MarkMagic 9.5

By CYBRA

MarkMagic PI Web Application User Guide

We identify with success.

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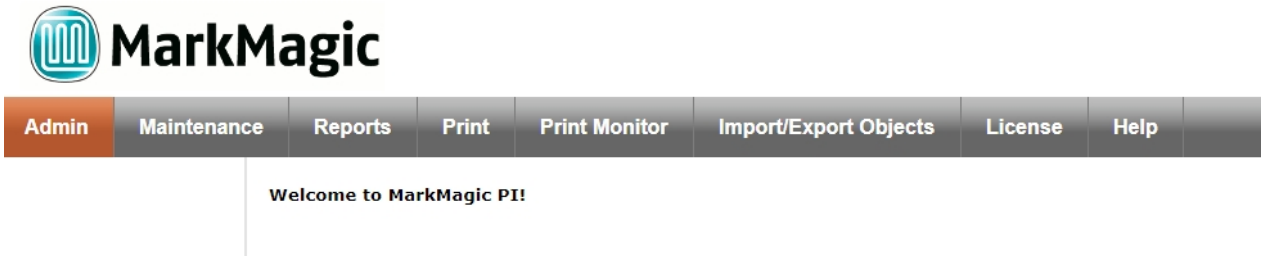
Welcome to MarkMagic PI

MarkMagic PI (or 'MMPI') is CYBRA's platform independent document and label print engine. Configuration and management of the MMPI server is handled through the built in web interface that is accessible with a web browser. This help library will provide details on all options and settings found within, such as information on setting up your printers, configuring a print monitor, installing a new license file, viewing troubleshooting logs, and much more. Take a moment to browse through this help portal to familiarize yourself with everything MMPI can do.

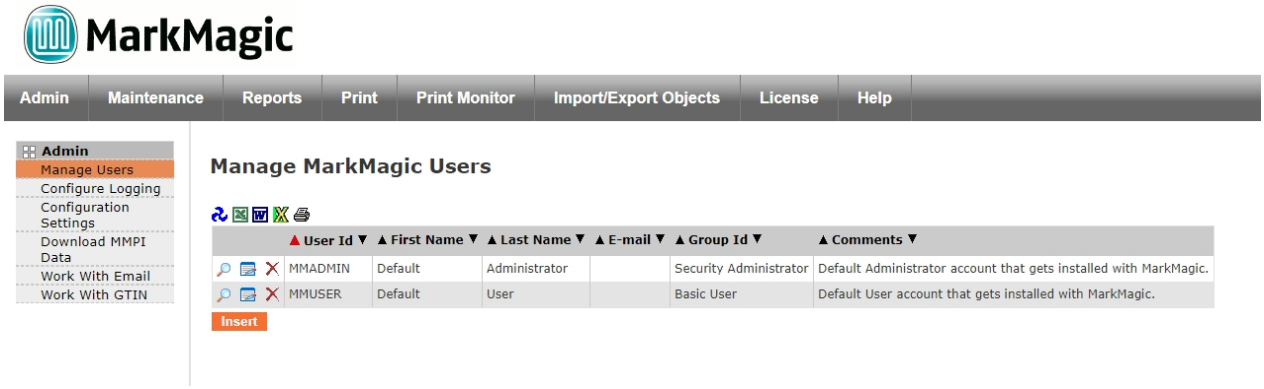


The image above is an example of the main MMPI menu when you first sign in. Click here for a quick guide on how to navigate and work within the MMPI web interface.

Navigating the Web Interface

To navigate the web interface, click the category that you wish to work with at the top. You will be presented with that category's various options on the left side of the screen. For example, clicking the Admin button at the top will show options for managing the various administrative features of MarkMagic PI.

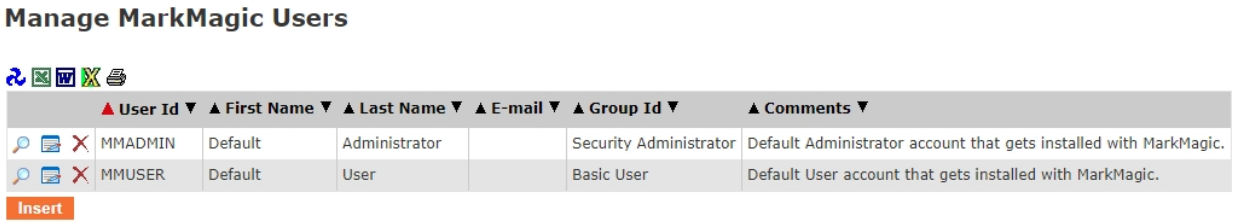
Within this list, click the desired option and you will be presented with all of the settings and choices available for managing that specific option. More detail for this specific category is available in the Admin menu help section.



The example above shows a table with information that you can view and edit. Please see the help section for Working With Tables in the MMPI web interface.

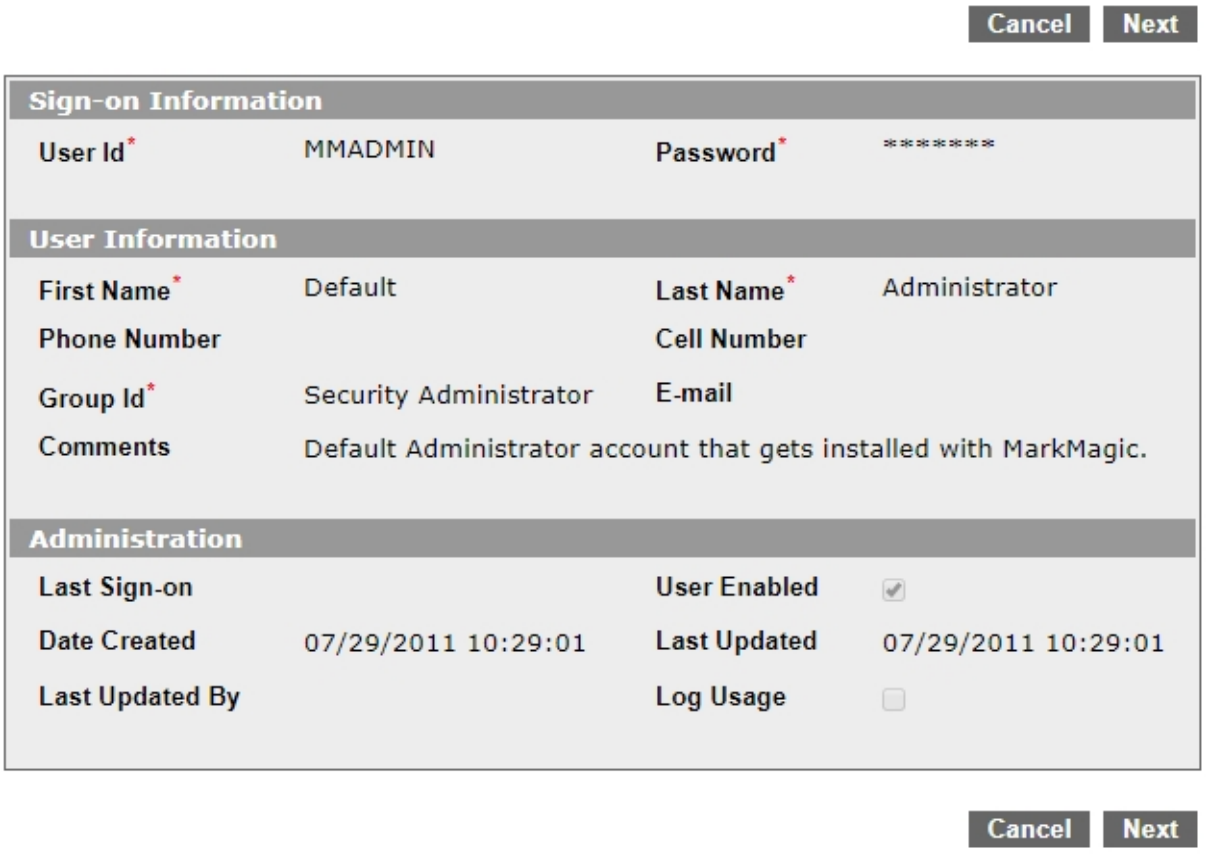
Working With Tables

In most screens throughout the MMPI web interface, data is presented to you in a table format (as seen in the image below).

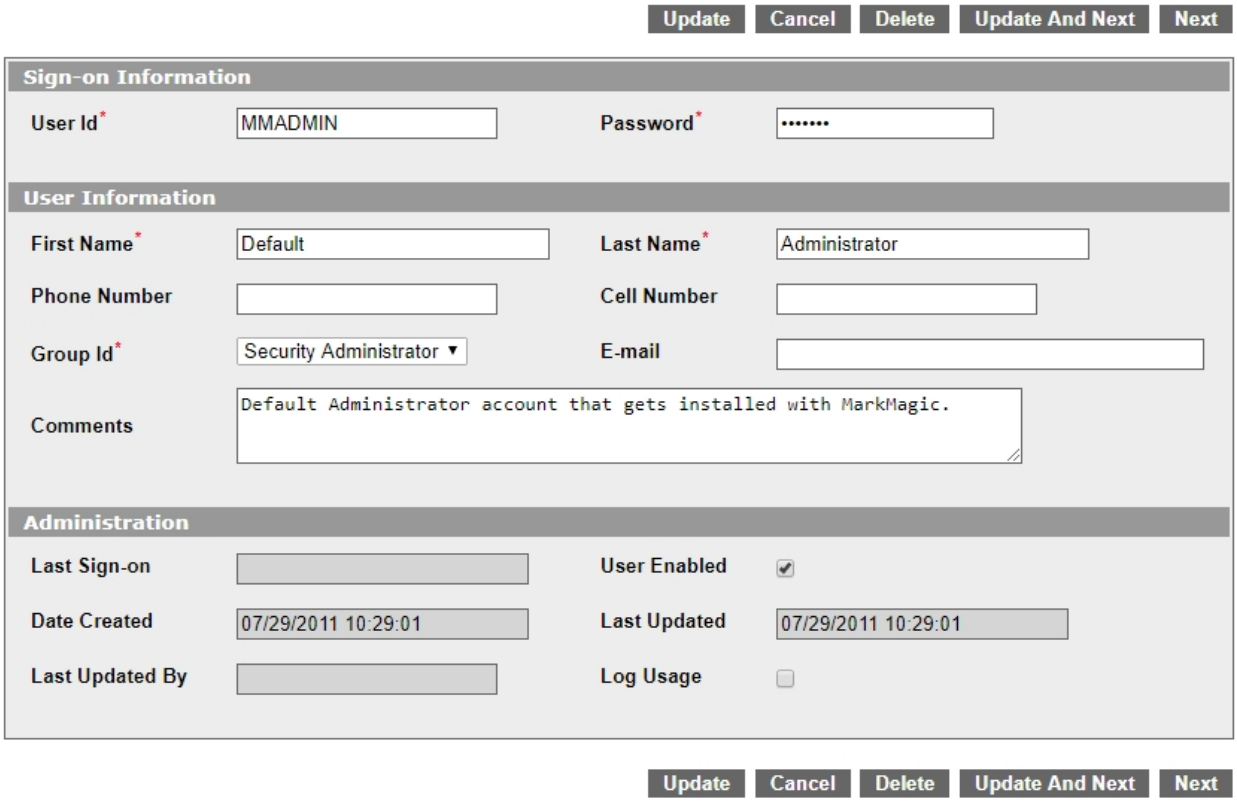


The icons to the left of the table entries are:

- **View the record -** This is a 'read only' screen that will display all values for that table entry. You cannot modify any of the values in this view. Click the Next and Previous buttons to view other records in the table. Cancel button will return you back to the main table view.



- **Edit the record -** Clicking this icon will take you to a screen where you can edit values for the specific table entry. **Update** button will update the table with your changes. **Cancel** button will return you back to the main table view. **Delete** button will allow you to delete the specific record. Depending on your web browser, you should be asked for confirmation before deleting the entry. **Update And Next** button will update the table with your changes and then take you to the next record of the table where you can then edit that record. **Next** and **Previous** buttons will simply navigate back and forth between records of the table without saving any changes you make.

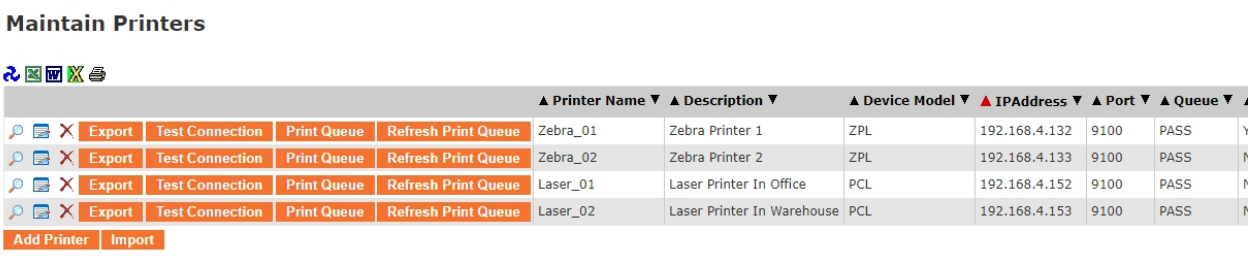


- **Delete the record -** Click this button to delete the specific table entry. Depending on your web browser, you should be asked for confirmation before deleting the entry.

Most of the tables shown in the MMPI web interface will have an **Insert** or **Add** button at the top and bottom. Clicking this button will allow you to create a brand new record for that specific table. For example, in the 'Manage MarkMagic Users' table at the top of this page, clicking the **Insert** button will allow you to create a new MMPI user profile from scratch.

Sorting Tables

Another helpful feature is the ability to sort a table by a certain column. A good example of this would be the Maintain Printers table. If you wanted to sort the table by IP Address, simply click either of the small arrows next to the **IPAddress** header. You can see it highlighted in red in the below screenshot:



The above table is sorted by IP Address. Any table that you encounter throughout the MMPI web interface can be sorted a column by using these arrows.

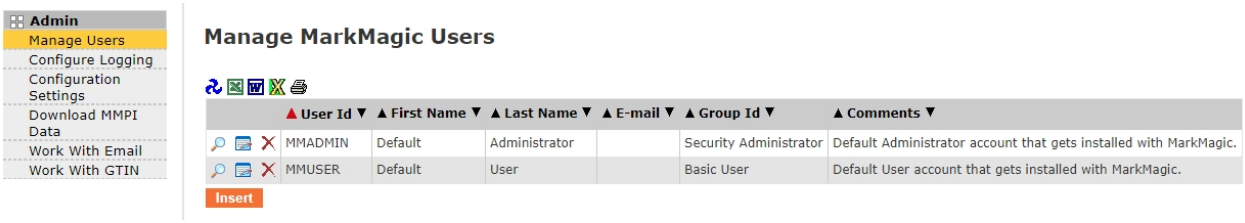
Admin

The Admin menu contains options to configure general administrative settings for the MarkMagic PI application.

- Manage Users - Allows the administrator to edit the default MMPI user profiles and also create new MMPI user profiles.
- Configure Logging - A screen for managing logging variables for the MMPI application. Various java Log4j settings will be presented here for you to modify.
- Configuration Settings - Edit global settings unique to the MMPI application.
- Download MMPI Data - Various options to download MMPI logs and/or the full H2 database for troubleshooting or backup purposes.
- Work With Email - Manage email SMTP server settings for the individual user profiles.
- Work With GTIN - Configure the starting and ending GTIN serial number range. These values are referenced when printing specific kinds of RFID labels with MMPI.
- Manage User Libraries - Interface for managing MarkMagic user libraries. Create new user libraries as well as edit names of existing MarkMagic user libraries.

Manage Users

The Manage Users screen allows you to edit the default MMPI user profiles, create new profiles or delete existing profiles.



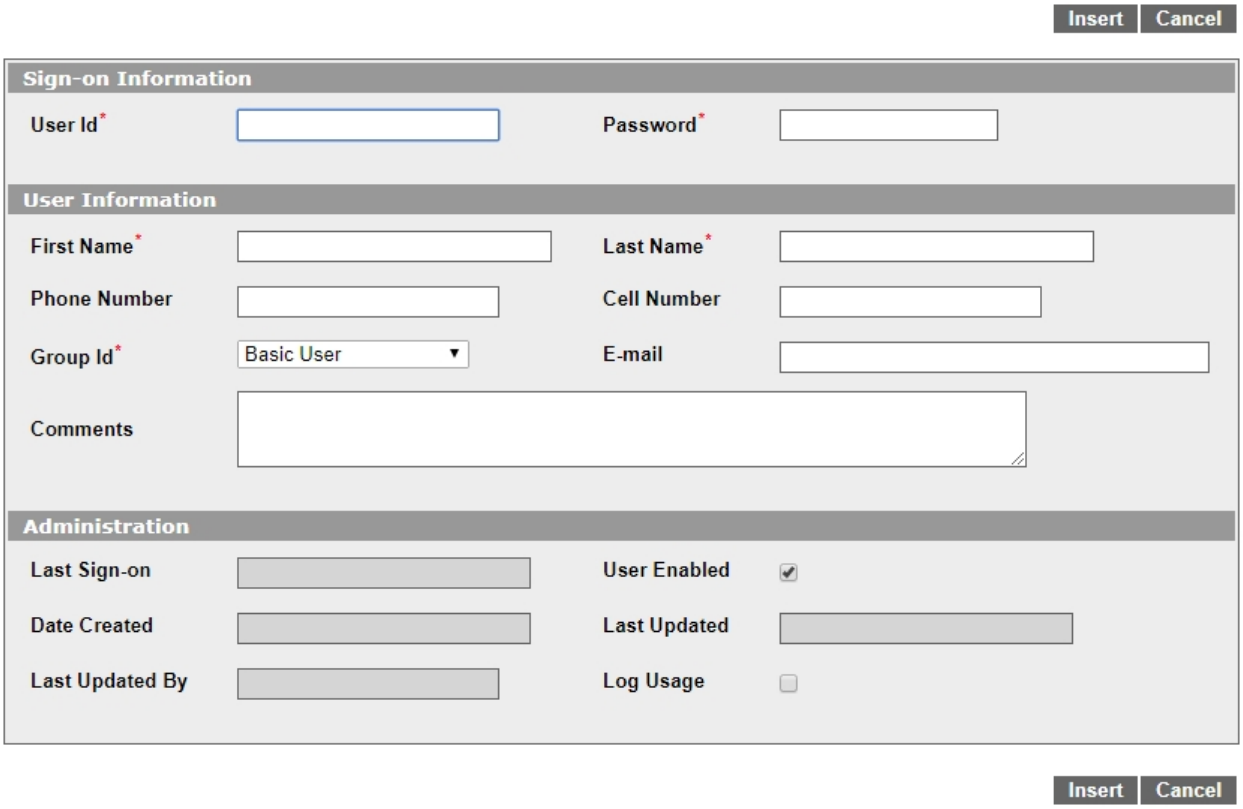
MMPI installs with two default user profiles:

- **MMADMIN** - the main Administrator profile for MarkMagic. When logged into the MMPI web interface with this profile, all menus and options are accessible to you. You will have the ability to create, modify and delete data from all tables. Please be cautious when logged in with MMADMIN.
- **MMUSER** - a basic user profile for MarkMagic. This profile does not have the same full rights as the MMADMIN profile. When logged in with MMUSER, a lot of options will be hidden such as the Admin as well as the Maintenance menu.

To create your own user profiles, click the **Insert** button at the bottom to create a new user profile.

Creating a New User Profile

After clicking the Insert button on the Manage Users screen, you will be presented with the following screen:



Fields marked with an asterisk (*) are required

- **User Id*** - The login name for the new user profile. (Max 20 characters.)
- **Password*** - The password for the new user profile. (Max 20 characters.)

- **First Name*** - The user's first name.
- **Last Name*** - The user's last name.
- **Phone Number** - The user's phone number.
- **Cell Number** - The user's cell phone number.
- **Group Id*** - The group identification that the user profile will be assigned to. Choose between *Security Administrator* or *Basic User*. This will determine if the new profile has administrative capabilities or not.
- **E-mail** - The user's email address.
- **Last Sign-on** - This field will eventually display time and date of when the user last signed-on
- **Date Created** - This field will eventually display the date that this user profile was created.
- **Last Updated By** - Later on, if the profile has been edited by anyone, it will show the user profile name of the person who edited this user Id.
- **User Enabled** - Check-box to enable or disable the user profile. Disabled user profiles cannot login or perform any other actions related to MarkMagic (print, login to JMaigc, etc.)
- **Last Updated** - Later on, if the profile has been edited by anyone, it will show the date and time of when it was last edited.
- **Log Usage** - Check-box to enable or disable logging for this user Id. If checked, you will see user specific messages in the MMPI.log files for when this user performs certain actions.

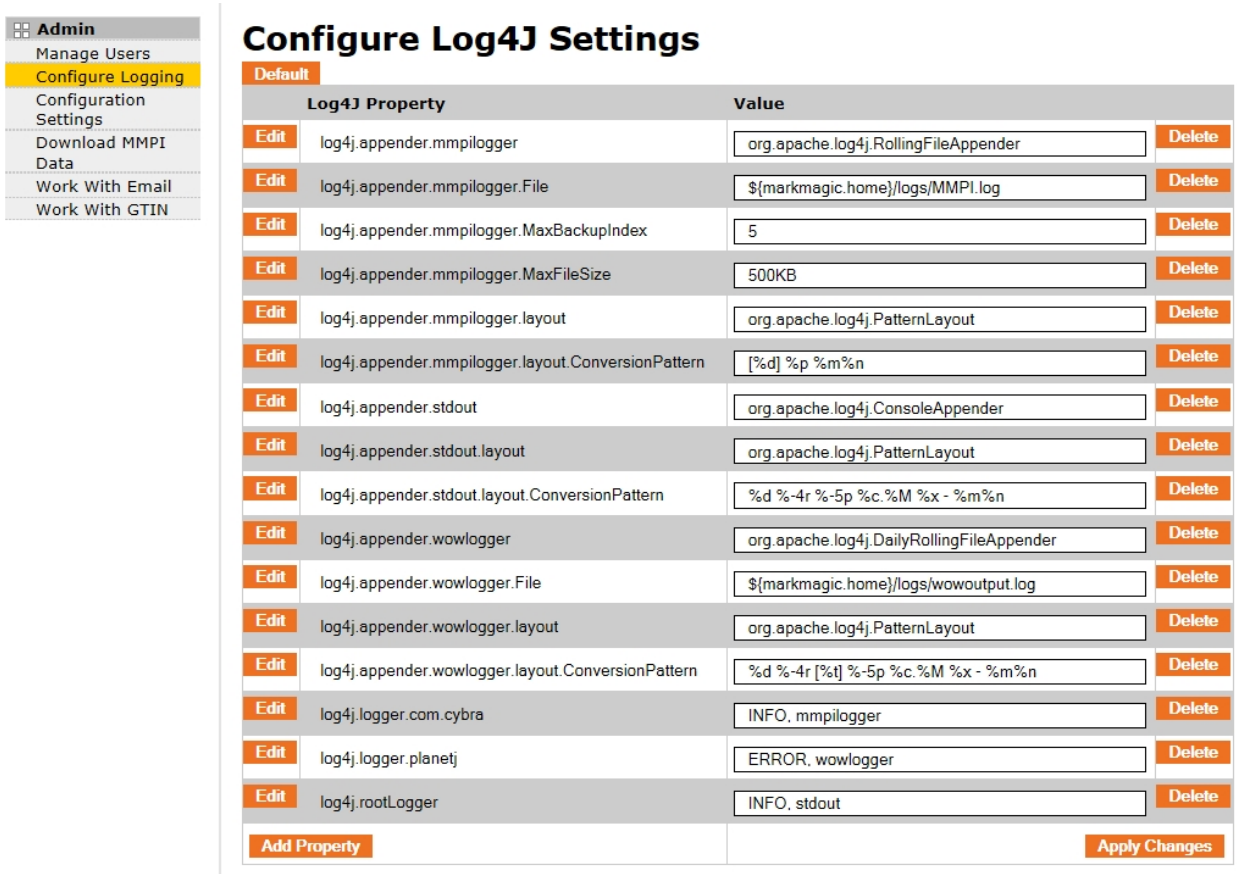
Configure Logging

MMPI utilizes Apache Log4j framework for all logging. The Configure Logging screen provides an administrator the ability to change individual settings for the different Log4j parameters. These parameters control things like the name and save location for the log files, max size for the log files, and the level of detail that is logged to those files. The default values should suffice for any normal MMPI environment.

Note: The MMPI logs can be viewed by navigating to the Help menu at the top of the MMPI web interface and clicking View Logs.

In cases where extra information is needed in the logs for troubleshooting purposes, debug logging can be enabled for MMPI using the Configure Logging screen. For details on how to do this, please see the section titled Debug Logging.

For more information on the Log4j logging framework itself, please visit: https://logging.apache.org



- **log4j.appender.mmpilogger -** Which appender type should be used with the MMPI logger. Default is the RollingFileAppender which writes log files and backs up those files when they reach a specific maximum size. This setting can typically be left as is.

- **log4j.appender.mmpilogger.File** - Location and file name for the MMPI log file. The default value places the MMPI.log file inside a folder called logs within the MarkMagic home folder on the server. This home folder is almost always the same location where the H2 database is stored.

- **log4j.appender.mmpilogger.MaxBackupIndex** - The maximum number of backed up MMPI log files that the RollingFileAppender will keep before removing the oldest log. Backed up log files will have the file extension 'log1, log2, log3, etc'. The default value is 5 and can be temporarily increased if debugging is enabled. This can help ensure that the information that you need captured is not overwritten.

- **log4j.appender.mmpilogger.MaxFileSize** - The maximum file size of the MMPI log before RollingFileAppender will backup the log file and create a new log. The default value is 500KB and can be temporarily increased if debugging is enabled. For example, if you wanted each new log file to be 2MB you could set this value to 2000KB. More information will be written to each file and can help ensure that the information that you need captured is not overwritten.

- **log4j.appender.mmpilogger.layout** - This value controls how the file is written and what the structure the MMPI log is. This value can be left as is.

- **log4j.appender.mmpilogger.layout.ConversionPattern** - This value controls which values you see in the log and how the MMPI log file information is arranged. This value can be left as is.

- **log4j.appender.stdout** - Which appender type should be used with the general stdout logger. Default is the ConsoleAppender which writes out general system errors. This value can be left as is.

- **log4j.appender.stdout.layout** - This value controls how the file is written and what the structure the stdout log is. This value can be left as is.

- **log4j.appender.stdout.layout.ConversionPattern** - This value controls which values you see in the log and how the stdout log file information is arranged. This value can be left as is.

- **log4j.appender.wowlogger** - Which appender type should be used with the wowlogger. 'WOW' (or web object wizard) is a tool that is used by MarkMagic to design the web interface and page layouts. This log4j value handles logging specific to 'WOW'. This value can be left as is.

- **log4j.appender.wowlogger.File** - Location and file name for the WOW log file. The default value places the wowoutput.log file inside a folder called logs within the MarkMagic home folder on the server. This home folder is almost always the same location where the H2 database is stored.

- **log4j.appender.wowlogger.layout** - This value controls how the file is written and what the structure the wowoutput log is. This value can be left as is.

- **log4j.appender.wowlogger.layout.ConversionPattern** - This value controls which values you see in the log and how the wowoutput log file information is arranged. This value can be left as is.

- **log4j.logger.com.cybra** - This value controls the level of logging detail that will be written to the MMPI log file coming from the mmpilogger appender. The default logging level is ERROR. To change the logging level, replace the word ERROR in this string with either of the following:

    - **OFF** - The highest possible rank and is intended to turn off logging.
    - **FATAL** - Severe errors that cause premature termination. Expect these to be immediately visible on a status console.
    - **ERROR** - Other runtime errors or unexpected conditions. Expect these to be immediately visible on a status console.
    - **WARN** - Use of deprecated APIs, poor use of API, 'almost' errors, other runtime situations that are undesirable or unexpected, but not necessarily "wrong". Expect these to be immediately visible on a status console.
    - **INFO** - Interesting runtime events (startup/shutdown). Expect these to be immediately visible on a console, so be conservative and keep to a minimum.
    - **DEBUG** - Detailed information on the flow through the system. Expect these to be written to logs only. Generally speaking, most lines logged by your application should be written as DEBUG.
    - **TRACE** - Most detailed information. Expect these to be written to logs only.

- **log4j.logger.planetj** - This value controls the level of detail that will be written to the wowoutput log file coming from the wowlogger appender. The default logging level is ERROR and can be left as is. This

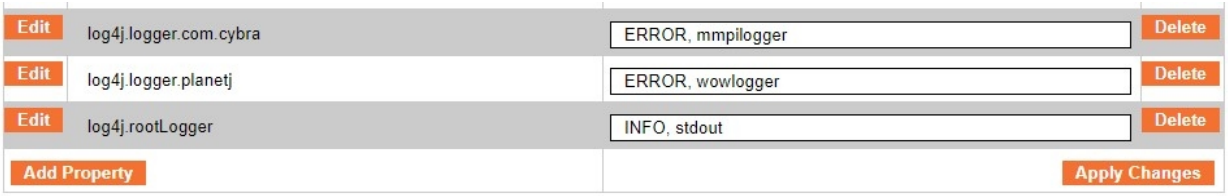
log file is rarely referenced.

- **log4j.rootLogger** - This value controls the level of detail that will be written to the stdout log file coming from the stdout appender. The default logging level is INFO and can be left as is. This log file is rarely referenced.

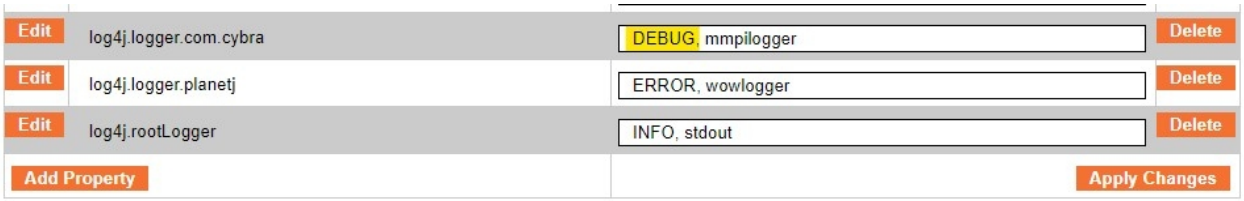
Debug Logging

Enabling Debug Logging

Sometimes it will be necessary to enable DEBUG logging in MMPI so that you can get a better idea what exactly is happening when MarkMagic is running and you are not getting expected results. In cases where this extra information is needed for troubleshooting purposes, debug logging can be enabled on the Configure Logging screen. To do this, simply change the word ERROR to DEBUG for the **log4j.logger.com.cybra** property and then click **Apply Changes**:



Change **log4j.logger.com.cybra** to DEBUG and then click the **Apply Changes** button:



MarkMagic will now begin logging much more information to the MMPI.log files. Please note that the log files can fill up very fast. Only enable DEBUG logging immediately before running a print or process that is not behaving as expected. Once your test is complete or the process that you wish to debug has ran, you can then view the debug information in the MMPI.log file by navigating to the Help section and then clicking View Logs. There will be a lot of information in the log file, so be sure to give it time to load all of the information into your browser window.

By default, the maximum size of a log file is only 500KB and depending on the type of print job you are debugging, you could miss the information that you need due to the log file being overwritten. On the Configure Logging screen there are individual properties that can help in such a case. Please review the descriptions for the log4j.appender.mmpilogger.MaxBackupIndex and log4j.appender.mmpilogger.MaxFileSize property values.

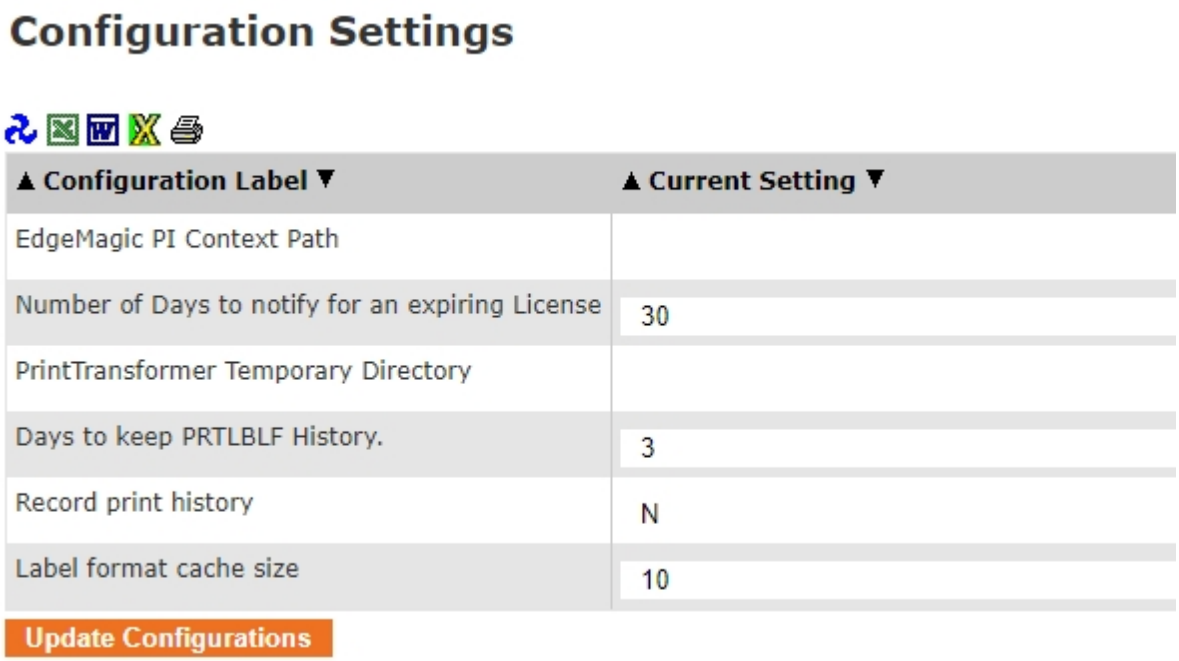
Disabling Debug Logging

After gathering all of the information needed via the debug logs, it is recommended that you disable debug logging by setting the logging level back to ERROR. To do this, go back into the Configure Logging screen and then change the word DEBUG back to ERROR for the **log4j.logger.com.cybra** property and then click **Apply Changes** button at the bottom. Now, the only information that is logged will be error messages. The log files will not fill up as fast and will take up much less disk space.

