

RSX1000 Computer Release Station/Paystation Setup with ACDI EX Series Hardware

This document is designed to provides a guide to installing, setting up and testing PaperCut for use with an ACDI EX Series payment device (EX2000series, ACD3000Series, TheSwiper). Setup and testing should take around 30 minutes. No system level restart is required;



ACDI 7428 Lindsey Rd. Suite 2 Little Rock, AR 72206 P +1.800.990.2234 | F + 1.501.664.8085 | <u>www.acd-inc.com</u>

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# **Table of Contents**

Print Queue and Admin Configuration	4
Enabling hold/release support on a printer	4
Hold/Release Queue Managers	4
Standard Release Station Deployment	5
Release Station Modes	7
Card-based User Authentication	7
Friendly client machine aliases	8
Job timeout	8
End-User Web Based Release Interface Configuration	9
Credit Source Configuration and Setup	
Display Instructions	
Station Name	
Visual Customization	
Account Charge Order	
Providing Change	
Balance Labels	
EX Series Payment Hardware	11
Hardware Configuration and Setup	11
Hardware Requirements	11
Installing the Device	11
Installing the Plug-In	12
Enabling the Device	12
Configuring the Device	13
Pay and Release	
PayStation	13
Testing	14
Pay and Release	14



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## Setup of EX Series Credit Source with PaperCut

Pay Station Mode	14
Suggested Cash Collection Procedure	15
Requirements	15
Process	15
Modifications to Cash Collection Procedure	16
Troubleshooting and Investigating Overs / Unders	16
Appendix A – Kiosk Mode Lock Down	17
Setup	17



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# Print Queue and Admin Configuration

This section describes various preparatory steps within PaperCut before implementing a Release Station.

#### Enabling hold/release support on a printer

By default, print jobs will be sent directly to the printer and will not be held. To turn on hold/release support on a given printer:

- 1. Log on to the administration section.
- 2. Navigate to the Printers section.
- 3. Select the printer.
- 4. Select the option to Enable hold/release queue.
- 5. Choose the appropriate release mode for your needs.

The two release modes available are:

- User Release this is the standard mode that allows users to release and view only the jobs printed under their name/user account.
- Admin/Manager only release in this mode, jobs can only be released by administrators or hold/release queue managers.

#### Tip

To configure multiple printers with a hold/release queue support, the Copy settings to other printers function can be used. To use this, configure one printer as required, press the Copy settings to other printers and select the printers to copy the settings to.

#### **Hold/Release Queue Managers**

A hold/release queue manager is a user that has additional privileges to manage release stations and jobs held in hold release queues. Managers can:

- Log on to the "manager mode" release stations (both the software and web-based release station).
- Log on to the "secure mode" release stations which switches them into manager mode so that users' print jobs can be released.
- Release jobs that can only be released by managers or administrators.
- Can close the Standard Release Station when running in full-screen mode.
- Use the Override Print Account selection in the web-based release station.

To make a user or group a hold/release queue manager:

- 1. Log on to the administration pages.
- 2. Navigate to the Options  $\rightarrow$  Admin Rights.

- 3. Add a user or group as an administrator.
- 4. To restrict their access to only the release station interface and deselect all the other admin rights.
- 5. Click on the Apply button to save the changes.

To get more information about assigning admin rights see the section called "Assigning Administrator Level Access".

It is also possible to make a user a hold/release queue manager by following the steps below:

- 1. Log on to the administration pages.
- 2. Navigate to the Options section.
- 3. Find the Release Station security section.
- 4. Enter user's username in Hold/Release Queue Managers field. To enter multiple users, separate usernames with a comma (,).

