

# RNJET INTERFACE

Reference manual



# **RNJET Plus Interface**

## **Industrial Hi-Resolution Inkjet**

### **Printing System**

#### **Reference Manual**

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# 1. Introduction

This document provides instructions to use the software for RNJet series high resolution ink-jet printers (referred to as **RNSoft** in this document). For installation and maintenance instructions please read Installation Manual documents 048-0501-002,3,4,5.

RNSoft is used to make printable labels for RNJet printers and operate the inkjet printer. RNSoft comes in two main versions:

- Embedded version installed on the printer controller interface.
- Windows version to run on the Desktop/Laptop computer.

The embedded version is the software that operates the printer controller. Also, it provides resources to make printable labels. The windows version is an optional tool to create printable labels on a larger screen and monitor the printer from a remote computer.

First, we review a few concepts that are frequently used in this document:

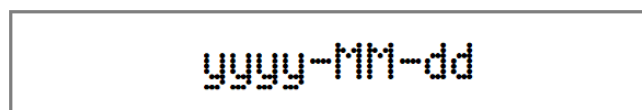
## 1.1. Layout and Message

A printable label is created in two steps:

- First a template is made describing the object types and positions. This template is called print **Layout**. A printable object could be a text object like expiry date or serial number, a barcode or logo. Print layout defines each object coordinates and properties like font-style and size.
- Finally, the 'Print Data' is applied to the objects the print layout. Now the printable label is called print **Message**.

For example, to make a label with one expiry date, the 'print layout' describes the X, Y (top-left) coordinate, font-style/size, and date-format.

Print Layout:



Then the printer's internal clock will generate the 'print data' to be applied to the date-object, so the print Message is created:

Print Message:

2020-01-01

## 1.2. Print Objects

Some print-objects have fixed data, so their template will look exactly like their print result. A logo or product description are examples of **Static Objects**.

Other objects can automatically change in between prints such as serial number or expiry date; **Dynamic Objects** will have different looks in Layout stage and Message stage. The expiry date above is an example of dynamic object.



Static object can be one of the following types:

- Fixed Text
- Fixed Barcode
- Picture (logo)
- Simple Shape (line, square, circle)

Dynamic object can have one of the following types:

- External Text (data source from a remote computer or PLC)
- File-DB Text (data source from a database file)
- Dynamic barcode (data source from remote PLC or database file)
- Counter (automatic serial number generator)
- Expiry date/time (updated from Printer's internal clock)
- Shift-code (updated from Printer's internal clock)

## 1.3. Print ON/Print OFF

While the printer controller (Touch-Screen LCD) is Powered On, the operator can interact with the printer interface, however the power is applied to the printhead only when the Start  button is pressed and it turns into  icon, showing

the Print is ON. While the green icon is shown there is no electrical power applied to the printhead and this state is called Print OFF. This statement highlights the fact that 'Print ON' is different than the RNJet controller being Powered On. When print is ON, certain features and parameters will be inaccessible.

Important Note



It is important NOT to connect/disconnect the print-head cables while Print ON. Only when Print is OFF it is safe to remove/attach print-head cable if it is necessary.

## 2. Startup screen and Main Navigator

### 2.1. Startup Screen

Figure 1 shows the start-up screen for the RNJet Printer Interface. On the top a preview of the current job is displayed ('Print-Job' view) and on the bottom a





ribbon of buttons  called Main Navigator.

## 2.2. Main Navigator

Figure 1: Startup Screen

Figure 2 shows the main Navigator. This ribbon includes a collection of buttons to navigate through different views. Different views work independently, and user can switch between them while printer is working. For example, operator can start

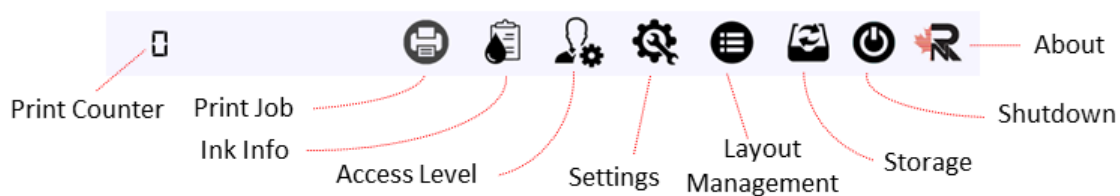


Figure 2: Main Navigator

designing a new print layout while the printer is printing. Some views may be blocked while 'Print ON' or access level is reduced.

### 2.2.1 Print Preview

Shows the 'Print Preview' as described in section [3](#) Print Preview on page [12](#).

### 2.2.2 Settings

Opens the setting menu to view/change System settings, print setting or print parameters as described in section [6](#) Settings on page [42](#).

### 2.2.3 Message Management

Shows the list of print templates (layouts) as described in section [4 Message Management](#) on page [19](#)

### 2.2.4 Storage

Shows the 'Storage' view to import/export files and system update as described in section [5 Storage](#) on page [41](#)

### 2.2.5 Ink Info

The color on this icon will indicate if the ink is low or if there is no ink detected. If this happens, please check the ink-system and NFC-Tag on the Cartridge/Bottle to be present and valid. With TIJ printer types (RNJet H1 and H2 series), While the print is OFF, it shows a description of alarms and error information for the TIJ driver head. While the print is ON it shows the ink percentage for the cartridge.


	OFF	OFF	Print OFF
	Blinking	Blinking	Start-up (long beep)
	ON	Blinking	Normal; Blinks# Ink Level *
	Blinking	ON	Error! Beeps# Error Code **
<b>*Ink Level (blinking green)</b> 10 blinks:90%-100% 9 blinks:80%-90% 8 blinks:70%-80% 7 blinks:60%-70% ... 1 blink: less than 10% +very long beep at 5%		<b>**Error Codes (blinking orange)</b> 1 beep: Cartridge not present 2 beeps: Chip is not valid 3 beeps: Ink Low 4 beeps: Main Power Issue 5 beeps: Cartridge damaged 6 beeps: Hardware 1 7 beeps: Smart Card 8 beeps: Hardware 2	
<input checked="" type="checkbox"/> Show ink level in main window			

Figure 3: Ink Status

### 2.2.6 Access Level

Open the access level menu to lower or elevate access level:

- Admin level: 

Everything is fully accessible on the controller display. If there is a password set for this level, operator must enter the password to elevate the access level to Admin level. See section [6.1](#) on page [43](#) for how to set/change passwords.

- Operator Level: 

There is limited access to operate the printer, but no access to change. The operator can:

- start/stop the print (see [3.1.2 Start/Stop](#) on page 12)
- select (load) a layout to print (see [4.1 Layout list](#) on page 19) or load a bookmarked job (see [3.1.3 Bookmarks](#) on page 13).

If a password is set for this level, operator must enter the password to elevate from locked level.

- Locked: 

There is no access to change or operate the printer. The only accessible tools in this state are:

- Print Preview
- About (check version)
- Ink info
- Safe power off

## 2.2.7 Shutdown

It is strongly recommended to use the proper shutdown button before switching the main power off. Like any other computer, sudden loss of power while the controller is working may result in loss of data or software crash.



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Are you sure you want to power off the printer?  
If yes, press the 'Safe Power Off' button,  
then switch off the Power after screen goes dark



Safe Power Off 



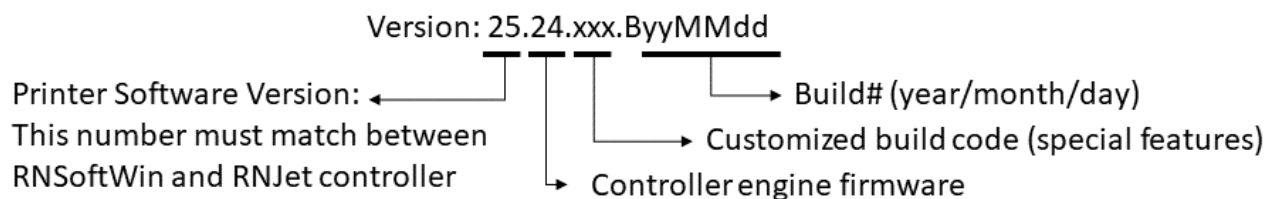
Figure 4: Safe power off

When the shutdown button is pressed, the controller asks for confirmation: press the safe power off button  then wait for the following screen; now it is safe to turn the power switch off.



## 2.2.8 About

Shows controller's software version and legal information.



Depending on the printer status other icons may appear in the main navigator as shown in figure 3.

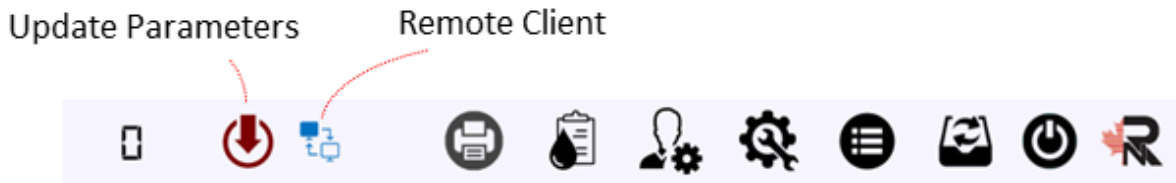




Figure 5: Main Navigator Alarms

### 2.2.9 Update Parameters

When parameters and settings are modified, this Icon appears showing the changes are pending for confirmation. Press this button after all changes are final so the new parameters are applied. While Print is OFF, pending changes are applied automatically after a few seconds, or when the print start  button is pressed. While Print is ON, operator must press  this button for the pending changes to apply.

### 2.2.10 Remote Client

This icon shows a remote client (PC or Laptop) is connected and has taken control over the printer controller. For more information on how to connect from a remote computer (see section Z\_RNSoft for windows)

### 3. Print Preview

Figure 6: Print preview shows what is printing now; A preview of current print message plus a summary of print parameters. Depending on the print-head type and layout type this page may contain some additional features.





Figure 6: Print preview

#### 3.1.1 Print Preview

A preview of the current 'Message' to be printed. Dynamic objects show the actual data applied. The size of this preview will automatically shrink to fit in the area. If this area is blank, it may be because the current selected layout is blank, or it contains only dynamic text(s) without any value.

#### 3.1.2 Start/Stop

This button turns the print power ON or OFF. When the green icon  is shown, the print is turned off. There is no power applied to the print-head. When the red icon  is shown, the print-head is powered on.

**CAUTION:** Do not connect / disconnect the print-head cable while the print is turned ON. This may cause permanent damage to electronic components.

Operators must press the print stop button at the end of working shift, before powering off the printer. This action will save the last version of print parameters, counters, and database indexes so the job can resume on the next working shift.

### 3.1.3 Bookmarks

This feature is only accessible while print is OFF. User can collect a combination of different print parameters (Delay/Speed/...) with one specific print template and save them in a bookmark list. For example, we want to print a complex label on different boxes. The print content looks the same, but the delay is different for each size of box. The bookmark feature will help us avoid making multiple templates for these boxes.

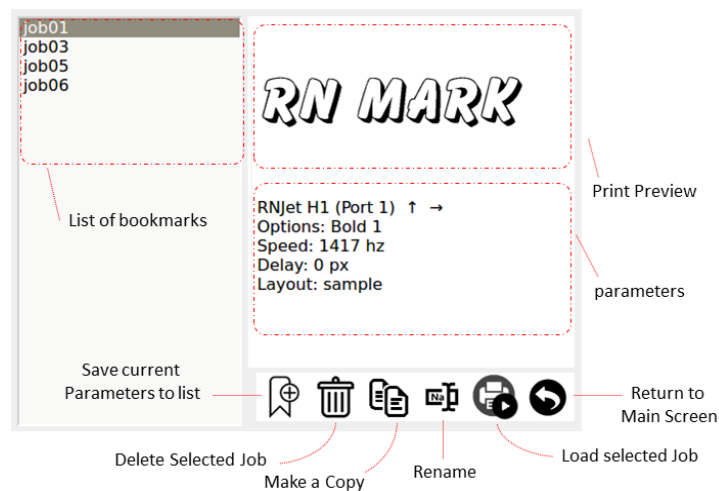




Figure 7: Bookmarks

Click on the item from the list, then you can load from the previously saved jobs. You can also rename or delete items from bookmarks.

Use the icon  to save current print parameters into the list; if an item is already highlighted on the list, current parameters will over-write the previous bookmark.

The button  to access this option is hidden by default; to enable this feature, go to General setting > more options > Show parameter bookmark.

### 3.1.4 Ink Estimator

Calculates a rough estimate for the ink usage based on the total pixel count in current message. If the current print message contains dynamic objects, the estimate is based on the current data applied to dynamic objects (what shows in 'Print Preview') this estimate does not take the amount of 'Purged Ink' into account. Any ink spillage or leakage of ink (during startup or maintenance) will not be considered in this estimate.

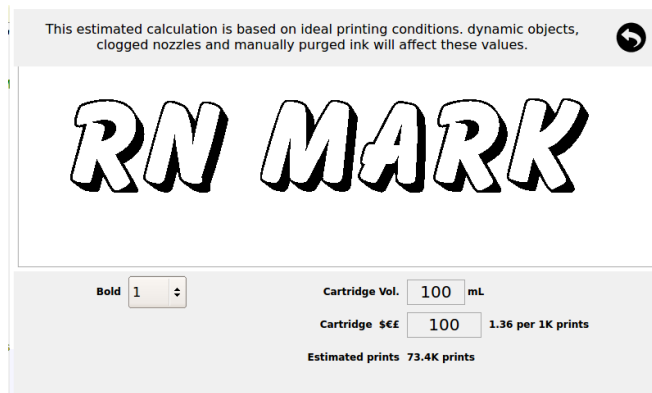


Figure 8: Ink Estimator

### 3.1.5 Product-detect Simulator

The following icons appear in print preview dialog only when **Print ON**; To enable this feature, see section **Error! Reference source not found. Error! Reference source not found.** on page **Error! Bookmark not defined.**



This simulates one falling edge signal on the product detector input. This is equivalent of moving your hand quickly in front of the photo-electric sensor.





This icon will simulate keeping the sensor activated (NPN signal is activated in low state). This is equivalent of keeping your hand in front of the photo-electric sensor. This option is useful for testing, troubleshooting and also when continuous mode printing is selected.

These options are enabled by default; to hide this feature from the main screen, go to General settings > More options > Show Trigger Simulator



### 3.1.6 Quick Edit

the blue border (dash lines) in print preview will appear only if one of these object types are present in the current layout:

- dynamic COM-Text  object (see section 4.3.7 on page 32).
- counter-text  object (see section 4.3.3 on page 26).

Operator can modify the content of dynamic COM-Text or Counter objects simply by clicking on the object inside the blue square.

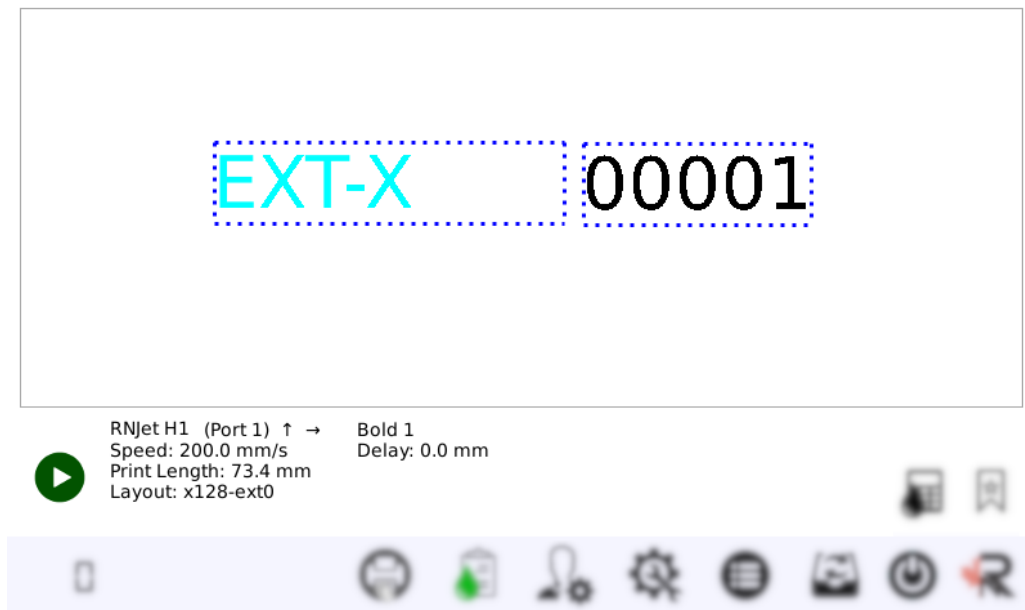


Figure 9: Quick Edit for Counter/COM-Text


The option is enabled by default; to hide the blue dotted frames, go to General settings > More options > [Show quick edit links](#)

Figure 10 shows the additional button when the printing layout contains dynamic text objects.



