

PaperCut MF - Sharp OSA Embedded Manual

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1 Document revision history

| Published date or release | Details of changes made |
|---------------------------|---|
| 20.0.0 | Restructure section 2.4 to include enhanced deployment changes. |
| 19.1.0 | Document restructure (to support Embedded Deployment Improvements: remote, bulk deployment) |
| 19.0.3 | 8 FAQ & Troubleshooting |
| 19.0.0 | 3 Installation; 5.9 SNMP; 6.1 Config Editor; 8 FAQ & Troubleshooting |
| 18.3.6 | 3.4 Install PaperCut MF; 8 FAQ & Troubleshooting |
| 18.2.6 | 6.1 Config Editor, 9 FAQ & Troubleshooting |
| 18.2.3 | 6.1 Config Editor |
| 18.2.0 | Device screens, 9 FAQ & Troubleshooting |
| 18.1.3 | 3.5.2 Sharp External Settings for OSA Version 5 (and higher); 3.5.3 Integrated Scanning Application (OSA v3.0+) (optional); 3.5.4 Print Release Application Icon (OSA v3.0+) (optional); 3.5.5 PaperCut Home Application Icon (OSA v3.0+) (optional); 13 Appendix D: Sharp External Settings for OSA versions between 3 and 4.5 |

2 Installation

This section covers the installation of *PaperCut MF - Sharp OSA*.

2.1 Supported devices

Ensure that the devices on the network are listed as supported devices on the [PaperCut MF for Sharp](#) page.

2.2 Compatible devices

Ensure that the supported Sharp devices on the network are compatible with PaperCut's embedded software solution *PaperCut MF - Sharp OSA*:

- they are running Sharp OSA 1.1+ firmware (excluding AR series), and
Note: Sharp OSA 3.0+ is recommended.
- they have a touch-screen interface.

Note: This manual is only relevant to supported and compatible Sharp devices. For more information on PaperCut's embedded software solutions for other devices and platforms, contact your reseller or Authorized Solution Center. You can find their contact information in your PaperCut MF Admin web interface, on the **About** page.

2.3 System requirements

Ensure that the following system requirements are met:

- The following entities are available:
 - Physical device – administrator and user access, and credentials
 - Device's web interface – administrator access, URL, and credentials
 - PaperCut MF Admin web interface – administrator access, URL, and credentials
- The latest version of PaperCut MF is installed and running on the network.
For more information, see the [PaperCut MF manual](#).
- The networking/firewall configuration allows:
 - Inbound connections to the PaperCut MF Application Server from the devices on the configured ports. For example:
 - 9191 (TCP/HTTP)
 - 9192 (SSL/TLS/HTTPS)
 - Outbound connections from the PaperCut MF Application Server to the devices on the configured ports. For example:
 - 80 (TCP/HTTP)
 - 443 (SSL/TLS/HTTPS)

2.4 Install PaperCut MF

To install PaperCut MF (i.e. device registration and integration):

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Options > Advanced**.
3. In the **External Hardware Integration** area, select **Enable external hardware integration (for supported devices only)**.

4. Click **Apply**.
5. You can use any one of the following options:
 - [2.4.1 Install PaperCut MF on multiple devices](#), or
 - [2.4.2 Install PaperCut MF on each device using Auto setup](#), or
 - [2.4.3 Manually install PaperCut MF on each device](#)

2.4.1 Install PaperCut MF on multiple devices (Sharp OSA 3.0+)

PaperCut MF 19.2.0 introduced a feature to create multiple devices in bulk through a CSV file via server commands. In 20.0.0 we added a way to load this CSV file via the PaperCut MF UI. You can find the feature under: PaperCut MF > Devices > Create multiple devices.

Using this feature increases your operational efficiency by significantly reducing the time taken to add devices to PaperCut MF. From version 20.0, this feature also allows for you to add devices to PaperCut MF before such devices are delivered to their installation site, such devices are added with a “Staged” status. The scenario for “Staged” devices applies when the system admin already knows all the device’s attributes prior to its delivery. For more information, see the [Enhanced Deployment Project](#).

2.4.2 Install PaperCut MF on each device using Auto setup (Sharp OSA 3.0+)

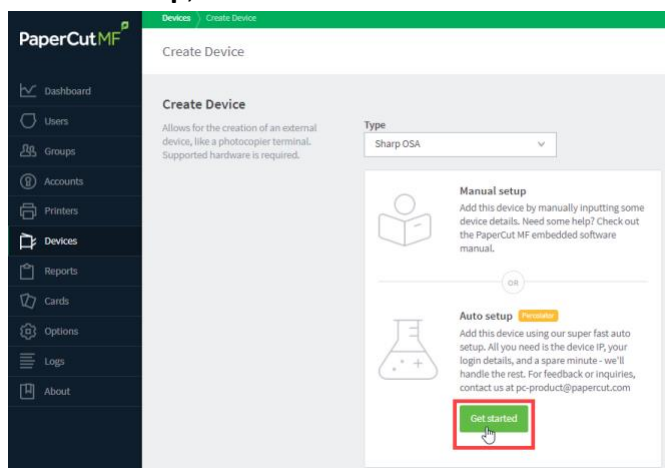
Note: This is only applicable to PaperCut MF 19.0.0 or above, for Sharp OSA 3.0+ devices.

This option minimizes human errors, but does not improve your operational efficiency.

To install PaperCut MF (i.e. device registration and integration):

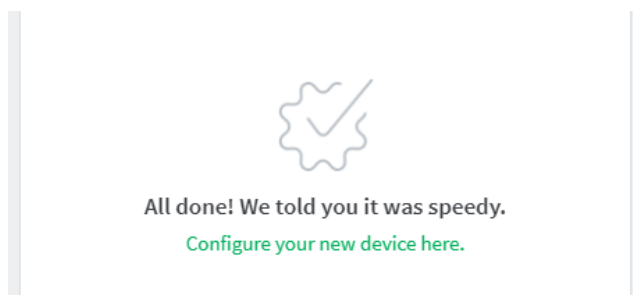
1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Options > Advanced**.
3. In the **External Hardware Integration** area, select **Enable external hardware integration (for supported devices only)**.
4. Click **Apply**.
5. Navigate to **Devices**.
6. Click **Create Device**.
7. In **Type**, select **Sharp OSA**.

8. In **Auto setup**, click **Get started**.



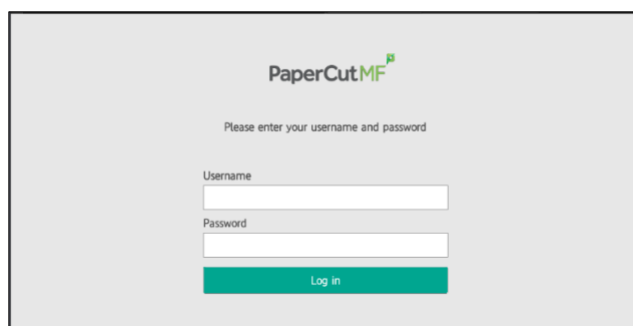
9. In **Device Details > Nickname**, enter a descriptive name for the device.
This is the device's name on the PaperCut MF Admin web interface.
10. In **Device Details > Hostname / IP**, enter the network name or IP address of the device.
11. In **Admin login details > Username** and **Admin login details > Password**, enter the same administrator credentials (username and password) used for the device's web interface.
12. To enable users on the device's Home screen to be able to easily navigate to and access PaperCut MF screens, expand Advanced options and in Create app icons for, select the required PaperCut MF icons you want the Auto setup to create:
 - Release
 - Scan
 - Home
13. Click **Begin auto setup**.

14. Click **Configure your new device here**.



Note: If the Auto setup displays any other message, then see [6.3 Auto setup errors](#).

15. Verify that the **Device Status** displays the status **Started - Device is ready for user to login**.
16. Click **Log out**.
17. Access the physical device.
18. Verify that the first screen on the device is PaperCut MF Login screen:



19. For more information about configuring the display of the PaperCut MF icons that have been created by the Auto setup, see [2.6 Configure the display of PaperCut MF icons](#).

2.4.3 Manually install PaperCut MF on each device

Note: If you are running a version prior to PaperCut MF 19.0.0, then this is the only applicable option.

This is the least recommended option, because it neither improves your operational efficiency nor does it minimize human errors.

Installing PaperCut MF one device at a time via the device's web interface is based on device's Sharp OSA version:

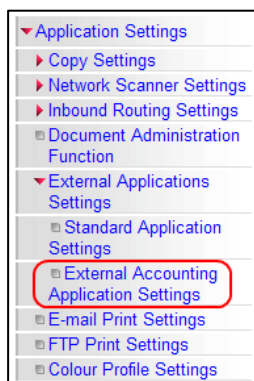
- [2.4.3.1 Sharp OSA 2.9 and below](#)
- [2.4.3.2 Sharp OSA 3.0 – 4.5](#)
- [2.4.3.3 Sharp OSA 5.0 or 5.1](#)
- [2.4.3.4 Sharp OSA 5.5+](#)

2.4.3.1 Sharp OSA 2.9 and below

To install PaperCut MF (i.e. device registration and integration) on Sharp OSA 2.9 and below devices:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to Options > Advanced.
3. In the External Hardware Integration area, select Enable external hardware integration (for supported devices only).

4. Click Apply.
5. Click Log out.
6. Log in to the device's web interface as an administrator using a web browser (e.g. `http://device-ip/`).
7. Navigate to 'Application Settings -> External Applications Settings -> External Accounting Application Settings'.



8. Change the 'External Account Control' option to 'Enable'.
9. Enable the checkbox titled 'Enable Authentication by External Server' or 'Set Authentication Server (Server 1)'.
10. Enter 'PaperCut' in the 'Application Name' field.
11. Under 'Address for Application UI', enter:
`http://<server-ip>:9191/device/sharp_osa/ui/`
 replacing 'server-ip' with the IP address of the PaperCut server
Note: Ensure the URL ends with a forward slash:

`http://192.168.1.56:9191/device/sharp_osa/ui/`

12. Under 'Address for Web Service', enter:
`http://<server-ip>:9191/device/sharp_osa/soap?name=Level1+Copier`
 where "Level1+Copier" is the name of the device that will appear in PaperCut. This may be replaced with a custom name, such as a name based on the MFD's physical location. Using the same name as the copier's print queue is recommended. IMPORTANT: Do not use spaces in the device name in the URL. Spaces may be represented by using a plus (+) character.
13. The timeout value should be set to 30 seconds. This defines how long the copier will wait before an error is displayed if the server is down or unavailable.
14. Press "Submit".

| | |
|--|--|
| External Account Control: | Enable |
| <input checked="" type="checkbox"/> Set Authentication Server (Server 1) | |
| Server 1 | Enable |
| Application Name: | PaperCut (Up to 36 characters) |
| Address for Application UI: | <code>http://192.168.1.56:9191/device/sharp_osa/ui/</code> |
| Address for Web Service: | <code>http://192.168.1.56:9191/device/sharp_osa/soap?name=Level2+Copier</code> |
| Timeout: | 30 seconds(1-60) |

15. Press "Reboot Now". The reboot process will take 30 seconds to 1 minute.

Note: If the device's web interface displays the error "ERROR[5000]:Processing is in motion. This function cannot be executed.", then see [6.5 Device's web interface error "ERROR\[5000\]:Processing is in motion"](#).

16. Log in to the PaperCut MF Admin web interface.
17. Navigate to Devices.
18. Verify the device is created and displayed.
19. Select the required device.
20. Verify that the Device Status displays the status Started - Device is ready for user to login.
21. Click Log out.
22. Access the physical device.
23. Verify that the first screen on the device is PaperCut MF Login screen.

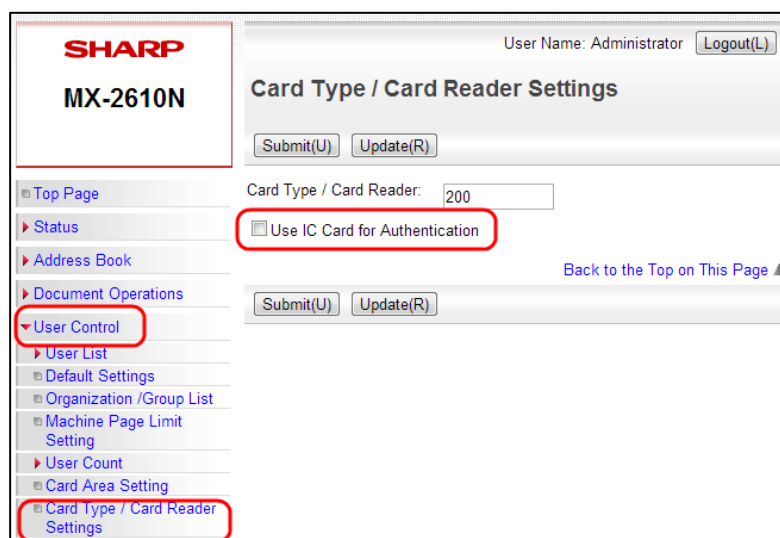
Note: If the first screen on the device is any other message, then see:

- [6.7 "Could not access accounting server" error](#)
- [6.4 "Unsupported browser version" error](#)

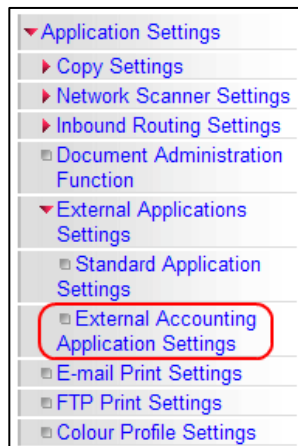
2.4.3.2 Sharp OSA 3.0 – 4.5

To install PaperCut MF (i.e. device registration and integration) on Sharp OSA 3.0 – 4.5 devices:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to Options > Advanced.
3. In the External Hardware Integration area, select Enable external hardware integration (for supported devices only).
4. Click Apply.
5. Click Log out.
6. Log in to the device's web interface as an administrator using a web browser (e.g. <http://device-ip/>).
7. Navigate to 'User Control-> Card Type /Card Reader settings' and ensure that 'Use IC Card for Authentication' is unchecked.



8. Navigate to 'Application Settings -> External Applications Settings -> External Accounting Application Settings'.



9. Change the 'External Account Control' option to 'Enable'.
10. Enable the checkbox titled 'Enable Authentication by External Server' or 'Set Authentication Server (Server 1)'.
11. Enter 'PaperCut' in the 'Application Name' field.
12. Under 'Address for Application UI', enter:

`http://<server-ip>:9191/device/sharp_osa3/ui/`

replacing 'server-ip' with the IP address of the PaperCut server

Note: Ensure the URL ends with a forward slash:

`http://192.168.1.56:9191/device/sharp_osa3/ui/`

13. Under 'Address for Web Service', enter:
`http://<server-ip>:9191/device/sharp_osa3/soap?name=Level1+Copier`
 where "Level1+Copier" is the name of the device that will appear in PaperCut. This may be replaced with a custom name, such as a name based on the MFD's physical location. Using the same name as the copier's print queue is recommended. IMPORTANT: Do not use spaces in the device name in the URL. Spaces may be represented by using a plus (+) character.
14. The timeout value should be set to 30 seconds. This defines how long the copier will wait before an error is displayed if the server is down or unavailable.
15. Press "Submit".

| | |
|--|--|
| External Account Control: | Enable |
| <input checked="" type="checkbox"/> Set Authentication Server (Server 1) | |
| Server 1 | Enable |
| Application Name: | PaperCut (Up to 36 characters) |
| Address for Application UI: | http://192.168.1.56:9191/device/sharp_osa3/ui/ |
| Address for Web Service: | http://192.168.1.56:9191/device/sharp_osa3/soap?name=Level1+Copier |
| Timeout: | 30 seconds(1-60) |

16. Press "Reboot Now". The reboot process will take 30 seconds to 1 minute.

Note: If the device's web interface displays the error "ERROR[5000]:Processing is in motion. This function cannot be executed.", then see [6.5 Device's web interface error "ERROR\[5000\]:Processing is in motion"](#).

17. Log in to the PaperCut MF Admin web interface.
18. Navigate to Devices.
19. Verify the device is created and displayed.
20. Select the required device.
21. Verify that the Device Status displays the status Started - Device is ready for user to login.
22. Click Log out.
23. Access the physical device.
24. Verify that the first screen on the device is PaperCut MF Login screen.

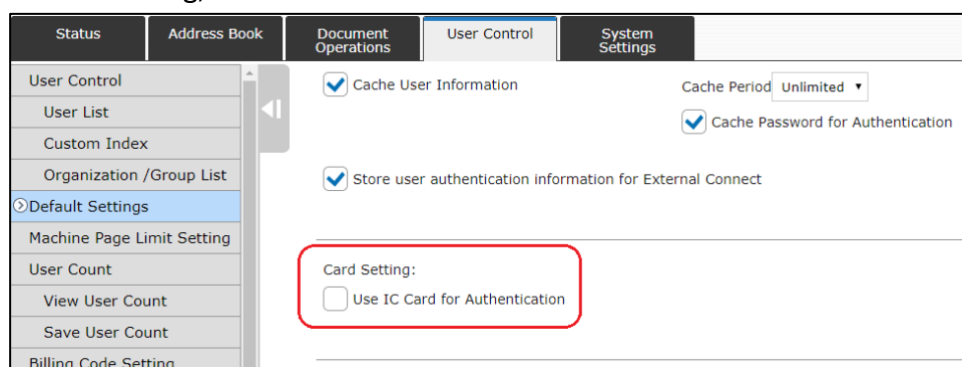
Note: If the first screen on the device is any other message, then see:

- [6.7 "Could not access accounting server" error](#)
- [6.4 "Unsupported browser version" error](#)

2.4.3.3 Sharp OSA 5.0 or 5.1

To install PaperCut MF (i.e. device registration and integration) on Sharp OSA 5.0 or 5.1 devices:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to Options > Advanced.
3. In the External Hardware Integration area, select Enable external hardware integration (for supported devices only).
4. Click Apply.
5. Click Log out.
6. Log in to the device's web interface as an administrator.
7. Navigate to User Control > Default Settings/Card Setting.
8. In Card Setting, ensure Use IC Card for Authentication is unchecked.



