

## 一、软件安装 Software Installation

### 1.1. PC 最低配置要求 PC Minimum Configuration Requirements

为了保证软件运行流畅以及能和喷印控制系统传输速度匹配，我们对于 PC 的配置建议 如下：

CPU: Intel I5 及以上

内存: 8G 及以上

硬盘: 500G 及以上

操作系统: Windows 7 64 位专业版或旗舰版

To ensure smooth running of the software and to match the transfer speed of the print control system, we recommend the following configuration for your PC:

CPU: Intel I5 and above

Memory: 8G and above

Hard disk: 500G and above

Operating system: Windows 7 64-bit Professional or Flagship.

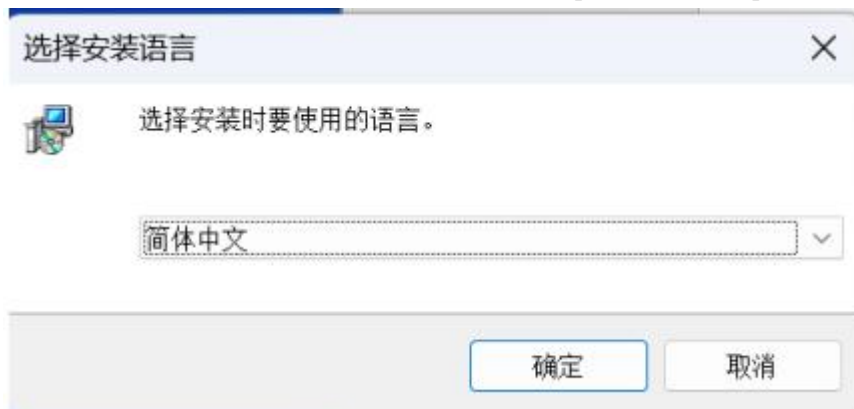
### 1.2. 安装步骤 Installation Steps

双击 PMsetup-Common-20230506-v1.7.2.exe 程序开始安装，弹出如下图所示界面。

Double click PMsetup-Common-20230506-v1.7.2.exe to start the installation, and the following screen will pop up.

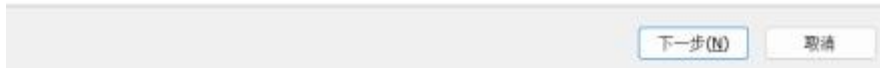
选择为所有用户安装 (A) 点击后跳转至下步，如下图：

Select Install for all users (A) and click it to skip to the next step as shown below:



选择“简体中文”或者“English”后跳转：

Select "Simplified Chinese" or "English" to jump to:



根据当前机器安装的板卡，选择 NET (S100 网口版) 或者 USB (S300/S350 USB 版)，点击 下一步后跳转

Depending on the board installed on the machine, select NET (S100 network port version) or USB (S300/S350 USB version) and click Next to jump to the next page.



选择“我同意此协议”后点击下一步，该步骤为选择安装路径，(建议使用默认设置)，点击更改，可察看各硬盘各分区的大小空间情况，用户选择建议选择默认值，然后点击下一步跳转至确认安装界面，如下图：

Select "I agree to this agreement" and then click Next, this step is to select the installation path, (it is recommended to use the default settings). Click Change can see the size of each partition of the hard drive space, the user is recommended to select the default value. And then click Next, jump to the confirmation of the installation interface like the following figure:



**注：请更换英文版界面**

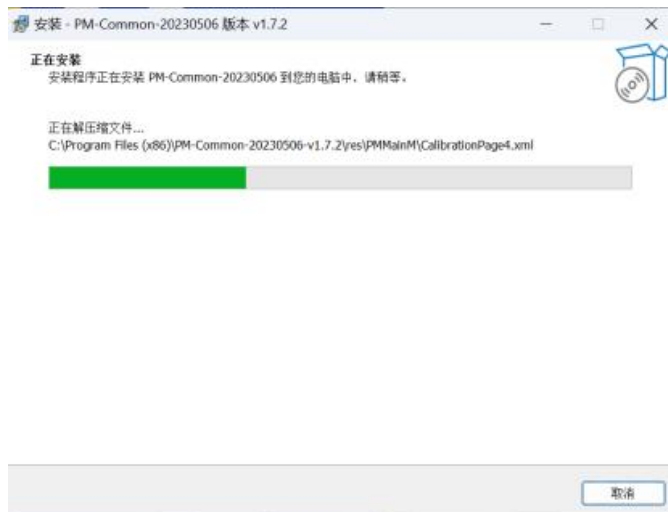


选择安装的文件夹，点击下一步，选择是否创建桌面快捷方式。

Select the installation folder, click Next, choose whether to create a desktop shortcut.

点击安装跳转下一步开始安装，如下图：

Click Install and jump to the next step to start the installation, as shown below:



开始安装软件，请等候 20 秒左右。

Please wait for about 20 seconds for the software to start installing.



软件安装成功，点击完成结束并退出安装并运行软件，或者点击快捷方式打开软件。  
The software is installed successfully, click Finish to exit the installation and run the software, or click the shortcut to open the software.

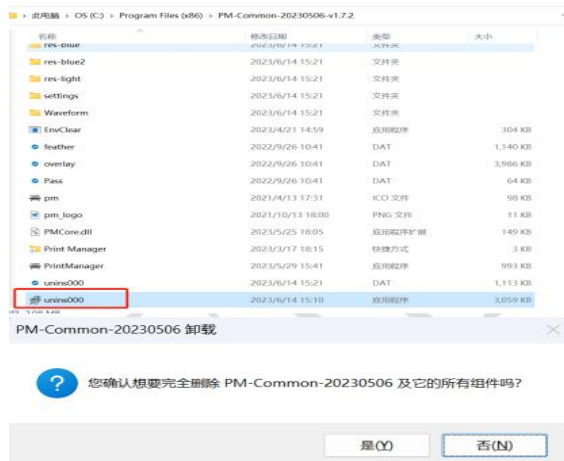
### 1.3. 软件卸载 Software Uninstallation

软件卸载可以从“控制面板”中“程序和功能”里的“卸载或更改程序”进行卸载，也可以直接启动软件目录下的卸载程序进行卸载。

Software uninstallation can be done from "Uninstall or Change Programs" in "Programs and Features" in the "Control Panel", or by launching the uninstaller directly from the software directory.

软件安装目录卸载：打开软件安装目录文件夹，找到 unins000 程序，双击运行后弹框。点击“是”即可卸载。

Uninstall from the software installation directory: Open the folder of the software installation directory, find the unins000 program, double-click it to run and then the pop-up box will appear. Click "Yes" can finish uninstallation.



控制面板中卸载:

打开控制面板——找到程序和功能并启动——在程序列表里找到 PrintManager 程序——点击右键，选择卸载即可完成卸载。

Uninstall from the control panel:

Open Control Panel - Find Programs and Features and start it - Find PrintManager program in the Programs list - Right Click on it and select Uninstall to finish the uninstallation.



直接启动卸载程序:

点击开始菜单——在程序列表里找到 BYHX 文件夹——单击“卸载程序启动, 卸载 BYHX PM”, 在接下来弹出的是否卸载的对话框中选择是即可。如果是重新安装软件则需要将整个软件目录进行手动删除!

Directly launch the uninstaller: Click the start menu - find the BYHX folder in the program list - click "Uninstall Program Startup, Uninstall BYHX PM", and select Yes in the next pop-up dialog box whether to uninstall. If you are reinstalling the software, you need to manually delete the entire software catalog!

## 二、 软件界面介绍 Introduction to the Software Interface

### 2.1 主界面 Main Interface

如下图所示, 软件主界面由工具栏、参数设置、预览栏、任务栏、状态栏、打印队列栏组成, 本章将一一对各部分进行详细介绍。

As shown in the figure below, the main interface of the software consists of toolbars, parameter settings, preview bar, task bar, status bar, print queue bar, and this chapter will introduce each part in detail.



### 2.2 信息栏 Information Bar

> Printer Manager: 软件名称, 支持自定义 Software name, support customization

> EPSON\_I3200\_A1 4 头 4 色: 当前系统的布局信息

EPSON\_I3200\_A1 4 header 4 colors: Current system layout information

> BYHX: 软件 logo, 支持自定义 Software logo, support customization

### 2.3 工具栏 Tool Bar



打印控制区域 Print Control Area

添加打印作业 Adding a print job

开始打印当前选中的作业 Starts printing the currently selected job

暂停/继续打印中的作业 Pause/Continue the job in print

终止打印中的作业 Terminate the job in print



喷头维护区域 Printhead Maintenance Area

喷嘴检查按钮 Nozzle check button

喷头保湿按钮 Nozzle moisturizing button



停止喷头保湿按钮 Stop nozzle moisturizing button

校准快捷键 Calibration Shortcuts

测高快捷键 Height Measurement Shortcuts

上传喷检到按键板, 支持按键板打印喷检图案


Upload the nozzle detection to keypad, support printing the nozzle detection pattern on





keypad.

运动控制区域 Motion Control Area





 小车主移按钮 Trolley Left Button


 小车主移按钮 Trolley Right Button


 向前移动按钮 Move Forward Button


 向后移动按钮 Move Backward Button


 Z 轴向上移动按钮 Z-axis Up Button

 Z 轴向下移动按钮 Z-axis Down Button

 移动到 X 轴原点 Move to the X-axis Home

 移动到 Y 轴原点 Move to the Y-axis Home

 移动到 Z 轴原点 Move to the Z-axis Origin

 停止移动按钮 Stop Motion Button



各轴移动指定长度 Specified length of movement for each axis

## 2.4 参数设置栏 Parameter Setting Column:



**注：请更换英文版清晰界面**

- X 原点：打印 X 方向起始点即小车 HOME 位置到画面（或彩条）左边缘的距离。
- Y 原点：打印 Y 方向起始点即横梁 HOME 位置到画面下边缘的距离。
- 同步 X 原点：移动小车到某一位置，设定当前位置为 X 打印原点。
- 同步 Y 原点：移动横梁到某一位置，设定当前位置为 Y 打印原点。
- 起始打印方向：选择开始打印方向是正向还是反向。
- 双向：选择单向或者双向打印。
- Y 连续打印：平板机机型下，Y 从横梁当前位置开始打印。
- 反向打印：平板机机型下，Y 起始位置从作业尾端开始打印。
- VSD：打印时小车的速度选择，有 VSD Mode 1、2、3、4 四种模式选择，实际小车速度由四种模式下的点火频率决定。

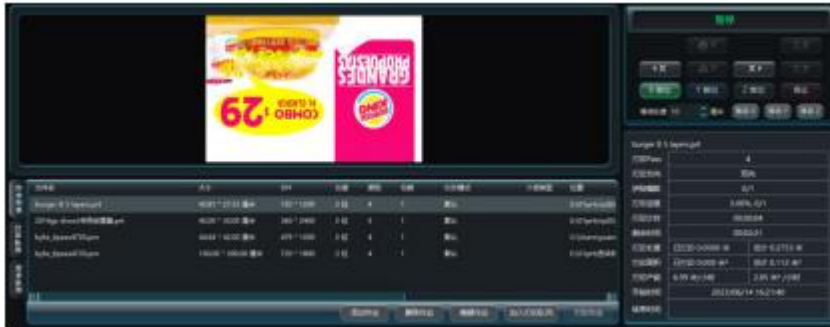
- 打印模式：选择当前的打印模式，新添加的 prt 默认会绑定该打印模式。
- 喷头选择：选择当前的喷头选择模式，可以设定不同喷头组合下的打印方式。
- 步进调整：对每一 PASS 所走的步进值进行微小补偿，当打印时步进有重叠，应增加步进值，如果有漏白，应减小步进值。
- 双向调整：对每一 PASS 正反向打印套准进行微小补偿，当打印时双向有偏差，可实时调整双向值。
- 力矩模式：切换机器 Y 轴步进的模式，可设置 Y 轴步进是位置模式还是力矩模式。
  - X Origin: Print the distance from the starting point in the X direction, that is, the trolley HOME position to the left edge of the screen (or color bar).
  - Y Origin: Print the starting point of Y direction, that is, the distance between the HOME position of the beam and the lower edge of the screen.
  - Synchronize X Origin: Moves the trolley to a position that sets the current position as the X print home.
  - Synchronize Y Origin: Move the beam to a position and set the current position as the Y print home.
  - Start Printing Direction: Select whether to start printing in the forward or reverse direction.
  - Bi-directional: Select uni-directional or bi-directional printing.
  - Y Continuous Printing: Under the flatbed model, Y starts printing from the current position of the beam.
  - Reverse Printing: Under the flatbed models, Y start position prints from the end of the job.
  - VSD: Select the speed of the trolley when printing, there are four modes: VSD Mode 1, 2, 3 and 4, and the actual speed of the trolley is determined by the ignition frequency of the four modes.
  - Print Mode: Select the current print mode, the newly added prt will be bound to this print mode by default.
  - Printhead Selection: Select the current printhead selection mode, you can set the printing mode under different combinations of printheads.
  - Stepping Adjustment: Make small compensation for the stepping value taken by each PASS, when there is an overlap of stepping when printing, the stepping value should be increased, if there is a white leakage, the stepping value should be decreased.
  - Bidirectional Adjustment: Tiny compensation for the forward and reverse printing register of each PASS, when there is deviation in bidirectional when printing, the bidirectional value can be adjusted in real time.
  - Torque Mode: Switch the mode of Y-axis stepping of the machine, you can set whether the Y-axis stepping is position mode or torque mode.

## 2.5 预览栏 Preview Column

预览栏如下图所示分为三块，分别由系统状态、作业信息和作业预览组成，下面将分开一一介绍

The preview column is divided into three pieces as shown in the figure below, which are composed of system status, job information and job preview, and will be introduced one by one.





系统状态：显示系统当前状态的概览情况，包括就绪、保湿、清洗、打印、暂停、异常报错等状态。

System Status: Displays an overview of the current status of the system, including Ready, Moisturizing, Cleaning, Printing, Paused, and Abnormal Error Reporting.

作业信息：将显示如下面所列有关作业信息

Job Information: Displays information about the job as listed below

- 作业状态 Job Status
- 作业名称 Job Name
- 作业大小 Job Size
- 作业精度（DPI） Job Precision (DPI)
- 作业灰度级别 Job Grayscale Level
- 作业颜色 Job Color
- 作业份数 Job Number
- 作业打印模式 Job Print Mode
  - 作业介质类型 Job Media Type
- 作业路径 Job Path

## 2.6 任务栏 Task Column



任务栏由作业列表、打印队列、历史队列三部分组成，下面将一一进行介绍。

The task column consists of three parts: the job list, the print queue, and the history queue, which are described below.



作业列表-任务栏按钮 Job List – Task column Button

添加作业：添加其他作业

删除作业：删除选中作业

编辑作业：编辑选中作业，具体有关作业编辑请阅读第三章

加入打印队列：将当前选中的作业加入打印队列列表

打印作业：将当前选中的作业加入打印队列列表，并逐个打印队列中的作业任务

Add Assignment: Add other assignments

Delete Assignment: Delete the selected assignment

**Edit Job:** Edit the selected job, for more information about job editing please read the Chapter 3.

**Add to Print Queue:** Add the currently selected job to the print queue list.

**Print Job:** Add the currently selected job to the print queue list and print the jobs in the queue one by one.

#### 作业列表-任务选择栏 Job List - Task Selection Column

在作业列表中选择一个或多个作业后点击右键弹出如上菜单

- 添加作业: 添加其他作业
- 编辑作业: 编辑选中作业, 具体有关作业编辑请阅读第三章
- 删除作业: 删除选中作业
- 清空列表: 清空当前作业列表中的作业
- 墨量统计: 统计该 PRT 不同颜色的点型占比和墨量多少
- 打印作业: 将当前选中的作业加入打印队列列表, 并逐个打印队列中的作业任务
- 加入打印队列: 将当前选中的作业加入打印队列列表

After selecting one or more assignments in the assignment list and right clicking to bring up the menu as above

➤ Add Assignment: Add other assignments

➤ Edit Job: Edit the selected job, please read the Chapter 3 for more information about job editing.

➤ Delete Assignment: Delete the selected assignments

➤ Clear list: Clear the current job list.

➤ Ink Statistics: Count the percentage of dots of different colors and the amount of ink for this PRT.

➤ Print Job: Add the currently selected job to the print queue list and print the jobs in the print queue one by one.

➤ Add to Print Queue: Add the currently selected job to the print queue list.



#### 打印队列-任务栏按钮 Print Queue-Task Column:

- 最高优先级: 将选中的作业打印优先级提到最高
- 提高优先级: 将选中的作业打印优先级提高一级
- 降低优先级: 将选中的作业打印优先级降低一级
- 最低优先级: 将选中的作业打印优先级降到最低
- 删除选中作业: 删除当前选中的作业
- 清空队列: 清空当前打印队列中的作业
  - Highest Priority: Raises the print priority of the selected job to the highest level
  - Higher Priority: Raises the print priority of the selected job by one level
  - Lower Priority: Reduces the print priority of the selected job by one level.
  - Lowest Priority: Reduces the print priority of the selected job to the lowest priority.
  - Delete Selected Jobs: Deletes the currently selected jobs
  - Empty Queue: Empties the current print queue of jobs.

#### 打印队列-任务选择栏 Print Queue-Task Selection Column

在打印队列中选择一个或多个作业后点击右键弹出如上菜单

- 开始打印：逐个打印打印队列中的作业任务
- 继续打印：系统异常状态下（急停触发、缺纸）恢复后继续打印
- 重新打印：作业报错后重新打印
- 删除作业：删除选中的作业
- 清空列表：清空当前作业列表中的作业
- 最高优先级：将选中的作业打印优先级提到最高
- 提高优先级：将选中的作业打印优先级提高一级
- 降低优先级：将选中的作业打印优先级降低一级
- 最低优先级：将选中的作业打印优先级降到最低

Select one or more jobs in the print queue and right click to bring up the menu as above.