Figure 10: Print preview Additional Icons

### 3.1.7 Database console

Opens the 'Database management console' view as shown in Figure 11. This icon will appear on the Print Preview tab only if there is a dynamic DB-Text object  in the current layout (see section 4.3.6 on how to add/modify dynamic DB-Text).

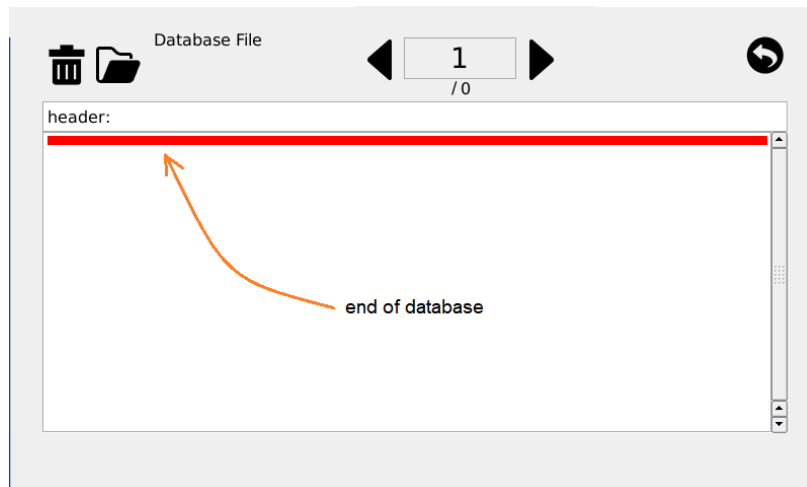




Figure 11 Database Console

A horizontal red line means we are at the end of database. In other words, no record is selected for print.

- Click on  icon to clear the previously loaded records in print queue.
- Click on the  icon to load a new CSV database file from printer's storage. On Figure 12 only files with the extension \*.csv or \*.txt imported on the printer's storage will appear in list. Operator may transfer csv-files to the printer using a USB-Flash memory, or through network connection (See section [5.1](#) on how to import CSV files into the printer).

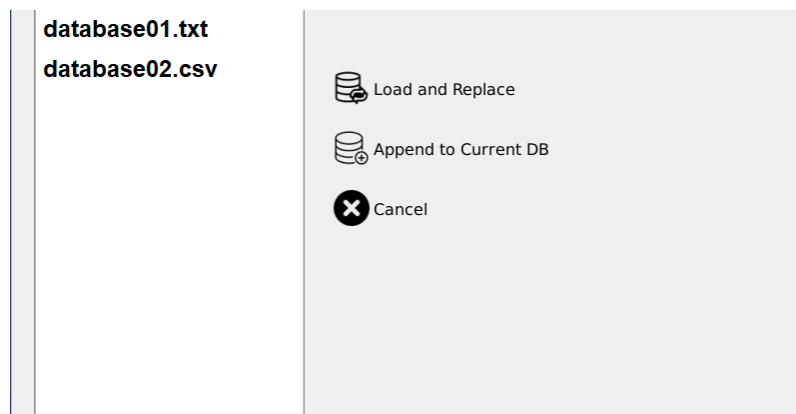


Figure 12: Load database file

If the option 'First row is header' is checked, the first row from the selected database will be ignored.

To load a database, select the database file from the list and then click on one of the load buttons:





Load and replace will over-write the selected file into the memory.



Append to current DB will add the content of the selected file to the end of currently loaded database (if any)

### Important Note

To maintain the record of database index for resume on the next shift, always use the 'Load and Replace'  option.

If the 'Append to DB'  option is used, the database reference cannot be saved in a bookmark and will not be resumed after reboot.

After loading the database, user will have a preview of the data available in the selected database and can navigate through the rows using ◀▶ arrow buttons. The blue frame indicates the current record or 'selected record' which is the start point of print operation. The horizontal red line indicates we are at the end of database (current record has moved beyond the last record)

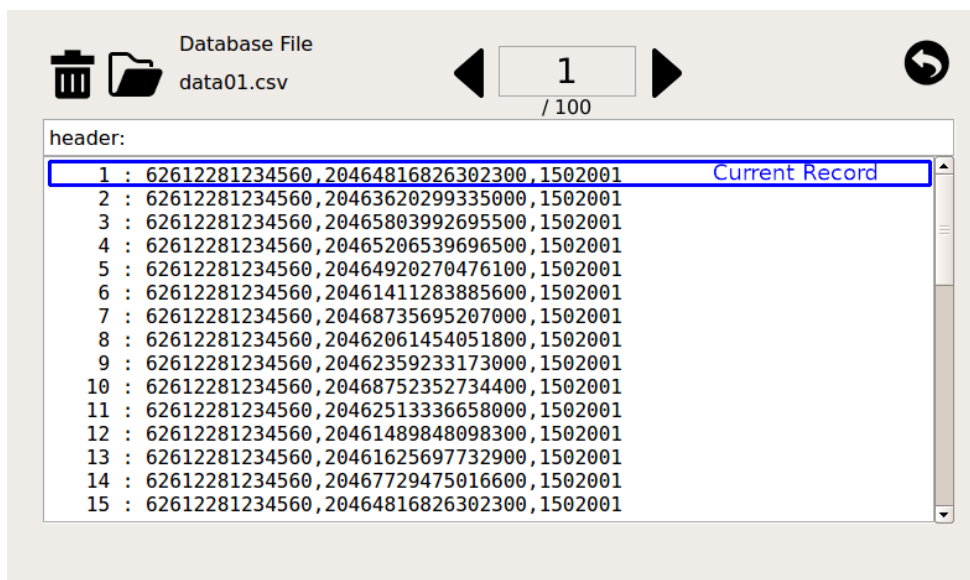



Figure 13: Database management, data preview

click on the return icon  to go back to print preview. Content of the current record will be used to fill the dynamic fields (text/barcode) in the print-preview. If database is empty, or 'At-the-End' (horizontal red line) nothing will be printed (See section [4.3.6 Dynamic DB-Text Object](#) on how DB-text object are updated).

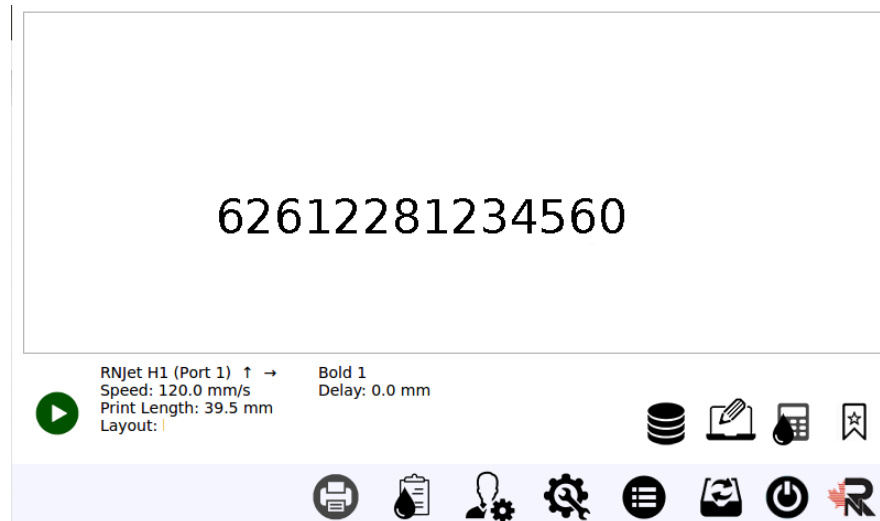


Figure 14 Print preview with data from DB

The database in memory can be updated from a remote PC or PLC device over ethernet port, using TCP-IP network comm. protocol, (see document '048-0501-007-xx RNJetPlus Network Communication Protocol' for more information).

Another way to update the database in memory is to select the option 'MSG-Select Mode' for one of the serial ports in [Serial port settings](#) (see page 59). When this mode is selected, all incoming data from the serial port are redirected to the database in memory. Every line-break character (\n) inside the data stream defines a new record. New records will be attached to the end of the database and wait for its turn to print.

## 4. Message Management

This panel is where the layouts (print templates) are stored and managed. A layout is a schematic file that contains objects and their position in print label.

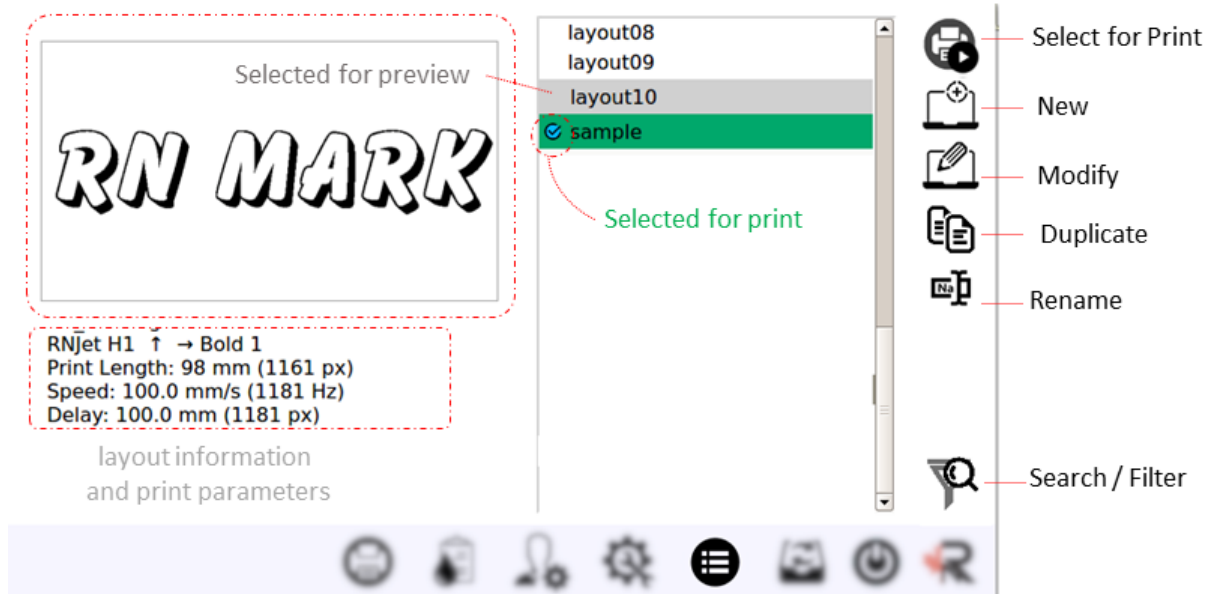






Figure 15 Message Management Console

### 4.1. Layout list


Each item in this list is a print template, linked with the print parameters from the last time it was printed. The highlighted (Grey) item from the list is selected for preview; a brief overview about the print-head type (layout height) and print length is displayed on for highlighted item.

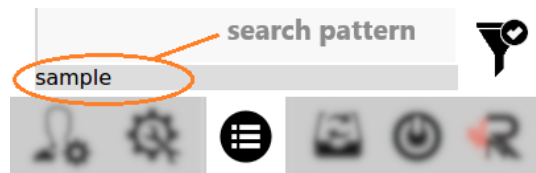
-  The blue checkmark icon is an indicator for current printing layout. This item is also highlighted with green background while print operation is NOT started. (Current print layout is the template which is loaded in memory for print operation).
-  The red lock icon is an indicator for current printing layout while the print is ON; this item is also highlighted in red background when print operation is in progress.


 This button loads the grey-highlighted item for print. The blue checkmark icon will move to this highlighted icon. Only layouts with a matching print-head type to your printer model can be selected for print.

 Delete the selected layout. It is not available for current printing layout.

 Rename the selected layout. Current printing layout cannot be renamed.

 Search/Filter for the layout list; when the filter is activated a search pattern is asked for and applied to the list.




 Search pattern is activated; if you see this icon, it means you may not have all the available messages in the list. to see all messages, click and clear the search pattern.


By default, only the compatible layouts will show in the list. it means if there are print templates made for other types of printheads, they will not show in this list. to see all the messages for on the printer memory, go to:  
System Setting > Extended Setting > Show layouts for all printhead types

The following buttons will open the layout designer console:

 Use this icon to modify the highlighted item from the list.

 Use this icon to generate a new layout. A new blank template will be displayed in the workspace area (Figure 16)

## 4.2. Layout Designer

In 'Layout Designer Console' (Figure 16), the print layout can be created or modified. When this console is open, the message management button in main navigator turns red,  indicating there is layout design in progress. This is a helpful notice when user decides to switch to other pages (like Print Preview or Storage management) in the middle of designing a layout.

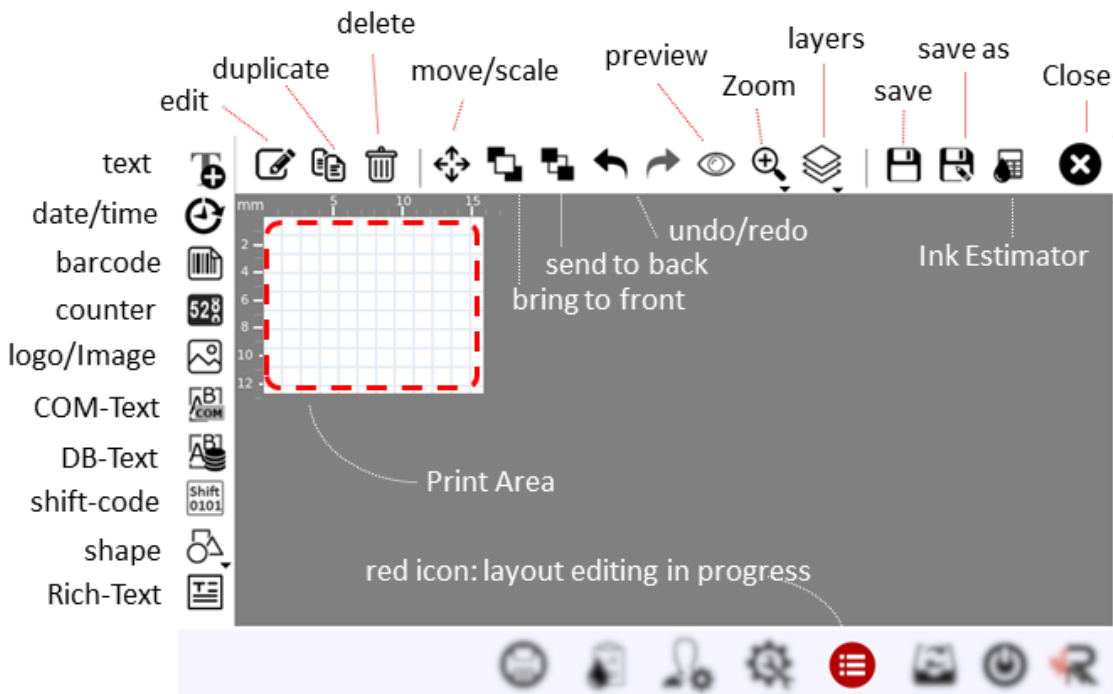


Figure 16 Layout Designer

The area with the grid background is called the print area. This is the actual size of the 'print label' marked on the product. The height of print area is fixed and depends on the model of the print-head. The length of the print label is user's choice (will automatically grow/shrink by placement of the objects).

In the top toolbar, as shown in Figure 16, some tools are available in all printer models. Other tools are just available in specific models. For example, Figure 17 shows additional tools for Dual-head printer models.

With dual print-head layouts, a horizontal divider line will split the printing area into two sections (blue line). Any objects interacting with this divider will be cut off in the final print results. To get the best print results, it is recommended to avoid any overlaps between printing objects and the divider line.

