Avery Dennison®
Pathfinder® Edge™
System Administrator's Guide

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AVERY DENNISON

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1. Getting Started

The Avery Dennison® Pathfinder® Edge™ prints, scans, and collects data. The printer operates in peel mode or non-peel mode. The printer uses the Android™ 15 platform. The printer contains an IEEE 802.11 a/b/g/n/ac/ax WLAN plus Bluetooth® (Version 5.3) dual mode radio.

Use the standard Android Settings app to make changes to the screen brightness, setting the date/time, notifications, WiFi, etc. This manual does not address the Android Settings application.

Audience

This manual is for the System Administrator who configures the printer and scanner and performs diagnostics using the **PF Edge Setup** Application, which is pre-loaded on the printer.

Your printer may have a custom application that uses our SDK to configure these settings for you.

A Setup Guide is included with each printer. Review the printer's Safety Document included with your printer, the Battery Use and Care Instructions, and the Regulatory information found on our web site. Keep the box and packaging materials in case the printer ever needs repair.

Using the Printer

The power button is red. Press and hold the power button to turn off or restart the printer.

The printer has a touch screen display. When the printer is turned on, swipe up the screen to unlock. The display has several icons:

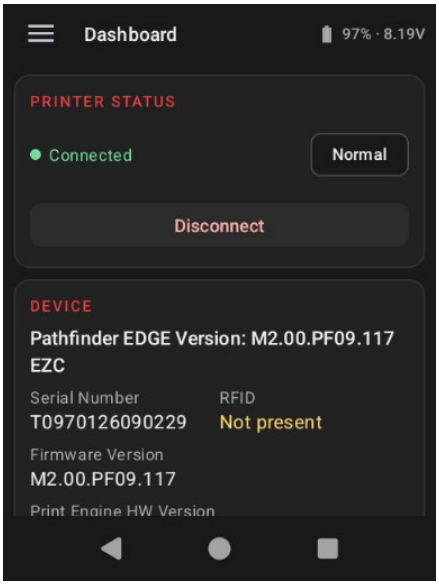
Status Bar

The status bar shows the battery voltage, connection type, wireless signal strength, etc. similar to the icons on mobile phones.

Reading the PF Edge Setup Dashboard

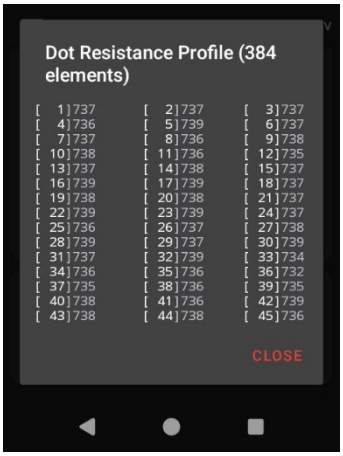
Open the **PF Edge Setup** Application to view Dashboard information:

- WiFi connection status
- Printer's name and serial number
- Firmware version and print engine hardware version
- IAD (Integrated Android Device) core version
- Android OS version, Build number, Kernel version and PCBA version
- Printhead data – number of service labels printed, total distance of inches printed, printhead temperature, number of bad dots, average printhead dot resistance, and dot resist stance profile.
- Scanner information – decoder model, engine model, and revision.



Viewing the Dot Resistance Profile

Tap **View Profile** to see each printhead dot's resistance.



Connecting the Printer to a Wireless Network

The printer has an IEEE 802.11 a/b/g/n/ac/ax WLAN plus Bluetooth® (Version 5.3) dual mode radio.

Use the standard Android Settings app to configure the printer's Wi-Fi connection.

Using Bluetooth® to Connect the Printer

The printer has a Bluetooth® 5.3 radio.

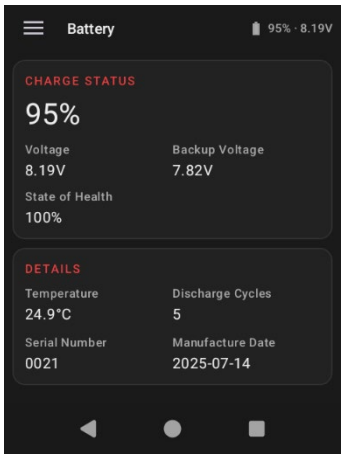
Your printer may have a custom application that uses our SDK to pair the printer for you.

Installing an Application

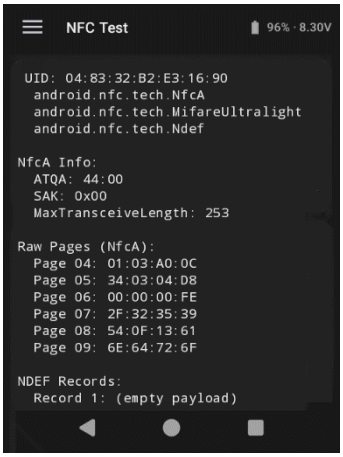
1. Save the .apk file onto your hard drive. Connect a USB cable from your laptop to the printer.
2. Turn on the printer.
3. Select the drop-down on the printer about USB charging and tap File transfer.
4. On your laptop, you see "Pathfinder Edge connected." You may also see "MTP USB Device connected."
5. Open File Explorer.
6. Open the Pathfinder Edge (or MTP USB Device).
7. Open Internal shared storage.
8. Navigate through the available folders to the Download folder.
9. Copy and paste the downloaded application file (.apk) into the printer's Download folder.
10. Tap the application from the printer's Download folder.
11. Tap **Install** (or if the application already exists, tap **Update**). The application is installed.