Edit	log4j.logger.com.cybra	ERROR, mmpilogger	Delete
Edit	log4j.logger.planetj	ERROR, wowlogger	Delete
Edit	log4j.rootLogger	INFO, stdout	Delete
Add Property			Apply Changes

Configuration Settings

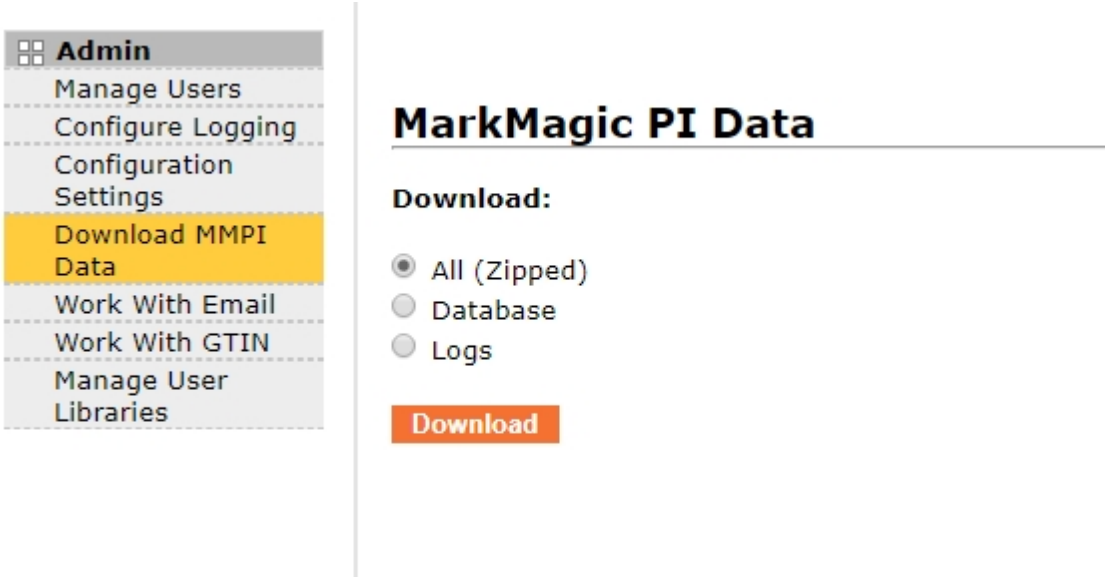
The Configuration Settings screen allows an administrator to define various global settings unique to MMPI.



- **Edge Magic PI Context Path** - When using MarkMagic PI in conjunction with CYBRA's EdgeMagic PI RFID tracking software, this is where you would enter the path to the install location for EdgeMagic PI. The default value is blanks.
- **Number of Days to notify for an expiring License** - If you have license expiration notifications enabled, this is the number of days MMPI should begin sending warnings about an expiring license. The default value is 30.
- **PrintTransformer Temporary Directory** - When MMPI processes certain PrintTransformer operations, it must temporarily store some information on the disk. By default, MMPI does this within the path defined in the MM_H2_DIR environment variable. If you would like for this temp information to be written to another folder, this is where you can define that path and folder name. The default value for this setting is blanks.
- **Days to keep PRTLBLF History** - If Print History is enabled, this is the number of days MMPI should keep entries in the print history. After the specified number of days, those entries would be removed. The PRTLBLF history can be viewed under the Reports tab at the top and then View PRTLBLF History selection on the left. The default value is 3.
- **Record print history** - Whether or not to enable print history logging. Valid options are Y or N. The default value is N.
- **Label format cache size** - By default, MMPI keeps information in memory about the last 10 unique formats printed. This helps to reduce disk read operations and gives a slight increase in print processing time when MMPI needs to print one of those formats again. If you want MMPI to cache more formats as they are encountered, then you can increase this value.

Download MMPI Data

The Download MMPI Data screen allows the administrator to download a copy of the MarkMagic.h2.db file, the MMPI.log file or both zipped into a zip file.



- **All (Zipped)** - A zip file containing the MarkMagic.h2.db database file as well as all MMPI.log information will be downloaded using your browser's default downloading method.

- **Database** - The MarkMagic.h2.db database file will be downloaded using your browser's default downloading method. This is a great way to make a quick backup of everything in your MarkMagic PI server. The H2 database contains all information such as your format designs, user profiles, printer definitions, monitors, licenses, etc.

- **Logs** - A single text file combining all of the MMPI.log information will be downloaded using your your browser's default downloading method.

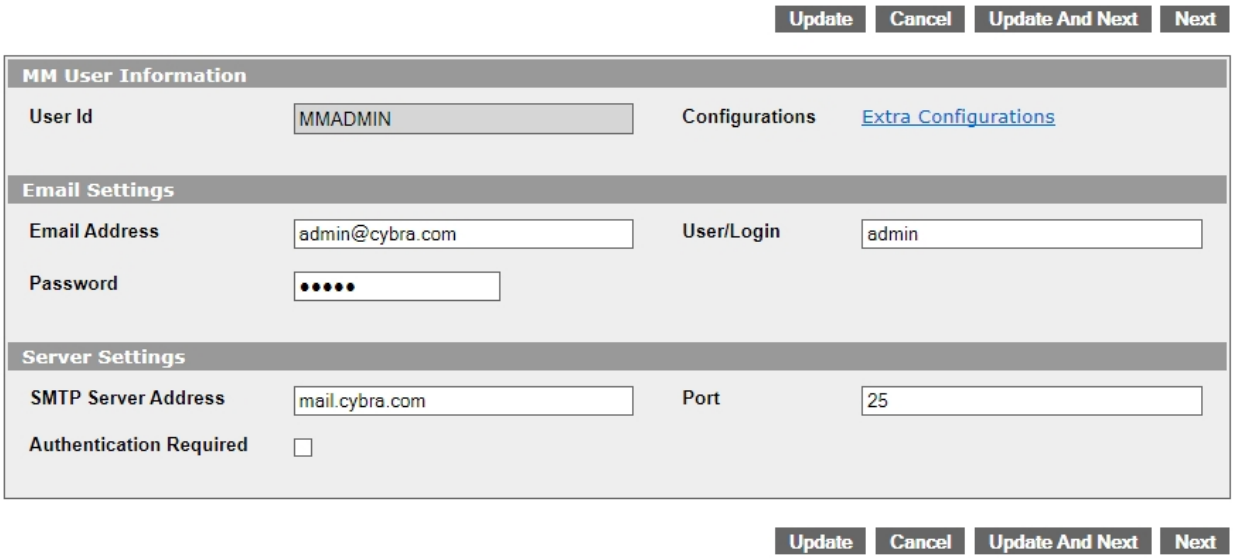
Work With Email

The Work With Email screen allows the administrator to configure each users' email information. This configuration step is required when using the PDF Email add-on Option to create and email PDFs. When MMPI attempts to send an email, it will do so using the information configured here.

To configure a users' email information, press the button to the left of that user row. You will be brought to a screen that allows you to Edit Email Information.

Edit Email Information

Clicking on the icon next to the user profile name in the Work With Email screen will take you to a new screen where you can edit that individual users' email information. Please verify the exact values with your email provider or SMTP server admin.



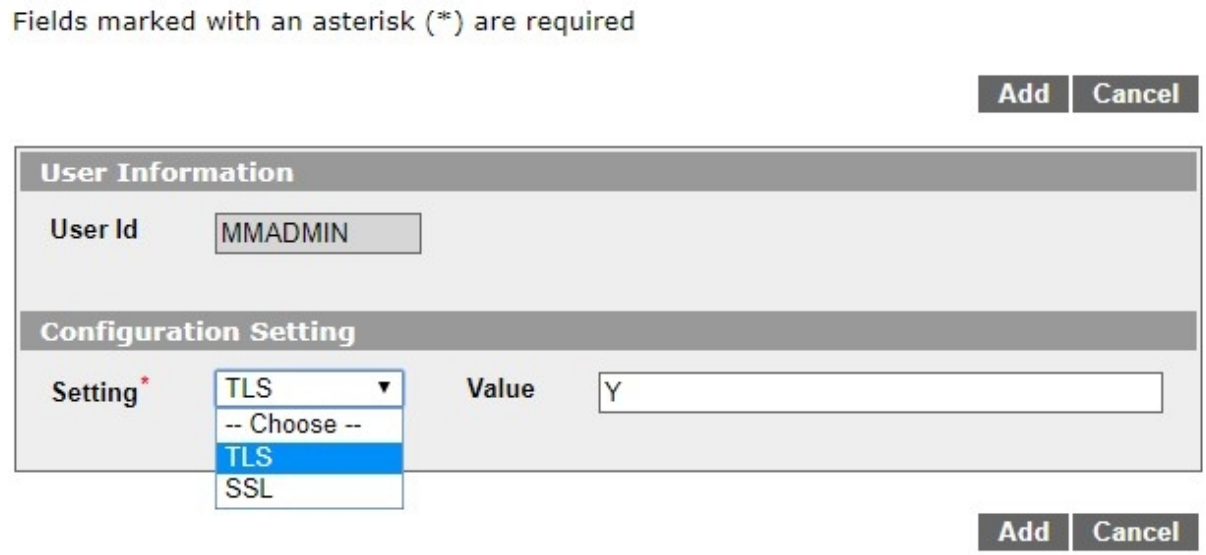
- **Email Address** - The email address for that user. This address will be used when communicating with the SMTP server. It will also be displayed as the "from" address for when the recipient gets the email.
- **User/Login** - The login name that will be used when connecting and validating with the SMTP server. This is sometimes the same as the Email Address.

- **Password** - If authentication is required when sending though the specified SMTP server, this is the password that will be used when connecting.
- **SMTP Server Address** - This is the SMTP server address for sending mail. If you are not sure what the IP or domain name address is, please contact your email provider.
- **Port** - SMTP servers require a certain TCP/IP port to communicate through. Typically this is 25 for unsecured SMTP servers (servers that don't use authentication). If your SMTP server uses authentication, most likely it will use a different TCP/IP port. For example, SSL connections would go through port 465. Please confirm with your email provider whether or not authentication is used as well as which port to use. Please see 'Extra Configurations' below if you plan on using SMTP authentication.
- **Authentication Required** - Check mark option that enables or disables authentication when communicating with the specified SMTP server.

Extra Configurations

If your SMTP server requires authentication, you will need to specify which encryption method is needed. To do this, click the Extra Configurations link at the top right and you will be brought to a screen where you can configure this setting.

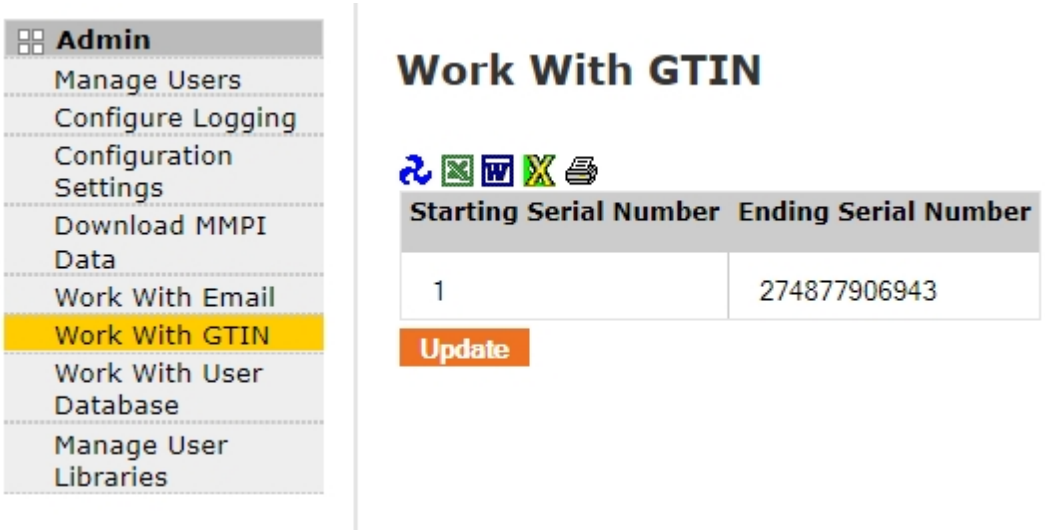
Click **Add** and you will be brought to another screen where you can choose the encryption type and set the value.



If you are using port 465, most likely your SMTP server uses an SSL connection. Choose this from the menu and then set it to Y on the right side. If your SMTP server uses port 587, then it is using TLS. Choose this value and then set it to Y on the right side. Click **Add** to complete the process. The email profile you are editing is now correctly configured for SMTP server authentication.

Work With GTIN

The Work With GTIN screen allows you to set the range for the GTIN serial numbers that MMPI will generate when serializing and printing RFID tags. Each serialized GTIN RFID tag that you print must have a unique serial number associated with it on a per GTIN/UPC basis. When generating the RFID labels, MarkMagic PI automatically creates and keeps track of serial numbers for each GTIN/UPC item. You have the ability to select the range of numbers that MMPI will use to create these unique serial numbers. Sometimes users already have RFID labels printed from another system that might have used a specific range of serial numbers and you want MMPI to avoid creating duplicate serial numbers.

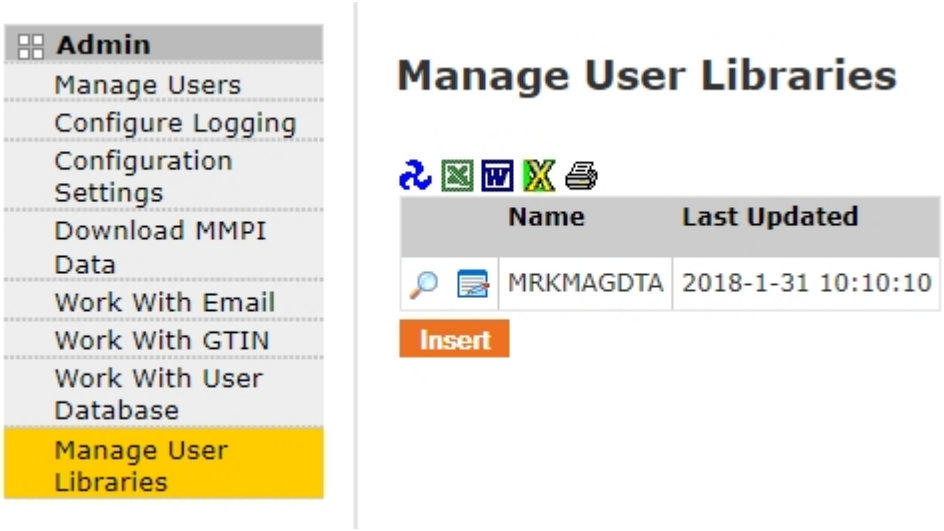


To edit the serial number range, simply type the values in and click **Update**. The values that are shipped are already set to the maximum range for all serial numbers.

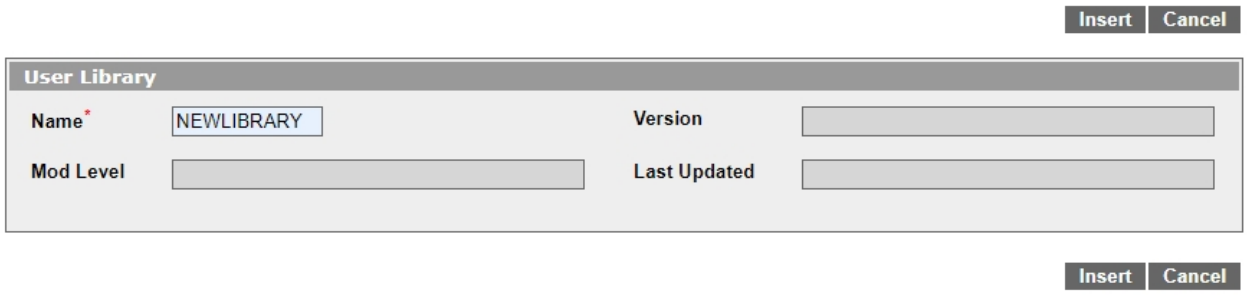
To view the list of unique UPC values and their auto incremented serial numbers, click Reports and then Product and Last Serial Number. The list with naturally be empty on a fresh installation of MMPI. When RFID labels are printed and a new UPC value has been detected, it is added to the list and a new range of serial numbers is started for that unique UPC.

Manage User Libraries

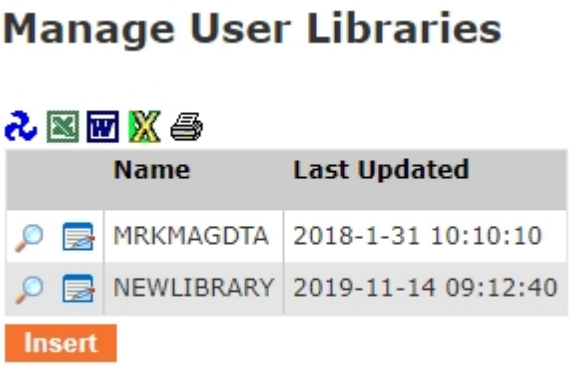
The Manage User Libraries screen allows an admin to create new MarkMagic user libraries as well as modify the names of existing MarkMagic user libraries. By default, MMPI ships with one user library named MRKMAGDTA. This is an important library that also contains core application files and cannot be removed or renamed. MarkMagic user libraries are separate storage locations for format designs, jobs, graphics, RuleSets, etc. It is advised to keep production and development objects separated by creating new production and development user libraries. For example, developers could edit and create new formats only in the development library and then an administrator would export and import the changes to the production library using the Import / Export Object utilities.



Press the **Insert** button to create a new user library:



Fill in the desired name for the library and then press **Insert**. You will see the new library added to the list.



The new library would now be available in JMagic as a fresh storage location for new formats, jobs, graphics,

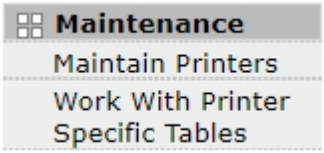
etc. It would also be available as a new import location to bring in new objects via the Import/Export Objects tool.

To edit a library name, click the icon next to the library you wish to modify. You will be brought to a screen where you will have the option to change the library name. The icon will bring you to a screen here you can view other information related to the user library such as Last Updated date and the version / mod level of MMPI where the library was created.

Although the option to delete a User Library is not available on this screen, deleting a library can be accomplished by using a REST API call. For more information on that, please see MarkMagic PI REST APIs.

Maintenance

The primary use of the Maintenance menu will be adding and editing printer configurations via the Maintain Printers option.



- Maintain Printers - Add and edit printer configurations. In order to print labels and forms, MMPI needs to know about all of the physical printers available at your location. Use this interface to create and modify printer definitions, specify printer IP addresses, names, ports, etc.
- Work With Printer Specific Tables - Each printer driver family has a unique way for sending certain information to printers. At print time, MMPI can access tables found here to obtain the correct conversions needed for each printer driver. Editing the values in these tables is rarely required, but in the case where one needs to make a change to a printer specific table, the option can be found here.

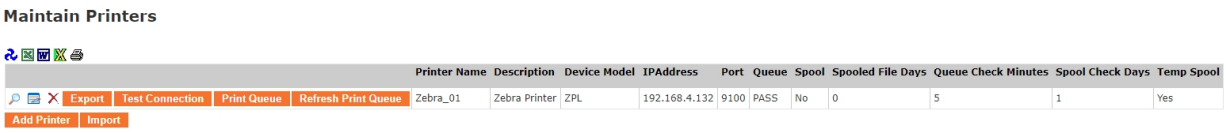
Maintain Printers

In order to print labels and forms, MMPI needs to know information about all of the physical printers available on your network. One of the first things an administrator will need to do on a new MMPI installation is access the Maintain Printers interface to create and modify printer definitions, specify printer IP addresses, names, ports, etc. You can add any number of printers to the Maintain Printers list via this interface. Eventually, this screen will contain a listing of all known printers available on your network. When MMPI print commands and jobs are ran, those commands and jobs will reference printers that are listed here. You cannot print to a printer that is not first added and configured here in the Maintain Printers list.

Click Add Printer to add a new printer to the Maintain Printers list.

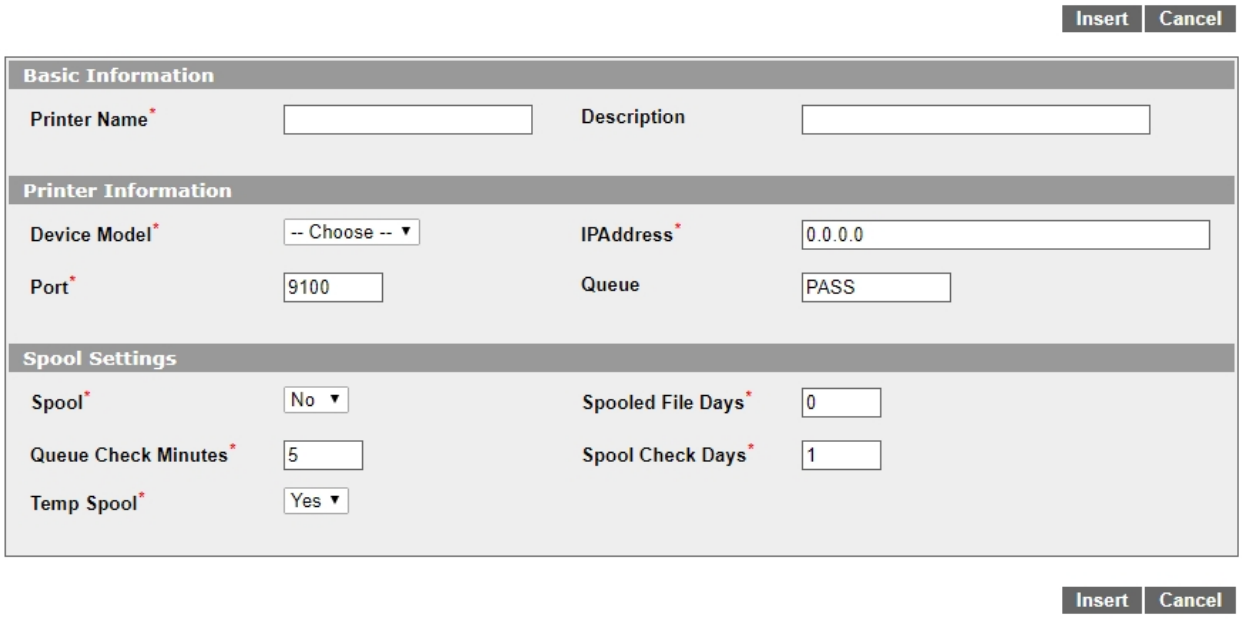
Click Import to import a printer configuration from an already created export file. MMPI allows you to export printer configurations to a file so you can easily import printer configurations on to a new MMPI instance. Also, the Export Objects function can be used to backup your printer definitions in case you need to reinstall MMPI and re-import your printer definitions at a later date.

Example showing a configured Zebra printer without spooling active:



Add Printer

Use the Add Printer page to create a new printer in MMPI. Currently, only IP addressable printers can be added. Every printer that you plan to print to must be added to MMPI using this interface or via the Add Printer REST API.



Fields marked with an asterisk (*) are required

Basic Information:

- **Printer Name*** - The name of your new printer. (Maximum 20 characters) This is the name by which the printer will be referred to in all areas of MMPI where a destination printer is required. For example, in the print API, the DEV parameter is the destination printer name.
- **Description** - The description of your new printer. A 30 character field to provide a better description for the printer.

Printer Information:

- **Device Model*** - The MMPI print driver family that the new printer is related to. Every new printer added to MMPI must be associated to a printer driver.
    - EPL2 - Eltron printers
    - MPCL - Monarch printers (Avery Dennison)
    - PAXAR - Paxar printer
    - PCL - Any HP PCL5 compatible laser printer
    - SATO - SATO printer models
    - TOSHIBA - Toshiba model printers (TEC)
    - ZPL - Any Zebra ZPLII compatible label printer
- **IPAddress*** - The network IP address of the printer being added. Consult your network administrator if you do not know this information.
- **Port*** - Printer network IP port. Typically, for directly Ethernet attached printers, this is port 9100. Sometimes this can be different depending on how the printer is hooked up to the network. Some printers go through a separate print server and in most of these cases, the port is 515. Consult your network administrator if you do not know this information.
- **Queue** - If using port 9100, which usually indicates a direct Ethernet connection, then this can normally be left as PASS which means pass-through. If using a hardware print server where multiple printers might be connected, then this value is the name of the internal printer port on that print server. This can be different depending on the print server used. Consult your network administrator if you do not know this information.

Spool Settings: (Only necessary if using the MMPI internal Print Queue system)

- **Spool*** - Yes/No menu choice. If the MMPI internal Print Queue system is turned on, then this printer will utilize the queuing system and save successfully printed output according to the 'Spool File Days' value.
- **Spooled File Days*** - How long a saved spooled file will stay on the system before even being considered for deletion. 0 means never delete a saved spooled file.
- **Queue Check Minutes*** - When a print fails for whatever reason (printer offline), this is the amount of time in minutes before MMPI retries the print.
- **Spool Check Days*** - The number of days in between spool file cleanup checks.
- **Temp Spool*** - When Spool = No, you can set this option to Yes to keep a temporary spool file in background for 1 day. These spool files are not visible in the normal view of the Print Queue manager. This feature is not used when Spool = Yes as it would create unnecessary duplicate spool files.

Import

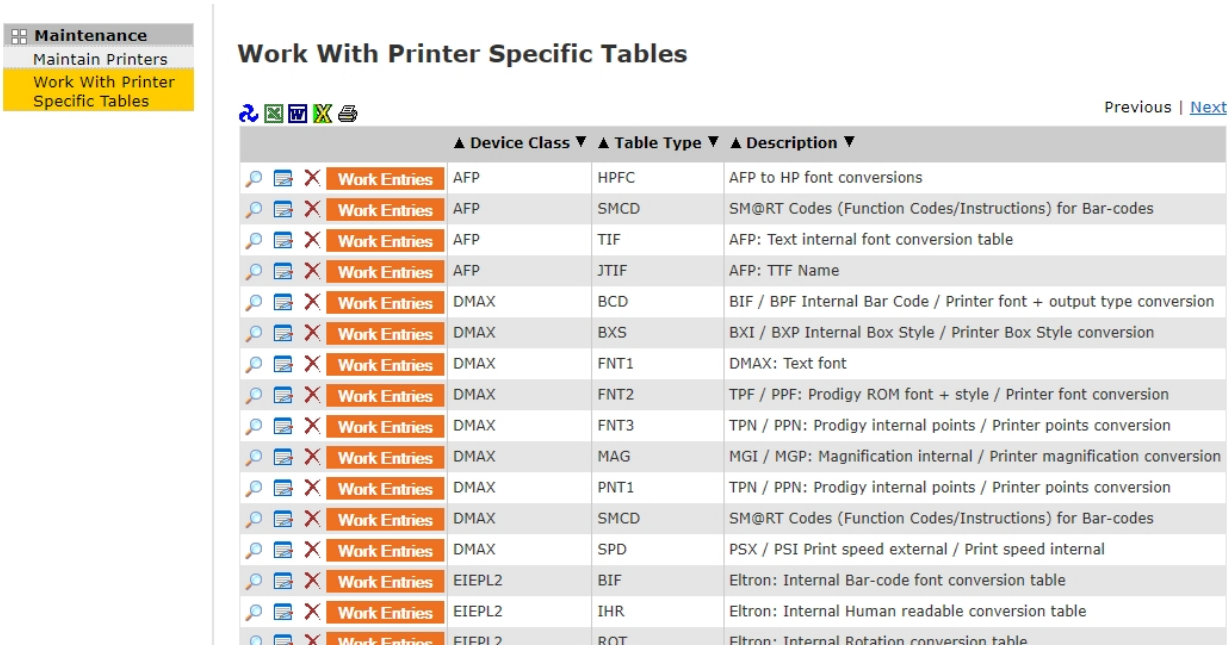
The **Import** button on the Maintain Printers screen will take you directly to the Import/Export Objects page where you can then import a printer definition. This is an easy way to bring in a printer definitions from an export file that originated from another MMPI instance. Please see the Import Objects help section for more information.

Work With Printer Specific Tables

MarkMagic supports many different print programming languages and each one handles printing and encoding characters differently. For example, an industry standard is to pass a Function 1 (or FNC1) character at the beginning of a Code128 barcode. Each printer handles the Function 1 (or FNC1) special character differently. Zebra printers expect >8 whereas Monarch printers expect ~201 to encode a FNC1.

Rather than requiring you to remember all of these different combinations of characters for all of the different printer drivers, CYBRA set up a way where you can pass just one combination of characters and depending on the driver type in use, MarkMagic can replace those characters with printer specific versions of those characters. We call these SM@RT Codes.

The characters @F1 can be used across all driver types in MarkMagic and when you print your label, MarkMagic will check the respective printer specific table for the driver family and replace @F1 with the correct characters pulled from the table.



These tables come pre-loaded with all of the proper values already when you install MarkMagic PI. There should be no reason to ever edit these tables. In rare cases where a tech support agent might instruct you to make a change, you can access a printers' specific table by pressing the **Work Entries** button.

Pressing on the **Work Entries** button next to the ZPL SMCD table for example, you will be able to see the various replacement characters used for the Zebra driver.

@**ET** gets converted to _**04**
@**FS** gets converted to _**1C**
@**F1** gets converted to **>8**

and so on...

Update Cancel Delete

Printer Specific Table

Device Class	ZTZPL	Table Type	SMCD

MarkMagic Conversion 1

MarkMagic Value 01	@CR	Conversion Value 01	\&
Conversion Text 01	PDF 417 Carriage return		

MarkMagic Conversion 2

MarkMagic Value 02	@DL	Conversion Value 02	>1
Conversion Text 02	Delete		

MarkMagic Conversion 3

MarkMagic Value 03	@ET	Conversion Value 03	_04
Conversion Text 03	PDF 417 EOT function code		

MarkMagic Conversion 4

MarkMagic Value 04	@FS	Conversion Value 04	_1C
Conversion Text 04	FedEx File Separator		

MarkMagic Conversion 5

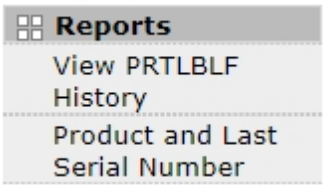
MarkMagic Value 05	@F1	Conversion Value 05	>8
Conversion Text 05	Code 128 Fuction code 1		

MarkMagic Conversion 6

MarkMagic Value 06	@F2	Conversion Value 06	>3
Conversion Text 06	Code 128 Fuction code 2		

Reports

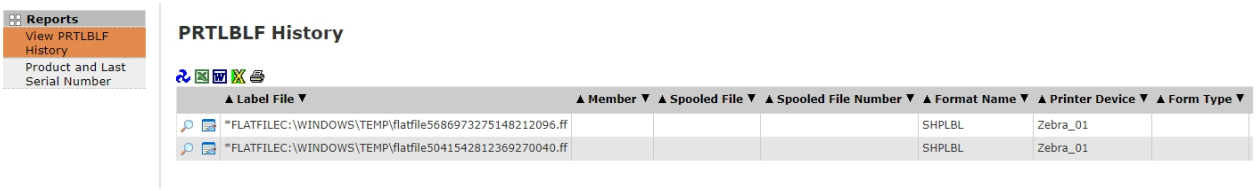
The Reports menu will give you access to information about your print history. This section will be updated once the advanced logging is completed and added to version 10.



- View PRTLBLF History - A history table displaying all PRTLBLF calls along with all parameters that were used in the call.
- Product and Last Serial Number - Displays a list of all GTIN/UPC values that have had RFID tags printed for them along with the last serial number that was generated for them.

View PRTLBLF History

By default, 'Record print history' is set to N in the Admin menu under Configuration Settings. If 'Record print history' is set to Y, then every print call to MMPI will be listed here. The information shown here is simply the full PRTLBLF call showing all parameters that were used. Some useful information that can be gleaned from these records are the label format that was used to print, the completed timestamp, the program return code among others.



Click the magnifying glass icon next to an individual record to see a full overview screen of the PRTLBLF call.

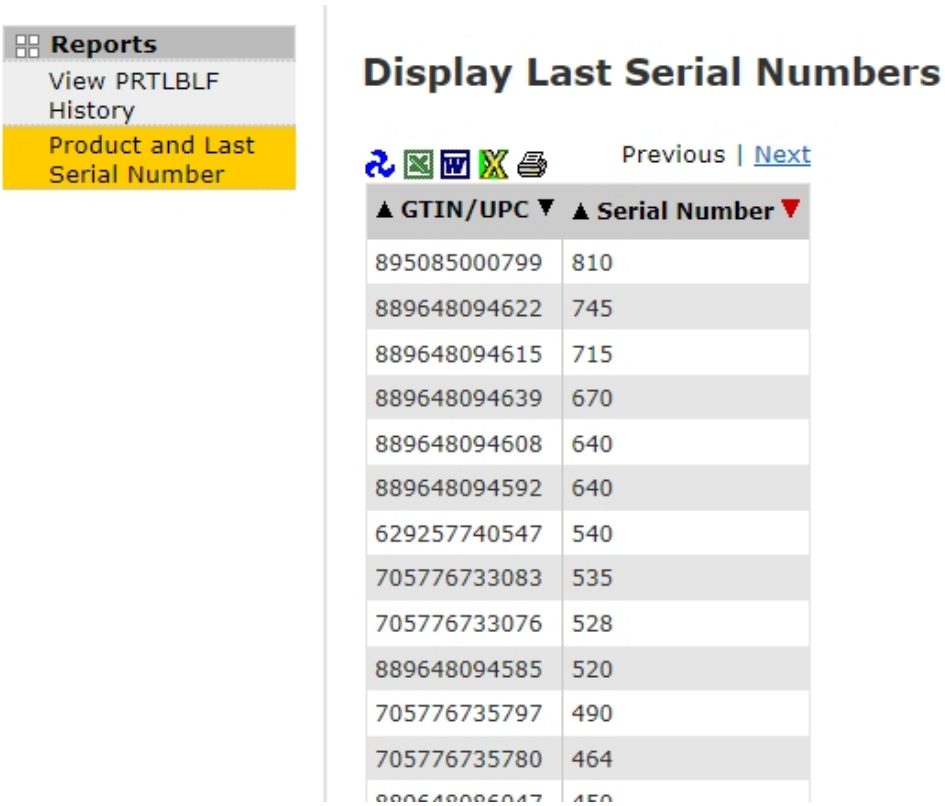
Cancel Next

Format Settings			
Label File*	*FLATFILEC:\WINDOWS\TEMP\flatfile5686973275148212096.ff	User Id	
Member		Format Name*	SHPLBL
Quantity		Format Number	
User Library*	MRKMAGDTA		
Device Settings			
Printer Device*	Zebra_01	Printer Type*	ZTZ140XI12
Speed	*MEDIUM	Emulated Device	
Print To File			
Record Settings			
From Record	*FIRST	To Record	*END
From Key		To Key	
Number of Records			
Options			
Form Type		Translate Unprintable Characters	
Send Format		Send Graphics	
Clear Graphics Buffer		Align	
Ribbon		Heat	
Sensitivity		RF Network	
Source Drawer		Output Bin	
Duplex	*NO	Ascii Transparency	
Character Set		Data	
Rule Library	MRKMAGDTA	Rule	*NONE
Secure From Overrides			
Spool Settings			
Spooled File		Spooled File Number	
Spooled Printer Output		Spooled File Name	
Spool Copies		Hold Spool File	
Save Spool File		Spooled Output Queue	
Email Settings			
Recipient		Sender	
Subject		Message	
Attach to File		User Defined Data	
Timestamp	07/30/2020 09:13:00	Return Value	0

Cancel Next

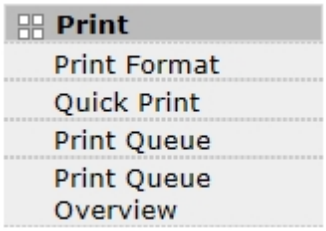
Product and Last Serial Number

When printing serialized RFID labels that contain GTIN/UPC information, MarkMagic PI can automatically create and keep track of the individual serial numbers generated for each GTIN/UPC value. The Display Last Serial Numbers menu shows a complete list of GTIN/UPC values that have had RFID tags printed for them along with the last serial number associated with that GTIN/UPC. This is a just a display list and you cannot edit the serial numbers directly. MMPI will automatically increment the serial number when an RFID tag is printed for a GTIN/UPC.



Print

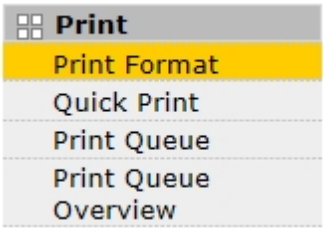
The Print menu gives access to various screens related to running manual print calls as well as managing and monitoring the MMPI internal print queue feature.