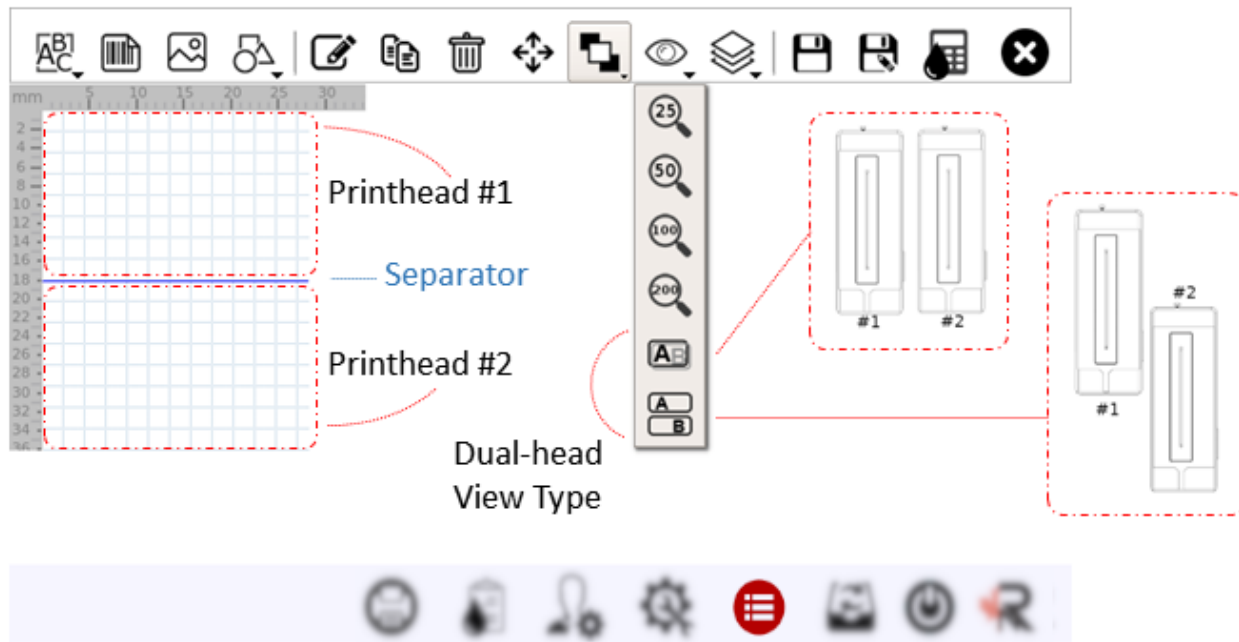




Figure 17 Layout designer for Dual head

The 'dual-head View Type' options will only affect the preview of the template layout at design time. The option  will provide a stacked design view (useful when the two print-heads are stacked vertically to achieve more print height). The option  will provide an overlay design view (useful when the two print-heads are stacked horizontally for dual color printing).



### 4.2.1 Layout View Tools



Closes layout design page and goes back to the list of layouts.



Save; Saves your work.



Save As; save a new copy or make a copy with a different name.



shows ink consumption estimate based on the total black dots.



shows a list of all objects in the template. Helps to select objects that are outside of display or too small to select. The first item will select all objects.



will open a dropdown menu for zoom options and visualization of dual print-head if applies.



Stacked Design View: dual print-head stacked on top of each other.



Overlay Design View: dual print-head installed for dual color printing.

### 4.2.2 Layout Editing Tools



Move/Scale selected object.



Edit selected object.



Delete the selected object.



Make a copy of selected object.



Bring selected object to the front.




Send selected object to back.

Tip: In the layout design window, selected objects are highlighted by a blue border. Other objects are highlighted with gray. Editing tools above work only after selecting an object.

### 4.3. Printable objects

There are two categories of printable objects: static and dynamic. A static object like 'Text' or 'Logo' will print exactly as it looks on the screen. A dynamic object depends on external data that will arrive later at print time. Example, a 'date code' is an auto-generated label, based on the internal clock of the printer.

#### 4.3.1 Static Text Object

This is a static object. A 'Static Text' object on the screen will look exactly like in the print result. The content of the text object can be modified using the on-screen keyboard button. 

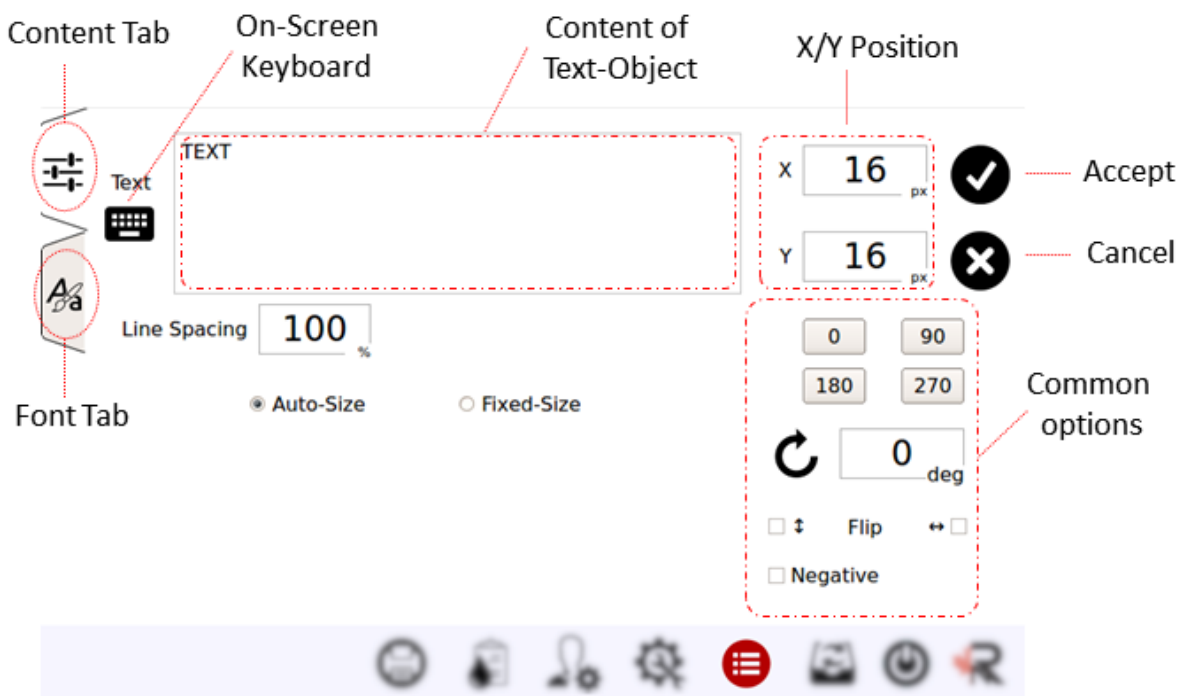


Figure 18: Text object / Common Tab

- The 'Auto Size' option will adjust the static text frame size based on the content of the text. Length of text and number of Line-breaks (Return key) will adjust the frame size. Font-size and line-spacing are other factors that affect the frame size for a text object. This option is the most common case for text.

- The 'Fixed Size' option will create a paragraph-like text with text alignment options. The value for Width and Height of the frame-size is defined by user and the text content will be placed inside the frame. Text will be cropped if the frame-size is not large enough. Using this option may complicate the design and is not recommended unless it is necessary. Rotation options are not available for this mode.

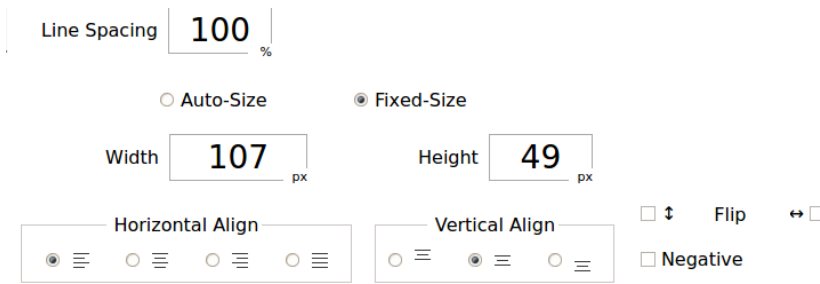


Figure 19: Fixed Size Text

### 4.3.2 Common Options for Text Objects

All Text Object can be rotated, mirrored, and made negative. These are called common options (Figure 18).

Another common option for text is the font tab (Figure 20) allowing user to select font face, size, and style of the text. The Writing-system combo-box will filter the font list based on the required character set for any specific language group.

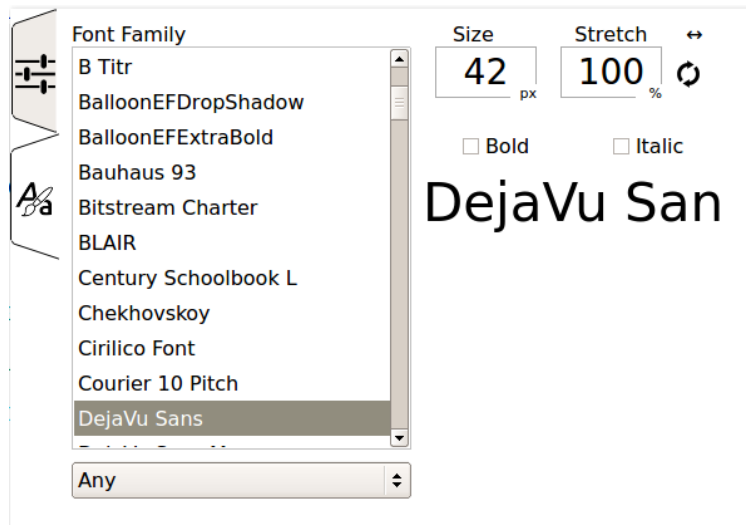


Figure 20: Text object / Font Tab

### 4.3.3 Counter Object 528

This type of text is considered a dynamic object (Figure 21).

The image shows a configuration window for a Counter Object. On the left, there are icons for alignment and font settings. The main area contains several input fields and checkboxes:

- Digits:** 5
- Step:** 1
- Repeat:** 1
- Default Value:** 1
- Minimum:** 1
- Maximum:** 99999
- Leading-Zeros:**
- Decremental:**
- Roll-Over:**
- General Counter:**
- Prefix:** (empty field)
- Suffix:** (empty field)
- Rotation:** 0 deg
- Flip:**
- Negative:**

At the bottom, there is a toolbar with icons for undo, redo, zoom, and other standard editing functions.

Figure 21: Counter Object

- Default value is the starting value of the counter when the layout is loaded.
- It will increase to maximum and roll-over to minimum, or if Decremental option is checked, it will decrease to minimum and roll-over to maximum.
- If the roll-over is not checked, the counter will get stuck on maximum or minimum value.
- Having the leading-zero(s) is optional. A prefix or suffix can be attached to the counter value.
- The counter can also 'repeat' its current value by the number selected as 'Repeat' option.
- General Counter: links all the counters in the current print template together so they have the same value at all times: this is useful when we want to have a readable text barcode and a QR barcode with the exact counter value inside.
- Like other types of text objects, common options such as rotation, mirror, negative and font/style are also available for counter.

#### 4.3.4 Date-Time Object

This type of text is considered a dynamic object.

- It generates Date/Time labels using the internal clock of the printer controller, based on the 'Format' option provided (Figure 22).
- The format characters for date-time format are case-sensitive, for example **mm** is for minutes and **MM** is for month.
- In the format field, any character that is described as a 'Format Identifier' in the table (Figure 22) will be translated to the corresponding value. All other characters will be printed without translation, for example letter **h** is translated to value of hour, but letter **b** is printed exactly as b.
- In the format field, any set of characters put inside single quotes (') are printed without translation. Example: **yy** is translated to value of the year but **'yy'** is printed as yy
- Offset is usually used to calculate expiry date. Printed 'date' may go days, months, years, or hours forward into the future. Hour/minutes offset may be positive or negative.
- See section 0 on page 58 for how to set/change printer's internal clock.

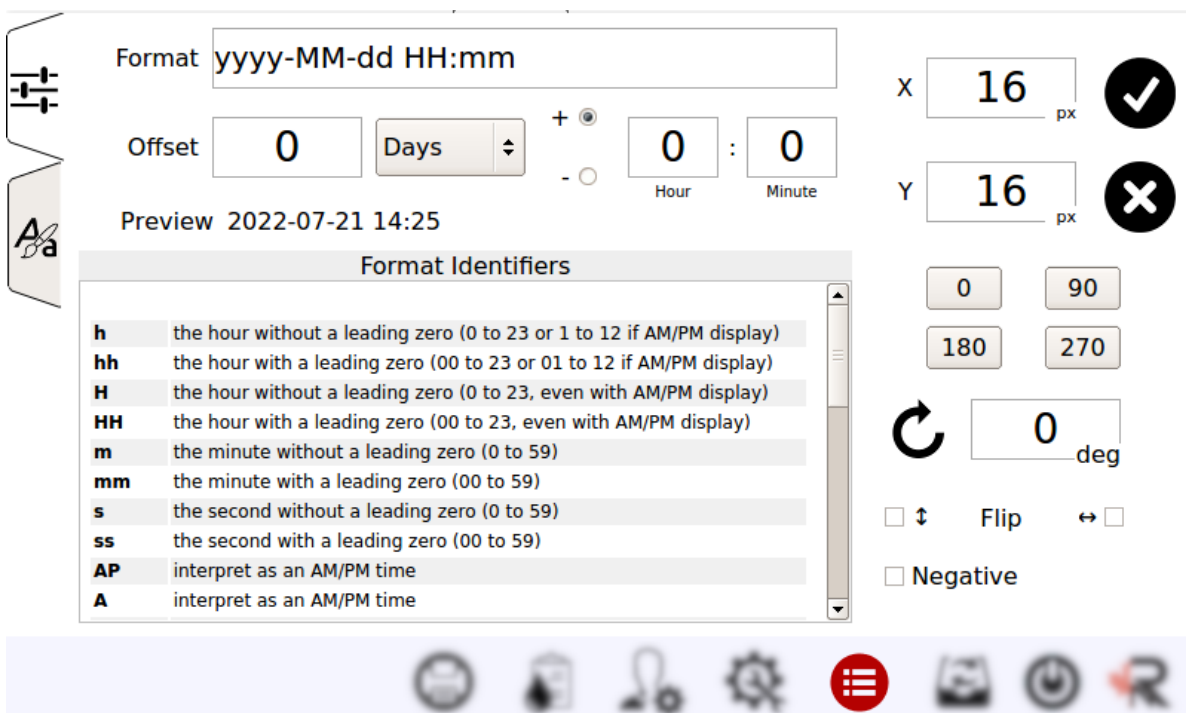


Figure 22: Date-time object



### 4.3.5 Shift-code Object

Shift  
0101

The shift-code is a dynamic object whose content will be generated at the print time based on the internal clock of the printer.

In the shift-code design window, you only need to define the starting time of each shift. The shift's end will be calculated based on the start of the next shift. To define the last shift in a day, you must create an empty shift at the end of that shift. The last shift that you define in this table will automatically end at 23:59:59.

To add break times in between shifts, just add a shift with a blank code.

- To add a new shift, press  the icon.
- To modify/delete a shift click on the item from the list.
- When the Hour, Minute and the Code are set, press  the ok icon to accept.

Example: suppose we have a two-shift per day production as follow:

- From 8:00-15:30 morning shift with the code 'Morning' to be printed.
- From 16:00-23:30 evening shift with the code 'Afternoon' to be printed.

To design a shift-code object for this scenario we need to add four items into the table as shown in the Figure 23.

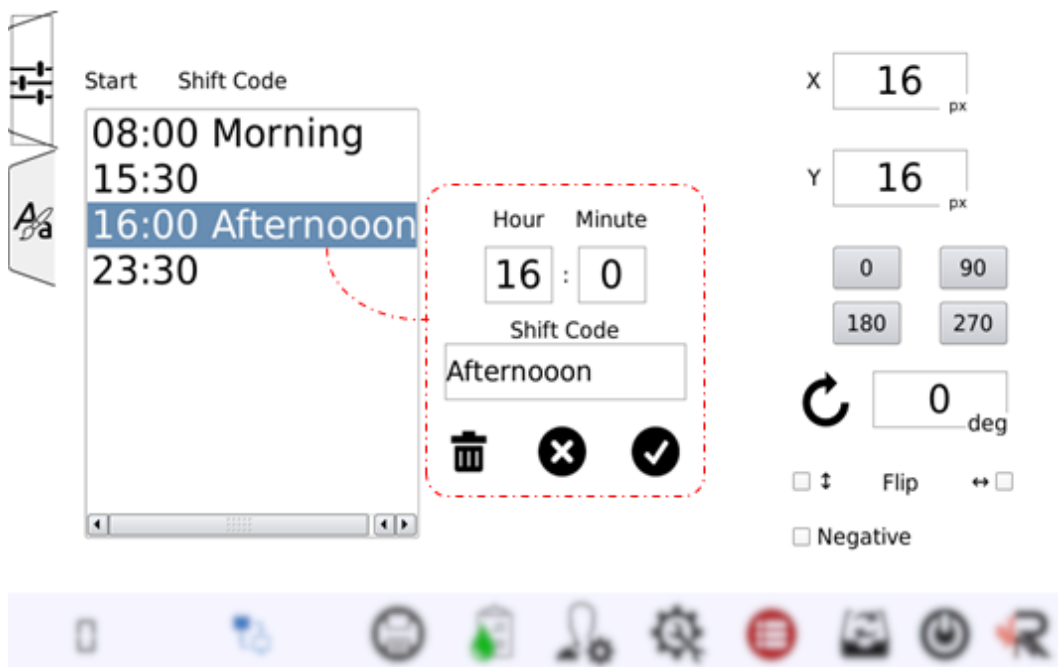


Figure 23: shift-code

### 4.3.6 Dynamic DB-Text Object

This is a dynamic object that is used to print text or barcode from a Database (.CSV or .TXT File). Any print layout that contains DB-Text object, will require a database to work in print operation. When this layout is selected for the current 'Print Job' a database file also must be loaded into the memory before the print operation starts. (See section 3.1.7. Database console)

#### **How does database printing work?**

It is important to understand the concept of 'Database Printing': the print template is 'bound' to a database file; Meaning the number of records in database is the maximum possible print results.

