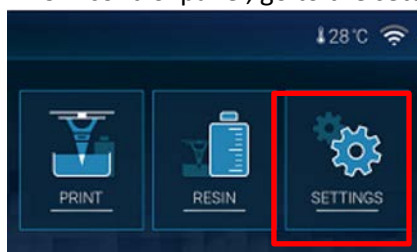


Open the quick release lever

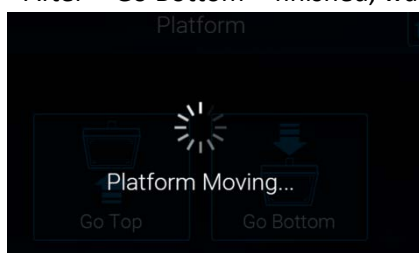


Platform Leg
insert to the
slot

3. In LCM control panel, go to the setting menu and tape "Platform", then tape "Go Bottom".

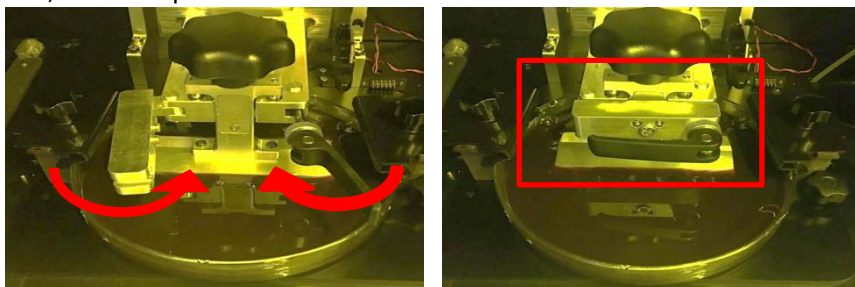


4. After "Go Bottom" finished, wait for 30 seconds until the resin level is stable.





5. Then, lock the quick release lever.

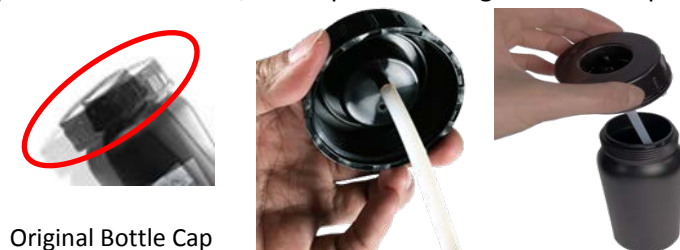


To install the Resin Bottle

1. Shake the resin bottle well to ensure even color. For the material with dense pigment, you may need to shake the bottle for about 10 seconds.



2. Assemble the nozzle cap and the inner tube, and replace the original bottle cap with the assembled one.



Original Bottle Cap

3. Insert the resin bottle into the bottle slot and install the filling tubes (First, attach the black tube to the thick hole. Then attach the transparent tube to the thin hole and push all tubes down.)



To check the resin information

The printer detects the information of the resin installed through the ID tag at the bottom of the resin cartridge. Printing is not allowed when the cartridge is empty or when the material installed mismatch the resin selected while exporting.

You can read the resin information on the printer screen and through the software XYZprint AM^{UV}:

- Using the printer screen:

From the main menu, tap [RESIN].

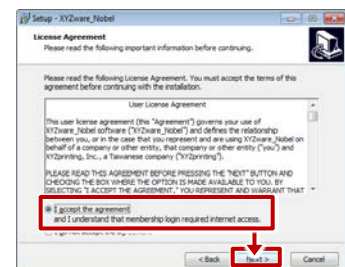
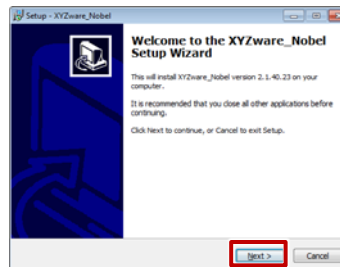


SOFTWARE INSTALLATION

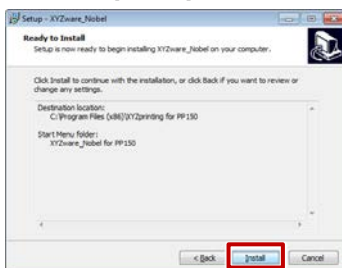
“XYZprint AM^{UV}” should be installed on the service PC for preparing the files for production.

To install the software:

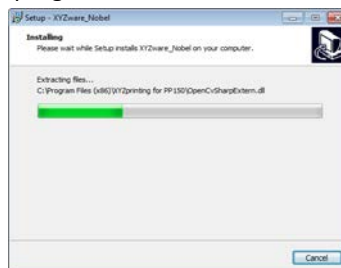
1. Double-click on the installer [XYZware_***.exe].
2. Click [Next >] to initial the installation.
3. Review the license agreement, select [I accept the agreement] if appropriate, and press [Next >].



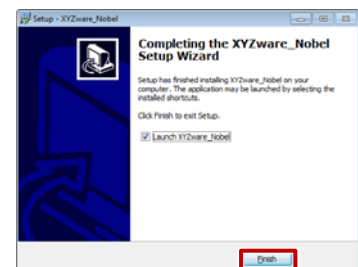
4. Review the installation settings and click [Install].



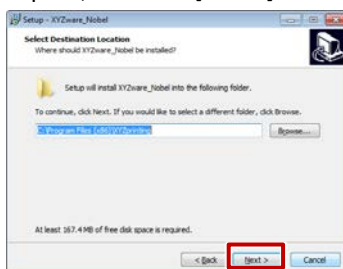
5. Wait while the installation is in progress.



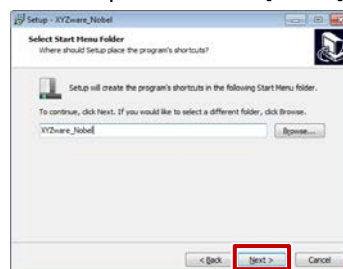
6. The installation is complete when below screen appears. Click [Finish] to close the setup wizard.



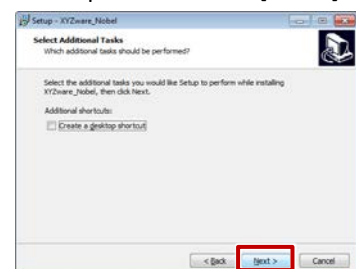
7. Check if the default Installation folder is accepted, and click [Next>].



8. Check if the default Start Menu Folder is accepted and click [Next>].



9. Check if you want to add the desktop icon and click [Next>].





2. PRODUCT OVERVIEW

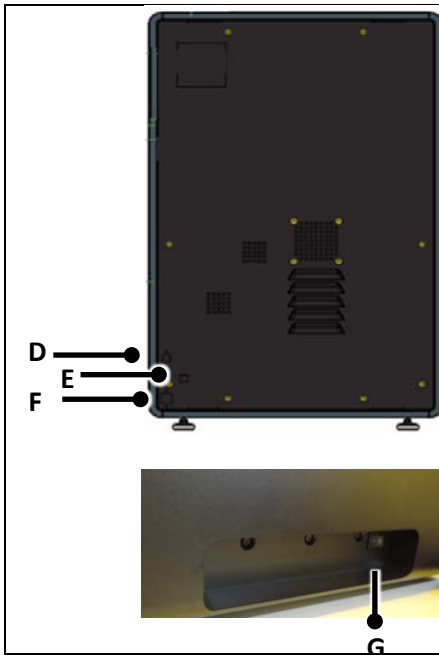
APPEARANCE

1. Front View - Exterior



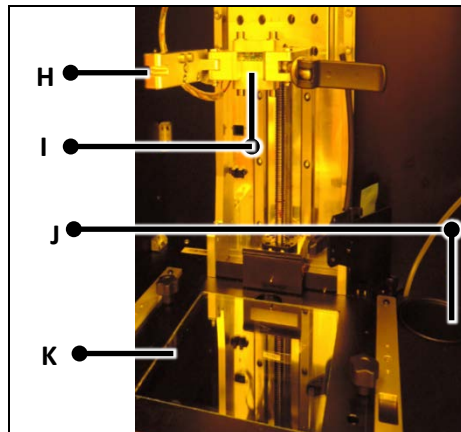
Component		Description
A	Front Cover	Open this cover to take out printed model or perform regular maintenance. Keep the front cover securely closed during printing.
B	Touch Panel	Contains a screen and keys for machine control.

2. Rear View & Side View



Component		Description
D	Ethernet Port	Attach the Ethernet cable to the port to connect the printer to the Ethernet.
E	USB Wire Port	Attach the USB cord to the port to connect the printer to the PC.
F	Power Jack	Connect the supplied power adapter to the socket to power on the printer.
G	Power Switch	Press the switch to power on or off the printer.

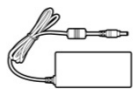
3. Internal View



Component		Description
H	Release Lever	To lock the platform after platform installing.
I	Platform Bracket	For platform installing place and also hold the printed parts during printing.
J	Bottle Slot	The bottle slot holds the resin bottle on the printer. Insert the resin bottle into the slot while completing the installation.
K	Tank Slot	Insert the tank into the slot while printing process.



ACCESSORIES LIST

Item Name	Image	Quantity	Description
Platform		1	Resin gets cured on the platform when exposed to LED light.
Scraper			For removing printed parts from the platform.
Gloves		1	Gloves should be worn to avoid direct contacting with the printing materials.
Resin Bottle		1	500g of printing material for starting your production.
Nozzle Cap		1	For attaching filling tubes on the printer to the resin cartridge.
Inner Tube		1	Attach the inner tube to the nozzle cap
Power Adapter		1	The external power supply of the printer. Always use the bundled power adapter on the product.
Power Cord		1	For connecting the printer to the electricity supply. Always use the bundled power cable on the product.
USB Wire		1	For connecting the printer to the PC.

INSTALLATION SUGGESTIONS

Installation Environments

Make sure the installation site follows below conditions:

- Power requirements: AC 100~240V 50/60Hz 60W
- Operating temperature: 20-30°C (68-86°F)
- Operating humidity: 40-80% RH non-condensing

Optimal Placement

Follow below guidelines when positioning the printer:

- Place the printer on a leveled and solid surface, or resin level detection may be inaccurate.



SPECIFICATIONS

General	
Technology	DLP Technology
Maximum Build Size (WxDxH)	114 x 64 x 100mm
Light Source	UV LED, 405nm
XY-axis Resolution	60 um
Z-axis Resolution	25um / 50um / 100 um
Supports Generation	Auto/Manually Generated
Dimension(WxDxH)	470 x 398 x 745 mm
Weight	34kg
Display Panel Type	5" Touch panel LCD (RTP)
Language	Multi language
Connectivity	USB 2.0/ WiFi / Ethernet/USB Flash driver
Print Material	General/Tough/ Castable /Flexible/Hiht temp. /Dental
Operation Software	XYZprint AM ^{UV}
Printing /File Types	.stl format / XYZ format (.3ws / .3wn)
Operating System	Windows 10/10 Pro (64- bit) MAC OS 10.12 and above
Hardware Requirements	RAM: 8GB or more HDD space: 1GB or more Graphic card: Support OpenGL 2.1+
Power	100-240V 50/60Hz 120W

SUPPORTED FILE FORMAT

The system accepts below file formats. The source files should be converted into .stl format in your CAD program. The source files should be sliced and converted into ".3wn" formats for production. For file conversion, please utilize the software "XYZprint AM^{UV}".

File Format	Description
STL Format	The file format is native to CAD software. It is widely used for 3D printing. Please always export your design files into .stl format in your CAD software to print on this printer. You can also save the objects on the platform into a single stl file.
3WS format	.3ws is a proprietary file format for the printer, for saving all models on the workspace as a project with the data of geometry, orientation, placement, dimensions and support settings. You can further edit each object in the .3ws file.
3WN Format	.stl files need to be sliced into layers for printing. The sliced files are in .3wn format. You will always prepare .3wn files with "XYZprint AM ^{UV} ".



USER INTERFACE

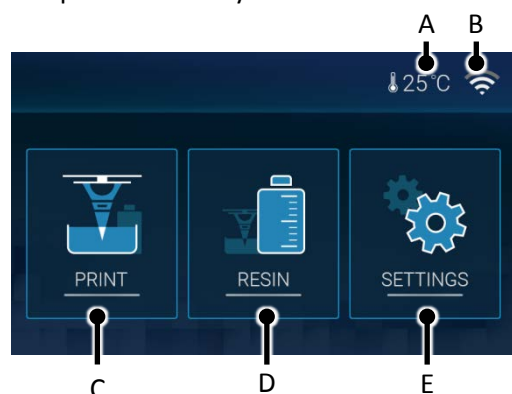
The printing system is operated using the touch panel on the printer and the software “XYZprint AM^{UV}”. You will need to switch between the different interfaces based on your operation.

