

# PRINT ENVISION SYSTEM USER MANUAL



# ENVISION SETUP/QUICK GUIDE

## ☐ 1. CONSTRUCT THE ENVISION STAND

- ☐ **ENVISION FOR GT3:** Please follow the instructions for the stand construction as per attached printed manual, or [http://brain.industries/assets/download/Envision\\_Manual.pdf](http://brain.industries/assets/download/Envision_Manual.pdf)
- ☐ **ENVISION FOR GTX:** Please follow the instructions for the stand construction as per attached printed manual, or <http://brain.industries/envision/construction>

## ☐ 2. CONNECT THE PROJECTOR

Follow the instruction manual of the projector, delivered with the projector.

- ☐ Connect the projector as secondary monitor
- ☐ Turn off Automatic Keystone (Trapezoid) correction
- ☐ Set the Source to HDMI

## ☐ 3. EXTEND DESKTOP

- ☐ Click the **right mouse button** anywhere on the Desktop
- ☐ Select "Display Settings" from context menu
- ☐ Scroll to "Multiple displays" section
- ☐ Set "Extend these displays" from dropdown

## ☐ 4. SCREEN SCALING

- ☐ Click the **right mouse button** anywhere on the Desktop
- ☐ Select "Display Settings" from context menu
- ☐ Click on monitor #1
- ☐ Scroll to "Scale and layout" section
- ☐ Set "100%" from dropdown
- ☐ Repeat for each monitor #

## ☐ 5. HIDE TASKBAR

- ☐ Click the **right mouse button** anywhere on the Taskbar
- ☐ Select "Taskbar settings" from context menu
- ☐ Scroll to "Multiple displays" section
- ☐ Disable "Show taskbar on all displays" switch

## ☐ 6. BLACK BACKGROUND

- ☐ Click the **right mouse button** anywhere on the desktop
- ☐ Select "Personalise"
- ☐ Set the Background to "Solid Color"
- ☐ Choose "Black"

## ☐ 7. ENVISION SOFTWARE INSTALLATION

- ☐ Plug the Dongle into USB port
- ☐ Run Installation
- ☐ Install Drivers
- ☐ Install Java
- ☐ Install Envision

## ☐ 8. CALIBRATION SETTINGS

- ☐ Select Biggest Platen
- ☐ Select Monitor
- ☐ Print Calibration Matrix
- ☐ Calibrate platen heights

## ☐ 9. CALIBRATION PROCESS

- ☐ Press the button "A" to calibrate elevation A

Set Projector Position

- ☐ Set the height of the projector above the head of the tallest operator.
- ☐ Adjust projector position and rotation to align the white cross with the centre of calibration matrix.

Mark 4 Corners

- ☐ Point the mouse to printed corner on the t-shirt and click.
- ☐ Adjust the position of the corner using Keyboard arrows.
- ☐ Repeat for every corner.

## ☐ 10. LENS CORRECTION PROCESS

- ☐ Press "C" button on the keyboard to switch to **lens correction mode**
- ☐ **Move the mouse** next to some matrixpoint, the point becomes activated (marked with yellow circle)
- ☐ Use "Keyboard Arrows" to finetune its position
- ☐ Repeat for every point until complete projection matrix is matching the printed matrix
- ☐ Finish calibration by pressing "ENTER"

## ☐ 12. USING ENVISION

- ☐ Start the Envision by clicking Envision desktop shortcut.
- ☐ Open any .arx4 (.ar3) file to activate Envision
- ☐ Click "A-H" preset button to switch Envision calibration presets
- ☐ Press "CTRL+ESC" to quit Envision

## ☐ 13. REPOSITIONING

- ☐ Place the PNG file named exactly like the .srx4 (.ar3) file and ensure that the PNG file is in the same folder (or a subfolder named PNG) like the .arx4 (.ar3) file.
- ☐ Use "Keyboard Arrows" to control repositioning
- ☐ Combine "Keyboard Arrows" and "Shift" for bigger steps
- ☐ Press "Enter" to confirm new position

## ☐ 14. UPDATING

- ☐ Go to <http://brain.industries/envision/> and from the menu select the download section
- ☐ Download Envision Upgrade and save it on your Desktop
- ☐ Keep only the Envision dongle in the computer
- ☐ Run a Dongle update and wait
- ☐ Follow the installer

# ENVISION INSTALLATION/**CONSTRUCTION**

## ENVISION STAND CONSTRUCTION

### ENVISION FOR GT3:

Please follow the instructions for the stand construction as per attached printed manual, or

[http://brain.industries/assets/download/Envision\\_Manual.pdf](http://brain.industries/assets/download/Envision_Manual.pdf)

### ENVISION FOR GTX:

Please follow the instructions for the stand construction as per attached printed manual, or

<http://brain.industries/envision/construction>

## CONNECTING THE PROJECTOR

Connect the projector to the computer and follow the instruction manual of the projector, delivered with the projector. (Instructions may be different with each projector model.)

