

Neuralabel 300x High-Speed Full-Color Digital Label Printer

Instruction Manual



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NeuraLabel 300x User Guide

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NeuraLabel 300x
Continuous Form Label Printer

NeuraLabel 300x

Continuous Form Label Printer

by NeuraLabel Printing Solutions

Congratulations on your NeuraLabel 300x Continuous Form Printer. With this printer you have invested in the latest advancements in printing technology.

The NeuraLabel 300x is a high-speed, high-resolution printer for digital color label printing. Built on Hewlett-Packard PageWide® Technology, the NeuraLabel 300x brings high speed printing to your fingertips. HP PageWide Technology features a stationary printhead with over 40,000 nozzles that delivers breakthrough speed and reliability, because the paper is the only thing that moves.

While the NeuraLabel 300x is made for continuous printing, it also can be used for cut sheet printing. Both network and USB printing capabilities are supported. In short, this flexible device is your desktop printing solution for full-color prime or GHS compliant labels.

NeuraLabel 300x User Guide

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Printed: July 2015 in Stafford, TX USA

Recognition of Content Source:

Portions of this document were taken from Officejet Pro X451 and X551 series printers User Guide.

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Introduction

This Quick Start User Guide provides the information you need for successfully printing labels on the NeuraLabel Printing Solutions 300x Continuous Printer. The NeuraLabel 300x can be used to print Continuous and Cut Sheet Labels, and it can be used as a Continuous Web Press.

The NeuraLabel 300x will print continuous labels at speeds up to 20 inches per second. The water-resistant pigment inks used in the printer are moisture resistant, allowing this printer to be used for a variety of labeling applications, including BS5609 compliant printing. Print resolutions up to 2400x1200dpi allow sharp full-color finished labels.

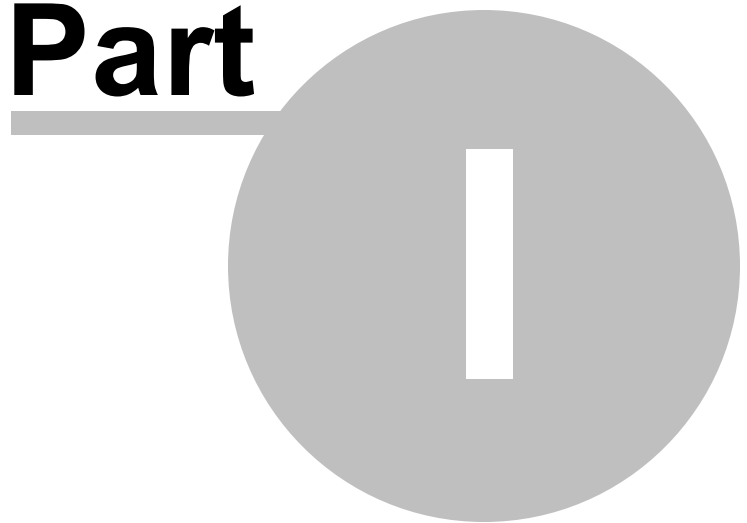
This document will provide the basic steps to help you get started printing labels.

For more detailed information and the latest NeuraLabel 300x User Guide, please visit the NeuraLabel web site at www.neuralabel.com.

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Tour of the NeuraLabel 300x

Part



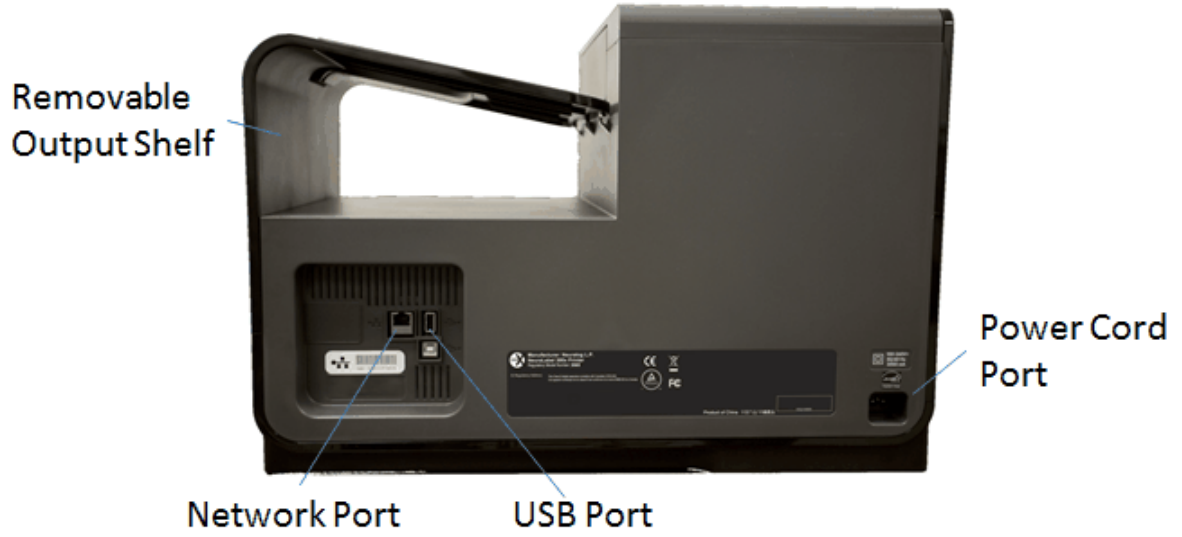
1 Tour of the NeuraLabel 300x

This Quick Start Guide provides the information you need for successfully printing labels on the NeuraLabel Printing Solutions 300x Continuous Form Printer. The NeuraLabel 300x can be used to print Continuous Form and Cut Sheet Labels, or it can be used as a Continuous Roll Web Press. This document will provide the basic steps to help you get started printing labels.

For the latest NeuraLabel 300x User Guide please visit the NeuraLabel web site.



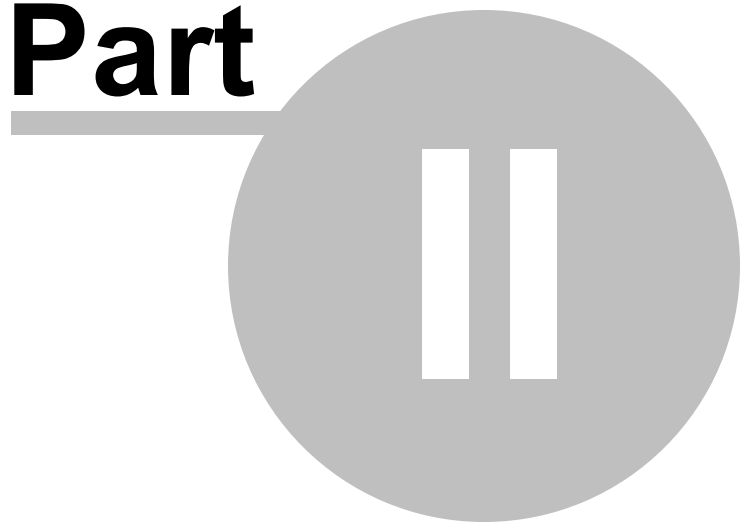
NeuraLabel 300x Continuous Form Printer



NeuraLabel 300x Continuous Form Printer

Installing the NeuraLabel 300x

Part



2 Installing the NeuraLabel 300x

The NeuraLabel 300x will work with either USB or over your wired network. It is not a wireless printer and will not work well over a wireless network because continuous printing requires a significant amount of data bandwidth. USB is the fastest and therefore recommended type of printer connection. Installation for both USB and network are provided.

2.1 USB Installation

NeuraLabel 300x supports a USB 2.0 connection. Use an A-to-B type USB cable. A cable that is no longer than 2 m (6.5 ft) is recommended.

CAUTION: Do not connect the USB cable until the installation software prompts you to connect it.

IMPORTANT: This printer is designed to be used on a level surface. Operating the printer when not level could result in inaccurate printer messaging about the amount of ink remaining in cartridges.

NeuraLabel Driver Installation from CD (or www site)

1. Quit all open programs on the computer.
2. Install the software from the CD, and follow the onscreen instructions.
3. When prompted, select the **USB-Connect the printer to the computer using a USB cable** option, and then click the **Next** button.
4. When the software prompts you, connect the USB cable to the computer and the printer.
5. When the installation is complete, print a test page to be sure the driver is correctly installed.

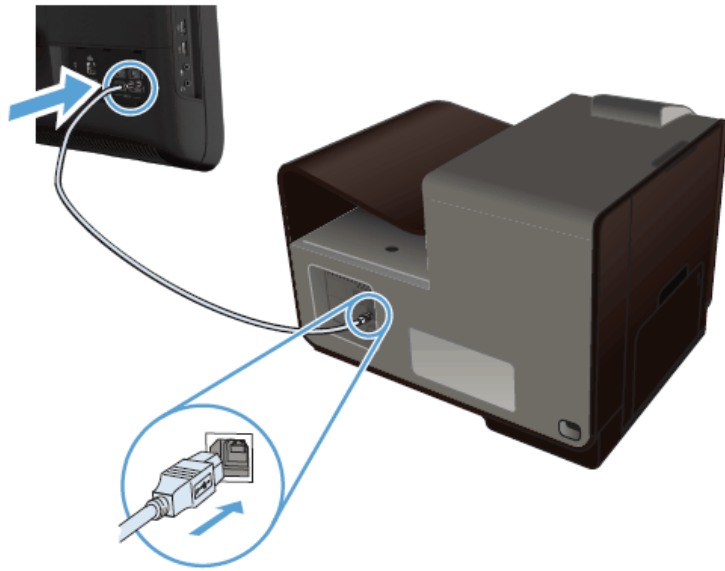


Figure: USB Cable Connection

Troubleshoot USB Installation problems

If you have connected the printer directly to a computer via USB, and are having problems, check the USB cable.

- Verify that the cable is connected to the computer and to the product.
- Verify that the cable is not longer than 5 m (16.4 ft). Try using a shorter cable. A cable no longer than 2 m is recommended.
- Verify that the cable is working correctly by connecting it with another product. Replace the cable if necessary.

2.2 Network Installation

NeuraLabel 300x supports the following network protocols:

- TCP/IP (IPv4 or IPv6)
- LPD Printing
- SLP
- WS-Discovery

NOTE: While NeuraLabel 300x can be used over IPv6 networks, a product software installation from the CD is not supported over IPv6 networks.

Install the product on a wired network

Use this procedure to install the product on a wired network.

Obtain the IP address

1. Connect the ethernet cable to the printer and to the network. Turn the printer on.
2. Wait for 60 seconds before continuing. During this time, the network recognizes the product and assigns an IP address or host name for the product.
3. At the product control panel, press the Setup button.
4. Touch the Print Reports menu, and then touch the Network Configuration Page menu item to print the configuration report.
5. Find the IP address on the configuration report.

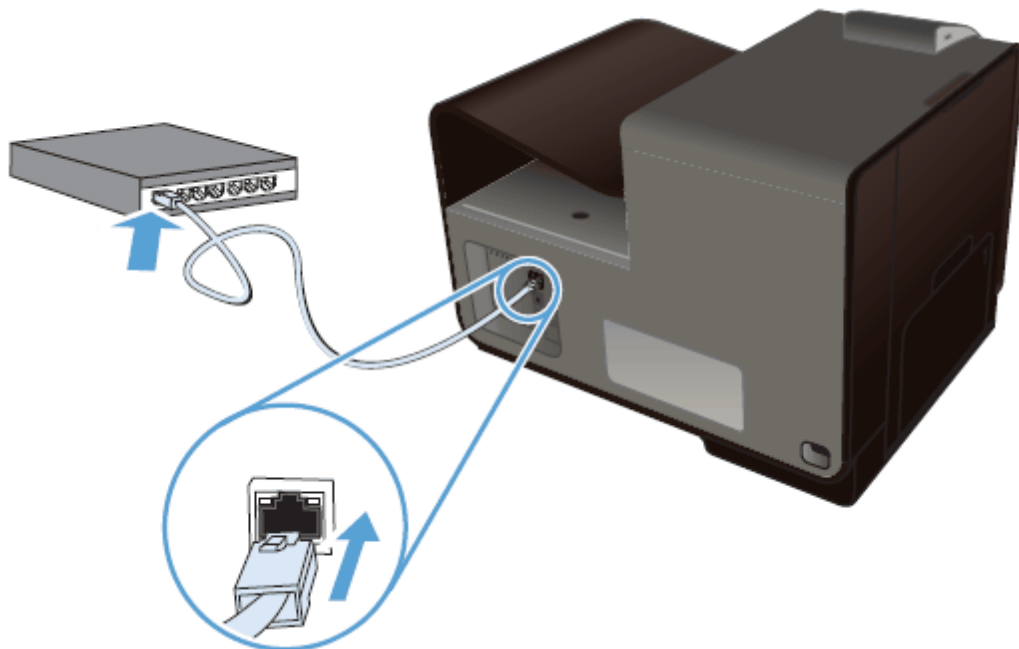


Figure: Network Cable Connection

Install the driver software from the CD (or www)

1. Quit all programs on the computer.
2. Install the software from the CD and follow the onscreen instructions.
3. When prompted, select the **Wired Network - Connect the printer to your network using an Ethernet cable**. option, and then click the **Next** button.
4. From the list of available printers, select the printer that has the correct IP

address.

5. When the installation is complete, print a page from any program to make sure that the printing software is correctly installed.

Troubleshoot Network Installation problems

If you have connected the printer to a computer over a network, and are having problems, check the following items to verify that the product is communicating with the network. Before beginning, print a configuration page from the product control panel and locate the product IP address that is listed on this page,

Poor physical connection/bad cable.

- Verify that the product is attached to the correct ethernet port using the proper cable.
- Verify that cable connections are securely attached.
- Look at the ethernet port on the back of the product, and verify that the amber activity light and the green link-status light are active.
- If the problem continues, try a different cable or port on the network router, switch, or hub.

The computer is using the incorrect IP address for the printer.

- On the computer, open the printer properties and click the **Ports** tab. Verify that the current IP address for the printer is selected. The IP address is listed on the printer configuration page or through the operator panel.
- If the IP address is correct, delete the product entry from the list of installed printers, and then add it again.

The computer is unable to communicate with the printer.

- Bring up the printer's Embedded Web Server to verify communication.
- Ping the printer IP using a cmd command.

The printer is using incorrect link and duplex settings for the network.

- Keep at auto or 100 Mbps duplex.

New software programs might be causing compatibility problems.

The computer or workstation might be set up incorrectly.

The printer is disabled, or other network settings are incorrect.

2.3 Configure Network Settings

Should you need to make manual changes to the printer network connection, follow the steps outlined in this section.

2.3.1 View or change network settings

Use the Embedded Web Server to view or change IP configuration settings.

1. Print a configuration page, and locate the IP address.

- If you are using IPv4, the IP address contains only digits. It has this format:

xxx.xxx.xxx.xxx

- If you are using IPv6, the IP address is a hexadecimal combination of characters and digits. It has a format similar to this :

xxxx::xxxx:xxxx:xxxx:xxxx

2. To open the NeuraLabel Embedded Web Server, type the IP address (IPv4) into the address line of a Web browser. For IPv6, use the protocol established by the Web browser for entering IPv6 addresses.
3. Click the **Networking** tab to obtain network information. You can change settings as needed.

2.3.2 Set or change the product password

Use the NeuraLabel Embedded Web Server to set a password or change an existing password for a product on a network so unauthorized users cannot change the product settings.

1. Type the printer IP address into the address line of a Web browser. Click the **Settings** tab, click **Security**, and then click the **Password Settings** link.

NOTE: If a password has previously been set, you are prompted to type the

password. Type “admin” for User Name along with the password, and then click the **Apply** button.

2. Type the new password in the **Password** box and in the **Confirm Password** box.
3. At the bottom of the window, click the **Apply** button to save the password.

2.3.3 Manually configure IPv4 TCP/IP parameters from the control panel

Use the control-panel menus to manually set an IPv4 address, subnet mask, and default gateway for the NeuraLabel 300x.

1. Select the Setup option from the Home screen.
2. Select the Network option.
3. Select the Advanced Setup option.
4. Select the IPv4 option.
5. Select the Manual option.
6. Select the IP Address option.
7. Use the numeric keypad to enter the IP address, and touch the OK button. Touch the Yes button to confirm.
8. Use the numeric keypad to enter the subnet mask, and touch the OK button. Touch the Yes button to confirm.
9. Use the numeric keypad to enter the default gateway, and touch the OK button. Touch the Yes button to confirm.

2.3.4 Link speed and duplex settings

NeuraLabel 300x continuous printing requires a 100 Mbps, full-duplex wired network connection for proper operation.

NOTE: The link speed and communication mode of the print server must match the network hub. For most situations, leave the printer in automatic mode. Incorrect changes to the link speed and duplex settings might prevent the printer from communicating with other network devices. If you need to make changes, use the product control panel.

NOTE: The setting must match with the network product to which you are connecting (a network hub, switch, gateway, router, or computer).

NOTE: Making changes to these settings causes the printer to turn off and then on. Make changes only when the printer is idle.

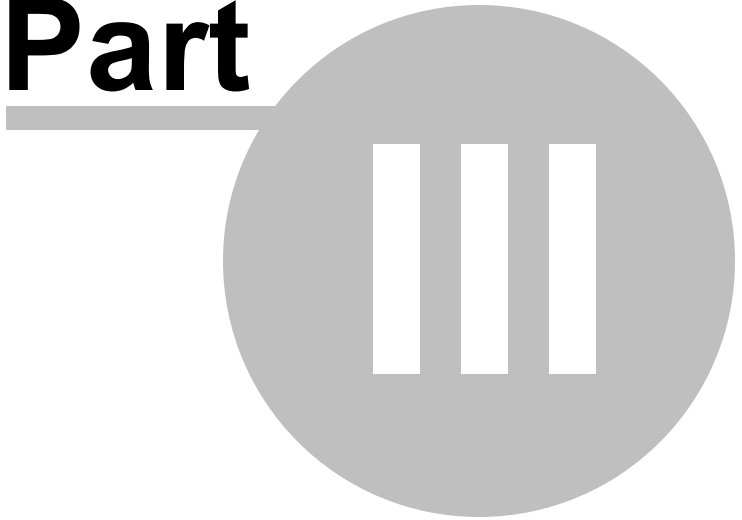
1. From the control panel, press the Setup button.
2. Touch the Network Setup menu item.
3. Touch the Advanced Setup menu item.
4. Touch the Link Speed menu.
5. Select one of the following options.
6. Press or touch the OK button. The product turns off and then on.

Setting	Description	Supported by NeuraLabel 300x
Automatic	The print server automatically configures itself for the highest link speed and communication mode allowed on the network.	Yes, we recommend leaving Link Speed set at Automatic.
10 Half	10 megabytes per second (Mbps), half-duplex operation	Not supported because of insufficient performance.
10 Full	10 Mbps, full-duplex operation	Not supported because of insufficient performance.
100 Full	100 Mbps, full-duplex operation	Required for continuous printing.
100 Half	100 Mbps, half-duplex operation	Not supported because of insufficient performance.

Table: Network Configuration Options

Setting Up and Printing Labels

Part



3 Setting Up and Printing Labels

The NeuraLabel 300x makes printing labels fast and easy, regardless of the type of media and label software you are using. Understanding the media, software application and printing process will greatly expedite the label printing process.

The NeuraLabel 300x will work with any label authorizing software. Make sure you understand the software application you have chosen. Of particular importance are margin settings, color selection and label sequencing. Neuralog can offer limited help with software setup. Contact your label authoring software manufacturer for detailed help.

3.1 Setting Up Your Label

Setting up the label involves understanding the margins, placement of active content on your document page, understanding sequencing or copies and knowing the complexity and size of the label job. The following sections provide some guidance for this area, however this is mostly controlled by your chosen labeling application.

3.1.1 Margins

The NeuraLabel 300x has 35/300 (0.117) inch margins. It is not a fullbleed printer, however see the section *Types of Continuous Printing* for information about fullbleed printing. Documents should be sized to be within this space so that image cropping will not occur.

If Borderless Printing is selected in the driver, the image will print borderless in the continuous direction and still keep 35/300 margin (white space) on the sides of the media.

Maximum Print Width is 8.5" - 0.117" left margin - 0.117" right margin = 8.266"
Minimum Print Width is 3.0" - 0.117" left margin - 0.117" right margin = 2.766"

Maximum Print Length is 22.0". Margins of 0.117" on each side are optional.
Minimum Print Length is 4.0". Margins of 0.117" on each side are optional.

3.1.2 Sizing to Fit

The NeuraLabel 300x can print labels as small as 3 inches wide by 4 inches long and labels up to 8.5 inches wide by 22 inches long. If your label is outside these dimensions, you will need to use "size to fit" to print them on the NeuraLabel 300x.

3.1.3 Copies or Numbered

The NeuraLabel 300x will print both sequenced and non-sequenced (copies) labels. Copies should be set in your label authoring application.

3.1.4 Complexity and Job Size

The complexity and size of your label print job may affect the time it takes for the printer to start printing. Make sure you are using a reliable network/USB connection and an up-

to-date operating system.

The file size will not affect the actual printing speed, however larger sized media may print at slower speeds than smaller media.

3.2 Select Paper Source and Form Size

When printing labels it is critical to set up the form size to exactly match the size of your media. There are many pre-defined form sizes, however you may need to create and define custom form sizes. Custom form sizes can be accessed in your printer server properties through the control panel. Alternatively, you may access custom form sizes through the NeuraLabel 300x printer driver. To access through the printer driver select **Advanced...** and then **Manage Custom Sizes**. **Manage Custom Sizes** is the last item in the **Advanced...** Options Printer Features list.

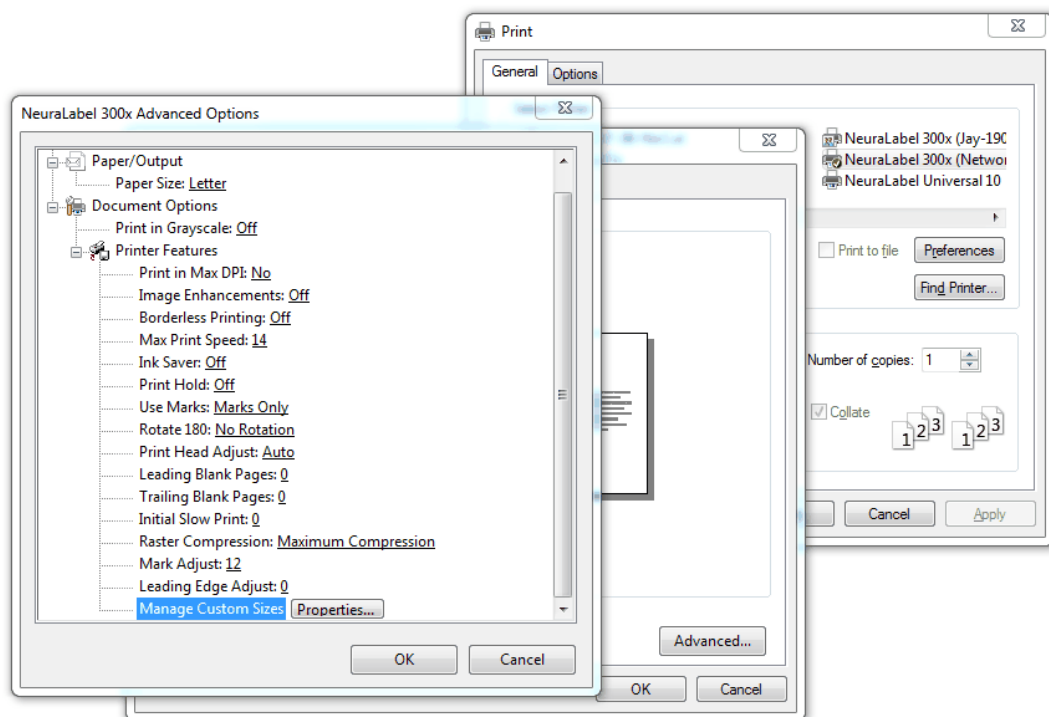


Figure: Managing Custom Form Sizes

Note that custom form sizes should be set up before label printing. Because creating custom form sizes is a system function, you must close completely out of the printer driver dialog for custom form sizes to be saved.

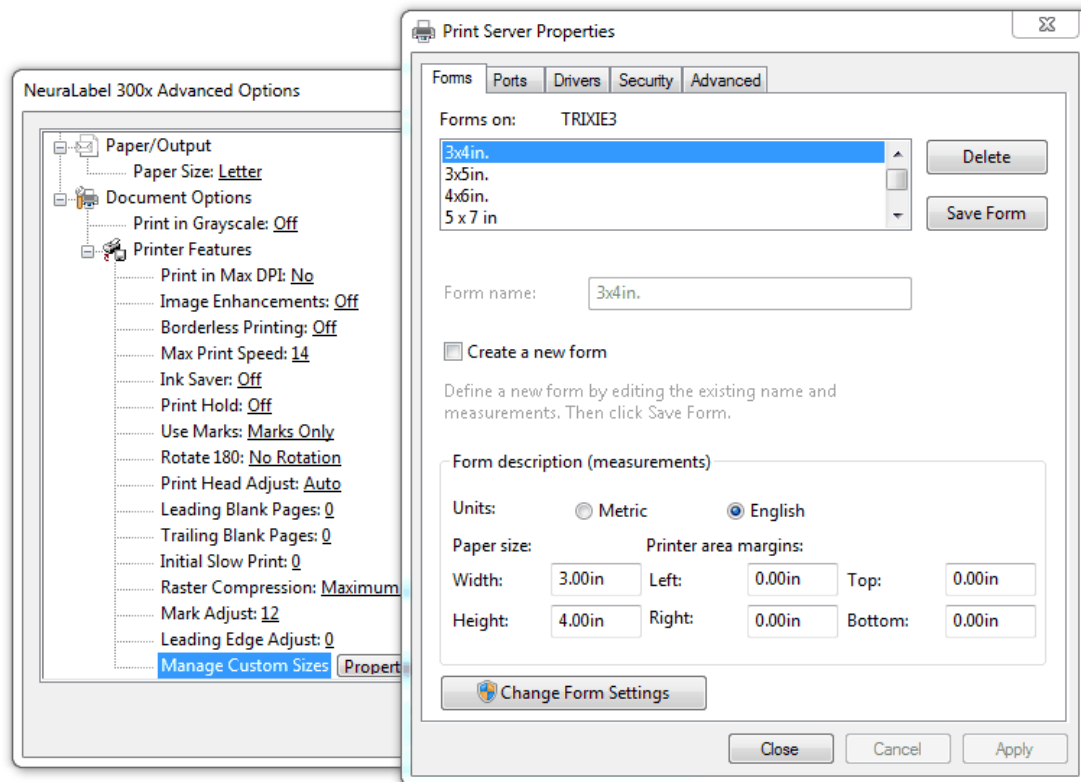


Figure: Creating a Custom Form Size

Creating a custom form size is simple. Be sure to click the **Change Form Settings** button.