- Print Format - Originally a screen designed to allow manual print requests. It displays all parameters of the Print Label File or "prtlblf" servlet. A user could fill out all necessary parameters needed for printing and could run a print call from this screen. The more robust Quick Print feature has replaced this screen's functionality.
- Quick Print - A more intuitive and interactive print screen for running manual MMPI print requests. This screen also allows the user to create their own flat file using a spreadsheet like interface. This is the recommended method for running small manual print requests. A new window will open up when clicking on Quick Print.
- Print Queue - A general print queue page showing a live view of all printer output combined from all printers into one large list.
- Print Queue Overview - A listing of individual printer queues separated out by printer name. This page also has the main on/off toggle switch for the entire MMPI printer queue service.

Print Format

The Print Format screen is simply a GUI representation of the legacy /prtlblf servlet. It was originally designed as a way to manually run a print request without the need to fill out a URL along with all of the required values. This was before the Quick Print interface was designed. With the release of the Quick Print GUI as well as CYBRA implementing a /print REST API, there should be no need to utilize this screen for print. CYBRA will keep it visible for now, but look for this screen to be removed in future MMPI releases.



Print Cancel

Format Settings

Label File*		Member	
Format Name*		Quantity	
Format Number		User Library*	-- Choose --

Device Settings

Printer Device*		Printer Type*	
Speed	*MEDIUM	Emulated Device	
Print To File			

Record Settings

From Record	*FIRST	To Record	*END
From Key		To Key	
Number of Records			

Options

Form Type		Translate Unprintable Characters	-- None --
Send Format	-- None --	Send Graphics	-- None --
Clear Graphics Buffer	-- None --	Align	-- None --
Ribbon	-- None --	Heat	
Sensitivity		RF Network	
Source Drawer		Output Bin	
Duplex	*NO	Ascii Transparency	-- None --
Character Set	-- None --	Data	
Rule Library		Rule	
Secure From Overrides	-- None --		

Spool Settings

Spooled File		Spooled File Number	
Spooled Printer Output	-- None --	Spooled File Name	
Spool Copies		Hold Spool File	-- None --
Save Spool File	-- None --	Spooled Output Queue	

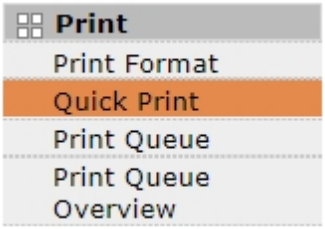
Email Settings

Recipient		Sender	
Subject		Message	
Attach to File		User Defined Data	

Print Cancel

Quick Print

The Quick Print menu option will open a new browser page that directs you to an interactive printing interface. You start by choosing a format to print with. Various pull down menus show you all user libraries, printer drivers and formats to choose from. You then choose a destination printer along with any other Advanced print options you want to use. The best part about the Quick Print interface is you can manually create your own variable data to print with by using MMPI's built in spreadsheet flat file generator tool.

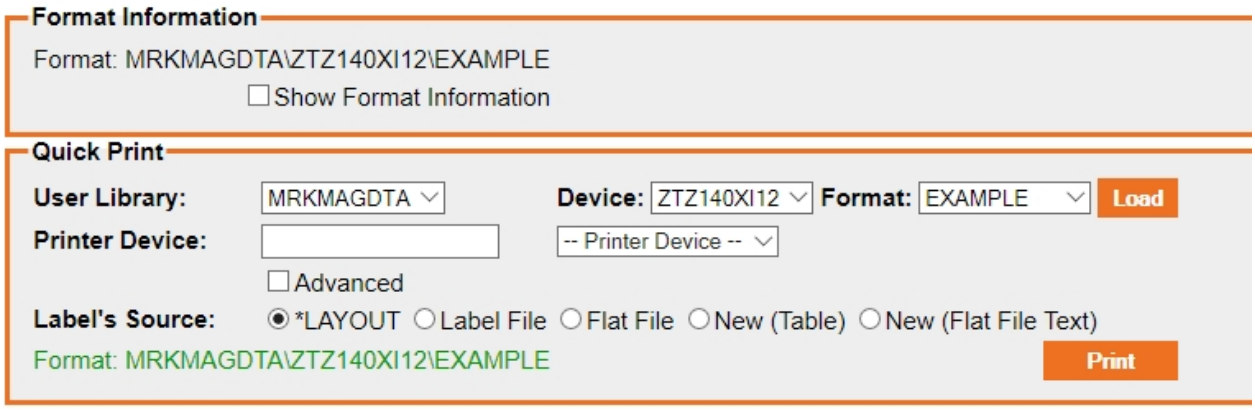


Below is an initial view of the Quick Print interface once it is loaded. The first step to running a print is choosing your format.

Choosing a format:

- **User Library -** Choose the MMPI user library where the format is stored. For more information on user libraries, please see Manage User Libraries. The default user library, if you did not create any of your own, is MRKMAGDTA.
- **Device -** This is the MMPI print driver the format is designed under. After choosing the user library, you will be shown only device names of formats that exist in the library that you chose. For example, one of the more popular Zebra drivers in MMPI is ZTZ140XI12.
- **Format -** Once a device is chosen, you will then be able to choose the format. You will see a list of only formats that match the device that was picked.

Click the **Load** button once all three menus are correct. This will load your format into memory. You should see a message in green that shows your format is now loaded. If you would like to see more detailed information about the loaded format, you can click the checkbox 'Show Format Information'. This will open up a box that displays general information about the format such as length and width, margin sizes, unit of measure, etc.

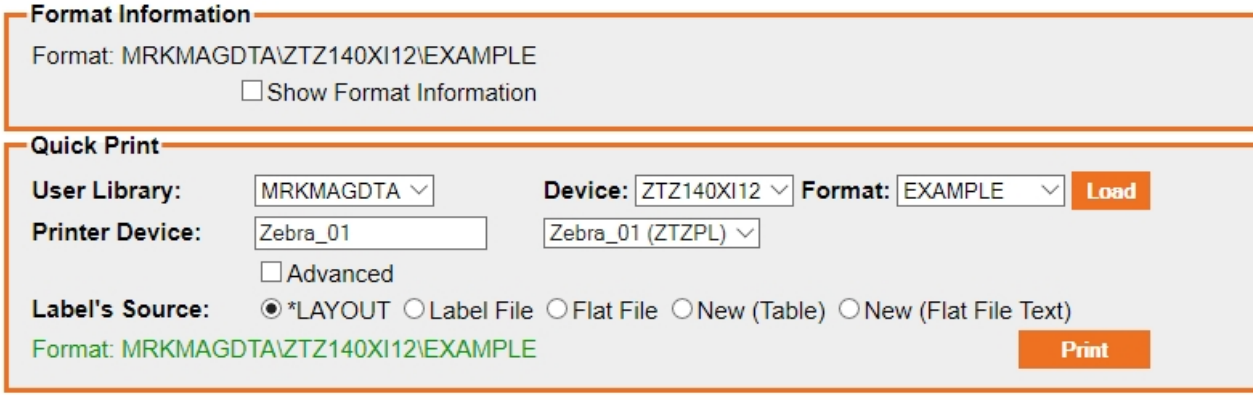


Next, you can choose your destination printer using the Printer Device menu. For a printer to show up in this menu, it must first be configured in MMPI using the Maintain Printers menu. The pull down menu will show various output options as well as a list of physical printers that match the driver type of the format loaded. For example, if your format is designed under the Zebra ZTZ140XI12 driver, then only Zebra printers that you have added to Maintain Printers will be shown in the Printer Device menu.

Choosing a Printer Device:

- ***PDF** - Rather than printing directly to a physical printer, a PDF will be generated. The PDF can also be emailed. To successfully create and email the PDF, various extra Advanced print options must be provided. Please see the Advanced Quick Print section for more information. **NOTE:** A valid license for the PDF Email add-on option must be installed in order to create and send PDF emails.
- ***FILE** - Rather than printing direct to a physical printer, MMPI can send the generated printer language code to a file or display the generated printer code directly on the screen for you. Various extra Advanced print options must be provided for this to happen. Please see the Advanced Quick Print section for more information.
- **Printer** - The destination physical printer where MMPI will direct the output to.

Once a Printer Device is selected via the menu, it will show in the field to the left.



For more advanced printing options such as sending a PDF email or using a PrintTransformer RuleSet, you must specify the options to do so via Advanced Quick Print.

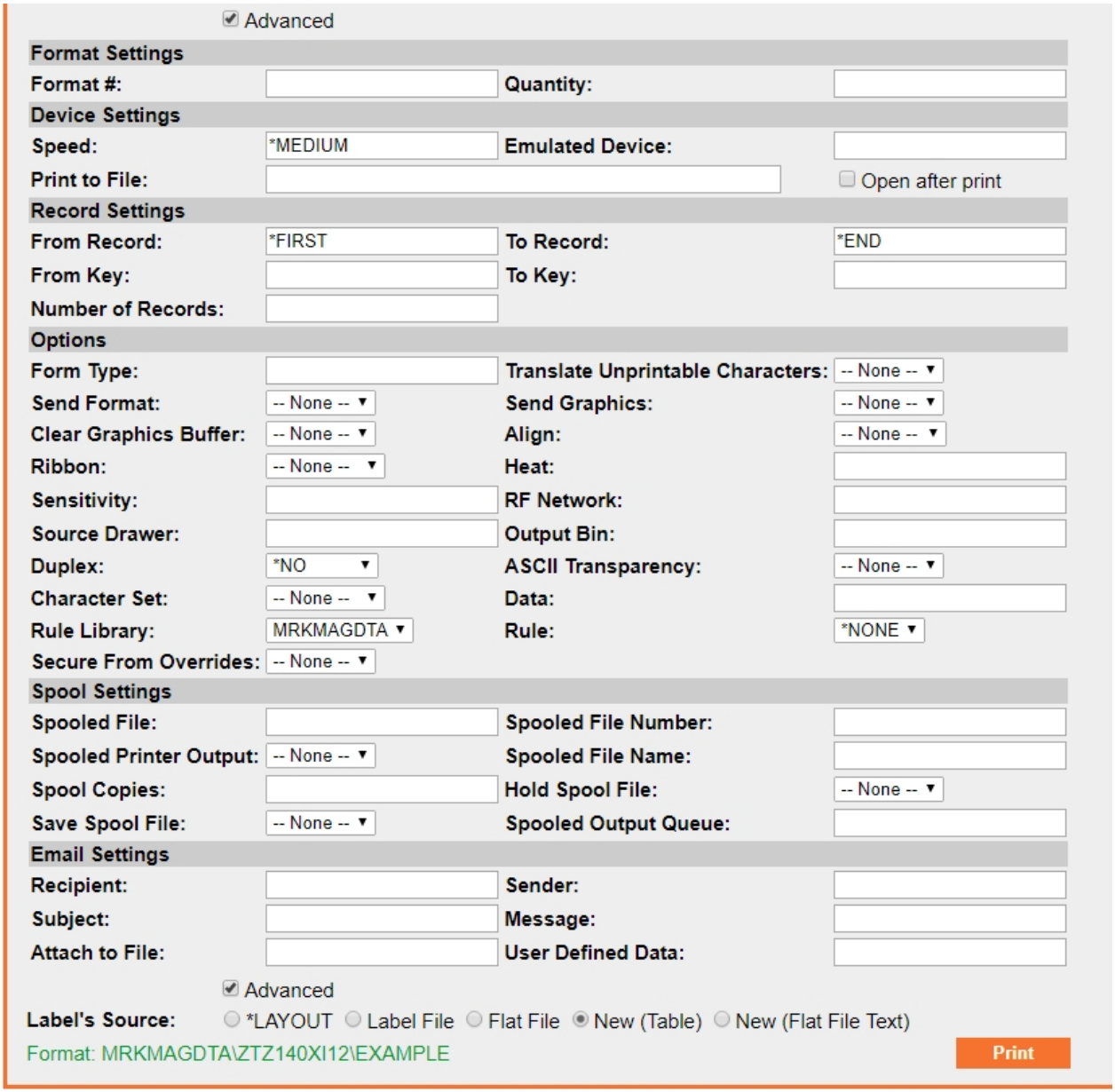
Before running the actual print, you must choose your label (format) source flat file data or manually create some new source data. The various choices are described below. After making the selection for "Label's Source", press the **Print** button to execute the print process according to all of the options you have selected.

Label Source:

- ***LAYOUT -** This option is selected by default. A *LAYOUT does not use any variable source data. Field names will show in places where variable data would normally be. Static information such as lines, boxes, *HEADING text and graphics will print. *LAYOUT is intended to be used for test printing your format.
- Label File - An uncommon way of printing data to a format in MMPI. This is a feature that was migrated from our MarkMagic version on the IBM Systemi platform. Using the JMagic designer, there is a way to create "label files" (essentially new SQL tables) that store the data that will print on a format. The label files are stored in a user library. You would specify the label file library and name here. The most common and recommended way to print in MMPI is to use flat file data.
- Flat File - A flat file is basically a plain text string of data that is spaced correctly so the data falls into all variable fields of a format in the correct positional order they were added. Use this option to select an already created flat file that exists on your PC.
- New (Table) - Use this option if you want to manually enter variable data to print on your format using an intuitive spreadsheet interface.
- New (Flat File Text) - Use this option if you want to create or edit the raw flat file data string directly.

Advanced Quick Print

The "Advanced" check box on the Quick Print screen reveals a number of extra print parameters that are needed for the more advanced print and PDF email jobs. Please see the list below for more detail on each setting. **NOTE:** Some options do not function in MMPI yet as they were migrated straight from our Systemi version of MarkMagic and are not supported.



Format Settings:

- **Format #** - This advanced print setting is not used in MMPI.
- **Quantity** - Sets the print quantity. This will be on a per record basis. For example, if you have 2 rows of flat file data and set Quantity to 3, you will get 3 labels using data from the first and then 3 labels using data from the second row. (1,1,1,2,2,2 not 1,2,1,2,1,2)

Device Settings:

- **Speed** - Sets the print speed of the printer. This is how fast the label stock will feed as it prints. Valid values are *LOW, *MEDIUM, *HIGH and actual numbers typically 1-12 depending on the print driver.
- **Emulated Device** - Specify a driver type of the same family as the format you are printing. You can emulate the core device settings of another printer type without the need to actually copy the format to that printer type. A good example is you have a format designed under a 203 dpi Zebra driver and you want to print to a 300 dpi Zebra printer. Rather than copying your format to another MMPI driver (resulting in two copies of the same format), you can specify the 300 dpi driver here but still print with the original format. MMPI will emulate the 300 dpi driver settings resulting in a successful print to the other printer.
- **Print to File** - A required parameter when printing to *PDF or to *FILE. Use this setting to specify the

full path and filename for where MMPI should create the PDF or other output text file. If MMPI is running on a Windows server, you could specify `C:\MarkMagic PDF Files\Invoices\Invoice 1234.pdf` if you were printing invoices for example. One other handy ability is if you are printing to *FILE, rather than specify a path and filename for the output text file, you can specify `*NONE` here. When this is done, the resulting information that would normally be sent to file is now sent directly to the browser window and will display on your screen.

- **Open after print** - When 'Print to file' is used to create a PDF or text file output, check this box to have MMPI automatically open the file on your PC. This is a feature unique to the MMPI Quick Print interface.

Record Settings:

- **From Record** - Sets the starting record if printing with multiple records in a flat file. Defaults to *FIRST to indicate printing from the first record in the file. For example, if printing with a flat file that has 10 rows of data and you wanted to start at row 5, you can set this value to 5.
- **To Record** - Sets the ending record if printing with multiple records in a flat file. Defaults to *END to indicate printing until the last record in the file. For example, if printing with a flat file that has 10 rows of data, but you only want to print until row 5, you can set this value to 5. Combine this with the From Record value and you can single out individual records to print, for example setting both From and To Record to 5 would print *only* record 5 of the file.
- **From Key** - Currently unused in MMPI. This value was migrated from CYBRA's MarkMagic System i product which makes use of IBM database key fields.
- **To Key** - Currently unused in MMPI. This value was migrated from CYBRA's MarkMagic System i product which makes use of IBM database key fields.
- **Number of Records** - Currently unused in MMPI. This value was migrated from CYBRA's MarkMagic System i product.

Options:

- **Form Type** - Currently unused in MMPI.
- **Translate Unprintable Characters** - Currently unused in MMPI.
- **Send Format** - Currently unused in MMPI.
- **Send Graphics** - Choose whether or not to send graphic data when printing. If a format has graphics on it and you want to print without graphics, this can be set to *NO. Default is None which is the same as *YES.
- **Clear Graphics Buffer** - Most print drivers have a command that instructs the printer to clear format and graphics from memory before every label print. Setting this to *NO will remove those instructions from the print stream. Default is None which is the same as *YES.
- **Align** - Currently unused in MMPI.
- **Ribbon** - Some thermal label printers use require ribbon to for printing. Setting this option to *NO will instruct the printer not to check for or expect a ribbon. This setting would be needed if you are using direct thermal label stock that does not require a ribbon for printing. Default menu choice is None which is the same as *YES.
- **Heat** - Currently unused in MMPI.
- **Sensitivity** - Currently unused in MMPI.
- **RF Network** - Currently unused in MMPI.
- **Source Drawer** - Which source drawer to pull paper from when printing on a laser printer. Use numeric values. Default is blank which instructs the laser printer to pull from the default drawer.
- **Output Bin** - Which output bin to send the printed output on a laser printer. Some advanced laser printers have multiple output trays or bins. Use numeric values. Default is blank which instructs the laser printer to print to the default output bin.
- **Duplex** - Setting this to *YES will tell the printer to print on the front and back of the paper or label stock. This option is supported only on laser printers that have duplex functionality and the SATO GY412 thermal duplex label printer. Default value is *NO.
- **ASCII Transparency** - Currently unused in MMPI.

- **Character Set** - Currently unused in MMPI.
- **Data** - The full data string that will print on the format. This parameter is used primarily when printing via MarkMagic REST APIs and does not function here on the Quick Print interface. To provide data for your print, please see Label Source.
- **Rule Library** - If printing using a PrintTransformer RuleSet, use this option to specify the library where the RuleSet exists.
- **Rule** - If printing using a PrintTransformer RuleSet, use this option to specify the RuleSet name. Default value is *NONE.
- **Secure From Overrides** - Currently unused in MMPI.

Spool Settings:

- **Spooled File** - Currently unused in MMPI.
- **Spooled File Number** - Currently unused in MMPI.
- **Spooled Printer Output** - Currently unused in MMPI.
- **Spooled File Name** - If using the MMPI Print Queue service, this setting allows you to customize the Spool File Name of the output listed in the queue. By default, this setting is blank and the format name will be used as the Spool File Name when viewing the output in the queue.
- **Spool Copies** - Currently unused in MMPI.
- **Hold Spool File** - If using the MMPI Print Queue service, setting this option to *YES will run the print job as normal, but the output will be held in the printer queue. It will not print until specifically released via the queue interface. Default is 'None' which is the same as *NO.
- **Save Spool File** - If using the MMPI Print Queue service, setting this option to *YES will run and print the job as normal, but the output will remain saved in the queue after printing. Default is 'None' which is the same as *NO.
- **Spooled Output Queue** - Currently unused in MMPI. Queue names are tied to the printer devices. To print to a specific queue, choose the printer from the Printer Device menu.

Email Settings:

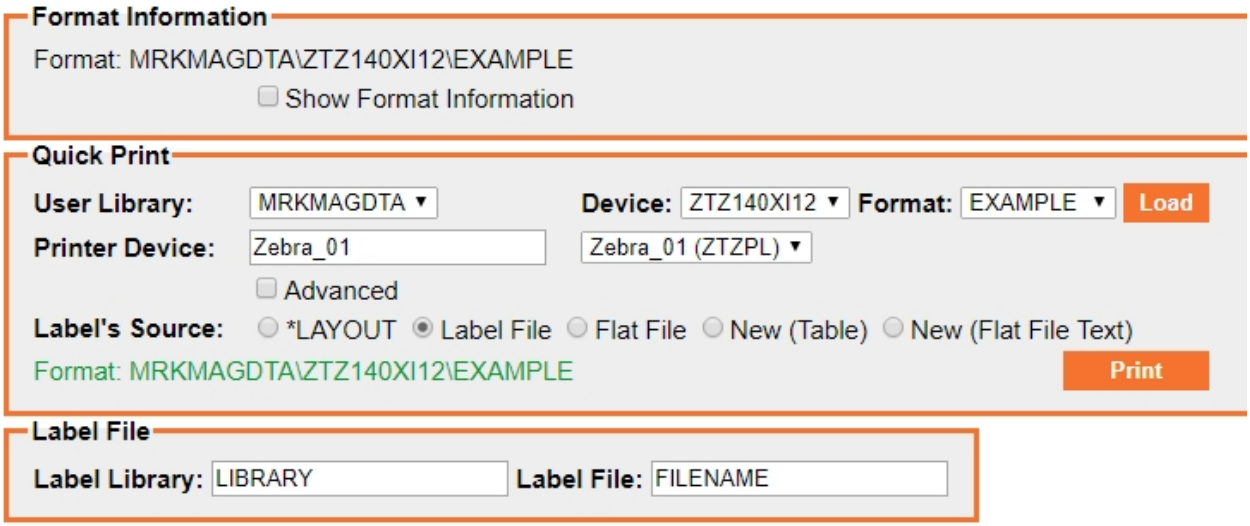
These values are used only when *PDF is specified for **Printer Device** and there is a valid path / filename in the **Print to File** parameter. The options here will allow you to send the PDF as an email attachment. Make sure proper SMTP server settings are configured in Work With Email for your user profile before attempting to send PDF emails in MMPI. **NOTE:** A valid license for the PDF Email add-on option must be installed in order to create and send PDF emails. Check your licenses by going to Install License.

- **Recipient** - The recipients email address.
- **Sender** - The senders email address. This will be the address that the recipient sees as the sender on their end.
- **Subject** - The subject of the email.
- **Message** - A small message that will go in the email body. More advanced HTML options for the email message will be available in the future.
- **Attach to File** - Optional attached file. Specify the path and filename for the attached file. This will be attached in addition to the PDF created by MMPI.
- **User Defined Data** - Currently unused in MMPI.

Label File

Using a label file is an uncommon way of printing data to a format in MMPI. This is a feature that was migrated from our MarkMagic version on the IBM Systemi platform. On the Systemi platform, using a DB2 database file, or label file as CYBRA calls it, is the most common method of printing data on labels. In MMPI, using the JMagic designer, there is a way to create "label files" (essentially new H2 database tables) that store the data that would print on the format. These label files are stored in a user library. You would specify the label file library and name here. Still, the most common and recommended way to print in MMPI

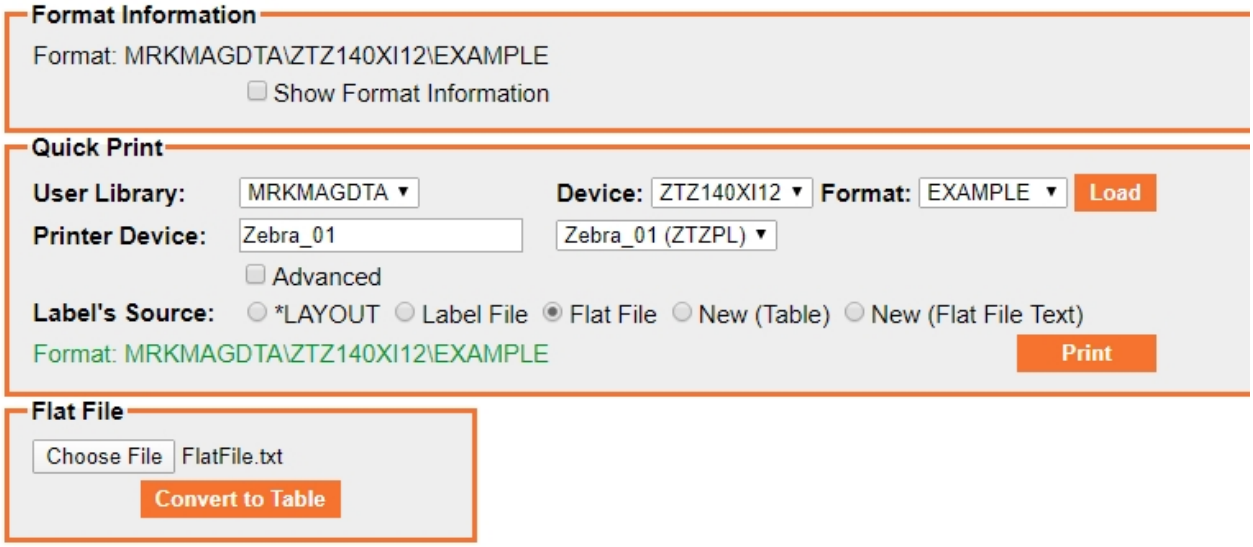
is to use flat file data.



When you have filled in the library and file name, press the **Print** button to execute the print process according to all of the options you have selected.

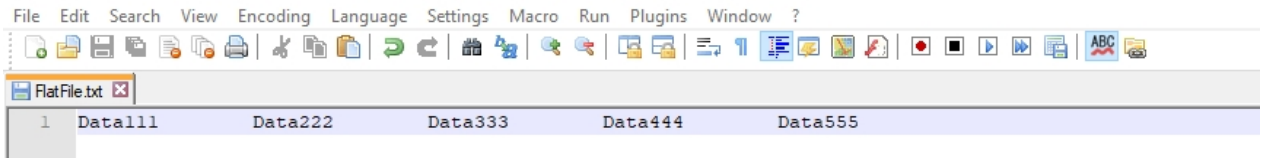
Flat File

Use the Flat File option if you already have a properly created flat file on your PC with the desired information to print on your label. Use the Choose File button on this screen to browse your PC and choose the desired file.



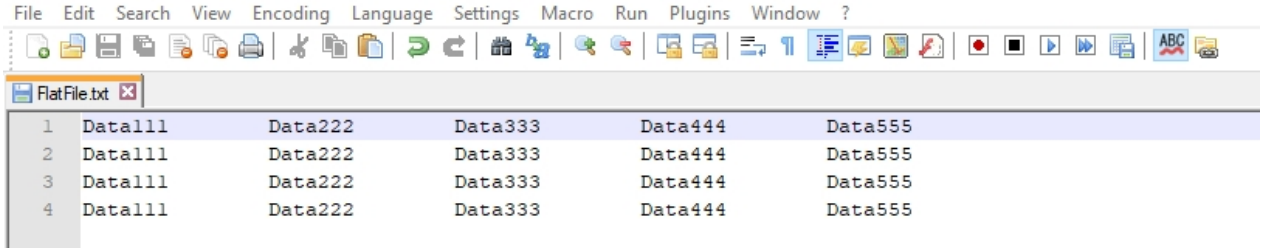
Using a flat file to print a format in MMPI is the most common and recommended method for printing data in MMPI. A flat file is basically a plain text string of data that is spaced correctly so the data falls into all variable fields of a format in the correct positional order that they were added. For example, if your format has 5 variable fields on it each 15 positions in length, your flat file will need 75 characters of data in it (spaces included). An example flat file for this is shown below.

Example flat file:



A flat file can have multiple "rows" of data within it. Each row of data represents one printed or PDF page. The example flat file below would print 4 labels to the printer.

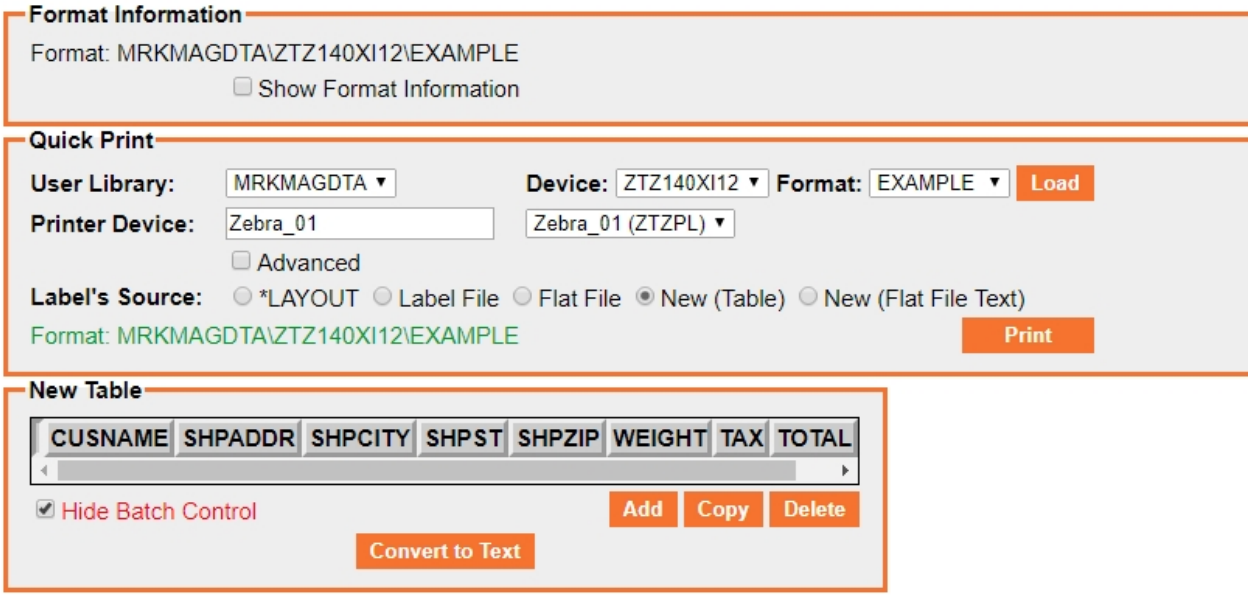
Example flat file with 4 "rows". 4 separate labels will print when this file is used as source data:



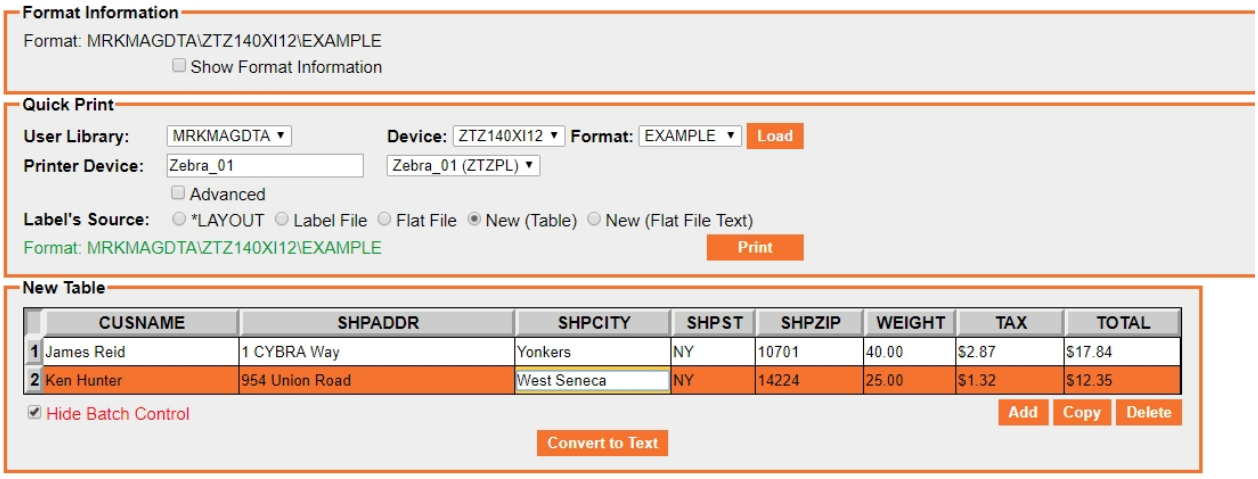
When you are satisfied with the selected flat file, press the **Print** button to execute the print process according to all of the options you have selected.

New (Table)

The New (Table) option opens a spreadsheet interface that allows you manually enter in variable data that will print on the format. Click the **Add** button to create a new "row" of data. Each row of data represents one printed or PDF page. The variable fields from the currently loaded format are displayed across the top of the table in the order that they were created on the format.



Click within each cell to manually type information for that field. Each fields' maximum length is set according to the field length defined in the format.



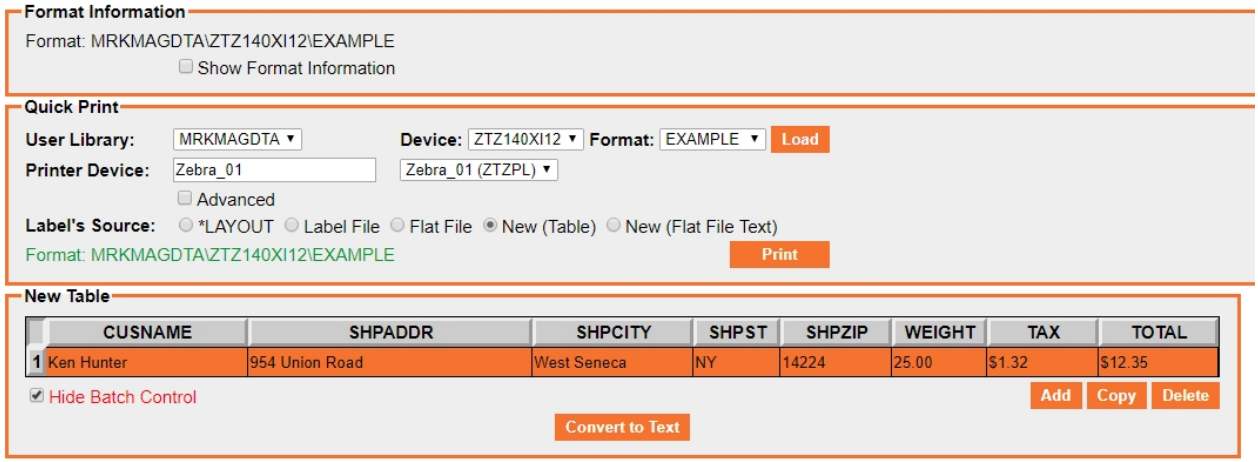
The **Copy** button will copy an existing row of data to a new row. The **Delete** button will delete the currently selected row.

The check box called "Hide Batch Control" is defaulted to on. This option hides special data fields that MMPI uses behind the scenes otherwise known as "Batch Control Fields". Uncheck this box to see these special fields that appear at the beginning of the row. Click Batch Control Fields for more information.

