

IMPACT OF LIBRARY VALIDATION ON THE XEROX PRINT DRIVER

WHAT IS LIBRARY VALIDATION?

Library Validation is an OS feature introduced by Apple starting from Mac OS X 10.10 and IOS 8 and is a policy governing the loading of dynamic link libraries into the process space of applications. This is a feature that any application can enable while developing their software. There is **no system level setting to disable it**.

PROBLEM STATEMENT

Printing from certain applications, the Xerox print driver is not present in the print dialog. The expected “Xerox Features” item is replaced by a “Printer Features” item.

IMPACT OF THE PROBLEM

This prevents access to the advanced Xerox features, examples are: Exception Pages, Color Options, Named Paper etc., that rely on the Xerox user Interface. The ability to print is not impacted but a reduced set of features is available.

ROOT CAUSE OF THIS PROBLEM

- The Xerox print driver has not been installed properly or has been modified in an unsupported manner. A simple re-installation should take care of this.
- The Xerox print driver is not present due to a new Apple security feature, **Library Validation**. This new feature prevents 3rd party drivers from being used by an application from a different company. You can be sure Library Validation is enabled if the following error message in the console log:

```
"Library Validation failed: Rejecting  
'/Library/Printers/Xerox/PDEs/XeroxFeatures.plugin/Contents/MacOS/XeroxFeatures' (Team ID: XXXXXXXX, platform:  
no) for process 'Safari(435)' (Team ID: none, platform: yes), reason: mapping process is a platform binary, but mapped  
file is not."
```

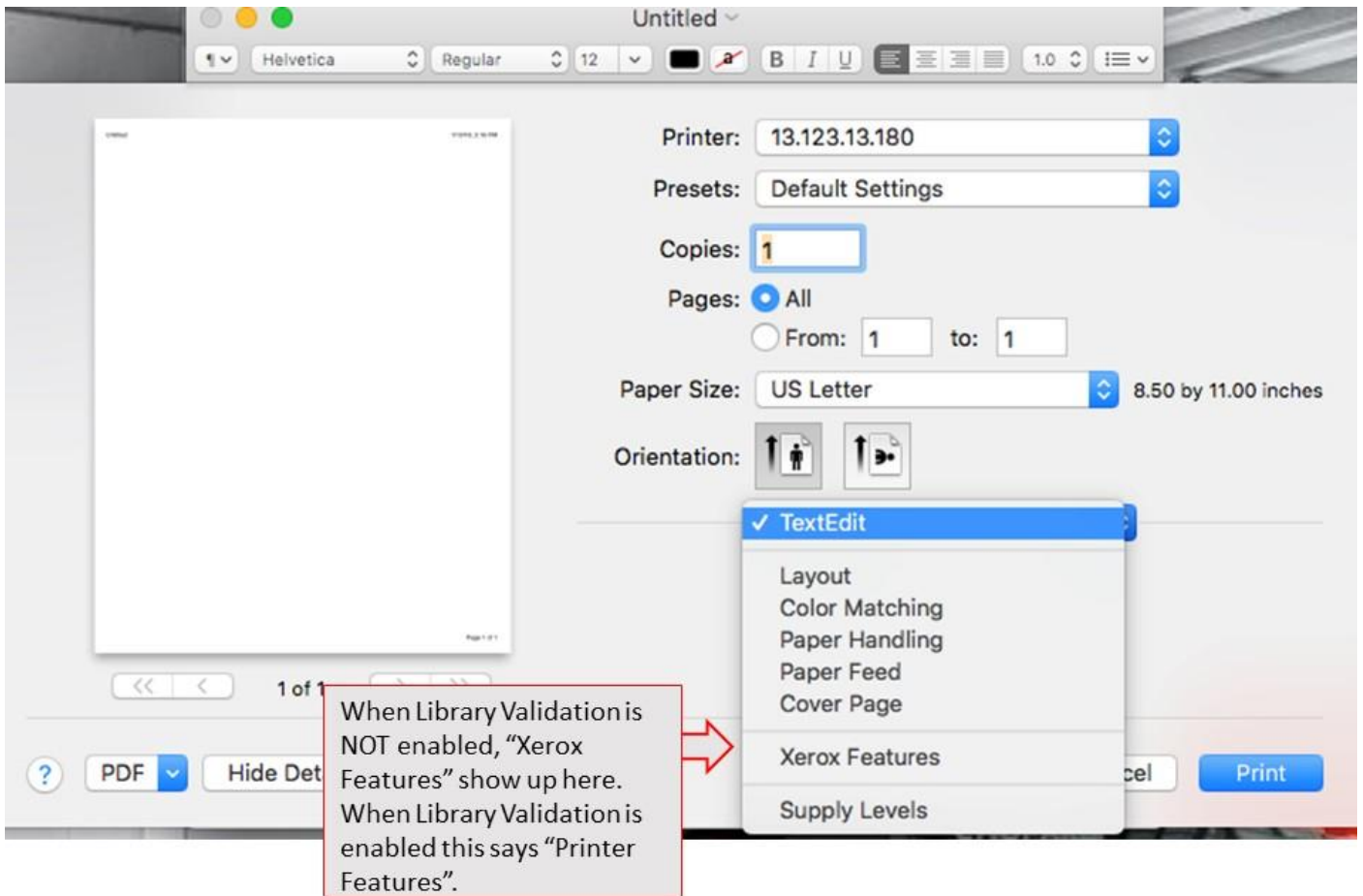
There is **no work around** for Library Validation in the application, the only option is to attempt printing from a different application.

