

PCS Director Embedded Installation Guide

Overview

Welcome to PCS Director Embedded for Ricoh! Embedded for Ricoh integrates directly with the touch screen on compatible Ricoh MFDs and tracks walk-up copying, scanning, faxing, and document server prints to the PCS Director database. The system has the following main components:

- Embedded for Ricoh Administration. The Embedded Systems plug-in for the PCS Director Administration tool allows you to configure Embedded for Ricoh.
- Embedded Client. This software runs on the MFD. You interact with the Embedded Client directly on the touch screen of the Ricoh MFD when you copy, scan or fax a document, or if you print a document stored in the MFD's Document Server.

In addition to tracking the number of pages in a copy, scan, fax, or print job, the Embedded Client can track additional information about the job. For example, the Embedded Client can ask for a PIN Code from the user to identify which user is photocopying a document. Or, it can ask for a Client Code to identify which customer should be billed for the fax you're sending.

The Embedded Client provides many of the same features that PCS Director provides when users print documents from their workstations. Once Embedded for Ricoh tracks the information, you can use the PCS Director tools like Job Manager and the Analysis Reporting to query the information and produce reports.

The PCS Director Administration tool provides you with all you need to configure Embedded for Ricoh on all the MFDs in your environment using the Embedded Systems plug-in. You have to configure one copier for every physical Ricoh MFD on which you want to run the Embedded Client.

For each copier you can configure costs, restrictions, limits, authentication methods and custom fields.

Licensing

Similar to the licensing for PCS Director, Embedded for Ricoh is licensed on a per-MFD basis. If you wish to install Embedded for Ricoh on 15 MFDs, you must purchase licenses for each of the 15 MFDs.

These MFD licenses can be purchased as part of any PCS Director license, and are additional to the PCS Director workstation licenses you must purchase to

track print jobs originating from Microsoft Windows and Apple Macintosh workstations.

If there is a licensing problem, Embedded for Ricoh will stop tracking some or all of the MFDs. In this case, users will still be able to continue using the MFDs as normal, but no information will be tracked.

Embedded Client Panel Overview

The PCS Director Embedded for Ricoh Client software runs directly on your MFD and utilizes the touch screen panel of the MFD to allow you to enter job specific information when faxing, copying, scanning or printing internally stored documents. The Embedded for Ricoh Client communicates with the Database Communicator to validate information and store your jobs.

The Embedded for Ricoh Client requires that you have installed and configured PCS Director, configure your MFD, and configure the Embedded for Ricoh Client and deploy it to your MFD. For other topics, please see the sections below for more information.

- **Configuring the MFD.** This topic tells you how to configure your MFD in preparation of running the Embedded Client.
- **Deploying the Embedded Client.** This topic describes how to deploy the Embedded Client to your MFD.
- **Configuring Embedded for Ricoh.** This topic tells you how to setup copiers in the Administration tool.
- **Deploying the Embedded Client.** This topic describes how to deploy the Embedded Client to your MFD.
- **Using the Embedded Client** - This topic describes how to use the Embedded Client once deployed to your MFD.

MFD Configuration

To ensure optimum functioning of the Embedded for Ricoh Client, we recommend that you verify the following MFD settings, and adjust them as needed:

- **Time and Timezone** - In order to track the correct time for copy, scan, fax, and print jobs on the MFD, the MFD must have its time and Timezone set correctly. Depending on the MFD model, you may need to use the embedded web page to set the Timezone correctly.
- **Function Priority** - For optimum operation, you should configure the Function Priority to be "Java TM/X". If you do not wish to do this, we recommend that you disable the Walkaway timeout by setting it to 0. See Configuring Device Settings for more information.

- Timers - If you do set the Function Priority to "Java TM/X" as described above, you should also confirm the timer settings on the MFD.

All of the auto-reset timers (System Auto Reset Timer, Copier / Document Server Auto Reset Timer, Fax Auto Reset Timer, Scanner Auto Reset Timer, Printer Auto Reset Timer) should be set to the same value, for example, 60 seconds. Ensure that the value they are set to is 5 to 10 seconds less than the Walkaway Timeout that is configured for the Embedded Client software. See Configuring Device Settings for more information on configuring the Walkaway Timeout.

- Configure the Enhanced Charge Unit Support.

Deploying the Embedded Client Application:

You must deploy the Embedded for Ricoh Client to each MFD you want to track. To deploy the Embedded for Ricoh Client you follow similar steps to deploying other SDK/J applications.

