



MarkMagic

USER GUIDE

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Welcome to MarkMagic

Welcome to MarkMagic Native System i and JMagic Help Documentation.

MarkMagic is a powerful tool for the design and printing of bar code labels, forms and other documents. Accessible through several interfaces including a Java client and System i native 5250, MarkMagic provides you the tools you need to create the bar code labels, forms, and other documents that drive your business.

In this manual, you will find

- Information about MarkMagic, how it can be used, what it provides you, and how the application is organized
- How to design, manage, integrate, and print your bar code labels, forms, and other documents
- Details about MarkMagic's advanced features

MarkMagic Editions

The MarkMagic product family is the easiest and fastest way to create bar code labels and RFID tags, realize the cost savings with electronic forms and integrate additional bar code technology into any System i application.

MarkMagic Bar Code Label Development Edition — Do you need to create bar code labels, care labels, and garment hang tags? Take advantage of MarkMagic support for more than 300 different printer types including most thermal tabletop and portable printers, HP PCL5 and IBM AFP/IPDS laser printers, and specialty printers such as plastic ID card and care label printers.

MarkMagic Forms Development Edition — With MarkMagic Forms, you can “map” to existing spooled report files to create electronic, plain paper laser forms. It's easy to relocate, rearrange, remove, and rotate spool file fields, mix different font types and sizes, change text fields to bar code fields, and reformat and edit spooled file data.

MarkMagic Enterprise Edition — With MarkMagic Enterprise Edition, you can modify supplied labels, create additional labels, tickets, and tags, AND save money on pre-printed forms with the included MarkMagic Forms Development License.

Other MarkMagic Products — MarkMagic “Print Only” Run Time Versions and MarkMagic Mirror Editions (useful for disaster recovery) round out the MarkMagic product family. All MarkMagic products are licensed by CPU and LPAR number.



Design with JMagic

All MarkMagic development editions feature our exclusive Java-based JMagic Label and Forms Designer that includes such features as:

Print Preview with Live System i Data — JMagic's Print Preview feature shows you what your printed label or form will actually look like -- with the variable fields filled with your actual spooled file or label file data.

Format "Templates" — This innovative new feature lets you trace fields on the screen. You can scan a sample label or form with a flatbed scanner, import the scanned image into JMagic, and trace each line, text, and bar code field to quickly and accurately create a new MarkMagic format.

Map All File Fields with One Mouse Click — When designing a form, all the fields in the file can be mapped and imported into the form with one click of the mouse.

MarkMagic Options

MarkMagic Options let you choose only the features you need. All-new MarkMagic Options include:

PDF File Creation — This new MarkMagic Option lets you produce Adobe Acrobat PDF files containing searchable text and scannable bar codes. You can send PDF documents as e-mail attachments. Great for reprinting and emailing copies of invoices, statements, and even labels.

RFID Printing — Need to comply with an EPC RFID mandate? The MarkMagic RFID Printing Option supports printing "smart" labels containing RFID tags for Monarch, IBM, Zebra, and Printronix RFID enabled thermal printers.

2D Bar Codes for Forms— This optional feature lets you combine UPS or FedEx shipping labels with pick tickets on the same document - great for direct mailers, catalog merchants, and e-commerce web sites. The MarkMagic 2D Bar Codes for Forms Option includes laser printer support for Data Matrix, MaxiCode (UPS), and PDF 417 2D bar codes.

FormWeaver — FormWeaver enables printing of documents that combine multiple formats. FormWeaver can merge two or more formats on one page, such as a bill of lading form with a shipping label in the lower left hand corner. FormWeaver can also place different formats on different sides of a page, such as a printed invoice that contains a duplexed back page with special instructions.

Print Monitor — This powerful MarkMagic option watches output queues for spool files, and watches physical files for added records. Files that meet user-defined criteria can be automatically printed. Print Monitor is ideal if you have no source code available, or you don't have the resources to change source programs. Print Monitor lets you take advantage of all MarkMagic printing features without the need for any programming.

What is MarkMagic

What is MarkMagic?

Nobody knows more about System i bar code printing than CYBRA. To print bar code labels on virtually any printer, you need a software package without compromises. Whichever printer you choose -- from a high volume thermal print and apply machine to a low volume desktop laser -- MarkMagic supports it. If you need to print labels or RFID tags, MarkMagic is the right tool to get the job done.

What MarkMagic does?

Typical MarkMagic uses include any business application (quality control, compliance marking, labor tracking, work in process, etc.) which requires bar code label, RFID tag, or plain paper form output. If your business requires merchandise marking labels, string tags, bin and location labels for inventory control, shipping labels, or pick tickets, MarkMagic will reduce the time required to integrate bar code, printing and RFID encoding into your business systems. If you need to replace preprinted invoices or purchase order forms, MarkMagic Forms can do the job quickly and easily.

Only MarkMagic gives you all these features in one easy-to-use package:

- All Bar Code types including PDF417 and UPS Maxicode 2D Bar Codes
- Supports RFID smart label printers
- Supports virtually any thermal printer or applicator
- Supports Hewlett-Packard (and compatible) PCL5 Laser printers
- Supports IBM (and compatible) AFP/IPDS laser and page printers
- Supports plastic card printers with magnetic stripe double encoding
- Complete connectivity including portable printers over RFDC Networks
- Drives cutters, stackers, applicators, rewinders
- Powerful application generator
- Foreign languages, international character sets
- Electronic customer support via Internet web site, and e-Mail.

MarkMagic not only makes it easy to print compliance labels, it is packed with a host of additional money saving features. Use MarkMagic to create overlays and eliminate pre-printed forms. Or, design and print plastic ID cards right from your human resources applications. With MarkMagic it is fast and easy.

Who should use MarkMagic?

MarkMagic is for anyone that needs to print bar code labels, RFID tags, and plain paper laser forms.

How to Use the MarkMagic Learning Resources

How to use the MarkMagic Learning Resources

MarkMagic features a number of learning resources to help you make the most of this powerful technology.

User Guide

This MarkMagic user guide is designed to provide you detailed information about MarkMagic features, how to utilize the different interfaces, and advanced programming techniques.

This user guide is provided in a number of formats to help you easily locate the information that best meets your needs:

- Adobe PDF format — this document is available as an Adobe Acrobat version of the User Guide.
- JavaHelp — integrated with JMagic will help you navigate the features and functions of the client designer
- WebHelp — the WebHelp located on www.cybra.com provides the most up-to-date documentation on all of MarkMagic's features

Tutorials


The MarkMagic Tutorials provide step by step instructions on a variety of topics providing detailed information on features of MarkMagic using the Native System i and JMagic Interfaces.

- Mark Magic Basic Concepts
- Intermediate Concepts Database
- Intermediate Concepts Spoolfile
- Graphics
- FormWeaver
- Print Monitor
- PDF/Email/Fax

Manual Conventions

Each of the MarkMagic support documents utilizes the following conventions

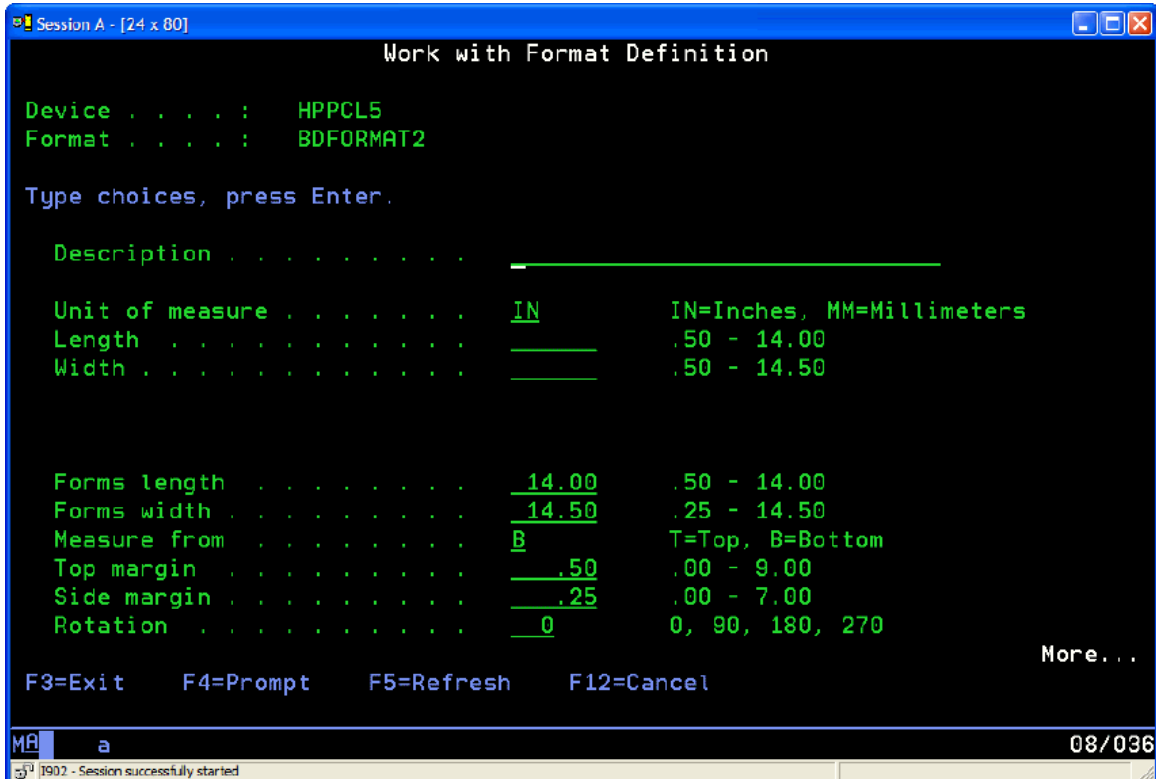
- **Bold Items**—bolded words represent actionable items (i.e., buttons, links, menu items)
- *Italic Items*—italicized items represent terms
- `Courier`—courier items represent code, programmers references, or 5250 command line statements
- Icons—through the manuals, icons will be used to identify where functionality can be found in the various interfaces. Icons include

-  — JMagic
-  — Visual Designer
-  — List View

-  — Quick Edit

Quick Reference

At the beginning of each section that explains a MarkMagic feature, there will be a layout (such as that below) providing a brief “how-to” access the feature. More detailed information is provided in a subsequent section.



Session A - [24 x 80]

Work with Format Definition

Device HPPCL5
Format BDFORMAT2

Type choices, press Enter.

Description	_____	
Unit of measure	IN	IN=Inches, MM=Millimeters
Length	_____	.50 - 14.00
Width	_____	.50 - 14.50
Forms length	14.00	.50 - 14.00
Forms width	14.50	.25 - 14.50
Measure from	B	T=Top, B=Bottom
Top margin50	.00 - 9.00
Side margin25	.00 - 7.00
Rotation	0	0, 90, 180, 270

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel


MA a 08/036

1902 - Session successfully started

How To:

- Type STRMRKMAG from the command line to open the 5250 Visual Designer
From the **format** menu, select **New**. This opens the **Work with Format Definition Screen**.

How To:

- Click the  **New Format Button** or select the **New Format Option** from the **File Menu**.
- To create a new format, you must define the following
 - Device—select a device from the drop-down menu
 - Name—create a name for the new format
- This opens the **Create a New Format Window**.

www.cybra.com

The CYBRA website contains the most up-to-date support information for MarkMagic as well as in-depth tutorials, white papers, and additional resources.

Features and Benefits

Features and Benefits

MarkMagic is packed with exciting, powerful features to help you accomplish all your label and form printing needs.

- [Compliance](#)
- [Design Features](#)
- [General Features](#)
- [New Installation features](#)
- [Output Types](#)
- [Programming Features](#)
- Supported Printers

Output Types

MarkMagic is a proven tool for the tough jobs of production volume label, form, and RFID tag printing. You can produce any type of business document required directly from your System i including

- 1D and 2D Bar Code Labels
 - UPC Labels
 - UCC-128 compliance labels
 - UPS shipping labels
 - OSHA Hazmat labels
- 1D and 2D Bar Code Tags and Tickets
 - Garment hang tags
 - Passenger tickets
 - Shop floor work orders
- RFID Smart Labels
 - RFID Carton labels
 - RFID Pallet labels
 - RFID patient and theme park wristbands
- Plain Paper Laser and MICR Forms
 - Checks

- Invoices
 - Statements
 - Bill of Lading forms
- Plastic Cards with Magnetic Stripes
 - Employee ID Cards
 - Club Membership Cards
 - Casino Player Cards

Compliance

MarkMagic helps you meet compliance marking specifications including:

- Accredited Standards Committee X12 (ASC X12)
- ANSI MH10.8M-1983 (Code 39, CODABAR, and Interleaved 2 of 5)
- ANSI-American National Standards Institute
- Automotive Industry Action Group (AIAG)
- Health Industry Bar Code Council (HIBCC)
- Industrial/Commercial (I/C EDI)
- International Air Transport Association (IATA)
- Produce Marketing Association (PMA)
- Uniform Code Council (UCC) UCC-128 Shipping Container Specification
- Uniform Commerce Standard (UCS) -
- Universal Product Code (UPC)
- Voluntary Interindustry Commerce Standard (VICS EDI)

MarkMagic also helps you meet compliance marking and carrier label specifications including:

- AIAG
- FedEx
- UPS

Printing Features

Printing Features

- [Optimized Print Performance](#)
- [Application Generator](#)
- [Print Analysis Diagnostic Tool](#)
- [Print Job Management with Audit Trails](#)
- [User Defined Key Fields](#)
- [Automatic Quantity Control](#)

Optimized Print Performance

MarkMagic always prints at top speed, maximizing your computer performance, printer imaging, and printing capabilities. Whether you need one label with just a few fields, or a complex label run with records selected to print from files with hundreds of different fields, MarkMagic ensures that your resources are used as efficiently as possible.

Application Generator

MarkMagic automatically builds a custom System i data entry screen for any format, optionally creates a pop-up query window for users to select records, and automatically collects data from different sources for printing. The MarkMagic Application Generator is perfect for ad hoc printing requirements where your users need to key in data or modify records. MarkMagic frees up your resources to let programmers work on more important projects.

Print Analysis Diagnostic Tool

Sometimes a job does not print as intended. The MarkMagic Print Analysis Report includes command parameters, data formatting, and other key information to help you tune your printing jobs for optimum performance.