WHAT ARE THE IMPACTED APPLICATIONS BY THIS?

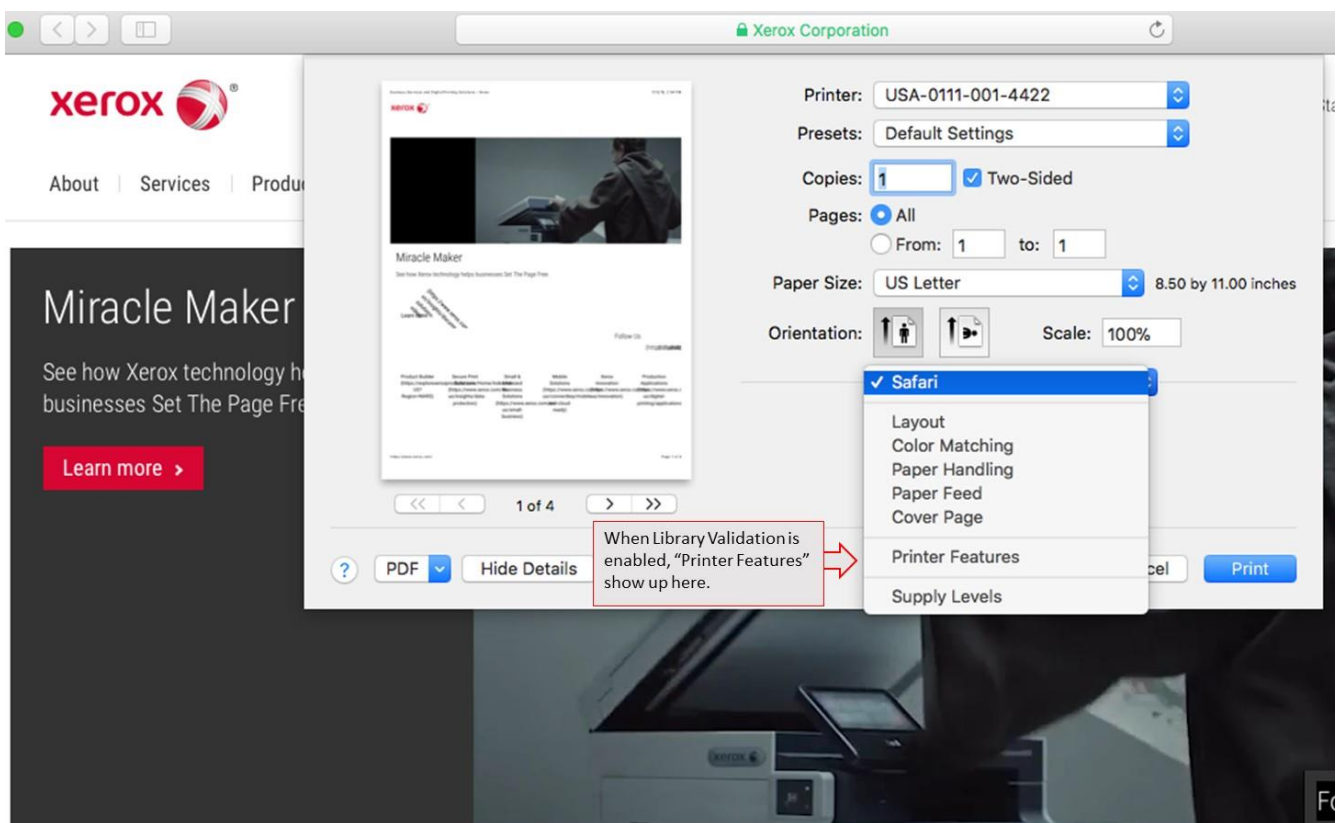
Theoretically any application can enable library validation during development, although at this point there are few applications that have enabled the feature. The known applications with Library Validation enabled are listed below. This list is not exhaustive and correct as on the date of creation.