- Start Printing: Prints the jobs in the print queue one by one.
- Continue Printing: Continue printing after recovering from a system exception (Emergency Stop Trigger, Out of Paper).
- Reprint: Prints the job again after it has reported an error.
- Delete Job: Deletes the selected job.
- Empty List: Empties the current job list.
- Highest Priority: Raises the print priority of the selected job to the highest priority.
- Raise Priority: Raises the print priority of the selected job by one level.
- Lower Priority: Reduces the print priority of the selected job by one level.
- Lowest priority: Reduces the print priority of the selected job to the lowest level.

#### 历史队列-任务选择栏 History Queue- Task Selection Column

在打印队列中选择一个或多个作业后点击右键弹出如上菜单

- 继续打印：系统异常状态下（急停触发、缺纸）恢复后继续打印
- 重新打印：重新打印选中的历史队列作业
- 删除作业：删除选中的作业
- 清空列表：清空当前历史队列

Selecting one or more jobs in the print queue and right clicking on them brings up a menu as above.

- Continue Printing: Continues printing after the system resumes from an abnormal condition (Emergency Stop Trigger, Out of Paper).
- Reprint: Reprints the selected jobs in the history queue.
- Delete Job: Deletes the selected job.
- Clear List: Clears the current history queue.

#### 2.7 状态栏 Status Column

状态栏用以显示系统当前连接状态和当前轴位置信息以及系统错误信息，如下图所示。

The status column is used to display the current connection status of the system and current axis position information as well as system error messages, as shown below.



- 网络/USB：显示当前系统连接状态是网络（1000M）还是 USB（3.0）
- X 位置（厘米）：实时显示当前小车的 X 位置，一秒刷新一次

- Y 位置（厘米）：实时显示当前小车的 Y 位置，一秒刷新一次
- Z 位置（厘米）：实时显示当前小车的 Z 位置，一秒刷新一次
- 错误信息：通常有关报错、警告或其它状态都会实时的显示在该处。
  - Network/USB: Shows whether the current system connection status is network (1000M) or USB (3.0)
  - X-Position (cm): real-time display of the current X position of the trolley, refreshed once a second.
  - Y-Position (cm): real-time display of the current Y position of the trolley, refreshed once a second
  - Z-Position (cm): real-time display of the current Z position of the trolley, refreshed once a second.
  - Error message: Usually the error message, warning or other status will be shown in real time.

点击查看按钮，可以展开当前系统所发生过的相关错误、警告以及其它详细信息。如下图所示：

Click on the View button can expand the list of errors, warnings, and other details that have occurred on the current system. This is shown in the following figure:



## 2.8 作业打印信息栏 Job Printing Information Column

打印作业时，作业打印信息栏实时显示当前打印作业的基本信息、打印进度、耗时和打印产量等信息：

When a job is printing, the Job Printing Information bar displays real-time information about the current print job, its progress, elapsed time, and print yield:

burger B 5 layers.prt	
打印Pass	4
打印方向	双向
拼贴幅数	0/1
打印进度	10.66%, 0/1
打印计时	00:00:17
剩余时间	00:02:35
打印长度	已打印 0.0209 米      总计 0.2753 米
打印面积	已打印 0.009 米 <sup>2</sup> 总计 0.112 米 <sup>2</sup>
打印产能	5.90 米/小时      2.41 米 <sup>2</sup> /小时
开始时间	2023/06/15 15:05:21
结束时间	2023/06/15 09:12:58

注：请更换英文版界面

## 2.9 主菜单 Main Menu

点击主菜单按钮弹出如下图所示菜单，设置、工具、关于等设置项，下面将以小节方式一一进行介绍。

Click the main menu button to pop up the menu shown in the figure below, Settings, Tools, About and Other Settings, the following will be introduced one by one in the form of subsections.

### 2.9.1 关于 About

选择主菜单中的关于项，弹出如下图所示的整个系统的版本信息和墨量信息，还支持下载板卡的 log 文件。

Select About in the Main Menu to bring up the version information and ink volume information of the whole system as shown in the figure below, and it also supports downloading the log file of the board.



有关详细内容请参考第三章。

Please refer to the Chapter 3 for more details.

## 2.9.2 工具 Tools

选择主菜单中的工具后将弹出工具设置项，如下图所示。

Selecting Tools in the Main Menu will bring up the Tool Settings item, as shown below.



进入工具设置项后分别有调机工具、升级（LCD 升级）、导入导出打印机参数、备份恢复和打印历史等设置项，下面将分别一一进行介绍。

➤ 调机工具：用于调试机器传感器状态、通讯状态等功能，详细使用方法请参考第三章节

➤ LCD 程序升级：用于升级按键板程序。

➤ 升级：用于升级系统的固件（FirmWare）和头板程序，其详细方法请参考第三章。

➤ 导入打印机参数：导入打印机参数升级包到主板，包含运动参数、功能参数、清洗参数、PM 布局、校准、打印模式等参数。

➤ 导出打印机参数：导出打印机参数文件包（主板参数和 PM 参数），包含运动参数、功能参数、清洗参数、PM 布局、校准、打印模式等参数。

➤ 打印历史：按照时间日期存储作业打印的历史记录。

After entering the Tools setting item, there are setting items such as tuning tools, upgrading (LCD upgrade), importing and exporting printer parameters, backup and recovery, and printing history, which will be introduced in the following sections.

➤ Tune-up tool: used to debug the machine sensor status, communication status and other functions, please refer to Chapter 3 for details on how to use the tool.

➤ LCD Program Upgrade: Used to upgrade the keypad program.

➤ Upgrade: Used to upgrade the system's firmware (FirmWare) and header board program, please refer to Chapter 3 for its detailed method.

➤ Import Printer Parameters: Import the printer parameters upgrade package to the motherboard, including motion parameters, function parameters, cleaning parameters, PM layout, calibration, print mode and other parameters.

➤ Export Printer Parameters: Export the printer parameter file package (motherboard parameters and PM parameters), containing parameters such as motion parameters, function parameters, cleaning parameters, PM layout, calibration, print mode, and so on.

Print History: Stores the history of job printing by time and date.

### 2.9.2.1 主界面校准 Calibration Settings



校准设置页面仅用于对校准参数进行更改，关于校准的详细操作方法请参考校准手册。

The Calibration Settings page is only for making changes to the calibration parameters, please refer to the Calibration Manual for detailed instructions on calibration.

### 2.9.2.2 调机工具 Tuning Tools



➤ 输入测试：测试板卡输入传感器的连接状态



- 输出测试：测试板卡输出传感器的连接状态
  - 轴测试：测试板卡连接机器的不同轴状态
  - 通讯测试：测试板卡连接 can 通讯状态
  - 光栅均匀度测试：测试当前机器运行时光栅点火均匀性
  - 链路测试：测试当前系统连接的光纤、主板和 PC 通讯
  - 驱动板测试：测试系统连接的驱动板状态
  - 打印调试：调试当前打印的点火频率和缓冲距离调整量
  - 系统时间：显示当前系统时间，主板运行时间和 RTC 自然限时时间  
其详细方法请参考第三章
  - Input test: Test the connection status of the input sensors of the board.
  - Output Test: Test the connection status of the output sensor of the board.
  - Axis Test: Test the connection status of different axes of the machine connected to the board.
  - Communication Test: Test the connection status of CAN communication of the board.
  - Raster uniformity test: Test the uniformity of raster ignition when the current machine is running.
  - Link test: Test the current system connection of fiber optic, motherboard and PC communication.
  - Driver Board Test: Test the status of the driver board connected to the system.
  - Printing debugging: Debugging the current printing of the ignition frequency and buffer distance adjustment amount.
  - System Time: Display the current system time, motherboard running time and RTC natural time limit.
- For detailed methods, please refer to Chapter 3.

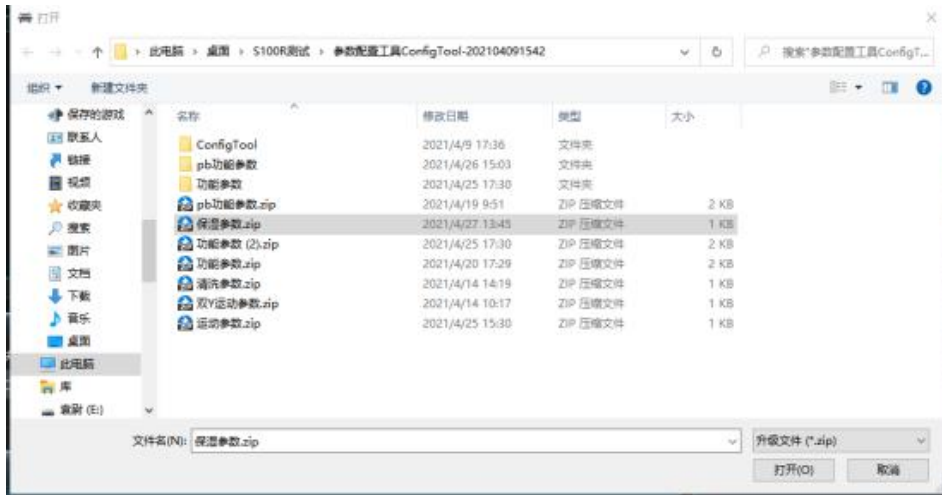
### 2.9.2.3 升级 Upgrade

为了修复一些测试过程中未发现的 BUG 或添加某些功能，而需要对主板或者头板的固件（Firmware）进行更新，下面将介绍如何更新固件的方法。

In order to fix some bugs that were not found during the testing process or to add some features, it is necessary to update the firmware of the motherboard or headboard, and the following describes how to update the firmware.

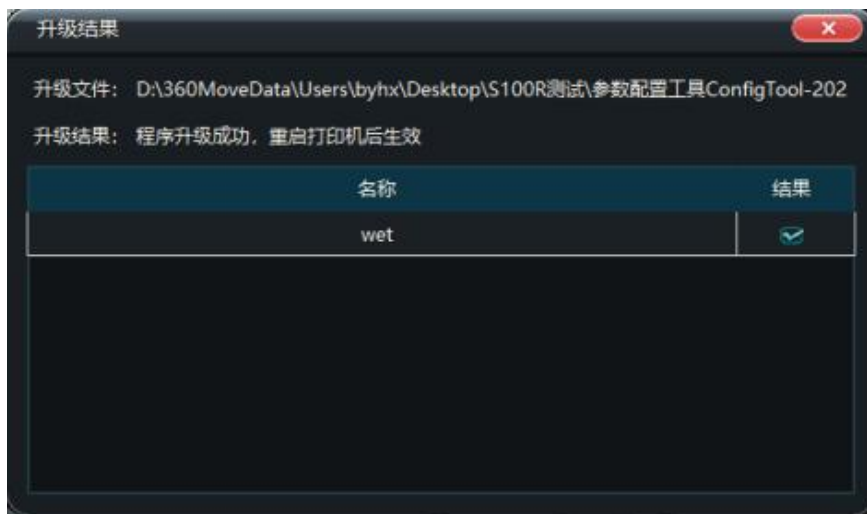
点击主菜单--进入工具--升级，弹出如下对话框，然后选择相对应的升级文件按确定即可（升级文件后缀为.zip 文件）

Click the Main Menu - Go to Tools - Upgrade, the following dialog box will pop up, then select the corresponding upgrade file and press OK (the upgrade file has a .Zip file extension).



确认完升级文件后，即进入升级过程，此时可观察状态栏下的升级过程，观察升级过程中是否有问题。如果升级失败，注意状态栏是升级到百分之多少失败，并进行上报。

After confirming the upgrade file, it will enter the upgrade process. At this time, you can observe the upgrade process under the status column to observe whether there is any problem in the upgrade process. If the upgrade fails, note that the status column is upgraded to what percent failed and report



it.

#### 2.9.2.4 更新错误信息 Updating Error Messages

为了定期优化完善系统错误信息，需要对系统报错信息进行更新，下面将介绍如何更新错误信息的方法。更新时需确保电脑防火墙关闭或者允许打印程序应用更新通过防火墙。

In order to optimize and improve the system error messages on a regular basis, it is necessary to update the system error messages, and the following will describe how to update the error messages. When updating, make sure that the firewall of the computer is turned off or allow the printing program to apply updates through the firewall.

点击主菜单--进入工具--更新错误信息，弹出如下对话框，提升更新成功后即可。数据地址请参照 3.9.3.1 设置。

Click Main Menu - Go to Tools - Update Error Information, the following dialog box will pop up, and you can upgrade the update successfully. Please refer to 3.9.3.1 Settings for data address.



注：新 UI 版本的 PM 软件在电脑联网状态下，会自动更新错误数据库

Note: The new UI version of the PM software will automatically update the error database when the computer is connected to the Internet.

#### 2.9.2.5 导入、导出打印机参数 Importing and Exporting Printer Parameters

为了定期备份打印机参数，可以根据下面方法进行操作。

In order to back up the printer parameters on a regular basis, follow the method below.

点击主菜单--进入工具--备份恢复

Click on Main Menu - Go to Tools - Backup Recovery

- 导入打印机参数：导入打印机参数升级包到主板，包含运动参数、功能参数、清洗参数、PM 布局、校准、打印模式等参数
- 导出打印机参数：导出当前打印机参数并以文件形式存储，包含运动参数、功能参数、清洗参数、PM 布局、校准、打印模式等参数
- Import Printer Parameters: Import the printer parameters upgrade package to the motherboard, including motion parameters, function parameters, cleaning parameters, PM layout, calibration, print mode and other parameters.
- Export Printer Parameters: Export the current printer parameters and store them in a file, including motion parameters, function parameters, cleaning parameters, PM layout, calibration, print mode and other parameters.

#### 2.9.2.6 打印历史 Print History

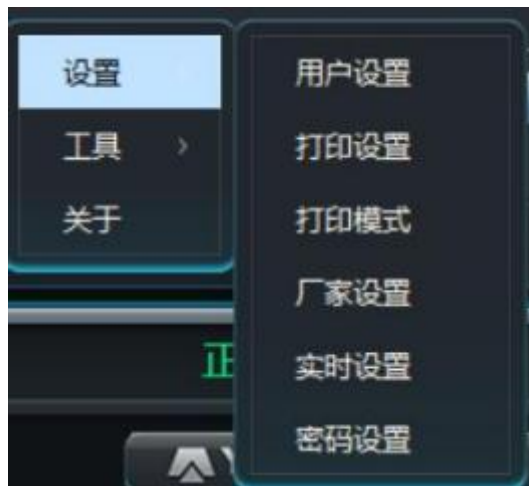
- 按照日期时间将每天打印的作业历史进行记录，包含作业打印的时间、耗时、面积、产量、墨量等信息
- 支持右键单击作业后重新打印该历史作业。
- Records the history of jobs printed each day by date and time, including information such as the time the job was printed, time consumed, area, yield, ink volume, and so on.
- Supports reprinting the history job after right-clicking on the job.

文件名	打印日期	耗时	状态	打印长度 (mm)	打印面积 (mm²)	产量 (mm³/小时)
总计		00:05:03.907		1.2187	0.4942	
rip012014gr show3特色快覆墨.art	2023-06-09 15:39:30	00:00:22.750	取消	0.0625	0.0250	3.9700
rip012014gr show3特色快覆墨.art	2023-06-09 15:40:12	00:00:22.781	打印完成	0.2753	0.1123	19.8000
rip012014gr show3特色快覆墨.art	2023-06-09 15:41:11	00:00:19.266	取消	0.0312	0.0125	2.8800
rip012014gr show3特色快覆墨.art	2023-06-09 18:00:00		取消	0.1015	0.0406	5.3700
rip012014gr show3特色快覆墨.art	2023-06-09 18:00:00		取消	0.1015	0.0406	5.5000
rip012014gr show3特色快覆墨.art	2023-06-09 18:56:53	00:00:45.906	取消	0.0886	0.0354	2.8900
rip012014gr show3特色快覆墨.art	2023-06-09 18:57:49	00:00:53.234	打印完成	0.2753	0.1123	7.8000
rip012014gr show3特色快覆墨.art	2023-06-09 18:58:52	00:00:54.672	打印完成	0.2753	0.1123	7.6300
rip012014gr show3特色快覆墨.art	2023-06-09 19:00:58	00:00:15.766	取消	0.0077	0.0032	0.9000
rip012014gr show3特色快覆墨.art	2023-06-09 19:02:03	00:00:11.782	取消	0.0000	0.0000	0.0000

### 2.9.3 设置 Setting

选择主菜单中的设置后将弹出设置项，如下图所示。

Selecting Settings in the main menu will bring up the Settings pop-up item, as shown below.



- 用户设置：用于设置软件使用的语言、PM 软件的配色和单位
- 打印设置：用于系统运行时打印参数、清洗参数、闪喷参数、保湿参数和 Z 轴测高参数 设置，其详细方法请参考第三章
- 打印模式：用于打印不同文件时打印参数设置（例如 pass 数、羽化模式、单双向等），其详细方法请参考第三章
- 厂家设置：用于设置布局、打印机参数、PM 开关显示部分参数，需要输入厂商密码才可显示，具体密码请咨询打印机厂商
- 实时设置：用于设置打印时喷头温度和电压参数，其详细方法请参考第三章
- 密码设置：用于设置机器的语言密码、墨水密码、时间密码和软件狗密码，具体密码信息请咨询打印机厂商
- User Settings: Used to set the language of the software, the color and unit of the PM software.
- Print Settings: Used to set the printing parameters, cleaning parameters, flash parameters, moisturizing parameters and Z-axis altimetry parameters when the system is running, please refer to Chapter 3 for details.
- Print Mode: Used to set print parameters (e.g. Pass Count, Feathering Mode, Uni-Directional, etc.) when printing different documents, please refer to Chapter 3 for

details.

- Manufacturer Settings: Used to set the layout, printer parameters, PM switch to display some of the parameters, you need to enter the manufacturer's password to display, please consult the printer manufacturer for the specific password.
- Real-time settings: Used to set the printhead temperature and voltage parameters during printing, please refer to Chapter 3 for details.
- Password settings: Used to set the machine's language password, ink password, time password and software dog password, the specific password information please consult the printer manufacturer.