Print Job Management with Audit Trails

MarkMagic Jobs make integrating bar code printing easy to implement, easy to integrate, easy to maintain, and easy to audit. Instead of passing a long list of parameters, you can call MarkMagic Jobs with one line of CL, or two lines of RPG.

User Defined Key Fields

MarkMagic gives customers the ability to select records for printing by up to five user-defined key fields — in addition to relative record number. This feature makes it easy for you to select labels by P.O. Number, Order Number or any combination of up to five fields that are important to you.

Automatic Quantity Control

MarkMagic can automatically print the correct quantity — without programming. If your order, for example, contains a field with the quantity needed of an item, or number of cartons to ship, MarkMagic 5 will read this quantity and print this number of labels — without programming.

Design Features

Design Features

- [Java 32-bit WYSIWYG Client](#)
- [Map All File Fields With One Mouse Click](#)

- [Trace Scanned Format “Template”](#)
- [Visual Designer](#)
- [Quick Edit Spreadsheet](#)
- [Character Based](#)
- [Point and Shoot Field Selection](#)
- [Unlimited Field Linking](#)

Point and Shoot Field Selection

Using the OS/400 standard F4 (Prompt) key to select a database field definition is the easiest and fastest way to define variable fields. No need to search through data base printouts or documentation to find the fields you need. Any database field on an System i system can be defined in a MarkMagic format, and printed with MarkMagic, regardless of what application created the database records.

Unlimited Field Linking

MarkMagic reduces format design time with its unique linking feature. Linked fields can be composed of portions of different fields and can merge information from multiple bar code, data, or text fields. Linked Fields let you:

- print variable data repeated in multiple fields
- edit variable data for improved readability
- add a text field (edited) to provide human readable information for any bar code field
- create edited bar code and text fields from portions of fields
- combine dozens of fields for large 2D bar code fields.

Native iSeries



Visual Designer

When no PC is available, you can use the MarkMagic Visual Designer interface to design formats by moving the cursor along Row and Column coordinates in a near-WYSIWYG visual interface. Visual Designer interface turns the screen of any System i terminal into a design canvas. Using the cursor to locate positions on the format, and function keys (or action bar selections); operations are performed to create, move, duplicate, delete, and change the format fields.



Quick Edit Spreadsheet

Quick Edit gives you the ability to rapidly modify field coordinates and values as easily as changing the cells in a PC spreadsheet. — but without the need for a PC. The MarkMagic Quick Edit interface allows “heads down” changes, adds, deletes and copies of format fields. Quick Edit also includes a full screen feature for advanced users.



Character Based

You may wish to do your initial design work in JMagic or Visual Designer and then toggle into “precision mode” — List View or Quick Edit for fast modifications of field coordinates and values. MarkMagic List View gives you the ability to create, and modify fields using OS/400 standard menus and lists. List View also includes a full screen feature for advanced users.

JMagic



Java 32-bit WYSIWYG Client

MarkMagic 5 includes the JMagic Client that lets you design bar code labels and forms on any PC with a connection to an System i, even over the Internet. JMagic features drag and drop field placement, print preview with live System i data, and other powerful, exclusive features that let you design and print formats with a point and click of a mouse.



Map All File Fields With One Mouse Click

Redesigning an existing form in JMagic is as easy as clicking one button, and all fields are mapped. Selecting a data source is just as easy in the native System i interfaces. By pressing one function key, every field in a database file can be imported into a label format.



Trace Scanned Format "Template"

If you are beginning a compliance program with a new trading partner you can scan a sample label with a flatbed scanner, import the scanned format into JMagic, and trace each line, text, and bar code field to quickly and accurately create a new MarkMagic 5 format. You'll know exactly where to place fields on the label.

General Features

General Features

- [Standard 1D Bar Code Types](#)
- [2D Bar Code Thermal Support](#)

- [2D Bar Code Laser Support](#)
- [Universal Graphics](#)
- [Variable Graphics](#)
- [Run Multiple Versions of the Software](#)
- [User Libraries](#)
- [Copy Formats Between Printer Types](#)
- [Emulated Printer Types](#)
- [Wireless Network Support](#)
- [Multinational Support](#)

Standard 1D Bar Code Types

MarkMagic includes support for the following 1D bar codes:

- AIAG
- Codabar (NW7)
- Code 11
- Code 128 Subset A
- Code 128 Subset B
- Code 128 Subset C
- Code 39, Code 39 (full ASCII)
- Code 93, Extended 93
- EAN Extension
- EAN-13, EAN-13 + 2, EAN-13 + 5
- EAN-8, EAN-8 + 2, EAN-8 + 5
- Extended 3 of 9
- FIM
- German Postcode
- HIBC
- Industrial 2 of 5
- Interleaved 2 of 5
- Interleaved 2/5 with Barrier
- JAN-13, JAN-13 + 2, JAN-13 + 5
- JAN-8, JAN-8 + 2, JAN-8 + 5
- LOGMARS
- MSI
- Plessey
- Postnet
- RSS
- Standard 2 of 5
- Telepen, Telepen numeric
- UCC 128, UCC/EAN

- UPC-A, UPC-A + 2, UPC-A + 5
- UPC-E, UPC-E + 2, UPC-E + 5

2D Bar Code Thermal Support

MarkMagic includes thermal printer support for the following 2D bar codes:

- Code 16K
- Code 49
- Data Matrix
- MaxiCode (UPS)
- PDF 417

2D Bar Code Laser Support

This optional feature lets you combine UPS or FedEx shipping labels with pick tickets on the same document — great for direct mailers, catalog merchants, and e-commerce web sites.

MarkMagic 5 includes laser printer support for the following 2D bar codes:

- Data Matrix
- MaxiCode (UPS)
- PDF 417

Universal Graphics

Since MarkMagic supports more than 250 device types, a graphic field defined for a specific printer's graphic description language may not print on another printer. Until now. You can mix and match printer types to meet your product requirements without maintaining libraries of graphics for different printers.

MarkMagic lets you load graphics in industry standard GIF or JPEG format and converts them to the target graphic type automatically, without the need for preconverting graphics for specific bar code printer types.

Variable Graphics

In this new feature, static and variable graphics can be accessed by a variable number, or an alphanumeric look up field.

This is ideal for an apparel / footwear company or any consumer goods manufacturer who wishes to automatically print a graphic associated with an SKU or style.

Run Multiple Versions of the Software

MarkMagic is designed for real-world IT requirements for testing and production. You do not need a separate system to develop and test, MarkMagic versions can run in parallel on the same system. MarkMagic provides the ability to run multiple versions of MarkMagic on the same system at the same time.

User Libraries

The MarkMagic User Libraries feature lets users organize labels and forms by department, or customer, or application.

If you have multiple groups of users responsible for different applications, it is advantageous to organize formats, jobs, label files, and graphic images by User Library for the following reasons:

1. It will be easier for multiple MarkMagic users to find and work with the formats they are responsible for maintaining.
2. Security is improved by the ability to grant different authorities to different User libraries.
3. Customers supporting multiple sites (and software vendors supporting their customers) can distribute User libraries of customized objects without needing to redistribute the entire MarkMagic product library.
4. Application Software Vendor customers can modify labels without damaging the software vendor's base libraries.

Copy Formats Between Printer Types

Most companies have a mixture of different printers. It makes good business sense to match the right printer with the job. No matter what printers you use in your operation, you design a format just once. No need to design a label from scratch for each different printer you use.

After designing a label or form for one of the 250 supported printer types, you can copy the format to any other printer type.

Emulated Printer Types

With a mixture of different printers, it can be difficult to keep track of which model is at which location. With this feature, there's no need to program for different models. This keeps your programming for printing simple as can be.

After designing a label or form for one printer model, you can print the format to any of the same manufacturer's printer models.

Wireless Network Support

In addition to supporting any device connection native to the System i, MarkMagic includes support for 802.11 WiFi standard wireless systems and proprietary spread spectrum and narrow band Radio Frequency Data Collection Systems from LXE, Symbol, and Teklogix.

So, no matter what wireless system you are using in your warehouse, you can use MarkMagic to print bar code labels and tags at the point of application.

Multinational Support

MarkMagic has three multilingual capabilities — user interface, message members, and character sets. The preferred interface language can be selected on a system-wide

basis, on a user basis, or each time MarkMagic is started. Each user on the system can work in their language of preference. MarkMagic 5 also lets you retrieve values for constant fields from message members.

MarkMagic gives you all the flexibility multinational corporations need. Use message members if you need to support multiple languages – in a single label run! Ship to Mexico, Canada and Europe without changing labels. In addition, printed characters needn't be in the same language as the interface language of MarkMagic — you can work in English, or French, yet print in any of these supported character sets:

- U.S. English
- U.K. English
- French
- French Canadian
- Spanish
- Swedish

Programming Features

Programming Features

- [Master Format](#)
- [One Line Application Integration](#)
- [Automatic Generation of Files and DDS](#)
- [Variable Fields Per Format](#)
- [User Defined Printer Control Characters](#)
- [Data Sources](#)
- [Programming Examples](#)

Master Format

Master Formats are ideal for customers and software developers that need to maintain many different formats for different printer types. For example, if you need to add a new field, you only need to add the field in the Master Format and the new field is available in all dependent formats. In addition, you only need to program for one interface no matter how many printer types and different formats are needed by your application.

Using this feature, similar formats can be grouped together and represented by a single “master” format. An addition to the master is automatically reflected in all dependent formats.

One Line Application Integration

MarkMagic Jobs make integrating bar code printing easy to implement, and easy to integrate. MarkMagic Jobs can be called with one line of CL, or two lines of RPG.

Using Jobs, Print Monitor, and Print Rules, no programming knowledge is required to achieve professional results.

Automatic Generation of Files and DDS

MarkMagic automatically creates file descriptions for physical files and display files. your data dictionary contains hundreds of fields, this feature will save time and money.

Variable Fields Per Format

Unlike other solutions, with as few as 99 variable fields in a format, MarkMagic is designed to work with formats having hundreds of possible fields. You'll feel secure knowing that you'll never run out of capacity with over 1,000 variables per format in MarkMagic.

User Defined Printer Control Characters

Instead of being "hard coded" in a giant monolith program, MarkMagic includes a modular device table where printer capabilities and settings can be updated and changed by you.

You can add new printer models and features without applying a Service Pack or downloading a new version. You can add a newer, faster printer model, and be up and running in minutes saving precious production time.

Data Sources

You can choose from among four different methods for passing variable application data:

- Physical and Logical Database Files
- Spooled Output Files
- Data Structure
- Data Queue

This gives you a full palette of tools, providing ultimate flexibility to fulfill your application needs. Choose the integration method that best fits your application requirements.

Programming Examples

If you choose to program and integrate MarkMagic with your application, you can copy and paste working source that is included free with MarkMagic. The source code examples cover virtually all real world requirements. Choose the one or ones that fit your needs best.

Getting Started

IMPORTANT INFORMATION FOR 4.1 AND OLDER 5.1 USERS

(PLEASE READ BEFORE UPGRADING TO MARKMAGIC)

Users upgrading from version 4.1 must upgrade to version 6.1 or 6.5 Mod Level 081219 before upgrading to Version 7 or higher. MarkMagic does not co-exist with version 4.1. Please see MarkMagic 6 install guide for details.

Users upgrading from version 5.1 mod level 051121 or earlier, to version 7 or higher **must** upgrade to version 5.1 mod level 060310 first.

Users upgrading from version 6.0 to version 7 or higher **must** upgrade to version 6.1 mod level 081219 first.

Note: The MarkMagic upgrade procedure will automatically cancel if the user attempts to upgrade from 4.1, a 5.1 mod level prior to Mod level 060310, or 6.0. Please see MarkMagic 5 or MarkMagic 6 install guide for more details.

Installation / Upgrade Roadmaps

To find your System i OS version enter the following command: **DSPPTF**

To determine your current MarkMagic version and mod level (if MarkMagic is currently installed), start MarkMagic (**STRMRKMAG**), press F9 for a command line, and type the following command: **SETMMPRM**

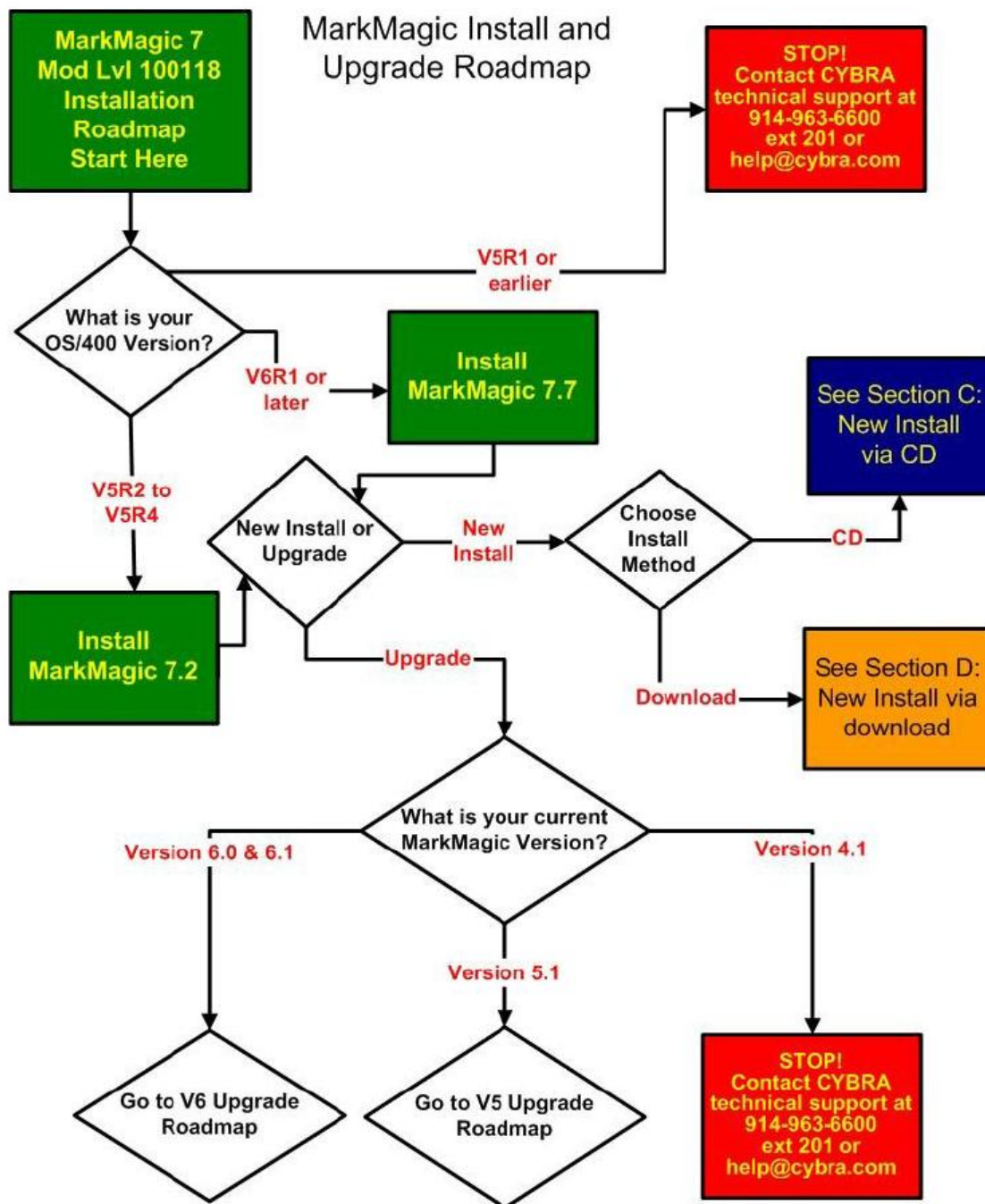
IBM's latest operating system "V6R1M0" requires MarkMagic to be split into two versions compiled to different OS versions. MarkMagic.2 and MarkMagic.7 contain identical fixes and updates.