- The target is to have the projector connected to the PC and identified by the operating system as additional monitor.
- To avoid any problems please make sure that the automatic Keystone (Trapezoid) correction is off. Usually, this can be set up in the projector menu.
- Make sure the source is set to HDMI.

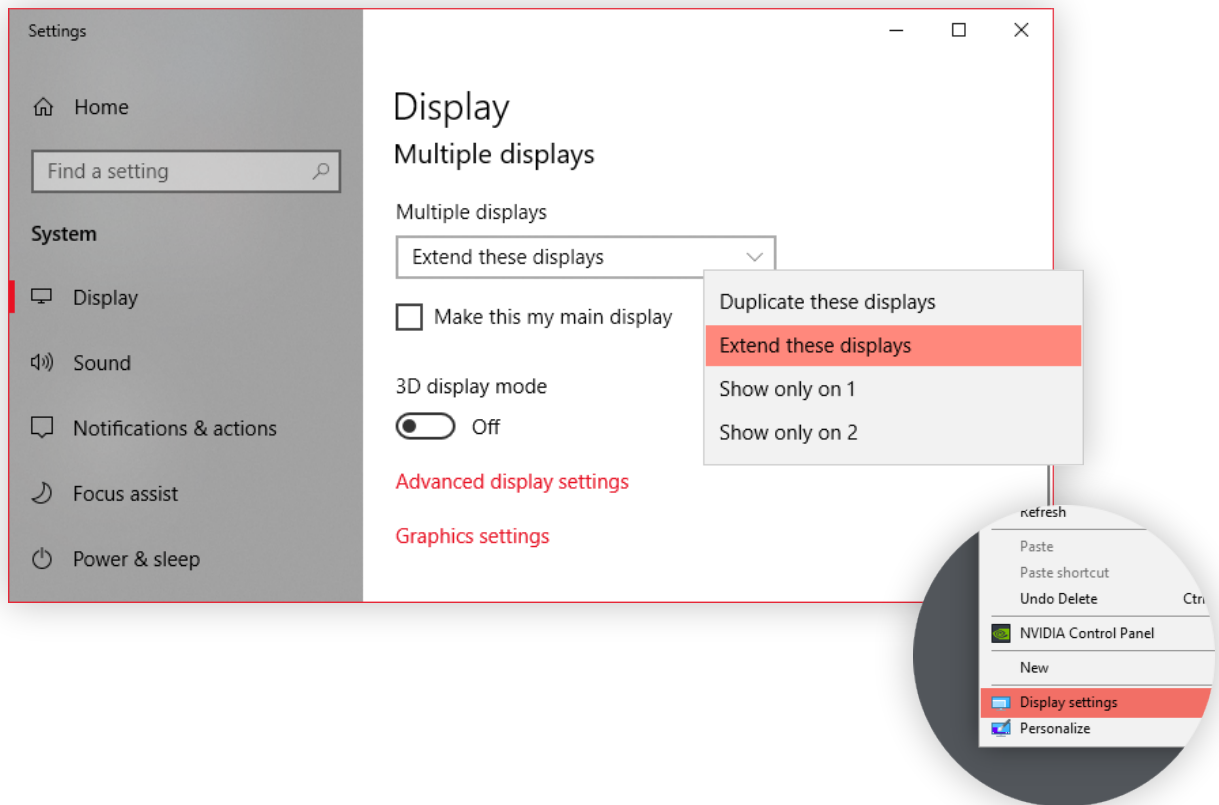
# ENVISION INSTALLATION/**WINDOWS SETTINGS**

## EXTEND DESKTOP

**Extend The Desktop > Set Screen Scale > Hide Taskbar > Set Black Background**

### Extend the desktop

After connecting the Projector open the display settings and set the display mode to "**Extend these displays**". This will allow us to use this extended space for Envisioning.



- Click the Right Mouse Button anywhere on the Desktop
- Select "Display Settings" from context menu
- Scroll to "Multiple displays" section
- Set "Extend these displays" from dropdown



