USER GUIDE

Evolis Driver on MACINTOSH®

FOR END-USERS

For more information, please visit www.evolis.com

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1. Introduction

This guide is intended for end-users with the following objectives:

The version of driver documented in the current **User Guide** is the setup version **6.6.2.138**.

The .pkg file is available on Evolis website: www.evolis.com/drivers-support

Evolis printers that are managed by the driver are the following:

- Primacy, Zenius, Elypso, KC100, KC200, KM500B, KM2000B
- Badgy100 and Badgy200
- Edikio Access, Duplex and Flex



Features of the driver may vary depending on the type of printer you use.
Evolis printers have more or less possibilities depending on their type.
This **User Guide** describes all possible features offered by the range of printers listed above.

2. Copyright and Trademark

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3. How To Use This Guide

3.1 Informative Icons

The following icons are used in this manual to highlight important information:

	Information providing further details or depth about specific points in the main text of the guide.
	**Warning** Actions that are prohibited or dangerous to the product (loss of data, for example) or the user (safety matter, for example).
	The term attached to this icon has a definition in the glossary provided in the present guide.

USE CASE	Examples of use cases are provided throughout this user guide. They will help you understand how to use Driver Setup and print your cards the best way.
	Indicates that a video showing the procedure is available on www.evolis.com website.

3.2 Glossary

Term	MEANING
Anti-aliasing	Type of smoothing technique that is specifically focused on text areas and pictures. This settings is only available in Evolis card design softwares (Cardpresso, Badge Studio, Edikio Price Tag).
Black dot	Dots of the design that have RGB colors <253 and are printed with the K panel only. The threshold detected by Evolis driver for black and colored dots is RGB 253. Colored dots have RGB color ≥253 and are printed with the YMC panels. If necessary, this threshold may be changed in your card designing software.
Clustered dithering	Halftoning technique that converts a color image to one made up of group of dots. It produces a good quality image rendering at distance
Composite Black	Process used to print the black color with a mix of colors: yellow, magenta and cyan
Dithering	Halftoning technique in which dots or pixels arrangement allows to perceive more colors than are actually used.
dpi (dot per inch)	Number of dots that are placed in one inch on a card design.
Duplex	Mode linked to a printer equipped with a flip-over module Automatic front and back-side printing is possible
Dye sublimation	Printing process in which ink is transformed in gas and spread on the card surface. Dyes of three separate color panels (YMC or Yellow, Magenta, Cyan) are used to create millions of colors within the spectrum, from white to (non-pure) black. Printing quality is dependent of the card quality, plastic composition and density.
Encoding	Process to save data on a specific support (magnetic stripe, contact/contactless chip). No confusion should be made with the term "encryption".

Term	MEANING
	Some encoding systems are called "dual" : it means they offer contact as well as contactless encoding CL means "contactless" CNT means "contact"
Encryption	Process to replace data by another data that can be encrypted/decrypted through a specific key. For example, the key may be as follows: replacing the letter by the letter +2 in the alphabet: A=C, B=D, C=E, D=etc.
Halftoning	Process that simulates shades of gray by varying the size of tiny black dots arranged in a regular pattern (only available with a black ribbon)
Hologram	Advanced form of photography that allows an image to be recorded in three dimensions
LCD (Liquid Crystal Display)	Color touchscreen attached to the Primacy printer that informs the user about the operational status of the printer and enables to change the most common settings. It also includes a switch on/off button to command the printer.
Native Driver	Simplified printer driver that is displayed and available by default through the computer Control Panel or directly from an application. CUPS on MACINTOSH®
Native driver printing settings	Evolis graphical interface of the native driver, available in all three modes but particularly useful in Minimal Mode. The list of settings in this interface is limited, but they are the default settings when the printing job is not performed from an application with embarked settings
Overlay / Varnish	Film applied on the card after the printing process, to protect the card from UVs and to increase resistance of cards to scratching and fading up. It is applied through the "O"panel of the ribbon.
Panel	In a ribbon, sequence of colors that is repeated. The sequence of colors depends on the type of ribbon used. For example, in a five-panel ribbon, the colors are the following: yellow, magenta, cyan, black, overlay
PC/SC	Standard for smart cards and card readers. A smart contact card is a CR80 card with an integrated circuit.
Printing	Process made by the printer to apply the design on the card. Various techniques are used: - dye sublimation combined and thermal transfer - retransfer (only possible with Evolis retransfer printers)
Ribbon	Ink support film made of various panels or a continuous one, depending on the ribbon type. The film support can be a cassette or simple rolls.

Term	MEANING
	With Evolis High Trust® ribbons, a zone code provides authentication and identification of each ribbon. During the printing process, dye sublimation and thermal transfer techniques are used.
Simplex	Printer with no flip-over module integrated or activated. Front and back-side printing is possible, but the back-side print requires a manual action of the user
Smoothing	Technique used to make more even the curbs on the pattern, so as to get a clearer print rendering on the card.
Thermal transfer	Printing process in which ink is heated up to produce plastic resin and transferred onto the card surface. K (black) and O (overlay) panels are applied through this technique. For example, monochrome resin is applied on a YMC color design to produce a dense black text or a barcode. Card quality is less critical than for the dye sublimation process.
Varnish (used for lamination)	Type of lamination film available in a thickness that enables a two-year durability of the card This type of film: - covers the full surface of the card (edge-to-edge covering) - is compatible with PVC or composite cards - is not compatible with smart contact cards or magnetic stripe cards
YMCKO	Type of ribbon that contains the following panels: Yellow, Magenta, Cyan, Black, Overlay

4. Minimum Requirements

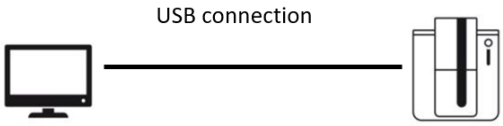
OPERATING SYSTEM	MacOS 11 (Big Sur) MacOS X 10.15 (Catalina) MacOS X 10.14 (Mojave) MacOS X 10.13 (High Sierra) MacOS X 10.12 (Sierra)
AVAILABLE SIZE ON DISK	≥ 13,2 MB
FIRMWARE	Last firmware available on Evolis website  The driver and the firmware applicable to your printer are closely linked. Please always make sure that the firmware installed on your computer is up to date.
RIGHTS	Administrative rights are compulsory on your computer.
NETWORK OPTIONS	USB, Ethernet or Wi-Fi connection (refer to section Configuration of the Connection) 17

5. Possible Configurations

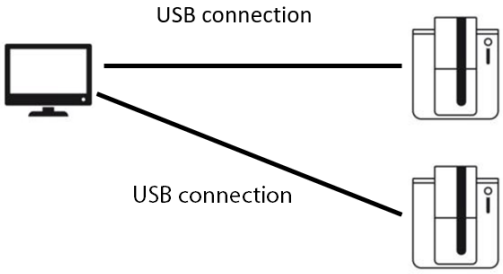
Some printers managed by the driver have a USB port as well as an Ethernet port and some of them have a USB port only (Badgy 100/200 and Edikio Access).
Only Primacy printer has an additional Wi-Fi option.

The type of port used is different according to the configuration:

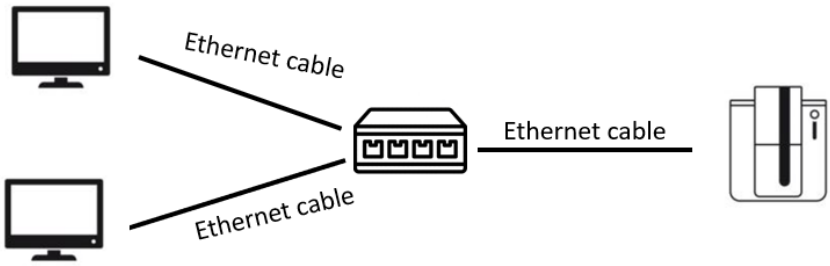
- one printer on one computer



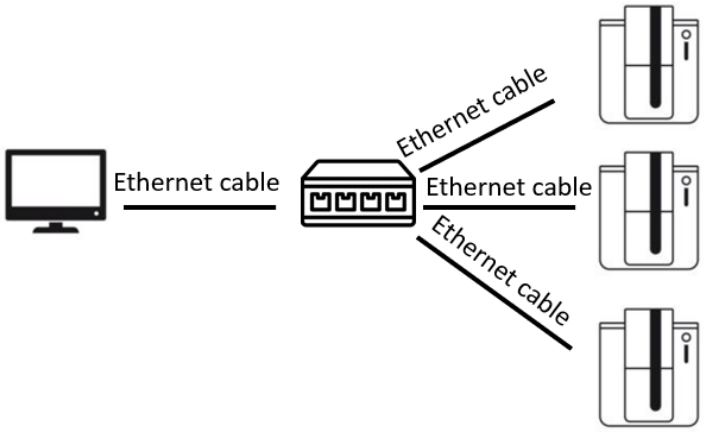
- various printers on the same computer



- printer shared between various computers



- through a switch: one or various printers with the Ethernet connection, on the same computer or various computers



For more details on the installation and configuration steps, see section Configuration of the Connection 17.

6. Driver Installation

Please refer to section Minimum Requirements before starting the installation.

Plug the printer to the computer and make sure you are logged with the administrator rights.

6.1 Finding the Driver Setup File

Step 1: Go to the Evolis website, click on **Drivers&Supports** and select the printer that you are currently using, then click on **Drivers&Firmware**.

NOTE

The driver setup file may also available on the CD-ROM/USB stick you were provided in the packaging of the product you have purchased from Evolis.
However, when you want to install the last version of the driver setup, you need to download it from Evolis website as explained in the first steps.

Evolis Printer Driver is made available through a .pkg file.

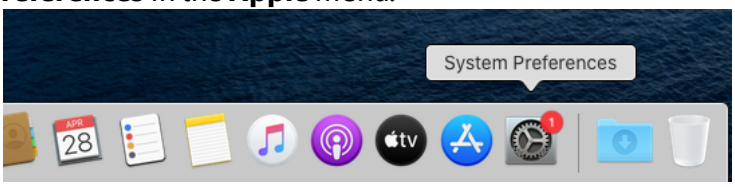
Step 2: Click on the link called **Setup Version** to download it.

Step 3: Go to next section to run the wizard.

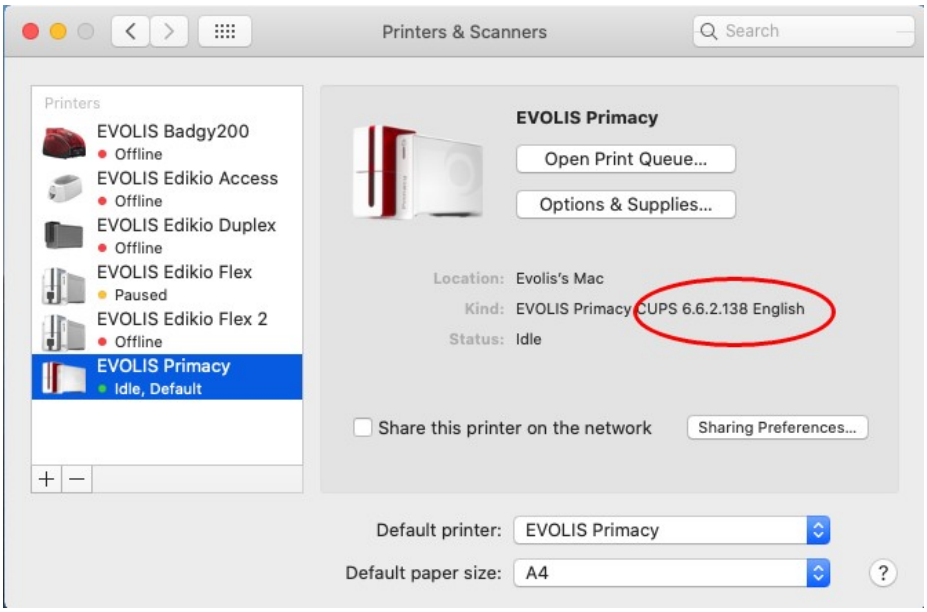
6.2 Checking Your Current Driver Version

Before you decide to change the driver on your computer, you can check your current driver setup version as follows:

Step 1: Click **System Preferences** in the **Apple** menu.



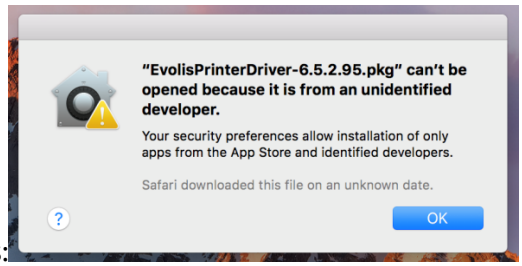
Step 2: Click **Printer & Scanners**.
Select the printer in the list and check the version on the right part:



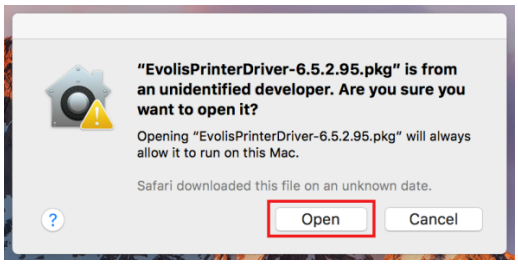
6.3 Running the Installation Wizard

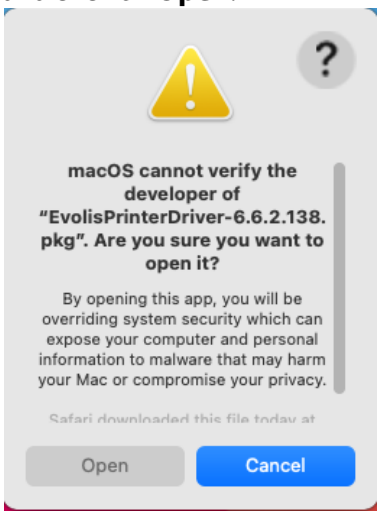
Step 1: From the file explorer, right-click on the .pkg file to open it.

If the following error message appears:

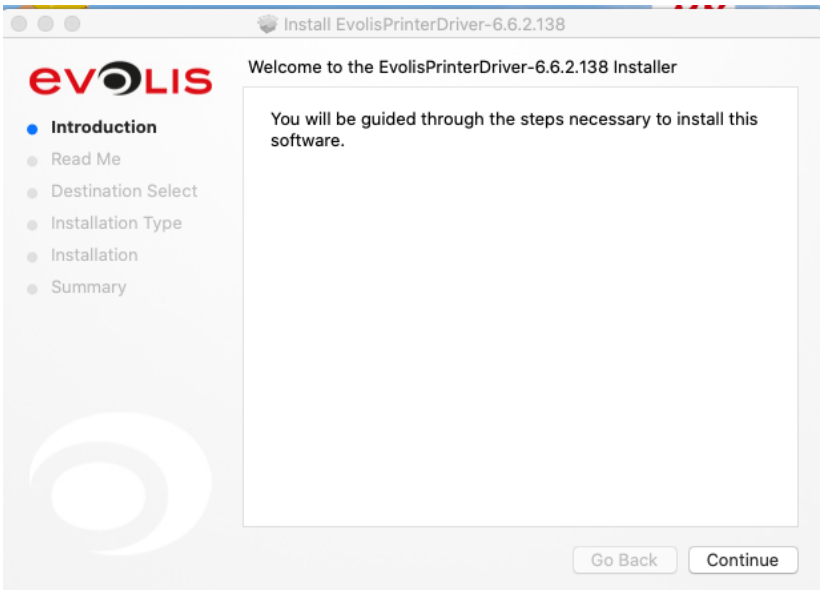


Hold the **command** key while clicking on the file and click on **Open**:

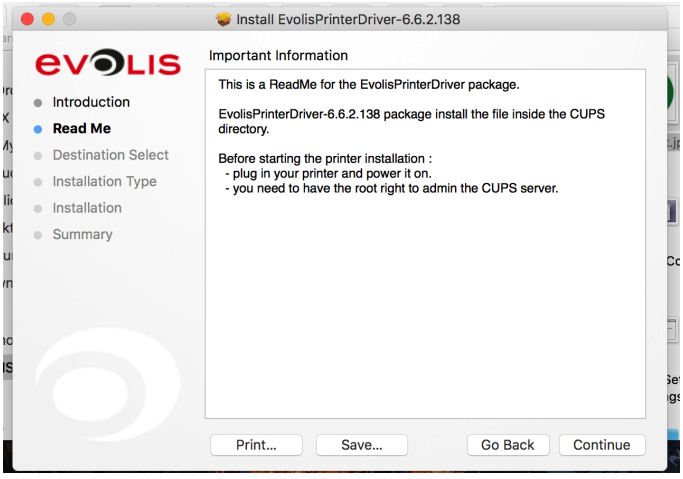


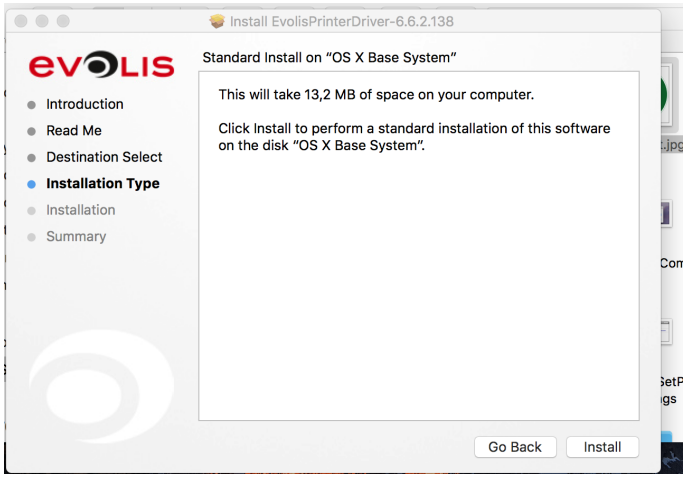


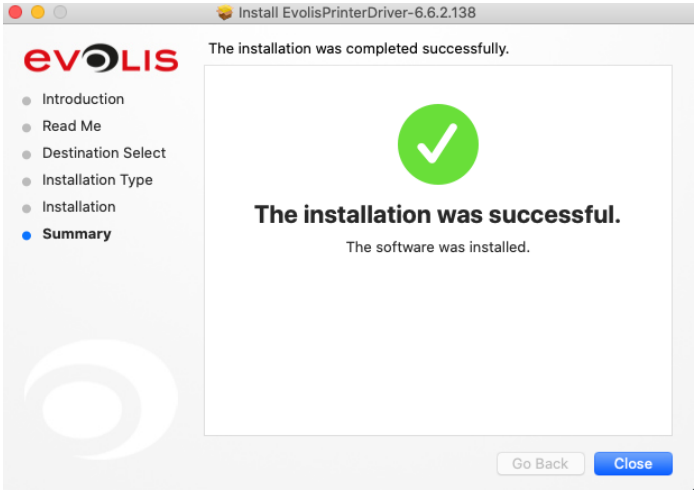
Step 2: Run the wizard to install the CUPS driver.