Refer to below table for the functions available on each user interface:

Category	Function	Touch Panel	XYZprint AM ^{UV}
File Preparation	Preparing the files		●
Printing Controls	Printing new files		●
	Printing from the history	●	
	Pausing the production	●	
	Resuming a paused task	●	
	Canceling the production	●	
File Management	Deleting files on the printer	●	
System Configuration	Configuring printer settings	●	
	Configuring the connectivity	●	
	Updating printer firmware	●	
Info Display	Production History	●	
	Printer Status	●	●
	Material Status	●	●
	System Version	●	●
	Machine Statistics	●	

TOUCH SCREEN

The printer screen shows the following menu when the system is ready. You can use the touch screen to print from the history, adjust the printer settings, and view the information on the material installed and resin temperature and system data.



The control panel functions are categorized under the following options in the main menu:

Main Menu	Function
A Resin Temperature	Current temperature of the resin in the tank in degree Celsius. If the resin temperature is lower than 25°C, the heating system will be triggered.

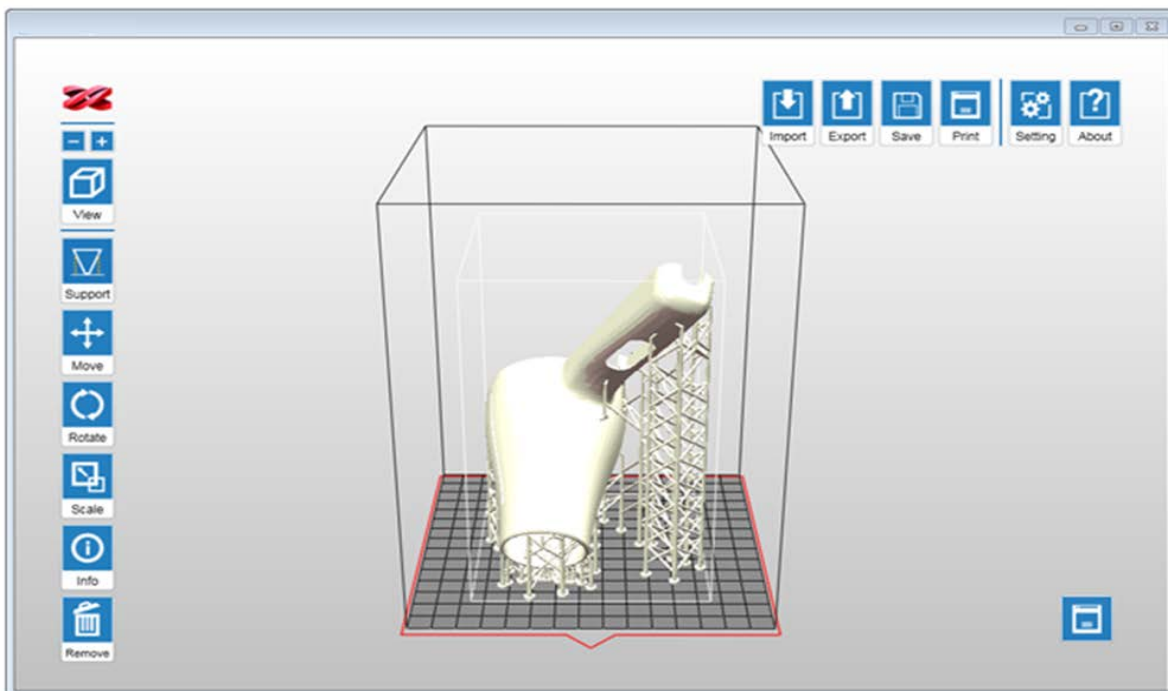


B Network Connectivity	An icon will be shown here when the wireless or Ethernet connection is enabled. The icon also indicates the status of the connection. The icon is also the shortcut to connectivity settings. Tap the icon to jump to the setup page. When computer connect with printer through the Wifi, the right side top of the main menu will appear the client IP icon.
C PRINT	Press the icon to view the printing history. You can also initial printing from the history with this function.
D RESIN	Press the icon to view detailed information on the resin bottle, including the material type and resin model. You can change the setting of resin-refilling here.
E SETTINGS	The menu provides the control of platform movement, brightness and timeout of the screen, sound volume, display language, connectivity settings, and show the system information.

XYZPRINT AM^{UV}

“XYZprint AM^{UV}” is the software for preparing the files for production. Be sure to install “XYZprint AM^{UV}” before proceeding to production.

To install “XYZprint AM^{UV}”, download the software installer from: <http://bit.ly/2FhfmLU> (temp folder for beta testing)





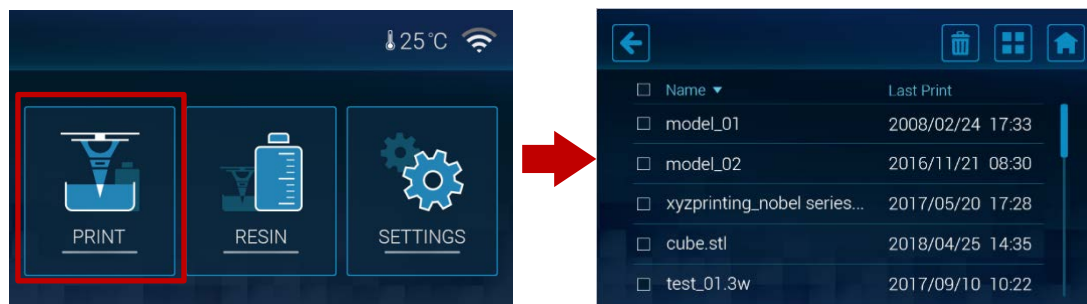
3. OPERATING THE PRINTER

This chapter introduces all options on the printer screen.

PRINT MENU

To print a new file, the file should be transmitted from the software “XYZprint AM^{UV}”.

Using the touch screen on the printer, you can initial the production with the last 10 print jobs from the print history. Tap on [PRINT] in the top menu to launch the printing history.



Structure of the PRINT menu



Item		Description
A	Exit	Press the icon to exit the print history.
B	Delete entry	After selecting the entries to delete (with item E or F), tap this icon to delete them from the system.
C	Switch view	The screen displays history entries with list and tiles view. Tap this icon to switch between the views.
D	Home	Press the icon to go back to the top menu.
E	Select all	Tap the checkbox the select all entries.
F	Single selection	Tap the checkbox by the left to select a single entry.
G	History entries	Tap the entry to view the thumbnail of the print job.



Start printing from the history

1. From the main menu, go to [PRINT], tap a history entry from the list view or thumbnail view.

[List View]



[Thumbnail View]



Tap to enlarge the thumbview.

2. Review the printing settings. Tap [PRINT] to initial the production.



[PRINT] button is disabled while the system is reading the slicing information from the history. Allow a few second before tapping the [PRINT] icon.

If the resin bottle installed doesn't match the resin type of the selected file, the system will highlight the issue with a warning sign . Production is prohibited in this case.

Managing the printing history

1. From the main menu, go to [PRINT], and select a single entry (tap the checkbox before each entry) or select all entries (tap the checkbox by the header).

[List View]

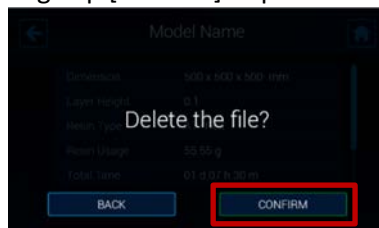


[Thumbnail View]



Tap to enlarge the thumbview.

2. Tap the [Delete] icon, and following Tap [Confirm] to proceed to deletion.



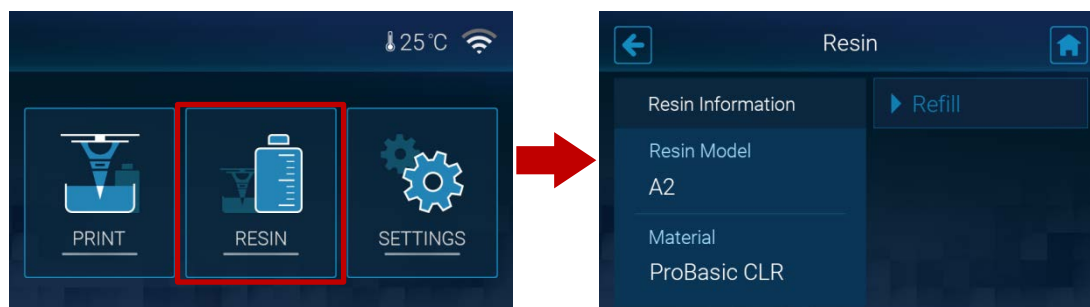


RESIN MENU

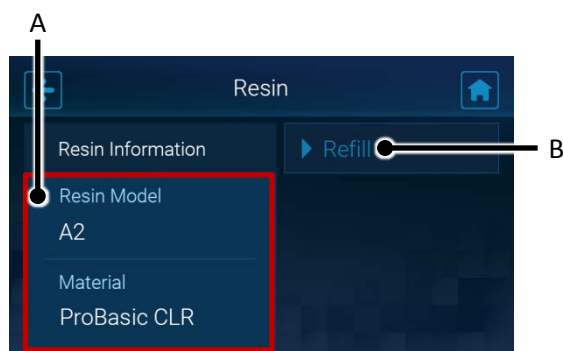
Resin menu provides detailed information on the resin cartridge, including the material type and resin model and the switch of auto-filling function.

When the material level is running low, a warning sign  will be shown on the RESIN icon.

Tap on [RESIN] in the top menu to launch the information and settings related to the printing material.



Structure of the RESIN menu



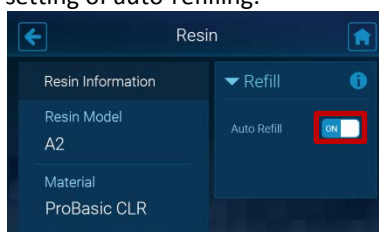
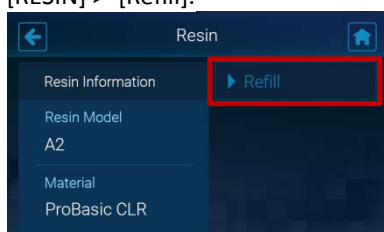
Item		Description
A	Information of the resin cartridge	The section shows the resin model and material type of the cartridge installed on the printer.
B	Switch of the refilling function	The function provides the switch of the auto-refilling function.

Switching on/off auto-refilling

When Refill is enabled, the printer will fill the resin tank automatically before printing and when low tank level is detected.

Auto-refill will be switched off when the timeout expires. Timeout may be caused by an empty resin bottle. Please replace the resin bottle before enabling the function.

1. From the main menu, go to [RESIN] > [Refill].
2. Tap the switch to adjust the setting of auto-refilling.

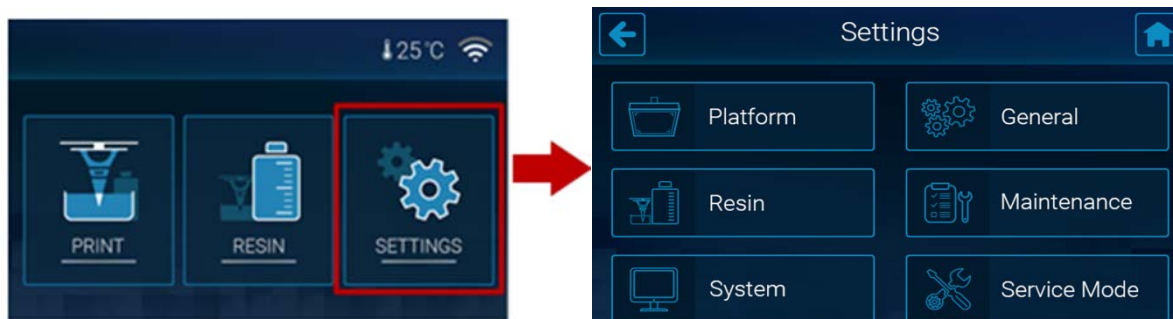




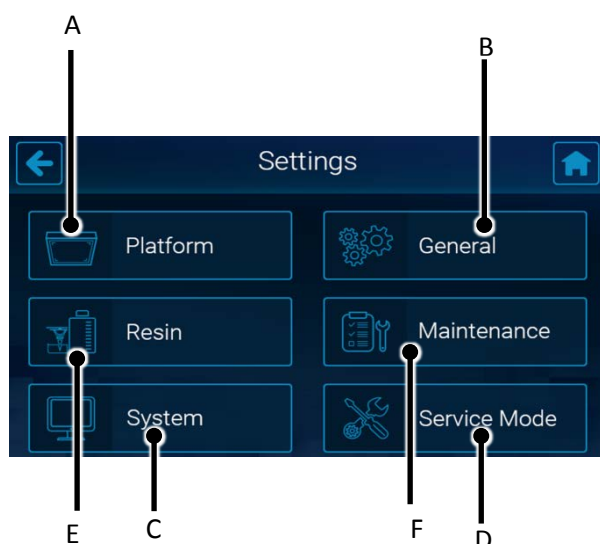
SETTINGS MENU

The menu provides the control of platform movement, brightness and timeout of the screen, sound volume, display language, connectivity settings, and show the system information.

Tap on [SETTINGS] in the top menu to go to system settings.