### 2.9.3.1 用户设置 User Setting



- 语言：选择 PM 软件的显示语言，可选简体中文/英文。
- 配色方案：选择 PM 软件的整体配色，可选深色/浅色/蓝色/浅蓝色。
- 单位：选择 PM 软件的显示单位，可选英寸/英尺/毫米/厘米/米。
- Language: Select the display language of the PM software, Simplified Chinese/English.
- Color Scheme: Select the overall color scheme of the PM software, which can be Dark/Light/Blue/Light Blue.
- Units: Select the display unit of PM software, optional inches/feet/mm/cm/meters.

### 2.9.3.2 打印设置 Print Setting

#### 彩条设置 Color Bar Setting



- 宽度：彩条的宽度
- 间距：彩条距画面的距离
- 位置：彩条打印的位置（两边 左边 右边 没有）
- 墨量：彩条的墨量
- 间隔：间隔多少 pass 打印彩条
- 彩色重叠：不同颜色的彩条重合打印
- 与图像同高：彩条跟图片等高
- 固定图像位置：图像位置固定为打印原点，彩条位置打印在图像两侧  
其详细设置方法请参考第三章。
- Width: the width of the color bar
- Pitch: the distance of the color bar from the screen
- Position: where the color bar is printed (both sides, left, right, none)
- Ink: the amount of ink for the color bar
- Spacing: how many passes between prints of the color bar
- Color Overlap: the bars of different colors are printed on top of each other.
- Color Overlap: Color bars of different colors are printed on top of each other.
- Fixed image position: the image position is fixed as the printing origin, and the color bar position is printed on both sides of the image.
- Please refer to Chapter 3 for detailed settings.



#### 打印前后步进设置 Printing Front and Back Step Settings

- 空白 band 数：打印完成后设定空白 band 的 pass 数
- 空白 band 步进：空白 band 打印后是否步进
- 喷检后步进：设定打印喷检后是否步进
- 打印前步进：打印作业时步进设定的距离
- Blank Band Number: Set the number of passes for the blank band after printing is complete.
- Blank Band Step: Whether or not the blank band steps after printing.
- Step After Print Check: Sets whether or not the blank band will step after printing the print check.
- Step Before Print: The distance set for stepping during a print job.



#### 羽化设置 Feathering Settings

- 重叠羽化喷孔数：设定重叠羽化的喷孔个数
- 羽化墨量修正：设定打印时羽化的墨量
- Number of Overlapping Feathered Holes: Sets the number of holes for overlapping feathering
- Feathering Ink Correction: Sets the amount of ink that is feathered when printing.



#### 定制设置 Customized Settings

- Y 向正反交替打印：平板机正反向交替打印功能
- 打印完成后步进轴回原点：平板机打印完成后步进轴回原点功能
- Y-direction Alternating Forward and Backward Printing: flatbed machine alternating forward and backward printing function
- Step Axis Return to Home Position After Printing: the function of stepping axis returns to home position after printing on the flatbed machine.

#### 清洗设置 Cleaning Setting:



- 打印时自动清洗间隔：可选按 pass 数、按时间、按作业份数执行自动清洗，间隔多少 pass\多少时间\几份作业执行清洗流程
- 延时保湿设置：选择设定好延时时间开启自动保湿
- 待机自动清洗设置：根据设定好的自动清洗时间在待机状态下执行自动清洗
- 清洗的参数设置：设置清洗过程中墨栈轴、扫描轴、刮片轴和墨泵抽墨的各项参数，其详细设置方法请参考第三章。
- Printing Automatic Cleaning Interval: Optional by the number of passes, by the time, by the number of jobs to perform automatic cleaning, the interval between how many passes\how much time\how many jobs to perform the cleaning process
- Delayed Moisturizing Settings: Choose to set a good delay time to open the automatic moisturizing
- Standby Automatic Cleaning Setting: Perform automatic cleaning in standby mode according to the set automatic cleaning time.
- Parameter Settings for Cleaning: Set the parameters of the ink stack axis, scanning axis, squeegee axis and ink pump pumping in the process of cleaning, please refer to Chapter 3 for its detailed setting method.

#### 断孔设置 Hole Breaking Settings:



- 单个断孔位置：选择任一颜色的断孔所在行和列来设置单个断孔
- 整排断孔位置：选择任一喷头的任一列来设置整排断孔位置
- 自动断孔检测：结合检测设备自动检测喷头断孔位置
- Individual Hole Breaking Position: Select the row and column of breaking of any colour to set the individual breaking.
- Row of Holes Breaking Position: Select any column of any nozzle to set the position of the whole row of broken holes.
- Automatic Hole Breaking Detection: Automatically detects the position of broken holes in the printhead in conjunction with inspection equipment.



## 闪喷设置 Spray Setting:



- 空闲闪喷开关: 空闲时闪喷开关
- 空闲闪喷频率: 空闲闪喷时的闪喷频率, 5Hz 代表 1 秒闪喷 5 次
- 空闲闪喷时间: 设置空闲闪喷的持续时间, 1000ms 表示持续闪喷 1 秒
- 空闲闪喷间隔时间: 设置空闲闪喷间隔时间, 1000ms 表示间隔 1 秒进行一次闪喷
- Idle Spray Switch
- Idle Spray Frequency: 5Hz means 5 times a second.
- Idle Spray Time: Set the duration of idle flashing, 1000ms means 1 second of continuous flashing.
- Idle Spray Interval Time: Set the idle flash interval time, 1000ms means flash once every 1 second.



- 手动闪喷频率: 手动闪喷时的闪喷频率, 200Hz 代表 1 秒闪喷 200 次
- 手动闪喷持续时间: 手动闪喷时的持续时间
- Manual Spray Frequency: The frequency of the spray when manually flashing, 200Hz means 200 flashes per second.
- Manual Spray Last Time: the duration of the manual flash.



打印前闪喷: Spray Before Print

- 打印前闪喷开关：打印前闪喷开关
- 打印前闪喷频率：打印前闪喷时的闪喷频率，5Hz 代表 1 秒闪喷 5 次
- 打印前闪喷持续时间：打印前闪喷时的持续时间，500ms 表示持续闪喷 500ms
- 打印前闪喷间隔时间：打印前闪喷时的间隔时间，1000ms 表示间隔 1 秒闪喷一次
- 打印前闪喷重复次数：设置打印前闪喷的次数
- 打印前闪喷墨滴沉淀时间：设置打印前闪喷后静置的时间
- Pre-Print Spray Switch
- Pre-print Spray Frequency: the frequency of the preprint spray, 5Hz means 5 sprays per second.
- Pre-print Spray Duration: the duration of the pre-print Spray, 500ms means 500ms of continuous spray
- Pre-print Spray Interval: the interval between pre-print sprays, 1000ms means 1 second between sprays
- Pre-print Spray Repeat: Set the number of times to spray before printing.
- Pre-Spray Settling Time: Sets the amount of time the ink droplets will settle after spraying before printing.



- 自动闪喷间隔 pass 数：打印时间隔多少 pass 进行一次自动闪喷
- 打印时自动闪喷频率：打印前闪喷时的闪喷频率，1Hz 代表 1 秒闪喷 1 次
- 自动闪喷持续时间：打印前闪喷时的持续时间
- Pass-Num Between Auto-Spray: the number of passes between prints for auto spray.
- Auto Spray Frequency During Printing: the frequency of the spray before printing, 1Hz means 1 spray per second.
- Auto Spray Last Time: the duration of the pre-print spray.

#### 热文件夹与 RIP 打印 HotFolders and RIP Printing:



- 热文件夹：设置热文件夹路径，勾选“使能”开关，新添加到热文件夹内的作业会自动添加到 PM 作业列表
- 热文件夹-立即打印：进入到热文件夹内的作业立即打印
- 打印完成后删除作业：打印完成后自动删除作业
- 边 rip 边打印：缓存大小，设定 rip 软件缓存大小，当达到该设置值后 PM 开始打印
- 端口：与 rip 软件交互数据的端口，默认是 9100
- 临时文件目录：设定边 rip 边打印时生成的临时文件存储目录，勾选打印后删除缓存数据后，生成的临时文件会在打完后自动删除
- HotFolder: Set the hotfolder path, check the "Enable" switch, new jobs added to the hotfolder will be automatically added to the PM job list.
- HotFolder - Print Now: Jobs in hot folder will be printed immediately.
- Delete Job After Printing: Automatically deletes the job after printing.
- Print While Ripping: Cache Size, sets the rip software cache size and PM starts printing when the setting is reached.
- Port: The port on which data interacts with the rip software, the default is 9100.
- Temporary File Directory: Sets the directory to store the temporary file generated when printing while ripping, after checking Delete Cache Data after Printing, the generated temporary file will be deleted automatically after finishing printing.

#### 层设置 Layer Setting:



- 设置当前布局下不同的打印方式，其详细设置方法请参考第三章。
- To set up different printing methods for the current layout, please refer to Chapter 3 for detailed settings.

#### PRT 色序设置 PRT Color Order Setting:



➤ PRT 通道映射：设置 rip 软件生成的 PRT 文件色序，默认通道 1-4 为 Y-M-C-K；

➤ PRT Channel Mapping: Set the color order of the PRT file generated by rip software, the default channels 1-4 are Y-M-C-K;



➤ RIP 映射：设置打印机颜色与 PRT 文件色序的对应关系，默认打印机颜色与 PRT 颜色一一对应；

➤ RIP Mapping: Sets the correspondence between the printer colour and the PRT file colour order, the default printer colour corresponds to the PRT colour;



### 专色设置 Spot Colour Settings:



- 设置专色打印模式下各颜色的参数配置其详细设置方法请参考第三章。
- To set the parameters of each color in the spot color printing mode, please refer to Chapter 3 for detailed settings.



- 设置传感器偏移值：传感器安装位置距离第一个喷头第一排喷孔的距离
- 介质原点侧边界调整值：介质原点处挡纸板的宽度
- 介质终点侧边界调整值：介质终点处挡纸板的宽度
- Setting the Sensor Offset Value: Distance of the sensor mounting position from the first row of hole of the first printhead
- Media Home Side Boundary Adjustment Value: Width of the paper barrier at the media home position
- Media End Side Boundary Adjustment: Width of the paper barrier at the media end point.

### 2.9.3.3 打印模式 Print Mode



常规设置 General Settings:



- 使用文件设置：勾选后打印的 VSD 和速度听从 rip 软件设定，边 rip 边打印使用该功能
- Pass 倍数：设定作业打印的实际 pass 数，1 表示基础 pass，2 表示 pass 数翻一倍
- VSD：设定作业打印时的 VSD 模式，由波形文件中 VSD1-VSD4 参数决定
- 速度：设定打印时 X 方向的分辨率，可设定高精度和高速度两种模式，高精度为光栅分辨率，高速度为光栅分辨率的 1/2。
- 步进模式：设定当前打印模式调用的步进类型，可选择常规步进和恒定步进（每 pass 步进值恒定）
- 固定色序：打印时正反向用同样色序输出。
- Use File Settings: Check the box to set the VSD and speed of printing at the discretion of the rip software, and use this function to print while you ripping.
- Pass Multiplier: Set the actual number of passes for job printing, 1 means basic pass, 2 means double the number of passes.
- VSD: Sets the VSD mode when the job is printed, determined by the VSD1-VSD4

parameters in the wave file.

➤ Velocity: Sets the resolution of X direction when printing, can set two modes: high precision and high speed, high precision is raster resolution, high speed is 1/2 of raster resolution.

➤ Step Mode: Sets the type of step invoked by the current print mode, regular step and constant step (constant step value per pass) can be selected.

➤ Fixed Colour Order: Prints with the same colour order in both forward and reverse directions.

羽化设置 Feathering settings:



➤ 羽化类型: 每 pass 打印时布点的方式, 可选渐变羽化、均匀羽化和 UV 渐变羽化

➤ 羽化强度: 每 pass 打印时羽化的强度大小, 弱羽化 33%, 中羽化 66%, 强羽化 100%, 选择了一定羽化比例后, 实际打印的 pass 数会增加。比如 6pass 作业选择弱羽化, 实际是  $6+6*1/3=8$ pass

➤ 精细羽化: 每 pass 打印时不点的一种方式, 弱羽化强度为  $100\%+2$ pas, 中羽化强度为  $100\%+4$ pass, 强羽化强度为  $100\%+6$ pass

➤ 均匀打印: 在喷头分辨率基础上增加一倍, 机器光栅 720dpi, 喷头分辨率 600dpi, 打印  $360*1200$ dpi (2pass) 的 prt 则会变成  $360*1800$ dpi (3pass)

➤ 喷头间羽化: 多组喷头打印时喷头组间的羽化方式, 特殊场景下喷头间羽化会增加 pass 数, 比如 4 组头打印 3pass 作业, 会变成 4pass 打印

➤ 羽化颗粒: 每 pass 打印时羽化的颗粒度, 值越大, 每 pass 羽化处颗粒度越大, 最大设定 30

➤ Pass 颗粒: 每 pass 打印时墨点的颗粒度, 值越大, 每 pass 颗粒度越大, 最大设定 30,其详细设置方法请参考第三章。

➤ Feathering Type: The way of dots when printing per pass, optional gradient feathering, uniform feathering and UV gradient feathering.

➤ Feathering Intensity: The intensity of feathering per pass printing, weak feathering 33%, medium feathering 66%, strong feathering 100%, after selecting a certain percentage of feathering, the actual number of passes printed will increase. For example, if selecting weak feathering for a 6pass job, the actual number of passes printed is  $6+6*1/3=8$ pass.

- Fine Feathering: A way to distribute points when printing per pass, weak feathering intensity of 100% +2pas, medium feathering intensity of 100% +4pass, strong feathering intensity of 100% +6pass
- Uniform printing: Double the printhead resolution ratio, machine grating 720dpi, printhead resolution ratio 600dpi, print prt which is 360 \* 1200dpi (2pass) will become 360 \* 1800dpi (3pass).
- Feathering Between Printheads: Feathering between groups of printheads when printing multiple groups of printheads, special scenarios feathering between printheads will increase the number of passes, such as 4 groups of printheads to print a 3pass job, it will become 4pass prints.
- Feathering Granule: The degree of granularity of the feathering of each pass printing, the larger the value, the greater the degree of granularity of the feathering of each pass, the maximum set 30.
- Pass Granule: The granularity of the ink dots when printing per pass. The larger the value, the larger the granularity per pass, the maximum setting of 30. Please refer to Chapter 3 for its detailed setting method.

打印设置 Print Setting:



- 喷头选择: 选择当前的喷头选择模式,可以设定不同喷头组合下的打印方式。
- 镜像打印: 打印时 X 方向为镜像打印。
- 彩色墨量: 设定彩色喷头打印时的出墨量, 设置 200 即为彩色双倍墨量打印。
- 自动跳白: 设置打印作业时遇到 Y 向空白大于喷头高度时的步进方式。
- 一步跳白: 打印作业时遇到 Y 向空白大于喷头高度时一次性跳过空白部分。
- 固化/烘干设置: 设定打印完成后的固化/烘干偏移值。 其详细设置方法请参考第三章。
- Printhead Selection: Select the current printhead selection mode, which allows you to set the printing method under different printhead combinations.
- Mirror Printing: Print in the X direction for mirror image printing.
- Color Ink Volume: Set the amount of ink output when printing with color printheads, setting 200 means double ink volume for color printing.
- Auto Skip White: Sets the method of stepping when a print job encounters a blank in the Y direction that is larger than the printhead height.
- One Step Skip White: Skips the blank portion at one time when a print job encounters a Y-direction blank that is larger than the printhead height.
- Solidify Offset: Sets the solidify offset value after printing. Please refer to Chapter 3



for detailed settings.

### 2.9.3.4 厂家设置 Manufacturer Settings

进入厂家设置需要输入相应密码，用于设定打印机参数、喷头布局、PM 界面显示开关等

- 代理商密码：ctrl+alt+S，请咨询工厂获取密码
- 工厂密码：ctrl+alt+G，请咨询工厂获取密码

Enter the corresponding password to enter the factory settings, used to set the printer parameters, printhead layout, PM interface display switches, etc.

Agent password: ctrl+alt+S, please consult the factory to get the password.

Factory password: ctrl+alt+G, please consult factory for password.



#### 2.9.3.4.1 喷头布局设置 Nozzle Layout Setting

头板和喷头 Headboard and printhead:



- 头板类型：定义当前系统连接的头板种类
- 喷头类型：定义当前系统连接的喷头种类
- Headboard Type: Defines the type of headboard currently connected to the system.
- Printhead Type: Defines the type of printhead currently connected to the system.

喷头属性 Printhead Properties



- 喷头颜色数：当前连接喷头的颜色数
- 喷头拼插数：当前连接的喷头 X 向拼插个数
- 拼插喷头的 Y 单位偏移：设定拼插喷头在 Y 方向上的距离
- X 单位偏移：设定相邻两个喷头 X 方向上的距离
- 拼插色序镜像：拼插的喷头可设定镜像色序，喷头布局设置—可视化布局
- Color Printhead: Number of colors of currently connected printheads
- Printheads Interlacing: Number of currently connected printheads interlacing in the X-direction.
- Y-unit Offset of Interlaced Printheads: Sets the distance in the Y-direction of the interlaced printheads.
- X-unit Offset: Sets the distance between two neighboring printheads in the X-direction.
- Mirror Color Order Of Interlacing Printheads: Mirror color order can be set for interlacing printheads. Printhead Layout Settings - Visual Layout



- 头板类型：定义当前系统连接的头板种类
- 喷头类型：定义当前系统连接的喷头种类
- 喷头颜色数：定义当前喷头的颜色个数（1 头 1 色、1 头 2 色、1 头 4 色等）
- 喷头拼插数：当前连接的喷头 X 向拼插个数
- 拼插色序镜像：拼插的喷头可设定镜像色序
- 头板/驱动板个数：当前布局需要支持的头板/驱动板数量
- 组色序默认值：当前布局所需要的色序，比如 YMCK 或者 KCMY
- 喷头颜色数：当前配置喷头的颜色，1 头 1 色选择 1, 1 头 2 色选择 2
- X 单位偏移：设定相邻两个喷头 X 方向上的距离
- 拼插色序镜像：拼插的喷头可设定镜像色序
- Headboard Type: Defines the type of headboard currently connected to the system
- Printhead Type: Defines the type of printhead currently connected to the system
- Printhead Color : Defines the number of colors of the current printhead (1 head 1 color, 1 head 2 colors, 1 head 4 colors, etc.)