9. Navigate to:
 - Application Settings > External Application Settings > External Accounting Application Settings, or
 - System Settings > Sharp OSA Settings > External Accounting Application Settings.

10. In External Account Control, select Enable.

External Account Control:

Enable ▼

11. Select the Set Authentication Server (Server 1) checkbox.

12. In Application Name, enter PaperCut.

13. In Address for Application UI, enter:

`http://<PaperCut+MF+Application+Server+IP+address>:9191/device/sharp_osa3/ui/`

For example:

http://10.100.65.19:9191/device/sharp_osa3/ui/

Note:

- Ensure the URL ends with a forward slash:

`http://192.168.1.56:9191/device/sharp_osa3/ui/`

- Ensure there are no spaces in the URL. Use the special character `+` to represent spaces.
- If this contains an incorrect or invalid hostname / IP address / DNS, then the following occurs:
 - the device is successfully created and displayed on the PaperCut MF Admin web interface, but
 - PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Could not access accounting server" error.). For more information, see [6.7 "Could not access accounting server" error](#).

14. In Address for Web Service, enter

`http://<PaperCut+MF+Application+Server+IP+address>:9191/device/sharp_osa3/soap?name=<device+name+location>`

For example:

http://10.100.65.19:9191/device/sharp_osa3/soap?name=Level1+Copier

Note:

- The value entered after the special character `=` is the device's name on the PaperCut MF Admin web interface.
- Ensure there are no spaces in the URL. Use the special character `+` to represent spaces.
- If this contains an incorrect or invalid hostname / IP address / DNS, then the following occurs:
 - the device is NOT created and displayed on the PaperCut MF Admin web interface, and
 - PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Could not access accounting server" error.). For more

information, see [6.7 "Could not access accounting server" error](#).

15. The timeout value should be set to 30 seconds. This defines how long the copier will wait before an error is displayed if the server is down or unavailable.

16. In Browser, select HTML Browser 3.5.

Note: If this is incorrect or invalid, then PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Unsupported browser version" error.). For more information, see [6.4 "Unsupported browser version" error](#).

17. Press "Submit".

External Account Control: Enable

☒ Set Authentication Server (Server 1)

Server 1 Enable

Application Name: (Up to 36 characters)

Address for Application UI: (Up to 127 characters)

Address for Web Service: (Up to 127 characters)

Timeout: seconds(1-60)

Browser: HTML Browser 3.5

☐ Extended Platform

18. Press "Reboot Now". The reboot process will take 30 seconds to 1 minute.

Note: If the device's web interface displays the error "ERROR[5000]:Processing is in motion. This function cannot be executed.", then see [6.5 Device's web interface error "ERROR\[5000\]:Processing is in motion"](#).

19. Log in to the PaperCut MF Admin web interface.
20. Navigate to Devices.
21. Verify the device is created and displayed.
22. Select the required device.
23. Verify that the Device Status displays the status Started - Device is ready for user to login.
24. Click Log out.
25. Access the physical device.
26. Verify that the first screen on the device is PaperCut MF Login screen.

Note: If the first screen on the device is any other message, then see:

- [6.7 "Could not access accounting server" error](#)
- [6.4 "Unsupported browser version" error](#)

2.4.3.4 Sharp OSA 5.5+

To install PaperCut MF (i.e. device registration and integration) on Sharp OSA 5.5+ devices:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to Options > Advanced.
3. In the External Hardware Integration area, select Enable external hardware integration (for supported devices only).
4. Click Apply.
5. Click Log out.
6. Log in to the device's web interface as an administrator.
7. Navigate to System Settings > Authentication Settings > Default Settings.
8. In User Authentication, select Enable; in Authentication Server Settings, select Sharp OSA.

9. Click Submit.
10. Navigate to System Settings > System Control > Advanced Settings

11. Click Ok.
12. Click List Display.

The list is displayed:

| ID | Name |
|-------|--|
| 00001 | Display Setting for Sharp OSA Browser Setting |
| 00002 | Setting of Shortcut Dialog Display upon Inserting External Memory Device |

13. In the ID text field, enter 00001.

14. Click Show.

The Display Setting for Sharp OSA Browser Setting is displayed:

Browser Setting

☐ Display
☒ Not Display

15. In Browser Setting, select Display.

The screenshot shows the 'System Settings' tab in the PaperCut MF web interface. On the left is a sidebar menu with options like 'System Control', 'Job Log', 'View Job Log', 'Job log Operation', 'Data Import/Export (CSV Format)', 'Storage Backup', 'Device Cloning', 'Filing Data Backup', 'Storing/Calling of System Settings', 'Reset Settings', 'E-mail Alert and Status', 'Status Message', 'Alerts Message', 'SMTP Settings', and 'Advanced Settings'. The main content area is titled 'Display Setting for Sharp OSA Browser Setting'. It contains a 'Submit(U)' button, a 'Back(Q)' button, and a 'Browser Setting' section with two radio buttons: 'Display' (which is selected) and 'Not Display'. Below this is another 'Submit(U)' and 'Back(Q)' button.

16. Click Submit.

17. Navigate to User Control > Default Settings/Card Setting.

18. In Card Setting, ensure Use IC Card for Authentication is unchecked.

The screenshot shows the 'User Control' tab in the PaperCut MF web interface. The left sidebar menu has 'Default Settings' selected. The main content area shows various settings: 'Cache User Information' (checked), 'Cache Period' (Unlimited), 'Cache Password for Authentication' (checked), and 'Store user authentication information for External Connect' (checked). Below these is a 'Card Setting' section with a checkbox for 'Use IC Card for Authentication', which is currently unchecked. A red box highlights this checkbox.

19. Navigate to System Settings > Sharp OSA Settings > External Accounting Application Settings.

20. In External Account Control, select Enable.

The screenshot shows a dropdown menu for 'External Account Control'. The dropdown is open, and 'Enable' is selected from the list of options.

21. Select the Set Authentication Server (Server 1) checkbox.

22. In Application Name, enter PaperCut.

23. In Address for Application UI, enter:

`http://<PaperCut+MF+Application+Server+IP+address>:9191/device/sharp_osa3/ui/`

For example:

http://10.100.65.19:9191/device/sharp_osa3/ui/

Note:

- Ensure the URL ends with a forward slash:

http://192.168.1.56:9191/device/sharp_osa3/ui/

- Ensure there are no spaces in the URL. Use the special character `+` to represent spaces.

- If this contains an incorrect or invalid hostname / IP address / DNS, then the following occurs:
 - the device is successfully created and displayed on the PaperCut MF Admin web interface, but
 - PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Could not access accounting server" error.). For more information, see [6.7 "Could not access accounting server" error](#).

24. In Address for Web Service, enter:

```
http://<PaperCut+MF+Application+Server+IP+address>:9191/device/  
sharp_osa3/soap?name=<device+name+location>
```

For example:

```
http://10.100.65.19:9191/device/sharp\_osa3/soap?name=  
= Level1+Copier
```

Note:

- The value entered after the special character `=` is the device's name on the PaperCut MF Admin web interface.
- Ensure there are no spaces in the URL. Use the special character `+` to represent spaces.
- If this contains an incorrect or invalid hostname / IP address / DNS, then the following occurs:
 - the device is NOT created and displayed on the PaperCut MF Admin web interface, and
 - PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Could not access accounting server" error.). For more information, see [6.7 "Could not access accounting server" error](#).

25. The timeout value should be set to 30 seconds. This defines how long the copier will wait before an error is displayed if the server is down or unavailable.

26. In Browser, select Html Browser 3.5.

Note:

- If this is incorrect or invalid, then PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Unsupported browser version" error.). For more information, see [6.4 "Unsupported browser version" error](#).
- If the Browser field is not displayed, then see [6.6 The "Browser" field is not displayed by default on Sharp OSA 5.5+ devices](#).

27. Press "Submit".

External Account Control: Enable ▼

☒ Set Authentication Server (Server 1)

Server 1 Enable ▼

Application Name: (Up to 36 characters)

Address for Application UI: (Up to 127 characters)

Address for Web Service: (Up to 127 characters)

Timeout: seconds(1-60)

Browser: HTML Browser 3.5 ▼

☐ Extended Platform

28. Press “Reboot Now”. The reboot process will take 30 seconds to 1 minute.

Note: If the device’s web interface displays the error "ERROR[5000]:Processing is in motion. This function cannot be executed.", then see [6.5 Device’s web interface error "ERROR\[5000\]:Processing is in motion"](#).

27. Log in to the PaperCut MF Admin web interface.

28. Navigate to Devices.

29. Verify the device is created and displayed.

30. Select the required device.

31. Verify that the Device Status displays the status Started - Device is ready for user to login.

32. Click Log out.

33. Access the physical device.

34. Verify that the first screen on the device is PaperCut MF Login screen.

Note: If the first screen on the device is any other message, then see:

- [6.7 "Could not access accounting server" error](#)
- [6.4 "Unsupported browser version" error](#)

2.5 Create PaperCut MF icons (Sharp OSA 3.0+)

Note: This is only applicable to Sharp OSA 3.0+ devices.

To enable users on the device’s Home screen to be able to easily navigate to and access PaperCut MF screens, you must create the following required PaperCut MF icons:

- [2.5.1 PaperCut MF Home icon](#)
- [2.5.2 PaperCut MF Print icon](#)
- [2.5.3 PaperCut MF Scan icon](#)

2.5.1 PaperCut MF Home icon

To enable users on the device’s Home screen to be able to easily navigate to and access the PaperCut MF Home screen, you must create the required PaperCut MF Home icon.

To create the PaperCut MF Home icon:

1. Log in as an administrator to the device’s web interface using a web browser (e.g. <http://device-ip/>).

2. Navigate to 'Application Settings -> External Applications Settings -> Standard Application Settings'.
3. Press 'Add' to create a new application.
4. Enter an 'Application Name'. This is the application title presented to the user. 'PaperCut Home' is the recommended application name but it is up to you.
5. For the 'Address for Application UI' enter:
`http://<server-ip>:9191/device/sharp_osa3/ui/homeApp.jsp`
6. Set the 'Display Style' to 'Full'.
7. Select the 'Use Custom Icon' checkbox, then set the 'Select File' to:
`[app-path]/providers/hardware/sharp/home-app.png`
Alternatively, you can use your own icon image.
8. Press 'Submit' to save your changes.
9. For more information about configuring the display of the PaperCut MF Home icon that has been created, see [2.6 Configure the display of PaperCut MF icons](#).

2.5.2 PaperCut MF Print icon

To enable users on the device's Home screen to be able to easily navigate to and access the PaperCut MF Print Release screen, you must create the required PaperCut MF Print icon.

To create the PaperCut MF Print icon:

1. Log in as an administrator to the device's web interface using a web browser (e.g. `http://device-ip/`).
2. Navigate to 'Application Settings -> External Applications Settings -> Standard Application Settings'.
3. Press 'Add' to create a new application.
4. Enter an 'Application Name'. This is the application title presented to the user. 'Print Release' is the recommended application name but it is up to you.
5. For the 'Address for Application UI' enter:
`http://<server-ip>:9191/device/sharp_osa3/ui/printReleaseApp.jsp`
Set the 'Display Style' to 'Full'.
6. Select the 'Use Custom Icon' checkbox, then set the 'Select File' to:
`[app-path]/providers/hardware/sharp/print-release-app.png`
Alternatively, you can use your own icon image.
7. Press 'Submit' to save your changes.
8. For more information about configuring the display of the PaperCut MF Print icon that has been created, see [2.6 Configure the display of PaperCut MF icons](#).

2.5.3 PaperCut MF Scan icon

Note: This is only applicable after PaperCut MF's Integrated Scanning is configured. For more information, see [4.8.5 PaperCut MF's Integrated Scanning \(Sharp OSA 3.0+\)](#).

To enable users on the device's Home screen to be able to easily navigate to and access the PaperCut MF Scan screen, you must create the required PaperCut MF Scan icon.

To create the PaperCut MF Scan icon:

1. Log in as an administrator to the device's web interface using a web browser (e.g. `http://device-ip/`).
2. Navigate to 'Application Settings -> External Applications Settings -> Standard Application Settings'.
3. Press 'Add' to create a new application.
4. Enter an 'Application Name'. This is the application title presented to the user. 'PaperCut Scanning' is the recommended application name but it is up to you.
5. For the 'Address for Application UI' enter:
`http://<server-ip>:9191/device/sharp_osa3/ui/scanApp.jsp`
Set the 'Display Style' to 'Full'.
6. Select the 'Use Custom Icon' checkbox, then set the 'Select File' to:
`[app-path]/providers/hardware/sharp/scan-app.png`
Alternatively, you can use your own icon image.
7. Press 'Submit' to save your changes.
8. For more information about configuring the display of the PaperCut MF Scan icon that has been created, see [2.6 Configure the display of PaperCut MF icons](#).

2.6 Configure the display of PaperCut MF icons (Sharp OSA 3.0+)

Note: This is only applicable to Sharp OSA 3.0+ devices.

To enable users on the device's Home screen to be able to easily navigate to and access PaperCut MF screens, you must configure the display of the required PaperCut MF icons that have been created:

- [2.6.1 PaperCut MF Home icon](#)
- [2.6.2 PaperCut MF Print icon](#)
- [2.6.3 PaperCut MF Scan icon](#)

2.6.1 PaperCut MF Home icon

To configure the display of the PaperCut MF Home icon that has been created:

1. Log in as an administrator to the device's web interface using a web browser (e.g. `http://device-ip/`).
2. Navigate to 'System Settings -> Operation Settings -> Home Screen Settings' or 'System Settings -> Home Screen Settings -> Condition Settings'.

3. Select a 'Home Button' titled 'Not Set' for the new application.
4. From the 'Home Screen Registration' page, for 'Sharp OSA', select 'Application', then select the name of the 'PaperCut Home' application you created.
5. Press 'Submit' to save your changes.
6. Log in to the device's native interface to see the new application icon.

2.6.2 PaperCut MF Print icon

To configure the display of the PaperCut MF Print icon that has been created:

1. Log in as an administrator to the device's web interface using a web browser (e.g. `http://device-ip/`).
2. Navigate to 'System Settings -> Operation Settings -> Home Screen Settings' or 'System Settings -> Home Screen Settings -> Condition Settings'.
3. Select a 'Home Button' titled 'Not Set' for the new application.
4. From the 'Home Screen Registration' page, for 'Sharp OSA', select 'Application', then select the name of the 'Print Release' application you created.
5. Press 'Submit' to save your changes.
6. Log in to the device's native interface to see the new application icon.

2.6.3 PaperCut MF Scan icon

Note: This is only applicable after PaperCut MF's Integrated Scanning is configured. For more information, see [4.8.5 PaperCut MF's Integrated Scanning \(Sharp OSA 3.0+\)](#).

To configure the display of the PaperCut MF Scan icon that has been created:

1. Log in as an administrator to the device's web interface using a web browser (e.g. `http://device-ip/`).
2. If this is a Sharp OSA 3.0-3.5 device, use the config key `ext-device.sharp_osa.scan.app-no` to specify the application number.
3. Navigate to 'System Settings -> Operation Settings -> Home Screen Settings' or 'System Settings -> Home Screen Settings -> Condition Settings'.
4. Select a 'Home Button' titled 'Not Set' for the new application.
5. From the 'Home Screen Registration' page, for 'Sharp OSA', select 'Application', then select the name of the 'PaperCut Scanning' application you created.
6. Press 'Submit' to save your changes.
7. Log in to the device's native interface to see the new application icon.

2.7 Delete PaperCut MF icons (Sharp OSA 3.0+)

Note: This is only applicable to Sharp OSA 3.0+ devices.

To delete PaperCut MF icons that have been created:

1. Log in to the device's web interface as an administrator.

2. Navigate to **System Settings > Sharp OSA Settings > Standard Application Settings**.

| Application Name | No. |
|--|-----|
| <input type="checkbox"/> PaperCut Scanning | 1 |
| <input type="checkbox"/> Print Release | 2 |
| <input type="checkbox"/> PaperCut Home | 3 |

3. Select the required PaperCut MF icons
4. Click **Delete**.

3 Post-install testing

After PaperCut MF is installed on the device (i.e. device registration and integration is completed), it is recommended that you test some common usage scenarios. This is important for two reasons:

- To ensure that PaperCut MF works as expected.
- To familiarize yourself with the features and functionality of PaperCut MF.

This section covers the following post-install testing scenarios for *PaperCut MF - Sharp OSA*:

- [3.2 Simple printing and copying](#)
- [3.3 Advanced copying](#)

3.1 Test preparation: create test users

To execute the post-install testing scenarios, ensure at least two test users are created:

- **Simple test user** – A user who performs simple printing and copying.
- **Advanced test user** – A user who performs advanced copying.

