

ENVELOPE PRINTER

User Manual



****Please review below notes prior to operation of the machine****

General Warranty: 1-year parts, 90-days labor for machine. Printer is 4L per color per printbar or 300mL per die per color, whichever comes first (can be checked on the “Printbar” tab of the Windows Interface). Coverbind printers are to be used exclusively with official HP consumables, including but not limited to ink cartridges and service sleds. Use of third-party products or any modification to these products will result in a void of the printer warranty.

Returns

Regarding returns in any case, proper packaging in the product’s original packaging is imperative for warranty acceptance as it will be voided otherwise.

Speeds

Speeds can be up to 10,000 per hour for low complexity and low coverage static artwork. Many factors can affect personal results including media size, artwork size, ink coverage, art complexity, resolution, type of print (variable or static), and more.

- As a rough estimate, approximate speeds may be calculated using the following formula:
- Pages per minute = $(60s \times 18 \text{ ips}) / 1.5L$ or $PPM = 1080 / 1.5L$ (Multiply total by 60 to get per hour)
- “Length” is artwork length, not media length. Artwork that is shorter than the media length will print faster than matching artwork and media.
- “Gap” can be estimated as half the artwork length, but only for approximate calculations.
- The above formula assumes medium coverage and medium complexity and should be used only to estimate speeds, as these speeds are not guaranteed.

Operation Essentials

The printbar is a delicate piece of technology so the user should take care not to damage the dies. Damage to the dies will void the warranty.

If the service sled needs to be replaced, leave the old sled in the printer until a replacement is available for installation. The service sled is a cap which seals the printbar and provides a humid environment for the print nozzles. Leaving the printbar uncapped for an extended period of time, e.g. overnight, will cause the nozzles to dry out. The longer the printer is left uncapped, the more difficult it is to recover the printbar.

It is recommended to leave the printer on when not in use to allow for automatic cleaning cycles to take place.

When running jobs longer than 2500 prints, it is recommended to do the following to best care for printer and allow sufficient cleaning cycles:

- Variable Data: split the jobs into increments of 2500 or less
- Static Data: enable the REST control and adjust the mid-job-service (MJS) timing. For more information on switching the REST control, **see section 3.4.5 “REST Control.”**

NEED SUPPORT?

Contact Support by calling 800.225.5644 or by visiting postmark-usa.com/support.

Sign up for the Help Center to access self-help articles and to easily submit and track support tickets. Get VIP priority status on our Help Center with our VIP Print Service Contract with 1, 2, and 3-year plans available. Contact a sales representative for additional information.

Please be prepared to provide the following information:

- Contact Information
- Machine Serial Numbers
- HP Printer Serial Number
- Photos of issue: current job, test sheet, CMYK bars sheet (found at postmark-usa.com/priming)
- Job setup information: application, configuration, speed, etc.

TABLE OF CONTENTS

1.0 ABOUT THE envPrinter™	4
1.1 SAFETY & REQUIREMENTS	4
1.1.1 OPERATIONAL REQUIREMENTS	4
1.1.2 ENVIRONMENTAL REQUIREMENTS	4
1.1.3 SETUP REQUIREMENTS	4
1.1.4 DURING USE	5
1.1.5 AFTER USE	5
1.1.6 SHIPPING CONSIDERATIONS	5
1.1.7 TOF SENSOR SAFETY CONSIDERATIONS	5
1.1.8 SERIAL LABELS	5
1.2 SPECIFICATIONS	6
1.3 BEFORE GETTING STARTED	6
1.3.1 PRODUCT INSPECTION	6
1.3.2 ADDITIONAL TOOLS & RESOURCES NEEDED	6
1.4 COMPONENT IDENTIFICATION	7
1.4.1 MACHINE	7
1.4.2 UNDERSTANDING INKJET TERMINOLOGY	8
1.4.3 CABLE CONNECTIONS	9
1.4.4 REPLACEABLE PARTS	9
1.5 CONTROL PANEL	11
1.5.1 E-STOP	11
1.5.2 RESET BUTTON	11
1.5.3 MODE	11
1.5.4 DELIVERY	11
1.5.5 CONVEYOR	11
1.5.6 (NOT APPLICABLE)	11
2.0 SETTING UP	12
2.1 EQUIPMENT SETUP	12
2.1.1 CONFIGURATION	12
2.1.2 CONVEYOR & DELIVERY CONVEYOR	13
2.1.3 SERVICE SLED DOOR	13
2.1.4 MOUNTING THE PRINTER	14
2.1.5 CONVEYOR & PERIPHERALS POWER SUPPLY	14
2.2 SETTING UP THE PRINTER	16
2.2.1 PRINTER CONNECTIONS	16
2.2.2 TOF SENSOR	17
2.2.3 LAPTOP SETUP	17
2.3 LOADING INK CARTRIDGES	18
2.3.1 STARTER INK CARTRIDGES	18
2.3.2 REMOVING INK CARTRIDGES (FOR REPLACEMENT)	18
2.3.3 INSTALLING INK CARTRIDGES	18
2.4 NETWORK SETUP	19
2.4.1 ETHERNET CONNECTIONS	19
2.4.2 NO Wi-Fi	19
2.4.3 SETTING UP THE IP ADDRESS	19
2.4.4 SETTING A STATIC IP ADDRESS	21
2.4.5 DISABLING ENERGY SETTINGS	25
2.5 CALIBRATING THE PRINTER	26
2.5.1 SET THE TOP-OF-FORM (TOF) DISTANCE	27
2.5.2 PRINTING A TEST SHEET	27
2.5.3 ADJUSTING HEIGHT	28
2.5.4 ADJUSTING ZONE OVERLAP	28
2.5.5 ADJUSTING DIE OFFSET FROM TOF	28
2.5.6 ADJUSTING DROP DENSITY	29
2.5.7 CLEANING DIRTY DIES	29
3.0 SOFTWARE & OPERATION	31
3.1 QUICK JOB SETUP	31
3.1.1 JOB PRINTING	31

3.2 FILE PREPARATION.....	31
3.2.2 OPTIMIZING FOR BEST SPEEDS	31
3.2.3 ARTWORK SIZE	31
3.2.4 PRINT RESOLUTION	32
3.2.5 FILE SIZE.....	32
3.2.6 SPOT COLORS	32
3.3 SOFTWARE - envPrinter™ WINDOWS INTERFACE.....	33
3.3.1 USES	34
3.3.2 HOME TAB.....	34
3.3.3 PRINTBAR TAB	34
3.3.4 SETTINGS TAB	35
3.4 SOFTWARE - XITRON NAVIGATOR DFE	35
3.4.1 NAVIGATOR DFE AND WHEN TO USE	35
3.4.2 INTERFACE & CONTROLS.....	36
3.4.3 SUBMITTING A JOB.....	36
3.4.4 PRINTING A JOB.....	37
3.4.5 REST CONTROL	39
3.4.6 REST FULL CONTROL ADJUSTMENTS	39
3.4.7 ADJUSTING SPOT COLORS IN XITRON NAVIGATOR DFE.....	41
3.4.8 ICC COLOR PROFILES.....	42
3.5 SOFTWARE - VARIEGATOR ADD-ON	43
3.5.1 WHEN TO USE	43
3.5.2 ABOUT VARIEGATOR 2	43
3.6 PRINT ADJUSTMENTS.....	44
3.6.1 HEIGHT ADJUSTMENT (PRINT CLARITY)	44
3.6.2 REGISTRATION	44
3.6.3 SPEED ADJUSTMENT	44
3.6.4 PRINTER PRIMING (PRINT QUALITY).....	44
3.7 ADVANCED OPERATIONS & ADJUSTMENTS	45
3.7.1 WORKFLOWS	45
3.7.2 REINSTALLING XITRON NAVIGATOR.....	46
3.7.3 UPDATING THE FIRMWARE	48
3.7.4 DECAPPING & SPIT LINES.....	48
4.0 TROUBLESHOOTING	50
4.1 PRINT APPEARANCE.....	50
4.2 SOFTWARE ISSUES	51
4.3 HARDWARE ISSUES.....	52
5.0 CARE & MAINTENANCE	54
5.1 PRINthead & CONVEYOR	54
5.1.1 PRIME THE NOZZLES REGULARLY.....	54
5.1.2 TAKING CARE OF THE PRINTBAR.....	54
5.1.3 5% MINIMUM INK.....	54
5.1.4 BLEED CHANNEL	54
5.2 REPLACING CONSUMABLES.....	54
5.2.1 REPLACING INK CARTRIDGES	54
5.2.2 REPLACING SERVICE SLED.....	54
6.0 COMMON ERROR CODES	57

1.0 ABOUT THE envPrinter™

1.1 SAFETY & REQUIREMENTS

Please read the owner's manual. Follow instructions carefully.

1.1.1 OPERATIONAL REQUIREMENTS

IMPORTANT:

Failure to act within the policies and procedures found within this document may cause machine damage. Any damage found to be caused by abuse, neglect, or misuse due to noncompliance with these instructions may void the machine's warranty. Potential charges for repair or replacement of damaged parts and components are based on the product's warranty status.

Only trained personnel should operate this system. If non-trained personnel operate this system, the manufacturer will not accept responsibility for any resulting accidents or injuries. For safety reasons only trained technicians, who are aware of the risks involved, should open the protective covers.

WARNING: Do not operate this machine in areas where children may be present as there are moving parts.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1.1.2 ENVIRONMENTAL REQUIREMENTS

Operating Temperature Range	15°C to 30°C (59°F to 86°F)
Operating Humidity Range	15% to 80% RH (non-condensing), (20% to 80% recommended)
Storage Temperature Range	-40°C to 60°C (-40°F to 140°F)
Non-Operating Humidity Range	10% to 90% (non-condensing)

1.1.3 SETUP REQUIREMENTS

Electrical Requirements

Power Requirement: 100/240VAC, 50-60HZ, AC, 12A

Circuit Protection: 16 AMP Circuit Breaker

CAUTION: Ensure Proper Earth Grounding for Machine Operation

Before connecting the system to the electrical supply, ensure that the system is suitable for the local mains voltage. The power connection must be easily accessible, preferably close to the system. For safety reasons, it is essential that the system is connected to use a GROUNDED outlet and a GROUNDED circuit.

WARNING: Never use in a wet area as electric shock could occur. Always disconnect the power supply before performing any maintenance.

Lift Hazard

Certain components of this system are lift hazards. Be cautious and employ a team lift as required.

Component weights:

⌘ Worktable	233 lbs. / 106 kg
⌘ Conveyor	45 lbs. / 20.5 kg
⌘ Printer	62 lbs. / 28 kg
⌘ Delivery Conveyor	21 lbs. / 9.5 kg

1.1.4 DURING USE

Moving Parts

Keep fingers and hands away from all rotating parts.

Keep cords clear of moving parts.

Keep loose clothing, jewelry, and long hair away from all moving parts.

Static Electricity

The general process of automated document handling can sometimes create a buildup of static electricity. Ensure the operating environment is within the recommended temperature and humidity conditions **See section 1.1.3 “Setup Requirements.”**

1.1.5 AFTER USE

Powering Off

Turn off the machine at the power switch, then unplug the main power cord. This will prevent damage to the machine due to power/voltage spikes.

To unplug cords, always grasp the plug body. Never pull cords to disconnect. Wire fatigue and possible shock could result from improper disconnect procedures.

1.1.6 SHIPPING CONSIDERATIONS

The ink supplies have been tested to a -40C to +60C storage range. Ink supplies should only be used after slowly getting back to operating temperature. Avoid causing any thermal shocks, such as dumping cartridges in hot water or microwaving the ink supplies.

1.1.7 TOF SENSOR SAFETY CONSIDERATIONS

This is a Class 1 Laser Product.

Complies with FDA performance standards for laser products except for conformance -with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019. Please review IEC 60825-1:2014 Standards Information for additional information.

This laser is not serviceable and should be replaced in its entirety if there are any issues.

1.1.8 SERIAL LABELS

Please note the details of the serial labels on the back of your machine. You will need to provide these for support. There are 3 serial labels:

EJ1000... Printer (on the back of the printer)

EJ2000... Conveyor & Exit Conveyor

1.2 SPECIFICATIONS

Printer	HP FI-1000 (HP PageWide technology TIJ4 printer, replaceable as part of BnB)
Print Res (DPI)	1200 x 1200 and 600 x 1200 (per color)
Print Speed (1200 x 1200 dpi)	18 in/sec, 98 ft/min (457 mm/sec, 30 m/min)
Print Width	11.7"
Max Substrate Dimensions	14"L x 12.5"W
Full Bleed	Yes
Ink Type	Pigmented Aqueous (fade, scratch, and water resistant)
Ink cartridge type	Individual ink supply
Ink fill	C= 237ml, M= 233ml, Y = 225ml, K= 498ml (approx.)
Print Swath	297 mm (11.7 in)
Nozzle Count	59136 (4224 x 14)
Drop Volume	10 pl K, 8.5 pl CMY
Dimensions	72" L x 30" W x H
Shipping Dimensions	1 Pallet 48" L x 40" W x 54" H – envPrinter™ 1 Pallet 72" L x 40" W x 14" H – Table
Weight	418 lbs. (189.6 kg) + Peripherals
Shipping Weight	Pallet 1: 320 lbs. - envPrinter™ Pallet 2: 140 lbs. - Table
Printer Warranty	4L ink per printbar per color OR .3L ink per die per color, whichever comes first.
UL Certification	Yes

1.3 BEFORE GETTING STARTED

1.3.1 PRODUCT INSPECTION

Uncrate each component and inspect for any shipping damage before assembly and operation. Check that all cables are included.

1.3.2 ADDITIONAL TOOLS & RESOURCES NEEDED

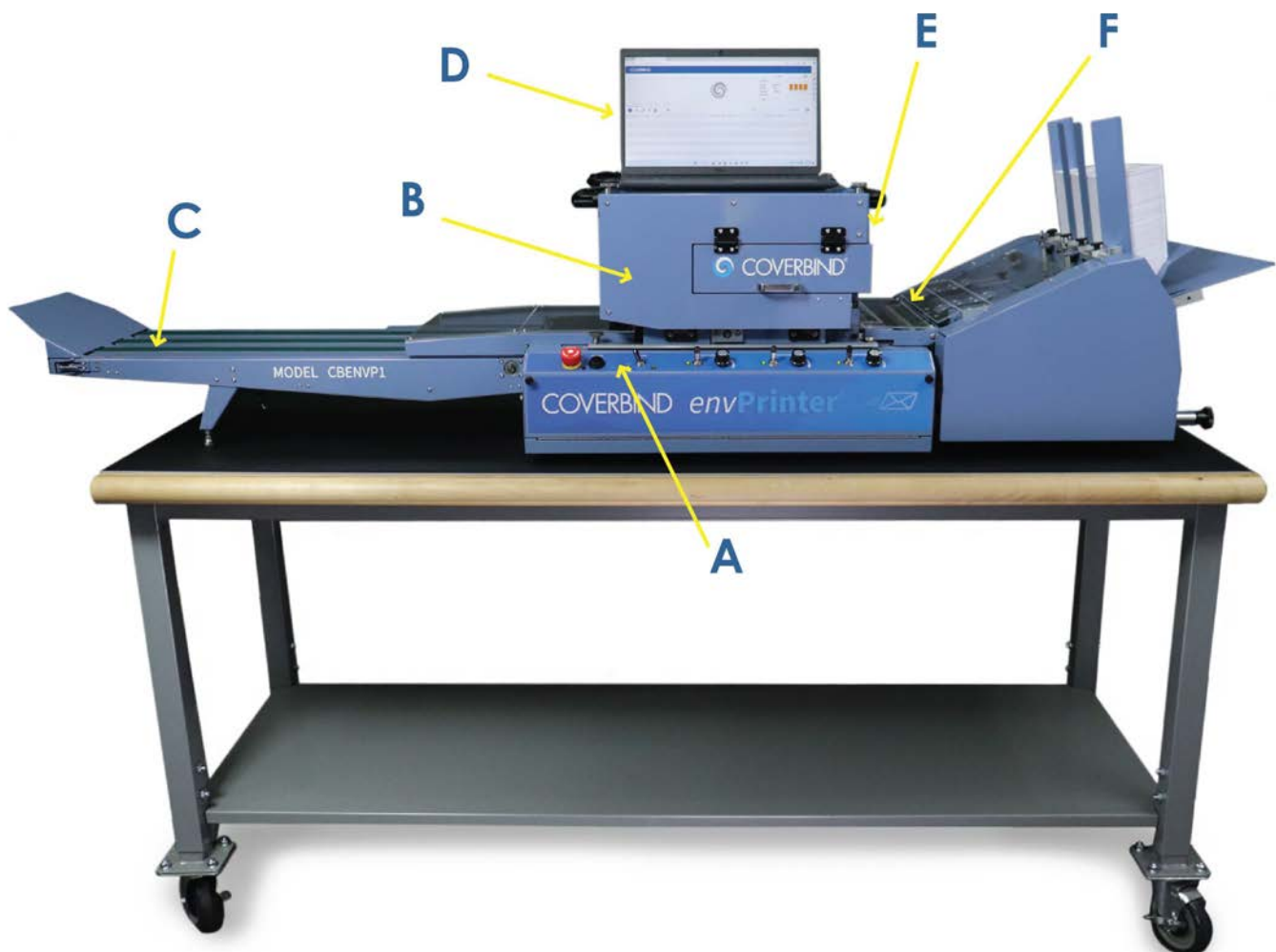
- Torx Driver Set (for printer adjustments and add-ons)
- Hex Key Set (for printer leveling)
- Grounded Power Strip (Outlets: 3)
- Ethernet Cables (Cat5e or Cat6) (1-2 depending on configuration)

- Ethernet Switch (depending on chosen configuration)
- Extra AAA Batteries (2) (Keyboard – comes with some but may need to be replaced later)
- Extra AA Battery (1) (Mouse – comes with one but may need to be replaced later)

1.4 COMPONENT IDENTIFICATION

1.4.1 MACHINE

- | | |
|-----------------------|---------------------------------|
| A. Transport Conveyor | D. Laptop |
| B. envPrinter™ | E. TOF Sensor |
| C. Delivery Conveyor | F. Spring-Steel Envelope Guides |



1.4.2 UNDERSTANDING INKJET TERMINOLOGY

Single Pass Inkjet

Single pass inkjet means that the printer stays fixed in position and ink is ejected directly on the substrate as the media passes under the printer. This means that the maximum print width is determined by the size of the printer. For the envPrinter™ that is 11.7" or 297mm.