# **Standard Release Station Deployment**

The Standard Release Station is configured using a configuration file located in the directory where the release station executables are located. The default configuration file is: "[app-path]\release\config.properties". This configuration file allows you to configure the behavior and look of the release station in a number of ways. Each of the configuration items are described in the table below:

Config name	Description
mode	The mode changes the behavior of the release station depending on the need. The available modes are described in the section called "Release Station Modes".
use-username- authentication	(Y/N) - Enable username authentication. Users will be required to enter their domain username to log into the release station. They may also be required to enter their password, depending on the 'mode' setting. Default: Y (Yes).
use-card- authentication	(Y/N/USERNAME) - Enable card-based authentication. This is designed for use with dedicated hardware card readers.
	If Y: The card number is validated against the user's card-number field. If USERNAME: The card value is interpreted as a username. The user will be prompted for a password if required.
	Default: N (No).
show-jobs-from- queues	Filters the list of jobs to only those print queues listed. This is a comma separated list of full printer names (i.e. server\printer). This is useful when there are multiple release stations, each managing the queues of a different set of printers.

Setup of EX Series Credit Source with PaperCut

releases-on	This option applies to installations using Find Me Printing and sets the behavior of jobs released from a virtual queue. For more information see Chapter 14, Find Me Printing and Printer Load Balancing.
	This setting defines the printer (or list of printers) that the jobs should be printed to when released. This is usually the printer(s) in close proximity to this release station.
confirm-printing	When enabled (Y) and users release a job that is charged to their personal account, a confirmation dialog is displayed to confirm that the user wants to print and be charged for the job. When disabled (N) the confirmation dialog is never displayed.
display-columns	Used to customize the columns displayed and the order they appear in the list of print jobs. The default value is: date, user, printer, document, machine, pages, cost
display-column- widths	Used to customize the width of columns displayed. The setting can only be used if the display- columns is defined. The number of values must match the number of values in the display- columns setting. The default value is: 8,12,25,30,15,8,8
hide-printer- server-names	(Y/N) - Used to hide the printer server names from the list of print jobs. Default: N (No)
show-print-all	(Y/N) - Indicates whether the Print All button should be displayed. Default: Y (Yes)
show-cancel-all	(Y/N) - Indicates whether the Cancel All button should be displayed. Default: Y (Yes)
max-idle-secs	The number of seconds without user input, before the user is logged out of the release station. The default is 30 seconds.
background-color	Allows for customizing the background color of the release station to match the organization's colors. The color format is the hexadecimal color code used in HTML - #RRGGBB (where RR is the red component, GG is the green component and BB is the blue component).
font-color	Allows for customizing the font/foreground color used in the release station. The color format is the hexadecimal color code used in HTML.
locale	Allows to override the default language used for the release station. The value is a valid ISO language code. E.g. en, zh_HK.
title	The title that appears at the top of the release station screen.
instructions	The instructions to display at the login page. A can be included to start a new line.
card-and-	The instruction text that appears when using both card authentication and username
username-	authentication, appearing in-between the card entry and username entry fields. A can be
instructions	included to start a new line.
username-label	Override the label text for the Username field.
password-label	Override the label text for the Password field.
logo-image	Allows a custom logo image to be displayed. For best results the image should be between 50 and 80 pixels in height. PNG, JPG or GIF images are allowed.
scale-factor	Allows adjustment of text displayed in the release station. Higher value increases the text size. Larger text may be preferable on high resolution screens or touch screens. The default is 1.5.
release-cancel-	Allows to set the GUI style of the release station actions. The valid styles are link and button.
gui-style	Setting it to button is useful when running release station on touch screens. The default is link.
enable-card-self-	(Y/N) - Enable or disable card self-association. This allows users to associate their card with their
association	account without needing any administrator assistance. Default: N (No)
enable-on-screen- keyboard	(Y/N) - Enable of disable the on-screen (software) keyboard. Use of the on-screen keyboard is recommended for touch-screen devices. Supported on Microsoft Windows only, via the on- screen keyboard utility (osk.exe) or an alternate application. Default: N (No)

Setup of EX Series Credit Source with PaperCut

RSX1000

**Release Station/PayStation** 

**EX Series Payment Devices** 

on-screen-Specify an alternate on-screen keyboard application to the Microsoft Windows default.keyboard-pathSupported on Microsoft Windows only. Default: (none)

Table 1.1 Standard Release Station configuration settings

#### Tip

When running release stations with Payment Hardware devices it is recommended that the working directory for the release station be copied from the \\server\PCRelease share to each Release Station PC. This allows specific settings like COM port for each implementation. Often placing this folder in the root of C: works well.

