

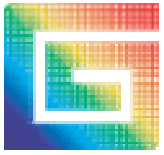
GERBERSERVICE

XLp GERBERplotter Family Installation & Configuration



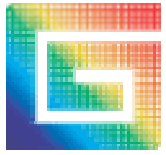
Presented by Ronny Sprangers

XLp II



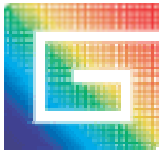
Training Outline

- Overview of XLp Plotter
- Hardware Installation
- Software Installation
- Gerber Device Configuration
- The XLp Interface
- Calibrations
- Maintenance



Overview

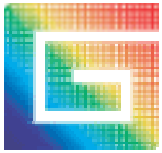
- The XLp 50/95 plotters are easy to use, wide format, inkjet plotters that provide features such as high reliability, accuracy and low operation costs.
- They have a multi-functional operator panel with large LCD display
- They are compatible with existing Gerber products and they offer a Windows based graphical interface for intuitive control and status messaging.
- Like the Infinity range, the XLp is also based on the HP 51645 inkjet cartridge.



Overview



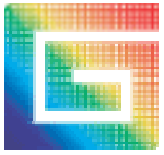
1. Nip Bar Lever : This lever controls the Nip Bar and Pinch Rollers.
2. Front Cover
3. Control Panel : Allows the operator to perform manual functions. Currently only English and Chinese
4. Feed Roll Bar
5. Paper Take-Up Bar : The paper can be dropped onto the floor or wound up on the Paper Take-Up Bar (CW or CCW)



Overview: Technical Specifications

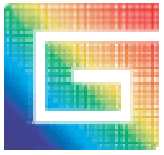
| Model | XLp50 | XLp95 |
|-------------------------------|---|----------------------|
| Maximum Plot Width | 183 cm (72 in) | |
| Throughput | 50 m ² /h | 95 m ² /h |
| Resolution | 300 dpi | |
| Media Accuracy | +/- 0.1% | |
| Inkjet Heads | 1 | 2 |
| Feed Roll Inner Diameter | 7.6 cm (3 in) | |
| Feed Roll Capacity | 457 m (500 yd)* | |
| Maximum Media Take-up | 75 m (82 yd) Face in or 300 m(328 yd) Face out* | |
| Plotting Paper Range | 40-100 g/m ² | |
| Communication Protocol | HPGL | |
| PC Interface | USB and Ethernet | |
| Parameter Setting | Computer control software and LCD control panel | |
| Machine Net Weight | approx. 96 kg | |
| Machine Dimensions w x d x h | 2633 x 573 x 1060 mm (103.7 x 22.6 x 42.6 in) | |
| Packaging Dimension w x d x h | 2754 x 694 x 682 mm (108.4 x 27.3 x 26.9 in) | |
| Power | 110-220VAC, 50-60Hz, 250W | |
| Temperature | 5° - 30° Celsius | |
| Humidity | 30 - 85 non-condensing | |

*Media is measured in 35 lb bond paper



Hardware Installation

- Unpack and assemble the plotter.
- Assembly is fairly simple and you should refer to the **XLp Getting Started Manual** and the **XLp Installation Instructions** available on GERBERnet technical library.
- For a live demonstration you can view the **XLp Installation Video**, also available on GERBERnet.



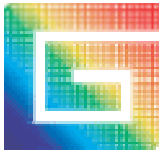
Hardware Installation (step by step)



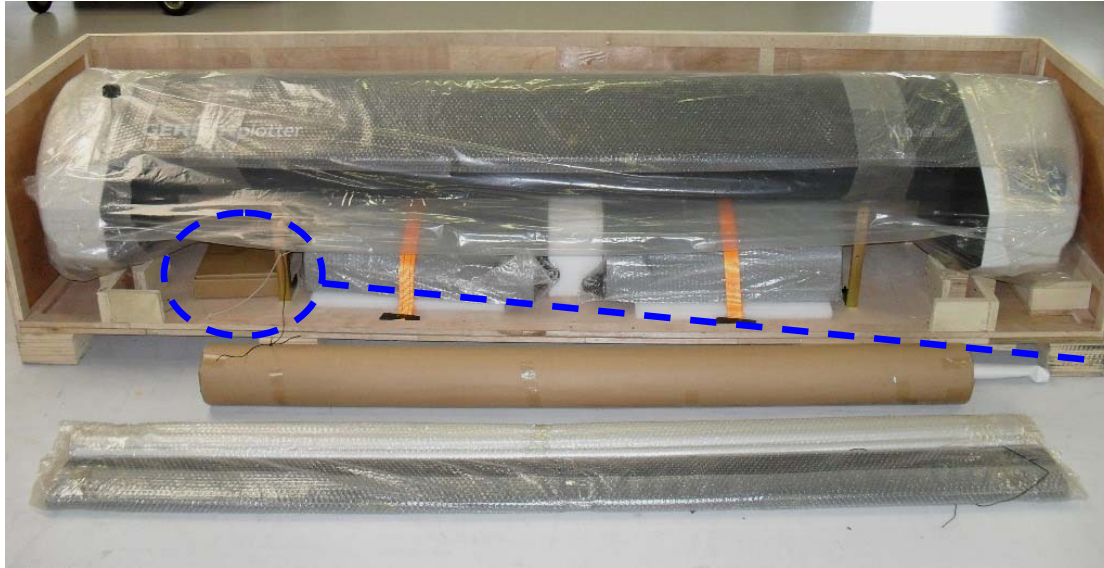
1. Upon reception of the system, please check the crate for visible damage and report back to your local Gerber representative.

2. Remove the top and front of the plotter crate.





Hardware Installation (step by step)

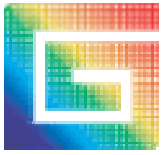


3. Remove foam blocks, paper roll, cross member and paper bars from the crate.

Also remove the cardboard box that is glued on the bottom of the crate

4. Remove the left and right base assy from the crate.





Hardware Installation (step by step)

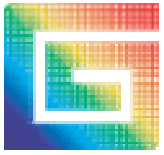


5. Unpack and assemble the plotter stand, using the M6 screws and 5mm Allen wrench supplied in the cardboard box.

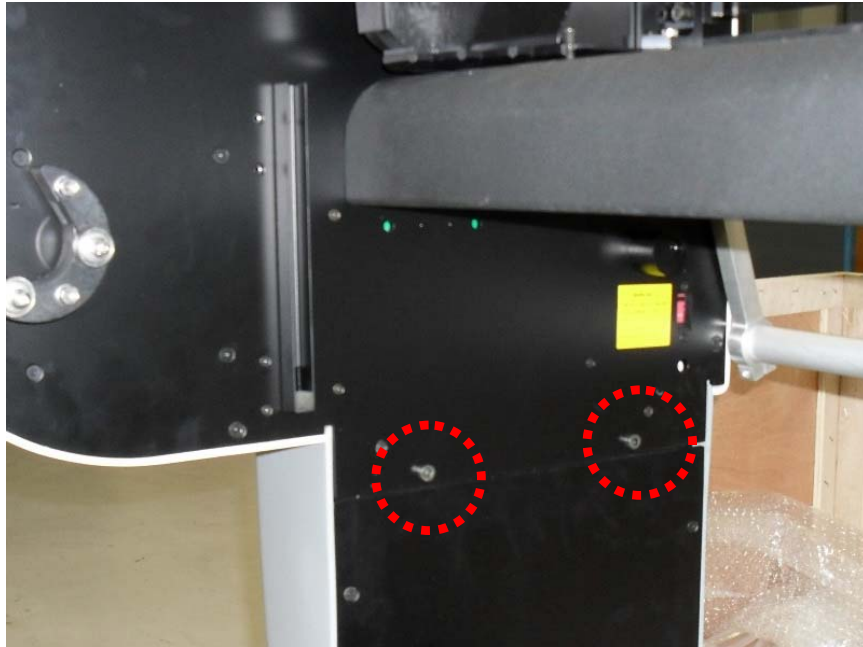
6. Remove all protective plastic from the plotter top and place it on the stand.