Structure of the SETTINGS menu

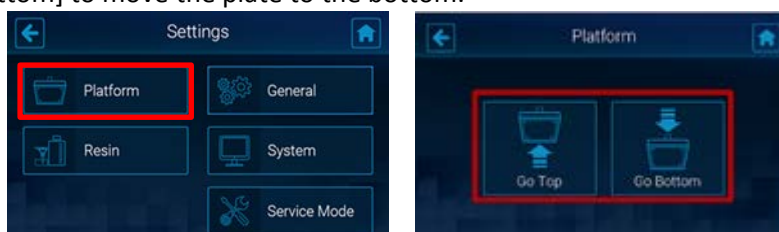


Item		Description
A	Position of the platform	Use this function to move the platform
B	General settings	For setting up display brightness and timeout, audio volume, display language, wireless and Ethernet configuration.
C	System information	For checking system information, system version, MAC address and the accumulated print time.
D	Service mode	The function is password-protected and limited to servicing personnel only.
E	Resin	This function is to show the resin status.
F	Maintenance	This function is to show the maintenance items.

Platform

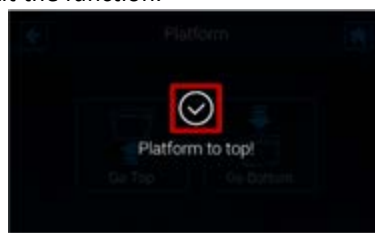
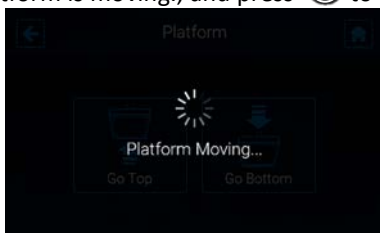
The system controls the movement of the platform in normal operating. In the case that you will need to move the platform to the top or the bottom, follow the procedures below.

1. From the main menu, go to [SETTINGS] > [Platform], and select [Go Top] to move the platform to the top or select [Go Bottom] to move the plate to the bottom.





- Wait while the platform is moving., and press to exit the function.

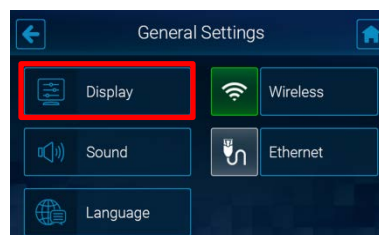
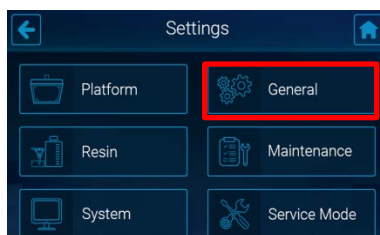


General

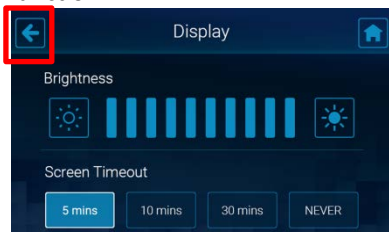
Adjusting the display brightness and timeout

Screen backlight enhances the readability of the content of the display. You may adjust the brightness and screen timeout based on your preferences.

From the main menu, go to [SETTINGS] > [General], and select [Display].



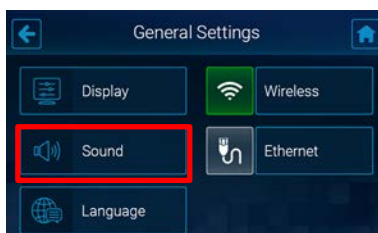
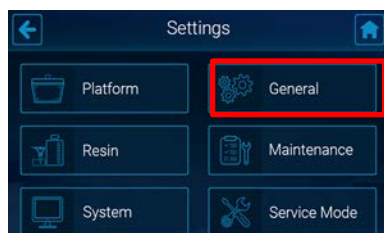
- To adjust the screen brightness, drag or tap on the slide bar directly. Drag the slider left to decrease the brightness, and vice versa. To adjust the screen timeout, select the options at the bottom. Tap to exit the function.



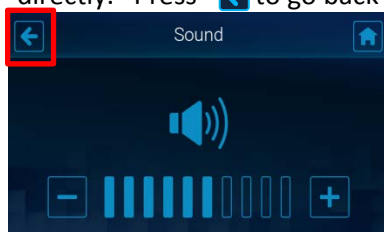
Adjusting the audio volume

The embedded speaker alerts your operation on the screen and the status of production. You may adjust the audio volume or even mute the speaker.

From the main menu, go to [SETTINGS] > [General], and select [Sound].



- Tap the adjustment buttons on 2 sides or tap on the volume bar to adjust the audio volume. To mute the speaker, keep tapping until the speaker icon change to the mute sign or tap the speaker icon directly. Press to go back to the previous page.

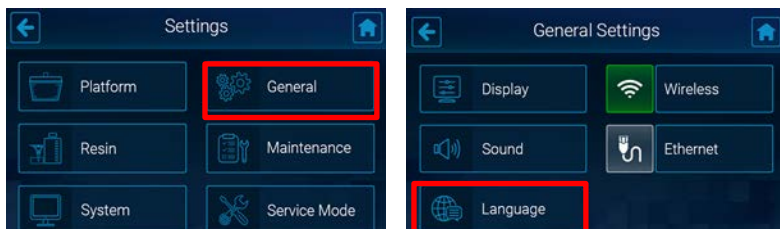




Changing the display language

The display language is selected during initial setup. The setting can be changed anytime with the following procedure.

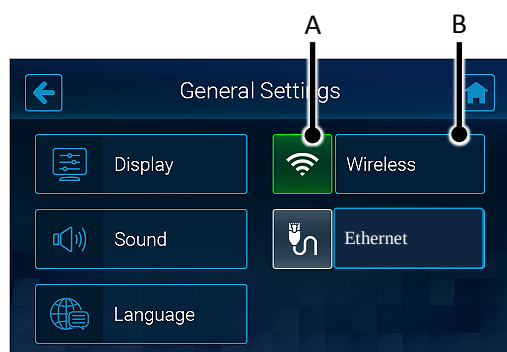
From the main menu, go to [SETTINGS] > [General], and select [Language].



1. Tap a desired display language on the language list. The setting will be applied immediately. Press  to go back to the previous page.



Structure of the Wireless icon



Item		Description
A	Switch of Wireless connectivity	Tap on this icon to switch on/off the Wireless connectivity. The icon displays in different color for showing current status.
		 Wireless configuration enabled.
		 Wireless configuration disabled.
B	Wireless Setup	When Wireless configuration is enabled with the icon shown in green, you can press this button to set up the Wireless connection.

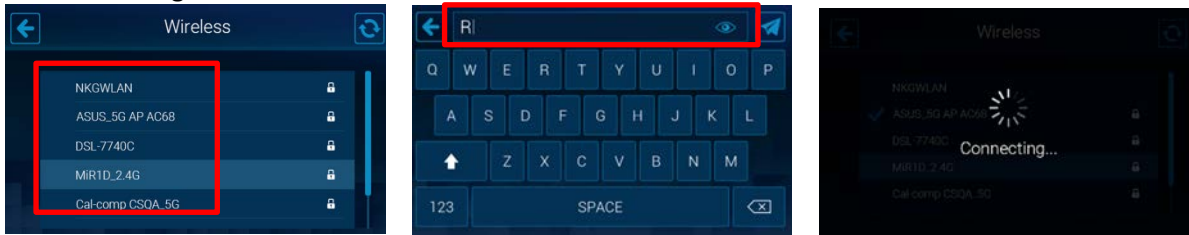
Connecting to a Wi-Fi network

1. From the main menu, go to [SETTINGS] > [General]. Following tap the wireless connection icon to enable the function. Skip this step if the icon is shown in green. Tap [Wireless] to enter the setting.





2. Tap a WiFi SSID from the list of available Wi-Fi networks. To rescan available network, tap . Enter the password for the secure Wi-Fi network, and tap to join the network. Wait while the system is connecting to the selected Wi-Fi network.



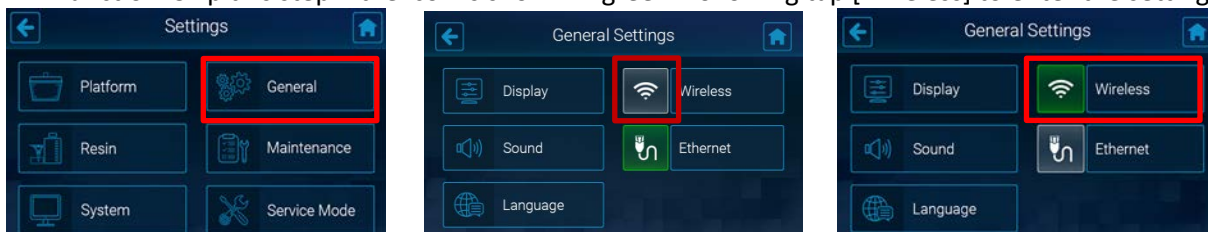
3. Connection is setup when a tick appears at the left side of the selected network. Tap to exist the function. Once connect to Wifi, the right side top of the main menu will appear a client IP address icon.



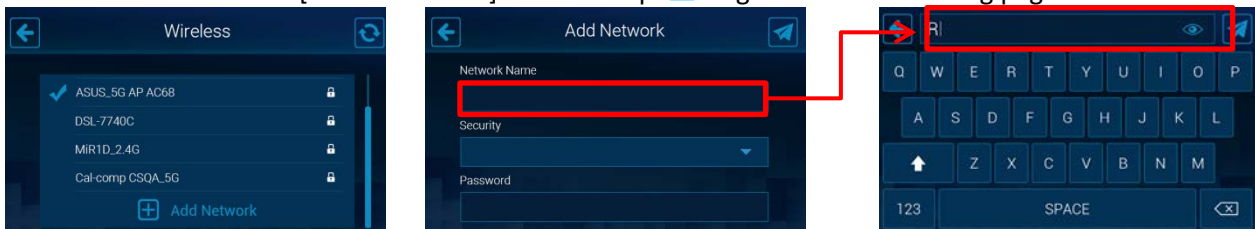
The Wireless communication is only effective when your computer is connected to the same network, Wireless and Ethernet connectivity are unable to go live at the same time. Ethernet will be disabled automatically when Wireless connectivity is enabled.

Connecting to a hidden Wi-Fi network

1. From the main menu, go to [SETTINGS] > [General], and tap the wireless connection icon to enable the function. Skip this step if the icon is shown in green. Following tap [Wireless] to enter the setting.



2. Swipe to the bottom of the list of available Wi-Fi connections, and tap [Add Network]. Enter the exact name of the network in the [Network Name] field and tap to go back to the setting page.

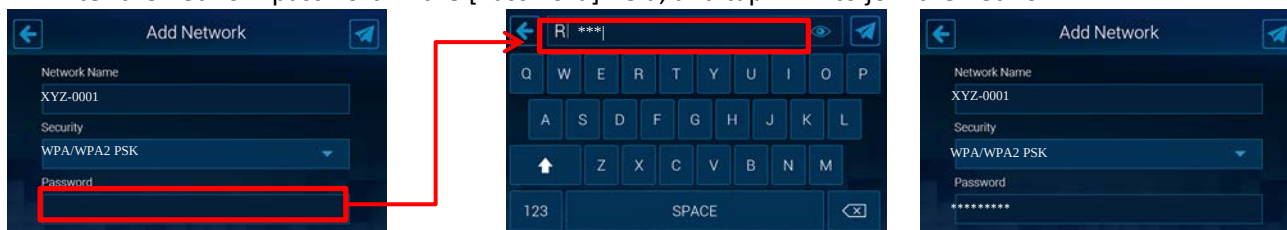


3. Tap [Security] dropdown list and choose the security type. If you're not sure about the security of your network, check with your network administrator.





4. Enter the network password in the [Password] field, and tap  to join the network.



5. Connection is set up when the hidden network is added to the list with a tick appears at the left side. Tap  to exit the function.

Structure of the Ethernet icon



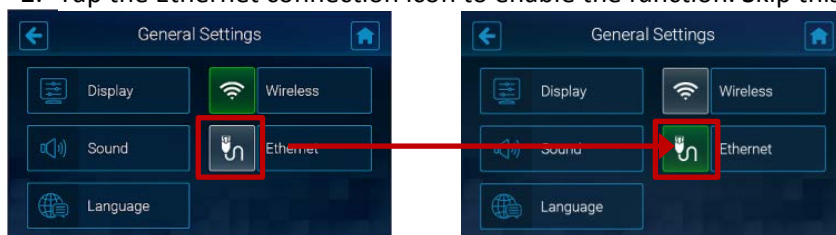
Item		Description
A	Switch of Wireless connectivity	Tap on this icon to switch on/off the Ethernet connectivity. The icon displays in different color for showing current status.
		 Ethernet configuration enabled.
		 Ethernet configuration disabled.
B	Ethernet Setup	When Ethernet configuration is enabled with the icon shown in green, you can press this button to view the auto-assigned IP address or set up the Ethernet connection.

Enabling Ethernet connection

1. Plug in the Ethernet cable to the Ethernet Port at the back of the printer. From the main menu, go to [SETTINGS] > [General].