➤ Number of Printheads Interlacing: The number of printheads connected to the current system that are interlacing in the X direction.

➤ Mirror Color Order of Interlacing Printheads: Mirror color order can be set for interlacing printheads.

➤ Number of Headboards/Driver Boards: The number of headboards/driver boards to be supported by the current layout.

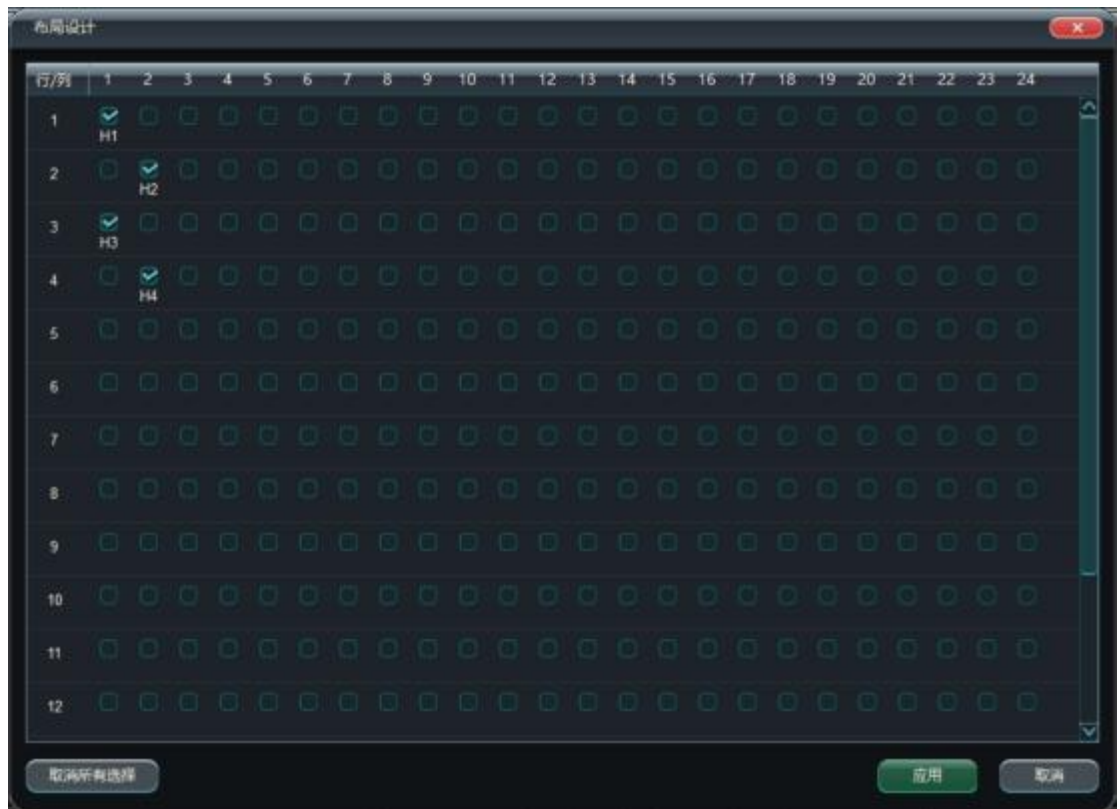
➤ Default Value of Group Color Order: The color order required by the current layout, such as YMCK or KCMY.

➤ Number of Printhead Colors: The current configuration of the printhead color, 1 head 1 color select 1, 1 head 2 color select 2.

➤ X-unit Offset: Set the distance between two neighboring printheads in X direction

➤ Interpolation Color Order Mirroring: Interpolation of the printheads can be set to mirror color order.

#### 喷头布局设置—布局设计 Printhead Layout Setting-Layout Design



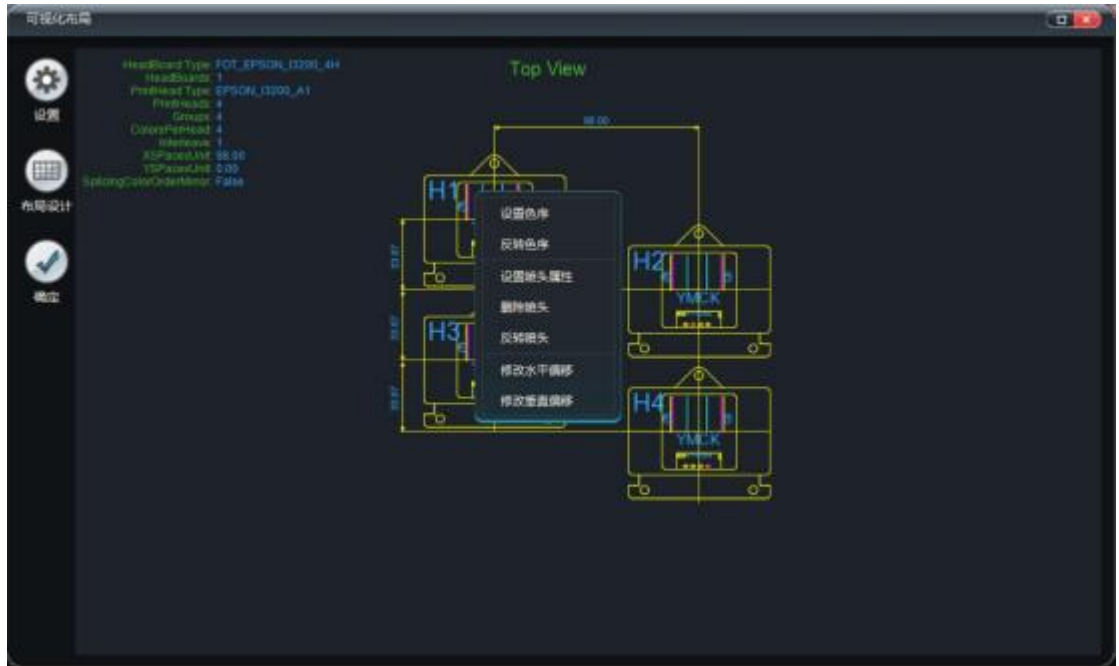
➤ 行：当前设定的布局在 X 方向上的喷头

➤ 列：当前设定的布局在 Y 方向上的喷头

➤ Row: Printheads in the X direction for the currently set layout

➤ Column: Printheads in the Y-direction for the currently set layout

#### 喷头布局设置—布局修改 Printhead Layout Setting - Layout Modification



- 设置色序：设置选中喷头的颜色色序
- 反转色序：将选中喷头的颜色色序进行反转，YMCK 变为 KCMY
- 设置喷头属性：设定选中的喷头在头板上的接线通道
- 删除喷头：删除选中的喷头
- 反转喷头：将选中的喷头首尾对调
- 修改水平偏移：修改选中的喷头在水平方向（X）上的偏移位置
- 修改垂直偏移：修改选中的喷头在垂直方向（Y）上的偏移位置
- Set Color Order: Set the color order of the selected printheads.
- Reverse Color Order: Reverse the color order of the selected printheads, YMCK to KCMY.
- Set Printhead Properties: Set the wiring channel of the selected printhead on the header board.
- Delete Printhead: Delete the selected printhead.
- Reverse Printheads: Reverses the head and tail of the selected printheads.
- Modify Horizontal Offset: Modifies the horizontal (X) offset position of the selected printhead.
- Modify Vertical Offset: Modifies the offset position of the selected printhead in the vertical direction (Y).

#### 2.9.3.4.2 打印机设置 Printer Setting



- 扫描轴光栅分辨率：打印机扫描轴的打印分辨率
- 光栅平滑滤波开关：选择打印时是否使用光栅平滑滤波，72 光栅建议开启，25400 光栅建议关闭
- 原点位置：小车安装的原点位置，分左原点和右原点
- 打印平台宽度：设定的打印机 X 方向最大打印宽度范围
- X 轴打印原点调整量：设定 X 方向起始打印位置的调整量
- Y 向总长度：设定的打印机 Y 方向最大打印长度范围，卷轴机为 0
- 原点侧平台宽度：设定打印机原点区域的平台宽度
- 终点侧平台宽度：设定打印机原点区域的平台宽度
- Y 轴打印原点调整量：设定 Y 方向起始打印位置的调整量
- 原点侧平台距离调整量：调整打印机原点测平台距离
- 终点侧平台距离调整量：调整打印机终点测平台距离
- Y 轴打印原点调整量：调整打印机 Y 轴原点距离
- 轴待机位置：设置机器待机时各运动轴的位置
- 轴偏移：设置机器初始化时各运动轴找完原点后的偏移距离 其详细设置方法请参考第三章。
- Scanning Axis Raster Resolution: The printing resolution of the scanning axis of the printer.
- Raster Smoothing Filter Switch: Select whether to use raster smoothing filter when printing, 72 raster is recommended to turn on, 25400 raster is recommended to turn off.
- Origin Position: The origin position where the trolley is installed, divided into left origin and right origin.
- Platform Width: The maximum print width range of the printer in X direction.
- X-axis Print Origin Adjustment: Sets the amount of adjustment for the X-direction starting print position.
- Y-Direction Overall Length: The set range of the printer's maximum Y-direction print length, 0 for spoolers.
- Origin Side Platform Width: Sets the platform width in the origin area of the printer.
- Finish Side Platform Width: Sets the platform width in the origin area of the printer

- Y-axis Print Origin Adjustment: Sets the adjustment amount for the Y-direction starting print position
- Origin Side Platform Distance Adjustment: Adjusts the printer's origin measurement platform distance.
- Finish Side Stage Distance Adjustment: Adjusts the printer's finish stage distance.
- Y-axis Print Origin Adjustment: Adjusts the printer Y-axis origin distance.
- Axis Standby Position: Sets the position of each axis of motion when the machine is in standby mode.
- Axis Offset: Set the offset distance of each motion axis after finding the home position when the machine is initialized. Please refer to Chapter 3 for detailed settings.

#### 2.9.3.4.3 PM 开关 PM Switch



- 打印前测量：设定打印前是否执行“测高”流程
- 打印前确认：设定打印前是否执行“打印确认”流程
- 每份作业打印前确认：设定多份作业打印时打印前是否执行“打印确认”流程
- 取消打印前提示：设定取消打印时是否弹框提示
- 打印完成后删除作业：设定打印完成后是否删除 PM 内添加的 prt 文件
- 打印完成后删除文件：设定打印完成后是否删除电脑
- 退出 PM 时提示：设定 PM 退出时是否弹框提示
- 退出 PM 前保存 PM 参数：设定 PM 退出时是否保存 PM 参数
- 预览图旋转 180°显示：设定 PM 预览图像是否选择 180°
- 系统连接方式：设定当前电脑与系统连接的方式，可选 USB 和网络
- Measurement Before Printing: Sets whether to execute the "Height Measurement" process before printing.
- Confirmation Before Printing: Sets whether or not to perform the "Print Confirmation" process before printing.
- Confirmation Before Printing for Each Job: Sets whether or not to perform the "Print Confirmation" process before printing when multiple jobs are printed.
- Prompt Before Canceling Printing: Sets whether or not a pop-up box prompts you when you cancel printing.
- Delete Job after Printing: Sets whether to delete the prt file added in PM after printing.
- Delete File after Printing: Set whether to delete the file in computer after printing.

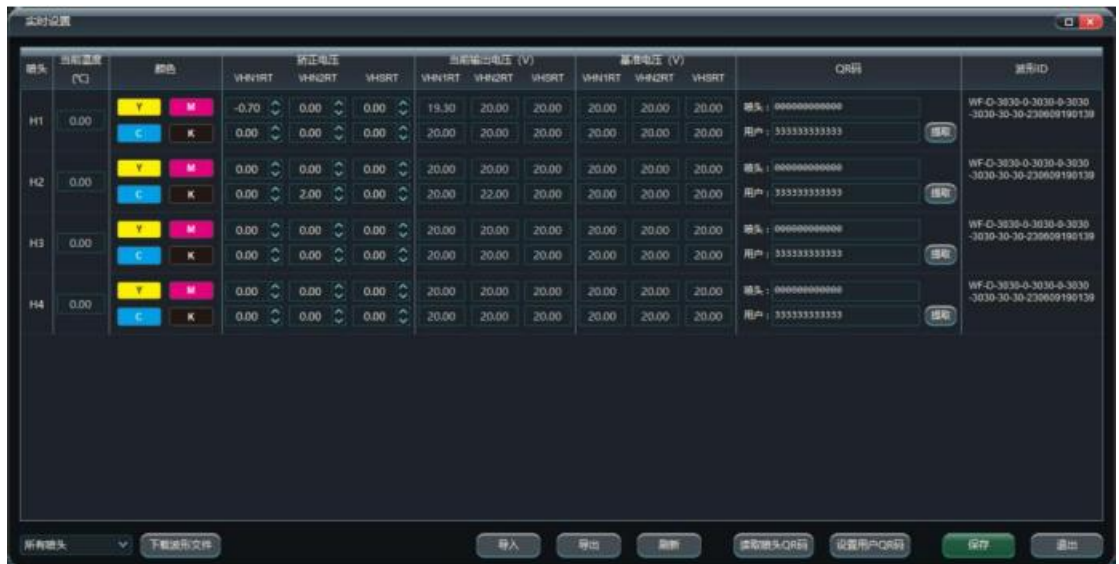
- Prompt When Exiting PM: Sets whether or not to be prompted by a pop-up box when exiting PM.
- Save PM Parameters Before Exiting PM: Sets whether to save PM parameters when PM exits.
- Preview Image Rotation 180° Display: Sets whether or not 180° is selected for the PM preview image.
- System Connection: Set the way of connecting the current computer to the system, selectable USB and network.

#### 2.9.3.4.4 其他设置 Other Setting



- 溢墨检测功能开关：设定溢墨检测功能是否开启
- 缺纸检测功能开关：设定缺纸检测功能是否开启
- Ink Overflow Detection Function Switch: Set whether the ink overflow detection function is on or off.
- Paper Out Detection Function Switch: Sets whether the paper out detection function is on or off.

#### 2.9.3.5 实时设置 Real-time Settings



- 喷头：H1-H4 表示喷头布局内的序号，双击后可弹出喷头布局界面
- 当前温度：显示该喷头的当前温度，读取的是喷头内部温度传感器温度
- 矫正电压：设定打印时喷头的矫正电压，矫正范围±5V
- 当前输出电压：打印时喷头的当前实际输出电压
- 基准电压：喷头读取到的基准电压
- QR 码：EPSON 喷头特有
- 波形 ID：当前板卡下载的波形 ID 号，其详细设置方法请参考第三章。

- Printhead: H1-H4 indicates the serial number within the printhead layout, double-click to pop up the printhead layout interface.
- Current Temperature: Display the current temperature of the printhead, reading the temperature of the internal temperature sensor of the printhead.
- Corrective Voltage: Set the corrective voltage of the printhead when printing, the corrective range is  $\pm 5V$ .
- Current Output Voltage: Current actual output voltage of the printhead at the time of printing.
- Reference Voltage: The reference voltage read by the printhead.
- QR Code: EPSON printhead specific.
- Waveform ID: ID number of the waveform downloaded from the current board, please refer to Chapter 3 for detailed settings.

### 2.9.3.6 密码设置 Password Setting



- 时间密码: 设置机器运行时间限制的密码 (以板卡运行时间计数), 该密码由特定工具根据用户要求生成不同时间段的密钥
- 语言密码: 设置 PM 软件切换语言的密码, 该密码由特定工具根据用户要求生成不同时间段的密钥
- 墨水密码: 设置机器墨水使用量的密码, 该密码由特定工具根据用户要求生成不同时间段的密钥
- 限时密码: 设置机器运行时间限制的密码 (以自然日时间计数), 该密码由特定工具根据用户要求生成不同时间段的密钥
- 软件狗密码: 设置 PM 软件加密狗的密码, 该密码由特定工具根据用户要求生成不同时间段的密钥
- Time Password: Password to set the machine running time limit (counted by board running time)
- Language Password: Password to set the language for PM software switching.
- Ink Password: Password to set the amount of ink used by the machine
- Time Limit Password: Password to set the running time limit of the machine



(counted by the time of natural days)

➤ Dongle Password: Password to set the dongle of PM software.

All of the above passwords are generated by a specific tool according to the user's requirements for different time periods.

### 三、 第三章 Chapter 3

#### 3.1 移动测试 Movement Testing

点击工具栏上主菜单按钮--工具—调试工具—轴测试，进入后选择移动不同轴。

Click on the Main Menu button on the Toolbar - Tools - Debug Tools - Axis Test, enter and select Move Different Axis.