Step 3: Plug-in your printer power supply to the mains socket .
From the wizard, click on **Continue**.





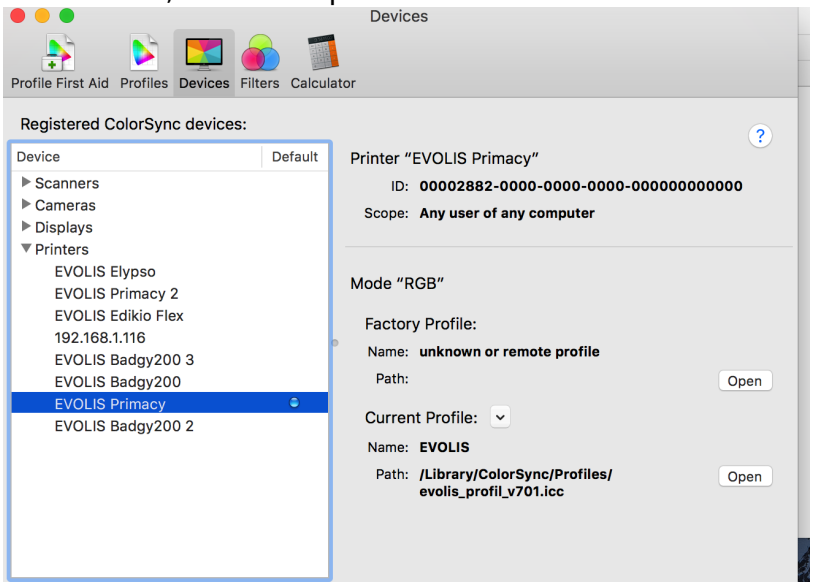


Go to next steps:
- USB Connection 17 and Assigning the Driver Version 26
- or LAN Connection 17 and Assigning the Driver Version 26

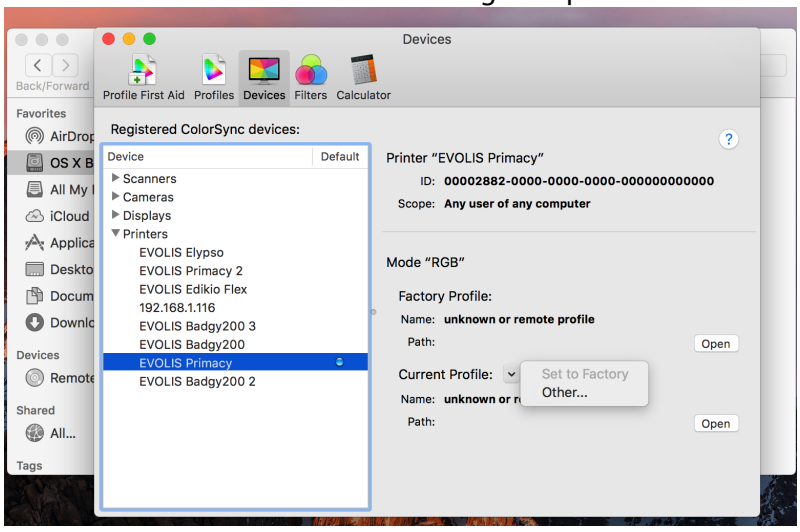
7. Installing Evolis Color Profile

Step 1: Go to **Applications**>**Utilities**>**ColorSync Utility**.

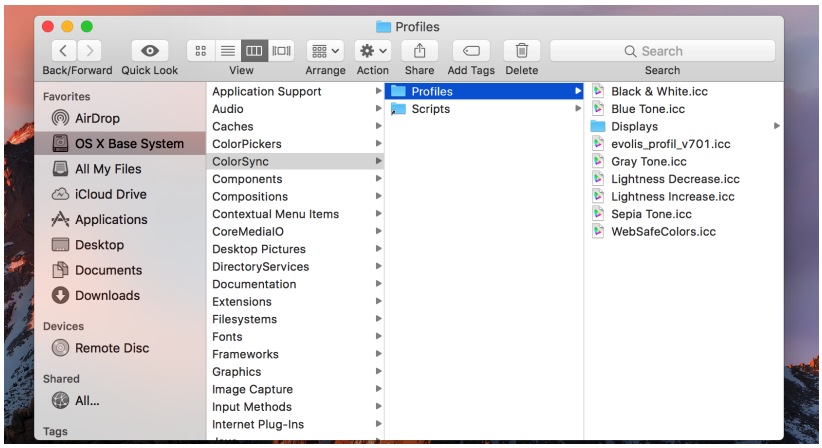
Step 2: From the list on the left, click on the printer.



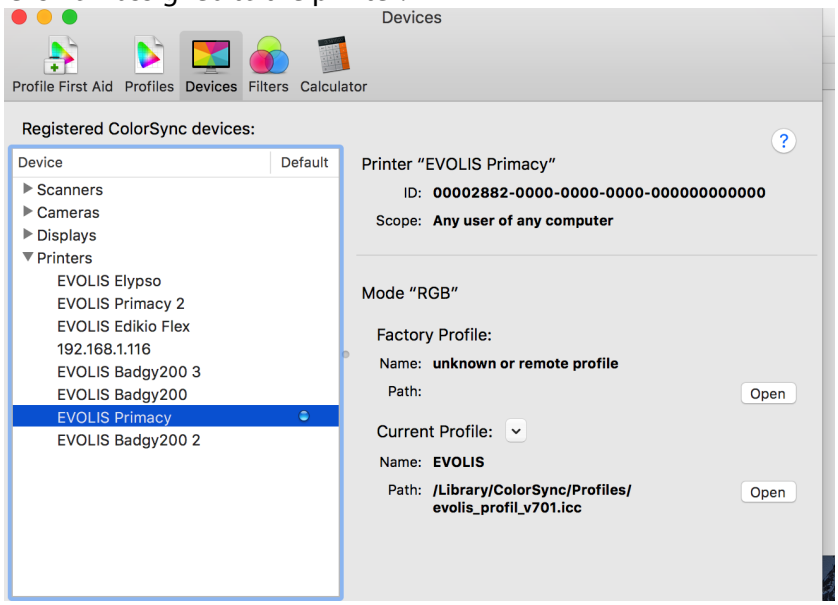
Step 3: Click on **Current Profile** and select **Other** to assign the profile.



Step 4: Search for the profile in the following path:
System>**Library**>**ColorSync**>**evolis_profil_v701.icc**



Step 5: The profile is now assigned to the printer.



8. Configuration of the Connection

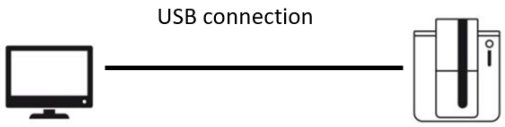
This section explains how to configure your printer(s) and computer(s) through different types of connections (point-to-point or network) and communication (USB, Ethernet, Wi-Fi).

You may have some additional information in the following document: **Network Administrator Manual**.

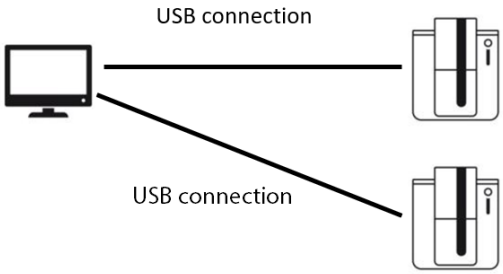
8.1 USB Connection

This type of connection is the most frequently used.

You can use it with:
- one printer



- various printers: depending on the number of USB ports on your computer

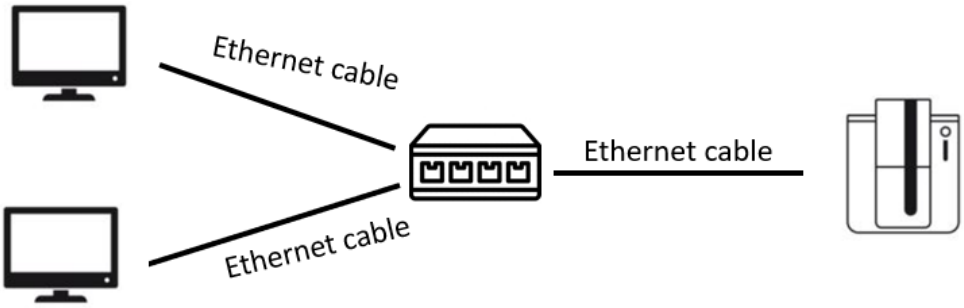


If you use a USB switch, please be aware that all models are not supported by Evolis configurations today.

8.2 LAN Connection

This type of connection uses Ethernet ports and cables.

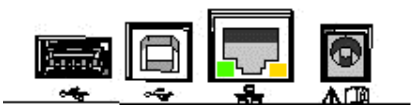
It is used when a printer is shared on various computers, or various computers use share the same printer.



8.2.1. Checklist Before Starting

- Do not plug at the same time the USB cable and the network cable.
- Firewall and Antivirus : must be set to authorize communication on port 9100 (Evolis raw printing port). You must have at least “power user “rights to perform Evolis network printer installation.
- IPV4 protocol: Evolis printer is compliant with IPV4 communication protocol only (not IPV6).
- Multicast: pay attention that the protocol used to discover the printer on a network is multicast so then the routing table on your network equipment (router, server …) must be configured accordingly to your network architecture to allow communication.
- Broadcast, HTTP, HTTPS and ICMP dedicated ports must be allowed.
- Led Status at the rear of the Evolis printer must be as in the following example:

Primacy example



Green LED
On = 10Mbit/s
Off = 100Mbit/s

Orange LED
On = Printer connected to network
Blinking = Printer connected and network traffic is working

8.2.2. Setting a Fixed IP Address on the Printer

By default, printers do not have a configured IP address.
You need to configure it manually.

8.2.2.1. Collecting the Required Information

Make sure you have access to the following information:

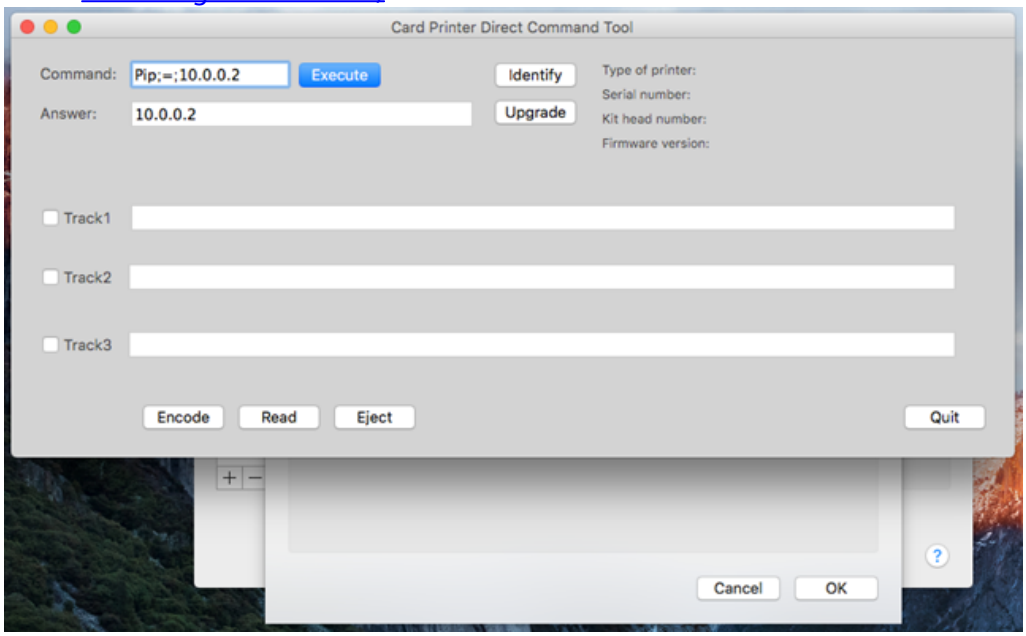
- IP address of your computer network card (ex: 192.168.1.23)
- Subnet mask of your computer network card (ex : 255.255.255.0)

NOTE In most situations, you will need to request those settings to IT department or technical team of the company where you plan to install the Evolis Network printer.

8.2.2.2. Configuring your Printer IP Address

For this first step, your printer must be connected to the computer through a USB cable.

Step 1: To set the address and other settings, use the Card Printer Direct Command Tool (please refer to section Accessing the ComTool)



Step 2: send commands in the following order:

1. **Rip** to read the current IP address of the printer and check the compatibility with your computer IP address
2. **Pip;192.168.0.1** (example)
3. **Penm;255.255.255.0** (example) to set the Ethernet subnet mask / Renm to read it
4. If necessary, **Pegw;**……to set the Ethernet gateway and **Pews**; …… to set the Ethernet WINS server.

Step 3: You can now unplug the USB cable and connect the Ethernet cable.
Now go to Finishing the Printer Configuration 22.

8.2.3. Setting a DHCP Address on the Printer

You may want to use the DHCP configuration if you use a switch to connect one or various printers (and/or computers) to a DCHP server (see section Using a Switch).

8.2.3.1. Configuring DHCP address

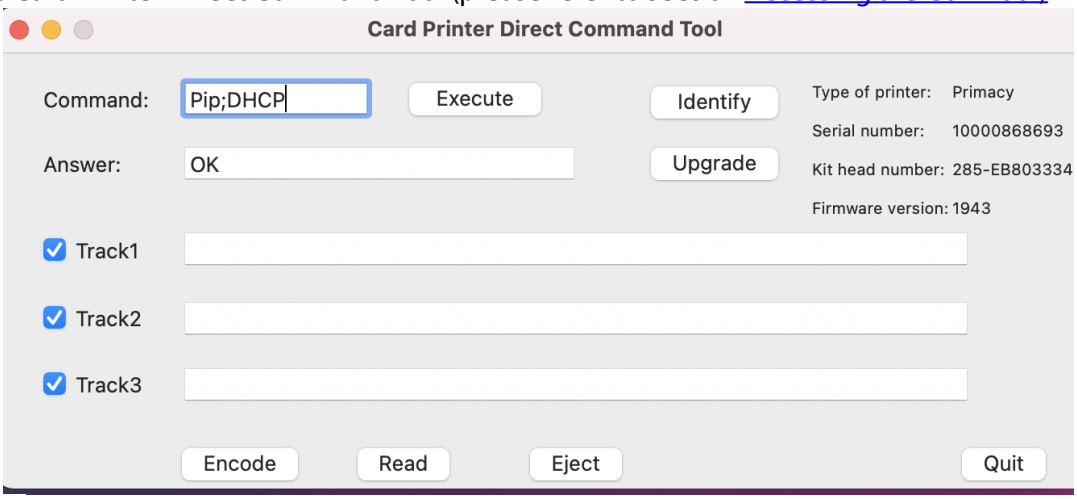
By default, Evolis printer are configured in DHCP mode. But if you have already changed this mode into a static IP address and you want to go back to a DCHP adress, then follow the procedure below.

Step 1. Connect printer and computer through the USB cable. The EPS must be installed in Minimal Mode on the computer(s).

Step 2. Configure the printer in DCHP mode. You can choose the configuration that best suits you:

Option #1: Set the address manually

Use the Card Printer Direct Command Tool (please refer to section Accessing the ComTool)



Be extremely careful with the characters. The presence/ absence of spaces and capital letters is important.