The basic deployment steps are as follows:

1. Decide on a deployment method.
2. Ensure the MFDs already have the Embedded Software Architecture (SDK/J) installed.
3. Verify MFD configuration.
4. Create an appropriate .dalp file.
5. Install the Embedded Client software.

There are two ways to deploy the Embedded for Ricoh Client to the MFDs in your environment. The method you choose will depend on which models of MFDs you are deploying to:

1. SD Card (Any Model)
2. Web Image Monitor (JAVA 2.x / Type C and newer models only)

No matter how you choose to deploy Embedded for Ricoh Client, you must first ensure that the Java environment (SDK/J / ESA) is installed on the MFD.

Before deploying the Embedded for Ricoh Client, you must create an appropriate .dalp file. Once you have done this, proceed to install the embedded client using your chosen method.

Setting up a .Dalp file for Deployment

The .dalp file describes the Embedded for Ricoh Client to the MFD, providing the information the MFD needs to run the application. It is a simple file that you can edit with any text editor.

There is a file called PCS Director.dalp in the zip file with the java files you download to deploy the Embedded for Ricoh Client. In general, you will only have to customize the <application-desc> section near the bottom of this file for your deployment. In particular, you must specify the correct arguments for your environment.

Dalp file arguments

In the <application-desc> section near the bottom of the PCS Director.dalp file, there is a single <argument>. You must change this argument as described below, and you may also want to provide some additional arguments depending on your environment.

Each argument has the form NAME=value. The supported arguments are as follows:

- **LOCATION (Mandatory)** - You must set the LOCATION argument to the IP Address or hostname of the computer which has the Database Communicator installed. Examples:
LOCATION=123.45.67.89

Note: If you wish to change the IP Address of the computer which has the Database Communicator installed, you must edit the DALP file and re-deploy the application to the MFP for the change to take effect. There is no other way to change this IP Address.

- **PORT** - You use the PORT argument to specify the port that the Database Communicator is listening on. If you do not specify the PORT argument, the default of 17520 is used. Example:
PORT=17520
- **TIMEOUT** - You use the TIMEOUT argument to specify a communication timeout (in seconds) when obtaining configuration information. If you do not specify the TIMEOUT argument, the default of 20 seconds is used, which is appropriate for most environments. Example:
TIMEOUT=20
- **FUNCTIONKEY** - This argument is used to specify the name of the MFD function key the Java (TM) Environment is bound to. It has no effect on functionality, but does affect some of the user interface displays. If you do

not specify the FUNCTIONKEY, it will default to Scan, assuming that the Java environment is bound to the Scan key. Examples:

FUNCTIONKEY=Document Server

FUNCTIONKEY=Fax

- STARTUPLOGLEVEL** - If you wish to enable additional logging during the launch of the application, you can use the STARTUPLOGLEVEL to do this. Providing a value of 1 will turn on additional logging during startup, and a value of 2 will provide maximum logging during startup. This value only takes effect until the first time the MFD successfully retrieves its configuration from the configuration service. If you do not specify a STARTUPLOGLEVEL, the default logging settings are used during startup. Examples:
 STARTUPLOGLEVEL=1
 STARTUPLOGLEVEL=2

If you supply any arguments in the Dalp file other than the ones listed above, the application ignores them.

Installing the Embedded Client

The installation instructions for the Embedded for Ricoh Client depend on the model of MFD you are deploying to, and your chosen installation method.

Pre-installation Notes

You must install the JAVA/ESA framework on the MFD and ensure the MFD is completely started prior to beginning the installation. This may take up to 10 minutes the first time JAVA is installed on some devices.

SD Card Installation

1. Download the Embedded PCS Director SD Card Java Application from the TSC Web Site. The file name is “34081537.zip”.
2. Extract this file to the local PC.
3. A folder named “34081537” will be created in the target location.
4. Open the “PrintDirector.dalp” file and edit the dalp file arguments as necessary. For more information, refer to Setting up a .Dalp file for deployment.
5. Prepare a new or newly formatted SD Card for the installation by creating the following file structure on the card;
 <Root>:\sdk\dsdk\dist
6. Copy the entire “34081537” folder to the “dist” folder on the SD Card.
7. Power down the MFD completely and insert the SD Card into the appropriate slot on the MFD.

Note: The slot used will vary depending on the model of MFD. Refer to the service documentation of the particular MFD if necessary.