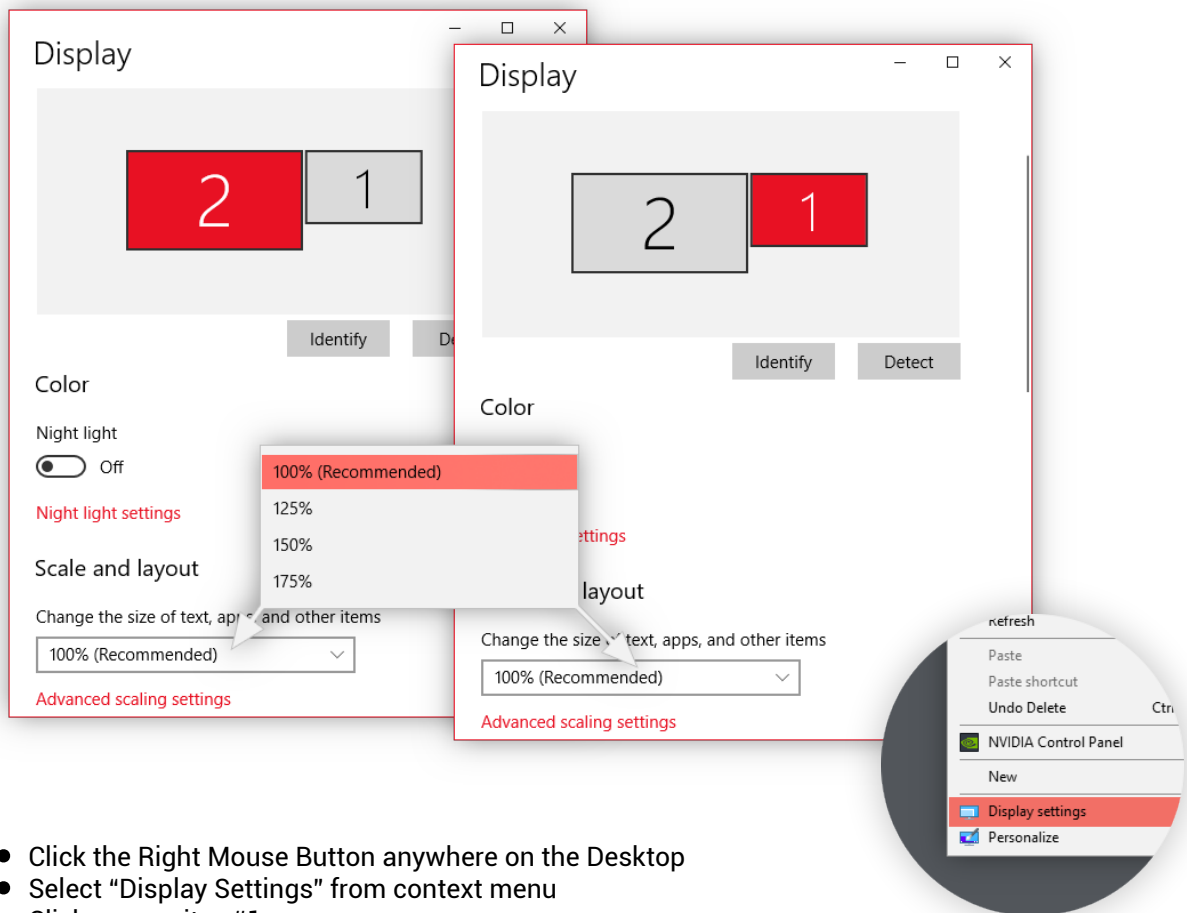
# ENVISION INSTALLATION/**WINDOWS SETTINGS**

## SCREEN SCALING

Extend The Desktop > **Set Screen Scale** > Hide Taskbar > Set Black Background

### Screen Scaling to 100%

Calibration will not work if the screen is scaled. Please set the screen scaling of all monitors to 100%. You can do this by selecting monitor (click the screen in monitor settings) and by choosing 100% from the dropdown.



- Click the Right Mouse Button anywhere on the Desktop
- Select "Display Settings" from context menu
- Click on monitor #1
- Scroll to "Scale and layout" section
- Set "100%" from dropdown
- Repeat for each monitor #