To create test users:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Options > User/Group Sync**.
3. In **Internal User Options**, select **Enable internal users**.
4. Click **Apply**.

Internal User Options
Provides management of user accounts in addition to those in the configured source.
[More Information...](#)

☒ **Enable internal users**

Access control
Only admins can create users

Prefix usernames with: (optional)
guest-

Confirmation message
Thank you for registering. Your details are:
Full Name: %full_name%
Username: %username%
Password: %password%
Identity Number: %id_num%
☐ Also email confirmation message to user

Apply

5. Navigate to **Users**.
6. Click **Create internal user...**
7. Enter the required details for the test users as required (simple test user, advanced test user):

PaperCutMF Users > Create Internal User admin

Create Internal User

New User Settings
Internal users are managed internally by PaperCut MF, and may be used in addition to those in the configured user directory source.
[More Information...](#)

Username
Simple Test User

Full Name
Simple Test User

Email Address
simpletestuser@papercut.com

Password

Verify Password

Identity Number

ID PIN

Verify ID PIN

☐ Email confirmation message to user

Cancel Register

8. Click **Register**.

3.2 Simple printing and copying

3.2.1 Test preparation: configure simple test user

To test the simple test scenarios, ensure at least one simple test user is created. For more information, see [3.1 Test preparation: create test users](#). Once created, ensure the simple test user is configured.

To configure the simple test user:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Users**.
3. From the **User List**, select the simple test user.

4. In the **Account Details** area, set the **Balance** to **\$50.00** and select **Restricted**:

Account Details

To set the user's balance enter the value here. To adjust the amount, select the 'adjust' link. Making the user 'restricted' means that they will not be able to print when their account has no credit.

Balance

\$50.00 (adjust)

☒ **Restricted**

Overdraft

Use default overdraft (\$0.00) ▼

5. In the **Account Selection** area's **Print account selection**, select **Automatically charge to personal account**:

Account Selection

Account selection can be used to allow the user to select what account is charged, or even to confirm print jobs before they are sent to the printer. These options require running the user client tool on workstations.

Print account selection

Automatically charge to personal account ▼

6. Click **Apply**.

3.2.2 Simple printing

Simple printing does not involve providing the simple test user with a choice of accounts to choose from. Printing is charged to the simple test user's default My Personal Account.

To test simple printing, ensure the following test preparation requirements are met:

- **Simple test user** - A simple test user is created and configured. For more information, see [3.1 Test preparation: create test users](#) and [3.2.1 Test preparation: configure simple test user](#).
- **Printer queue settings** - The printer queue's Hold/Release Queue Settings are configured. For more information, see the [PaperCut MF manual](#).

To configure the printer queue's Hold/Release Queue Settings:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Printers**.
3. Select the Printer that is applicable to the device being tested.
4. In the **Hold/Release Queue Settings** area, select the **Enable hold/release queue**.

Hold/Release Queue Settings

Hold/release queues cause print jobs to enter a holding state until released by a user or administrator.

[? More Information...](#)

☒ **Enable hold/release queue**

Release mode

User release ▼

5. Click **Apply**.
Print jobs to this printer queue are held until released by a user.

- **Device functions** – Printing is enabled. To enable printing:
 1. Log in to the PaperCut MF Admin web interface.
 2. Navigate to **Devices**.
 3. Select the required device being tested.
 4. In the **Print Release** area, select **Enable print release**.
 5. In the **This device will display jobs for release from the selected source queues**, select at least one source queue for print release that corresponds to this device's configured printer queue.
 6. Click **Apply**.
 7. Verify that the **Devices > External Device List** displays the device with **Print Release** in the **Function** column.

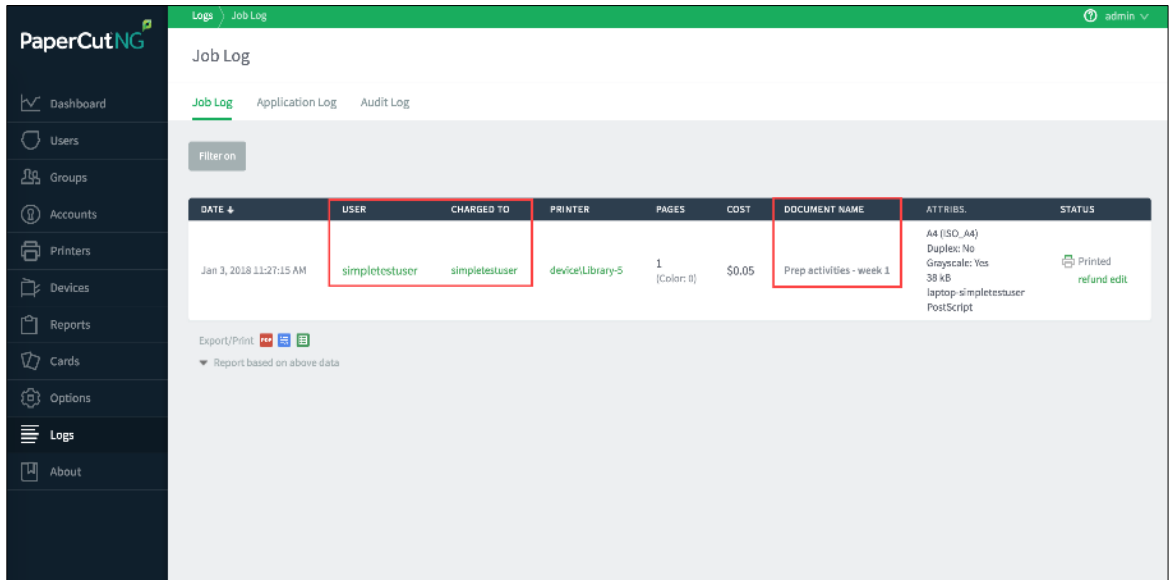
To test simple printing:

1. Log in to a computer as the simple test user.
2. Print a few jobs to the source queue that was selected in the **Devices > External Device List > Device Details > Print Release > Enable print release** area of the device being tested.
3. Log in to the PaperCut MF Admin web interface.
4. Navigate to **Printers > Jobs Pending Release**.
5. Verify that the print jobs for the simple test user are being held and listed:

| SUBMIT TIME | PRINTER | USER | DOCUMENT | CLIENT | PAGES | COST | ACTION |
|------------------------|---------------------------------|----------------|----------------------------|-----------------------|-------|--------|-----------------------------|
| Jan 2, 2018 9:53:22 AM | laptop-simpletestuser(Printer1) | simpletestuser | Prep activities - week 2 | laptop-simpletestuser | 1 | \$0.05 | [print] [cancel] [override] |
| Jan 2, 2018 9:53:19 AM | laptop-simpletestuser(Printer1) | simpletestuser | Prep activities - week 1 | laptop-simpletestuser | 1 | \$0.05 | [print] [cancel] [override] |
| Jan 2, 2018 9:53:14 AM | laptop-simpletestuser(Printer1) | simpletestuser | Report template | laptop-simpletestuser | 1 | \$0.05 | [print] [cancel] [override] |
| Jan 2, 2018 9:52:31 AM | laptop-simpletestuser(Printer1) | simpletestuser | School/NovelLetterTemplate | laptop-simpletestuser | 1 | \$0.05 | [print] [cancel] [override] |

6. Log out of the PaperCut MF Admin web interface.
7. Log in to the device as the simple test user.
8. Verify that the print jobs for the simple test user are being held and listed.
9. To release all the held print jobs at once, click **Print All**.
10. To release a held print job, select the job and then click **Print**.
11. Log out of the device.
12. Log in to the PaperCut MF Admin web interface.
13. Navigate to **Logs**.

14. After printing is completed, verify that **Job Log** page displays the test user's name, simple test user, in the **User** column and the **Charged To** column:



| DATE | USER | CHARGED TO | PRINTER | PAGES | COST | DOCUMENT NAME | ATTRIBS | STATUS |
|-------------------------|----------------|----------------|-----------------|-----------------|--------|--------------------------|---|------------------------|
| Jan 3, 2018 11:27:15 AM | simpletestuser | simpletestuser | deviceLibrary-S | 1 (Color: 0) | \$0.05 | Prep activities - week 1 | A4 (ISO_A4) Duplex: No Grayscale: Yes 38 kB laptop-simpletestuser PostScript | Printed refund edit |

15. Log out of the PaperCut MF Admin web interface.

3.2.3 Simple copying

Simple copying does not involve providing the simple test user with a choice of accounts to choose from. Copying is charged to the simple test user's default My Personal Account.

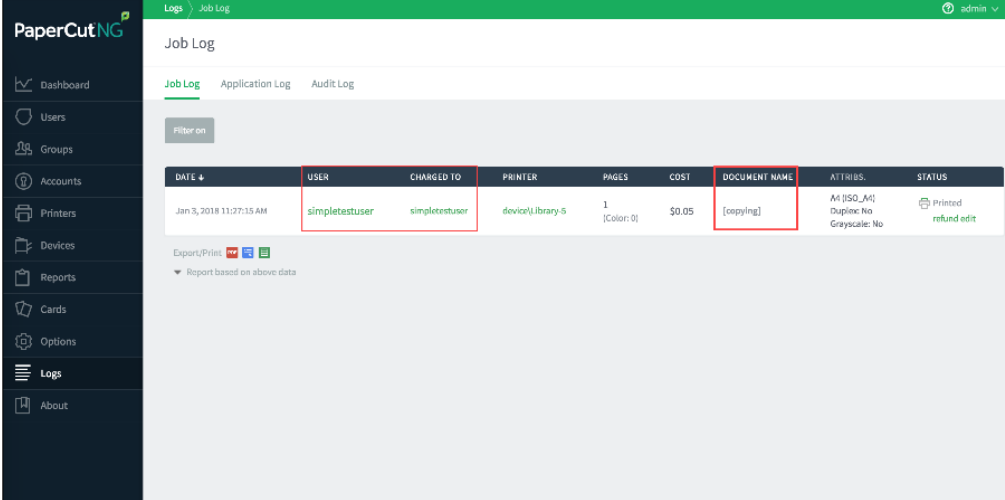
To test simple copying, ensure the following test preparation requirements are met:

- **Simple test user** - A simple test user is created and configured. For more information, see [3.1 Test preparation: create test users](#) and [3.2.1 Test preparation: configure simple test user](#).
- **Device functions** – Copying is enabled. To enable copying:
 1. Log in to the PaperCut MF Admin web interface.
 2. Navigate to **Devices**.
 3. Select the required device being tested.
 4. In the **External Device Settings > Tracking** area, select **Track & control copying**.
 5. Click **Apply**.
 6. Verify that the **Devices > External Device List** displays the device with **Copier** in the **Function** column.

To test simple copying:

1. Log in to the device as the simple test user.
2. Verify that the PaperCut MF Account Confirmation screen does not provide the simple test user with a choice of accounts to choose from, and charges copying to the simple test user's default My Personal Account.
3. Complete copying by following the device's workflow.
4. Log out of the device.

5. Log in to the PaperCut MF Admin web interface.
6. Navigate to **Logs**.
7. After copying is completed, verify that **Job Log** page displays the test user's name, simple test user, in the **User** column and the **Charged To** column:



| DATE | USER | CHARGED TO | PRINTER | PAGES | COST | DOCUMENT NAME | ATTRIBS. | STATUS |
|-------------------------|----------------|----------------|------------------|-----------------|--------|---------------|--|------------------------|
| Jan 3, 2018 11:27:15 AM | simpletestuser | simpletestuser | device/library-5 | 1 (Color: 0) | \$0.05 | [copying] | A4 (ISO_A4) Duplex: No Grayscale: No | Printed refund edit |

8. Log out of the PaperCut MF Admin web interface.

3.3 Advanced copying

Advanced copying involves providing the advanced test user with a choice of accounts to choose from. Copying is charged to the account that is selected by the advanced test user.

To test advanced copying, ensure the following test preparation requirements are met:

- **Advanced test user** – An advanced test user must be created. For more information, see [3.1 Test preparation: create test users](#).

Once created, the advanced test user must be configured.

To configure the advanced test user:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Users**.
3. From the **User List**, select the advanced test user.
4. In the **Account Details** area, set the **Balance** to **\$50.00** and select **Restricted**:

Account Details

To set the user's balance enter the value here. To adjust the amount, select the 'adjust' link. Making the user 'restricted' means that they will not be able to print when their account has no credit.

Balance

\$50.00

(adjust)

☒ Restricted

Overdraft

Use default overdraft (\$0.00)

▼

5. In the **Account Selection** area's **Print account selection**, select **Show standard account selection** and select the required options:

Account Selection

Account selection can be used to allow the user to select which account is charged. However, some options may require the user to run the User Client. [More Information...](#)

Print account selection

Show standard account selection ▼

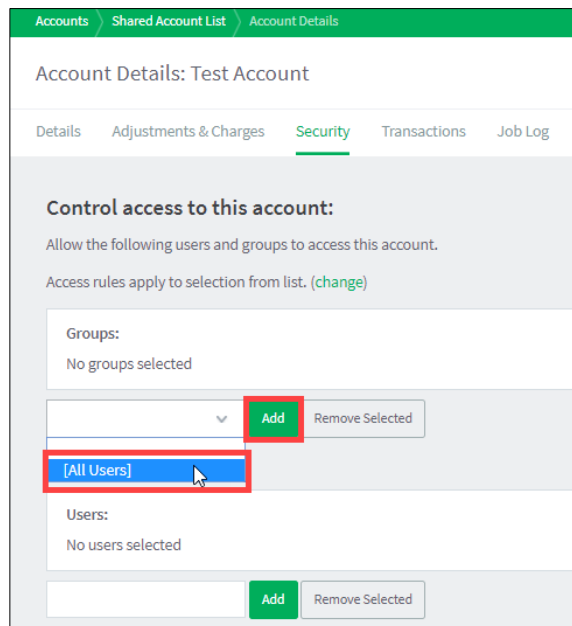
⚠ This setting may require the user to run the User Client. [More Information...](#)

Allow user to:

- ☒ Charge to their personal account
- ☒ Select shared accounts from a list
- ☒ Select shared accounts using a PIN/code
- ☐ Print as another user

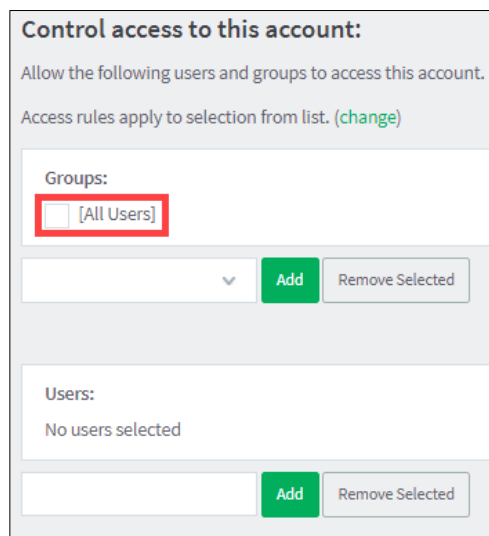
6. Click **Apply**.
- **Device functions** – Copying is enabled. To enable copying:
 1. Log in to the PaperCut MF Admin web interface.
 2. Navigate to **Devices**.
 3. Select the required device being tested.
 4. In the **External Device Settings > Tracking** area, select **Track & control copying**.
 5. Click **Apply**.
 6. Verify that the **Devices > External Device List** displays the device with **Copier** in the **Function** column.
 - **Advanced account** – A test account is created. To create a test account:
 1. Log in to the PaperCut MF Admin web interface.
 2. Navigate to **Accounts**.
 3. Click **Create a new account...**
 4. In the **Details & Balance** area's field **Account Name**, enter the name of the test account (test account).
 5. Click **Apply**.
 6. Verify that the **Accounts > Shared Account List** page displays the test account created.
 7. Click the test account.
 8. Navigate to **Security**.

9. In the **Control access to this account > Groups** area, select **[All Users]**; then click **Add**:



The screenshot shows the 'Account Details: Test Account' page. The 'Security' tab is active. Under 'Control access to this account:', there are sections for 'Groups' and 'Users'. In the 'Groups' section, '[All Users]' is selected and highlighted with a red box. The 'Add' button is also highlighted with a red box. The 'Users' section shows 'No users selected'.

10. Verify that the **Control access to this account > Groups** area displays **[All Users]**:

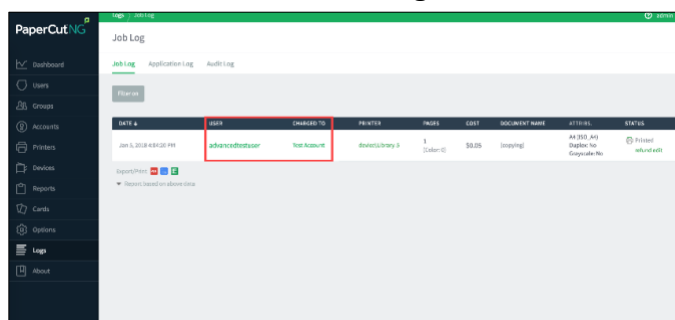


The screenshot shows the 'Control access to this account:' page. The 'Groups' section shows '[All Users]' selected and highlighted with a red box. The 'Add' button is highlighted with a green box. The 'Users' section shows 'No users selected'.