1. MarkMagic.7 mod level 100118 is compatible with IBM's System i OS V6R1M0. If you are running an older MarkMagic version and plan to upgrade to OS V6R1M0, an upgrade to MarkMagic.7 is required. MarkMagic.7 will not run on an OS release prior to V6R1M0.
2. MarkMagic.2 mod level 100118 is compatible with System i OS releases prior to V6R1M0. MarkMagic version 7.2 is not compatible with System i OS release V6R1M0.
3. Both MarkMagic versions (7.2 and 7.7) are shipped on the MarkMagic Product CD. The install/upgrade program detects your OS version and automatically installs the compatible MarkMagic version. If you are downloading MarkMagic from the web, be sure to download the correct version for your OS version and mod level.

4. JMagic version 7 mod level 100118 is compatible with both MarkMagic.2 mod level 100118 and MarkMagic.7 mod level 100118.

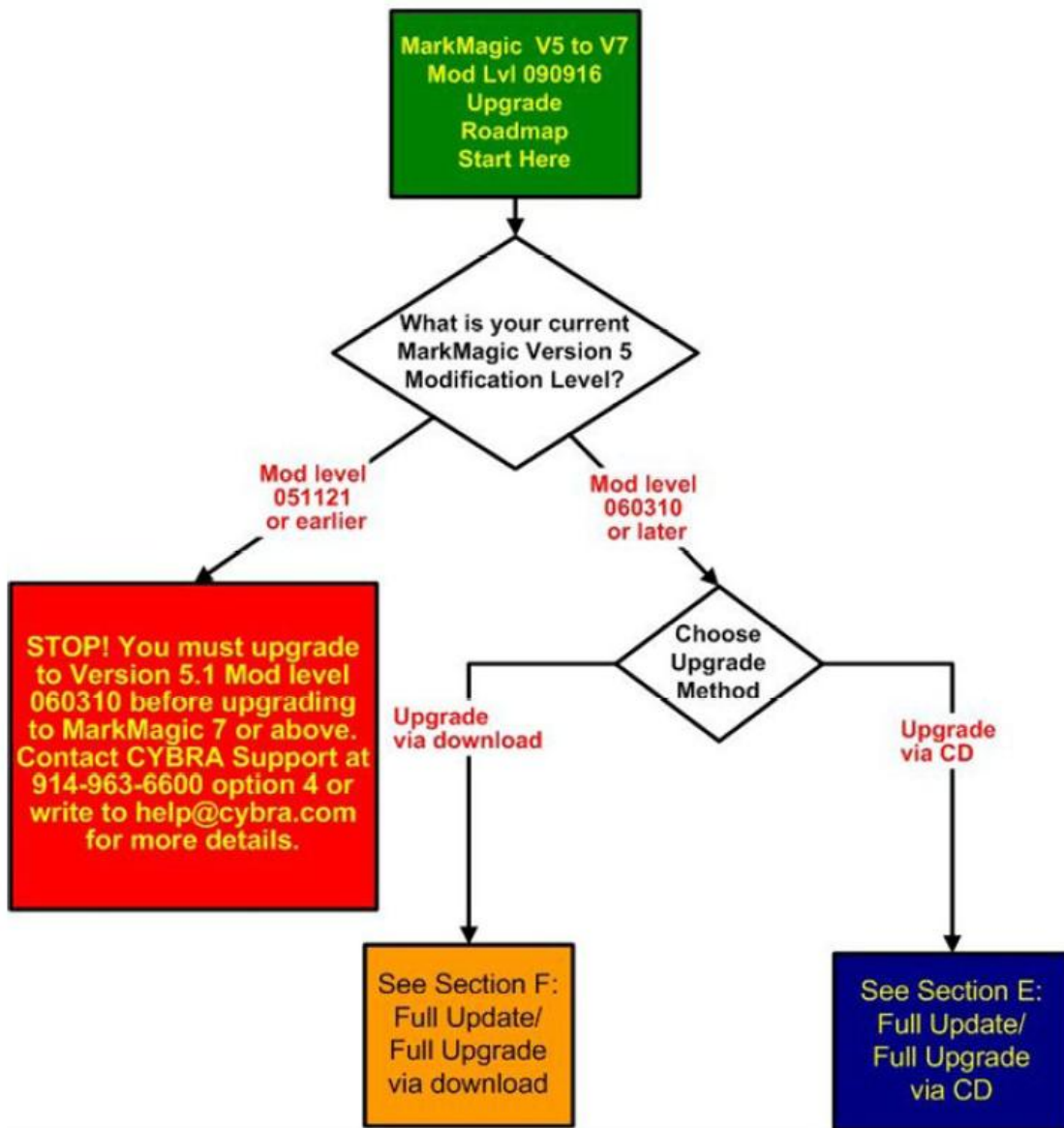
NOTE: If multiple versions of MarkMagic are installed on your system, please see *Upgrade Notes* in section E or F for important details.

1. INSTALLATION / UPGRADE ROADMAP START

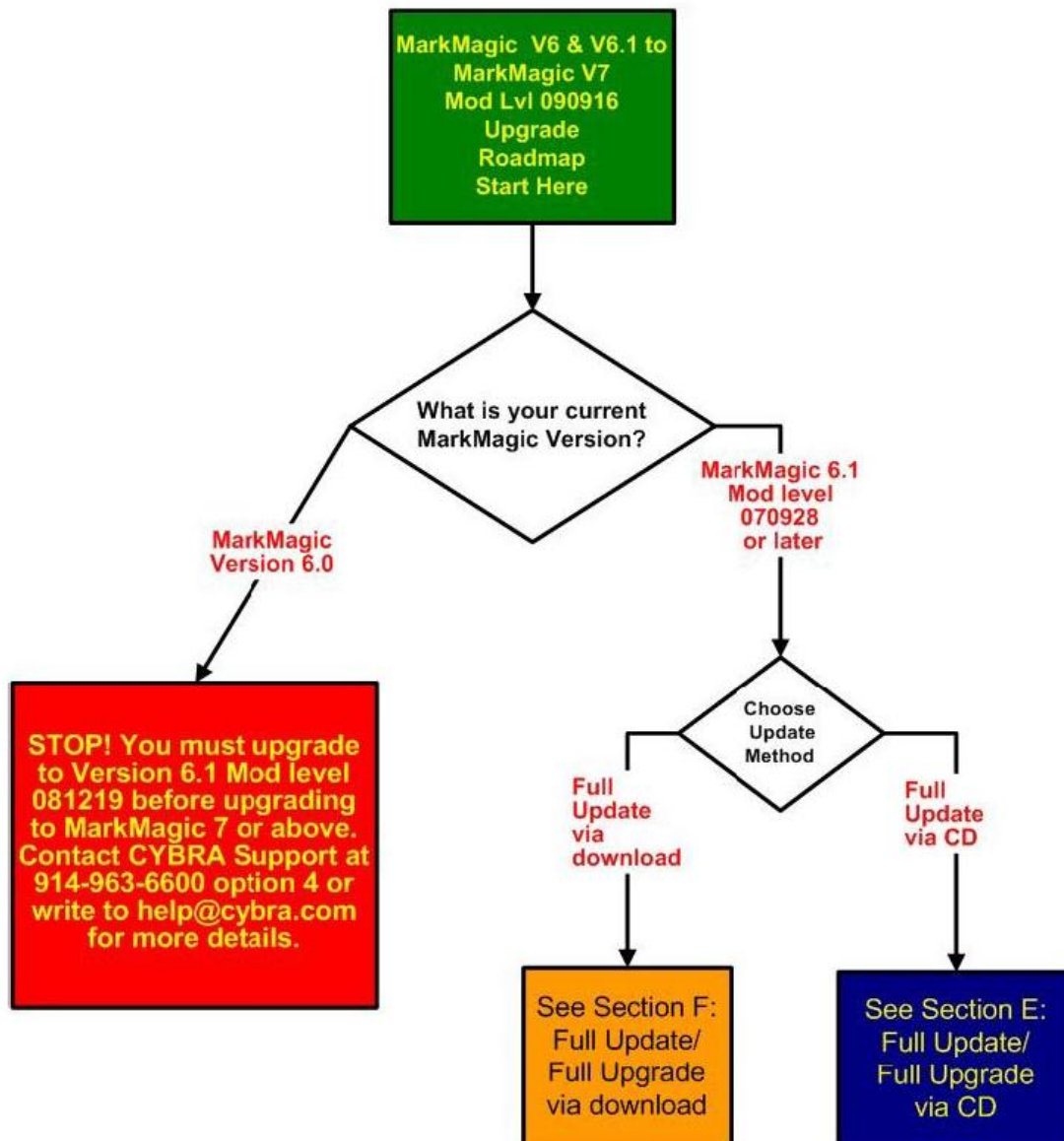


Roadmaps

Version 5 Upgrade Roadmap



Version 6 Upgrade Roadmap



Introduction

Introduction

Enclosed is the latest modification level of CYBRA's MarkMagic Bar Code Labels, RFID Tags, and Electronic Forms Software for the IBM System i featuring our JMagic Client — the world's only WYSIWYG label and forms designer written in Java.

MarkMagic installation comes in a variety of flavors. The traditional CD based installation is still available. In addition, you have the alternative of downloading MarkMagic from the CYBRA website.

Installation Terms

Install — An Install is a new installation of MarkMagic. We offer two methods of installing MarkMagic, via CD or via download.

Upgrade — An Upgrade is a move from version to version; for example, if you are an existing customer on MarkMagic Version 5.1 or 6.1 and you wish to install MarkMagic. We offer two methods of upgrading, via CD or via download.

Update — An Update is a move from one mod level to a later modification level of MarkMagic (Example: updating/replacing 7.0 Mod Level 090804 with 7.1 Mod Level 090916). We offer three methods of updating modification levels: full update via CD, full update via download, or quick update via download. Note: No quick update is available for version 7 at this time.

Fixes — Fixes are single updates to individual program objects and are not applicable to all customers. All fixes distributed since a Mod Lvl release will be incorporated into the next Mod Lvl release. Visit <http://www.cybra.com/support/markmagic-updates.html> to see if any applicable fixes have been released for your modification level and printer device types.

You must be at OS/400 V5R2M0 or later to download and install MarkMagic from the web. If using OS/400 V5R1 or earlier, please contact help@cybra.com. To download MarkMagic, visit <http://www.cybra.com/register.html>

If installing from CD, the CD contains installation programs for both MarkMagic (the System i product), and JMagic (the WYSIWYG client for the PC). Both MarkMagic versions (7.1 and 7.6), are shipped on the MarkMagic Product CD.

What's new in MarkMagic

Enhancements in MarkMagic

- **(New) FormComposer support** added to MarkMagic Enterprise. FormComposer is a full-featured report writer with an intuitive interface which enables all kinds of reports containing headers and repeating detail lines, lookup fields from any number of associated files (included spool files), overflow handling, calculated fields, and special functions. New “Text Block” support is also part of the FormsComposer feature set.
- **(New) Text Block Field Type**. MarkMagic Enterprise introduces a new field type “Text Block”. This new field makes it easy to add paragraphs of legal information to forms or a long list of ingredients to labels. Auto-formatting helps take the guess work out of column, font, and line offset changes. Font type, *style*, and point size can be changed within the block of text.
- **(New) PrintTransformer Add-On Option**: This “rules based” option includes all the format level rule features of PrintManager and a new set of field level rules. (Please see Section 5 for more details on this powerful option)

- **(New) More Field Usage Definitions**: Any variable field can have a “usage” defined as part of the field. Version 7 or higher expands USAGE beyond the RFID fields to FormComposer fields. See FormsComposer for more information.
- **(New) Native PCL5 MICR** support for laser checks. MarkMagic will download the special MICR (Magnetic Ink Character Recognition) font to your printer memory turning any PCL5-compatible laser printer into a check printer.
- **(New) MRKMAG70 library**. One of the reasons MarkMagic can coexist with older MarkMagic versions is because a unique name is given to the core MarkMagic library for each new version. *Note*: MarkMagic version 4.1 and older use: MRKMAG. MarkMagic 5 uses MRKMAG50 and MarkMagic 6 uses MRKMAG60.
- **(New) *PDFZ Emulated Device type**. Now your MarkMagic PDF files can be automatically “zipped” on the System i before being emailed and saved/archived to the IFS.
- **(New) MarkMagic Authorization Scheme**. Please contact your account manager for a new code when upgrading from 5.1, 6.1, or 7.0.
- **(New) Zebra to PDF Conversion** – MarkMagic Zebra (zpl) formats can now be created as an Adobe PDF with the same look and feel as the original printed label. Run a batch of Zebra labels and send the PDF files to your distant suppliers or remote facilities.
- **Updated MarkMagic 5250 Help access via the Web**. Pressing “F1” will display our detailed web documentation in your default browser.
- **Admin Enhancements:**
 - Export Print Manager RuleSets & PrintMonitor Monitors to either a **SAVF** or **PCFILE**. Quickly move RuleSets and Monitors from a development system to production.
 - **(New)** License Key Visibility provides dynamic code expiration and validation information. Countdown displays days remaining for keys to expire and restores permanent license keys (Runtime print only, for example) when temporary license keys expire. MarkMagic Admin menu option displays current MarkMagic temporary and permanent keys on the system.