- Mac OS X 10.10: no applications with Library Validation enabled.
- Mac OS X 10.11: no applications with Library Validation enabled.
- macOS 10.12 through 10.12.3: no applications with Library Validation enabled.
- macOS 10.12.4 through 10.12.6:
 - Safari has Library Validation enabled.
 - Preview has Library Validation enabled.
- macOS 10.13: Safari has Library Validation enabled.
- macOS 10.14: All Apple applications have Library Validation enabled.

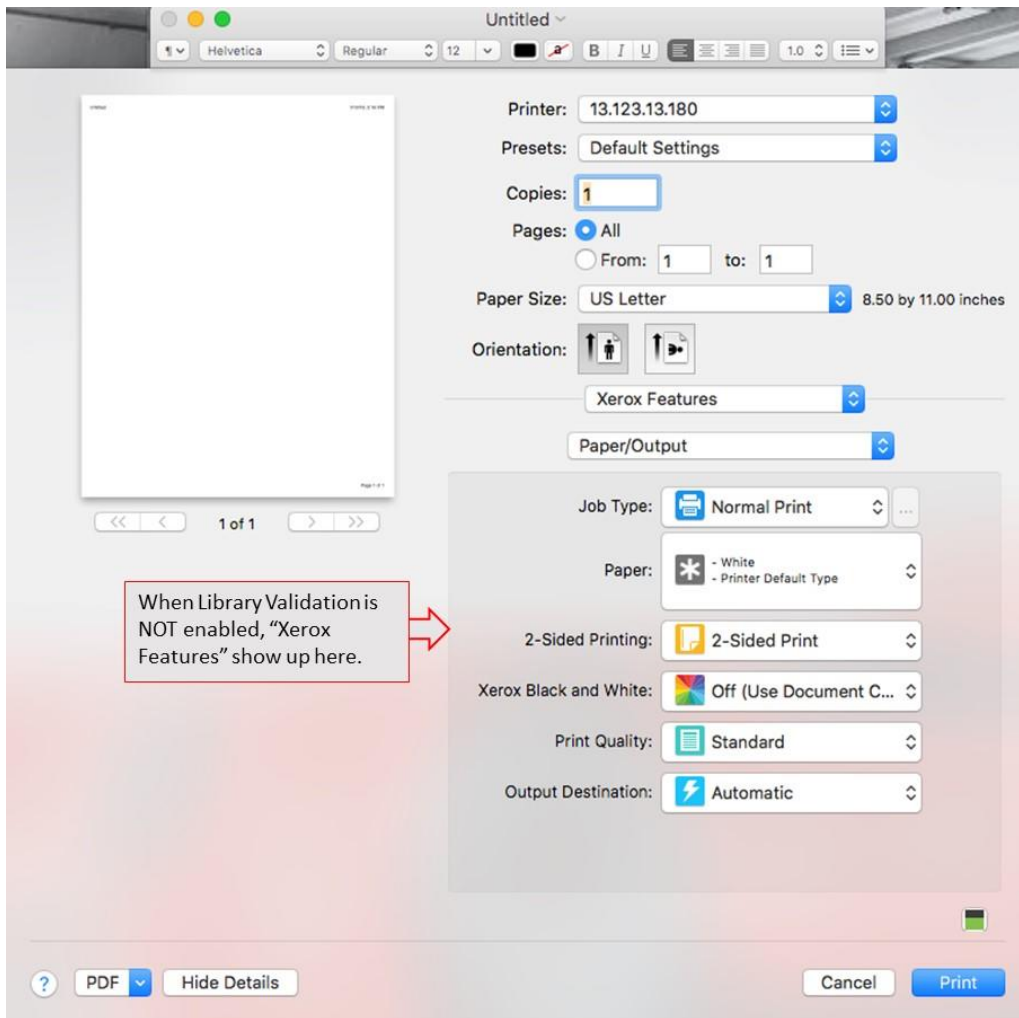
Safari with Library Validation NOT enabled