#### **Release Station Modes**

The release station modes available are described below. The release station mode is changed in the configuration file as described in the section called "Standard Release Station Configuration".

Mode	Description
ReleaseAny	This is the default mode. It allows a user who logs onto the release station to release any held jobs. Any jobs released will be
	charged to the logged in user.
Manager	Manager mode allows only administrators or hold/release queue managers to log in to the release station. In release station mode,
_	all jobs are listed and users are not automatically logged out due to inactivity.
Secure	Secure mode allows users to only see and release print jobs that they have printed. Release station managers can see and release
	all users' print jobs.
NoPassword	This works similar to the secure mode, however users don't need to enter the password to view jobs.

Table 1.2 Standard Release Station modes

In all modes except Manager Mode, users are logged out automatically after a period of inactivity defined in the configuration file, the default being 30 seconds.

## **Card-based User Authentication**

In some environments, users are issued with identity cards that can be used for authentication. The cards might be used to gain entry to buildings, or borrow from a library. The cards can also be used to authenticate users at the standard release station. Using a card is often much more convenient and less error-prone than entering a username and password.

To use card-based authentication an appropriate hardware card-reader is required. The card reader must be connected to the machine running the release station and act like a keyboard. i.e. when the user swipes/scans their card, the card reader outputs the digits just as if someone entered them using the keyboard. There are card readers that can do this for all commonly used card types (e.g. magnetic stripe, barcode, etc). An easy way to test a card reader is to open a text editor and place the cursor in a new text document. Then when a card is swiped the card number will appear in the text file.

The card numbers entered at the release station are validated against the **Card/Id number** field for the user. This can be found at the bottom of the user details screen in the admin interface. Before card authentication can be used, the users' card numbers must be associated with the user record in PaperCut NG. The numbers can be entered manually, automatically synchronized from Active Directory or LDAP (see <u>the section called "Card/Identity Numbers Sync"</u>) or imported in bulk using the Batch User Import file (see <u>the section called "Batch User Data Import and Update"</u>).

Once card numbers are associated with users, the card-based authentication can be enabled in the release station by setting the use-card-authentication to Y in the release station's config.properties file. Once the release station is restarted it will be in card-authentication mode, and can be tested by swiping a card through the card-reader.

Alternatively, card numbers may be self-associated by users at the release station. Enable this functionality by setting enable-card-self-association to Y. Note that this also requires use-card-authentication to be enabled as well.

The config.properties file has some other settings to change how the card-number is read from the reader. For example, you can change the header and trailer characters used by some card readers to indicate the start and end of the card number. See the config file for details.

## Friendly client machine aliases

In some environments (for example public libraries), it can be important for users to identify print jobs by the client machine they were printed from. By default, the release station will list the either the IP address or the machine's unique network name neither of these are helpful to release station users. To avoid this problem the administrator can define a list of aliases that map the unfriendly names to a more user-friendly name.

For example, print jobs might appear in the release station as 192.168.1.100 or winpc0076, but would be more meaningful for the user to appear as Public PC 1.