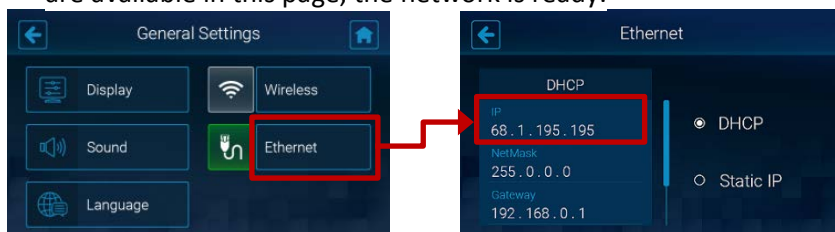


2. Tap the Ethernet connection icon to enable the function. Skip this step if the icon is shown in green.





3. The printer will obtain an IP address automatically. Tap [Ethernet] to view the IP settings. When IP settings are available in this page, the network is ready.

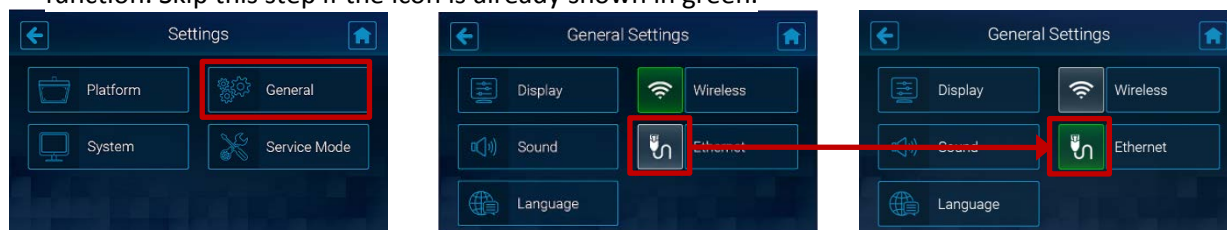


Manually configuring Ethernet network

The printer is set to obtain an IP address automatically by default. However, if you are using the printer on a network without DHCP, or want to prevent the printer's IP address from changing, you may specify IP address for the printer. Check the corresponding settings with your network administrator.

Proceed to the following procedures after plugging the Ethernet cable to the Ethernet port at the back of the printer.

1. From the main menu, go to [SETTINGS] > [General]. Tap the Ethernet connection icon to enable the function. Skip this step if the icon is already shown in green.



2. Tap [Ethernet] to go to the configuration page. Tap [Static IP] to switch to manual configuration.



3. Set up [IP], [NetMask], [Gateway], and [DNS] respectively. Tap each field to open up the on-screen keyboard.

In each input screen, tap the IP address field and input the IP address using the on-screen keyboard and tap  to apply the setting. Repeat the process until you have setting up the IP address of each item and tap to exit the function.



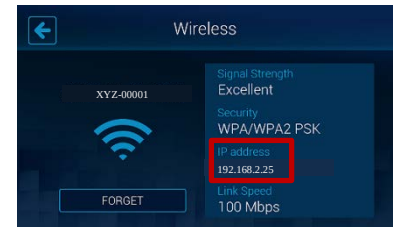
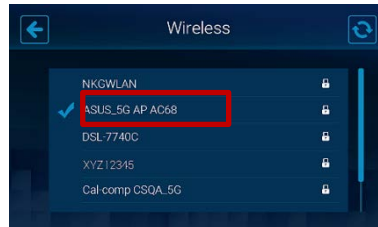


Viewing the IP address

In the network configuration with several printers, you may identify the printer with its serial number and IP address. The printer is assigned an IP address when connected to the wireless and Ethernet network.

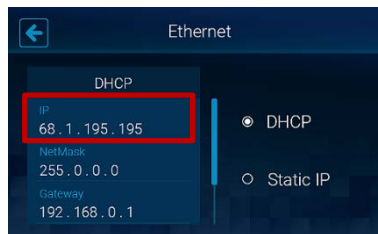
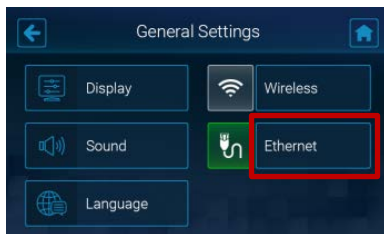
- When on the wireless network:

1. From the main menu, go to [SETTINGS] > [General] > [Wireless]. Tap the connected network in the list of available network. Find the IP address in the right section.



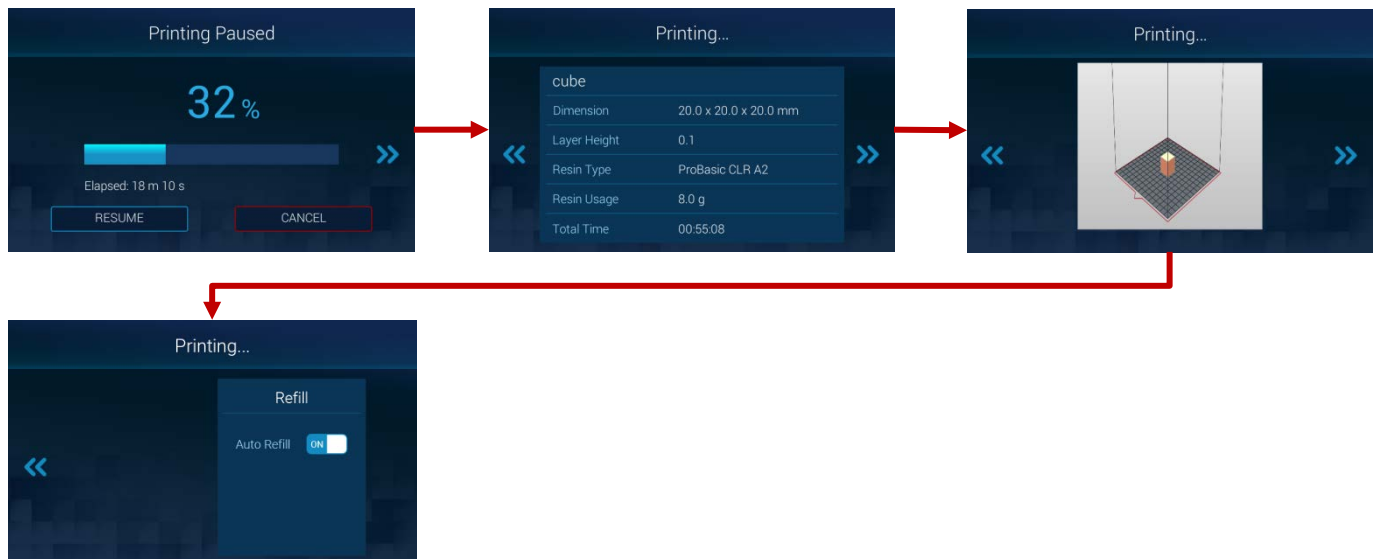
- When on the Ethernet network:

1. From the main menu, go to [SETTINGS] > [General] > [Ethernet]. Find the IP address in the left section.



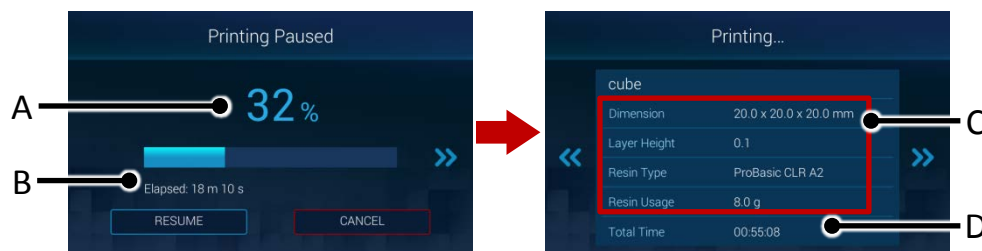
PRINTING CONTROLS

When the printing has begun, you can use the printer screen to check the printing progress and the information of the file in production, and control the printing. Tap << or >> to switch between different pages.



Monitoring the progress

Through the printer screen, you will find the information of printing progress, elapsed time, slicing settings and the estimated total print time. Tap << or >> to switch between different pages.



Item		Description
A	Printing progress	The printing progress is displayed in percentage with a progress bar.
B	Elapsed time	The elapsed time is the amount of time that passes from the beginning of the printing.
C	Slicing settings	Slicing settings are the options selected during exporting the file with XYZprint AM ^{UV} .
D	Total print time	This is the estimated total time to complete the printing.

Pausing the printing

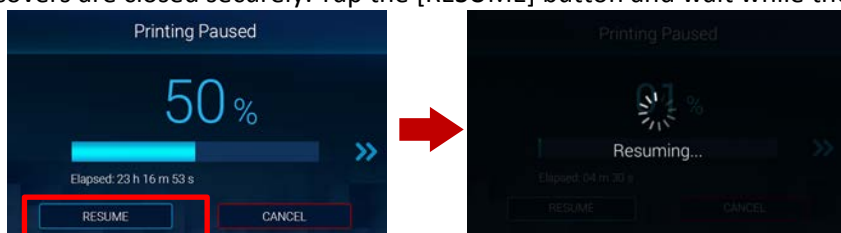
Printing can be paused if necessary.

To pause the printing, simply tap the [PAUSE] button.



Resuming the paused task

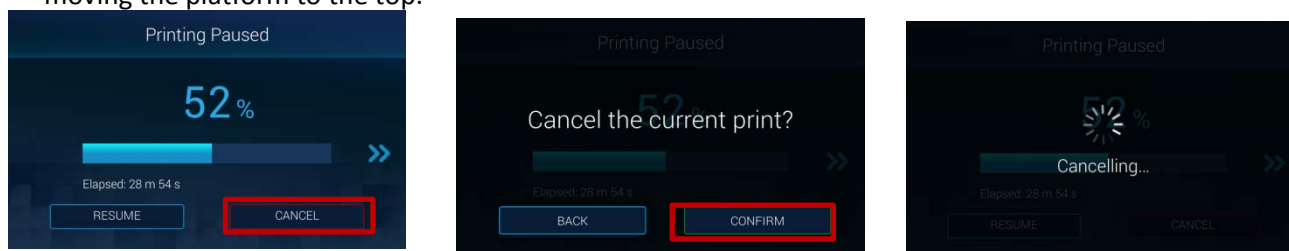
Before resuming the paused task, make sure the resin bottle is installed correctly and the front and the side covers are closed securely. Tap the [RESUME] button and wait while the system resuming the printing.



Canceling the printing

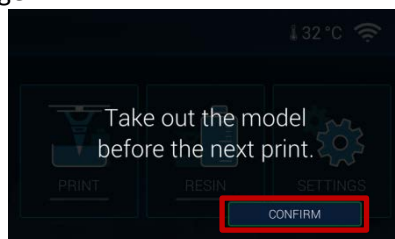
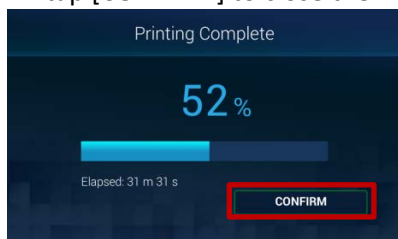
You can cancel the printing anytime if necessary.

1. Tap [CANCEL], following tap [CONFIRM] on the next page. Wait while the system is processing the request and moving the platform to the top.





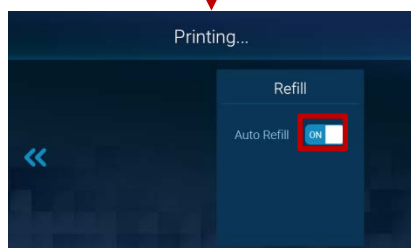
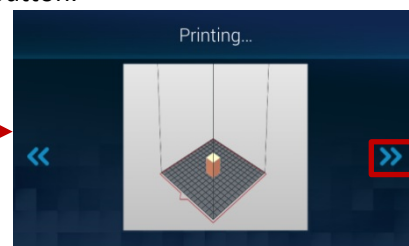
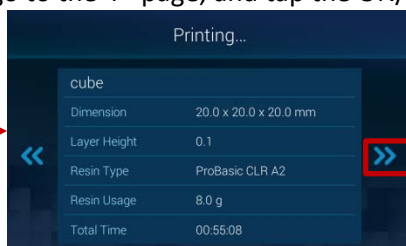
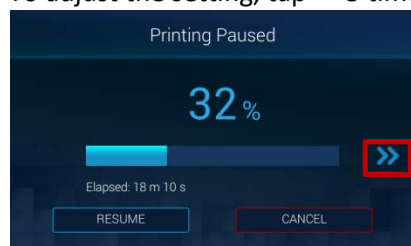
2. Tap [CONFIRM] again when the system has finished the process. Clean up the model on the platform and tap [CONFIRM] to close the message.



Switching off auto-refilling

The setting of auto-refilling can be changed during printing.

To adjust the setting, tap >> 3 times to go to the 4th page, and tap the ON/OFF button.