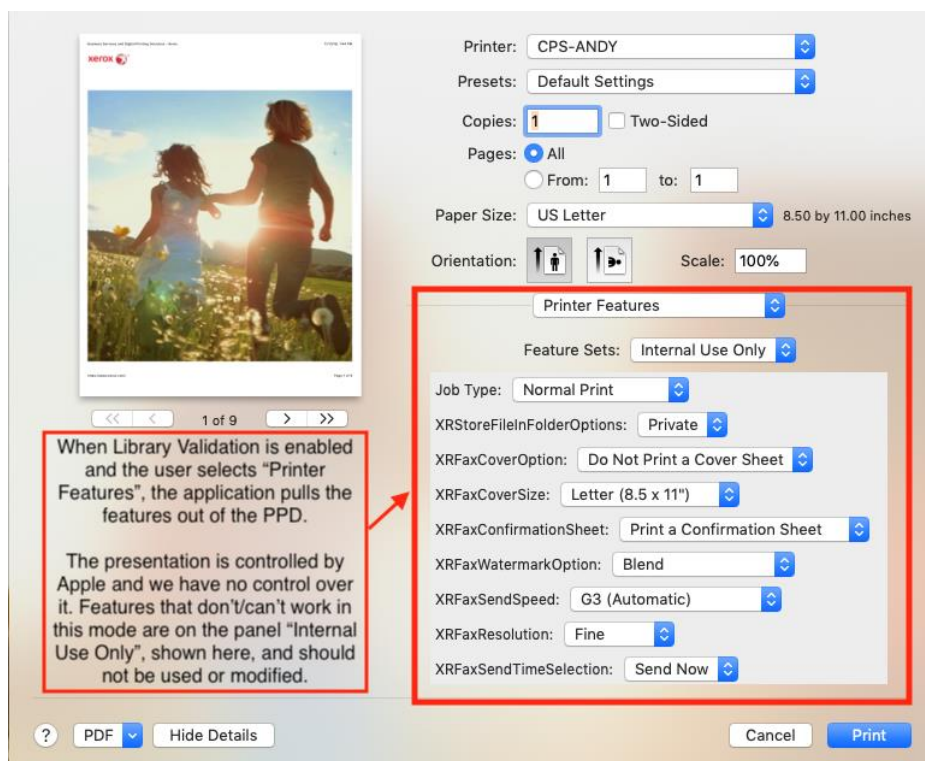
Safari with Library Validation enabled



Safari with Library Validation NOT enabled



Screenshots with Library Validation Enabled in Safari

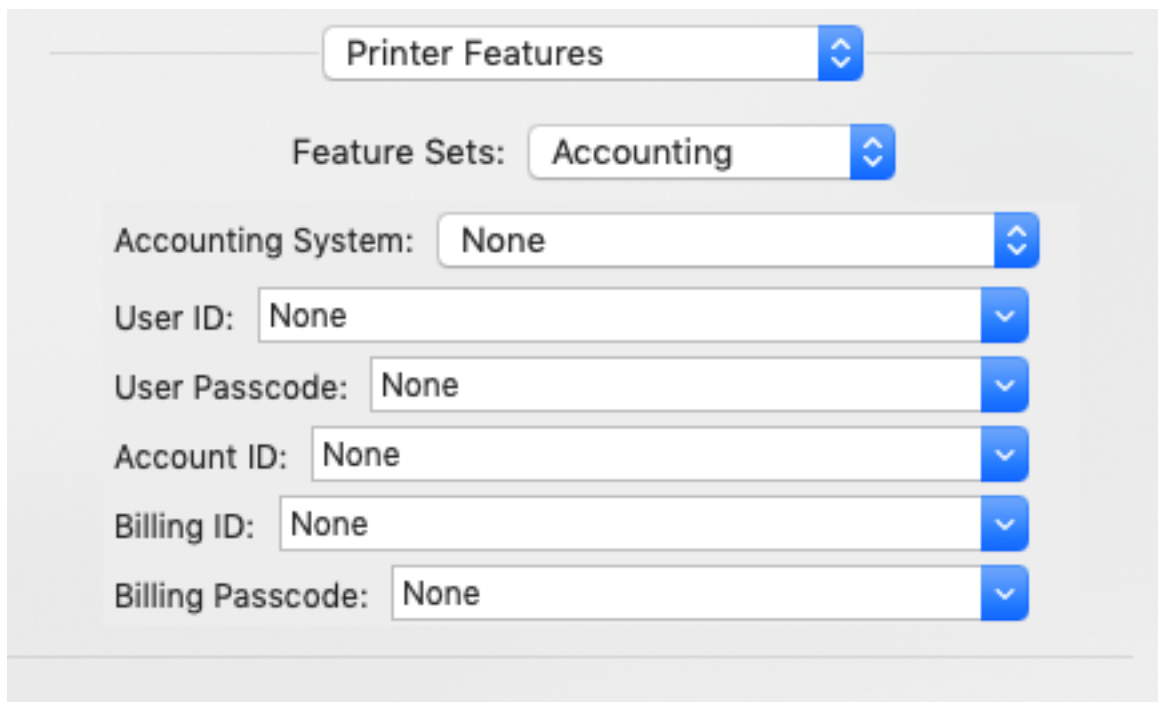


ACCOUNTING

Accounting is now presented on a separate panel, and provides a simplistic interface to the accounting options. There is no ability to prompt the user at print time so all codes must be entered before printing, in addition, the print job can't be prevented if any field isn't filled. There are no constraints between the accounting options and the available code fields.

Any setting saved as a preset in Library Validation mode will not be available to the print driver, the reverse is also true, print driver settings for accounting will not be available in Library Validation mode.

The code fields are presented as a combo-box. The combo-box can be typed in, and that will be the value for that field, there is also a selection 'None' which will clear the field. The only validation is the range of the field, for example 4-12 digits, but you can type in alphanumeric values.