Enter the commands:
2. type **Rip** to read the IP address
3. enter **Pip;DHCP**
4. Enter **Rip;1**.The answer must be [IP address] Auto (see the example below)

5. to configure the subnet mask , enter **Penm;255.255.255.0** *(example)*

Option#2: Reset factory configuration

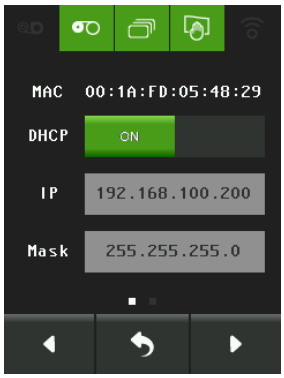
- From the **Comtool:**

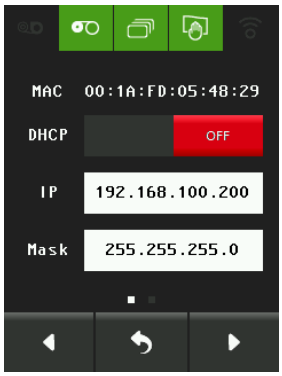
Type Rmp;E

It will reset the DHCP configuration and disable the Wi-Fi option (if available)

- You can also reset the configuration through a long push on the switch on/off button of the printer.

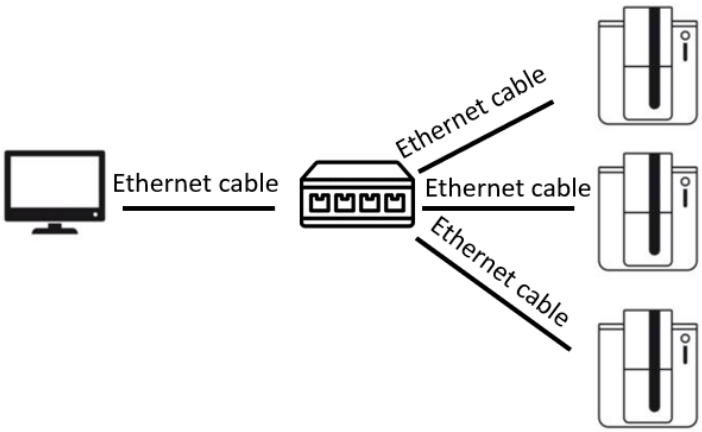
Option #3: Enable DCHP mode through the LCD screen

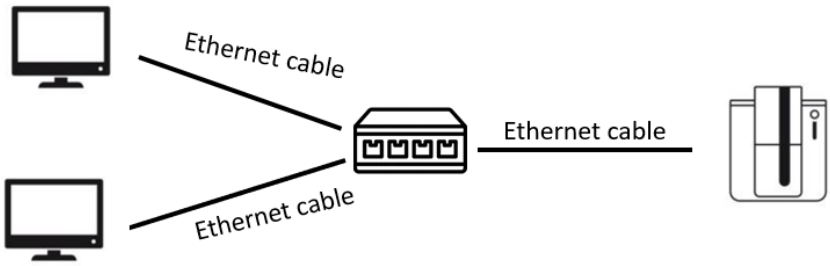


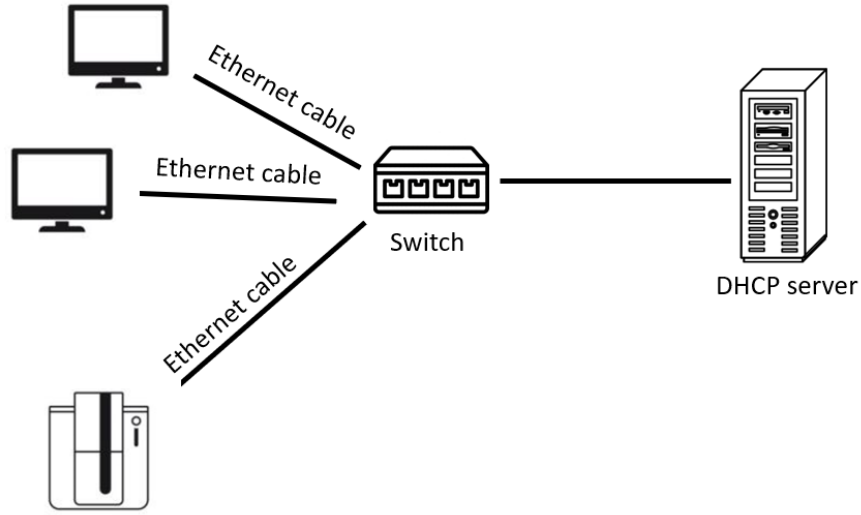


Step 3: Unplug the USB cable and install all the hardware equipment (please refer to diagrams in section Using a Switch). Make sure the printer is switched on and the Ethernet cables are plugged. Make sure to retrieve the IP address provided by the DHCP server to the printer. Then go to Finishing the Printer Configuration 22.

8.2.4. Using a Switch







Use the:
- DHCP protocol if your switch is connected to a DHCP server (Setting a DHCP Address on the Printer) 20
- fixed IP address otherwise (Setting a Fixed IP Address on the Printer) 18

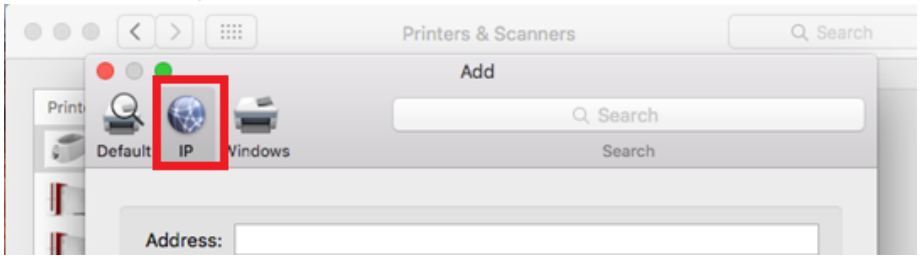
8.2.5. Adding the Printer to the List

Once you have set the printer IP address on the printer, you need to add the new printer in the list.

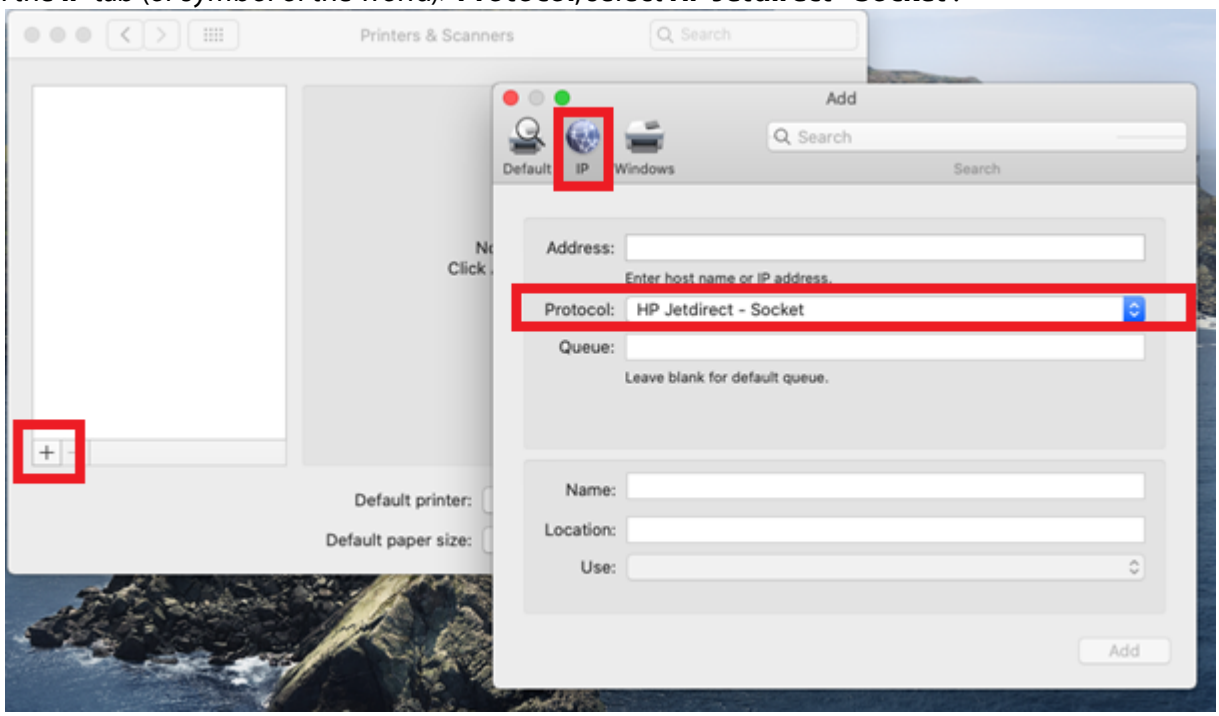
Step 1: Open the **Apple** Menu to access to the **System preferences>Printers & Scanners**:



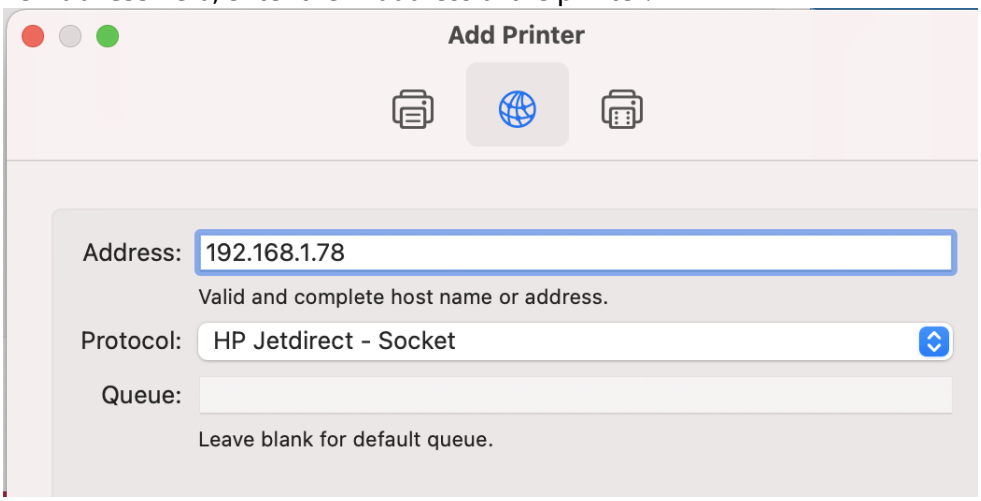
Step 2: Click on **+** to add the printer.



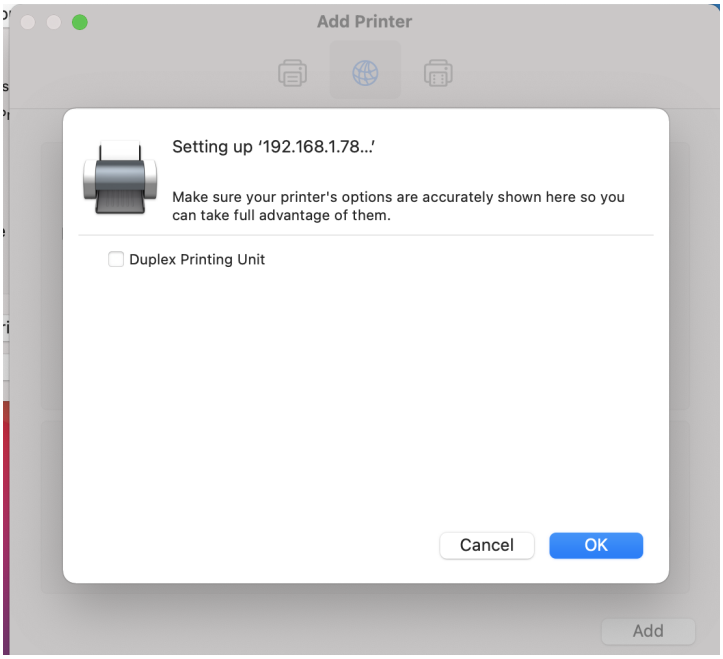
In the **IP** tab (or symbol of the world)>**Protocol**, select **HP Jetdirect - Socket** :



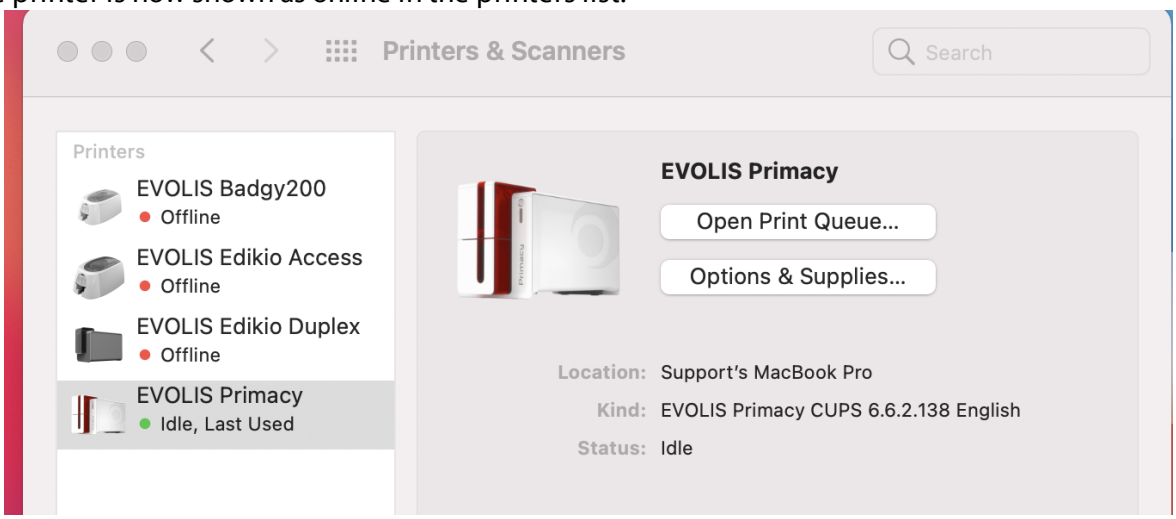
Step 3: In the **Address** field, enter the IP address of the printer.



Click on **Add**, then **OK.**



The printer is now shown as online in the printers list:



Step 4: Go to Checking Connection With the Printer 25

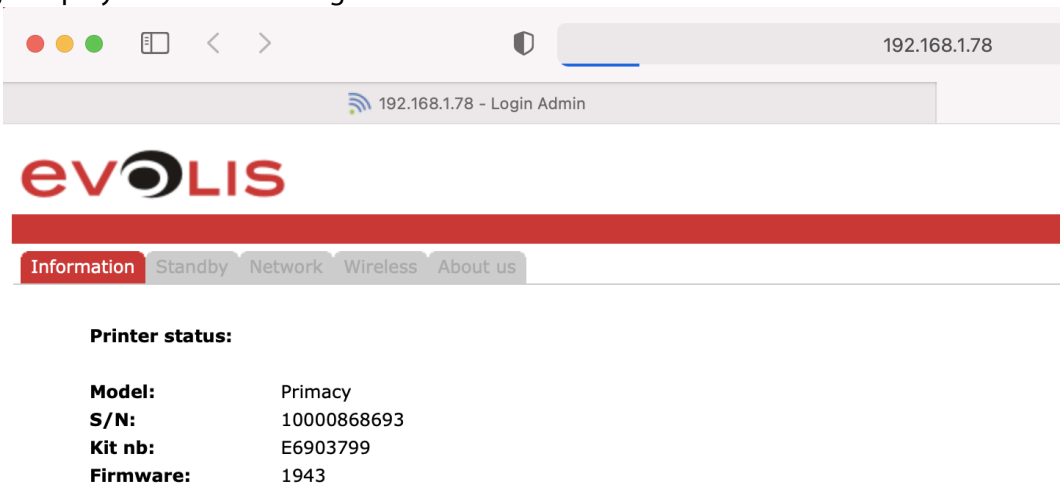
8.2.6. Checking Connection With the Printer

There are two ways to check the connection with the printer:

Option #1

Open a webpage and enter the IP address of the printer in the search field and type on Enter.

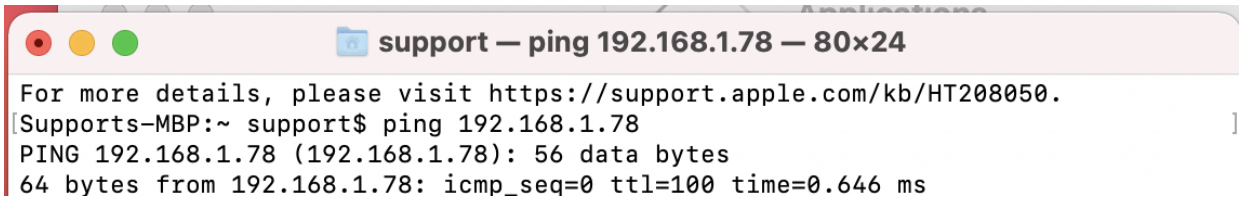
The page displayed is the following:



Accessing this page means that your computer is connected to the printer.
If this page is not displayed, go to Troubleshooting section.