Types of Ink & the "Pen Test"

Thermal inkjet printers use heat to eject ink from the nozzles. This limits the types of inks that can be used as certain solvents are flammable and have issues when they are heated. This also limits the type of colorant that can be used as burnt chemicals may cause nozzle blockage.

The envPrinter™ uses pigmented aqueous ink developed by HP. The substrates compatible with this ink need to be porous so that the ink can be absorbed.

The "**Pen Test**" is a quick test that can be done on substrates to determine if a substrate is appropriate for the envPrinter™. Use a water-based, felt-tip marker such as the Pentel S520-A to perform this test.

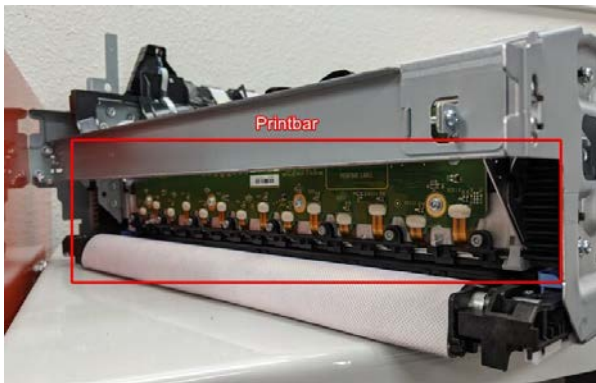
To do the test, mark the substrate and immediately rub the mark to see if the ink dries.

- If the ink dries immediately the substrate is suitable for aqueous ink
- If the ink dries after a few seconds, the substrate may be compatible but may require a dryer
- If the ink never dries, the substrate is not compatible

Using a permanent marker is not recommended for this test as it uses a solvent to help dry the ink, however, if a permanent marker does not dry immediately, the substrate will not be compatible with aqueous ink. To determine if a permanent marker dries immediately, the mark should not be able to smear immediately after testing the substrate.

Bar in Box or BNB

The envPrinter™ utilizes an HP FI-1000 print engine. The printbar and ink delivery system in this engine are contained in an assembly known as the **Bar in Box or BNB**.



The **Printbar** is made up of 14 individual dies, approximating 0.8" wide in size.

Each one of these **dies** is made up of 4,224 **nozzles** or 1,056 for each color channel.

The average drop volume is 10pL for black and 8.5pL for cyan, magenta, and yellow. For pigmented ink, a larger nozzle size is usually required so that blockages do not occur at the nozzle.

NOTE: When the print bar reaches its end of life, the entire Bar in Box is replaced. It is not possible to replace the print bar or individual dies on the print bar or any other parts in the Bar in Box assembly.

1.4.3 CABLE CONNECTIONS

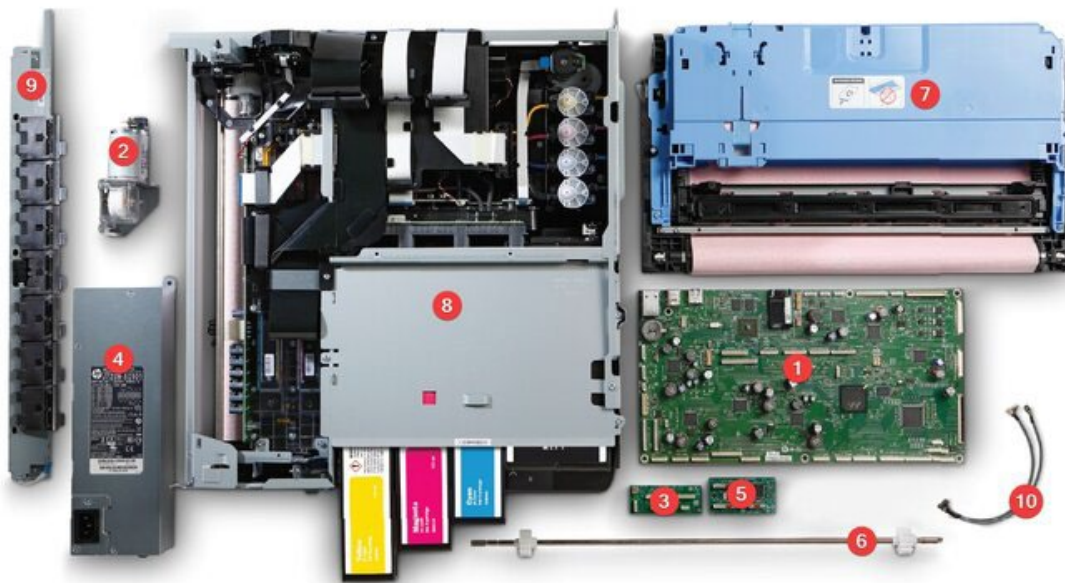
Power strips & Ethernet Cables not included.

LIST OF CABLES

- **M-S045765** *Ethernet: from printer to computer*
- **M-S0E1329** *Power supply cord: from main conveyor to outlet or power strip*
- **M-S0E0974** *Power supply cord from printer to main conveyor*
- **M-S028131** *6-pin Connection Cable: from exit conveyor to Motherboard PCB*
- **W-AEJ2065** *ASY 8-pin Jumper*
- **PM-1680315** *TOF Sensor Cable*
- **M-S045455** *Encoder cable from Motherboard PCB to Printer*
- **W-AEJ2052** *I/O Signal Relay Harness*

1.4.4 REPLACEABLE PARTS

Printer Parts



- | | |
|--------------------|---|
| 1. WRAPM4CC93AHPFI | Main PCA Board Assembly |
| 2. PM-4CC94AHPFI | Service Tray Motor |
| 3. PM-4CC95AHPFI | Left Rear Upper PCB |
| 4. PM-4CC99AHPFI | Power Supply |
| 5. PM-4CC98AHPFI | HP Ink Short Detection PCB |
| 6. PM-1170051 | Service Station Gear |
| 7. PM-FI1000ST | FI-1000 Service Tray (<i>not covered under warranty</i>) |
| 8. PM-4CC91AHPFI | Page Wide Bar in Box (No Ink) (<i>not covered under warranty</i>) |
| 9. W-APM1170031 | Metal Ski (Pictured is Paper Guide from older version) |
| 10. PM-4CD00AHPFI | Power Supply Main PC Cable |

Consumables (Not Covered Under Warranty)

PM-FI1000ST	FI-1000 Service Tray
PM-4CC91AHPFI	Page Wide Bar in Box (No Ink)
PM-PHP049K	Black Ink Cartridge (498ml)
PM- PHP023C	Cyan Ink Cartridge (237ml)
PM- PHP023M	Magenta Ink Cartridge (233ml)
PM- PHP022Y	Yellow Ink Cartridge (225ml)

Other Wearable Parts

PM-1170006	M4 x 25mm FF Standoff	Printer
PM-1170020	M3 x 22mm FF Standoff	Printer
PM-1170029	M4 x 16mm MF Standoff	Printer
PM-1170030	M4 x 8mm MF Standoff	Printer
PM-1170033	M4 x 25mm MF Standoff	Printer
PM-1170035	M4 x 60mm MF Standoff	Printer
PM-1170050	8mm x 12mm Round Spacer	Printer
PM-1170143	Cable FFC 19POS 1.00mm	Printer
PM-1170144	Cable FFC 26POS 1.00mm 2"	Printer
PM-1170145	Cable FFC 12POS 1.00mm 12"	Printer
PM-1170147	Cable FFC 26POS 1.00mm 18"	Printer
PM-1170148	Cable FFC 18POS 1.00mm 18"	Printer
PM-1170305	LP1170 PCB	Printer
M-S023073	2mm Oring	Printer Conveyor
M-OEJ2024	Transport Belt	Printer Conveyor
M-S025101	Timing Belt Transport	Printer Conveyor
M-OEJ3016	Exit Belt	Delivery Conveyor
M-S025100	Timing Belt Exit	Delivery Conveyor

Contact Customer Service for additional information at 800.225.5644.

1.5 CONTROL PANEL



(Controls listed below in order of photo from left to right)

1.5.1 E-STOP

- Pressed** Stops all 24 VDC power to the conveyor, delivery conveyor, and connected peripherals
Red LED will illuminate when depressed
- Turn Clockwise to Reset** Returns 24 VDC power to system after Reset Button is pressed

1.5.2 RESET BUTTON

- Pressed** Resets all system alarms
***System will not reset if E-Stop is engaged**

1.5.3 MODE

- Auto (Green)** Transports will automatically start when the printer is processing a job
- Manual (Yellow)** Transport belts run based on the ON/OFF switch state for each subsystem.

1.5.4 DELIVERY

- Switch ON/OFF** ON position allows operation during manual or auto mode (Green LED will illuminate while delivery conveyor is set to ON)
OFF position does not allow operation of delivery conveyor
- Speed** Variable speed dial to set delivery conveyor belt speed

1.5.5 CONVEYOR

- Switch ON/OFF** ON position allows operation during manual or auto mode (Green LED will illuminate while Conveyor is set to ON)
OFF position does not allow operation of conveyor, delivery conveyor, or connected peripherals.
NOTE: delivery conveyor operation is dependent on conveyor.
- Speed** Variable speed dial to set conveyor belt speed (controls max speed of delivery conveyor)

1.5.6 (NOT APPLICABLE WITH THIS CONFIGURATION)

- Switch ON/OFF** ON position allows operation to occur during manual or auto mode (Green LED will illuminate while set to ON)
- Speed** Variable speed dial to set belt speed

2.0 SETTING UP

2.1 EQUIPMENT SETUP

2.1.1 CONFIGURATION

Below is a standard setup with the system feeding from right to left. Note that the laptop is set on top of the printer.



Bleed Channel or No Bleed Channel

For non-bleed applications, the printer can be repositioned by sliding the printer toward the feed-side to print over the belt.

For full bleed applications, the printhead should be aligned over the bleed channel so that the excess ink will be captured by the bleed channel.

NOTE: From time-to-time, the bleed channel will require cleaning. See section 4.0 “Troubleshooting” for instructions.

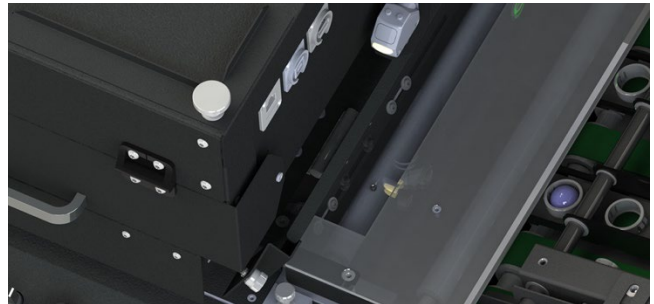
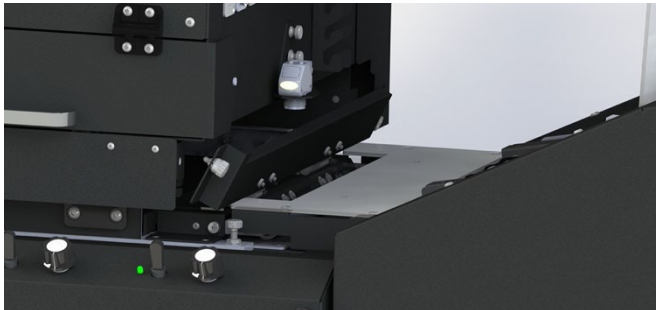
2.1.2 CONVEYOR & DELIVERY CONVEYOR

Attaching the Delivery Conveyor

Next place the delivery conveyor on the exit side of the transport conveyor. There are 2 slots on the entry side of the delivery conveyor that correspond to two thumbscrews on the exit side of the conveyor. These may need to be loosened before attaching. Adjust the feet of the delivery conveyor so that it is level, then tighten the thumbscrews for a secure hold.

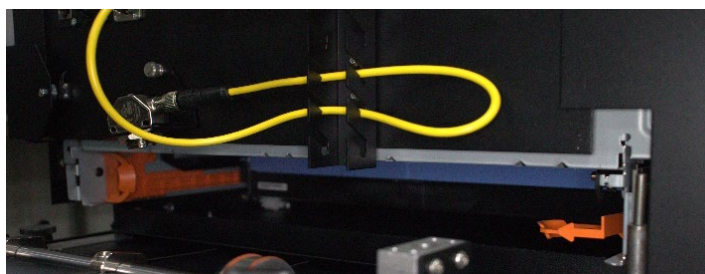
2.1.3 SERVICE SLED DOOR

The Service Sled Door is found on the entry side of the printer and can be removed by loosening the thumb screws on each side of the door. Loosen these screws to allow access to the service sled for removal and replacement as depicted below.



Retainer Clips

The orange retainer clips are shown on the right. These are used to prevent movement during shipping and must be removed for operation. Remove them and set them aside. Once the clips are removed, reinstall the service sled panel and replace the spring-steel envelope guides.



Do not throw away service sled inserts. Store in a safe place in the event the machine needs to be shipped. For instructions on how to replace a service sled, see section 5.2.2 “Replacing Service Sled.”

2.1.4 MOUNTING THE PRINTER

Lift the printer and set it onto conveyor so that the four thumb screws set into the machined pockets in the plastic slides. Once the printer is resting on the conveyor, raise or lower thumb screws to achieve a quality print image. This can be refined later during the Calibration step.

Attaching the TOF Sensor Mounting Bracket

On the right (operator) side of the printer there are two pairs of mounting holes: one on the right, and one on the left. On the left pair of holes, attach the Sensor Bracket. The top screw will be a fixed location while the bottom should be secured with a thumb screw to allow for angular adjustments. This will allow repositioning of the TOF sensor location on the substrate.

NOTE: The TOF sensor may also be placed on the right side if that works best for the substrate, however the cable organizer cannot be used with a right-side mounted TOF.

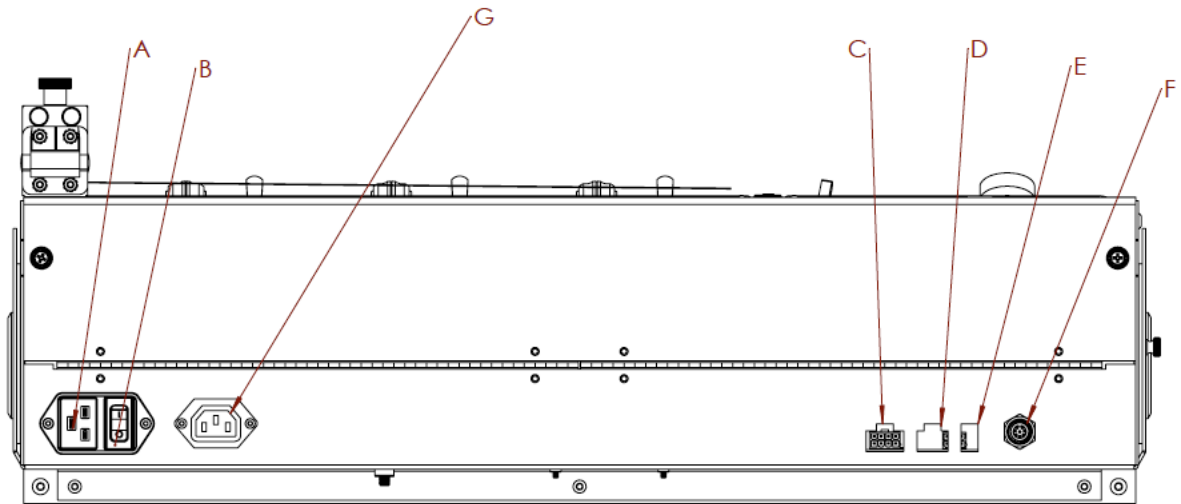
Attaching the Cable Organizer

On the right pair of holes, attach the included cord organizer using a T20 screwdriver. This will allow cords to be held out of the way of substrates from the feed side.

2.1.5 CONVEYOR & PERIPHERALS POWER SUPPLY

All cables included.

	CABLE	CONNECTION LOCATION	VOLTAGE
A	Conveyor Power Cable (primary input)	To Outlet/Power Strip	100-240 VAC
B	Conveyor On/Off Power Switch	N/A	100-240 VAC
C	ASY 8 Pin Jumper	N/A	N/A
D	Delivery Conveyor Power Cable	To Delivery Conveyor	24 VDC
E	Printer Relay Cable	To Printer	5 VDC
F	Encoder Cable	To Printer	12 VDC
G	Printer Power Cable	To Printer	100-240 VAC



2.2 SETTING UP THE PRINTER

2.2.1 PRINTER CONNECTIONS

A	Printer Power Cable	Non-Operator Side
B	Ethernet Connection (See section 2.4.1)*	Right Operator Side (to PC or Switch)
C	USB-B Connection	Right Operator Side
D	USB-A Connection** (for log files)	Right Operator Side (to PC or Switch)
E	TOF Sensor Cable (See section 2.2.2)	Right Operator Side (to TOF Sensor)
F	Encoder Cable	Right Operator Side (to Conveyor)
G	Conveyor Cable Interface	Right Operator Side (to Conveyor)
H	Printer Power Button & Indicator	Right Operator Side

*One Ethernet Cable included. Use Cat5e or Cat6 for additional.