With each line (data-record) in the database, only one print is generated. At any given time, the current record(blue frame, page 17) in 'Database console', marks the reference record for next print. When the end of database is reached, the print will automatically stop. While the print is OFF, operator can load a new database or navigate through the records to resume from a certain point in database.

#### **What format is the printer database?**

- The database used in this context is a 'Text' file with .csv or .txt extension.
- The records (rows) are separated by 'Line-feed' (AKA line-brake, \n, ASCII 10).
- The fields (columns) are separated by comma ',' character. Therefore, comma is a 'special' character, use '\,' sequence to print ','
- Database encoding is **utf-8**. All Latin, Cyrillic, Asian, Arabic and symbol characters are supported.
- Filename for the database is case-sensitive.

Figure 24 shows the design view for DB-Text object. In this figure, the top section, marked as 'Preview/Training' is an optional tool to preview and evaluate the effect of parameters. The file that is loaded here for preview, has no effect on the print operation. A fully trained operator who knows how it works, will ignore the preview section.

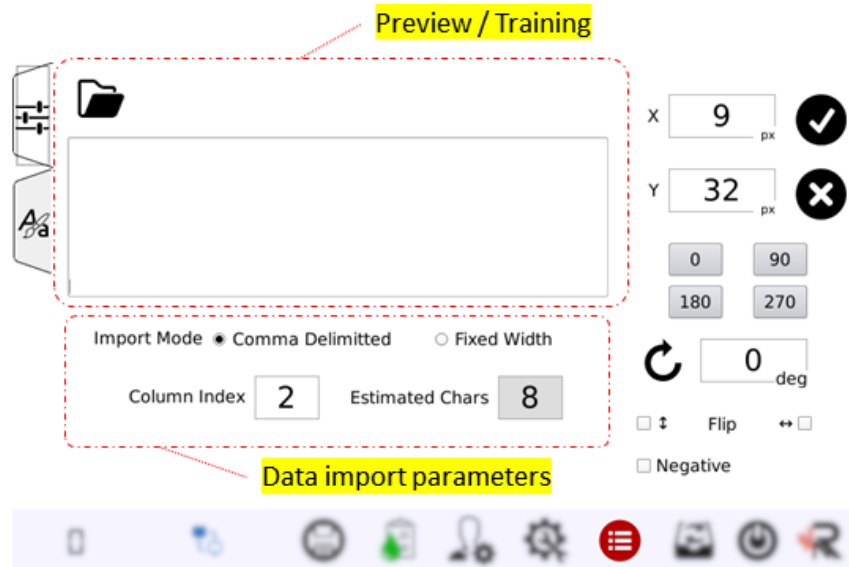


Figure 24: DB-Text object

The Bottom section marked as 'Data import parameters' is the only section that has effect on the dynamic DB-Text behavior. It contains parameters and instructions to read data from database and generate the printing text.

### How DB-Text object content is generated?

As explained earlier, at any moment in print operation, one row (record) from the database is selected as reference for DB-Text objects. If there is no record selected, then the DB-Text object is blank. If there is valid data in current record, one of the following methods is used to update a DB-Text object:

**Comma Delimited:** In which the whole record (row) is divided by comma into fields (columns). Then a DB-Text object requires only an Index parameter to point to the target field. Use escape sequence '\,' to print comma. The 'Estimated chars' parameter is hint for the printer to predict the size of dynamic object before the actual data is available. This parameter is not used to cut-off the data (Figure 25).



**Fixed Width:** In which two parameters is provided to extract the data from the *current record*: starting index and length of data. With this method, comma will be a regular printable character. (Figure 26)

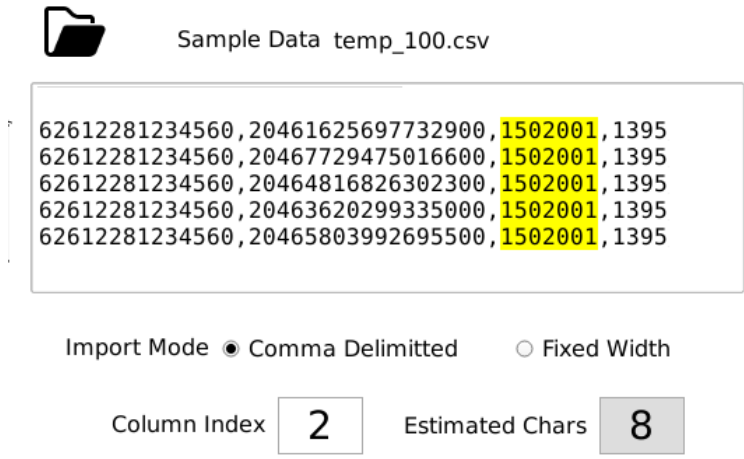


Figure 26: DB- Text, Comma Delimited

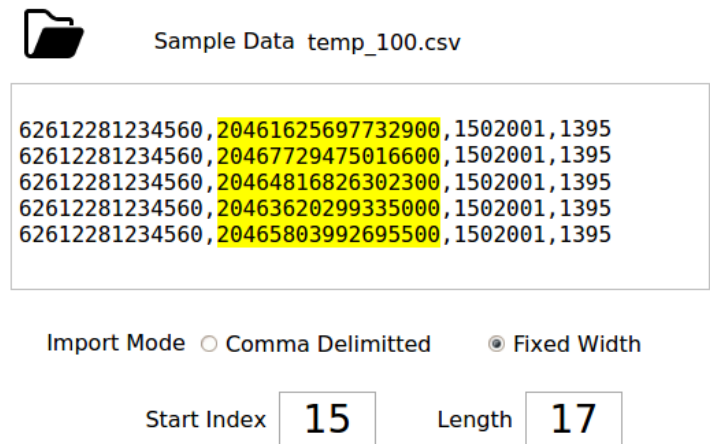


Figure 25: DB- Text Fixed Width

In the preview section, user can select a sample database (should be similar to the actual database) to preview the first few records. This preview can help users adjust the column index, start-index, and length parameters.

This preview section is only for training purposes. The sample database loaded here has no effect on the print operation.

### 4.3.7 Dynamic COM-Text Object

This type of dynamic object is used to print text or barcode from an external source of data. The 'external source' may be one of the following devices connected to the RNJet printer controller:

- A Serial device (PC, PLC, barcode reader) connected to the serial port (RS232).
- A USB COM-Port device connected to the USB port (like barcode reader).
- A computer (PC or PLC) with network access to the Ethernet port.

The first two types are both considered serial communication (UART). It is important to understand that with serial communication to RNJet printer:

- There is no data exchange protocol involved. Everything must be sent as printable characters.
- There is only one direction of data flow: from external source to the printer.
- Serial communication is only for 'print data' and not control commands.
- Any device using serial communication must send the print data as 'plain text' with utf8 encoding. A record of data must be terminated with 'Line-feed' (AKA line-brake, \n, ASCII 10). In other words, the printer continues to read the serial port until a Linefeed is received.
- Unlike the 'Database Printing' mode, the external data buffer holds only one record of data as source of print-data. We call it External Data Record; Any received string of data that terminates with Linefeed, will replace the previous External Data Record. This record of data remains valid for infinite number of prints. Print operation never stops due to lack of external data.

For the communication over Ethernet port, it is important to understand:

- RNJet controller network communication has a data exchange protocol.
- A remote device (PLC) must have programming API capabilities to establish a TCP-Socket to the printer and then follow the protocol to exchange data.

Please see the following document for detailed instructions:

**'048-0501-007-xx RNJetPlus Network Communication Protocol'**

Figure 27 shows the design dialog for the COM-Text object.

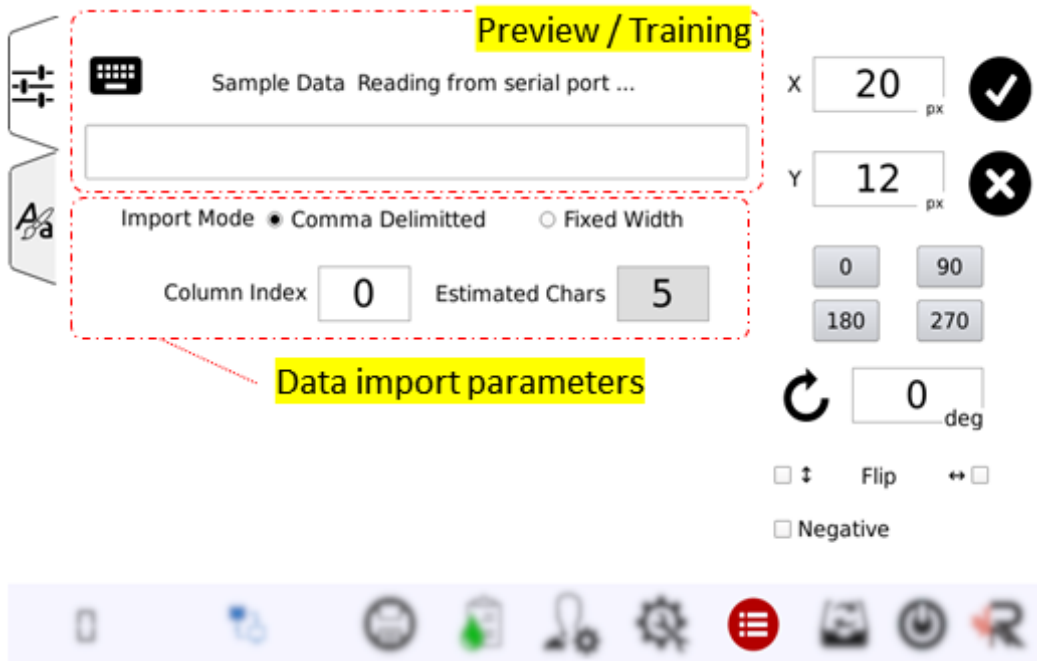



Figure 27: COM-Text object

In this figure, the top section, marked as **Preview/Training**, is an optional tool to preview and evaluate the effect of parameters. Use  the icon to enter sample data (simulating incoming data from serial port) and evaluate how COM-Text parameters are affecting the data field. Any sample data that is used here for preview, has no effect on the print operation. A fully trained operator who knows how it works, will ignore the preview section.

The Bottom section marked as 'Data import parameters' is the only section that has effect on the dynamic COM-Text behavior. It contains parameters and instructions to read data from serial port and generate the printing text.

### **How COM-Text object content is generated?**

As explained earlier, the External Data Record holds the raw data from an external source (usually the serial port). If no data is received, then the COM-Text object is blank. If there is valid data in the buffer, one of the following methods is used to update a COM-Text object:

**Comma Delimited:** In which the whole External Data Record is divided by comma into fields (columns). Then a COM-Text object requires only an Index parameter to point to the target field. Use escape sequence '\,' to print comma. The 'Estimated chars' parameter is hint for the printer to predict the size of dynamic object before the actual data is available. This parameter is not used to cut-off the data. This behavior is similar to DB-Text in Figure 26.

**Fixed Width:** In which two parameters is provided to extract the data from the External Data Record: starting index and length of data. With this method, comma will be a regular printable character. This is similar to DB-Text in Figure 25.

Another way to update the content of a COM-Text object, is the Quick Edit link at section 3.1.6 .

### 4.3.8 Image Object

This is a static object to print Logo so other symbols. RNJet printers will only print fixed size black dots, so any selected picture will be converted to monochrome format to be included in the layout.

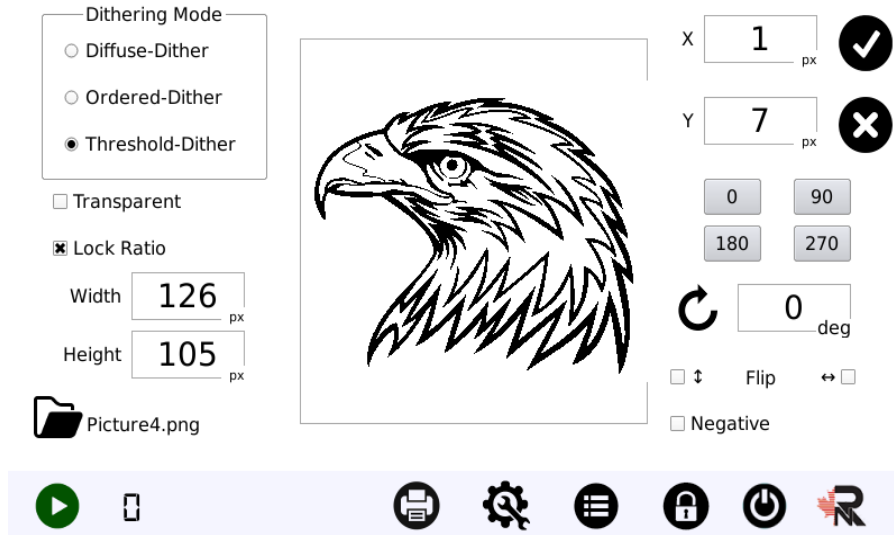


Figure 28: Image object

Since monochrome pictures do not contain any shades of gray, dithering algorithms are provided to simulate the gray shadows. The following pictures compare different methods of image conversion:



Figure 29: Dithering Options

The image/Logo size can be adjusted in this dialog to fit inside the print area; however, it is strongly recommended to resize the logo pictures to the proper size before importing into the print layout (using image modification software like windows paint, photoshop ...). Large pictures may consume printer's memory and the resized quality might not provide the best results. The proper size for the logo is when the height of the picture (in dots) fits inside the print area of the printer:

Printer Type	Print area height
RNJet H1 / H2	150 dots
RNJet 100 / 200	128 dots
RNJet 72 / 140	510 dots



### 4.3.9 Barcode Object

Use this icon to print Barcodes. A diverse collection of Linear and 2D barcode types (symbology) are supported by RNJet printers. Rotation and Negative options are available for barcode objects.

Each symbology has its own data constraints; It means according to the selected symbology a certain number of numbers and/or characters must be entered as data. Example (Figure 30): for EAN14 barcode, user must enter 13 digits from a valid GTIN number, the 14<sup>th</sup> digit is a check digit generated by the printer.

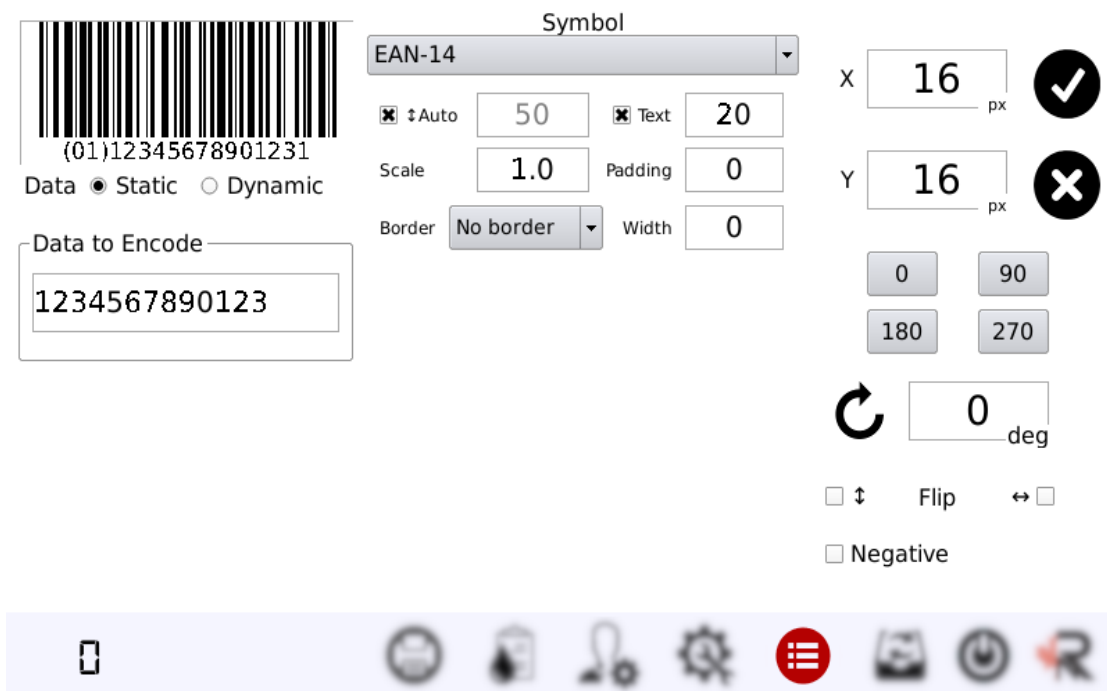





Figure 30: Static Barcode object

This document is drafted based on the assumption that user has enough background knowledge about barcodes and especially GS1 standard. For more information about the GS1 standard please see [www.gs1.org](http://www.gs1.org)

For data inside the barcode (Data to Encode), there are two options:

- Static data: barcode is a static object (Figure 30).
- Dynamic data: barcode becomes a dynamic object; it may contain multiple fields of dynamic text (Figure 31).