These aliases are defined in the [app-path]/release/client-machine-aliases.properties file. The entries are in the format:

[machine]=[alias]

It is also valid to have multiple entries that map to the same alias. So to add aliases for the example above the following lines would be added to the client-machine-aliases.properties file:

192.168.1.100=Public PC 1 winpc0076=Public PC 1

#### Job timeout

If a user does not release their held job after a defined time, their job will be automatically deleted. This is to prevent a buildup of old/abandoned jobs in the hold/release queue. The default timeout is 30 minutes, and can be changed as follows:

- 1. Navigate to Options  $\rightarrow$  General  $\rightarrow$  Hold/Release Queues and find the option Delete held jobs if not released after.
- 2. Enter the number of minutes to wait for users to release their job before it is deleted.
- 3. Press Apply

## **End-User Web Based Release Interface Configuration**

Configuration options for the end-user web based release interface can be found in the administrative interface at **Options**  $\rightarrow$  **General**  $\rightarrow$  **User Features**. These options control the availability of the **Jobs Pending Release** option available to end users. The available options are:

Allow users to view held release station jobs	
Users have permission to:	
release their own jobs	~
Enable the 'Release All' and 'Cancel All' buttons	

Figure 13.9. End-user web based release interface options

- *Allow users to view held jobs* this option enables the **Jobs Pending Release** screen in the user web tools. When this option is disabled, no related functionality is available from the user web tools interface.
- Users have permission to: this option changes which type of jobs users can see and/or release. The available options are:
  - **view their own jobs only** users may see their own jobs that are held in the hold/release queue. Jobs printed by other users are not displayed. They may cancel their own jobs, but cannot release them. This is useful if users are required to be physically at the printer to release a job, where a standard release station is running.
  - release their own jobs users may release or cancel their own jobs. Jobs printed by other users are not displayed.
  - **release any jobs (charged to their account)** users may release or cancel any job that is being held, including jobs from other users. If a user releases a job that was sent by a different user, the releasing user is charged for the job. This option is equivalent to the Release Any mode used in Release Station and is ideal for authenticating printing in a unauthenticated environment.
- Enable the 'Release All' and 'Cancel All' buttons enabling this option allows users to release or cancel all held jobs by clicking one button. When this option is disabled, users must release or cancel jobs individually. This option is purely for the convenience of the users. It can save a user a few clicks when they want to release all their jobs at once. However if the user is able to release jobs other than their own, a user might accidentally release (and be charged for) many other users' job

## **Credit Source Configuration and Setup**

While each device comes with a separate document for setup and device specific configuration, there are several configuration options that apply to all credit sources.

The configuration files of interest are:

- [app-path]/release/config.properties, which provides global configuration options for the station.
- [app-path]/release/extensions/pay-and-release.properties, with options specific to pay and release mode.
- [app-path]/release/extensions/pay-station.properties, with options specific to pay station mode.
- [app-path]/release/extensions/credit-sources/\*, where you will find several configuration files specific to the type of device that will be connected.
- **Display Instructions**

The station can display a short message on screen that instructs the user about how to use the payment device. The instructions can be used to guide the user through the process of adding to their account balance as well as providing any organization specific information (such as the places their balance may be used). The instructions option is available in most of the config files. Setting the option in more specific config files will override the option in less specific ones.

### **Station Name**

By default the station will be listed on the Devices tab of the PaperCut administration interface with the name paystation-hostname, where hostname is the host name of the system where the pay station is running. This name may be changed by editing the pay station or pay and release configuration file and setting a value for the station-name option.

#### **Visual Customization**

The pay station may be visually customized in the same way as the release station. See the PaperCut user manual section Hold/Release Queues & Print Release Stations  $\rightarrow$  Release Station Configuration  $\rightarrow$  Standard Release Station Configuration for further information.

## **Account Charge Order**

The account-charge-order option in the pay and release configuration file determines which source of credit is charged first. Currently the two options are the user's personal account balance and the credit source's balance.

## **Providing Change**

The give-change option determines what happens to the remaining balance when a user logs out. The device specific setup guides will provide a recommendation on the option to use. For more information see the comments in the config file.