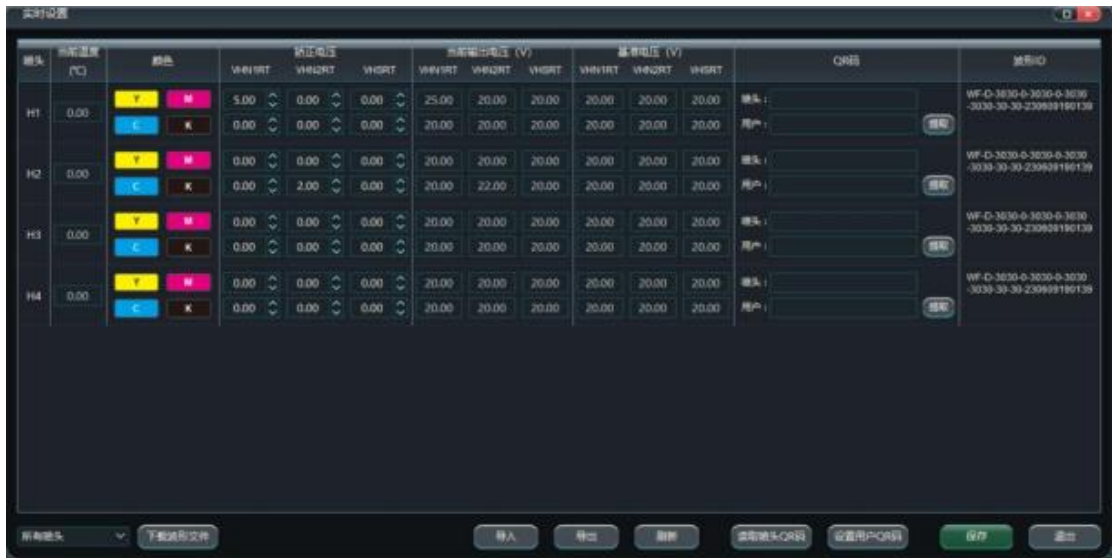


- 首先在移动轴之前做好当前位置标记。
- 选择想要移动轴的方向按钮进行移动。
- 在移动速度框和定长移动框中输入移动单位值，(脉冲表示的含义取决于光栅分辨率，以720dpi 机器为例，7200 脉冲代表 10inch 也就是 25.4 厘米)，单位设定请参考第二章。
- 点击开始移动后测量实际移动的距离是否准确。
- 正向移动是远离原点方向，负向移动是回到原点方向。
- 如果反馈坐标和脉冲坐标不一致，检查光栅分辨率；如果移动距离不对，检查齿轮比。
- First mark the current position before moving the axis.
- Select the direction button of the axis you want to move.
- Input the moving unit value in the moving speed box and fixed length moving box, (the meaning of the pulse representation depends on the resolution of the raster, take 720dpi machine as an example, 7200 pulses represent 10inch or 25.4cm), the unit setting please refer to Chapter Two.
- Measure the actual distance traveled after clicking to start moving to make sure it is accurate.
- Positive movement is away from the origin direction, negative movement is back to the origin direction.
- If the feedback coordinates and pulse coordinates are not the same, check the grating resolution; if the moving distance is not correct, check the gear ratio.

#### 3.2 设置温度、电压 Setting Temperature and Voltage

点击主菜单——设置——实时设置进入到温度和电压设置，如下图所示：

Click Main Menu - Settings - Real Time Settings to go to Temperature and Voltage Settings as shown below:



- 喷头：代表喷头位置，H1 表示第一个喷头，双击后会弹出喷头布局示意图
- 目标温度：设置喷头需要的工作温度（如果有喷头加热功能），最大范围 60°C
- 当前温度：当前喷头工作的温度。
- 矫正电压：对基准电压进行矫正，矫正范围为（-5V+5V）。
- 当前基准电压：当前喷头工作的实际电压。
- 基准电压：喷头上标识或者 QR 码自带的基准电压。
- 喷头 QR 码：特定喷头描述基准电压的字符码
- Printhead: Represents the position of the nozzle, H1 means the first nozzle, double-click will pop up the layout of the nozzle schematic
  - Target Temperature: Set the working temperature of the printhead (if there is a printhead heating function), the maximum range of 60 °C.
  - Current Temperature: The current working temperature of the printhead.
  - Corrected Voltage: Correct the reference voltage, the correction range is (-5V+5V).
  - Current Reference Voltage: The actual voltage of current printhead working.
  - Reference Voltage: The reference voltage of the marking on the printhead or the QR code.
  - Printhead QR Code: Character code describing the reference voltage for a specific printhead.

### 3.3 设置喷头布局 Setting the Printhead Layout

该功能需要输入厂商密码显示，PM 界面输入“ctrl+alt+G”后输入厂商密码，支持可视化和常规布局两种方式

This function requires the input of vendor's password to display, enter "ctrl+alt+G" and then input the vendor's password in the PM interface, and it supports both visualization and normal layout.

#### 3.3.1 可视化自由布局 Visualization of the Free Layout

下图为 Epson-i3200 系统四头标准喷头布局的设置参考，每个喷头 X 方向间距 122mm。

The following figure shows the setup reference for the four-head standard printhead layout of the Epson-i3200 system, with each printhead spaced 122mm apart in the X direction.



### 3.3.2 常规布局 General Layout



- 根据板卡实际硬件连接配置头板端口。
- 根据喷头实际物理位置配置颜色顺序，多组喷头配置 Y 位置。
- 根据喷头底板实际物理位置配置 X 单位偏移和 X 位置。
- 根据喷头实际连接头板端口，配置插槽。

下图为 KM1024i 系统四色两组标准喷头布局的设置参考，每组喷头 X 方向间距 60mm，两组喷头 X 方向间距 30mm，机器为左原点，从左到右依次为 Y、M、C、K。

- Configure the headboard ports according to the actual hardware connections of the board.
- Configure the colour order based on the actual physical location of the printheads and Y position for multiple printheads.
- Configure the X unit offset and X position based on the actual physical location of the printhead backplane.
- Configure slots based on the actual physical location of the printheads connected to the header board ports.

The following figure shows the setup reference for the four-colour, two-group standard printhead layout of the KM1024i system, with each group of printheads spaced 60mm apart in the X-direction, and two groups of printheads spaced 30mm apart in the X-direction, with the machine as the left origin, and Y, M, C, and K in order from left to right.



### 3.4 检查喷头状态 Check Printhead Status

可通过工具栏上喷嘴检查按钮打印喷检图案来检查喷嘴出墨状态，有关喷头状态图的识别详细方法请参考校准手册。

You can check the printhead inking status by printing a print check pattern with the Nozzle Check button on the toolbar. For details on how to recognize the printhead status chart, please refer to the calibration manual.

- 普通喷检：厂家配置为普通喷检，打印的喷检图案仅检测断线和斜喷
- 变点喷检：厂家配置为变点喷检，打印的喷检图案包含大中小点套齐和色块图案
- 按键板喷检：PM 主界面上传喷检到按键板，实现按键板独立打印喷检
- Ordinary Spray Check: The factory configuration is ordinary spray check, the printed spray check pattern only detects broken lines and diagonal spray.
- Variable Dot Spray Check: The factory configuration is Variable Dot Spray Check, and the printed spray check pattern includes large, medium and small dot set and colour block pattern.
- Keypad spray inspection: PM main interface uploads the spray inspection to the keypad, so as to realize the independent printing of keypad spray inspection.

### 3.5 清洗喷头 Cleaning Printhead

清洗喷头有两种方法，分别为清洗和闪喷。

There are two ways to clean the printhead, washing and spraying.

➤ 清洗：点击菜单栏上清洗按钮，可以弹出清洗设置选择界面，关于清洗流程设置方案请参考配置工具使用手册。

➤ 闪喷：点击菜单栏上闪喷按钮，可以对所有喷头闪喷操作，关于自动闪喷设置方法请参考第 2.9.3.2 节“闪喷设置”。

➤ Click the Cleaning Button on the menu bar to bring up the Cleaning Setting Selection Interface, please refer to the Configuration Tool User's Manual for the Cleaning Process Setting Program.

➤ Spray: Click the Spray Button on the Menu Bar to spray all the printheads, please refer to Section 2.9.3.2 "Spray Setting" for the automatic spray setting method.

### 3.6 设置闪喷 Setting Spraying

通过点击工具栏上的主菜单按钮——设置——打印设置编辑选项进入闪喷设置菜单，有关操作请参考 2.9.3.2 章节。

The Spray Setup Menu can be accessed by clicking on the Main Menu button on the toolbar - Setup - Print Setup Edit option, please refer to section 2.9.3.2 for more information on how to do this.



➤ 空闲闪喷：机器就绪状态下小车在闪喷区域时按照空闲闪喷频率近行闪喷动作，On 表示打开该功能，Off 表示关闭该功能。

➤ 空闲闪喷频率：单位为 Hz，该值根据不同墨水和不同喷头，其值也不一样，一般水性墨水 10-100Hz，溶剂墨水 5-10Hz，UV 墨水 0.2-0.5Hz。

➤ 空闲闪喷时间：设置空闲闪喷的持续时间，1000ms 表示持续闪喷 1 秒

➤ 空闲闪喷间隔时间：设置空闲闪喷间隔时间，1000ms 表示间隔 1 秒进行一次闪喷

- 手动闪喷：PM 主界面点击闪喷时按照手动闪喷频率和持续实际进行闪喷动作。
- 手动闪喷频率：单位为 Hz，该值一般设置 100Hz。
- 手动闪喷持续时间：执行手动闪喷时用一个特定的频率持续闪喷一段时间，单位为 ms，该值一般设置 1000ms。
- 打印前闪喷：打印前开始闪喷，On 表示打开该功能，Off 表示关闭该功能。
- 打印前闪喷频率：在打印开始前用一个特定的频率进行闪喷，单位为 Hz，该值一般设置 100Hz。
- 打印前闪喷持续时间：在打印开始前用一个特定的频率持续闪喷一段时间，单位为 ms，建议使用 1000-3000ms 即可。
- 自动闪喷间隔 pass 数：打印多少 PASS 后，回到原点进行一次闪喷流程。0 表示不开启打印时自动闪喷。
- 打印时自动闪喷频率：在打印时用一个特定的频率进行闪喷，单位为 Hz，该值一般设置 100Hz。
- 自动闪喷持续时间：在打印开始前用一个特定的频率持续闪喷一段时间，单位为 ms，建议使用 1000-3000ms 即可。
- Idle Spray: When the machine is ready, the trolley in the area of spraying in accordance with the frequency of idle spraying near the line spraying action, On indicates that the function is open, Off indicates that the function is closed.
- Idle Spray Frequency: The unit is Hz, the value is different according to different inks and different printheads, the value is different, generally 10-100Hz for water-based ink, 5-10Hz for solvent ink and 0.2-0.5Hz for UV ink.
- Idle Spray Time: Set the duration of idle spraying, 1000ms means 1 second of continuous spraying.
- Idle Spray Interval Time: Set the idle spray interval time, 1000ms means a 1-second interval for flash spraying
- Manual Spray: When you click on the Spray in the main interface of the PM, the flash action is actually carried out according to the frequency and duration of the manual spray.
- Manual Spray Frequency: The unit is Hz, the value is usually set to 100Hz.
- Manual Duration of Spraying: When performing manual sprays, a specific frequency is used to continuously sprays for a period of time, the unit is ms, and the value is usually set to 1000ms.
- Pre-print Spray: Start flash spraying before printing, On means turn on the function, Off means turn off the function.
- Pre-print Spray Frequency: Spray at a specific frequency before printing, the unit is Hz, the value is usually set to 100Hz.
- Pre-Print Spray Duration: Spray at a specific frequency for a certain period of time before printing starts, the unit is ms, it is recommended to use 1000-3000ms.
- Auto Spray Interval PASS Number: After printing how many PASS, return to the origin for a flash process. 0 means do not turn on Auto Spray Flash when printing.
- Automatic Spray Flash Frequency: A specific frequency is used to flash when printing, the unit is Hz, the value is usually set to 100Hz.
- Auto Spray Duration: Flash at a specific frequency for a certain period of time before printing starts, the unit is ms, it is recommended to use 1000-3000ms.

### 3.7 打印校准 Print Calibration

点击 PM 主界面的校准按钮或通过主菜单——选工具菜单——选择校准向导进入校准，校准分为九个部分，依次为步进校准、机械检查、垂直重叠校准、水平校准、步进微调、喷嘴重叠、全幅校准、多层双向修正和垂直微调。根据机器实际打印要求执行相关的校准步骤。

Click on the Calibration button on the PM main screen or enter Calibration via the Main Menu - Select Tools Menu - Select Calibration Wizard, Calibration is divided into nine sections, in order, Step Calibration, Mechanical Check, Vertical Overlap Calibration, Horizontal Calibration, Step Fine Adjustment, Nozzle Overlap, Full Width Calibration, Multi-Layer Bi-Directional Correction and Vertical Trim. Perform the relevant calibration steps according to the actual printing requirements of the



machine.

有关校准的详细介绍请参考校准手册。

Refer to the Calibration Manual for details on calibration.

### 3.8 设定打印模式 Setting the Print Mode





根据实际生产状态建立不同打印模式（高要求的精度图选用大羽化，低要求的生产图选用小羽化等），预先设置好不同打印模式，便于实现不同质量要求的作业使用最适宜的打印模式，兼顾打印质量和产量。

- 根据打印类型选择不同打印模式（边 rip 边打选择“使用文件设置”）。
- 根据作业实际打印需求配置高速度/高精度模式。
- 根据打印效果需求选择羽化模式和羽化强度。

Different print modes are established according to the actual production status (large feathering for high-precision drawings, small feathering for low-production drawings, etc.), and different print modes are set up in advance to make it easier to achieve the optimum print mode for jobs with different quality requirements, taking into account both print quality and throughput.

➢ Select different print modes according to the type of print (select "Use File Settings" while ripping and typing).

➢ Configure the High Speed/High Accuracy mode according to the actual print requirements of the job.

➢ Select the feathering mode and feathering intensity according to the printing effect requirement.

下图为 Epson-i3200 四头系统打印 4pass 分辨率为 720\*1200 作业的设置参考，机器光栅分辨率为 720dpi，打印介质为车贴，选用喷头间、渐变自定义 20%羽化（实际是 4.8pass）、高速度模式双向打印。

The following figure for the Epson-i3200 four-head system to print 4pass resolution of 720 \* 1200 job setup reference, the machine raster resolution of 720dpi, print media for the car stickers, the choice of printheads, gradient custom 20% feathering (actually 4.8pass), high speed mode bidirectional printing.



下图为 KM1024i 系统四色两组打印 6pass 分辨率为 720\*1080 作业的设置参考，机器光栅分辨率 720dpi，打印介质为软膜，选用 UV 渐变弱羽化（实际是 13pass），高速度模式双向打印。

The diagram below shows the setup reference for a KM1024i system printing a 6pass job at 720\*1080 in two groups of four colours, with a machine raster resolution of 720 dpi, a soft film media, UV gradient with weak feathering (actually 13pass), and bi-directional printing in high speed mode.



### 3.9 添加打印作业 Adding A Print Job

有三种方式可以实现添加打印作业，具体使用介绍如下：

There are three ways to add a print job, and their use is described below:

- 1、 使用主界面的“添加作业”按钮 Use the "Add Assignment" button in the main interface.



- 2、 使用工具栏添加作业按钮，如下图红圈所圈中按钮。点击添加作业按钮后，找到想要打印的作业即可。寻找作业时可以选择，也可以多选。

Use the Add Job button on the toolbar, as shown below in the red circle. After clicking the Add Job button, find the job you want to print. You can make single or multiple selections when searching for a job.





3、在任务栏中点击右键，添加作业，如右图：

Right-click in the taskbar to add the assignment, as shown in the right figure:

### 3.10 编辑作业属性 Editing Job Properties

#### 3.10.1 打印起始点 Print Start Point

有两种设置打印起始点方法 There are two ways to set the print start point:

- 1、在 PM 主界面工具栏上里填入相应的数值后回车确认即可完成打印起始点的设置，卷轴机和倒带机型可以设置 X 原点，平板机可以同时设置 X 和 Y 原点。

Fill in the corresponding values in the toolbar of the PM main interface and enter to confirm to complete the setting of the print start point, the X origin can be set for reel and rewind models, and the X and Y origins can be set for flatbed machines at the same time.



- 2、移动 X 小车或者 Y 横梁到某一打印区域位置，点击 PM 主界面工具栏上的同步 X 原点和同步 Y 原点，即可完成打印起始点的设置，卷轴机和倒带机型可以设置 X 原点，平板机可以同时设置 X 和 Y 原点。

Move the X-trolley or Y-beam to the position of the print area, and click Synchronize X and Synchronize Y on the toolbar of the PM main interface to complete the setting of the print start point. The X Home position can be set for reel and rewinder models, and the X and Y Home positions can be set for flatbed models at the same time.



以小车左原点为例，打印起始点位置为小车最右边的喷头到打印画面的最右边界（包含彩条）的距离为 X 原点位置。最上边喷头到打印画面的最下边界的距离为 Y 原点位置。

Taking the left origin of the trolley as an example, the print start position is the distance from the rightmost printhead of the trolley to the rightmost boundary of the print screen (including the colour bar) as the X Home position. The distance from the top nozzle to the bottom border of the print screen is the Y Home position.

#### 3.10.2 步进调整 Stepping Adjustment

打印过程中可以根据机器实际打印效果实时调整下一 pass 打印的步进值，调整单位是脉冲。

During the printing process, you can adjust the step value of the next pass printing in real

time according to the actual printing effect of the machine, and the unit of adjustment is pulse.

### 3.10.3 双向调整 Bi-directionality

打印过程中可以根据机器实际打印效果实时调整下一 pass 打印的双向值，调整单位是脉冲。

The bi-directional value for the next pass can be adjusted in real time during the printing process according to the actual printing result of the machine, and the unit of adjustment is pulse.

### 3.10.4 速度选择 Speed Options

### 3.10.5 打印模式 Print Mode

在任务栏里选择一个打印作业，点击右键选择编辑作业后，进入作业编辑设置窗口后，在左侧的打印模式中选择相应的打印模式设置即可完成打印设置。

Select a print job in the taskbar, right-click and select Edit Job to enter the Job Edit Settings window, and then select the appropriate print mode setting in the Print Mode on the left to complete the print settings.



具体打印模式设置请参照 3.8 章节。

Please refer to section 3.8 for specific print mode settings.

### 3.10.6 多份打印 Multi-printing

进入作业编辑设置窗口后，在打印份数中填入相应的打印份数即可完成多份设置。可设定每份作业打印前是否提示开始打印

When entering the Job Edit Settings window, enter the number of copies in the Number of Copies to print to complete the multi-copy setting. You can set whether or not to prompt for printing before each job is printed.