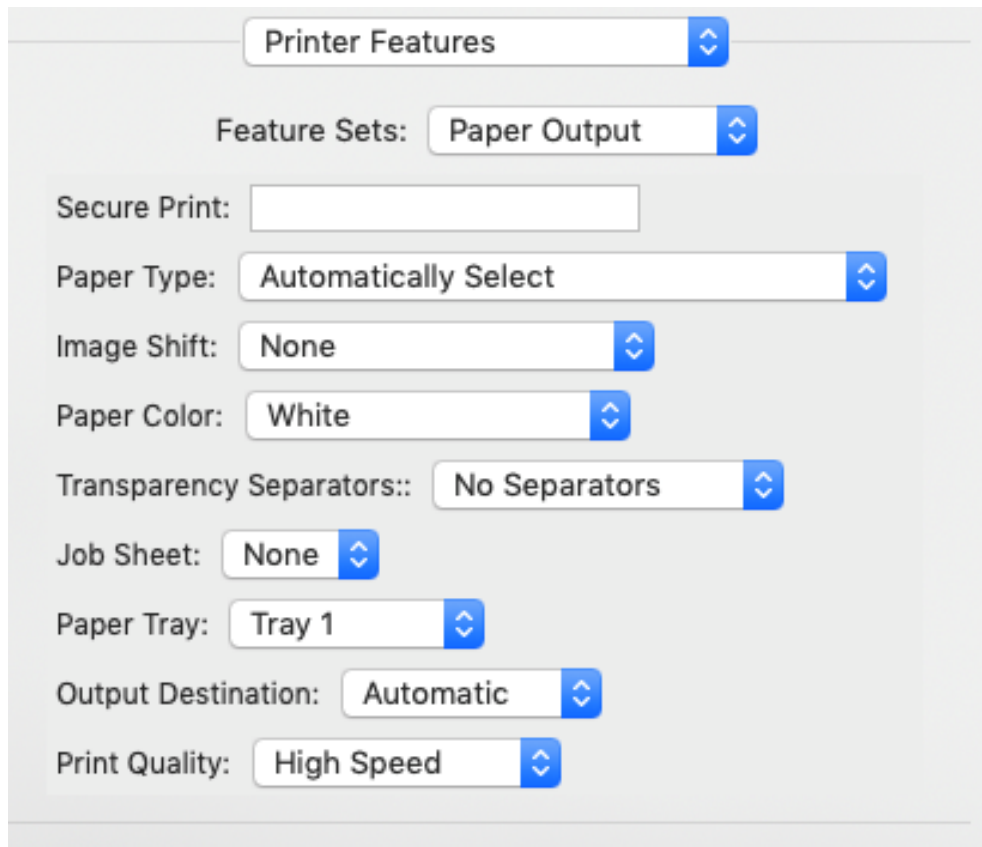


The image shows a software interface for configuring printer features. At the top, there is a section titled "Printer Features" with a dropdown arrow. Below this, the "Feature Sets:" dropdown is set to "Accounting". Underneath, there are six individual configuration fields, each with a label and a dropdown menu:

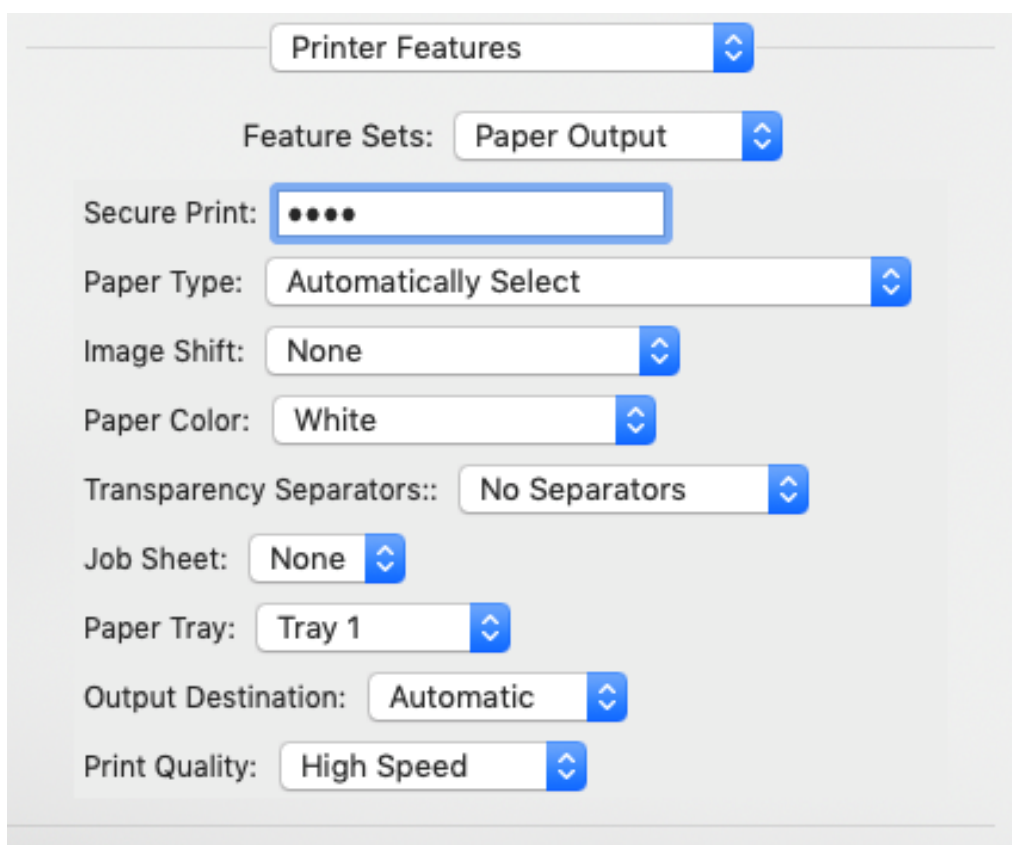
- Accounting System: None
- User ID: None
- User Passcode: None
- Account ID: None
- Billing ID: None
- Billing Passcode: None

SECURE PRINT

Secure Print is the only non-normal job type available and is presented as a text entry field. There is no verification beyond the range check.



The screenshot shows the 'Printer Features' dialog box. At the top, there is a dropdown menu for 'Printer Features' set to 'Paper Output'. Below this, there is a 'Feature Sets:' section with a dropdown menu also set to 'Paper Output'. The main settings area includes several fields: 'Secure Print' is an empty text entry field; 'Paper Type' is a dropdown menu set to 'Automatically Select'; 'Image Shift' is a dropdown menu set to 'None'; 'Paper Color' is a dropdown menu set to 'White'; 'Transparency Separators::' is a dropdown menu set to 'No Separators'; 'Job Sheet' is a dropdown menu set to 'None'; 'Paper Tray' is a dropdown menu set to 'Tray 1'; 'Output Destination' is a dropdown menu set to 'Automatic'; and 'Print Quality' is a dropdown menu set to 'High Speed'. Each dropdown menu has a blue arrow icon on the right side.



This screenshot is identical to the one above, but the 'Secure Print' text entry field now contains four black dots (••••). The rest of the dialog box, including the 'Printer Features' dropdown, 'Feature Sets' dropdown, and all other settings, remains the same.

KNOWN ISSUES

- The value entered in the Secure Print or any Accounting field will not be saved and sent to the printer if you switch away from the Printer Features panel.
 - **Solution:** Make changes on the Printer Features panel last and press Print when finished. If you switched to a different top-level panel then you will need to reenter your Secure Print PIN and/or your accounting information.
- Secure Print keeps the entered value after using Cancel to exit the print dialog.
 - **Solution:** This behavior is caused by applications that hold onto the print record instead of creating a new one each time. If the Secure Print isn't the desired value then you will need to clear and reenter the correct value.
- Features on the "Internal Use Only" panel do not work correctly or cause printing issues.
 - **Solution:** This panel contains feature which should not be modified by the user and may cause the print job to fail.