To test advanced copying:

1. Log in to the device as the advanced test user.
2. Verify that the PaperCut MF Select Account screen provides the advanced test user with a choice of accounts to choose from.
3. Select the required account, test account.
4. Verify that the PaperCut MF Account Confirmation screen displays the selected account, test account, but continues to provide the advanced test user with the option of changing the account.
5. Complete copying by following the device's workflow.

6. Copying is charged to the account selected by the advanced test user, test account.
7. Log out of the device.
8. Log in to the PaperCut MF Admin web interface.
9. Navigate to **Logs**.
10. After copying is completed, verify that **Job Log** page displays the test user's name, advanced test user, in the **User** column and the selected account's name, test account, in the **Charged To** column:



| DATE & TIME | USER | CHARGED TO | PRINTER | PAGES | COST | DOCUMENT NAME | STATUS | EXTENSION |
|-------------------------|------------------|--------------|---------------|-------|--------|---------------|-----------|--------------------|
| Jan 15, 2023 4:52:02 PM | advancedtestuser | test account | SharpLibray 3 | 1 | \$0.05 | Image1.jpg | Completed | Advanced test user |

11. Log out of the PaperCut MF Admin web interface.

4 Configuration

PaperCut MF is installed on the device with default settings, which are reasonable for most environments. However, these settings can be further tweaked to suit your environment.

This section covers the configuration changes that can be made to the default settings of *PaperCut MF - Sharp OSA*.

4.1 Inbound connections

4.1.1 Inbound connections to PaperCut MF Application Server

To configure PaperCut MF to allow inbound connections from the device to the PaperCut MF Application Server, use the config key **system.network-address**. For more information, see [4.12 Config Editor](#).

4.1.2 Inbound connections to PaperCut MF Site Servers

To configure PaperCut MF to allow inbound connections from the device to PaperCut MF Site Servers

1. Site Servers must already be installed and configured. For more information, see the [PaperCut MF manual](#).
2. Log in to the PaperCut MF Admin web interface.
3. Navigate to **Sites**.
4. Select the Site Server.
5. In the **Configuration** area, enter the IP address or DNS name of the PaperCut MF Site Server that the device uses to make inbound connections.
6. Click **Apply**.

4.2 Additional network security

By default, the PaperCut MF Application Server allows device connections from any network address. However, communication between the PaperCut MF Application Server and the device can be further restricted to a set range of network addresses. This provides an additional level of security and ensures that only approved devices are connected to the PaperCut MF Application Server.

To restrict communication between the PaperCut MF Application Server and the device to a subset of IP addresses or subnets:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Options > Advanced**.
3. In the **Security** area's field **Allowed device IP addresses**, enter a comma-separated list of device IP addresses or subnets (<ip-address1 or subnet-mask1>, <ip-address2 or subnet-mask2>).
4. Click **Apply**.

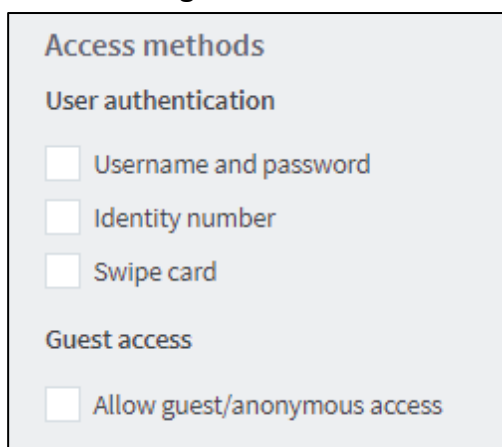
4.3 User authentication options

PaperCut MF provides you with several authentication options to authenticate users when logging in to PaperCut MF on the device.

To configure the device's user authentication:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Devices**.
3. Select the required device.

The available authenticate options are in the **Device Details** page's **External Device Settings** area:



Access methods

User authentication

☐ Username and password

☐ Identity number

☐ Swipe card

Guest access

☐ Allow guest/anonymous access

Note: You may use any one or a combination of all the available authentication options, including the guest and anonymous access authentication options.

The available user authentication options are:

| User authentication option | Description |
|------------------------------|--|
| Username and password | This is the default authentication option. |

With this option, users use their domain/network username and password.

Identity number

With this option, users use their ID number. For more information, see the [PaperCut MF manual](#).

Note: You may use the config key **ext-device.sharp_osa.id.number-pad**. For more information, see [4.12 Config Editor](#).

- **Require PIN:** With this option, users use their id number and the PIN associated with the id number.
Note: Users can use an id number with or without a pre-set and associated PIN. If using an id number without a pre-set and associated PIN, users are prompted to set a valid PIN to associate with the id number. You may use the config key **ext-device.sharp_osa.pin.number-pad**. For more information, see [4.12 Config Editor](#).

Swipe card

With this option, users use their registered swipe card (e.g. magnetic strip, smart card, RFID). For more information, see the [PaperCut MF manual](#).

Note: If you select this option, then see [4.4 User authentication via swipe cards](#).

- **Require PIN:** With this option, users use their registered swipe card and the PIN associated with the card.
Note: Users can use a swipe card with or without a pre-set and associated PIN. If using a swipe card without a pre-set and associated PIN, users are prompted to set a valid PIN to associate with the swipe card. You may use the config key **ext-device.sharp_osa.pin.number-pad**. For more information, see [4.12 Config Editor](#).
- **Enable self-association with existing user accounts:** With this option, users can use a registered swipe card or a new, unregistered swipe card. If using new, unregistered swipe cards, users are prompted to complete card self-association using their username and password (i.e. associating a new unregistered card with a required, valid user account). After card

self-association is completed, subsequent use of the registered swipe card does not require users to enter their credentials. You may use the config keys: **ext-device.card-self-association.use-secondary-card-number** and **ext-device.self-association-allowed-card-regex**. For more information, see [4.12 Config Editor](#).

Allow guest/anonymous access

With this option, you may choose to activate **guest** or **anonymous access**, enabling users to be authenticated as guest or anonymous users, as per the user specified in the **Inherit settings from user** field.

- **Inherit settings from user:** Enter the username of the PaperCut MF user's profile that is used while authenticating users as guest or anonymous users on the device.
- **Guest access** - Selecting the **Allow guest/anonymous access** authentication option *and also* selecting one or more of the other authentication options (Username and password, Identity number, Swipe card), activates **Guest access**. With this option:
 - A **Guest** button, which may be customized, is displayed on the PaperCut MF Login screen on the device, together with the other authentication options selected.

Note: To customize the text of the **Guest** button that appears on the PaperCut MF Login screen, use the config key **ext-device.sharp_osa.guest-access.label**. For more information, see [4.12 Config Editor](#).
 - A user clicking this **Guest** button is authenticated as a guest user, as per the user specified in the **Inherit settings from user** field.
- **Anonymous access** - Only selecting the **Allow guest/anonymous access** authentication option *without* selecting any other authentication

option, activates **Anonymous access**. With this option:

- A user is authenticated as an anonymous user, as per the user specified in the **Inherit settings from user** field.
- This anonymous user can view held print jobs belonging to all users.

4.4 User authentication via swipe cards

If the **Swipe card** authentication option is selected (see [4.3 User authentication options](#), [4.4.2 Handling card identifiers](#)), then:

1. Ensure the card reader is a supported card reader (see [4.4.1 Supported card readers](#)).
2. Log in to the device's web interface as an administrator.
3. Navigate to **User Control > Card Type / Card Reader Settings**.
4. Based on the type of keyboard used by the device (**System Settings > Operation Settings > Default Keyboard Setting**), set the **Use IC Card for Authentication** checkbox as required:
 - If the device uses a soft keyboard and a USB card reader, then you must uncheck the **Use IC Card for Authentication** checkbox.

Note: Since the device is using a soft keyboard (i.e. there is no external keyboard connected to the device), unchecking the **Use IC Card for Authentication** checkbox allows the USB card reader to be treated like a keyboard emulating external peripheral device connected to the device.

- If the device uses an external keyboard and a USB card reader, then you must select the **Use IC Card for Authentication** checkbox.

Note:

- Since the device is using an external keyboard (i.e. there is an external keyboard connected to the device), checking the **Use IC Card for Authentication** checkbox:
 - registers the USB card reader,
 - ensures that the USB card reader is NOT treated like a keyboard emulating external peripheral device connected to the device,
 - helps the device differentiate between the two external peripheral devices connected to it (i.e. the external keyboard and the USB card reader).
- It is recommended that you do not toggle this checkbox setting from checked to unchecked. Doing so could cause some problems.

For more information, see [6.9 Swipe card authentication anomalies](#).

- Ensure to set the config key **ext-device.sharp_osa.card-number-not-ending-with-newline** as required (see [4.12 Config Editor](#)).

5. Click **Submit**.
6. Log out of the device's web interface.
7. Access the physical device.
8. Connect the supported card reader to the device. On some devices this is hidden under a sticker on the side panel.

4.4.1 Supported card readers

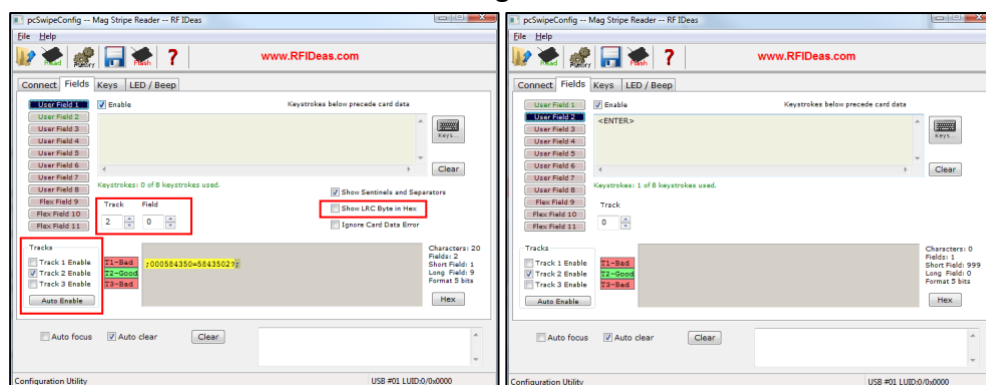
PaperCut MF - Sharp OSA supports the following configured and compatible keyboard emulating USB card readers on most supported and compatible Sharp devices (except MX-350 series, MX-M450 series, MX-M550 series, MX-M620 series, MX-M700 series):

- Elatec TWN3 Prox
- MAGTEK 21040110
- RF IDEAS AIR ID Enroll Proximity Reader RDR-7081AKU
- RF IDEAS RDR-80581AKU
- RF IDEAS RDR-805H1AKU
- RF IDEAS RDR-805T1AKU

4.4.1.1 RFIdeas pcSwipe magstripe reader

For the RFIdeas magstripe reader to work with the PaperCut embedded application on the Sharp LCD, the card reader must be re-configured using the pcSwipeConfig utility available from the RFIdeas web site. Use this utility to configure the reader as pictured in the screenshots below.

1. Enable fields 1 & 2 as shown and disable all other fields.
2. Make other changes has highlighted in RED.
3. Press the “Flash” button to save configuration to the card reader.



4.4.2 Handling card identifiers

By default, PaperCut MF handles each card's unique identifier using the following pre-configured option:

- Cards whose identifiers consist of a number followed by special character and a checksum, are modified to include only the number (the special character and everything after it is ignored). This extracted, shortened identifier is used to identify the card and the corresponding user within PaperCut MF. For example, a card with the unique identifier 5235092385=8 is modified to 5235092385.

You can also tweak the way PaperCut MF handles each card's identifier by using any of the following options:

- Using utility or configuration tools directly on the card reader's hardware.
- Using third party applications to decrypt card identifiers. For more information, contact your Reseller or Authorized Solution Center.
- Using the following options within PaperCut MF:
 - Regular expression filters
 - Converters (standard format converters and custom JavaScript converters)

Note: If you use both an expression *and* a converter, then the card's identifier is handled first by the expression and then further by the converter

Verify the results of the expressions, convertors, or both applied using the PaperCut MF Admin web interface's **Application Log**.

4.4.2.1 Regular expression filters

To extract and validate card identifiers using regular expression filters, use the config keys **ext-device.card-no-regex**, **ext-device.self-association-allowed-card-regex**.

Note: If you customize BOTH the config keys **ext-device.card-no-regex** and **ext-device.self-association-allowed-card-regex**, then you must ensure that:

- **ext-device.card-no-regex** is the extraction pattern (i.e. the "full regular expression filter" based on which card identifiers are extracted)
- **ext-device.self-association-allowed-card-regex** is the validation pattern (i.e. validates only the "truncated part of the card identifier" that was extracted by the extraction pattern of **ext-device.card-no-regex**)

For example:

if, **ext-device.card-no-regex** = `\d{6}(\d{8})`

then, **ext-device.self-association-allowed-card-regex** = `\d{8}`

For more information, see [4.12 Config Editor](#).

Some regular expression filters include:

| Expression | Description | Example |
|----------------------|---------------------------------|---|
| <code>(.{10})</code> | Extract the first 10 characters | AST%123456789 is modified to AST%123456 |
| <code>(\d{5})</code> | Extract the first 5 numbers | AST%123456789 is modified to 12345 |

| | | |
|----------------------------|---|---|
| <code>\d*=(\d*)=\d*</code> | Extract only the numbers between the 2 special characters | 123453=292929=1221 is modified to 1234532929291221 |
|----------------------------|---|---|

For more information, see www.regular-expressions.info.

4.4.2.2 Standard format converters

To modify card identifiers using standard format converters, use the config key **ext-device.card-no-converter**. For more information, see [4.12 Config Editor](#).

Some examples of standard format converters are:

| Converter | Description | Example |
|--------------------------|---|--|
| hex2dec | Convert a hexadecimal (base 16) encoded card identifier to the decimal format. Note: Hexadecimal numbers usually contain 0-9 and A-F. | 946EBD28 is modified to 2490285352 |
| dec2hex | Convert a decimal encoded card identifier to the hexadecimal format. | 2490285352 is modified to 946EBD28 |
| ascii-enc | Unpack an ASCII encoded card identifier to its encoded ASCII number. | 3934364542443238 is modified to its ASCII code 946EBD28. |
| ascii-enc hex2dec | First unpack an ASCII encoded card identifier to its encoded ASCII number. Then convert it to the decimal format. Note: Use a delimiting pipe () to chain or pipeline converters. | |

4.4.2.3 Custom JavaScript converters

To use a custom JavaScript converter:

1. Create a JavaScript file. For example:
[install-path]/server/custom/card.js
2. Define a single JavaScript function in this file called **convert**. It must accept and return a single string. For example:
**function convert(cardNumber) {
 return cardNumber.substring(3,10).toLowerCase();
}**
3. Include a converter in the form: **javascript:custom/card.js**
4. Optionally, include a JavaScript script in the pipeline. For example:
ascii-enc|hex2dec|javascript:custom/card.js
5. Verify the JavaScript converter from the following log:
[install-path]/server/log/server.log

6. Use the config key **ext-device.card-no-converter** to modify card identifiers using custom JavaScript converters. For more information, see [4.12 Config Editor](#).

4.5 Offline Mode

Note: This is only applicable if the device already has Offline Mode enabled via the Soft Switch - Simulation 55-03, SW24, Bit 8 (changed to 1). For more information, contact your Sharp service technician.

If PaperCut MF is unable to connect to the device, then after a configurable period of time, the device enters Offline Mode. Users are still able to use the device in Offline Mode. However, in this mode, PaperCut MF is unable to track and control printing, copying, scanning, or faxing.

To specify the interval of time (minutes) from the time PaperCut MF is unable to connect to the device, after which the device enters the Offline Mode, use the config key **ext-device.sharp_osa.offline-awake-interval-minutes**. For more information, see [4.12 Config Editor](#).

Offline mode is only available to certain device users, such as users who have been manually added into the user list found in the device's web page.

4.6 SNMP

Note: This is only applicable if the device already has Printer Error Reporting enabled via the Soft Switch - Access Test Simulation 55-03, SW9, Bit 5 (changed to 0). For more information, contact your Sharp service technician.

You must configure the device and PaperCut MF to use SNMPv1/v2c or SNMPv3, which is used to:

- [block the release of jobs to the device when it is in error](#), and
- [retrieve the device's printer toner levels](#).

For more information about SNMP, see the [PaperCut MF manual](#).

To configure the device to use SNMP:

1. Log in to the device's web interface as an administrator.
2. Navigate to **System Settings > Network Settings > Services Settings > SNMP**.
3. To enable the device to use:
 - SNMPv1/v2c, ensure **SNMP v1 Settings** is set to **Enable**; and **SNMP v3 Settings** is set to **Disable**.
 - SNMPv3, ensure **SNMP v3 Settings** is set to **Enable**; and **SNMP v1 Settings** is set to **Disable**.
4. Click **Submit**.

To configure PaperCut MF to use SNMP:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Devices**.
3. Select the required device.
4. In the **External Device Settings**, to enable PaperCut MF to use:

- SNMPv1/v2c, ensure the **Use SNMPv3 for Toner Retrieval and Device Error Monitoring** checkbox is not selected (default).
- SNMPv3, select the **Use SNMPv3 for Toner Retrieval and Device Error Monitoring** checkbox; and enter the following fields:
 - **Context name, Username, Privacy password, Authentication password** - If these values are available at the device's web interface, then use the same values. If not, leave them blank or enter your own value.
 - **Authentication protocol** – Select either **MD5** or **SHA**.
 - **Privacy protocol** – Select either **DES** or **AES**.