Option #2 Ping Command

Open the **Terminal** (Finder>Applications>Utilities>Terminal) and send the ping command:



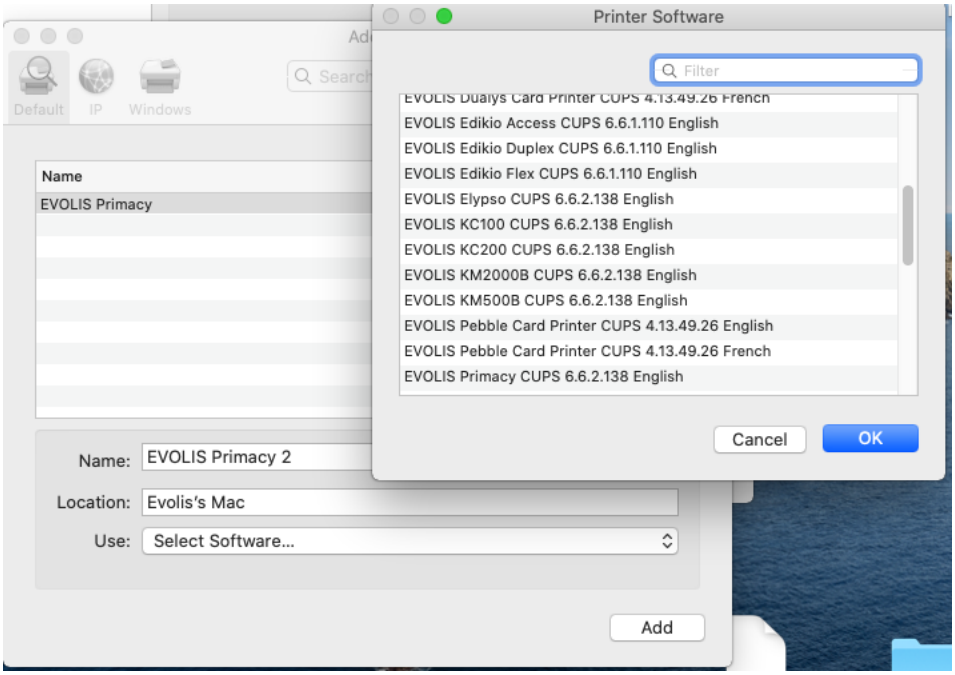
3. If the answer is as written in the screenshot above, then the ping test is positive and the computer can communicate with the printer.
If not, go to Troubleshooting section.

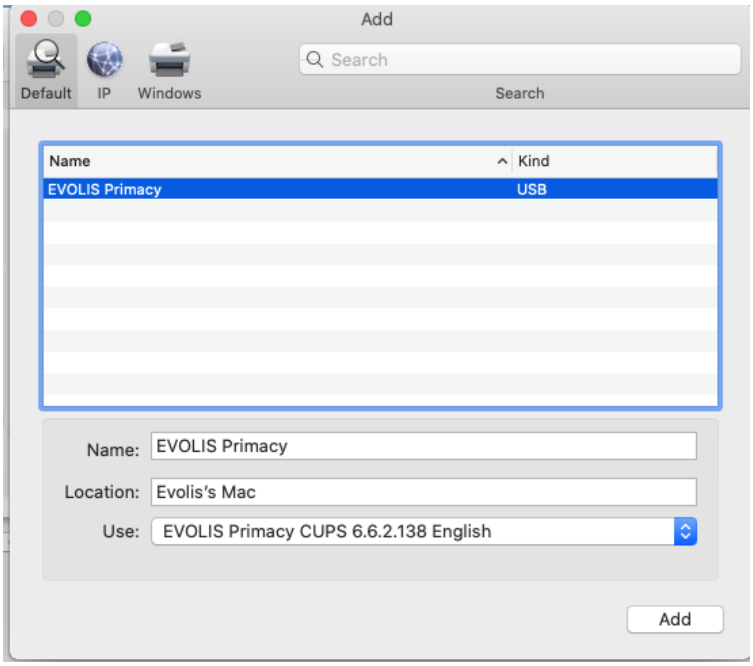
8.3 Assigning the Driver Version

To check that the driver was assigned to the printer that you want to use, go to **System Preferences**>**Printers&Scanners**.

Click on the **+** button.
Click on the name of the printer. Go to **Use**>**Select Software** and click on **Add**.

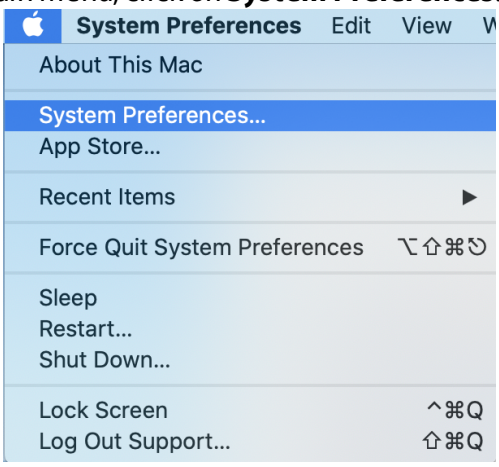
If the the driver assigned is not the adequate one, click on the **Use** field and search for the adequate driver.



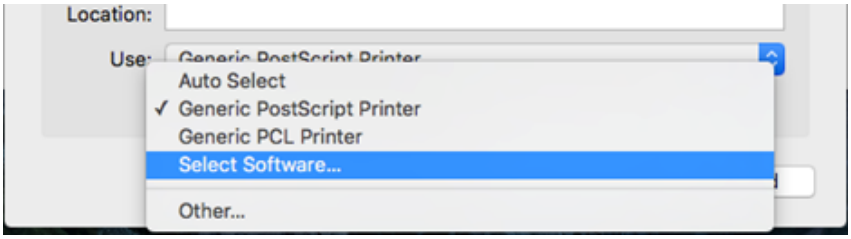


If the driver assigned is not the adequate one, please follow the procedure below:

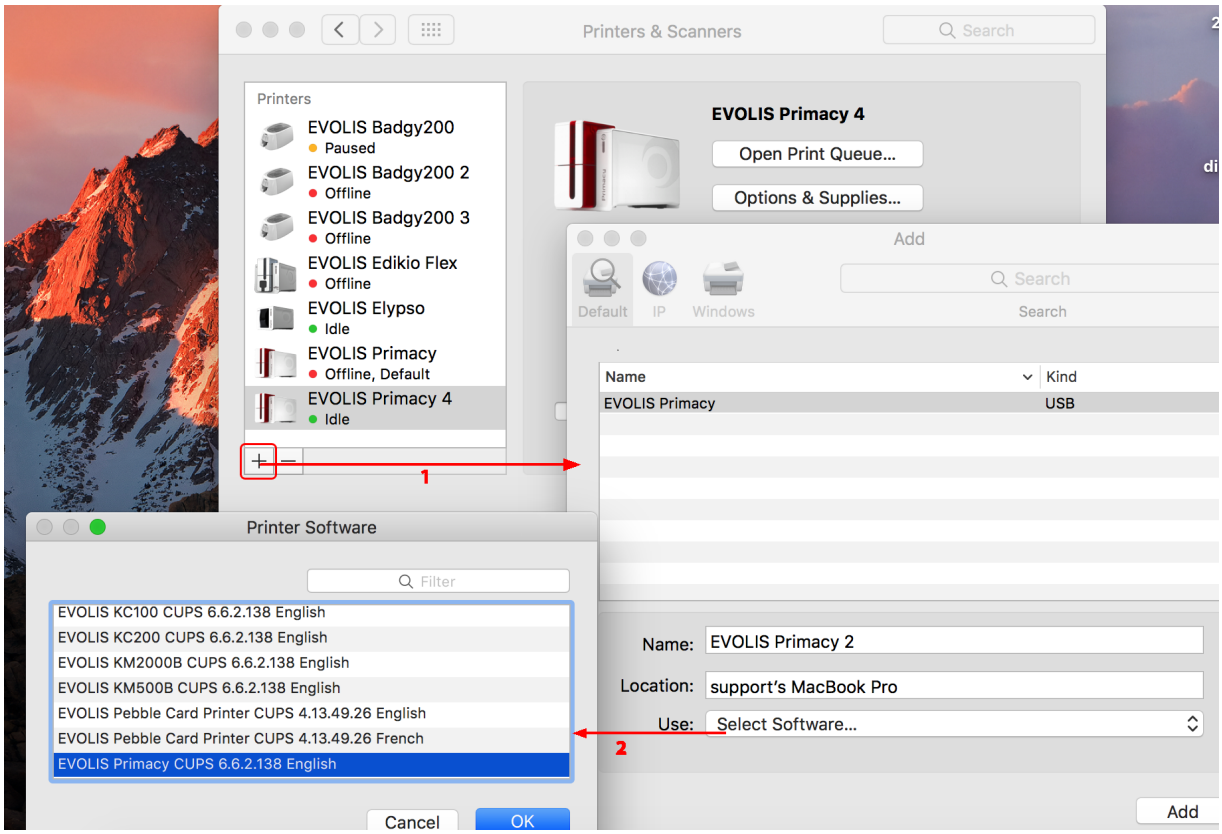
Step 1: From the computer main menu, click on **System Preferences**.



Step 2: Select the current printer and click on the + button .
Click on **Use**>**Select Software.**



Then select the adequate version and click on **OK**.


Printers & Scanners
Search
Printers
EVOLIS Badgy200
Paused
EVOLIS Badgy200 2
Offline
EVOLIS Badgy200 3
Offline
EVOLIS Edikio Flex
Offline
EVOLIS Elypso
Idle
EVOLIS Primacy
Offline, Default
EVOLIS Primacy 4
Idle
EVOLIS Primacy 4
Open Print Queue...
Options & Supplies...
Add
Default
IP
Windows
Search
Search
Name
Kind
EVOLIS Primacy
USB
1
Printer Software
Filter
EVOLIS KC100 CUPS 6.6.2.138 English
EVOLIS KC200 CUPS 6.6.2.138 English
EVOLIS KM2000B CUPS 6.6.2.138 English
EVOLIS KM500B CUPS 6.6.2.138 English
EVOLIS Pebble Card Printer CUPS 4.13.49.26 English
EVOLIS Pebble Card Printer CUPS 4.13.49.26 French
EVOLIS Primacy CUPS 6.6.2.138 English
Cancel
OK
Name: EVOLIS Primacy 2
Location: support's MacBook Pro
Use: Select Software...
2
Add

9. Accessing Printing Settings

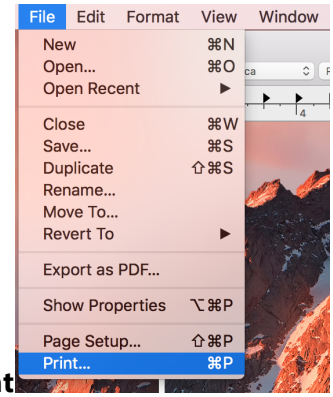
There are two ways to access the settings:

Option #1: Your card designing application allows direct access to the driver settings

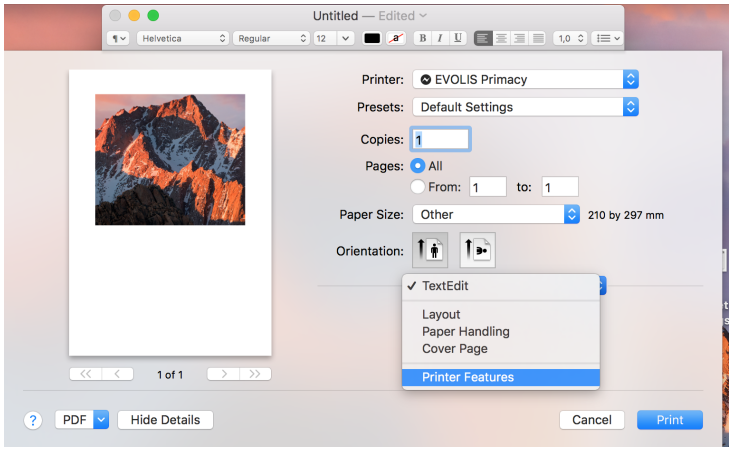
Step 1: From the software, click on **Print**.

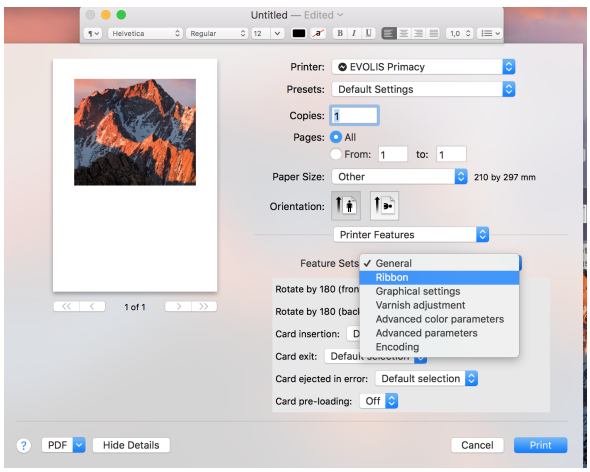
- **Access in TextEdit:**

Click on **File**>**Print**



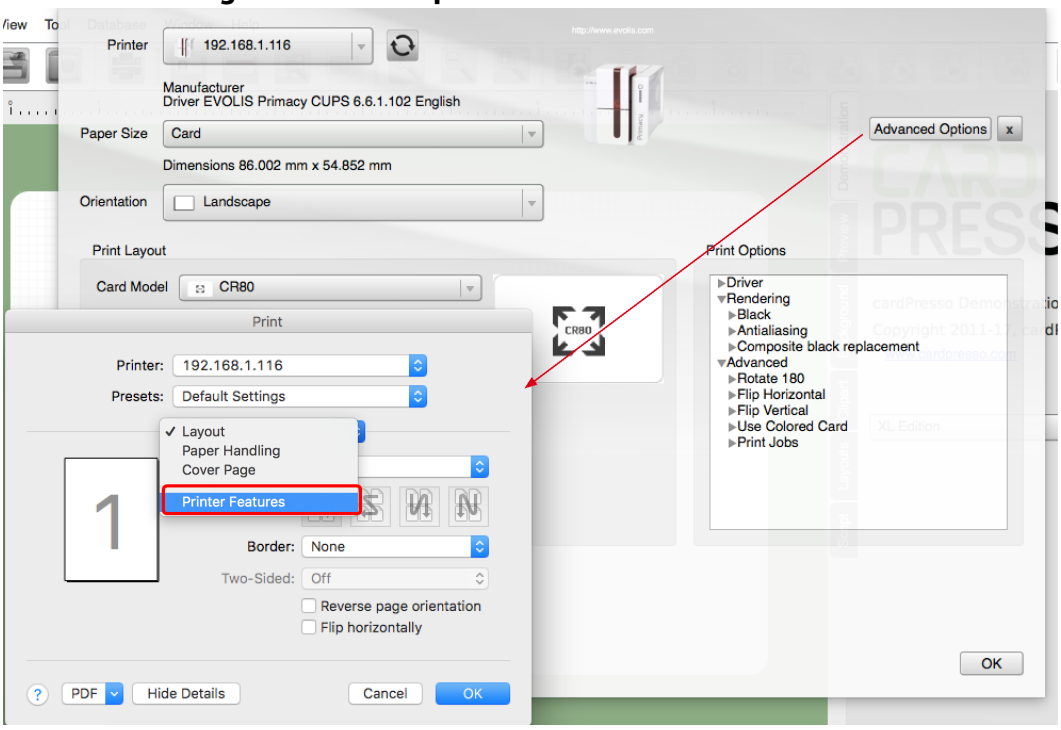
If necessary, click on **Show Details** and select **Printer Features** under the **Orientation** field:





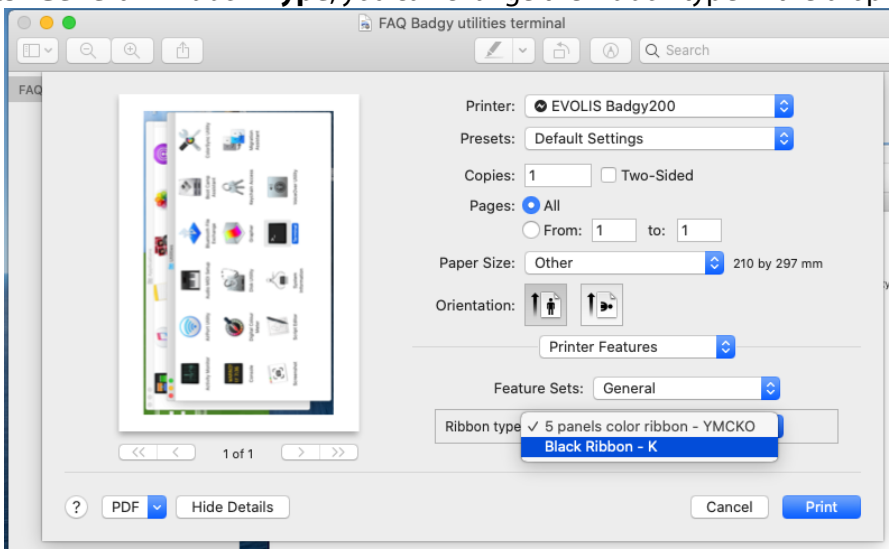
- **Access in Cardpresso:**

Go to **Print**>**Print Settings**>**Advanced Options**>**Printer Features**



For example, to change the ribbon settings:

In **Feature Sets**>**General**>**Ribbon Type**, you can change the ribbon type in the drop-down menu:



Step 2: To save the driver settings, go to **Presets**>**Default Settings** and **Save Current Setting as Preset**…

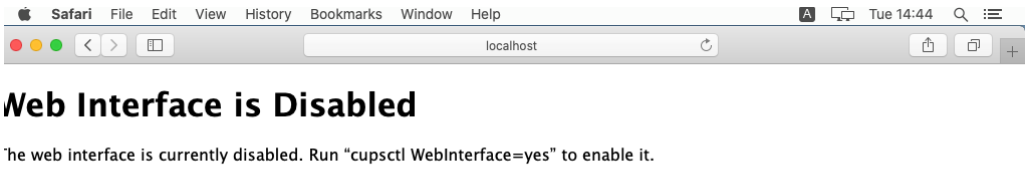
You will be able to use the **Last Used Settings** to print your future jobs.