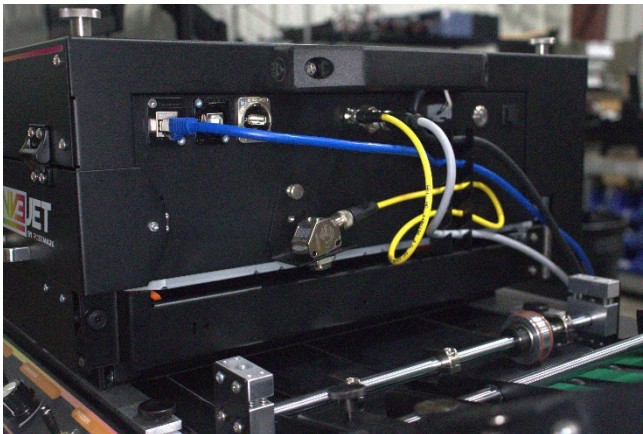
**USB-A Cable not included.



Non-Operator side cable routing



Operator-Right Side cable routing



Finished Operator-Right Side



Back of exit conveyor routing.

Connect the Encoder Cable first. Note recommended cable routing in image above. Once all connections are made, power on the printer (left side) and conveyor (non-operator side).

Note: LED power button light color does not indicate status. Occasionally, printers with different LED colors will be shipped depending on what is available. This is to reduce shipping delays due to backordered parts.

2.2.2 TOF SENSOR

Installation

Make sure that the sensor bracket is attached. If not, place the TOF sensor facing down in the sensor bracket so that the cord is directed towards the non-operator side of the machine. Then take the 18mm hex nut and screw it onto the sensor underneath the bracket so that the sensor is held securely.

To adjust, loosen thumb screw on the bracket to angle sensor toward the desired location (usually the center of media) then retighten.

Programming the Sensor

It may be necessary to calibrate the sensor so that it will properly sense the media being printed. For example, if the substrate is brown, and the sensor was originally calibrated for a white substrate, the sensor will need to be recalibrated.

Position the sensor so that the laser is pointed at the desired location on the belt. Press and hold “Teach” for at least two seconds to place the sensor into Teach mode. Once the sensor begins flashing and displays “1st,” press the “Teach” button once. The sensor will then continue flashing and display “2nd.” Place the desired substrate into the laser’s path then press “Teach” again. When done correctly, the amber LED on the top of the sensor will illuminate while the substrate is in the laser’s path, and it will turn off once the substrate is removed from the laser’s path.

The sensor is a contrast sensor, so it is best to calibrate using the darkest substrate that will be used. The sensor will not require recalibration for any substrate that is lighter in color relative to the substrate used for calibration.

Light and Dark Operation

The sensor is set to “Light Operation” by default. When printing on media that is darker than the conveyor belt, the sensor needs to be in dark operation mode. To switch between light and dark operation first hold down the mode button for longer than 2 seconds. Then use either button to cycle through the menu. Cycle until the display reads “out” then press both buttons at the same time. The display will now read “Lo” (Light Operation) or “do” (Dark Operation.) Use either button to cycle between the two options. After selecting the appropriate operation mode, hold down both buttons to save the setting and exit the menu.

NOTE: The full manual for this sensor is available for download at bannerengineering.com under the “Q3X Series” section.

2.2.3 LAPTOP SETUP

Kensington Lock

The laptop is intended to rest directly on top of the printer. For security, a Kensington lock is included to prevent unwanted separation of the laptop from the rest of the machine. First, thread the lock around the left printer handle. Unlock the lock and insert into the lock port of the laptop and turn to lock. Once locked, remove the key and store in a safe location.

Ethernet Ports

The laptop has 1 Ethernet port that should be connected directly to the printer. Included is also a USB to ethernet adapter that should be used to connect the Laptop to the network.

See Section 2.4 "Network Setup" for continued instructions.

Dongle

Insert the Xitron dongle license key into one of the open USB ports.

2.3 LOADING INK CARTRIDGES

The envPrinter™ line of printers use 4 ink tank cartridges that provide ink to the envPrinter™. These cartridges provide the BNB with ink and are smart cartridges that have a chip to keep track of ink usage.

2.3.1 STARTER INK CARTRIDGES

New envPrinter™'s are shipped with "starter ink" cartridges which are used in manufacturing during the purging process of the BNB. These starter ink cartridges have approximately 125ml less than a standard full cartridge.

2.3.2 REMOVING INK CARTRIDGES (FOR REPLACEMENT)

For first-time setup, skip to next section.

To replace a cartridge on an ENV printer, open the ink door and ensure that the printer status shows "closeDoorOrCover" when the door is opened. If the status does not say "closeDoorOrCover," please inspect the door switch pointed out above. It is important that the printer senses whether the ink door is open or closed when replacing cartridges. To remove a cartridge, simply press on the cartridge and it will release from the ink delivery system.

2.3.3 INSTALLING INK CARTRIDGES

First, remove the orange shipping insert then slide the cartridges into the appropriate Cyan, Magenta, Yellow, or Black channel - pushing in until the cartridges latch.

Once the ink door is closed, the printer status should show "inkSystemInitializing" which indicates that the printer is checking for new cartridges. Cartridge levels will update in the user interface once this check is completed.



If the status does not show "inkSystemInitializing" after closing the door, please inspect the door switch. The printer uses a reed switch on the entry side to sense a magnet on the door. Ensure that the magnet is aligned with the reed switch. After about 10 seconds, the cartridge initialization should be complete.

- When installing a new cartridge, the printer status may read "Genuine OEM" which indicates that the cartridge is a genuine HP product.
- If installing a cartridge that was used in a different machine, the printer status may read "usedConsumable" this indicates that the cartridge has been associated with a different printer at some time.

2.4 NETWORK SETUP

(Technician Use Only)

2.4.1 ETHERNET CONNECTIONS

Configuration 1: Local Shared Network

One configuration option is to connect the printer to the local network. To do so, connect an ethernet cable from the network router to a switch. From the switch, connect two additional ethernet cables: one to the computer, and one to the printer. These cables should be Cat 5e or Cat 6 to maintain a gigabit connection between the printer and the network. They are not included due to the variance in length required by each customer.

Configuration 2: Direct Connection

Another configuration option creates an intranet between the printer and the computer. This is the more secure option as it is not connected to the network, for locations where security is essential. In this configuration, connect one Cat5e or Cat6 ethernet cable directly from the printer to the computer.

2.4.2 NO Wi-Fi

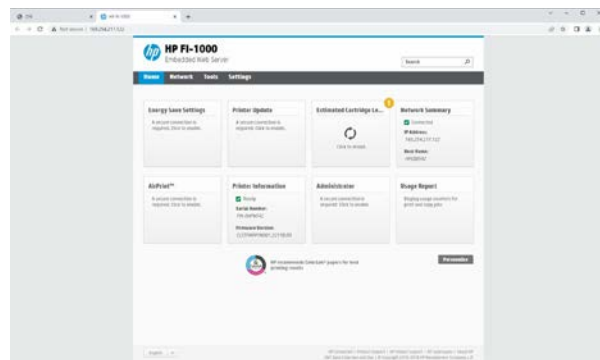
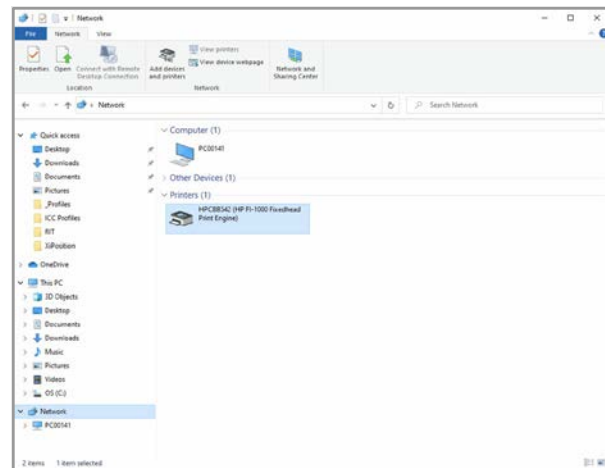
NOTE: Wi-Fi is NOT supported by Xitron. Customers who contact Spiral Binding's technical support team for network assistance will be asked to set the system up over Ethernet when troubleshooting.

2.4.3 SETTING UP THE IP ADDRESS

There are locations where the IP address needs to be set when installing a new printer: envPrinter™ Windows Interface, HPPW, Xitron Navigator Server, and Navigator Client.

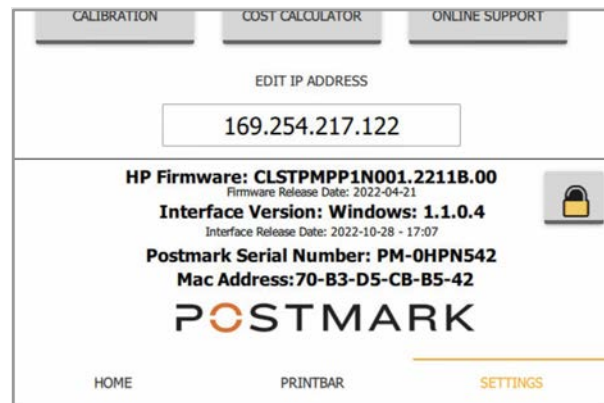
Determine the IP Address

1. Go to the File Explore > Network > Printers
2. Find one that says HP FI-1000 (Fixed Imager Printer).
3. Double-click the HP FI-1000 printer to open the printer's Embedded Web Server in the browser



Location 1: Windows Interface

Simply add the IP address to the “Settings” page or upon initial setup of the driver.



Location 2: Xitron Navigator

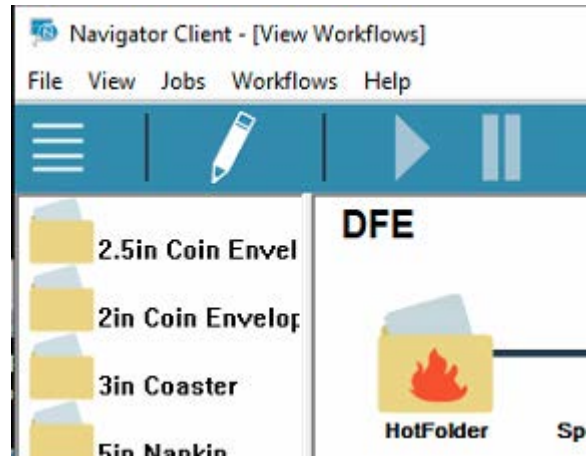
Set the IP address for the Xitron Navigator software. There is “Set IP Address” desktop shortcut that will update the IP address in the needed areas.



Check: Navigator Client

This does not always need to be done, but it should be checked as it can create issues later if not done.

1. Select the DFE folder on the right side of the client. Click the “edit” pencil icon.

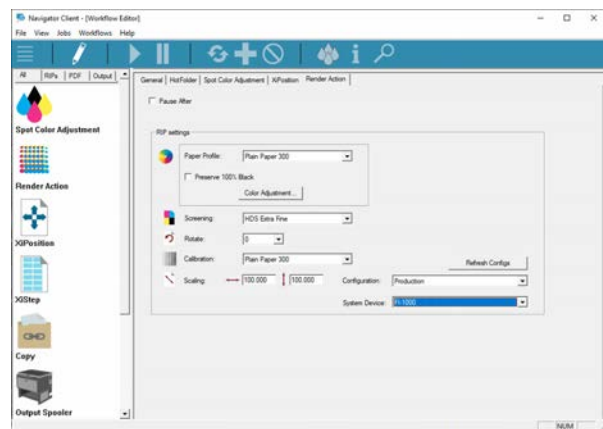


2.4.4 SETTING A STATIC IP ADDRESS

NOTE: This does not always need to be done. This is for scenarios where the IP address is frequently changing.

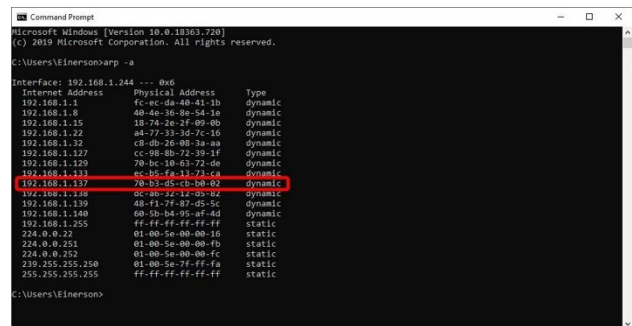
Start by identifying the printer's IP address as assigned by the DHCP network. The envPrinter™ can be identified via their Mac Address which will always have the following format:

70-B3-D5-CB-BX-XX



The last three digits (shown X-XX) should correspond with the last three digits of the serial number on a printer. For example, a printer with the serial number PM0HP0002 will have a Mac address of 70-B3-D5-CB-B0-02

To find a list of Mac Addresses on a network, open the windows command prompt by clicking the start menu and typing “command prompt.” Run the following command: “arp -a” in Command Prompt. The results should be like those on the right - note the identified a printer with serial number ending in 002 which has an IP address of 192.168.1.137

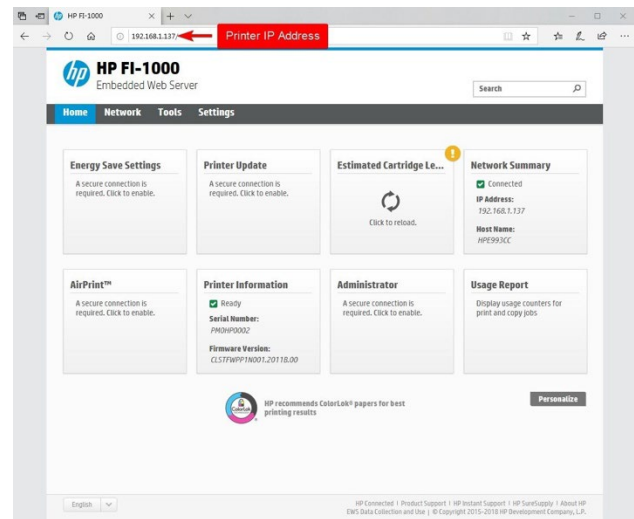


If the printer does not show up on the network, check that the orange light on the printer is illuminated and an Ethernet cable is connected to the entry side of the printer.

Also, ensure that the computer's network settings have network discovery turned on.

The IP address can be used in the touch interface ("Settings" tab) as well as in the driver installation. It can also be used to access the network settings for the printer via a web browser.

Open an internet browser and enter in the IP address of the printer, the following screen should appear:

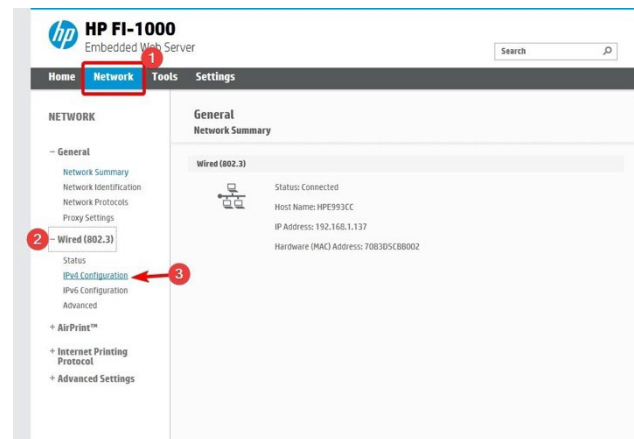


Note that this interface has limited functionality with the Coverbind envPrinter® Print engine.

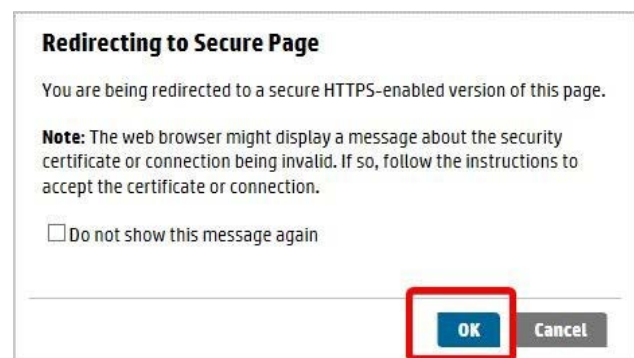
Click the network tab at the top of the screen

Expand the Wired (802.3 Section)

Click the IPv4 Configuration button.



When prompted, click "OK" to proceed to the network settings page.



The next steps depend on the computer's default internet browser.

Browser: Windows Edge

A warning saying this site is not secure may come up - this is normal. Click the details button followed by the button that says “Go on to the web page”:

This site is not secure

This might mean that someone's trying to fool you or steal any info you send to the server. You should close this site immediately.

 [Go to your Start page](#)

Details 

This site is not secure

This might mean that someone's trying to fool you or steal any info you send to the server. You should close this site immediately.

 [Go to your Start page](#)

Details

Your PC doesn't trust this website's security certificate.
The hostname in the website's security certificate differs from the website you are trying to visit.

Error Code: DLG_FLAGS_INVALID_CA
DLG_FLAGS_SEC_CERT_CN_INVALID

 [Go on to the webpage](#) (Not recommended)

Browser: Google Chrome

A warning saying “Your connection is not private” may come up - this is normal. Click the “Advanced” button followed by the button that says “proceed to [IP Address]”:



Your connection is not private

Attackers might be trying to steal your information from **192.168.1.1** (for example, passwords, messages, or credit cards). [Learn more](#)

NET:ERR_CERT_AUTHORITY_INVALID

 [Advanced](#)

[Back to safety](#)



Your connection is not private

Attackers might be trying to steal your information from **192.168.1.1** (for example, passwords, messages, or credit cards). [Learn more](#)

NET:ERR_CERT_AUTHORITY_INVALID

[Hide advanced](#)

[Back to safety](#)

This server could not prove that it is **192.168.1.1**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

 [Proceed to 192.168.1.1 \(unsafe\)](#)

The following settings screen should now be visible:

A manual IP address can now be set along with subnet Mask and Default gateway. The “Suggest a Manual IP Address” button can be used to take settings currently used by the printer - this is useful to make sure that the subnet mask and default gateway are compatible with the network.

Once the settings have been changed, click the apply button at the bottom.