8. Power up the MFD.
9. Once the MFD is ready, press the “User Tools” button on the control panel.
10. Select “Extended Feature Settings” from the “User Tools / Counter / Inquiry” screen.
11. Select “Extended Feature Settings” from the “Extended Feature Settings Menu”.
12. Select the “Install” tab from the “Extended Feature Settings” screen.
13. Select “SD Card” from the “Extended Feature Settings” screen.
14. Select “PCS Director” from the extended features list.
15. Select “Machine HDD” for the Install to location.
16. Select “Auto Start” as the Startup Method.
17. Select the “Next” button.
18. Confirm that the information is correct then select “OK” to begin the installation.
19. If you receive the following message: ‘The following extended feature has already been installed. Are you sure you want to overwrite it?’, select “Yes” to continue.

Note: This may occur on JAVA type C due to the self-install feature. Select Yes to ensure the application is installed to the HDD.
20. A message indicating that the extended feature is installing will appear.
21. Select “Exit” when the screen indicating that the extended feature installation is complete appears.
22. Select “Exit” on the “Extended Feature Settings” screen.
23. Select “Exit” again on the “User Tools / Counter / Inquiry” menu screen.
24. Once the MFD returns to a “Ready” mode, press and hold the “*” and “#” keys on the numeric keypad until the MFD reboots.
25. To verify operation from the MFD, select “User Tools” > “Extended Feature Settings” > “Extended Feature Settings”. If the status is “Starting Up”, then the application is properly installed.

Note: Even though the installation is successful, the Embedded PCS Director Extended Feature will not show up on this screen until the JAVA / ESA framework has completely loaded. This may take up to 10 minutes especially if it is a new JAVA installation.

Installing using Web Image Monitor

1. Download the Embedded PCS Director SD Card Java Application from the TSC Web Site. The file name is “34081537.zip”.
2. Extract this file to the local PC.
3. A folder named “34081537” will be created in the target location.
4. Open the “PrintDirector.dalp” file and edit the dalp file arguments as necessary. For more information, refer to Setting up a .Dalp file for deployment.

5. Select ALL files in the folder and create a new Zip file.
6. Rename this new Zip file "34081537.zip".
7. Log on to Web Image Monitor (WIM) as admin.
8. Select "Configuration" from the Main Menu.
9. Select "Install" under "Extended Feature Settings".
10. Select the "Local File" radio button and then click the "Browse" button.
11. Navigate to the location on the local PC that contains the file named "34081537.zip". Select this file and click the "Open" button.
12. Click the "Display Extended Features List" button.
13. Select Install to "Device HDD" from the Installation Target Setting drop down box.
14. Select the Auto Start "On" radio button.
15. Select the radio button next to "PCS Director" under "Extended Feature Name" dialogue box.
16. Click the "Install" button located above the "Extended Feature Name" dialogue box.
17. Click "OK" on the "Confirm" page to begin the installation.
18. If the installation is successful, you will see a blank installation screen.
Note: There is no indication of success or failure on this screen.
19. Click the "Back" button on the blank installation screen.
20. The Configuration screen will be displayed, click "Home" to return to the WIM home page.
21. Click the "Reset Device" button.
22. Click "OK" on the next screen to confirm Device Reset.
23. After the device has reset, Log back in as Admin.
24. Select "Configuration", then "Extended Feature Settings" from "Extended Feature Info" to verify installation. If you see the PCS Director application listed, then the installation was successful.
Note: If the installation is unsuccessful, you will see a screen similar to this one that appeared in Step 18 above. If this is the case, retry the above steps.

Enhanced Charge Unit Support

PCS Director has support for the automatic tracking of scans and faxes. In addition declining user balances are enforced in real-time causing a balance of zero to "lock" the MFD stopping the current job.

Support for this functionality requires that the MFD support the "Enhanced Charge Unit SDK".

Enabling device tracking with the Enhanced Charge Unit

On machines using the Enhanced firmware you must enable the tracking of jobs from the System Settings->Administrator Tools->Enhanced External Charge Unit

Management menu. For each entry you may toggle tracking of the specific job type. The following table explains each type and which must be enabled:

Section	Name	Enabled	Comment
Copier	Full Color	Yes	
Copier	Black & White	Yes	
Copier	Single Color	Yes	
Copier	Two Color	Yes	
Printer	Color	No	Do not enable, will block ability to Print.
Printer	Black & White	No	Do not enable, will block ability to Print.
Other Functions	Document Server	Yes	
Other Functions	Facsimile	Yes	
Other Functions	Scanner	Yes	
Other Functions	Java™/x	No	May cause problems using Embedded for Ricoh if enabled.