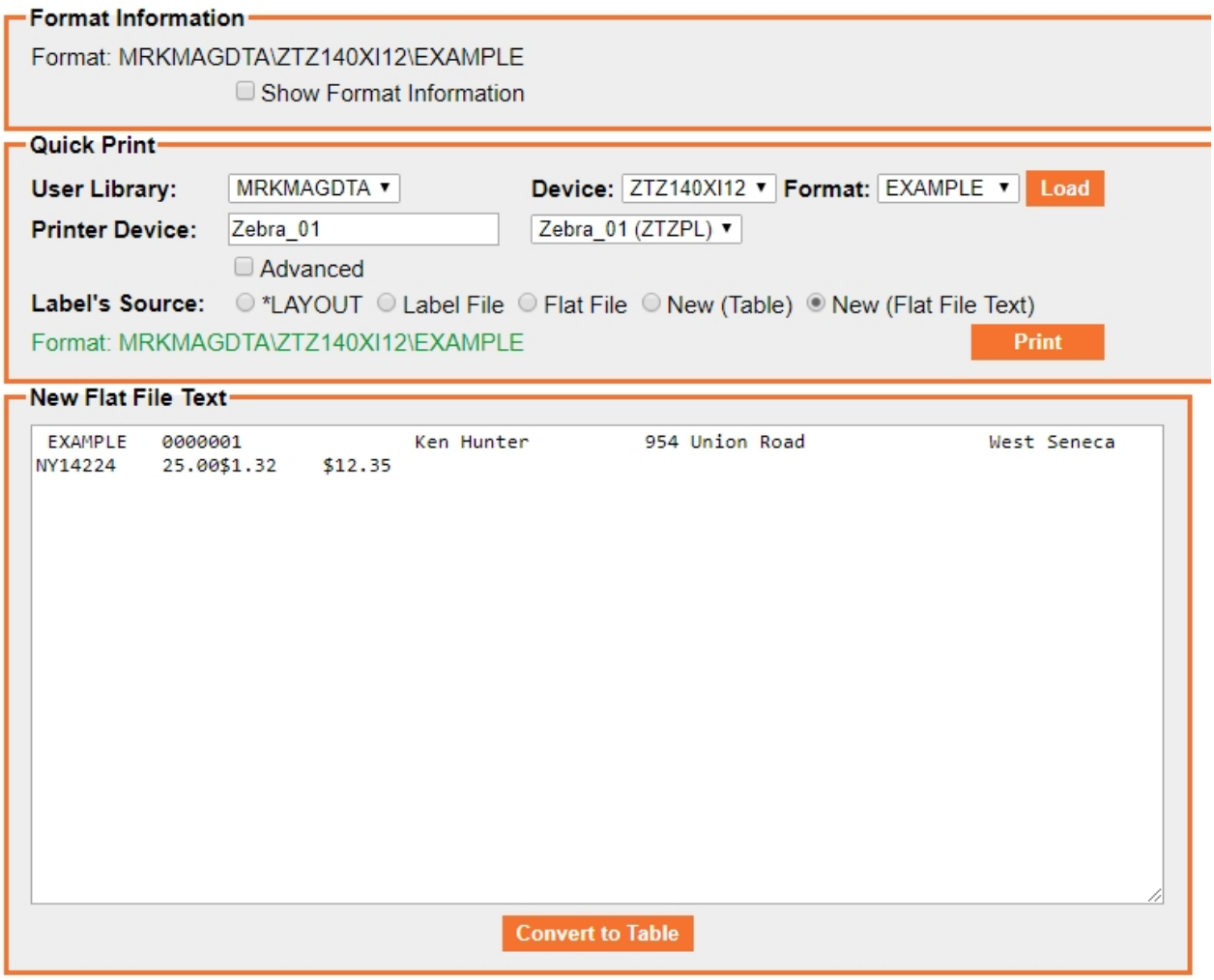
When you are satisfied with the data you have entered, press the **Print** button to execute the print process according to all of the options you have selected.

With data entered into the table, you can view the actual flat file text string that would be generated by pressing the **Convert to Text** button. This button will take you to the New (Flat File Text) screen showing a properly spaced string of data built from the information that was entered into the table on the previous screen.

Example data entered into the table:



Same data after converting to a flat file text string via pressing **Convert to Text**:

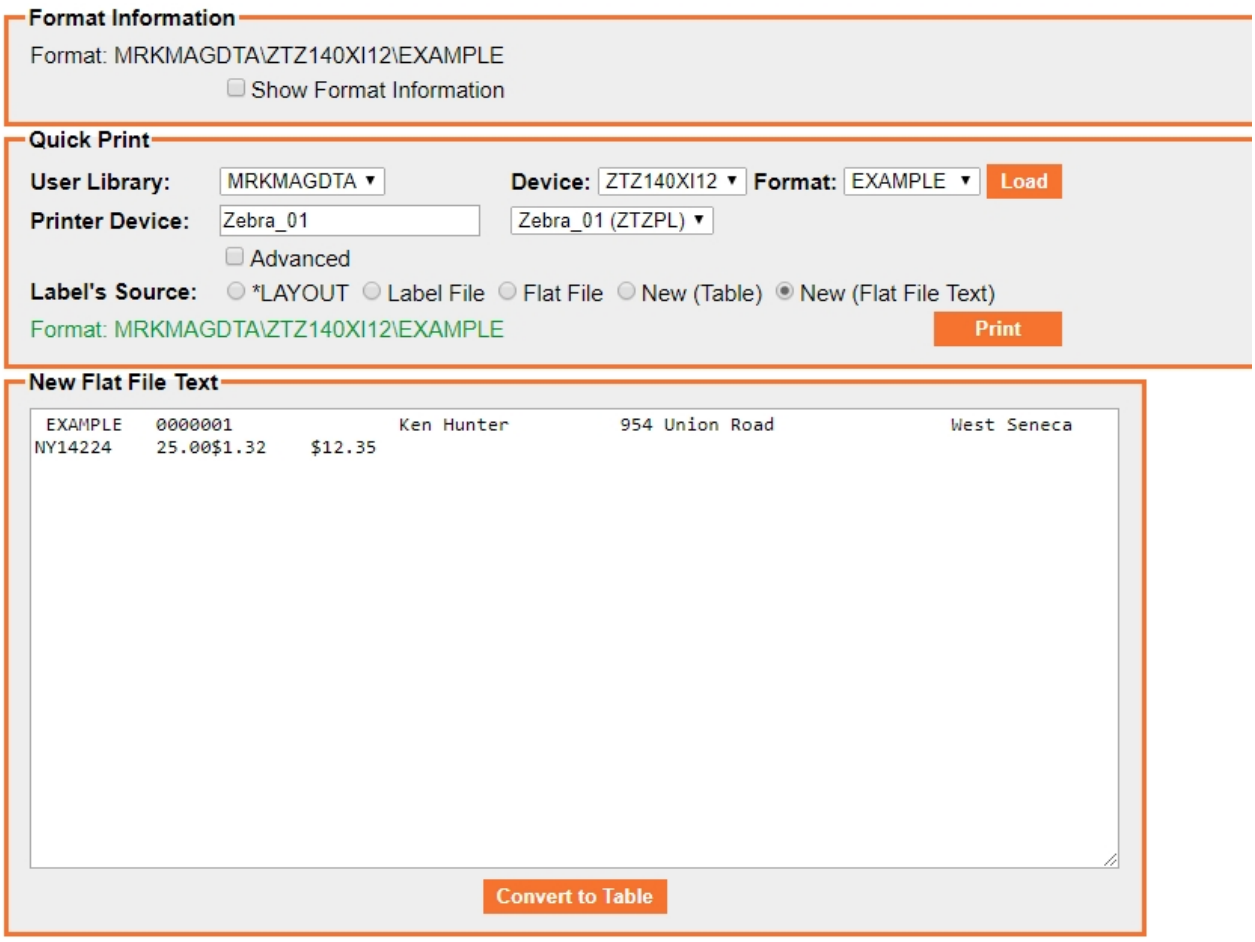


Click New (Flat File Text) for more information.

New (Flat File Text)

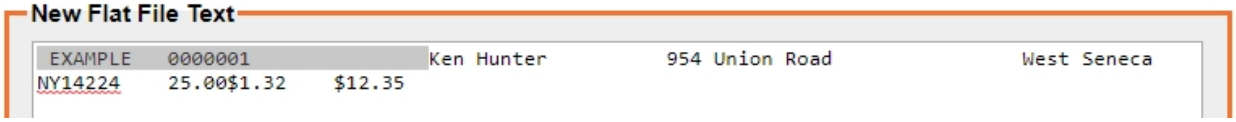
The New (Flat File Text) option provides you with an empty text box where a properly spaced flat file text string can be placed and then used for printing. Rather than specifying an actual text file like you can with the Flat File option, you can paste or create your own string of text directly withing the window here.

Example screen showing sample data:



The above screen shows a simple flat file text string properly spaced out to print on the loaded format. Please note the first 33 positions are reserved for the Batch Control Fields.

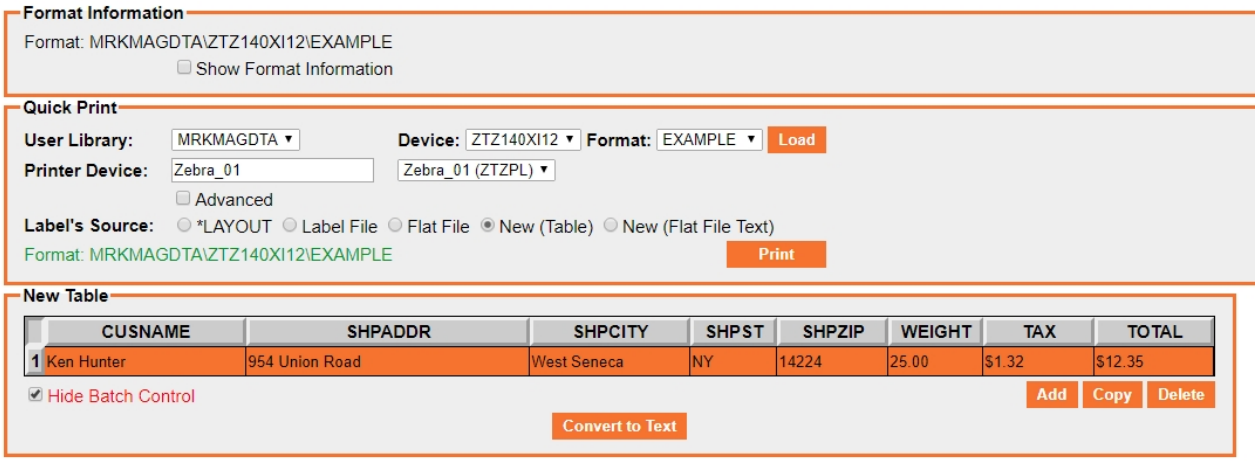
Highlighted Batch Control Fields at the beginning of the row of data:



When you are satisfied with the data you have entered, press the **Print** button to execute the print process according to all of the options you have selected.

Similar to the New (Table) option, you can press the **Convert to Table** button at the bottom. This will take you to the New (Table) screen with the data that was entered here and convert it to a table.

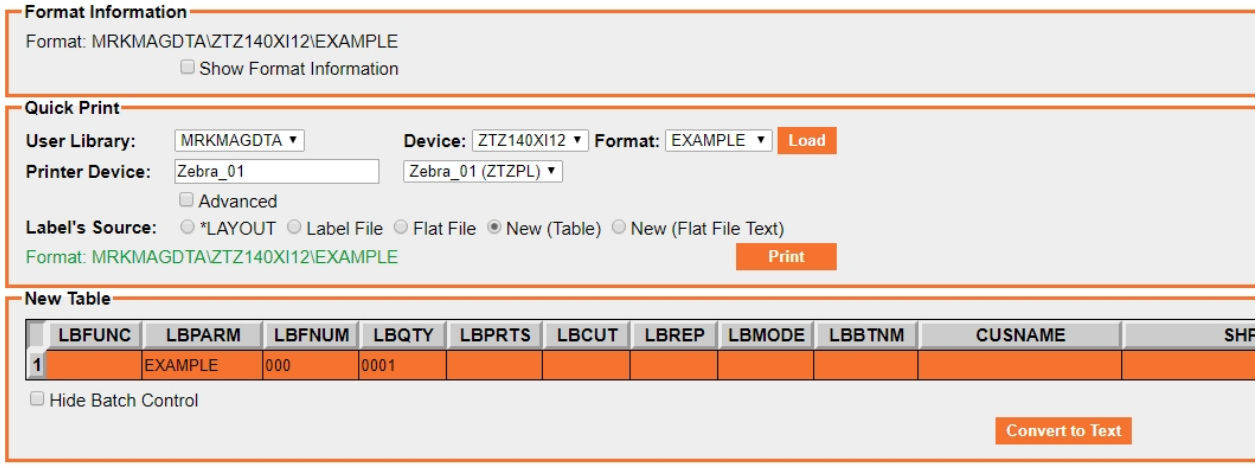
Example after pressing **Convert to Table**:



Batch Control Fields

Batch Control Fields are special data fields that MMPI uses in the background for extra processing and finer control of how your labels and forms print on a record by record basis. These special internal fields are not part of your format like 'Text' or 'Data' fields are, but are expected to be there at the beginning of every row of data. For most print jobs, these fields can be ignored and this is why by default, the check box for "Hide Batch Control" is checked. If you uncheck this box, you will see the various Batch Control Fields at the beginning of the row.

Batch Control Fields visible in the New(Table) interface:



- **LBFUNC (Function) -** *1 position alpha field.* A rarely used field migrated to MMPI from a legacy process. It can be left blank. The field allowed you to send commands to a printer, for example the Clear Graphics command. You could pass a C and then the graphic name in the LBPARM field to instruct MarkMagic to clear that graphic from memory. This was a time when printers didn't have much memory and print speed was at a premium. These days, memory and print speed are rarely a problem.
- **LBPARM (Parameter) -** *10 position alpha field.* You can put the MMPI format name in here to tell MarkMagic which format to use for the corresponding row of data. With this field, you can control which format is printed from record to record, essentially swapping to a different format on a per record basis by just passing a different name here. This field overrides whatever format name you passed in the original print call.
- **LBFNUM (Format Number) -** *3 position numeric field.* A rarely used field migrated to MMPI from a legacy process. Long ago, format layouts were pre-loaded into the printers' memory and stored by number. This was done to save bandwidth on the network as the label format would not need to be sent

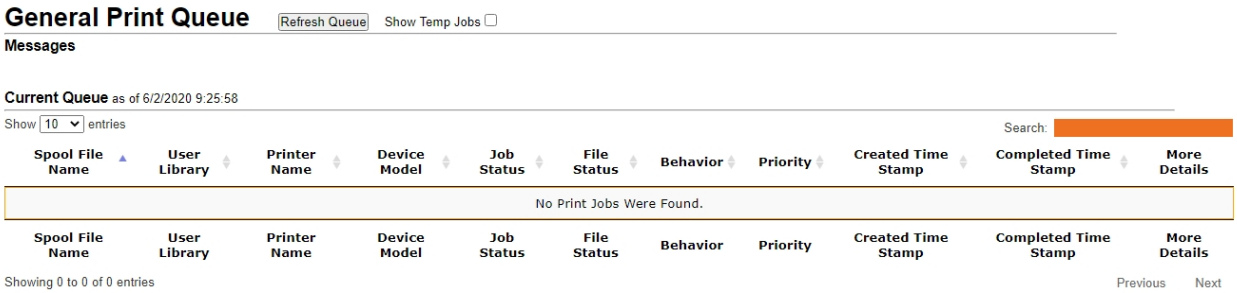
every time you printed. LBFNUM was used to call up which format design to print with.

- **LBQTY (Quantity) -** *4 position numeric field.* You can control quantity of labels on a per record basis. This value overrides the quantity value passed in the print call. Setting LBQTY will force MMPI to print that quantity just for that specific row of data. If no value is specified here, then the quantity value in the print call is used.
- **LBPRTS (Parts) -** *1 position alpha field.* A rarely used field. It has to do with the "Parts Across" feature where multiple copies of a label can print across a larger page. (Think small sticky labels on a laser form.) This feature is normally configured directly on the format itself, so this field can be left blank.
- **LBCUT (Cut) -** *1 position alpha field.* If your printer has a knife cutter, you can control which record the printer should cut on. (Value is Y or N.) For example, LBQTY on records 1 through 4 are N. Record 5 is set to Y. The printer will perform a cut on the 5th record.
- **LBREP (Repetition) -** *4 position numeric field.* This field ties into MMPI's auto incrementing number field feature. When printing a quantity of labels, the field would auto increment. For example, if you had LBQTY set to 10 with LBREP set to 2, you would get values of 1,1,2,2,3,3,4,4,5,5 instead of 1-10 printing. If you had repetition set to 5, you would see 1,1,1,1,1,2,2,2,2,2.
- **LBMODE (Mode) -** *1 position alpha field.* A rarely used field and can normally be left blank. Allows for controlling the Mode value of whatever format you are printing on the record. Mode specifies things like whether a peel backing rewinder is to be used, or of the label should be set to On Demand mode. Mode is almost always set directly on the label format itself.
- **LBBTNM (Batch Name) -** A rarely used field migrated to MMPI from a legacy process. It can be left blank.

Print Queue

Before being able to view the general Print Queue page, the MMPI print queueing system must first be turned on. By default, the MMPI print queue service is disabled. To enable the print queue system, go to the Print Queue Overview page and simply place a check next to 'Print Queueing On'.

Once enabled, you will see the general Print Queue page.



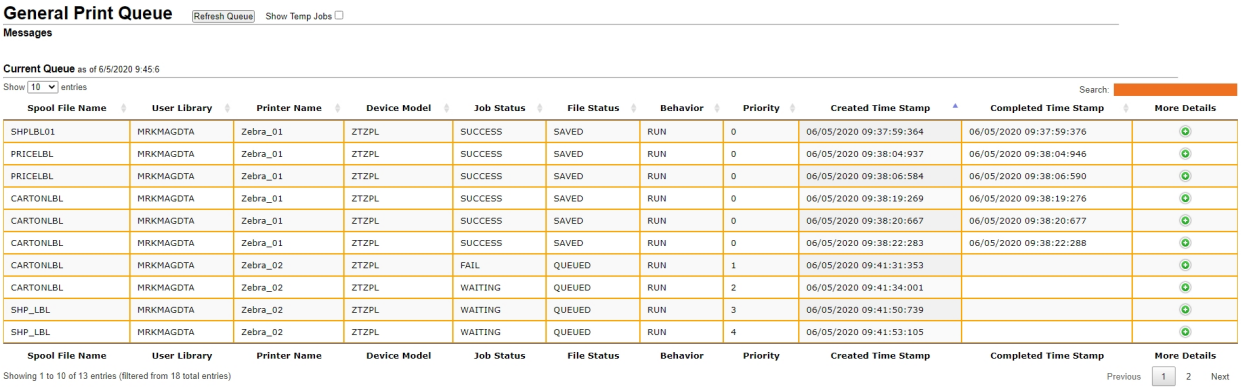
Whereas the Print Queue Overview page displays each printer queue as its own listing, the general Print Queue page seen here is a live view of all printer queues combined into one list.

By default, the page will refresh by itself every 60 seconds. Click the Refresh Queue button to immediately refresh the page view of queue. You will see a message in green under the 'Messages' section stating that the queue was reloaded. The Current Queue date and time will list the date and time the queue was last refreshed.

To view Temp jobs, click the checkbox next to 'Show Temp Jobs'. Any print jobs with a file status of TEMP will be displayed in the list. For more information about temp jobs, please see Add Printer and Print Queue Overview.

By default, the page shows only the first 10 print jobs in the queue. If you want to see more, use the pull down menu next to the 'Show entries' option to see 25,50 or 100. If there are more print jobs than the current view can show, use the **Next** and **Previous** buttons on the bottom right to view the extra pages.

To search for a printer job, simply start typing any information about that job in the **Search** box on the upper right. The list will automatically filter to show matching queue names as you type.



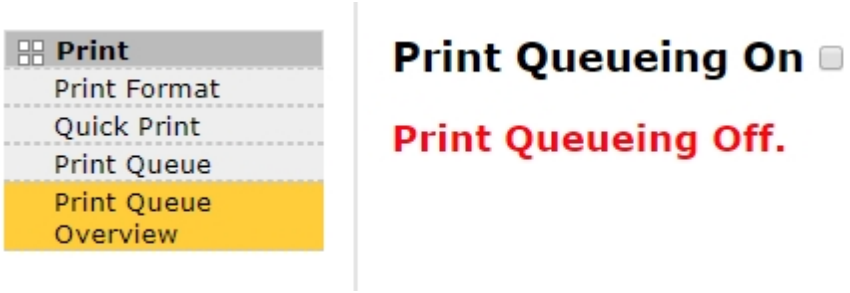
The table is arranged in columns showing important information about each printer job. Each column can be sorted up/down using the small arrows next to the column headers. By default, the list is sorted alphabetically by Spool File Name.

- **Spool File Name** - The name of the print job. This will be the MMPI format name that was specified in the print command call.
- **User Library** - The MMPI user library where the format that was used to print is stored. For more information on MMPI user libraries, please see Manage User Libraries.
- **Printer Name** - The name of the printer associated with the print queue.
- **Device Model** - The MMPI print driver family that the format uses. For example, the ZTZ140XI12 print driver (along with many other MMPI Zebra print drivers) all belong to the ZTZPL device model. The print queue manager compares this value with the device model value of the printer you are printing to and if they match, it will allow the job to print. If the device models do not match, the file status will be set to INVALID and the behavior will be put on HOLD.
- **Job Status** - The general status of the print job. WAITING, FAIL, SUCCESS, etc.
- **File Status** - The current status of the data. SAVED, INVALID, TEMP, etc.
- **Behavior** - Whether or not a job will be sent to the printer. Behavior can be HOLD or RUN. Jobs set to HOLD will not be sent to the printer even if the queue is active (not paused). They will stay in the queue until the days limit is reached to delete the job or from other user interaction. Only jobs set to RUN will be sent to a printer.
- **Priority** - An internally managed value that keeps track of the order of jobs in the queue. The MMPI queue manager will process jobs based on their priority level with 1 being the highest. There is a 0 priority that is reserved only for finished and invalid jobs.
- **Created Time Stamp** - The date and time the print job was created in the queue.
- **Completed Time Stamp** - The date and time the print job was completed. Only successful printed jobs will be tagged with a completed time stamp. Any other job in the queue that has not been sent to the printer for whatever reason (printer offline, INVALID device model, etc) will not have a completed time stamp.
- **More Details** - Click the green **+** symbol to expand the print job and show all details for for the print job. Other control options are available through use of buttons found in this detailed panel. Information about this section is found below.

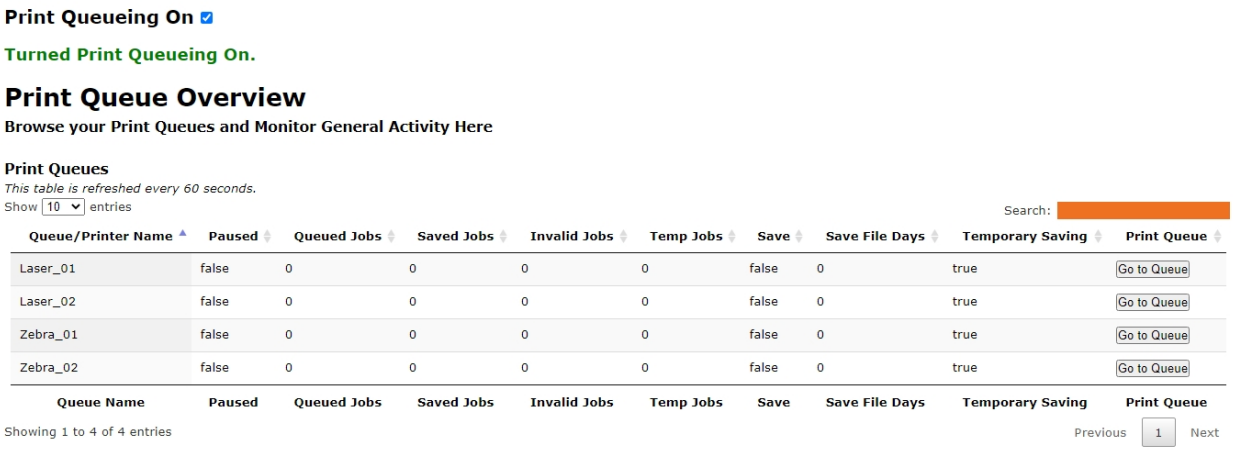
For a good description of the 'More Details' section, please see the Go To Queue page.

Print Queue Overview

By default, when MMPI prints to a printer that was added via Maintain Printers, it will send the data directly to the IP address without any form of tracking or error handling. MMPI would not know if there was an issue at the printer or if the print was successful. For users that demand full control and transparency over the printer output coming from MMPI, CYBRA provides an internal Print Queueing service. The Print Queueing service is turned off by default. When clicking the Print Queue Overview menu for the first time, you will see a message in red stating "Print Queueing Off." To enable the Print Queue service, simply click the check box next to the 'Print Queueing On' setting.



After clicking the check box, a message in green stating "Turned Print Queueing On." will be displayed. You will be presented with a screen that gives a overview of the print queues associated with each printer that has been added to MMPI. This page automatically refreshes every 60 seconds.



The first 10 printer queues for your printers in alphabetical order are shown in the list. If you wish to see more, you have the option to see 25, 50 or 100 queues on the page via the pull down menu in the upper left. To browse more pages of queues that did not fit on the first page, there are **Next** and **Previous** buttons on the bottom right. To search for a printer queue by name, simply start typing the name in the **Search** box on the upper right. The list will automatically filter to show matching queue names as you type.

The table is arranged in columns showing important information about each printer queue. Each column can be sorted up/down using the small arrows next to the column headers. By default, the list is sorted alphabetically by Queue/Printer Name.

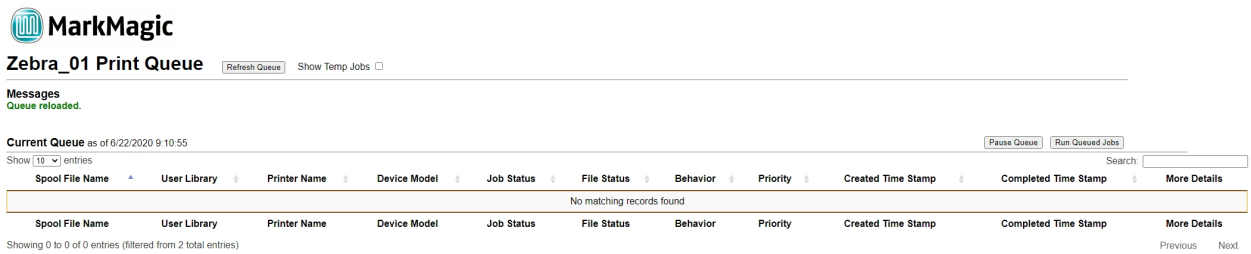
- **Queue/Printer Name** - The printer queue name. This will be the same as the name given to the printer in the Maintain Printers menu.
- **Paused** - Displays whether or not that printer queue is paused. When paused, a queue will not send output to the associated printer. Any new print jobs will continue to build up in the queue in the order they are received. Print queues can be paused either programmatically via the REST APIs or by

accessing the queue directly via the Go To Queue button on the right.

- **Queued Jobs** - Displays the number of jobs currently waiting in the printer queue. Printing to a printer queue that is paused would cause this number to go up. You could also see this number increase if many print jobs are trying to print to the printer at the same time. MMPI would queue these jobs and then print in the order they were received. 'Queued' is the standard status that gets assigned to every print job that runs through MMPI. Whether you print a job through Quick Print, or an API, the job will be 'Queued' before it is sent to the printer. Often, you won't see these jobs with this status hang around for very long. If there is no error communicating with the printer, a print job will only be queued for a split-second before it is sent and removed from the queue.
- **Saved Jobs** - Displays the number of saved jobs in the queue. When adding a printer to MMPI, there is an option for Spool Yes or No. If set to Yes, then the print queue will be set to Save = True. Successful completed print jobs will be saved in the queue according to the 'Save File Days' value. Once that number of days has been reached for a saved job, it will then be tagged for deletion at midnight the following day. These jobs are available for your review by clicking the Go To Queue button and from there can be resent to the printer, forwarded to a different printer, or deleted at your command.
- **Invalid Jobs** - MMPI compares the print driver of the format that is being used with the class of printer defined in Maintain Printers. If they do not match, for example if you try to print using a Sato driver format to a printer defined as Zebra, then the job will immediately receive an INVALID tag and be kept in the queue as INVALID. Other valid print jobs will continue to print through the queue while the INVALID jobs will wait for user input. To view these INVALID jobs, click the Go to Queue button.
- **Temp Jobs** - By default, when adding a new printer to MMPI, the setting to enable 'Saved Jobs' is disabled whereas the setting for enabling 'Temp Jobs' is enabled. In this default state with MMPI Print Queueing enabled, printer output will be saved for one day in a special 'temp' status behind the scenes. These temp jobs are cleared from the system automatically at midnight the following day. These temp jobs are meant to be a fail safe, so that if worst comes to worst and you need access to the printer output again to rerun a job, you would have some road to recovery. Temp jobs are not visible by default in the printer queue viewing page accessed via the Go to Queue button. You would have to check the option **'Show Temp Jobs'** on that page to see the available temp printer output.
- **Save** - Displays whether or not the printer queue is set to save successful printed jobs. Please see 'Saved Jobs' description above.
- **Save File Days** - Displays how many days must pass before a successful printed job will be considered for deletion. 0 means never delete a saved spooled file.
- **Temporary Saving** - Displays whether or not the printer queue is configured to keep temp jobs. If a printer queue is set to Save = True, then this option is ignored even if set to Yes as it would create unnecessary duplicate temp output.
- **Print Queue** - Click the Go To Queue button to navigate to a new page that provides an enhanced view with total control over the contents of the printer queue.

Go to Queue

Clicking the **Go to Queue** button of one of the queues found on the Print Queue Overview window will open up a new browser page giving you a complete view and full control of that specific printer queue.



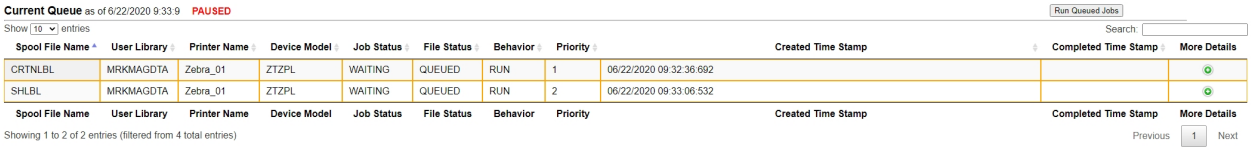
The printer queue name is listed at the top along with a button to manually refresh the queue. By default, the page will refresh by itself every 60 seconds. Click the Refresh Queue button to immediately refresh the page view of queue. You will see a message in green under the 'Messages' section stating that the queue was reloaded. The Current Queue date and time will list the date and time the queue was last refreshed.

To view Temp jobs, click the checkbox next to 'Show Temp Jobs'. Any print jobs with a file status of TEMP will be displayed in the list. For more information about temp jobs, please see Add Printer and Print Queue Overview.

Use the Pause Queue button on the right to immediately pause the queue from printing. A message will display in green stating that the queue was paused. You will also see a bold red status next to the queue date and time indicating **PAUSED**. Any regular print jobs that would normally be sent to the printer will now start to queue up. Refresh the page to see these new print jobs in the queue. The example below shows a paused queue with two normal label print jobs queued up.

By default, the page shows only the first 10 print jobs in the queue. If you want to see more, use the pull down menu next to the 'Show entries' option to see 25,50 or 100. If there are more print jobs than the current view can show, use the **Next** and **Previous** buttons on the bottom right to view the extra pages.

To search for a printer job, simply start typing any information about that job in the **Search** box on the upper right. The list will automatically filter to show matching queue names as you type.



The table is arranged in columns showing important information about each printer job. Each column can be sorted up/down using the small arrows next to the column headers. By default, the list is sorted alphabetically by Spool File Name.

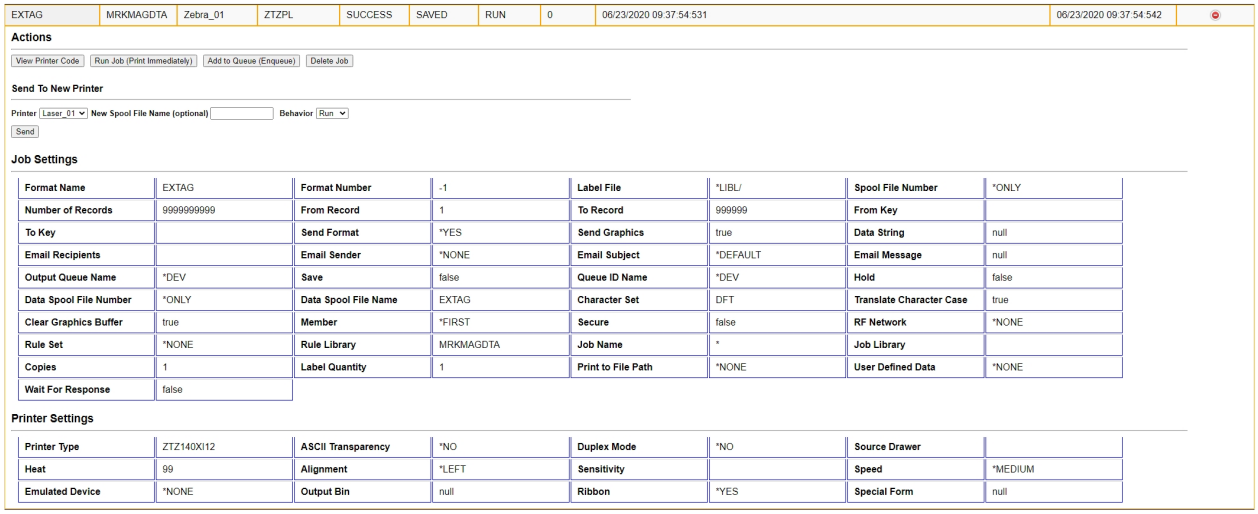
- **Spool File Name** - The name of the print job. This will be the MMPI format name that was specified in the print command call.
- **User Library** - The MMPI user library where the format that was used to print is stored. For more information on MMPI user libraries, please see Manage User Libraries.
- **Printer Name** - The name of the printer associated with the print queue.
- **Device Model** - The MMPI print driver family that the format uses. For example, the ZTZ140XI12 print driver (along with many other MMPI Zebra print drivers) all belong to the ZTZPL device model. The print queue manager compares this value with the device model value of the printer you are printing to and if they match, it will allow the job to print. If the device models do not match, the file status will be set to INVALID and the behavior will be put on HOLD.
- **Job Status** - The general status of the print job. WAITING, FAIL, SUCCESS, etc.
- **File Status** - The current status of the data. SAVED, INVALID, TEMP, etc.
- **Behavior** - Whether or not a job will be sent to the printer. Behavior can be HOLD or RUN. Jobs set to HOLD will not be sent to the printer even if the queue is active (not paused). They will stay in the queue until the days limit is reached to delete the job or from other user interaction. Only jobs set to RUN will be sent to a printer.
- **Priority** - An internally managed value that keeps track of the order of jobs in the queue. The MMPI queue manager will process jobs based on their priority level with 1 being the highest. There is a 0 priority that is reserved only for finished and invalid jobs.
- **Created Time Stamp** - The date and time the print job was created in the queue.
- **Completed Time Stamp** - The date and time the print job was completed. Only successful printed jobs will be tagged with a completed time stamp. Any other job in the queue that has not been sent to the printer for whatever reason (printer offline, INVALID device model, etc) will not have a completed time stamp.
- **More Details** - Click the green **+** symbol to expand the print job and show all details for for the print job. Other control options are available through use of buttons found in this detailed panel. Information about this section is found below.