# ENVISION INSTALLATION/**WINDOWS SETTINGS**

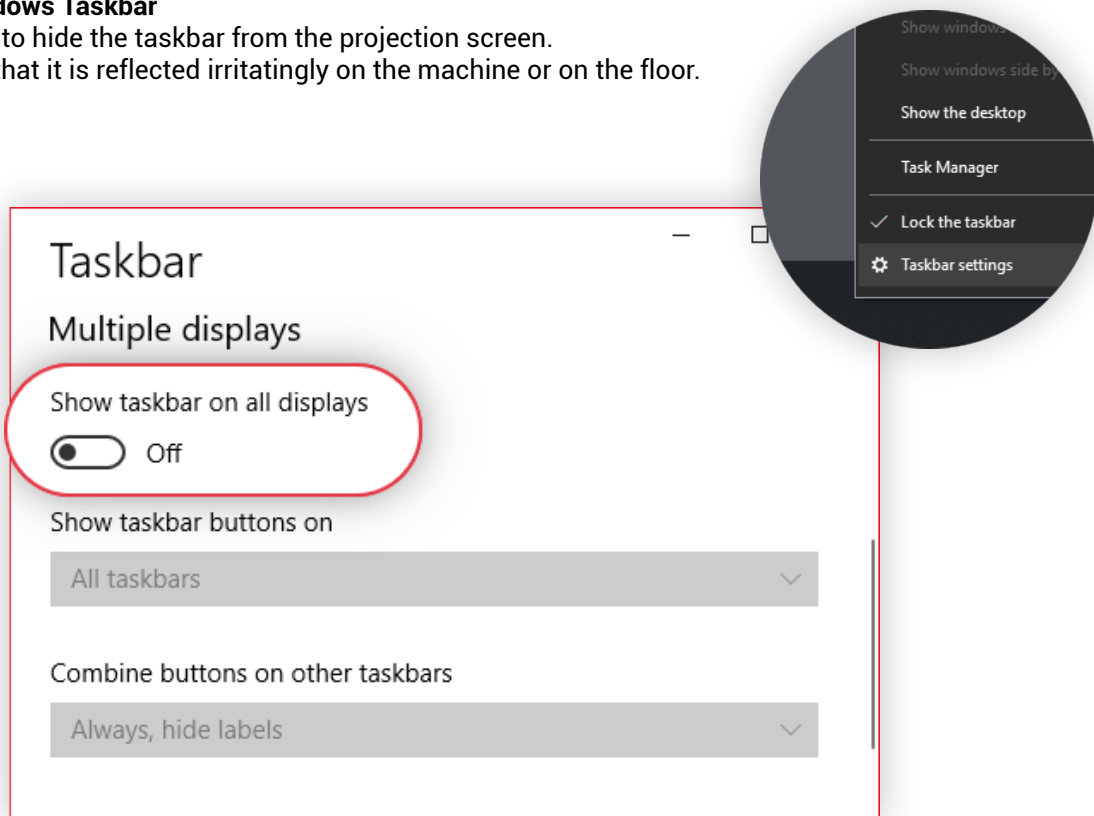
## HIDE TASKBAR

Extend The Desktop > Set Screen Scale > **Hide Taskbar** > Set Black Background

### Hide Windows Taskbar

I suggest to hide the taskbar from the projection screen.

To avoid that it is reflected irritatingly on the machine or on the floor.



- Click the Right Mouse Button anywhere on the Taskbar
- Select "Taskbar settings" from context menu
- Scroll to "Multiple Displays" section
- Disable "Show taskbar on all displays" switch.

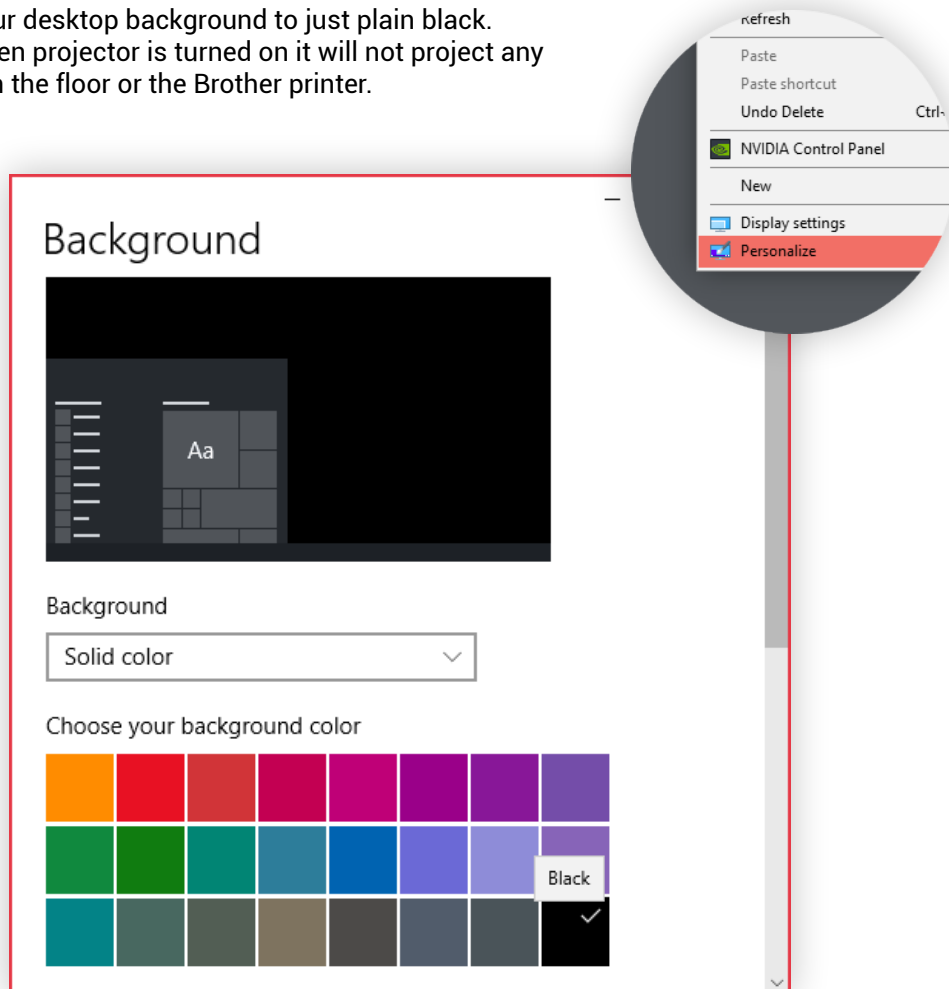
# ENVISION INSTALLATION/**WINDOWS SETTINGS**

## BLACK BACKGROUND

**Extend The Desktop > Set Screen Scale > Hide Taskbar > Set Black Background**

### Set Background Black

You can also set your desktop background to just plain black. In this way, even when projector is turned on it will not project any unwanted picture on the floor or the Brother printer.