Option #2: The card designing software does not allow direct access to the driver settings

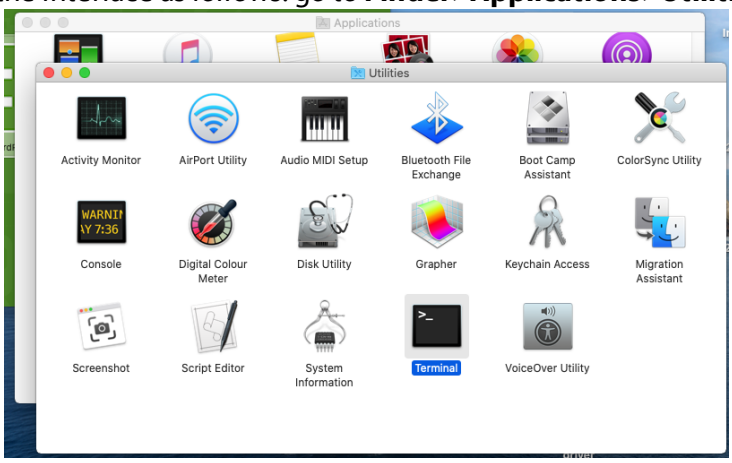
You can access the driver through a webpage interface (called CUPS). Please follow the procedure below:

Step 1: Open a webpage and type in the following address: localhost:631/admin

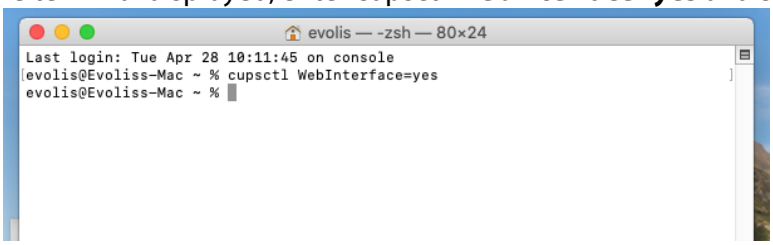
Step 2: The web interface may be disabled, as shown below:



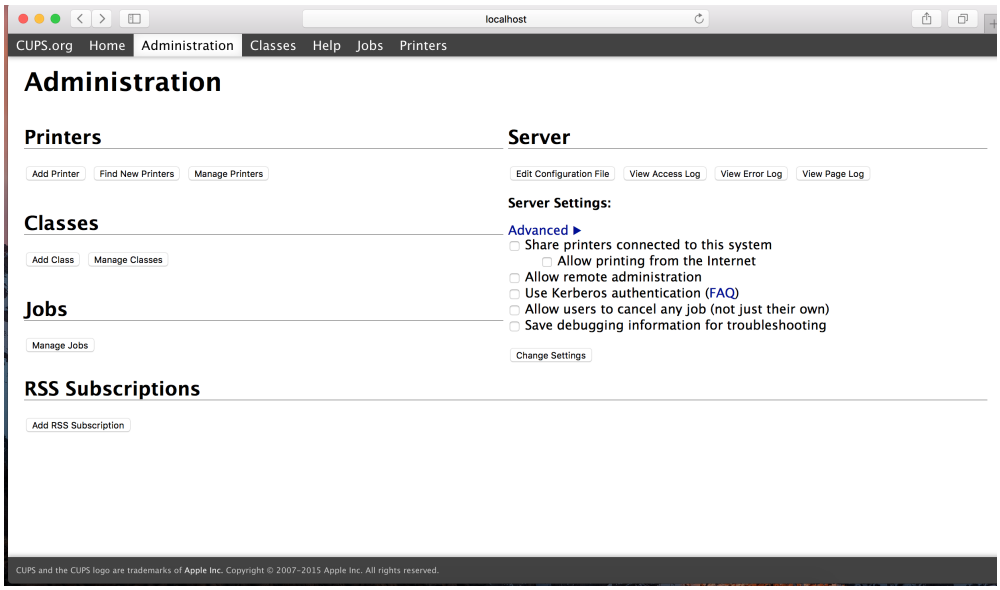
In this case, activate the interface as follows: go to **Finder**>**Applications**>**Utilities**>**Terminal.**



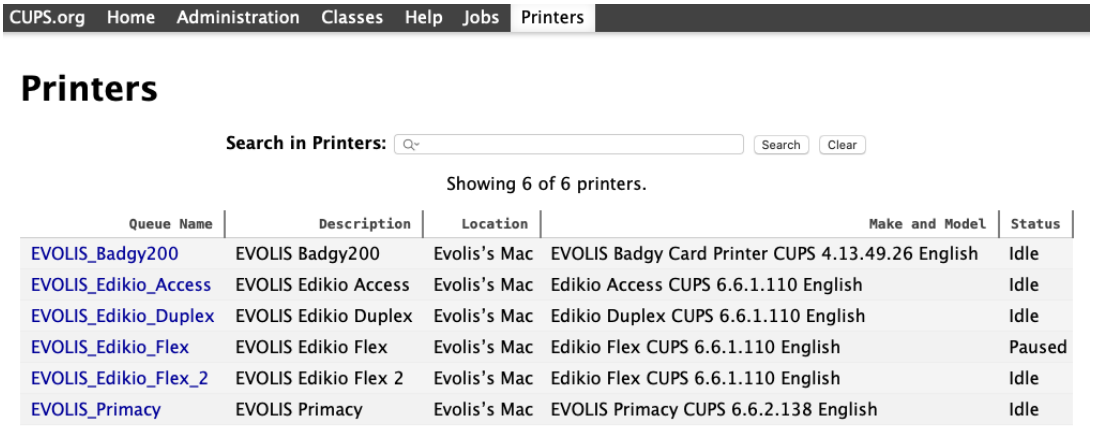
In the interface of the terminal displayed, enter cupsctl **WebInterface=yes** and click on **Enter**



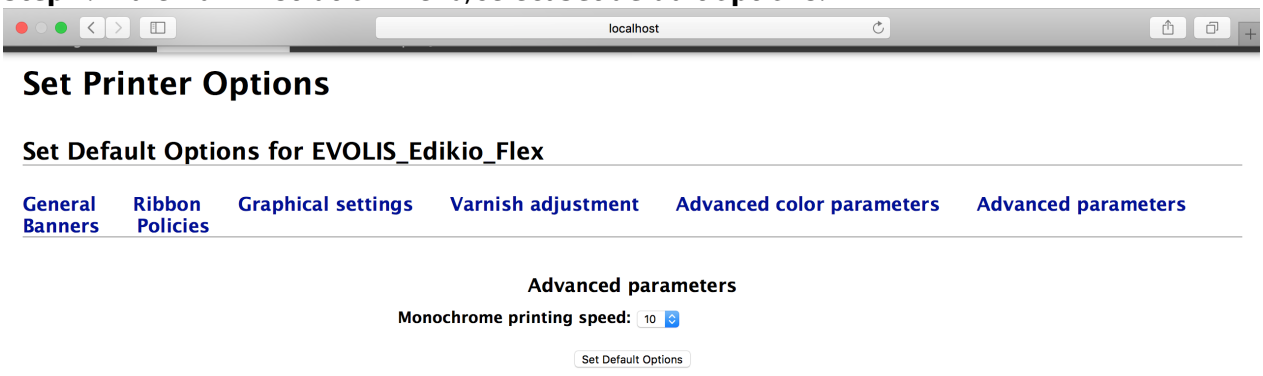
Step 3: The web interface is displayed:



Go to **Printers**>**Manage Printers** and click on the adequate printer:



Step 4: In the **Administration** menu, select **Set default options**:



You can now change the settings as explained in chapter Changing Printer/Lamination Module Properties 33.

10. Changing Printer Properties

The different ways to access printing settings are explained in section Accessing Printing Settings 29
.

NOTE Watch this video to understand better the encoding and printing processes of an Evolis printer: How does a plastic card printer work?

Various softwares may be used to create a design and patterns on the card that you want to print:
- Evolis © applications: Cardpresso, Badge Studio , Edikio Price Tag, etc
- Macintosh® applications: TextEdit.

10.1 General

Collate: this feature is linked to the printing order (if the software used enables it)

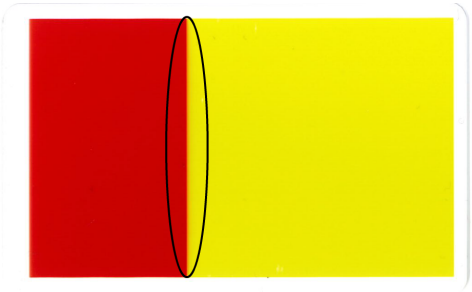
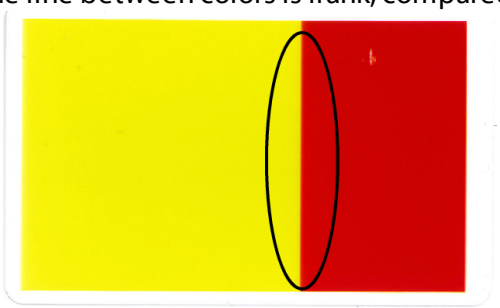
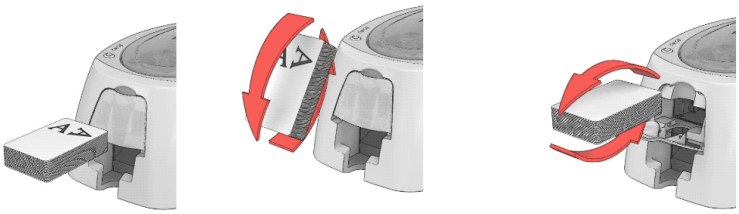
For the other settings, go to the next sections:
- Card Orientation
- Feeder/Hopper

10.1.1. Rotate

Use this feature to change the orientation of your design on the card.

Step 1: Keep portrait orientation if your design is oriented vertically and tick landscape orientation if your design is oriented horizontally.

Step 2: Rotate each side (front and/or back) by 180°: this is especially useful when your design is made of a dark color first and then a lighter color.
In this case, the darker color may bleed onto the light color.
It is also useful when printing with a half-panel ribbon (see section Short Panel Management)

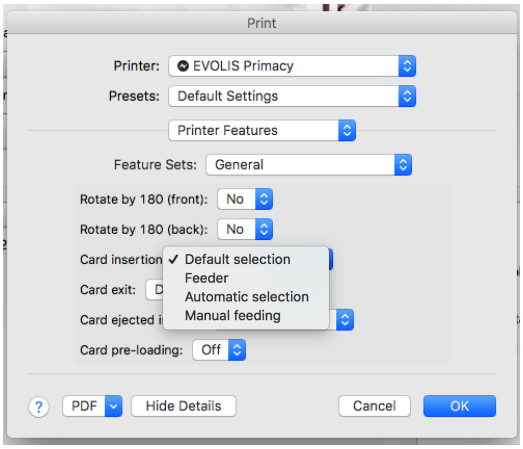
USE CASE #1: dark and light colors	The card contains two colors: red (dark color) and yellow (light color). Printing result when the rotation was not modified by 180°: => the red color has bled on the yellow color, because the first color printed was the darker one  Printing result when the rotation was modified by 180°: => no color bleeding issue, as the first color printed was the lighter one (grey color) The line between colors is frank, compared to the first image: 
USE CASE #2: printing dual-sided cards with a simplex printer (back-side rotation)	To print a dual-sided card on a printer that does not have the duplex module activated, proceed as follows:  

10.1.2. Cards Feeding/Exit

NOTE It is recommended to use default settings, as they are adapted to the current printer. However, for specific printers, changing default settings may be necessary. Details will be provided in the **Use Case** sections.

10.1.2.1. Card Insertion

The insertion of the card in the printer is the first step of the printing process.



Default selection: recommended setting according to the type of current printer
For example, on a Zenius printer, the default option is the card insertion through the feeder, even if manual insertion is also a possibility ("**Manual feeding**" option)

Feeder: the card is fed using the classic feeder

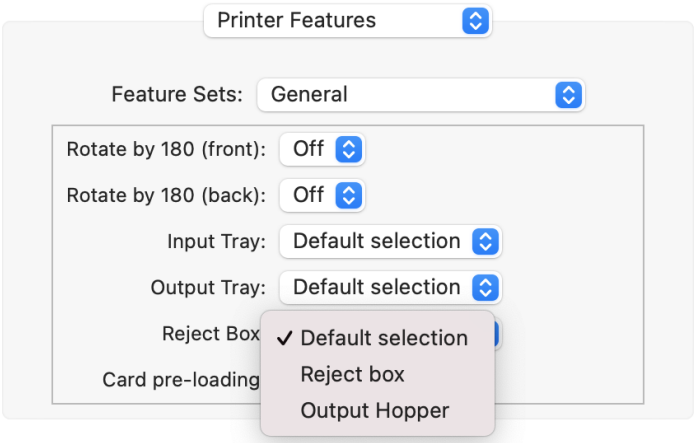
Automatic selection: the card is fed by using either the classic feeder or the manual feeder (as long as your printer has a manual feeder), depending on the presence of the card on any of the feeders

Manual feeding: the card is hand-fed through the manual feeder

USE CASE: using a Zenius printer	This printer has two card-feeding options: - 50-cards input hopper - manual feeder In case you only need to print one card or two cards at a time, you should select **Manual feeding**.

10.1.2.2. Card Exit

The exit of the card is performed at the end of a successful printing process.



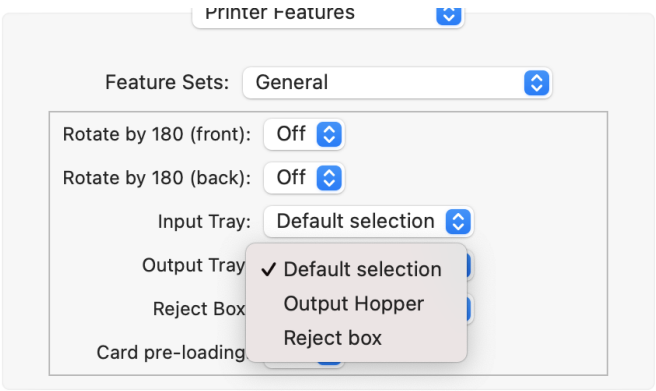
Default selection: recommended setting

Reject box: printed cards exit in the reject box, at the rear of your printer, if it is available.
This option is also necessary when you want to use the pre-loading feature (please refer to section Card Pre-Loading)

Output hopper: printer cards exit in the front output hopper

10.1.2.3. Card ejected in error

The ejection of the card is performed at the end of a failed printing process or upon a user manual action.



Default selection: recommended setting

Output hopper: rejected cards come out in the output hopper, at the front of your printer

Reject box: rejected cards come out in the reject box, at the back of your printer or under it, depending on its design

10.1.2.4. Card Pre-Loading

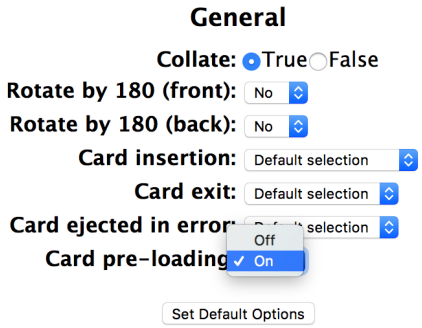
NOTE This feature is only on the following printers, equipped with a reject box: Primacy and Elypso.

Pre-loading means that up to two different cards are used by the printer at the same time:
- one is in the loading phase
- another one is in the printing phase

Pre-loading of the card is used to increase the card-feeding speed, whenever the conditions make it possible.

Two conditions must be met before using this setting:
- the Card exit setting must be defined on **Reject box**
- the ribbon used is a monochrome ribbon

Select **On** to set the pre-loading of the card.



The printing process of the card is faster, as the card is ejected at the back instead of the front: its path inside the printer is only one way.
In this case, you should install an output hopper on the printer:



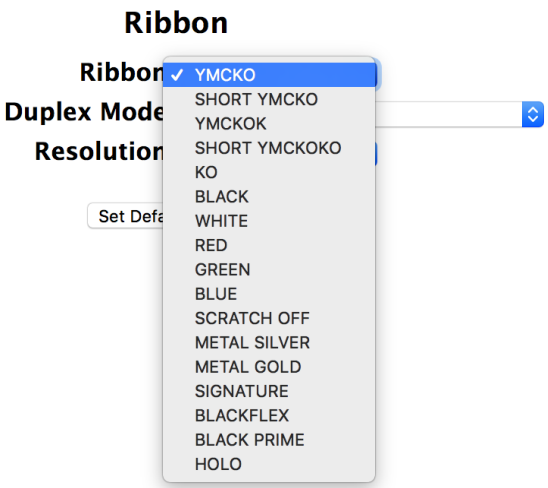
As the ribbon used has only one color, the card does not need to go through different passes inside the printer.

NOTE The reject box has a capacity of 50 cards: please make sure to empty the box before it is full.