What's new in JMagic

Enhancements in JMagic

- **(New) PrintTransformer Add-On Option GUI**: This “rules based” option GUI allows users to define extremely complex print, fax, and email jobs with no programming. New in MarkMagic is the ability to define rules at the field level. Text, Bar Code, Line, Box, Graphic, Text Block and RFID field attributes can be defined to conditionally print based on variable data or environmental variables. (Please see Section 5 for more details on this powerful option)
- **(New) Improved Editing** Bar Code, Text, and Graphic fields can be easily resized on the WYSIWYG canvas by pressing +/- on the keyboard or by dragging the field's handles in order to resize the fields directly on the canvas. Resized graphics will have a new graphic converted to the new scale when the format is saved.
- **(New) “Save As” saving option**. Ability to save changes without affecting the original format.
- **(New) Upload a batch** of graphics and convert to a target printer type.
- **(New) Saved Connections** The last 5 connections will be saved in the JMagic start-up window. Ideal for power users accessing multiple partitions and systems.
- **(New) Spool line/column added** to quick edit panel. Fast way to display and edit your spool field mappings.
- **(New) Canvas auto-scrolls** when dragging fields.
- **(New) Double click** from JMagic format chooser will open the format.
- **(New) "Work with Graphics" interface**. This new interface more closely resembles the interface within MarkMagic for handling of graphics. Along with this now comes the ability to delete and rename source and target graphics all within JMagic.
- **(New)** Right Click a field in the list or on the canvas to display a quick access menu to copy, delete, edit, etc. Available values shown depend on the field type selected. Font, style, color, spool line/column, can be changed via right click. Changing attributes of grouped similar fields is also available.
- **(New)** "Save As" option allows saving the currently opened format under a new name.

Enhancements and Fixes In Mod Lvl 100118

Enhancements in MarkMagic.2/ 7.7 100118

- Variable graphic support added to the Avery Dennison EP print driver family.

- Support added to AFPDSFX print driver (IPDS) to allow closer edge bar code printing in all rotations.
- New notification message and rename option when editing or deleting a Text Block. Helps mitigate global changes that may affect other formats using the same Text Block.
- Sequence Fields *SEQ: MarkMagic user library no longer required on the library list when using sequence fields.
- Graphic Conversion: When converting graphics with the *REPLACE option, the original graphic will only be replaced if the new conversion produces a valid image. Graphic field description is now saved with target graphic conversion.
- Added current job number to Laser 2D PrintServer data queue time stamp.
- FormComposer: Added from/to record support to ensure complete data set printing. Overflow “repeating fields” no longer replace data on subsequent pages.
- In addition to MICR font #50 (300 dpi) a new PCL5 MICR font #65 has been added which is set to 600dpi.

Issues fixed in MarkMagic.2 / 7.7 100118

- MarkMagic no longer allows a field being used as a source field to be deleted. The field must be removed from the *LINK field definition before deletion
- Text Block Updates: Positioning of rotated text blocks. Multiple text block fields on one format no longer use the number of rows defined in the first text block. When using Conditions to optionally turn off a text block, the entire text block is dynamically omitted from the format, not just the first line.
- Format caching issued resolved where subsequent prints could render the *SEQ field data as invalid.
- When in List View the format copy option will include PrintTransformer Conditions in the copied format.
- PRTLBLE command prompt display for the Emulated Device parameter no longer errors if not using *ALL in the SETMMPRM printer device types setting.
- Updated Graphic Gallery "position to" option to follow same logic as source graphics positioning.
- Resolved issue where multiple variable PCL images caused subsequent print runs with same image to be corrupt.

Enhancements in JMagic and Options Mod 100118

- Performance when using Rules, Conditions and PDF Emailing has been improved by as much as 70%.

- Enhancements were made to resizing text blocks when using the mouse handles. Font size is automatically adjusted so the rows of data will fit within a resized text block.
- Ability to copy formats across device types, formally a MarkMagic only capability has been added to JMagic.
- Adding and modifying actions that toggle on / off fields via Conditions has been made simpler.
- Text block font style and point sizes now appear properly when printed to PDF.
- A warning message is now displayed when a user attempts to delete a field that is being used within a Rule Set or a Condition.
- Ability to change text block font / point size / style has now been implemented in the HPLJ4P and HPPCL5 printer types.
- Standard paper size options have been added to a menu on the “Create Format” dialog screen. This makes it easier to quickly create new formats using standard sizes.
- Improved the GUI interface when working with tests in a Rule Set.
- Text blocks can now be affected by Conditions.
- Conditions can now be applied to boxes and line fields to change their colors.
- Added the ability to specify more than one “Recipient” value in a Rule Set option. The rules engine will properly fill out the RECIPIENT parameter with all email addresses listed in the option, not just the last one.
- Native AS400 graphic converter now better handles corrupt source JPG and GIF image. It will no longer load them and attempt to convert target images with them.
- JMagic will also not allow corrupt source GIF and JPG images to be loaded into the gallery. JMagic will report “0” Images Loaded.
- After uploading and converting an image using JMagic, the actual source JPG or GIF file on the PC will no longer be locked. This was causing “file in use” errors when users went to modify the JPG or GIF in an editor and attempted to resave the image on their PC.
- All processes that utilize native AS400 java have been changed to use a new logging method. New log files are available in the cybrajavaclasses7 folder on the IFS. Also, users can customize settings for this new logging feature via the new logsettings.properties file.

- Various enhancements have been made to the MarkMagic native and windows based 2D barcode printserver. Included are logging updates that allow the user to better monitor the performance of the print server. See logsettings.properties file in PC Server directory for details and editing of default values.
- Text Block style and font formatting is removed and a warning message is displayed, now, when the user changes the “number of characters per row” value of the text block.
- JMagic database fields selection updates include: ability to edit library, file, and field attributes (helpful when using FormComposer) and field “alias” is no longer used as field name.
- GUI performance has been maximized for Dependant formats based off large *MASTER format.
- JM default list view sort now mirrors MarkMagic list view sort.

Issues fixed in JMagic and Options Mod 100118

- Repeating data gathered via FormComposer is now usable within PrintTransformer tests and actions.
- Text block position on the canvas has been corrected. Previously, the text block data was showing higher on the JMagic canvas than it would actually print.
- Fixed a problem where the text block name would print instead of the actual text block data when printing to PDF.
- WRKMMEMML test connection no longer crashes the java virtual machine if your email profile has an incorrect password.
- Corrected an issue that would cause color PCL images to print with a black line on the edge.
- Formats with multiple text blocks now behave correctly when printed to PDF.
- The converter no longer trims off the immediate right side of a target graphic when converting.
- The “Skip” Option in the RuleSet will now skip over only the individual PRTLBLE commands (if bursting) that fail, not the entire set of bursts.
- The “Add Burst Key” dialog box will no longer lock up when the format attached to the Rule does not contain any variable fields.
- RuleSet “bursting” now works properly if, at any point in the rules processing, the burst key contains blanks.

- Corrected visual problems that occurred when “mouse resizing” courier or gothic font text fields. Users are no longer able to resize the fields larger than allowed by MarkMagic.
- Fixed multiple WYSIWYG issues when using zoom levels different than 100%: Outline Font scaling / resizing and Text Block appearance.
- PrintTransformer Rules now correctly utilize PRTLBLF batch control fields when variable data is from a spool file.
- JMagic format save issue resolved where a combination of field changes and then canceling out of a field edit caused some fields to not be saved correctly.

MarkMagic Add-on Options

PrintTransformer (New) Add-On Option (formerly called PrintManager)

New MarkMagic PrintTransformer is the conditional printing tool you have been asking for. This new option lets you print fields based on user defined conditions such as printing negative values in red, or hiding a box field if a carrier class of service does not require a box field to print. MarkMagic Print Transformer makes it easy to define rules at the field level. Text, Bar Code, Line, Box, Graphic, Text Block and RFID field attributes can be defined to conditionally print based on variable data or job attributes. This new rule-based option gives you the ability to redirect and modify in-process print jobs without programming. Spool files that meet user-defined criteria are manipulated and printed according to user determined rules. This eliminates programming for virtually all complex forms printing applications. Using intelligent print routing, spool files can be separated and sent to different printers and e-mail addresses based on the data in the spool file. In addition, label file records can cause several labels to be printed on different printers based on the information in the label file. The JMagic PrintTransformer GUI makes defining even the most complex rule easy. *Note: This option requires V5R2M0 or higher of OS/400, PASE & JAVA v1.4.2*

On Demand (New) Add-On Option

MarkMagic On Demand creates a web based portal that allows your customers to securely sign on (using a userid and password) and search for and display, print or e-mail their invoices, statements, purchase orders, or other MarkMagic Forms. MarkMagic On Demand lets your customers download the forms they need, when they need them.

Print Monitor Add-On Option

Print Monitor eliminates programming for automatic MarkMagic printing. New spooled files added to a queue or a record added to a database file will trigger a MarkMagic Job to print labels or forms.

PDF Email and Fax Add-On Option

Can produce Adobe Acrobat PDF files containing searchable text and readable bar codes. PDF documents can be sent as e-mail attachments. *Note: This option requires V5R2M0 or higher of OS/400, PASE & JAVA v1.4.2*

***FAX:** Any format designed using the MarkMagic HPPCL5, HPLJ4P, or AFPDS printer device types can now be faxed directly from the System i. This option requires IBM Facsimile Support for System i (licensed program: 5798FAX) to be installed and functional with a fax profile that has enhanced services enabled. To use the Fax capability, either the SNDMMFAX or PRTLBLF command can be used. (Note: in order to take advantage of MarkMagic's automatic PCL graphic conversion to AFPDS the user must be enrolled in the system directory (WRKDIRE), the source image must in the MarkMagic graphics gallery, and licensed program: 5722AF1, IBM AFP Utilities must be enabled.*

Laser Printer 2D Bar Code Add-On Option

Select this option if you need to print UPS Maxicode, PDF417 or DataMatrix 2D bar codes on HP PCL Laser or IBM AFP or IPDS laser printers.

RFID Add-On Option

MarkMagic supports encoding "smart" labels containing RFID tags for these seven popular thermal printer types: Monarch, Zebra, Printronix, Intermec, Sato, Datamax, and Avery Dennison. Included is support for both Class 1 and Class 0+ EPC standards as well as the more prominent Class 1, Generation 2, EPC protocol from tag manufactures. MarkMagic RFID Option also supports the complex logic regarding decimal to binary to hex data conversion, so you don't have to. Just pass your System i decimal data and the RFID option will do the rest. Tag password lock/unlock and user defined data can also be defined.

FormWeaver Add-On Option

The FormWeaver option enables printing of documents that merge up to 100 formats. An example of merged formats would be a pick ticket or invoice form with a shipping label in the lower left hand corner. FormWeaver Documents can also consist of two or more different formats, each on a separate page, for each input record. An example of multiple formats per input record would be a printed bill of lading that contains a duplexed back page with special instructions.

Version History

A complete list of MarkMagic & JMagic enhancements and updates can be found at:
<http://www.cybra.com/support/version-history.html>

License Information

The MarkMagic licensing scheme requires that we know your processor group, in addition to the CPU model and serial number. Also we need to know whether MarkMagic will be run in more than one logical partition (LPAR).

Note: A new MarkMagic.1 or 7.6 license code is required for all MarkMagic version 5.1, 6.1, 6.5, 7.0 and 7.5 upgrades.

The following command will display your Processor Group: **WRKLCINF** (Work with License Information) Please include the following information in your MarkMagic product key requests:

CPU Model 3 Character value
 Processor Group P05, P10, P20, P30, P40,P50
 CPU Serial # 7 Character value
 LPAR# 000 through 999 (unlimited)

You will not be able to access your LPAR number if you do not have a previous version of MarkMagic on your system. If this is the case, please let your sales representative know. We will issue you a temporary code with a default LPAR#. After you install MarkMagic you can access your LPAR# with the following command:

MRKMAG70/SETMMPRM

CD Instructions - New Installation

Installation

Sign on to a new session as **QSECOFR** and confirm both **QTEMP** and **QGPL** are on your library list.

Insert the CD into the drive, and enter the following on an AS/400 command line:

LODRUN ddddddd (where ddddddd is the optical device name).

Once the **LODRUN** command is executed, the install procedure automatically confirms your OS release, copies the compatible 7.1 or 7.6 libraries from the CD to **QTEMP** and the MarkMagic install program will start running. The first screen that is displayed is a message that you are installing MarkMagic, mod 090916. Enter **G** to continue or **C** to cancel.

MarkMagic will load automatically and prompt you at various points for information such as your product keys and device types. When the install is complete, you will be prompted to sign off and then sign back on. The entire installation of MarkMagic should take less than 30 minutes.

Towards the end of the installation process, you will see the Set MarkMagic Parameters Screen::

```

Set MarkMagic Parameters

Date: 9/27/09      CPU model type: 270      Version: 7.1
Time: 09:32:11    CPU serial num: 1060370   Mod lvl: 090916
                  Processor group: P05
                  Logical partitn: 000

Type choices, press Enter.

Printer device types . . . *ALL                F4 for list
_____
_____
_____
_____
_____
_____
_____

More...

F3=Exit  F5=Refresh  F8=Product Keys  F12=Cancel
    
```

Add any additional device types or *ALL to test with all available device types.