5. Click **Apply**.

4.7 Secure print release

Secure Print Release causes all print jobs to be held at the device until a user releases the job. To configure Secure Print Release:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Devices**.
3. Select the required device.
4. In the **Print Release** area, select **Enable print release**.
5. In the **This device will display jobs for release from the selected source queues**, select the required Hold/Release queue. For more information, see the [PaperCut MF manual](#).

4.8 Device jobs

Device jobs include jobs initiated at the device, such as, scan, copy, fax, on-device printing.

4.8.1 Tracking device jobs

To specify the device jobs that PaperCut MF tracks and controls:

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Devices**.
3. Select the required device.
4. In the **External Device Settings** area, select the required device jobs:
 - **Track & control copying** – PaperCut MF tracks and controls copy jobs and on-device print jobs
 - **Track & control scanning** – PaperCut MF tracks and controls scan jobs
 - **Track & control faxing** – PaperCut MF tracks and controls fax jobs

4.8.2 User selection of an account

If tracked device jobs (scan, copy, fax, on-device printing) are also being charged, then users must allocate them to an account.

This account can be either:

- a user's personal account, or

- a shared account for cost center, faculty, or client billing purposes.

The options available to users at the device, is based on the way users and the device are configured:

- For more information about configuring cost allocation for users, see the [PaperCut MF manual](#).
- To toggle the display of the PaperCut MF Account Confirmation screen, use the **Show account confirmation checkbox** on the PaperCut MF Admin web interface (**Devices Details > Summary > External Device Settings > Device Options**).
- To configure the PaperCut MF Select Account screen, use the config keys **ext-device.sharp_osa.accounts.code.search-label**, **ext-device.sharp_osa.accounts-initial-tab**. For more information, see [4.12 Config Editor](#).

4.8.3 Job costs and account balances (Zero Stop)

When printing, if a restricted user's account balance is insufficient to cover the cost of the user's entire print job, PaperCut MF prevents the user from being able to start the print job. This ensures that the user's balance never drops below zero for print jobs.

When copying or on-device printing, PaperCut MF calculates the cost of a single page (i.e. the Reference Page Cost, which is based on configured values). Using this Reference Page Cost, PaperCut MF calculates the number of reference pages that the restricted user's account balance will allow (i.e. the maximum number of Reference Pages Allowed). As a result:

- If a restricted user's account balance is insufficient for even one Reference Page Allowed, then PaperCut MF prevents the user from being able to start a copy or on-device print job.
- If a restricted user's account balance is sufficient for at least one Reference Page Allowed, then PaperCut MF allows the user to start a copy or on-device print job.

As the job is in progress, if the maximum number of Reference Pages Allowed is reached, then PaperCut MF:

- stops the job,
- prevents it from being completed, and
- deletes the job from the device's Job Status screen.

Note: For more information about configuring PaperCut MF to place the job in a **Limit** state, instead of deleting it, see [4.8.3.2 "Limit" jobs](#).

This above ensures that the restricted user's account balance never drops below zero for copy and on-device print jobs. For more information, see [4.8.3.1 Reference Page Cost and maximum number of Reference Pages Allowed](#).

When scanning or faxing, PaperCut MF compares the cost of a single scan or fax page configured in the PaperCut MF Admin web interface page (**Devices > External Device**

List > Device Details > Summary > External Device Settings area) against the restricted user's account balance.

- If a restricted user's account balance is lower than the configured cost of a single scan or fax page, then PaperCut MF prevents the user from being able to start a scan or fax job.
- However, when scan or fax job is in progress, if the restricted user's account balance drops below the configured cost of a single scan or fax page, then PaperCut MF is unable to stop the job. As a result, the job is completed, allowing the restricted user's account balance to drop below zero.

Further restrictions can also be applied to restricted users to prevent their account balances from dropping below zero. For more information, see [4.8.3.3 Multiple Jobs](#).

4.8.3.1 Reference Page Cost and maximum number of Reference Pages Allowed

To configure the Reference Page Cost that is used to calculate the maximum number of Reference Pages Allowed for copy and on-device print jobs, use the following config keys:

- **ext-device.sharp_osa.limit-reference.duplex**
- **ext-device.sharp_osa.limit-reference.paper-size**

For more information, see [4.12 Config Editor](#).

Note: This Reference Page Cost that is used to calculate the maximum number of Reference Pages Allowed for copy and on-device print jobs has some limitations. For more information, see [5.2 Limitations of the configured Reference Page Cost and maximum number of Reference Pages Allowed](#).

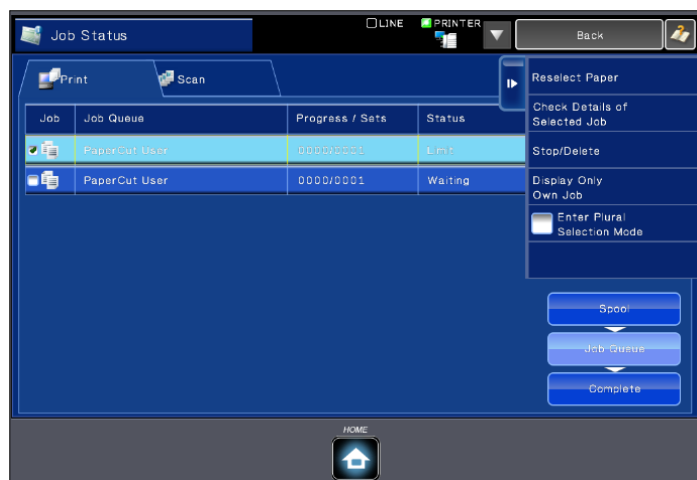
4.8.3.2 "Limit" jobs

As a restricted user's copy or on-device print job is in progress, if the maximum number of Reference Pages Allowed is reached, then by default PaperCut MF:

- stops the job,
- prevents it from being completed, and
- deletes the job from the device's Job Status screen.

From the above default actions, you can configure PaperCut MF to place the job in a **Limit** state on the device's Job Status screen, instead of deleting it, by setting the config key **ext-device.sharp_osa.create-limit-jobs** to **Y**. For more information, see [4.12 Config Editor](#).

This causes the job to be the first job in the device's Job Status screen and has the **Limit** status. All other subsequent jobs are displayed after this job, with the **Waiting** status, and are not processed until the **Limit** job is addressed (manually deleted from the device):



4.8.3.3 Multiple Jobs

To further prevent restricted users' account balances from dropping below zero, you can prevent restricted users from being able to perform multiple transactions simultaneously on the device, by using the config key **ext-device.sharp_osa.deny-multiple-jobs**. For more information, see [4.12 Config Editor](#).

4.8.4 On-device printing

By default, PaperCut MF only allows unrestricted users (**Users > User List > User Details > Account Details > unchecked Restricted** checkbox) to access the device for any of the following on-device print jobs:

- USB print jobs
- SMB pull print jobs (from the device's network folders)
- FTP pull print jobs
- Print jobs retrieved from the device's hard drive.

To extend this to restricted users, set the config key **ext-device.sharp_osa.allow-on-device-print-for-restricted-users** to **Y**. For more information, see [4.12 Config Editor](#). Although PaperCut MF supports on-device printing, it has the following limitations:

1. All on-device print jobs are tracked as copy jobs on the PaperCut MF Admin web interface (**Logs > Job Log**).
2. Chargeable on-device print jobs are charged as copy jobs.

4.8.5 PaperCut MF's Integrated Scanning (Sharp OSA 3.0+)

Note: This is only applicable to Sharp OSA 3.0+ devices.

To enable users to use PaperCut MF's Integrated Scanning:

1. Ensure that the device pre-requisites are met:
 - a. Log in to the device's web interface as an administrator.
 - b. Navigate to **System Settings > Common Settings > Product Key**.

- c. Verify that **Application Communication Module: [Enable]** is displayed:

The screenshot shows the PaperCut MF Admin web interface. The top navigation bar includes 'Status', 'Address Book', 'Document Operations', 'User Control', and 'System Settings'. The left sidebar menu lists various settings categories, with 'Product Key' highlighted in blue. The main content area is titled 'Product Key' and contains a 'Back to Menu List' link. Below this, there is a message: 'Before you input or change the product key, please contact your authorized sharp dealer. Serial Number: 7507364800'. The configuration section includes fields for 'Font Kit for Barcode:', 'Internet Fax Expansion Kit:', 'Application Integration Module:', and 'External Account Module: [Enable]'. Each field has a corresponding 'Submit' button. The 'Application Integration Module:' field is highlighted with a red box, and its value is 'Application Communication Module: [Enable]'.

2. Configure Integrated Scanning on the PaperCut MF Admin web interface. For more information, see [Integrated Scanning](#) or the [PaperCut MF manual](#).
3. To enable users on the device's Home screen to be able to easily navigate to and access the PaperCut MF Scan screen, you must add and configure the required PaperCut MF Scan icon as required. For more information, see [2.5 Create PaperCut MF icons \(Sharp OSA 3.0+\)](#), [2.6 Configure the display of PaperCut MF icons \(Sharp OSA 3.0+\)](#)
4. You must configure the config key **ext-device.sharp_osa.scan.app-no** as required for Sharp OSA 3.5 and below devices. For more information, see [4.12 Config Editor](#).

4.9 Timeouts

A user who is detected as being idle (on a PaperCut MF screen or a non-PaperCut MF device screen) is automatically logged out after a certain interval of time, based on the following conditions:

- **Device timeout** - If the user is idle on a non-PaperCut MF device screen, then the user is logged out based on the device's timeout.
 - To configure the device's timeout on newer devices:
 1. Log in to the device's web interface as an administrator.
 2. Navigate to **User Control > Default Settings**.
 3. Select the **Automatic Logout Setting** checkbox; then select the required device timeout in seconds
 4. Click **Submit**.
 - To configure the device's timeout on older devices:
 1. Log in to the device's web interface as an administrator.
 2. Navigate to **System Settings > Operation Settings**.

3. In **Auto Clear Setting**, select the required device timeout in seconds.
 4. Click **Submit**.
 5. The device's Access Test Simulation 55-03, SW1, Bit 5 may need to be changed to 1. For more information, contact your Sharp service technician.
- **PaperCut MF timeout** - If the user is idle on a PaperCut MF screen, then the user is logged out based on the config key **ext-device.inactivity-timeout-secs**. For more information, see [4.12 Config Editor](#).

4.10 Keyboard

Based on the type of keyboard used by the device, ensure that the **Default Keyboard Setting** is configured as required:

1. Log in to the device's web interface as an administrator.
2. Navigate to **System Settings > Operation Settings**.
3. Based on the type of keyboard used by the device, set the **Set Keyboard Priority** as required:
 - **Soft Keyboard** – If the device uses a soft keyboard, ensure this default option is selected.
 - **External Keyboard** – If the device uses an external keyboard, select this option.
4. Click **Submit**.
5. Restart the device.

4.11 Screen headers

4.11.1 Header colors (Sharp OSA 3.0+)

Note: This is only applicable to Sharp OSA 3.0+ devices.

To customize the colors (background and text) of the headers on all PaperCut MF screens:

1. Use the following config keys:
 - **ext-device.sharp_osa.header.color**
 - **ext-device.sharp_osa.header.textcolor**For more information, see [4.12 Config Editor](#).
2. Log in to the device as a test user (simple test user).
3. Verify that the device's header background and text colors are as required.

4.11.2 Header logo (Sharp OSA 3.0+)

Note: This is only applicable to Sharp OSA 3.0+ devices.

To customize the logo on the headers of all PaperCut MF screens:

1. Create the device's header logo as per the following specifications:
 - Image height = 45 pixels
 - Image width = 200 pixels

- Image file format = `.png`
 - Image filename = `logo.png`
 - Image file location = `[PaperCut MF Application Server Location]\server\custom\web\device\sharp\`
2. Log in to the device as a test user (simple test user).
 3. Verify that the device's header logo is as required.

4.11.3 Header logo (Sharp OSA 2.9 and below)

Note: This is only applicable to Sharp OSA 2.9 and below devices.

To customize the logo on the headers of all PaperCut MF screens:

1. Create the device's header logo as per the following specifications:
 - Image dimensions half-VGA (small) screen = 640 x 190 pixels
 - Image dimensions full-VGA (large) screen = 630 x 336 pixels
 - Image color = must correspond to the device's screen (color or black and white screen)
 - Image file format = `.gif`
 - Image filename = `background.gif`
 - Image file location = `[PaperCut MF Application Server Location]\server\custom\web\device\sharp\`
2. Log in to the device as a test user (simple test user).
3. Verify that the device's header logo is as required.

4.12 Config Editor

PaperCut MF provides you with several global and device-specific config keys that you can modify to suit your environment. While some keys are *only* global (impacting PaperCut MF on all devices) or *only* device-specific (impacting PaperCut MF on the selected device), other keys are *both* global *and* device-specific simultaneously. Such keys initially inherit their global settings (GLOBAL) as their default settings. However, changes made at the device-level overrides these globally inherited default settings.

To configure the device using the available global config keys (impact PaperCut MF on all devices):

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Options > Actions > Config editor (advanced)**.

Note: For more information, see the [PaperCut MF manual](#).

To configure the device using the available device-specific config keys (impact PaperCut MF on the selected device):

1. Log in to the PaperCut MF Admin web interface.
2. Navigate to **Devices**.
3. Select the required device.
4. Click **Advanced Config**.

The available config keys are:

| Config name | Description |
|--|---|
| Device screens | |
| ext-device.sharp_osa.header.color | <p>Customize the background color of headers on all PaperCut MF screens.</p> <p>This is a device-specific config key.</p> <ul style="list-style-type: none">• Values: Valid CSS color specifications (color names or HTML RGB, HEX #rrggbb, HSL, RGBA, HSLA values), DEFAULT• Default: DEFAULT (dark green) <p>Note:</p> <ul style="list-style-type: none">• This is only applicable to Sharp OSA 3.0+ devices.• For more information, see 4.11.1 Header colors |
| ext-device.sharp_osa.header.textcolor | <p>Customize the text color of headers on all PaperCut MF screens.</p> <p>This is a device-specific config key.</p> <ul style="list-style-type: none">• Values: Valid CSS color specifications (color names or HTML RGB, HEX #rrggbb, HSL, RGBA, HSLA values), DEFAULT• Default: DEFAULT (white) <p>Note:</p> <ul style="list-style-type: none">• This is only applicable to Sharp OSA 3.0+ devices.• For more information, see 4.11.1 Header colors |
| ext-device.sharp_osa.show-welcome | <p>Configure the workflow to:</p> <ul style="list-style-type: none">• Either, show the device's Welcome/ Start screen• Or, hide the device's Welcome/ Start, and show the device's Login options screen <p>This is a device-specific config key.</p> <ul style="list-style-type: none">• Values: Y (show the device's Welcome/ Start screen), N (hide the device's Welcome/ Start screen)• Default: Y <p>Note: Setting this to N – hides the Welcome/ Start screen only if auto login is not configured.</p> |

ext-device-msg.welcome-text

Customize text that appears on the device's Welcome/Start screen. For example, instructions to help users log in to PaperCut MF on the device.

This is a device-specific config key.

- Values: Any text, DEFAULT
- Default: DEFAULT (device-specific PaperCut MF text)

Note:

- This is only applicable to Sharp OSA 3.0+ devices.
- To add a line break, use `\n`. For example, *PaperCut Software\nSwipe your card to log in.*

ext-device.sharp_osa.guest-access.label

Customize the text of the **Guest** button that appears on the PaperCut MF Login screen.

This is a device-specific config key.

- Values: Any text, DEFAULT
- Default: DEFAULT (Guest)

Note: This is only applicable if **guest access** is activated (the **Allow guest/anonymous access** authentication option is selected and at least any one other authentication option is also selected). For more information, see [4.3 User authentication options](#).

ext-device.sharp_osa.1byte-keyboard

Specify whether or not the PaperCut MF displays a soft single-byte keyboard for double-byte languages, such as Chinese and Japanese, for entering values such as username, ID number, account code, etc.

- Values: Y (enable single-byte keyboard), N (disable single-byte keyboard), DEFAULT
- Default: DEFAULT (N)

ext-device-msg.login-text

Customize text on the PaperCut MF Home screen's header (after users have successfully logged in to the device from the PaperCut MF Login screen). For example, "Hello there!".

This is a device-specific config key.

- Values: Any text, patterns using `{0}` for username substitution, DEFAULT
 - Default: DEFAULT ("Welcome, {0}", where "{0}" is used to substitute the user's name)
-

Note: To add a line break, use \n. For example, *PaperCut Software\nHello there!*

ext-device.sharp_osa.device-functions-on-login

Configure the workflow after users have successfully logged in to the device to:

- Either, show the PaperCut MF Home screen
- Or, show the screen with all the device jobs

This is a device-specific config key.

- Values: N (show the PaperCut MF Home screen), Y (show the screen with all the device jobs)
- Default: N

Note:

- Setting this to N – enables the following config keys to take effect:
 - **ext-device.sharp_osa.skip-release-screen-when-no-jobs**
 - **ext-device.home-screen.force-show**
-

ext-device.sharp_osa.skip-release-screen-when-no-jobs

When the device is configured to show the PaperCut MF Home screen, further configure the workflow to:

- Either, always show the PaperCut MF Print Release screen
- Or, hide the PaperCut MF Print Release screen, if there are no held print jobs waiting to be released

This is a device-specific config key.