Use the  button to add more fields.

Point to any field and use  to modify the field, use  to reorganize the order of fields, or use  to remove the field.

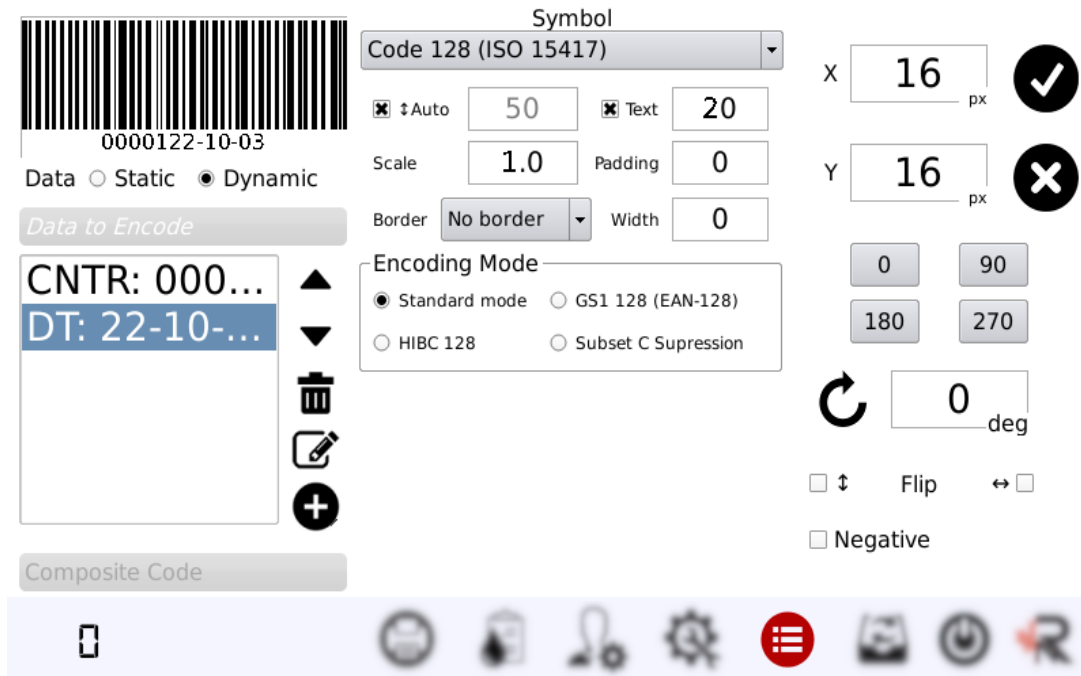


Figure 31: Dynamic Barcode object

For 'symbology' there are over 30 different options. Each selected symbology asks for a specific set of options. Some options are not available for certain barcode types. Please lookup online documentation for data restrictions (data format and length) for your selected symbology.

For 'Encoding Mode' there are two general modes: 'standard' and 'GS1', plus some extra modes (like 'HIBC') for certain barcode types.

- Standard mode: There is no restriction for input data, other than what the selected symbology requires.
- GS1 mode: The data must start with an AI (Application Identifier) enclosed in brackets [ ]. All following AI's also must also be enclosed in brackets and data length/type rules for each AI must be respected.

for more information regarding AI codes, please see [www.gs1.org](http://www.gs1.org)





Please keep in mind that each encoding mode dictates certain rules for the input data. Users must be aware of all the requirements for the encoding mode they select. If you are not sure what encoding mode to select, always choose 'standard' mode if asked.

In case of 'GS1 Data mode' for encoding, the option 'Use separator for GS1' will enforce FNC1 at the end of each variable length field (before next AI).

General barcode options:

- Bar height: (only for linear barcodes) adjusts the height of the black lines.
- Scale: 2-D resize factor for height-width of the barcode.
- Text: (available for some linear barcodes) optional human readable text.
- Border: (available for some linear barcodes) must set with of the border.

#### 4.3.10 Shape Object

Simple static objects, similar to image objects, will allow user to draw rectangle, circle, lines, or tables around text. (Figure 32)

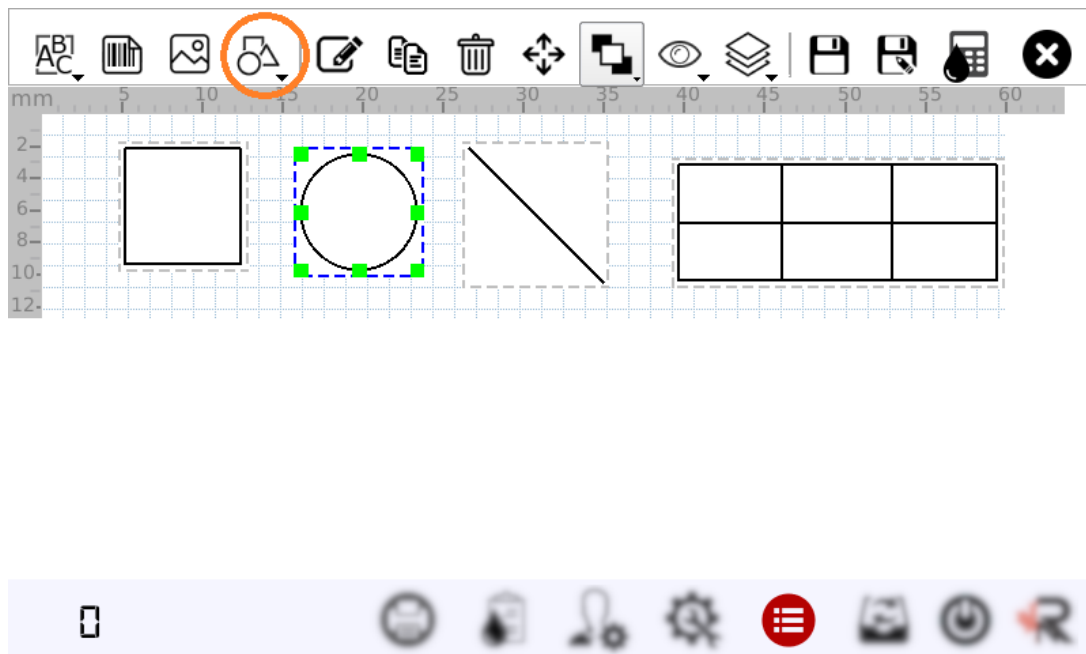


Figure 32: Shape object

### 4.3.11 Rich text Object

This type of text object allows text and paragraph formatting. The main intent for this type of object is to make a template design in RNSoft windows app using a desktop or laptop PC. It is recommended to create/modify this object only from the RNSoft-Windows application.

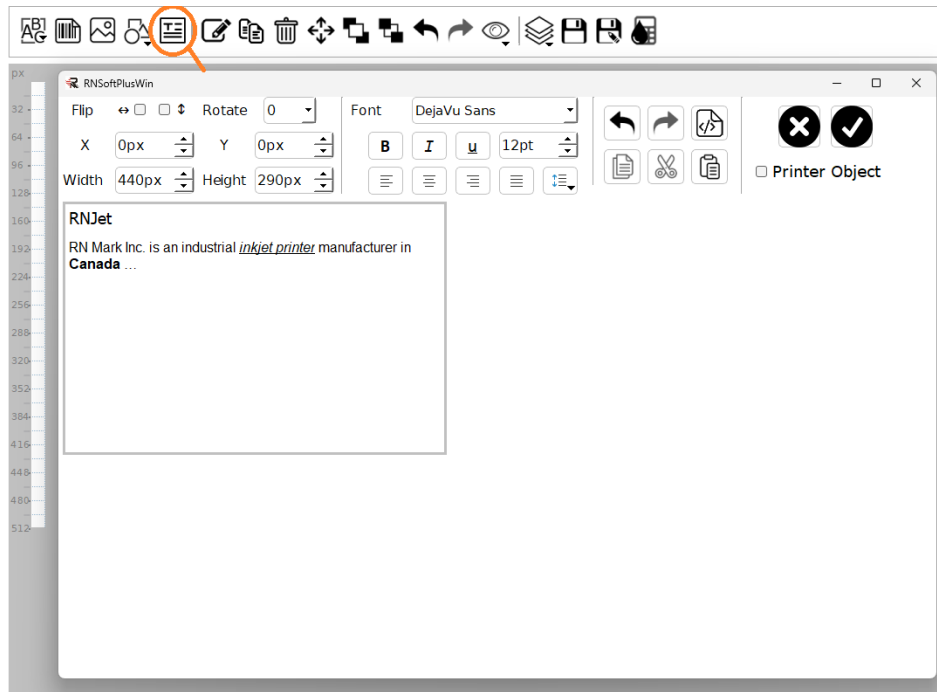


Figure 33: Rich text object dialog

**Printer object:** This option makes it possible to edit/modify this object from the RNJet controller screen. The disadvantage of enabling this object is that the print result may or may not be the same as shown in layout design.

#### **Detailed explanation:**

With this option enabled, all text will be rendered on the controller using the fonts available on the RNJet controller. The RNJet controller has an 'Embedded Linux' operating system; Even if we upload the exact same font files into to RNJet controller, the final results on the controller may look different compared to the results from Windows (Laptop/PC) since they use completely different platforms. Leaving this option disabled, will guarantee the font-size, and looks on the RNjet controller, are exactly the same as shown on the laptop/pc screen.

## 5. Storage

Within this panel, user have the following functions:

### 5.1. Import/Export files

This window is the import/export panel between the printer and USB flash disk.

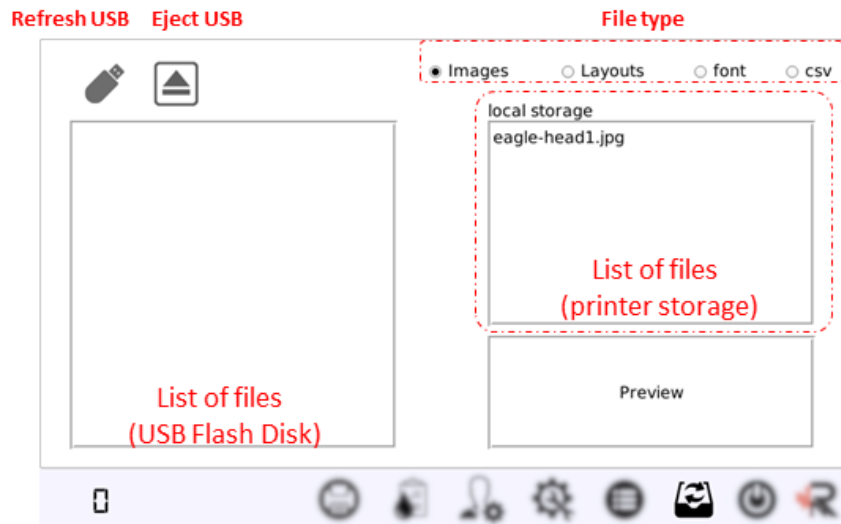






Figure 34: Storage



On the left side the content of USB flash drive (connected to the USB port) is displayed. On the right side the content of printer storage is displayed in four separate categories: picture, layout, font, and csv/txt databased files.

Select a file from one side and use   icons to transfer them to the other side. The delete option  is only for printer storage side.

### 5.2. Import Font

Select a \*.TTF file (True-Type font) from the USB-storage side and click on  the icon which appears on top.

### 5.3. Update Printer's Firmware

Select a \*. update file (RNJet Firmware file) from the USB-storage side and click on the  download icon  which appears on top.

## 6. Settings

The configuration and parameters of the printer are divided into groups (Figure 35). Some settings are not accessible while 'Print ON' (Figure 36).

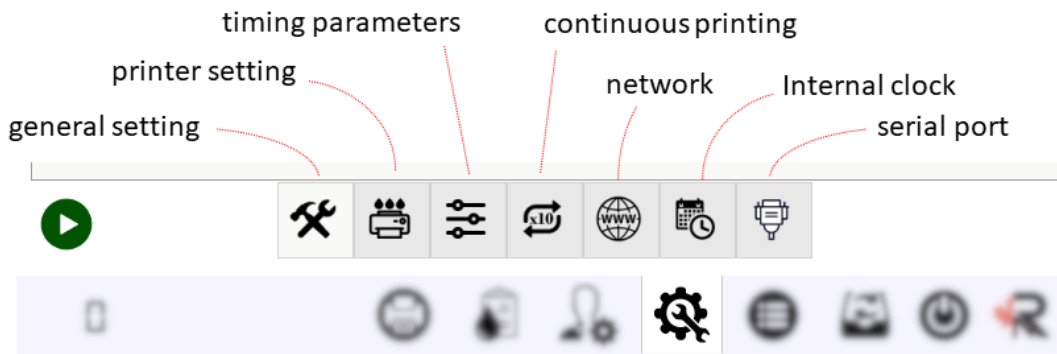


Figure 35: Setting while Print OFF

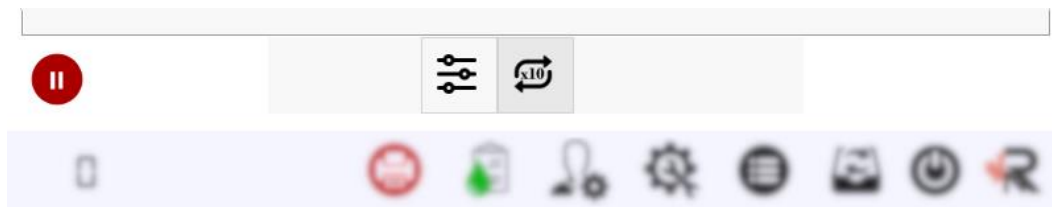




Figure 36: Setting while Print ON

### 6.1. General settings

This section is only accessible while the print power is OFF. The 'system setting' tab is shown in Figure 37.

- There are a variety of languages to select from the list, which translates the interface of the printer controller.
- System units option selects the display unit of labels (millimeters, inches, or dots).
- 'Print Counter' selects how the printer counter (bottom left of the screen) is cleared. The option 'Current Layout' means the counter is cleared when a new layout is selected to  print. 'Start at PrintOn' option means the print counter clears when the print start button  is pressed.
- Total Prints is the global print counter started from the manufacturing date.

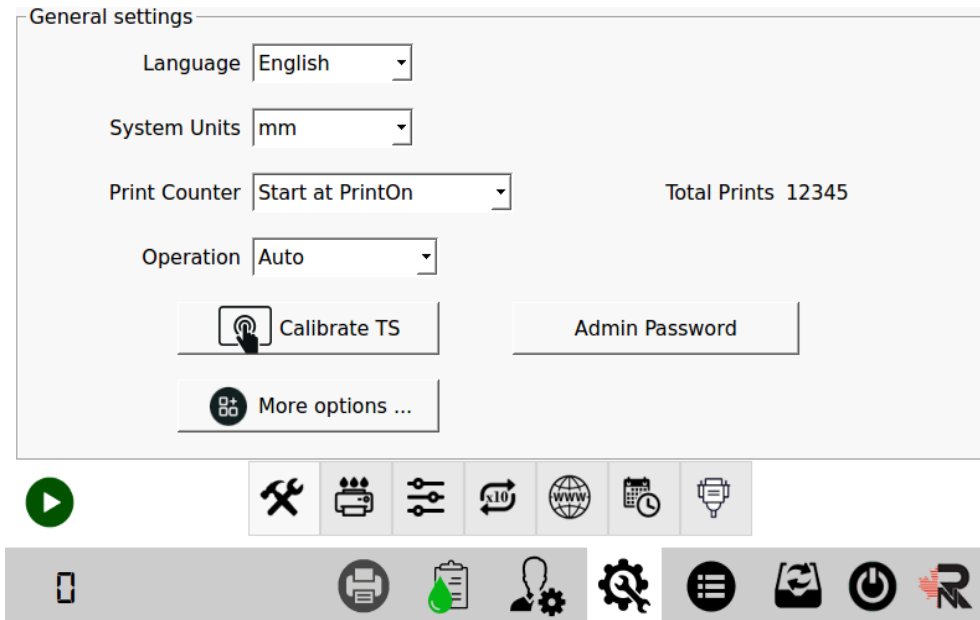



Figure 37: General Settings

- Operation mode: It is recommended to set this option to Auto. If set to fix-Mode, dynamic objects will not be updated in between prints. Is set to Update-Mode, printer will re-process every print image, even if there is no change. When set to Auto, the printer controller decides when to process the print image based on the type of objects used in the print layout.
- 'Calibrate TS' is for calibrating the touch-screen panel. After pressing Calibrate TS button the machine will ask you to restart the printer to go to Calibration Mode. Please do not forget to use the safe power off  before restart.