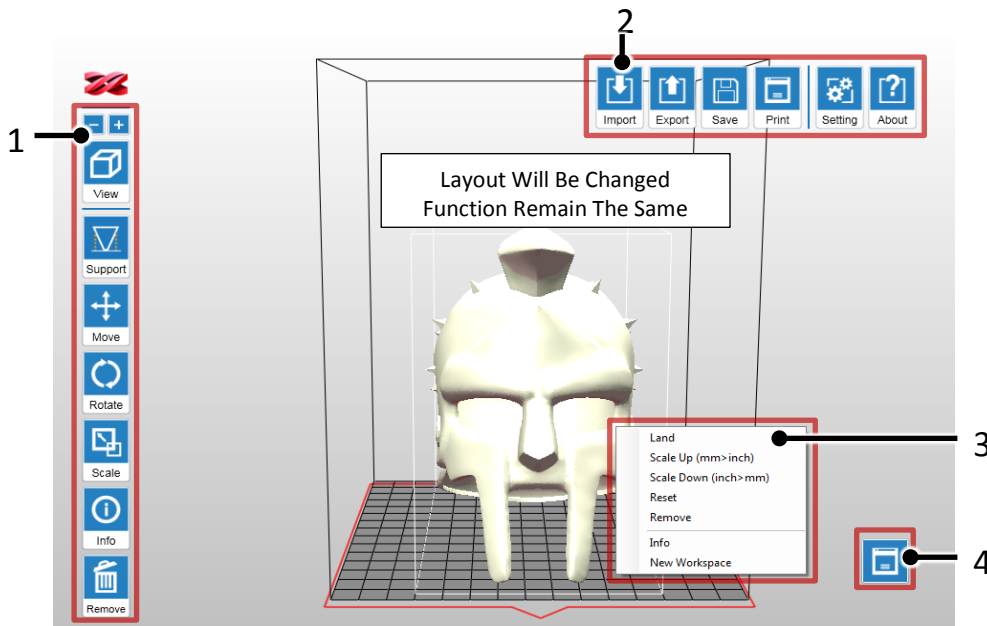
4. OPERATING XYZprint AM^{UV}

Launch XYZprint AM^{UV} by double-clicking on the desktop icon  on the Windows desktop or select XYZprint AM^{UV} from the list of program on your computer.

SOFTWARE INTERFACE

The software illustrates the printing environment on the printer. An empty workspace is presented with grids for showing the display unit in centimeter or inch.

All models loaded to the software will be placed on the workspace. Production is not allowed when any model is out of the boundary of the workspace.



The software is controlled with the following icons shown on the top and the right side of the workspace.

Function	Description	When Enabled
1 Side Bar		
Zoom the view	Zoom in or out the platform to view the details of objects.	A
View	Change the view angle on the workspace.	A
Support	Add support structures under overhangs.	D
Move	Change the location of models on the workspace	C
Rotate	Change the orientation of models on the workspace.	C
Scale	Resize the models on the workspace.	C
Info	Display the information on the model's file name, file format, position on the workspace and size.	C
Remove	Delete the models on the workspace.	D



Function	Description	When Enabled
2 Top Bar		
Import	Import models in .stl/.3ws/.3wn format to the workspace.	A
Export	Slice the models on the workspace and export to .3wn format.	B
Save	Save the models on the workspace as .stl or .3ws file.	B
Print	Setup printing preference and send the objects for printing	B
Setting	Set up interface language, display unit, printer model, fine-tuning printout dimensions, and enable/disable auto-position.	A
About	Display the version number of the software and the machine, and the information of the resin bottle installed on the printer. The function is also used for software and firmware update.	A
3 Right-click Menu		
Land	Land the model on the workspace.	C
Scale up (mm>inch)	Change the display unit of the selected model from millimeter to inch.	C
Scale down (inch>mm)	Change the display unit of the selected model from inch to millimeter.	C
Reset	Reset the edit of positioning, rotation and scaling and delete the supports.	C
Remove	Delete the model on the workspace.	C
Info	Display the information on the model's file name, file format, position on the workspace and size.	C
New Workspace	Delete all models on the workspace.	A
4 Printer Monitor	Set up printer connection and monitor the status of the printer.	A

Refer to the following chart for the code of "When Enabled".

A	When the software is launched
B	One or more objects are added to the workspace.
C	An object is selected.
D	One or more objects are selected.
E	After an undo request.

KEYBOARD SHORTCUTS AND MOUSE CONTROLS

To work more efficiently in the software, you can use the following keyboard shortcuts and mouse controls:

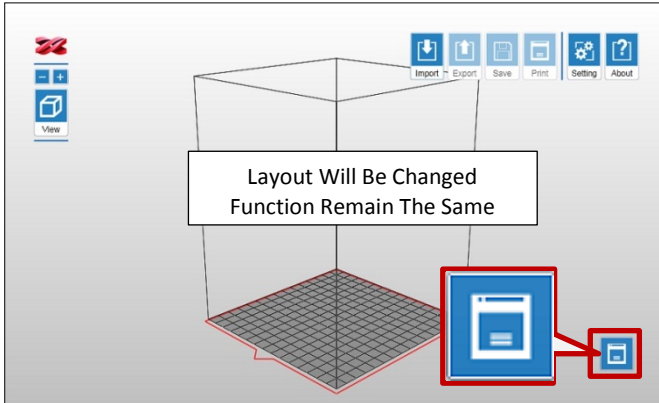
- **Ctrl + A:** Select all objects on the workspace
- **Alt + drag the right or left button:** Move the object on X/Y axis
- **Delete:** Delete the selected objects from the platform.
- **Ctrl + left click:** Multiple selection
- **Drag the mouse wheel:** Pan the workspace
- **Drag the right or left button:** Change the view



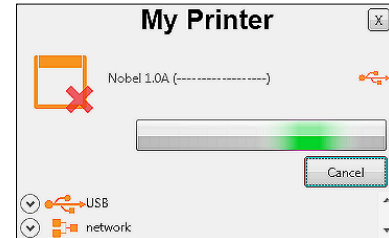
CONNECTING TO THE PRINTER

After plugging in the USB cable between the printer and the computer or completing the configuration of wireless or Ethernet network on the printer, initial the connection with the following procedures:

1. Click the printer monitor on the lower right corner.



2. Wait while the software is scanning for the available printers.



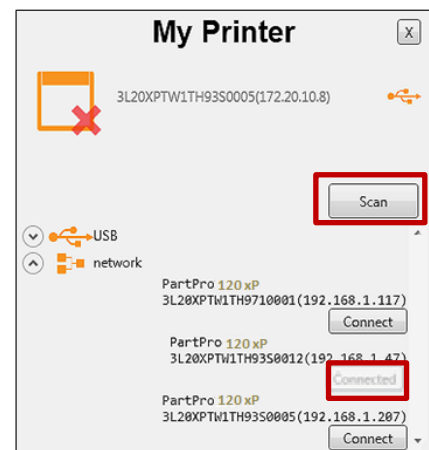
3. All available printers will be listed at the bottom of [My Printer]. Cable connected printers will be listed under [USB] while other machines connected through wireless or Ethernet network under [Network].

Find the targeted printer with its serial number or IP address, and click [Connect] to initial the connection.

If the target device does not appear here, click [Scan] button to retry searching for the device.



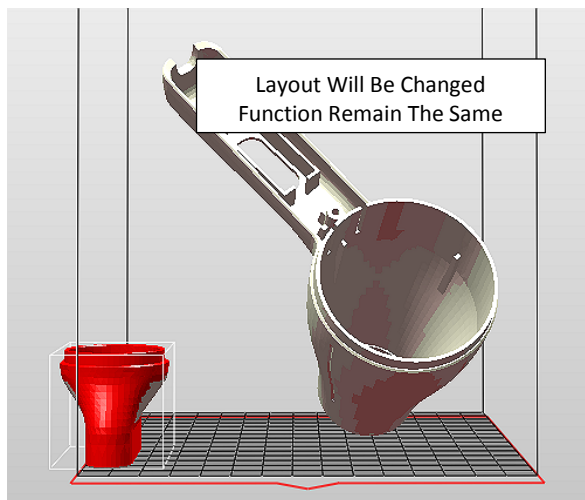
4. When the connection is set, [Connect] button will change to [Connected]. You can click [X] to close the window and begin other operation.





COLOR DISPLAY OF OBJECTS

The color of the printed parts is depending on the material installed, and is not related to the display color in the software.

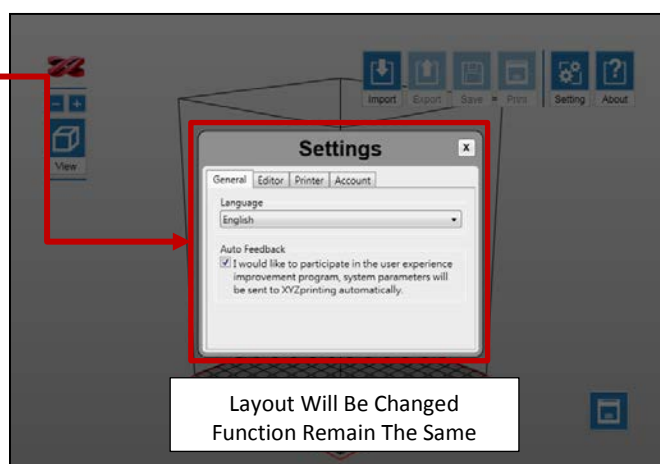
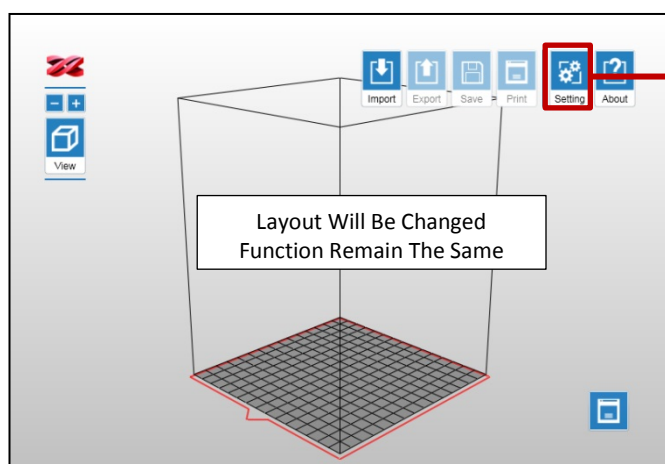


The color displayed in the software allows for easy distinguish of the status of objects on the workspace. The indication of different colors is explained as following:

Color	Description
White	The models within the printing area.
Shaded pink	Overhang area on the models.
Red	The models are out of the production area. If there is any model shown in red, the [Export] and [Print] functions will be disabled. Please adjust the placement of the models.

PREFERENCE SETTINGS

You can adjust the following items based on your preference. Firstly, click [Setting] icon on the main screen. The preference can be changed any time in the [Settings] tab.

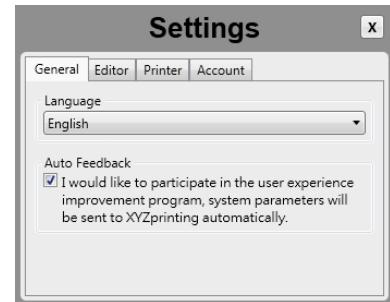




Display language

The following languages are available on the software interface: German, English, Spanish, French, Italian, Korean, Japanese, Simplified Chinese, and Traditional Chinese.

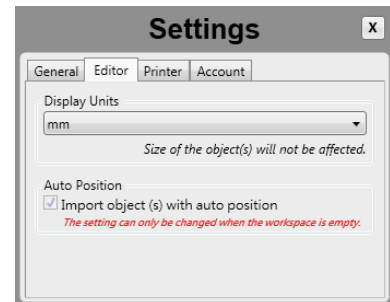
To change the display language, select the preferred language from the drop-down list in the [General] tab.



Display unit

The software can display the models in millimeters or inch.

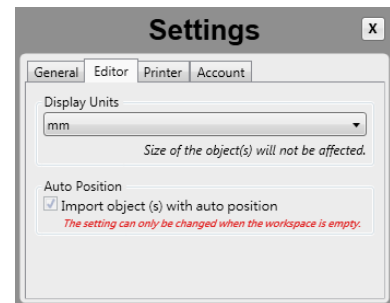
To change the display unit, select the preferred display unit from the drop-down list in the [Editor] tab.



Auto positioning

When importing models to the workspace, the software can adjust the position of the models automatically to prevent overlaps. The function is enabled by default every time when the software is launched. You may disable auto-position is preferred.

To disable auto-position, uncheck [Import object(s) with auto position.] in the [Editor] tab.



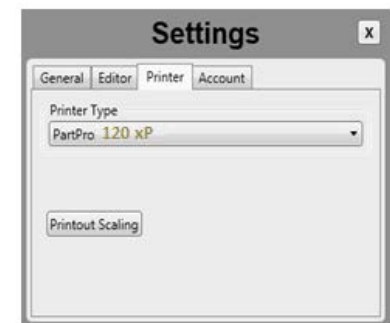
 This setting can only be changed when the workspace is empty.

Printer type

The software is compatible with several printer types. When working with different printer model, you will need to select the correct printer type manually before manipulate and export the models to printing.

To prepare files for this printer, select [PartPro120 xP] from the drop-down list in the [Printer] tab.

 Models on the workspace will be removed after the printer type is changed.