### 3.10.7 剪切作业 Shearing Operation

在任务栏里选择一个打印作业，点击右键选择编辑作业后，弹出如下图编辑作业窗口：

After selecting a print job in the taskbar, right-clicking and selecting Edit Job, the Edit Job window pops up as shown below:



如上图黑色框，拖动黑色框即可完成剪切。也可以在左侧剪切设置框中输入剪切的 X、Y 起始位置或者相应的宽度、高度设置值完成剪切。

Drag the black box to complete the cutting. You can also input the X and Y starting position of the cut or the corresponding width and height setting values in the left cut setting box to finish the cut.

### 3.10.8 拼贴作业 Collage Operation

拼贴作业功能和剪切作业功能相同，选中某个作业点击右键选择编辑作业后，弹

出作业 编辑窗口，在右侧作业预览图下选中拼贴打开拼贴功能，如下图：

The collage function is the same as the Shearing Operation function. After selecting a job and right clicking on it to select Edit Job, the job editing window will pop up, and then select Collage to open the collage function under the preview of the job on the right side, as shown in the following figure:



选中拼贴后在左侧拼贴设置里输入相应的拼贴参数设置。

- 按数量拼贴：X 数量为横向拼贴的份数，Y 数量为纵向拼贴的份数，X 间距和 Y 间距为 设置拼贴作业时横向和纵向两份作业的间距。
- 按尺寸拼贴：直接输入拼贴后的宽度和高度，可设定拼贴后的预览图像是否为原始图像

After selecting the collage, enter the corresponding collage parameter settings in the left collage settings.

➤ Collage By Quantity: X quantity is the number of horizontal collage, Y quantity is the number of vertical collage, X distance and Y distance are the spacing between horizontal and vertical collage jobs.

➤ Collage By Size: Directly input the width and height of the collage, and you can set whether the preview image after collage is the original image or not.

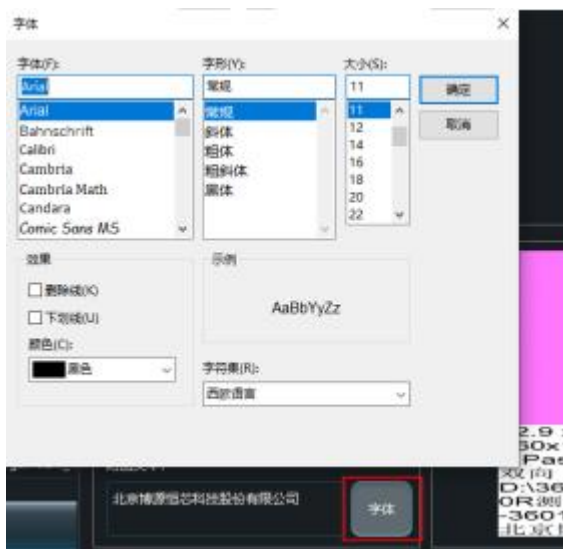
### 3.10.9 注脚打印 Footnote Printing

如上剪切和拼贴功能，进入作业编辑窗口后，在注脚里进行相应的设置即可：

As with the shearing and collage function above, just enter the job editing window and set the appropriate settings in the footer:



- 作业大小：在注脚里添加作业大小尺寸的信息。
- 路径：在注脚里添加当前作业的路径信息
- 分辨率：在注脚里添加作业分辨率的信息。
- PASS 数：在注脚里添加 PASS 数的信息
- 方向：在注脚里添加打印方向（单/双向）的信息。
- 注脚边距：设定打印时注脚距离图像的距离
- 字体：对自行输入注解信息的文字进行字体定义
- Job Size: add information about the size dimensions of the job in the footer.
- Path: add the path information of the current job in the footer
- Resolution: add information about the resolution of the job in the footer.
- PASS Number: add the PASS number information in the footer
- Orientation: add information about the print orientation (uni/bi-directional) in the footer.
- Footer Margin: Set the distance of the footer from the image when printing
- Font: Define the font for the text of the note information entered by yourself





### 3.10.10 多文件打印 Multi-document Printing

进入作业编辑设置窗口后，在左侧的多文件中添加相应的打印作业即可。添加的多文件可以是相同文件，也可以是不同文件，需要确保尺寸大小和分辨率相同。最多支持四个文件。

After entering the Job Edit Settings window, add the corresponding print job in the Multi-File on the left side. The multiple files you add can be the same file or different files, and you need to make sure the size and resolution are the same. A maximum of four files are



supported.

### 3.11 设置彩条 Setting Up Colour Bars

通过点击界面主菜单-设置-打印设置按钮进入彩条设置编辑选项，有关操作请参考 2.9.3.2 章节：

The colour bar setting editing option can be accessed by clicking the main menu of the interface - Setup - Print Setup button, please refer to chapter 2.9.3.2 for the operation:



进入设置菜单后，即可见到彩条设置如上图。

- 彩条宽度：彩条的整体宽度，单位可进入用户设置-个性设置中进行设置。
- 彩条间距：彩条到画面的距离，单位可进入用户设置-个性设置中进行设置。

墨。

- 墨量：可以设置彩条打印时的墨量，100%为全部喷孔出墨，50%为一半喷孔出墨。
- 彩条位置：彩条的位置。无：即为没有彩条，左、右：彩条在画面的左侧或右侧，两边：彩条在画面的左边和右边同时有。
- 间隔：选择自动则根据打印的作业 pass 数间隔打印彩条，选择 1 则为每间隔 1pass 打印彩条
- 彩色重叠：四色重叠在一起
- 与图像同高：彩条保持和画面平齐。
- 固定图像位置：图像打印的位置取决于打印原点

After entering the setting menu, you can see the color bar setting as above.

- Color Bar Width: The overall width of the color bar, the unit can be set in User Settings-Personality Settings.
- Color Bar Spacing: The distance from the color bar to the screen, the unit can be set in User Settings-Personality Settings.
- Ink Volume: The ink volume can be set when the color bar is printed, 100% for all the ink out of the holes, 50% for half of the ink out of the holes.
- Color Bar Position: The position of the color bar. None: there is no color bar, Left, Right: the color bar is on the left or right side of the screen, Both: the color bar is on the left and right side of the screen at the same time.
- Interval: Select Auto to print color bars at intervals according to the number of job passes, select 1 to print color bars at intervals of 1pass.
- Color Overlap: Four colors are overlapped.
- Same Height as Image: The color bars remain flush with the screen.
- Fixed Image Position: Image prints in a position dependent on the print origin.

### 3.12 设置打印附加动作 Setting Up Additional Actions for Printing

通过点击界面主菜单——设置——打印设置按钮进入空白 band 设置界面

Enter the blank band setup screen by clicking on the interface main menu - Setup - Print Setup button.



- 空白 band 数：打印完作业最后一个 band 后额外增加的空 band 数。
- 空白 band 步进：决定打印额外增加的空 band 是否进行步进。
- 喷检后步进：设定喷检打印完成后步进的距离
- 打印步进：设定打印前步进的距离
- Blank Band Count: the number of additional blank bands added after the last band of the job is printed.

- Blank Band Stepping: Determines if the additional blank bands printed are stepped.
- Post Spray Check Step: Sets the distance to step after spray check printing is complete
- Print Step: Sets the distance to step before printing.

### 3.13 设置校准基准色 Setting the Calibration Reference Colour

通过点击界面主界面——校准——打印设置按钮进入校准基准色设置界面

Enter the calibration base colour setting interface by clicking the main interface - Calibration - Print Setting button.



- 校准基准色: 打印校准时采用的基准颜色。
- 校准线宽: 打印水平校准图案的线宽。
- Calibration Reference Colour: Prints the reference colour used for calibration.
- Calibration Line Width: Prints the line width of the horizontal calibration pattern.

### 3.14 设置自动跳白 Setting Up Automatic White Skip

通过点击界面主菜单——设置——打印模式菜单进入自动跳白设置界面，如下图所示：

By clicking the Main Menu - Settings - Print Mode menu to enter the Automatic White Skip Setting interface, as shown in the following figure:



- 自动跳白：设置打印作业时遇到 Y 向空白大于喷头高度时的快捷步进方式。
  - 一步跳白：打印作业时遇到 Y 向空白大于喷头高度时一次性跳过空白部分。
- 勾选中自动跳白，并保存设置即可实现打印自动跳白功能（作业 Y 向空白高度要大于一个喷头的高度），遇到空白部分按照 pass 高度逐次跳过。
- 同时勾选自动跳白和一步跳白，遇到空白部分可实现一次性跳过。
- Auto White Skip: Sets a shortcut for when a print job encounters a Y-direction blank that is larger than the printhead height.
  - One Step Skip: Skips the blank portion of the job at one time when the print job encounters a blank Y direction that is greater than the printhead height. By checking the box of Auto White Skip and saving the setting, you can realize the function of Auto White Skip (the height of the job's Y-direction blank should be greater than the height of one printhead), and the blank part will be skipped one by one according to the pass height when encountered.
- By checking both Auto White Skip and One Step White Skip, it can realize one-time skip when encountering a blank part.

### 3.15 设置羽化 Setting Feathering

通过点击界面主菜单——设置——打印模式菜单进入羽化模式设置界面，如下图所示：



By clicking on the interface main menu - Settings - Print Mode menu to enter the feathering mode setting interface, as shown below:

羽化设置界面有羽化类型、羽化强度和羽化颗粒选项：羽化类型：渐变、均匀、UV 渐变、精细羽化和喷头间羽化选项，下面一一分别介绍：

➤ 渐变：每一 PASS 打印区域范围内首端和尾端用渐变的方式进行羽化，用以修饰 PASS 道 和深浅条纹，羽化区域大小取决于羽化大小。

➤ 均匀：每一 PASS 打印区域范围内首端和尾端用均匀一致的方式进行羽化，适用于解决 深浅条纹。

➤ UV 渐变：每一 PASS 打印区域范围内首端和尾端用渐变的方式进行羽化，适用于解决 UVbanding，UV 渐变弱（自定义 33 以下）羽化比例固定 100%+1pass，UV 渐变中（自定义 34 到自定义 66）羽化比例固定 100%+3pass，UV 渐变强（自定义 67 以上）羽化比例 固定 200%-1pass

➤ 精细羽化：每一 PASS 打印区域范围内首端和尾端用渐变的方式进行羽化，适用于打印 大墨量色块，精细弱羽化比例固定 100%+2pass，精细中羽化比例固定 100%+4pass，精 细强羽化比例固定 100%+6pass。

➤ 均匀打印：通过多布点方式增加 Y 向一倍喷头分辨率，比如 i3200 喷头打印 720\*1200dpi（4pass），设定均匀打印后会变成 720\*1800dpi（6pass）。

➤ 喷头间羽化：适用于解决多组喷头拼接处的深浅条纹。

➤ 羽化强度：弱羽化的比例 33%，中羽化的比例 66%，强羽化的比例 100%。也可以根据 实际打印效果选择自定义羽化比例。

➤ 羽化颗粒：用于调整每 pass 打印的羽化部分的颗粒度，颗粒度越大羽化部分越粗糙，越不容易形成羽化道，颗粒度设置范围 1-30。

➤ pass 颗粒：用于调整每 pass 打印的羽化部分的颗粒度，颗粒度越大羽化部分越粗糙，越不容易形成羽化道，只有在 pass 倍数 2 以上才生效，，颗粒度设置范围 1-30。羽化功能是为了弥补打印时因为喷孔状态不良和步进不准现象产生的有规律的条纹和 pass 道，选择的羽化比例越高，完成作业所需要的打印 pass 数越多，打印产量相应减少。

The Feathering Setup has options for Feathering Type, Feathering Intensity, and Feathering Granularity. Feathering Type: Gradient, Uniform, UV Gradient, Fine Feathering, and Inter-Projector Feathering options are described in the following sections:

➤ Gradient: The first and last ends of each PASS print area are feathered in a gradient manner to modify the PASS paths and shades of stripes, the size of the feathered area depends on the feathering size.

➤ Uniform: Feathers the first and last ends of each PASS print area in a uniform manner for resolving dark and light streaks.

➤ UV Gradient: The first and last ends of each PASS print area are feathered in a gradient manner, suitable for resolving UVbanding, UV Gradient Weak (Custom 33 or less) Feathering Ratio Fixed 100%+1pass, UV Gradient Medium (Custom 34 to Custom 66) Feathering Ratio Fixed 100%+3pass, UV Gradient Strong (Custom 67 or more) Feathering ratio fixed 200%-1pass

➤ Fine Feathering: The first and last ends of each PASS printing area are feathered with gradient, suitable for printing large ink volume color block, the ratio of fine and weak feathering is fixed at 100%+2pass, the ratio of fine and medium feathering is fixed at 100%+4pass, and the ratio of fine and strong feathering is fixed at 100%+6pass.

➤ Uniform Printing: Increase the resolution of Y-direction printheads by doubling the number of dots, e.g., i3200 printheads print 720\*1200dpi (4pass), and after setting

uniform printing, it will become 720\*1800dpi (6pass).

- Feathering between printheads: Suitable for resolving dark and light streaks where multiple printheads are spliced together.
- Feathering Intensity: 33% for weak feathering, 66% for medium feathering, and 100% for strong feathering. Custom feathering ratios can also be selected based on actual print results.
- Feathering Granularity: Used to adjust the granularity of the feathering portion of each pass, the larger the granularity, the rougher the feathering portion, the less likely to form a feathering channel, the granularity setting range is 1-30.
- Pass Grain: Used to adjust the graininess of the feathering part of each pass, the larger the graininess, the rougher the feathering part, the less likely to form a feathering channel, only effective at a pass multiplier of 2 or more, the graininess setting range is 1-30. The feathering function is used to compensate for the regular stripes and pass channels produced by poor aperture condition and stepping inaccuracies, the higher the feathering ratio is, the better the results will be when the job is completed. The higher the feathering ratio, the more print passes are required to complete the job, and the print output is reduced accordingly.

### 3.16 设置 Z 轴测高（平板机选配） Setting Up Z-Axis Altimetry (optional for flatbed machines)

通过点主界面测高按钮进入 Z 轴测高设置，点击测量 Z 原点即可实现 Z 轴测高功能。具体 Z 轴设置请参考参数化配置工具使用说明。

Enter the Z-axis altitude setting by tapping the Altitude button in the main interface, and then tap Measure Z Origin to realize the Z-axis altitude measurement function. For details of Z-axis settings, please refer to the instructions of Parametric Configuration Tool.



- Z 最大行程：可测量得到 Z 轴最大行程，也可手动输入，用以限制 Z 轴移动的距离。
- 材料厚度：可测量得到材料厚度，也可手动输入材料厚度。
- 喷头距离介质：设置喷头距离介质的高度。

- Z 打印位置：实时读取当前 Z 的位置信息，可通过移动按钮和回原点按钮控制 Z 轴运动。
- 测量参数：测量最大行程和测量介质时，需要设置测量的速度、探头长度和各轴测量位置等参数。测量最大行程时 Z 轴上升到最高处进行测量；测量介质时可根据设定的 Z 位置进行测量，Z 位置设置 0 表示 Z 从最高点开始测量。
- Z Maximum Travel: The maximum Z-axis travel can be measured or manually entered to limit the distance the Z-axis can travel.
- Material Thickness: Material thickness can be measured or manually entered.
- Printhead to Media: Set the height of the printhead from the media.
- Z Print Position: Read the current Z position information in real time, you can control the Z-axis movement through the Move button and Home button.
- Measurement Parameters: When measuring the maximum travelling distance and measuring medium, you need to set the parameters such as measuring speed, probe length and measuring position of each axis. When measuring the maximum travel, the Z-axis rises to the highest point for measurement; when measuring the medium, measurement can be carried out according to the set Z position, and the setting of 0 for Z position means that the Z starts from the highest point for measurement.



### 3.17 设置测量纸宽（选配） Setting the Measuring Paper Width (optional)

通过点主界面测宽按钮执行测宽流程，也可直接设置纸张宽度，测宽参数设置请参考 2.9.3.2 章节。

You can perform the width measurement process by tapping the Width button in the main interface, or you can set the paper width directly, please refer to section 2.9.3.2 for width measurement parameter settings.

### 3.18 保存/加载参数 Save/Load Parameters

保存/加载参数有两种方法，保存到主板和保存到电脑。

There are two ways to save/load parameters, save to motherboard and save to PC.

- 保存到电脑：点击主菜单——工具——导入、导出打印机参数，可以将主板和 PM 参数以文件格式保存到电脑本地，因为保存到电脑中可不受容量限制，可以进行多次不覆盖保存，只需每次指定不同文件名即可。因文件名可自定义，建议在设置文件名时以日期和间进行设置，以免在导入参数的时候混淆。

- 保存到主板：需要输入厂商密码，请参考章节 2.9.3.4。输入密码后点击 PM 主界面主保存和加载按钮。可以将主板和 PM 参数保存到主板，也可以从主板加载保存好的主板和 PM 参数。因为主板上有一定容量的内存，可以将有关的设置参数和 PM 参数保存到主

板当中，同样也可以从主板中加载保存的设置参数和 PM 参数，但是也因主板内存容量有限，每一次只能保存一份参数，那也就意味着每一次点击保存时都会覆盖上一次保存在主板里的参数。在操作时应注意到这一点。

➤ PM 参数包括校准参数、打印模式参数、喷头布局、断孔设置、PM 开关参数等，主板参数包括功能、运动、保湿、清洗等。

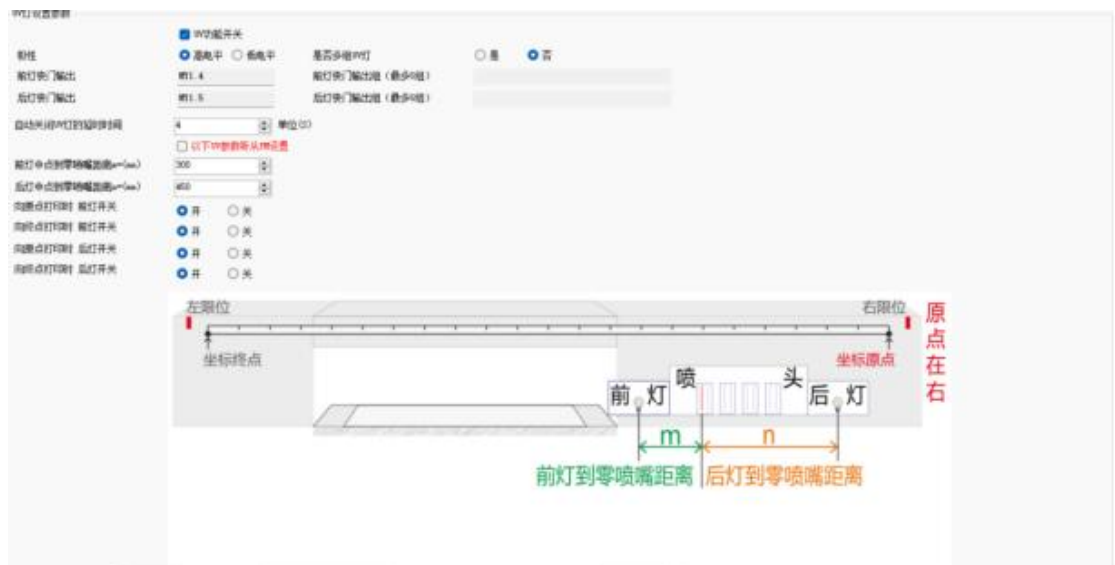
➤ Save to PC: Click Main Menu--Tools--Import and Export Printer Parameters, to save the motherboard and PM parameters to PC locally in file format, because saving to PC is not limited by the capacity, and it can be saved multiple times without overwriting, just specify a different file name each time. It can be saved multiple times without overwriting, just need to specify a different file name each time. As the file name can be customized, it is recommended to set the file name with date and interval to avoid confusion when importing parameters.