- Click the **right mouse button** anywhere on the desktop
- Select "Personalise"
- Set the Background to "Solid Color"
- Choose "Black"

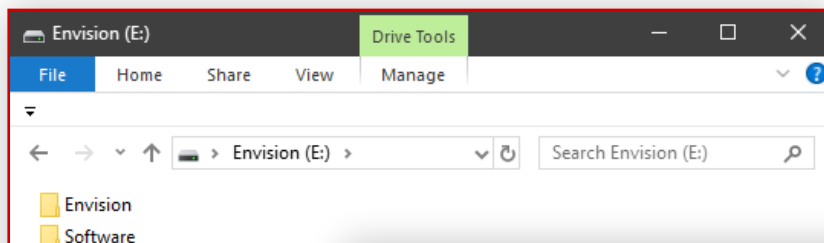
# ENVISION INSTALLATION/INSTALLATION

## ENVISION SOFTWARE INSTALLATION

Plug in the Dongle > Run Installation > Install Driver > Install Java > Install Envision

### Plug in the dongle

As a first step of installation, please plug the Envision Dongle into the USB port of your pc.



### Run Installation

Open the Envision Drive, locate install.exe and Run it.

**2**

**Java**  
Please install Java if it is not present in your system. Installation tool will tell you if it is required. Java is needed for the operation of Envision.

**1**

**Driver installation**  
Please install the drivers depending on the connected machine.

It is very important to install drivers from the dongle because Envision has been developed for the exact driver version in particular.

Installation tool will tell you if it is needed to install or reinstall the current driver.

During reinstallation it will handle uninstall of the old drivers, clean previous versions and install the correct driver by using the standard Brother driver installation.

**3**

**Envision**  
Install Main Envision software.

The Envision Setup will be started automatically once the installation has been finished successfully.

# ENVISION SETUP/**CALIBRATION**

The target of calibration is to synchronise a projected picture with printed graphics.  
A calibration process needs to be done each time the physical projector position changes.

## CALIBRATION INTERFACE

Select Biggest Platen > Select Monitor > Print Calibration Matrix > Calibrate Elevations

**1**

**Select Biggest Platen**  
Please choose the biggest platen on which you would like to print. It is enough to calibrate just for the biggest one because all the smaller ones are contained inside that area.

Mount the selected platen on your Brother GT machine and fix it in Elevation A.

Envision is only working with the biggest platen selected. All the **arx4(ar3)** files which are prepared for bigger platen settings will not be displayed on Envision.

**2**

**Select Monitor**  
Select the output monitor (usually it is #2). If the projection appears on another screen, please change this option and calibrate again.

**3**

**Print calibration matrix**  
Place some white T-shirt on the platen, and print the calibration matrix.

Please do not move or remove the T-shirt after the print, it must stay at the same place.

**4**

**Calibration Presets A - H**  
Start the calibration process by selecting the elevation letter which you would like to calibrate.

To edit the existing calibration, click on the elevation letter marked with ✓

**Reset All Button**  
"Reset all button" will clear all calibration presets. This is required if you change the max platen setting or monitor settings resp. if you change the monitor position in windows settings.

The screenshot shows the 'Print ENVISION Setup' window with tabs for 'Calibrate Projector', 'Options', and 'About'. The 'Calibrate Projector' tab is active. It features a 'Biggest Platen' dropdown menu set to '14x16', a 'Projection Monitor' section with radio buttons for 'Monitor1', 'Monitor2' (selected), and 'Monitor3', and two buttons for 'Print GT-X Calibration' and 'Print GT-3 Calibration'. Below these are two sections: '1. Calibration Matrix' and '2. Calibration'. The '2. Calibration' section contains buttons for elevations A through H, with 'A' marked with a checkmark. A 'Reset All' button is located to the right of the elevation buttons.

You can watch a video of the complete process at this link:  
<http://brain.industries/envision/calibration>

If you prefer to read, please follow the next page.