Print Job More Details:

Here is an example print queue view that contains one successful saved print job:

EXTAG	MRKMAGDTA	Zebra_01	ZTZPL	SUCCESS	SAVED	RUN	0	06/23/2020 09:37:54:531	06/23/2020 09:37:54:542	

Here is the same view after clicking the Mode Details **+** symbol:



EXTAG	MRKMAGDTA	Zebra_01	ZTZPL	SUCCESS	SAVED	RUN	0	06/23/2020 09:37:54:531	06/23/2020 09:37:54:542	

Actions

View Printer Code | Run Job (Print Immediately) | Add to Queue (Enqueue) | Delete Job

Send To New Printer

Printer Laser_01 | New Spool File Name (optional) | Behavior Run | Send

Job Settings

Format Name	EXTAG	Format Number	-1	Label File	*LIBL/	Spool File Number	*ONLY
Number of Records	9999999999	From Record	1	To Record	999999	From Key	
To Key		Send Format	*YES	Send Graphics	true	Data String	null
Email Recipients		Email Sender	*NONE	Email Subject	*DEFAULT	Email Message	null
Output Queue Name	*DEV	Save	false	Queue ID Name	*DEV	Hold	false
Data Spool File Number	*ONLY	Data Spool File Name	EXTAG	Character Set	DFT	Translate Character Case	true
Clear Graphics Buffer	true	Member	*FIRST	Secure	false	RF Network	*NONE
Rule Set	*NONE	Rule Library	MRKMAGDTA	Job Name	*	Job Library	
Copies	1	Label Quantity	1	Print to File Path	*NONE	User Defined Data	*NONE
Wait For Response	false						

Printer Settings

Printer Type	ZTZ140XI12	ASCII Transparency	*NO	Duplex Mode	*NO	Source Drawer	
Heat	99	Alignment	*LEFT	Sensitivity		Speed	*MEDIUM
Emulated Device	*NONE	Output Bin	null	Ribbon	*YES	Special Form	null

All details about the original print call are made available here. Everything under the Job Settings and Printer Settings section is purely informational, but there are some additional options found under the Actions section at the top. They are outlined here:

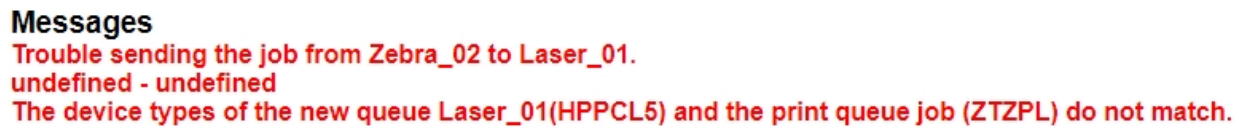
Use the **View Printer Code** button to open a new browser window that displays the raw printer language that MMPI generated for this print job. In the above example, since it is a Zebra printer driver, you would see the raw ZPLII print command language. This information is very helpful when troubleshooting issues with the print output. It gives you the ability to see the printer code that MMPI generates and sends to the printer.

Use the **Run Job (Print Immediately)** button to reprint the label immediately regardless of the priority.

Use the **Add to Queue (Enqueue)** button to add the job back to the printer queue. It will print after all other jobs that might be in it are processed.

Use the **Delete Job** button to instantly delete the print job from the queue. There is no confirmation and the action is not reversible. Only delete print jobs that you know you do not need anymore.

One final action found in the More Details section is the ability to send the print job to another printer. This can be handy in the case where the current printer is offline and you want to send the already generated output to another similar printer. Use the pull down menu to choose another printer. Optionally enter in a new Spool File Name and lastly choose the behavior. (Whether to immediately run the job once in the new queue or keep it held.) Note that you must choose a destination printer that uses the same device model. (Zebra labels can only sent to another Zebra printer.) If you choose a printer that does not have a matching model, then you will get a message alerting you to that fact and the action will not be performed.



Messages

Trouble sending the job from Zebra_02 to Laser_01.
undefined - undefined
The device types of the new queue Laser_01(HPPCL5) and the print queue job (ZTZPL) do not match.

Click the red **-** symbol under the More Details column to collapse the view back to normal.

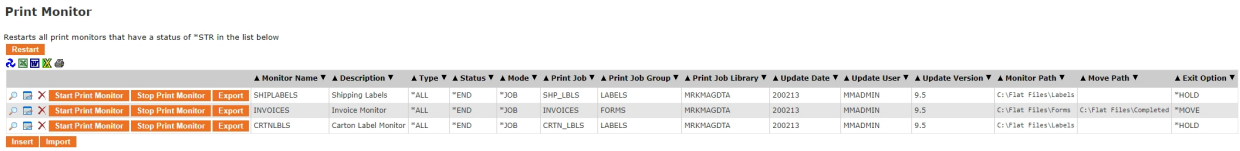
Print Monitor

The MarkMagic Print Monitor gives MMPI the ability to constantly watch folders on the server for new flat files. When a new flat file is detected in a monitored folder, MMPI can automatically run a Printer Job using that same data. It is an easy way to integrate MMPI into your operations without the need to write a custom print program that handles all of the interactions with MMPI. The Print Monitor is an add-on option that requires a separate license. Please check under Install License if you have a valid Print Monitor license.

- Print Monitor - Displays the main interface for creating and modifying individual Print Monitors.

Print Monitor

The Print Monitor screen is the central location for creating and maintaining MMPI print monitors. MarkMagic PI initially ships with no monitors created. The screenshot below shows three example print monitors.



To get started, click the **Insert** button to create a print monitor. Please see the section on Creating a Print Monitor for more information.

Print monitors can also be exported and imported like any other MMPI object. Monitors created on another system can be exported to an XML file and then imported into another environment. Click the **Import** button to navigate to the Import Objects screen where you will be able to import a print monitor.

Other options become available once a print monitor is created or imported and thus visible in the table. Each monitor in the table has various options next to it. View Record allows you to view the details of the print monitor in a 'read only' type of screen. Edit Record allows you to make changes to the print monitor values. Delete Record will delete the print monitor from MMPI.

Individually, each print monitor can be active or inactive. This is indicated under the *Status* column. New print monitors are created with a status of *END which means they will not trigger when a file is created in their monitor path. To activate a print monitor, click the **Start Print Monitor** button next to the print monitor listed in the table. The print monitor status will show as *STR. To disable a print monitor and set it back to *END status, click the **Stop Print Monitor** button.

To easily export a print monitor so it can be imported on another system, simply click the **Export** button next to the print monitor. Your browser will automatically download an XML file that contains the exported print monitor. This file can then be moved to a different system and used for importing. Please see the Importing Print Monitors section for information on importing from this XML file.

Sometimes it is necessary to restart all active print monitors. To do this in one step, click the **Restart** button found at the top of the screen. All print monitors that currently have a status of *STR will be stopped and restarted.

Creating a Print Monitor

Clicking the **Insert** button on the Print Monitor screen will allow you to create a new print monitor. A Print Monitor consists of three phases:

Phase 1: Triggering the monitor

A Print Monitor is triggered simply by a flat file (text file) appearing a folder that you specify. An active MMPI Print Monitor constantly watches the folder and if, for example, a separate program on the system creates a flat file within that folder, the Print Monitor will trigger and then move to phase 2. There are different ways to setup the trigger in phase 1 and those are outlined in the Print Monitor Information section below.

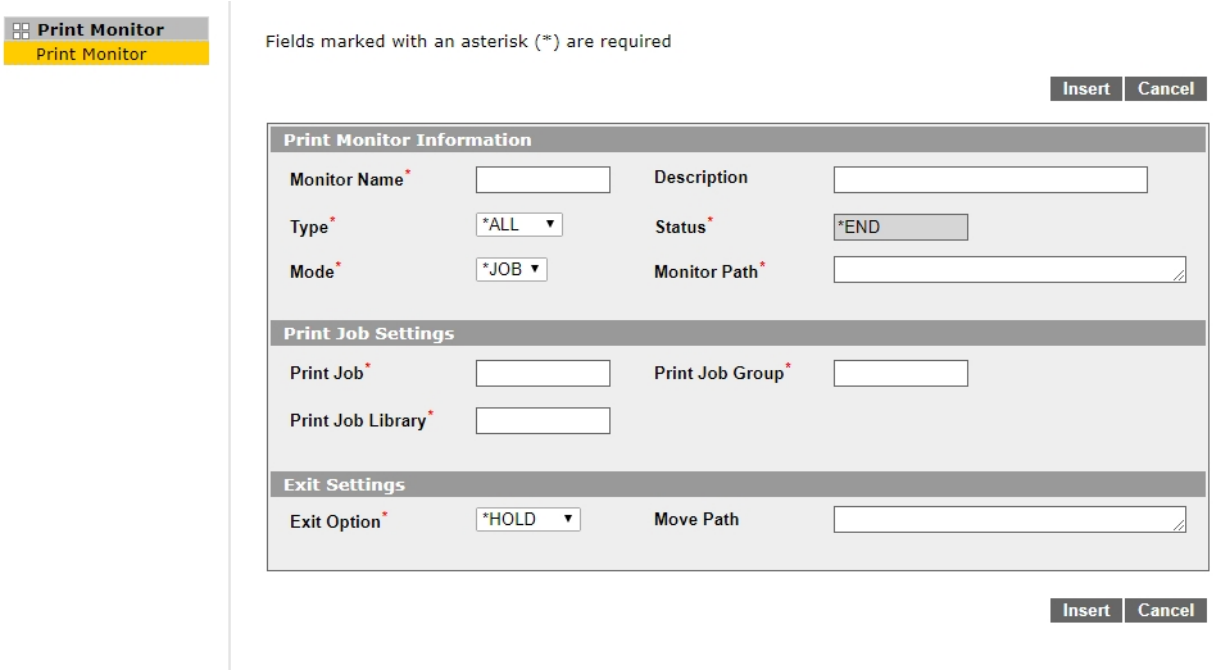
Phase 2: Printing using data from the flat file

When a Print Monitor triggers off the creation of a flat file in a watched folder, it will move to phase 2 which is printing. The Print Monitor will run what is called a MarkMagic "Job" or Printer Job. A Printer Job is something that you must create ahead of time before creating the a Print Monitor itself. The Printer Job contains all of the information needed for printing. Information such as the MMPI format design that should be used, the destination printer name, any associated RuleSets, print quantity and speed, etc. Currently, Printer Jobs can only be created using CYBRA's JMagic GUI designer tool. When MMPI runs the Printer Job, it will use the data string that was found in flat file that originally triggered the Print Monitor. The Printer Job name, group and library can be defined in the Print Job Settings section detailed below.

For a brief description on how to create a MMPI Printer Job in JMagic, please see Creating a Printer Job.

Phase 3: What to do with the original flat file

After phase 2 printing, the input flat file that triggered the Print Monitor is technically no longer needed. You have some choices on what to do with the input flat file and they are outlined in the Exit Settings section below.



Print Monitor Information:

- **Monitor Name** - Name of the print monitor. Maximum 10 characters.

- **Description** - Description of the print monitor. Maximum 30 characters. Try to be as descriptive as possible so other users know what this print monitor is for.
- **Type** - Choose whether or not the print monitor will trigger on any file that shows up in the folder path or trigger only on files with a specific name.
    - *ALL - The print monitor will trigger on any file that is created within the Monitor Path folder.
    - *NAME - The print monitor will trigger only on files that have a specific name. Please see the setting for *Monitor Path* below for more information.
- **Status** - Shows the monitor status. New monitors initially have a status of *END.
- **Mode** - *JOB is the only option for now. This means the print monitor will run an MMPI Print Job as its execution phase.
- **Monitor Path** - This is the full path to the folder that the print monitor will be watching. If the *Type* parameter of this new print monitor is *ALL, then all that is required is a full path simply ending with the monitored folder name. If the *Type* parameter of this print monitor is *NAME, then the Monitor Path must also include the exact file name and extension at the end. For example:
    - If Type = *ALL: C:\Folder\Folder\Folder
    - If Type = *NAME: C:\Folder\Folder\Folder\File.txt

Print Job Settings:

For a brief description on how to create a MMPI Printer Job in JMagic, please see Creating a Printer Job.

- **Print Job** - The name of the Printer Job.
- **Print Job Group** - The name of the Printer Job group. This group name is simply for organizational purposes. The idea is that you would create similar Printer Jobs all grouped together under the same group name. For example, jobs that are all used for different forms printing could be created under the group name FORMS.
- **Print Job Library** - The MMPI user library where the Printer Job is created. For more information on MMPI user libraries, please see Manage User Libraries.

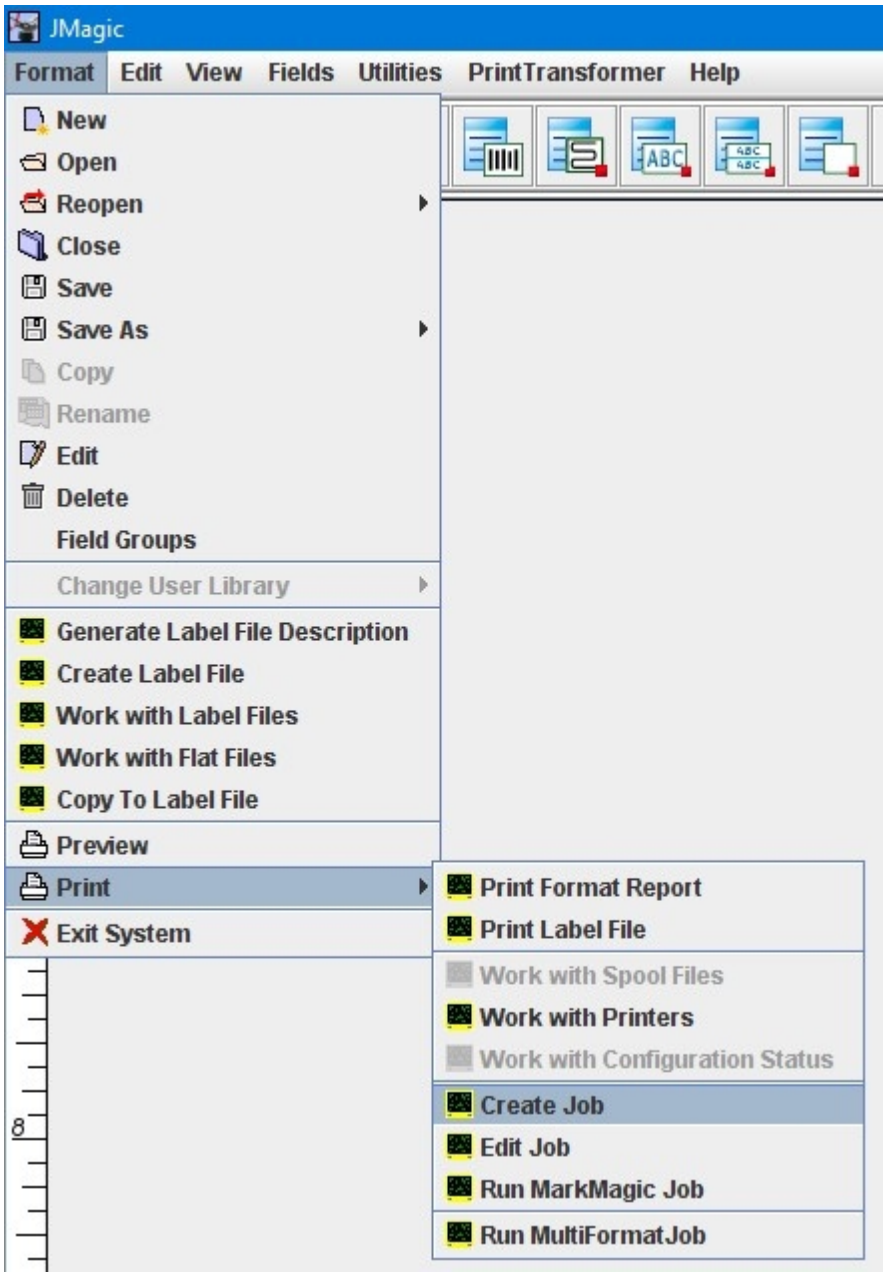
Exit Settings:

- **Exit Option** - What to do with the original flat file that triggered the Print Monitor.
    - *HOLD - Do nothing with the flat file. The flat file will stay in the folder that is being monitored. Flat files will continue to build up in the folder if your Print Monitor is set to *HOLD. This is the default option for this setting.
    - *DELETE - Delete the original flat file after the Printer Job is ran. This option helps to keep the monitored folder clean from flat files building up over time. The main drawback here is if you want to manually re-run a Print Monitor process again. The source flat file would be gone and you would have to recreate the file again within your programs.
    - *MOVE - Move the original flat file to the specified folder. After MMPI runs the Printer Job, the input flat file will be moved to the directory specified in the 'Move Path' setting. Like the *HOLD value, flat files will continue to build up, but will do so in the folder specified. This is helpful for keeping track of completed Printer Jobs as they will all be in one folder separate from the main monitored folder. If a user wanted to rerun a Print Monitor, all they would need to do is move the flat file from the 'Move Path' folder back into the monitored folder. The Print Monitor would trigger and run the Printer Job again.
- **Move Path** - used only if *MOVE is selected for the Exit Option. Specify a folder path where flat files will be moved to after the Print Monitor runs the Printer Job.

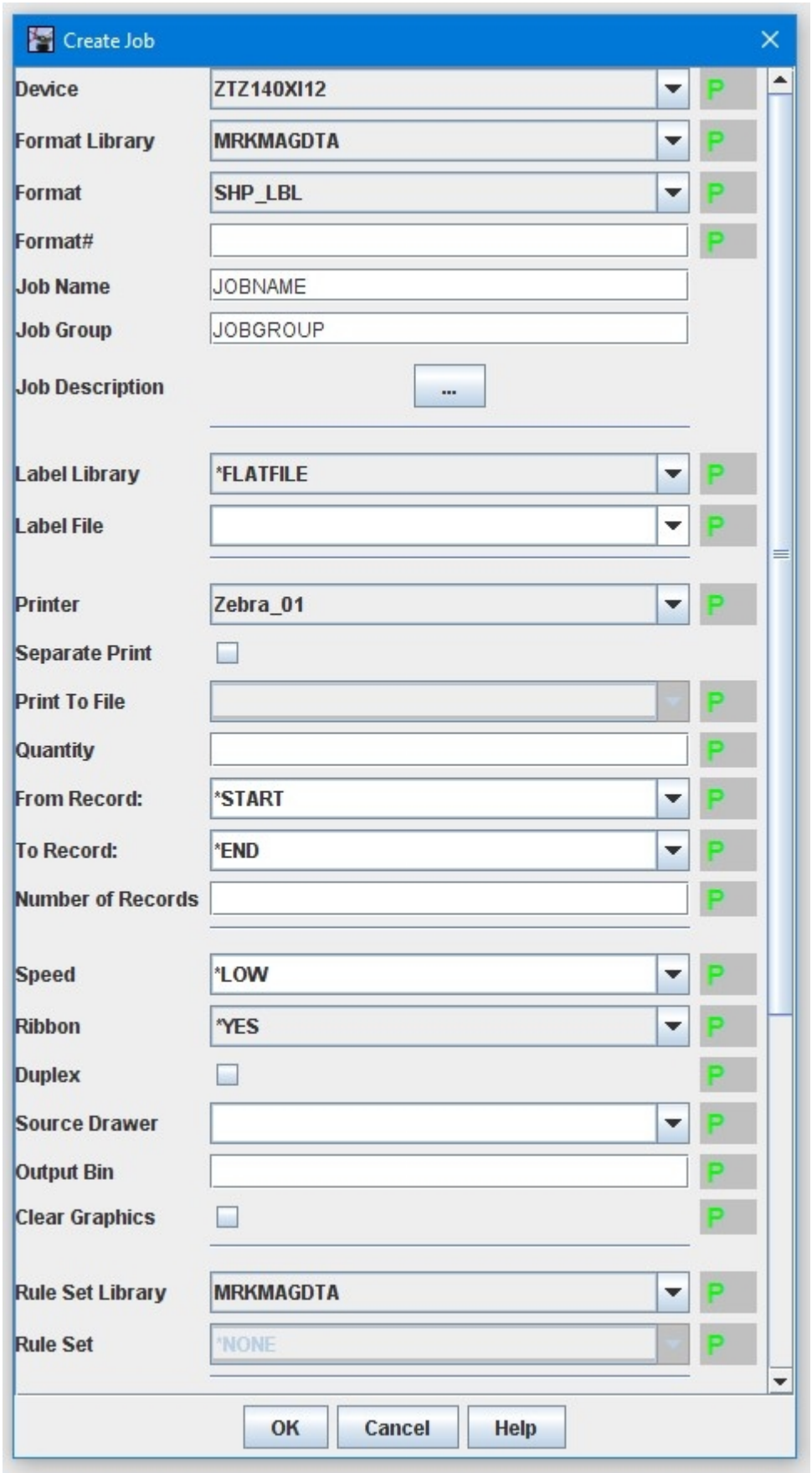
Creating a Printer Job Using JMagic

This section will provide a quick overview of creating a Printer Job using CYBRA's JMagic GUI designer tool. For more in-depth help specific to JMagic, please see the Help menu within the JMagic tool itself. The

instructions here assume you are able to sign in to JMagic and have started in the correct user library where your format design is. To create a Printer Job, start by going to ***Format >> Print >> Create Job.***



You will be presented with the Create Job dialog window as seen below.



Required parameters for creating a Printer Job that will be used strictly with the MMPI Print Monitor:

- **Device** - The device type (or printer type) of the MMPI format that will be used when the Printer Job is

ran.

- **Format Library** - The library where the MMPI format is located. Ideally all objects involved in the process (Format, Graphics, Job, RuleSet, etc) should always all be in the same user library.
- **Format** - The MMPI format name.
- **Job Name** - Provide a name for the Printer Job. Maximum 10 characters.
- **Job Group** - Provide a group name for the Printer job. Maximum 10 characters. This group name is simply for organizational purposes. The idea is that you would create similar Printer Jobs all grouped together under the same group name. For example, jobs that are all used for different forms printing (invoices, packing lists, statements, etc.) could be created under the group name FORMS.
- **Label Library** - Normally reserved for specifying the user library where a database file would reside, this setting can also be used to tell MMPI that the data is coming from a flat file. For a Printer Job that will be used with a Print Monitor, always set this to *FLATFILE as seen in the above screenshot.
- **Label File** - This setting is normally reserved for specifying the name of the database file or the name of the flat file. For a Printer Job that will be used with a Print Monitor, set this value to blanks. This is because the MMPI Print Monitor will pass the exact path and name of the flat file that triggered the job to this parameter. There is no need to specify any path or flat file name yourself.
- **Printer** - The destination printer name. When this Printer Job runs, it will direct all printer output to this printer. The list you will see in the pull down menu will show all printers that have already been added in the Maintain Printers page of the main MMPI web interface.

The rest of the parameters on this window could be considered optional when creating a Printer Job for use with the MMPI Print Monitor. Two notable optional parameters when creating a job are Rule Set Library and Rule Set. If you own the PrintTransformer add-on option, you could create a MMPI RuleSet that would add more "smarts" to the Printer Job. Rather than relying on hard-coded values in the Printer Job, the RuleSet could run tests and override values such as the Printer, it could send an email instead of print, or break up the input data into separate jobs and then redirect those jobs to different printers, etc.

For more information on PrintTransforer, please Click Here.

Import/Export Objects

Using the Import / Export Objects menu, you can export and import any MMPI related object such as formats, graphics, printer definitions, jobs, rule sets, etc. It is common to have multiple instances of MMPI running on different servers and this menu gives you the ability to move your MMPI objects from instance to instance. For example, a new label format, graphic and rule set were created on a development server. You can use the Export Objects utility to save these new objects to a single file on your PC. Then, you can log on to the MMPI web interface on your production environment and use the Import Objects utility there to import the new objects to your production server.

- Export Objects - Takes you to the initial screen for exporting MMPI objects to a file.
- Import Objects - Takes you to the screen used for importing MMPI objects from an export file.
- Import Font - This section will most likely be removed now that fonts install automatically with the standalone installer.

Export Objects

The Export Objects utility walks you through exporting individual MMPI objects to an XML file.

The utility steps you through individual lists of MMPI objects in this order:

- Formats
- Target Graphics
- Source Graphics
- RuleSets
- Printers
- Printer Jobs
- Print Monitors

The first step is choosing the MMPI user library where your objects reside. Please see Manage User Libraries for more information on MMPI user libraries. After selecting the library, you will be presented with a screen for each MMPI object type that can be exported. A Review Objects to Export screen will be shown at the end before giving the option to create the finished export file. There is also an option to split the export into individual XML files where every selected object is saved as its own XML file all together in one compressed zip file.

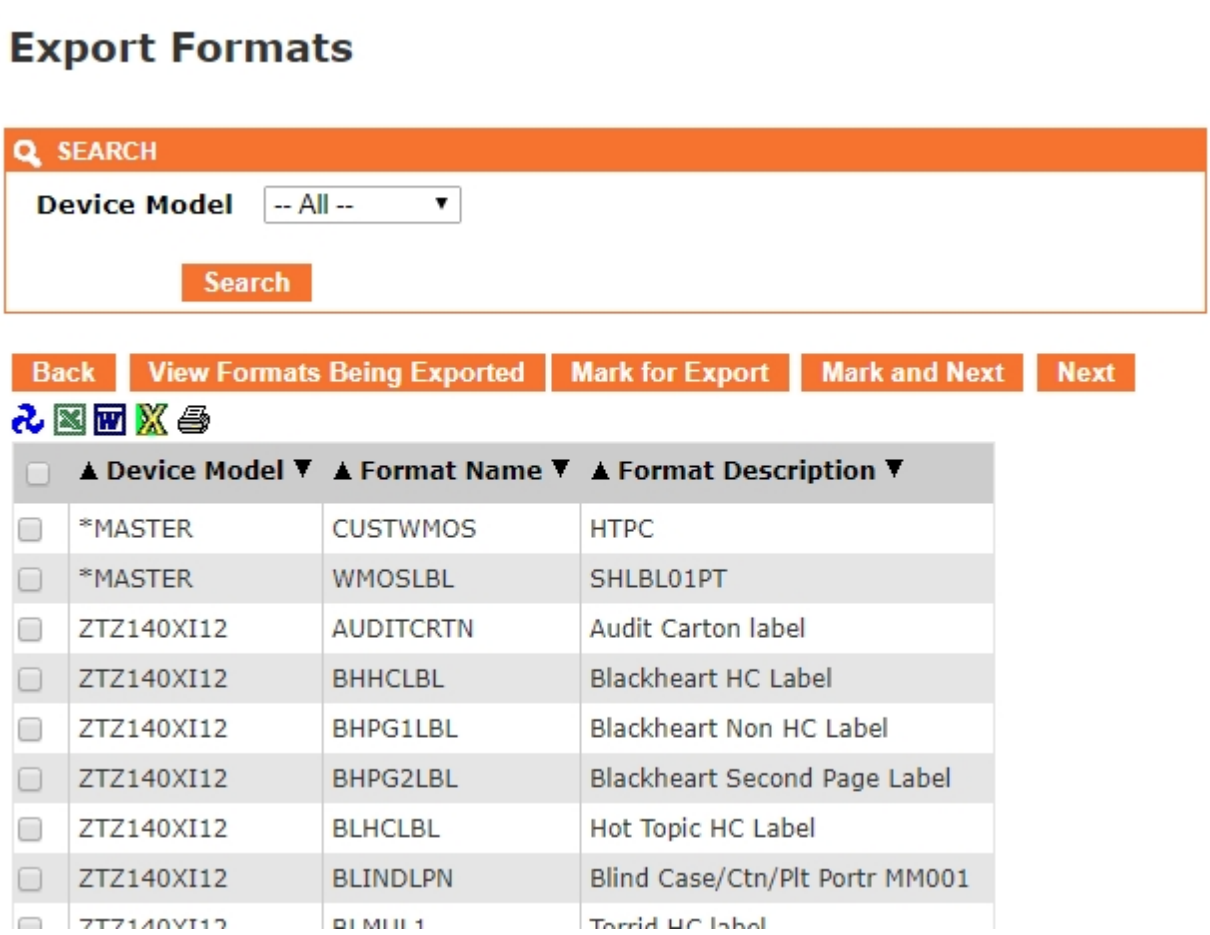
Choose your MarkMagic Library and then click the **Search** button. If you do not make use of custom user libraries, then by default you would choose the MRKMAGDTA library. You will see a list of formats that exist in the library you chose.

Proceed to Exporting Formats.

Exporting Formats

After choosing the user library to export from and clicking the **Search** button, you will be shown a full list for formats from that user library.

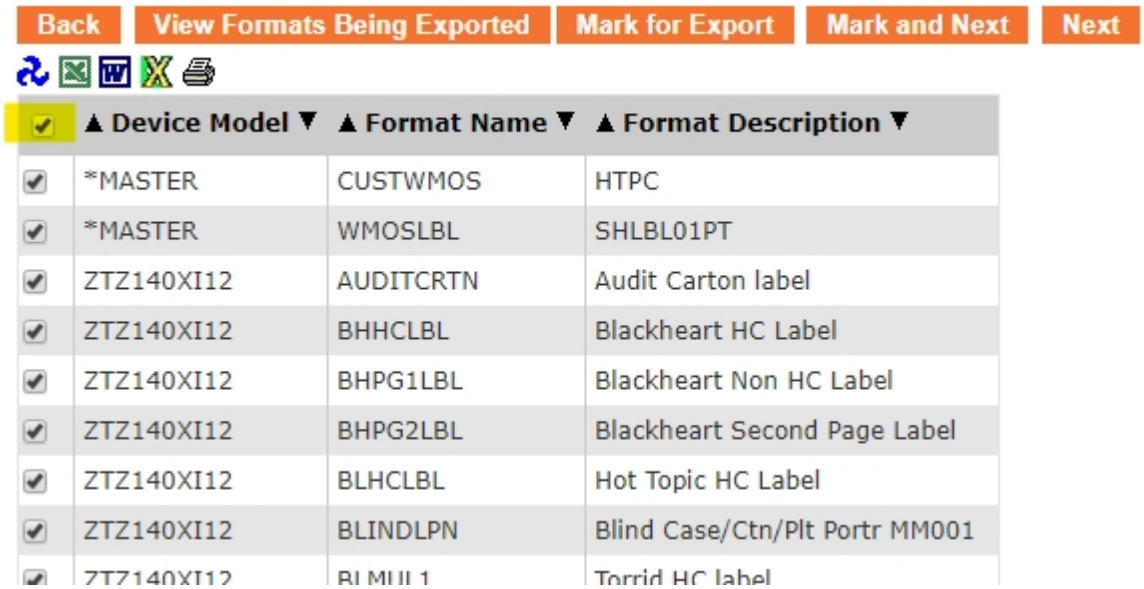
Example list of formats:



- The **Back** button takes you one screen back in the export process.
- The **View Formats Being Exported** button will show a list of formats that have already been "marked" for export by having had a check mark placed next to them and the **Mark for Export** button pressed.
- The **Mark for Export** button will select the formats that have a check next to them and prepare them for export. You will stay on the present screen allowing you to search for and select more formats.
- The **Mark and Next** button will select the formats that have a check next to them, prepare them for export and will immediately take you to the next MMPI object screen for exporting.
- The **Next** button will skip over the current MMPI object type without exporting anything and take you to the next object screen for exporting.

You can filter the list by Device Model by choosing a specific device in the list at the top. To export a format, place a check mark next to the format in the list. If you wish to export every format in the list, you can place a check mark at the very top of the list in the header portion.

Example showing "Select All" check mark at top of list:



Device Model	Format Name	Format Description
*MASTER	CUSTWMOS	HTPC
*MASTER	WMOSLBL	SHLBL01PT
ZTZ140XI12	AUDITCRTN	Audit Carton label
ZTZ140XI12	BHHCLBL	Blackheart HC Label
ZTZ140XI12	BHPG1LBL	Blackheart Non HC Label
ZTZ140XI12	BHPG2LBL	Blackheart Second Page Label
ZTZ140XI12	BLHCLBL	Hot Topic HC Label
ZTZ140XI12	BLINDLPN	Blind Case/Ctn/Plt Portr MM001
ZTZ140XI12	BLMUL1	Torrid HC label

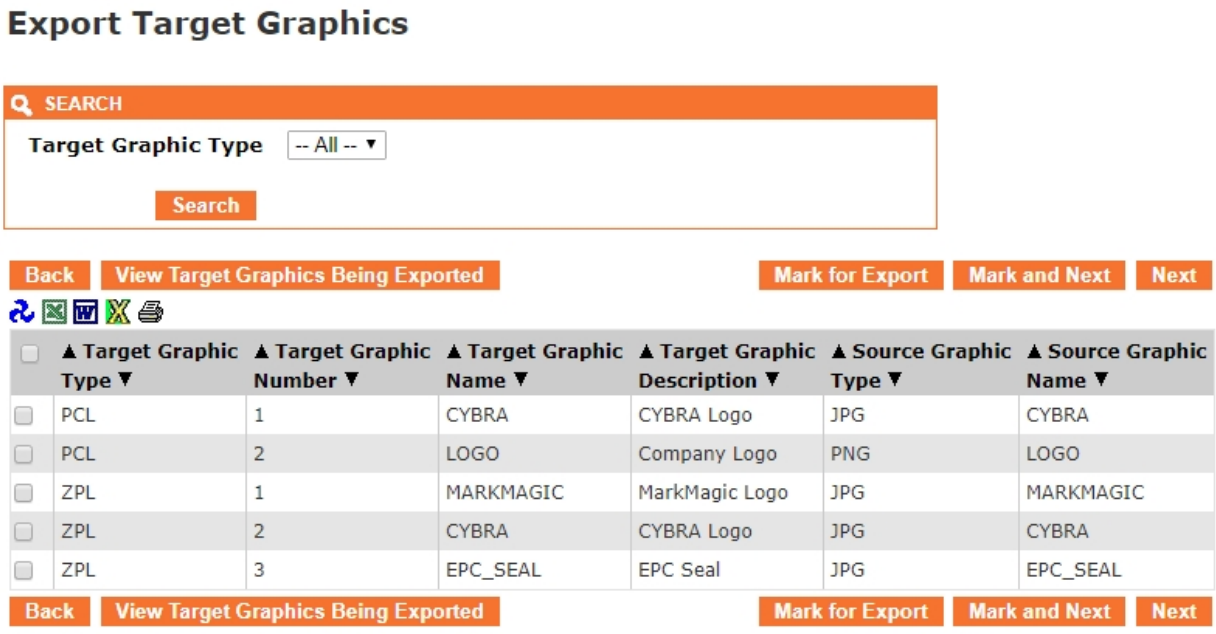
Once you have every format checked that you want to export, click **Mark and Next** to be taken to a list of target graphics for export.

Proceed to Exporting Target Graphics.

Exporting Target Graphics

Up next in the export process after formats are target graphics. These are the converted graphics that actually print on the labels or forms and not the source images themselves. Each MMPI driver family has is own target graphic type. For example, Zebra drivers use "ZPL" target graphics.

Example list of target graphics:



Target Graphic Type	Target Graphic Number	Target Graphic Name	Target Graphic Description	Source Graphic Type	Source Graphic Name
PCL	1	CYBRA	CYBRA Logo	JPG	CYBRA
PCL	2	LOGO	Company Logo	PNG	LOGO
ZPL	1	MARKMAGIC	MarkMagic Logo	JPG	MARKMAGIC
ZPL	2	CYBRA	CYBRA Logo	JPG	CYBRA
ZPL	3	EPC_SEAL	EPC Seal	JPG	EPC_SEAL

- The **Back** button takes you one screen back in the export process. In this case, it would take you back to formats.
- The **View Target Graphics Being Exported** button will show a list of target graphics that have already

been "marked" for export.

- The **Mark for Export** button will select the target graphics that have a check next to them and prepare them for export. You will stay on the present screen allowing you select more target graphics.
- The **Mark and Next** button will select the target graphics that have a check next to them, prepare them for export and will immediately take you to the next MMPI object screen for exporting.
- The **Next** button will skip over the current MMPI object type without exporting anything and take you to the next object screen for exporting.