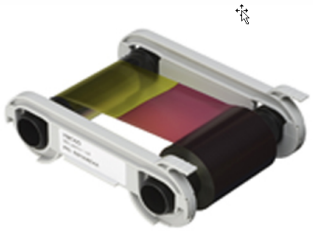
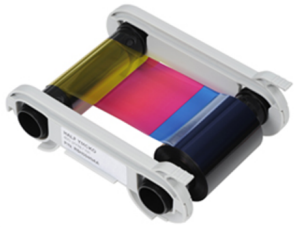
10.2 Ribbon

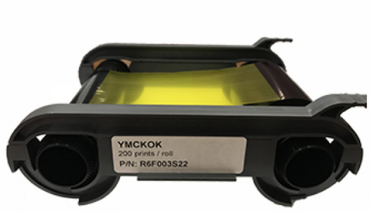
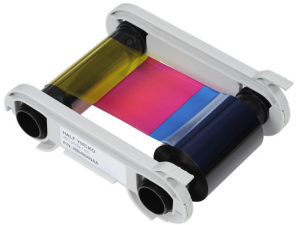
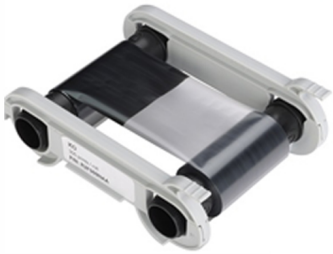
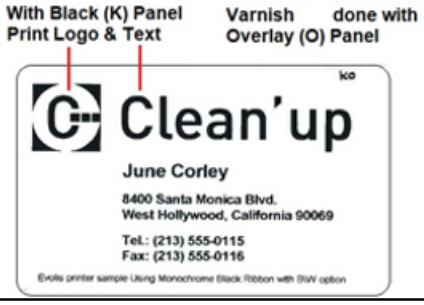
10.2.1. Ribbon Manual Selection

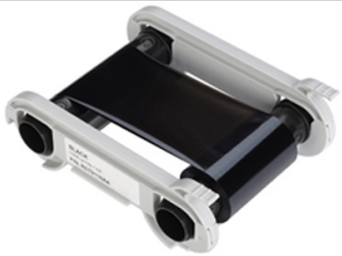
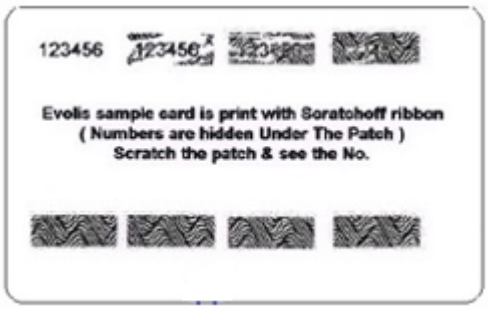
Step: Tick **Select the ribbon type** and choose the type of ribbon according to your wish.



Available ribbons are the following:

Type of ribbon	Description and Use Cases
YMCKO 	Five-panel ribbon with the following colors: yellow, magenta, cyan, black and overlay. This is the default color ribbon used in Evolis printers. Compatible printers: Badgy (the ribbon is adapted to the printer size), Zenius, Primacy, Elypso, KC200/200B 
SHORT YMCKO 	Also called half-panel ribbon It has the same colors as the YMCKO ribbon, but its panels are half the size. It is used to print half or a third of the card.

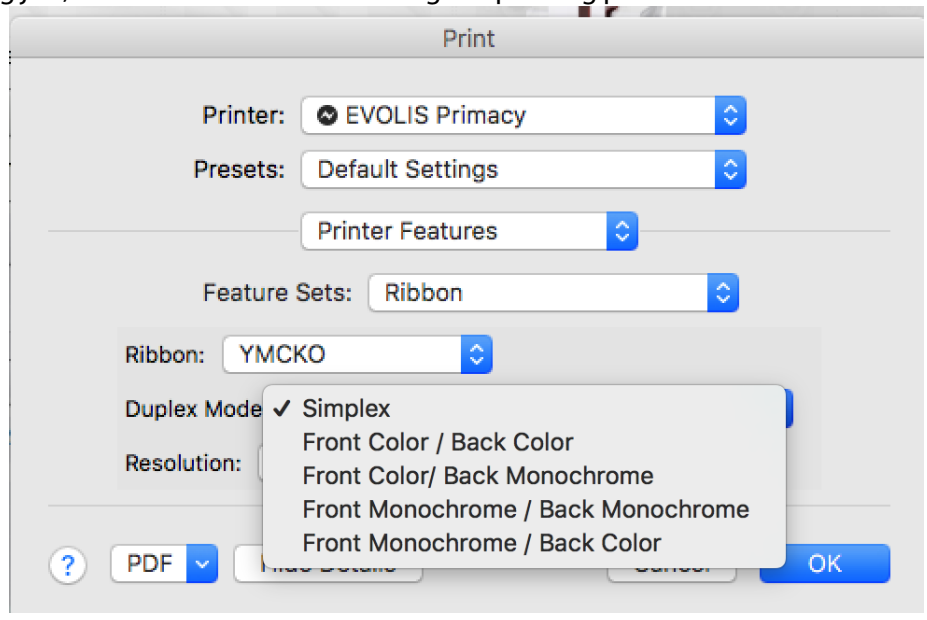
Type of ribbon	Description and Use Cases
YMCKOK  	6-panel ribbon with the following colors: yellow, magenta, cyan, black, overlay, black Compatible printers: Primacy, Elypso 
SHORT YMCKOK	6-panel ribbon with the following colors: yellow, magenta, cyan, black, overlay, black This ribbon has the same colors as the YMCKO ribbon, but its panels are half the size of the YMCKO ribbon. It is used to print half or a third of the card. Compatible printers: Primacy, Elypso
SHORT YMCKOKO 	7-panel ribbon with the following colors: yellow, magenta, cyan, black, overlay, black, overlay Compatible printers: Primacy, Elypso, KC200/200B
KO 	Two-panel ribbon with the following colors: black and overlay Compatible printers: Zenius, Primacy, Elypso 
MONOCHROME (black, white, red, green, blue, metallic gold and metallic silver)	One-color ribbons Compatible printers: Zenius, Primacy, Elypso

Type of ribbon	Description and Use Cases
	
Hologram Ribbon 	Continuous ribbon which applies a edge-to-edge hologram varnish to increase the security of the card Not compatible with smart contact cards or magnetic stripe cards Compatible printers: Zenius, Primacy 
SCRATCH OFF 	Continuous ribbon which produces a grey area that can be scratched off Compatible printers: Zenius, Primacy, Elypso, KC200/200B  **To use this ribbon:** 1. print a text on the card, with the ribbon of your choice 2. in your card designing software, edit an area to apply the scratch-off. Fill the area with any color. Make sure the area covers the text printed before. Place the scratch-off ribbon into the printer and print the scratch-off design
SIGNATURE	Continuous ribbon which enables to apply a rectangular area on cards, where a signature can be written Compatible printers: Zenius, Primacy

Type of ribbon	Description and Use Cases
	
BLACKFLEX 	Black monochrome ribbon. Due to the composition of its ink, this ribbon can be used with: - standard cards: PVC, PET, PC, - and cards that cannot be printed with the traditional monochrome black ribbon: ABS, paper Compatible printers : Zenius, Primacy, Elypso, KC200/200B This ribbon is useful when the printing result with the traditional black ribbon is not the expected one, even after changing the concerned driver parameters. Please refer to section Front Side Graphical Settings for more details.

10.2.2. Duplex Mode

The Duplex mode enables the user to print your card on the front and back sides during the same printing job, with no manual action during the printing process.



Front color/ back color	With these options, the varnish settings are set by default on **Full varnish.** To change these settings, please go to sections Front Side Varnish Adjustment and Back Side Varnish Adjustment.
Front color/ back monochrome	
Front monochrome/ back monochrome	
Front monochrome/ back color	

This option is used when printing on the two sides of the card: you may want to use different ribbon settings for each side.
Printers concerned can be the following ones : Primacy, Elypso and Duplex.

As a consequence, it is:
- visible when your current printer has an integrated flip-over (= duplex) module
- not visible when your printer does not have an integrated flip-over (= duplex) module

To check the presence of the flip-over module in your printer, go to Comtool (please refer to Accessing the ComTool) 58 and enter the **Rflo** command. If the answer is **Enabled**, it means the module is installed.

Step 1: Select the type of duplex mode according to the type of ribbon that you are using:

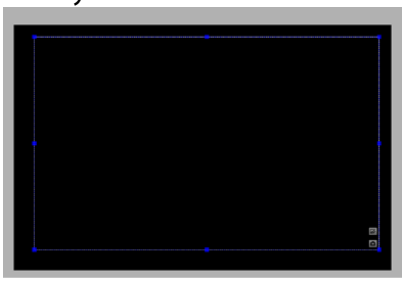
- **You are using a YMCKO ribbon (full or half):**

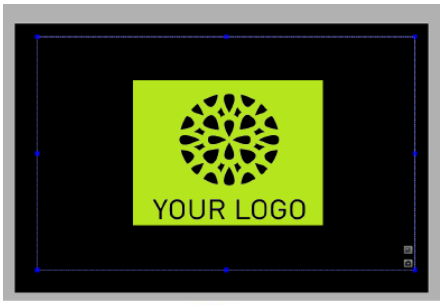
Type of duplex mode	Use Case
Front color/ back color	Each side of the card is printed with different YMCKO panels. **USE CASE** The setting used for the Black Panel Adjustment is set on **All black dots** for each side. 
Front color/ back monochrome	The front side is printed with the YMC colors and the overlay will be applied on it. All black elements on the front side are printed with composite

Type of duplex mode	Use Case
	black  . The back side is printed with the black color (K panel). No overlay will be applied to the back side (varnish option is deactivated for the back side). NOTE Selecting this option will use two YMCKO panels during the printing process and skip some colors for the back side. If you do not want to use your ribbon too quickly, we recommend that you select this option only if you really need it. **USE CASE** For the front side: by default, the setting used for the Black Panel Adjustment is set on **No real black printed**. For the back side: by default, the setting used for the Black Panel Adjustment is set on **Black and White**, but you can select another option (please refer to section Black Panel Adjustment).  K panel is particularly adapted to barcodes and QR codes. Make sure to insert them on the back side, with this option. 

Type of duplex mode	Use Case
Front YMC/ back KO	The card front side is printed with the YMC colors, and the back side is printed with the KO (black and overlay) panels. The only difference with the previous option is that the overlay is applied on the back side and not on the front side (varnish option is deactivated for the front side).
	With these options, the varnish settings are set by default on No varnish on both sides of the card. To change these settings, please go to sections Front Side Varnish Adjustment and Back Side Varnish Adjustment.
Custom front monochrome/ back monochrome	
Custom front monochrome/ back color	

It is strongly recommended to avoid printing flat colors on any of the card sides. Always make sure to add patterns or characters to your flat color.
Indeed, flat color only causes the print head to warm too much as there is no other design detail to lower the heat of the print head.
This issue may cause the ribbon to be stuck on the card and torn.





➢ **You are using a monochrome ribbon**

Both sides are printed with the same color and no varnish option is possible as there is no overlay panel in the ribbon

Step 2: Check the settings in **Front Side Varnish** and the **Back Side Varnish** windows.
Select **Full Varnish** if you want both sides of the card to have the varnish protection.

Never use the varnish option on the side of a card that is already laminated.
It would not be useful and would produce various issues, including card jamming, tearing of ribbon, unsticking of lamination film, etc.

10.2.3. Printing Resolution

Step: Select the type of resolution:

Resolution	Use Cases
300x300 dpi (size of design in pixels: 1016x648)	Default resolution, adapted to most printing jobs and printers
600x300 dpi (size of design in pixels: 2032x1296 size of printing rendering in pixels: 2032x648)	Adapted to printing jobs on most printer, if the size of your design resolution is bigger NOTE Finer details can be printed, but the card printing process may be slowed down.
1200x300 dpi (size of design in pixels: 4064x2592 size of printing rendering in pixels: 4064x648)	Only when using monochrome ribbons, especially with a design of: - small characters in text areas - high resolution

NOTE 1 dot = 0,12 mm

10.3 Graphical Settings

Please refer to the next sections: Front Side/Back Side Graphical Settings 45

For the specific feature on the definition of the text area, please contact your Evolis reseller or the Support team.

10.3.1. Front Side/Back Side Graphical Settings

Those settings will enable you to adjust the color panels, so as to get the most optimal printed result.
The Ribbon details tab provides the name of the ribbon currently detected in the printer.

To enable the back side graphical settings, make sure to enable the **Duplex** Mode in the **Ribbon** menu (for more details, see section Front Side and Back Side Settings) 41

10.3.1.1. Brightness and Contrast

Step: Adjust the brightness and contrast of your colors.

Feature	Use Case
Brightness of colour panels	Increases the overall lightness of the image.
Contrast of colour panels	Increases the overall darkness of the image. The higher is the contrast, the higher is the printing heat.



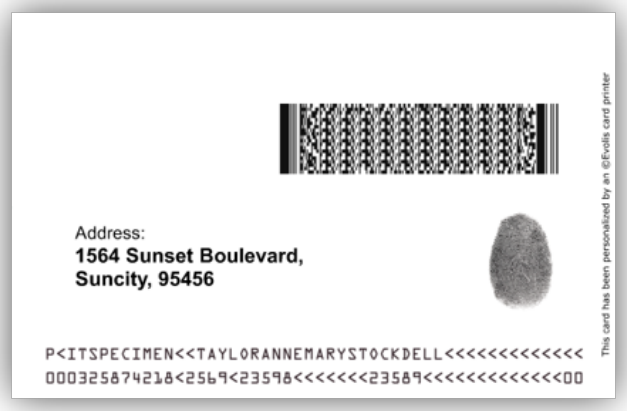
10.3.1.2. Black Panel Adjustment

Option #1: A color ribbon is selected to print the current side

The user has two possibilities:
- using a pure black color (RGB code above 253)
- using a mix of colors (yellow, magenta and cyan panels): it is called composite black

There are three different parameters associated with these two possibilities:

Feature	Use Cases
Monochrome Resin Adjustment	**no real black printed**: the black panel (K) is not used during the printing process. Only composite black is used. It is especially useful for designs with only images

Feature	Use Cases
	 **Settings: No real black, front side with YMCO panels**  **Settings: back side with K panel**
	all black dots: the black panel (K) is used for the whole design (text area, images)  Settings: All black dots, front side with YMCKO panels
	only black text: the black panel (K) is used only for text areas and barcodes

Feature	Use Cases
	 **Setting: Only black text, front side YMCKO**

If you have selected all black dots or only black text, you may need to adjust the resin monochrome setting. This setting is directly linked to the print head heat and to the thermal transfer technique.

NOTE In case you want to print barcodes or text areas with small characters, the printing result must be more accurate.
You may need to:
- increase the resin adjustment (by default it is set on 10),
- decrease the printing speed.

Option #2: A black ribbon is selected to print the current side

There are four different halftoning parameters:

Feature	Rendering
Threshold	 **Black & White**
Floyd	 **Grayscale**

Feature	Rendering
Dithering	 Dithering
Clustered Dithering	 Clustered Dithering

When applying pure black color on the card, the monochrome resin adjustment is increased or decreased in order to improve the density of the black color on the card.



10.3.1.3. Printing Black Text: Use of Different Softwares

This section will compare various software used when printing black text areas, and explain the best parameters to use in the driver.

The use case is to print a design that contains a background image and black text area: the image must be printed in color and the text must be printed in pure black.



Example of Card Design with Image and Text Areas

Some softwares detect the difference between text areas (bitmap) and images (vectorial) while others do not.
Depending on the software you are using to design your card, you will need to set specific settings in Black Panel Adjustment.

Pre-requisite: add a Card format for Evolis printers

1. Open **TextEdit** application
2. Go to **File**> **Page Setup**>**Paper Size**>**Manage Custom Sizes**
3. Click on **+** and add a new format as follows:
   - width : 55mm
   - height : 86mm
   - top : 0mm
   - left : 0mm
   - right : 0mm
   - bottom : 0mm
5. Save the new format with the name **Card** and click on **OK**
6. Close **Text Edit**
7. Go to **System Preferences**
8. Select **Printers and Scanners**
9. On **Default paper size**, select **Card**

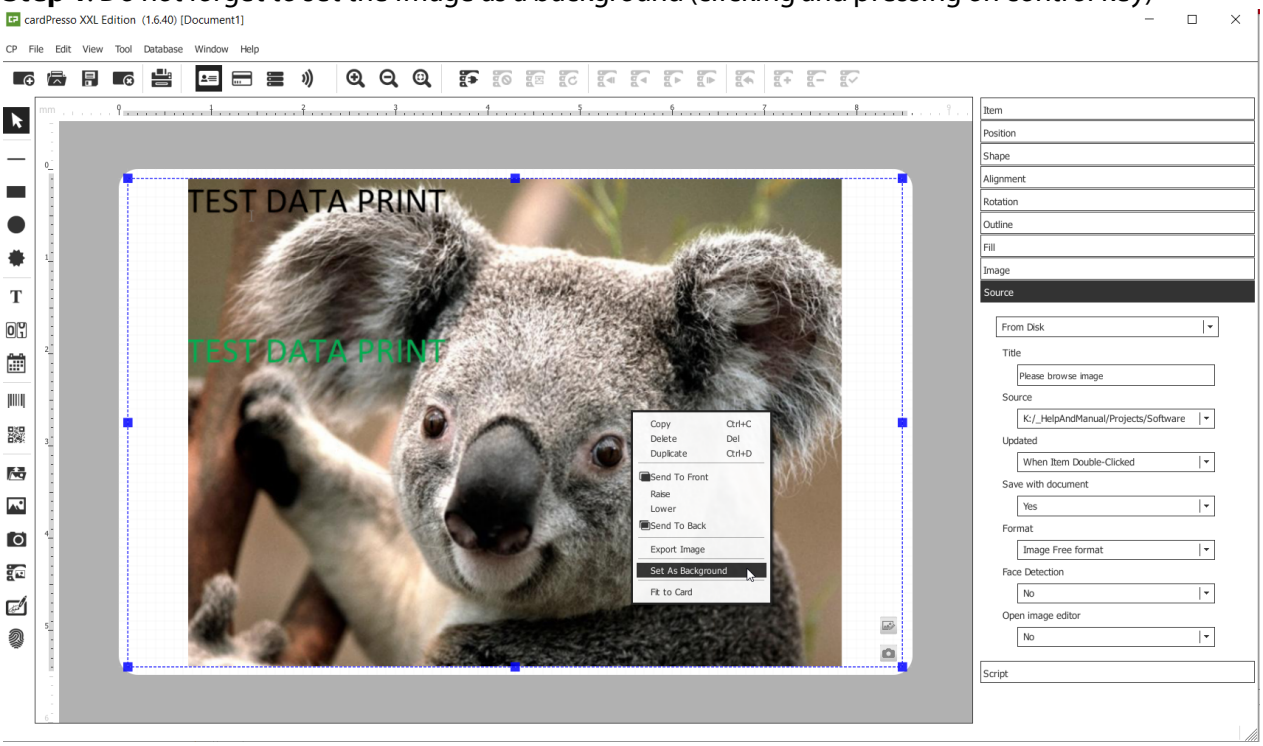
---

1. Cardpresso

Text areas and images are detected.