Press F8 to Set MarkMagic Product Keys (Call your Account Manager or CYBRA Sales at 914-963-6600 Option 3 for a MarkMagic rental key).

```

Set MarkMagic Product keys

Date: 9/27/09      CPU model type: 270      Version: 7.1
Time: 09:27:01    CPU serial num: 1060370   Mod lvl: 090916
                  Processor group: P05
                  Logical partitn: 000

Type choices, press Enter.

Product keys      Expiration      LPAR      Maximum      Maximum
                  (mm/dd/yy)
1. 2C012 169BE 700C0 71C01 12 / 31 / 09 0 999999 999999
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0

F3=Exit  F5=Refresh  F8=Work with license information  F12=Cancel
    
```


Default 45 day Runtime (Print Only) product key is enabled if no product key is entered.

The rental key you will be given will enable ALL MarkMagic features. Customers who receive permanent keys will require multiple product keys to activate the following MarkMagic optional features:

- Print Monitor Option
- PDF Fax & Email Option
- Laser Printer 2D Option
- RFID Printing Option
- FormWeaver Option
- PrintTransformer (PrintManager) Option
- On Demand Option

Once the installation is complete, please sign off your **QSECOFR** session to close and deallocate any open files. Sign back on and begin using MarkMagic.

Troubleshooting

Two MarkMagic Installation Logs are created upon completion of installation. The summary log contains MarkMagic installation comments, while the detail log also includes the full job log. The log's details are:

Spooled Filename: **MARKMAGIC** User data: **INSTALLLOG**

In addition, the detail log is written to the following database file:

Library: **QGPL** File: **MMINSLOG**

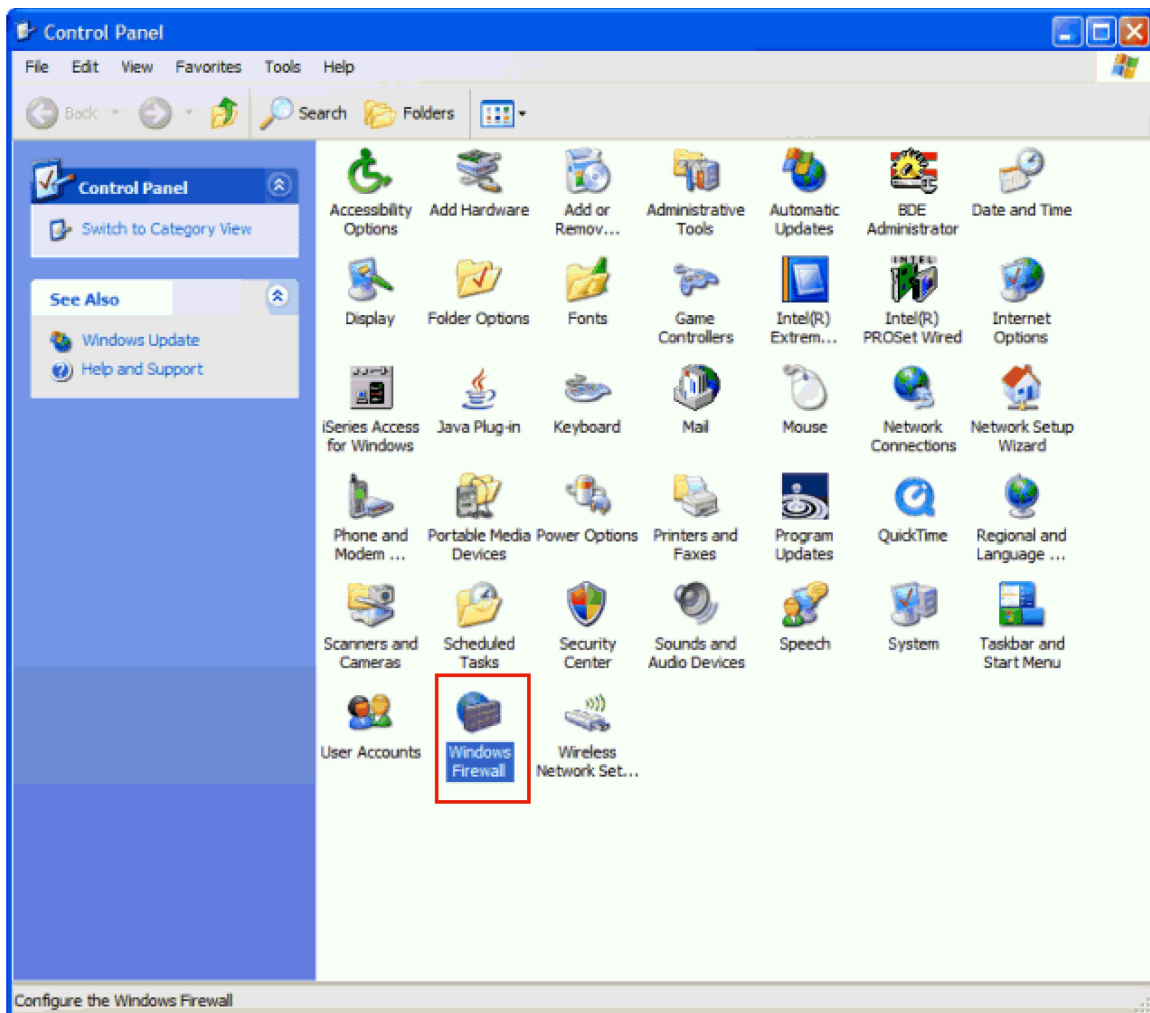
If you have trouble installing MarkMagic we request that you e-mail us the summary log immediately following your installation. If the installation is unsuccessful, there will most likely not be a printed Install Log. Please send the log file in **QGPL** to help@cybra.com.

Download Instructions - New Installation

Before You Begin

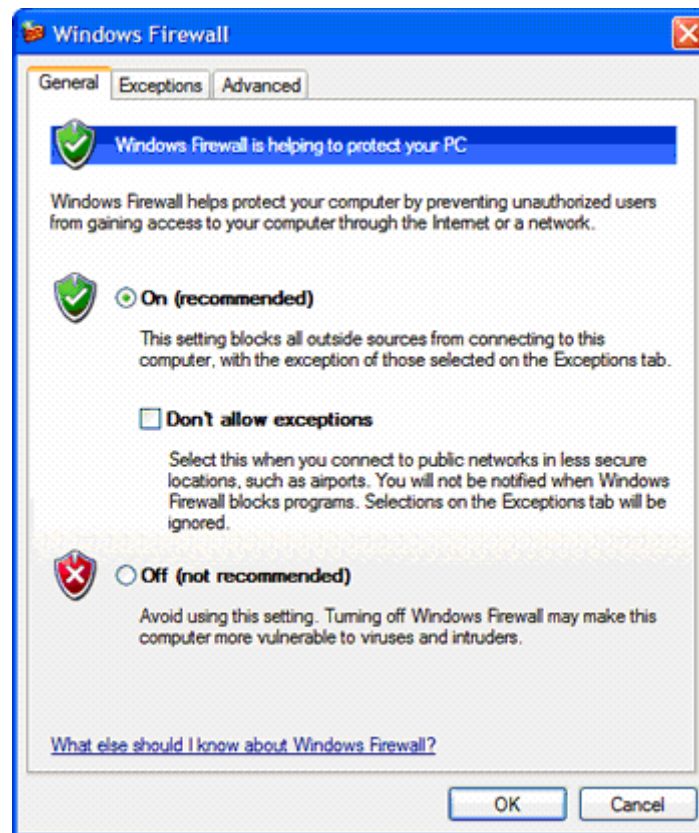
- CYBRA uses a product called ZipSeries to install System i objects that are downloaded from our website. Download ZipSeries from our website and install it on your PC. This should only take a few seconds.
- Depending on your system's OS release, click on the appropriate MarkMagic link (MarkMagic.1 for OS releases V5R2 through V5R4 or MarkMagic.6 for OS release V6R1M0) to download. If you are prompted to open or save the .zip file, save it to a temporary directory on your PC.

- Once the download is complete, find the downloaded file and extract the zip file contents. The enclosed file will have a .4zs extension. Double click on the icon to begin the ZipSeries installation process.
- Make sure any firewalls that you may have installed do not block ZipSeries, and also confirm that FTP is configured and running on your AS400.
- **NOTE:** Windows XP SP2 users will have to temporarily disable the Windows Firewall by clicking **START > CONTROL PANEL > WINDOWS FIREWALL** and clicking the radio button for “Off”. Once the Firewall is disabled, the ZipSeries install process will complete without any errors.



- Follow the ZipSeries prompts by clicking “Next” until you reach the “System i Information” panel. There you enter the name or IP address of the CPU on which you would like to install MarkMagic. Also enter your System i user id and password. After clicking “Next” you will be presented with the “Ready to Start” panel. Click OK.

- When the ZipSeries process is completed, you will have a library named MM70TEMP on the System i. At this point you can restart your Windows XP SP2 Firewall, if applicable.



Installation

Sign on to a new session as **QSECOFR**, confirm both **QTEMP** and **QGPL** are on your library list and then enter the following command:

MM70TEMP/INSTALL.

The first screen that is displayed is a message that you are installing MarkMagic, mod 090916. Enter **G** to continue or **C** to cancel.

MarkMagic will load automatically and prompt you at various points for information such as your product keys and device types. When the install is complete, you will be prompted to sign off and then sign back on. The entire installation of MarkMagic should take less than 30 minutes.

Towards the end of the installation process, you will see the Set MarkMagic Parameters screen:


```

Set MarkMagic Parameters

Date: 9/27/09      CPU model type: 270      Version: 7.1
Time: 09:32:11    CPU serial num: 1060370   Mod lvl: 090918
Processor group: P05
Logical partitn: 000

Type choices, press Enter.

Printer device types . . . *ALL          F4 for list
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

More...

F3=Exit    F5=Refresh    F8=Product Keys    F12=Cancel

```

Add any additional device types or *ALL to test with all available device types.

Press F8 to Set MarkMagic product keys (Call your account manager or CYBRA Sales at 914-963-6600 Option 3 for a MarkMagic rental key).

```

Set MarkMagic Product keys

Date: 9/27/09      CPU model type: 270      Version: 7.1
Time: 09:27:01    CPU serial num: 1060370    Mod lvl: 090916
                  Processor group: P05
                  Logical partitn: 000

Type choices, press Enter.

Product keys      Expiration      LPAR      Maximum      Maximum
                  (mm/dd/yy)
1. 2C012 169BE 700C0 71C01 12 / 31 / 09 0 999999 999999
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0
   _____ 00 / 00 / 00 0 _____ 0

F3=Exit      F5=Refresh      F8=Work with license information      F12=Cancel

```

The Default 45 day Runtime (Print Only) product key is enabled if no product key is entered.

The rental key you will be given will enable ALL MarkMagic features. Customers who receive permanent keys will require multiple product keys to activate the following MarkMagic optional features:

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- RFID Printing Option
- FormWeaver Option
- PrintTransformer (PrintManager) Option
- On Demand Option

Once the installation is complete, please sign off your **QSECOFR** session to close and deallocate any open files. Sign back on and begin using MarkMagic.

Troubleshooting

Two MarkMagic Installation Logs are created upon completion of installation. The summary log contains MarkMagic installation comments, while the detail log also includes the full job log. The log's details are:

Spooled Filename: **MARKMAGIC** User data: **INSTALLLOG**

In addition, the detail log is written to the following database file:

Library: **QGPL** File: **MMINSLOG**

If you have trouble installing MarkMagic, we request that you e-mail us the summary log immediately following your installation. If the installation is unsuccessful, there will most likely not be a printed Install Log. Please send the log file in **QGPL** to help@cybra.com.

CD Instructions - Upgrade

Before You Begin

UPGRADE NOTES:

- If you upgraded from MarkMagic V5.1 or V6.1 or V6.5 to V7.1 or 7.6, your formats will be available in both versions, in each of your user libraries. Any changes to formats or new formats created after the installation will have to be exported out of one version and imported into the other version.
- Although this situation is unlikely, it important to understand MarkMagic will upgrade from the most recent MarkMagic version on your system, even if an

older version is set as your system default. Example: If both 5.1 (MRKMAG50) and 6.1 (MRKMAG60) are installed and 5.1 is your *SYSTEM default running your everyday production, MarkMagic will “see” 6.1 and upgrade any formats, jobs, graphics, and monitors found in 6.1. Note: renaming or deleting MRKMAG60 in this scenario will not force the upgrade of your 5.1 objects. In other words, the upgrade program does not allow a user to “skip over” a version. Please use the MRKMAG50/WRKMMVSN or MRKMAG60/WRKMMVSN command to help determine if multiple MarkMagic versions are installed and which is the most recent (more WRKMMVSN details can be found later in this section).

Do not remove or rename the MarkMagic product library MRKMAG50, MRKMAG60, or any MarkMagic User Libraries (MRKMAGDTA, etc.). The installation process will convert your existing formats to the new version.

Before installing your new version, make sure that:

- No one has the MarkMagic library (MRKMAG60 or MRKMAG50) or the MarkMagic User library (MRKMAGDTA) in his or her library list, and also make sure that no one is working with MarkMagic or JMagic. For example, to see if someone is using MarkMagic sign on with SECOFR authority and enter WRKOBJLCK OBJ(MRKMAGxx) OBJTYPE(*LIB). Also, enter the Work with Active Jobs (WRKACTJOB) command on an OS/400 command line. Look at the column “Function” for CMD-STRMRKMAG.
- The MarkMagic library (MRKMAGDTA) is not locked. To see if the MarkMagic User library files are “locked,” enter the Work with Object Locks (WRKOBJLCK OBJ(DEVPFxx) OBJTYPE(*FILE)) command on the AS/400 command line, and press F4. Type DEVPFxx for the object name, MRKMAGDTA for the library, and *FILE for the object type, and press ENTER. Look at the column “Users” to see who is working with MarkMagic. Ask them to sign off the system in order to release the MarkMagic libraries and files.
- If you are upgrading from MarkMagic 5 or MarkMagic 6 and using the MarkMagic Monitor Option, please make sure to end your monitor before upgrading. Type: CALL PGM(MRKMAG50/ENDMONPGM) PARM(' '), and press Enter to end the MarkMagic 5 print monitor (use MRKMAG60 to end MarkMagic 6)
- We recommend that you save your MarkMagic libraries (MRKMAG50, or MRKMAG60, and MRKMAGDTA) and User libraries prior to installation.