Viewing the Battery Status

Tap **Battery** from the menu.
The battery's current charge percentage, temperature, discharge cycles, serial number and manufacturing date are shown.



Performing an NFC Test



Tap your companion device to the left side of the printer by the pairing icon ( ) and press **Connect** on your companion device to automatically connect with Bluetooth BLE.

Tap any NFC tag to the right side of the printer by the Read tag icon ( ).

Information about the tag appears.

About the Application

Tap **About** from the menu.

You see the application's version, SDK versions, and set a logging level.

Exporting Logs to Downloads

Tap **Export Logs to Downloads** from the **About** menu to save logs to the printer's Downloads folder. The application developer may review these for troubleshooting information.

2. Setting Printer and Supply Options

This chapter explains how to select the printer's speed, contrast, print diagnostic labels, set the supply type, calibrate supply, and adjust supply positioning.

Use the **Print Settings** menu to adjust any of the printer options below.

Option	Choices	Default
Speed	1 to 6.0 ips (inches per second)	3 ips
Contrast	0 to 4 (Lowest to Highest)	2 (Normal)
Diagnostic Report Label*	NA	
Printer About Label*		
Checkerboard Label*	NA	NA
Gray Scale Label*	NA	NA
Horizontal Barcode Label*	NA	NA
Vertical Barcode Label*	NA	NA
Speaker Volume	0 to 100%	90%
Test Sound	Good Scan, Lookup Pass, Lookup Fail, Scan No Read, Scan Error	Good Scan

* Refer to the printer's *Equipment Manual* for information about printing the diagnostic labels. A few options may require two labels to print all the information (using 2"-inch labels).

Use the **Supply** menu to adjust any of the supply options below.

Option	Choices	Default
Feed	Feeds a blank label	NA
Resync Labels	Feeds supply to the next top of form.	NA
Calibrate Blackmark	Feeds three labels to determine the blackmark distance.	NA
Supply Type	Blackmark or Continuous	Blackmark
Units	IN (inches) or MM (millimeters)	IN
Vertical Shift in units above	-1.0 to 12.8 inches -25.4 to 325.1 millimeters	0
Horizontal Shift in units above	-1.0 to 1.0 inches -25.4 to 25.4 millimeters	0
Feed Shift in units above	-1.0 to 6.0 inches -25.4 to 152 millimeters	0
Max. Supply Length in units above	0.1 to 12.0 inches 2.5 to 304.8 millimeters	2.0 inches 50.8 millimeters

* Refer to the printer's *Equipment Manual* for information about calibrating supply.

Setting Print Options

Tap **Save** whenever you adjust a setting.

Setting the Speed

The printer prints at speeds between 1.0 and 6.0 inches per second. The default is 3.0 inches per second.

Slide the bar to your preferred print speed.

Setting the Contrast

The print contrast controls the darkness of the printing on your supply. You may need to increase or decrease the print contrast depending on your supply type. Having the correct print contrast setting is important because it affects how well your barcodes scan and how long your printhead lasts. The default value is normal.

Slide the bar to the right to increase the contrast (print becomes darker); slide the bar to the left to decrease the contrast (print becomes lighter).

Printing Diagnostic Labels

Refer to the printer's Equipment Manual for information about printing diagnostic labels.

Setting the Volume

The speaker's volume is adjustable from 0 to 100%. The default is 90.

Select the test sound (Good Scan, Lookup Pass, Lookup Fail, Scan No Read, Scan Error) for the speaker test, then tap **Play**.

Setting Supply Options

Tap **Save** whenever you adjust a setting.

Feeding a Label

To feed a blank, tap **Feed** from the Supply Menu. A blank label feeds out of the printer.

Resync Labels

Tap **Resync Labels** to feed supply to the next top of form.

Calibrating the Blackmark Sensor

Tap **Calibrate Blackmark** to feed three labels to determine the blackmark distance. Calibrate the sensor on initial printer setup, whenever the supply is changed (from blackmark to continuous or vice versa), or if using labels with a colored (anything other than white) backing.

Setting the Supply Type

The printer can print on black mark or continuous (non- indexed) supplies. The printer defaults to using the blackmark sensor. Continuous supplies such as fax or receipt paper that do not have any sense marks. Set the printer's supply type to match the loaded supplies. Your printer may have a custom application that automatically sets this value.

Setting the Units for Print Adjustments

Select the print adjustment units as either inches or metric. These units are used to make supply and feed position adjustments.

Setting the Supply Position, Vertical Shift

Adjust the vertical shift to set where data prints vertically on the supply. The adjustments are inches or metric. The default value is 0.

Slide the bar to the right to increase the vertical shift (moves the printed image down on the label); slide the bar to the left to decrease the vertical shift (moves the printed image up on the label).

Setting the Supply Position, Horizontal Shift

Adjust the horizontal shift to set where data prints horizontally on the supply. The adjustments are inches or metric. The default value is 0.

Slide the bar to the right to increase the horizontal shift (moves the printed image to the right on the label); slide the bar to the left to decrease the horizontal shift (moves the printed image to the left on the label).

Setting the Overfeed Distance, Feed Shift

Adjust the feed shift to set the distance that your supply is fed out of the chute after it prints. The adjustments are inches or metric. The default value is 0.

Slide the bar to the right to increase the feed shift (feeds more supply out of the chute after printing); slide the bar to the left to feed less supply out of the chute after printing.