You can filter the list by Target Graphic Type by choosing a specific type in the list at the top. To export a target graphic, place a check mark next to it in the list. If you wish to export every target graphic in the list, you can place a check mark at the very top of the list in the header portion.

Example showing "Select All" check mark at top of list:

▲ Target Graphic Type ▼	▲ Target Graphic Number ▼	▲ Target Graphic Name ▼	▲ Target Graphic Description ▼	▲ Source Graphic Type ▼	▲ Source Graphic Name ▼
PCL	1	CYBRA	CYBRA Logo	JPG	CYBRA
PCL	2	LOGO	Company Logo	PNG	LOGO
ZPL	1	MARKMAGIC	MarkMagic Logo	JPG	MARKMAGIC
ZPL	2	CYBRA	CYBRA Logo	JPG	CYBRA
ZPL	3	EPC_SEAL	EPC Seal	JPG	EPC_SEAL

Back
View Target Graphics Being Exported
Mark for Export
Mark and Next
Next

Once you have every target graphic checked that you want to export, click **Mark and Next** to be taken to a list of source graphics for export.

Proceed to Exporting Source Graphics.

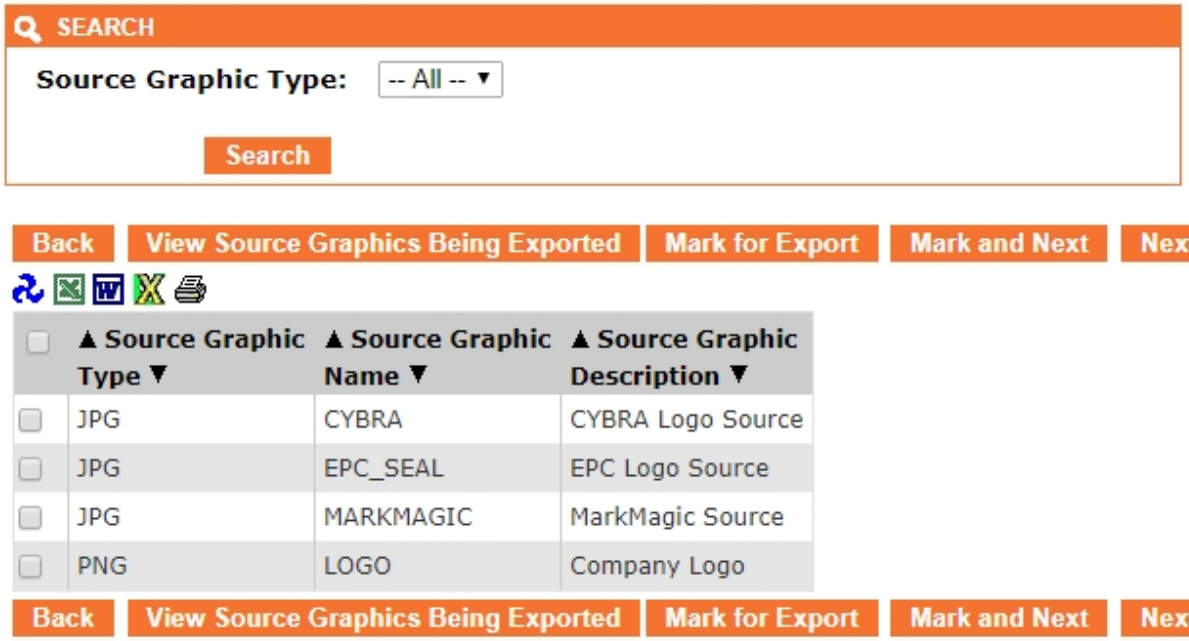
Exporting Source Graphics

Up next in the export process after target graphics are the source graphics. These are the source JPG, PNG, GIF, etc images that were used when the target graphics were originally converted.

NOTE: If you exported a target image on the previous screen, the source image associated with that target image will automatically be marked for export on this screen. If this is the case, you will not see the source image in the initial list because it is already marked. Click the **View Source Graphics Being Exported** button to see the list of source graphics that have already been marked for export.

Example list of source graphics:

Export Source Graphics



- The **Back** button takes you one screen back in the export process. In this case, it would take you back to target graphics.
- The **View Source Graphics Being Exported** button will show a list of source graphics that have already been "marked" for export.
- The **Mark for Export** button will select the source graphics that have a check next to them and prepare them for export. You will stay on the present screen allowing you select more source graphics.
- The **Mark and Next** button will select the source graphics that have a check next to them, prepare them for export and will immediately take you to the next MMPI object screen for exporting.
- The **Next** button will skip over the current MMPI object type without exporting anything and take you to the next object screen for exporting.

You can filter the list by Source Graphic Type by choosing a specific type in the list at the top. To export a source graphic, place a check mark next to it in the list. If you wish to export every source graphic in the list, you can place a check mark at the very top of the list in the header portion and it will select every check box in the list.

Example showing "Select All" check mark at top of list:

Once you have every source graphic checked that you want to export, click **Mark and Next** to be taken to a list of RuleSets for export.

Proceed to Exporting RuleSets.

Exporting RuleSets

Up next in the export process after source graphics are RuleSets. RuleSets are part of CYBRA's PrintTransformer add-on option. They are individual groups of rules that you create in CYBRA's JMagic designer that can dynamically control print jobs and how / where your labels and forms print. RuleSets that you create in JMagic are saved as their own objects and must be exported and imported from environment to environment just like any other MMPI object.

Example list of RuleSets:

- The **Back** button takes you one screen back in the export process. In this case, it would take you back to source graphics.
- The **View RuleSets Being Exported** button will show a list of RuleSets that have already been "marked" for export.
- The **Mark for Export** button will select the RuleSets that have a check next to them and prepare them for export. You will stay on the present screen allowing you select more RuleSets.
- The **Mark and Next** button will select the RuleSets that have a check next to them, prepare them for export and will immediately take you to the next MMPI object screen for exporting.
- The **Next** button will skip over the current MMPI object type without exporting anything and take you to the next object screen for exporting.

To export a RuleSet, place a check mark next to it in the list. If you wish to export every RuleSet in the list, you can place a check mark at the very top of the list in the header portion and it will select every check box in the list.

Example showing "Select All" check mark at top of list:

Once you have every RuleSet checked that you want to export, click **Mark and Next** to be taken to a list of Printers for export.

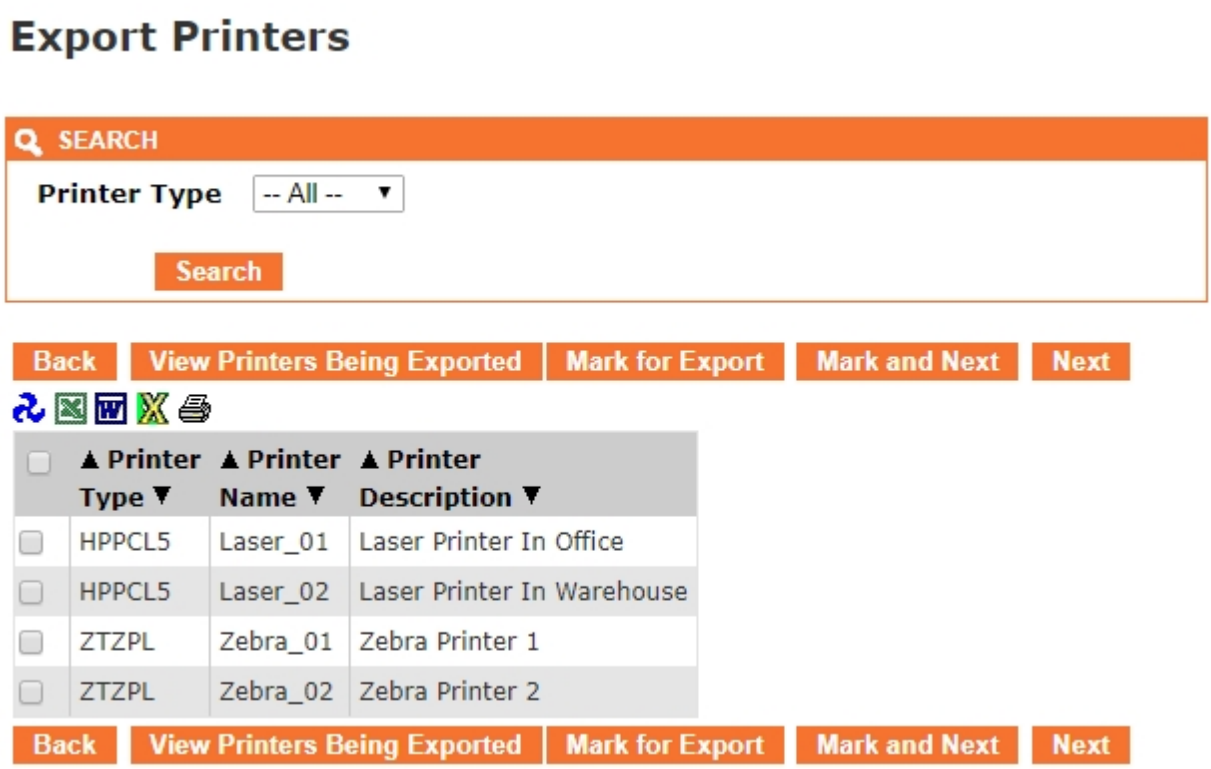
Proceed to Exporting Printers.

Exporting Printers

Up next in the export process after RuleSets are Printers. These are the printer definitions for your physical printers that were created under the Maintain Printers menu. Printer definitions that you create in that menu are saved as their own objects and must be exported and imported from environment to environment just like any other MMPI object.

NOTE: Even though you chose a specific library to export from as the first step in the process, Printer definitions are global and not stored in any separate user library. You would see the same list of Printers no matter what library you chose at the beginning of the export process.

Example list of Printers:



- The **Back** button takes you one screen back in the export process. In this case, it would take you back to RuleSets.
- The **View Printers Being Exported** button will show a list of Printers that have already been "marked" for export.
- The **Mark for Export** button will select the Printers that have a check next to them and prepare them for export. You will stay on the present screen allowing you select more Printers.
- The **Mark and Next** button will select the Printers that have a check next to them, prepare them for export and will immediately take you to the next MMPI object screen for exporting.
- The **Next** button will skip over the current MMPI object type without exporting anything and take you to the next object screen for exporting.

You can filter the list by Printer Type by choosing a specific type in the list at the top. To export a Printer, place a check mark next to it in the list. If you wish to export every Printer in the list, you can place a check mark at the very top of the list in the header portion and it will select every check box in the list.

Example showing "Select All" check mark at top of list:

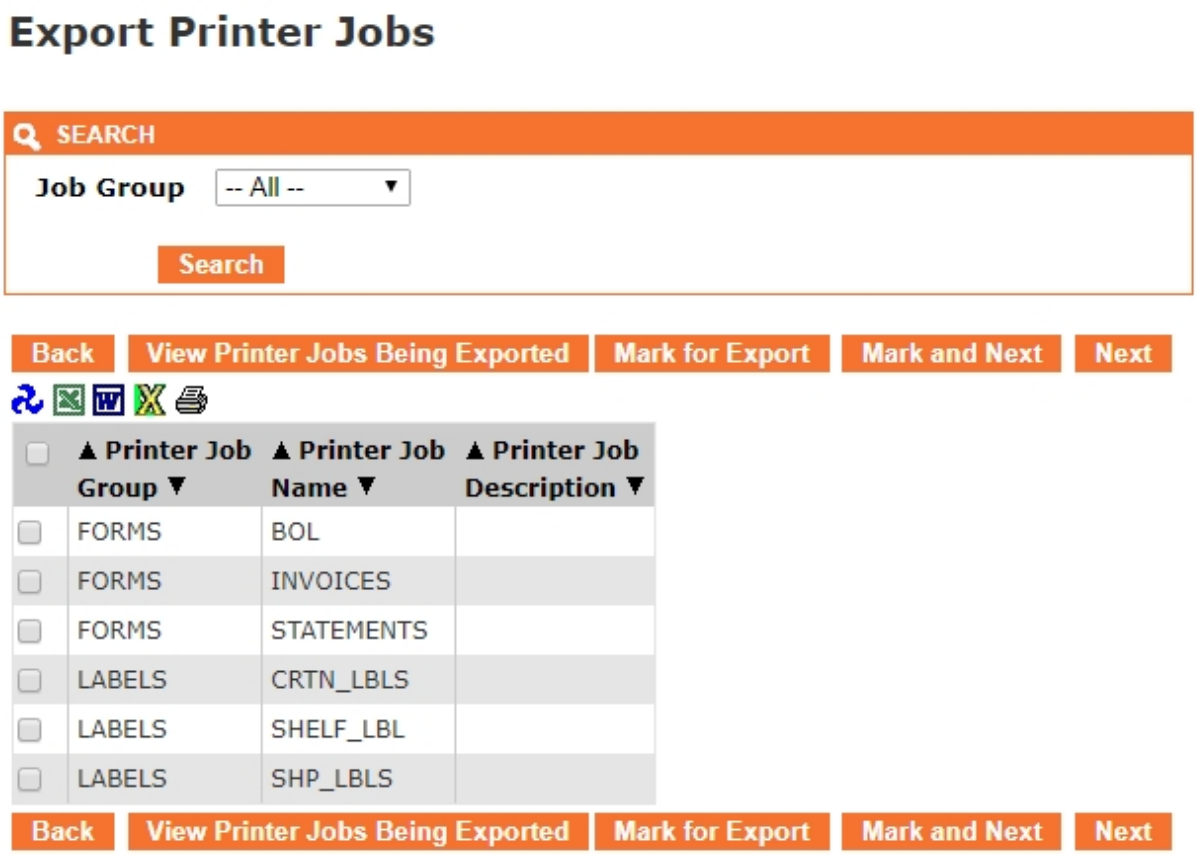
Once you have every Printer checked that you want to export, click **Mark and Next** to be taken to a list of Printer Jobs for export.

Proceed to Exporting Printer Jobs.

Exporting Printer Jobs

Up next in the export process after Printers are Printer Jobs. Think of Printer Jobs as pre-filled out print commands where you save some base print parameters and store the job so it can be recalled later. Creation of a Printer Job is required when using some of MMPIs other features such as Print Monitor and FormWeaver.

Example list of Printer Jobs:

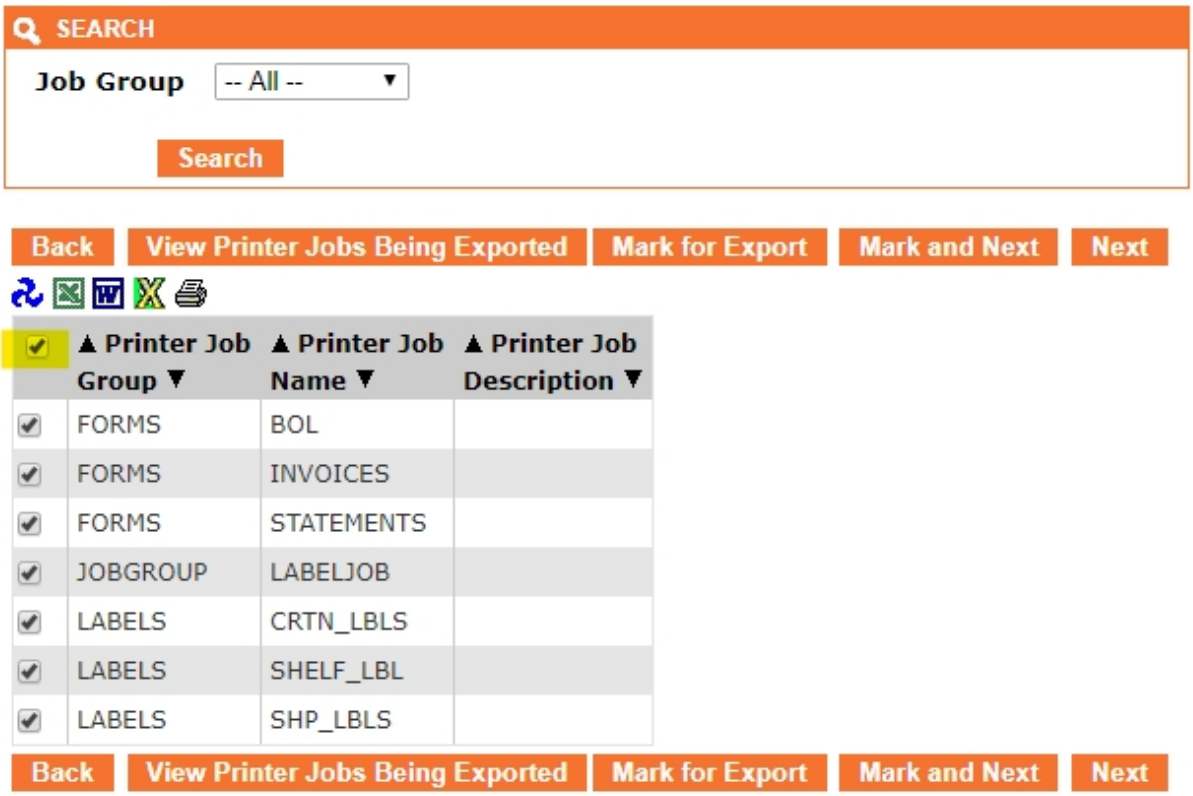


- The **Back** button takes you one screen back in the export process. In this case, it would take you back to Printers.
- The **View Printer Jobs Being Exported** button will show a list of Printer Jobs that have already been "marked" for export.
- The **Mark for Export** button will select the Printer Jobs that have a check next to them and prepare them for export. You will stay on the present screen allowing you select more Printer Jobs.
- The **Mark and Next** button will select the Printer Jobs that have a check next to them, prepare them for export and will immediately take you to the next MMPI object screen for exporting.
- The **Next** button will skip over the current MMPI object type without exporting anything and take you to the next object screen for exporting.

You can filter the list by Job Group by choosing a group in the list at the top. To export a Printer Job, place a check mark next to it in the list. If you wish to export every Printer Job in the list, you can place a check

mark at the very top of the list in the header portion and it will select every check box in the list.

Example showing "Select All" check mark at top of list:



Once you have every Printer Job checked that you want to export, click **Mark and Next** to be taken to a list of Print Monitors for export. Print Monitors are the last object type that can be exported in this process.

Proceed to Exporting Print Monitors.

Exporting Print Monitors

Lastly, in the export process after Printer Jobs are Print Monitors. Print Monitors are individual folder monitors configured via the Print Monitor menu. Print Monitors that you create in that menu are saved as their own objects and must be exported and imported from environment to environment just like any other MMPI object. Print Monitors give MMPI the ability to constantly watch folders on the server for the creation of new flat files and then automatically run a Printer Job when a flat file is detected. It is an easy way to integrate MMPI into your operations without the need to write a custom print program that handles all of the interactions with MMPI.

NOTE: Even though you chose a specific library to export from as the first step in the process, Print Monitors are global and not stored in any separate user library. You would see the same list of Printer Monitors no matter what library you chose at the beginning of the export process.

Example list of Print Monitors:

- The **Back** button takes you one screen back in the export process. In this case, it would take you back to Printer Jobs.
- The **View Print Monitors Being Exported** button will show a list of Print Monitors that have already been "marked" for export.
- The **Mark for Export** button will select the Print Monitors that have a check next to them and prepare them for export. You will stay on the present screen allowing you select more Print Monitors.
- The **Mark and Next** button will select the Print Monitors that have a check next to them, prepare them for export and will immediately take you to the next MMPI object screen for exporting.
- The **Next** button will skip over the current MMPI object type without exporting anything and take you to the next object screen for exporting.

To export a Print Monitor, place a check mark next to it in the list. If you wish to export every Print Monitor in the list, you can place a check mark at the very top of the list in the header portion and it will select every check box in the list.

Example showing "Select All" check mark at top of list:

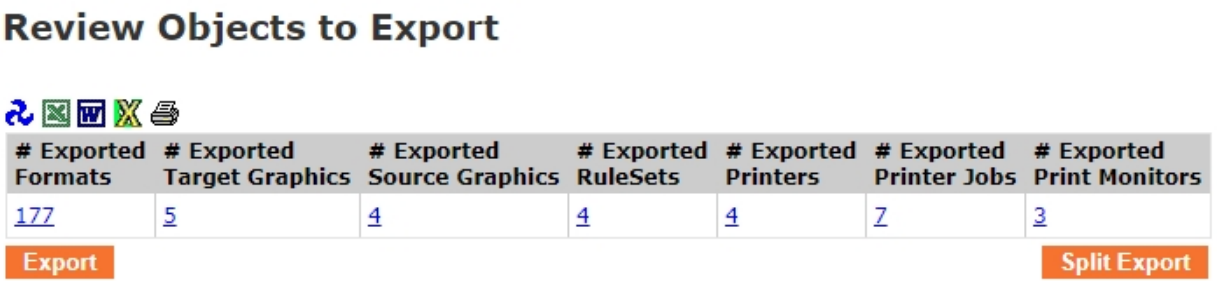
Once you have every Print Monitor checked that you want to export, click **Mark and Next** to be taken to a final review page listing all objects selected during the export process.

Proceed to Review Objects to Export.

Review Objects to Export

The Review Objects to Export screen is the final step in the Export Objects process. This screen provides

an overview of all selected MMPI objects from the previous screens.



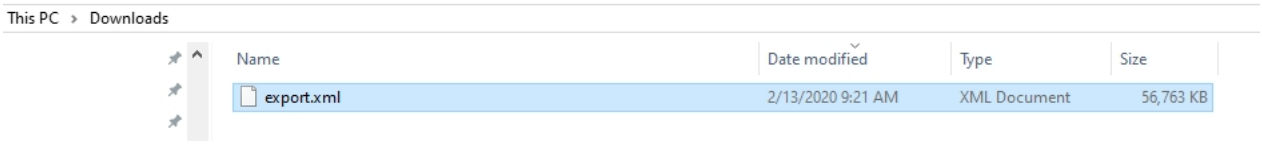
If you wish to review selected objects again before exporting, click the number underneath that object type. You will see a list of objects that have been selected for export.

Example showing screen for Reviewing Selected Target Graphics to Export:

To remove an object, click the check box next to the object and then click the respective **Remove Selected *Object*** button. Once satisfied with the changes, click the **Return** button.

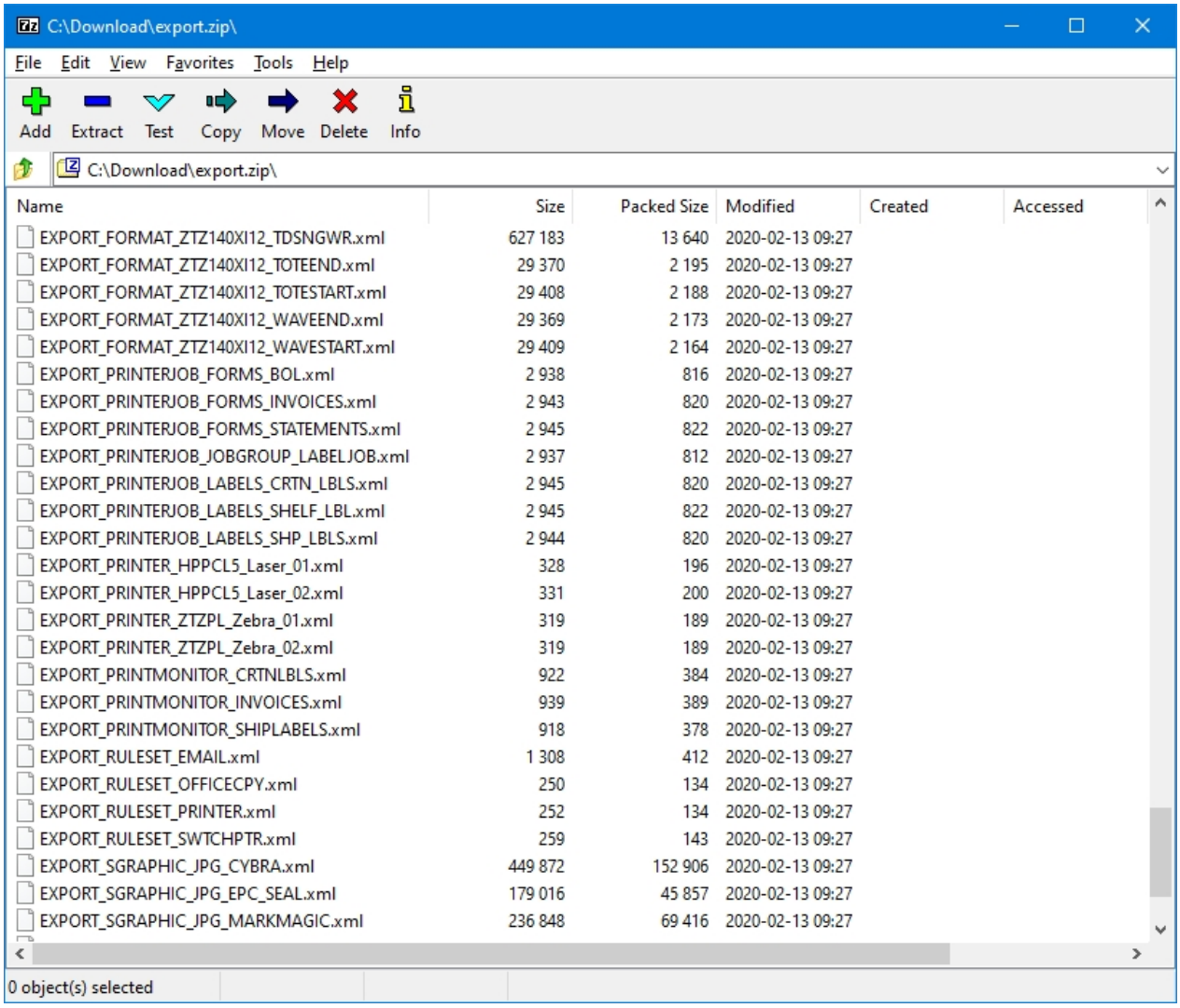
To export everything into one large XML file, click the **Export** button at the bottom left. All selected objects from the previous screens will be saved to your PC into one XML file. Your browser will initiate a standard file download process allowing you to choose where to save the XML file.

Example downloaded export.xml file with all objects in one file:



There is also an option to split the export into individual XML files where every selected object is saved as its own XML file all together in one compressed zip file. Click the **Split Export** button to do this. A compressed zip file containing individual XML files (one for each object selected in the previous screens) will be downloaded to your PC.

Example contents of zip file with individual XML files for each object:



The Export Objects process is now complete. You can now move the XML files to another MMPI environment and use them to Import Objects.

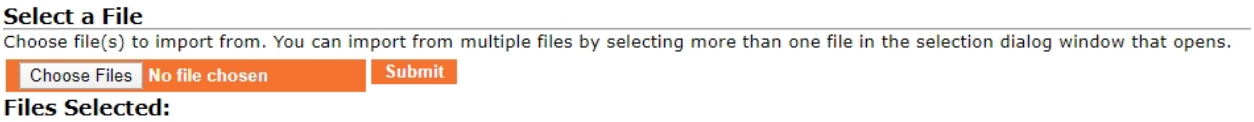
Import Objects

The Import Objects screen walks you through importing individual MMPI objects from an XML file. The XML file used should be one created by a previous MMPI Export Objects process.

The utility steps you through individual lists of MMPI objects in this order:

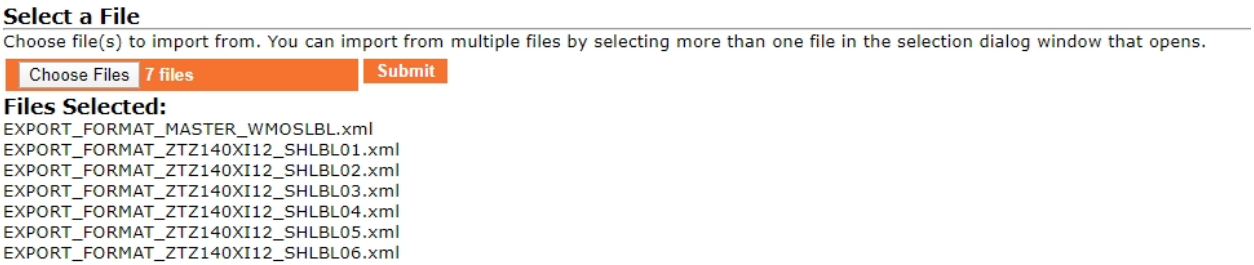
- Formats
- Target Graphics
- Source Graphics
- RuleSets
- Printers
- Printer Jobs
- Print Monitors

Start the Import Objects process by choosing the file(s) to import from. Click the **Choose Files** button to open a standard file browser window allowing you to search your PC for the XML file(s) that you want to import from.



Multiple XML files can be selected if you wish to import more than one MMPI object from multiple files.

Example showing the Import Objects screen after choosing multiple files:



Click the **Submit** button after choosing the XML files to import from. You will be taken through various screens for importing the MMPI object types that are detected within the XML files you chose. For example, if only formats and a RuleSet are detected within, you will only see import screens for those two object types.

Quick tip on overwriting and renaming / renumbering during import:

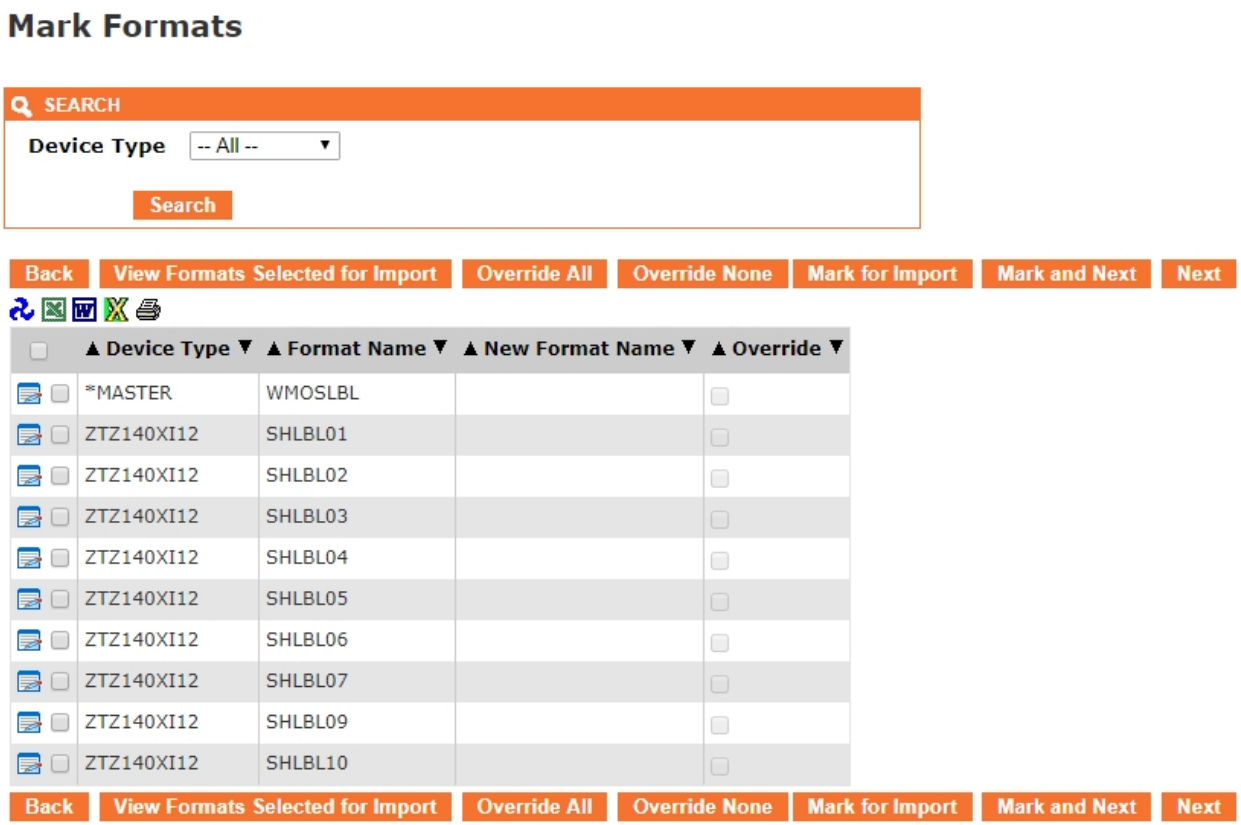
In the tables on the following screens next to every MMPI object listing, there is an **Edit Record** button. This will take you to a screen where you can provide a new name or number for that specific MMPI object

being imported. There is also a check box option on that screen to select override for the MMPI object. The rename/renumber functionality is provided so that you can import an object while preserving the original object. Selecting the override checkbox will make it so the import will overwrite any existing MMPI object with the same name.

Proceed to Importing Formats.

Importing Formats

After choosing the XML files to import from and clicking the **Submit** button, you will be shown a screen for each object type detected within the XML files. The first MMPI object type shown are formats.



- The **Back** button takes you one screen back in the import process.
- The **View Formats Selected for Import** button will show a list of formats that have already been "marked" for import by having had a check mark placed next to them and the **Mark for Import** button pressed.
- The **Override All** button will select all check boxes in the rightmost Override column. Having override selected is necessary if you are importing over existing formats with the same name. This makes it so the imported format will overwrite any existing format with the same name.
- The **Override None** button will clear out all check boxes in the rightmost Override column.
- The **Mark for Import** button will select the formats that have a check mark to the left of them and prepare them for importing. You will stay on the present screen allowing you to select more formats for import.
- The **Mark and Next** button will select the formats that have a check next to them, prepare them for importing and will immediately take you to the next MMPI object screen for importing.
- The **Next** button will skip over the current MMPI object type without importing anything and take you to the next object screen for importing.

You can filter the list by Device Type by choosing a specific device in the list at the top.

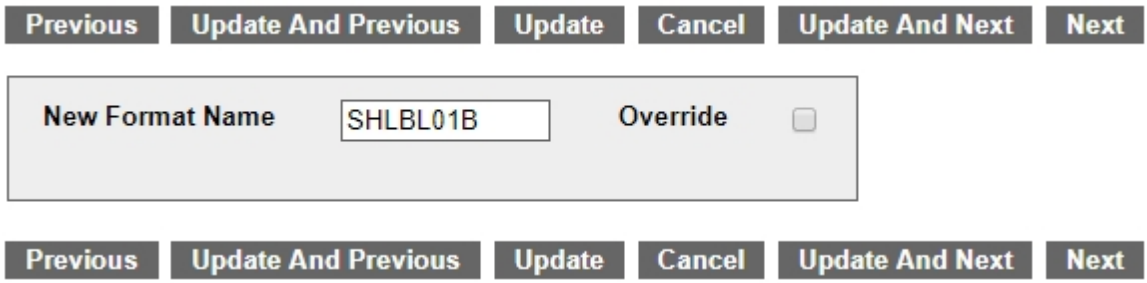
Importing all formats with overwrite:

If you wish to import every format in the list, you can place a check mark at the very top of the list in the header portion. To overwrite any existing format with the same name, you must choose **Override All** to select Override for every format listed.