After following the above steps, sign off the system and sign on to a new session as QSECOFR and confirm both QTEMP and QGPL are on your library list

Installation

Insert the CD into the drive, and enter the following on an AS/400 command line:

LODRUN ddddddd (where ddddddd is the optical device name).

Once the **LODRUN** command is executed, the upgrade procedure confirms your OS release and copies the compatible MarkMagic.1 or MarkMagic.6 libraries from the CD to QTEMP. MarkMagic will load automatically and prompt you at various points for information such as your product keys, device types, and default version (see Setting MarkMagic Versions).

If you are upgrading from a previous version, you will get the following message:
MarkMagic is about to be updated from a previous version. During the upgrade the following messages will be displayed:

- Your existing version of MarkMagic is about to be upgraded. Enter C to cancel or G to continue the upgrade (C G)
- MarkMagic is about to be upgraded from a previous version. Which version should be the system wide default (6.1, 7.1) (We recommend that you choose your current production version and test MarkMagic based off *SESSION or *USER version control. Once satisfied with MarkMagic, the system version can be changed. See WRKMMVSN and SETMMVSN later in this section for more information on version control.)



Towards the end of the installation process, you will see the Set MarkMagic Parameters screen. Add any additional device types or *ALL to test with all available device types.

Press F8 to Set MarkMagic product keys (Call your account manager or CYBRA Sales at 914-963-6600 Option 3) for a MarkMagic rental key. The Default 45 day Runtime (Print Only) product key is enabled if no product key is entered.

```

Set MarkMagic Product Keys

Date: 9/27/09      CPU model type: 270      Version: 7.1
Time: 09:27:01    CPU serial num: 1060370   Mod lvl: 090916
                  Processor group: P05
                  Logical partiti: 000

Type choices, press Enter.

Product keys      Expiration      LPAR      Maximum      Maximum
                  (mm/dd/yy)
1. 2C012 1698E 700C0 71C01 12 / 31 / 09 0 999999 999999
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____

F3=Exit      F5=Refresh      F8=Work with license information      F12=Cancel
  
```

The rental key you will be given will enable ALL MarkMagic features. Customers who receive permanent keys will require multiple product keys to activate the following MarkMagic optional features:

- Print Monitor Option
- PDF Fax & Email Option
- Laser Printer 2D Option
- RFID Printing Option
- FormWeaver Option
- PrintTransformer (PrintManager) Option
- On Demand Option

Once the installation is complete, please sign off your QSECOFR session to close and deallocate any open files. We recommend you sign back on and confirm your default MarkMagic version selection by entering MRKMAG60/WRKMMVSN and checking the "Current System Version" before you begin using your new version.

SETTING MARKMAGIC VERSIONS:

The Work MarkMagic Version command displays current system and user version settings and is the preferred method to switch the active version based on user and *SYSTEM. To use this command, type MRKMAG70/WRKMMVSN and press Enter. Note: *SECOFR authority is required to change other User and system default settings.

The Set MarkMagic Version command is an alternate method to switch the active version based on user, session, or system wide. To use this command, type MRKMAG70/SETMMVSN and press F4. The SETMMVSN command settings are

referred to by the system for all non-qualified calls to MarkMagic. Note: *SECOFR authority is required to change other User and system default settings.

Note:

- SESSION version overrides are controlled by a data area in QTEMP and only work for interactive jobs. Any print job submitted to batch will default back to either the *SYSTEM or *USER version override.
- USER version overrides are controlled by a data area in MRKMAGUSRP. *USER overrides will not be found if a CHGJOB was issued and the user was changed or the user was changed in the SBMJOB command.

When starting MarkMagic via the STRMRKMAG command, you can override the default version. Type STRMRKMAG and press F4. Select a version and press Enter

TO REVERT TO A PREVIOUS MOD LEVEL:

The installation program does not delete your previous libraries; they are renamed and saved in SAVF format. If, after installation, you wish to revert back to your previous modification level, contact CYBRA Support for assistance in restoring the following saved libraries.

Note: During the MarkMagic upgrade, programs in your older MarkMagic version 5.1 or 6.1 (MRKMAG50 or MRKMAG60) are replaced with newer programs that allow MarkMagic to run side by side with 5.1 and/or 6.1. A copy of the original 5.1 or 6.1 programs, depending on which version you upgraded from, are saved to a SAVF in the production library (MRKMAG50 or MRKMAG60). The name of the file is MMxxxxxyyyy where xx = production library number (50 or 60) and yyyyyy = the version 7 mod level you upgrade to (090629). These older programs can be restored to your live production library. Please contact help@cybra.com or 914-963-6600 option 4 for assistance.

Troubleshooting

Two MarkMagic Installation Logs are created upon completion of installation. The summary log contains MarkMagic installation comments, while the detail log also includes the full job log. The log's details are:

Spooled Filename: **MARKMAGIC** User data: **INSTALLLOG**

In addition, the detail log is written to the following database file:

Library: **QGPL** File: **MMINSLOG**

If you have trouble installing MarkMagic, we request that you e-mail us the summary log immediately following your installation. If the installation is unsuccessful, there will most likely not be a printed Install Log. Please send the log file in **QGPL** to help@cybra.com.

Download Instructions - Upgrade

Before You Begin

UPGRADE NOTES:

- If you upgraded from MarkMagic V5.1 or V6.1 or V6.5 to V7.1 or 7.6, your formats will be available in both versions, in each of your user libraries. Any changes to formats or new formats created after the installation will have to be exported out of one version and imported into the other version.
- Although this situation is unlikely, it is important to understand MarkMagic will upgrade from the most recent MarkMagic version on your system, even if an older version is set as your system default. Example: If both 5.1 (MRKMAG50) and 6.1 (MRKMAG60) are installed and 5.1 is your *SYSTEM default running your everyday production, MarkMagic will “see” 6.1 and upgrade any formats, jobs, graphics, and monitors found in 6.1. Note: renaming or deleting MRKMAG60 in this scenario will not force the upgrade of your 5.1 objects. In other words, the upgrade program does not allow a user to “skip over” a version. Please use the MRKMAG50/WRKMMVSN or MRKMAG60/WRKMMVSN command to help determine if multiple MarkMagic versions are installed and which is the most recent (more WRKMMVSN details can be found later in this section).

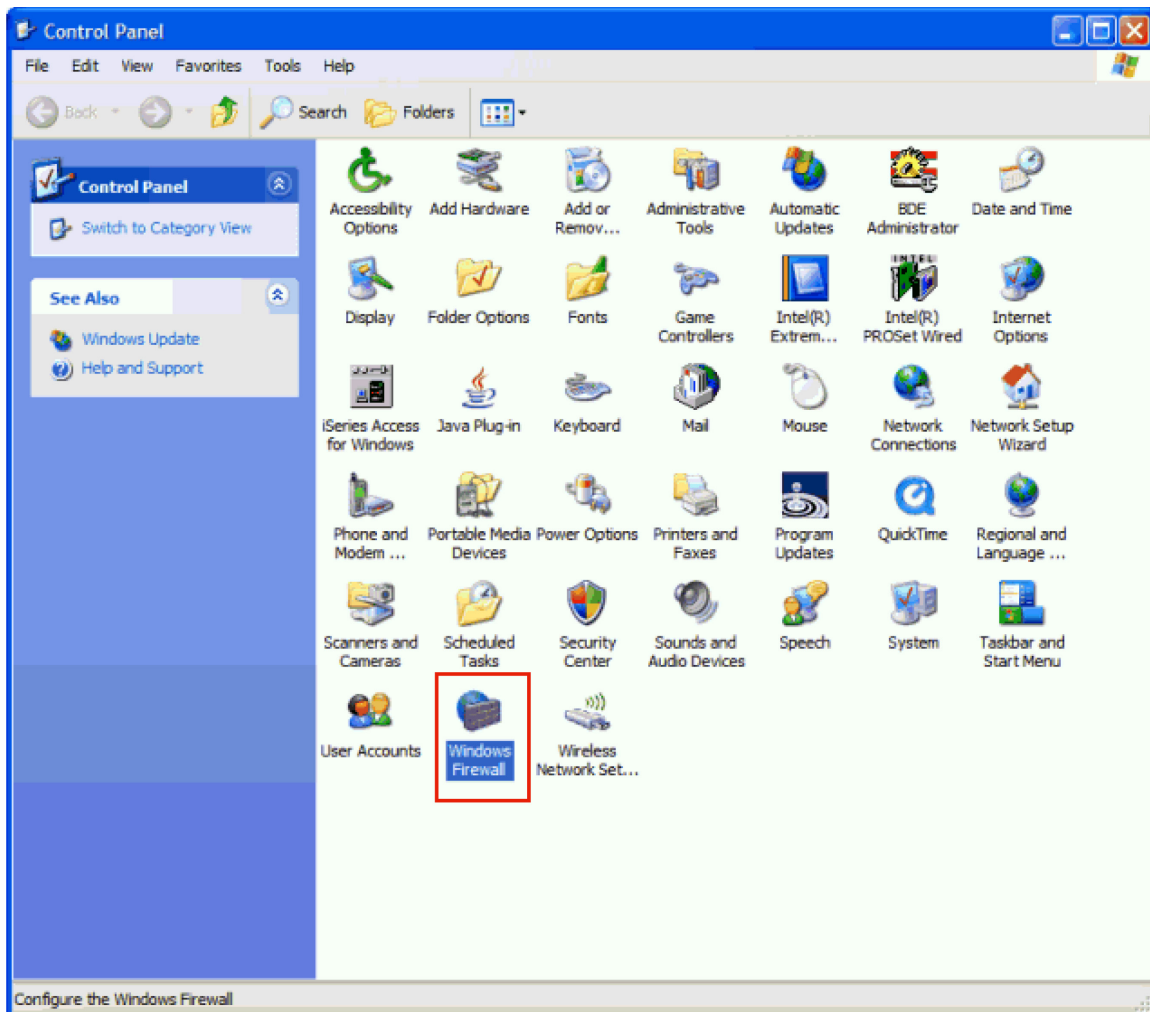
Do not remove or rename the MarkMagic product library MRKMAG50, MRKMAG60, or any MarkMagic User Libraries (MRKMAGDTA, etc.). The installation process will convert your existing formats to the new version.

Before installing your new version, make sure that:

- No one has the MarkMagic library (MRKMAG60, MRKMAG50 or MRKMAG) or the MarkMagic User library (MRKMAGDTA) in his or her library list, and also make sure that no one is working with MarkMagic or JMagic. For example, to see if someone is using MarkMagic sign on with SECOFR authority and enter WRKOBJLCK OBJ(MRKMAGxx) OBJTYPE(*LIB). Also, enter the Work with Active Jobs (WRKACTJOB) command on an OS/400 command line. Look at the column “Function” for CMD-STRMRKMAG.
- The MarkMagic library (MRKMAGDTA) is not locked. To see if the MarkMagic User library files are “locked,” enter the Work with Object Locks (WRKOBJLCK OBJ(DEVPFxx) OBJTYPE(*FILE)) command on the AS/400 command line, and press F4. Type DEVPFxx for the object name, MRKMAGDTA for the library, and *FILE for the object type, and press ENTER. Look at the column “Users” to see who is working with MarkMagic. Ask them to sign off the system in order to release the MarkMagic libraries and files.
- If you are upgrading from MarkMagic 5 or MarkMagic 6 and using the MarkMagic Monitor Option, please make sure to end your monitor before upgrading. Type:

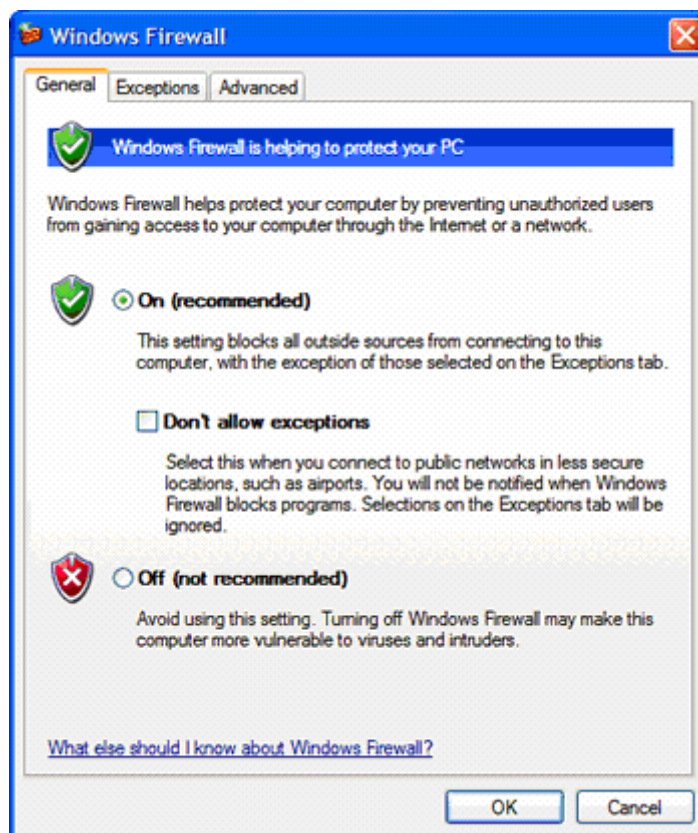
CALL PGM(MRK MAG50/ENDMONPGM) PARM(' '), and press Enter to end the MarkMagic 5 print monitor (use MRKMAG60 to end MarkMagic 6)

- We recommend that you save your MarkMagic libraries (MRKMAG, MRKMAG50, or MRKMAG60, and MRKMAGDTA) and User libraries prior to installation.
- CYBRA uses a product called ZipSeries to install System i objects that are downloaded from our website. Download ZipSeries from our website and install it on your PC. This should only take a few seconds. Depending on your system's OS release, click on the appropriate MarkMagic link (MarkMagic.1 for OS releases V5R2 through V5R4 or MarkMagic.6 for OS release V6R1M0) to download. If you are prompted to open or save the .zip file, save it to a temporary directory on your PC.
- Make sure any firewalls that you may have installed do not block ZipSeries, and also confirm that FTP is configured and running on your AS400.
- **NOTE:** *Windows XP SP2 users will have to temporarily disable the Windows Firewall by clicking START > CONTROL PANEL > WINDOWS FIREWALL and clicking the radio button for "Off". Once the Firewall is disabled, the ZipSeries install process will complete without any errors.*



- Once the download is complete, find the downloaded file and extract the zip file contents. The enclosed file will have a .4zs extension. Double click on the icon to begin the ZipSeries installation process.
- Follow the ZipSeries prompts by clicking “Next” until you reach the “System i Information” panel. There you enter the name or IP address of the CPU on which you would like to install MarkMagic. Also enter your System i user id and password. After clicking “Next” you will be presented with the “Ready to Start” panel. Click OK.