Setting the Maximum Supply Length

Adjust the Maximum Supply Length for the size labels you have. The size of your supply is measured from top to bottom. The adjustments are inches or metric. The default value is 1.0 inch. Slide the bar to your preferred maximum supply length.

3. Configuring the Scanner

The scanner may be configured to

- set the scanner operating mode, trigger mode, and scanner timeout
- enable and disable each specific barcode and their options.

Performing a Scanner Test

Tap **Trigger Scan**, then scan a barcode. The barcode data and type are displayed.

Resetting the Scanner to Defaults

Tap **Reset to Defaults** in the Scanner's **General Settings** menu.

Resets all scanner values to their defaults. For example, any changes made to general scanner settings (aim duration, bi-directional redundancy, etc.) are reset to defaults. Changes made to specific barcodes are also disabled/set to their defaults.

Use the **Scanner, General Settings** menu to configure the scanner options below.

General Settings

Tap **Save** whenever you adjust a setting.

Option	Choices	Default
Scan Mode	Momentary/Continuous/Compatible	Compatible
Trigger Mode	Scan/Forward/Disable	Scan
No Scan Timeout	0.5 to 9.9 seconds	5.0 seconds
Aim Duration	0 to 255 milliseconds	2 milliseconds
Bi-Directional Redundancy	1 to 4	1
Picklist Mode	On/Off	Off
Encoding	UTF-8/ISO-8859-1	UTF-8

Setting the Scanner Operating Mode

Select the operating mode for the scanner. The default is Compatible. An unsuccessful scan turns off the scanner and plays a tone. A "no scan" is interpreted as an unsuccessful scan.

Select	To
Momentary	The scanner is on when the trigger is pressed and goes off when the trigger is released.
Continuous	The scanner is always on.
Compatible	The scanner is on when the trigger is pressed and goes off when a barcode is scanned or times out within 5 seconds.

Setting the Trigger Mode

Select the operating mode for the trigger. The default is Scan.

Select	To
Scan	Pressing the trigger turns on the scanner.
Forward	Sends a 'trigger pressed' signal to the SDK, so the printer's application controls the action taken. For example, the trigger may reprint the last label printed.
Disable	The printer ignores the trigger press and does not turn on the scanner.

Setting the No Scan Timeout

Sets the amount of time (in seconds) the scanner beam is on before turning off when the trigger is pressed. The default is 5 seconds.

Slide the bar to your preferred no scan timeout.

Setting the AIM Duration

Sets the duration (in milliseconds) of the aiming beam when the scanner is on. The default is 2 milliseconds.

Slide the bar to your preferred AIM duration.

Setting the Bi-Directional Redundancy

Specifies that good scans must occur in both directions (forward and reverse) for the scan to be complete. The options are 1 through 4. The default is 1. Slide the bar to your preferred bi-directional redundancy.

Select	To
1	The scanner must scan a barcode once for a successful read.
2	The scanner must scan a barcode twice for a successful read.
3	The scanner must scan a barcode three times for a successful read.
4	The scanner must scan a barcode four times for a successful read.

Using Pick List Mode

Allows the scanner to scan only the barcode directly within the beam when enabled. This may be needed when several barcodes appear on a label. When disabled, the scanner scans any barcode within the field of view. The default is disabled.

Setting the Encoding

Sets the scanner's encoding to either UTF-8 (double-byte characters) or IOS-8859-1 (Latin characters). UTF-8 encoding can decode non-Latin and double-byte characters. The default is UTF-8.

Enabling Specific 1D Barcodes

Tap **Save** whenever you adjust a setting.

Use the **Scanner** menu to enable or disable all barcodes for scanning or make individual barcode settings. Some barcodes can be printed, but not scanned. See “Printable Barcodes vs. Scannable Barcodes” for more information.

We recommend including the specific barcode settings in your application (done by your Application Developer using the SDK documentation).

Configuring Code 39 Barcodes

Code 39 is a linear one-dimensional barcode. Set the following options:

Select	To
Enabled	Allows the scanner to scan Code 39 barcodes. The default is enabled.
Transmit Check Digit	Tells the scanner to return the check digit with the data when the barcode is scanned. The default is disabled.
Verify Check Digit	Tells the scanner to check the integrity of all Code 39 barcodes that it scans. The default is disabled.
Convert to Code32	Tells the scanner to convert Code 39 barcodes to Code 32 barcodes. The default is disabled.
Trioptic Code 39	Allows the scanner to scan Trioptic Code 39 barcodes. The length is always 6. Do not enable this barcode and Code 39 Full ASCII at the same time. The default is disabled.
Code 32 Prefix	Allows the scanner to add the letter “A” as a prefix to the decoded data. The default is disabled.
Full ASCI Conversion	Allows the scanner to interpret data in a Code 39 barcode as an ASCII representation. The scanner does not auto discriminate between Code 39 and Code 39 Full ASCII. Do not enable this option and Trioptic Code 39 at the same time. The default is disabled.
Reduced Quiet Zone	Allows the scanner to scan barcodes with a smaller margin of blank space around the bar code. The default is disabled.
Length 1 Length 2	Allows the scanner to scan Code 32 Prefix barcodes. Sets the length(s) for Code 39 barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. Use variable length for Code 39 Full ASCI barcodes. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 1 to 55. The default is 1. The range for Length 2 is 1 to 55. The default is 55.
Security Level	Sets the security level for barcode decoding. The default is Level 1. 0 – lowest security, the scanner decodes on the first scan. 1 – standard, the scanner analyzes the bars, spaces. and quiet zones of the barcode. 2 – double-scan, the scanner reads the barcode twice to ensure data from each scan matches. 3 – maximum, the scanner requires multiple successful scans and ensures data from each scan matches.