The screenshot shows the HP FI-1000 Embedded Web Server interface. The top navigation bar includes 'Home', 'Network', 'Tools', and 'Settings'. The 'Network' tab is active, showing a sidebar with 'General', 'Wired (802.3)', 'AirPrint™', 'Internet Printing Protocol', and 'Advanced Settings'. The 'Wired (802.3)' section is expanded, showing 'Status', 'IPv4 Configuration', 'IPv6 Configuration', and 'Advanced'. The 'IPv4 Configuration' section is active, displaying 'IP Address Configuration' and 'DNS Address Configuration'. The 'IP Address Configuration' section has a warning icon and text: 'Changing the IP address can disrupt the current network connection. Also the connection to the embedded web server might be disrupted.' Below this are radio buttons for 'DHCP' (selected), 'BOOTP', 'Auto IP', and 'Manual IP'. The 'Manual IP' option is expanded, showing fields for 'Manual IP Address', 'Manual Subnet Mask', and 'Manual Default Gateway', each with a 'Suggest a Manual IP Address' button. The 'DNS Address Configuration' section has radio buttons for 'Automatic DNS Server' (selected) and 'Manual DNS Server'. The 'Manual DNS Server' option is expanded, showing fields for 'Manual Preferred DNS Server' and 'Manual Alternate DNS Server'. At the bottom right are 'Apply' and 'Cancel' buttons. A 'Note' section contains three numbered items: 1. DHCP is the most common method... 2. BOOTP should only be used if you are sure that a BOOTP server exists... 3. With Auto IP (also called link-local addressing), the printer assigns its own IP address.

HP FI-1000
Embedded Web Server

Home Network Tools Settings

NETWORK

- General
- Wired (802.3)
 - Status
 - IPv4 Configuration
 - IPv6 Configuration
 - Advanced
- AirPrint™
- Internet Printing Protocol
- Advanced Settings

Wired (802.3)
IPv4 Configuration

IP Address Configuration

Changing the IP address can disrupt the current network connection. Also the connection to the embedded web server might be disrupted.

☒ DHCP
☐ BOOTP
☐ Auto IP
☐ Manual IP

Manual IP Address: [] - [] - [] - []
Manual Subnet Mask: [] - [] - [] - []
Manual Default Gateway: [] - [] - [] - []

Suggest a Manual IP Address

Note:

1. DHCP is the most common method. If you are on a network with a DHCP server, then your IP address is provided by the DHCP Server. If no DHCP server is on your network, then the printer assigns its own IP address.
2. BOOTP should only be used if you are sure that a BOOTP server exists on your network. If the BOOTP process is unsuccessful, your printer will not obtain a valid IP address and it will not be accessible on your network.
3. With Auto IP (also called link-local addressing), the printer assigns its own IP address. This method is useful if you are on a small private network that does not have a DHCP server. However, when using link-local addressing, subnetting is not allowed, and the printer cannot connect to the Internet.

DNS Address Configuration

☒ Automatic DNS Server
☐ Manual DNS Server

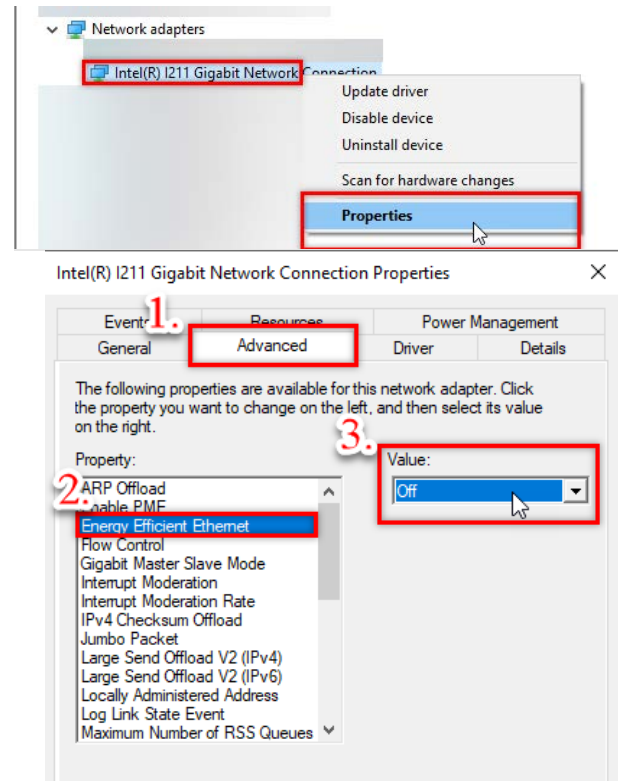
Manual Preferred DNS Server: [] - [] - [] - []
Manual Alternate DNS Server: [] - [] - [] - []

Apply Cancel

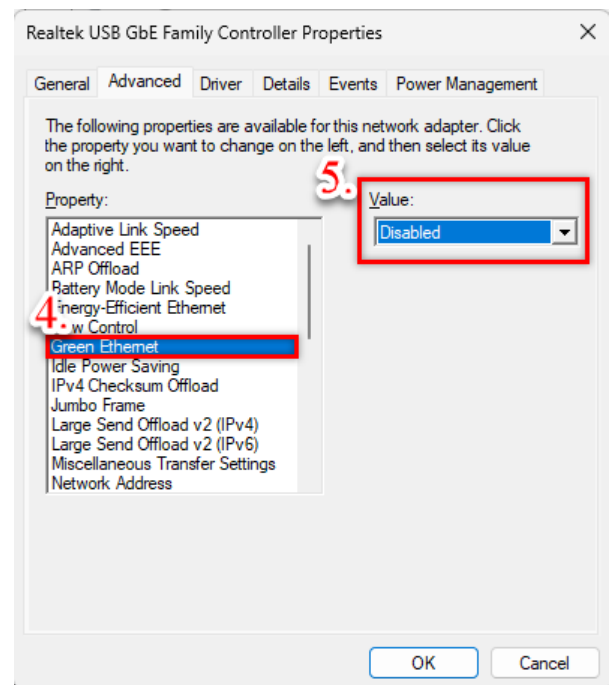
2.4.5 DISABLING ENERGY SETTINGS

The printer can go offline occasionally due to default power save modes. To prevent network disconnection, disabled the power save settings for the network device.

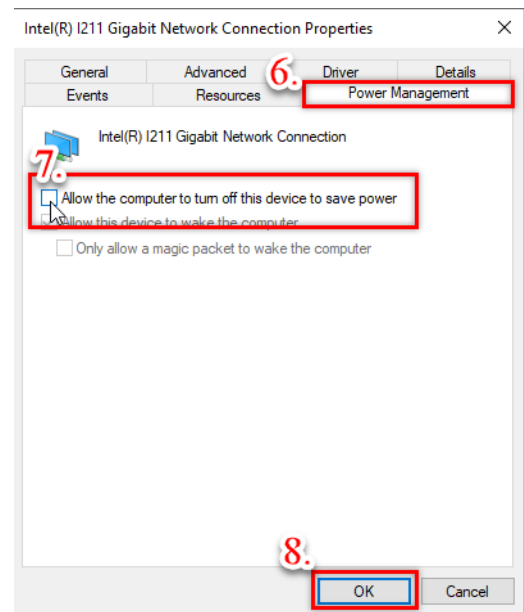
1. Navigate to “Device Manager,” find the appropriate network adapter driver: Intel(R) or Realtek, then right click and select “Properties.”
2. Under the advanced tab, select “Energy Efficient Ethernet”
3. Set the value to “off.”



4. Navigate to the Advanced tab and go to “Green Ethernet”
5. Set the value to “disabled.”
6. Similarly, disable “Advanced EEE” if available



7. Navigate to the “Power Management” tab
8. Un-check “Allow the computer to turn off this device to save power”
9. Click “OK” to apply changes.



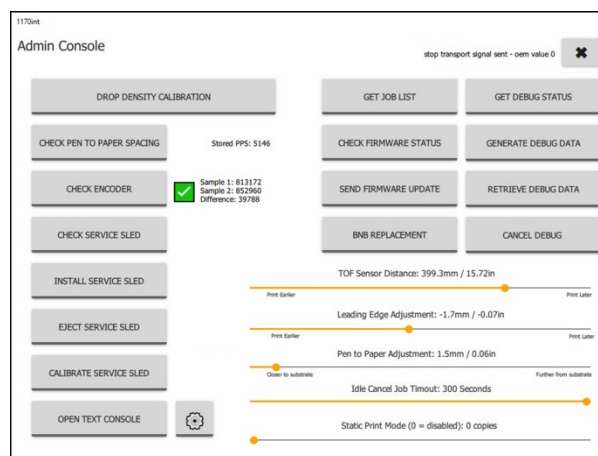
2.5 CALIBRATING THE PRINTER

Once the hardware and network set up are complete, the printer needs to be recalibrated. The calibration performed at the factory is for functionality testing only. Operators and installation technicians will achieve the best results when the printer is calibrated for a customer’s substrate.

2.5.1 SET THE TOP-OF-FORM (TOF) DISTANCE

Before beginning any prints, adjust the TOF distance in the envPrinter™ Windows Interface. This setting is the first slider adjustment located in the Admin Console. This should be set to 13.15 in / 334mm for the envPrinter™. To test this, print a Test Sheet from the Home tab so that the small lines at the top of the print are on the edge of the sheet.

To make fine adjustments, the “Leading Edge Adjustment” below the “TOF Sensor Distance” will allow for up to 1” of variance in either direction.

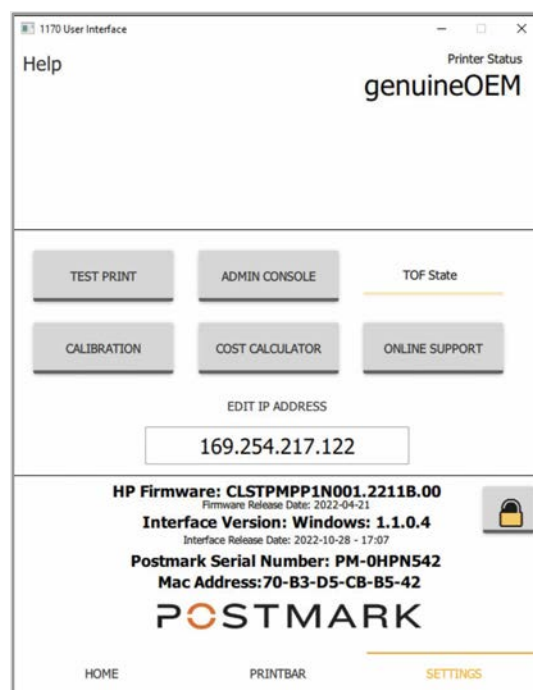


2.5.2 PRINTING A TEST SHEET

First, get a small stack of 8.5"x11" or 9"x12" sheets. 12" wide is ideal as it will show the full 11.7" print width, but 11" wide will suffice as the remaining 0.7" when centered, will only cover 0.35" of the 0.9" total width of die #0 and die #13, allowing enough visibility for calibration.

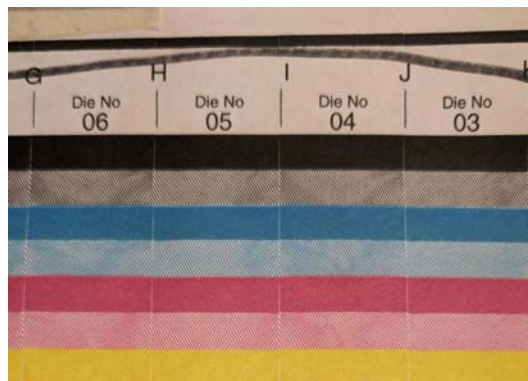
Place an 8.5" x 11" sheet in landscape orientation (long edge as leading edge) at the entrance of the conveyer.

Open the envPrinter™ Windows Interface and click the “Settings” tab. On the "Settings" page, click and hold the “Test Print” button.



2.5.3 ADJUSTING HEIGHT

Check that the printer is high enough off the belt. An indicator that the printer is too high is “clouding” or blurring of the die sections, or consistent gaps between all dies.



2.5.4 ADJUSTING ZONE OVERLAP

1170int

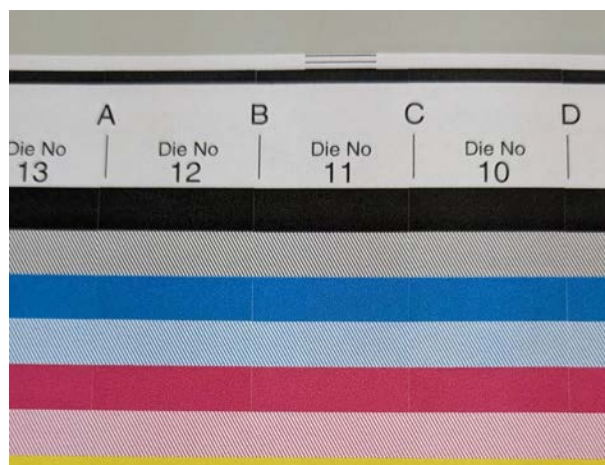
Calibrate

CLOSE

Zone Overlap: The larger the value, the more overlap between printhead dies - Range is -8 (large gap) to +8 (large overlap)

- 2 +	- 3 +	- 2 +	- 2 +
Zone A Overlap	Zone B Overlap	Zone C Overlap	Zone D Overlap
- 3 +	- 1 +	- 4 +	- 2 +
Zone E Overlap	Zone F Overlap	Zone G Overlap	Zone H Overlap
- 2 +	- 2 +	- 3 +	- 1 +
Zone I Overlap	Zone J Overlap	Zone K Overlap	Zone L Overlap
- 4 +			
Zone M Overlap			

SEND CALIBRATION



This can be adjusted under “Calibrate” on the “Settings” tab. After printing a test-print, assess the lines between each of the dies and determine whether they are overlapping (darker) or gapping (white). Adjustments can be made per die to fix each of these. Decrease the overlap value if there is a dark line in the overlap zone and increase the overlap value for white gaps in the overlap zone.

Note that the determining points are the lettered gaps between the dies rather than the die numbers.

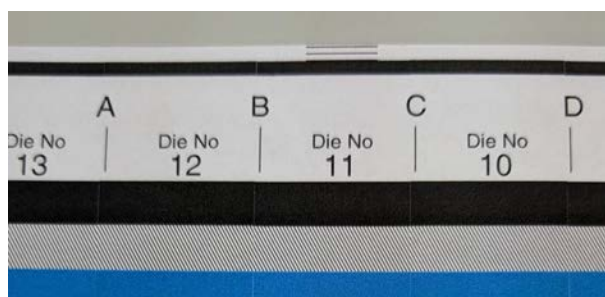
Once all adjustments have been entered, click and hold “Send Calibration”

2.5.5 ADJUSTING DIE OFFSET FROM TOF

Die Offset from TOF (1/1200")

- 0 +	- 0 +	- 0 +	- 0 +
Die 13 Offset	Die 12 Offset	Die 11 Offset	Die 10 Offset
- 0 +	- 0 +	- 0 +	- 0 +
Die 9 Offset	Die 8 Offset	Die 7 Offset	Die 6 Offset
- 5 +	- 0 +	- 5 +	- 0 +
Die 5 Offset	Die 4 Offset	Die 3 Offset	Die 2 Offset
- 1 +			
Die 1 Offset			

SEND CALIBRATION

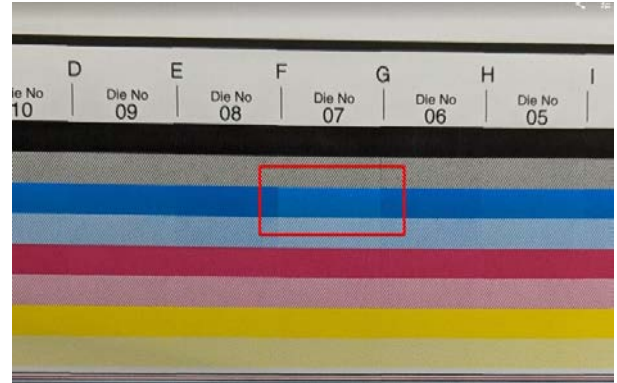
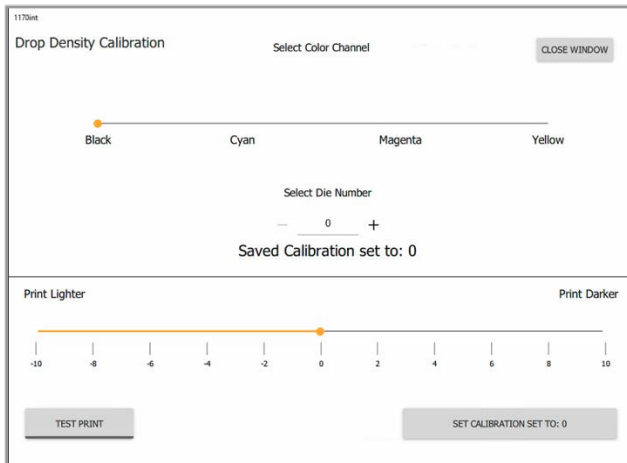


TOF = Top of Form

This can be adjusted under “Calibrate” on the “Settings” tab. The adjustment of the TOF offset is measured in 1/1200” so adjustments in increments of 1 are hardly visible to the human eye. It is recommended to start with increments of 5 or 10 for course adjustment, then smaller increments as needed. An increase in the value will move the die further from the TOP or further down the page. A decrease in the value will move the die closer to the TOF or higher on the page.

NOTE: Die #0 does not move. Align all other dies to match die #0 on the right side of the sheet or die furthest towards the non-operator side of the machine.

2.5.6 ADJUSTING DROP DENSITY



One color on one die may appear darker or lighter than the others. This requires a drop density adjustment. Be sure to adjust the gapping/overlapping and die offset before this step of calibration, as not doing so will make it difficult to compare the drop densities of each die.