- Values: N (always show the PaperCut MF Print Release screen), Y (hide the PaperCut MF Print Release screen, based on other settings)
- Default: N

Note: This is only applicable if the device is configured to show the PaperCut MF Home screen (i.e. the config **ext-device.sharp_osa.device-functions-on-login** is set to **N**).

ext-device.home-screen.force-show

When the device is configured to show only the PaperCut MF Home screen, further configure the workflow to:

- Either, always show the PaperCut MF Home screen
-

- Or, hide the PaperCut MF Home screen, if BOTH **Enable print release** AND **Integrated Scanning** are not enabled

This is a global config key.

- Values: N (hide the PaperCut MF Home screen, based on other settings), Y (always show the PaperCut MF Home screen)
- Default: N

Note: This is only applicable if the device is configured to show the PaperCut MF Home screen (i.e. **ext-device.sharp_osa.device-functions-on-login** is set to N).

ext-device-msg.copier-enabled-text

Customize the text of the Copier enabled screen (the screen when the device is ready for use/copying).

This is a device-specific config key.

- Values: Any text, DEFAULT
- Default: DEFAULT (device-specific PaperCut MF text)

Note: To add a line break, use \n. For example, *PaperCut Software\nDevice is ready for use.*

ext-device.sharp_osa.login.select-function

Specify the device screen that is displayed by default upon clicking the **Access Device** button on the PaperCut MF Home screen.

This is a device-specific config key.

- Values: DEFAULT, any one or a comma-separated combination of the following device screens (not case sensitive):
 - HOME
 - COPY
 - IMAGE_SEND
 - DOCUMENT_FILING
- Default: DEFAULT (any one of the device screens available, based on the device model)

ext-device.sharp_osa.app-to-home

Toggle the displays of the **Home** button on the PaperCut MF Print Release screen and the PaperCut MF Scan Actions screen.

This is a device-specific config key.

- Values: Y (show **Home** button), N (hide **Home** button), DEFAULT
- Default: DEFAULT (Y)

ext-device.sharp_osa.accounts.code.search-label

Customize the text of the **Account Code/PIN** button that appears on the PaperCut MF Select Account screen.

This is a device-specific config key.

- Values: Any text, DEFAULT
- Default: DEFAULT (Account Code/PIN)

Note: This is only applicable to users configured with the required Account Selection options. For more information about configuring cost allocation for users, see the [PaperCut MF manual](#).

ext-device.sharp_osa.accounts-initial-tab

Specify the tab that is displayed by default on the PaperCut MF Select Account screen.

This is a device-specific config key.

- Values: Any one of the following tabs:
 - LIST
 - SEARCH
 - CODE
- Default: LIST

Note: This is only applicable to users configured with the required Account Selection options. For more information about configuring cost allocation for users, see the [PaperCut MF manual](#).

"Swipe card" authentication option

ext-device.sharp_osa.start-with-card

Configure the workflow to:

- Either, show both the device's Welcome/ Start screen and the Login options screen
- Or, hide both the device's Welcome/ Start and the Login options screen, and show **ONLY** the PaperCut MF Swipe-to-Login screen.

This is a device-specific config key.

- Values: Y (hide both the device's Welcome/ Start and the Login options screen, and show **ONLY** the PaperCut MF Swipe-to-Login screen), N (show both the device's Welcome/ Start screen and the Login options screen)

- Default: Y

Note: Setting this to Y – hides both the device’s Welcome/ Start and the Login options screen, and shows ONLY the PaperCut MF Swipe-to-Login screen, only if:

- the **Swipe card** authentication option is selected (see [4.3 User authentication options](#)),
- auto login is not configured, and
- the config key **ext-device.sharp_osa.show-welcome** is set to **N**.

ext-device.sharp_osa.swipe_card_message

Customize the text that appears on the PaperCut MF Swipe-to-Login screen. For example, instructions to help users log in to PaperCut MF on the device using their swipe cards.

This is a device-specific config key.

- Values: Any text (30 characters), DEFAULT
- Default: DEFAULT (device-specific PaperCut MF text: *Please swipe card and press OK*)

Note: To add a line break, use `\n`. For example, *PaperCut Software\nSwipe your card to log in.*

ext-device.sharp_osa.card-number-not-ending-with-newline

Specify when and how PaperCut MF initiates the user authentication process, If the device uses an external keyboard and a USB card reader:

- either, after receiving a hard return response,
- or, after the expiry of a set timeout.

This is a device-specific config key.

- Values: N (begin user authentication after receiving a hard return response), Y (begin user authentication after the expiry of a set timeout)
- Default: N
- This is only applicable if:
 - the **Swipe card** authentication option is selected (see [4.3 User authentication options](#)), and
 - the device uses a keyboard emulating USB card reader (see [4.4 User authentication via swipe cards](#))
- Setting this to N –

- is only applicable if the swipe cards being used generate a hard return/ keystroke response to signal the end of a card swipe (i.e. their card numbers end with a new line).
- causes PaperCut MF to initiate user authentication after receiving a hard return/ keystroke response.
- Setting this to Y –
 - is required if the swipe cards being used do not generate a hard return/ keystroke response to signal the end of a card swipe (i.e. their card numbers do not end with a new line).
 - causes PaperCut MF to initiate user authentication after the expiry of a set timeout.

ext-device.card-self-association.use-secondary-card-number

Specify the use of the primary or the secondary card number slot to save card identifiers during card self-association.

This is a global and device-specific config key.

Device-specific:

- Values: Y, N, GLOBAL (inherited from global settings)
- Default: GLOBAL (inherited from global settings)

Global:

- Values: N (Primary), Y (Secondary)
- Default: N

Note: This is only applicable if the **Swipe card - Enable self-association with existing user accounts** authentication option is selected. For more information, see [4.3 User authentication options](#).

ext-device.self-association-allowed-card-regex

Specify the regular expression filter to be used to validate card identifiers during card self-association.

This is a device-specific config key.

- Values: Any valid regular expression, .*
- Default: .*

Note:

- This is only applicable if the **Swipe card - Enable self-association with existing user accounts** authentication option is selected. For more information, see [4.3 User authentication options](#) and [4.4.2 Handling card identifiers](#).
- Changing the default value of the config key **ext-device.card-no-regex** (extracting card identifiers using customized regular expression filters) requires you to ensure that the value of this config key is only the “truncated part of the card identifier” that was extracted by the extraction pattern of **ext-device.card-no-regex**. For example, if the config key `ext-device.card-no-regex = \d{6}(\d{8})`, then the config key `ext-device.self-association-allowed-card-regex = \d{8}`. For more information, see [4.4.2.1 Regular expression filters](#).

ext-device.card-no-regex

Specify the regular expression filter to be used to extract card identifiers for authentication.

This is a global and device-specific config key.

Device-specific:

- Values: Any valid regular expression, GLOBAL (inherited from global settings)
- Default: GLOBAL (inherited from global settings)

Global:

- Values: Any valid regular expression

Note:

- This only is applicable if the **Swipe card** authentication option is selected. For more information, see [4.3 User authentication options](#) and [4.4.2 Handling card identifiers](#).
- Changing the default value of this config key requires you to ensure that the value of the config key **ext-device.self-association-allowed-card-regex** is only the “extracted, truncated part of the card identifier” of this config key. For example, if the config key `ext-device.card-no-regex = \d{6}(\d{8})`, then the config key `ext-`

device.self-association-allowed-card-regex = $\backslash d\{8\}$. For more information, see [4.4.2.1 Regular expression filters](#).

ext-device.card-no-converter

Specify the converters (standard format converters, custom JavaScript converters, or both) to be used to modify card identifiers for authentication.

This is a global and device-specific config key.

Device-specific:

- Values: Any valid converter (standard format converters, custom JavaScript converters, or both), GLOBAL (inherited from global settings)
- Default: GLOBAL (inherited from global settings)

Global:

- Values: Any valid converter (standard format converters, custom JavaScript converters, or both)

Note: This is only applicable if the **Swipe card** authentication option is selected. For more information, see [4.3 User authentication options](#) and [4.4.2 Handling card identifiers](#).

ext-device.sharp_osa.id.number-pad

Specify whether or not the PaperCut MF Login screen displays a soft numeric keyboard for entering an ID number during the user authentication process.

This is a device-specific config key.

- Values: N (does not display soft numeric keyboard), Y (displays soft numeric keyboard)
- Default: N

Note:

- This is only applicable if the **Identity number** authentication option is selected. For more information, see [4.3 User authentication options](#).
- Setting this to Y –
 - displays the soft numeric keyboard only if the device does not already have a built-in numeric keyboard on the panel.

- is only recommended if the ID numbers of all users only consist of positive integers.

ext-device.sharp_osa.pin-number-pad

Specify whether or not the PaperCut MF Login screen displays a soft numeric keyboard for entering a PIN during the user authentication process.

This is a device-specific config key.

- Values: N (does not display soft numeric keyboard), Y (displays soft numeric keyboard)
- Default: N

Note:

- This is only applicable if the **Identity number** and/ or **Swipe card** authentication option is selected together with the **Require PIN** option. For more information, see [4.3 User authentication options](#).
- Setting this to Y – displays the soft numeric keyboard only if the device does not already have a built-in numeric keyboard on the panel.

Job costs and account balances (Zero Stop)

ext-device.sharp_osa.allow-on-device-print-for-restricted-users

Specify whether or not on-device printing is extended to restricted users.

This is a device-specific config key.

- Values: Y (on-device printing is extended to restricted users), N (on-device printing is only available to unrestricted users)
- Default: N

Note: For more information, see [4.8.4 On-device printing](#).

ext-device.sharp_osa.limit-reference.duplex

When configuring the Reference Page Cost that is used to calculate the maximum number of Reference Pages Allowed for copy and on-device print jobs, specify whether the Reference Page used is a simplex page or a duplex page.

This is a device-specific config key.

- Values: N (simplex), Y (duplex)
-

- Default: N

Note: For more information, see [4.8.3.1 Reference Page Cost and maximum number of Reference Pages Allowed](#).

ext-device.sharp_osa.limit-reference.paper-size

When configuring the Reference Page Cost that is used to calculate the maximum number of Reference Pages Allowed for copy and on-device print jobs, specify the paper size of the Reference Page used.

This is a device-specific config key.

- Values: Any valid paper size
- Default: A4 | Letter (Worldwide: A4; North America: Letter)

Note: For more information, see [4.8.3.1 Reference Page Cost and maximum number of Reference Pages Allowed](#).

ext-device.sharp_osa.deny-multiple-jobs

Specify whether or not restricted users are permitted to perform multiple transactions simultaneously on the device. For example, perform a copy job while another print job is in progress.

This is a device-specific config key.

- Values: Y (multiple transactions not permitted), N (multiple transactions permitted)
- Default: Y

Note:

- This is only applicable to restricted users.
- Setting this to Y – is recommended to ensure that restricted users' account balances do not drop below zero.
- For more information, see [4.8.3.3 Multiple Jobs](#).

ext-device.sharp_osa.create-limit-jobs

Specify how PaperCut MF handles a restricted user's copy or on-device print job if the maximum number of Reference Pages Allowed is reached:

- Either, deletes the job from the device's Job Status screen,
- Or, places the job in a **Limit** state on the device's Job Status screen

This is a device-specific config key.

- Values: Y (job is placed in "Limit" state), N (job is deleted)
- Default: N

Note: For more information, see [4.8.3.2 "Limit" jobs](#).

Network resilience, security, logs, uninstallation

system.network-address

Specify the network IP address or FQDN (Fully Qualified Domain Name) of the PaperCut MF Application Server that the device uses to make inbound connections. This is a global config key.

- Values: Network IP address or FQDN (Fully Qualified Domain Name) of the PaperCut MF Application Server used by the device for inbound connections.

Note: For more information, see [4.1.1 Inbound connections to PaperCut MF Application Server](#).

ext-device.sharp_osa.security.native-user-authentication

Specify how users are authenticated on the device:

- either, by PaperCut MF
- or, by the printer's driver.

This is a device-specific config key.

- Values: Y (PaperCut MF authenticates users), N (Printer's driver authenticates users)
- Default: Y

Note: For more information, see [6.10 Released print jobs are not being printed](#).

ext-device.sharp_osa.acl-deny-access

Specify the device jobs that only authenticated administrators can access.

This is a device-specific config key.

- Values: Any one or a comma-separated combination of device jobs that only authenticated administrators can access.
- Default: SETTINGS.SYSTEM-SETTINGS,SETTINGS.WEB-SETTINGS

ext-device.block-release-on-error.snmp-error-list

Specify the errors that will prevent jobs from being released.

This is a global config key.

- Values: DEFAULT, any one or a comma-separated combination of the following printer error types (not case sensitive):
 - lowPaper
 - noPaper
 - lowToner
 - noToner
 - doorOpen
 - jammed
 - offline
 - serviceRequested
 - inputTrayMissing
 - outputTrayMissing
 - markerSupplyMissing
 - outputNearFull
 - outputFull
 - inputTrayEmpty
 - overduePreventMaint
- Default: DEFAULT (noPaper, doorOpen, jammed, offline, inputTrayMissing, outputTrayMissing, markerSupplyMissing, outputFull)

ext-device.sharp_osa.offline-awake-interval-minutes

Specify the interval of time (minutes) that PaperCut MF waits, from the time that is unable to connect to the device, after which the device enters Offline Mode. This is a device-specific config key.

- Values: 1-1440 (minutes)
- Default: 5 (minutes)

Note: For more information, see [4.5 Offline Mode](#).

ext-device.sharp_osa.max-expected-job-time-secs

Specify the interval of time (minutes) that PaperCut MF waits, from the time that it is unable to connect to the device while a job is in progress, after which it enters Polling Mode. When PaperCut MF is in Polling Mode, it makes repeated attempts to connect to the device to determine the status of the job, so it can successfully log the job upon its completion. This is a device-specific config key.

- Values: Any positive number (seconds)
-

- Default: 600 (seconds)

ext-device.sharp_osa.scan.app-no

Specify the device's scan application number that is specified in the device's web interface (**Application Settings > External Applications Settings > Standard Application Settings**).

This is a device-specific config key.

Note: This is to enable users to use scanning (the device's scan application and/ or PaperCut MF's Integrated Scanning) on Sharp OSA 3.5 and below devices. For more information, see [2.5 Create PaperCut MF icons \(Sharp OSA 3.0+\)](#), [2.6 Configure the display of PaperCut MF icons \(Sharp OSA 3.0+\)](#), [4.8.5 PaperCut MF's Integrated Scanning \(Sharp OSA 3.0+\)](#).

Timeouts

ext-device.sharp_osa.timeout.login.secs

PaperCut MF Login screen timeout: Specify the interval of time (seconds) that a user is given to complete each login field, after which the screen times out.

This is a device-specific config key.

- Values: Any positive number (seconds)
- Default: 30 (seconds)

ext-device.inactivity-timeout-secs

PaperCut MF timeout: Specify the interval of time (seconds) after which a user who is detected as being idle on PaperCut MF is automatically logged out.

This is a device-specific config key.

- Values: Any positive number (seconds)
- Default: 60 (seconds)

Note: For more information, see [4.9 Timeouts](#).

5 Known Limitations and Security

5.1 On-device print jobs are logged as copy jobs

On-device print jobs are logged as copy jobs on the PaperCut MF Admin web interface (**Logs > Job Log**).

5.2 Limitations of the configured Reference Page Cost and maximum number of Reference Pages Allowed

The Reference Page Cost that is used to calculate the maximum number of Reference Pages Allowed for copy and on-device print jobs has the following limitations.

5.2.1 Limitation 1: Reference Page Cost is unavailable for scan and fax jobs

The Reference Page Cost that is used to calculate the maximum number of Reference Pages Allowed for device jobs is only available for copy and on-device print jobs. It is unavailable for scan and fax jobs. When scanning or faxing, PaperCut MF compares the cost of a single scan or fax page configured in the PaperCut MF Admin web interface page (**Devices > External Device List > Device Details > Summary > External Device Settings** area) against the restricted user's account balance.

- As a result, if a restricted user's account balance is lower than the configured cost of a single scan or fax page, then PaperCut MF prevents the user from being able to start a scan or fax job.
- However, when scan or fax job is in progress, if the restricted user's account balance drops below the configured cost of a single scan or fax page, then PaperCut MF is unable to stop the job. As a result, the job is completed, allowing the restricted user's account balance to drop below zero.

5.2.2 Limitation 2: Reference Page Cost is lower than the actual per page cost

If the Reference Page Cost is lower than the actual per page cost of the user's copy or on-device print job, then the restricted user's account balance could drop below zero. This is because the cost of the equivalent number of pages of the actual job would be much higher than the cost of the same number of Reference Pages Allowed.

Example 1 – Reference Page Cost is lower than actual job cost

The following is an example of what could happen if the Reference Page Cost is based on an A4 paper size (which costs less than Letter), but the actual job is a Letter paper size. The job is allowed, and the restricted user's account balance drops below zero.

- **Account's opening balance = \$4.50**
- **Attributes and costs of references:**
 - Configured attribute of one Reference Page = A4
 - Calculated cost of one Reference Page = \$1.00
 - Maximum number of Reference Pages Allowed = 4

- Total cost of maximum number of Reference Pages Allowed = \$4
- **Account's closing balance using References** = \$0.50 (*actual job is allowed*)
- **Attributes and costs of actuals:**
 - Attribute of actual page = Letter
 - Cost of actual page = \$1.50
 - Number of actual pages = 4
 - Total cost of actual pages = \$6
 - **Account's closing balance using actuals** = \$-1.50 (*account balance is negative*)

5.2.3 Limitation 3: Reference Page Cost is higher than the actual per page cost

If the Reference Page Cost is higher than the actual per page cost of the user's copy or on-device print job, then even if the restricted user's account balance has enough funds to cover the actual cost of the job, the following could occur:

- the user could be incorrectly prevented from starting a copy or on-device print job,
- the user could be prematurely stopped in the middle of a copy or on-device print job.