Configuring UPC-A Barcodes

UPC (Universal Product Code) barcodes are linear one-dimensional barcodes for numeric data. Set the following options:

Select	To
Enabled	Allows the scanner to scan UPC-A, UPCA+2, and UPCA+5 barcodes. The default is enabled.
Transmit Check Digit	Tells the scanner return the check digit with the data when the barcode is scanned. The default is enabled.
Preamble	Specifies the characters that preface the returned data from a UPCA barcode. The options are No Preamble, System Character, or System Character & Country Code. The default is System Character.

Configuring UPC-E and UPC-E1 Barcodes

UPC (Universal Product Code) barcodes are linear one-dimensional barcodes for numeric data. Set the following options:

Select	To
Enabled	Allows the scanner to scan UPC-E barcodes. The default is enabled for UPC-E. The default is disabled for UPC-E1.
Transmit Check Digit	Tells the scanner return the check digit with the data when the barcode is scanned. The default is enabled.
Preamble	Specifies the characters that preface the returned data from a UPCA barcode. The options are No Preamble, System Character, or System Character & Country Code. The default is System Character.
Convert to UPC-A	Tells the scanner to convert UPC-E/E1 barcodes to UPC-A barcodes. The default is disabled.

Configuring EAN-13 Barcodes

EAN (European Article Number) barcodes are linear one-dimensional barcodes for numeric data. Set the following options:

Select	To
Enabled	Allows the scanner to scan EAN-13 barcodes. The default is enabled.
Transmit Check Digit	Tells the scanner return the check digit with the data when the barcode is scanned. The default is enabled.

Configuring EAN-8 Barcodes

EAN (European Article Number) barcodes are linear one-dimensional barcodes for numeric data. Set the following options:

Enabled	Allows the scanner to scan EAN-8 barcodes. The default is enabled.
Transmit Check Digit	Tells the scanner return the check digit with the data when the barcode is scanned. The default is enabled.
EAN8 Zero Extend	Tells the scanner to add 5 leading zeros to EAN8 barcodes to convert them into EAN13 barcodes. The default is disabled.
EAN Bookland	Allows the scanner to scan Bookland EAN barcodes. The default is disabled.

Configuring Code 128 Barcodes

Code 128 is a high-density linear one-dimensional barcode for alphanumeric or numeric data. Set the following options:

Select	To
Enabled	Allows the scanner to scan Code 128 barcodes. The default is enabled.
Ignore FNC4	Tells the scanner to ignore Function 4 (shift command/upper-register ASCII data) and returns the lower-register ASCII data. The default is disabled.
GS1-128	Allows the scanner to scan GS1-128 barcodes. The default is enabled.
ISBT 128	Allows the scanner to scan ISBT 128 barcodes. Any length barcode is valid. The default is enabled.
Check ISBT Table	Allows the scanner to check decoded Code 128 barcodes against the ISBT table to ensure only valid combinations are allowed. The default is enabled.
ISBT Concatenation	Allows the scanner to use ISBT concatenation for Code 128 barcodes. The default is disabled.
ISBT Concatenation Redundancy	Sets the ISBT concatenation redundancy between 2 and 20. The default is 10.
Reduced Quiet Zone	Allows the scanner to scan barcodes with a smaller margin of blank space around the bar code. The default is disabled.
Security Level	Sets the security level for barcode decoding. The default is Level 1. 0 – lowest security, the scanner decodes on the first scan. 1 – standard security, the scanner analyzes the bars, spaces. and quiet zones of the barcode. 2 – double-scan, the scanner reads the barcode twice to ensure data from each scan matches. 3 – maximum security, the scanner requires multiple successful scans and ensures data from each scan matches.
Length 1 Length 2	Sets the length(s) for Code 128 barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 1 to 100. The default is 0. The range for Length 2 is 1 to 100. The default is 0.

Configuring UPC/ EAN Common Barcodes

Set the following options if required for UPC/EAN barcodes:

Select	To
Supplemental Redundancy	Sets the number of times a symbol without supplemental information is decoded. The range is 2 – 30. The default is 10.
Supplemental AIM ID Format	Tells the scanner what type of barcode was just scanned. The range is 0 – 3. The default is 1.
Coupon Code	Allows the scanner to scan UPCA, UPCA+2, UPCA+5, and UPCA/EAN- 128 barcodes. The default is disabled.
Coupon Report	Sets the coupon report format as Old Coupon Format, New Coupon Format, or Autodiscriminate Coupon Format. The default is New Coupon Format.
Bookland ISBN Format	Sets the scanner to read either ISBN-10/1 or ISBN-13 barcodes. The default is ISBN-10/1.
Decode Supplementals	Sets the scanner's options for decoding supplementals as: Ignore UPC/EAN/JAN Supplementals, Decode UPC/EAN/JAN with Supplementals, Autodiscriminate UPC/EAN/JAN Supplementals, Enable Smart Supplemental Mode, Enable 378/379 Supplemental Mode, Enable 979/979 Supplemental Mode, Enable 414-419-434-439 Supplemental Mode, Enable 977 Supplemental Mode, Enable 491 Supplemental Mode, Supplemental User-Programmable Type 1, Supplemental User-Programmable Type 2, Smart Supplemental Plus User-Programmable 1, or Smart Supplemental Plus User-Programmable 1 and 2. The default is Ignore UPC/EAN/JAN Supplementals.
User Programmable Supplementals 1	Sets how the scanner responds to supplemental barcodes next to UPC barcodes. The range is 0 to 99. The default is 0.
User Programmable Supplementals 2	Sets how the scanner responds to supplemental barcodes next to UPC barcodes. The range is 0 to 99. The default is 0.
UPC Reduced Quiet Zone	Sets the scanner to enable or disable the UPC Reduced Quiet Zone (smaller margin of blank space around the bar code). The default is disabled.
Security Level	Sets how many times to scan the same barcode to determine a successful read. The range is 0 – 3. The default is 1. Before setting this security level, you must decide the print quality of the barcodes you are scanning. The better the quality of the barcode, the lower the security level needed. 0 – lowest security, the scanner decodes on the first scan. 1 – standard security, the scanner analyzes the bars, spaces. and quiet zones of the barcode. 2 – double-scan, the scanner reads the barcode twice to ensure data from each scan matches. 3 – maximum security, the scanner requires multiple successful scans and ensures data from each scan matches