2 persons will be needed for the lifting



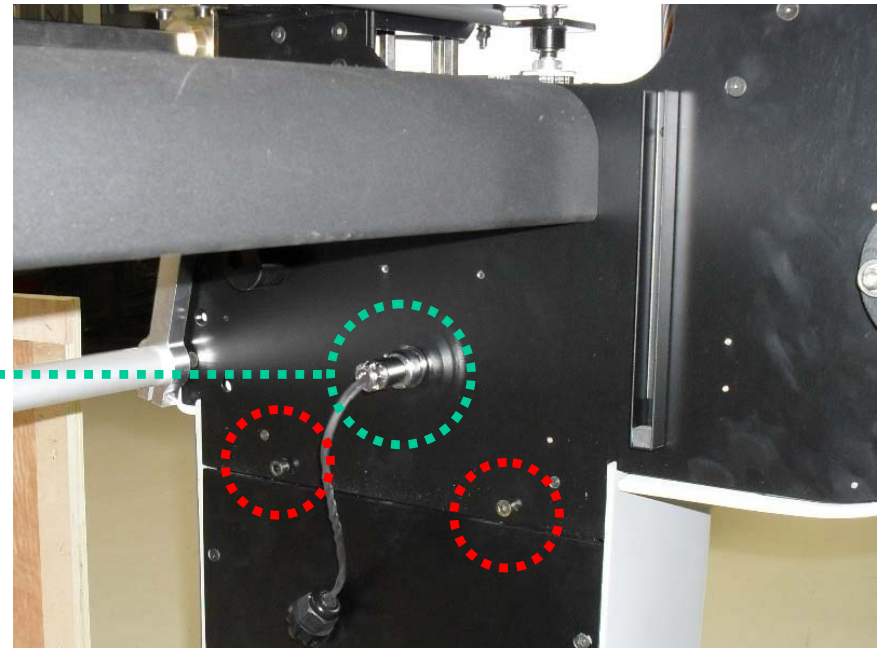


Hardware Installation (step by step)



7. Secure the plotter top to the base using the 4 remaining M6 screws and 5mm Allen wrench supplied.

8. Do not forget to plug in the connector for the paper supply motor in the right base assembly





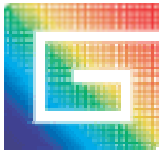
Hardware Installation (step by step)



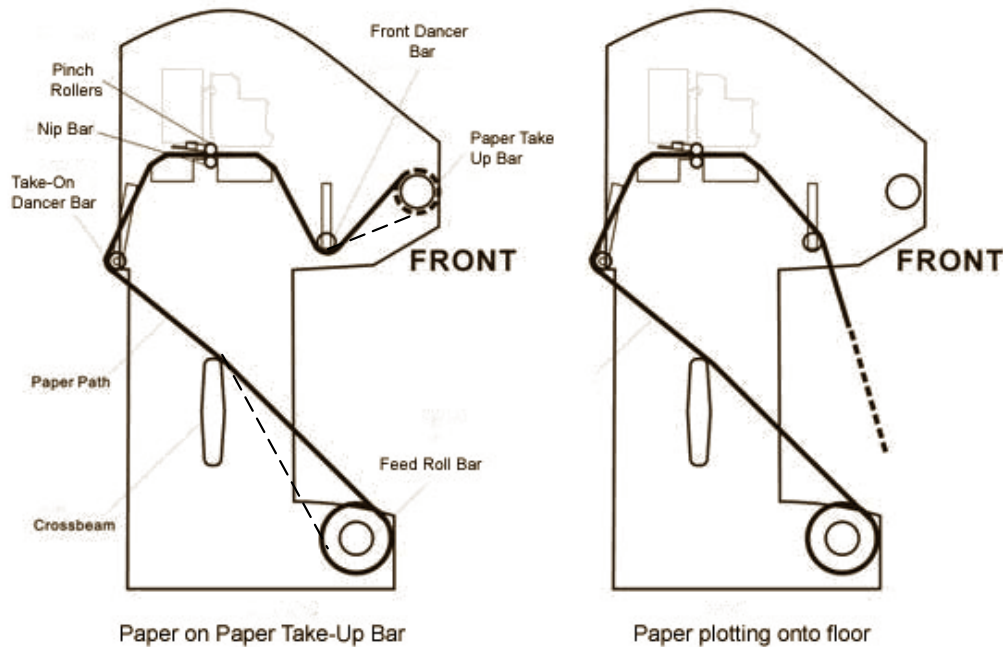
9. Make sure the voltage selection switch on the left base assembly is set for the correct value (usually 220V)

10. Remove the screw that blocks the carriage for transport.





Hardware Installation (step by step)

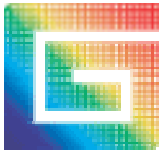


11. Feed the paper through the system as shown on the drawing to the left.



Paper can go either clock wise or counter clock wise depending on the roll.

Either take up or drop on floor



Hardware Installation (step by step)

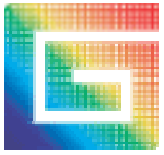


12. Open the little door at the side of the plotter crate to find your power cable

13. Plug the cable in the back of the left base assembly and power up. After initializing the carriage and cleaning station the screen should look like this.

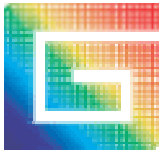
Don't forget to put the cartridge(s) in or you will get an error message.





Software Installation

- The XLp Plotter operates in a similar way as an Infinity Plotter. You can plot using either Winplot or AccuMark 8.3.0. or higher. If the customer doesn't want to upgrade the AccuMark software then they will have to supply a separate networked Windows PC to run Winplot.
- Software installation is best done without the XLp connected to the computer.
- Insert the WinPlot CD delivered with the system and install Winplot first, then install the XLp update.



Software installation



Welcome to the GERBER® Technology WinPlot Installation

Before You Begin

[What you need to do first](#)

[What are the System Requirements](#)

[Does My System meet the Requirements](#)

Documentation

[Install Adobe Acrobat Reader](#)

[View Documentation](#)



GT Programs

[Install WinPlot Software](#)

[XLp Update for Versions 8.2.2-8.4.0 \(Install WinPlot or AccuMark first\)](#)

Install Winplot first

AccuMark™ Products - System Updates

[Install .NET Framework 2.0](#)

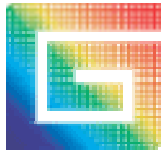
[Service Pack for Windows NT](#)

[Microsoft Windows 2000 Hotfix](#)

[Permissions for Windows XP](#)

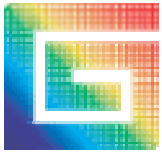
Then install the XLp Update

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Software installation

- Now insert the XLp CD to install the interface program (V2.7.1 or higher)
- After the installation of the XLp interface you can plug the USB connector in the plotter and Windows will automatically install the required drivers.



Software installation



Welcome to the GERBER Technology GERBERplotter™ XLP Series Installation

Before You Begin

[What you need to do first](#)

[What are the System Requirements](#)

[Does My System meet the Requirements](#)

Documentation

[Install Adobe Acrobat Reader](#)

[View Documentation](#)

GT Programs

[Install XLP Interface Software](#)

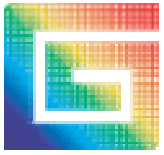


System Updates and Drivers



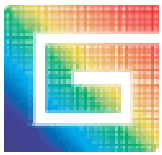
For the latest product information, please visit us at:
www.gerbertechnology.com