It also works without black dots on the images. It means that the RGB code used for the image black areas is under 253.

Step 1: Do not forget to set the image as a background (clicking and pressing on control key)



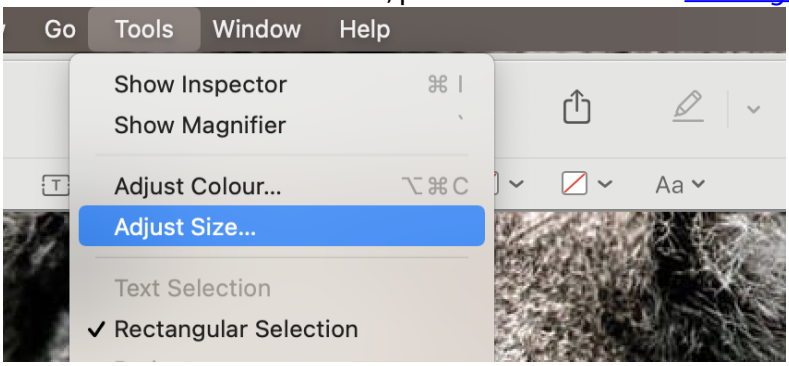
Step 2: There is no need to configure any other setting. Click on **File**>**Print**.

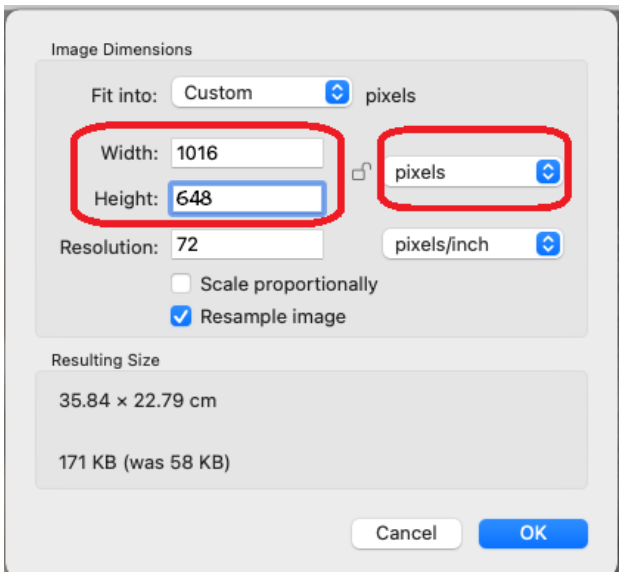
---

2. Preview

This is the default image editor on Macintosh platforms.
Difference between text areas and images is not detected.

Step 1: Go to **Tools** and set the image size in pixels is the resolution that you want to print (1016x648 or 2032x1296 or 4064x2592) and save it.
For more information on the available resolutions, please refer to section Printing Resolution 45.

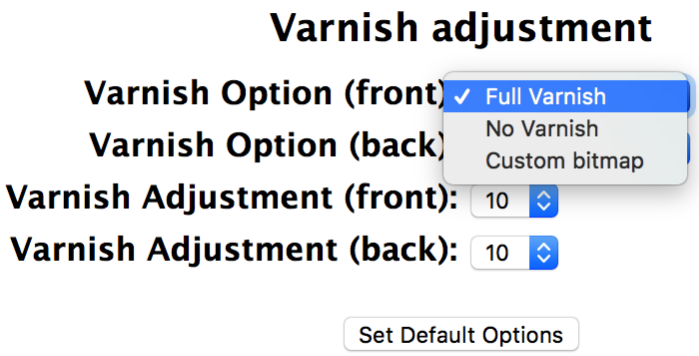




Step 2: For the procedure to define a text area, please contact your Evolis reseller or the Support team.

Step 3: Directly from the image icon, right-click and click on **Print**.

10.4 Varnish adjustment



The varnish (= overlay) , is available for all types of ribbons apart from the continuous ribbon (as it does not have an overlay panel).

The varnish adjustments window allows you to adjust the varnish coating on cards and where to apply varnish on cards.
The purpose is to protect the card from UVs and to increase resistance of cards to scratching and fading up.

Feature	Steps to follow /Rendering
No varnish No varnish is applied on the printable area. Printed card is more exposed to wear and tear	As it is not possible to print on a card side that was varnished, use the **No varnish** option when you want to print: 1. the "background" pattern in a first printing job 2. then the text in defined areas in a second printing job When all printing jobs are finished on the card, you may go to **Full Varnish** or **Custom bitmap** option.
Full varnish The printable area is covered with varnish.	Use this option if you have finished printing the patterns and texts on you card. In case you want to check that you have applied an overlay on your card, check the brightness of the card. **TIP**: A bright card indicates that an overlay was applied, as it reflects the light of the environment.
Custom bitmap/Bitmap File You select a format to apply the overlay on the card Applying an overlay with a custom bitmap is especially useful when you have a magnetic or smart encoding on your card.	Please contact your Evolis reseller or the Support team.

USE CASE

You may want to apply a varnish on the back if your card is especially submitted to frictions.

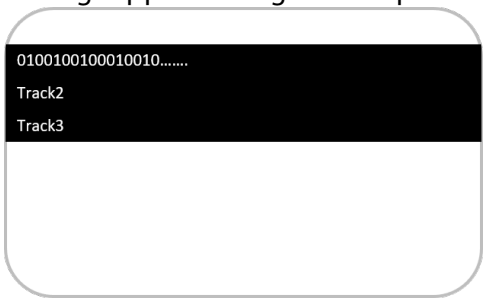
For example, the repeated insertion in a reader, of a card equipped with encoding capacities, may cause scratches to appear.

Applying the overlay on both sides of the card will add a useful protection.

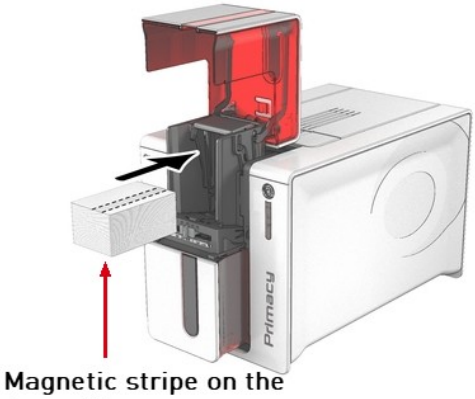
You can also adjust the varnish value from 1 to 20. Default value is 10, but you may want to increase the adhesion of the varnish, for example if the current varnish is too easily removable on the cards that you previously printed.

10.5 Magnetic Encoding

Magnetic encoding uses the following support: a magnetic stripe on the card



Before starting to encode your card, you need to insert the magnetic card in the printer feeder.



Magnetic stripe on the downside

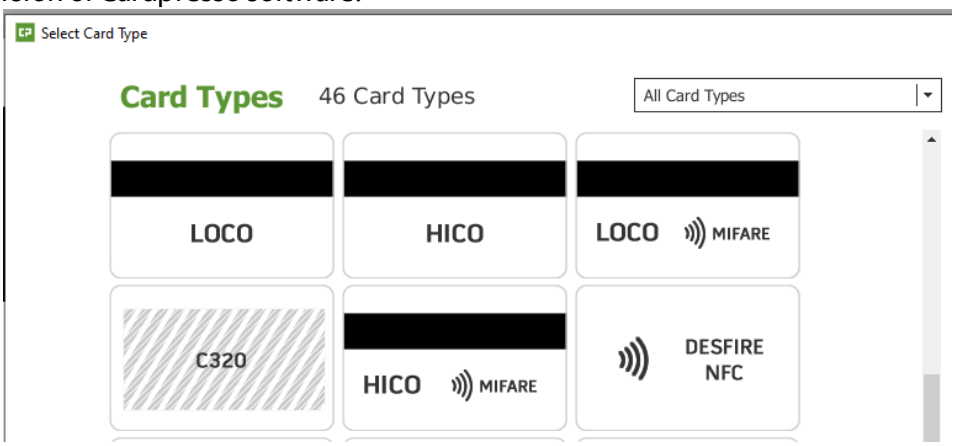
The first card to be encoded is the one that is at the bottom of the cards stack.

Cardpresso software enables you to print magnetic encoding tracks (please refer to section Encoding Using Cardpresso) 54.
You can also develop your own encoding application thanks to Evolis SDK and the driver settings (please refer to section Encoding Properties) 56

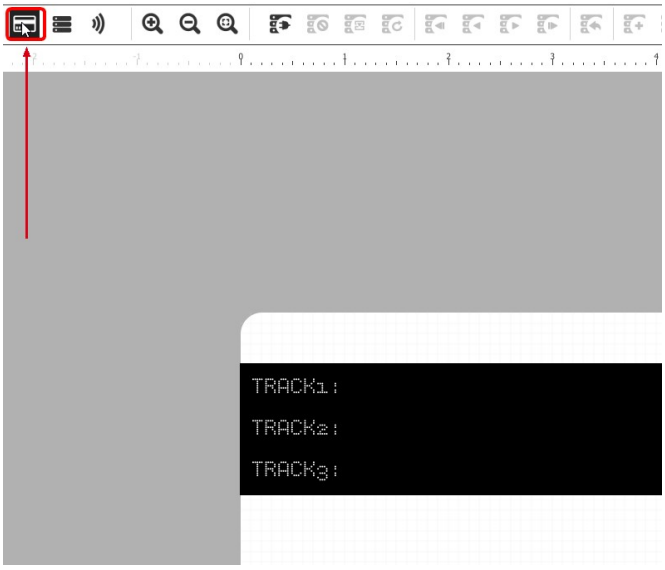
10.5.1. Encoding Using Cardpresso

Step 1: Insert the magnetic card in the printer feeder (
magnetic stripe on the down-side and on the right of the printer)

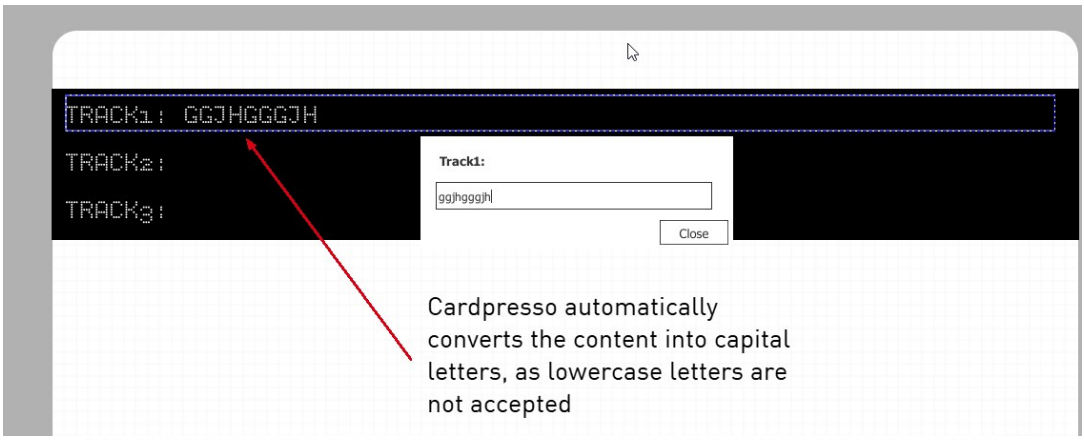
Step 2: From Cardpresso, select the adequate type of magnetic card. Magnetic encoding is available from XXS version of Cardpresso software.

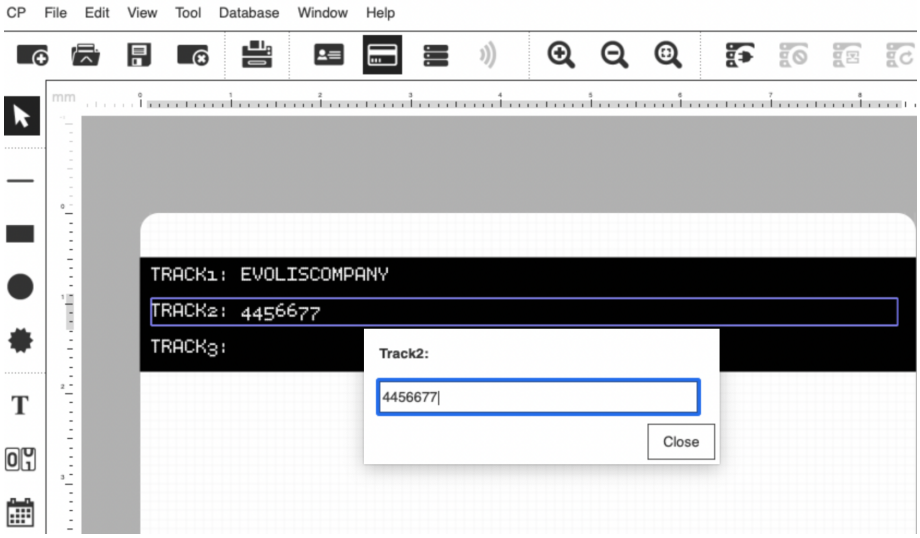


Step 3: From the card designing window, click on the **View card back** button to display the encoding tracks.

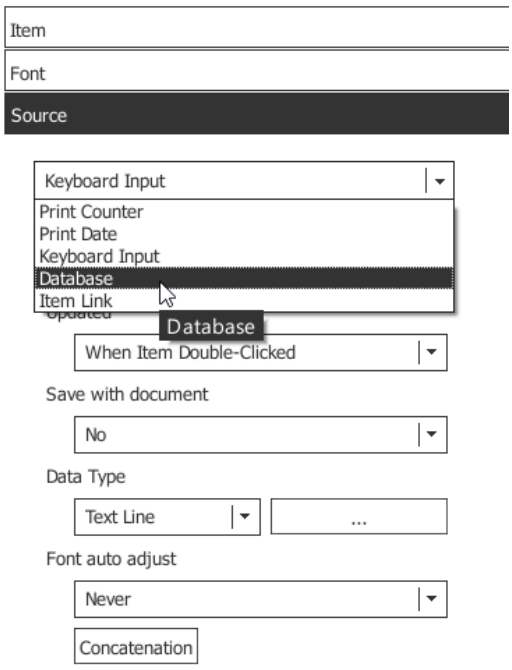


Step 4: Click one of the tracks to enter the content.



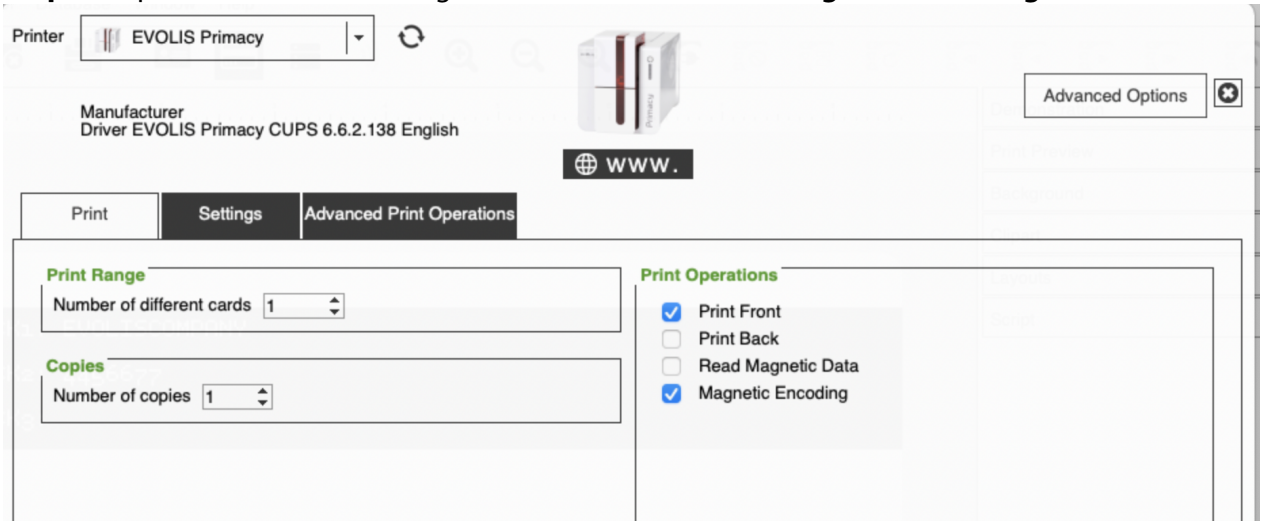


Step 5: From the right part of Cardpresso software, you can change the source of your track content, then match your database content with each track.