Configuring Code 93 Barcodes

Code 93 is a linear one-dimensional barcode that provides higher density than Code 39. Set the following options:

Select	To
Enabled	Allows the scanner to scan Code 93 barcodes. The default is enabled.
Length 1 Length 2	Sets the length(s) for Code 93 barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 1 to 55. The default is 1. The range for Length 2 is 1 to 55. The default is 55.

Configuring Code 11 Barcodes

Code 11 is a linear one-dimensional barcode. Set the following options:

Select	To
Enabled	Allows the scanner to scan Code 11 barcodes. The default is disabled.
Transmit Check Digit	Tells the scanner to return the check digit with the data when a Code 11 barcode is scanned. The default is disabled.
Verify Check Digit	Tells the scanner to check the integrity of all Code 11 barcodes that it scans. The default is disabled.
Length 1 Length 2	Sets the length(s) for Code 11 barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 4 to 55. The default is 4. The range for Length 2 is 4 to 55. The default is 55.

Configuring I 2of5 Barcodes

I 2of5 (Interleaved Two of Five) is a linear one-dimensional barcode for numeric data. Data is encoded in both the bars and the spaces. Set the following options:

Select	To
Enabled	Allows the scanner to scan I 2of5 barcodes. The default is enabled.
Transmit Check Digit	Tells the scanner to return the check digit with the data when an I 2of5 barcode is scanned. The default is disabled.
Verify Check Digit	Tells the scanner to check the integrity of a scanned I 2of5 barcode to ensure it complies with either USS or OPCC standards. The default is disabled.
Convert to EAN13	Tells the scanner to convert 14-character I 2of5 barcodes into an EAN13 barcode. The default is disabled. For the conversion to work, the following must occur: I 2of5 barcodes must be enabled. 14 must be a valid length. The data must have a leading zero. The data must include an EAN13 check digit.
Febraban	Allows the scanner to read special Boleto Bancário I 2of5 barcodes. The default is disabled.
Reduced Quiet Zone	Sets the scanner to enable or disable the Reduced Quiet Zone (smaller margin of blank space around the bar code). The default is disabled.
Security Level	Sets the security level for barcode decoding. The default is Level 1. 0 – lowest security, the scanner decodes on the first scan. 1 – standard security, the scanner analyzes the bars, spaces. and quiet zones of the barcode. 2 – double-scan, the scanner reads the barcode twice to ensure data from each scan matches. 3 – maximum security, the scanner requires multiple successful scans and ensures data from each scan matches.
Length 1 Length 2	Sets the length(s) for I 2of5 barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 6 to 55. The default is 6. The range for Length 2 is 6 to 55. The default is 55.

Configuring D 2of5 Barcodes

D 2of5 (Discrete Two of Five) is a linear one-dimensional barcode for numeric data. Data is only encoded in the bars. Set the following options:

Select	To
Enabled	Allows the scanner to scan D 2of5 barcodes. The default is disabled.
Length 1 Length 2	Sets the length(s) for D 2of5 barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 1 to 55. The default is 1. The range for Length 2 is 1 to 55. The default is 55.

Configuring Codabar Barcodes

Codabar is a linear one-dimensional barcode. Set the following options:

Select	To
Enabled	Allows the scanner to scan Codabar barcodes. The default is enabled.
Transmit Check Digit	The default is disabled.
MOD16 Check Digit Verification	The default is disabled.
NOTIS Edit	Tells the scanner to strip the start and stop characters from scanned Codabar barcodes. The default is disabled.
CLSI Edit	Tells the scanner to strip the start and stop characters from 14-character Codabar barcodes and insert spaces after the first, fifth, and tenth characters. The 14-character length does not include start and stop characters. The default is disabled.
Start/Stop Character Case	Sets the barcode's start and stop characters as either uppercase or lowercase. The default is uppercase.
Security Level	Sets the security level for barcode decoding. The default is Level 1. 0 – lowest security, the scanner decodes on the first scan. 1 – standard security, the scanner analyzes the bars, spaces. and quiet zones of the barcode. 2 – double-scan, the scanner reads the barcode twice to ensure data from each scan matches. 3 – maximum security, the scanner requires multiple successful scans and ensures data from each scan matches.