- Check the **Create a new form** box.
- Enter a meaningful form name - we recommend that the size is included in the name.
- Enter the Width and Height to 2 decimal places. Round down if needed.
- Leave the margins blank. Left, Right, Top, and Bottom margins should remain at 0.00.
- Click the **Save Form** button.

Both English and Metric units are supported.

Again, please remember that Custom Form sizes should be set up before label printing. Because creating custom form sizes is a system function, you must close completely out of the printer driver dialog for custom form sizes to be saved.

3.3 Understanding Your Media

The NeuraLabel 300x uses both unmarked and custom marked (diecut) continuous media. There are many vendors that create this media. Contact Neuralog if you need to verify that your media vendor is supplying certified NeuraLabel media.

3.3.1 Media Material

A variety of media types will work with the NeuraLabel 300x including inkjet coated paper and synthetic facestocks, in matte, glossy, and a variety of other finishes.

Please see the NeuraLabel web site for a complete list of supported media types.

3.3.2 Media Size and Label Dimensions

The following section describes the physical media dimensions that the printer will accept

Media Width: The NeuraLabel 300x will support continuous media from 3 to 8.5 inches wide. The printer's media width guides should be adjusted according to the media width.

Media Length: Individual media page length for marked (diecut) media may be from 4 to 22 inches long. Unmarked media may be on a continuous roll of any length.

The smallest continuous marked media size that the NeuraLabel 300x will support is 3 inches wide by 4 inches long. The largest continuous marked media size that the NeuraLabel 300x will support is 8.5 inches wide by 22 inches long. Media should be measured "mark to mark" or "perf to perf". Note that on marked media the actual label is smaller than the media.

It is critical that the proper page size be created and selected in the driver when printing to any media. The page size you select in the driver must match the physical media page size to within 0.1 inches.

CAUTION: Sometimes label boxes are labeled incorrectly. They may be marked as length of the label itself, rather than the full page size with backing.

For any new media you receive, we recommend getting a ruler and measuring the exact length of the media. Tear off a single media page and measure the label end to end. Alternatively, you can look at the back of the media and measure "mark to mark".

IMPORTANT: Continuous label media is placed on a web, and in the case of diecut labels, that the actual labels are smaller than the media size. You must be aware of the overall dimensions of the label and release liner (backing material). You must set up your label authoring application to print only on the labels and not on the release liner. Printers of any type will have poor results if ink or toner is placed on the release liner.

3.4 Loading Continuous Media into the Printer

Loading continuous media into the printer is a simple process. First, make sure the media is placed near the printer input and is free of any kind of obstruction. Adjust the printer guides to the proper width and load the media mark side up. Push the media all the way in until the leading edge touches the back wall of the printer Tray 1 opening, which should be about 5 inches.

3.4.1 Loading Fan-Fold Media

STEP 1. Position media in MPF tray opening.

Try to flatten out any curled edges. The label or printable side should be facing down, and the non-printable side facing up. This example shows pre-diecut and fan-folded label media with timing marks.

Load the media as shown below, with the marks facing up and going into the printer.



Figure: Loading Fan-Fold Media

The media must be able to pass under and between the two grey colored plastic width guides.

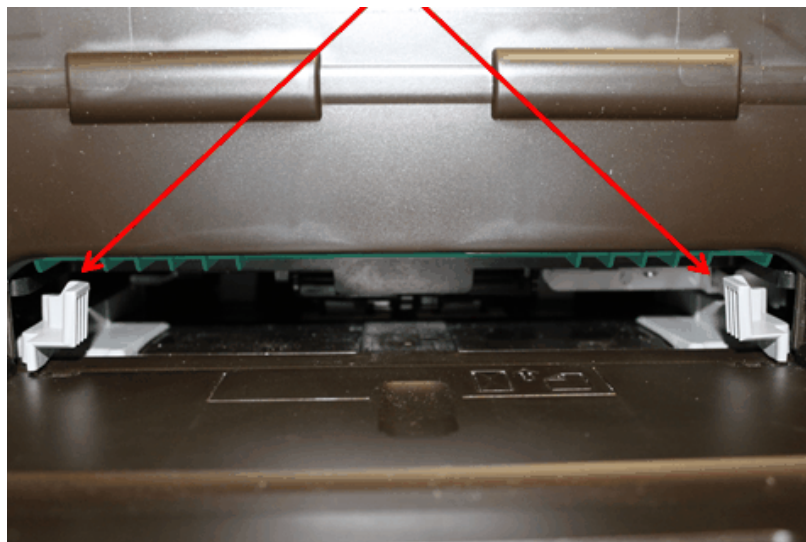


Figure: Printer Width Guides

You can slide the guides in and out with your fingers to accommodate different widths of label media from 3"- 8.5" wide.



Figure: Adjusting the Printer Width Guides

STEP 2. Insert media.

It's important to insert it straight and keep it flat as it passes through the mouth of the printer and under the guides and pick wheels.



Figure: Inserting Media into the Printer

Keep pushing gently until you feel a bump where the media hits the back wall (about 5 inches). The red arrow in the following illustration of the inside of the printer indicates how the media should be loaded.

NOTE: The media will slide about 5 inches into the printer Tray 1 opening.

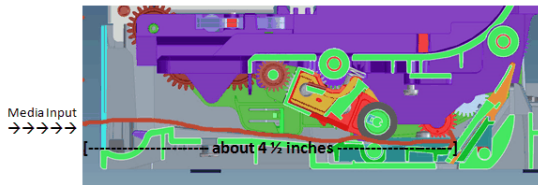


Figure: Printer Paper Path

At this position the media is properly positioned to begin printing.

STEP 3. Jog the media through the printer (optional).

Once the media is loaded, you can begin printing immediately. You can optionally “jog” the media through the printer in small increments by tapping the jog button, or, holding the button down to jog continuously. If the jog button light on the operator panel is lit, then you can jog the media forward.



Figure: Jogging the Printer Media

Press the jog button on the operator panel, either in brief increments or steadily. Note that the media can only travel in a forward direction.



Figure: Jog Button

3.4.2 Loading Rolled Media

Rolled media, whether continuous un-diecut, or pre-diecut, is loaded into the printer the same way as fan-fold media. Rolled media tends to be curled more at the edges than pre-diecut fan-folded. Take care with inserting the media into the printer properly so that it doesn't jam when you try to print.

STEP 1. Position media in Tray 1 (Continuous Tray) opening.

The NeuraLabel 300x roll-to-roll unit should position the media so that it is aligned with the printer. Make sure the roll is aligned with the printer track, especially if the media is narrower than 8.5 inches and the guides need to be adjusted.

STEP 2. Insert media.

Follow the same steps as the Fan-Fold Media, inserting the media straight and keeping it flat as it passes through the mouth of the printer and under the guides and pick wheels.



Figure: Loading Rolled Media into the Printer

STEP 3. Jog the media through the printer (optional).

You can either start the print without jogging the media in and attach the printed media to the output roll once the print has started, or you can jog the media into and through the printer until you are able to wind it on the output roll.

3.5 Leaving Continuous Media in the Printer

The NeuraLabel 300x may print with paper loaded into Tray 1 Continuous of the printer or it may start printing with paper loaded in the paper path. In either case, the printer will look for and print on the next "mark" that it sees (when in Marks Only mode).

Media may be left in the printer if desired, either loaded into Tray 1 or left in the body of the printer. However, because the printer needs to perform self maintenance, it will periodically discharge ink to keep the ink heads lubricated. Therefore it is advisable, although not required, to remove media from the printer when not in use. For cut sheet printing from Tray 2 (the printer drawer), you must remove the continuous media from the printer.

Media can be removed from the printer using the jog button.

3.6 Canceling a Print

If at any time you wish to cancel a print job, you can do this several ways.

Cancel using the Operator Panel red X button.

Press the red X to cancel a job that is printing or about to start printing. Note that to cancel a job with the red X, the Operator panel must be displaying "Now Printing..." Press the red X once to cancel the job when the panel displays "Now Printing...". Press the red X twice to cancel the job when this panel shows any other message. (Pressing the X once will change the panel to display "Now Printing...").

Cancel the print job from the printing application.

Printing can be canceled from your label application, as long as it is still sending pages to the printer queue. This assumes the application allows canceling of jobs. The NeuraLabel 300x will not start printing until the entire print job has been sent from the application to the printer queue.

Cancel the job from the printer queue

To view the printer queue select the NeuraLabel 300x printer in the control panel and select What's Printing. Select and cancel the print job if it is still in the printer queue. Keep in mind that only the portion of the job not already sent to the printer will be canceled.

3.7 Printer Jam and Error Recovery

To prevent incorrect prints and wasted media the NeuraLabel 300x printer will intentionally declare a jam in the following cases. Follow the directions on the printer operator panel to clear the jam code.

Label Size Mismatch

If the wrong label size is detected the printer will stop and declare a jam. Either a MARK EARLY or MARK LATE message will be declared. If MARK EARLY is declared then the physical media loaded into the printer is smaller than the defined page size by more than 0.1 inches. If MARK LATE is declared then the physical media loaded into the printer is larger than the defined page size by about 1 inch. The user must tear the media at the mouth of the printer and clear the jam by pressing OK to eject the incorrect

label media.

In the MARK EARLY/LATE case EITHER the wrong media was loaded OR the wrong page size was selected for the media. Check both the page size and the media.

If this was the media you wanted to use, then create/select a custom form size that exactly matches your measured media size. If necessary, get a ruler and measure the media.

If this was not the correct media, find the correct media and load it into the printer.

Labels Loaded Upside Down

Labels should be loaded into the continuous Tray 1 with the mark side facing up. The mark is at the top of the media form and it should be loaded into the Tray 1 opening of the printer. If the labels are loaded upside down, the printer will not see the marks and will declare a NO MARKS jam. The user must tear the media at the mouth of the printer and clear the jam by pressing OK to eject the incorrect label media. Turn the media to the correct orientation and resend the print job.

Physical or "Actual" Print Jam

An "Actual Print Jam" can occur if the media fed into the printer is crumpled or fed in extremely crooked. If this happens the following message will appear.

Print zone jam. Press ? for guide, OK to continue. Code = 0x0e3e2927 or similar.

Clear the printer jam and eject the media. Be sure that any media going into the printer is not crumpled or crooked. For more information on printer jams, see the section *Clearing Jams*.

Jam Assist

When a jam occurs, *jam assist* can be used to help remove the media from the printer. Jam Assist advances the media in the printer track to assist in removing it from the printer. Jam Assist will start as soon as the duplexer is removed from the printer.

Jog Button

The jog button can be used to move the media out of a printer after a jam. Jogging can be used once the jog light turns on. Be sure to tear the media at the printer input side before jogging it.

Media Out or Short Media

The behavior for Short Media (running out of labels) is that the remainder of the job will not print and will be canceled. Resend the entire or a partial job to complete your printing.

3.8 Printer Consumable Maintenance

It is important to make sure you have sufficient ink for your continuous label printing before you start a print. **If the printer runs out of ink during a job, the print job will stop and be canceled.** You will need to resend the remainder of the print job.

The following consumables messages are provided.

Low On Ink

Occurs when the ink cartridge is approximately 20% full. The Low On Ink value is customizable can be changed through the printer web server. The warning will be suppressed until the end of a continuous job. If you are printing long runs, it is advisable to change to a full cartridge at this time.

Very Low On Ink

Occurs about 30 pages after Low On Ink, depending on page size and ink coverage. When this message is triggered the continuous print job will stop and the remainder of the job canceled. For continuous printing it is strongly recommended that the ink cartridge be changed as soon as this message appears.

Out Of Ink

Occurs when the cartridge is no longer usable. When this message is triggered the continuous print job will stop and the remainder of the job will be canceled. The ink cartridge must be changed as soon as this message appears. If printing were to continue in an Out Of Ink state, air might enter the printhead and damage it.

IMPORTANT: Do not place an empty cartridge back in the printer. The printer will still have ink in the ink tubes and the cartridge may not immediately register as empty. This may lead to air in the tubes that can shorten the life of the printer.

Label Printing Options

Part



IV

4 Label Printing Options

The NeuraLabel 300x has a variety of options accessed through the printer driver. These options allow you to set parameters such as label size, print quality and print speed. All printer driver options are explained in this chapter.

4.1 Layout Tab

The NeuraLabel 300x print driver provides a **Layout Tab** for changing the orientation of your label. Choose from Landscape or Portrait. Note that most label authoring applications automatically select label layout to match the selected form size.

Also on the Layout tab is an option to print duplex: "Print on Both Sides." This option is not useful for printing labels, which have only one printable side. Use this option if you need to print on paper or other dual sided media from Tray 2, the cut sheet tray. This option is not available for the Tray 1 Continuous.

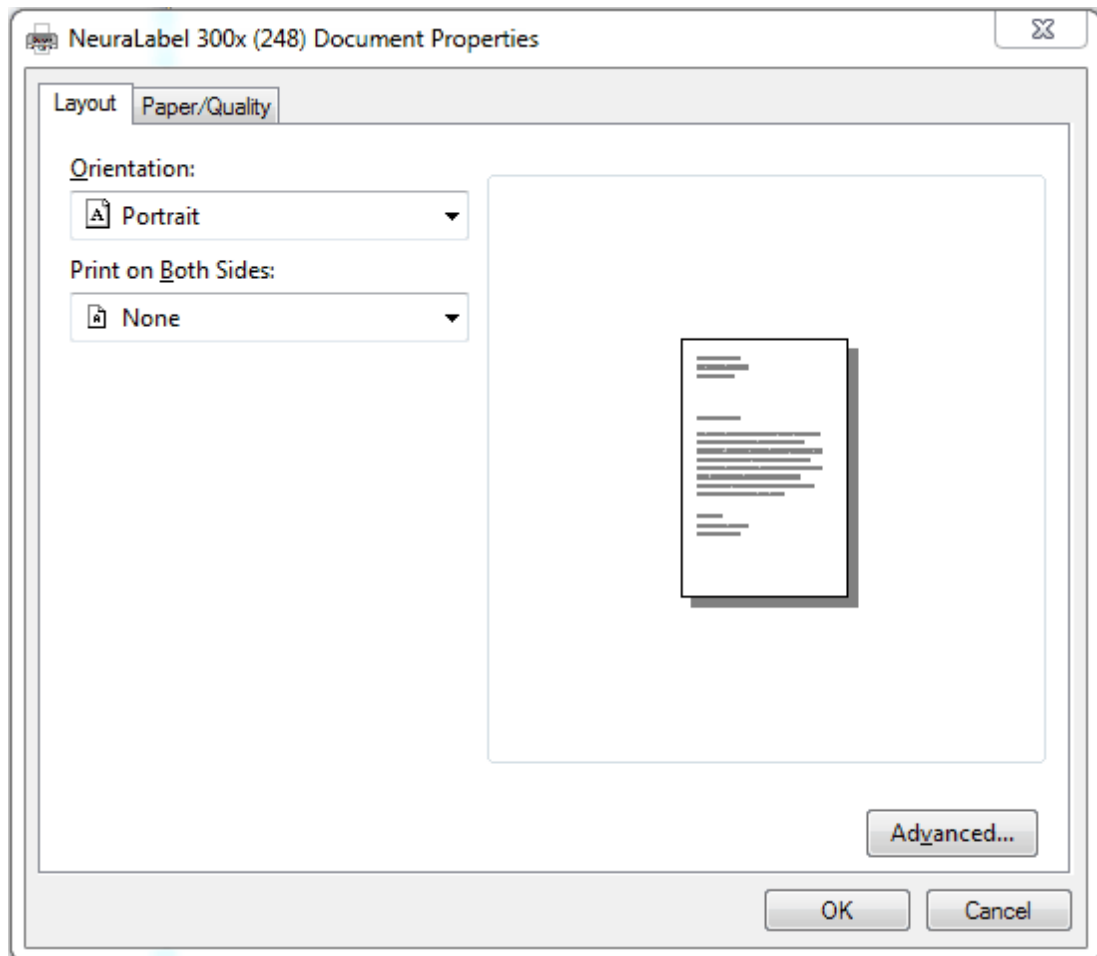


Figure: Printer Driver Layout Tab

4.2 Paper/Quality Tab

The NeuraLabel 300x print driver provides a **Paper/Quality Tab** for selecting the correct media and final print appearance. This tab is divided into three sections: **Paper Source**, **Quality Settings**, and **Color**.

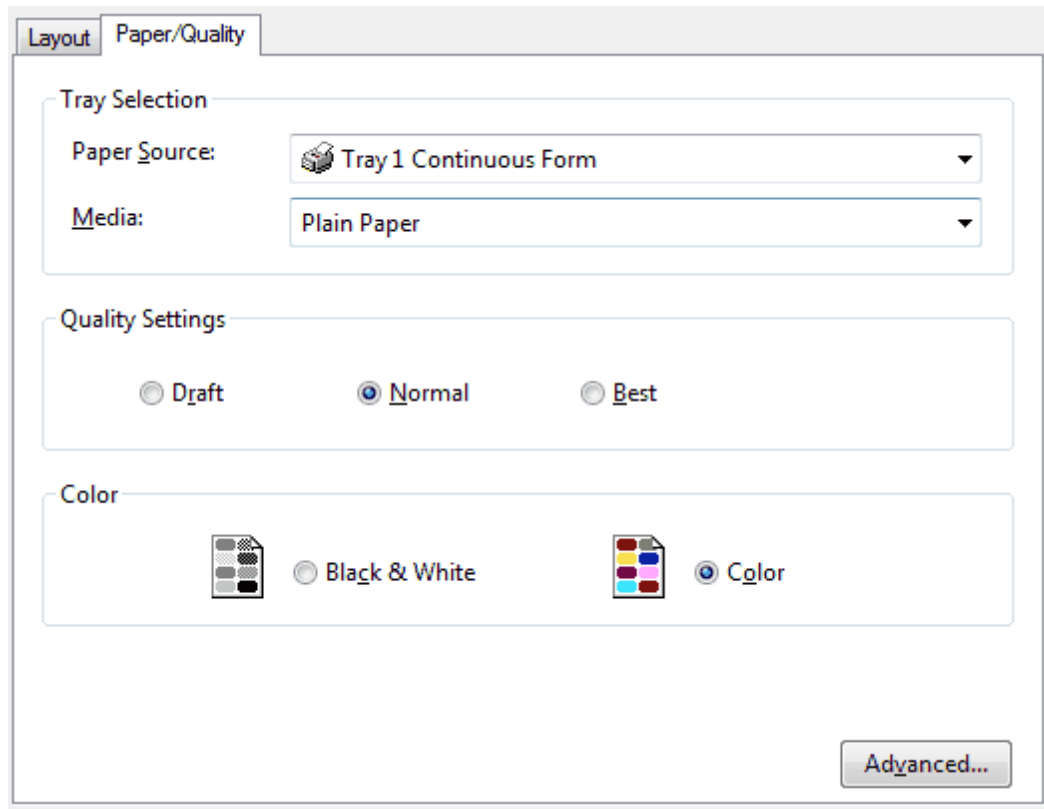


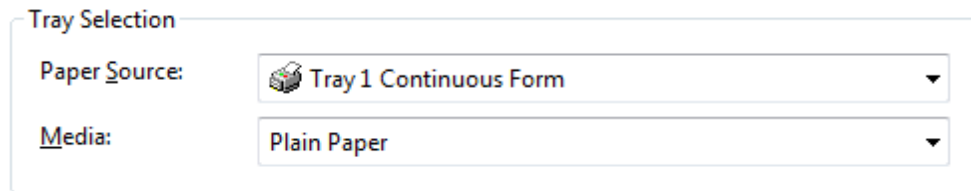
Figure: Printer Driver Paper/Quality Tab

4.2.1 Paper Source

The Paper Source selection is found on the Paper/Quality tab of the NeuraLabel 300x print driver. For continuous media printing, keep the default setting of **Tray 1 Continuous Form**. All continuous printing is done through Tray 1 Continuous Form. This is the tray found on the left side of the printer.

The default **Paper Source** is Tray 1 Continuous Form. Tray 1 is the multi-purpose feeder (MPF) where continuous media is inserted into the printer. Tray 2, the printer drawer, is used for cut sheet and can support up to Letter or A4 size. Tray 1 can also be used for cut sheets; copies can be sent, but only 1 sheet at a time should be loaded. An additional Tray 3 is also available and supports up to legal cut sheet size.

The default width for Tray 1 is 8.5 inches. The feeder to the printer will open and the media guides can be adjusted to fit the width of your media. Be sure to adjust the media guides to fit your media so that the best possible prints can be achieved.



Tray Selection

Paper Source: Tray 1 Continuous Form

Media: Plain Paper

Figure: Printer Driver Paper Source Selection

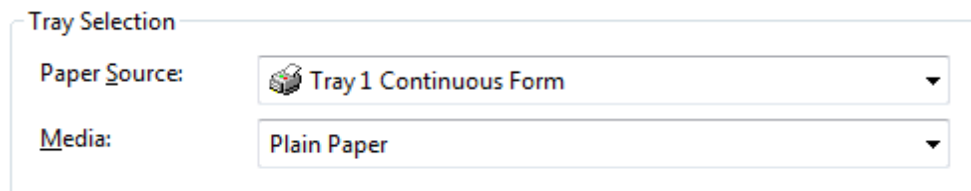
Cut sheets up to 17 inches can also be fed into Tray 1. Choose **Tray 1 Cut Sheet** for this functionality. This would be useful for printing cut sheet labels longer than letter or A4 size. Media placed in Tray 1 should be face down; mark side up.

Tray 2 Cut Sheet should be selected for Letter, A4 or smaller cut sheets. Tray 2 is the tray at the bottom of the printer. Note that Tray 2 supports duplex printing.

Tray 3 is an optional component and can accommodate up to legal size media. Select **Tray 3 Cut Sheet** if you have this tray and need to print legal media.

4.2.2 Media

Because the NeuraLabel 300x has been designed to be a label printer, several pre-defined settings are available to achieve the best label print results, depending on the type of media you will use. The default **Media** is Plain Paper.



Tray Selection

Paper Source: Tray 1 Continuous Form

Media: Plain Paper

Figure: Printer Driver Media Type Selection

Understanding your media is critical for quality printing. NeuraLabel Printing Solutions works with multiple media vendors to provide specialty media for use with the NeuraLabel 300x. The media type choice will work the same whether you are printing cut sheet or continuous form.

- Plain Paper
- Synthetic Labels
- Matte Labels
- Glossy Labels
- Photo Inkjet Papers
- Matte Inkjet Papers
- Glossy Inkjet Papers

Media Name	Equivalent Print Mode	Max DPI support?	Best Mode support?	Draft support?	PQ Default	Black Ink Only support?
Plain Paper	Plain	No	Yes	Yes	Normal	Yes
Synthetic Labels	Brochure	No	Yes	Yes	Normal	Yes
Matte Labels	Plain	No	Yes	Yes	Normal	Yes
Glossy Labels	Fast Glossy	Yes	Yes	Yes	Normal	No
Photo Inkjet Papers	Fast Glossy	Yes	Yes	Yes	Normal	No
Matte Inkjet Papers	Coated	No	Yes	Yes	Normal	Yes
Glossy Inkjet Papers	Brochure	No	Yes	Yes	Normal	Yes

Table: NeuraLabel 300x Media Properties

NOTE: Glossy Labels and Photo Inkjet Papers setting use Composite Colors to create grays, rather than black.

4.2.3 Quality Settings

NeuraLabel 300x provides quality modes of Draft, Normal and Best. The default **Quality Setting** is Normal. For most labels, Normal mode is an appropriate quality choice, however for the highest quality labels, Best mode can be selected. The best results depend on your specific media and may require experimentation.

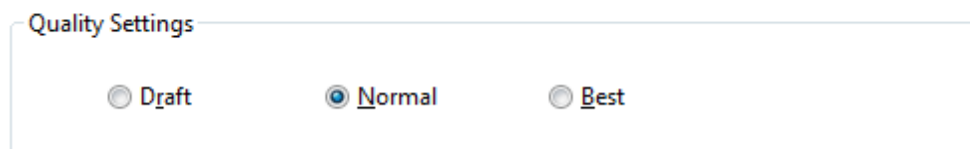


Figure: Printer Driver Quality Settings

Draft - Use when quality is not as important. Less ink is used in this mode.

Normal - Use for most printing.

Best - Use when quality is very important. More ink is used and slower print speeds will be noticed in this mode. See the section *Max Print Speed* for more information.