This is because the cost of the number of Reference Pages Allowed would be higher than the cost of the equivalent number of pages of the actual job.

Example 2 – Reference Page Cost is higher than actual job cost

The following is an example of what could happen if the Reference Page Cost is based on a Letter paper size (which costs more than A4), but the actual job is an A4 paper size. The job is not allowed although the account balance has enough funds to cover the job without dropping below zero.

- **Account's opening balance** = \$1.50
- **Attributes and costs of references:**
 - Configured attribute of one Reference Page = Letter
 - Calculated cost of one Reference Page = \$2.00
 - Maximum number of Reference Pages Allowed = 0 (*actual job is not allowed*)
- **Attributes and costs of actuals:**
 - Attribute of actual page = A4
 - Cost of actual page = \$0.50
 - Number of actual pages = 2
 - Total cost of actual pages = \$1.00
 - **Account's closing balance using actuals** = \$0.50 (*account balance would not have been negative, if the actual job was allowed*)

6 FAQ & Troubleshooting

6.1 IP addresses of the PaperCut MF Application Server

To get the IP addresses of the PaperCut MF Application Server, run any one of the following applicable commands from the command line prompt:

- For Windows: `ipconfig`
- For Linux, Mac OS: `ifconfig`

6.2 Command Prompt errors

6.2.1 Command Prompt error "Duplicate deviceName in csv"

After attempting to install PaperCut MF on the device, if the Command Prompt displays the following message, it implies that PaperCut MF installation is unsuccessful:

```
Duplicate deviceName in csv: "The device name  
'<deviceName>' is already specified for a device in this  
csv"
```

This is because the value of the CSV header **deviceName** is duplicated in other rows in the **batch-devices.csv** file.

To resolve this, ensure that the value of the CSV header **deviceName** for each device is unique (and not duplicated in any row). Then resume installing PaperCut MF. For more information, see [2.4.1 Install PaperCut MF on multiple devices](#).

6.2.2 Command Prompt error "Duplicate deviceHostnameOrIp in csv"

After attempting to install PaperCut MF on the device, if the Command Prompt displays the following message, it implies that PaperCut MF installation is unsuccessful:

```
Duplicate deviceHostnameOrIp in csv: "The address  
'<deviceHostnameOrIp>' is already specified for a device  
in this csv"
```

This is because the value of the CSV header **deviceHostnameOrIp** is duplicated in other rows in the **batch-devices.csv** file.

To resolve this, ensure that the value of the CSV header **deviceHostnameOrIp** for each device is unique (and not duplicated in any row). Then resume installing PaperCut MF. For more information, see [2.4.1 Install PaperCut MF on multiple devices](#).

6.2.3 Command Prompt error "Sharp device is not supported"

After attempting to install PaperCut MF on the device, if the Command Prompt displays the following message, it implies that PaperCut MF installation is unsuccessful:

```
'<deviceName>' => "Sharp device is not supported"
```

This is because the device is not supported.

To resolve this, verify that the device is a Sharp OSA 3.0+ device that is listed as a supported device on the [PaperCut MF for Sharp](#) page.

6.2.4 Command Prompt error "Admin login details were incorrect"

After attempting to install PaperCut MF on the device, if the Command Prompt displays the following message, it implies that PaperCut MF installation is unsuccessful:

```
'<deviceName>' => "Admin login details were incorrect"
```

This is because the administrator credentials for the device's web interface in the **batch-devices.csv** file's CSV headers **deviceAdminUser**, **deviceAdminPass** are invalid or incorrect.

To resolve this, ensure that administrator credentials for the device's web interface in the **batch-devices.csv** file's CSV headers **deviceAdminUser**, **deviceAdminPass** are accurate. Then resume installing PaperCut MF. For more information, see [2.4.1 Install PaperCut MF on multiple devices](#).

6.2.5 Command Prompt error "The operation has timed out"

After attempting to install PaperCut MF on the device, if the Command Prompt displays the following message, it implies that PaperCut MF installation is unsuccessful:

```
'<deviceName>' => "The operation has timed out"
```

This is because the Command Prompt has timed-out due to various reasons (some CSV headers in the **batch-devices.csv** file for the device have errors, the device is switched off, there are other network connectivity issues in your environment, etc).

To resolve this, address the root cause of the time-out. Then resume installing PaperCut MF. For more information, see [2.4.1 Install PaperCut MF on multiple devices](#).

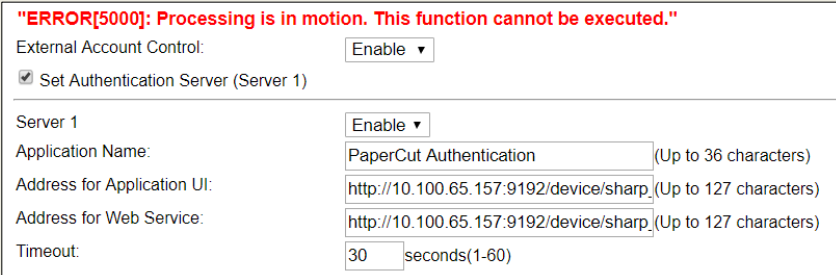
6.2.6 Command Prompt error "Processing is in motion"

After attempting to install PaperCut MF on the device, if the Command Prompt displays the following message, it implies that PaperCut MF installation is unsuccessful:

```
'<deviceName>' => "Processing is in motion"
```

This is because the Sharp device is detected as being locked. This prevents Command Prompt from being able to access it to change its settings. As a result, the device's web interface displays the error:

```
"ERROR[5000]:Processing is in motion. This function cannot be executed."
```



The screenshot shows a web interface with a red error message at the top: "ERROR[5000]: Processing is in motion. This function cannot be executed." Below the message are several configuration fields:

- External Account Control:** A dropdown menu set to "Enable".
- ☒ **Set Authentication Server (Server 1)**
- Server 1:** A dropdown menu set to "Enable".
- Application Name:** A text field containing "PaperCut Authentication" with a note "(Up to 36 characters)".
- Address for Application UI:** A text field containing "http://10.100.65.157:9192/device/sharp" with a note "(Up to 127 characters)".
- Address for Web Service:** A text field containing "http://10.100.65.157:9192/device/sharp" with a note "(Up to 127 characters)".
- Timeout:** A text field containing "30" with a note "seconds(1-60)".

To resolve this:

1. Access the physical device.
2. Unlock the device:
 - a. On the device's screen, click the **COPY** soft tab.
 - b. If the device displays the COPY screen, it implies you have successfully unlocked the device.
 - c. However, if the device does not respond, then on the device's panel, click the **System Settings** hard button.
The device displays the message **Log in as administrator?**
 - d. Click **Yes**.
 - e. If the device displays the Administrator password screen, it implies you have successfully unlocked the device.
3. After unlocking the device, resume installing PaperCut MF. For more information, see [2.4.1 Install PaperCut MF on multiple devices](#).

6.2.7 Command Prompt error "Unable to install PaperCut MF on the device"

After attempting to install PaperCut MF on the device, if the Command Prompt displays the following message, it implies that PaperCut MF installation is unsuccessful:

```
'<deviceName>' => "Unable to install PaperCut MF on the device"
```

This could be because of any of the following reasons:

- the device is not supported, or the device is not compatible with the embedded software solution specified in the **batch-devices.csv** file's CSV header **deviceType** (i.e. **SHARP_OSA**),
- PaperCut MF cannot be installed on the device using Command Prompt.

To resolve this:

1. First, verify that the device is a Sharp OSA 3.0+ device that is listed as a supported device on the [PaperCut MF for Sharp](#) page.
2. Then, manually install PaperCut MF. For more information, [2.4.3 Manually install PaperCut MF on each device](#).

6.2.8 Command Prompt warning "Device of that name already exists"

After attempting to install PaperCut MF on the device, Command Prompt displays the following message, it implies there is no further action required:

```
'<deviceName>' => "Device of that name already exists"
```

This is because, the device specified in the **batch-devices.csv** file's CSV header **deviceName** is already registered in the PaperCut MF Admin web interface (i.e. PaperCut MF is already installed on the device).

6.2.9 Command Prompt warning "Device with that hostname already exists"

After attempting to install PaperCut MF on the device, Command Prompt displays the following message, it implies there is no further action required:

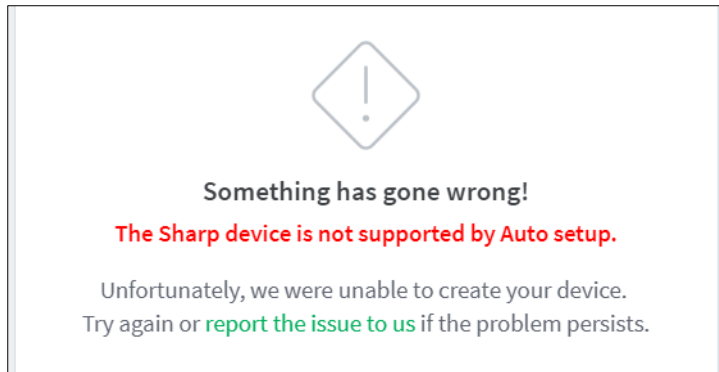
```
'<deviceName>' => "Device with that hostname already exists"
```

This is because, the device specified in the **batch-devices.csv** file's CSV header **deviceHostnameOrIp** is already registered in the PaperCut MF Admin web interface (i.e. PaperCut MF is already installed on the device).

6.3 Auto setup errors

6.3.1 Auto setup error "Sharp device is not supported"

After attempting to install PaperCut MF on the device, if the Auto setup displays the following message, it implies that PaperCut MF installation is unsuccessful:

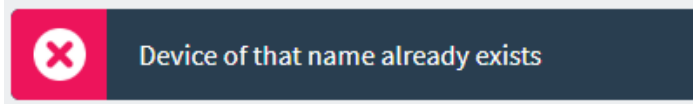


This is because the device is not supported.

To resolve this, verify that the device is a Sharp OSA 3.0+ device that is listed as a supported device on the [PaperCut MF for Sharp](#) page.

6.3.2 Auto setup error "Device of that name already exists"

After attempting to install PaperCut MF on the device, if the Auto setup displays the following message, it implies that PaperCut MF installation is unsuccessful:

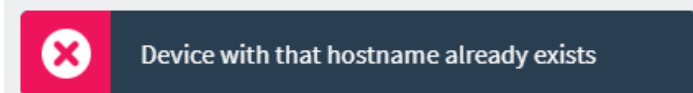


This is because the Auto setup's **Device Details > Nickname** field contains an incorrect, invalid or duplicate device name.

To resolve this, ensure that the **Nickname** field is accurate. Then resume installing PaperCut MF. For more information, see [2.4.2 Install PaperCut MF on each device using Auto setup](#).

6.3.3 Auto setup error "Device with that hostname already exists"

After attempting to install PaperCut MF on the device, if the Auto setup displays the following message, it implies that PaperCut MF installation is unsuccessful:

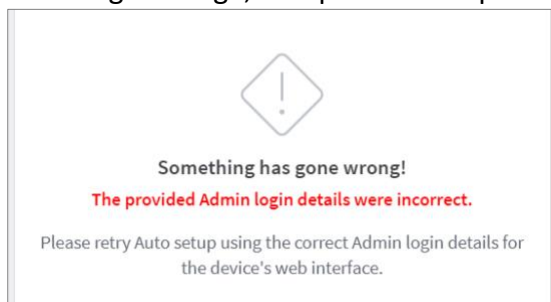


This is because the Auto setup's **Device Details > Hostname or IP** field contains an incorrect, invalid or duplicate hostname / IP address / DNS.

To resolve this, ensure that the **Hostname or IP** field is accurate. Then resume installing PaperCut MF. For more information, see [2.4.2 Install PaperCut MF on each device using Auto setup](#).

6.3.4 Auto setup error "Admin login details were incorrect"

After attempting to install PaperCut MF on the device, if the Auto setup displays the following message, it implies that PaperCut MF installation is unsuccessful:

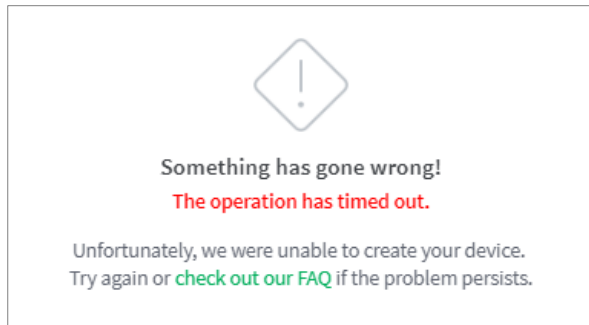


This is because the Auto setup's **Admin login details > Username** and/or **Password** fields contain incorrect or invalid credentials.

To resolve this, ensure that the **Admin login details** fields (i.e. the Administrator credentials of the device's web interface) are accurate. Then resume installing PaperCut MF. For more information, see [2.4.2 Install PaperCut MF on each device using Auto setup](#).

6.3.5 Auto setup error "The operation has timed out"

After attempting to install PaperCut MF on the device, if the Auto setup displays the following message, it implies that PaperCut MF installation is unsuccessful:



This is because the Auto setup has timed-out due to various reasons (some fields have errors, the device is switched off, there are other network connectivity issues in your environment, etc).

To resolve this, address the root cause of the time-out. Then resume installing PaperCut MF. For more information, see [2.4.2 Install PaperCut MF on each device using Auto setup](#).

6.3.6 Auto setup error "Processing is in motion"

After attempting to install PaperCut MF on the device, if the Auto setup displays the following message, it implies that PaperCut MF installation is unsuccessful:



This is because your Sharp device is detected as being locked. This prevents Auto setup from being able to access it to change its settings. As a result, your device's web interface displays the error:

```
"ERROR[5000]:Processing is in motion. This function cannot be executed."
```

"ERROR[5000]: Processing is in motion. This function cannot be executed."

External Account Control: Enable ▾

☒ Set Authentication Server (Server 1)

Server 1: Enable ▾

Application Name: (Up to 36 characters)

Address for Application UI: (Up to 127 characters)

Address for Web Service: (Up to 127 characters)

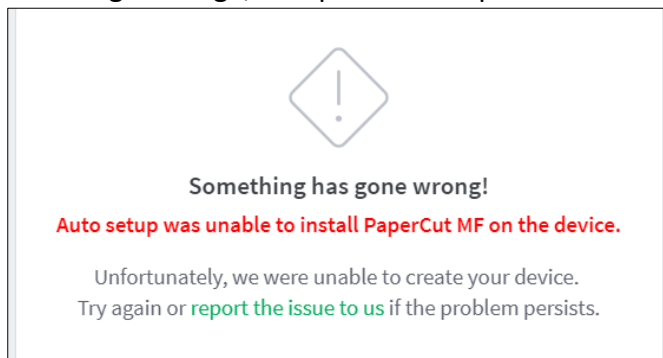
Timeout: seconds(1-60)

To resolve this:

1. Access the physical device.
2. Unlock the device:
 - a. On the device's screen, click the **COPY** soft tab.
 - b. If the device displays the COPY screen, it implies you have successfully unlocked the device.
 - c. However, if the device does not respond, then on the device's panel, click the **System Settings** hard button.
The device displays the message **Log in as administrator?**
 - d. Click **Yes**.
 - e. If the device displays the Administrator password screen, it implies you have successfully unlocked the device.
3. After unlocking the device, resume installing PaperCut MF. For more information, see For more information, see [2.4.2 Install PaperCut MF on each device using Auto setup](#).

6.3.7 Auto setup error "Unable to install PaperCut MF on the device"

After attempting to install PaperCut MF on the device, if the Auto setup displays the following message, it implies that PaperCut MF installation is unsuccessful:



This could be because of any of the following reasons:

- the device is not supported, or the device is not compatible with the embedded software solution specified in the **Type** field (i.e. **Sharp OSA**),
- PaperCut MF cannot be installed on the device using Auto setup.

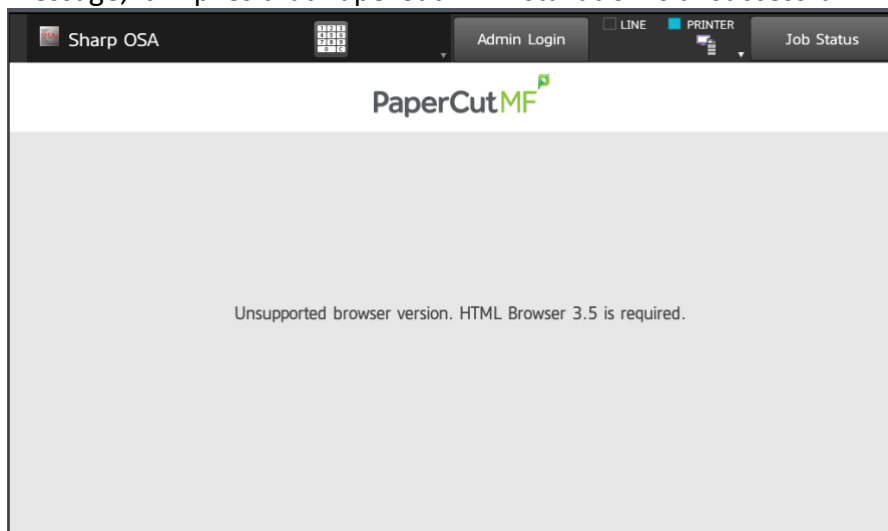
To resolve this:

1. First, verify that the device is a Sharp OSA 3.0+ device that is listed as a supported device on the [PaperCut MF for Sharp](#) page.