Select	To
Length 1 Length 2	Sets the length(s) for Codabar barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. Specifying a range of lengths increases the likelihood of unsuccessful scans. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 4 to 55. The default is 4. The range for Length 2 is 4 to 55. The default is 55.

Configuring MSI Barcodes

MSI is a linear one-dimensional barcode for numeric data. Set the following options:

Select	To
Enabled	Allows the scanner to scan MSI barcodes. The default is disabled.
Transmit Check Digit	Tells the scanner to return the check digit with the data when an MSI barcode is scanned. The default is disabled.
Check Digit Algorithm	Tells which algorithm (Mod 11/Mod 10 or Mod 10/Mod 10) to use to ensure the integrity of a two-check digit MSI barcode. The default is Mod 10/Mod 10.
Check Digits	Sets the number of check digits for the MSI bar code as 0 to 2. The default is 1.
Reduced Quiet Zone	Sets the scanner to enable or disable the smaller margin of blank space around the bar code. The default is disabled.
Length 1 Length 2	Sets the length(s) for MSI barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. Specifying a range of lengths increases the likelihood of unsuccessful scans. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 4 to 55. The default is 4. The range for Length 2 is 4 to 55. The default is 55.

Configuring Matrix 2 of 5 Barcodes

Matrix 2of5 is a linear one-dimensional barcode for numeric data. Data is encoded in both the bars and the spaces. Set the following options:

Select	To
Enabled	Allows the scanner to scan Matrix 2of5 barcodes. The default is disabled.
Transmit Check Digit	Tells the scanner to return the check digit with the data when a Matrix 2of5 barcode is scanned. The default is disabled.
Verify Check Digit	Tells the scanner to check the integrity of a scanned Matrix 2of5 barcode to ensure it complies with either USS or OPCC standards. The default is disabled.
Length 1 Length 2	Sets the length(s) for Matrix 2of5 barcodes. Lengths include check digits. For variable length barcodes, set both Length 1 and Length 2 to 0. For a variable range, set Length 1 to the lower limit and Length 2 to the upper limit. For one fixed length barcodes, set both Length 1 and Length 2 to the same length. This specifies a single length for valid barcodes. For two fixed length barcodes, set Length 2 to the shorter length and Length 1 as the longer length. The range for Length 1 is 4 to 55. The default is 4. The range for Length 2 is 4 to 55. The default is 55.

Enabling Specific 2D Barcodes

Configuring PDF417 Barcodes

PDF-417 is two-dimensional barcode that contains alphanumeric or numeric data. Set the following options:

Select	To
Enabled	Allows the scanner to scan PDF-417 barcodes. The default is enabled.
Micro PDF417	Allows the scanner to scan Micro PDF-417 barcodes. The default is disabled.
Code 128 Emulation	Allows the scanner to scan Micro PDF-417 barcodes as Code 128. The default is disabled.

Configuring QR Code Barcodes

QR (Quick Response) Code is a two-dimensional barcode, which is made up of square modules arranged in an overall square pattern. A unique finder pattern is located at three corners of the symbol. Four levels of error correction are available, along with a wide range of symbol sizes. Set the following options:

Select	To
Enabled	Allows the scanner to scan QR Code barcodes. The default is enabled.
Micro QR Code	Allows the scanner to scan Micro QR Code barcodes. The default is enabled.
Weblink QR Code	Allows the scanner to scan Weblink QR Code barcodes. The default is enabled.
GS1 QR Code	Allows the scanner to scan GS1 QR Code barcodes. The default is disabled.

Configuring Data Matrix Barcodes

Data Matrix (ECC-200) is a two-dimensional barcode which is made up of square modules arranged within a perimeter finder pattern. There are 24 square symbol sizes available ranging from 10 rows by 10 columns to 144 rows by 144 columns. There are six rectangular symbol sizes available ranging from 8 rows by 8 columns to 16 rows by 48 columns. The symbol size is data dependent. Set the following options:

Select	To
Enabled	Allows the scanner to scan Data Matrix barcodes. The default is enabled.
GS1 DataMatrix	Allows the scanner to scan GS1 Data Matrix barcodes. The default is disabled.
Mirrored	Allows the scanner to scan mirrored Data Matrix codes. The options are Regular Only, Mirrored Only, or Auto. The default is Auto.
Inverse	Allows the scanner to scan inverse (light images on a dark background) Data Matrix barcodes. The options are Regular Only, Inverse Only, or Inverse Autodetect. The default is Regular Only.

Configuring MaxiCode Barcodes

MaxiCode is a two-dimensional barcode developed by UPS (United Parcel Service, Inc.). Data must be defined in a specific way. Set the following option:

Select	To
Enabled	Allows the scanner to scan MaxiCode barcodes. The default is disabled

Configuring GS1 Data Bar Barcodes

GS1 DataBar encodes brand identification and dynamic data. This family of barcodes can contain more information than current EAN/UPC barcodes. Seven symbologies encode a Global Trade Item Number (GTIN). Set the following options:

Select	To
Enabled	Allows the scanner to scan GS1 Databar barcodes. The default is enabled.
Limited	Allows the scanner to scan GS1 Limited barcodes. The default is enabled.
Expanded	Allows the scanner to scan GS1 Expanded barcodes. The default is enabled.
Convert to UPC/EAN	Tells the scanner to convert GS1 barcodes into UPC/EAN barcode. The default is disabled.
Limited Margin Check	Sets the level for the scanner to check the margins (quiet zone) around the GS1 DataBar barcodes. The levels are 1 to 4, with 1 performing the minimum checking to 4 performing the maximum checking. With level 4, if the blank space around the barcode is compromised, the scan is rejected. The default is 3.
Security Level	Sets the security level for barcode decoding. The default is Level 1. 0 – lowest security, the scanner decodes on the first scan. 1 – standard security, the scanner analyzes the bars, spaces. and quiet zones of the barcode. 2 – double-scan, the scanner reads the barcode twice to ensure data from each scan matches. 3 – maximum security, the scanner requires multiple successful scans and ensures data from each scan matches.