4.2.4 Color

The NeuraLabel 300x Printer may be set to Black & White or Color mode. If Black & White mode is selected, only black ink will be used. A high quality grayscale in which all colors are mixed is also available. For further information see section *Print in Grayscale*.

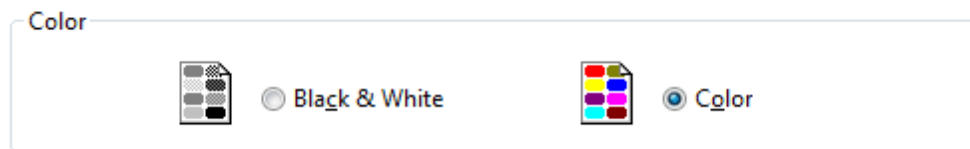


Figure: Printer Driver Color Selection

4.3 Advanced Options Dialog

The NeuraLabel 300x printer is configured for continuous label printing using the Advanced Options Dialog. From this panel you select the continuous form label size using the paper size menu. You can also configure other features related to continuous printing from this panel.

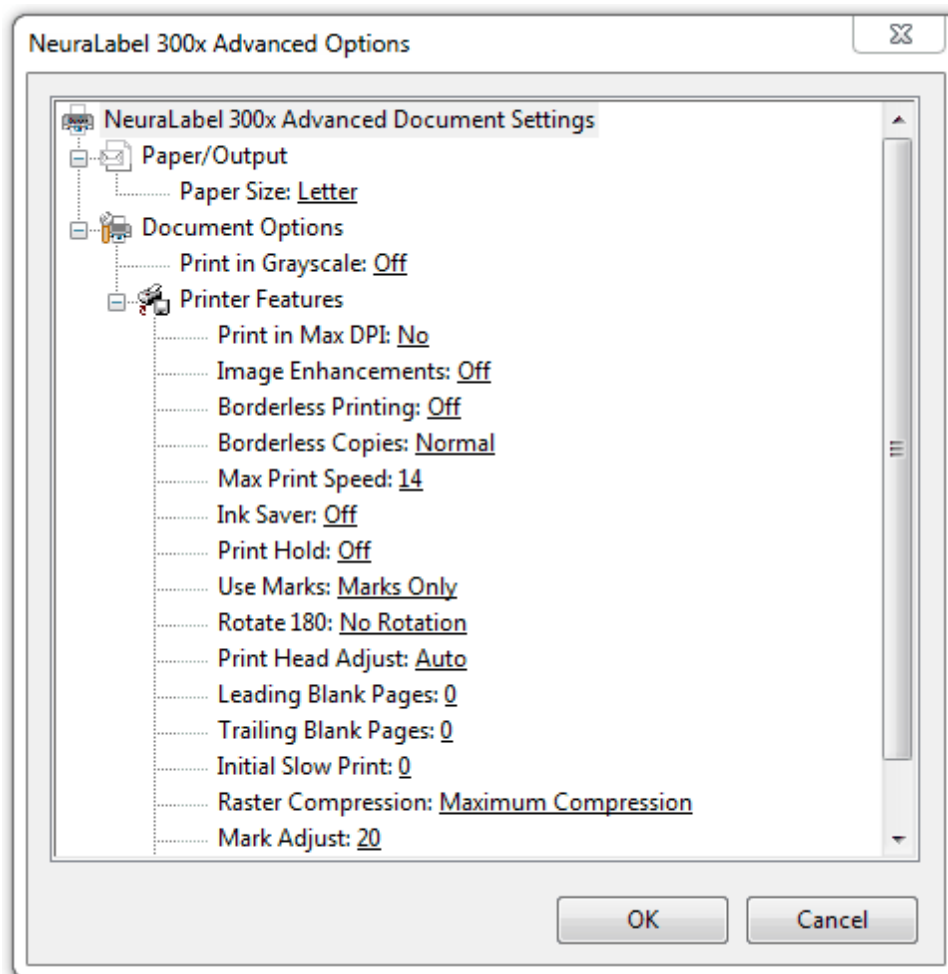


Figure: Printer Driver Advanced Options Dialog

4.3.1 Paper/Output Size

Selecting the correct **Paper Size** is necessary for continuous label printing. Select from the predefined sizes or create your own page size using the **Manage Custom Sizes** setting. See section *Manage Custom Sizes*. The page size you select should be within 0.10 inches of the measured physical media size, measured "mark to mark" or "perf to perf".

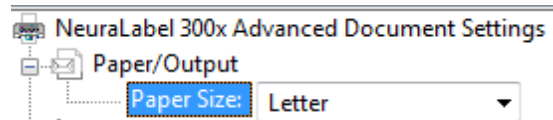


Figure: Printer Driver Paper Source Selection

NOTE: **Paper Size** and **Page Size** are both synonymous with **Form Size**. The 300x printer driver uses the term Paper Size. The Windows System uses the term Form.

Page (Paper) size may be defined from 3 inches to 8.5 inches wide and 4 inches to 22 inches long. The smallest page size that can be defined is 3 inches x 4 inches. The largest page size that can be defined is 8.5 inches x 22 inches.

Diecut (marked) Media Paper Size

It is critical that the page size you define and/or select match the size of the physical label media you load into the printer. Page size is defined as WIDTH x LENGTH where the length of the continuous media is measured perf to perf or mark to mark. The actual peel-off label will be slightly shorter than the defined page length.

EXAMPLE: If the continuous media you are using measures 8.0 inches long and 8.0 inches wide, create and select that size from the driver.

Un-Diecut (no marks) Media Paper Size

In the case of un-diecut continuous media you must still select a paper size. However, it is no longer equivalent to an actual page as it is in pre-diecut (marked) media. The page size is actually equivalent to either: (1) the individual label being printed or (2) a form in which the label design software is used to configure "multi-up" labels. In either case the user should remember that 0.117 inch margins will be added to the non-continuous edges and borderless printing should be set to ON or OFF.

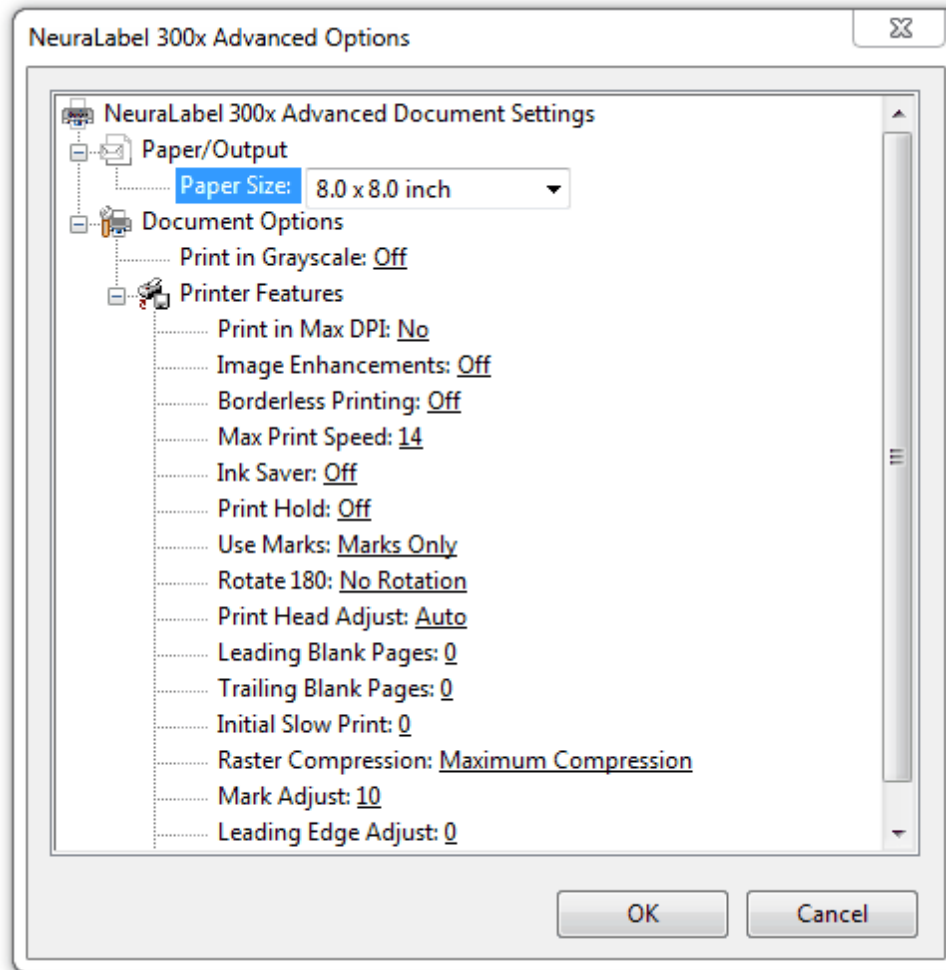


Figure: Printer Driver Paper Source Selection

4.3.2 Document Options

Some of the features in the *Advanced Options Dialog* are not directly related to continuous printing. However, they may be used to fine tune the printing result.

- Print in Grayscale
- Print in Max DPI
- Image Enhancement

4.3.2.1 Print in Grayscale

The **Print in Grayscale** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.

Print in Grayscale is normally **Off** for label printing. However, if grayscale labels are desired, the user may choose between **High Quality Grayscale**, which mixes colors to produce shades of gray, or **Black Ink Only** may be selected to produce the grayscale images.

4.3.2.2 Printer Features

The following sections contain the important driver settings for continuous printing.

4.3.2.2.1 Print in Max DPI

*The **Print in Max DPI** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Printing in Max DPI can increase the quality of the print, however it is not advised or available for all media types. **Print in Max DPI** is only available for Photo Inkjet Papers and Glossy Labels, because only these papers are designed to properly handle the increased amount of ink. It can be used with Draft, Normal or Best modes. It can also be used to increase image accuracy with the selected ink level mode.

Many types of label media will have a higher quality appearance with less ink and lower DPI settings. **Print in Max DPI** setting of No is recommended for most continuous form label printing.

4.3.2.2.2 Image Enhancement

*The **Image Enhancement** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Image Enhancements is Off by default. It may be useful for printing labels that include photographs. Image Enhancement is known to provide excellent skin tone colors and true-to-life landscape colors through automated photo brightening, adaptive lighting, and image sharpness and smoothness control.

4.3.2.2.3 Borderless Printing

*The **Borderless Printing** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Borderless Printing has values of ON and OFF.

If your media does not have marks, you can use borderless printing. Borderless label printing is not usually used with marked media.

4.3.2.2.3.1 Borderless Printing ON

Borderless Printing is done on media without marks. Be sure to select "No Marks" in the "Use Marks" setting. Borderless Printing is used to remove the top and bottom margins from the print. It does not remove left or right margins. Borderless Printing is usually used when the printer is being used as a web press. It can be used to print documents whose pages need to be "stitched" together. Or it can be used to print borderless individual labels with a gap between each label.

Borderless label printing should only be used on unmarked media using the "No Marks" setting. For printing continuous label media with marks, such as pre-die cut label media, set Borderless Printing to Off.

Normally, Borderless printing means a repeated pattern (i.e. copies). However, numbered labels may also be printed borderless.

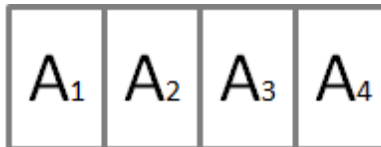
Borderless Copies



For **borderless repeated copies** there are two cases.

1. The label copies need to be stitched together to form a seamless document.
Borderless Copies: Enhanced Precision is used. The copies will be stitched together. Performance may be reduced for this setting. (It might take longer to print.)
2. The individual labels need to be full bleed, but they can have a gap between them.
Borderless Copies: Normal is used. There may be a small gap (<0.2") between the labels. The exact size of the gap is dependent upon label size.

Borderless Pages (not copies)



It is also possible to print **borderless labels where each label is different**. For example, each label is numbered.

Select **Borderless ON** and **No Marks**. The printed page will be "full bleed" in the continuous direction. Normal margins are applied to the non-continuous side of the label. The labels will be butted up against one another. The resulting print will appear to be one seamless continuous image.

Borderless Multi-Page Documents



Note that there is a special case for using Borderless ON and Marks Only. This is used for multi-page documents that need to be printed as one seamless print (not usually a label application). Whenever **Borderless ON** and **Marks Only** are selected together in the driver, the print will begin by syncing on a mark and all other marks are ignored. (Use marked media in this case.)

Hint: To effectively create full bleed in the non-continuous direction for labels less than 8.5 inches wide, define the page to be slightly wider than the media.

4.3.2.2.3.2 Borderless Printing OFF

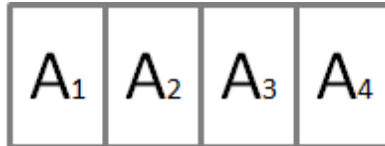
Bordered Printing (where **Borderless Printing** is set to OFF) can be done on marked or unmarked media. The marked media can be on a roll or fanfold. As with Borderless printing, copies or counted labels can be made.

Bordered Copies



Bordered copies can be made on marked or unmarked media. The pages will be evenly spaced using the exact label size.

Bordered Pages (not copies)



Bordered pages can be made on marked or unmarked media. The pages will be evenly spaced using the exact label size.

If using marked media, make sure the perf-to-perf measurement of the label media exactly matches the defined label page size.

Note that the **Mark Adjust** setting can be used to center the label on the page in the continuous direction.

4.3.2.2.4 Borderless Copies

*The **Borderless Copies** driver setting is found in the Advanced Options Dialog of the NeuroLabel Printer Driver.*

Borderless Copies can be printed on the NeuroLabel 300x. There are two configurations.

Normal prints the copies at the fastest possible speed. A gap may appear between label copies because each label copy may be placed on a slightly larger "even" page boundary. However each label itself is printed full bleed or borderless.

Enhanced Precision prints the copies butted up against one another, creating a completely seamless print. The individual labels are full bleed or borderless. However, print speed may be slower.

NOTE: Borderless Copies can only be printed using the "No Marks" setting.

4.3.2.2.5 Max Print Speed

The **Max Print Speed** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.

The NeuraLabel 300x will operate at print speeds from 2 inches per second to 20 inches per second. Max Print Speed is the fastest possible speed of the printer. However, it is likely that the printer will print more slowly than its maximum speed due to several factors.

- Quality setting affects print speed. The higher the quality, the slower the printer must print.
- Media type affects print speed.
- Media width may affect print speed. Narrower media may print at higher speeds.
- Media length may affect print speed. See the table below.

The NeuraLabel 300x has built-in algorithms to regulate the print speed for the selected settings. This will produce the best possible quality prints. However, in some circumstances, the user may need to manually lower the print speed. For example, a new type of media might have poor ink absorption or folding properties, in which lowering the print speed may produce better results. Any special case label where the printer cannot keep up with the data should be printed with reduced print speeds.

The following are signs that lowering the maximum print speed will be helpful:

- The media does not seem to allow the ink to completely dry.
- The media is not folding and needs to be folded manually.
- Quality control needs to be done on the media as it is printing.
- The printer speed control algorithm is continuously changing speed.
- The printer gets a data underrun error because it is printing faster than the host PC can provide data.

Print Speed Limitations

Continuous printing generates a significant load on the printer CPU and associated data path hardware. It is not possible to print at both full speed and full width simultaneously for a continuous print job. The following table describes the print speed limitations due to data processing bandwidth. These are the maximum print speeds available for the given media width, plain paper media type and normal quality setting.

Normal/Draft Quality		Best Quality	
Page Width	Speed (Inches per Second)	Page Width	Speed (Inches per Second)
4" - 8.5"	14 IPS	4" - 8.5"	4 IPS
3" - 4"	20 IPS	3" - 4"	5 IPS

Table: 300x Maximum Print Speed

In addition, in **Normal** mode:

- if the Page Length is < 5", the speed limit is reduced by 2 IPS.
- if the Page Length is >=5" and < 6.25", the speed limit is reduced by 1 IPS.
- if the Page Length is > 10.5" and the width is >4", the speed limit is increased by 1 IPS.

4.3.2.2.6 Ink Saver

*The **Ink Saver** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Ink Saver is a valuable feature for maximizing the affordability of your NeuraLabel 300x continuous form printer. Often full ink volume is not needed for printing labels, even high quality labels. In fact, some media will provide better quality results if less ink is used. NeuraLabel 300x offers the following ink saver modes:

- **Off** - Default value. The normal amount of ink will be used to create the print, based on other printer settings.
- **Low** - Slightly less (about 12.5%) ink will be used to create the print, after other settings have been applied. This should hardly be noticeable in the print.
- **High** - Significantly less (about 25%) ink will be used to create the print, after other settings have been applied. This should be noticeable, but not dramatic. It will be more noticeable in red colors.

Ink Saver Mode	Amount Ink Used	Appearance
Off	Normal	Normal
Low	Slightly Less (about 12.5%)	Barely noticeable lighter print
High	Significantly Less (about 25%)	Noticeable, but not dramatic lighter print

Table: Ink Saver Mode Summary

It is recommended that you experiment with Ink Saver mode to find the best setting for your specific needs. For example, some medias do not absorb the ink as well as others and may produce a better printed result with Ink Saver activated. Ink Saver mode works with any other print quality settings.

4.3.2.2.7 Print Hold

The **Print Hold** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.

Print Hold is a feature that will cause the printer to hold (not print) the job until the user presses a release button on the operator panel. This is a useful feature if one needs to verify the printer setup before the job is released.

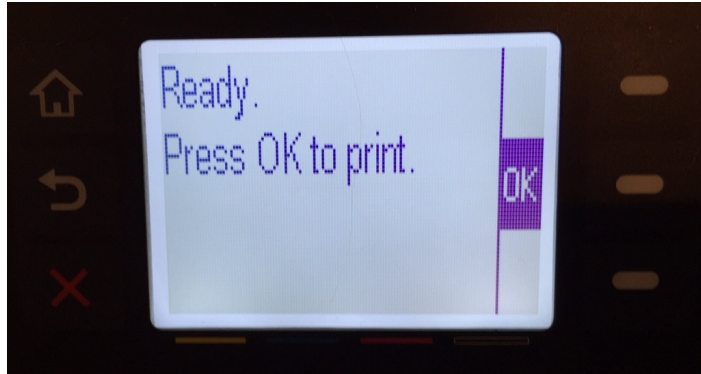


Figure: Print Hold Screen

4.3.2.2.8 Use Marks

The **Use Marks** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.

Use Marks allows the printer to print on continuous marked media, media where each page has a mark to identify the top of form. This type of media has marks which allow the printer to begin printing each label at the correct location on the media. Marked media is usually pre-diecut and perforated. It may be fan-folded or placed on a roll.

Use Marks has three values.

- **Marks Only** - The printer begins printing when a mark is detected. Marked media will almost always be printed using this setting.
- **No Marks** - The printer does not recognize marks. Even if marks appear on the media, the printer does not use them, but begins printing on the media immediately. This would be the setting selected if the printer were to be used as a web press.
- **Mixed** - The printer begins printing on the media immediately, however it begins to synch on the marked page as soon as marks are detected.

If your media has marks to distinguish the pages, use the Marks Only setting. Make sure the page size you select exactly matches the physical media page size.

If your media does not have marks, use the No Marks setting.

NOTE: If your media has perforated or separate die cut label pages, but does not have marks, you cannot expect reliable results. Contact Neuralog for help obtaining the correct media for use with the 300x printer.

4.3.2.2.9 Rotate 180

*The **Rotate 180** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Rotate 180 will simply rotate each individual page as it is printed. This setting is available for use with the **Borderless Printing** setting at OFF. Rotation of borderless labels is not supported.

Rotate 180 is often needed to orient labels correctly for use with unwinder and rewinder units.

4.3.2.2.10 Print Head Adjust

*The **Print Head Adjust** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Print Head Adjust affects the distance between the print head and the media. Because label media is normally thicker than plain paper, the print head may best be positioned farther away from the media. The value of Auto will automatically detect the best position for the print head, given the selected Media Type.

Print Head Adjust Settings:

- **Low** - Gives the best image quality but has the highest smear risk. Use only on very flat, thin media.
- **Medium** - Recommended for most media and best overall tradeoff.
- **High** - Use only for very thick media such as envelopes.
- **Auto** - Selects a printhead height depending on Media selection in the Paper/Quality tab of the driver.

The following table summarizes the Auto Printhead Setting, based on the selected media type.

Media Name	Auto Printhead Setting
Plain Paper	Low
Synthetic Labels	Low
Matte Labels	Low
Glossy Labels	Medium
Photo Inkjet Papers	Medium
Matte Inkjet Papers	Low
Glossy Inkjet Papers	Low

Table: Auto Printhead Settings per Selected Media Type

The following table lists the actual printhead distance in mm. Thick media should use the high setting.

Printhead Setting	Height
Low	1.3mm
Medium	1.6mm
High	3.5mm

Table: Printhead Setting Height Difference

This table gives some perspective of item thickness so you can understand the print head setting.

Item	Thickness
Quarter	1.75mm
Penny	1.52mm
Envelope	about .75mm
14 pt cardstock	.36 mm
12 pt cardstock	.30mm
Label Media	about .12mm
Coated Inkjet Paper	.12 - .25mm
Copy paper - 20 lb	0.1mm

Table: Relative Thickness of Common Items

4.3.2.2.11 Leading Blank Pages

*The **Leading Blank Pages** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Leading Blank Pages allows you to add blank pages into the beginning of the job. You may add 0 to 20 leading blank pages at the beginning of the print job.

Reasons for Inserting Leading Blank Pages:

- **Rolled Media/Web Press** - If you are placing the printed media on a roll, you may wish to use a leading blank page or two to attach the media to the rewinder device. Shorter media may need a larger number of blank pages to achieve the same result.
- **Job Separation** - You may choose to include one or more blank media pages in between print jobs to separate them.

Note that the printer may automatically place an additional page before or after each job for excess ink. You may see an ink pattern similar to the one shown below. This is necessary to keep the ink heads in working order.

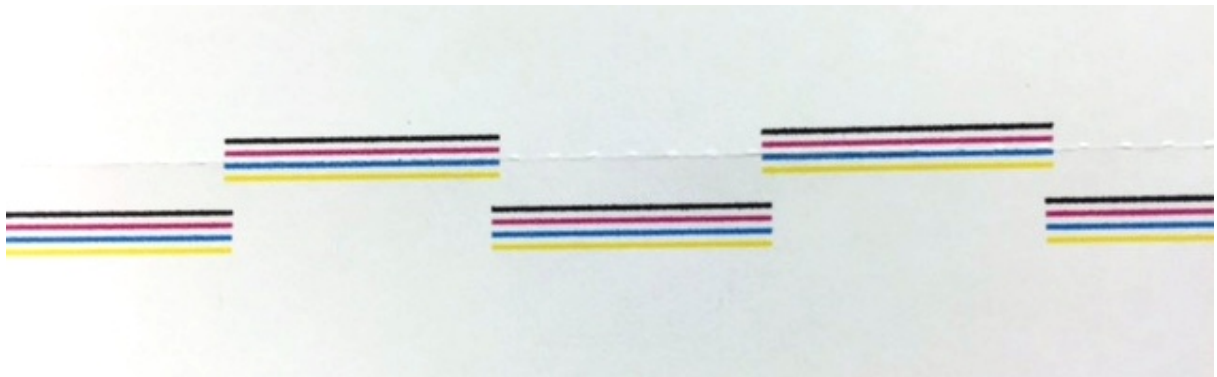


Figure: Printhead Maintenance Pattern

4.3.2.2.12 Trailing Blank Pages

The **Trailing Blank Pages** driver setting is found in the *Advanced Options Dialog of the NeuroLabel Printer Driver*.

Trailing Blank Pages allows you to add blank pages into the end of the job. You may add 0 to 20 trailing blank form pages to the end of the print job.

Reasons for Inserting Trailing Blank Pages:

- **Rolled Media/Web Press** - If you are placing the printed media on a rewinder, you may wish to use a trailing blank page or two so that the outer printed labels are protected. Shorter media may need a larger number of blank pages to achieve the same result.
- **Job Separation** - You may choose to include one or more blank media pages in between print jobs to separate them.
- **Ending Job Outside Printer** - Adding one or two trailing blank pages will allow your print job to be completely out of the printer at the end of the print. This is more convenient for tearing off a completed print job. (With no trailing pages, the end of the

job will remain inside the printer at the end of the print. This saves label media.)

Note that the printer automatically places a single additional page before or after each job for excess ink. You may see an ink pattern similar to the one shown below. This is necessary to keep the ink heads in good working order.

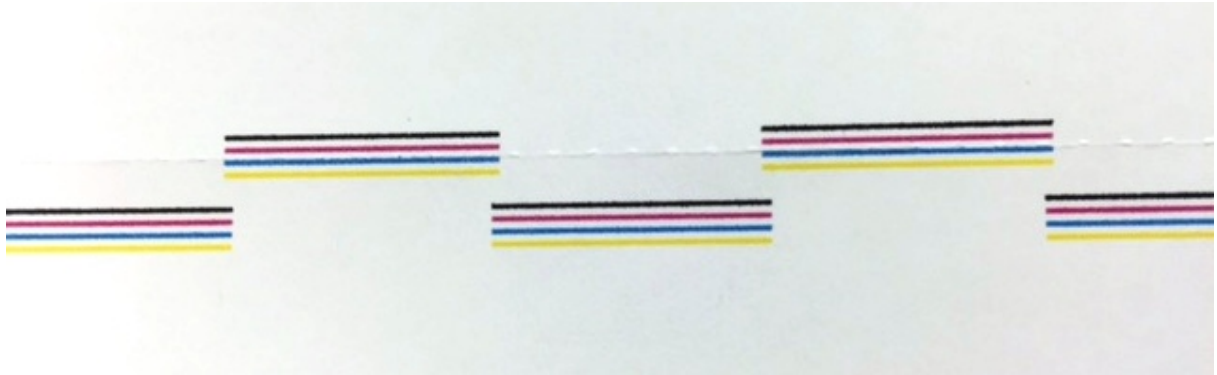


Figure: Printhead Maintenance Pattern

4.3.2.2.13 Initial Slow Print

*The **Initial Slow Print** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Initial Slow Print is useful when you need to handle the printed media as it exits the printer, such as attaching the printed labels to a rewinder. The slow print speed is fixed; the time for slow print may be set to 0, 5, 10, 20, or 30 seconds. Initial Slow Print may be used with or without Leading Blank Pages. It does not affect the outcome of the final print; only the initial sprint speed. The speed of slow print is fixed at 3 inches per second.