Note: If the touchscreen does not respond properly, connect a wired USB mouse to the RNJet printer to navigate the pointer and initiate the calibration process.

- 'Admin Password' and 'Operator Password' are used for access level (see section [2.2.6 Access Level](#) on page 8). Operator password button appears only if admin password is already set. To clear both passwords, clear only the admin password. Admin Password is also used for remote access from a PC (RNSoft for Windows).

### 6.1.1 More options



Press this button to access extended options in general settings:

- The option '**Ignore first record of DB-File**' is the option to bypass the header record in a database file.
- When '**Realtime Screen Update**' is checked, the screen will refresh for the preview of next print label. This is useful for dynamic objects. However, this option also affects the performance of the printer controller. For very high-speed printing it is recommended to uncheck this option.
- With the option '**Auto Print-ON at startup**' checked, printer will automatically start the print operation after power up. This option is not recommended nor available for the RNJet H1/H2 series.
- **Product-detect Simulator:** will display two additional buttons in the Print preview tab, while Print ON. This option allows the operator to simulate the print-start signal. See section [3.1.5](#) on page [14](#).

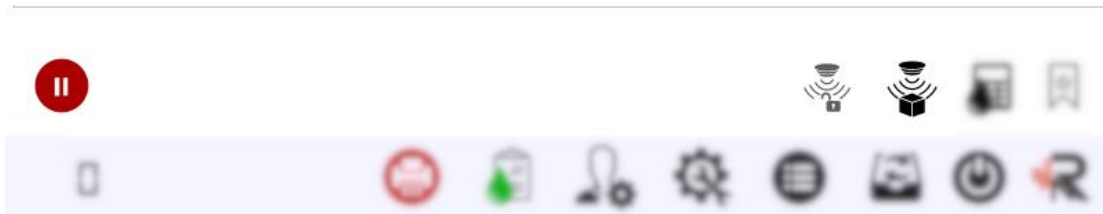



Figure 38: sensor simulator

- **Show quick edit links:** will display a frame (dotted blue border) on the external text/counter objects. See [section 3.1.6](#) on page [15](#)
- **Block sensor while printing:** It is recommended to keep this option checked; This will filter any unwanted sensor triggers while printing.
- **Reverse sensor polarity:** It is recommended to keep this option unchecked. If enabled, the print-start trigger activates on the rising edge of the signal. With the standard photo-electric sensor provided with the RNJet printer, it will trigger the print-start signal when the product is no longer in front of the sensor.

- **Show layouts for all printhead types:** enabling this option, will make the message management console display all templates (including templates made for other printhead types) in the layout list: see section [4.1](#) on page [19](#).  
We may open and modify incompatible templates, but we cannot select them for printing. It is recommended to keep this option unchecked.
- **Show parameter bookmark:** will display the bookmark button  on the main screen (Print Preview). See section [3.1.3](#) on page [13](#).

## 6.2. Printer settings

This section (Figure 39) is only accessible while the print power is OFF. Some options are only available for a certain type of printer.

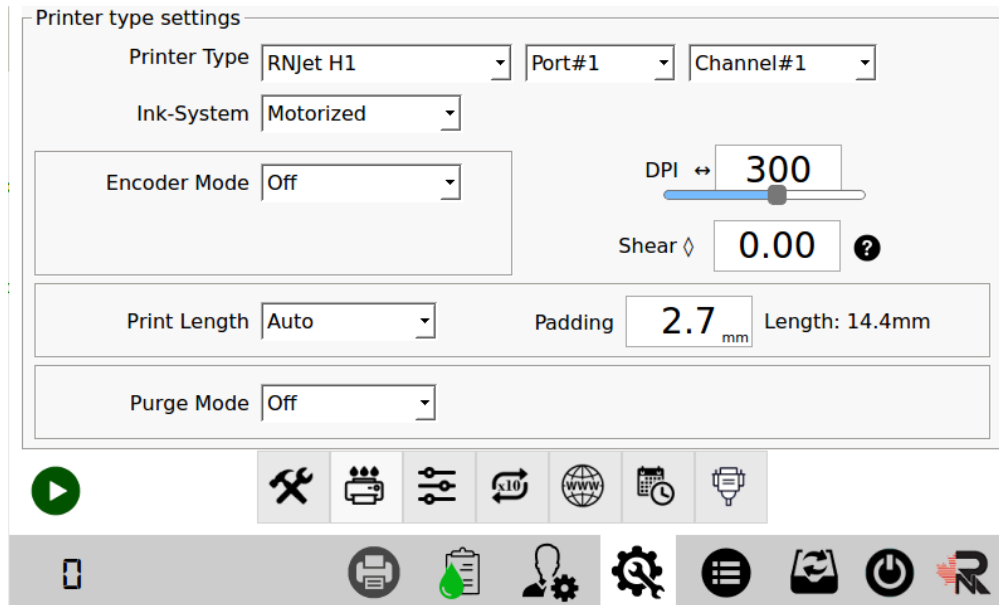


Figure 39: Printer type settings

### 6.2.1 Printer Type

shows the type of the print-head assigned to the controller. Print-head type is fixed on the RNJet controller and cannot be changed by the operator, but we can switch between single-head and dual head types. The following table concludes different modes of the RNJet printer.

Printhead Type	Printer type	Print Layout Overview
TIJ 13mm	RNJet H1	150 pixels print height, 300 dpi (½ inch)
	RNJet H2	300 pixels print height, 300 dpi (2x ½ inch)
	RNJet 2xH1	150 pixels layout height (2x ½ inch clone prints)
Piezo 18mm	RNJet 100	128 pixels print height, 180 dpi (¾ inch)
	RNJet 200	256 pixels print height, 180 dpi (2x ¾ inch)
	RNJet 2x100	128 pixels layout height (2x ¾ inch clone prints)
Piezo 72mm	RNJet 72	510 pixels print height, 180 dpi (2¾ inch)
	RNJet 140	1020 pixels print height, 180 dpi (2x 2¾ inch)
	RNJet 2x72	510 pixels layout height (2x 2¾ inch clone prints)

For each printhead type from the list above, there are three options to select from this list:



- **Single head:** will show RNJet 100, RNJet H1 or RNJet 72; user may select 'Head1' or 'Head2' option to select which one of the physical ports on the controller is connected to the print-head. The print layout height is the same as the print-head nozzle count.
- **Dual head:** will show RNJet 200, RNJet H2 or RNJet 140; both print-head ports on the controller are used and active, the print layout height is twice the nozzles of printhead. The print layout maximum length is reduced in half:

RNJet 72 maximum layout width: is 182" ~ 4.6m

RNJet 140 maximum layout width: is 91" ~ 2.3m

A dual-head layout file is loaded for printing and each head prints different images independently. The dual-head layout has a horizontal blue line in the middle showing the border between the print-heads. All the black pixels above the blue line are printer by print-head#1 (connected to port 1) and everything below the blue line is printer by print-head#2 (port 2 on controller).

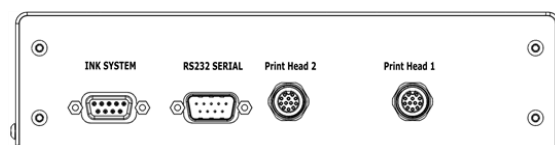
See section [4.2](#) Layout Designer on page 22.

- **Dual head clone-mode:** will show RNJet 2x100, RNJet 2xH1 or RNJet 2x72; both print-head ports on the controller are active and connected to printheads, a single-head layout file is loaded for print and both printheads print the exact same image. This is useful for printing the same label on both sides of a box.

Every time Printer Type option is changed, the default layout type of the printer is also changed, the previous type of layout files on the printer cannot be selected for printing.

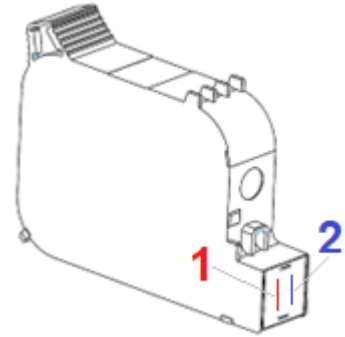
## 6.2.2 Print-head port#

Operator can choose which one of the 12-pin round connectors on the controller is connected to the printhead. This option is only available for single-head printer models.



### 6.2.3 Channel#

Operator can choose which one of the two channels on the TIJ cartridge is active. If one has clogged nozzles, we might get better print results with the alternate channel. This option is only available for TIJ printer models (RNJet H1/H2).



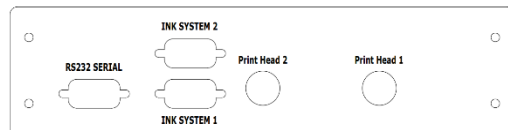
### 6.2.4 Ink-System type

There are two types of ink container for RNJet printers: cartridge and motorized. This option is not available for the RNJet H1/H2 controllers. If the printer model is set to a Dual-head printer (RNJet 200 or RNJet 140) there is an additional option for 'Dual' Ink-system. This option must be enabled when two separate ink containers are used (one for each print-head).

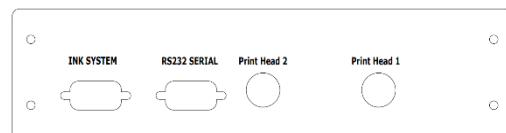
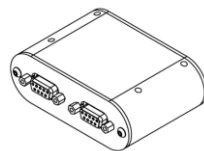
If this option is not checked, only one ink system (shared for both print-heads) must be directly connected to the printer.

If this option is enabled, we have two ink-systems connected to the RNJet controller:

- RNJet controller from 2024 and later, have two ink-system ports on the controller:




- for RNJet models before 2024, an external module called 'Y-Switch adaptor' is used to connect two ink-systems into one ink-system port on the RNJet printer:




## 6.2.5 Encoder

Using a rotary encoder, you can synchronize the speed of the printer with your production line. When the encoder is enabled, the 'Speed' parameter (please see section 6.3 on page 53) has no effect on printing.

**Troubleshooting tip:** make sure encode mode is set to **Off** when no encoder is attached to the printer controller. If the encoder is enabled without any encoder connected to the controller, nothing will be printed.

- Mode: For most applications, the Bi-direction option is suggested. The two other options CW (Clockwise) and CCW (Counter-clockwise) will accept the wheel movement only in one direction. The CW and CCW are used when roll-back correction is needed. If you are not sure which mode is best for your application, select Bi-direction mode.
- Ratio: It is strongly recommended to keep the ratio parameter to 1.0000 which disables the rate conversion for encoder pulses. With the proper combination of encoder model (pulse rate) and wheel size, we can get the native resolution of the printhead (180 dpi for RNJet 100/200/72/140 and 300 dpi for RNJet H1/H2) and achieve the best print quality. If the proper encoder assembly is not available, then we can use the ratio parameter to convert the encoder signal to the desired rate (which is usually the native resolution of the printhead). Click on the icon beside the ratio  to get more information about the wheel size and encoder pulse-rate.

Select a parameter to calculate 

Encoder <input checked="" type="radio"/> Ratio	X	Encoder <input type="radio"/> PPR	=	Resolution <input type="radio"/> DPI	X	Wheel <input type="radio"/> Circumference	X	Wheel <input type="radio"/> Diameter	
<input type="text" value="1.0000"/>		<input type="text" value="1800"/>		<input type="text" value="300"/>		<input type="text" value="6.00"/>	<input type="radio"/> mm	<input checked="" type="radio"/> inch	<input type="text" value="1.91"/>

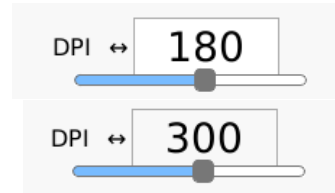
Encoder Ratio Recommended Values  
1.0000  
0.5000  
0.3333  
0.2500  
0.2000  
0.1667  
0.1250  
0.1000

Current Speed  KHz  inch/s

### 6.2.6 Horizontal DPI

The vertical resolution of the print results depends on the printhead type:

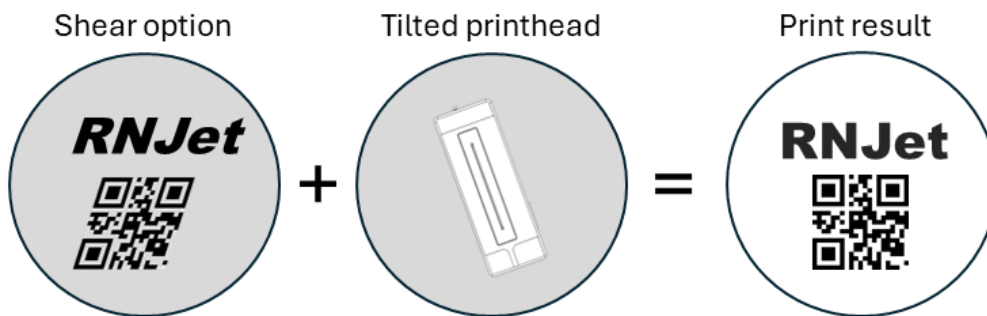
- 180 dpi for RNJet 100/200
- 180 dpi for RNJet 72/140
- 300 dpi for RNJet H1/H2



The horizontal resolution of the print results depends on the speed of the line and firing frequency of the piezo. The best practice is to have the same horizontal resolution as the vertical. However, this option allows the operator to change the horizontal resolution (density of the printing image) to balance and compensate between darker results or faster printing.

### 6.2.7 Shear print image

This option is used to compensate the effect of print-head being installed with an angle. If the print-head is installed 90 deg (perpendicular) to the direction of movement, this option must be set to 0.



## 6.2.8 Print Length

It is recommended to keep this option set to Auto.

With mode set to Auto, the length of the printing image is automatically calculated based on the selected layout for print. Operator may select an extra padding to the end of the print image.

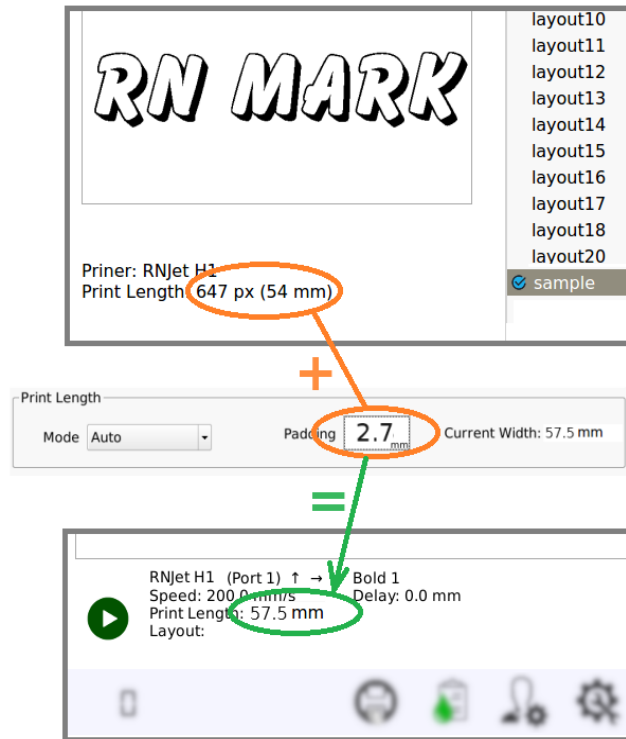


Figure 40: Print Length Calculation

With mode set to Manual, operator must set the absolute width of the printing label. This option will crop the printing image to the exact absolute length. This option is only used for special applications.



### 6.2.9 Purge mode

For solvent-based fast dry inks, we have this option to enable auto-purge. This feature is to jet-out a small amount of ink once every few seconds to keep the nozzles fresh and prevent the ink being clogged while there is no product detected.

- Spit mode activates the auto-purge; a thin line is printed frequently.
- Tickle mode is used for slow dry inks and works only with RNJet 100/200. The auto-purge does not shoot any ink out in this mode.
- Spit-Plus is similar to spit mode, but also activates purge in continuous printing in between sequential prints.
- Delay is the interval to perform the auto-purge.
- Repeat is the number of vertical lines to print each time.



### 6.3. Timing Parameters

This section of the settings includes parameters that control the timing of ink drops being placed on the product.