Dimension fine-tuning

Printing accuracy at X/Y axis can be improved if you find the printout dimension is different from the original design.

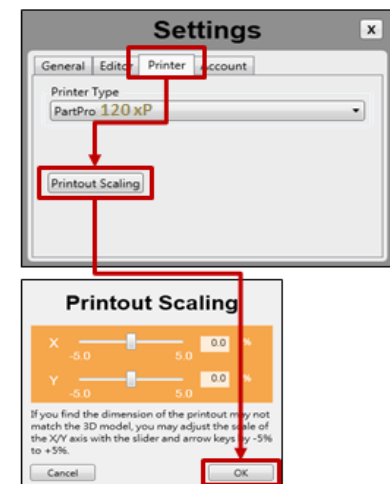
To fine-tune the dimension:

Measure the dimensions of the printout, and compare it with the design.

Go to the [Printer] tab and click [Printout Scaling] button.

Adjust the scaling rate at X and Y-axis ($\pm 5\%$) and click [OK] to apply the setting.

 The setting will be stored in the software and applied to every print job sent afterwards. If you are operating multiple printers, be sure to change the setting here before exporting the files for a different printer.





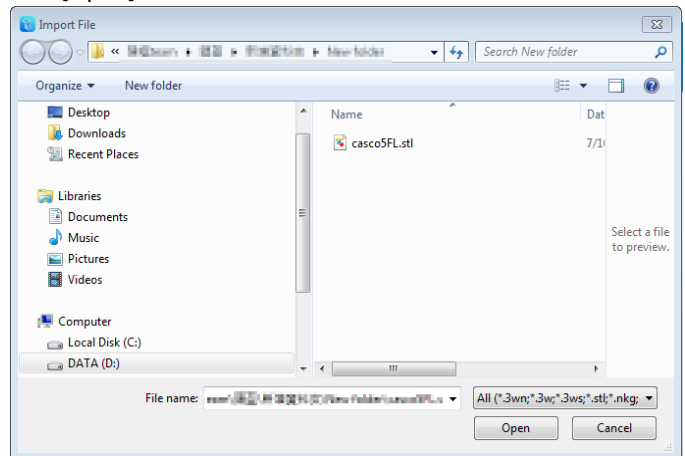
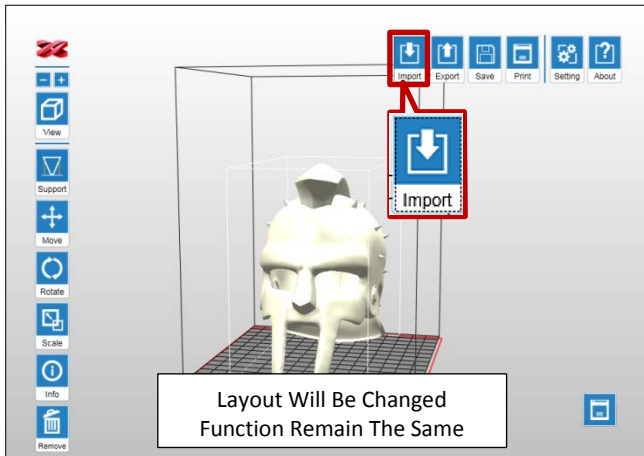
PREPARING THE FILES

Importing Models to the Workspace

Models to be printed should be loaded on the workspace for preparation.

To load .stl, .3ws, or .3wn file to the workspace for printing:

1. Click [Import] icon.
2. Browse to the target folder, select the file type to be imported from the file-format drop-down list in the [Import File] window. Navigate to your file and click [Open].



- You can import only one file at a time. To import more files, repeat the operation or drag the files to the workspace directly.
- Files in different format are not allowed on the workspace.
- Only one 3ws or 3wn file is allowed on the workspace.

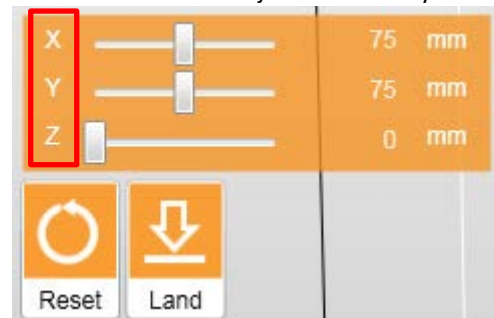
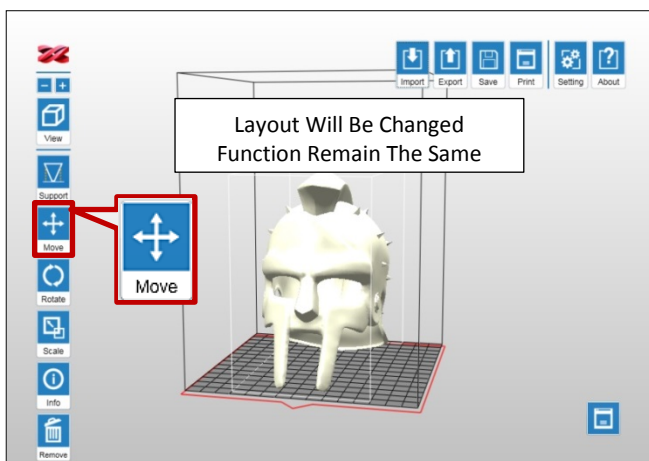
MANIPULATING MODELS ON THE WORKSPACE

Repositioning models

The position of models has direct impact to the printing time. Especially when multiple models are imported to the workspace, you may want to adjust their positioning manually.

To adjust the position of the models:

1. Select an object on the workspace and click [Move] icon.
2. Move the object along the x, y, or z axis with the slider bar. You may also press and hold ALT key and drag the mouse to move the object horizontally.





Rotating the models

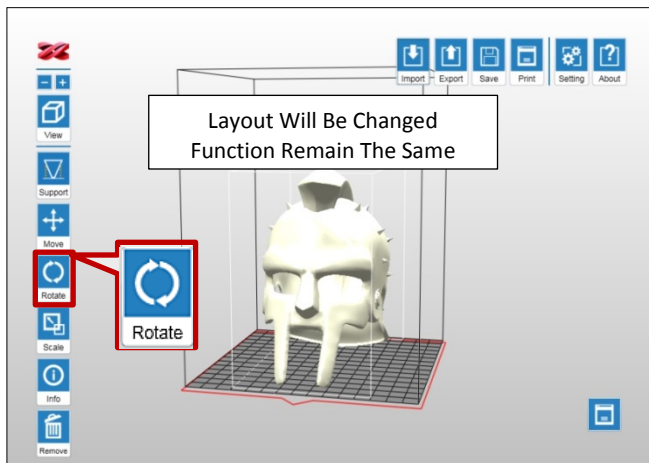
The orientation of models may impact the printing quality, successful rate and printing time. To ensure a successful print, you may need to rotate the models and add supports to overhangs based on the features of each model.

Key consideration for orientation:

- Top-heavy structure may fall off the platform, and may require more supports to hold it on the platform. The best practice is to rotate your object to move the heaviest part of it to the bottom.
- Objects with large cross-section area may also fall off the platform.
- Horizontal plane may droop due to the nature of the liquid material.

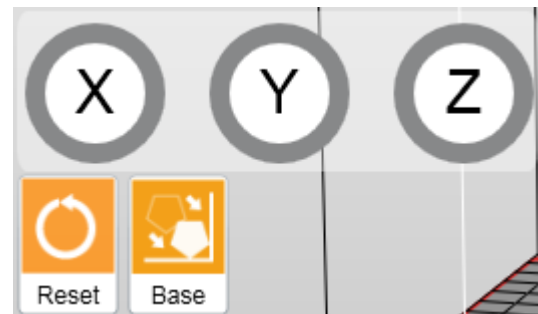
Support will be removed when rotating the models with support settings. Therefore, decide the best orientation of the parts before setting up supports.

1. Select an object on the workspace and click [Rotate] icon.



2. Adjust the angle of the object around the x, y, or z axis by dragging or clicking the X/Y/Z knobs respectively.

Or to turn a specific facet to the workspace, click [Base] and click on your target facet, the model will be rotated as specified.



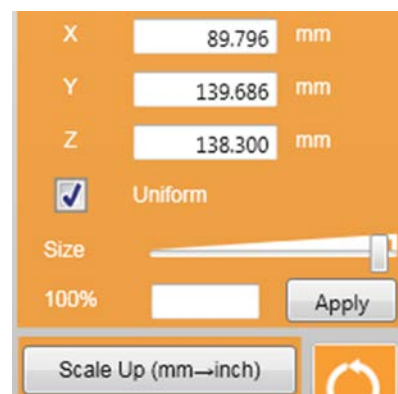
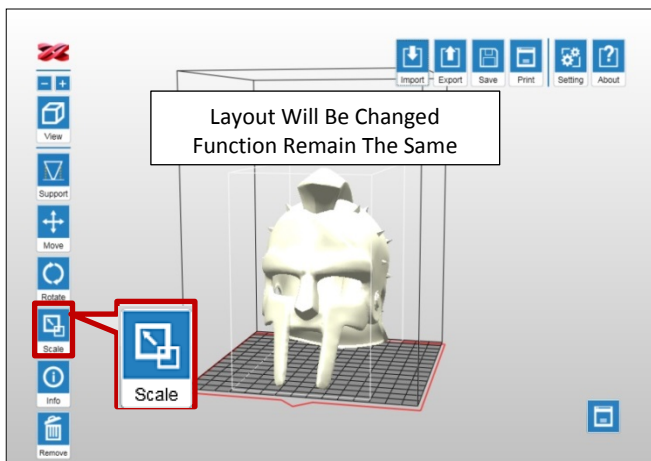
Resizing the models

When you want to print the model in the size different from the original design, you can scale of object in the software directly.

To adjust the size of the models:

1. Select an object on the workspace and click [Scale] icon.
2. Scale the object as you desire. To resize the models in the same ratio, select [Uniform] checkbox.

The size slider and scaling ratio are only effective when [Uniform] is selected.





Adding supports automatically

Support structure is required under overhangs. It prevents the falling for gravity and the deforming due to the peeling force during printing, and increases adhesion of the model to the platform.



The software is able to analyze the features of the model and add support structure to where necessary.



You may add or delete support structure based on the features of the print manually.



A manual editing mode to generate supports thicker than the original supports.

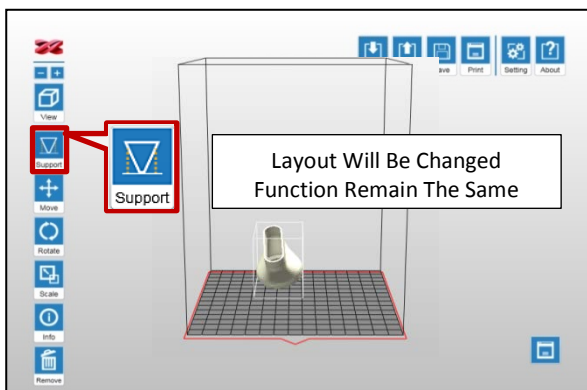


Tree supports connect to your 3D objects with very small contact.

 If the object is resized, rotated, or moved vertically, the support structure will be reset. Please set up the supports again.

To add supports automatically:

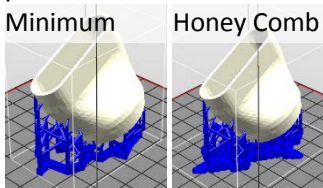
1. Select one or more object on the workspace and click [Support] icon.
2. Select [Auto].



3. Setup below settings based on the features of your object and click [Auto Generate] to add supports.



- **Density:** Large overhangs will require more support structure. However, more support structure will take longer for printing.
- **Contact:** Thicker contact point will lead to higher strength but it may require more efforts to remove them in the post-processing steps.
- **Raft Type:** a raft is an extra base at the bottom of the supports. It helps increase the adhesion to the platform.



- **Lift:** Lift the objects over the print platform is necessary for those without any flat surface or not suitable for laying on the platform. Be sure to check if the supports are enough to hold the objects on the platform before printing.

- **Inner Support:** For objects with inner overhanging structure, supports will be added when “Inner Support” is selected. However the support at inside may not be removed easily for some structures with small openings, you may consider printing without inner support.

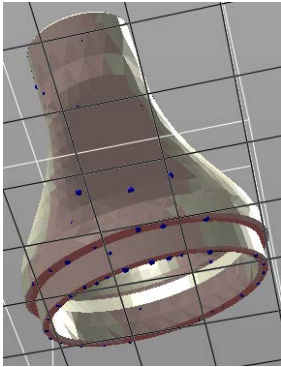
-  Raft is not available for the part too close to the platform (z-gap <6mm). In such setting the supports will be built on the platform directly. The supports may come off the platform during printing. To print with a raft, be sure to select [Lift].
- Honey-comb raft provides the best adhesion. Printed models with such raft are easy to remove from the platform.
 - Minimum raft takes less resin to build.
 - To change the size or location of individual support structure, please edit it in the Manual Mode.



Editing supports manually

You can build the supports from scratch with the manual mode, or use it to adjust the supports generated in the Auto mode.