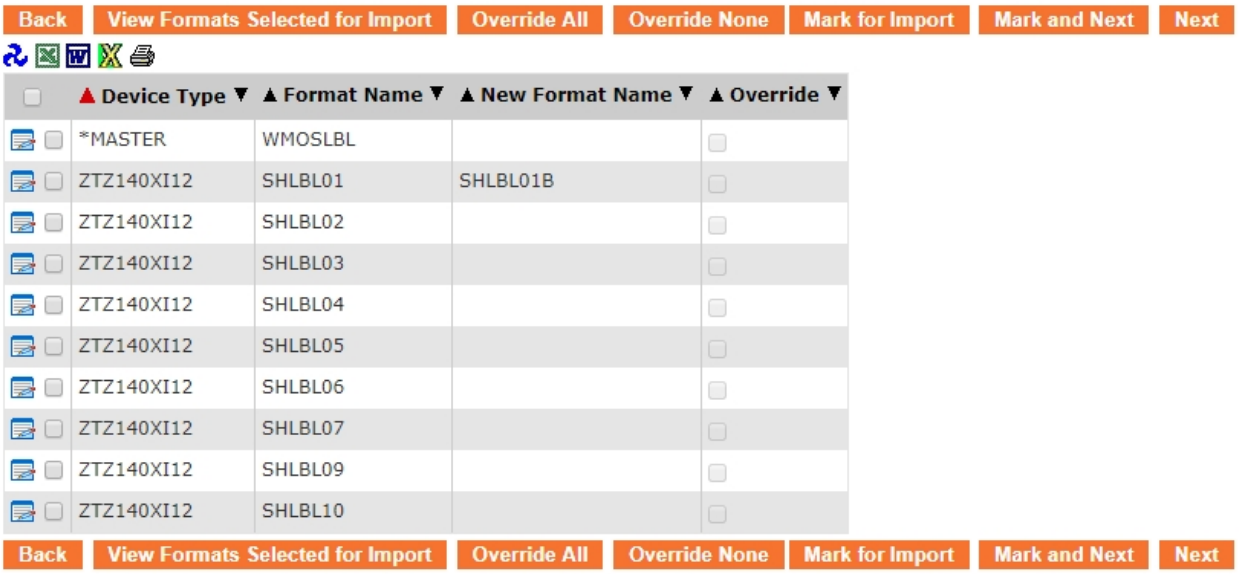
Example showing "Select All" check mark at top of list with Override selected for each:

Individual importing with selective override and rename:

If there are existing formats with the same name and you wish to overwrite them, you must use the **Edit Record** button and choose the Override option. If you want to import a format but keep the existing format with the same name, you must rename the imported format by using the **Edit Record** button to change the name.



Click the **Update** button and you will see the new name listed in the table.

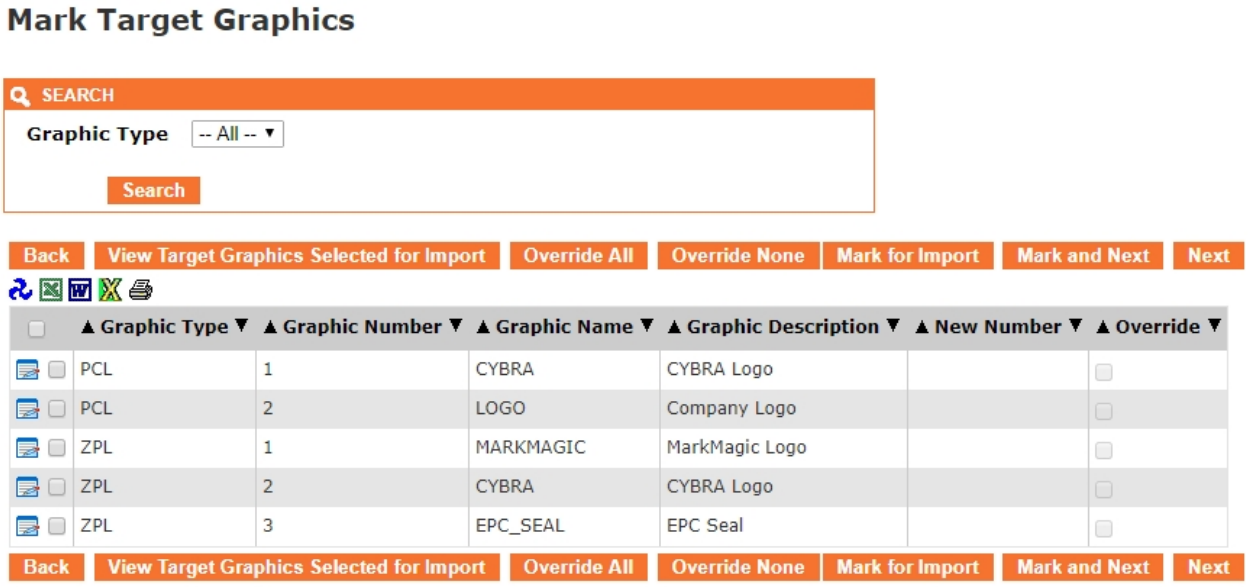


Once you have every format checked that you want to import, along with any necessary overrides and/or renaming, click **Mark and Next** to be taken to a list of target graphics for import.

Proceed to Importing Target Graphics.

Importing Target Graphics

Up next in the import process after formats are target graphics. If there are no target graphics in the xml file, then the process will skip to the next MMPI object type detected in the file. These objects are the converted graphics that actually print on the labels or forms and not the source images themselves. Each MMPI driver family has is own target graphic type. For example, Zebra drivers use "ZPL" target graphics.



- The **Back** button takes you one screen back in the import process.
- The **View Target Graphics Selected for Import** button will show a list of target graphics that have already been "marked" for import by having had a check mark placed next to them and the **Mark for Import** button pressed.
- The **Override All** button will select all check boxes in the rightmost Override column. Having override selected is necessary if you are importing over existing target graphics with the same graphic number.

This makes it so the imported target graphic will overwrite any existing target graphic with the same number.

- The **Override None** button will clear out all check boxes in the rightmost Override column.
- The **Mark for Import** button will select the target graphics that have a check mark to the left of them and prepare them for importing. You will stay on the present screen allowing you to select more target graphics for import.
- The **Mark and Next** button will select the target graphics that have a check next to them, prepare them for importing and will immediately take you to the next MMPI object screen for importing.
- The **Next** button will skip over the current MMPI object type without importing anything and take you to the next object screen for importing.

You can filter the list by Graphic Type by choosing a specific type in the list at the top.

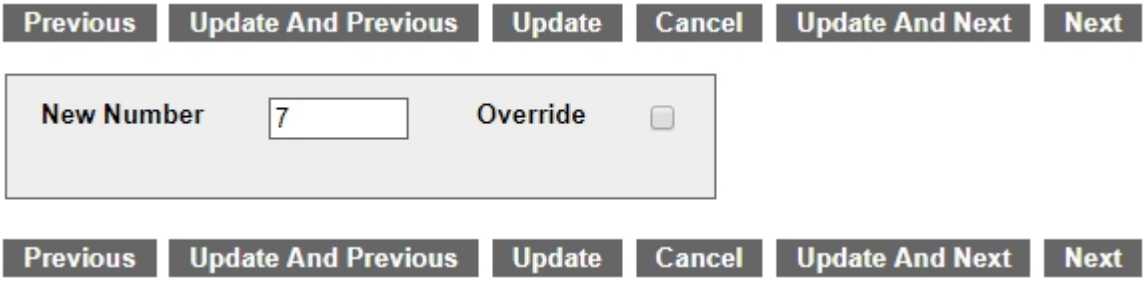
Importing all target graphics with overwrite:

If you wish to import every target graphic in the list, you can place a check mark at the very top of the list in the header portion. To overwrite any existing target graphic with the same number, you must choose **Override All** to select Override for every target graphic listed.

Example showing "Select All" check mark at top of list with Override selected for each:

Individual importing with selective override and renumber:

If there are existing target graphics with the same number and you wish to overwrite them, you must use the **Edit Record** button and choose the Override option. If you want to import a target graphic but keep the existing target graphic with the same number, you must renumber the imported target graphic by using the **Edit Record** button to change the number.



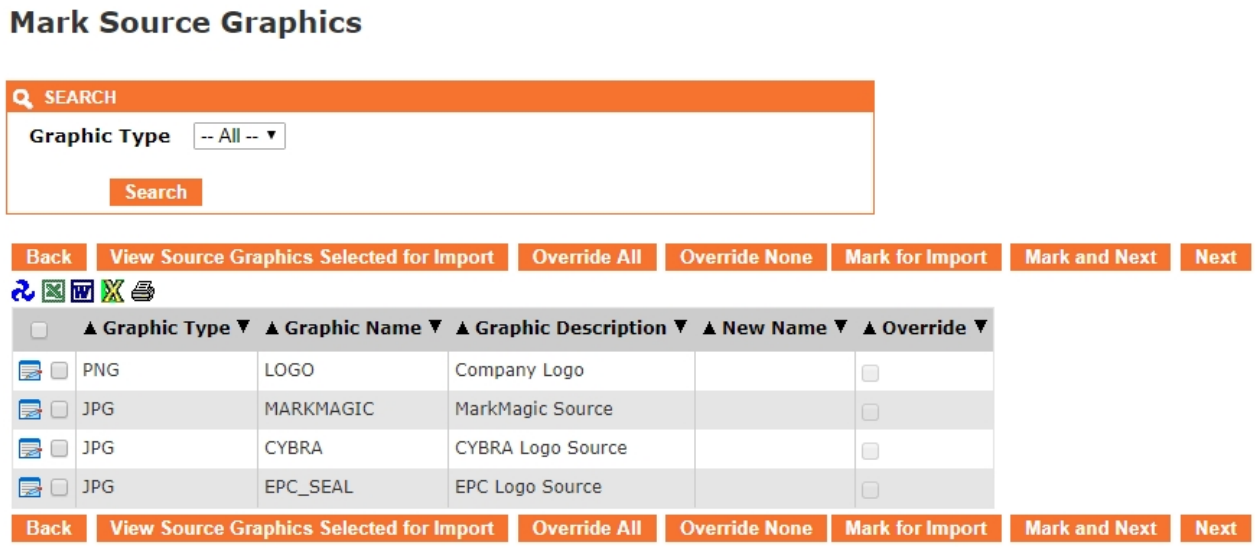
Click the **Update** button and you will see the new number listed in the table.

Once you have every target graphic checked that you want to import, along with any necessary overrides and/or renumbering, click **Mark and Next** to be taken to a list of source graphics for import.

Proceed to Importing Source Graphics.

Importing Source Graphics

Up next in the import process after target graphics are the source graphics. If there are no source graphics in the xml file, then the process will skip to the next MMPI object type detected in the file. These objects are the source JPG, PNG, GIF, etc images that were used when the target graphics were originally converted. The source images should typically export along side any target images, so it would be rare to not have a source image in the XML if there was a target image.



- The **Back** button takes you one screen back in the import process.
- The **View Source Graphics Selected for Import** button will show a list of source graphics that have already been "marked" for import by having had a check mark placed next to them and the **Mark for Import** button pressed.
- The **Override All** button will select all check boxes in the rightmost Override column. Having override selected is necessary if you are importing over existing source graphics with the same graphic name. This makes it so the imported source graphic will overwrite any existing source graphic with the same name.
- The **Override None** button will clear out all check boxes in the rightmost Override column.
- The **Mark for Import** button will select the source graphics that have a check mark to the left of them and prepare them for importing. You will stay on the present screen allowing you to select more source graphics for import.
- The **Mark and Next** button will select the source graphics that have a check next to them, prepare

them for importing and will immediately take you to the next MMPI object screen for importing.

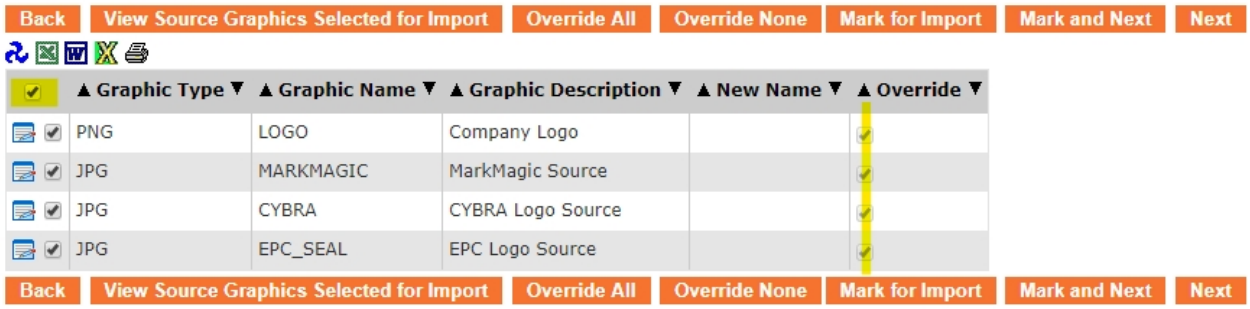
- The **Next** button will skip over the current MMPI object type without importing anything and take you to the next object screen for importing.

You can filter the list by Graphic Type by choosing a specific type in the list at the top.

Importing all source graphics with overwrite:

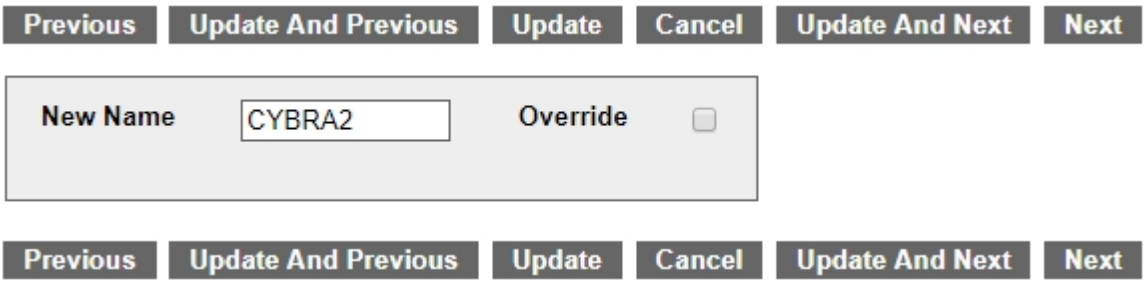
If you wish to import every source graphic in the list, you can place a check mark at the very top of the list in the header portion. To overwrite any existing source graphic with the same name, you must choose **Override All** to select Override for every source graphic listed.

Example showing "Select All" check mark at top of list with Override selected for each:

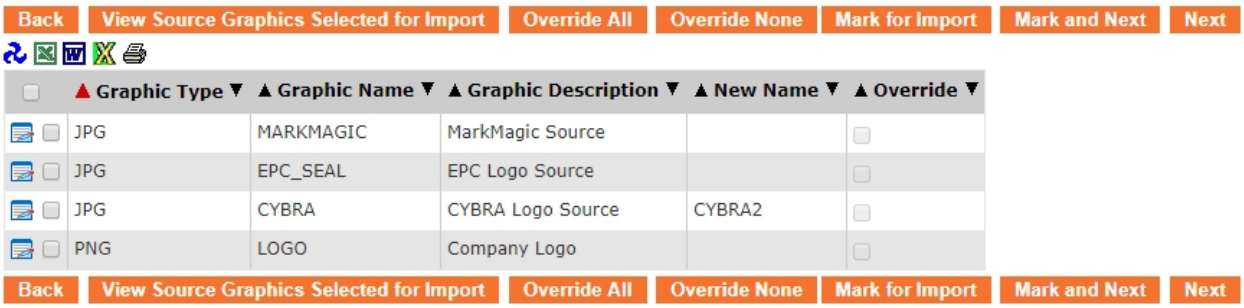


Individual importing with selective override and rename:

If there are existing source graphics with the same name and you wish to overwrite them, you must use the **Edit Record** button and choose the Override option. If you want to import a source graphic but keep the existing source graphic with the same name, you must rename the imported source graphic by using the **Edit Record** button to change the name.



Click the **Update** button and you will see the new name listed in the table.

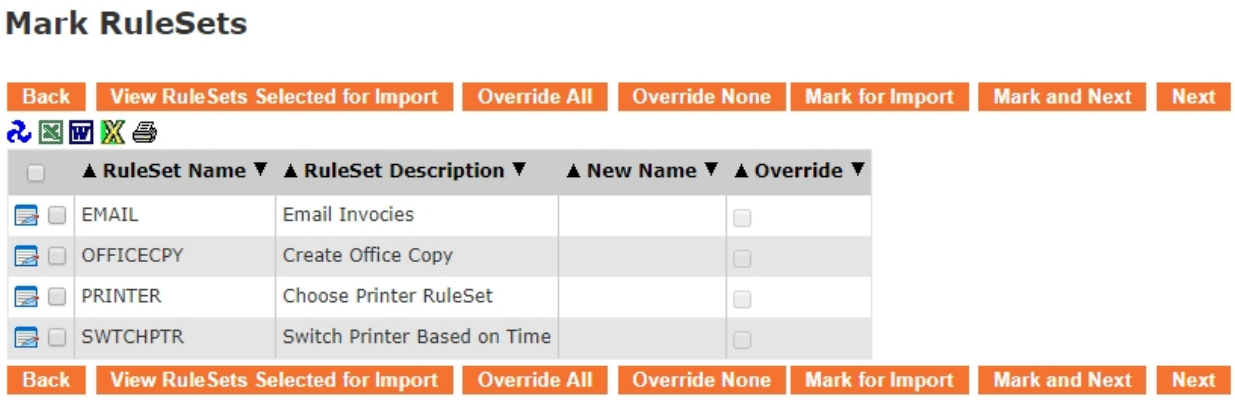


Once you have every source graphic checked that you want to import, along with any necessary overrides and/or renaming, click **Mark and Next** to be taken to a list of RuleSets for import.

Proceed to Importing RuleSets.

Importing RuleSets

Up next in the import process after source graphics are RuleSets. If there are no RuleSets in the xml file, then the process will skip to the next MMPI object type detected in the file. RuleSets are part of CYBRA's PrintTransformer add-on option. They are individual groups of rules that you create in CYBRA's JMagic designer that can dynamically control print jobs and how / where your labels and forms print. RuleSets that you create in JMagic are saved as their own objects and must be exported and imported from environment to environment just like any other MMPI object.



- The **Back** button takes you one screen back in the import process.
- The **View RuleSets Selected for Import** button will show a list of RuleSets that have already been "marked" for import by having had a check mark placed next to them and the **Mark for Import** button pressed.
- The **Override All** button will select all check boxes in the rightmost Override column. Having override selected is necessary if you are importing over existing RuleSets with the same name. This makes it so the imported RuleSet will overwrite any existing RuleSet with the same name.
- The **Override None** button will clear out all check boxes in the rightmost Override column.
- The **Mark for Import** button will select the RuleSets that have a check mark to the left of them and prepare them for importing. You will stay on the present screen allowing you to select more RuleSets for import.
- The **Mark and Next** button will select the RuleSets that have a check next to them, prepare them for importing and will immediately take you to the next MMPI object screen for importing.
- The **Next** button will skip over the current MMPI object type without importing anything and take you to the next object screen for importing.

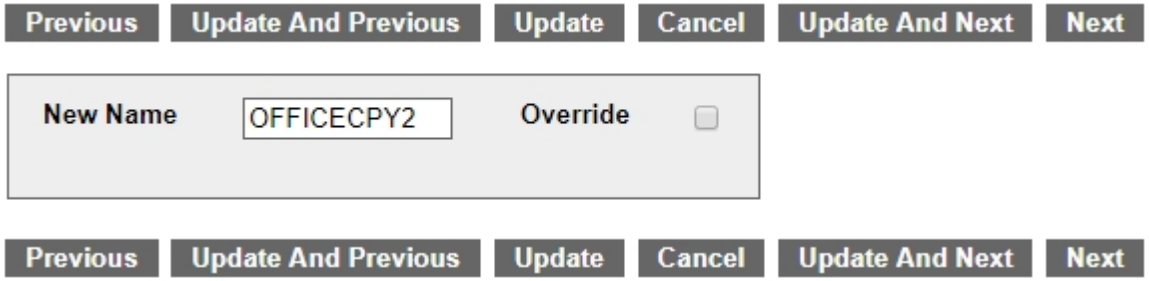
Importing all RuleSets with overwrite:

If you wish to import every RuleSet in the list, you can place a check mark at the very top of the list in the header portion. To overwrite any existing RuleSet with the same name, you must choose **Override All** to select Override for every RuleSet listed.

Example showing "Select All" check mark at top of list with Override selected for each:

Individual importing with selective override and rename:

If there are existing RuleSets with the same name and you wish to overwrite them, you must use the **Edit Record** button and choose the Override option. If you want to import a RuleSet but keep the existing RuleSet with the same name, you must rename the imported RuleSet by using the **Edit Record** button to change the name.



Click the **Update** button and you will see the new name listed in the table.

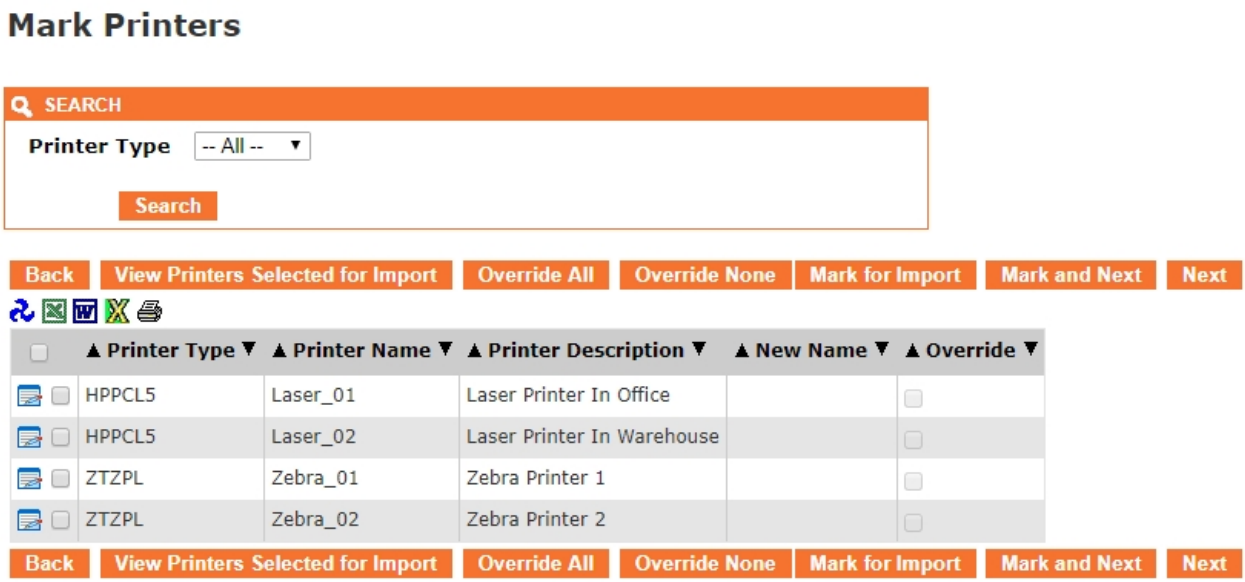
Once you have every RuleSet checked that you want to import, along with any necessary overrides and/or renaming, click **Mark and Next** to be taken to a list of Printers for import.

Proceed to Importing Printers.

Importing Printers

Up next in the import process after RuleSets are Printers. If there are no Printers in the xml file, then the process will skip to the next MMPI object type detected in the file. These are the printer definitions for your physical printers that were created under the Maintain Printers menu. Printer definitions that you create in that menu are saved as their own objects and must be exported and imported from environment to environment just like any other MMPI object.

NOTE: Even though you will chose a specific library to import into at the end of this process, Printer definitions are global and not stored in any separate user library.



- The **Back** button takes you one screen back in the import process.
- The **View Printers Selected for Import** button will show a list of Printers that have already been "marked" for import by having had a check mark placed next to them and the **Mark for Import** button pressed.
- The **Override All** button will select all check boxes in the rightmost Override column. Having override selected is necessary if you are importing over existing Printers with the same name. This makes it so the imported Printer will overwrite any existing Printer with the same name.
- The **Override None** button will clear out all check boxes in the rightmost Override column.
- The **Mark for Import** button will select the Printers that have a check mark to the left of them and prepare them for importing. You will stay on the present screen allowing you to select more Printers for import.
- The **Mark and Next** button will select the Printers that have a check next to them, prepare them for importing and will immediately take you to the next MMPI object screen for importing.
- The **Next** button will skip over the current MMPI object type without importing anything and take you to the next object screen for importing.

You can filter the list by Printer Type by choosing a specific type in the list at the top.

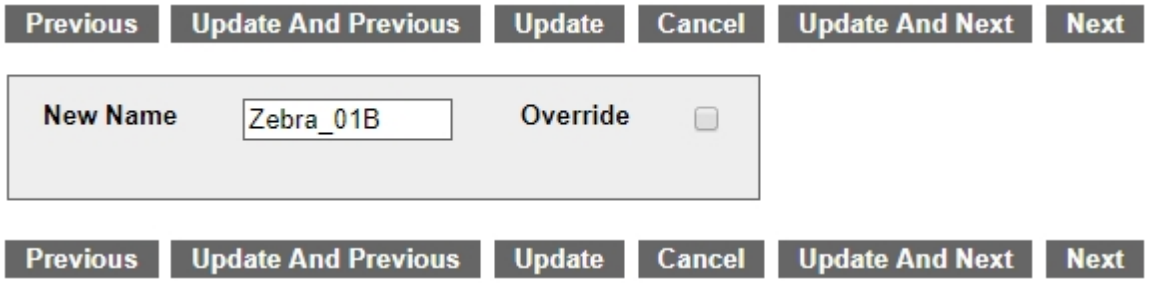
Importing all Printers with overwrite:

If you wish to import every Printer in the list, you can place a check mark at the very top of the list in the header portion. To overwrite any existing Printer with the same name, you must choose **Override All** to select Override for every Printer listed.

Example showing "Select All" check mark at top of list with Override selected for each:

Individual importing with selective override and rename:

If there are existing Printers with the same name and you wish to overwrite them, you must use the **Edit Record** button and choose the Override option. If you want to import a Printer but keep the existing Printer with the same name, you must rename the imported Printer by using the **Edit Record** button to change the name.



Click the **Update** button and you will see the new name listed in the table.

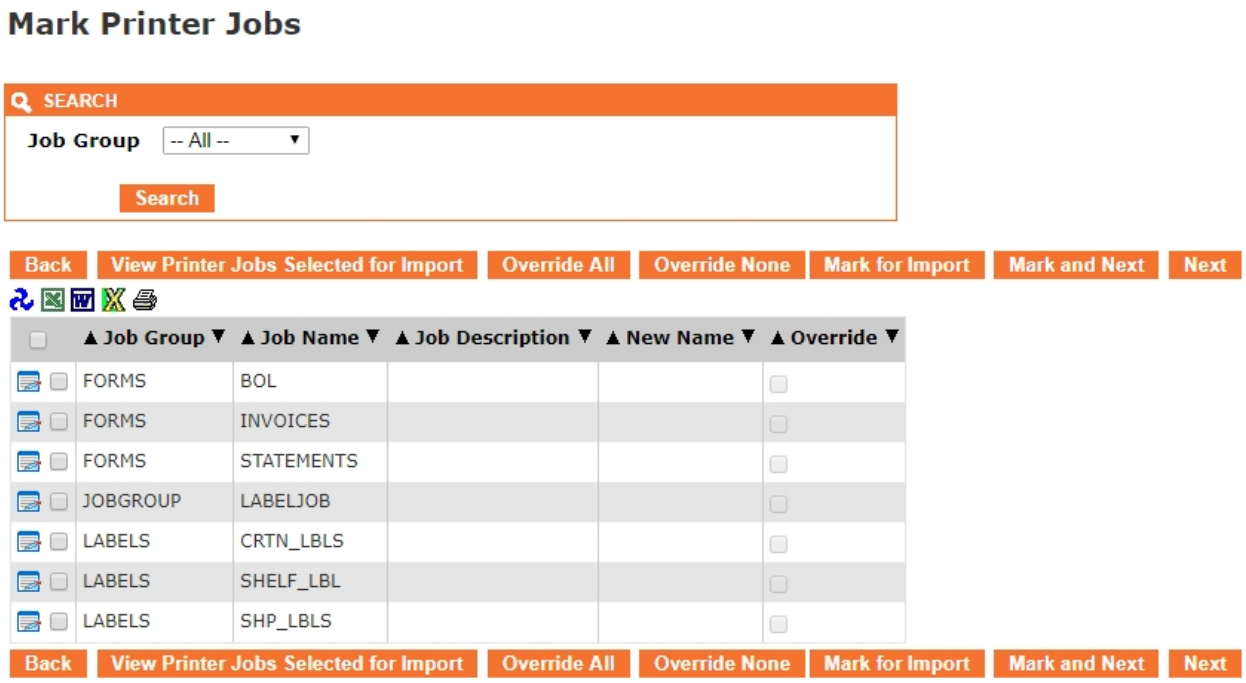
Once you have every Printer checked that you want to import, along with any necessary overrides and/or renaming, click **Mark and Next** to be taken to a list of Printer Jobs for import.

Proceed to Importing Printer Jobs.

Importing Printer Jobs

Up next in the import process after Printers are Printer Jobs. If there are no Printer Jobs in the xml file, then

the process will skip to the next MMPI object type detected in the file. Think of Printer Jobs as pre-filled out print commands where you save some base print parameters and store the job so it can be recalled later. Creation of a Printer Job is required when using some of MMPIs other features such as Print Monitor and FormWeaver.



- The **Back** button takes you one screen back in the import process.
- The **View Printer Jobs Selected for Import** button will show a list of Printer Jobs that have already been "marked" for import by having had a check mark placed next to them and the **Mark for Import** button pressed.
- The **Override All** button will select all check boxes in the rightmost Override column. Having override selected is necessary if you are importing over existing Printer Jobs with the same name. This makes it so the imported Printer Job will overwrite any existing Printer Job with the same name.
- The **Override None** button will clear out all check boxes in the rightmost Override column.
- The **Mark for Import** button will select the Printer Jobs that have a check mark to the left of them and prepare them for importing. You will stay on the present screen allowing you to select more Printer Jobs for import.
- The **Mark and Next** button will select the Printer Jobs that have a check next to them, prepare them for importing and will immediately take you to the next MMPI object screen for importing.
- The **Next** button will skip over the current MMPI object type without importing anything and take you to the next object screen for importing.

You can filter the list by Job Group by choosing a specific group in the list at the top.

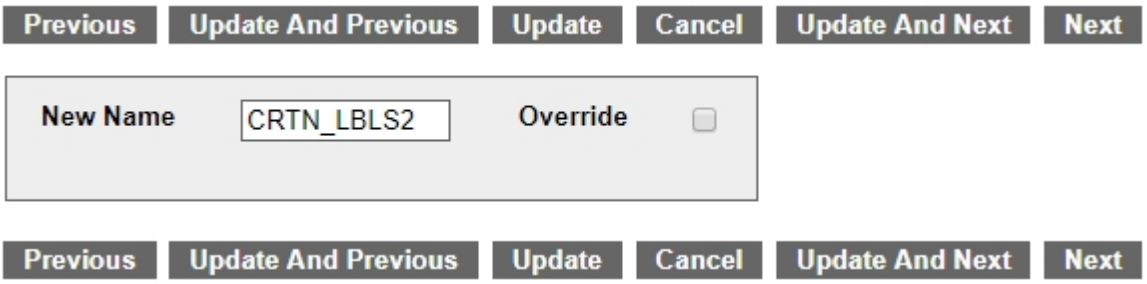
Importing all Printer Jobs with overwrite:

If you wish to import every Printer Job in the list, you can place a check mark at the very top of the list in the header portion. To overwrite any existing Printer Job with the same name, you must choose **Override All** to select Override for every Printer Job listed.

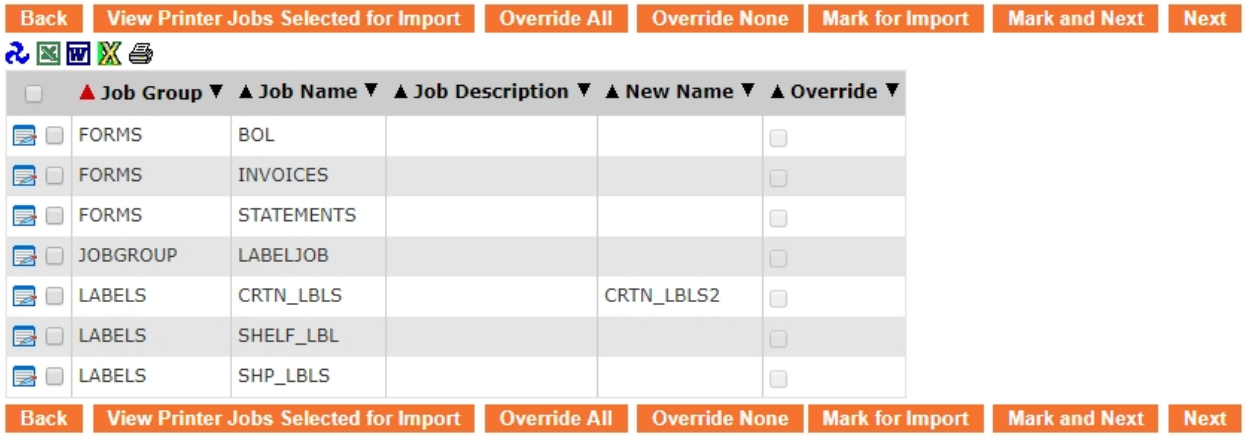
Example showing "Select All" check mark at top of list with Override selected for each:

Individual importing with selective override and rename:

If there are existing Printer Jobs with the same name and you wish to overwrite them, you must use the **Edit Record** button and choose the Override option. If you want to import a Printer Job but keep the existing Printer Job with the same name, you must rename the imported Printer Job by using the **Edit Record** button to change the name.



Click the **Update** button and you will see the new name listed in the table.



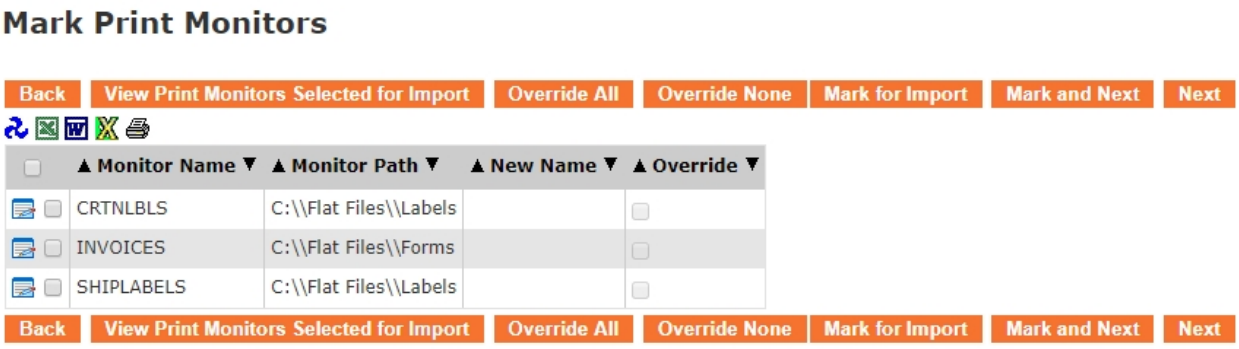
Once you have every Printer Job checked that you want to import, along with any necessary overrides and/or renaming, click **Mark and Next** to be taken to a list of Print Monitors for import.

Proceed to Importing Print Monitors.