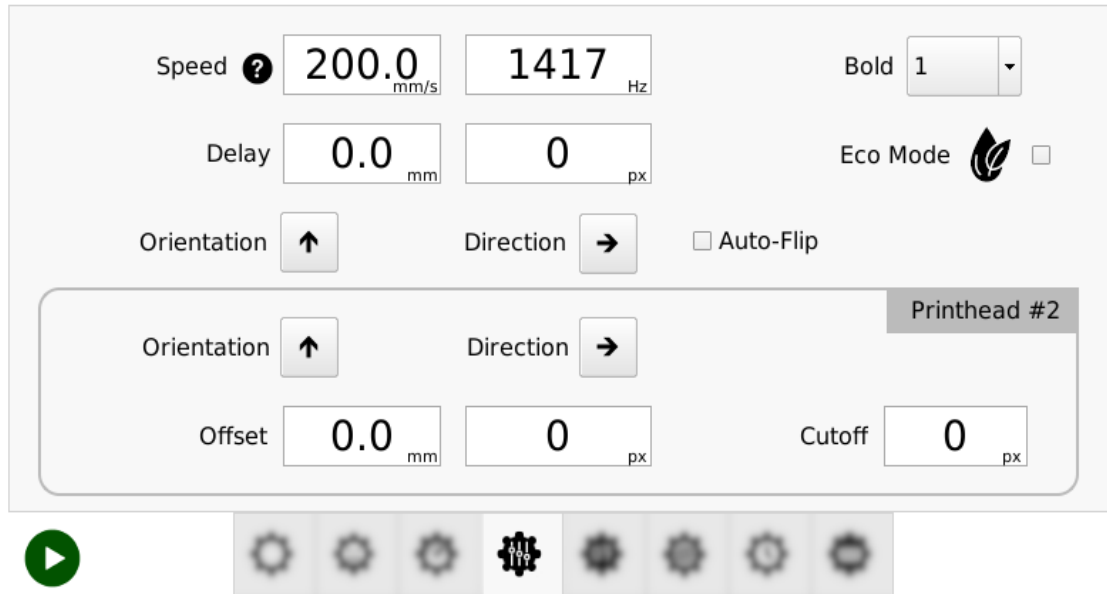


Figure 41: Timing parameters

- **Speed:** First and most fundamental parameter is the Jetting Frequency. This parameter defines how many vertical lines from the printing image are printed in one second. This should be (roughly) equal to the linear speed of product movement. This parameter has no effect if the Encoder is enabled (please see section 6.2.5 on page 49)
- **Delay:** This parameter defines how much time the controller waits after receiving the print-start signal. This is how many vertical lines of blank space are added to the start of print-image.

**Helpful Tip:** Always try to adjust the Speed before delay. Without encoder (time-based printing) the speed parameter does not need to be the exactly equal to the conveyor speed. The value must be close enough until you find the printing results acceptable. The Delay is asked in units of distance and converted to time according to the speed parameter. When you change the speed, the delay must be adjusted again.

**\*Important note\***: The distance between the two consecutive objects on the conveyor (production line) must be greater than Print Length + Delay. In other words, the previous print must be already finished before the sensor is triggered to start the new print. If the sensor is triggered again before previous print is finished, we will miss the print for the recent product.

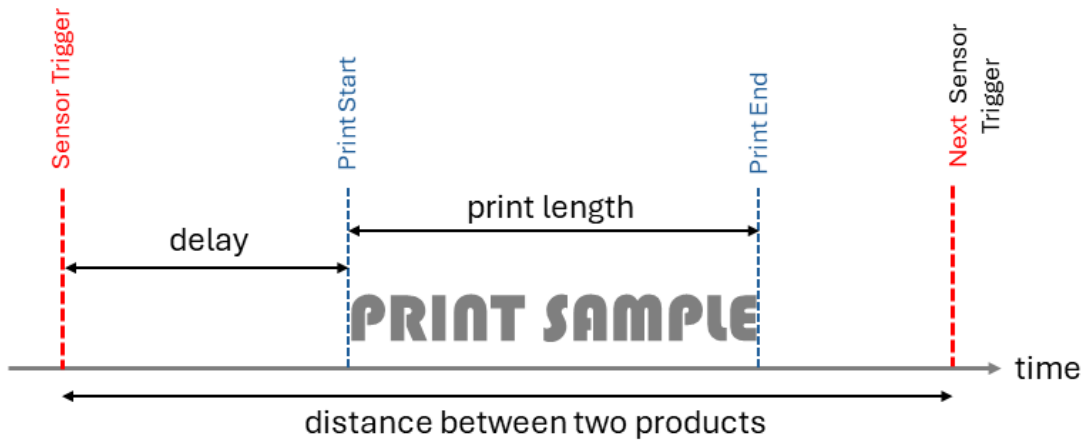


Figure 42: Timing diagram 1, total print length

- o **Bold**: This parameter defines the number of repeated ink-drops for each dot in the printing image. This is the level of darkness for the print results.

The *jetting frequency* of the printer is limited, so the print speed is inversely related to the bold level. When the speed is changed and exceeds the limit, the printer will automatically decrease the bold level. In the same way, if the bold level is changed and exceeds the limit, the printer will automatically decrease the speed.

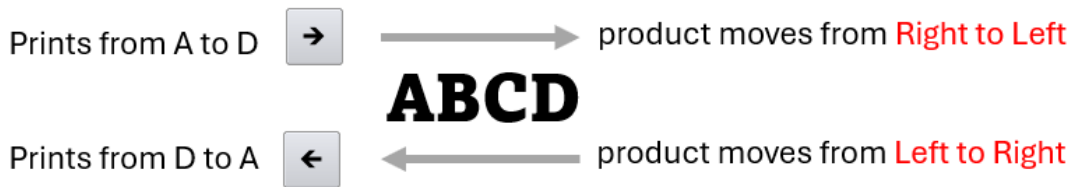




The parameter *refill-frequency limit* for each type of printer follows:

RNJet H1/H2	18 kHz (solvent based) / 12 kHz (Aqueous)
RNJet 100/200	7 kHz
RNJet 72/140	7 kHz



- **Direction/Orientation:** Defines the direction of the object's movement in front of the print head.



- **Auto-Flip:** Change direction in between prints. With continuous printing mode, direction flip happens in between sets of N prints.
- **Eco Mode:** This option reduces the ink consumption by 50%. The printing image becomes lighter: Normal:  Eco-Mode: 

### 6.3.1 Printhead#2

This section is available only for dual-head printer models. Direction and orientation for each head is independent.

- **Cutoff:** is the number of pixels to cut from the top of the print image section for printhead#2. (Below the blue separator line in layout designer, see Figure 17 on page 22). This option is to compensate for the overlap in 'Dual-head Stitched' setup.

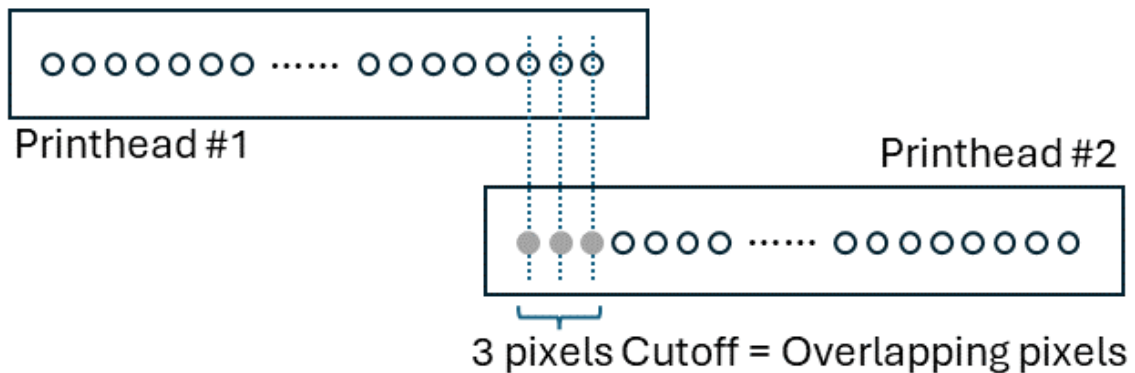


Figure 43: cutoff

- **Offset:** is the distance between the two printheads. If is a positive value, printhead#1 starts to print first. If offset is negative, printhead#2 starts first. Please see below examples:

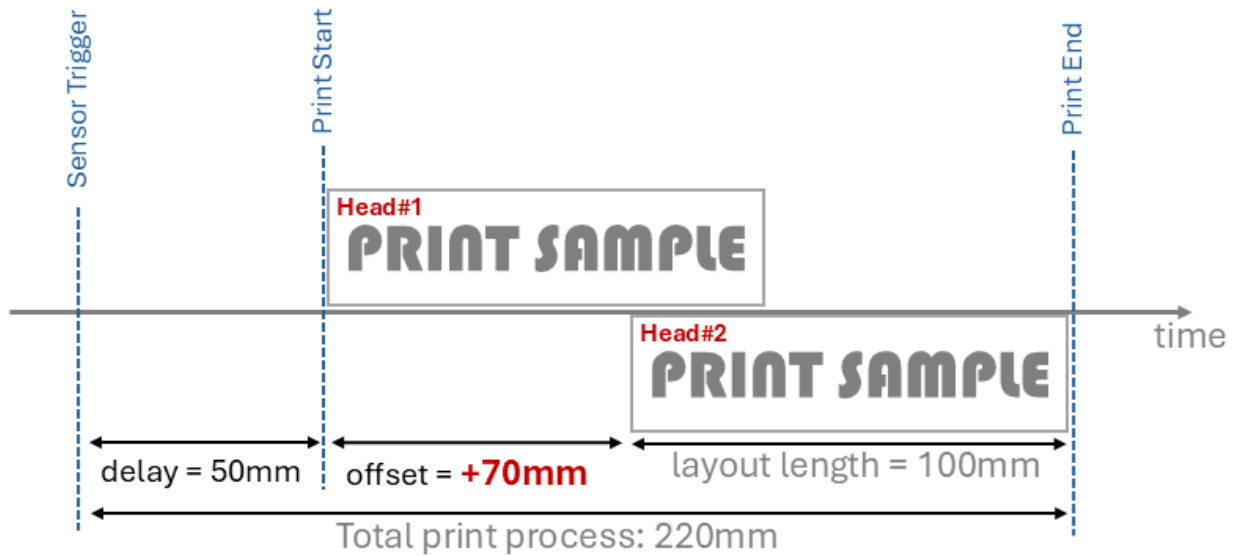


Figure 44: Timing diagram2: Positive offset

**\*Important note\*:** The distance between two consecutive products must be greater than delay + offset+ print length = 220mm

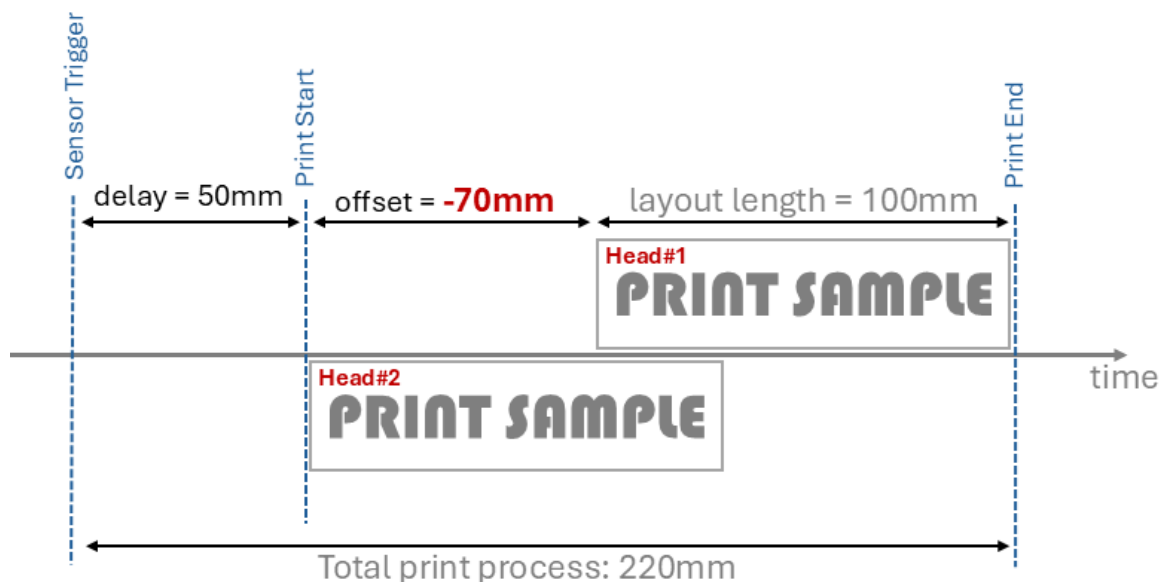


Figure 45: Timing diagram3: Negative offset

## 6.4. Continuous printing

### 6.4.1 Continuous Mode:

This option is usually used to print on extruded products like pipes, duct, or cable.

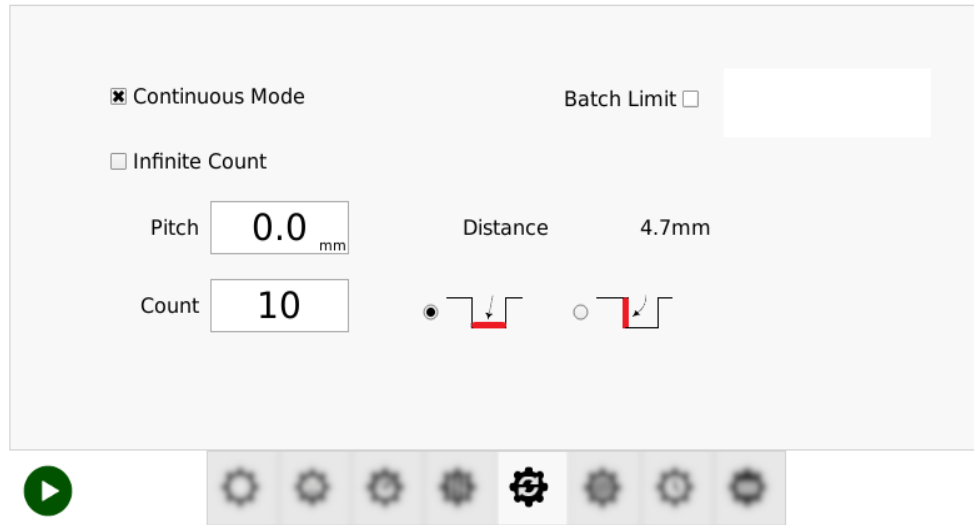
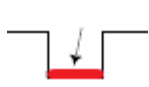


Figure 46: Continuous mode settings

- **Count:** defines how many prints should be done when the product-detect signal becomes active. With the infinite option checked, the printer will continuously print as long as Print ON and the product-detect signal remains active.
- **Pitch:** defines the gap between prints. The 'Distance' parameter shows the start-to-start distance between sequential prints.
- Note: With the 'infinite count' unchecked, and the count set to 20 or less we have the option to select the print-start trigger type:




Keep printing up to count=N prints, as long as the sensor signal remains active.



with a falling edge on the sensor signal, start printing and keep until count=N prints are complete.

### 6.4.2 Batch Limit:

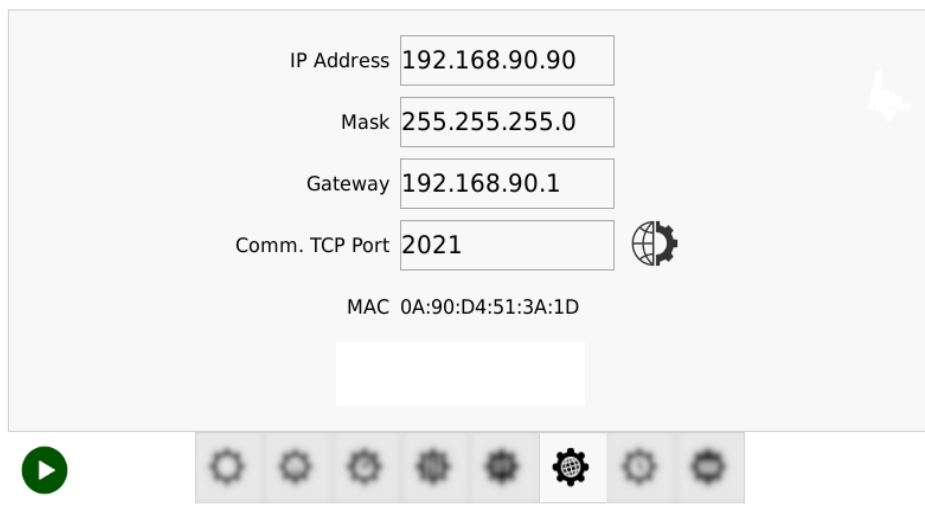
Defines the number of prints allowed since the print-start button  is pressed. After this many prints, the printer controller stops the print process.

## 6.5. Network settings

- In network settings section the IP Address/Mask of the printer is set. This address is used for remote access through RNSoft for Windows. The default network address of the RNJet printer is 192.168.90.90/255.255.255.0

**Note:** proper IP addresses must be set on both the printer and PC. If you are not sure what IP address you must use, consult your network administrator.

- The Gateway is required if your computer is in a different network vs. the printer. Consult your network administrator if you need to set up a gateway.
- Comm TCP port is for the TCP/IP communication protocol for PLC. The default value is 2021.