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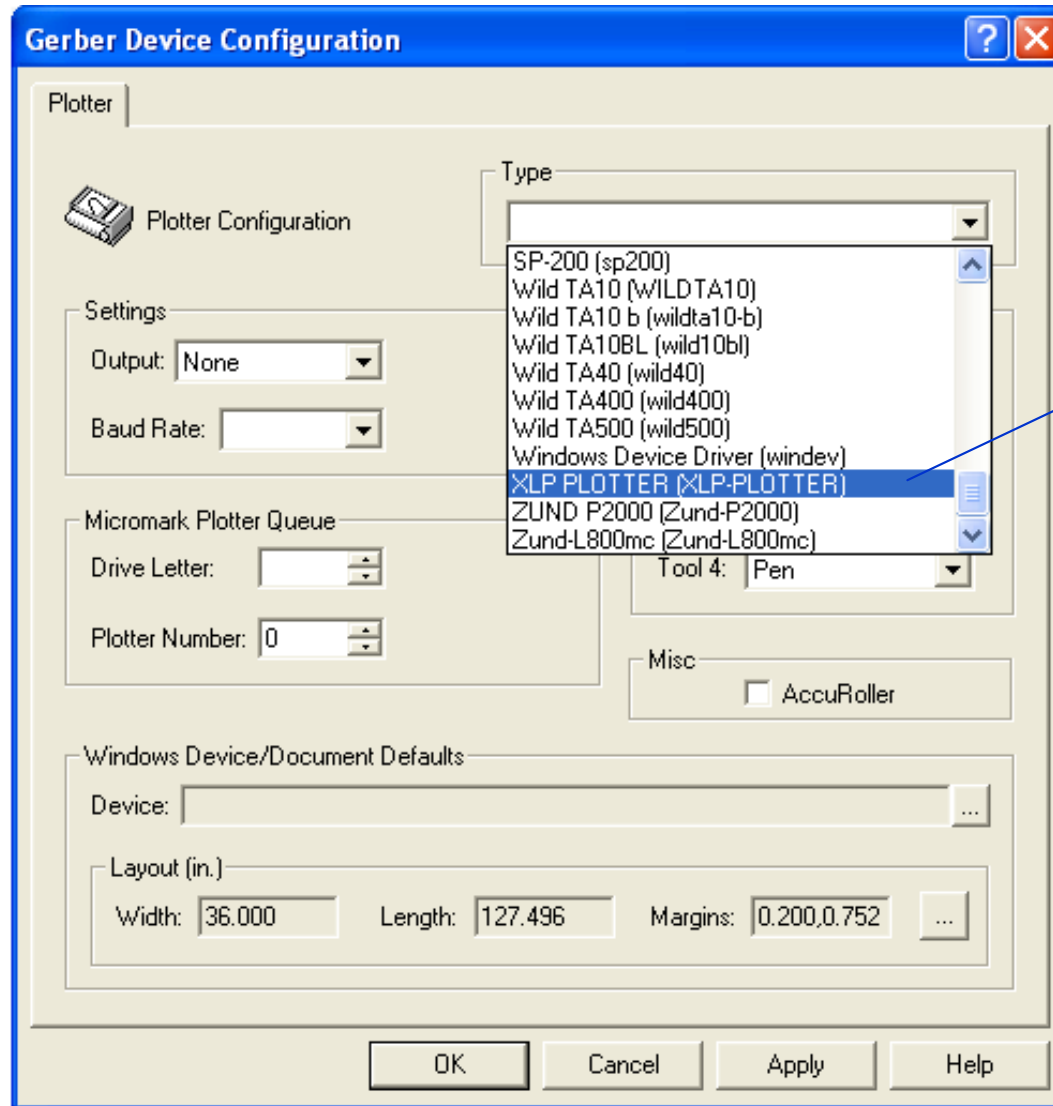


Gerber Device Configuration

- On the **Start** menu, point to **Control Panel**.
- Double click the Gerber Device icon.
- The **Gerber Device Configuration** window will appear.
- Click the **Plotter** tab (only on AccuMark systems).
- In the **Type** box, select **XLP USB PLOTTER (XLP-PLOTTER)**.
- In the **Settings** box COM-W will appear.
- Click **Apply**.
- Click **OK**.



Gerber Device Configuration

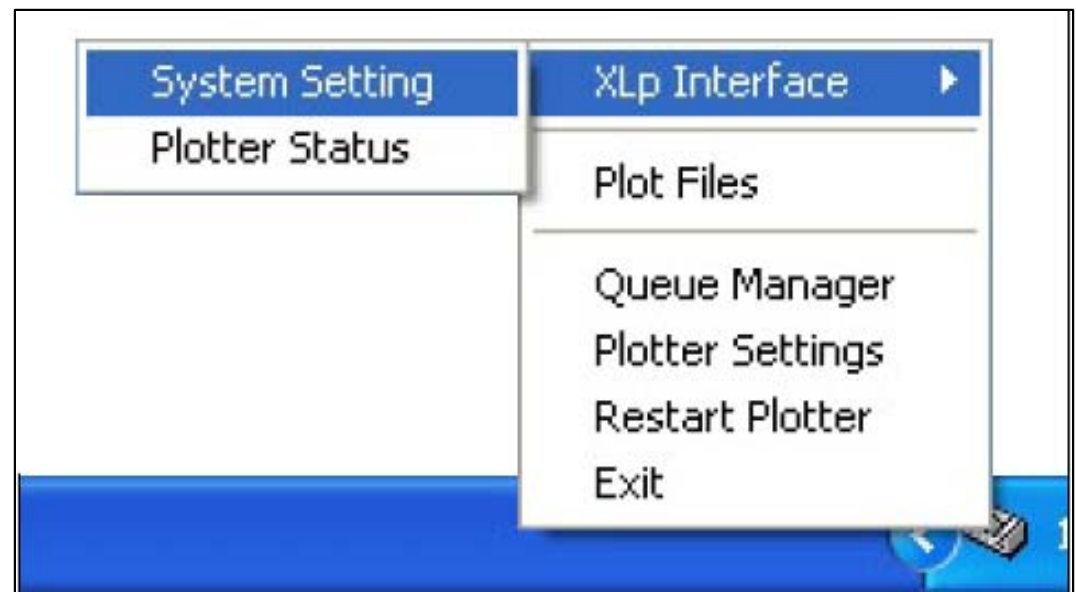


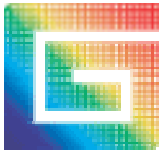
Select this plotter type



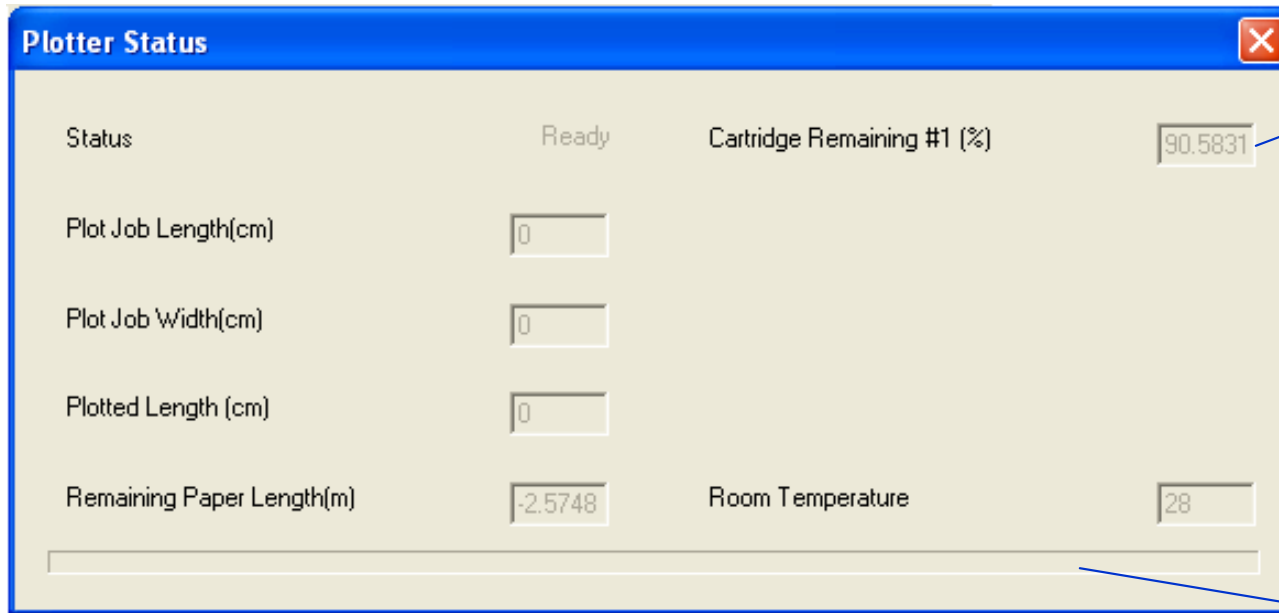
XLp Interface

- Unlike the Infinity Interface. The XLp Interface has two different windows to chose from (when you right click on the plotter icon).
- System Setting:
Allows you to perform all adjustments and calibrations to the XLp.
- Plotter Status: Allows for monitoring ink and paper usage