4.3.2.2.14 Raster Compression

*The **Raster Compression** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Raster Compression has values of Maximum Compression and Best Quality. The default value of Maximum Compression is recommended for most continuous label printing.

Maximum Compression adds a special "Lossy" encoding which makes certain elements such as photographs much smaller in the print file. Always use this setting when printing photographs over continuous printing. This higher compression will enable the printer to process more data and print at faster speeds.

Best Quality skips the Lossy compression and will execute faster on the PC. It should only be needed/used in the following cases:

- If the quality of the print using Maximum Compression is not acceptable.

- If you are printing text with solid colors (business graphics) and you want to optimize PC performance (the time it takes to generate the file; not the time it takes to print the file.)

Best Quality should not be used for high resolution photo-like content because the file size can grow significantly in those cases.

4.3.2.2.15 Mark Adjust

*The **Mark Adjust** driver setting is found in the Advanced Options Dialog of the NeuroLabel Printer Driver.*

Mark Adjust is used to refine the placement of the label image with respect to the label form. It is applicable when **Marks Only** or **Mixed** is selected for **Use Marks**. It has no affect when **Use Marks** is set to **No Marks** as is the case with a Web Press.

NeuroLabel 300x continuous media has a mark on the back of each continuous label page. This allows the printer to monitor the media and determine the label size. **Mark Adjust** is used to adjust the label placement with respect to the mark.

Mark Adjust may have any value from -300 to 300. The default value is 10.

If you find that the printed label is not centered on the page in the continuous direction, use **Mark Adjust**. The marked end of the continuous media is the top of the page.

- To move the printed image down the page, decrease the value of **Mark Adjust**.
- To move the printed image up the page, increase the value of **Mark Adjust**.
- 10 units of **Mark Adjust** is about 1/10 inch.
- **Mark Adjust** may be a negative or positive value or it may be 0.
- It is likely that this value will not need to be changed or that it would only need to be changed by a small amount.

Reasons **Mark Adjust** would need changing:

- The media does not meet the NeuroLabel 300x media specifications.
- The user wants to change the position of the label on the continuous form.
- Small discrepancies in the printer may require a small adjustment.

NOTE: **Mark Adjust** can be set by printing a single label and adjusting the value based on the resulting label image placement.

4.3.2.2.16 Leading Edge Adjust

*The **Leading Edge Adjust** driver setting is found in the Advanced Options Dialog of the NeuroLabel Printer Driver.*

Leading Edge Adjust is used to refine the placement of the label image with respect to the label form on the leading edge (first page) of the media. It does not affect any other

page. **Leading Edge Adjust** only affects a label that has been loaded into the Tray 1 opening of the printer. If there is already continuous label media fed through the printer, **Leading Edge Adjust** has no affect.

Leading Edge Adjust may have any value from -12 to 12. The default value is 0. It is possible that this value will not need to be changed.

If you find that the leading (page 1) printed label is not centered on the page in the continuous direction, adjust **Leading Edge Adjust**.

- To move the printed image down the page, decrease the value of **Leading Edge Adjust**.
- To move the printed image up the page, increase the value of **Leading Edge Adjust**.
- 10 units of **Leading Edge Adjust** is about 1/10 inch.
- **Leading Edge Adjust** may be a negative or positive value or it may be 0.
- It is likely that this value will not need to be changed or that it would only need to be changed by a small amount.

Reasons **Leading Edge Adjust** would need changing:

- The user wants to change the position of the leading label on the continuous form.
- Small discrepancies in the printer may require a small adjustment.

4.3.2.2.17 Manage Custom Sizes

*The **Manage Custom Sizes** driver setting is found in the Advanced Options Dialog of the NeuraLabel Printer Driver.*

Manage Custom Sizes allows you to create custom form sizes for label printing.

There are many pre-defined form sizes, however you may need to create and define custom form sizes. Custom form sizes may be accessed through your printer server properties through the control panel. You may also access custom forms through the NeuraLabel 300x printer driver. To access through the printer driver select **Advanced...** and then **Manage Custom Sizes**. **Manage Custom Sizes** is the last item in the Advanced Options Printer Features list.

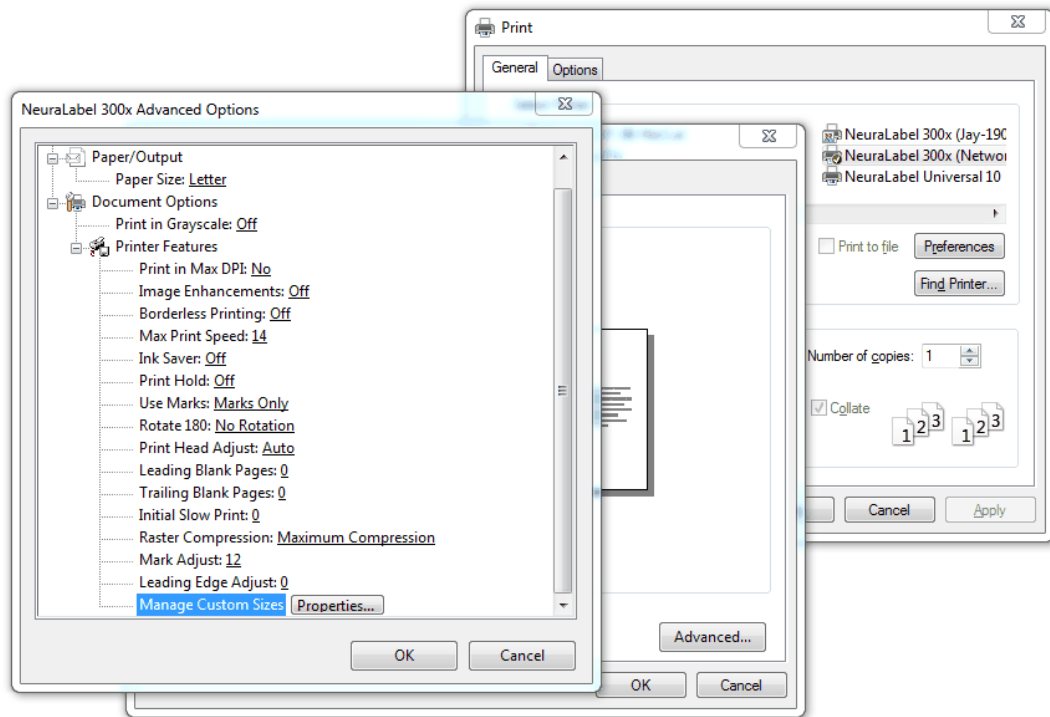


Figure: Printer Driver Manage Custom Sizes

Custom Form Sizes should be set up before label printing. **Creating custom form sizes is a system function, and you must close completely out of the printer driver dialog for custom form sizes to be saved.**

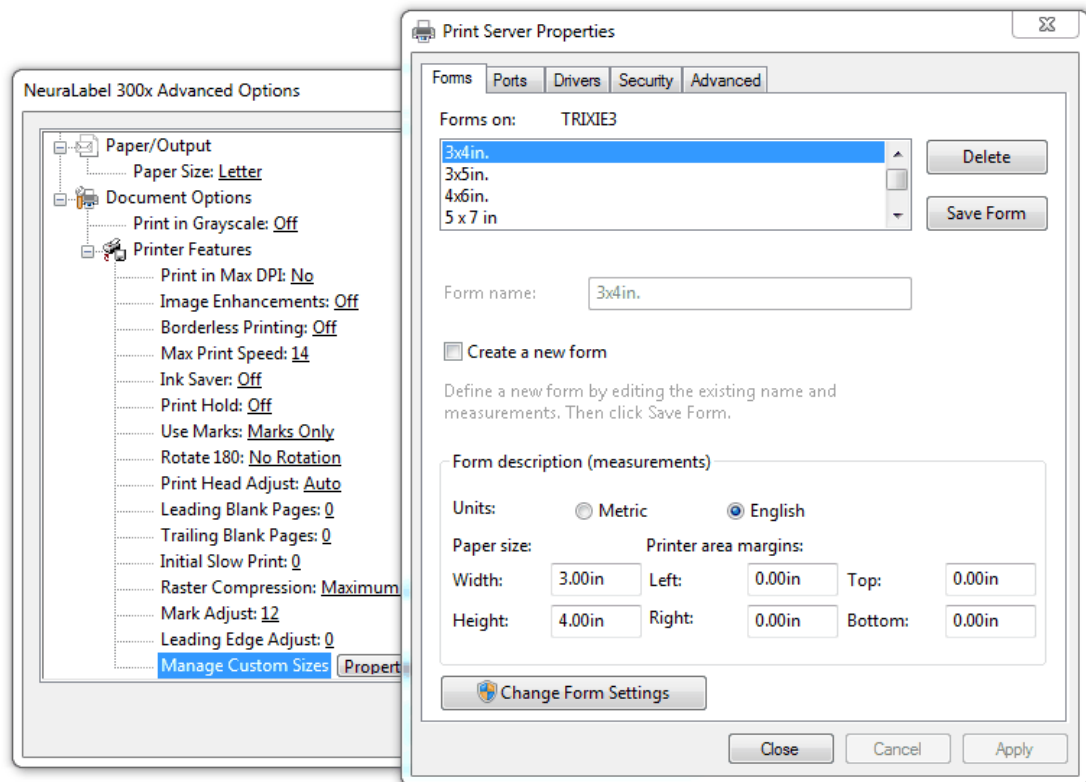


Figure: Printer Driver Entering Custom Form Values

Creating a custom form size is simple. Be sure to click the System **Change Form Settings** button.

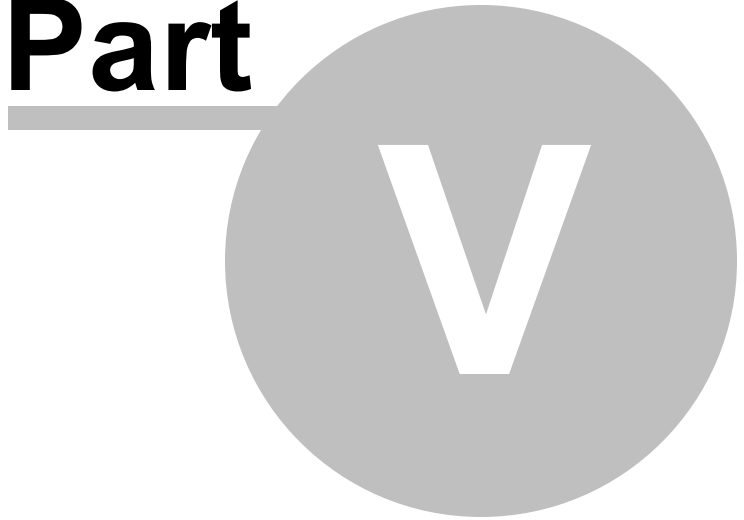
- Click the **Create a new form** button.
- Enter a meaningful form name - we recommend that the size is included in the name.
- Enter the **Width** and **Height** to 2 decimal places. Round down if needed.
- Leave margins blank. Left/Right/Top/Bottom remain at 0.00in.
- Choose **Save Form**.

Both English and Metric units are supported.

Please remember that Custom Form sizes should be set up before label printing. **Creating custom form sizes is a system function, and you must close completely out of the printer driver dialog for custom form sizes to be saved.**

Managing Ink

Part



5 Managing Ink

In continuous printing it is important to use Ink Cartridges full enough to complete a job. Each Yellow, Magenta or Cyan ink cartridge is rated to print 6,600 letter-sized labels at 5% coverage, and a Black ink cartridge is rated to print 9,200 labels.

You may want to calculate the coverage for a particular label so that you can better estimate and understand ink use. APFill available at <http://avpsoft.com/> is an example of an ink/toner coverage calculator. Neuralog/NeuraLabel does not endorse any particular product.

Ink Coverage Guidelines:

- 5% - very light coverage
- 15% - light coverage
- 20% - medium coverage
- 25% - heavy coverage
- 100% - full coverage

IMPORTANT NOTES:

Do not remove an ink cartridge from its package until you are ready to use it.

Always change the ink cartridge as soon as Low Ink is declared for continuous printing.

Any damage caused by a non-Neuralog print cartridge is not covered under the HP warranty and service agreements.

5.1 Ink Saver

Remember that Ink Saver mode is available to reduce the amount of ink used in label printing. You may choose to use Ink Saver for economical reasons, or you may decide that the final print has a better quality with less ink. The need for Ink Saver often depends on the type of media you will use.

5.2 Low Ink Warning

The **Low Ink** warning will be declared when an ink cartridge is depleted to 20%. Depending on the coverage, size, and job length of your labels, you may want to replace the cartridge with a full ink cartridge at this time. The low cartridge can be used at a later time if desired. Note that the value at which low ink is declared can be set via the Embedded Web Server. See the *Embedded Web Server* section.

5.3 Out of Ink Warning

If you do not change the ink at the Low Ink warning, an **Out of Ink** message will be declared once the printer is completely out of ink. The printer must stop printing once Ink Out occurs to prevent air from entering and damaging the printhead. Once Out of Ink

occurs all printing stops and is canceled. Therefore, it is very important to change the ink before Out of Ink is declared.

5.4 Changing an Ink Cartridge

The NeuraLabel 300x uses four colors and has a different ink cartridge for each color: yellow (Y), cyan (C), magenta (M), and black (K). Follow these steps to change a cartridge.

1. Open the ink cartridge door.
2. Push the old ink cartridge inward to unlock it.

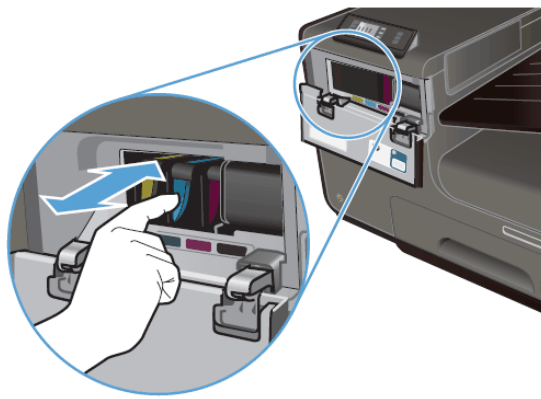


Figure: Push in on ink cartridge and then pull out to remove.

3. Grasp the edge of the old ink cartridge and then pull the cartridge straight out to remove it.
4. Remove the new ink cartridge from the packaging. Do not touch the metal connector of the ink cartridge. Fingerprints on the connector can cause print-quality problems
5. Insert the new ink cartridge into the printer.

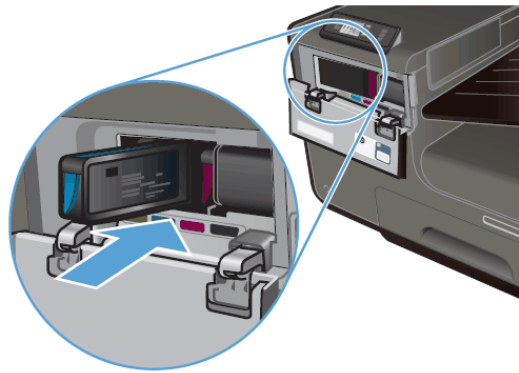


Figure: Push new ink cartridge into slot on printer.

6. Close the ink cartridge door.

Printing System Requirements

Part



6 Printing System Requirements

The following sections provide the minimum Operating System, hardware and network requirements for successful printing on your NeuraLabel 300x.

6.1 Supported Operating Systems

The NeuraLabel driver software supports the following Windows OS:

- Windows 7, 32 and 64 bit
- Windows 8, 32 and 64 bit
- Windows 8.1, 32 and 64 bit
- Only the Add Printer and the Enterprise installation methods are supported on these server OSes: Win 2003 Server, Win 2008 Server, Win 2008 Server R2, Win 2012 Server, Win 2012 Server R2
- The following are supported via **Add Printer** only:

Novell Netware 6, 6.5, Open Enterprise Server 6.5
(Novell iPrint support only)
Citrix (Print): Citrix XenApps 6.0, Xen Server 5.6, Xen Desktop 5.5.
Cluster Support
Microsoft Windows 2003 Server Terminal Services
Microsoft Windows 2003 Server Terminal Services with Citrix Metaframe XP with Feature Rel 3
Microsoft Windows 2003 Server Terminal Services with Citrix Presentation Server 4.0
Microsoft Windows 2003 Server Terminal Services with Citrix Presentation Server 4.5
Microsoft Windows Server 2008 (32-bit) & (64-bit) [Standard & Enterprise Edition]
Microsoft Windows Server 2008 Terminal Services
Microsoft Windows Server 2008 Terminal Services with Citrix XenApp

Table: Additional Operating Systems Supported by Add Printer only.

The CD Installer will block installations in unsupported OS versions as well as on the Server OS.

Note: Windows XP 32 bit and Vista, 32 and 64 bit are not officially supported and will not be tested, but Add Printer will be allowed. The installer will block normal installation on these Operating Systems.

6.2 Minimum System Requirements

The NeuraLabel printer driver software requires the following minimum system requirements to operate correctly. Lesser system configurations can result in slower printing speeds.

- **Windows® 7, 8, 8.1**
- 3 GHz 32-bit (x86) or 64-bit (x64) processor
- 8 GB RAM
- 4 GB available HD space, solid state drive recommended
- Microsoft® Internet Explorer or equivalent browser
- CD-ROM/DVD or Internet
- USB/ethernet

NOTE: If Microsoft Security Essentials is running AND real time protection is ON , you must excludes the spooler process.

6.3 Connectivity

The NeuraLabel 300x works with both **USB** and **Network (Wired, IPv4)**. Older slower computers and network environments may result in slower printing.

The NeuraLabel 300x is not meant to work over a wireless network. Continuous printing involves large amounts of data and wireless networks will not be sufficient to handle this data. If a wireless connection is used (via a switch or router) print speeds will be significantly reduced.

NOTE: If you notice a significantly reduced print speed, make sure the host PC is not connected to a wireless switch and sending data to through your network wirelessly.

6.3.1 USB

NeuraLabel 300x is compatible with USB. In fact, USB may result in better performance because a busy network may result in slower printing. A USB cable not longer than 5 m (16.4 ft) is recommended.

6.3.2 Network

The NeuraLabel 300x will work on your corporate or private network, using either a static or dynamic IP address.

Set the network type to Automatic if you wish to use a dynamic IP address. This will use the DHCP server on your network.

Setup -> Network

Setup->Network->Print Configuration Page

The NeuraLabel 300x requires a network link speed of 100 Mbps, full-duplex operation.

See the *Network Installation* section for more information.

Types of Continuous Printing

Part



7 Types of Continuous Printing

There are several kinds of continuous label printing. How you set up the NeuraLabel 300x will first depend on the type of media you have or plan to purchase.

Marked media is usually associated with a pre-diecut. In this case the labels will be printed onto the media at specific marked intervals. This marked media might be on a roll or in fan-fold form, and it might have perforations between the pre-diecut labels. Any pre-diecut media used with the 300x will need to have marks. The marks allow the printer to precisely position the label contents on the page to align the printed data to the media.

If you do not have or need pre-diecut marked media, but have an **unmarked roll** instead, you will use the printer in a "no marks" mode where the labels will be printed on the "blank" unmarked roll. Often the guide or timing marks for the labels are printed directly on the media as the label itself is printed. These marks are then used for post processing of the labels.

There are 8 different printer configurations based on whether your media has marks or not, whether borderless printing is selected, and whether you are making copies of a single label or printing multi-page jobs such as sequenced labels. Each of these is explained below.

1. Rolled Media with NO marks – Use Marks set to No Marks

1.1 Repeated Single Labels (copies)

Single label copies may be printed in borderless or bordered mode. Furthermore, borderless copies may be printed with or without a gap between the labels



Borderless Printing set to ON will print the page "full bleed" in the continuous direction. Normal margins are applied to the non-continuous side of the label. This case has 2 options.

- **Borderless Copies: Normal** There may be a small gap (<0.2") between the labels. The exact size of the gap is dependent upon label size.
- **Borderless Copies: Enhanced Precision** The copies will be stitched together to create a seamless print. Performance may be reduced for this setting. (It might take longer to print.)

Borderless Printing set to OFF will print the page with margins on both sides of the label. The spacing of the

labels should be the exact size of the labels.

1.2 Unique Single Page Labels (for example, numbered)

Borderless Printing set to ON will print the page "full bleed" in the continuous direction. Normal margins are applied to the non-continuous side of the label. The labels will be butted up against one another. The resulting print will appear to be one seamless continuous image.

Borderless Printing set to OFF will print the page with margins on both sides of the label. The spacing of the labels should be the exact size of the labels.

2. Rolled or Fanfold Media with marks on each label – Use Marks set to Marks Only

2.1 Repeated Single Labels (copies)

Borderless Printing set to ON configuration is not supported. Use Borderless OFF instead. If you need borderless labels, you must use the No Marks setting.

Borderless Printing set to OFF will print the page with margins on both sides of the label. The spacing of the labels should match the exact size of the labels.

2.2 Unique Single Page Labels

Borderless Printing set to ON is not normally used for label printing in this configuration. Borderless ON will print the pages "full bleed" in the continuous direction. Normal margins are applied to the non-continuous side of the label. The pages will be butted up against one another such that the resulting print appears to be one seamless continuous image. Note that whenever **Borderless ON** and **Marks Only** are selected together in the driver, the print will begin by synching on a mark and all other marks are ignored.

Borderless Printing set to OFF will print the page with margins on both sides of the label. The spacing of the labels should match the exact size of the labels.

Borderless Printing on Media with No Marks



Borderless Printing is normally only done on unmarked media and is used to remove the top and bottom margins from the print. It does not remove left or right margins. Borderless Printing can be used to print documents whose pages need to be "stitched" together, for example, if the printer is being used as a web press.

For copies, a small gap (<0.2") might appear in between the individual borderless label pages. Enhanced Precision mode available to eliminate this gap and create a seamless print if desired. However, performance may be reduced for this option.

For printing on continuous label media with marks, such as pre-diecut label media, set Borderless Printing to Off. This will prevent printing on the stripped area of the liner. Do not use Borderless printing with marked media.

For printing on continuous label media with no marks, such as a continuous roll, **Borderless Printing** may be set to On.

Note that with Borderless Printing set to On, the driver reports zero border all around and Print Preview shows it that way, however, the printer still applies left and right borders.

Hint: To effectively create full bleed in the non-continuous direction for labels less than 8.5 inches wide, define the page to be slightly wider than the media.

7.1 Using Roll-to-Roll

The NeuraLabel 300x may be used with fan-fold media or it may be used with rolled media. Roll-to-roll offers a convenient solution for label applicators and when there is additional processing required, such as die-cutting and finishing.

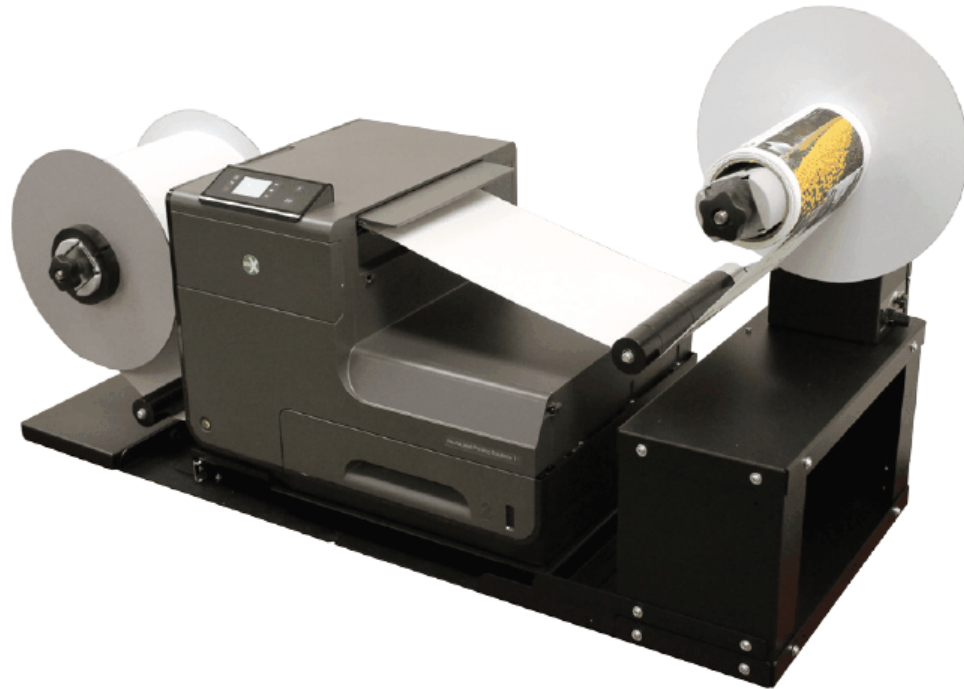


Figure: NeuraLabel 300x Roll to Roll Setup

Roll-to-Roll Driver Features

There are several specific features in the printer driver that will assist in roll-to-roll printing.

Initial Slow Print - Use this setting to allow the print to start slowly, giving you time to feed the media onto the output roller.