➤ Save to motherboard: Input the manufacturer's password, please refer to section 2.9.3.4. After inputting the password, click the main Save and Load button in the main interface of PM. It can save the motherboard and PM parameters to the motherboard or load the saved motherboard and PM parameters from the motherboard. Because the motherboard has a certain capacity of memory, it is possible to save the relevant setup parameters and PM parameters to the motherboard, and it is also possible to load the saved setup parameters and PM parameters from the motherboard, but because of the limited capacity of the memory on the motherboard, it is only possible to save one parameter at a time, which means that every time when clicking on the Save button, it overwrites the parameters that have been saved on the motherboard in the last time. This should be noted during operation.

➤ PM parameters include calibration parameters, print mode parameters, printhead layout, hole break settings, PM switch parameters, etc. Main board parameters include function, motion, moisturizing, cleaning, etc.

### 3.19 调试 UV 快门 Adjusting the UV Shutter

#### 配置 UV 灯参数 Configuration UV Lamp Parameters



➤ 前灯/后灯快门输出：用以打开 UV 灯左、右快门（需要注意 UV 灯快门打开 1 秒后会自动关闭，防止不注意时 UV 灯一直开启），使用调机工具 DO 调试界面测试，打开方法请参照 3.9.2.2 设置



➢ 前/后灯到零喷嘴距离：指灯的中心到右边（离打印原点最近的）第一个喷嘴的距离。单位视软件设置

➢ 向原点打印/向终点打印：使能开关决定前、后 UV 灯在正向或者反向打印时是否工作。

➢ Front/Rear Lamp Shutter Output: Used to open the left and right shutters of the UV lamps (it should be noted that the shutter of the UV lamps will be closed automatically after 1 second of opening, so as to prevent the UV lamps from being turned on all the time without paying attention to it), use the DO debugging interface of the tuning tool to test it, and for the method of opening it, please refer to the setting of 3.9.2.2.

➢ Front/Rear Lamp to Zero Nozzle Distance: The distance from the centre of the lamp to the first nozzle on the right (nearest to the print home). The unit depends on the software setting

➢ Print to Home / Print to End: Enable switch determines whether the front and rear UV lamps will operate when printing in forward or reverse direction.

### 设置 UV 灯位置 Setting the UV lamp position

在 PM 界面输入厂家密码后，可以打开厂家设置-UV 设置界面，如下图  
After entering the manufacturer's password in the PM interface, it can open the manufacturer's settings - UV settings interface, as follows



- 第一步打印喷检
- 第二步移动小车位置，依次设置前灯开灯、关灯，后灯开灯、关灯四个位置坐标
- 第三步保存当前设置的参数值，完成 UV 灯设置
- 第四步微调偏移值：修正前灯、后灯向原点打印或者向终点打印时开、关灯的偏移修正值。

- The first step to print spray inspection
- The second step to move the position of the trolley, in turn, set the front light on, off, rear light on, off four position coordinates

- The third step is to save the currently set parameter values, complete the UV lamp setup
- The fourth step is to fine-tune the offset value: correct the offset correction value of the front

light, rear light to the origin or to the end of the print when the light is on or off.

### 3.20 设置泵墨超时后自动停止 Setting the Pump To Stop Automatically After Timeout

当墨泵出错后一直在工作泵墨时，我司对于这种情况有两种处理方案：

- 板卡蜂鸣器发出警告，但并不干预墨泵工作。
- 板卡蜂鸣器发出警告，如果墨泵超过设定时间后还在泵墨，系统停止泵墨且 PM 软件弹框“泵墨超时，是否继续泵墨”。如果需要打开这功能，使用参数化配置工具——功能 参数——泵墨参数进行配置。更多使用方法请参考参数化配置工具说明文档。

When the ink pump keeps working to pump ink after an error, our company has two options to deal with this situation:

- The board buzzer warns but does not interfere with the ink pump.
- The board buzzer warns, and if the ink pump is still pumping after the set time, the system stops pumping and the PM software pops up the box "Pumping timeout, do you want to continue pumping". If you want to enable this function, use the Parameterization Tool - Function Parameters - Ink Pumping Parameters to configure it. For more information on how to use the Parametric Configuration Tool, please refer to the Parametric Configuration Tool

泵墨参数

泵墨功能开关

泵墨通道个数 4

每个通道输入传感器极性  常开  常闭

每个通道输出传感器输出  高电平  低电平

泵墨超时自动停止

泵墨超时时间 (s) 10

泵墨输出的滞后时间 (s) 3

泵墨超时蜂鸣器报警开关

泵墨超时蜂鸣器报警输出 MY2.4

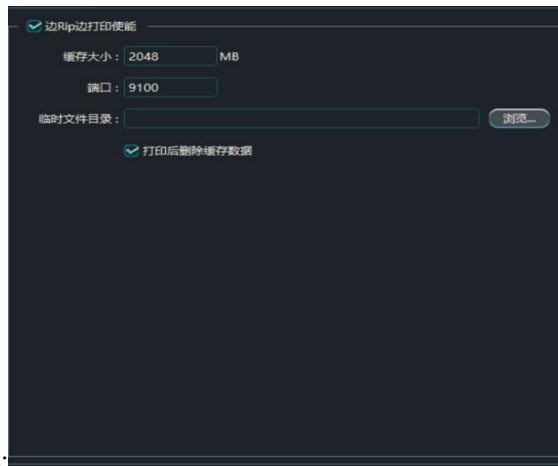
高电平  低电平

documentation.

### 3.21 设置边 rip 边打印功能 Setting Up the Print-While-Rip Function

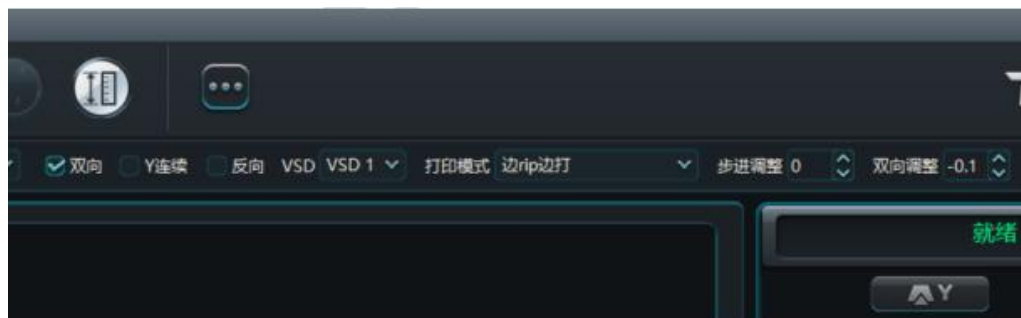
有些机型需要使用边 rip 边打印功能，通过 rip 软件设置好作业的分辨率、曲线、单双向、高精度高速度等参数后直接发送后通过 pm 软件打印，相关设置如下：

Some models need to use the print-while-rip function, which is set up by the rip software to print directly from the PM software after setting up parameters such as the resolution, curve, one- and two-way, and high accuracy and speed of the job, and the related settings are as



follows:

- 缓存大小: 设置 rip 软件从开始 rip 到下发打印的数据量
- 端口: 固定端口为 9100
- 临时文件存目录: 用于存储 rip 软件打印生成的临时文件
- 打印后删除临时文件: 设置后打印时不存储临时文件
- Cache Size: Sets the amount of data the rip software will print from the start of the rip to the next print.
- Port: Fixed port 9100.
- Temporary File Storage Directory: Used to store temporary files generated by the rip software for printing
- Delete Temporary Files After Printing: Set to not store temporary files after printing





- 打印模式：选择设定好的边 rip 边打印模式
- 使用文件设置：设置后 rip 软件内的设置生效（vsd，高精度高速度）
- Print Mode: Select the set Print-While-Rip
- Using File Settings: Settings within the rip software take effect after setting (vsd, high accuracy, high speed)

#### 四、 第四章 Chapter 4

##### 4.1 选择合适的打印精度 Choosing the Right Print Accuracy

选择一个合适的打印精度必须考虑以下几个要素 Selecting a suitable printing accuracy must consider the following elements:

- 机器光栅分辨率：机器安装的光栅尺解析度，市面常见的有 150dpi、180dpi、25400dpi。
- 打印分辨率：如 720X1200dpi，值越大代表分辨率越高。但同时也需要考虑喷头的物理分辨率、点火频率和墨滴大小。喷头点火频率小时，打印高分辨率时小车速度会比较慢。当喷头物理分辨率小时，打印高分辨率图片，则需要更多的 PASS 数来覆盖。当墨滴大的时候，打印高分辨率的时候，需要考虑到墨滴是否形成了堆积而会影响整体效果。
- PASS 数：在同样的打印分辨率的情况下，覆盖 PASS 数越高，打印的精度也越高，相应的产量越低。
- 羽化：用来修饰 PASS 间的道（黑、白道）或者改善深浅条纹，而且对速度影响也不大，不及增加 PASS 数影响大。
- 固定色序：在完全不影响打印速度的情况下，可用来改善深浅条纹。
- 高精度和高速度：对于改善深浅条纹，高速度模式也是一个不错的选择，在不影响打印效率的情况下，可以对深浅条纹有很好的改善。
- Machine Raster Resolution: The resolution of the raster scale installed in the machine, the common ones on the market are 150dpi, 180dpi, 25400dpi.
- Print Resolution: For example, 720X1200dpi, the larger the value means the higher the resolution. But also need to consider the physical resolution of the printhead, ignition frequency and droplet size. When the printhead ignition frequency is small, the speed of the trolley will be

slower when printing high resolution. When the physical resolution of the printhead is small, printing high-resolution images requires more PASS numbers to cover. When printing high resolution images with large droplets, it is important to consider whether droplet buildup will affect the overall effect.

- PASS Number: For the same print resolution, the higher the PASS number to cover, the higher the print accuracy and correspondingly the lower the throughput.
- Feathering: Used to modify the path between PASS (black and white paths) or to improve the dark and light stripes, and it does not have a significant impact on speed, not as much as increasing the number of PASS.
- Fixed Color Order: Can be used to improve dark and light streaks without affecting print speed at all.
- High Accuracy and High Speed: For improving dark and light streaks, the high speed mode is also a good choice, which can improve the dark and light streaks without affecting the printing efficiency.

#### 4.2 获取版本信息 Getting Version Information

点击主菜单——关于即可获得版本信息。

Version information is available by clicking Main Menu - About.



- 打印管理软件：PM 软件版本
- 错误信息数据库：错误信息数据库版本
- OS：主板内核版本
- ScanPrint：主板主打印程序版本
- CBPrint：主板事业部程序版本
- 主板核心板硬件：主板核心板硬件版本
- 头板光纤分发版/一体头板软件：分发板/一体板软件版本

- 时间限制：版卡使用时间限制
- 运行时间：该板卡累计运行时间
- 墨量限制：版卡使用墨水容量限制
- 已用墨量：版卡当前使用的墨水总量
- 下载日志文件：下载板卡当前日志信息
- 清除日志文件：清除板卡当前日志信息
- Print Management Software: PM software version
- Error message database: Error message database version
- OS: Motherboard kernel version
- ScanPrint: Motherboard main printing program version
- CBPrint: Main board business unit program version
- Motherboard Core Board Hardware: Motherboard Core Board Hardware version
- Headboard fiber optic distribution board/all-in-one headboard software: distribution board/all-in-one board software version
- Time Limit: Time limit for the board to be used
- Running Time: Cumulative running time of the board
- Ink Limit: Limit of ink capacity used by the board.
- Ink Used: The total amount of ink currently used by the board.
- Download Log File: Download the current log information of the board.
- Clear Log File: Clears the current log information of the board.

### 4.3 升级/维护固件和软件 Upgrade/Maintenance of Firmware and Software

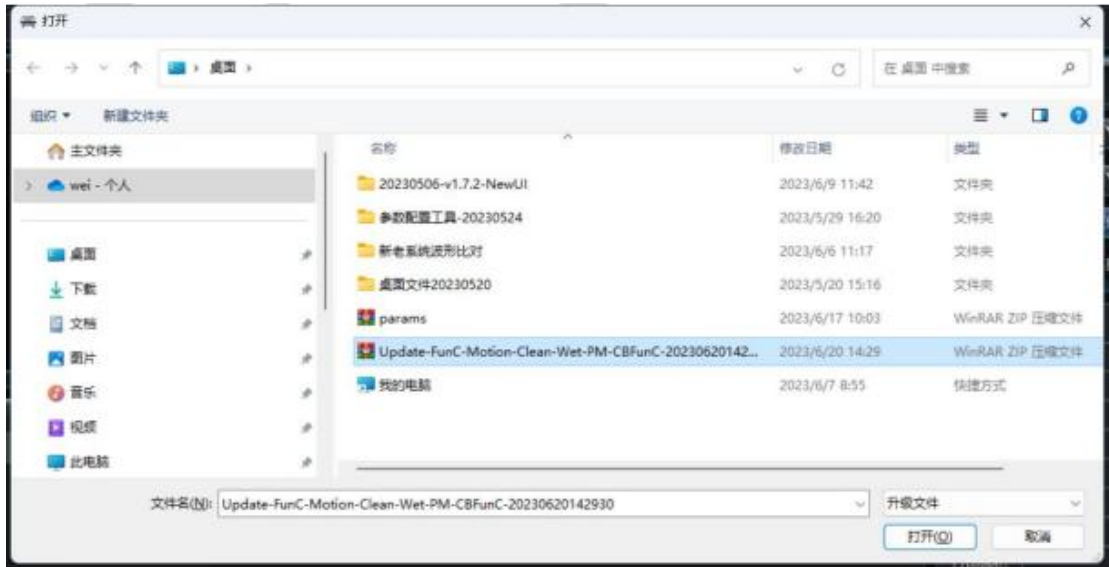
#### 4.3.1 升级固件 (FirmWare)

为了修复一些测试过程中未发现的 BUG 或达到添加某些功能，而需要对主板或者头板的固件 (Firmware) 进行更新，下面将介绍如何更新固件的方法：

In order to fix some bugs that were not found during the testing process or to add certain features, it is necessary to update the firmware of the motherboard or headboard, and the following describes how to update the firmware:

点击主菜单 ——进入工具——升级 ，弹出如下对话框，然后选择相对应的升级文件按确定即可(升级文件后缀为.zip 文件)。

Click Main Menu -> Tools -> Upgrade, the following dialogue box will pop up, then select the corresponding upgrade file and press OK (the upgrade file has a .zip file extension).



确认完升级文件后，即进入升级过程，此时可观察状态栏下的升级过程，观察升级过程中是否有问题。如果升级失败，注意状态栏是升级到百分之多少失败，并进行上报。

After confirming the upgrade file, you will enter the upgrade process. At this time, you can observe the upgrade process under the status bar and observe whether there is any problem in the upgrade process. If the upgrade fails, note that the status bar is upgrade to what percent failed and report it.

#### 4.3.2 升级 LCD Upgrade LCD

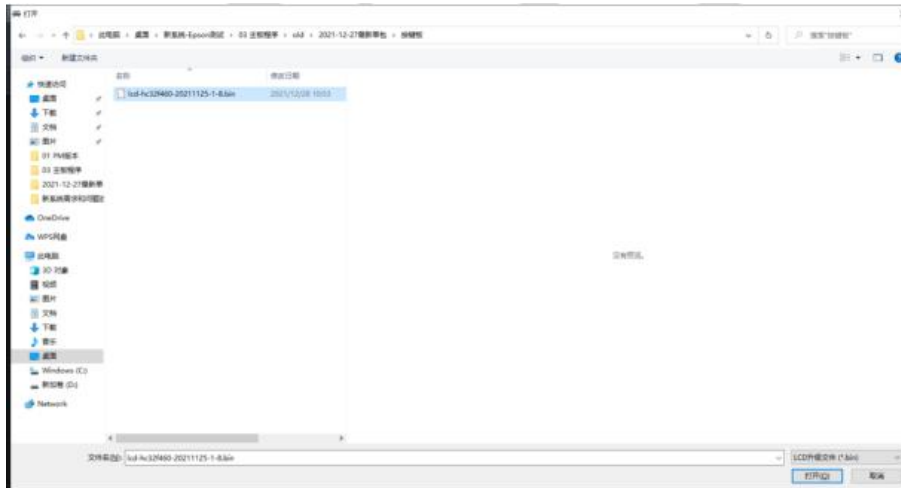
为了修复一些测试过程中未发现的 BUG 或达到添加某些功能，而需要对 LCD 进行更新，下面将介绍如何更新 LCD 的方法：

The following section describes how to update the LCD in order to fix some bugs that were not found during testing or to add some features:



点击主菜单——工具——LCD 程序升级，弹出如下对话框，然后选择相对应的升级文件按确定即可(升级文件后缀为.bin 文件)。

Click Main Menu--Tools--LCD Program Upgrade, the following dialogue box will pop up, then select the corresponding upgrade file and press OK (the upgrade file has a .bin file extension).