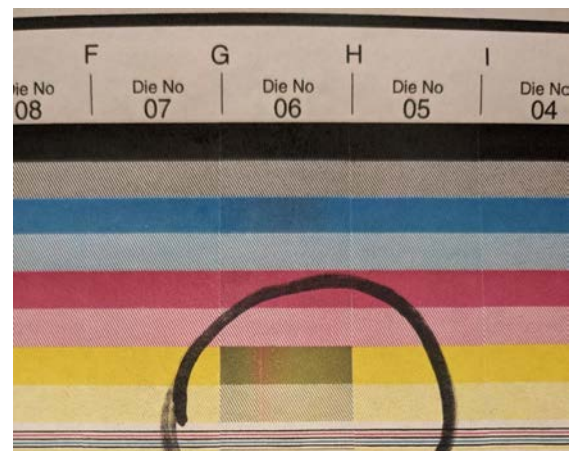
The drop densities of each die can be adjusted per die, per color. Adjust the values one at a time, making sure to select “Set to [value]” to save the changes before adjusting any other die or color.

It may be easier to use our other test page which can be found at postmark-usa.com/priming. This one is 4 solid rows that fill a whole page, making it clearer which dies per color need to be adjusted.

2.5.7 CLEANING DIRTY DIES

Some dies can appear “contaminated” by another color. To fix this, simply run a full sheet of that color: cyan, yellow, magenta, or black.

NOTE: Generally, running sheets of ink is the best way to clear print-quality issues.



3.0 SOFTWARE & OPERATION

3.1 QUICK JOB SETUP

In-depth steps can be found following this section, but the standard job setup process for #10 envelopes is as follows:

3.1.1 JOB PRINTING

Upload a job and make any necessary adjustments such as rotation, scaling, media size, etc. Select the desired resolution and paper profile, set the quantity to one (for test print), and click "Print."

See section 3.4.3 "Submitting a Job" for details on the various ways to upload a job to Navigator DFE.

Assess the results and adjust as needed.

See section 3.6 "Print Adjustments" for how to adjust for the best possible print.

3.2 FILE PREPARATION

3.2.2 OPTIMIZING FOR BEST SPEEDS

The envPrinter™ can print approximately 10,000 envelopes per hour for a simple return address with logo plus mailing address printed at production resolution (1200 x 600 dpi). However, it is important to note this speed can vary based on several variables including: the artwork size, complexity, and resolution.

Speed Estimate Calculator

These speeds are only estimates and can vary on a wide variety of factors. These speeds are estimated upon medium coverage and medium artwork complexity, with the artwork length being the same as the media length. These calculations are for continuous/variable printing.

$$\text{Prints per min} = 1080 / (1.5L)$$

$$\text{Prints per min} = (60 \text{ sec} * \text{max speed}) / 1.5L$$

$$\text{Max Speed} = 18 \text{ (inches per second)}$$

$$L = \text{Print Length}$$

This formula is based on the official formula provided by HP to best calculate estimated speeds on the printer.

Common Size	Length	Prints/Min	Prints/Hr
#9 (3.875" x 8.875")	3.875	186	11,148
4" x 6"	4	180	10,800
#10 (4.125" x 9.5")	4.125	175	10,473
9" x 12"	9	80	4,800
11" x 17"	17	42	2,520

3.2.3 ARTWORK SIZE

Most Important Variable

Larger images require longer processing time by the printer. Because the printer processes whitespace in the artwork file in the same way it processes printed area, cropping out whitespace will allow the printer to process more pages in the same amount of time.

Minimize White & Gray Space

When printing artwork that is smaller than the substrate, such as a return address and logo on a #10, save the file as the artwork size rather than the substrate size.

Similarly, when printing an image using a Media Size that is larger than the artwork file, a gray box will be displayed around the artwork. This gray space is beneficial because it gives enough clearance to reposition the artwork without cropping it. Any part of the artwork positioned outside of the gray space will be cropped. However, the gray space will have a similar effect on print speed as uncropped whitespace in the artwork. It is best to create a custom media size that allows for about 1/8" (3 mm) of gray space on each edge of the artwork, so that its position on the page can be fine-tuned without significantly reducing print speed.

Optimized Setup (Faster)

While artwork size is minimal, the “#10 Envelope” media size includes unnecessary gray space causes drastically slower speeds, up to half of the “optimized” example.

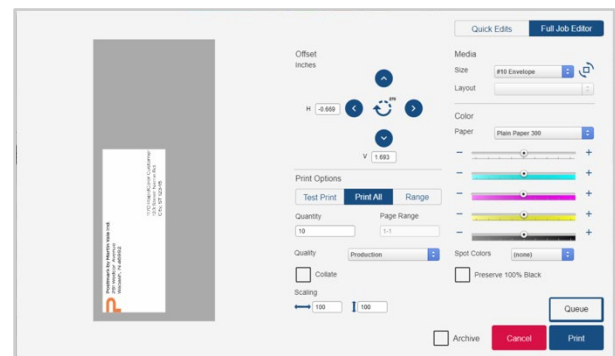
The example shown can run up to 10,000 envelopes per hour in optimal conditions.



Sub-Optimized Setup (Slower)

Artwork is created at minimum size to minimize white space, and media size is set to “Original” to match the artwork size and minimize gray space. White and gray space can add additional processing time per print, slowing the run speeds.

The example shown can run only about 5,200 envelopes per hour.



3.2.4 PRINT RESOLUTION

The print resolution affects the processing time per page which directly affects print speed. Xitron Navigator has two resolution options: Production which is 1200x600 dpi and High Resolution which is 1200x1200 dpi. Production Resolution allows for faster printing while High Resolution improves the image quality particularly for artwork with thin, curved lines.

3.2.5 FILE SIZE

For best image processing, it is important to keep in mind that aside from physical dimensions, files with less data tend to print faster. When handling large, complex graphics, flattening the PDF can improve results.

3.2.6 SPOT COLORS

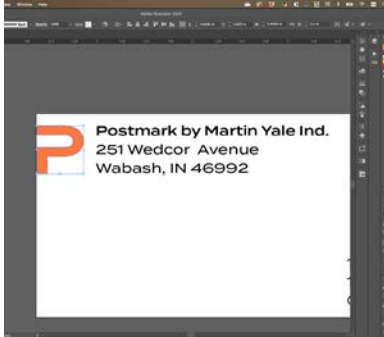
For best color results, be sure to save the file as CMYK color profiles. For specific branding, save colors as Spot colors within the file so that Navigator can identify the Spot colors and offer precise adjusting for exact results.

Setting Spot Colors

Before identifying and making changes to a specific color, designate spot color(s) within the artwork file.

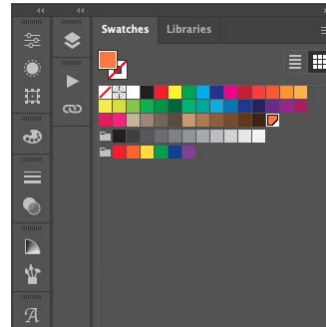
1. Select Color

Select the element with desired color.



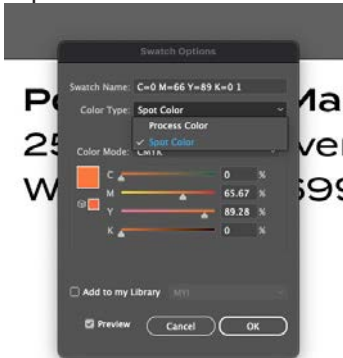
2. Open Swatch Options

Double-click the highlighted swatch in the Swatches Panel.



3. Color Type

Change the Color Type from "Process Color" to "Spot Color." Press OK.

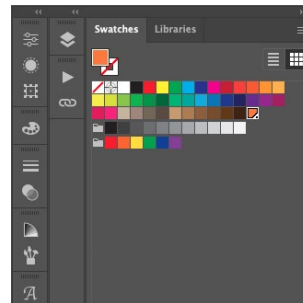


4. Verify Spot Color

Verify the swatch is a spot color by looking for a black dot in the corner of the swatch.

5. Finish File Preparation

Apply the new swatch to all desired areas in the artwork. Save the file.



See section 3.4.7 "Adjusting Spot Colors" for how to adjust spot colors in Xitron Navigator DFE.

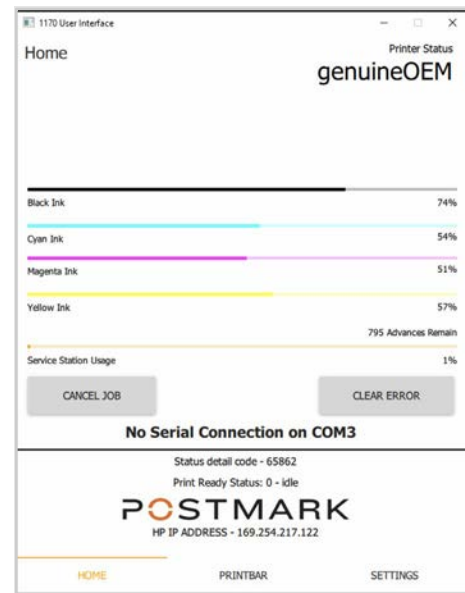
3.3 SOFTWARE - envPrinter™ WINDOWS INTERFACE

3.3.1 USES

The envPrinter™ includes and requires the envPrinter™ Windows Interface. This is used for printer settings and maintenance. The interface consists of 3 sections: Home, Printbar, and Settings.

3.3.2 HOME TAB

This tab shows the printer's status and any error codes for troubleshooting. For specific error codes, reference the HP Knowledge Base at support-usa.com.



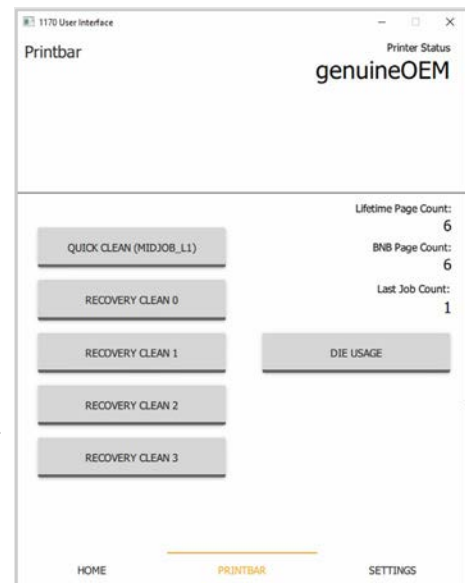
3.3.3 PRINTBAR TAB

Cleaning Cycles

This tab shows several cleaning cycles. During a cleaning cycle, the nozzles spray a bit of color, then the service sled advances to a clean section of the web, and then the new clean portion of the web is used to wipe the nozzles. As the cleaning level goes up, the more times the printer completes these steps.

“Quick Clean” and “Recovery Clean 0” should be the **ONLY** ones used on a regular basis to clear clogs, as they only take a few minutes and only use a tiny portion of the service sled.

Be sure to print several full color sheets prior to this process to aid in clog removal.



Comparatively, “Recovery Clean 3” can take up to an hour, advancing the service sled about 255 times (about $\frac{1}{3}$ of the service sled usage) which can cause service sleds to be worn out prematurely.

Recovery clean 1-3 should only be used by service technician or when instructed to do so by a technician.

Page Count

This page shows counts for three different metrics: Lifetime counter of the main circuit board (not replaced when replacing BNB), BNB count, and active/last job count (active during job, last after job is complete).

Die Usage

This command opens a window which shows the volume of ink per color per die that has been used over the lifetime of the printer. This will be used to determine whether a printer is within warranty.

3.3.4 SETTINGS TAB

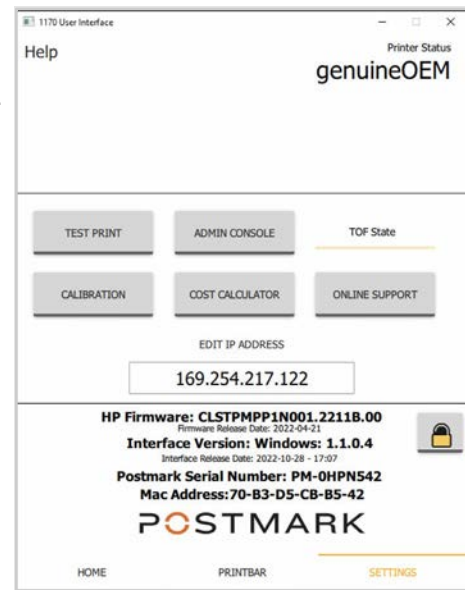
Under this tab, there will be a lock on the right side of the window. Click this icon to unlock additional adjustment settings. This section is where most of the adjustments will be made.

NOTE: On older versions of this interface, the unlock button is the “O” of the Postmark logo.

Edit IP Address

Here is where the IP address can be edited. It should be set during installation, but if it ever needs to be edited, it can be done here.

(See section 2.4.3 “Setting up the IP Address” to determine the printer’s IP Address.)



Test Print

Clicking this button will immediately send a test sheet to the printer. This is what will be used for calibration.

Calibration

After printing a test print, make adjustments under this section. Here the TOF Offset and Gapping/Overlapping of the individual dies can be adjusted. **(See section 2.5 “Calibrating the Printer”)**

Admin Console

This is where the TOF sensor distance or leading edge can be adjusted. There is both a coarse and fine adjustment. This can also be done in the Xitron Navigator DFE, though this will adjust for all prints, but Navigator will only adjust per print. This can also be used to refine the leading edge for less adjustment needed in Navigator.

Cost Calculator

This is where costs of ink can be entered to calculate cost per print for a particular artwork for accurate calculations on print quantities to keep track of printing expenses.

TOF State

This will show a visual signifier of the TOF sensor being triggered, which can be helpful for both in-person and remote troubleshooting.

Online Support

Extensive information regarding FI-1000 printer troubleshooting and operation can be found on the online Knowledge Base at support.postmark-usa.com.

3.4 SOFTWARE - XITRON NAVIGATOR DFE

3.4.1 NAVIGATOR DFE AND WHEN TO USE

The Navigator Digital Front End is a print management system for digital printers. It supports web and sheet fed printers and printing presses from desktop to light industrial to heavy industrial.

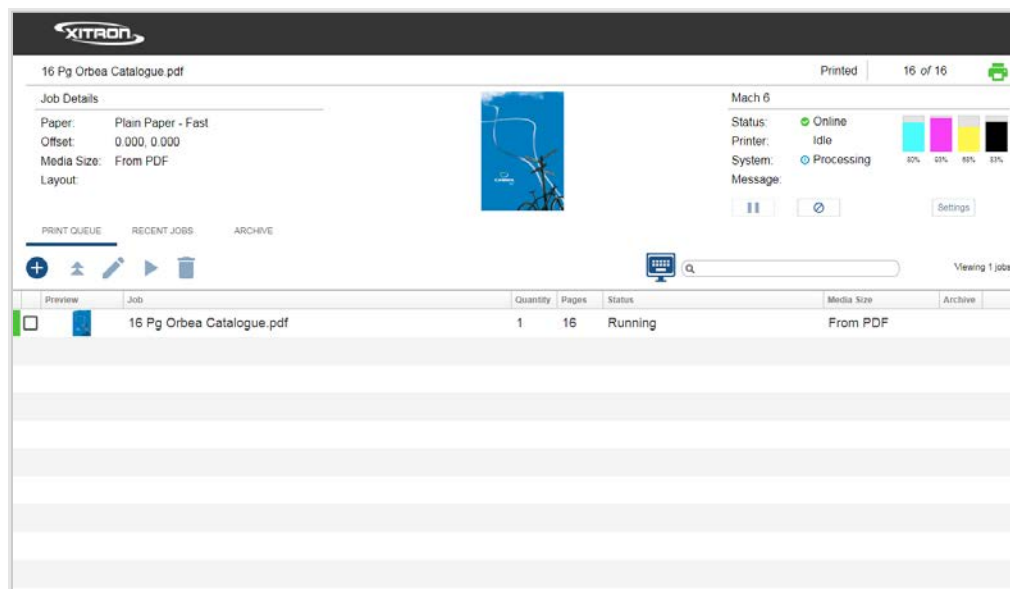
Based on the fast and accurate Harlequin Host Renderer, the Navigator DFE can prepare jobs, keep track of past jobs, position them on paper, control the color with several color management and calibration tools, and is ready to support a host of inkjet drive electronics and printers from many manufacturers. Using a scalable RIP farm system allows for any printing speed to be matched.

Navigator DFE comes with the envPrinter™, and is the best, most versatile print software to use with the envPrinter™.

3.4.2 INTERFACE & CONTROLS

The main job screen is divided into two main sections: Current Job & Job Queue.

The UI is designed to work just as well with a touch screen or a keyboard and mouse. Consult with a sales representative for a recommendation of a good, compatible touch screen.



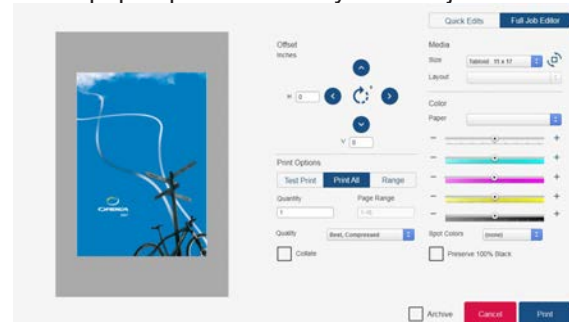
Current Job

The top third is feedback from the DFE and from the printer about the current print job. In the center is the thumbnail view of the current artwork. On the right is feedback from the printer and printer controls for canceling or pausing the job. Job data is shown on the left side.



Job Queue

The primary job ticketing is done through this interface, which pops up automatically when a job is submitted.



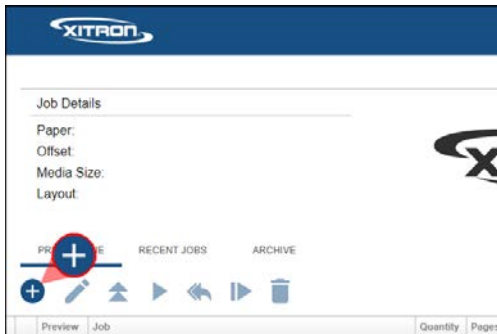
3.4.3 SUBMITTING A JOB

There are three ways to submit a job to the DFE to be printed.