Adding, Editing and Deleting Copiers

You use the Embedded Systems section of the Administration tool to add, edit and delete Embedded for Ricoh copiers. A copier in the Administration tool represents a physical copier in your office.

To add a new copier:

1. Run the PCS Director Administration program.
2. Click the Embedded Systems button on the left hand side of the PCS Director Administration window. The list of existing copiers appears on the right side. You may have to scroll the left hand side down before you see the Embedded Systems button.
3. Click the **New** button on the toolbar. The **Embedded for Ricoh Window** appears.
4. At minimum, you must enter a copier name and the serial number of the copier. Click here for more information on the filling out the Embedded for Ricoh Window.
5. Click the **Save** button. The **Embedded for Ricoh Window** closes and your copier appears in the Copiers list.

To edit a copier:

1. Run the PCS Director Administration program.
2. Click the Embedded Systems button on the left hand side of the PCS Director Administration window. The list of existing copiers appears on the right side. You may have to scroll the left hand side down before you see the Embedded Systems button.
3. Click the on the copier you want to edit in the list of copiers. It appears highlighted.
4. Click the **Edit** button on the toolbar. The **Embedded for Ricoh Window** appears.
5. Make any needed changes to the copier. Click here for more information on the filling out the Embedded for Ricoh Window.
6. Click the **Save** button. The **Embedded for Ricoh Window** closes and your copier appears in the Copiers list.

To delete a copier:

1. Run the PCS Director Administration program.
2. Click the Embedded Systems button on the left hand side of the PCS Director Administration window. The list of existing copiers appears on the right side. You may have to scroll the left hand side down before you see the Embedded Systems button.
3. Click the on the copier you want to edit in the list of copiers. It appears highlighted.
4. Click the **Delete** button on the toolbar. A message appears asking if you are sure you want to delete the copier.
5. Click the **Yes** button to delete the copier. The list of copiers refreshes.

Authentication Types

The authentication type determines how a user identifies themselves to the copier before they can do a transaction. The following options are available:

- **None** - Users do not have to authenticate before using the copier. All transactions are recorded to a generic user.
- **PIN code** - Users must enter their PCS Director PIN.
- **Card reader** - Users must use a proximity card to use the copier.
- **Card reader or PIN** - Users can use a proximity card, or enter a PIN.

NOTE: Check the **Require additional password** box on the Embedded for Ricoh Window to require an additional password before users can authenticate

Using the Embedded for Ricoh Client

The Embedded for Ricoh Client is very easy to use. First, it prompts you for the required information. What you are prompted for depends on how you configured the Embedded Client. After you enter the information, you can copy, scan, fax, or print a document server print job as normal, using the functionality built in to the MFD. When you are done, you should return to the Embedded Client and indicate that you are finished. At this point, the information is tracked to the database, and the Embedded Client resets to be ready for the next user.

If you forget to return to the Embedded Client after finishing up, the Walkaway Timeout ensures that the information is still tracked and the panel interface is ready for the next user.

Detailed Panel Walkthrough

1. First, press the Start button on the screen. The Embedded Client retrieves its configuration, and proceeds to prompt for the required information as discussed below. NOTE: This screen is only used if you selected **None** as your authentication type.
2. At any time during the prompts, press the Cancel button to cancel all of your input and return to the start screen.
3. Authentication - in many cases, the panel is configured to ask for authentication as the first prompt. The panel will prompt you to enter a PIN code, swipe your proximity card, or will allow either type of authentication.

Enter your PIN code using the numeric keypad, or press the Show Keyboard button to access a full alpha-numeric keyboard on the touch screen. Once you have entered your PIN code, press the OK button. You can also use the # key on the keypad for OK.

To use a proximity card, hold the card near the sensor. The light will turn green and the sensor will beep when your card has been read.

4. Custom Fields - if the panel is configured to prompt for custom fields, these are the next prompts. Select one of the presented options and then press the OK button. If there are more choices than will fit on one screen, use the Prev and Next buttons to page through the choices.

If the Custom Field is either the Searchable or Searchable Dropdown type, there will also be a Search button displayed. Press the Search button to bring up a keyboard, and enter in the text you wish to search for. Press OK to perform the search and hide the keyboard. Once you have searched, only options that match your search text will be shown, and you can page through them as usual. If you do not find the option you are looking for, you can perform another search.