## **Balance Labels**

The personal-balance-label and credit-source-balance-label options can be used to append text after the displayed balances. E.g. "\$1.00 (card)" instead of just "\$1.00". This can be useful if users are confused about which balance is which.

## **EX Series Payment Hardware**

Payment integration may be provided in one of two possible modes: pay station mode, or pay and release mode. Pay station mode is designed for devices such as bill acceptors where a payment can be made but no change can be returned. Payments are made directly into a user's account, which can then be used for printing. A station can be run in dedicated pay station mode so that the station is used for payments only (and has no association with print job release), also known as a kiosk type system. Pay and release mode is designed for devices that can provide change or store a balance, such as a cash acceptor with coin return, or a stored value card reader. The cost of held print jobs is charged to the device as they are released. The remaining amount can then be returned to the user as change or left on their card when the user logs out.

## Hardware Configuration and Setup

This section covers the setup and configuration of an external ACDI Payment Source with a PaperCut Release Station or PayStation Setup.

### **Hardware Requirements**

The following is a list of hardware this guide assumes will be available. All hardware is available from ACDI or an authorized ACDI reseller. Several hardware devices have the option to be used in conjunction as a walkup copy payment source.

- EX2000(Coin Only), EX2000B(Coin and Bills), EX2000BC(Coin, Bill, and Stored Value Card)
- ACD3000(Stored Value Card)
- TheSwiper(Standalone Credit Card Terminal), EX2000CCB(Coin, Bill, and Credit Card)
- PC Connect Cable(USB interface)
- RSX1000 Kiosk or a stand-alone computer with a display for running the pay station/release station software

## **Installing the Device**

To connect the ACDI PC Connect interface to the computer the instructions present with the PC Connect cable should be used. On Windows platforms, this would typically involve the following:

- 1. Connect the DB9 pin connector into the "Data 1" port located on the side (coin-ops) or rear(card reader/swiper).
- 2. IMPORTANT: For simplest setup, install usb drivers before connecting usb cable to pc.
- 3. Drivers are included on a CD that comes with the PC Connect Cable or can be downloaded from Prolifc or FTDI.
- 4. Connect the USB cable to usb port on pc. (Typically a rear port is used to minimize patron disconnects).
- 5. Windows will detect device and automatically configure drivers.
- 6. Open Device manager and confirm that the device is listed under ports.
- 7. Note the Com Port number. (this will be needed to configure communication with the device)



### **Installing the Plug-In**

ACDI has developed a plugin that allows the PaperCut release station to be extended to support the EX series of Payment hardware. This is delivered via a zipped folder that can be found at <a href="http://acdirewards.com/downloads/ACDI">http://acdirewards.com/downloads/ACDI</a> EX Series PaperCut Plugin.zip

This folder contains the folder structure to copy directly into the release station folder. This will place all of the needed files in their proper location.

The file locations are provided below for reference:

- [app-path]/release/extensions/pay-station.properties
- [app-path]/release/extensions/pay-and-release.properties
- [app-path]/release/extensions/ACDI EX Series Pay Release.properties
- [app-path]/release/extensions/ACDI EX Series PayStationMode.properties
- [app-path]/release/lib-ext/ACDIEXCreditSource.jar

#### **Enabling the Device**

To enable the device in Pay and Release mode:

- Locate [app-path]/release/extensions/pay-and-release.properties
- Set enabled option equal to **enabled=Y**.
- Set credit source option equal to credit-source=ACDI\_EX\_Series\_Pay\_Release

To enable the device in PayStation mode:

- Locate [app-path]/release/extensions/pay-station.properties
- Set enabled option equal to **enabled=Y**.
- Set credit source option equal to credit-source=ACDI\_EX\_Series\_PayStationMode

#### **Configuring the Device**

The configuration files must first be copied into the release station credit-sources directory. This directory is located at [app-path]/release/extensions/credit-sources/.