Leading Blank Pages - This feature places one or more blank labels at the beginning of the job. For example, you may need blanks to attach the labels to the output roller.

Trailing Blank Pages - This feature places on or more blank labels at the end of the job, in case this is needed for the output roller. It also allows the entire job to be out of the printer once the print stops.

Rotate 180 - This feature may be needed to orient the labels in a particular direction for your output roller.

Roll-to-Roll Media

Both marked and unmarked media may be used on a roll-to-roll unit.

Unmarked Media

Unmarked media requires **Use Marks** set to "**No Marks**".

Both Bordered and Borderless are supported.

Copies and Sequenced labels are supported.

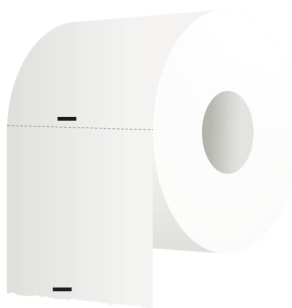
Marked Media

Marked media requires **Use Marks** to be set to "**Marks Only**".

Make sure the paper/page size you select in the driver exactly matches the measured media page size, mark to mark.

Only Borderless Off mode is supported.

Copies and Sequenced labels are supported.



7.2 Printing GHS Drum Labels

The **Globally Harmonized System (GHS)** of Classification and Labeling of Chemicals was developed to manage and regulate the safe labeling of chemicals. GHS-compliant labels have critical information, data and pictograms about chemicals, in addition to basic product and company information, including barcodes.

GHS labels are commonly found on drums, pales, totes and IBC's. Large format drum labels range in size from 8.5"x11" to 8.5" x 22", but the labels can be any size. Often these labels are sequentially numbered and printed in batches. The following are tips and guidelines for printing GHS labels on the NeuraLabel 300x.

GHS label media is usually marked. While the 300x can print on marked or unmarked media, most GHS labels are pre-diecut rectangular labels, and therefore must be marked to allow the printer to distinguish the individual labels. This mark must meet NeuraLabel specifications and can be found on the back of the media.

GHS label media may be fan-fold or it may be on a roll. See the section on roll-to-roll for more information on rolled media. The figures below show the non-printable back side of typical fanfold GHS labels marked for the NeuraLabel 300x. The individual labels in this sample are letter size. These pre-diecut labels are attached together by a release liner and separated by perforations where the fold occurs. The actual label (sticky part that is peeled off) will be slightly smaller than the media page itself. It's important to

remember that the label you design in your application must fit on the peeled label and not bleed into the media backing.



Figure: Sample GHS Fanfold Media

The following specific features in the printer driver are important for GHS printing.

- **Paper Size** is set to the exact size of your label media, including the release liner.
- **Borderless Printing** is set to OFF. This is the required value for GHS drum labels on marked media. Do not change this value.
- **Use Marks** is set to MARKS ONLY because the pre-diecut media will have marks on the back to indicate label position. If your media does not have marks you may not be able to use the printer in this configuration. If this is the case, contact Neuralog Support.
- **Rotate 180** can be On or Off, depending on end-use applicator requirements.
- **Mark Adjust** may be used to center the label on the page in the continuous direction.

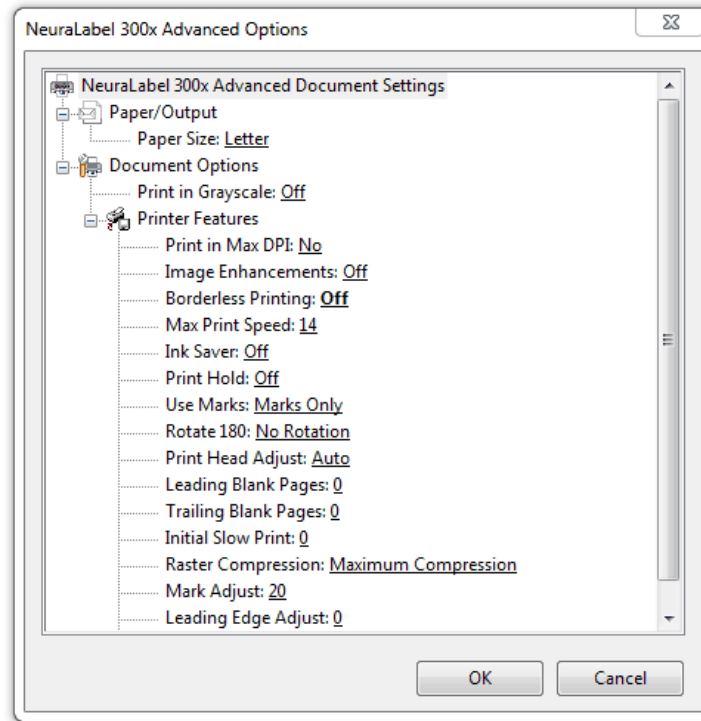


Figure: Printer Driver Setup for GHS Drum Labels

Other driver settings may be adjusted if needed.

Below is an example of a GHS label. These labels have critical information about the chemical contents of a container. They often have dynamic fields that are updated in the labeling application. GHS labels often have barcodes. They may be numbered by batch and by individual label.





NeuraLabel		
Chemical Drum		
ABCD	Net Weight 100	Material Number 58C
	Batch Number	
<p>Hazard statements: H312 Harmful in contact with skin. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H336 May cause drowsiness and dizziness. H373 May cause damage to organs through prolonged or repeated exposure.</p> <p>Prevention: P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing.</p> <p>Response: P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/attention if you feel unwell. P322 Specific measures (see supplemental first aid instructions on this label). P333 + P313 IF skin irritation or rash occurs: Get medical advice/attention. P337 + P313 IF eye irritation persists: Get medical advice/attention. P363 Wash contaminated clothing before reuse.</p> <p>Storage: P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.</p> <p>Disposal: P501 Dispose of contents/container to an approved waste disposal plant.</p>		  40 <input type="button" value="Reset Form"/>
<p>Warning Read This Label And The Material Safety Data Sheet Before Using This Product.</p> <p>Keep Closed To Prevent Moisture Absorption And Contamination.</p> <p>For Manufacturing Use Only. Not For Food Or Drug Use.</p>		
<p>ATTENTION: Empty container may contain product residue and/or vapors. Label warnings apply to empty containers that have not been cleaned.</p>		Container No. 1
<p>IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, CONTACT Medical: 1-800-000-5701 or +1-651-000-1234 Transportation: 1-800-000-1234 or +1-703-000-1234 ANYTIME, DAY OR NIGHT.</p>		
		Specialty Chemicals 101 Chemical Road Chemtown, NJ 07962

Figure: Sample GHS Label

7.3 Printing Prime Labels

Prime labels are used to identify and promote products. Quality is usually critical as the product manufacturer wants the best look possible for their goods. Durability is also important if the container will be subject to moisture, extremes in temperature and humidity.

Prime labels are often printed on a roll-to-roll configuration, but they can also be on marked fan-fold media. Media on rolls may be marked (the labels are individual pages,

often separated by a perforation) or the media may be a continuous unmarked sheet of up to 1,000 feet.

When printing prime labels, check whether your media is marked (pre-diecut) or unmarked. For continuous unmarked media, you can print the labels as bordered or borderless. In either case, the label page size will remain the same, however a borderless label will have 0 margin in the continuous direction.

The following specific features in the printer driver are important for prime label printing.

- **Paper Size** is set to the exact size of your label media. See the section *Paper/Output* for review of the details of setting the paper size.
- **Borderless Printing** may be ON or OFF. If you need to print borderless prime labels, see the next section *Printing Borderless Prime Labels*.
- **Use Marks** is usually NO MARKS, however it is possible to print prime labels on marked media. Check your media and select the appropriate setting.
- **Rotate 180** can be On or Off, depending on end applicator requirements. However, Rotate 180 is only supported for Bordered labels, that is Borderless Printing is OFF.

Borderless Copies require special configuration. See the next section *Printing Borderless Prime Labels*.

See the section Using Roll-to-Roll if you are using rolled media for printing. You may wish to use Leading/Trailing Blank Pages or Initial Slow Print with your roll-to-roll unit.

Other driver settings may be adjusted if needed.

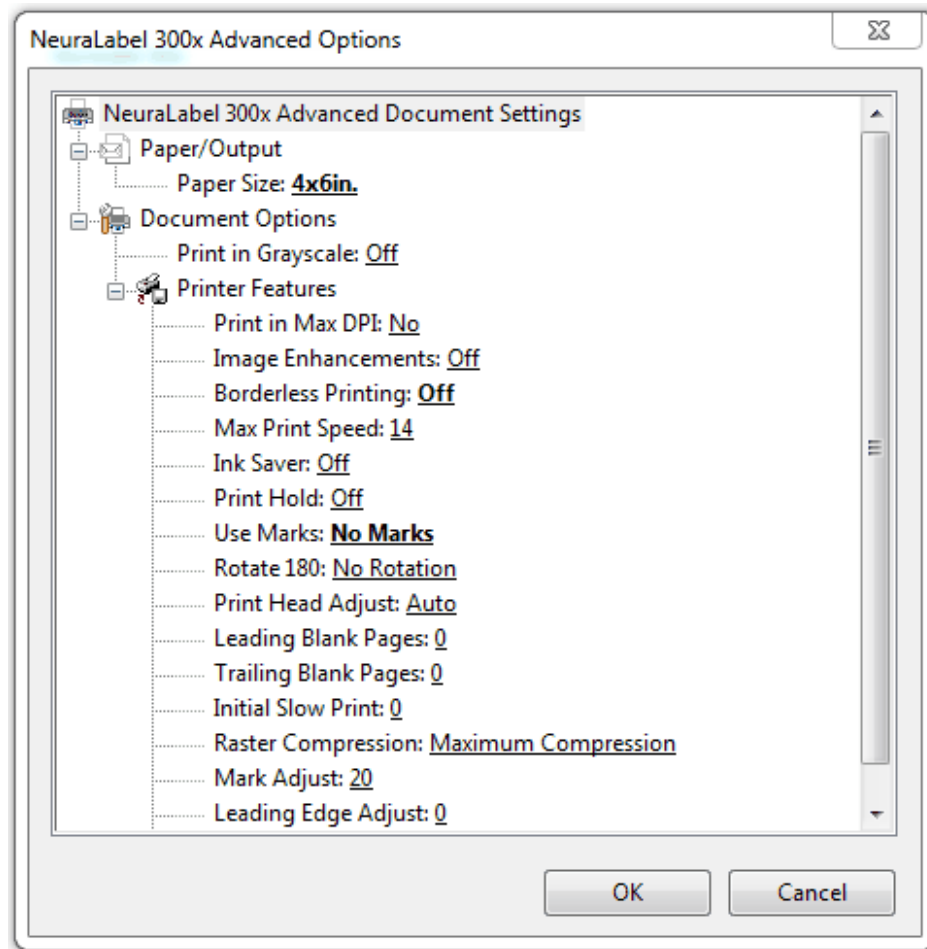


Figure: Printer Driver Setup for Prime Labels

7.4 Printing Borderless Prime Labels

Borderless Prime Labels can be printed on unmarked media with **Use Marks** set to **No Marks**. Do not choose the **Marks Only** or **Mixed** setting for Borderless Prime Labels.

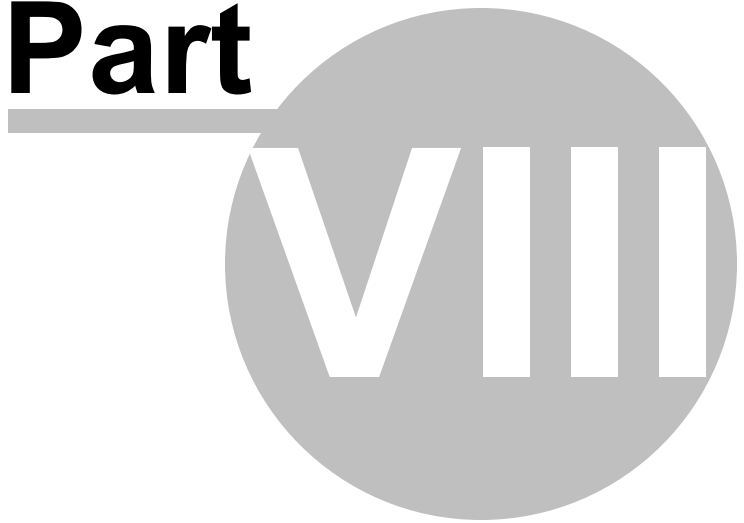
If you are printing borderless copies (rather than a sequential multi-paged borderless print), choose from two driver settings for Borderless Copies.

Normal prints the copies at the fastest possible speed. The page size will be rounded up to an even size, so a gap may appear between label copies.

Enhanced Precision prints the copies butted up against one another, creating a completely seamless print.

Cut Sheet Printing

Part



8 Cut Sheet Printing

The NeuraLabel 300x can print cut sheets from both Tray 1 and Tray 2. Tray 1 also functions as the continuous feeder, while Tray 2 is the printer drawer.

Tray 1 Cut Sheet Printing

Cut sheets up to 17 inches long can be printed from Tray 1 Cut Sheet. Multiple pages can be printed from Tray 1, however for best results feed only one cut sheet label at a time into the tray. Place the media face down into Tray 1 and slide it into the printer Tray 1 opening, the same as a continuous print.. Duplex is not supported.

Tray 2 Cut Sheet Printing

Cut sheets up to Letter/A4 size can be printed from Tray 2 Cut Sheet. Load the media directly into the Tray 2 drawer. For labels, place the media face up into Tray 2. Duplex printing is supported for this tray, however be careful not to select duplex if loading label media into Tray 2.

HINT: For the easiest workflow, install additional copies of the NeuraLabel printer driver for each type of printing. For example:

- NeuraLabel 300x Continuous
- NeuraLabel 300x Cut Sheet (Tray 1)
- NeuraLabel 300x Cut Sheet (Tray 2)

Embedded Web Server

Part



9 Embedded Web Server

NeuraLabel 300x ships with an Embedded Web Server that is accessible via a network connection. It is not accessible over USB. The pages that follow provide an overview of Embedded Web Server functionality. The individual components that appear on the Home screen are configurable.

The screenshot displays the Embedded Web Server interface for the NeuraLabel 300x printer. The interface is organized into a grid of 12 panels, each with a specific function:

- Energy Save Settings:** Includes options for Standby After (30 min), Sleep After (15 min), and Scheduled printing (Disabled).
- Estimated Ink Levels*:** Shows ink levels for Yellow (Y), Cyan (C), Magenta (M), and Black (K) with a note that actual levels may vary.
- Network Summary:** Displays connection status (Connected), IP Address (204.145.155.152), and Host Name (NLF7401D).
- Print Quality Toolbox:** Provides maintenance tools to improve print quality.
- Job Monitor:** Allows management of printer activities, print jobs, and faxes.
- Printer Information:** Shows a warning for 'Device Needs Attention', Serial Number (CN51DJY01T), and Firmware Version (SNP1CN1522BR).
- Administrator:** Provides options to set up administrator control of printer features.
- Auto-Off Settings:** Shows the AutoOff after setting is currently Off.
- Backup:** Offers to back up printer settings into a password-encrypted file.
- Firewall:** Provides instructions to set up network firewall, with a caution that changing settings can disrupt the connection.
- Printer Reports:** Allows printing of information pages available with the printer.
- Usage Report:** Displays usage counters for print, fax, and copy jobs.

Figure: Embedded Web Server Home Screen

9.1 Energy Saving Settings

Energy Save Settings

- Standby Af... 30 min
- Sleep After: 15 min
- Scheduled ... Disabled
- Scheduled ... Disabled

Use the Energy Save Settings to save energy when your printer is not in use. Selecting this option provides the Power Management display shown below.

Power Management
Energy Save Settings

Energy Save Mode minimizes the amount of power that the device consumes when it is idle and reduces wear on electronic components.

Standby After

Optimum Speed/Energy Usage

Use the printer's Schedule On and Off feature, and then select the days and the time you want the printer to turn on and turn off automatically. For example, you can schedule the printer to turn on at 8 am and turn off at 8 pm from Monday to Friday. In this way, you will save energy during the night and weekends.

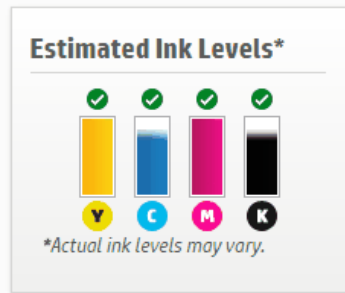
Start Time (HH:MM)

Shutdown Time (HH:MM)

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

Figure: Embedded Web Server Power Management Display

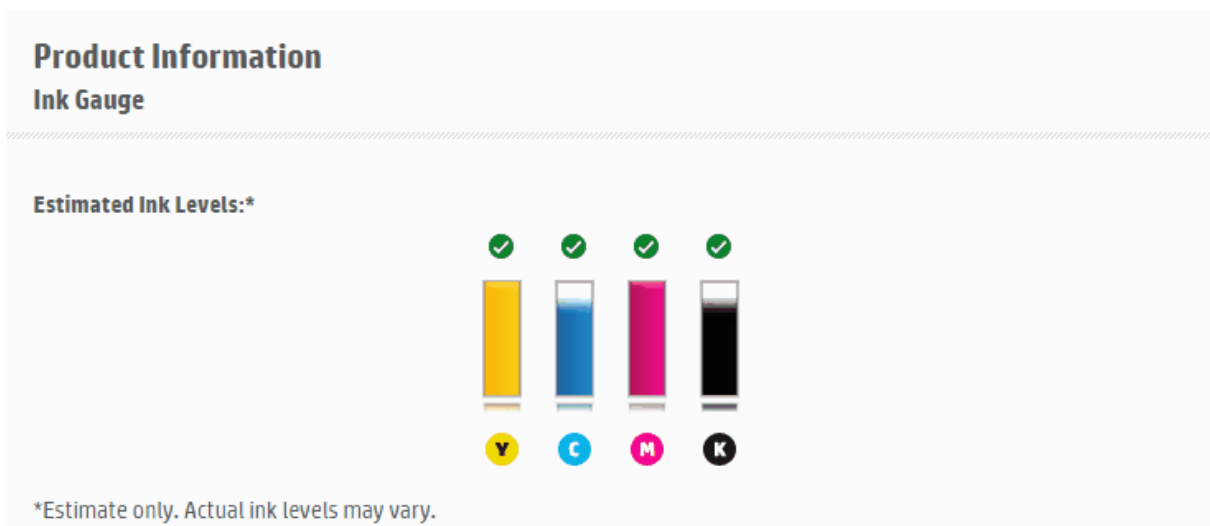
9.2 Estimated Ink Levels



Use the Estimated Ink Levels to monitor your ink usage. Select this option for the Ink Gauge display shown below which provides more detailed information about your ink. Note that the printer operator panel also displays an ink gauge.

You can also use the Ink Settings panel to set the level at which the printer will provide a Low Ink warning. For continuous printing you should change the ink as soon as Low Ink is declared to reduce the chances of running out of ink during a long job. The default value for Low Ink is 20%, however, the value for Low Ink is customizable.

Note that the display below shows Genuine Neuralog Cartridges Installed. The 300x requires Genuine Neuralog Cartridges to function; ink from other vendors will not work in the printer.



Installed Cartridges

Color	Yellow	Cyan	Magenta	Black
Ink Status	Genuine Neuralog Cartridge Installed	Previously Used Genuine Neuralog Cartridge Installed	Genuine Neuralog Cartridge Installed	Genuine Neuralog Cartridge Installed
Cartridge Number	NL31Y Yellow Cartridge (J3N79A)	NL31C Cyan Cartridge (J3N77A)	NL31M Magenta Cartridge (J3N78A)	NL31K Black Cartridge (J3N80A)
Type				
End-of-Warranty Date (Y-M-D)	2016-11-04	2016-11-11	2016-11-11	2016-11-04
First Installation Date (Y-M-D)	2015-03-26	2015-02-19	2015-03-26	2015-02-19
Ink Zone	1	1	1	1
USE	0	0	0	0
NL	1	1	1	1
Approximate Pages Remaining *	OK	OK	OK	OK

*Approximation only. Actual pages remaining varies based on types of documents printed and other factors.

Supported Cartridges**

<ul style="list-style-type: none"> Yellow Cyan Magenta 	NL31
<ul style="list-style-type: none"> Black 	NL31

Product Information

Ink Settings

You can change the threshold at which the printer provides the "Low on Ink" notification. This change will affect the notifications provided on the printer's control panel display, in the Neuralog software installed on your computer, and in email alerts (if you have requested to be notified by email).

Select a Default or Custom setting. For Custom settings, enter a percentage between 1-99%.

Yellow	Custom ▾	<input type="text" value="10"/>	% remaining
Cyan	Default ▾		
Magenta	Default ▾		
Black	Default ▾		

i Ink level alerts and indicators provide estimates for planning purposes only. When you receive a low-ink alert, consider having a replacement cartridge available to avoid possible printing delays.

Figure: Embedded Web Server Ink Information Display

9.3 Network Summary

Network Summary

✔ Connected

IP Address:
204.145.155.152

Host Name:
NLF7401D

The Network Summary provides the status of the network connection, the printer IP Address and other critical information about the printer.

General

Network Summary



Status: Connected

Host Name: NLF7401D

IP Address: 204.145.155.152

Hardware (MAC) Address: ECB1D7F7401D

Figure: Embedded Web Server Network Summary Display

9.4 Print Quality Toolbox

Print Quality Toolbox

Run maintenance tools to improve the print quality of your printouts.

The Print Quality Toolbox gives you access to the Print Quality Report and Cleaning routines.

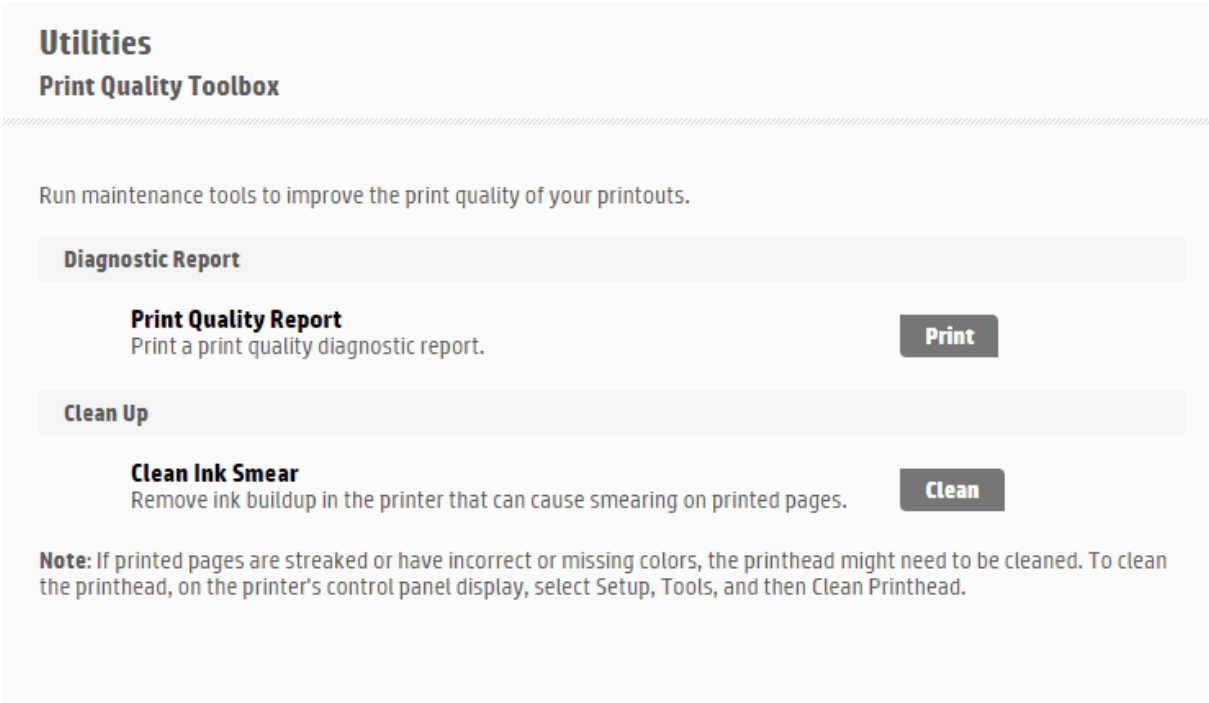


Figure: Embedded Web Server Utilities Print Quality Toolbox Display

If you notice print quality defects such as streaks, smudges or smears, you can run cleaning routines on the printer. **Clean Printhead** is accessible through the Operator Panel Tools menu. Two levels of cleaning can be run, each lasting about 12 minutes. The Print Quality Report is printed out after printhead cleaning. See the *Print Quality Report* section for a sample report. **Clean Ink Smear** (accessible from the Print Quality Toolbox) does a quicker cleaning of the printhead. A blank page is printed when the routine is complete. See the *Clean Ink Smear* section for more information.

9.5 Job Monitor

Job Monitor

Manage printer activities, print jobs, faxes, and so forth, and cancel jobs as needed.

The Job Monitor provides a record of printed jobs.

Job Management

Job Monitor

Monitor or cancel jobs currently active or pending in the printer.

<input type="checkbox"/>	Job	User	Status	Item
<input type="checkbox"/>	Print	N/A	Canceled	
<input type="checkbox"/>	Print	Remote	Completed	
<input type="checkbox"/>	Print	Remote	Completed	

Figure: Embedded Web Server Job Management Display

9.6 Printer Information

Printer Information

✘ Device Needs Attention

Serial Number:

CN51DJY01T

Firmware Version:


SNP1CN1522BR

The Printer Information Panel provides basic information about the printer. The printer serial number and version of printer firmware are both important pieces of information located on this panel.