# ENVISION SETUP/**CALIBRATION**

## CALIBRATION PROCESS

### Start calibrating elevation A

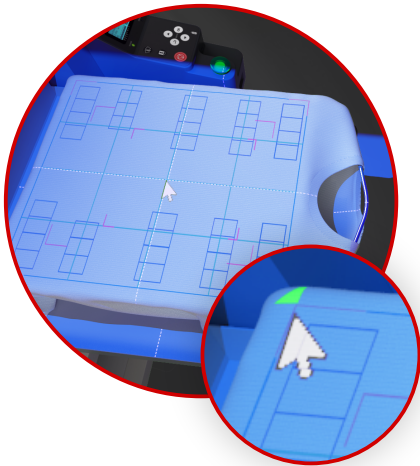
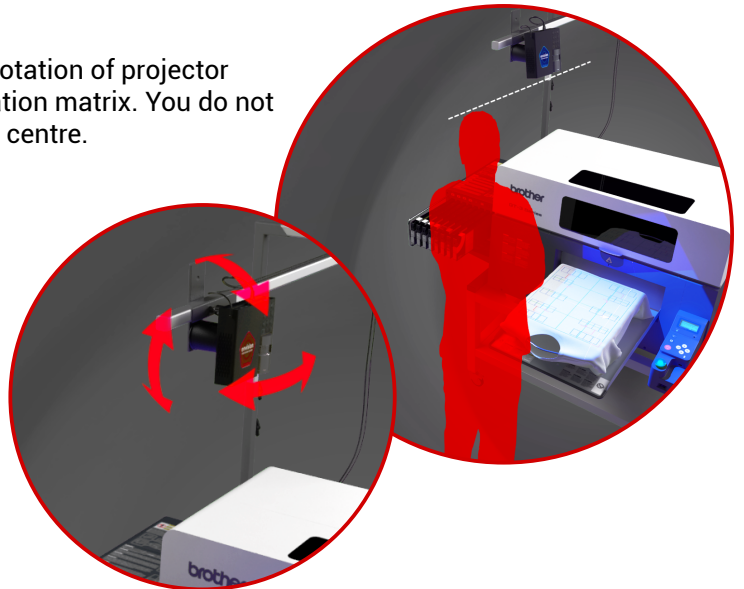
Simply press the button.

Projector will start projecting a white cross on blue background.

### Projector Position

Adjust projector stand height and position as well as rotation of projector head to align the white cross with the centre of calibration matrix. You do not have to be too precise, just move it more or less to the centre.

- Set the height of projector in a way that the blue background is covering the entire platen. It is smart to set the height of the projector above the head of the tallest operator.
- Setting it too low will increase the risk of collision in which case you might have to start a recalibration.
- Setting the projector too high will decrease the light intensity.

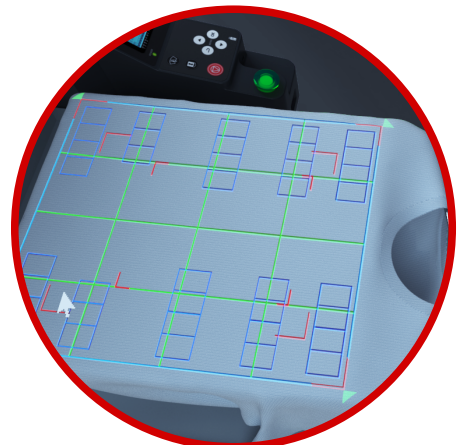


### Mark 4 Corners

Position yourself behind the projector next to the platen, take your mouse and keyboard. Use the mouse to mark 4 outer corners of the print.

- Simply point the mouse on printed corner on the t-shirt and click.
- Adjust the position of the corner using keyboard v.
- Repeat for every corner.

As a result you should see calibration matrix projected inside the 4 corners covering printed matrix.



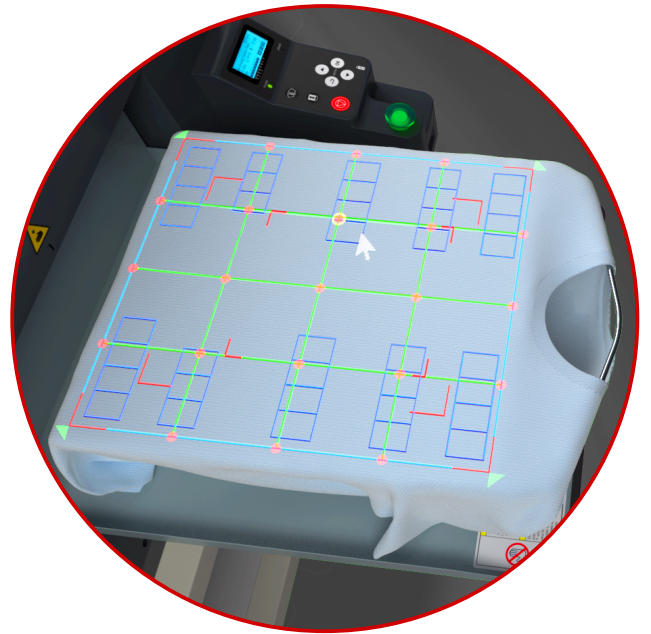
# ENVISION SETUP/**CALIBRATION**

## LENS CORRECTION PROCESS

### Lens Correction

Some projector models have a build in lens correction and some of them do not. If the matrix is not matching you can use the lens correction and adjust to perfect match.

- Press "C" button on the keyboard to switch to lens correction mode. You should see dot matrix over the calibration mesh.
- By moving the mouse next to some matrixpoint, the point becomes activated (marked with yellow circle).
- Now use keyboard arrows to finetune its position.
- Repeat for every point if necessary until complete projection matrix is matching the printed matrix.
- Finish calibration by pressing "ENTER".



**Congratulation, you have just finished your first calibration.**

- You can repeat the calibration process for each elevation.
- Each other calibration will start at the ending position of previous calibration.
- In this way you only need to adjust the calibration instead of calibrating again.
- Clicking on the same elevation letter will edit the calibration.
- Please consider the letters more like presets than elevations.