When the ZipSeries process is completed, you will have a library named MM70TEMP on the System i. At this point you can restart your Windows XP SP2 Firewall, if applicable.



Installation

Sign on to a new session as **QSECOFR**, confirm both **QTEMP** and **QGPL** are on your library list and then enter the following command:

MM70TEMP/INSTALL

If you are upgrading from a previous version, you will get the following message:
MarkMagic is about to be updated from a previous version. During the upgrade the following messages will be displayed:

- Your existing version of MarkMagic is about to be upgraded. Enter C to cancel or G to continue the upgrade (C G)
- MarkMagic is about to be upgraded from a previous version. Which version should be the system wide default (5.1, 6.1) (We recommend that you choose your current production version and test MarkMagic based off *SESSION or *USER version control. Once satisfied with MarkMagic, the system version can be changed. See **WRKMMVSN** and **SETMMVSN** later in this section for more information on version control.)



Towards the end of the installation process, you will see the Set MarkMagic Parameters screen. Add any additional device types or *ALL to test with all available device types.

Press F8 to Set MarkMagic Product Keys (Call your Account Manager or CYBRA Sales at 914-963-6600 Option 3) for a MarkMagic rental key. The Default 45 day Runtime (Print Only) Product Key is enabled if no Product Key is entered.

```

Set MarkMagic Product Keys

Date: 6/27/09      CPU model type: 270      Version: 7.0
Time: 09:27:01    CPU serial num: 1060370   Mod lvl: 090629
                  Processor group: P05
                  Logical partitn: 000

Type choices, press Enter.

Product keys      Expiration      LPAR      Maximum      Maximum
                  (mm/dd/yy)
1. 2C012 169BE 700C0 71C01 12 / 31 / 09 0 999999 999999
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____
   _____  _____  _____  _____  _____  _____  _____

F3=Exit      F5=Refresh      F8=Work with license information      F12=Cancel

```

The rental key you will be given will enable ALL MarkMagic features. Customers who receive permanent keys will require multiple product keys to activate the following MarkMagic optional features:

- Print Monitor Option
- PDF Fax & Email Option
- Laser Printer 2D Option
- RFID Printing Option
- Form Weaver Option
- Print Transformer (Print Manager) Option
- On Demand Option

Once the installation is complete, please sign off your **QSECOFR** session to close and deallocate any open files. We recommend you sign back on and confirm your default MarkMagic version selection by entering **MRKMAG60/WRKMMVSN** and checking the "Current System Version" before you begin using your new version.

SETTING MARKMAGIC VERSIONS:

The Work MarkMagic Version command displays current system and user version settings and is the preferred method to switch the active version based on user and ***SYSTEM**. To use this command, type **MRKMAG70/WRKMMVSN** and press Enter.

*Note: *SECOFR authority is required to change other User and system default settings.*

The Set MarkMagic Version command is an alternate method to switch the active version based on user, session, or system wide. To use this command, type **MRKMAG70/SETMMVSN** and press F4. The **SETMMVSN** command settings are referred to by the system for all non-qualified calls to MarkMagic. *Note: *SECOFR authority is required to change other User and system default settings.*

Note:

- **SESSION** version overrides are controlled by a data area in **QTEMP** and only work for interactive jobs. Any print job submitted to batch will default back to either the ***SYSTEM** or ***USER** version override.
- **USER** version overrides are controlled by a data area in **MRKMAGUSRP**. ***USER** overrides will not be found if a **CHGJOB** was issued and the user was changed or the user was changed in the **SBMJOB** command.

When starting MarkMagic via the **STRMRKMAG** command, you can override the default version. Type **STRMRKMAG** and press F4. Select a version and press Enter

TO REVERT TO A PREVIOUS MOD LEVEL:

The installation program does not delete your previous libraries; they are renamed and saved in SAVF format. If, after installation you wish to revert back to your previous Modification Level, contact CYBRA support for assistance in restoring the following saved libraries.

Note: During the MarkMagic upgrade, programs in your older MarkMagic version 5.1 or 6.1 (**MRKMAG50** or **MRKMAG60**) are replaced with newer programs that allow MarkMagic to run side by side with 5.1 and/or 6.1. A copy of the original 5.1 or 6.1 programs, depending on which version you upgraded from, are saved to a SAVF in the production library (**MRKMAG50** or **MRKMAG60**). The name of the file is MMxxyyyyyy where xx = production library number (50 or 60) and yyyyyy = the version 7 mod level you upgrade to (0900804). These older programs can be restored to your live production library. Please contact help@cybra.com or 914-963-6600 option 4 for assistance.

Troubleshooting

Two MarkMagic Installation Logs are created upon completion of installation. The summary log contains MarkMagic installation comments, while the detail log also includes the full job log. The log's details are:

Spooled Filename: **MARKMAGIC** User data: **INSTALLLOG**

In addition, the detail log is written to the following database file:

Library: **QGPL** File: **MMINSLOG**

If you have trouble installing MarkMagic, we request that you e-mail us the summary log immediately following your installation. If the installation is unsuccessful, there will most likely not be a printed Install Log. Please send the log file in **QGPL** to help@cybra.com.

JMagic Installation

Before You Begin

To load JMagic on *any* PC running Windows NT, 2000, XP or Vista

Minimum Hardware Requirements:

Processor	1.5 GHz Intel Pentium IV, or higher
Display	SVGA, 1152x864 (recommended minimum resolution)
Memory requirements	512MB RAM
Disk space requirements	75 MB for JMagic 70 MB for Java Virtual Machine

Note: To use JMagic, MarkMagic version 7.1 or 7.6 must be active on the System i.

Installation

Download JMAGIC71SETUP.ZIP from our website or copy the JMAGIC71SETUP.ZIP from our installation CD and extract the enclosed file to a temporary subdirectory.

Double click the file JMagic71setup.exe to launch the JMagic InstallShield Wizard. The wizard will prompt you to select an existing subdirectory, or create a default product destination subdirectory, for example: "X":\Program Files\CYBRA Corporation\Jmagic71. (Where "X" is your drive letter) Follow the steps to complete the installation.

Navigate to the Start menu Programs folder then CYBRA Corporation, and then click on the icon "JMagic.0" to start JMagic. Sign on to the System i to initiate communications with MarkMagic.1 or 7.6

Note: As an added convenience, 5250 Web Help is automatically installed to C:\Program Files\CYBRA Corporation\Help during the JMagic.1 installation. See section "H" for 5250 Web Help details.

5250 Web Help Installation

Pressing the F1 key will automatically open your default web browser with the page corresponding to your inquiry.

Note: You will need to either install 'MMHELP72.exe' or JMagic.2 on your PC in order for this to function.

Download 'MMHELP72.ZIP' or copy the MMHELP72.ZIP from our installation CD and extract the enclosed file to a temporary subdirectory.

Double click the file MMHELP72.exe and install using the default path, which is:
C:\Program Files\CYBRA Corporation\Help

While we highly recommend installing the 5250 Web Help into the default directory, you are able to change this if needed.

Run the MRKMAG70/SETMMPRM command, and page down once to the second screen. You will be able to change the path to the web help.

Example:

```
Set MarkMagic Parameters

Date: 1/22/10      CPU model type: 520      Version: 7.2
Time: 17:47:28    CPU serial num: 10C2A01   Mod lvl: 100118
                  Processor group: P05
                  Logical partitn: 001

Type choices, press Enter.

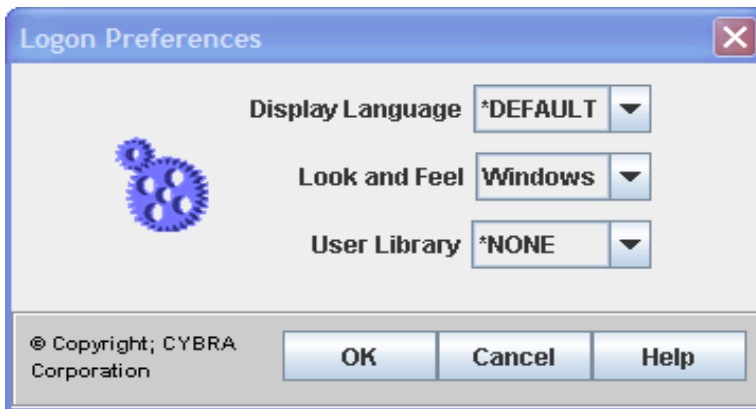
Company name . . . . . Your Company Name name
Default menu type . . . . D           D=Design view
                                L=List view
Keep job history . . . . 100         7 - 999 (days)
PC path to MarkMagic Web Help . . : C:\Program Files\CYBRA Corporation\Help
                                     p

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel

Bottom
```

Altering the default path with the SETMMPRM command changes this parameter globally, so you will need to make sure the path you set in SETMMPRM matches the path on the user's pc.

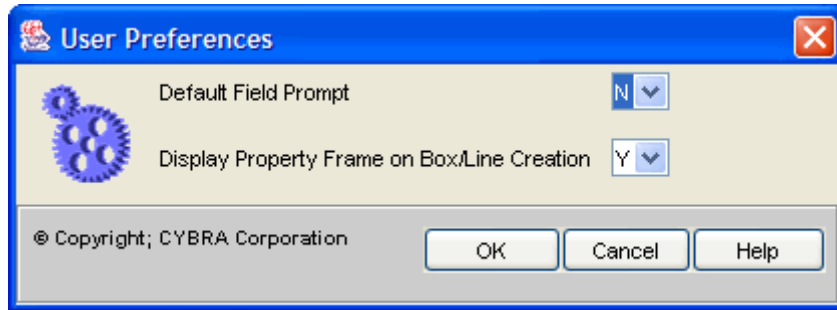
Logon Preferences



- **Display Language** - Choose the language you want JMagic displayed in. (Currently, JMagic support *DEFAULT or English only.)
- **Look and Feel** - Choose the look and feel of the JMagic windows. Choose from Metal, Motif or Windows.
- **User Library** - Set the current User Library. ***None** which set the user library to the default MRKMAGDTA library, create a ***New** library or enter an ***Existing** Library name.
- **User Library** – Choose which library to start JMagic with.
 - ***NONE** - will set the user library to the default MRKMAGDTA library.
 - ***NEW** - Create a new library on the server and start JMagic in that library.
 - ***EXISTING** – Choose and existing library to start JMagic in.

User Preferences

NOTE: As of JMagic version 3.0 11/09 EFL, your last used user and log on preferences should be saved from session to session.



- **Default Field Prompt** - Specifies the default value for the “Prompt” parameter on any new field you create on your format. In MarkMagic, you can specify which fields the user can manually enter and which are display only while editing a label file. The options are:
 - **Y** – If the field is not keyed, and you only want the user to type uppercase values.
 - **y** – If the field is not keyed, and you only want the user to type lower and uppercase values.
 - **N** – If your fields should not be defined as prompt fields.
- **Display Property Frame on Box/Line Creation** - Specify whether or not JMagic will display the property dialogue window after adding a new line or box field. The options are:
 - **Y** - JMagic will show the property dialogue window after adding a new line or box field.
 - **N** – JMagic will not show the property dialogue window after adding a new line or box field.

Designing Formats

Format Overview

A format is a MarkMagic“document”. A format can be a label, tag, form, or other publication designed with MarkMagic 5. This set of “formatting” instructions tells the printer how to present each field of information on the document. A format can also contain special field instructions that tell MarkMagic how to process data *before* it is formatted for printing.

Master Formats

Master Formats allow customers to maintain one label format, one label file, and one label DDS, and have any number of formats dependent on each Master Format. The dependent formats inherit the fields of the Master Format, reducing considerably the time needed to maintain a label format library. If a new field, for example, needs to be added, only the Master Format needs to be modified and all dependent formats can instantly use the new field.

Master formats contain Data fields only. Other “Dependent” formats refer to Master formats, linking to the Data fields as needed. Dependent format variable Text and Bar Code fields are linked to their associated Master fields. This makes it easier to maintain many formats, especially across different device types, without having to deal with Data field changes and resulting label file impact to each individual format.





- [JMagic Create a Master Format](#)
- [Native System i Create a Master Format](#)
- [Work with Master Format Definition Screen](#)

Dependent Formats

Dependent formats “inherit” variable fields from a Master format. Other format attributes such as printer type specific information and other field types, such as character constant bar code and text fields, line, box, and constant graphic fields are defined in Dependent formats.