- Copy the ACDI\_EX\_Series\_Pay\_Release.properties file into the above directory for ACDI device specific Pay and Release mode configuration.
- Copy the ACDI\_EX\_Series\_PayStationMode.properties file into the above directory for ACDI device specific PayStation mode configuration.

#### Pay and Release

- Open the file [app-path]/release/extensions/creditsources/ACDI EX Series Pay Release.properties in a text editor.
- 2. Update the value for the option **comm-port=** to match the correct port, e.g.: **comm-port=COM1** (value should match com port listed in device manager.)
- 3. Update the value for the option **copier-controller-enabled=** to indicate if the device will be used in conjunction as a copier controller for walk-up copier usage. E.g.: **copier-controller-enabled=Y**
- 4. Update the value for the option **can-give-change=** to match capabilities of the attached ACDI EX Series payment hardware. e.g.: **can-give-change=Y**
- 5. The configuration file also includes several displayed text settings. This allows for extensive customization of screen prompts to better communicate with patrons.

#### **PayStation**

- Open the file [app-path]/release/extensions/creditsources/ACDI EX Series PayStationMode.properties in a text editor.
- 2. Update the value for the option **comm-port=** to match the correct port, e.g.: **comm-port=COM1** (value should match com port listed in device manager.)
- 3. Update the value for the option **copier-controller-enabled=** to indicate if the device will be used in conjunction as a copier controller for walk-up copier usage. E.g.: **copier-controller-enabled=Y**
- 4. Update the value for the option **partial-account-add=** to allow only a portion of available escrow to be selected for applying to the users account. e.g.:**partial-account-add=Y**
- 5. The configuration file also includes several displayed text settings. This allows for extensive customization of screen prompts to better communicate with patrons.

# Testing

#### **Pay and Release**

To test that the device has been configured correctly:

- 1. Start the release station (e.g. on Windows run pc-release.exe).
- 2. Send some print jobs so that they hold in a hold/release queue.
- 3. Log into the station as the user who sent the job. Note that the user must be marked as *restricted* in PaperCut (it doesn't make sense for unrestricted users to make payments).
- 4. Insert some coins / bills /stored value card etc. Ensure that the release station GUI is updated and displays the available amount (the same amount displayed on the device's LCD).
- 5. Release some jobs to ensure that they are charged correctly and that the available amount is updated. Note that the account-charge-order setting may specify that the user's personal account is charged before taking the amount from the device.
- 6. Try logging out while there is balance remaining in the session to ensure that change is returned correctly.

Experiment with the options account-charge-order and give-change in the configuration file pay-and-release.properties. Remember to restart the release station after making a change. This is often a good time to tweak the other settings and configurable messages.

#### **Pay Station Mode**

To test that the device has been configured correctly:

- 1. Start the PayStation (e.g. on Windows run pc-paystation.exe or log into the release station and press the 'Add Value' button.)
- 1. The device should now be enabled for acceptance of funds.
- 2. Insert one of each type of funds accepted by the device (example: coin, bill, stored value card, credit card, etc.)
- 3. Make sure that balance on screen increments by the correct value.
- 4. If partial balance apply is turned on, make sure the balance selected is added to the account balance.

## Suggested Cash Collection Procedure

When dealing with devices that collect cash it is essential that the organization has a well-defined procedure for its collection and auditing. We suggest using the following procedure to collect cash from a device.

#### Requirements

- One person is designated 'collector', and will be responsible for collecting the cash from the device, counting it and returning it to the office / cash storage location.
- The collector has access to a network login designated specifically for collecting cash (i.e. it should not be an account that is otherwise used for printing, copying or adding balance).
- A second person is designated 'approver', and will be responsible for cross-checking the collector's cash takings, depositing the cash and filing the cash reconciliation report.