### Keyboard controls

- "C" - activate / deactivate correction mode
- "Mouse" - activate correction point by moving the mouse near it.
- "Arrows" - move active correction point
- "Shift + Arrows" - move active correction point by bigger step
- "R" - reset correction points
- "Enter" or "Right Mouse Button" - finish calibration

For more convenient calibration dim the lights in your room.

# ENVISION SETUP/OPTIONS

## ENVISION OPTIONS



### Brightness

When brightness is set to 0, Envision will project full color image on the platen.

In some light conditions this can be not sufficient.

Increasing this parameter will make the picture covered with white.

Try to play with this parameter according to your light conditions to get the best visible result.

Brightness is affecting the calibration as well so it is good to increase this value before the calibration.

### Default Elevation

Letter which should be selected when the software is started

### Send to printer

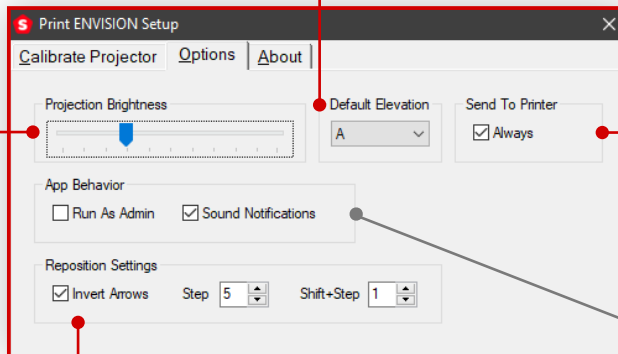
Envision is able to detect opened .arx4 (.ar3) files and show the projection.

It is also able to send this file automatically to the printer without the need to press the "send to print" button

### App Behaviour

Run as administrator in case of rights conflicts.

Sound Notifications are enabling beeps for file detection.



### Repositioning Settings

Controlling the repositioning during runtime is done using "Keyboard Arrows" and optionally with "Shift" button held down.

"Invert arrows" will switch the up and down button of your keyboard according to the operator standing in front of the printer.

Setting "Step" is changing the amount of position change.



# USING ENVISION/**ENVISION SOFTWARE**

## HOW TO USE ENVISION



### Envision start

Start the Envision by clicking Envision desktop shortcut.



### Activating Envision

- All you need to do is browse for some **.arx4 (.ar3)** file and open it.
- Envision is able to detect opened **.arx4 (.ar3)** files and show the projection.
- It is also able to send this file to print automatically, without the need to press the "send to print" button.

### Changing Elevation Presets

Operator should just click on the required elevation to switch between A-H calibration presets

### Quit Envision

You can turn off Envision by tray icon menu on your taskbar or simply by pressing "**CTRL+ESC**"

**Small stripe with elevations will open in right bottom corner of the screen.**

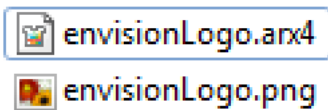
Using the Envision is very simple. When Envision is running, operator will open any file and Envision will do its job.

# USING ENVISION/**ENVISION SOFTWARE**

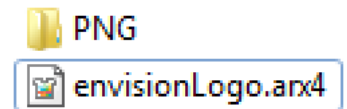
## REPOSITIONING

### Repositioning

It is possible to use Envision to finetune the position of you print. In order to do so you need to keep few things in mind. Envision is not changing the position of ripped data. It can show you a new position but the source file is required so that the graphics can be ripped again.



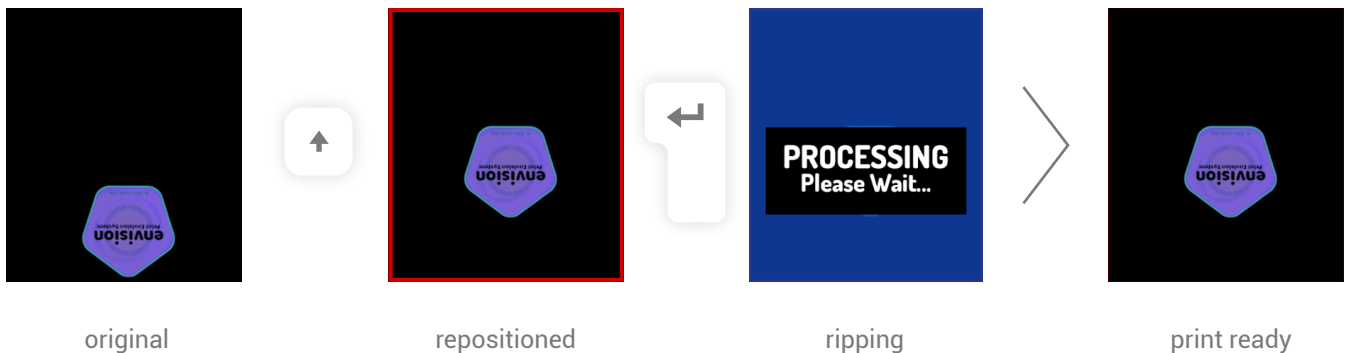
Therefore it is required that **fileName.png** is in the same folder as **fileName.arx4 (.ar3)**, or in subfolder named PNG.