Configuring Aztec Barcodes

Aztec is a two-dimensional barcode. Set the following options:

Select	To
Enabled	Allows the scanner to scan Aztec barcodes. The default is enabled.
Inverse	Allows the scanner to scan inverse (light images on a dark background) Aztec barcodes. The options are Regular Only, Inverse Only, or Inverse Autodetect. The default is Inverse Autodetect.

Configuring the Han Xin Barcode

Han Xin (Chinese Sensible Code) is a two-dimensional barcode that efficiently encodes Chinese characters. Set the following options:

Select	To
Enabled	Allows the scanner to scan Han Xin barcodes. The default is disabled.
Inverse	Allows the scanner to scan inverse (light images on a dark background) Han Xin barcodes. The options are Regular Only, Inverse Only, or Inverse Autodetect. The default is Regular Only.

Configuring Grid Matrix Barcodes

Grid Matrix is a two-dimensional barcode that efficiently encodes Chinese characters. Set the following options:

Select	To
Enabled	Allows the scanner to scan Grid Matrix barcodes. The default is disabled.
Inverse	Allows the scanner to scan inverse (light images on a dark background) Grid Matrix barcodes. The options are Regular Only, Inverse Only, or Inverse Autodetect. The default is Regular Only.
Mirrored	Allows the scanner to scan mirrored Grid Matrix barcodes. The options are Regular Only, Mirrored Only, or Auto. The default is Regular Only.

Configuring DotCode Barcodes

DotCode is a two-dimensional barcode that is composed or isolated, disconnected dots, similar to a checkerboard pattern. Set the following options:

Select	To
Enabled	Allows the scanner to scan DotCode barcodes. The default is disabled.
Inverse	Allows the scanner to scan inverse (light images on a dark background) DotCode barcodes. The options are Regular Only, Inverse Only, or Inverse Autodetect. The default is Inverse Autodetect.
Mirrored	Allows the scanner to scan mirrored DotCode barcodes. The options are Regular Only, Mirrored Only, or Auto. The default is Auto.
Prioritize	Sets the scanner to prioritize scanning a DotCode barcode first (before any other barcodes in the field of view). The default is enabled.

Configuring Composite Codes Barcodes

Composite GS1 barcodes consist of a one-dimensional barcode on the bottom with a traditional two-dimensional barcode stacked on top of it. Set the following options:

Select	To
UPC Composite Mode	Sets whether the scanner ignores (UPC Never Linked) the two-dimensional barcode data, always reads (UPC Always Linked) both one and two dimensional barcode data, or Auto-discriminates the composite data. The default is UPC Never Linked.
Composite Inverse	Allows the scanner to scan inverse (light images on a dark background) composite barcodes. The options are Regular Only or Inverse Only. The default is Regular Only.
GS1-128 Emulation Mode	Sets the scanner to use GS1-128 emulation mode or not. The default is disabled.
Composite Beep Mode	Sets how the scanner beeps according to the data it scans. The options are Single Beep after Full Decode, Beep as Each Code is Decoded, or Double Beep after Full Decode. The default is Beep as Each Code is Decoded.
TLC39	Allows the scanner to scan TLC39 barcodes. The default is disabled.
CC-C	Allows the scanner to scan Composite Component C two-dimensional data (in PDF-417 format). The default is disabled.
CC-AB	Allows the scanner to scan Composite Component A and B two-dimensional data (in Micro PDF-417 format). The default is disabled.

Scannable Barcodes vs. Printable Barcodes

Barcodes are separated into one-dimensional and two-dimensional categories.

1D Barcodes	2D Barcodes
Codabar	Aztec
Code 11	Composite Codes
Code 39	Data Matrix
Code 93	DotCode
Code 128	Grid Matrix
Discrete2of5	GS1 DataBar
EAN	Han Xin
Interleaved2of5	MaxiCode
Matrix2of5	Micro PDF-417
MSI	PDF-417
UPCA, UPCE	Quick Response (QR Code)

Use the following table to see which barcodes the printer can scan and print:

Barcode	Scan	Print	Barcode	Scan	Print
Aztec	√		Grid Matrix	√	
Codabar	√	√	GS1 DataBar/RSS	√	√
Code 11	√		Han Xin	√	
Code 39 (no check digit)	√	√	Interleaved2of5	√an	√
~~Code 39 (MOD 43 check digit)~~	~~√~~	~~√~~	I2of5 with Barrier Bar	√	√
Code 93	√	√	Matrix2of5		
Code 128	√	√	MaxiCode	√	√
Composite Codes	√	√	MicroPDF417	√	√
Data Matrix	√	√	MSI	√	√
Discrete2of5			PDF417	√	√
DotCode	√		Quick Response	√	√
EAN 8	√	√	UPCA	√	√
EAN 8 +2	√	√	UPCA +2	√	√
EAN 8 +5	√	√	UPCA +5	√	√
EAN 13	√	√	UPCA & Price CD	√	√
EAN 13 +2	√	√	UPCE	√	√
EAN 13 +5	√	√	UPCE +2	√	√
EAN 13 & Price CD	√	√	UPCE +5	√	√

4. Using Printer Diagnostics

Several menus contain diagnostic information.