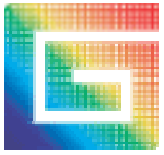
XLp Interface: Plotter Status



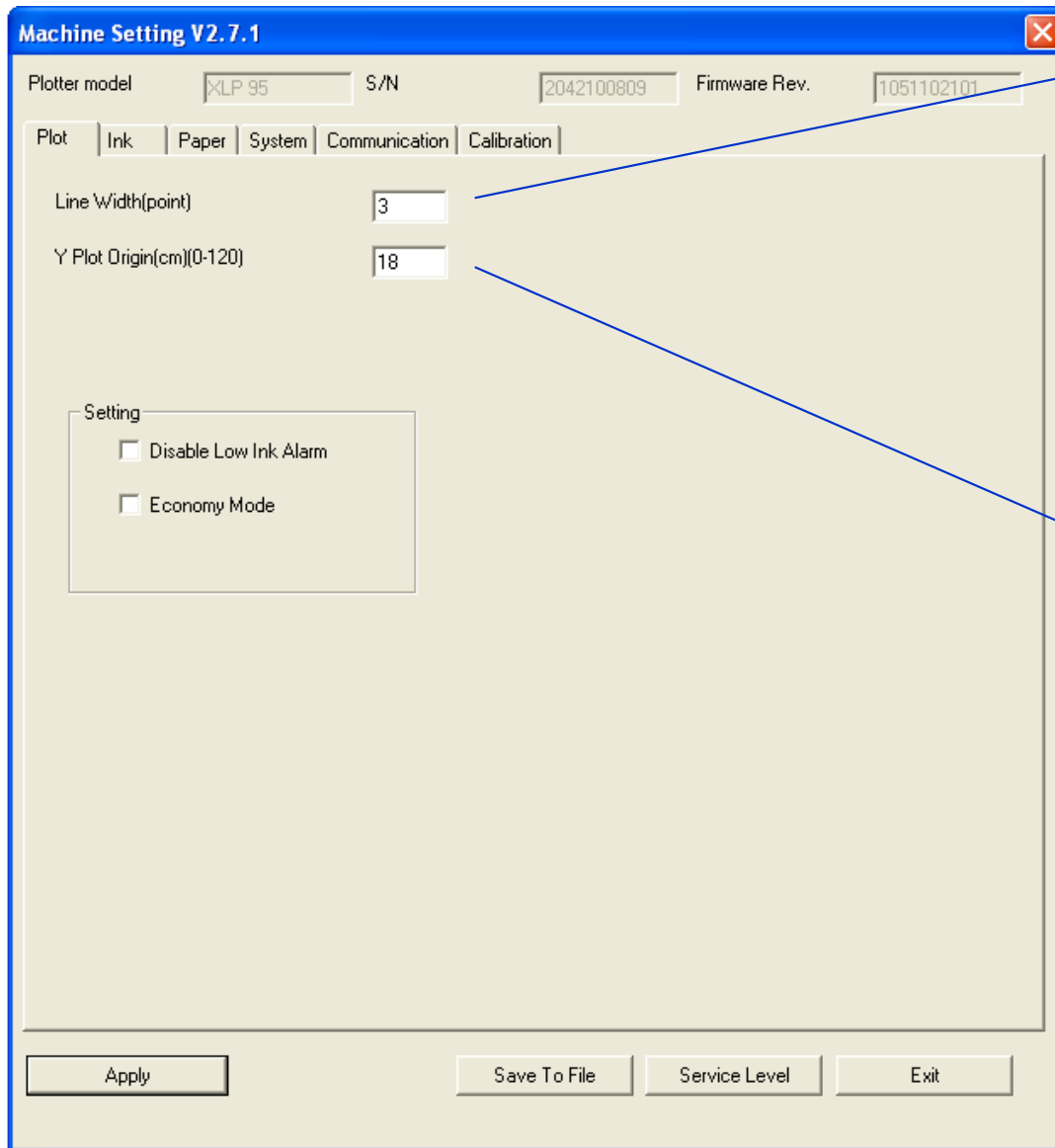
Percentage of ink remaining in cartridge (estimate)

Progress bar to indicate how much of the current job has been send to the XLp

This window will allow you to monitor the ink levels in the cartridges, check the status of the plotted job (length and width) and monitor the remaining paper and even show the temperature inside the plotter.



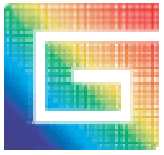
Machine Setting: Plot Tab



Line thickness in dots, setting depends on the type of paper used.

After much testing we have discovered for best print quality / ink usage change the **Line Width** to 3 and select the **Economy Mode**.

This value is the start of plot in reference to system 0. Value can be set manually.



Machine Setting: Ink Tab

Machine Setting V2.7.1

Plotter model: XLP 95 S/N: 2042100809 Firmware Rev.: 1051102101

Plot Ink Paper System Communication Calibration

Ink Counter Reset Value#1(%) 100

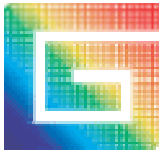
Ink Counter Reset Value#2(%) 100

Setting

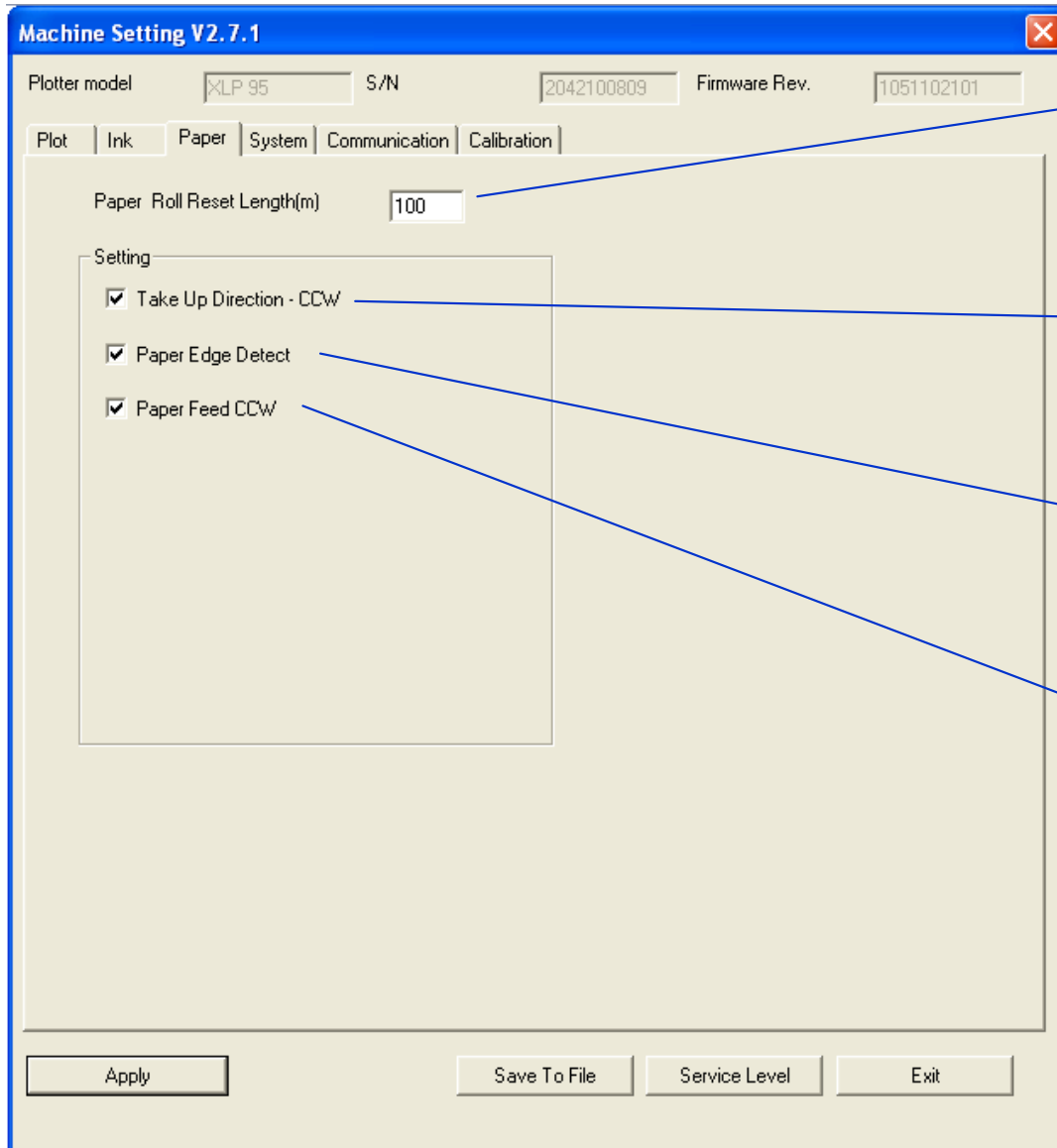
Apply Save To File Service Level Exit

Ink contents can be manually set (i.e. when putting back used cartridges after overnight printing)

For every cartridge there will be an input box available



Machine Setting: Paper Tab

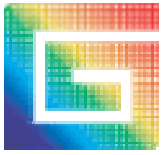


Initial length of new paper roll.