#### **Process**

The collector should:

- 1. Log into the Pay Station using their designated account and deposit \$1. This transaction will mark the end of the collection period for this device.
- 2. Collect the cash from the device and set it up again so that it may be used immediately.
- 3. Log into the PaperCut administration interface, either from the Pay Station itself or from another convenient system.
- 4. Navigate to Devices  $\rightarrow$  [name of device]  $\rightarrow$  Transaction History, and click Show Filter.
- 5. In the Transacted by field, enter their designated user name, remove the date under From date and press Apply Filter. The table will now show all transactions on this device from the collector.
- 6. Identify the date and time of the last transaction. This will be the transaction from step #1. This date and time should be entered into the To date and corresponding Time field.
- 7. Identify the date and time of the second-last transaction. This should be the collector's transaction from the previous collection period. The date and time should be entered into the From date and corresponding Time field. The time entered should be one second after this transaction so that it is not included in the data for this collection period.
- 8. Clear the Transacted by field and press Apply Filter. The table should now display all transactions after the previous collection, and up to and including the transaction from step #1.
- 9. Below the table, click Reconciliation report. Print the generated report.
- 10. Count the collected cash and fill in the printed report, including the amount collected and how much (if any) it differs from the reported amount.
- 11. Take the cash and signed report to the approver for cross-checking and sign-off.

After counting the cash and signing the report, the approver should:

• Deposit the cash and file the signed report.

## **Modifications to Cash Collection Procedure**

Some possible modifications to the above cash collection procedure include:

• If you have an accurate time source (such as a server's clock, or if workstations have their time reliably updated via NTP / "time synchronization") then there is no need to make the \$1 deposits to mark the time. The collector would simply skip this step and type the accurate time directly into the Transaction History filter.

• For extra security you may prefer that a person other than the collector runs the reconciliation report. This ensures that the collector does not know whether there is more cash in the device than has been reported, so is unable to take advantage of the situation.

# Troubleshooting and Investigating Overs / Unders

Differences between cash collected and recorded amounts taken (overs or unders) are possible or even common in any environment where manual cash handling or processes take place. Significant overs or unders may warrant further investigation.

Because overs or unders are common it is important that there is a well defined procedure to follow. As the situation is similar to collecting cash from other devices such as cash registers, vending machines or coin units, the organization may have an existing process which can be adapted.

Detailed transaction and operational information can be gathered from PaperCut and the Pay Station as follows:

• A full transaction history for the device can be accessed from the PaperCut administration interface, via Devices → [name of device] → Transaction History. The filters provided make it easy to narrow down the search to a particular time period or for a particular user.

• Event and transaction logs are also stored on the Pay Station system itself. These are located in the home directory of the user currently logged into the operating system, e.g. C:\Documents and Settings\username. The Pay Station maintains the following files in this directory:

• pay-station-transaction.log – contains all transactions carried out on the device. It should match the device's transaction history in the administration interface (mentioned above).

• pay-station-event.log – contains various information about the state of the Pay Station. If there has been an error processing a transaction it will be logged here.

• release-station.log – contains more general information about the running of the Release Station and Pay Station functionality. If a serious error has occurred while running the Pay Station it will be logged here.

## Appendix A – Kiosk Mode Lock Down

This guide covers Windows 7 and Windows 8 Professional editions. Ensure that the release station PC is running a professional edition of Windows. Following this guide, the PaperCut release station and paystation software will be more secure and user friendly for walk-up users.

### Setup

- Create a local user with the desired privileges under computer management ;
- As an admin account, run the Microsoft Management Console (mmc.exe);
- Go to File > Add/Remove Snap In...
- Select the Group Policy Object and press Add
- Press the Browse... button
- In the Users tab, select the user you just created
- Press finish
- Go to User Configuration > Administrative Templates > System and edit the Custom User Interface settings
- Change it to Enabled and enter your application path (i.e "C:\<Dir Location>\pcrelease.exe") in the Interface File Name field.

Next time you log in using this user, Windows won't load Explorer.exe, but your application instead. This way you won't have easy access to the desktop.