You can control repositioning by pressing **Keyboard Arrows** or combined with **shift** held down for bigger steps.

You will see a border projected around the platen which indicates that the position was changed. When you are happy with new position, press **ENTER** to confirm the position and start ripping process.

Ripping will read all the settings from **arx4** or **ar3** file and do the same for the new position.



### Keyboard controls

- **"Keyboard Arrows"** - adjust the position of print
- **"Shift + Arrows"** - adjust the position of print in bigger steps
- **"R"** - reset the position
- **"Enter"** - Confirm new position
- **"Ctrl+ESC"** - Quit Envision

Please note that rotation is not supported. Therefore if you have a source graphic which was rotated in your ripping software (like Graphics Lab) it will not be rotated after repositioning. Repositioning is not compatible with files created using Cadlink.

# USING ENVISION/**SOFTWARE UPDATES**

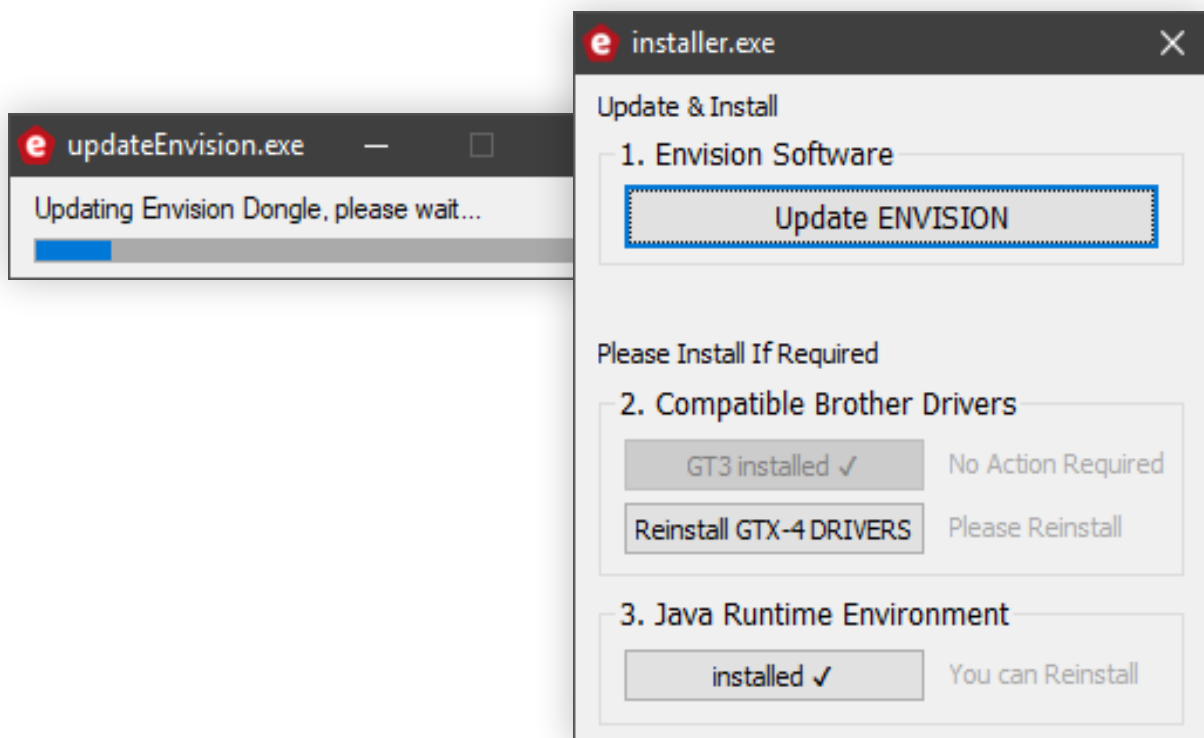
## UPDATING

There is no automatic update built into the Envision software yet. Automatic updates will never be available for production environment. By the rule "never change working thing" you can check Envision webpage for updates.

Usually updates are coming with each new Brother driver version. An Envision update contains a Brother update aswell so its advisable that you do not upgrade your printer drivers alone. Please download Envision update, upgrade the dongle and then update the driver from the Envision installer.

### How to Upgrade the dongle

- Go to <http://brain.industries/envision/> and from the menu select the download section.
- Download Envision Upgrade and save it on your Desktop.
- Keep only the Envision dongle in the computer (in case you have also our other software dongles, plug it out).
- Run a Dongle update and wait.
- Follow the installer.



# ENVISION MANUAL/CONTACTS & MORE

If you have any questions please use contact formular at <https://brain.industries/envision/>

## Your Notes

Manual **version 1.0** release date: 05/11/2018



<http://brain.industries/envision/>



<http://brain.industries>



www.brother-ism.com