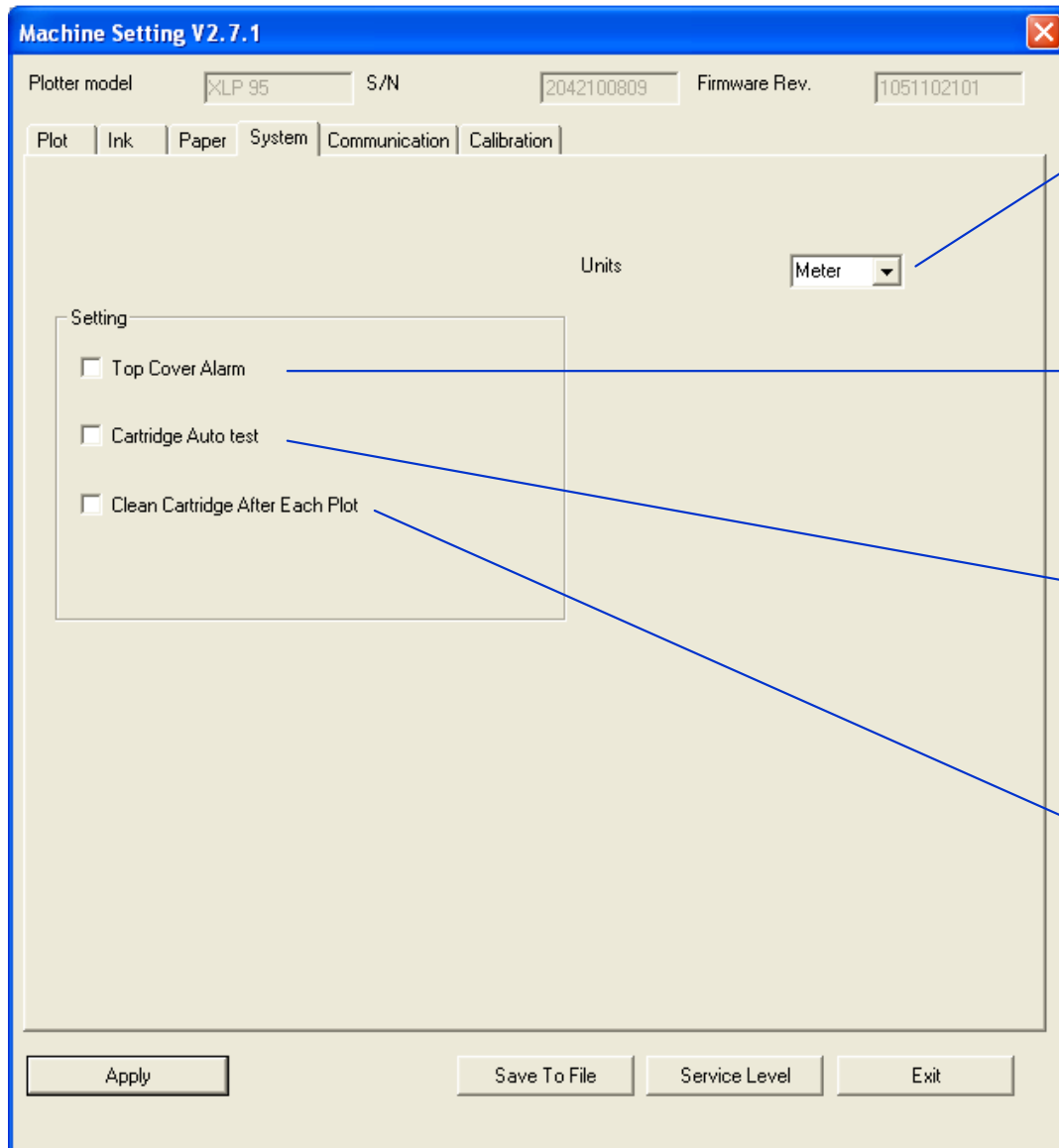
Change take up direction (default is CW)

Perform paper edge sensing at initialize

Change paper feed direction (default is CW)



Machine Setting: System Tab

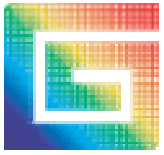


Sets the units of measurement for the parameters (except for calibration).

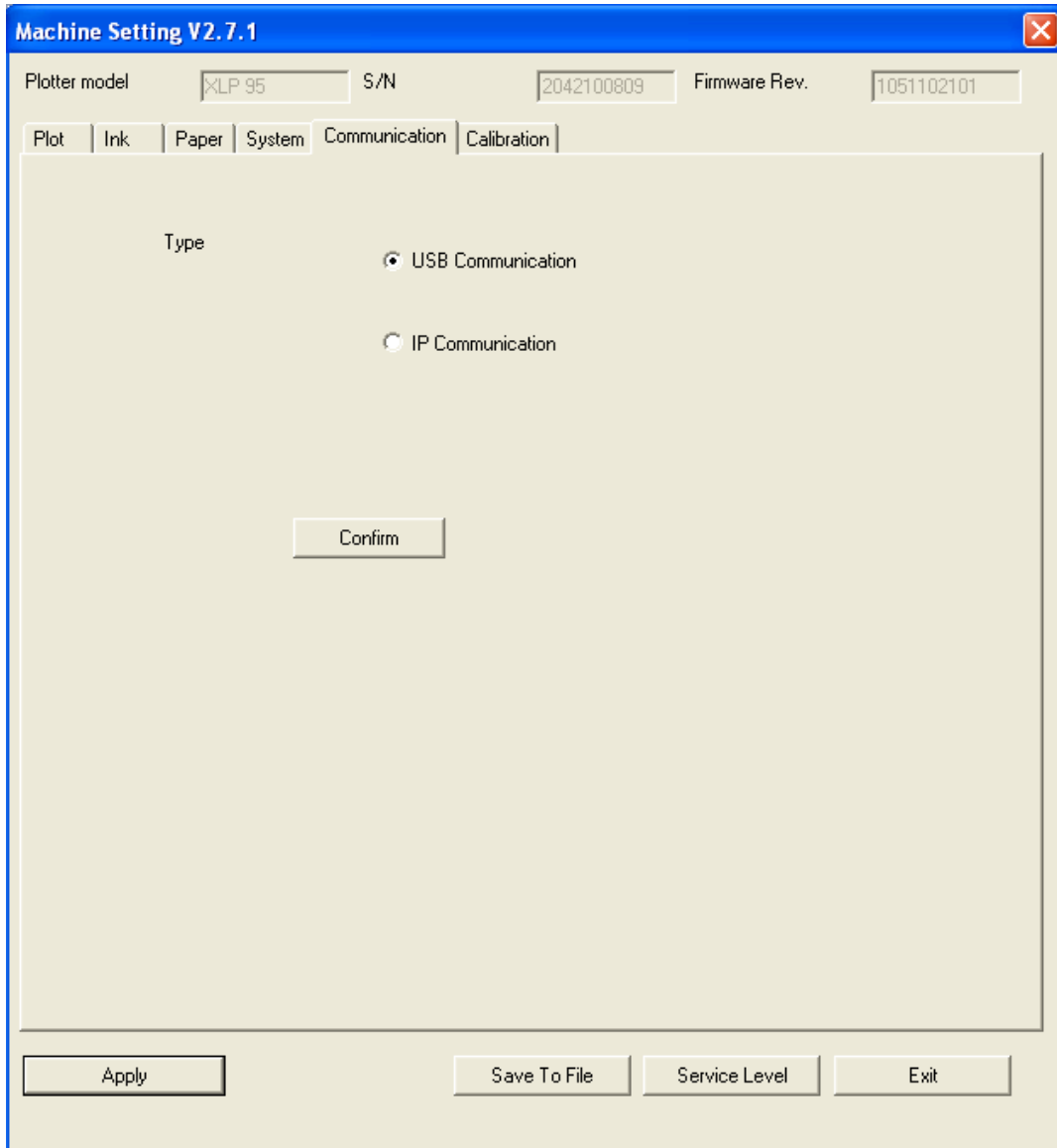
Detects and stops plotting when cover is opened.