5. Comments - if the panel is configured to allow the user to enter a comment, this will always be the last prompt. Enter a comment using the numeric keypad on the MFD, or press the Show Keyboard button to enter the Comment using a full alpha-numeric keyboard on the touch screen. When you have finished, press the OK button. The comment may be left blank.
6. Once you have finished entering all of the information, a screen with a large Done button appears. This screen also has instructions on how to return to the Embedded for Ricoh Client. At this point (before pressing the Done button), use the MFD function keys to switch to Copy, Fax, Document Server, Scan, or Print mode as appropriate, and proceed to use the MFD normally.
7. If declining balances are enabled for the current user each copy/fax/scan operation will debit the account balance in real-time. Once the balance of the current user reaches zero all MFD copy/fax/scan functions will be locked until such time that the user logs in again with a positive balance.
8. When you have finished using the MFD, return to the Embedded for Ricoh Client, and press the Done button.
9. On devices not supporting the Enhanced Charge Unit the Embedded for Ricoh Client cannot automatically detect the number of pages for scans and outgoing faxes. You will be asked for the number of pages you scanned or faxed, enter the number of pages using the numeric keypad on the MFD, and press the OK button.
10. At this point, all of the information is tracked to the database, and the panel interface resets to the first screen.

Using Proximity Cards

Embedded for Ricoh allows the use of proximity cards for user authentication. Please note there is some additional configuration required in order to support proximity cards.

Additional Hardware and Software Requirements

In addition to the general hardware and software requirements for PCS Director, proximity card support requires the following hardware and software:

1. SDK/J 2.11 - Proximity card support requires that SDK/J 2.11 or newer be installed on each MFP that will use proximity cards. MFPs running version 1.x of SDK/J do not support proximity cards.
2. Proximity card reader hardware - Each MFP must be equipped with a supported proximity card reader attached to its USB Host Interface. At this time, the following card readers are supported:
 - a. RFIDeas, Inc. pcProx USB - model numbers: BSE-PCPRXH-U, BSE-PCPRXM-U, RDR-6081AKU, RDR-6381AKU.

Card Reader Provisioning

Before you attach the USB card reader to the multi-function device, you must provision it by following these steps:

1. Connect the card reader to a PC running Microsoft Windows.
2. Launch the pcProx Configuration Utility (available from <http://www.rfideas.com>)
3. Click the Reset to defaults button on the middle of the Connect tab. Click Yes on the confirmation window that appears.
4. Switch to the Set Keystroke Data tab.
5. Check the Send ID Code checkbox.
6. If you wish to enable Facility Code (FAC) support, you must configure it now:
 - a. Check the Send FAC Code checkbox.
 - b. Check the Enable FAC/ID character.
 - c. Select "- MINUS" in the This Char Sent Between FAC & ID dropdown.
7. Leave all other settings at their default values.
8. Click the Write to pcProx or AIR ID button near the bottom of the window.
9. Click inside the large, empty text box at the bottom left of the window to set the cursor there. The text box is labelled "Use this field to view card data".
10. Bring a proximity card near the card reader so it scans the card.
11. Confirm that the light turns green, the card reader beeps, and the card ID appears in the text box.
12. Click the OK button to close the pcProx configuration utility.
13. Disconnect the card reader from the PC.

Configuring Card IDs in the PCS Director Administrator

Before proximity cards will be recognized as valid, they must be configured in the PCS Director Administrator.

1. Launch the PCS Director Administrator.
2. Click on the Users icon on the left hand side of the screen.
3. Double-click on the user you want to assign a proximity card ID to.
4. Enter their proximity card ID number into the PIN code field.
 - a. If you did not enable Facility (FAC) codes when you provisioned the card readers, enter the card ID number only. In many cases this number is 5 digits or less, although it may be longer in some installations.
 - b. If you enabled Facility (FAC) codes when you provisioned the card reader, enter in the Facility (FAC) code, followed by a -, and then the card ID number. For example, if the Facility (FAC) code is 176 and the ID number is 12345, you would enter 176-12345.

- c. If a user's ID number or the Facility (FAC) code starts with one or more zeroes, do not enter the leading zeroes when you are entering the numbers into the PIN Code field. For example, if a card ID number is 00793, enter 793.
5. Click the Save button to save the user.
6. You may also import a large number of IDs at once from a CSV file using the import functionality in the Administrator. See the help in the Administrator for more information on assigning PIN codes (card IDs) to users.

Configuring the MFP to Use Proximity Cards for Authentication

Once you setup the card IDs in the PIN codes, you must edit the copier in the PCS Director Administrator and adjust the authentication type.