The screenshot shows a network settings configuration window. It contains the following fields and values:

- IP Address: 192.168.90.90
- Mask: 255.255.255.0
- Gateway: 192.168.90.1
- Comm. TCP Port: 2021
- MAC: 0A:90:D4:51:3A:1D

Below the fields is a navigation bar with a green play button on the left and several gear icons for settings.

## 6.6. Internal clock

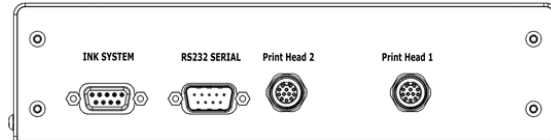
This option allows user to adjust the internal clock of the printer. This clock is used to generate dynamic 'Date-Time' objects.


Figure 47: Network settings

## 6.7. Serial port settings

The RNJet printer support two type of serial ports:

- **Serial RS232:** Is a DB9 standard physical port on the controller.



- **USB virtual COM port:** Is a converter software installed on the RNJet printer. When a CDC mode barcode scanner or similar USB-to-Serial device is connected to the USB port on the printer, a new icon  will appear on the main navigator ribbon at the bottom of the screen.

Both serial ports have the following configuration:

- The default 'Baud-rate' is 115200 bps. The following configuration is fixed on the serial port: data-bits=8, no parity, stop-bit=1; please follow 8N1 configuration on the other end of the serial communication device.
- **Ext-Text Mode:** Reads incoming data as plain 'text' (using utf-8 encoding) and applies to any COM-Text object in current layout which is loaded for print.
- **DB-Text Mode:** will forward all incoming data from serial port to the database in memory. Only DB-Text objects are updated using this serial port. See section [3.1.7 Database console](#) on page 16.
- **MSG-Select Mode:** reads a filename from serial port (usually connected to a barcode scanner) and will try to load a layout with the matching filename. The filename is case-sensitive.



## 7. RNSoft for windows

The RNSoft windows app is a remote-control application for RNJet printers. Everything that is accessible from the printer controller LCD, is also accessible from 'RNSoftWin' application with a few exceptions. For safety and stability reasons, the following settings are read-only on the windows application and must be changed from the printer controller:

- Printer Type
- Ink-System Type
- Admin and Operator passwords
- Network Settings
- Touch-Screen Calibration

The selected language on the controller and RNSoftWin application are independent, so the RNJet controller display language is also shown as read-only.

### 7.1. Offline tab

Figure 48 shows the offline tab for the RNSoftWin application. In this section, we can create or modify   print-layouts without connecting to an actual printer. To create a new offline layout, user must select the proper printer type before designing the new layout. The printhead type of the layout cannot be changed later.

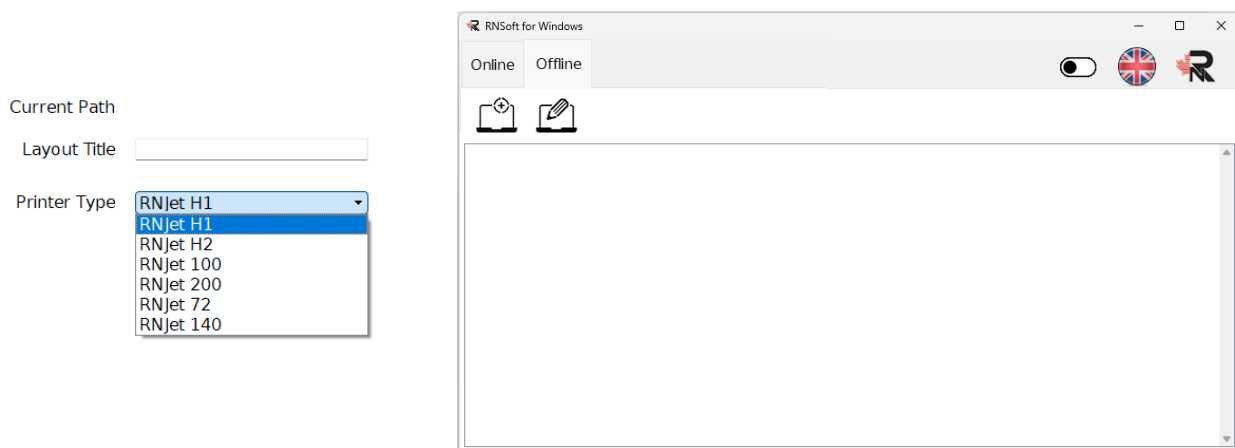


Figure 48: RNSoftWin, offline tab

## 7.2. Online tab

Figure 49 shows the online tab for the RNSoftWin application. In this section, we create a list of RNJet printers to manage and operate.

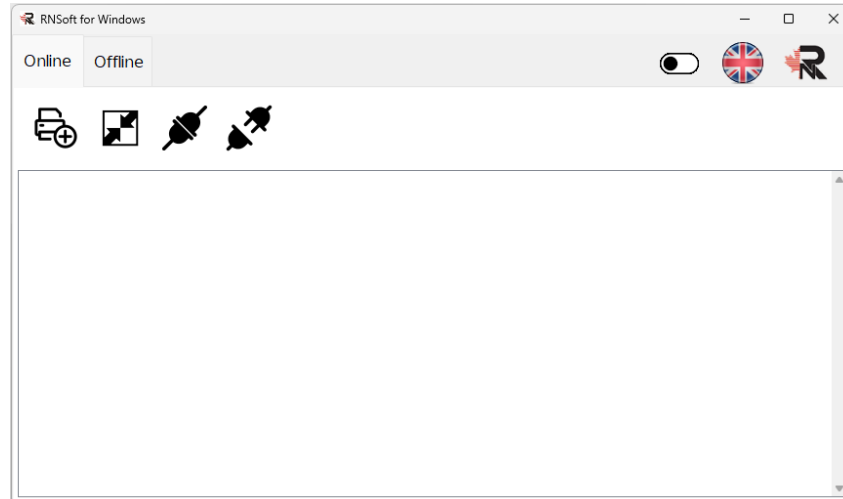



Figure 49: RNSoftWin online tab

 To add a printer, enter the IP Address of the printer. If there is an Admin Password set on the RNJet printer controller, it must be set in this dialog. We may select an optional name for each printer.

The default IP address of the printer is 192.168.90.90; you may set an IP address in the same subnet (example: 192.168.90.80) on your computer or change the IP address of the printer (section [6.5 Network settings](#) on page 58) so the printer is reachable from your computers network.

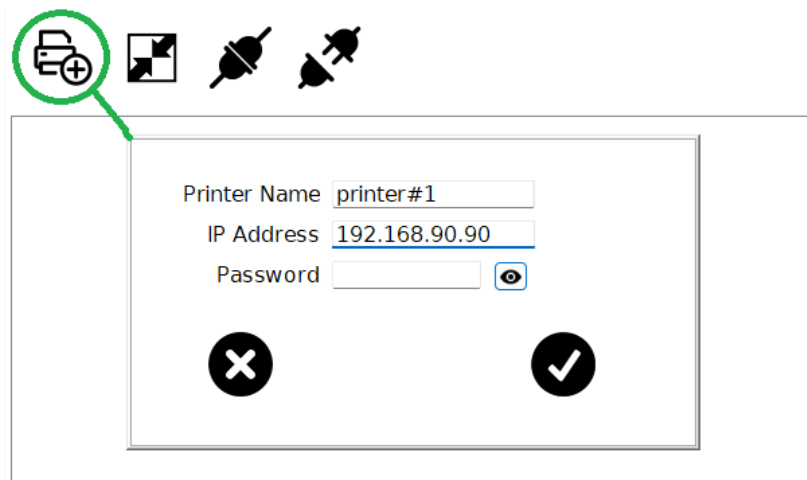



Figure 50: RNSoftWin New printer

In Figure 51 the new printer is added to the printer list. Click on the connection button  to connect to the printer.

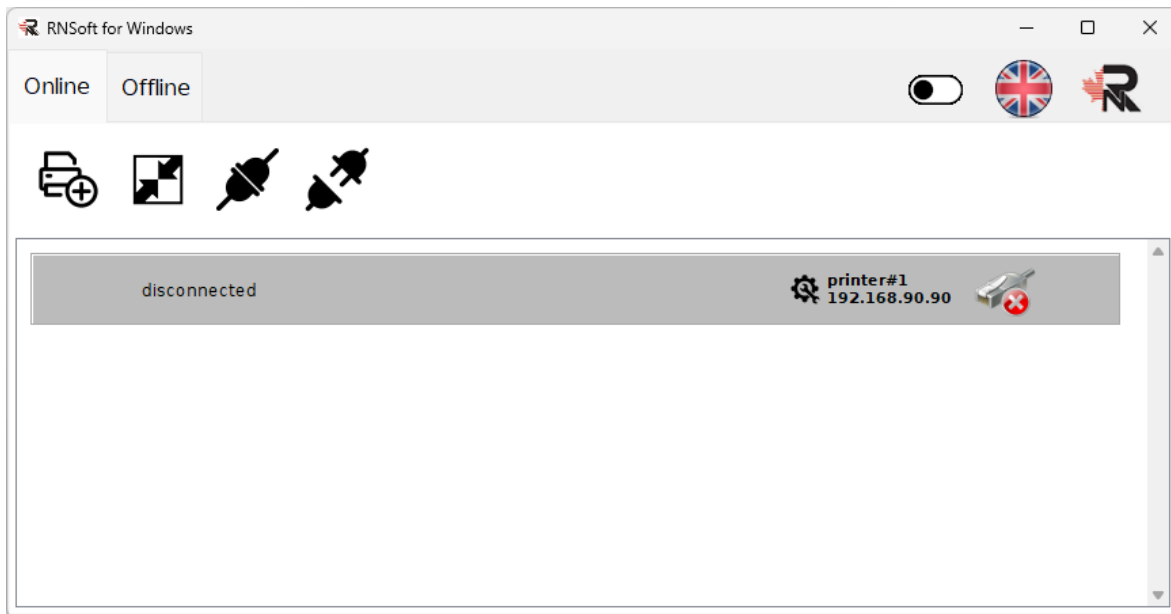


Figure 51: printer list

This list may contain multiple printers. The following buttons will interact with a single or multiple printer(s):







-  Minimize all printers
-  Connect to all printers
-  Disconnect from all printers
-  Change the IP address / Password (only when printer is disconnected)
-  Printer is Disconnected; Click to Connect
-  Printer is Connected; Click to Disconnect

Figure 52 shows the two view types of RNJet printer from RNSoftWin.

Use the   icons to switch between expanded/collapsed view.







Figure 52: RNSoftWin Printer view

When creating or modifying a new layout, a larger window is available with RNSoftWin which makes it easier to create templates with more details.

**Important Note:** The RNSoftWin will try to synchronize its font collection with the printer, however two different font files with slightly different glyphs, one on the printer controller and one on the remote computer might share a similar font-name. If the layout print preview on the RNJet controller, is different than designed template on windows, please upload the required fonts into the printer controller (use storage management)

The rest of the buttons and tabs are identical to the RNJet controller screen, except the printer storage section: 

On the printer storage tab in RNSoftWin (Figure 53), the USB-Disk content is not available (compare with Figure 34 for the printer controller). Instead, we can upload  and download files  from the computer to the printer controller.

The font import  and firmware  update buttons are also available from RNSoftWin.

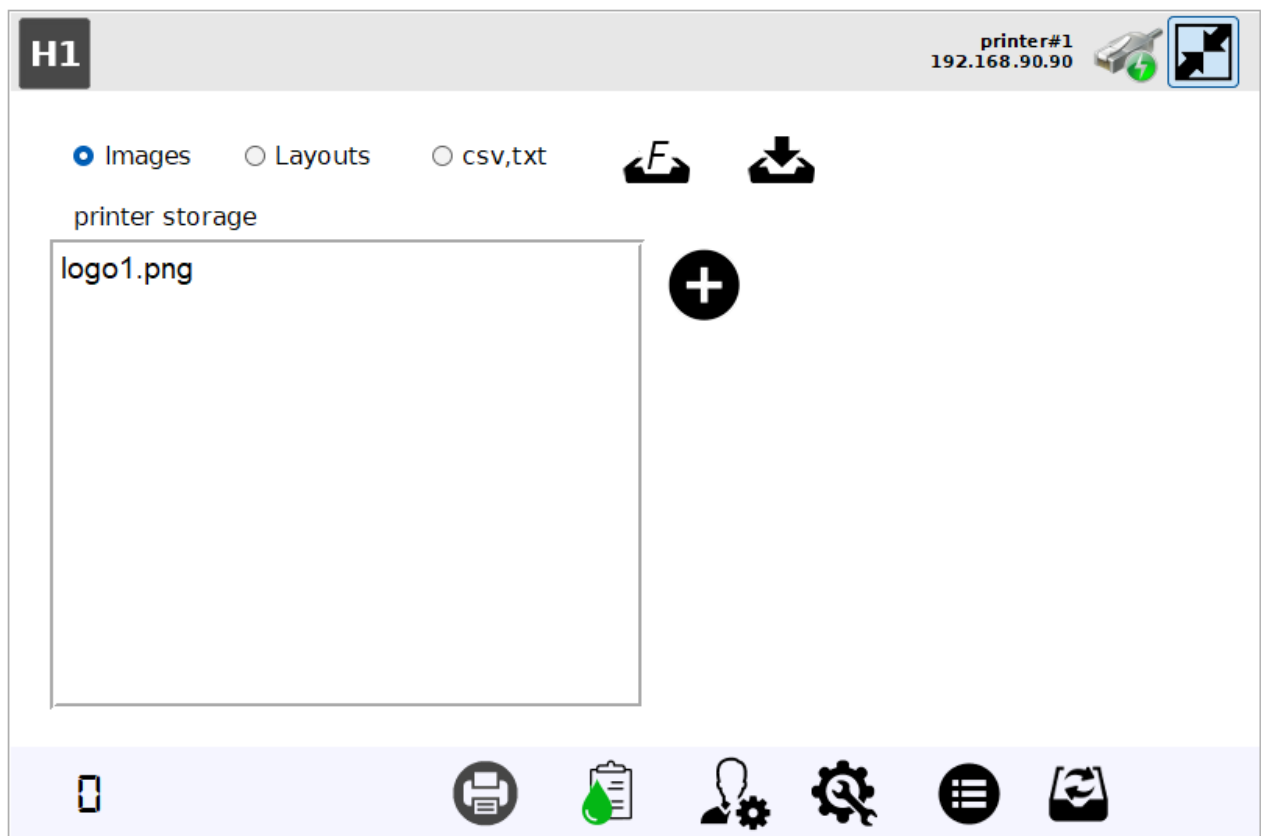






















Figure 53: RNSoftWin: Printer Storage

# Appendix 1: List of icons

-  Shows version and copyright information about this software (page 10)
-  Safe Power Off (page 10)
-  Print preview (page 7)
-  Start the print (Print is OFF) page 5
-  Stop the print (Print is ON) page 5
-  Message Management (page 8)
-  Storage (page 8)
-  Settings (page 7)
-  TIJ Ink Information (page 8)
-  Ink Ok (page 8)
-  Ink Low (page 8)
-  Ink Error / Tag lost (page 8)
-  Access Level: Admin (page 8)
-  Access Level: Operator (page 8)
-  Access Level: Locked (page 8)
-  Ink Usage Estimate (page 14)
-  Bookmarks (page 13)
-  Apply changes (page 11)
-  Simulate print start: Edge trigger (page 14)
-  Simulate print start: Active level (page 14)



Select layout for print (page 19)



Create new (layout) (page 19)



Modify (layout) (page 19)



Create a copy (page 19)



Rename (page 19)



Delete (page 19)



Ok



Cancel



Modify object (page 23)



Move object (page 23)



Bring to front / Send to back (page 23)



Layers/List of objects (page 23)



View options / Zoom (page 23)



Dual-head view: Overlay / Stacked (page 22)



On-screen keyboard



Save (page 21)



Save As... (page 21)



Refresh / Eject USB-Disk (page 41)



USB-Serial barcode scanner connected (page 59)





Network remote client connected (RNSoft for windows or PLC)



Update Firmware (page 41)



Import True Type Font (page 41)

-  Static text object (page [24](#))
-  Counter text object (page [26](#))
-  Date/Time text object (page [27](#))
-  Shift-code text object (page [28](#))
-  Database-Text object (page [29](#))
-  External-Text object (page [32](#))
-  Barcode object (page [37](#))
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-  Shape objects (page [39](#))
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-  General settings (page [46](#))
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-  Continuous print settings (page [57](#))
-  Network settings (page [58](#))
-  Internal clock (page [58](#))
-  Serial port settings (page [59](#))
-  Emergency service (only for RN Mark Technical Support, page [58](#))