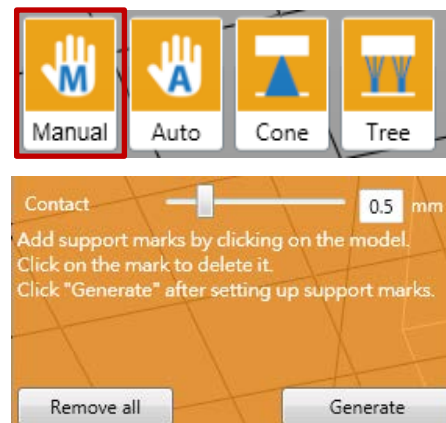
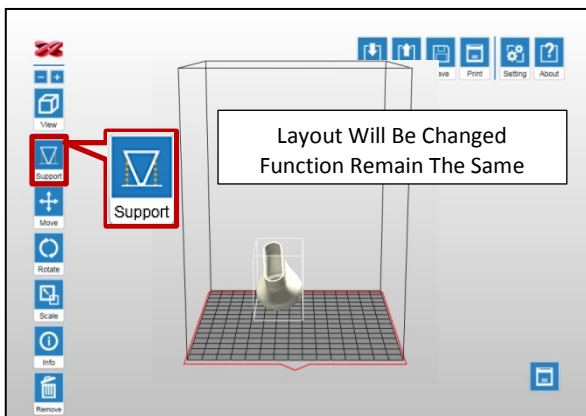
In Auto Mode, all supports are in the same size at the contact points. However, the size of the contact can be set to different based on the features of the object.



Larger contact may be required for heavy part. Smaller contact is good enough for holding lighter structure. Also it is easier for post-processing.

To edit the supports:

1. Select one or more object on the workspace and click [Support] icon.
2. Select [Manual].



3. If supports were added in the Auto Mode, they will be shown as blue dots in the manual editing mode.

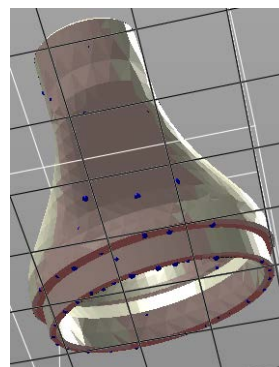
To add support, simply select a proper size of the contact point and then click on the model at the overhangs.

To delete support, just click on the support mark (the blue dot).

When finished editing the supports, click [Generate] to add supports.



Raft type in the manual mode is based on the selection under Auto mode. To change the raft style, adjust the raft style in Auto mode and go back to manual mode to complete the setting.



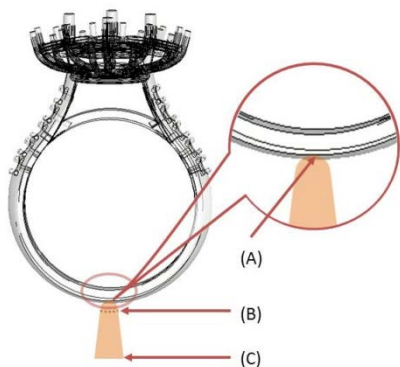


Cone supports

Cone support is thicker than the original support. It is ideal for adding sprues at the base of castable prints. When using cone support as the sprues, simply leave them on the prints for casting.

Cone support also provides better adhesion to the platform, making it helpful for holding the base of heavy objects on the platform. When the cone support is added to the object, it's recommended to sand it away for better surface finish.

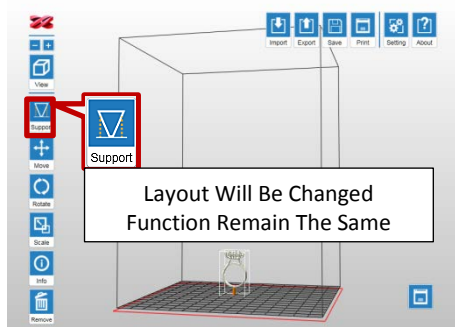
Structure of Cone Supports



Item		Description
A	Contact Area	A larger contact area may be required for heavy objects.
B	Top Diameter	Minimum diameter: 2mm.
C	Base Diameter	Minimum diameter: 3mm. The base diameter of the support should be at least 1mm larger than the top diameter.

To add cone supports

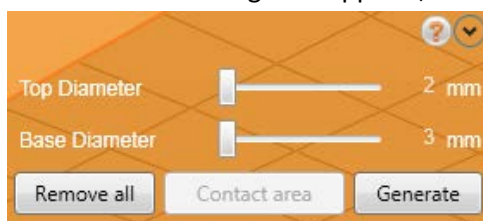
1. Select one or more object on the workspace and click [Support] icon.
2. Select [Cone].



3. Adjust the diameter of the cone and click on the overhangs on the model to add cone marks.

To delete a cone mark, click on the orange dot to remove it.

When finished editing the supports, click [Generate] to add supports.



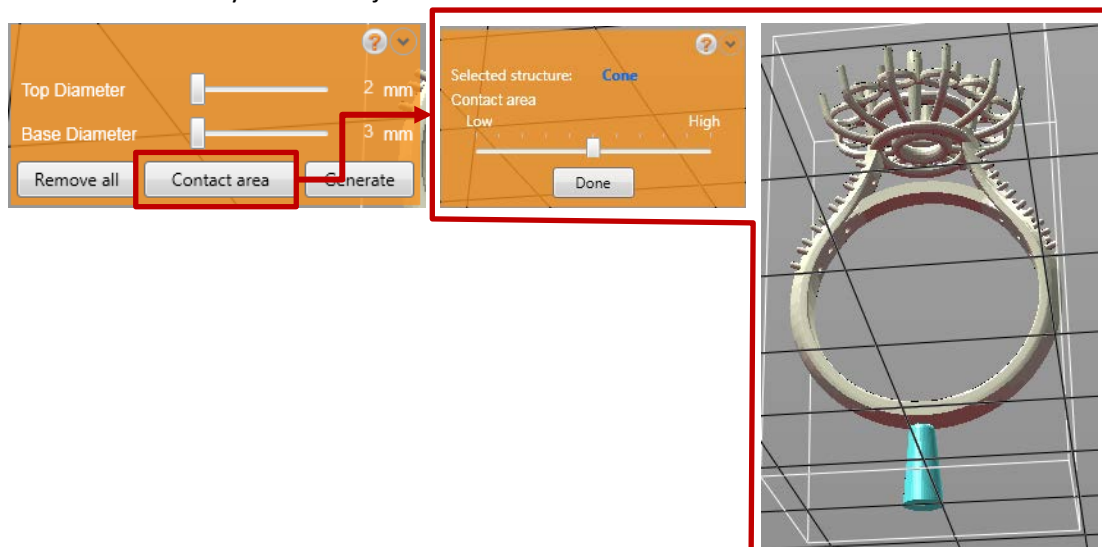


4. Adjust the contact area of the cone support if necessary.

To adjust the contact area of the cone support, go back to the function menu “Support” > “Cone”, and select the button “Contact Area”.

Click on the targeted cone (selected cone will change to blue) and drag the slider to adjust the contact area.

Click “Done” once you have adjusted the contact area of all cones.

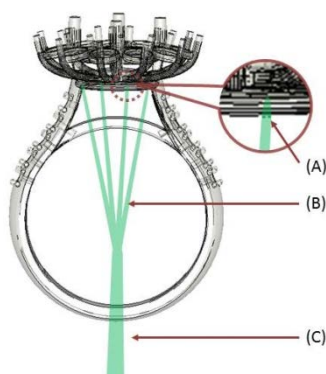


- Cone support is only available when the overhang is at least 6mm above the platform. The software will lift the object when necessary.
- The diameter of the support is fixed once added. To adjust the support, please delete the mark, change the diameters and add the cone mark again.

Tree Supports

Tree supports connect to your 3D objects with very small contact. It is suitable for holding the details on jewelry designs.

Structure of Tree Supports

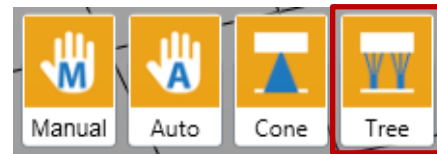
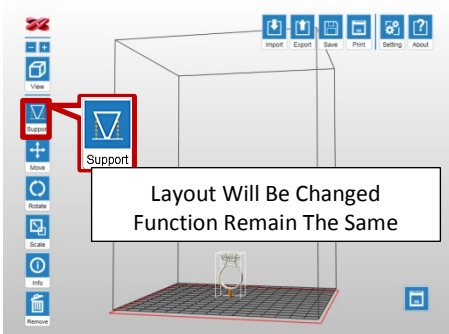


Item		Description
A	Contact Area	The area where the tree support connect to the objects. A larger contact area may be required for heavy objects.
B	Branch	The thin support which contacts the objects directly.
C	Trunk	The base of the tree support.



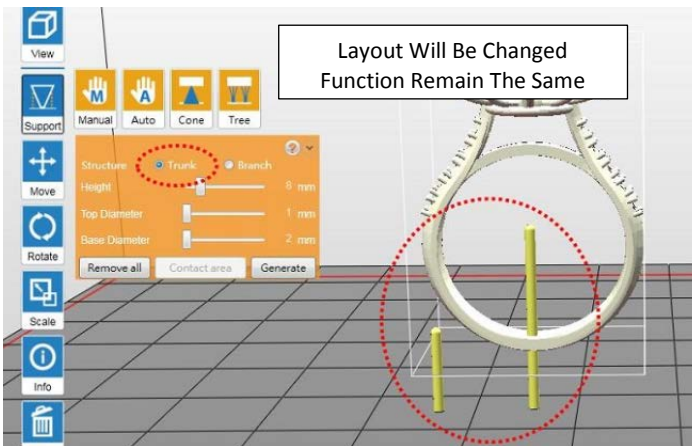
To add tree supports

1. Select one or more object on the workspace and click [Support] icon.
2. Select [Cone].



3. Set up the trunk.

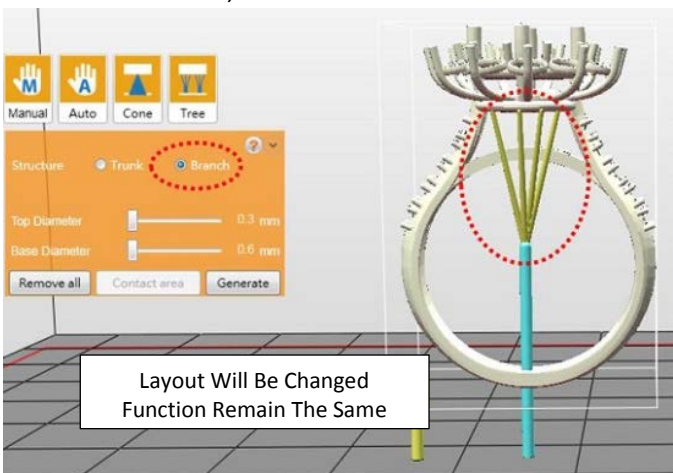
Click on the desired location on the platform to add a trunk. To move a trunk, click and drag on the trunk. To delete a trunk, click on it directly.



4. Set up the branches.

Switch to "Branch" setup. Click on the targeted trunk with a click on it. Click on the overhangs on the model to add branches to the selected trunk.

To delete a branch, click on the thin stick to delete it.



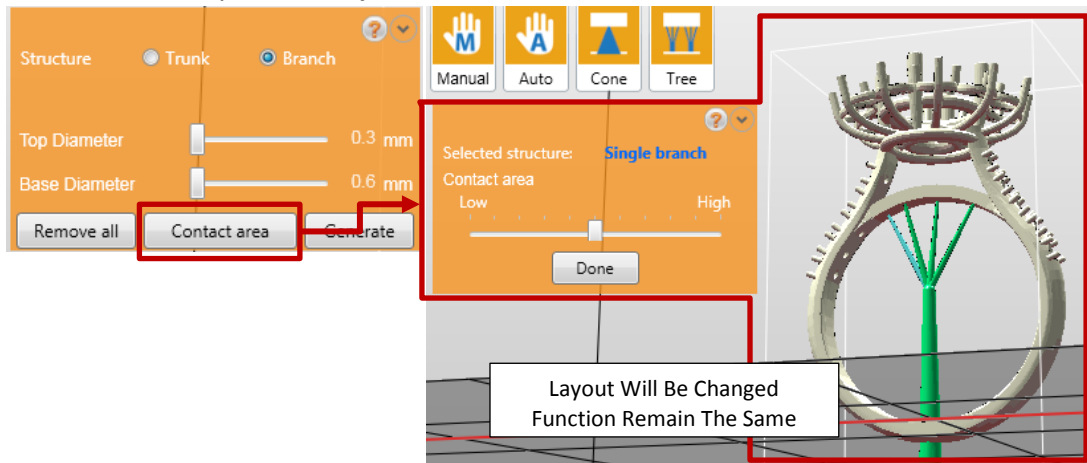


- Click “Generate” after setting up all marks.
- Adjust the contact area of the branches if necessary.

To adjust the contact area of the branches, go back to the function menu “Support” > “Tree”, and select the button “Contact Area”.

Click on the targeted branch (selected branch will change to blue) and drag the slider to adjust the contact area.