Performs extended cartridge test at every initialize

Prevents cartridge clean during jobs



Machine Setting: Communication



Used to select the means of communication between Winplot and the XLP.

When selecting TCP/IP an additional field to fill out the IP address will show.

Currently only USB communication is available on XLP.



Machine Setting: Calibration tab

The screenshot shows the 'Machine Setting V2.7.1' window with the 'Calibration' tab selected. The window title bar includes a close button. The main area contains several calibration sections:

- Cartridge Alignment:** XGap (0.02mm)[-200-200] is set to .9. A button labeled 'XGap' is below the input field.
- Cartridge Overlap:** Cartridge#1,#2(0-10) is set to 0. A button labeled 'Start Cartridge Overlap Alignment' is below the input field.
- Y Head Calibration:** Cartridge#1,#2(0.05mm)(0-600) is set to 262. A button labeled 'Start Cartridge Separation Alignment' is below the input field.
- Y Gap Calibration:** Y Gap(0.1mm)[-100 - 100] is set to 9. A button labeled 'Start F/R Alignment' is below the input field.
- Length Calibration:** A table with columns 'Expected Length', 'Actual Length', and 'Scale'.

| | Expected Length | Actual Length | Scale |
|---------|-----------------|---------------|-------|
| XLength | 1 | 1 | 1 |
| YLength | 1 | 1 | 1 |

Buttons labeled 'Start Box Test' and 'Confirm' are below the table.

At the bottom of the window are buttons for 'Apply', 'Save To File', 'Service Level', and 'Exit'.

Used to perform the required calibrations at first install and at cartridge change.

XLp50 does not have cartridge overlap & cartridge separation alignments'

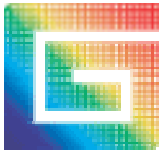
Each plotter leaves the factory "Calibrated" and the values stored in the firmware will be uploaded to the XLp I/F after communication between the plotter and XLp I/F has been done.



Cartridge Alignment : XGap

1. Click the **X Gap** button to run the X Gap calibration.
NOTE: The plotter will begin printing.
2. Check the plot for the line and corresponding numeric value that represents the best match of the two printed lines
3. Add or subtract this value from the displayed value in the **XGap** box (i.e. if best match is 3 and current X Gap value is -9, the new value will be -6)
4. Enter the new numeric value from step 3 in the **XGap** box.
5. Click **Apply**.
6. Repeat the Calibration if required until the zero value displays the best match of the two drawn lines.

33 30 27 24 21 18 15 12 9 6 3 0



Cartridge Alignment: Overlap

1. Click the **Start Cartridge Overlap Alignment** button to run the Cartridge Overlap calibration.
NOTE: The plotter will begin printing.
2. Check the plot for the line and corresponding numeric value that represents the best match of the two printed lines.
3. Enter the numeric value from step 2 in the **Cartridge** box.
4. Click **Apply**.
5. Repeat the calibration if required.

NOTE: This alignment is not present on XLp50

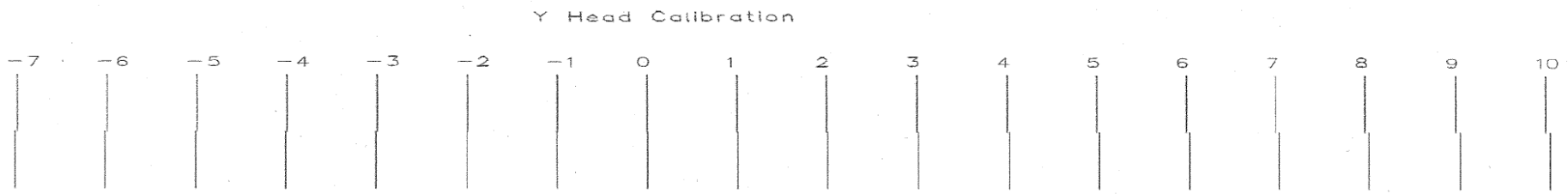


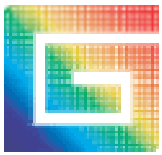


Cartridge Alignment: Separation

1. Click the **Start Cartridge Separation Alignment** button to run the Y Head calibration.
NOTE: The plotter will begin printing.
2. Check the plot for the line and corresponding numeric value that represents the best match of the two printed lines.
3. Add or subtract the numeric value from step 2 from the current value.
4. Enter the numeric value from step 3 in the **Y Head Calibration** box.
5. Click **Apply**.
6. Repeat the calibration if required.

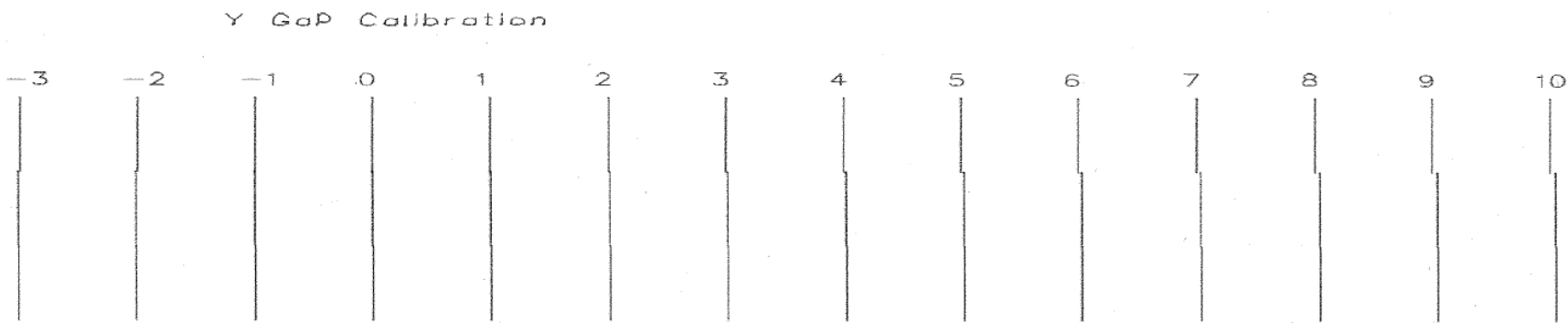
NOTE: The default value is 261 (2.61 cm or 26.1 mm) on XLp95

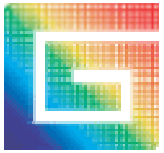




Cartridge Alignment: Forward Reverse

1. Click the **YGap** button to run the Y Gap calibration.
NOTE: The plotter will begin printing.
2. Check the plot for the line and corresponding numeric value that represents the best match of the two printed lines.
3. Add or subtract the value from step 2 from the actual value.
4. Enter the numeric value from step 3 in the **Y Gap** box.
5. Click **Apply**.
6. Repeat the calibration if required.





Calibration : Box Test

Machine Setting V2.7.1

Plotter model: XLP 95 S/N: 2042100809 Firmware Rev.: 1051102101

Plot Ink Paper System Communication Calibration

Cartridge Alignment

XGap

X Gap (0.02mm)[-200-200]

XGap

Cartridge Overlap

Cartridge#1,#2(0-10)

Start Cartridge Overlap Alignment

Y Head Calibration

Cartridge#1,#2(0.05mm)(0-600)

Start Cartridge Separation Alignment

Y Gap Calibration

Y Gap(0.1mm)[-100 - 100]

Start F/R Alignment

| | Expected Length | Actual Length | Scale |
|---------|--------------------------------|--------------------------------|--------------------------------|
| XLength | <input type="text" value="1"/> | <input type="text" value="1"/> | <input type="text" value="1"/> |
| YLength | <input type="text" value="1"/> | <input type="text" value="1"/> | <input type="text" value="1"/> |

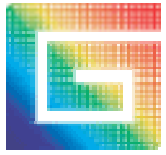
Start Box Test Confirm

Apply Save To File Service Level Exit

Box Test is used to calibrate the step size of the plotter. It will print a 1m square, which you then measure and input the exact size (in actual length fields).

After input of the values you click Confirm and then Apply. Exit the XLP interface before you do the test again (Actual Length values will be reset to 1 then).