2. Then, manually install PaperCut MF. For more information, [2.4.3 Manually install PaperCut MF on each device](#).

6.4 "Unsupported browser version" error

After attempting to install PaperCut MF on the device, if the device displays the following message, it implies that PaperCut MF installation is unsuccessful:



To resolve this:

1. Log in to the device's web interface as an administrator.
2. Navigate to:
 - **Application Settings > External Application Settings > External Accounting Application Settings**, or
 - **System Settings > Sharp OSA Settings > External Accounting Application Settings**.
3. In **Browser**, select **HTML Browser 3.5**.
Note: If **Browser** does not have the **Html Browser 3.5** option, see [6.6 The "Browser" field is not displayed by default on Sharp OSA 5.5+ devices](#).
4. Resume installing PaperCut MF. For more information, see [2.4.3 Manually install PaperCut MF on each device](#).

6.5 Device's web interface error "ERROR[5000]:Processing is in motion"

After attempting to install PaperCut MF on the device, if your device's web interface displays the following error, it implies that PaperCut MF installation is unsuccessful:

"ERROR[5000]: Processing is in motion. This function cannot be executed."

| | |
|--|--|
| External Account Control: | <input type="button" value="Enable"/> |
| <input checked="" type="checkbox"/> Set Authentication Server (Server 1) | |
| Server 1 | <input type="button" value="Enable"/> |
| Application Name: | <input type="text" value="PaperCut Authentication"/> (Up to 36 characters) |
| Address for Application UI: | <input type="text" value="http://10.100.65.157:9192/device/sharp"/> (Up to 127 characters) |
| Address for Web Service: | <input type="text" value="http://10.100.65.157:9192/device/sharp"/> (Up to 127 characters) |
| Timeout: | <input type="text" value="30"/> seconds(1-60) |

This is because your Sharp device is detected as being locked, preventing you from accessing it to change its settings to install PaperCut MF.

To resolve this:

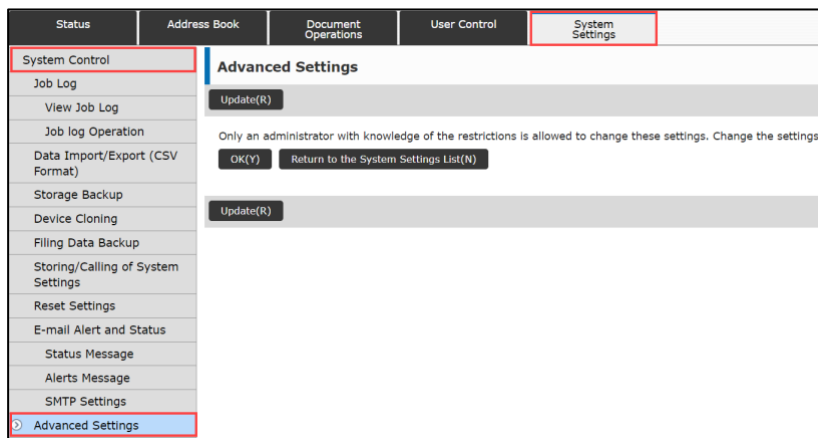
1. Access the physical device.
2. Unlock the device:
 - a. On the device's screen, click the **COPY** soft tab.
 - b. If the device displays the COPY screen, it implies you have successfully unlocked the device.
 - c. However, if the device does not respond, then on the device's panel, click the **System Settings** hard button.
The device displays the message **Log in as administrator?**
 - d. Click **Yes**.
 - e. If the device displays the Administrator password screen, it implies you have successfully unlocked the device.
3. After unlocking the device, resume installing PaperCut MF. For more information, see [2.4.3 Manually install PaperCut MF on each device](#).

6.6 The "Browser" field is not displayed by default on Sharp OSA 5.5+ devices

Sharp OSA 5.5+ devices, by default, do not display the **Browser** field, which is required to install PaperCut MF.

To resolve this:

1. Log in to the device's web interface as an administrator.
2. Navigate to **System Settings > System Control > Advanced Settings**



3. Click **Ok**.

4. Click **List Display**.

| Status | Address Book | Document Operations | User Control | System Settings |
|------------------------------------|--------------|---------------------|--------------|-----------------|
| System Control | | | | |
| Job Log | | | | |
| View Job Log | | | | |
| Job log Operation | | | | |
| Data Import/Export (CSV Format) | | | | |
| Storage Backup | | | | |
| Device Cloning | | | | |
| Filing Data Backup | | | | |
| Storing/Calling of System Settings | | | | |
| Reset Settings | | | | |
| E-mail Alert and Status | | | | |
| Status Message | | | | |
| Alerts Message | | | | |
| SMTP Settings | | | | |
| Advanced Settings | | | | |

Advanced Settings

Update(R)

ID: Show(N)

List Display(I)

Update(R)

The list is displayed:

| Status | Address Book | Document Operations | User Control | System Settings |
|------------------------------------|--------------|---------------------|--------------|-----------------|
| System Control | | | | |
| Job Log | | | | |
| View Job Log | | | | |
| Job log Operation | | | | |
| Data Import/Export (CSV Format) | | | | |
| Storage Backup | | | | |
| Device Cloning | | | | |
| Filing Data Backup | | | | |
| Storing/Calling of System Settings | | | | |
| Reset Settings | | | | |
| E-mail Alert and Status | | | | |
| Status Message | | | | |
| Alerts Message | | | | |
| SMTP Settings | | | | |
| Advanced Settings | | | | |

Advanced Settings

Update(R)

ID: Show(N)

List Display(I)

| ID | Name |
|-------|--|
| 00001 | Display Setting for Sharp OSA Browser Setting |
| 00002 | Setting of Shortcut Dialog Display upon Inserting External Memory Device |

Update(R)

5. In the **ID** text field, enter **00001**.

| Status | Address Book | Document Operations | User Control | System Settings |
|------------------------------------|--------------|---------------------|--------------|-----------------|
| System Control | | | | |
| Job Log | | | | |
| View Job Log | | | | |
| Job log Operation | | | | |
| Data Import/Export (CSV Format) | | | | |
| Storage Backup | | | | |
| Device Cloning | | | | |
| Filing Data Backup | | | | |
| Storing/Calling of System Settings | | | | |
| Reset Settings | | | | |
| E-mail Alert and Status | | | | |
| Status Message | | | | |
| Alerts Message | | | | |
| SMTP Settings | | | | |
| Advanced Settings | | | | |

Advanced Settings

Update(R)

ID: Show(N)

List Display(I)

| ID | Name |
|-------|--|
| 00001 | Display Setting for Sharp OSA Browser Setting |
| 00002 | Setting of Shortcut Dialog Display upon Inserting External Memory Device |

Update(R)

6. Click **Show**.

The **Display Setting for Sharp OSA Browser Setting** is displayed:

| Status | Address Book | Document Operations | User Control | System Settings |
|--|--------------|---------------------|--------------|-----------------|
| <div> <div>System Control</div> <div>Job Log</div> <div>View Job Log</div> <div>Job log Operation</div> <div>Data Import/Export (CSV Format)</div> <div>Storage Backup</div> <div>Device Cloning</div> <div>Filling Data Backup</div> <div>Storing/Calling of System Settings</div> <div>Reset Settings</div> <div>E-mail Alert and Status</div> <div>Status Message</div> <div>Alerts Message</div> <div>SMTP Settings</div> <div>Advanced Settings</div> </div> <div> <div>Display Setting for Sharp OSA Browser Setting</div> <div>Submit(U) Back(Q)</div> <div>Browser Setting</div> <div> <input type="radio"/> Display <input checked="" type="radio"/> Not Display </div> <div>Submit(U) Back(Q)</div> </div> | | | | |

7. In **Browser Setting**, select **Display**.

| Status | Address Book | Document Operations | User Control | System Settings |
|--|--------------|---------------------|--------------|-----------------|
| <div> <div>System Control</div> <div>Job Log</div> <div>View Job Log</div> <div>Job log Operation</div> <div>Data Import/Export (CSV Format)</div> <div>Storage Backup</div> <div>Device Cloning</div> <div>Filling Data Backup</div> <div>Storing/Calling of System Settings</div> <div>Reset Settings</div> <div>E-mail Alert and Status</div> <div>Status Message</div> <div>Alerts Message</div> <div>SMTP Settings</div> <div>Advanced Settings</div> </div> <div> <div>Display Setting for Sharp OSA Browser Setting</div> <div>Submit(U) Back(Q)</div> <div>Browser Setting</div> <div> <input checked="" type="radio"/> Display <input type="radio"/> Not Display </div> <div>Submit(U) Back(Q)</div> </div> | | | | |

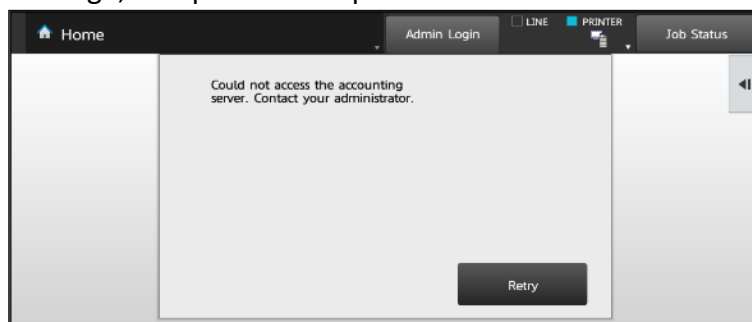
8. Click **Submit**.

9. Navigate to **System Settings > Sharp OSA Settings > External Accounting Application Settings**.

10. Verify that the **Browser** field is displayed.

6.7 "Could not access accounting server" error

After attempting to install PaperCut MF on the device, if the device displays the following message, it implies that PaperCut MF installation is unsuccessful:



This is because the **External Accounting Application Settings** configuration on the device's web interface has errors in any one or both the following fields:

- **Address for Application UI** - If this contains an incorrect or invalid hostname / IP address / DNS, then the following occurs:
 - the device is successfully created and displayed on the PaperCut MF Admin web interface, but
 - PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Could not access accounting server" error.).
- **Address for Web Service** - If this contains an incorrect or invalid hostname / IP address / DNS, then the following occurs:
 - the device is NOT created and displayed on the PaperCut MF Admin web interface, and
 - PaperCut MF is unavailable on the device (i.e. the first screen on the device is not the PaperCut MF Login screen; it is the "Could not access accounting server" error.).

To resolve this:

1. Log in to the device's web interface as an administrator.
2. Navigate to **System Settings > Sharp OSA Settings > External Accounting Application Settings**.
3. Verify that the information in the following fields is accurate:
 - **Address for Application UI**
 - **Address for Web Service**
4. Resume installing PaperCut MF. For more information, see [2.4.3 Manually install PaperCut MF on each device](#).

6.8 Swipe card authentication is unavailable when "Auto Power Shut-Off" is enabled and "Sleep Mode Power Level" is "Low Power"

If the **Swipe card** authentication option is enabled, but **Auto Power Shut-Off** is enabled and **Sleep Mode Power Level** is **Low Power**, then when the device wakes up from sleep mode the card reader is unavailable, preventing user authentication via a swipe card.

To resolve this:

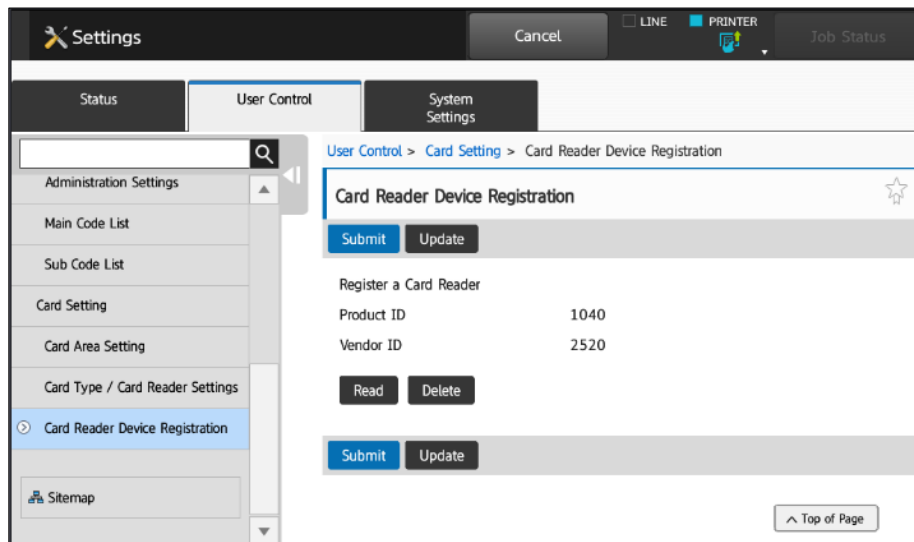
1. Log in to the device's web interface as an administrator.
2. Navigate to **System Settings > Energy Save > Eco Setting**.
3. Select the **Auto Power Shut-Off** checkbox.
4. In **Sleep Mode Power Level**, select **Fast Wake Up**.
5. Click **Submit**.

6.9 Swipe card authentication anomalies

If the **Swipe card** authentication option is enabled, but if swipe card authentication causes some problems, it could be because the **Use IC Card for Authentication** checkbox on the device's web interface was changed from checked to unchecked.

To resolve this:

1. Log in to the device as an administrator.
2. Navigate to **User Control > Card Setting > Card Reader Device Registration**:



Note: This is only available via the physical device. This is unavailable via the device's web interface.

3. Click **Delete**.
4. Click **Submit**.

Note: If the **Swipe card** authentication option is selected, then based on the type of keyboard used by the device, ensure that the following are configured as required:

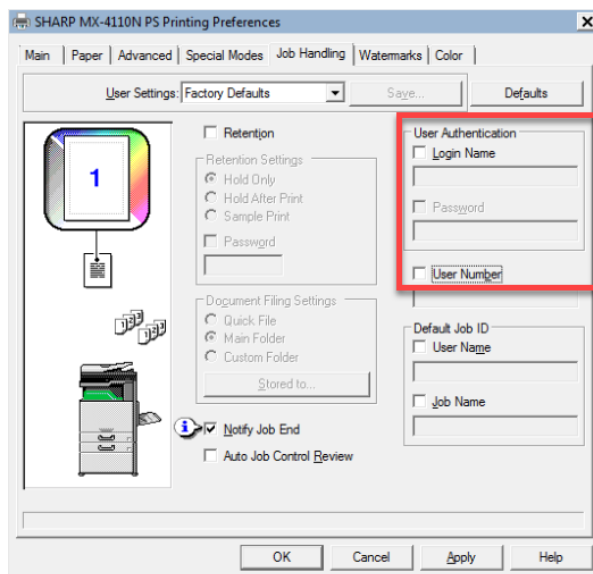
- the **Default Keyboard Setting** on the device's web interface. For more information, see [4.10 Keyboard](#).
- the **Use IC Card for Authentication** on the device's web interface. For more information, see [4.4 User authentication via swipe cards](#).

6.10 Released print jobs are not being printed

If released print jobs are not being printed, and the Job Log displays an error (such as, the Sharp error number *042F*), it implies that the Windows Sharp Print Driver could be incorrectly configured.

You can resolve this using any *one* of the following options:

- **Printer driver's configuration:** Navigate to the driver's **Job Handling** tab, and ensure the **Login Name** and the **User Number** are not checked:



- PaperCut MF advanced configuration:** Ensure the config key **ext-device.sharp_osa.security.native-user-authentication** is set to **Y**. For more information, see [4.12 Config Editor](#).

7 Appendix A: Install PaperCut MF on multiple devices: CSV headers

Note: This is only applicable to PaperCut MF 19.1.0 or above.

When installing PaperCut MF on multiple devices at once via the **batch-devices.csv** file, ensure that the CSV headers contain valid details as outlined in this table. PaperCut MF 19.1.0 or above includes a template **batch-devices.csv** that is pre-formatted with the required CSV headers, in this location: [PaperCut MF Install Location] \server\deployment\batch\batch-devices.csv

| CSV header | Value/ description |
|---------------------------|--|
| deviceType | PaperCut's embedded software solution that is relevant to the device. Note: Ensure that this value is always SHARP_OSA |
| deviceName | The unique name for the device that is used when registering the device on the PaperCut MF Admin web interface. Note: Ensure that this value is not duplicated in any other row. |
| deviceHostnameOrIp | The IP address or hostname of the device. Note: Ensure that this value is not duplicated in any other row. |
| deviceAdminUser | The administrator credentials (username) for the device's web interface. |
| deviceAdminPass | The administrator credentials (password) for the device's web interface. |

8 Appendix B: Device screens of Sharp OSA 2.9 and below

Welcome! (PaperCut version 8.2.5814)

Follow the on-screen directions to access features on this device.

Press Start to begin.

PaperCut[™]

Start

Account details

Access approved. Press OK, to access the copier functions, then press the LOGOUT button once finished.

Account: Personal Account

Current Balance: \$9.40

OK

Select action

Logout

Select account:

My Personal Account

History Department

Science Department

Held Print Jobs

Logout

Select a print job to release/cancel:

Budget - OpenOffice.org Calc

Microsoft Word - list.doc