Importing Print Monitors

Up next in the import process after Printer Jobs are Print Monitors. If there are no Print Monitors Jobs in the xml file, then the process will skip to the Review Marked Objects screen of the import process. Print Monitors are individual folder monitors configured via the Print Monitor menu. Print Monitors that you create in that menu are saved as their own objects and must be exported and imported from environment to environment just like any other MMPI object. Print Monitors give MMPI the ability to constantly watch folders on the server for the creation of new flat files and then automatically run a Printer Job when a flat file is detected. It is an easy way to integrate MMPI into your operations without the need to write a custom print program that handles all of the interactions with MMPI.

NOTE: Even though you will chose a specific library to import into as the last step in the process, Print Monitors are global and not stored in any separate user library.



- The **Back** button takes you one screen back in the import process.
- The **View Print Monitors Selected for Import** button will show a list of Print Monitors that have already been "marked" for import by having had a check mark placed next to them and the **Mark for Import** button pressed.
- The **Override All** button will select all check boxes in the rightmost Override column. Having override selected is necessary if you are importing over existing Print Monitors with the same name. This makes it so the imported Print Monitor will overwrite any existing Print Monitor with the same name.
- The **Override None** button will clear out all check boxes in the rightmost Override column.
- The **Mark for Import** button will select the Print Monitors that have a check mark to the left of them and prepare them for importing. You will stay on the present screen allowing you to select more Print Monitors for import.
- The **Mark and Next** button will select the Print Monitors that have a check next to them, prepare them for importing and will immediately take you to the next MMPI object screen for importing.
- The **Next** button will skip over the current MMPI object type without importing anything and take you to the next object screen for importing.

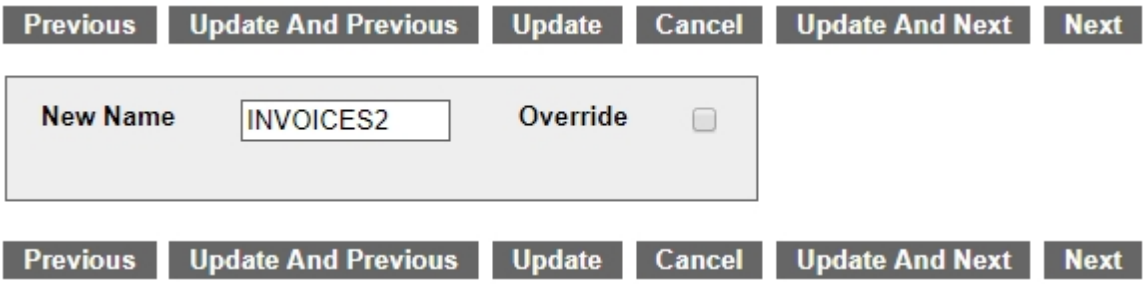
Importing all Print Monitors with overwrite:

If you wish to import every Print Monitor in the list, you can place a check mark at the very top of the list in the header portion. To overwrite any existing Print Monitor with the same name, you must choose **Override All** to select Override for every Print Monitor listed.

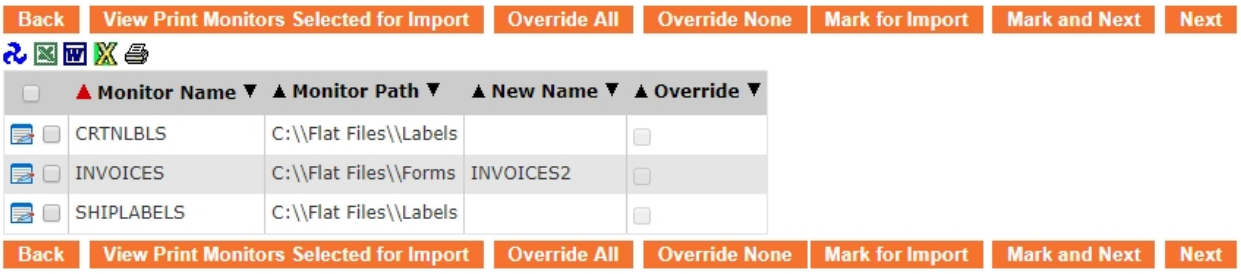
Example showing "Select All" check mark at top of list with Override selected for each:

Individual importing with selective override and rename:

If there are existing Print Monitors with the same name and you wish to overwrite them, you must use the **Edit Record** button and choose the Override option. If you want to import a Print Monitor but keep the existing Print Monitor with the same name, you must rename the imported Print Monitor by using the **Edit Record** button to change the name.



Click the **Update** button and you will see the new name listed in the table.

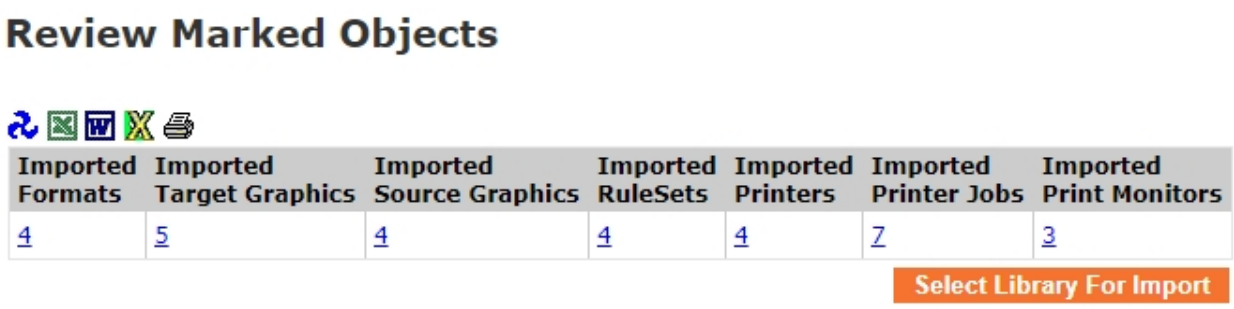


Once you have every Print Monitor checked that you want to import, along with any necessary overrides and/or renaming, click **Mark and Next** to be taken to the Review Marked Objects screen.

Proceed to Review Marked Objects.

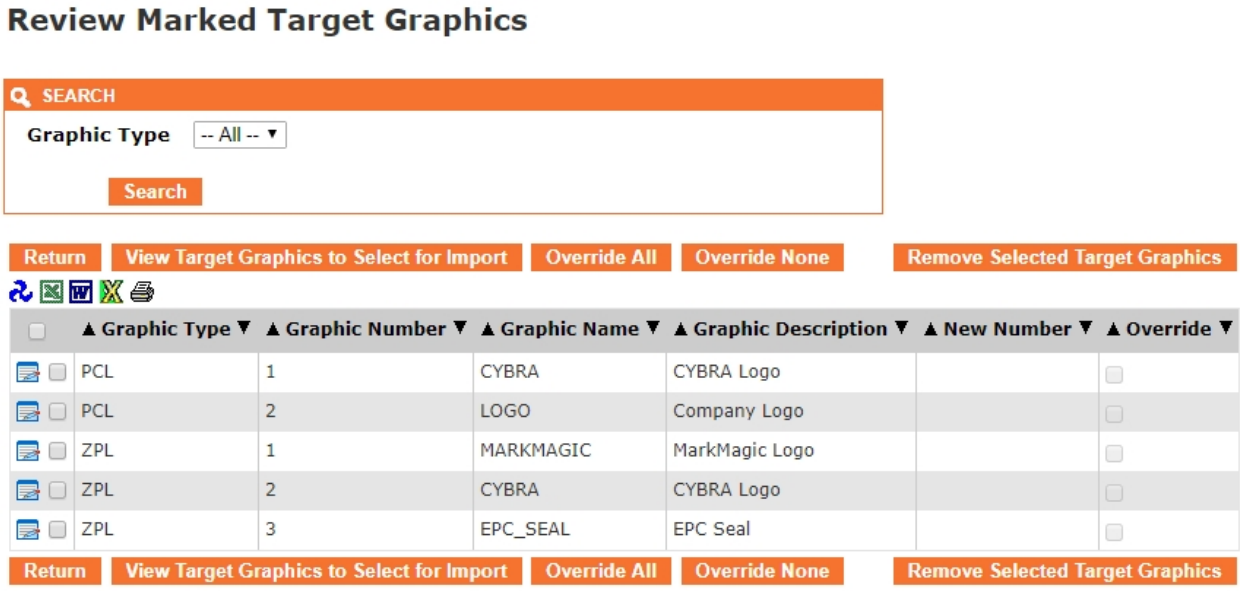
Review Marked Objects

The Review Marked Objects screen is the final step in the Import Objects process. This screen provides an overview of all selected MMPI objects from the previous screens.



If you wish to review previously selected objects again before importing, click the number underneath that object type. You will see a list of objects that have been selected for import.

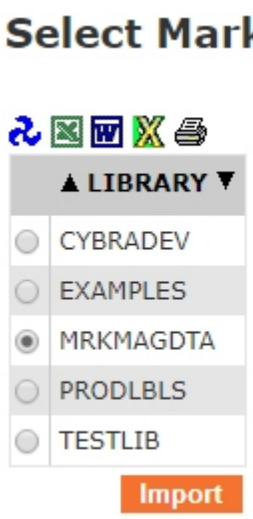
Example showing screen for Reviewing Marked Target Graphics to Import:



To remove an object from being imported, click the check box next to the object and then click the respective **Remove Selected *Object*** button. Once satisfied with the changes, click the **Return** button.

To import all objects that have been selected, press the **Select Library For Import** button. You will be shown a list of MarkMagic user libraries in your MMPI environment.

Example list of MarkMagic user libraries:



Choose the library to import into. If you do not have any custom user libraries, then you will only see the default MRKMAGDTA library. Once you select the desired library, press the **Import** button.

At this point, MMPI will import all selected objects into the selected user library. If there are any conflicts at all, the import process will pause and you will be presented with a new screen to resolve the conflict. These include formats with the same name, graphics with the same number, RuleSets with the same name, etc. All conflicts must resolved before the import process can complete.

Ways to resolve a conflict:

- **Remove the object from the import** - Select the object in the table by using the check box to the left and then press the **Remove Selected *Object* from Import** button. This will remove that object from being imported.
- **Set the object to Override** - Select the **Edit Record** button next to the object and then choose the check box for Override. Click the **Update** button. The object will now overwrite any existing object in the user library.
- **Rename / renumber the object** - Select the **Edit Record** button next to the object and then (depending on the object type) either rename or renumber the object. Click the **Update** button. The object will now be imported into the user library using the new name / number while preserving the existing object.

Once all conflicts are resolved, press the **Import** button again to finish the import process.

Import Font

When MarkMagic PI is installed, a large selection of default fonts are installed in the location where the H2 database is configured to be created. The font files can be found in the *../MarkMagic/fonts* directory. In rare cases where a custom font is required, a user can upload the true type (.ttf) file using this interface. Simply click the **Choose File** button, browse your computer for the .ttf file and then click **Submit**. The font file will be copied to the *../MarkMagic/fonts* folder on the server.

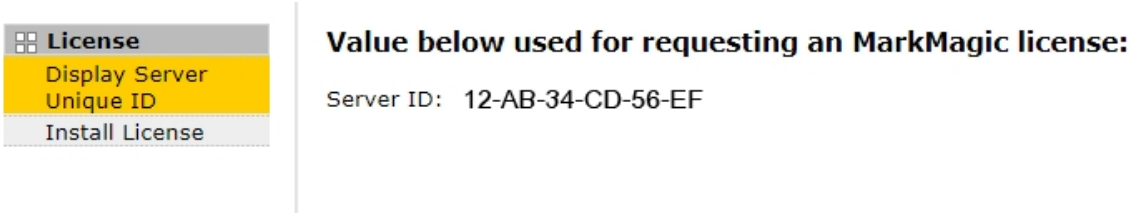
License

Use the license menu to install an MMPI license file as well as display information about the currently installed license. The license menu is also used to display the system MAC address or Media Access Control address so CYBRA can generate a valid license specific to your hardware.

- Display Server Unique ID - When requesting a MarkMagic license from CYBRA, you must provide your account manager with the server unique ID or "MAC address". This menu option takes you to screen where the server MAC address will be displayed. Depending on the operating system type, MMPI uses various methods for obtaining this MAC address. In some cases, a server will have more than one MAC address. It is very important to give your account manager the MAC address that is listed on this screen when requesting a license. The MAC address listed here is the one that MMPI will check against when validating a license file.
- Install License - This option takes you to a screen where a license file can be manually installed. Information about the currently applied license is also displayed here.

Display Unique Server ID

In order for your CYBRA account manager to create a valid license file for your system, we must first know your hardware Unique Server ID. This ID is otherwise known as a 'MAC address'. MMPI uses various methods for obtaining the MAC address depending on the operating system of the server. If a server has multiple network interfaces, it will then have multiple MAC addresses, so it is very important to give your account manager the MAC address listed on this screen when requesting a license.

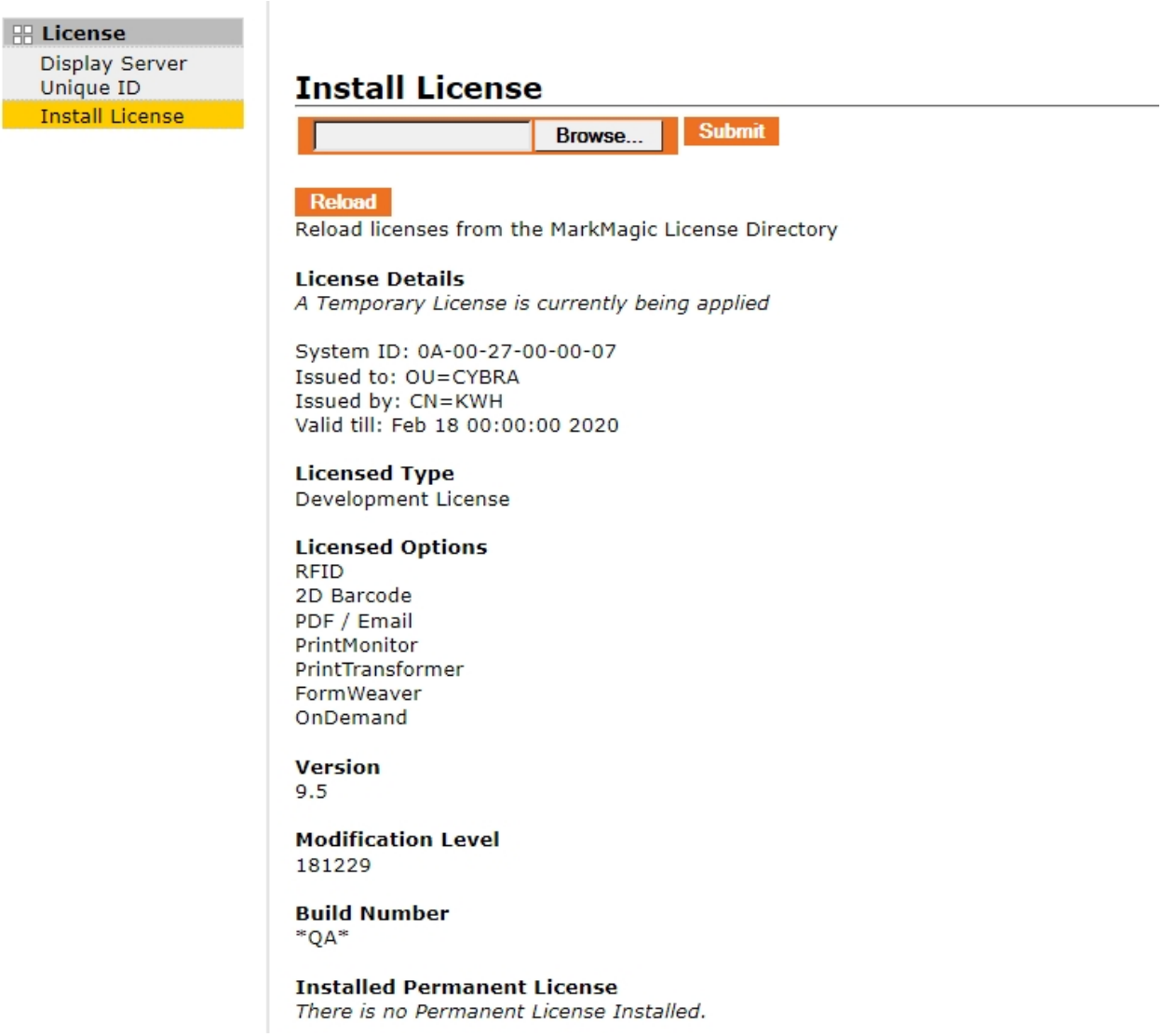


Install License

The Install License menu has two functions. First, it is used to install a license file in MMPI. Second, it displays all information about the currently applied license. The licensing process usually starts with your account manager asking for your server MAC address found on the Display Unique Server ID page. Next, they will generate and send you a license file (typically ending with a ".lic" file extension). You should download and save this file to your PC for backup purposes.

Next, use the **Browse...** button found on the Install License page. A standard file browser window will appear allowing you to locate the ".lic" file that was sent to you by your account manager. Choose the file and click OK. Next, click **Submit**. The file will be uploaded to the MMPI server and will be validated. If the license is valid, you will see new details about the applied license listed below in the License Details section.

The **Reload** button is used to manually refresh license files from the designated license folder. This is a different way of installing the .lic file other than using the **Browse...** button to pick a license file. When you installed MMPI, you were asked if you wanted to designate a folder on the server as a central place to store license files. If you chose to do so, you can put your license file into this folder and MMPI would automatically pick it up when the MMPI server starts. You can use the **Reload** button to force MMPI to scan the folder again for any new licenses added.



License Details

This section will display general information about the currently applied license. Information such as:

- The type of license applied
- The MAC address or System ID that was used to create the license
- Company name the license was generated for
- The account manager who created the license
- The expiration date of the license (if a temporary license is installed)

Licensed Type

This section displays the type of license applied to the MMPI server.

- **Runtime License** - A license that allows only print requests. This license type is typically installed on a 'production' MMPI server where you do not wish to modify or design new labels or forms. You cannot connect to a runtime licensed MMPI server using CYBRA's JMagic designer tool.
- **Development License** - A license type that allows print requests the same as a runtime server, but also allows CYBRA's JMagic designer tool to connect. This license type is typically used on 'development' MMPI servers where you want to make modifications to your labels and forms as well as design new formats.

Licensed Options

In addition to base runtime and development licenses, CYBRA also offers separately licensed MMPI add-on options. These optional add-ons to MMPI can enhance your installation of MarkMagic PI in many ways. Any extra licenses you own for any of these add-on will be listed here.

- RFID - The MarkMagic RFID Option makes it easy to print RFID tags so you can comply with EPC (Electronic Product Code) compliance specifications from trading partners.
- 2D Barcode - Add Data Matrix, MaxiCode (UPS), QR Code, and PDF 417 2D barcodes to laser printed collated forms. Great for direct mailers, catalog merchants, and e-commerce web sites.
- PDF / Email - Need PDF files with bar codes? The PDF/Email/Fax Option makes it easy to create, fax, and e-mail PDF files that look just like your original MarkMagic forms or labels.
- PrintMonitor - PrintMonitor is ideal if you don't have the time to change source programs. PrintMonitor watches system folders for new flat files and automatically runs print jobs when new files are detected.
- PrintTransformer - Adds dynamic formatting to MarkMagic, and makes it easy to define conditional behavior at the field level. Print text, barcodes, and RFID field attributes conditionally.
- FormWeaver - With FormWeaver you can print documents that combine multiple formats. Merge multiple formats on one page, such as a pick ticket or invoice with a shipping label at the bottom.
- OnDemand - A web based portal that generates and hosts PDF files created by MarkMagic. Give your users easy access to their documents through a MarkMagic managed web page.

Version

The version number of MMPI will be listed here.

Modification Level

The modification level (or 'mod level') will be listed here. The mod level is essentially a date starting with the 2 digit year. For example, mod level 181229 is December 29th, 2018.

Build Number

Every new build of MMPI will have a new build number associated with it. CYBRA sometimes does not increment the mod level of a build when certain smaller updates are made. You can use the build number to determine if you are using a newer or older build of a certain version/mod level.

Installed Permanent License

If a permanent license is installed, a message indicating so will be listed here. If only a temporary license is being used, then the message *"There is no Permanent License Installed."* will be seen.

Help

The Help menu provides access to various screens that display information about the installed build of MMPI, current log files, advanced troubleshooting details as well as the official MMPI REST API guide.

- About MarkMagic PI - A screen that displays MarkMagic PI Details such as version number, modification level (mod level) and build number.
- MarkMagic PI REST APIs - This menu option takes you to the official MMPI REST API page. This pages uses the SwaggerUI to better visualize all of the REST endpoints and all options that are available.
- Troubleshooting Details - Advanced troubleshooting information showing memory usage, log levels and advanced java system properties.
- View Logs - A simple page that displays the full contents of the current MMPI.log file.

About MarkMagic PI

The About MarkMagic PI screen shows details about the currently installed build of MMPI. Version, modification level (or mod level) and build number will be shown here.

- **Version** - The version of MMPI. The number before the decimal indicates a the major release of MMPI. The number after indicates an incremental update not deserving of a new major release number. Any new version number either major or incremental would require a new License.
- **Modification Level** - When CYBRA releases an updated package without a version change, it will be what is called a new modification level or "mod level". The mod level takes the format of a YYMMDD date. For example, mod level 200115 is year 2020, January 15th.
- **Build Number** - Sometimes CYBRA will release a new build of the same version and mod level of MMPI. Every time a new build is made, the build number increases. This number can be matched up with CYBRA's internal tracking system to see what exact updates and bug fixes are present in a users installation of MMPI.

MarkMagic PI REST APIs

The MarkMagic PI REST APIs menu option takes you to a Swagger UI page that outlines all of the available MMPI REST API endpoints. This page is designed for developers to make it much simpler to visualize and interact with the programming APIs made available in MMPI. Almost any action within MMPI, be it printing a label, importing a format from file, downloading log files, converting graphics, etc can be accomplished through a REST API endpoint.

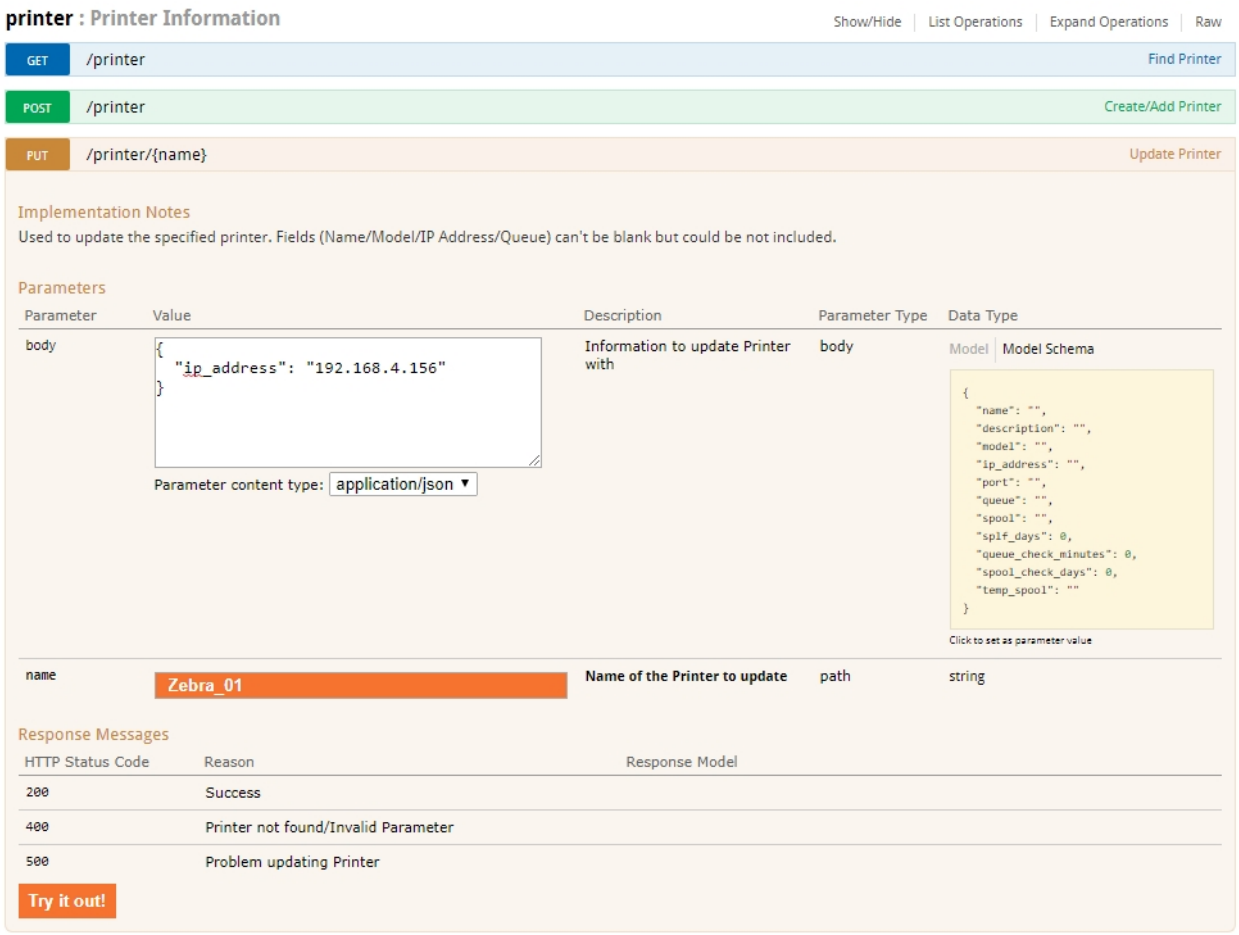
Return to MarkMagic

download : Download MMPI Data	Show/Hide | List Operations | Expand Operations | Raw
id : Unique ID Information	Show/Hide | List Operations | Expand Operations | Raw
license : License Information	Show/Hide | List Operations | Expand Operations | Raw
mmpi-objects : MMPI Objects Information	Show/Hide | List Operations | Expand Operations | Raw
print-queue : Print Queue Information and Interaction.	Show/Hide | List Operations | Expand Operations | Raw
mmpi-objects-file : MMPI Objects Information to File	Show/Hide | List Operations | Expand Operations | Raw
mmpi-objects-summary : MMPI Objects Summary Information	Show/Hide | List Operations | Expand Operations | Raw
preload-cache : Preload Cache	Show/Hide | List Operations | Expand Operations | Raw
print : Print	Show/Hide | List Operations | Expand Operations | Raw
flat-file : Generate or parse flat files.	Show/Hide | List Operations | Expand Operations | Raw
print-job : Print Job Information	Show/Hide | List Operations | Expand Operations | Raw
printer : Printer Information	Show/Hide | List Operations | Expand Operations | Raw
user-library : Work with User Libraries	Show/Hide | List Operations | Expand Operations | Raw
graphics : Work with Graphics	Show/Hide | List Operations | Expand Operations | Raw

[BASE URL: http://localhost:8080/MMPI/rest/api-docs , API VERSION: 1.0.0]

Click on any of the API names to reveal the request types available for that specific API endpoint. MMPI makes use of standard HTTP request methods GET, POST, PUT and DELETE. For example, if you wanted to write a program that updates the IP address of a printer that was originally configured through Maintain Printers, you would do this in your program via a PUT request via the **/printer** API.

The Swagger UI outlines all of the parameters and formatting necessary to interact with the APIs. Extra descriptions and implementation notes are also provided where needed. The Swagger UI even allows you to try out your requests by pressing the **Try it out!** button.



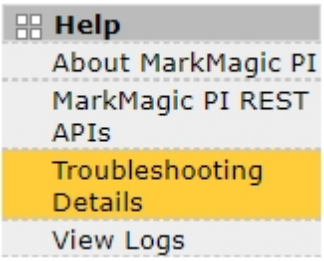
After pressing the **Try it out!** button in the above example, you will see the properly formatted Request URL, Response Body, Response Code and Response Headers.

The above examples showed using a PUT request on the **/printer** API to change the IP address of the Zebra_01 printer. Response code of 200 indicates success and you can see in the body that the IP address was updated to 192.168.4.156.

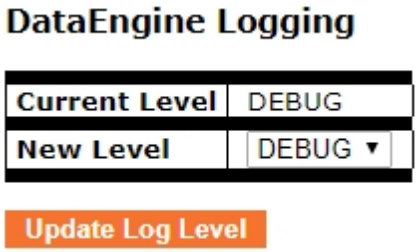
Click on other API names to explore the Swagger UI and see all of the different MMPI APIs available to you.

Troubleshooting Details

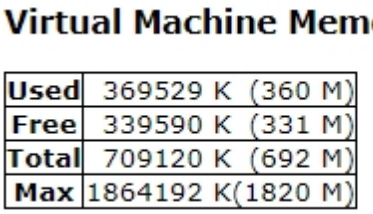
The Troubleshooting Details screen displays a collection of advanced runtime statistics and information used primarily for diagnosing any problems with the MMPI installation.



The DataEngine Logging section displays the current logging level as well as a menu that allows an administrator to change the logging level. See Configure Logging for more information about all of the ways MMPI can capture and store logs. The log level can also be changed on that page, but to change it here, select the level from the list and then click the **Update Log Level** button.



The Virtual Machine Memory section displays information about the amount of memory allocated to the Java virtual machine in which Apache Tomcat is running. This information can be helpful when troubleshooting "Out Of Memory" issues when MMPI is trying to process large print jobs. The maximum amount of memory allocated to Apache Tomcat and by extension MMPI, is configurable. Please contact CYBRA Technical Support for more information.



The System Properties section displays all of the server Java system properties. Information about the OS, Java version, certain environment variables, etc can be found here.

System Properties

```
awt.toolkit=sun.awt.windows.WToolkit
catalina.base=C:\Program Files\Apache Software Foundation\Tomcat 9.0
catalina.home=C:\Program Files\Apache Software Foundation\Tomcat 9.0
catalina.useNaming=true
common.loader="${catalina.base}/lib","${catalina.base}/lib/*.jar","${catalina.home}/lib","${cat
alina.home}/lib/*.jar"
file.encoding=Cp1252
file.encoding.pkg=sun.io
file.separator=\
java.awt.graphicsenv=sun.awt.Win32GraphicsEnvironment
java.awt.printerjob=sun.awt.windows.WPrinterJob
java.class.path=C:\Program Files\Apache Software Foundation\Tomcat
9.0\bin\bootstrap.jar;C:\Program Files\Apache Software Foundation\Tomcat 9.0\bin\tomcat-
juli.jar
java.class.version=52.0
java.endorsed.dirs=C:\Program Files\Java\jre1.8.0_231\lib\endorsed
java.ext.dirs=C:\Program Files\Java\jre1.8.0_231\lib\ext;C:\WINDOWS\Sun\Java\lib\ext
java.home=C:\Program Files\Java\jre1.8.0_231
java.io.tmpdir=C:\Program Files\Apache Software Foundation\Tomcat 9.0\temp
java.library.path=C:\Program Files\Apache Software Foundation\Tomcat
```

The DataEngine Connection Pools section shows information about the current JDBC connection pools. Pool name, Pool URL, Number of Connections and Number of Connection in Use is displayed.

DataEngine Connection Pools

	Pool Name	Pool URL	Number of Connections	Number of Connections in Use
◉	DEFAULT	jdbc:h2:C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\MMPI\WEB-INF\h2.wow.metadata;MODE=MySQL;IFEXISTS=TRUE	5	0
○	MMPI	jdbc:h2:tcp://localhost:9092/C:\MarkMagic/MARKMAGIC;MODE=MYSQL	10	0

Get Details

To get advanced information about a connection pool, select the pool with the radio button on the left and then click the **Get Details** button.

Example:

Troubleshooting Details

DataEngine Connection Pool Details

General Information

Alias:	MMPI
Database URL:	jdbc:h2:tcp://localhost:9092/C:\MarkMagic/MARKMAGIC;MODE=MYSQL
Creation Time:	2020.02.11 AD at 04:05:17 PM EST

Connection Information

Minimum Connections:	10
Maximum Connections:	1000
Actual Connections:	10
Connections in Use:	0

SQL Statistics

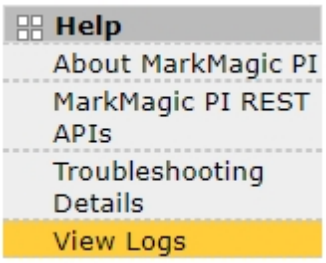
SQL Statements Executed:	0
Average SQL Execution Time:	NaN ms

Return

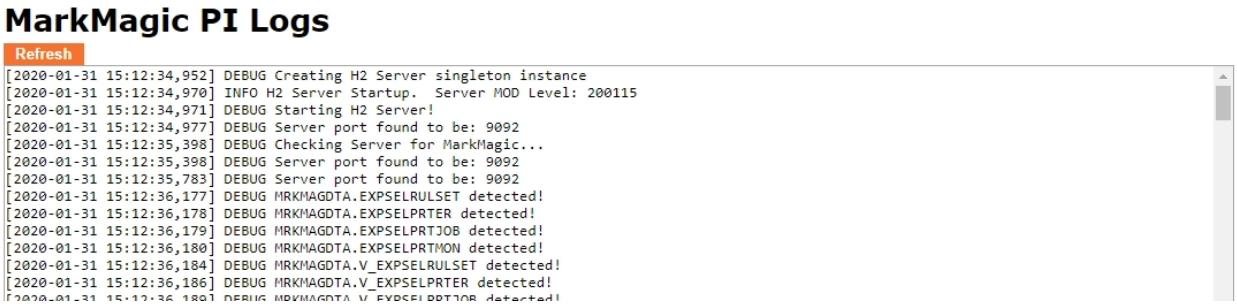
To return back to the Troubleshooting Details screen, click the **Return** button.

View Logs

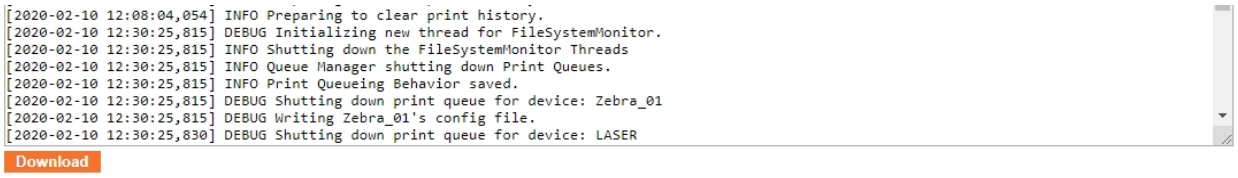
The View Logs screen displays the entire contents of the current MMPI.log file.



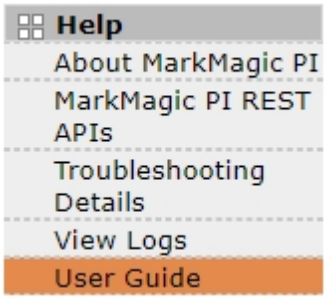
Depending on the log level and other logging parameters set via Configure Logging, there could be a lot of information displayed on this screen. Use the scroll bar on the right to view the full contents of the file.



The MMPI log file viewer does not automatically refresh. To see the most recent logs, click the **Refresh** button at the top. This will refresh the page and show the most recent logs towards the bottom of the viewer window.



To download the MMPI.log file and save it to your PC, click the **Download** button. Your browser will download the full MMPI log file with the current system date and time in the file name. This log file can then be sent to CYBRA Technical Support for troubleshooting purposes.

User Guide

Clicking the User Guide menu option will open a new browser page that takes you to the online version of the MMPI User Guide. It is hosted on www.cybra.com and will always be the most up to date version of the User Guide available for your version of MMPI.