Product Information
Printer Information

Status

Status ❌ **Device Needs Attention**



Neuralog NeuraLabel 300x

Status Log

❌	See printer control panel for instructions about how to clear the jam.
✅	Cyan Cartridge: Previously Used Genuine Neuralog Cartridge Installed
✅	Yellow Cartridge: Genuine Neuralog Cartridge Installed
✅	Magenta Cartridge: Genuine Neuralog Cartridge Installed
✅	Black Cartridge: Genuine Neuralog Cartridge Installed

Figure: Embedded Web Server Printer Information Display

9.7 Administrator

Administrator

Set up administrator control of printer features.

The Administrator panel allows you to setup a user name and password to control access to your printer.

Security

Password Settings

You can set a password to prevent unauthorized users from remotely configuring the printer or viewing printer settings from the embedded web server (EWS). Once set, this password is required to change or view many printer settings from the EWS.

The password can only consist of the following printable ASCII characters: **A-Z, a-z, 0-9**, and the following special characters: `!"#$%&'()*+,-./:;<=>?@[\\]^_`{|}~`

To disable the password, leave the boxes blank.

User Name	admin
Password	<input type="text"/>
Confirm Password	<input type="text"/>

Figure: Embedded Web Server Security Display

9.8 Auto-Off Settings

Auto-Off Settings

AutoOff after:
off

The Auto-Off Settings will cause the printer to shut down when it is not in use for an extended period of time.

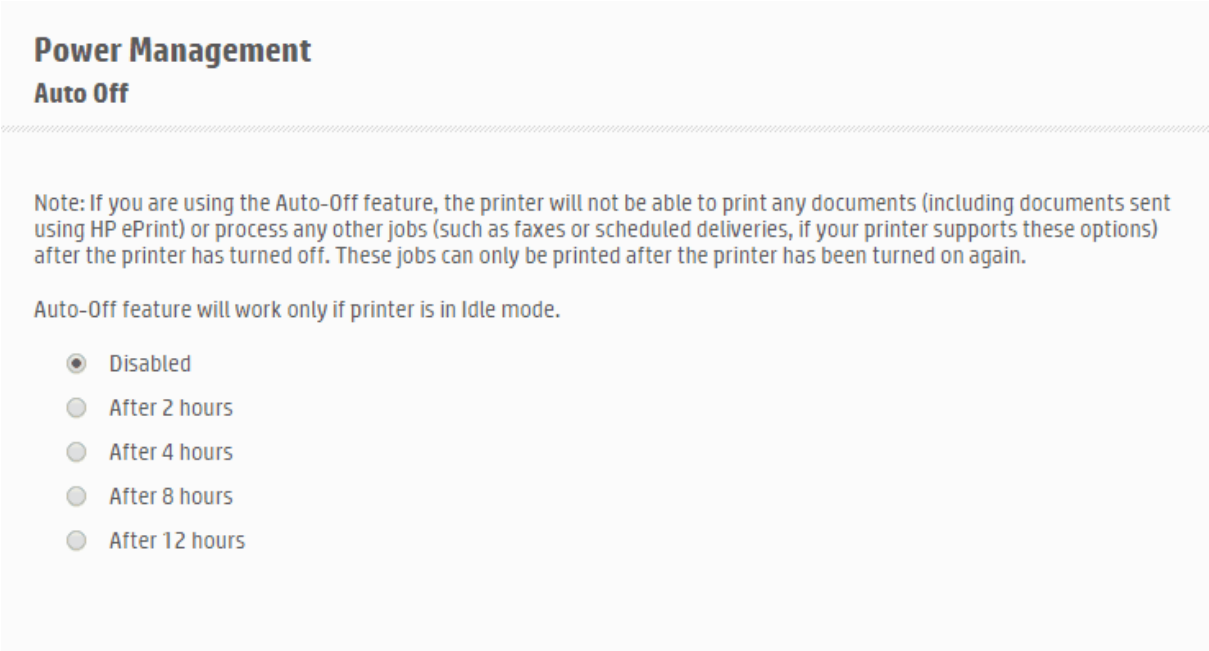
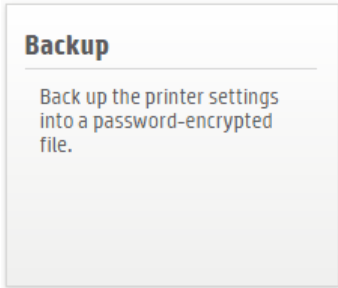


Figure: Embedded Web Server Power Management Auto Off Display

9.9 Backup



The Backup and Restore page allows you to create a backup file for certain user settings. These are not related to continuous printing.

Backup and Restore

Backup

Back Up Device Settings

The Backup feature allows you to create a password-encrypted file that stores the printer's settings, such as the address books and user settings.

Step 1: Set password for backup file

Before backing up the printer's settings, set a password for this backup session, and then click "Save".

<input checked="" type="checkbox"/>	Backup Category
<input checked="" type="checkbox"/>	Printer Settings
<input checked="" type="checkbox"/>	Email Alerts Settings
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	

Password

Confirm Password

Step 2: Save device settings to a backup file

Figure: Embedded Web Server Backup and Restore Display

9.10 Firewall

Firewall

Set up network firewall.

Caution:
Changing these settings can disrupt the current connection.

The Firewall panel allows you to enable and configure firewalls.

Firewall
Firewall Rules

Enable Firewall

⚠ Warning: Changing Firewall settings may result in temporary loss of connection.

Enable Firewall **Apply**

Create Firewall Rule

+ ✕ ✓ - 🚩

<input type="checkbox"/>	Address Template	Services Template	Action	Status	
<input type="checkbox"/>	Default	All IP Addresses	All Services	Drop	Enable
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					

Figure: Embedded Web Server Firewall Rules Display

9.11 Printer Reports

Printer Reports

Print the information pages available with the printer.

Printer Reports allows you to print Font reports. These are not specifically related to continuous printing.

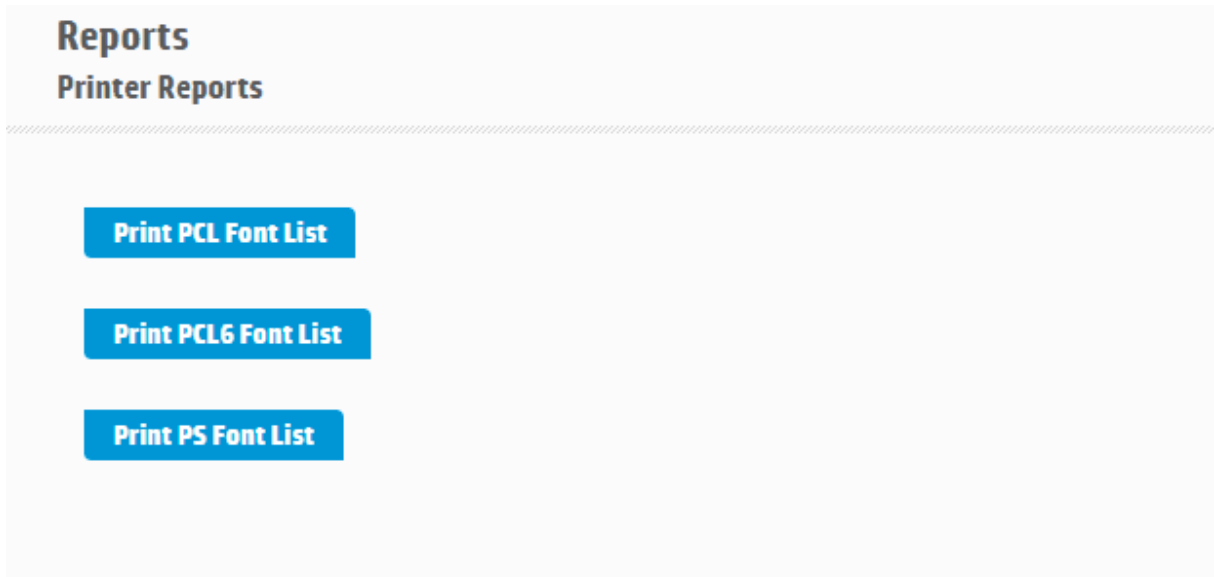


Figure: Embedded Web Server Printer Reports Display

9.12 Usage Report



The Usage Report has various statistical data about printing. Most of these are not related specifically to continuous printing.

Reports
Usage Report

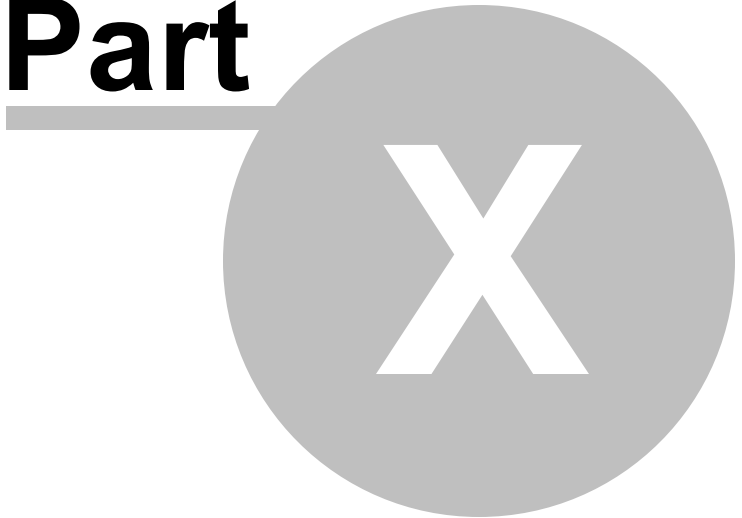
Printer	Pages
Total engine page count *	1927
Total pages printed	90
Total black-and-white pages printed	18
Total color pages printed	72
Total single-sided pages printed	90
Total double-sided pages printed	0
Total jams	105
Total miss picks	70

*The Total Engine Page Count never resets and represents the total number of pages processed by the printer during its lifetime.

Figure: Embedded Web Server Usage Reports Display

Operator Panel

Part



10 Operator Panel

The NeuraLabel 300x printer has an operator panel to assist the user with basic printing. Most buttons on this panel are self explanatory. The following section provides useful information about the display.

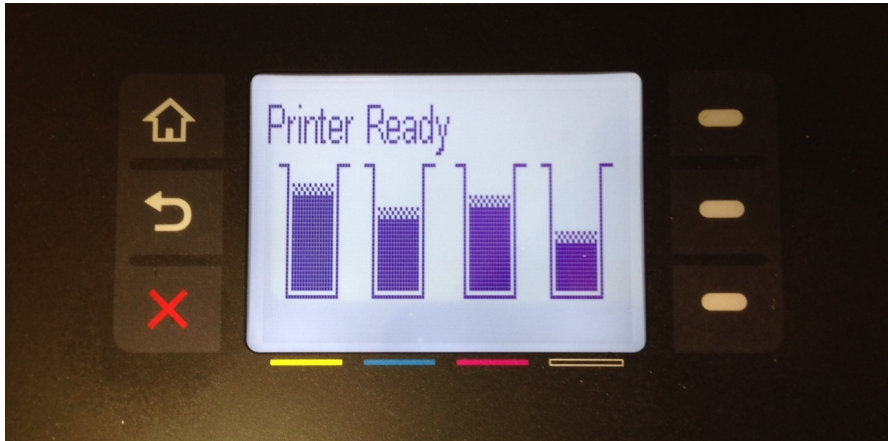
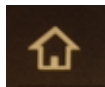


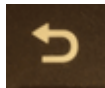
Figure: NeuraLabel 300x Operator Panel

10.1 Operator Panel Buttons

The 300x Operator Panel has three buttons on the LEFT side of the display:



Home - Returns to the Home Screen



Back- Goes Back to Previous Screen



Cancel - Cancels the current menu selection or cancels a print. Note that the red X cancels a print whenever the Operator Panel reads "Now Printing...". Press the Red X twice to cancel a job when the printer is not in this state, once to move to the "Now Printing..." state and a second time to cancel the job.

The three buttons on the RIGHT side of the display are usually used to scroll or select OK. The display will dynamically update to show the functionality of these buttons.



10.2 Operator Panel Menu System

The Operator Panel includes a menu system that can be used for printer configuration and various printer reports. There are quite a few options under the Setup Menu. There is basic information under Job Status and Ink Information.

10.2.1 Setup Menu

Setup->Network

- **View Network Summary:** *Wired, Presents Network Information, for example*
Wired Sum: 169.100.100.206
Hostname: NLF74000
MAC: ecb1d7ff0000
- **Advanced Setup**
 - **Link Speed:** Automatic, 10 Full, 10 Half, 100 Full, 100 Half
“Changing the IP Address will remove the printer from the Network”
Select **OK**. Choices are **Automatic** and **Manual**
 - **IP Settings:** *Changing the IP address will remove the printer from the network*
 - **IPv4 Settings:** Automatic, Manual
 - **IPv6 Settings:** On, Off
 - **Hostname:** NLF74000
 - **Legacy Default IP:** *Do you want to connect the printer to the network using a legacy default IP?*
- **Print Configuration Page:** *Prints an information page about the printer network configuration.*
- **Restore Defaults:** Yes, No
- **Reset 802.1X Security:** *Are you sure you want to restore 802.1X security? Press OK for Yes.*

Setup->Device Setup

Allows customized device setup.

- **Preferences**

- Date and Time
- Language
- Country/Region
- Screen Brightness
- Quiet Mode
- **Paper Handling**
 - **Default Tray:** Tray 1/Tray 2
Default Tray is only relevant when the driver Paper Source setting is set to **Printer Auto Select**. Using Printer Auto Select is not recommended for continuous printing. Default Tray determines which tray the media will be pulled from if both trays have identical settings.
 - **Paper Selection:** Tray 1/Tray 2
The NeuraLabel 300x Printer Driver will override the Paper Selection, therefore this parameter is needed used for continuous or cut sheet printing.
 - **Tray Lock:** None/Tray 1/Tray 2
Tray Lock allows you to lock a tray to a specific type and size of media, as entered in Paper Selection menu of the operator panel. It is only relevant when the driver's Paper Source setting is set to **Printer Auto Select**. For example you might set the Paper Selection of the cut sheet Tray 2 to Letter size and Plain type. Any job send to the printer (using Printer Auto Select) that was not Letter/Plain, would be redirected to Tray 1. Neither **Tray Lock** nor **Printer Auto Select** are necessary or recommended for continuous printing.
 - **ColorLok Optimization:** On or Off
- **Ink Low Level:** Can change Ink Low to a custom value.
 - Yellow/Cyan/Magenta/Black
 - Automatic/Custom
- **Power Handling**
 - **Standby After:** 5 min/10min/15 min/30 min/ 1 hour
 - **Sleep After:** 15 Minutes/30 Minutes/1 Hour/2 Hours

- **Optimum Speed/Energy:** *Save Energy/Faster First Page*
 - **Auto Power Off:** *Never/2 Hours/4 Hours/8 Hours/12 Hours*
 - **Schedule On/Off:** *Follow instructions and enter time for Power On/Power Off of printer*
- **Print Settings**

Setup->Tools

- **Clean Printhead** *For best result use Colorloc paper and Genuine Neuralog Ink. Follow directions...*
- **Clean Ink Smear:** *This process might take several minutes. No other warning. Will start process.*
- **Reset Service Ink Container:** *No warning. Resets it. Service Ink Container was Reset.*
- **Restore Defaults:** *Restoring Factory Defaults*
- **Advanced Cleaning:** *Requires Neuralog Service Support*

Setup->Print Reports

- **Printer Status Report**
- **Print Quality Report**
- **Usage Page:** *Provides a report of page counts*
- **Network Configuration Page:** *Provides the same report as the Setup->Network->Print Configuration Page. Prints an information page about the printer network configuration.*
- **Event Log**
 - **View Event Log:** *View OK*
 - **Print:** *Provides an Event Log that contains errors and intermittent failures designed to help you troubleshoot problems.*
- **PCL Font List:** *6 page report of installed fonts*

- **PCL6 Font List:** 2 page report of installed fonts
- **PS Font List:** 2 page report of installed fonts

10.2.1.1 Printer Status Report

The Printer Status Report is a two page report that provides critical information about the printer such as product model and serial number, current device firmware, and cartridge status. An example is provided below.

Printer Status Report

Product Information

- Model Name: NeuraLabel 300x
- Model Number: 300x
- Serial Number: CN51DJY02V
- Product Number: 300x
- Service ID: 25114
- Printer Zone (PX): 0
- Firmware Version: SNP1CN1522BR
- FW Patch Version: 0
- Country/Region: 15 / 1
- Duplexer: Installed
- Date/Time: 6/13/2015 00:22:43

Connectivity Settings

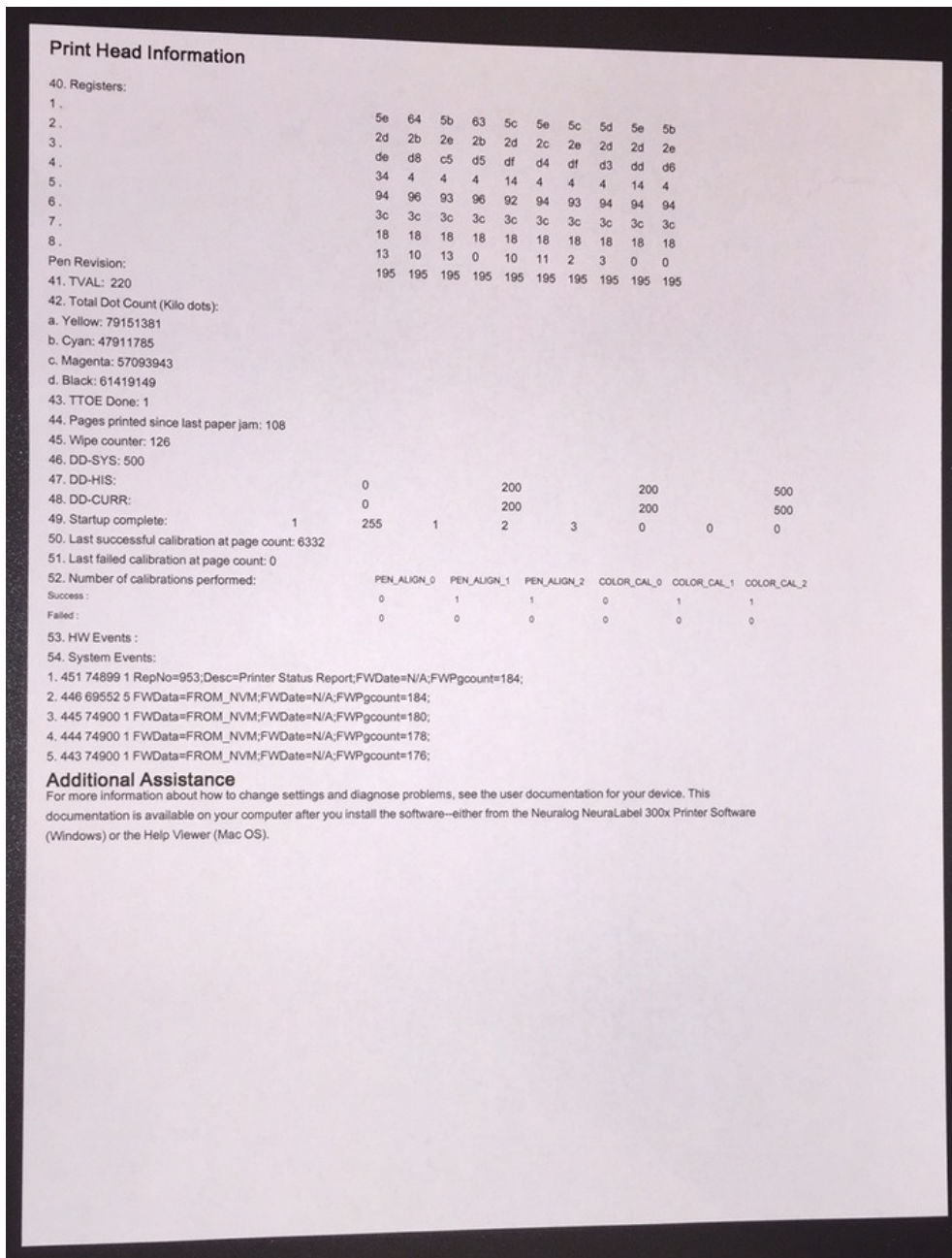
- Network Settings: Offline
- Active Connection Type: None
- URL: http://0.0.0.0
- Hostname: HPF74046
- Admin Password: Not Set

Print Usage Information

- Total Pages Printed: 17238
- Total Color Pages Printed: 143
- Duplex page count: 0
- Borderless Pages Printed: 0

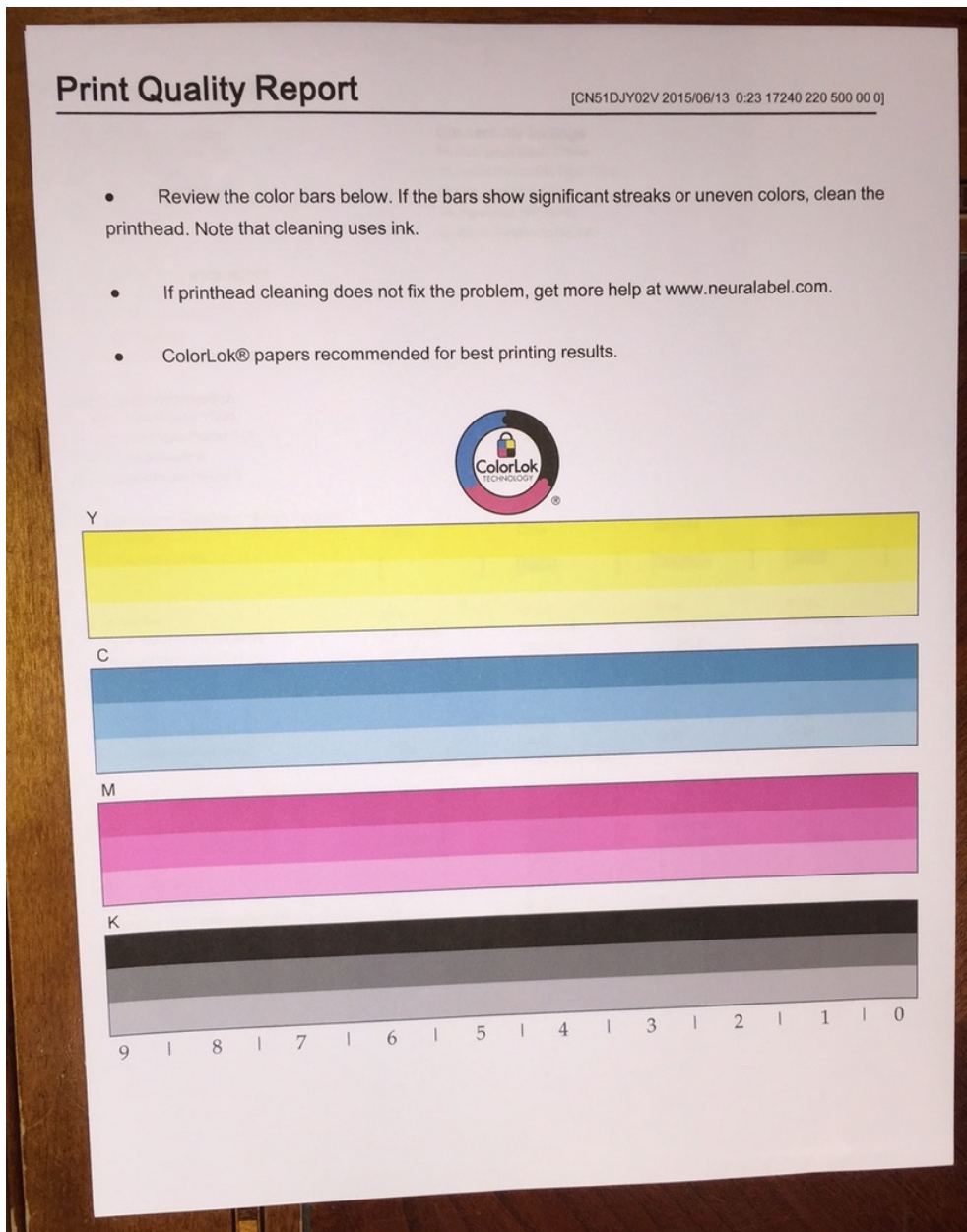
Ink Delivery System Information

	Yellow	Cyan	Magenta	Black
21. Ink Supply:	[Yellow]	[Cyan]	[Magenta]	[Black]
22. Estimated Ink Level:	[Yellow]	[Cyan]	[Magenta]	[Black]
23. Ink Number:	971XL	971XL	971XL	970XL
24. End of Warranty Date (Y-M-D):	2016/04/08	2016/07/08	2016/04/15	2016/08/19
25. First Installation Date (Y-M-D):	2015/05/21	2015/05/21	2015/05/21	2015/05/21
26. Ink Zone:	1	1	1	1
27. USE:	0	0	0	0
28. Neuralog:	1	1	1	1
29. Approximate Pages Remaining:	1400	2700	4100	4000
30. Supported Ink Cartridges*:	NL31	NL31	NL31	NL31
**Not all cartridges are available in all regions.				
31. NHIO: 00				
32. IRO: 00				
33. Ink status slider status:	200	200	200	200
34. Supply Serial Number:	283535139	297626273	284579347	303240925
35. Mfg Date:	2014/04/09	2014/07/09	2014/04/16	2014/08/20
36. SHAID Status :	0	0	0	0
37. SHAID Functional :	0	0	0	0
38. Supplies Host/Trade acumen bit:	0	0	0	0
39. Startup complete acumen bit:	0	0	0	0



10.2.1.2 Print Quality Report

The Print Quality Report is a single page report that allows you to diagnose minor print quality issues. An example is provided below.