NOTE For more details, please refer to the help available in Cardpresso software.

Step 6: To print the encoded card, go to **File**>**Print** and select **Magnetic Encoding.**

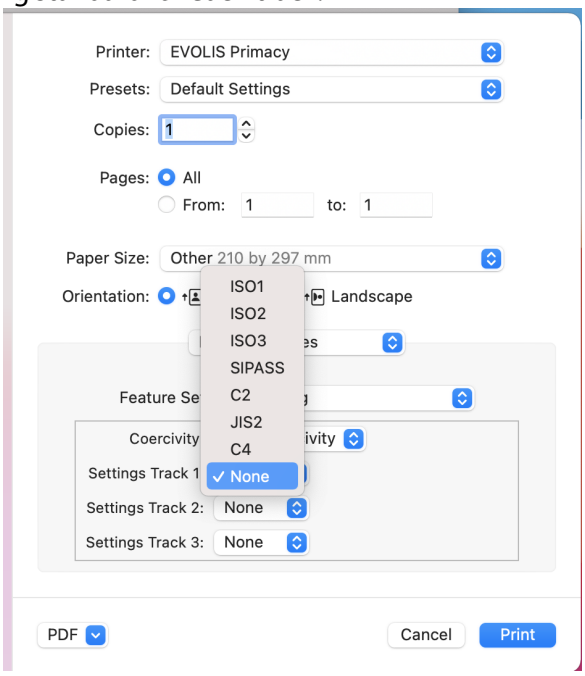


Step 7: To read the tracks you have just encoded, insert the card and go to the **Comtool** (please refer to Accessing the ComTool) 58
Select the tracks and click on **Read track(s)**.

10.5.2. Encoding Properties

Encoding settings in the driver are mostly useful if you plan to develop your own application in order to use the encoding feature. You will have to use SDK 2.n.
For more information, please contact the Support team.

Step 1: Change the encoding standard for each track.



The stripes can be configured in ISO, SIPASS, C2, JIS2 and C4 format.
See the tables below for information on the ISO 7811 and JIS2 (Japanese Industrial Standard) standards.

ISO 7811 magnetic encoding standards

Stripe #	Separator	Density	Character set	Number of characters
Stripe #1	^	210 bpi (bits per inch)	Alphanumeric (ASCII 32-95)	79
Stripe #2	=	75 bpi	Numeric (ASCII 48-62)	40
Stripe #3	=	210 bpi	Numeric (ASCII 48-62)	107

ISO1 accepts up to 793 alphanumeric characters, from A to Z and from 0 to 9 along with ASCII characters between 32 and 95.
ISO2 accepts up to 403 numeric characters, from 0 to 9 along with ASCII characters between 48 and 62.
ISO3 accepts up to 1073 numeric characters, from 0 to 9 along with ASCII characters between 48 and 62.

NOTE **Character set**: The "?" character cannot be used
Number of characters: Including the Start, Stop and LRC characters (automatically handled by the magnetic encoder)

JIS2 magnetic encoding standards

Stripe #	Separator	Density	Character set	Number of characters
Stripe #1	^	210 bpi	Alphanumeric (ASCII 32-95)	79

The C2 and C4 configurations relate to custom mode and are reserved for future use.
The SIPASS configuration accepts 21 characters, from 16 to 127 (ASCII characters).

Make sure **not to apply** an overlay on the magnetic stripe. If the overlay is applied on the magnetic stripe, the reading of the encoded information may not be well performed.
To apply an overlay of custom bitmap file on the card (with no overlay on the magnetic stripe), please refer to section Varnish adjustment 52
Before starting the encoding of a card side, always check the parameter that was selected in **Varnish type**: "no varnish" or "custom bitmap" are correct options whereas **"full varnish"** is not a good option.

Step 2: Two types of coercivity are available for the magnetic stripe.

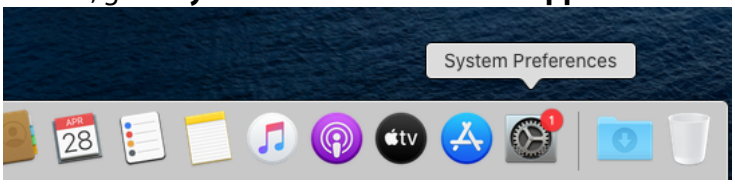
With Evolis cards, the following types are available:

Type of coercivity	Meaning
Hico (high coercivity)	high immunity level
Loco (low coercivity)	low immunity level

11. Accessing the ComTool

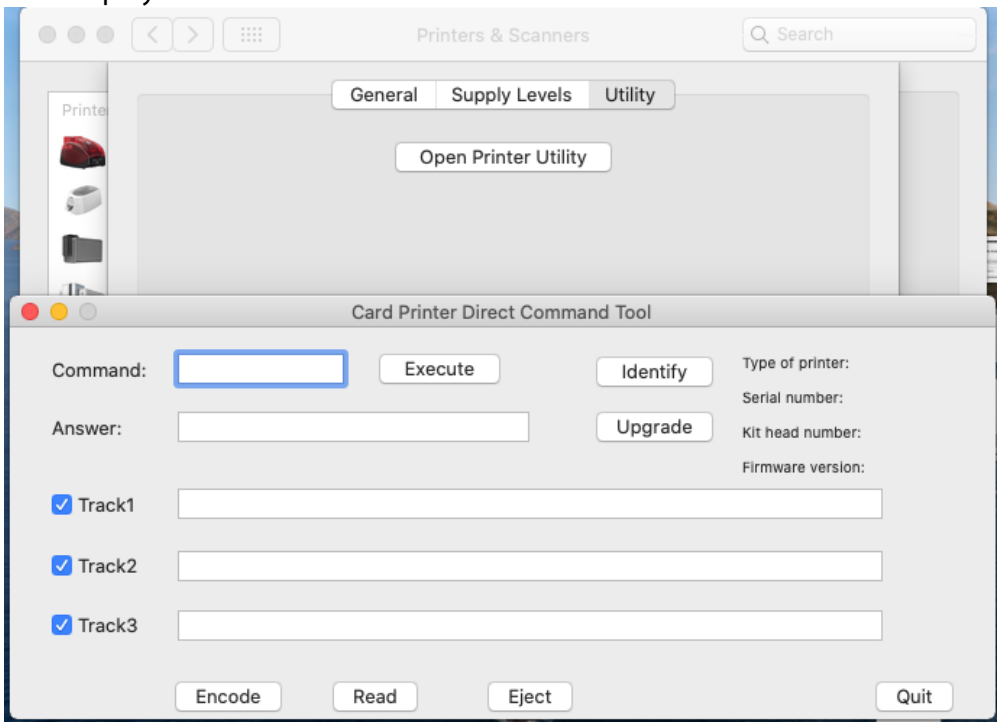
The Comtool is used to retrieve basic information about the printer, send commands, upgrade the firmware and manage the basic encoding features if your printer is equipped with the encoding capacity.

Step 1: To access the Comtool, go to **System Preferences** in the **Apple** menu.



Step 2: Click **Printers & Scanners**.
Select the printer in the list.

Click on **Options and Supplies**>**Utility**>**Open PrinterUtility**.
The Comtool is displayed.



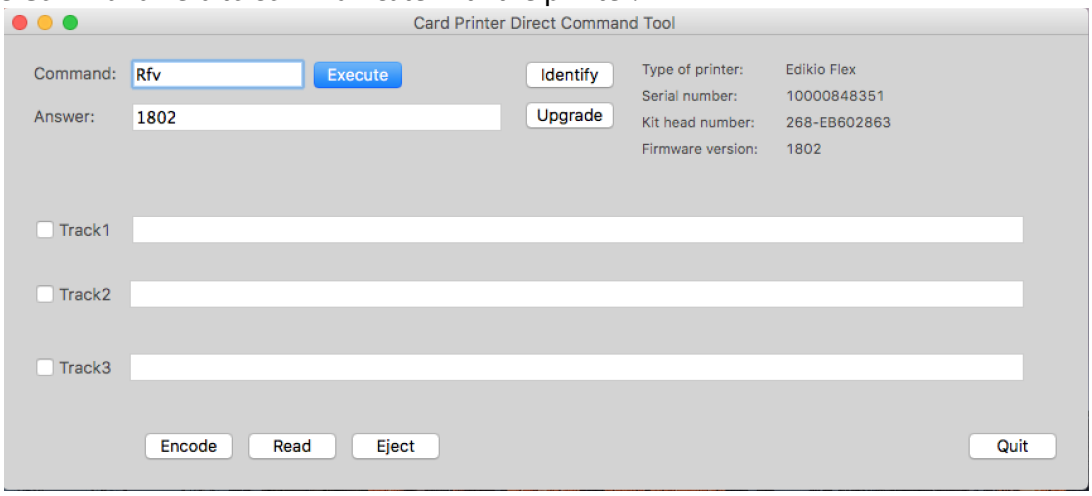
From this window, various features are accessible:

- identifying the printer details
- sending direct commands (escape commands) to an Evolis printer
- testing magnetic encoding feature (if a magnetic encoder is installed)
- upgrading printer firmware

If the Comtool is not functional (this may be the case if your OS version is >10.12), you will need to install it separately.
Please contact the Support team to access the application file and installation explanations.
In case you are working on Mac OS 11 (Big Sur), the Comtool is not available.

11.1 Sending Direct Commands in the Comtool

Use the Command field to communicate with the printer.



The most frequent commands are:
R means **Reading**
P means **Programming**

Some examples of commands:

Command	Meaning	Good answer
Rfv	Read Firmware Version	Firmware number is displayed
Rip	Read IP Address	IP address of the printer is displayed
Stt	Sequence Technical Card	The card is printed and ejected. The answer must be OK.
Pip;192.168.0.1 (example)	Program the IP address	The new IP address is configured and the answer must be **OK**.
Rflo	Read the status of flip-over module	**ENABLE** => the module is active **DISABLE** => the module is not active
Sa	Sensors adjustment	The sensors adjustment is checked. The answer must be **OK**.

TROUBLESHOOTING - Possible wrong answers are:
ERROR CDE => please check the command

Unable to communicate with printer => please check that connection cable is well plugged both on the computer and the printer

In this tool, you can also read and encode the magnetic tracks when an encoding module is installed and a magnetic card is inserted in the printer.
For more details, refer to section Magnetic Encoding 53 and Track Settings.

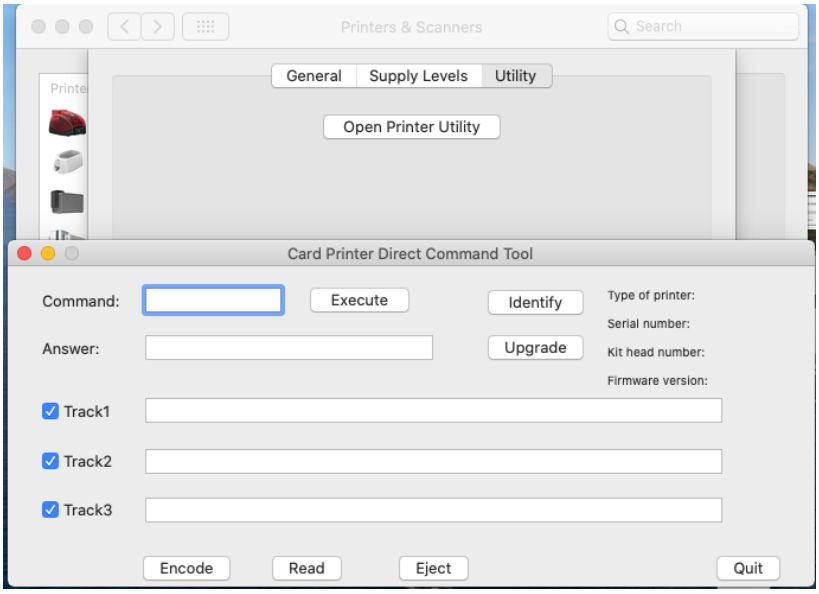
11.2 Upgrading Firmwares in the Comtool

This procedure requires an Internet connection to download the latest updates from Evolis servers.

PRINTER FIRMWARE

Option #1: your version of MAC OS is under 10.12

1. Download the printer firmware file to your hard disk from the Download section of Evolis website>**Support and Drivers**.
2. Connect your printer to your computer and switch it on.
3. From the Comtool (procedure to access is explained in section Accessing the ComTool) 58 click the **Upgrade** button.



8. Search the file downloaded to your hard drive, then click **Open** to start the upgrade process.
9. The on-off switch on the control panel of the printer should flash during the firmware update. Do not switch off the printer during this process.

Option #2: your version of MAC OS is 10.12 or higher
The printer maintenance tool (Comtool) may not be installed by default on your computer. Please contact your Evolis reseller or the Support team.

LCD FIRMWARE AND GRAPHIC RESOURCES

1. Download the LCD firmware file to your hard drive from the Download section of Evolis website>**Support and Drivers**.

2. Connect your printer to your computer and switch it on.
3. From the Comtool (procedure to access is explained in section Accessing the ComTool) 58 click the **Upgrade** button.
Search the file downloaded to your hard drive: firmware file (.firm) or graphic resources (.lcdbmp).
4. When prompted by the program, follow the instructions to select the printer and start the operation.
The firmware transfer is in progress. Wait for the Ready status to appear on the LCD screen.

To check the firmware is well installed, go to the Comtool (please refer to Accessing the ComTool 58) and send a **Rfv** command to the printer. The answer must be the firmware version that you just installed.



Only the upgrade is possible. It is not possible to downgrade the firmware version.

12. Troubleshooting

This section aims at listing the steps needed to solve specific issues.

12.1 Connection Issues

- **Printing job is not successful**

1. Check that you have selected the right printer in the **Print** window of your application.

2. Check the connection with the printer (Checking Connection With the Printer)
If it is not successful, check the IP address of the printer is on the same network range as the computer.

- **Ethernet cable is not detected**

If...	Perform the following actions
▪ Checking Connection With the Printer is not successful ▪ The printer Ethernet port has a static orange color (it is not blinking nor green colored)	1. Change the Ethernet cable 2. If using a switch, change the port of the cable 3. Check your computer configuration (the Ethernet card must be enabled and its driver must be up to date) 4. Restart the printer

- **Printer detection has failed**

- check the firewall and antivirus policy: port 9100 must be allowed, as well as multicast
- the address of your computer must also be a IP/DHCP one

12.2 Printing Issues

12.2.1. Faded Colors

This type of result (faded colors) may be caused by using a wrong power supply.



Please refer to your printer **User Guide** to check the supply power that is adequate.

12.2.2. Torn Ribbon

Step 1: Proceed to to fix the torn ribbon.

Use tape to put the panels back together:



Step 2: Solve the issue to avoid another tearing of the ribbon.

Various checkings may solve the issue:

Type of checking	Steps to follow
Check firmware version	From the Comtool, enter **Rfv** command. If the command returns a wrong answer, proceed to printer firmware update (Upgrading Firmwares in the Comtool) 60
Check the printer sensors working	From the Comtool, enter the **Sa** command. If the command returns a wrong answer, please contact your Evolis reseller or the Support team.
Check offsets settings	The ribbon is torn if a hot printhead goes down on the ribbon when there is no card under it. Please contact your Evolis reseller or the Support team.
Check temperature values applied in the driver	The temperature may have been pushed to the max for the black panel (when printing a barcode for instance). For other designs, this setting may cause ribbon tearing issue. As a reminder, default value for monochrome resin adjustment parameter is 10.
Check the ribbon	A faulty consumable may be the cause of the issue. Replace by a ribbon from a different batch lot number.
Check printhead serial number	A printhead replacement or a mistake may have sent a wrong value to the printhead.

Type of checking	Steps to follow
	In the Comtool, check that the answer to the **Rkn** command matches with the barcode stuck on the printhead. If the answer does not match, send the value displayed on the barcode through the **Pkn** command or using the wizard.
Check card surface / quality	Check the card freshness: a simple test consists in bending the card. With time and/or bad storage conditions, cards become brittle and their surface is not porous anymore.

12.2.3. Unreadable Barcode

In specific cases, the surface quality of some cards do not allow a good rendering of the barcode printing, which makes it unreadable by the appropriate scanner.

Example:



Resin adjustment set to 10
Monochrome printing speed set to 10

The barcode was printed using Evolis Printing default settings.

Procedure to improve the printing:

Step 1: Increasing the resin adjustment improves the result.



Resin Adjustment set to 16



Resin Adjustment set to 18

Step 2: If Increasing the resin adjustment does not produce a better print quality, decrease the printing speed by dropping 2 points at first (go to section Advanced Parameters), :



Resin Adjustment Set on 20
+ Slower Printing Speed



A slower printing speed produces a better ink adhesion on the card.

For an even better result, you can use a blackflex ribbon combined with the default settings of the Print Center (resin adjustment and printing speed both set to 10).

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