Note: X-axis step size calibration needs to be checked if customer changes paper type



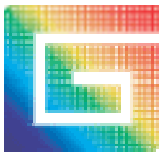
Service Level

To enter the service level of the XLp interface program you are required to enter a password.

The password is unique to every system as it is the serial number +1 for every digit.

In this case: serial number 2042100809
password 315321191: 
(9 becomes : not 0)

After you click on 'confirm' additional parameters will become visible.



Service Level : Plot Tab

Machine Setting V2.7.1

Plotter model: XLP 95 S/N: 2042100809 Firmware Rev.: 1051102101

Plot Ink Paper System Communication Calibration

Line Width(point): 3 Marker Gap(cm)(0-99): 0

Y Plot Origin(cm)(0-120): 18 Plotting speed(6~17): 17

X Scale(0.01-9.9999): 1

Y Scale(0.01-9.9999): 1

Setting

- Disable Low Ink Alarm
- Economy Mode
- Bidirectional Plotting

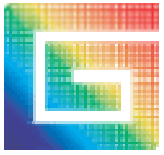
Apply Update Firmware Save To File Service Level Exit

To get additional spacing between jobs.

Set the plotting speed to a lower value.

Make sure no one changes the values of X and Y scaling. They have to be set at 1 and **NOTHING ELSE.**

Allows to switch to uni-directional printing (slower but better quality)



Service Level : Ink Tab

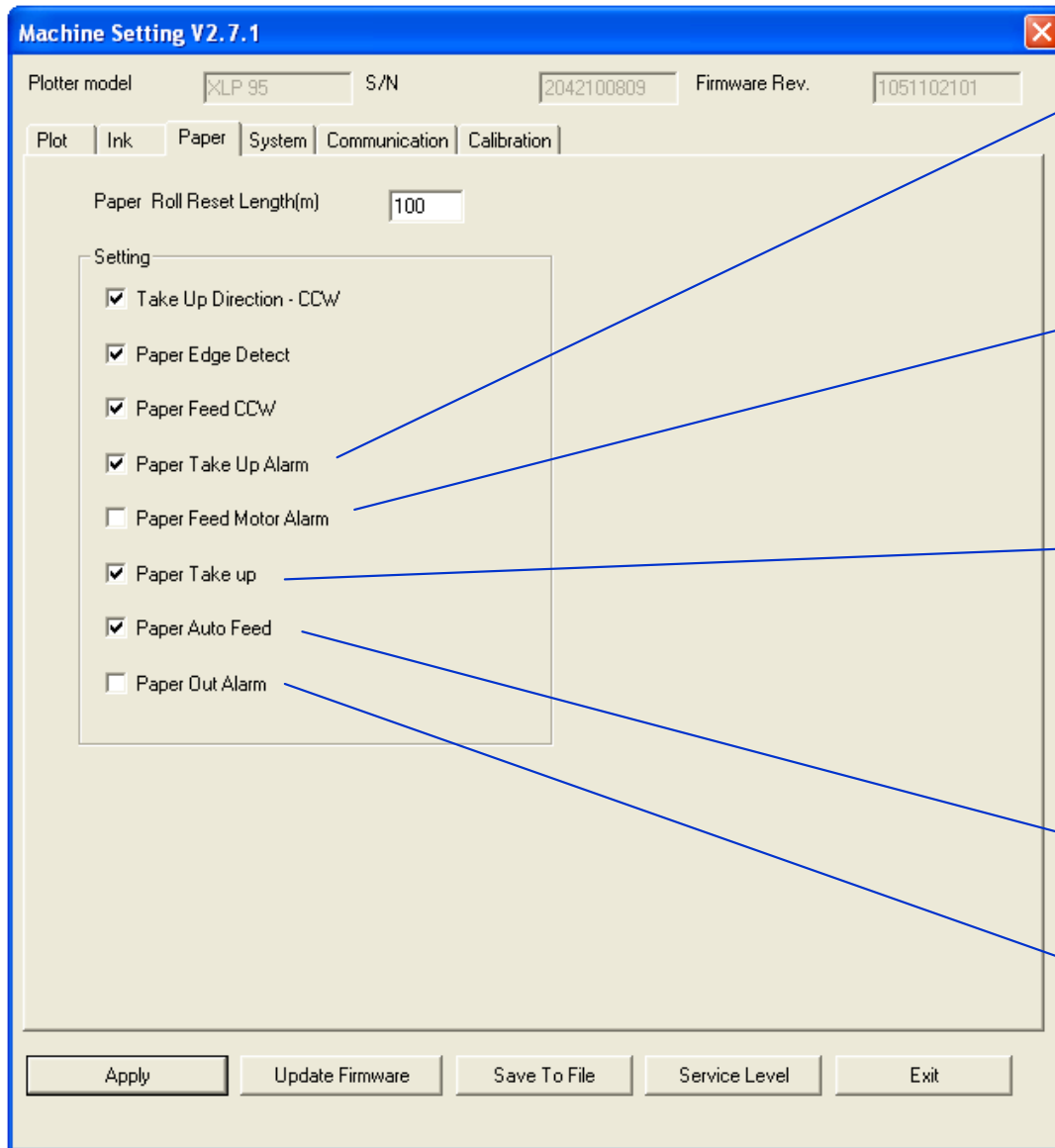
The screenshot shows the 'Machine Setting V2.7.1' window with the 'Ink' tab selected. At the top, there are fields for 'Plotter model' (XLP 95), 'S/N' (2042100809), and 'Firmware Rev.' (1051102101). Below these are tabs for 'Plot', 'Ink', 'Paper', 'System', 'Communication', and 'Calibration'. The 'Ink' tab contains two 'Ink Counter Reset Value' fields, both set to 100, and a 'Cartridge qty' field set to 2. A 'Setting' box contains two checked options: 'Optimize Droplet' and 'Cartridge Alarm'. At the bottom, there are buttons for 'Apply', 'Update Firmware', 'Save To File', 'Service Level', and 'Exit'.

Can be set to 1 if required
(note that the system will
then react as an XLP50)

Will give a message
when ink in cartridge
becomes low



Service Level : Paper Tab



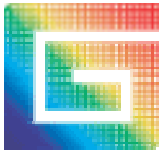
Signals when paper take up motor is running too long (paper slipping).

Signals when paper feed motor is running too long (paper slipping).

Uncheck for drop on floor (can also be set on plotter itself, but will reset after job).

Leave like this.

Signals when system is out of paper.

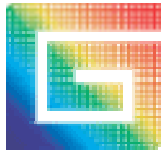


Service Level : System Tab

The screenshot shows the 'Machine Setting V2.7.1' window with the 'System' tab selected. At the top, there are fields for 'Plotter model' (XLP 95), 'S/N' (2042100809), and 'Firmware Rev.' (1051102101). Below these are tabs for 'Plot', 'Ink', 'Paper', 'System', 'Communication', and 'Calibration'. The 'System' tab contains several settings: 'X Max Speed' (6), 'Y Min Speed' (2), 'Temperature Adjust' (0), 'Units' (Meter), and 'DPI' (300). A 'Setting' section has three unchecked checkboxes: 'Top Cover Alarm', 'Cartridge Auto test', and 'Clean Cartridge After Each Plot'. At the bottom, there are buttons for 'Apply', 'Update Firmware', 'Save To File', 'Service Level', and 'Exit'. A blue box highlights the 'X Max Speed', 'Y Min Speed', and 'Temperature Adjust' fields, with a blue arrow pointing to a text annotation. Another blue arrow points from the 'DPI' dropdown menu to another text annotation.

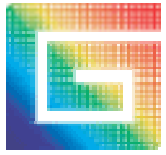
Do not touch these values (result unknown)

Resolution should always be on 300DPI



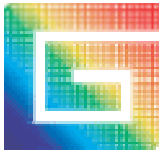
Service Level : Updating Firmware

- Latest firmware will be made available via GERBERnet.
- When you click Update Firmware a standard browsing window will pop up instructing you to select the firmware file to upload (the XLp uses *.hex files).
- Once selected the system will ask you to confirm twice before it uploads the firmware to the plotter (takes only a few seconds).
- After firmware update the plotter will restart automatically.



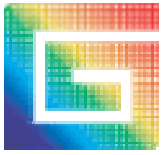
Maintenance

- To keep a smooth Y-axis movement it is recommended to clean and slightly oil both round ways at regular intervals (2-3 weeks depending on usage). Make sure you do not touch the Code Strip with oil (use a small piece of oiled rag to sweep the round ways).
- Make sure the Y Encoder Strip is free of dust and debris. If not then the head may take-off at a high speed and slam into the Cleaning Station.