确认完升级文件后，即进入升级过程，升级成功后，需重启打印机。

After confirming the upgrade file, you will enter the upgrade process, and after the upgrade is successful, you need to reboot the printer.

#### 4.3.3 升级软件 Upgrade software

为了修复一些测试过程中未发现的 BUG 或达到添加某些功能，同时需要对上位机软件（PrinterManager）进行更新，下面将介绍如何更新软件的方法：

- 将现有的软件进行卸载。具体卸载方法请阅读第一章
- 将 "X:\Program Files (x86)\PrinterManager\" 目录下的所有文件删除，或者将整个 PrinterManager 文件夹删除。
- 安装新的 PrinterManager 软件，有关安装方法请阅读第一章。

In order to fix some bugs that were not found during the testing process or to achieve the addition of certain functions, and at the same time, it is necessary to update the software of the upper computer (PrinterManager), the following will describe how to update the software:

- Uninstall the existing software. Please read the first chapter for details on how to uninstall.
- Delete all files in the "X:\Program Files (x86)\PrinterManager\" directory, or delete the entire PrinterManager folder.
- Install the new PrinterManager software, please read Chapter 1 for installation instructions.

#### 4.4 进行打印 Printing

##### 4.4.1 Y 连续打印 Y Continuous Printing

平板机器特定功能，决定每次开始打印时 Y 轴的起始位置，即 Y 轴连续往后打印还是每次都回到 Y 原点开始打印。

- 勾选 Y 连续打印，即为 Y 轴打印完一个作业后，在当前位置继续往后打印下一个作业。
- 不勾选 Y 连续打印，即为 Y 轴打印完一个作业后，再回到原点打印下一个作业。

Flatbed machine-specific feature that determines the starting position of the Y-axis each time printing begins, i.e., whether the Y-axis prints continuously backward or returns to the Y origin each time to begin printing.

- Checking Y Continuous Printing means that after the Y-axis finishes printing a job, it will continue to print the next job backward at the current position.



➤ Unchecked Y Continuous Printing means that after the Y-axis finishes printing a job, it will return to the origin to print the next job.

#### 4.4.2 反向打印 Reverse Printing

反向打印：平板机器特定功能。Y 轴从前往后为正向，从后往前为反向。

- 勾选反向打印，即为 Y 轴移动到设定的 Y 起始位置反向打印作业。
- 不勾选反向打印，即为 Y 轴按照设定的 Y 起始位置正向打印作业。

Reverse Printing: A feature specific to flatbed machines where the Y-axis is forward from front to back and reverse from back to front.

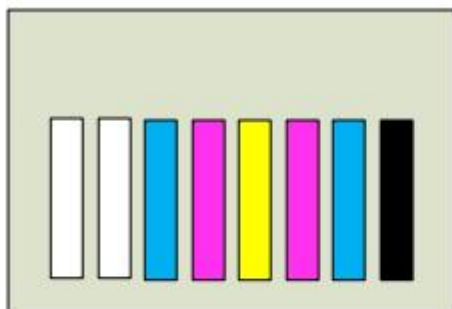
➤ Checking Reverse Printing means that the Y-axis moves to the set Y start position and prints the job in reverse.

➤ If reverse printing is unchecked, the Y-axis prints the job in the forward direction according to the set Y start position.

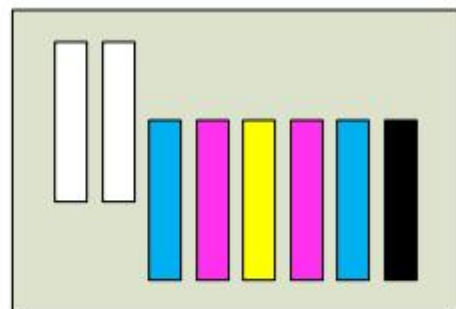
#### 4.4.3 白墨（亮油）打印 White Ink (Glossy Oil) Printing

白色喷头安装有两种方式，一种为平排，可以分层进行打印。一种为错排，专用于白色铺底（正向打印时）或者盖白（反向打印时）。

The white printheads are mounted in two ways, one in a flat row for layered printing. One is a staggered row, which is used exclusively for white underlay (when printing in the forward direction) or white overlay (when printing in the reverse direction).



白色平排



白色错排

#### 白色平排

首先我们介绍白色平排的打印方法，当白色平排的时候。白色即可以作为铺底使用，也可以做为盖白使用。具体使用方法如下：

在多层设置中将子层数设为 2，子层 1 选白色 W1，子层 2 选彩色 Y-M-C-K-Lc-Lm。灰度设置决定喷头打印时输出的墨量，0 表示当前子层喷头不喷墨，50 表示喷一半墨量，100 表示全部喷墨。

#### White Flat Row

First of all, we introduce the printing method of white flat row, when white flat row. White that can be used as the bottom of the use, can also be used as a cover white. The specific method is as follows:

In the multi-layer settings will be the number of sub-layer set to 2, sub-layer 1 selected white W1, sub-layer 2 selected color Y-M-C-K-Lc-Lm. Gray scale settings to determine the amount of ink output when the printhead printing, 0 means that the current sub-layer of the printhead does

not spray ink, 50 means that half of the amount of ink sprayed, 100 means that all the ink sprayed.



白墨铺底打印又分为全部铺底（作业所有区域都打印白墨）和局部颜色（作业指定颜色区域打印白墨）铺底，根据实际打印的需求进行选择。

- 如果使用全部铺底，在数据中选择“全部”
- 如果使用局部铺底（比如要在 M 颜色下进行铺底），在数据中勾选 M，取反的意思为勾选的颜色不铺底，没有勾选的进行铺底。交集的意思是只会在 2 个或者多个颜色重叠的地方进行铺底。
- 盖白打印：在多层设置中将子层数设为 2，子层 1 选彩色 Y-M-C-K-Lc-Lm，子层 2 选白色 W。灰度设置决定喷头打印时输出的墨量，0 表示当前子层喷头不喷墨，50 表示喷一半墨量，100 表示全部喷墨。

There are two types of white ink underlay printing: full underlay (all areas of the job are printed in white ink) and partial color (specified areas of the job are printed in white ink) underlay, which can be selected according to the actual printing needs.

- If using full underlay, select "All" in the data.
- If using partial underlay (e.g., to underlay under M color), check M in the data, and inverse means that the checked colors will not be underlaid, and the unchecked colors will be underlaid. Intersection means that underlining will only be done where 2 or more colors overlap.
- Cover White Printing: Set the number of sub-layers to 2 in Multi-Layer Setting, select Color Y-M-C-K-Lc-Lm for sub-layer 1, and select White W for sub-layer 2. Gray Scale Setting determines the amount of ink output from the printheads when printing, 0 means that the printheads of the current sub-layer don't spray ink, 50 means that half of the amount of ink is sprayed, and 100 means that the ink is sprayed completely.





设置完成后保存打印模式，打印作业时调用该打印模式打印即可实现白墨打印效果。

After setting and saving the print mode, calling the print mode when printing jobs can realise the white ink printing effect.

白墨错排: 当使用白墨错排时，白墨只能做为铺底或者盖白之中的一种来使用，也无需将软件分层，直接打印即可。

- 白墨铺底：正向打印时先喷白墨再喷彩墨
- 白墨盖白：反向打印时先喷彩墨再盖白墨

When using White Ink Mismatch, White Ink can only be used as one of the underlay or white cover, and there is no need to layer the software, so it can be printed directly.

- White Ink Underlay: Forward printing with white ink followed by colour ink.
- White Ink Overlay: When printing in the reverse direction, first spray the colour ink and then **cover with white ink.**

#### 4.4.4 多层打印 Multilayer Printing

UV 打印中经常用到多层打印，下面将举例如何使用多层打印。

如下图所示六组四色加两白喷头布局，打印彩+白+黑+白+彩五层应用，进入主菜单——设置——打印模式——多层。设置 5 个母层，层 1 为彩色，层 2 为白色，层 3 为黑色，层 4 为白色，层 5 为彩色，详细设置如下：

UV printing is often used in multi-layer printing, the following will be an example of how to use multi-layer printing.

As shown in the figure below six groups of four-color plus two white printhead layout, print color + white + black + white + color five-layer, enter the Main Menu - Settings - Print Mode - Multi-layer. Set up five mother layer, layer 1 for color, layer 2 for white, layer 3 for black, layer 4



for white, layer 5 for color, detailed settings are as follows:



层 1 设置 Y 偏移 0、Y 连续为 2，颜色为 Y-M-C-K，表示调用 G1 和 G2 两排彩喷头色。

Layer 1 sets the Y offset to 0, Y continuous to 2, and the colour to Y-M-C-K, indicating that the two rows of G1 and G2 coloured printhead colours are called.



层 2 设置 Y 偏移 2、Y 连续为 1，两个子层，子层 1 颜色为 W1，子层 2 颜色为空，表示调用 G3 第一排白色喷头的上半部分。

Layer 2 sets Y Offset 2, Y Continuous to 1, and two sub-layers, sub-layer 1 with color W1 and sub-layer 2 with color Empty, indicating a call to the top half of the first row of white nozzles in G3.



层 3 设置 Y 偏移 2、Y 连续为 1，两个子层，子层 1 颜色为空，子层 2 颜色为 K，表示调用 G3 排黑色喷头的下半部分。

Layer 3 sets Y Offset 2, Y Continuous to 1, two sub-layers, sub-layer 1 color is empty, sub-layer 2 color is K, indicating that the lower half of the black nozzle in row G3 is used.



层 4 设置 Y 偏移 3、Y 连续为 1，颜色为 W2，表示调用 G4 排白色喷头。

Layer 4 sets Y Offset 3, Y Continuous to 1, and Colour to W2, indicating that the G4 row of white printheads is called.



层 5 设置 Y 偏移 4、Y 连续为 2，颜色为 Y-M-C-K，表示调用 G5 和 G6 两排彩喷头色。

Layer 5 sets the Y Offset to 4, Y continuous to 2, and the colour to Y-M-C-K, indicating that two rows of G5 and G6 coloured printhead colours are recalled.

设置完成后保存该打印模式，打印作业时调用该打印模式打印即可实现彩-白-黑-白-彩打印效果。

After the setting is completed, save the print mode and select the print mode to print the job can achieve the colour-white-black-white-colour print effect.

#### 4.4.5 多倍墨量打印 Multiple Ink Volume Printing

在 UV 打印中，往往需要更高的颜色饱和度。我们可以通过使用多倍墨量设置达到要求。多倍墨量的使用方法如下：

➤ 机器光栅分辨率 180dpi，使用 Epson-i3200 喷头（喷头物理解析度为 600dpi）高速模式无羽化打印 720X1200dpi 文件，在打印模式选项中设置彩色墨量 200%、300% 分别表示彩墨打印两倍、三倍墨量；在打印设置选项中设置白墨墨量 200%、光油墨量 100% 表示白墨打印两倍墨量，光油打印原始一倍墨量。

In UV printing, higher color saturation is often required. We can achieve the requirement by using the Multiple Ink Volume Setting. The method of using Multiple Ink Volume is as follows:

➤ Machine raster resolution is 180dpi. With Epson-i3200 printhead (printhead physical resolution of 600dpi) high speed mode without feathering prints 720X1200dpi documents. In the Print Mode, setting the color ink amount of 200%, 300% regards the color ink printing using two times, three times the amount of ink; in the Print Setup, setting the white ink amount of 200%, Varnish Ink Volume 100% indicates that white ink prints twice the amount of ink, and varnish prints twice the original amount of



ink.



以上打印模式设置完成后, 实际打印作业时调用相应的打印模式即可实现多倍墨量打印。  
After the above print mode settings are completed, the actual print job can be realized by calling the corresponding print mode for multiple ink volume printing.

#### 4.4.6 凸起效果打印 Raised effect printing

为打印一些浮雕的效果, 或者特意将某一部分凸出来。我们需要进行一些处理才能完成:

- 用 PS 或者 AI 将想要凸起的部分进行圈选做专色。有关详细请参考有关软件手册。
- 使用 RIP 软件进行专色处理, 有关详细请咨询 RIP 软件厂商。
- 在 PM 软件打开层设置, 将专色指定为白墨打印。
- 白墨设置多倍墨量打印, 视具体凸起效果要求。如白墨墨量设置 300, 则可实现专

色区域打印 3 倍白墨效果。

In order to print some embossed effects, or purposely bring out a certain part. We need to do some processing to accomplish this:

➤ Use PS or AI to circle the part you want to be raised to make a spot color. Please refer to the relevant software manual for details.

➤ Use RIP software to do spot color processing, please consult the RIP software manufacturer for details.

➤ Open Layer Setting in the PM software and assign the spot color to be printed with white ink.

➤ Set the white ink to print with multiple ink volume, depending on the specific requirements of the raised effect. For example, if the white ink volume is set to 300, the spot color area can be printed with 3 times the white ink effect.



具体设置参照 4.4.3 白墨打印和 4.4.5 多倍墨量打印设置说明。

Refer to 4.4.3 White Ink Printing and 4.4.5 Multiple Ink Volume Printing for specific settings.

#### 4.4.7 镜像打印 Mirror Printing

镜像打印功能是将打印画面进行水平 180 度翻转，比如当打印玻璃背面，从正面来观看时，需用到镜像功能。当需要使用该功能时，只需将打印模式中的镜像打印进行勾选即可。

The Mirror Print Function is to flip the print image 180 degrees horizontally, such as when printing the back of a glass and viewing it from the front, which requires the Mirror Print Function. When using this function, simply check the Mirror Print box in the print



mode.

#### 4.4.8 羽化打印 Feathering Print

通常 UV 打印建议使用 6PASS+渐变强或者均匀强羽化。如果面临一些比较难以消除的 UV BANDING，可以尝试使用精细羽化或者高 pass 的方式。具体使用方法请阅读 3.15 使用羽化。

Usually UV printing is recommended to use 6PASS + Gradient Strong or Uniform Strong Feathering. If faced with some difficult to eliminate UV banding, try to use fine feathering or high pass. For details on how to use this, please read 3.15 Using Feathering.

#### 4.4.9 缩点打印 Shrink-dot printing

通常 UV 打印中白墨铺底时，由于墨水特性会导致白墨边缘部分溢出，可以通过设置缩点打印功能对打印质量进行优化。

Normally, when white ink is laid down in UV printing, the ink characteristics will cause the white ink to overflow at the edges, so the print quality can be optimized by setting the dot reduction printing function.





## 五、附录 Appendices

### 5.1 故障处理

软件运行过程中出现的故障都会在报错状态栏显示可能的错误原因和处理建议，参照 2.7 章节-状态栏。错误数据库我司研发部会定期更新，PM 软件会自动下载最新数据库信息，如果遇到描述不准确的错误请反馈我司技术支持部。

Any error that occurs during the operation of the software will be displayed in the error status column with the possible causes of the error and suggestions on how to deal with it, refer to section 2.7 - Status Column. The error database is regularly updated by our R&D department, and the PM software will automatically download the latest database information. If you encounter any errors that are not accurately described, please contact our technical support department.

### 5.2 术语 Terminologies

- 喷孔：又叫喷嘴，指喷头上的最小喷墨单元
- 喷头分辨率：喷头纵向上每英寸排布的喷孔数，用 dpi 表示
- 光栅分辨率：机器光栅尺上每英寸范围内多少个刻度，用 dpi 表示
- Dpi: dot per inch 每英寸范围内多少个点
- Pass: 描述打印机正向或反向一次完整打印的动作流程
- Band: 同 pass ➤ 灰度：表示颜色的深浅，用 0-100 表示白到黑
- 羽化：对 pass 间打印交接区域进行渐变处理达到视觉均匀过度的效果
- 羽化道：视觉上观察到的在羽化区域不均匀现象
- 喷嘴检查：为了检查喷孔状态而打印的特定图案
- 彩条：为了维持喷孔状态而打印的特定图案
- 校准：对机器横、纵向精度的主观和客观度量，包括物理校准和软件校准
- 闪喷：喷孔按照一定频率和周期进行喷墨的动作
- 固件：主板板卡硬件，通常包括主板、头板（也叫小车板）和按键板
- 产量：描述该打印机每小时打印的平米数
- CAN 通讯：控制局域网络通讯
- 断孔补偿：打印时对异常的喷孔（断线、斜喷）进行补偿处理
- Nozzle: Refers to the smallest inkjet unit on the printhead
- Printhead Resolution: The number of nozzles per inch in the longitudinal direction of the printhead, expressed in dpi.
- Raster Resolution: The number of scales per inch on the machine's scale, expressed in dpi
- Dpi: Dot Per Inch: the number of dots per inch.
- Pass: Describes the flow of action of the printer in a complete print run in either forward or reverse direction.
- Band: Same as pass
- Grayscale: Indicates the shade of a colour, expressed as 0-100 for white to black
- Feathering: Gradation of the print interface area between passes to achieve the effect of visual uniformity of excess
- Feathering Pass: Visually observed unevenness in the feathering area.
- Nozzle Check: A specific pattern printed to check the condition of the nozzle holes.
- Colour Bar: A specific pattern printed to maintain the condition of the aperture.
- Calibration: Subjective and objective measure of the horizontal and vertical accuracy

of the machine, including physical and software calibration.

- Spray: The action of the aperture spraying ink at a certain frequency and period of time.
- Firmware: Motherboard board hardware, usually including the motherboard, header board (also called carriage board), and key boards
- Output: Describes the number of square metres printed by the printer per hour.
- CAN Communications: Control local area network communications.
- Hole Breaking Compensation: Compensates for abnormal holes (line breaks, diagonal prints) during printing.