The **Engineering** menu is only accessible by a Service Representative because it requires a separate password.

Viewing Printhead Information

Tap **Dashboard** to see printhead information. The number of service labels printed, total distance of inches printed, printhead temperature, number of bad dots, average printhead dot resistance, and dot resist stance profile.

The printhead's valid temperature range is between 65 and 80 Celsius. The temperature of the printhead depends upon the number of labels printed and the operating environment. If the temperature is greater than 80°C, the printer does not print. The printer resumes printing after the printhead temperature is below 65°C.

The printer will stop printing if any printhead dot fails.

A dot is considered bad if its AD value exceeds 900, or if it exceeds the average value of good dots by more than 10%. A good dot is defined as having an AD value of less than 800.

Viewing Battery Voltage

Tap **Battery** to see the battery's current charge percentage, backup voltage, state of health percentage, temperature (displayed in Celsius), discharge cycles, battery's serial number and date of manufacture.

The valid range for battery voltage is between 6.0 and 8.4 volts. The printer does not print if the voltage is below 6.0.

Updating the Print Engine's Firmware

Before updating the print engine's firmware, copy the latest firmware from the Service Google Share and save it on your hard drive.

1. Connect a USB cable from your laptop to the printer.
2. Turn on the printer.
3. Select the drop-down on the printer about USB charging and tap USB file transfer.
4. On your laptop, you see "Pathfinder Edge connected." You may also see "MTP USB Device connected."
5. Open File Explorer.
6. Open the Pathfinder Edge (or MTP USB Device).
7. Open Internal shared storage.
8. Navigate through the available folders to the Downloads folder.

   When adding print engine firmware into the printer's Downloads folder, you may want to remove the existing firmware file first, then copy the new one. Otherwise, there will be multiple versions of print engine firmware with similar names in the same folder.
9. Save the firmware file into the printer's Downloads folder.
10. On the printer, tap the firmware file.
11. Tap **Update.** The firmware is updated and the printer restarts.

Resetting the Printer

Restarting the Printer

This type of reset is non-destructive and causes the printer to cycle power.

1. With the printer on, hold the power button for 3 to 5 seconds. The printer turns off.
2. Turn on the printer.

Hard Printer Reset

1. Remove the printer's battery.
2. Turn off the switch underneath the battery handle. This will force the unit to completely power cycle and enter into a complete hardware reset. Use this whenever the Android OS locks up and the unit is unresponsive.

Reset Printer

Use this to force the printer to power off when it locks up.

1. Open the USB cover on the side of the printer.
2. Using an unfolded paperclip or alternative non-conductive object, tap the hole.
3. The printer turns off.

Factory Reset (Android)

Use the standard Android Settings, Reset Options to reset the printer to factory defaults.

Error Reporting

During normal printer operation, you may receive an error message. When an error occurs, a message appears briefly on the display or as a notification message.

Error Messages

Your application developer may use different messages than those shown.

Alert Error	Error Code	Description
ePrintHeadOpen	"Error: Head opened"	Close the printhead.
ePaperJam	"Error: Paper jam"	Remove the paper jam. You may need to clean the supply path if there is adhesive buildup.
eEmulationErr	“Error: Emulation error"	An emulation error has occurred. Refer to the Emulation Error code for details.
ePaperEmpty	"Error: Out of paper"	Load supply.
eTPHBroken	"Error: TPH Broken"	Replace the printhead assembly and restart the printer. If the problem persists, contact technical support.
eTPHBadCable	"Error: TPH Bad Cable"	Check the printhead cable connection and reconnect it if necessary. Restart the printer after inspection.
eTPHOverHeat	"Error: TPH Over Heat"	Printing has been paused because the printhead temperature is too high. Wait for the printhead to cool down and resume printing.
eOnDockingStation	"Error: On Docking Station"	The printer is on the docking station. Remove the printer from the docking station.

Alert Error	Error Code	Description
eBatteryLow	"Warning: Battery low"	The battery’s power is low. Recharge the battery.
eMainBatteryOut	"Error: Main Battery Out"	Install or reconnect the main battery and restart the printer.
Emulation Error	“Error: Emulation error - " + code	Displays the specific emulation error code and detailed error information.

For error messages not shown, call Technical Support.

5. Menu Structure

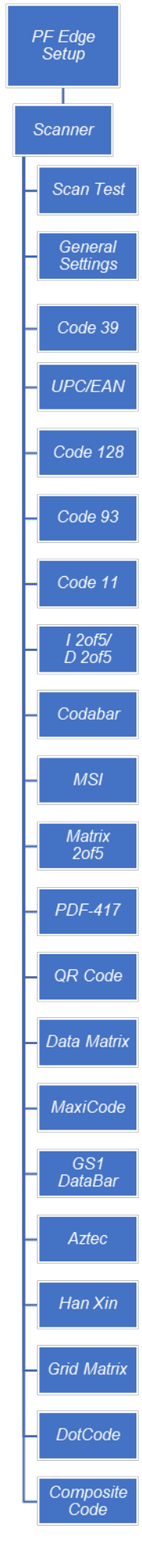
The **PF Edge Setup** application has the following menu:

Blue items are accessible without a password.

Green items require the Admin password.

Red items require a Service password.

Scanner Menu



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