10.2.1.3 Clean Printhead

The Clean Printhead routines are accessed from **Setup->Tools**. There are two levels of cleaning that can be run to clean, adjust, and align the printheads. Level 1 cleaning should suffice for most print quality issues. Make sure Tray 2 is loaded with white paper before cleaning begins. Press **OK** to start cleaning.



Figure: Access Clean Printhead from the printer operator panel

The following screen will appear. Scroll down to read the entire message. Press **OK** to start the Level 1 12 minute cleaning process. Press the red **X** to cancel.



Figure: Begin Clean Printhead from the printer operator panel

During the cleaning the panel will alternate between the preceding and following screens.

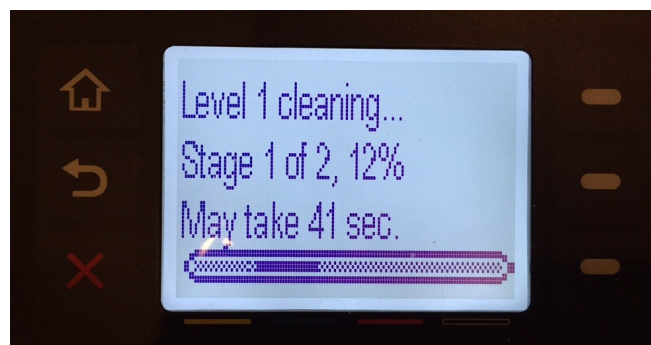


Figure: Run Clean Printhead from the printer operator panel

When the process is done, the Print Quality Report will be printed. This report is broken

down into the four colors and can be inspected for quality issues.

- If dots or streaks appear in one or more of the color groups, clean the printhead. If this does not solve the problem, contact NeuraLabel support.
- If streaks appear in multiple color bands, see if the problem still persists by performing an additional printhead cleaning, and then contact NeuraLabel support. A component other than the ink cartridge is probably causing the problem.

After the Level 1 cleaning screen another screen will appear. Scroll down to read the entire message. Press OK to start the Level 2 10 minute cleaning process. Press the red X to cancel. If no action is taken the operator panel will return to the home screen.

10.2.1.4 Clean Ink Smear

The Clean Ink Smear routine is accessed from **Setup->Tools**. Make sure Tray 2 is loaded with white paper before cleaning begins. Press OK to start cleaning.

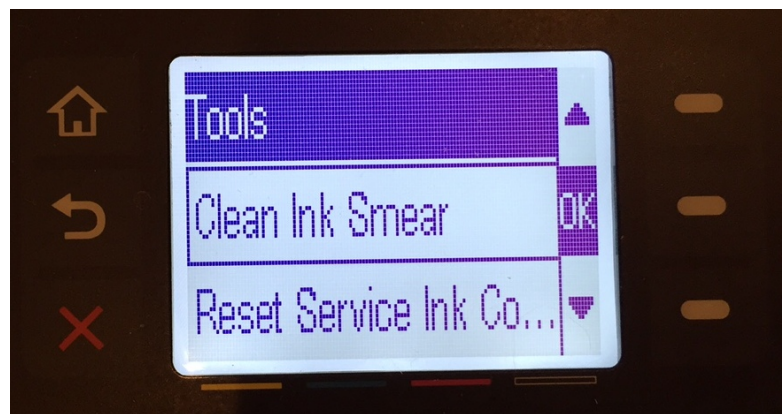


Figure: Access Clean Ink Smear from the printer operator panel

The following screen will appear. Scroll down to read the entire message. Press OK to start the process. A single blank page will print when the process is complete. Discard the page when done.

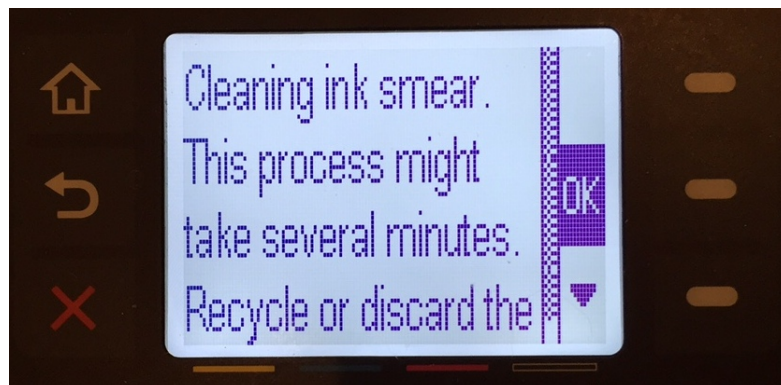


Figure: Begin Clean Printhead from the printer operator panel

10.2.2 Job Status

The Job Status displays the status of the current job. Now Printing, Canceling Print, etc.

10.2.3 Ink Information

The Ink Information menu provides the status of the Ink Levels. The Print Report is the same as the Printer Status Report.

Estimated Levels: *Displays the Ink Diagram*

Cartridge Info: *Displays the Individual Ink Levels*

Print Report: *Prints the Printer Status Report*

Purchasing NeuraLabel Supplies

Part



XI

11 Purchasing NeuraLabel Supplies

The NeuraLabel 300x supplies can be purchased directly from Neuralog's online store.

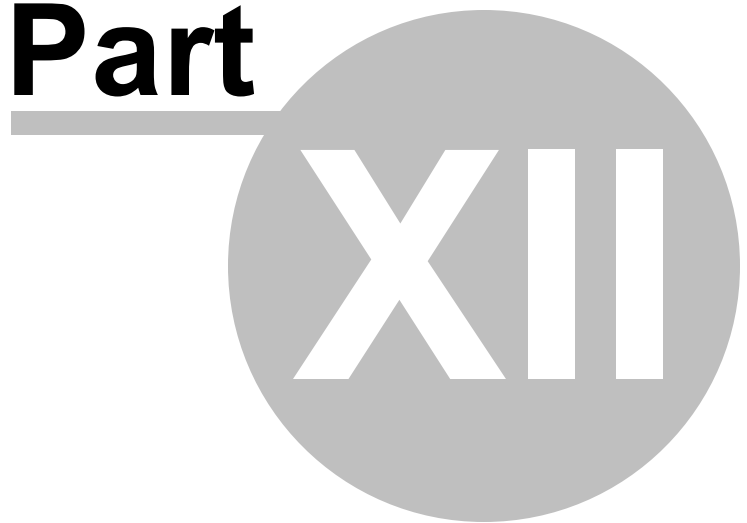
Please visit <http://www.neuralog.com/categories/Neuralog-300x-Printer> for NeuraLabel 300x supplies. The following are available for purchase.

- **Neuralog 300x Black Extra High Yield Cartridge** - 9,200 standard letter size pages at 5% coverage
- **Neuralog 300x Cyan Extra High Yield Cartridge** - 6,600 standard letter size pages at 5% coverage
- **Neuralog 300x Magenta Extra High Yield Cartridge** - 6,600 standard letter size pages at 5% coverage
- **Neuralog 300x Yellow Extra High Yield Cartridge** - 6,600 standard letter size pages at 5% coverage

Contact Neuralog for recommendations for label media.

Troubleshooting

Part



XII

12 Troubleshooting

The following sections provide a variety of information for troubleshooting problems with the NeuraLabel 300x.

12.1 Printer does not pick the media

If the printer does not pick up media from either tray, try these solutions.

Continuous Tray 1

1. Open the printer and remove any jammed sheets of media.
2. Load the tray with the correct size of media for the job.
3. Make sure the Continuous Tray 1 printer guides are adjusted correctly for the width of the media.
4. Make sure the media path is not restricted. If the media is in a box, it should not be touching the sides of the box. There should be no plastic or packing materials touching the media.
5. Check the NeuraLabel 300x operator panel to see if the printer is waiting for you to acknowledge a prompt to feed the media manually through Continuous Tray 1. It is possible the media is not all the way loaded into the printer. Reload media, and continue.

Cut Sheet Tray 2

1. Open the printer and remove any jammed sheets of media.
2. Load the tray with the correct size of media for your job.
3. Make sure the tray guides are adjusted correctly for the size of media. Align the guides with the size markings in the bottom of the tray.
4. Remove the stack of media from the Cut Sheet Tray 2 and flex it, rotate it 180 degrees, and flip it over (paper media). *Do not fan the media.* Return the stack to the tray.
5. Check the NeuraLabel 300x operator panel to see if the printer is waiting for you to acknowledge a prompt print the job.
6. Check the NeuraLabel 300x operator panel to see if the printer is waiting for you to acknowledge a prompt to feed the media manually through Continuous Tray 1.

(You might have selected the wrong tray.)

12.2 Printer picks up multiple sheets of media

If the printer picks up multiple sheets of media from the cut sheet Tray, try these solutions. Do not feed multiple sheets of Media into the Continuous Tray 1.

1. Remove the stack of media from the tray and **flex it**, rotate it 180 degrees, and flip it over (paper). *Do not fan the media*. Return the stack of media to the tray.
2. Use only media that meets NeuraLabel specifications for this product.
3. Use media that is not wrinkled, folded, or damaged. If necessary, use media from a different package. Make sure all media in the tray is the same type and size.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of media from the tray, straighten the stack, and then return less media to the tray.
5. Make sure the printer guides in the tray are adjusted correctly.

12.3 Preventing Jams

To reduce media jams, try these solutions.

1. Use only media (continuous and cut sheet) that meets NeuraLabel specifications in the NeuraLabel 300x. Light-weight, short grain paper is not recommended.
2. Always use media that is not wrinkled, folded, or damaged. If necessary, use media from a different package.
3. Use media that has not previously been printed or copied on.
4. Make sure the Cut Sheet Tray 2 is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure you only feed a single sheet at a time through Continuous Tray 1.
6. Make sure the media guides are adjusted correctly for both trays. Adjust the guides so they are touching the media without bending it.
7. Make sure that Continuous Tray 1 is fully opened or Cut Sheet Tray 2 is fully inserted in the printer.

8. Heavy, embossed, or perforated media should only be used with Continuous Tray 1.

12.4 Clearing Jams

If a jam occurs in the NeuraLabel 300x printer, you should check each of the four locations shown.

1. Output bin
2. Left door
3. Cut Sheet Tray 2
4. Continuous Tray 1

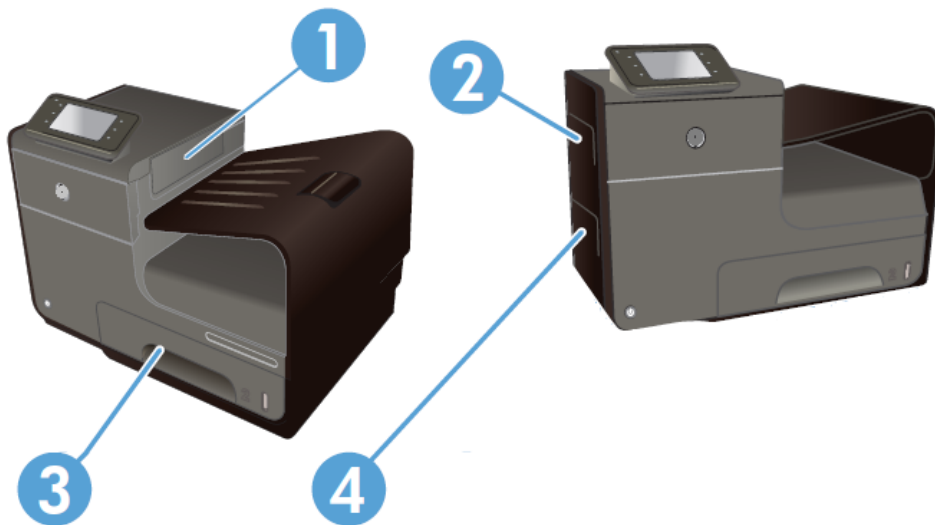


Figure: Possible Jam Locations

Traces of ink might remain in the printer after a jam and leave marks on the printed pages. This problem typically resolves itself after a few sheets have been printed.

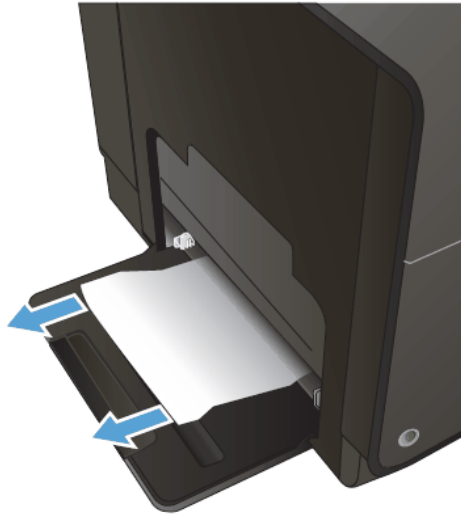
12.4.1 Clear Jam in Continuous Tray 1

This section provides instructions for clearing a media jam related to continuous printing.

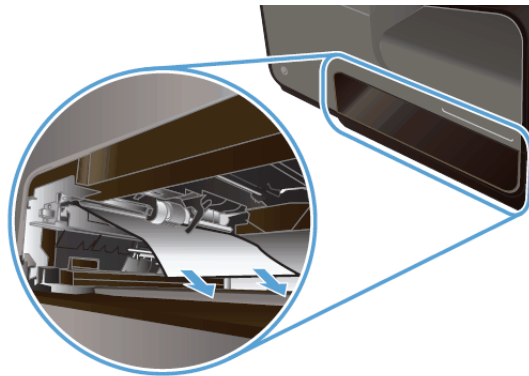
Jammed Sheet Visible

1. If the jammed sheet is visible and easily accessible in Continuous Tray 1, pull it from Tray 1.

NOTE: If the sheet tears, make sure that all of the fragments are removed before you resume printing.

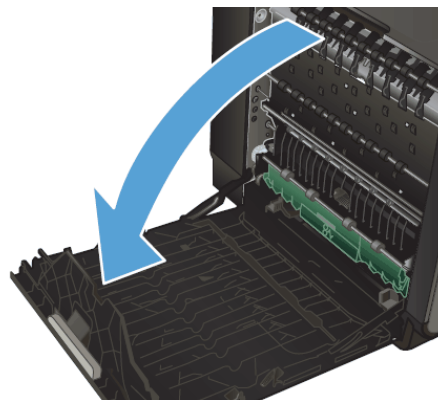


2. The jammed sheet may also be accessible by removing Tray 2 and removing the jammed sheet by pulling it to the right and then out of the product.



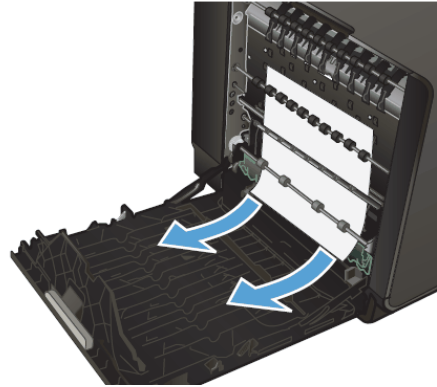
Jammed Sheet not visible outside printer

3. If the jammed sheet is not visible outside the printer or easily accessible in Tray 1, open the left door to access the jammed sheet.



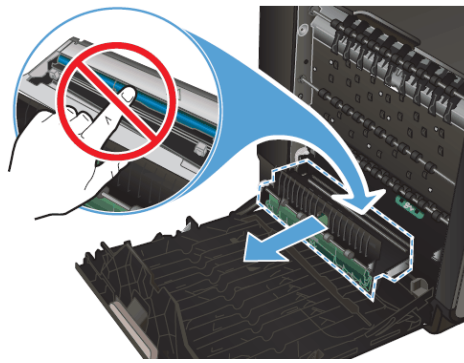
If the sheet is visible inside the door, gently remove the media from the printer, if possible.

If the sheet is not visible or will not freely exit the printer, continue to the next step.



Removing the Duplexer

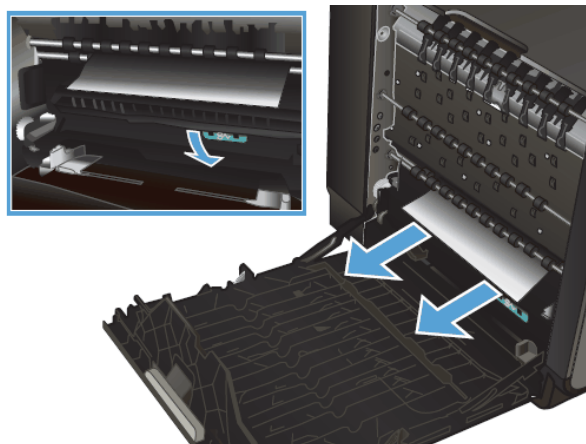
4. If the paper is still not visible or accessible, remove the duplexer by pulling it out with both hands. Set the duplexer aside, upright, on a piece of paper to prevent ink spills.



CAUTION: When pulling out the duplexer, avoid making direct contact with the black cylinder to prevent ink smear on skin or clothes.

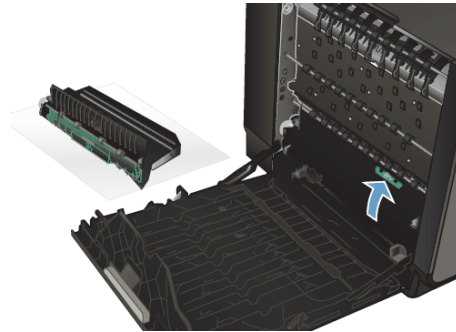
Lowering the Platen

5. Lower the platen by pressing down on the green tab. This will cause the product to try to feed the sheet through the print zone. You may need to gently pull on the sheet if it does not feed. Remove the

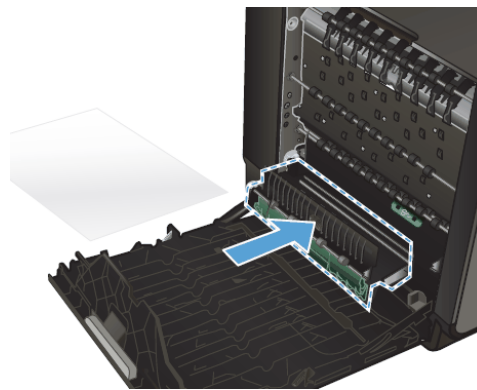


sheet.

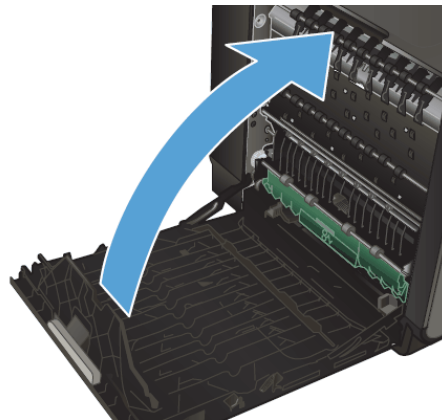
6. Lift the green tab to place the platen back into its operating position.



7. Reinstall the duplexer.



8. Close the left door.



12.4.2 Clear Jam in Cut Sheet Tray 2

This section provides instructions for clearing a media jam related to cut sheet printing.

1. Open Tray 2 by pulling it out and releasing the latch at the rear left of the tray.
2. Remove the jammed sheet by pulling it to the right and then out of the product.
3. Close Tray 2.

NOTE: To close the tray, push in the middle or with even pressure on both sides. Avoid pushing on one side only.

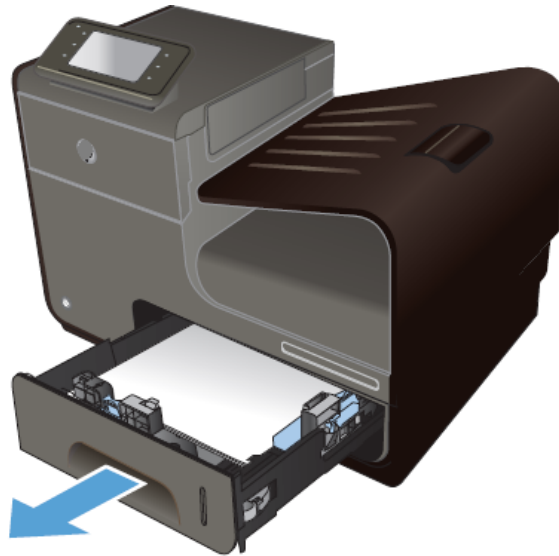


Figure: Clearing a jam in Tray 2

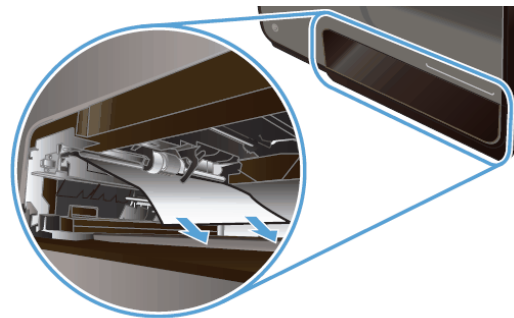
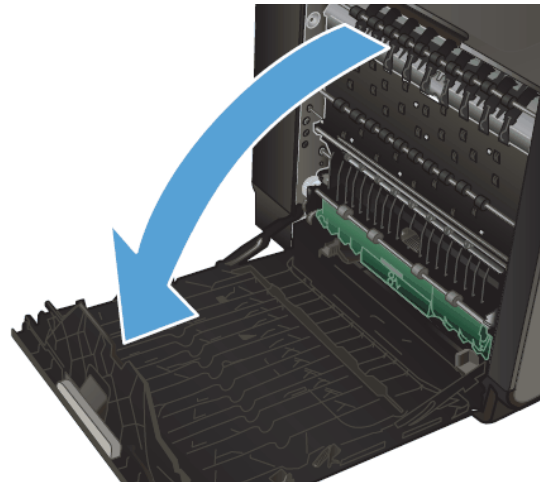


Figure: Clearing a jam in Tray 2 Closeup

12.4.3 Clear Jam in the Left Door

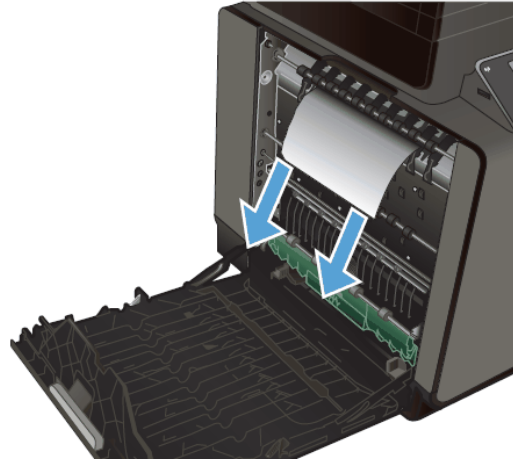
During either continuous or cut sheet printing if you find that a jam has occurred near the left door, follow these steps to clear the jam.

1. Open the left door.

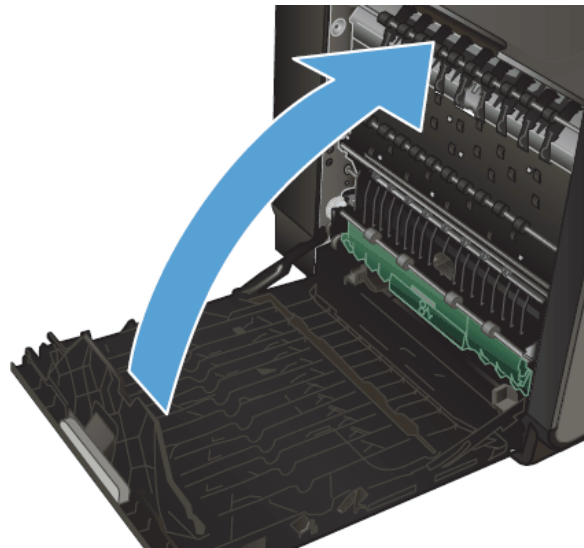


2. Gently remove any visible paper from the rollers and delivery area.

NOTE: If the sheet tears, make sure that all fragments are removed before you resume printing. Do not use sharp objects to remove fragments.



3. Close the left door.



12.4.4 Clear Jam in Output Bin

Follow these steps to clear a jam that occurs near the output bin.

1. Look for jammed paper in the output bin area.
2. Remove any visible media.

NOTE: If the sheet tears, make sure that all fragments are removed before resuming printing.

3. Open and then close the left door to clear the message on the operator panel.



12.5 Label prints in wrong position on continuous media

If the label prints in the wrong position on **continuous (marked) media**, there can be several possibilities, all of which are easily remedied. First determine if the labels are the correct size, but in the wrong position, or if the labels are too large or too small.

Are labels the correct size (same size as the media), but slightly in the wrong place?

=> YES, change **Mark Adjust** to shift image on media. 10 units = 1/10 inch.
Negative values OK.

Labels are too close to the leading (marked) edge of the media

=>Decrease **Mark Adjust** to move away from edge

Labels are too far from the leading edge of the media

=>Increase **Mark Adjust** to move closer to edge

=> NO, labels are not the correct size and are printing across the media

Check to see that the label size you selected in the printer driver EXACTLY matches the measured media length.

Make sure **Use Marks** is set to **Marks Only** for marked media printing

Make sure **Borderless Printing** is turned OFF for marked media

12.5.1 Prints are too far down from media leading edge

Mark Adjust can be used to change the position of the print with respect to the top of the form or page. The marked end of the continuous media is the top of the page.

See **Mark Adjust** for more details.

- To move the printed image up the page, increase the value of **Mark Adjust**.
- 10 units of **Mark Adjust** is about 1/10 inch.

Caution: **Mark Adjust** moves the printed image up and down on the media with respect to the mark. This allows for labels to be centered correctly on media that does not meet specification requirements. With this liberty it is possible to set **Mark Adjust** to start the print "off" the page. Do not set **Mark Adjust** such that the print will start off the media. Undesirable results will occur.