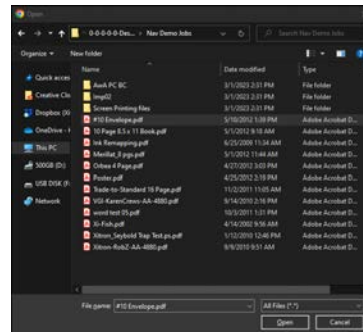
1. Click the "Add Job" button and navigate to a file.

2. Drag and Drop onto the DFE screen.
3. Hot folder input.

1. Add Job button



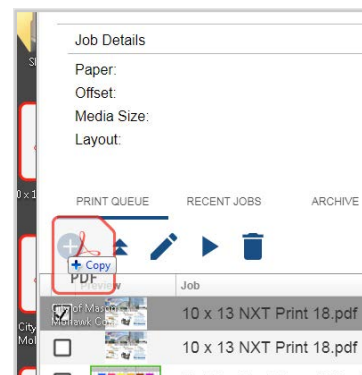
Locate the add job button on the web interface.



Select the + button. Navigate to the file in the pop-up window. Select the file, then select the OPEN button.

2. Drag and Drop

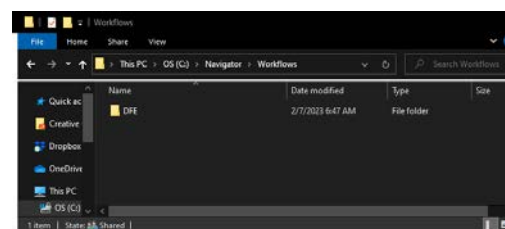
Simply drag a PDF right over the "Add Job" button. When the icon of the PDF says "Copy," drop it.



3. Hot folder

Save, copy, or drag a PDF directly to the DFE folder at c:/Navigator/Workflows/DFE.

Files copied in this way will go directly into the queue on hold with default configuration settings.



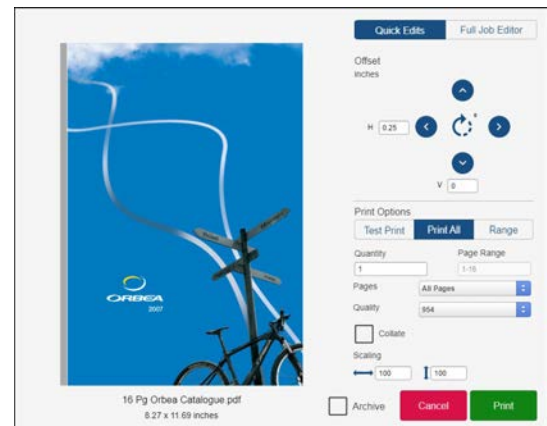
3.4.4 PRINTING A JOB

Select the Job

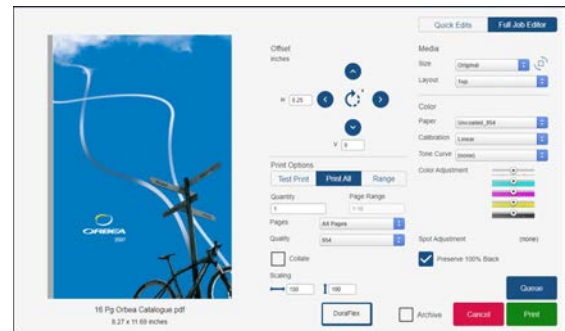
Select the desired artwork after uploading it via one of the above options. The Job Editor will open once the artwork is selected.

Quick Edits & Full Job Editor

After the file is uploaded, the Quick Edits screen is opened. Various adjustments such as rotations, print range, collation, etc. are available on this screen.



By selecting the Full Job Editor at the top right, additional adjustments become available such as changing the Paper Profile, Overall Color Changes and Spot Color Adjustments
(See section 3.4.7 “Adjusting Spot Colors” for more information.)



Media, Rotations, and Movement

Keep the media size as “Original” for simple printing or select a larger media size for adjustments. Be aware that images moved off the frame of the media will not print.

Paper Profiles & Resolution

Make sure that the print resolution and paper profile match. Production should be paired with Plain Paper 300, and High Res should be paired with Plain Paper 600. The resolution being printed can affect the speed at which the printer can produce pieces as it directly affects the amount of information being processed. Xitron Navigator has two resolution options: Production which is 1200x600 dpi and High Resolution which is 1200x1200 dpi. Printing at Production Resolution will allow faster speeds than High Resolution.

Print

After making any necessary changes, select "Print" and the file will be sent to the printer.

To edit the print settings first, highlight the job and click the Edit Job button.



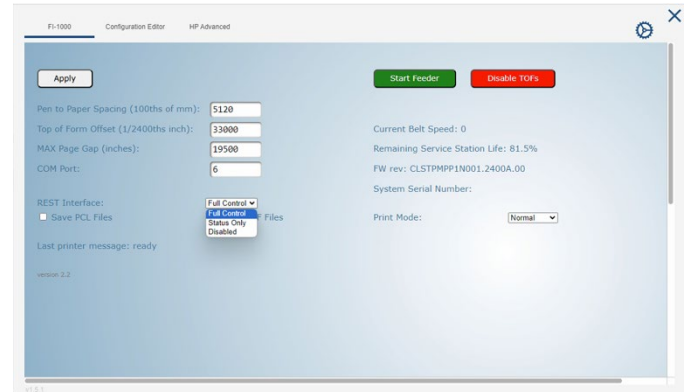
To simply print the job with default settings, highlight the job and click the Release button.



3.4.5 REST CONTROL

REST Interface Options

In the Navigator DFE, under settings, there is an FI-1000 tab, where you can adjust your level of REST control. There are 3 options described below.



REST Interface: Full Control (*Recommended for Variable Data and Static Data*)

This will allow the MJS, PPS, and TOF settings to be adjusted in the DFE settings, and NOT the Windows Interface. **See below for adjustments to these settings.** Please note that “Static Mode” in the envPrinter™ Windows Interface will not work with REST set to “Full Control.”

REST Interface: Status Only (*Static Data and “Static Mode”*)

This will allow the PPS and TOF to be adjusted in the Windows Interface but NOT the Navigator DFE. Under this option, there is no control over the MJS. If using “Static Mode” in the envPrinter™ Windows Interface, this is the option that should be used.

REST Interface: Disabled

This option will entirely disable the REST entirely and should never be used while printing with the Xitron Navigator DFE.

3.4.6 REST FULL CONTROL ADJUSTMENTS

PPS Adjustments

This is the distance that the Printbar will come down to the paper. The recommended default for this is 5120 but it can be adjusted to allow for print clarity depending on the substrate.

TOF Adjustments

This is the distance from the Top of Form (TOF) sensor to the printbar to allow proper timing. The default should be 31,500, but this can be adjusted per print to print earlier (smaller numbers) or later (higher numbers). These units are 1/2400th of an inch. To calculate in inches, take your desired total or added inches and multiply by 2400 to get the proper units to enter.

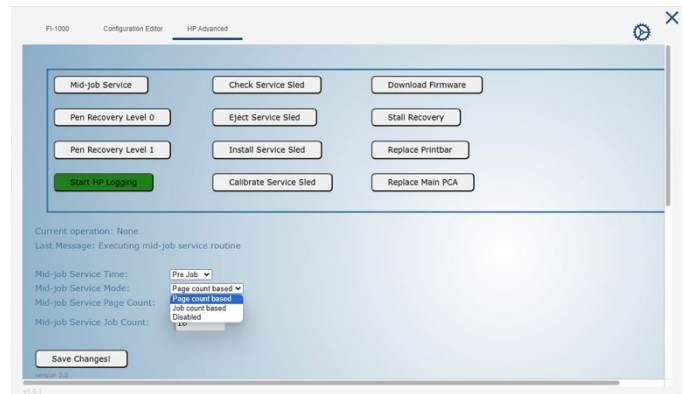
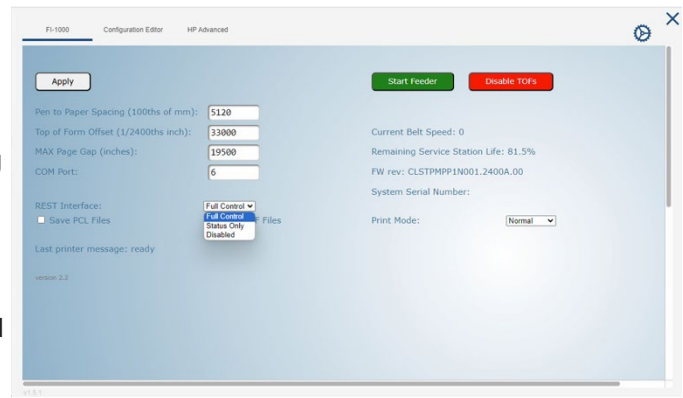
MJS Adjustments

First, set when automatic cleanings will take place: either pre-job or post-job. Pre-job is recommended for best results.

Next, choose the MJS mode. This can be based on “Page count,” “Job count”, or “Disabled”.

“Disabled” and “Job Count” is not recommended for jobs larger than 2500 pages. “Page Count” and set to 1000 is the default and recommended option.

Please note that MJS timing may not happen at the exact page count set.

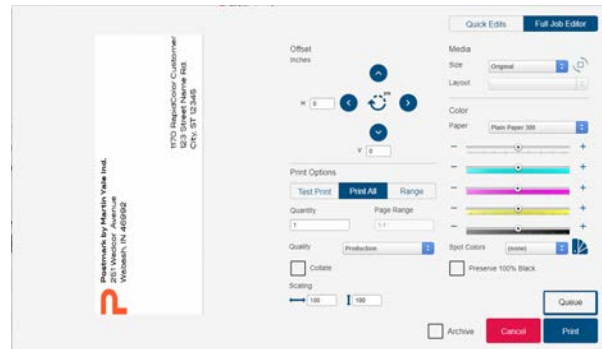


3.4.7 ADJUSTING SPOT COLORS IN XITRON NAVIGATOR DFE

NOTE: For steps on how to set a spot color before uploading the file to Navigator DFE, see section 3.4.7 “Setting Spot Colors.”

Swatchbook Icon

After setting a Spot Color, when it is uploaded in Xitron Navigator DFE, a “swatchbook” icon will appear on the right side under the CMYK adjustment, indicating that a Spot Color is detected.

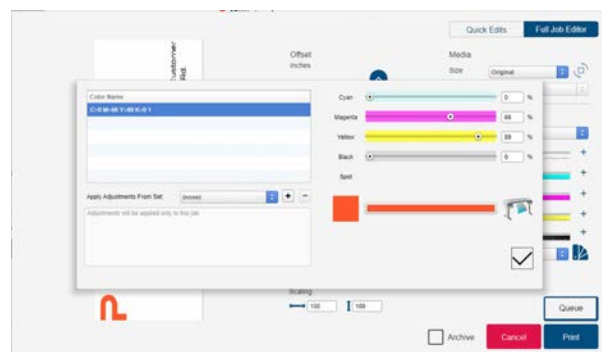


Select Color Name

After clicking the swatchbook icon under the color bars, select the spot color from the “Color Name” list.

Test Print

After selecting, click the check mark and proceed to print.



Modify & Reprint

After seeing how the color prints, return to this section, and select the printer icon above the check mark to make changes to the CMYK values of the color.

NOTE: each adjustment centers on the current color.

It's possible to print the visible swatch sheet of multiple variations to compare all at once to a Pantone or other swatchbook.



Note about Rich Black

To achieve the darkest black, set the color in the artwork file to the CMYK values that make up what is called “rich black” or process black as compared to standard black, which is just black ink. A rich black would be combined CMYK inks to achieve the darkest black. Our recommended values are C:60%, M:40%, Y:40%, K:100%. Set this black as a spot color to allow for further adjustment in the Navigator DFE to achieve the darkest black.

Note about Spot Colors

Because of the nature of inkjet there are some limitations to what colors can be matched. Inkjet prints are created by small drops that are a finite size, meaning there are limitations to what can be created. The color is made of small dots that the human eye mixes together to create an overall blended appearance. This means that certain lighter colors can only be achieved by the dots being very spread out and viewing it far away, causing the print to

look “dotty” and of poor quality when viewed closely. To prevent this from happening, the FI-1000 technology uses a formula that measures minimum brightness, or in other words, drop density.

For example, this means that for lighter, brighter colors, particularly bright orange and lime green, it will lean magenta for orange, cyan for lime green, or a muted version of either.

This is because, in order to achieve those specific colors with inkjet, it would require below minimum brightness levels of magenta or cyan, so as those colors are reduced to achieve bright orange or lime, the printer is adding a small amount of black dots to make it more dense without changing the hue, resulting in a more muted version of the desired color. This limits operators to three options:

- Bright color (more accurate tone or shade) that is leaning magenta or cyan (less accurate hue)
- More accurate hue but less accurate tone or shade
- Somewhere in between the above

Most colors outside of bright orange or lime should be achievable to match a Pantone color.

3.4.8 ICC COLOR PROFILES



A color profile (or ICC profile) is a digital file that ensures precise and consistent color management by describing the range of colors that a specific device can input or output.

If the overall range of colors does not print as expected, select a different color profile from the NCE of Xitron Navigator DFE.

3.5 SOFTWARE - VARIEGATOR ADD-ON

3.5.1 WHEN TO USE

The Xitron Variegator software is an add-on that can be purchased for producing PDFs with variable data. While the Xitron Navigator DFE that comes standard with the envPrinter™ is capable of printing multi-page PDFs with variable data, additional software is required to produce this printable PDF. There are a variety of apps that can produce variable data, but Xitron makes it easy and incredibly versatile with the Variegator software

3.5.2 ABOUT VARIEGATOR 2

Variegator 2 is a simple, stand-alone application that makes variable data printing quick and profitable. Variegator 2 unlocks the power of a digital press to produce high-profit variable data print jobs such as labels, hangtags, and flyers. Sophisticated layouts and multiple variations including images, bar codes, colors, and data are easily assembled within an intuitive GUI (Graphical User Interface).

Everything is Variable

Variegator 2 supports four variable element types: Text, Bar Code, Color, and Image. The variable data for each type can be defined in a single column, a combination of columns, or a combination of variable and static data. In addition, Variegator 2 allows users to place elements on different layers and individual layers can be locked to prevent accidental editing mistakes.

Built-in Imposition

Create imposed layouts for roll and sheet material without going to another layout application. Use the advanced step & repeat tool to specify the output sheet (or roll) size and gutters. Variegator will automatically calculate the rows and columns of the variable data records and populate the output accordingly.

Hot Folder Automation

This allows users to create a hot folder that Variegator will monitor for a data file, such as a CSV. It will then output the job using a predefined template back into a hot folder. This makes running repeat jobs with new data much quicker and more automated, especially when paired with Xitron's Navigator workflow.

Mine Multiple Databases

Variegator2 supports multiple databases within a single variable data document. Choose different fields using data from different databases and combine them into one job. Variegator 2 supports all the common delimiter types as well as custom delimiters when needed. It even supports character encoding from both macOS and Windows platforms.

Enhanced QR (optional)

Set the QR code color using flat colors, gradients, or images. The color of the eye (finder pattern) can be set independently, and the shape can be customized. It is also possible to set an image to be placed in the center of the QR code.

Additional Features

- Image Support: Supports TIFF, JPG, PNG, and PDF image
- Autotext: Auto text width reduction
- Auto Image Size: Auto image size or scale by percentage
- Blank line suppression
- Barcode Bar Width Reduction, bar reduction factor, wide-to-narrow ratio, bar spacing
- Overprint: Supports overprint and knockout
- Auto copy fit
- Supports over 35 Barcode Styles (1D, 2D, QR)

3.6 PRINT ADJUSTMENTS

There are a variety of ways to adjust and improve the quality of the print. After the first print, follow the steps below for the best possible print.

3.6.1 HEIGHT ADJUSTMENT (PRINT CLARITY)

First, adjust the height of the printer. There are four thumb screws on the machine that turn clockwise for raising and counterclockwise for lowering the printer. Start with the printer set higher than needed which will cause the print to be a bit fuzzy. Lower the printer and reprint until the print is clear.

Pay attention to gapping and overlapping in the print between the dies. It is important that the printer is properly calibrated before this step for the best results. (**See section 2.5 “Calibrating the Printer”**). Gapping means the printer is too high, and overlapping means it is too low. If the lines are inconsistent through the print, that means that the variance is in the substrate. For best results, the substrate needs to be as flat as possible.

3.6.2 REGISTRATION

Feeding to Trailing Edge Registration

This can only be done digitally with either the TOF adjustment in the envPrinter™ Windows Interface (**See section 3.3 “Software - Windows Interface”**) or through the Xitron Navigator DFE (**See section 3.4 “Software - Xitron Navigator”**).

3.6.3 SPEED ADJUSTMENT

The printer will automatically adjust the print to match the speed of the conveyor, however for more complex artwork, the speed can be too fast for the printer to process and must be slowed down slightly to avoid unprinted pages.

3.6.4 PRINTER PRIMING (PRINT QUALITY)

Occasionally nozzles can get “dirty,” such as black getting into the yellow for example. When a color is contaminated, run a full sheet of that color: cyan, yellow, magenta, or black.

NOTE: Generally, running sheets of ink is the best way to clear print-quality issues.

3.7 ADVANCED OPERATIONS & ADJUSTMENTS

NOTE: The following operations should only be performed by a technician or someone who understands, in-depth, the workings of the printer.

3.7.1 WORKFLOWS

Creating a Workflow

To create a new workflow, duplicate the original “DFE” workflow and click the pencil icon.

A “Pause” can be added between any steps which will stop the automatic flow of files and require user input. By default, this is before the final render action meaning the user will need to click “Print.” Removal of all pauses will automatically send any input jobs through the workflow to print.