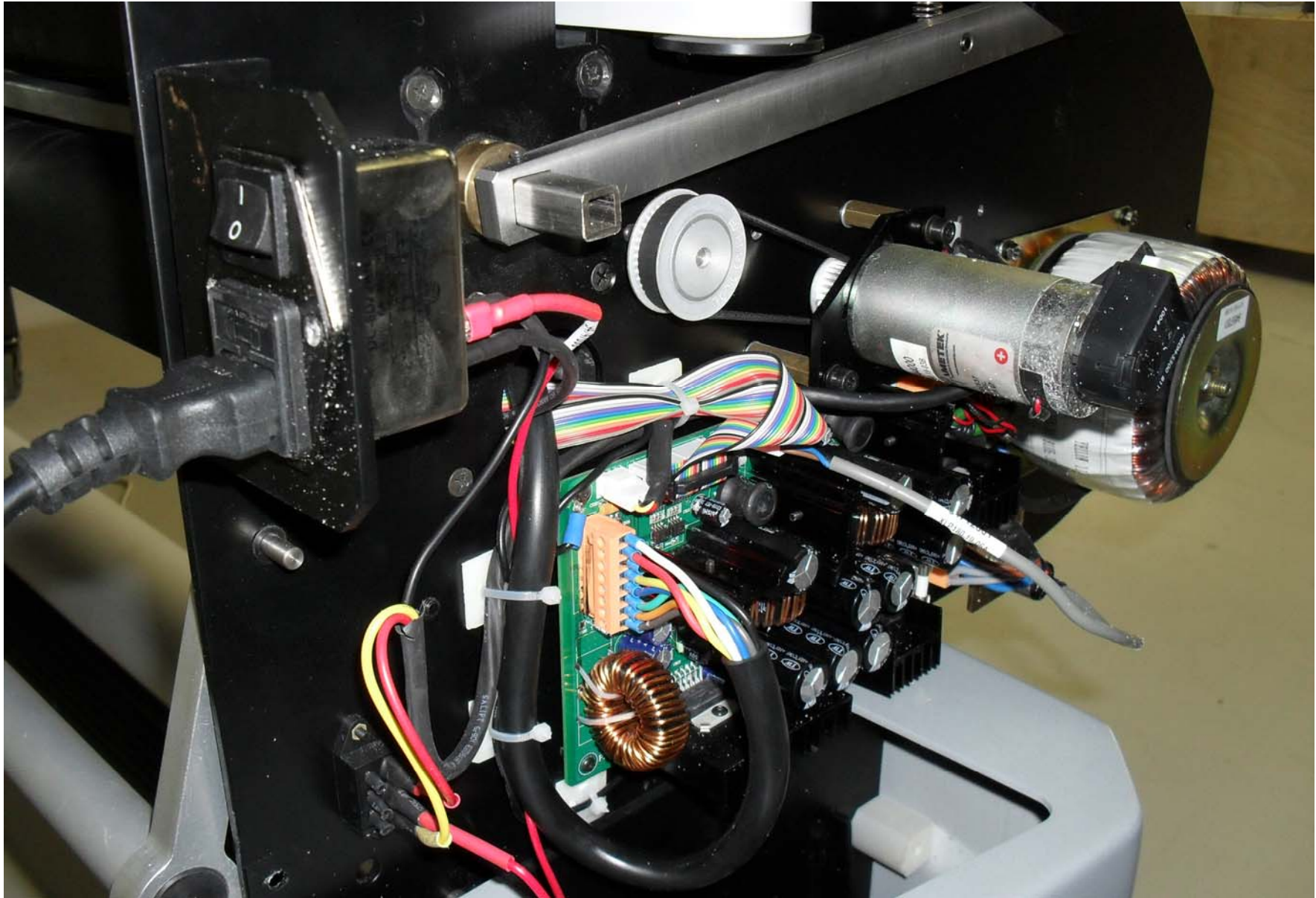


Maintenance

- Over time ink will build up in the cleaning station due to the cleaning cycles where the system purges the jets. This can cause print quality issues if the ink builds up near the jets. If this occurs, it is recommended to (remove and) clean the capping rubbers using warm water and soap.

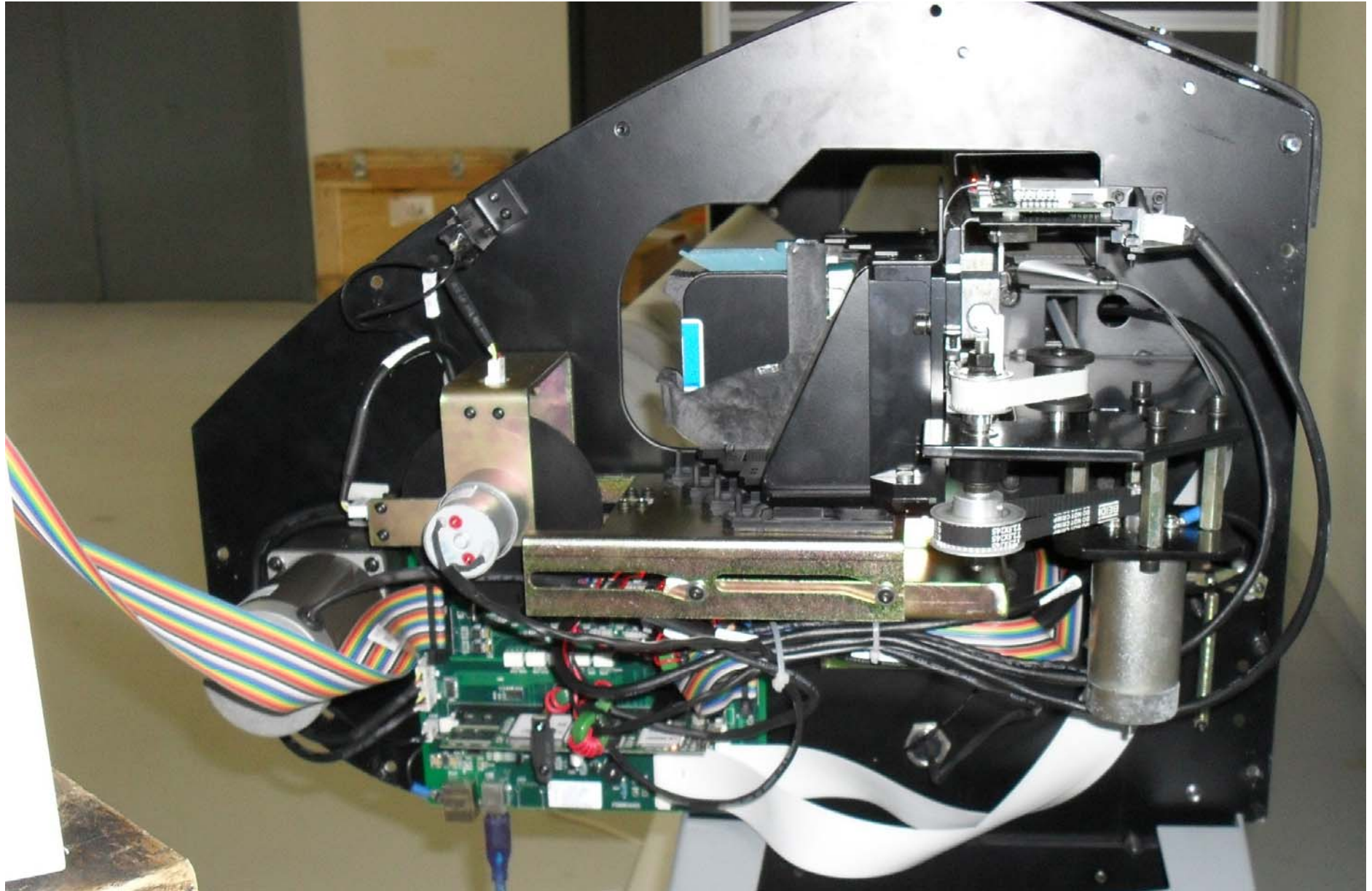


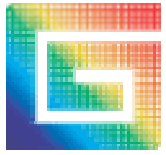
Components: left side





Components: Operator Side





Questions ?