Click “Done” once you have adjusted the contact area of all cones.



- When no trunk is selected, the branches will be shown as yellow marks. Simply click on a trunk, the branch marks will be connected to the selected trunk.
- Branch mark should be higher than the top of the selected trunk.
- Branch setting is disabled when no trunk is added. Please set up trunks before adding branches.
- Branches over 45 degree slope will be shown in red, as they may be displaced in the printing process.

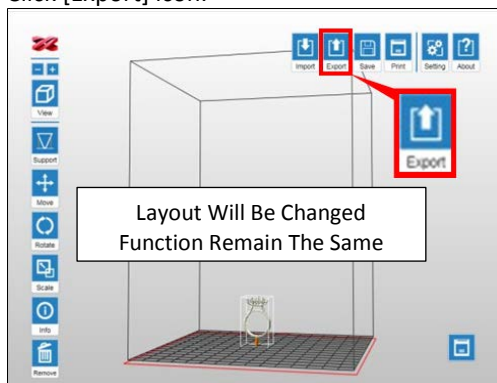
CONVERTING TO THE PRODUCTION FILES

Exporting the files

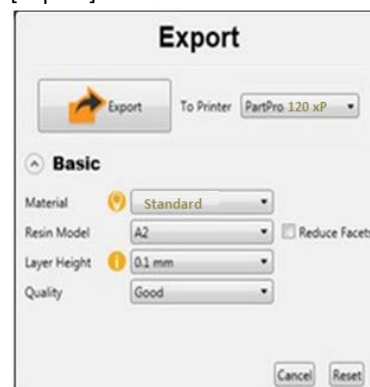
When finishing editing the files and the supports, click on [Export] to save the model to a sliced .3wn file. Once the file is sliced, you may skip repeating settings in the future.

To export the file:

- Click [Export] icon.



- Setup below settings based on the printing quality required and the resin material will be used, and click [Export] to slice the file.





- **Material:** Printing setup varies based on the color and material of the resin. Please set the option based on the resin bottle to be used.

It is advised to include color setting in filename for instant distinction in the future.

Please note that printing will be stopped if the selected resin type doesn't match the resin installed.

- **Resin Model:** [Resin Model] can be found under [RESIN] on the printer screen and on the serial number label on the resin bottle.
- **Layer Height:** Layer Height indicates the resolution of a print at Z axis.

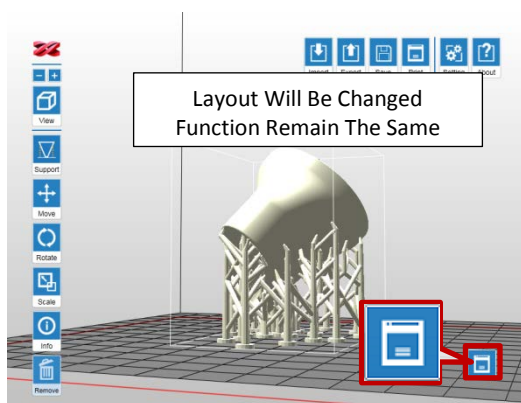
- **Quality:** The setting of Quality has impact on the smoothness of the surface of the printout. Printing with Good quality will take slightly longer than normal printing.
- **To Printer:** Printing parameters vary from printer models. Select [PartPro120 xP] for using this printer.
- **Reduce Facets:** Complex 3D models are composed of a large amount of meshes. Enable this function for slicing such models may save the render time as it will reduce the facets to 200 thousand elements. This function can also repair the 3D model when necessary.

Starting a printing task

New files can be sent to the printer via USB connection, wireless connection or Ethernet connection.

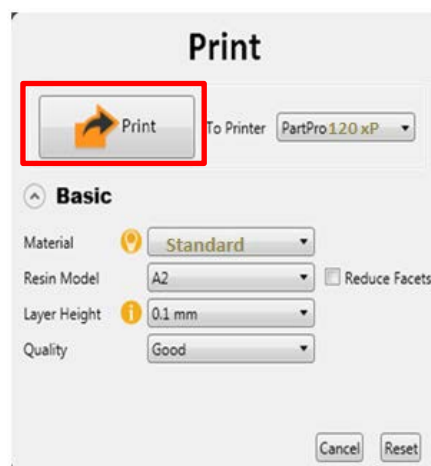
To start a new printing task:

1. Initial the connection through [Printer Monitor]. Refer to P.27.



3. Printout setting window (options are the same as the [Export] function) will pop up. Set your printing preference based on the features of the objects and hit [Print] to proceed.

2. Press [Print] icon on the top bar.



SAVING MODELS ON THE WORKSPACE

Models on the workspace can be saved in .stl or .3ws format for future used.

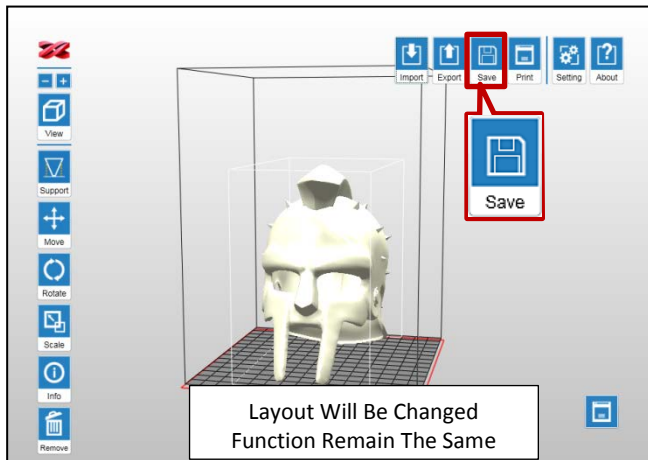
After saving the workspace in .stl format, further adjustment to a single object is prohibited as all models are combined as a single file.

Unlike .3ws project file, XYZprint AM^{UV} memorizes the geometry, orientation, placement, dimensions and the support settings of each model. Once importing the .3ws file on to the workspace, you can still edit each object with XYZprint AM^{UV}.

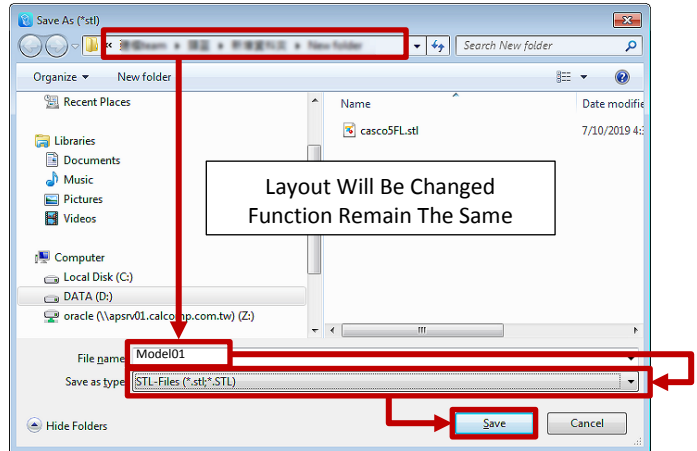


To save models on the workspace:

3. Click [Save] icon.



4. Select your target folder, input a file name in the field for [File name], choose the type of format you want to save as from the drop-down list, and click [Save].

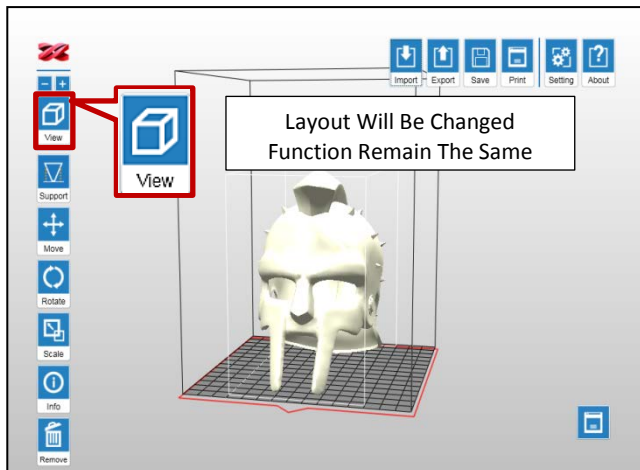


SWITCHING THE VIEW OF THE WORKSPACE

The view angel of the workspace can be changed anytime by dragging the right or left button on the mouse. Or to view the workspace from the standard views, you can use the [View] tool.

To switch between standard view angles:

1. Click [View] icon.



2. Select one of the icons and the software will turn the specified side of the workspace to your front view.

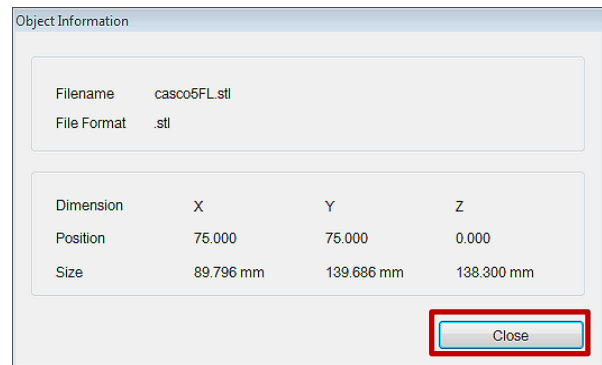
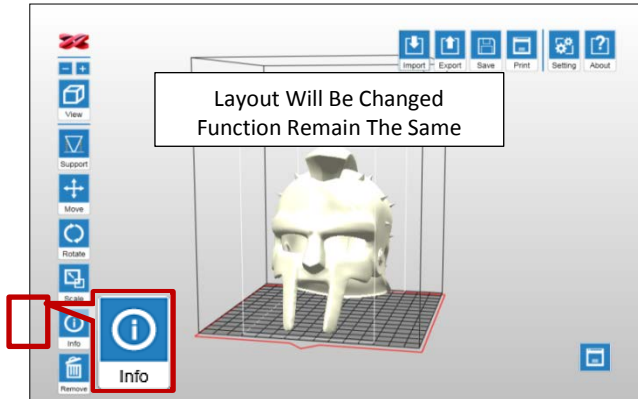


VIEWING THE INFORMATION OF THE MODELS

You may want to check the information of the models imported to the workspace. The software provides the information on file name, file format and the position and dimensions of each selected model.

To view the information on the models:

1. Select an object on the workspace and click [Info] icon.
2. Read the information of the selected object. To close the information window, hit [Close] button.

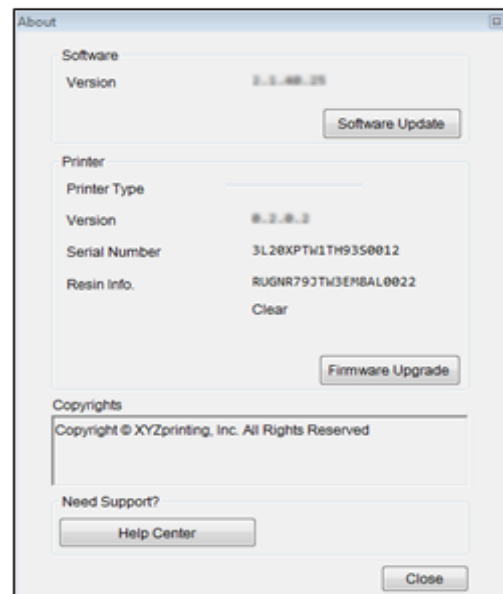
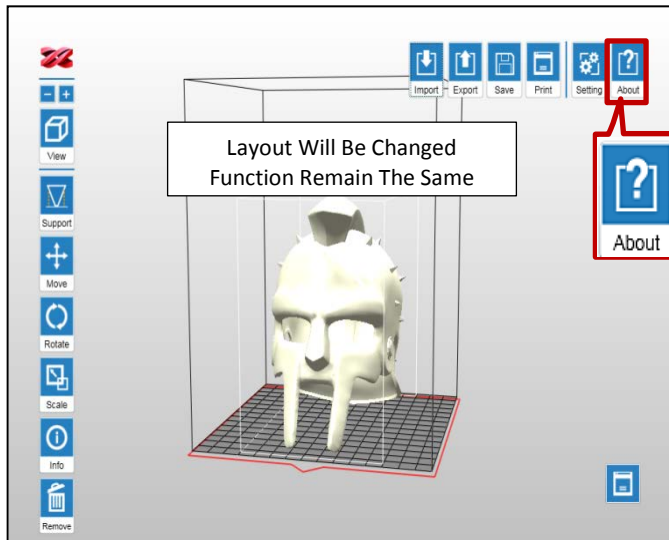


SYSTEM VERSION AND UPDATE

You can check the version number of the software and the printing system and information of the resin bottle installed in XYZprint AM^{UV}. Software and firmware update is also performed using XYZprint AM^{UV}.

To view the information on the version number and the resin cartridge:

1. Select an object on the workspace and click [Info] icon.
2. Read the information of the selected object. To close the information window, hit [Close] button.



To update the software / firmware version:

Click [Software Update] and [Firmware Upgrade] buttons in the [About] window to check for updates.

 Update notice pops-up automatically when a new version is detected online. In general you don't need to check for update manually.



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.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices).

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.