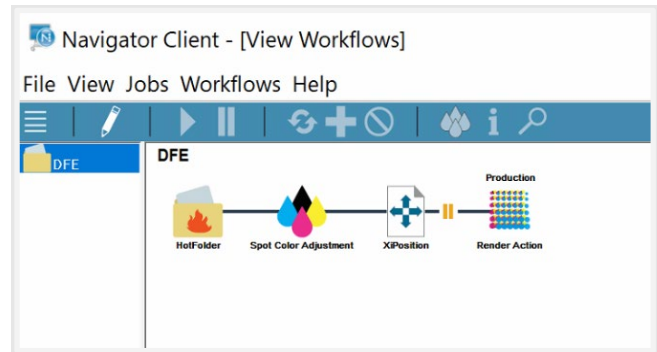
NOTE: Never remove the Original DFE Workflow.

In the “**General**” tab, the job name can be edited.

In “**Hot Folder**,” DO NOT change the file location. It will cause issues as there are several files linked from other locations to make it work. Make sure that “Generate Thumbnails” is selected.

In “**Spot Color Adjustment**” automatic spot color changes can be added if there are spot colors that are shared across multiple files.

In “**XiPosition**” make global adjustments that will be applied to any job that is passed through the workflow. This may include rotation, anchoring, media size, and offset.

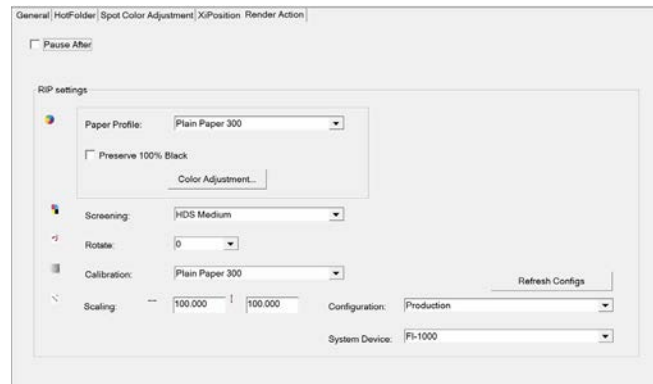


The screenshot shows the 'General' tab settings for the 'HotFolder', 'Spot Color Adjustment', 'XiPosition', and 'Render Action' workflow. The 'Workflow Name' is 'DFE'. The 'Priority' is set to 'Normal'. The 'Get Ahead' checkbox is checked. The 'Number of Copies' is set to 1. The 'When Job Completes' section has options for 'Send to Workflow', 'Archive', and 'Delete'. The 'Delete' section has options for 'Never', 'When Necessary' (selected), 'Always', and 'Always (Including Errors)'. There is a checkbox for 'Disable Workflow on Job Error'.

The screenshot shows the 'XiPosition' tab settings for the 'HotFolder', 'Spot Color Adjustment', 'XiPosition', and 'Render Action' workflow. The 'Pause After' checkbox is checked. The 'Resize Media' section has a checkbox checked, with 'Media' set to 'Custom'. The 'Reposition' section has a checkbox checked, with 'Offsets' set to 0.00. The 'Anchor Point' is set to the center. The 'Rotation' is set to 0. The 'Units of Measurement' is set to 'inches'. There is a 'Duplex' checkbox.

Finally, under “**Render Action**” set the paper profile, calibration, and resolution. Note there are 3 areas this needs to be done. Paper 300 should correspond with Production, and Paper 600 should correspond with High Resolution.

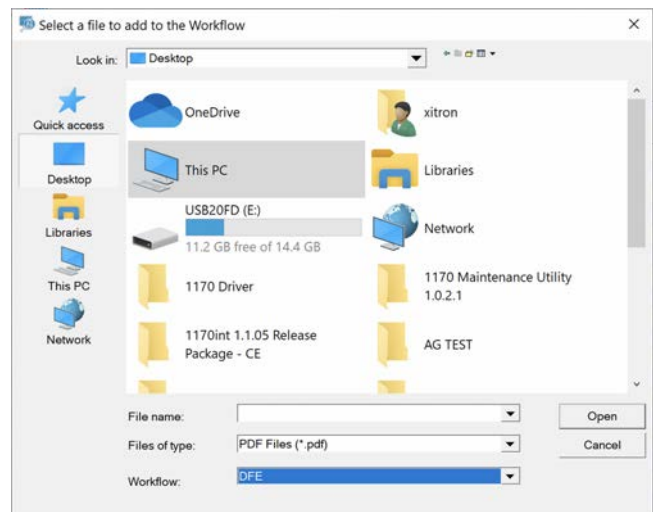
Make sure that “device” is set to “FI-1000.”



Switching Workflows

In the Navigator Client, the first workflow in the alphabetical list will always be the default used when using the “+” button on the DFE.

To use anything other than the primary workflow, upload the job through the Navigator Client window under “File”> “New Job.” Here they will have a dropdown selection at the bottom to select the desired workflow.



3.7.2 REINSTALLING XITRON NAVIGATOR

In the event that a reinstallation or update of Xitron Navigator is needed, follow the steps below.

Saving Information

First make sure to turn off Navigator. To save previous settings, copy the old Navigator folder (C:\Navigator) to the desktop and rename it “Navigator.Backup.”

Uninstalling Xitron

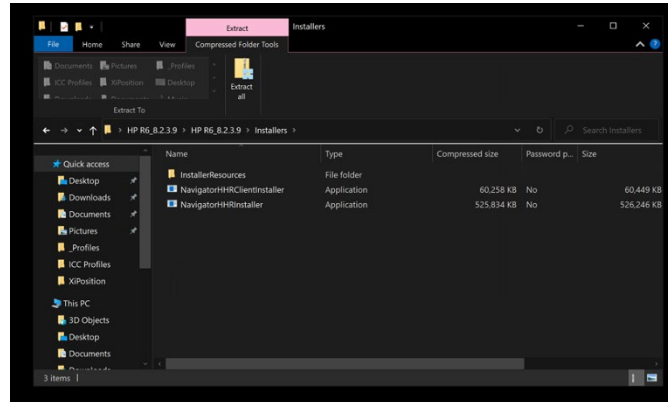
First, stop the Service Location Protocol in “Services.” This can be found by searching “Services” in the Windows Start Menu.

Next, go to the Windows Start Menu and scroll down to the folder titled “Navigator.” In the dropdown, find “Uninstall Navigator.” Select and run the uninstaller.

New Installation

Contact Postmark Support for the installation files.

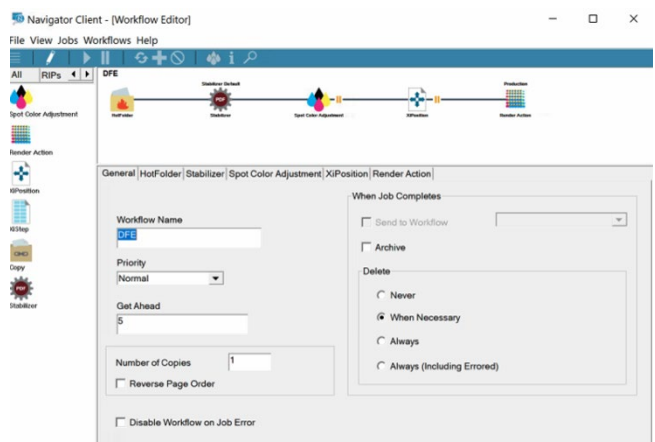
Once the zip file is downloaded, unzip the file. Next, select and run NavigatorHHRInstaller. This is the only file you need to reinstall. *You do need to install NavigatorHHRClientInstaller.*



Stabilizer & Spot Colors

If you would like to use Spot Colors you will need to add it to the workflow, otherwise it will not work properly. Some versions may come with this already setup. To check, first you will need to go to the Navigator Client, select the DFE Workflow, and click the edit icon. Here you can see the complete workflow at the top of the page. If it is not there you will need to add the Stabilizer and Spot Color to the beginning of the workflow.

You will also need to add a pause after the XiPosition (unless you are wanting to print automatically from a Hot Folder) and add a 270 degree rotation under “Render Action.”



IP Address

You will now need to set the IP address again. There is “Set IP Address” file that can be made into a desktop shortcut to make this process easier by updating the IP address on both the HPPW file and the Navigator Server, otherwise you will need to set them manually (**See section 2.4.3 “Setting the IP Address”**). This file can be found at the file location listed below. You can also create a shortcut to the desktop for future edits, but this is optional. Make sure you are entering the new IP Address and selecting “Save” while Navigator is still closed.



C:\Program Files\Navigator\Installer Resources\PutIntoMainInstallFolder\User Resources\Utilities\SetIPAddress

Recovered Information

If you were planning on recovering some information from the previous installation, you can now replace those files. They are in two places, depending on how much you want to keep.

If you would like to keep your media sizes, you will need to copy the file from the backup and replace the file at the following location: `C:\Navigator\Navigator\Config\Media Sizes\Media.lst`

If you would like to keep your workflows, jobs, and others you will need to access the most recently dated archive folder (`C:\Navigator\Navigator\ArchiveDBs`) then copy the files and replace into the new version at the following location: `C:\Navigator\Navigator`.

Launch, Login, and Links

You may need to log back into the Client and the Server after the first launch. The username for the Client is "User" and for the Server it is "Administrator." The password for both, leave blank.

Finally, to finish, create a few shortcuts on your desktop to make operation easier. Add shortcuts to the Navigator Launcher, DFE, and Client.

3.7.3 UPDATING THE FIRMWARE

To update the firmware, go to support.postmark-usa.com, create an account, and navigate to the page called "envPrinter™ Firmware Update." Here, the most recent firmware file is available for download.

Replace File & Update

Rename the file to "fw.ful2" then move it to "**C:/1170int.**" Make sure to select "replace existing file."

Then go to the Windows Interface and note the current firmware version under the settings tab. Then open the Admin Console and select "Send Firmware Update." Make sure to hold down the button until the orange bar is full.

Auto Restart & Check Status

After the update is sent to the printers, it will restart. This may take up to 10 minutes, but it is important to wait until it restarts. Do not restart manually.

It may take a few minutes for the printer to come back online, but when it does, navigate to the Admin Console and select "Check Firmware Status." After doing so, go back to the settings tab and check that the HP Firmware listed is the most recent version as intended.

3.7.4 DECAPPING & SPIT LINES

"Decapping" is a natural part of the inkjet process, that can be most noticeable when attempting to print simple designs with file lines among other objects around the line on the artwork, but there are ways to ensure reliable results.

The issue is that different nozzles are "decapping" (or re-wetting) at different times. Per the nature of inkjet and quick dry ink, this is unavoidable. If there are areas that do not have ink straight across the print (e.g., spaces between letters) this means that some nozzles are temporarily not being used. A solid line of ink immediately following this will show a difference between the areas following the letters and the areas following the gaps as some nozzles are being "primed" sooner. This is more noticeable with lighter colors and can be helped by adding "spit lines" or "purge bars" into the design which is a line of ink that spans the width of the substrate.

Solutions

Either print a different orientation so that the line is consistent after decapping those nozzles or add “spit lines” either before or after the print to allow all the nozzles used to decap at the same time.

Spit lines can be added using the settings in the Navigator DFE. Under the HP Advanced tab there is a section in the bottom right regarding leading and trailing spit lines. These are CMYK rich black lines that print either before or after the print in order to help with any decapping issues. The “spitbar lines” refers to the thickness of the lines, and the “pad area” is the gap between the spit lines and the artwork.



Adjusting Spit Lines & Pad Area

Start with minimal lines and increase as needed, as excessive ink with no material to absorb into can cause “clouding” of ink from the fans. Reducing or turning off the fans altogether can also help.

For the pad area, adjust it so that it first prints somewhere on the substrate, then slowly increase the pad area until it is just outside the substrate area and not visible on the print.

4.0 TROUBLESHOOTING

The envPrinter™ is a complex and delicate machine. For more detailed troubleshooting and instructions, visit support.postmark-usa.com and sign into the Knowledge Base. Only the most common issues are described below.

4.1 PRINT APPEARANCE

Problem: Single streak through print.

(NOT a clear gap at even increments, which would be a calibration or height adjustment.)

Solution: This is tricky because it could be a variety of things. But there should be a general order of what to try first. Make sure to try each step in order until the issue is resolved.

1. *Print Full-Color Sheets:* print 20+ sheets of solid Cyan, Yellow, Magenta, and Black, determining the problem areas. If it is improving after 20 then continue to print sheets, otherwise try the next step.
2. *Run a Recovery Cycle:* The first cleaning cycle will not help the issue at all. A recovery clean is needed, and it may need to sit overnight.
3. *Wet the Printer:* The printer may be dry. Lightly dab the printer with deionized water and a lint-free cloth. Both are essential to not damaging the printer.
4. If none of the steps above solved the issue, then the printer is damaged and the only option is to replace the entire printer, or just work around the issue.

Problem: If every other line is gapping and overlapping

Solution: The printer is not level. Adjust each of the corners of the printer to ensure that it is level.

Problem: Some, not all, areas of the print are fuzzy.

Solution: The material is not flat enough. If the substrate cannot be flattened more, simply find a balance that is satisfactory. This can also just mean that the printers are a bit dry and just need to print more sheets, but this only applies to the first print of the run. If any others are blurry, it is the substrate.

Problem: Cloudy-looking color transfer on the back of the substrate.

Solution: The artwork's bleed is too large, so the extra ink is not being caught by the substrate at the time of printing, but instead adhering to the back. This can also get on the ski (underside of the printer), so lift the printer and wipe down the metal ski. Do not flip the printer on its side or upside down.

Problem: Ink is transferring onto the back of the substrate. Bleed channel is full.

Solution: Bleed Channel is full. See "Hardware Issues" for emptying the bleed channel.

Problem: Ink is transferring on top of substrate.

Solution: This could be two issues. If the ink transfer appears wet, the print is too saturated. Check that the print resolution and paper profiles are correctly matching. They should be as follows: Production - 300, High Res - 600. If the ink transfer appears cloudy, this is transfer from the ski on the bottom of the printer. Raise the printer and wipe down the bottom of the ski.
NOTE: It is extremely important to make sure the printbar is not down, as wiping this can damage the nozzles.

Problem: Ink is too heavy or too light.

Solution: The print resolutions and paper profiles are mis-matched. Production Resolution should be paired with "Plain Paper 300," and High Resolution should be paired with "Plain Paper 600."

Problem: **Print not hitting the page.**

Solution: Adjust the TOF (Top of Form) Sensor Distance (coarse adjust) and Leading Edge Adjustment (fine adjust). This can be found in the Windows Interface under Admin Console of the Settings tab. The coarse adjustment should typically be set to 15.5" then adjust both fine and coarse accordingly until the print is correct.

Problem: **Artwork that has a thin horizontal line, does not print consistently (e.g., lighter sections), but it prints fine vertically through the print.**

Solution: This is called "decapping." It is a natural part of the inkjet process, that can be more noticeable with thin lines or text, but there are ways to work around it. See section **3.7.4 "Decapping & Spit Lines" for more information.**

4.2 SOFTWARE ISSUES

Problem: **Xitron: "No Suitable Software Detected"**
Printer status reads as "ready," but Xitron Navigator will not print.

Solution: The device is not set in the back end of Navigator. Go into the Navigator Client window, select the "edit" pencil icon, go to "Render Action," and select the correct device (FI-1000 unless named otherwise in the Server under devices when setting up the IP).
NOTE: The top-most folder is the default workflow. Typically, this is "DFE" but if there are multiple workflows and the top is NOT the DFE folder, then it will use that one. Be sure the top folder, or ideally all workflows, are set to the FI-1000 under devices.

Problem: **Windows Interface: Error Code beginning with 17 (A full list of error codes are available on the knowledge base)**

Solution: One or more of the cartridges is not being recognized. Cartridge error codes usually will have a detail status in the following format: **17.XX.ZZ**

- "17." indicates that this is a cartridge related issue.
- The second set of digits (xx above) indicate which cartridge the error is associated with: *00 - Black, 01 - Cyan, 02 - Magenta, 03 - Yellow*
- The third set of digits (ZZ above) indicate the type of error that is occurring (see envPrinter™ error codes for more information)

In many cases, simply pulling out the corresponding cartridge and gently wiping the chip free of dust should fix the error.

If there is a cartridge error, the first thing that should be checked is that the door switch is working as expected. When the door is open, the printer status should read "closeDoorOrCover" and when closed should display "inkSystemInitializing" briefly. If the printer status does not display these messages, the printer is not reading the ink system to check for new cartridges. This means even after replacing the cartridge, the same error code may display as the firmware has not checked to see if there is a new cartridge.

Problem: **"Printbar Stall"**

Solution: This means that the printbar is hitting the ski when it is lowering. To adjust, go to the Admin Console under the Settings Tab, then adjust the “PPS Height.” Slowly increase by 0.1mm each time and test, until the error stops.

NOTE: *You should not need to adjust past 1mm. Doing so can put too much distance between the printbar and the ski, resulting in fuzzy prints regardless of printer height.*

Problem: “Mech PPS out of Range”

Solution: This means that the printer is too low to the conveyor. Raise just slightly using the screws on the 4 corners of the printer, making sure to keep it level.

4.3 HARDWARE ISSUES

Problem: Belt tracking.

Solution: **NOTE:** *The Transport Conveyor and Exit Conveyor come pre-tensioned before shipment. Within the first 3 hours of use, you may need to adjust the Transport Conveyor if it is tracking off to one side slightly, but it should not be adjusted frequently. The Exit Conveyor will never need to be adjusted.*

Only use the right-side tensioner when adjusting, using a T30 Torx wrench, turning a maximum of 1/8th of a turn.

If the belt is tracking too far to the left, adjust the screw counterclockwise 1/8th of a turn. If the belt is tracking too far to the right, adjust the screw clockwise 1/8th of a turn. After each adjustment, wait at least thirty minutes to give the belt ample time to track back to where it will end up. Repeat this step until the belt is in the center of the roller.