12.5.2 Prints are too far up from media leading edge

Mark Adjust can be used to change the position of the print with respect to the top of the form or page. The marked end of the continuous media is the top of the page.

See **Mark Adjust** for more details.

- To move the printed image down the page, decrease the value of **Mark Adjust**.
- 10 units of **Mark Adjust** is about 1/10 inch.
- **Mark Adjust** can be a negative value

12.5.3 Prints are across two labels

If the prints start coming out across labels, the printer will likely stop and declare a jam code to prevent further incorrect printing.

It is likely that **Mark Adjust** needs to be set.

This state can also occur if the settings **Borderless Printing On** and **Marks Only** have been chosen together. In this mode, the printer synchs on the first mark only. For marked media, choose **Borderless Printing Off**.

Check to make sure that **No Marks** was not selected when using marked media.

12.5.4 Prints are not centered Left/Right on page

If the label prints are not centered along the outside (non-continuous) edge of the label media, there are several possible causes and solutions.

The most likely cause is that the printer input paper track has not been properly adjusted. Slide in the track edges so that the paper can just slide within the track. Always make sure the media fits snugly within the track; do not overtighten.

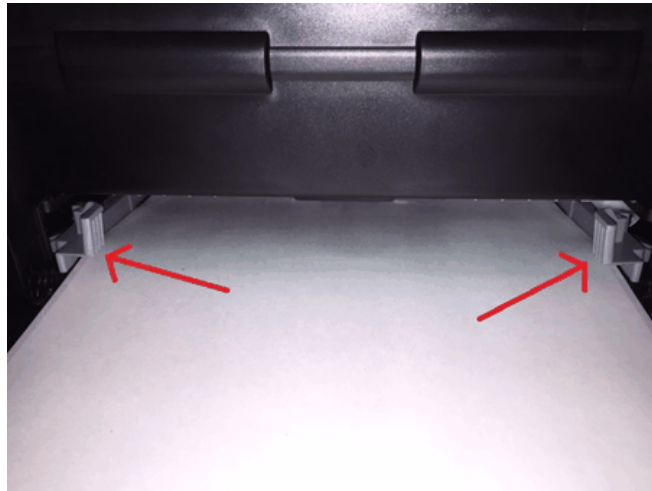


Figure: Continuous Tray 2 Media Guides

It is also possible that the label image itself needs to be centered on the page. If the label print is still not centered once the guides are properly adjusted, you can modify the margins in the Windows page (also called form) template to move the label on the page in any direction.

You can use the **Print Area Margins** in the **Print Server Properties** dialog to edit the form and adjust the **Left** or **Right** margin values. The Print Server properties can be accessed through the Windows Control Panel or by selecting **Manage Custom Sizes** from the NeuraLabel printer driver. If you adjust the page margins, make sure the original label content fits on the new smaller page. You may need to use a "Fit to Page" option in your application; otherwise the label edges may become cropped. The second figure below shows the Adobe Reader X print dialog. Labels may be "Fit" to the page or they may be printed "Actual Size".

In the case of label media with marks, it is not recommended to change Top and Bottom margin, because you would use the **Mark Adjust** feature to move the label image either closer to, or farther away from, the mark.

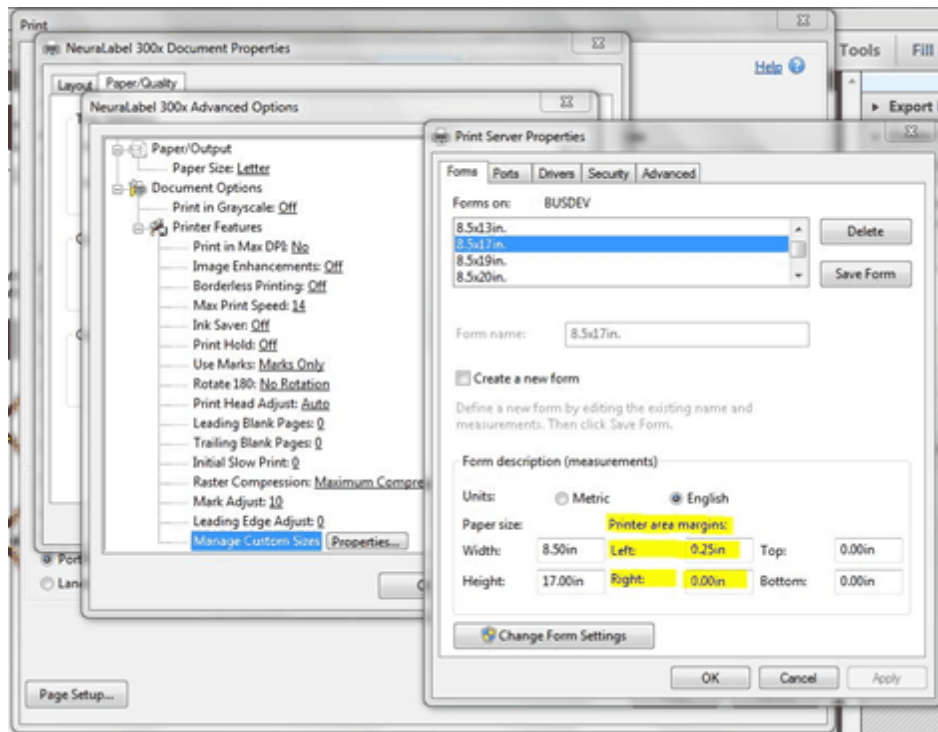


Figure: Adjusting Margins of the Printed Label

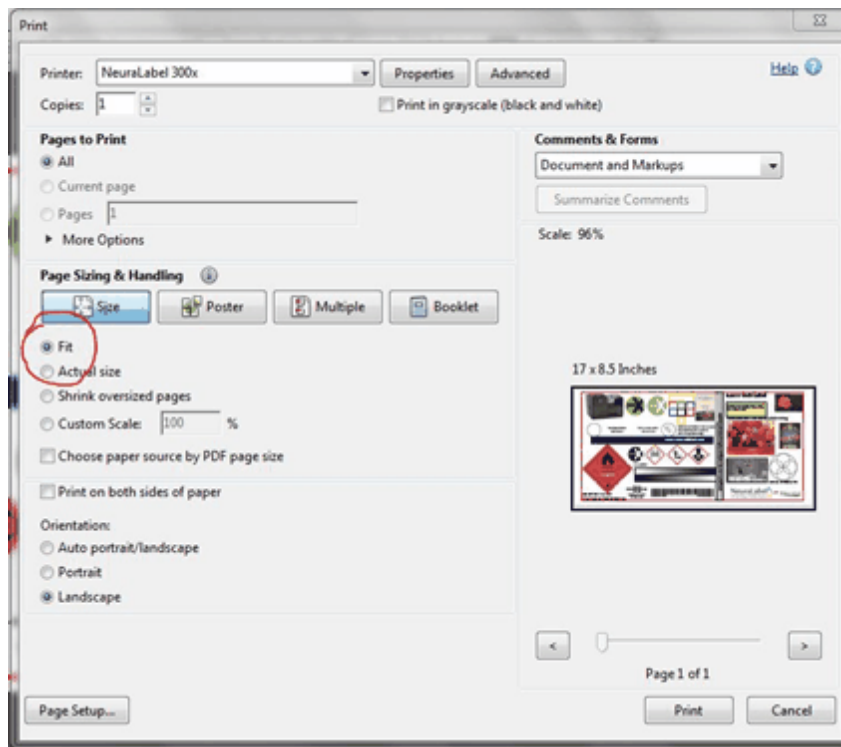


Figure: Print Dialog Adobe Reader X

Finally if you are still having trouble centering the label print on the page, the printer can

be programmed to provide a horizontal shift. Contact NeuraLabel support if you feel like your printer needs an adjustment.

12.6 Prints wrinkle and jam at print start

If the print wrinkles as it starts to enter the printer, then one of the following is the likely cause.

- The media is warped, wrinkled or curled. Remove wrinkled pages and reload.
- The media is crooked with respect to the Tray 1 continuous input of the printer. Make sure the media is inserted straight and flat into the printer. See section *Loading Continuous Media into the Printer*.
- The adjustable printer guides are too narrow and is grabbing the media. Widen it, but only slightly, until the media can slide within the guides and tray track.
- There is a piece of media from a previous job left in the paper path.

When this occurs, correct any problems and reload the media. If the media and guides are correct, the print should begin with no further issues.

12.7 Printer declares an Error Code

The NeuraLabel 300x has been programmed to declare error codes in the event that a printer/label/media misconfiguration occurs. This is with the intent of declaring an error, rather than printing unwanted, wasted labels.

12.7.1 Mark Early/Mark Late Error

The NeuraLabel 300x reads the marks on media to know precisely where to place the label image on the printed label. It uses the page size selected in the printer driver to determine the exact size of the printed page.

If the distance between the marks on the label media do not match the selected page size, the printer will first attempt to adjust to the media, and if that is not possible will declare a Mark Early or Mark Late warning. The behavior is designed to prevent incorrect prints and to avoid media waste.

Note that Mark Early and Mark Late only occur when a mismatch between physical media and driver page selection has occurred. In other words, this is the result of operator error. If the selected page size matches the physical media, this error will not occur.

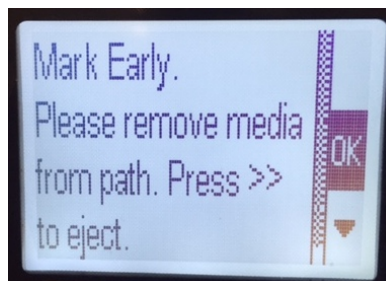


Figure: Mark Early Operator Panel Message

Mark Early

If the printer detects a mark **too soon**, it means that the **physical media page size is smaller than the specified page size** that the user selected in the driver. For example if the user loaded media 6 inches in length, but selected a page size in the driver that was 8 inches in length, the printer would begin to print, but then immediately declare Mark Early because the second mark was detected too soon on the 6 inch media.

If Mark Early occurs, remove the media from the printer and do one of the following.

- If the user really meant to print the 8 inch label, find and load the correct 8 inch media.
- If the user meant to print a 6 inch label, find and load the correct label file on the computer OR make sure the correct page size has been chosen from the driver.
- If you need to print an 8 inch label and only have 6 inch media, use a "shrink to fit" option if available in your application. Make sure the page size selected in driver matches the physical media that you have.
- If you think the page sizes match, check to make sure the orientation (Landscape or Portrait) is correct.
 - The printer driver uses Width x Length
 - In the physical media the Width is the perforated side and the Length is measured "perf to perf" or "mark" to "mark".

NeuraLabel 300x allows for a 0.1 inch tolerance in page size for this case. If the physical media is less than 0.1 inch too small, the printer will place the labels and print as expected. If the physical media is equal to or more than 0.1 inch too small, Mark Early is declared.

Mark Late

If the printer detects a mark **too late**, it means that the **physical media page size is larger than the specified page size** that the user selected in the driver. For example if the user loaded media 10 inches in length, but selected a page size in the driver that was 8 inches in length, the printer would begin to print, and then immediately declare Mark Late because the second mark was detected too late on the 10 inch media.

If Mark Late occurs, remove the media from the printer and do one of the following.

- If the user really meant to print the 8 inch label, find and load the correct 8 inch media.
- If the user meant to print a 10 inch label, find and load the correct label file on the computer OR make sure the correct page size has been chosen from the driver.
- If you need to print an 8 inch label and only have 10 inch media you can do so. Make sure the page size selected in driver matches the physical media that you have.

- If you think the page sizes match, check the orientation as described above.

NeuraLabel 300x allows for a 1.0 inch tolerance in page size for this case. If the physical media is less than 1 inch too long, the printer will place the labels and print as expected; otherwise Mark Late is declared. HOWEVER, if you choose to print on media slightly longer than the page size you select, the placement of the label on the media will not be correct. This can be overcome by using **Mark Adjust** to specify exactly label placement.

In summary, the specified driver page size should match the physical media size exactly. If in doubt get a ruler and measure. Measure "perf to perf" or "mark to mark" so that you include the entire length of the label media page (not just the label itself). Some boxes of label media are labeled incorrectly.

If the physical label is less than 0.1 inch shorter or less than 1 inch longer than the page you specified in the driver, the printer will print anyway and place the label on the page. You may need to adjust **Mark Adjust** to center the label.

If the physical label is more than 0.1 inch shorter a Mark Early will be declared. If the physical label is more than 1 inch longer a Mark Late will be declared.

Selecting the Paper Size in the Driver

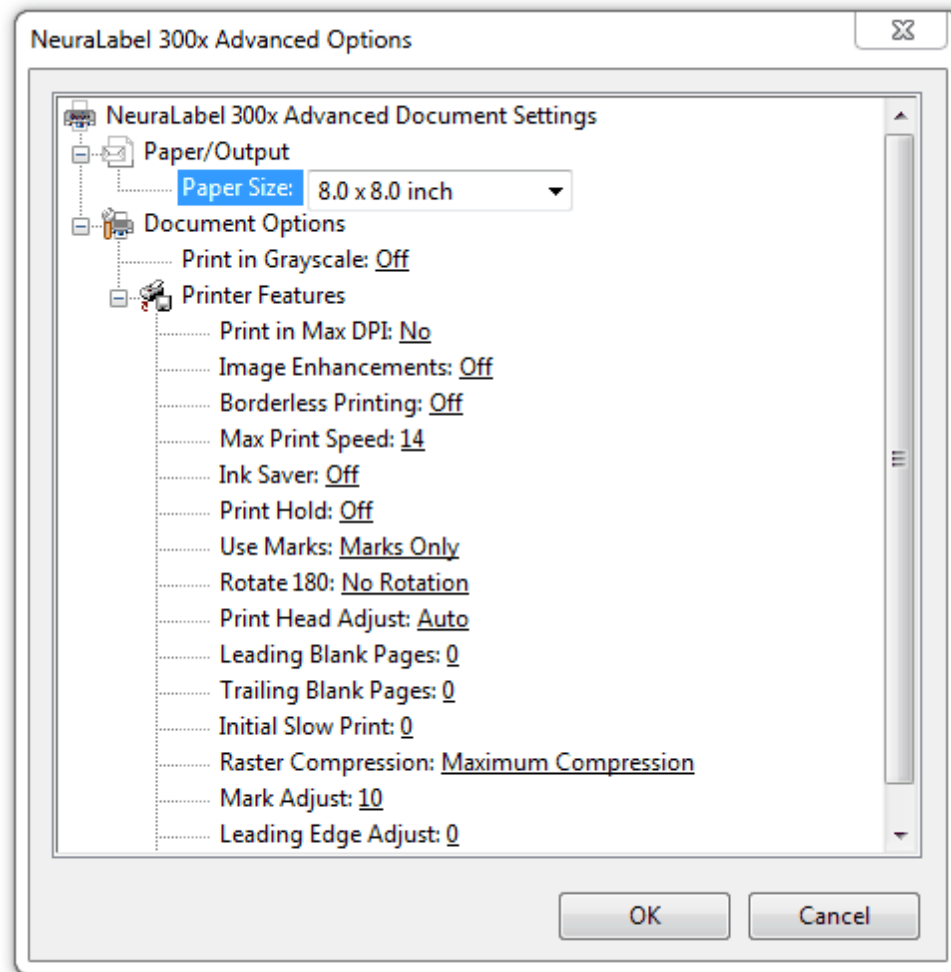


Figure: Selecting the Page Size in the driver

12.7.2 Mark Missed Error

The NeuraLabel 300x reads the marks on the media to know precisely where to place the printed label image. If the printer does not detect marks at all, a Mark Missed error is declared.

If the Mark Missed error is declared at the beginning of the print, it is likely that the media has been loaded upside down. The media should be loaded such that the marks face upward and the printable side faces downward. If Mark Missed is declared and the media is loaded correctly, the printer may need to be calibrated.

12.7.3 Maximum supported length exceeded

The NeuraLabel 300x will print jobs up to 1,000 feet in length. Once this limit has been reached, the remainder of the print will be canceled. After 1,000 feet of continuous printing, the printer requires internal servicing to prepare for the next print.

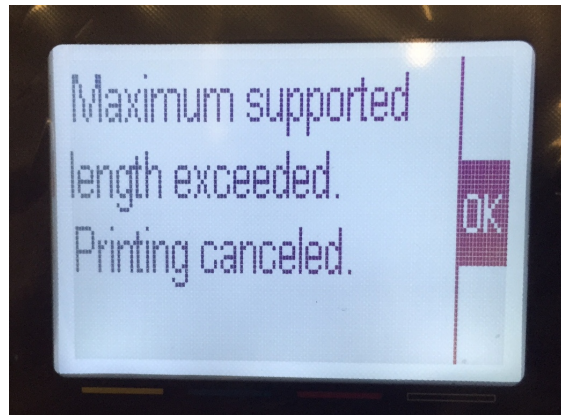


Figure: Maximum Supported Length Exceeded Operator Panel Message

12.8 Print Quality Guidelines

You can prevent most print-quality problems by following these guidelines.

- Use the correct paper type setting in the printer driver for the label media
- Use only media that meets NeuraLabel specifications
- Check the ink cartridges
- Clean ink smears
- Clean the printhead

The table below summarizes problems that can occur and offers solutions for those issues.

Printing Problem	Solution
<ul style="list-style-type: none"> • Ink is smearing on the printed pages. • Repeated marks occur on the printed pages. • Printed pages are curled. • Printed pages have small unprinted areas. 	<p>Make sure the media type setting is set to the correct value for your media.</p>

Printing Problem	Solution
<ul style="list-style-type: none"> • The printing is too light or seems faded in areas. • Specks of ink are on the printed pages. • Ink is smearing on the printed pages. • Printed characters seem misformed. • Printed pages are curled. 	<p>Use different media. Always use a media type and weight that NeuraLabel300x supports.</p> <ul style="list-style-type: none"> • Use media that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges. • Use media that has not been previously printed on. • Use media that is designed for use in inkjet printers. • Use media that is not too rough. Using smoother paper generally results in better print quality.
<ul style="list-style-type: none"> • Printed pages have small unprinted areas. • Printed pages have streaks or bands. 	<p>Check the ink cartridges by printing a status report, and replace them if necessary.</p>
<p>Dots or streaks appear in one or more groups on the Print Quality Report.</p>	<p>Clean the printhead. If this does not solve the problem after multiple cleanings, contact NeuraLabel Support.</p>
<p>Streaks appear in multiple color bands on the Print Quality Report after performing an additional print head cleaning,</p>	<p>A component other than the ink cartridge is probably causing the problem. Contact NeuraLabel Support.</p>
<ul style="list-style-type: none"> • Specks of ink are on the printed pages. • Ink is smearing on the printed pages. • Repeated marks occur on the printed pages. 	<p>Print a cleaning page to remove dust and excess ink from the printhead and paper path. Run the Clean Ink Smear process.</p>

Checking the Ink Cartridge

If you observe scratches, or other damage on the metal connector, replace the ink cartridge. If the metal connector does not appear to be damaged, push the cartridge gently back into its slot until it locks in place. Print a few pages to see if the problem has resolved.

CAUTION: Do not touch the metal connector on the edge of the cartridge. Fingerprints on the metal connector can cause print-quality problems.

12.9 Printer Stops in the Middle of a Label Print Job

If the printer stops in the middle of a job it is likely that an Ink Out error has occurred. A message will be displayed on the Operator Panel.

12.10 Printer does not print or is very slow

If the NeuraLabel 300x does not print at all, try the following solutions.

1. Make sure the printer is turned on and that the control panel indicates it is ready.
 - If the control panel does not indicate the printer is ready, turn the product off and then on again.
 - If the control panel indicates the printer is ready, try sending the job again.
2. If the control panel indicates the product has an error, resolve the error and then try to print a test page from the control panel. If the test page prints, there may be a communication problem between the product and the computer you are trying to print from.
3. Make sure the cables are all connected correctly. If the product is connected to a network, check the following items:
 - Check the light next to the network connection on the product. If the network is active, the light is green.
 - Make sure that you are using a network cable and not a phone cord to connect to the network.
 - Make sure the network router, hub, or switch is turned on and that it is working correctly.

4. Install the NeuraLabel driver software from the CD or www site that came with the printer. Only the NeuraLabel 300x printer driver will work with the continuous printer.
5. From the List of printers on the computer, right-click on your printer and click **Properties**, and open the **Ports** tab.
 - If you are using a network cable to connect to the network, make sure the printer name listed on the **Ports** tab matches the product name on the product configuration page..
 - If you are using a USB cable and are connecting to a wireless network, make sure the box is checked next to **Virtual printer port for USB**.
6. If you are using a personal firewall system on the computer, it might be blocking communication with the product. Try temporarily disabling the firewall to see if it is the source of the problem.
7. If your computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs. Avoid using this printer on a wireless network because the result will be very poor performance.

12.11 Printer prints very slowly

If the printer prints, but it seems slow, try the following solutions. NeuraLabel 300x has auto slowdown routines so that it can work with older computers and busy networks.

1. Make sure the computer meets the minimum specifications.
2. If the Media type setting is not correct for the type of media you are using, change the setting to the correct media type.
3. If your computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.
4. Keep in mind that many print settings, such as Best mode, significantly reduce print speed.

12.12 Mark Sensor Calibration

Mark Sensor Calibration Procedure – Main Tray and MP Tray

The NeuraLabel 300x printer includes a mark detect sensor that facilitates precise label placement. This sensor will be initialized or "calibrated" at the factory. It is unlikely that

the need to recalibrate the mark sensor will arise, however the calibration procedure is provided below. Because the Mark Sensor Calibration prints a cut sheet at the end of the procedure, make sure the continuous paper is removed from the printer and there is paper in the cut sheet tray 1.

If mark detection on your printer does not seem to be functioning correctly, contact Neuralog support; they will guide you through the following calibration procedure.

- Make sure the paper is loaded in the Main (cut sheet) tray
- Press **X, B, X, X** to access the Engineering Menu [**B** is the Back Arrow Button] - This may take multiple attempts
- Scroll down to the Service Menu, press **OK**
- Press **B** to see the System Configuration, press **OK**
- Press **B** four times to see the Paper Sensor Calibration, press **OK**
- Press **OK** to Calibrate...? Press **OK** again
- Press **OK** to Calibrate Main Tray?
- A blank page will eject
- Press **X**
- Press **B** to go to Calibrate MP Tray? Press **OK**
- Load the sheet into the MP Tray, press **OK**
- A blank page will eject
- Press **X** 5 times to return to the Main Menu

12.13 MAP Sense Calibration

MAP Sense Calibration Procedure

MAP Sense Calibration monitors the draw on the printer power supply to maintain safe power usage levels. Because the MAP Sense Calibration prints a cut sheet at the end of the procedure, make sure the continuous paper is removed from the printer and there is paper in the cut sheet tray 1.

- Press **X, B, X, X** to access the Engineering Menu [**B** is the Back Arrow Button] – This may take multiple attempts
- Scroll down to the Service Menu, press **OK**
- Press **B** once to see System Configuration, press **OK**
- Press **B** three times to see the MAP Sense Calibration, press **OK**
- Press **OK** to Calibrate...? Press **OK** again
- Now Printing...
- A page similar to the one shown below is printed



Figure: MAP Sense Calibration Printed Result

12.14 NeuraLabel 300x Media Mark Specification

The NeuraLabel 300x prints on both continuous and sheeted pressure-sensitive label media. Continuous media can be pre-diecut with registration marks or un-diecut with no marks. Pre-diecut media will be on marked rolls or marked fan-folded. Un-diecut media will be on unmarked rolls; any marks needed for post-print die-cutting and finishing will be added during printing.

NeuraLabel 300x works well with a wide variety of facestocks, especially those that are coated for high receptivity to pigment inks. Examples include paper as well as synthetic films such as polypropylene, polyester and vinyl. A particular facestock and label construction is chosen to meet the requirements of the application.

The supported form or page sizes are as follows. Note that the measured width and length are of the entire label media sheet. The actual peel-off label will be smaller.

- **Width** = 3" wide to 8.5" wide
- **Length** = 4" in length to 22" for pre-diecut labels with marks. The length is not applicable to continuous media with no marks

The NeuraLabel 300x prints with 35/300 (.117) inch margins on each

side along the length of each page. This should not be a major consideration for pre-diecut labels as this margin will typically lie within a 1/8" matrix.

For pre-diecut labels, the standard matrix is 1/16" - 1/8" wide on each side as well as the top and bottom of the label. The top and bottom matrix will be determined by the width of the gap required between labels, ranging from 1/8" - 1/4". The matrix can either be pre-stripped or left on the label for removal after printing.

Pre-diecut label media requires registration marks to ensure that each label registers properly to top of form. The NeuraLabel 300x mark specification is illustrated as follows.

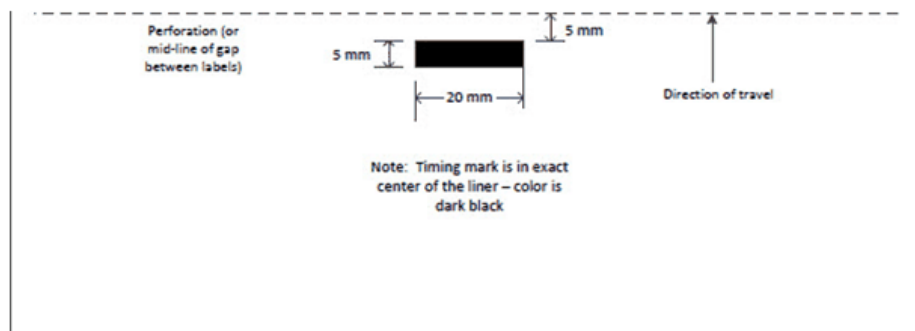


Figure: NeuraLabel 300x Media Mark Specification

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