Notice there are aluminum spacers on the tensioners that indicate a hard stop for the maximum recommended tension to the belts. Over time this belt may stretch slightly due to normal wear, and the tensioner will bottom out on the spacers. Do NOT remove the spacers and increase tension as this will risk premature failure of the bearings and rollers, and subsequently require the belt to be replaced.

Problem: Bleed Channel is full.

Solution: Simply slide printer away from bleed channel. Lift the channel up from the conveyor and place it in an appropriate reservoir for cleaning. Rinse both the channel and activated charcoal media. If the media fails to hold the ink, it may need to be replaced.

Problem: Service Sled is soaked with ink.

Solution: Note that the service sled may be saturated at times. An abnormal level of saturation is when it appears completely black, rather than a dark mixture of colors. First check whether the service sled is advancing to determine if it is jammed. Go to the Admin Console, click “Check Service Sled,” then watch to see if the webbing advances. If it does not advance, reach out to tech support, or replace the service sled. (**See section 5.2.2 “Replacing Service Sled”**).

Problem: Repeating variable data prints after mid-job service in larger quantities.

Solution: Make sure that in the Navigator DFE, the REST interface is set to “Full Control” and the HPPW “restcalls” is set to 1. (**See section 3.4.5 “REST Control” and 3.4.6 “REST Full Control Adjustments”**).

5.0 CARE & MAINTENANCE

5.1 PRINTHEAD & CONVEYOR

5.1.1 PRIME THE NOZZLES REGULARLY

Print full sheets at least once a week to keep nozzles moist. This will help prevent the nozzles from drying out. For best results, it is recommended to print a full 8.5"x11" sheet of each: Cyan, Yellow, Magenta, and Black. This ensures that all colors of all nozzles are primed.

5.1.2 TAKING CARE OF THE PRINTBAR

While thermal inkjet has had a lot of advances over the past decade, the technology still does have some fragile components that need to be looked after to ensure longevity of the BNB and the Printbar.

The most important thing to keep in mind when operating an envPrinter™ is how far away the substrate is from the printbar. This is something that takes practice and time to dial in for each application.

NOTE: The printbar can be permanently damaged if the height of the printbar is not closely watched and set correctly. Printbars that are physically damaged due to something crashing into them or them crashing into something else are not covered under warranty.

5.1.3 5% MINIMUM INK

It is not recommended to print using cartridges with less than 5% ink as they are likely to ingest air which can be pumped into the ink lines. It is time-consuming to pump air out of the system, so avoid this if possible.

5.1.4 BLEED CHANNEL

Empty the bleed channel regularly to avoid ink buildup that can cause ink transfer.

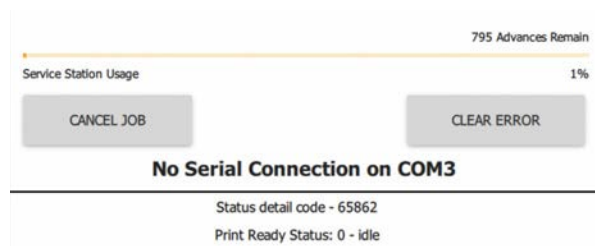
5.2 REPLACING CONSUMABLES

5.2.1 REPLACING INK CARTRIDGES

See section 2.3.2 “Removing Ink Cartridges.”

5.2.2 REPLACING SERVICE SLED

The Home tab of the Windows interface indicates how much of the service sled has been used and how many remaining advances there are. Once it gets to 150 remaining advances, there will be a warning, but the sled does not need to be replaced until there are zero advances remaining.



Ejecting the Service Sled

Once the panel has been opened go to the Admin Console on the Windows interface and select “Eject Service Sled.” This will move the sled closer to the opening where it can be removed. Once it is removed, set it aside or discard.



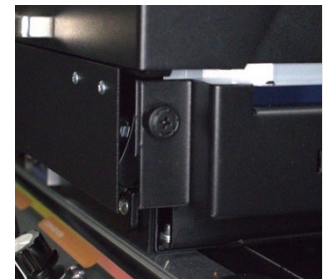
Installing the Service Sled

To install the new service sled, orient the sled so that the blue panel is facing up and the white webbing is facing the printer. Carefully insert into the open slot, being careful to keep it straight. Push until the backend of the sled is almost flush with the external chassis of the printer.

Return to the Admin Console of the Windows interface and select, “Install Service Sled.” The gears inside will begin to move back to meet the gears of the service sled. ***It is imperative that these gears meet evenly, or it could damage the gears.*** Gently push the center of the service sled using only one finger until the sled is pulled into the printer in a similar fashion to a VHS tape.

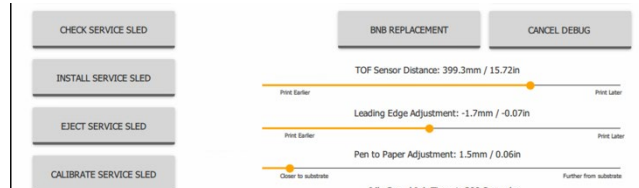


Once the service sled is properly in the printer, replace the service sled door. After the door, reinstall the spring-steel envelope guides, cord organizer, and any other parts that have been removed for this process.



Calibrating the Service Sled

Once the new sled is installed, close the cover. Go to the Admin Console of the Windows Interface and select “Calibrate Service Sled,” allowing the printer to find the homing location as well as reset the service sled usage on the home tab of the Windows interface.



6.0 COMMON ERROR CODES

For a full list of error codes for the Windows Interface, go to the “Error Codes” page in the envPrinter™ Knowledge Base at support.postmark-usa.com.

NOTE: For errors relating to ink cartridges, refer to the following (X is the pertaining error codes):

XX.00.XX Black Ink Cartridge
XX.01.XX Cyan Ink Cartridge
XX.02.XX Magenta Ink Cartridge
XX.03.XX Yellow Ink Cartridge

Error 17.0x.00	The indicated supply cartridge memory chip has failed. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow Remove, then reinstall the supply cartridge. If the error persists, replace the appropriate supply cartridge.
Error 17.0x.29	An unauthorized supply cartridge has been installed. The indicated cartridge is non-HP. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow Install a genuine HP OEM supply cartridge.
Error 17.0x.35	The indicated supply cartridge is not compatible with this printer. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow Install a genuine HP OEM supply cartridge.
Error 17.0x.42	The indicated supply cartridge memory chip has failed. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow Turn the printer off, and then on. If the error persists, replace the supply cartridge.
Warning 17.0x.60	The indicated supply cartridge is low. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow Same as 17.0x.61
Error 17.0x.65	The indicated supply cartridge is not detected or not installed. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow Install a supply cartridge or remove, then reinstall the supply cartridge. If the error persists, replace the supply cartridge.
Warning 17.0x.69	The indicated supply cartridge is very low. No action necessary
Warning 17.0x.70	The indicated supply cartridge is printing past very low. Printing can continue but print quality may soon become unacceptable. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow
Error 17.0x.80	The indicated supply cartridge is empty. Printing cannot continue. “X” indicates which cartridge. 0 = Black, 1 = Cyan, 2 = Magenta, 3 = Yellow Replace the supply cartridge
Error 17.41.yz	The printhead wiper kit is low, very low, or empty. 17.41.60 - Wiper sled textile has 150 or less indexes left. It should be replaced soon. 17.41.80 - Wiper sled textile is used up and will need to be replaced immediately Replace the printhead wiper kit.

Error 61.66.00	Printhead maintenance failed. Turn the printer off, and then back on. Allow the printer to perform the start-up printhead maintenance.
Warning 61.66.y0	A printhead nozzle health recovery routine was initiated and completed successfully. 61.66.10 A user-initiated Pen Cleaning routine completed successfully. 61.66.20 An automatic Extended Cleaning routine completed successfully. 61.66.30 A user-initiated Extended Cleaning routine completed successfully. 61.66.40 A user-initiated Clean with the Shim Pad Kit routine completed successfully. 61.66.50 A user-initiated Yellow Streaks Recovery routine completed successfully. No action necessary
Warning 61.66.6z 61.66.61 61.66.62 61.66.63 61.66.70	Improper shutdown, Automatic printhead maintenance initiated. Allow the printer to perform the printhead maintenance and return to ready. Make sure to correctly turn the printer off to avoid the error from reoccurring.
Error 61.C4.21	The printhead wiper motor stalled during normal operation. Press Clear Error. The printer should auto-recover from this error. If the auto-recover fails, turn the printer off, then on.
Error 61.C4.22	The printhead wiper motor stalled during the printhead wiper replacement procedure. Press Clear Error. The printer should auto-recover from this error. If the auto-recover fails, turn the printer off, then on.
Error 61.C4.23	The printhead wiper motor stalled while moving towards the right door during normal operation. Press Clear Error. The printer should auto-recover from this error. If the error persists, replace the printhead wiper kit (4CC92A)
Error 61.C4.24	The printhead wiper motor stalled while moving towards the cap position during normal operation. Press Clear Error. The printer should auto-recover from this error. If the error persists, replace the printhead wiper kit (4CC92A)
Error 61.C4.25	The printhead error was detected during normal operation. Press Clear Error. The printer should auto-recover from this error. If the auto-recover fails, turn the printer off, then on.
Error 61.C4.26	The printhead error was detected while the printer was turning on or during normal operation. Run the Sled Handler sequence If the error persists, replace the printhead wiper kit (4CC92A)
Error 61.C4.2E	A higher-than-normal current drawn from the motor controller on the main PCA caused the printhead wiper motor to stall. Turn the printer off, and then on.
Error 61.C5.21	The printhead wiper motor stalled during the printhead wiper replacement procedure.

	Press Clear Error. The printer should auto-recover from this error. If the auto-recover fails, turn the printer off, then on.
Error 61.C5.25	The printhead error was detected during the printhead wiper replacement procedure. Press Clear Error. The printer should auto-recover from this error. If the auto-recover fails, turn the printer off, then on.
Error 61.C5.26	The printhead error was detected during the printhead wiper replacement procedure. Run the Sled Handler sequence. If the error persists, replace the printhead wiper kit (4CC92A).
Error 61.C5.E0	The printhead wiper motor stalled. The printhead wiper did not reach the stop datum. Press Clear Error. The printer should auto-recover from this error. Verify that the stop datum is in place.
Error 62.00.2x	Printhead assembly reported electrical failure: Printhead short. Error codes 62.00.21, 62.00.22, 62.00.23, 62.00.24, 62.00.25, 62.00.26, 62.00.27, 62.00.28, 62.00.29, 62.00.2A, 62.00.2B, 62.00.2C, 62.00.2D, 62.00.2E, 62.00.2F, Check for damaged cables and connectors while reseating the three FFCs between the main PCA and the printhead assembly. If the error persists, replace the printhead assembly.
Error 62.00.3x	Printhead assembly reported electrical failure: Printhead short. Error codes 62.00.31, 62.00.32, 62.00.33, 62.00.34, 62.00.35, 62.00.36, 62.00.37, 62.00.38, 62.00.39, 62.00.3A, 62.00.3B, 62.00.3C, 62.00.3D, 62.00.3E, 62.00.3F, Check for damaged cables and connectors while reseating the three FFCs between the main PCA and the printhead assembly. If the error persists, replace the printhead assembly.
Error 62.00.4x	Printhead assembly reported electrical failure: Error codes 62.00.40, 62.00.41, 62.00.42, 62.00.43, Check for damaged cables and connectors while reseating the three FFCs between the main PCA and the printhead assembly. If the error persists, replace the printhead assembly.
Error 62.00.53	A non-HP genuine supply was detected in the printhead. The printhead gauge will not report a status when a non-HP supply is installed. Install HP genuine supplies.
Error 62.0x.01	Printhead assembly reported die (x) electrical failure: generic error. 0: Printhead die number (1) - 62.00.01 1: Printhead die number (2) - 62.01.01 2: Printhead die number (3) - 62.02.01 3: Printhead die number (4) - 62.03.01 4: Printhead die number (5) - 62.04.01 5: Printhead die number (6) - 62.05.01 6: Printhead die number (7) - 62.06.01 7: Printhead die number (8) - 62.07.01 8: Printhead die number (9) - 62.08.01 9: Printhead die number (10) - 62.09.01 A: Printhead die number (11) - 62.0A.01 B: Printhead die number (12) - 62.0B.01 C: Printhead die number (13) - 62.0C.01 D: Printhead die number (14) - 62.0D.01 Check for damaged cables and connectors while reseating the three FFCs between main PCA and the printhead assembly If the error persists, replace the printhead assembly (BNB).

Error 62.0x.02 to 62.0x.15	Printhead assembly reported die (x) electrical failure. Check for damaged cables and connectors while reseating the three FFCs between the main PCA and the printhead assembly. If the error persists, replace the printhead assembly. <i>See "Error 62.0x.01" for "x" die number codes.</i> List of error codes: 62.0x.02 62.0x.03 62.0x.04 62.0x.05 62.0x.06 62.0x.07 62.0x.08 62.0x.09 62.0x.10 62.0x.11 62.0x.12 62.0x.13 62.0x.14 62.0x.15
Error 62.0x.20	Printhead assembly reported die (x) electrical failure. Check for damaged cables and connectors while reseating the three FFCs between the main PCA and the printhead assembly. If the error persists, replace the printhead assembly (BNB). List of Error Codes: 62.00.20 62.01.20 62.02.20 62.03.20 62.04.20 62.05.20 62.06.20 62.07.20 62.08.20 62.09.20 62.0A.20 62.0B.20 62.0C.20 62.0D.20
Error 62.0x.44	Printhead assembly reported die (x) electrical failure. Check for damaged cables and connectors while reseating the three FFCs between the main PCA and the printhead assembly. If the error persists, replace the printhead assembly (BNB). List of Error Codes 62.00.44 62.01.44 62.02.44 62.03.44 62.04.44 62.05.44 62.06.44 62.07.44 62.08.44 62.09.44 62.0A.44 62.0B.44 62.0C.44 62.0D.44
Error 62.0x.8D	Printhead assembly reported die (x) electrical failure. Check for damaged cables and connectors while reseating the three FFCs between the main PCA and the printhead assembly. If the error persists, replace the printhead assembly (BNB) List of Error Codes: 62.00.8D 62.01.8D 62.02.8D 62.03.8D 62.04.8D 62.05.8D 62.06.8D 62.07.8D 62.08.8D 62.09.8D 62.0A.8D 62.0B.8D 62.0C.8D 62.0D.8D
Error 62.11.21	The fluid pump motor stalled for an unknown reason. Turn the printer off, and then on Check for a damaged cable and connectors while reseating the FFC between the fluid pump and the SIM PCA (J1). If damage is found, replace the printhead assembly (BNB)
Error 62.11.22	The fluid pump motor may have become disconnected Turn the printer off, and then on Check for a damaged cable and connectors while reseating the FFC between the fluid pump and the SIM PCA (J1). If damage is found, replace the printhead assembly (BNB)
Error 62.11.2E	The fluid pump motor caused a thermal event in the motor controller Turn the printer off, and then on Check for a damaged cable and connectors while reseating the FFC between the fluid pump and the SIM PCA (J1). If damage is found, replace the printhead assembly
Error 62.11.3B	The air pump inside the printhead assembly has become disconnected Turn the printer off, and then on Check for a damaged cable and connectors while reseating the FFC between the fluid pump and the SIM PCA (J1). If damage is found, replace the printhead assembly
Error 62.11.4B	The vent solenoid has become disconnected. Turn the printer off, and then on Check for a damaged cable and connectors while reseating the FFC between the fluid pump and the SIM PCA (J1). If damage is found, replace the printhead assembly
Error 62.12.51	The printhead lift motor stalled for an unknown reason.

	Check that Pen to Paper adjustment is set correctly - Once PPS is confirmed correct, turn power off and then back on. Check for damaged cables and/or connectors while reseating the FFC between the printhead assembly and the main PCA (J13). If damage is found, replace the printhead assembly FFC cable kit (J25) is a ZIF (zero insertion force) FFC. Unlatch the connector by carefully rotating the tab away from the PCA, pulling it from the top. There are two small tabs at each side of the cable that keep the connector aligned.
Error 62.12.53	The printhead lift motor stalled while moving down. <i>For solution see "Error 62.12.51"</i>
Error 62.12.54	The printhead lift motor stalled. <i>For solution, see "Error 62.12.51"</i>
Error 62.12.55	The printhead lift motor stalled. The lift motor did not find a reference point to stop at while lowering. <i>For solution, see "Error 62.12.51"</i>
Error 62.12.56	The printhead lift motor stalled. The lift motor did not find a reference point to stop at while raising. <i>For solution, see "Error 62.12.51"</i>
Error 62.12.5E	The lift motor in the printhead assembly caused a thermal event in the motor controller. <i>For solution, see "Error 62.12.51"</i>
Error 62.12.6A	The printhead lift sensor failed to deactivate or it is disconnected. <i>For solution, see "Error 62.12.51"</i>
Error 62.12.7C	The printhead lift encoder is uncalibrated. <i>For solution, see "Error 62.12.51"</i>
Error 62.13.21	The printhead EEPROM read has failed. <i>For solution, see "Error 62.12.51"</i>
Error 62.13.25	The printhead EEPROM failed. <i>For solution, see "Error 62.12.51"</i>
Error 62.13.26	The printhead EEPROM was not detected. <i>For solution, see "Error 62.12.51"</i>
Error 62.31.56	The printer detected a different printhead assembly Using the windows interface console, open the BNB replacement console, boot into MFG mode, and press the button Set BNB to Idle. This usually must be done after a field PCA replacement to register the existing BNB: 1170int_2021-03-30_11-55-04.jpg
Error 62.31.57	The printer detected a new printhead assembly If it is a new printhead assembly, refer to the BNB programming instructions Make sure the spittoon is installed to capture the purged ink! Turn the power off and then back on, and the new printhead will be purged.
Warning 62.31.58	New Printhead Assembly replacement successful. No action necessary.
Warning 62.31.59	Used Printhead Assembly replacement successful. No action necessary.
Warning 62.31.61	Printhead wiper time out. No action necessary.
Warning 62.31.62	Printhead wiper time out. Restart required.

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