Designing the Format

After creating the new format, you can design it through either the **Virtual Canvas**

(Native System i   ) or the **Format Design Area** (JMagic ). Once you have finished designing a format, you can copy it and use it as a basis for future formats

again and again. Just treat the fields you've defined as "sample" fields and modify them when you open a copy of the format

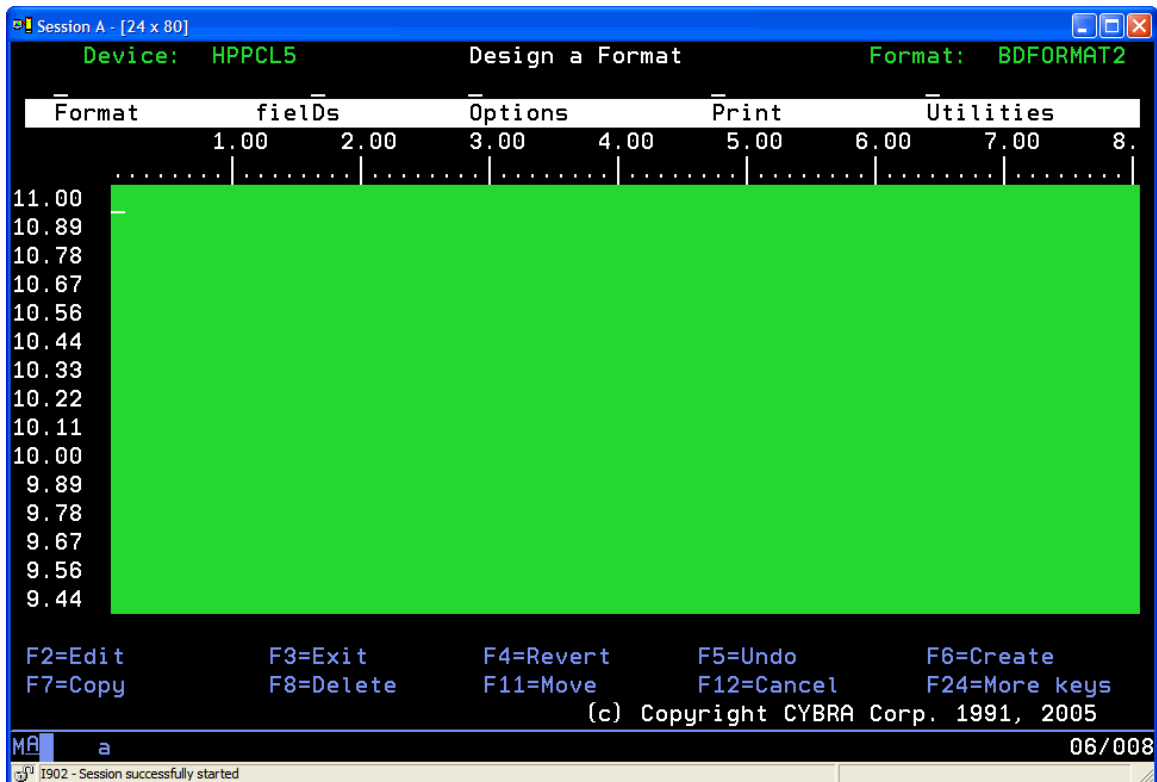
- [JMagic Copy Formats](#)
- [JMagic Create a New Format Window](#)
- [JMagic Create a New Format](#)
- [JMagic Open Format](#)
- [JMagic Rename Format](#)
- [JMagic Templates and Grids](#)
- [Native System i Copy Formats](#)
- [Native System i Creating a new Format](#)
- [Native System i Edit a Format](#)
- [Native System i Existing Formats](#)
- [Native System i The Work with Format Definition Screen](#)

Native iSeries

Visual Designer

Your format size isn't limited to the size of the screen. Depending on your format definition, the total format "canvas" may extend beyond what you can see in the format design area at any given time. To work with other portions of your format you need to "window" the format design area to move another part of the total format into the format design area.

There are numerous ways to navigate around the Design a Format screen. You can move or reposition the format design area, zoom in (so that less of the format is presented on the format design area, but in a greater degree of detail), or zoom out (so that more of the format is presented on the format design area, but in less detail).



You can move the format design area:

- **Up** - Press PAGE DOWN or ROLL UP
- **Down** - Press PAGE DOWN or ROLL UP
- **Left** - Use the function key (F19) or Select Left from the Options menu.
- **Right** - Use the function key (F20) or Select Right from the Options menu.
- **Bottom** - Use the function key (F18) or Select Bottom from the Options menu.
- **Top** - Use the function key (F17) or Select Top from the Options menu.

For more information about creating fields in Visual Designer, see the appropriate field-type section.

Note: You can select the amount to roll the format design area (half a screen, full screen, according to cursor position, or a set number of lines between 1 and 23) and shift the format design area (half a screen, full screen, according to cursor position, or a set number of columns between 1 and 124). Move the cursor to a position on the format and press ENTER. The position you specified will then be used as the upper left corner of the format design area (if the "Measure from" value in the format definition is top), or the lower left corner of the format design area (if the "Measure from" value in the format definition is bottom).

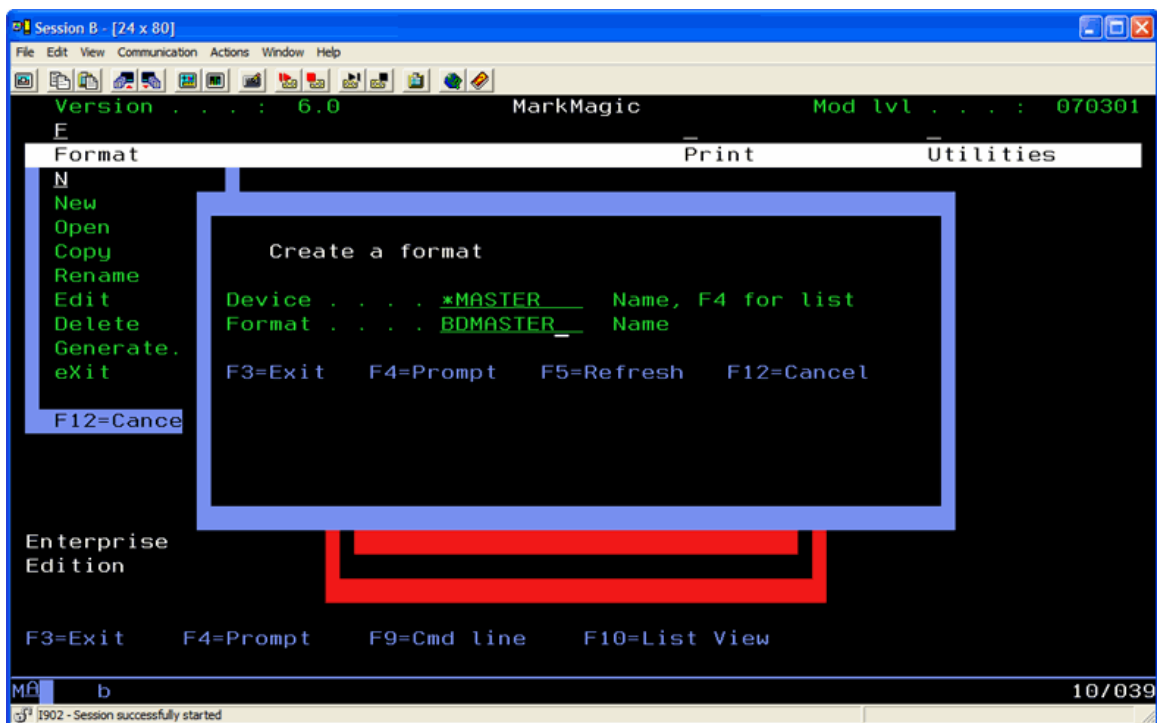
Master Formats



Create A Master Format

Master Formats allow customers to maintain one label format, one label file, and one label DDS, and have any number of formats dependent on each Master Format. The dependent formats inherit the fields of the Master Format, reducing considerably the time needed to maintain a label format library. If a new field, for example, needs to be added, only the Master Format needs to be modified and all dependent formats can instantly use the new field.

Master formats contain Data fields only. Other “Dependent” formats refer to Master formats, linking to the Data fields as needed. Dependent format variable Text and Bar Code fields are linked to their associated Master fields. This makes it easier to maintain many formats, especially across different device types, without having to deal with Data field changes and resulting label file impact to each individual format.



Session A - [24 x 80]

Work with Format Definition

Device : *MASTER
Format : BDMASTER

Type choices, press Enter.

Description _____

Batch control fields Y Y=Yes, N=No

F3=Exit F5=Refresh F8=Dependent Formats F12=Cancel Bottom

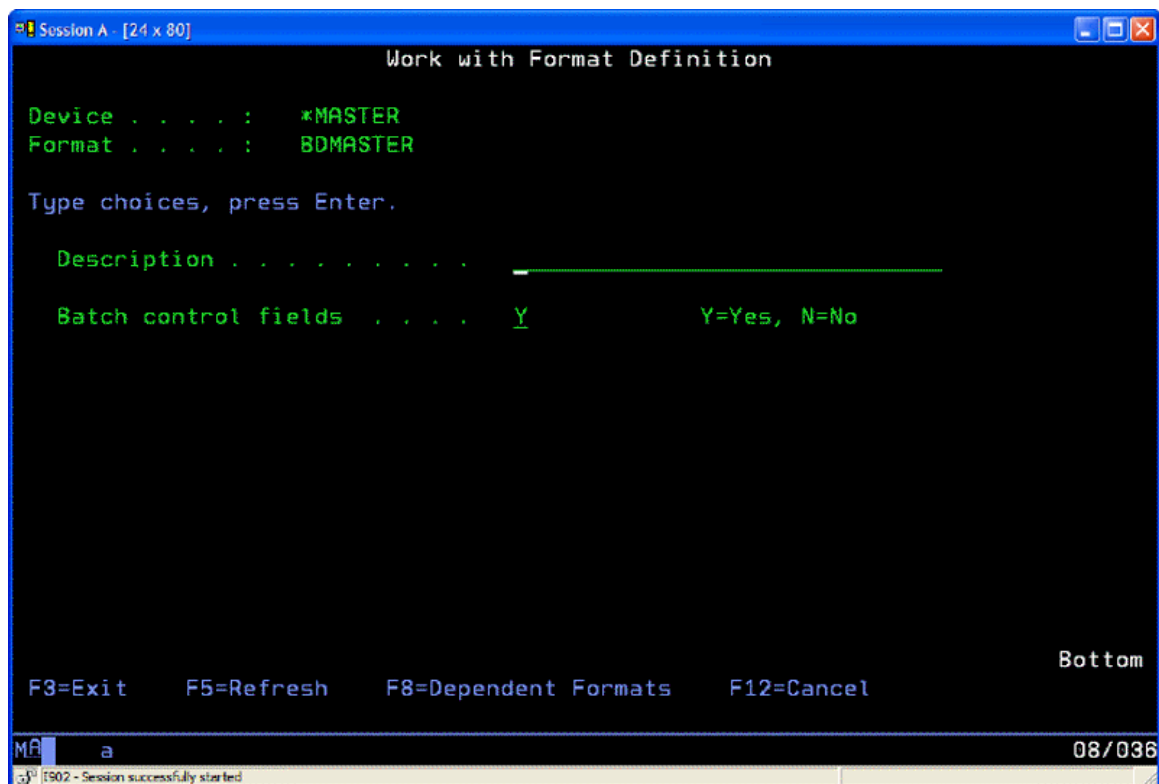
MR a 08/036

1902 - Session successfully started

How To:

- From the Format menu, select New.
- For device, specify *MASTER
- Type a name, press ENTER
- This opens the Work With Format Definition Screen.





How To:

- On the Work with Formats - List View screen, tab to the Opt (Option) field, type 1 (Create), specify *MASTER for the printer device type, specify a name for the new format.
- Press Enter. This opens the Work With Format Definition Screen.



Work With Master Format Definition Screen

When you create a new format with the System i native interfaces, you define the format on the Work with Format Definition Screen.

Session A - [24 x 80]

Work with Format Definition

Device : *MASTER
Format : BDMaster

Type choices, press Enter.

Description _____

Batch control fields Y Y=Yes, N=No

F3=Exit F5=Refresh F8=Dependent Formats F12=Cancel Bottom

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1902 - Session successfully started

- **Description** - Type a description of the format for documentation purposes. This will also appear as the title of the Edit Data screen for this format.
- **Batch Control Fields** - Specify if you wish the Batch Control Fields to be included when the Label file for this format is generated. The default is Yes.

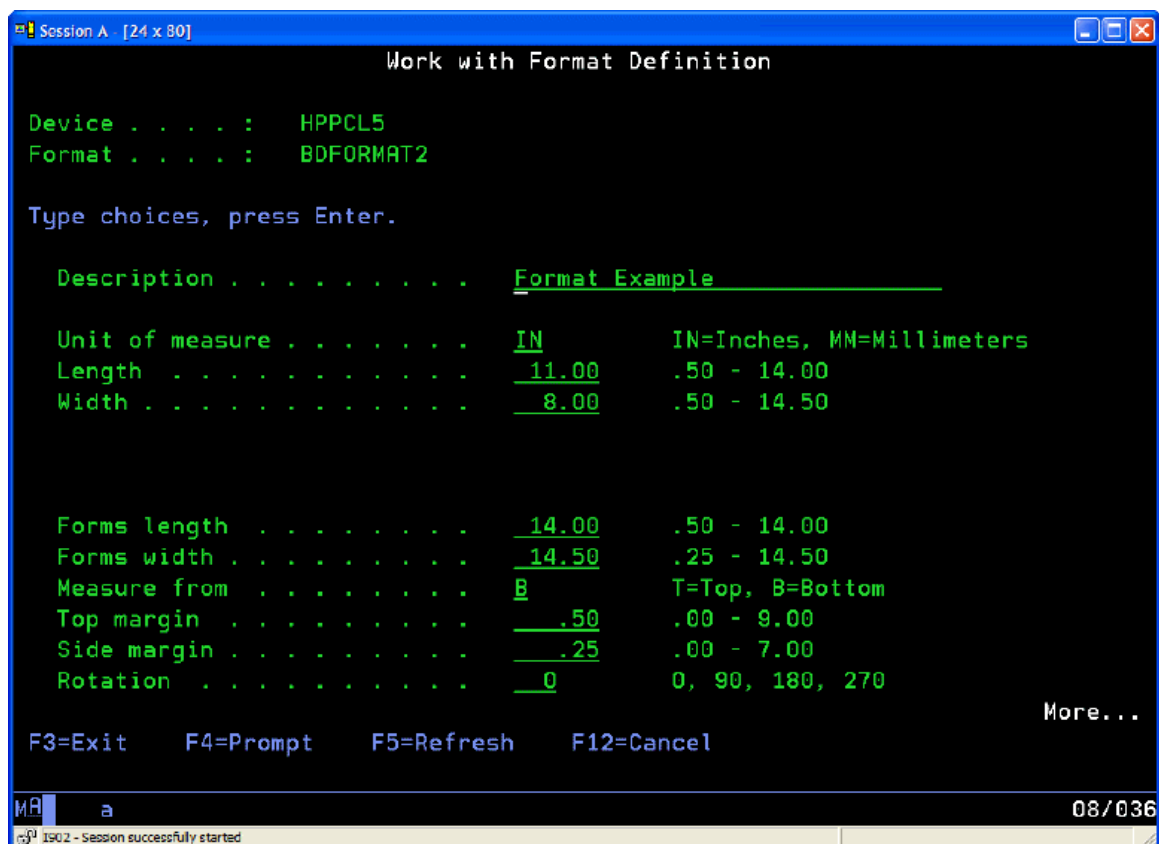
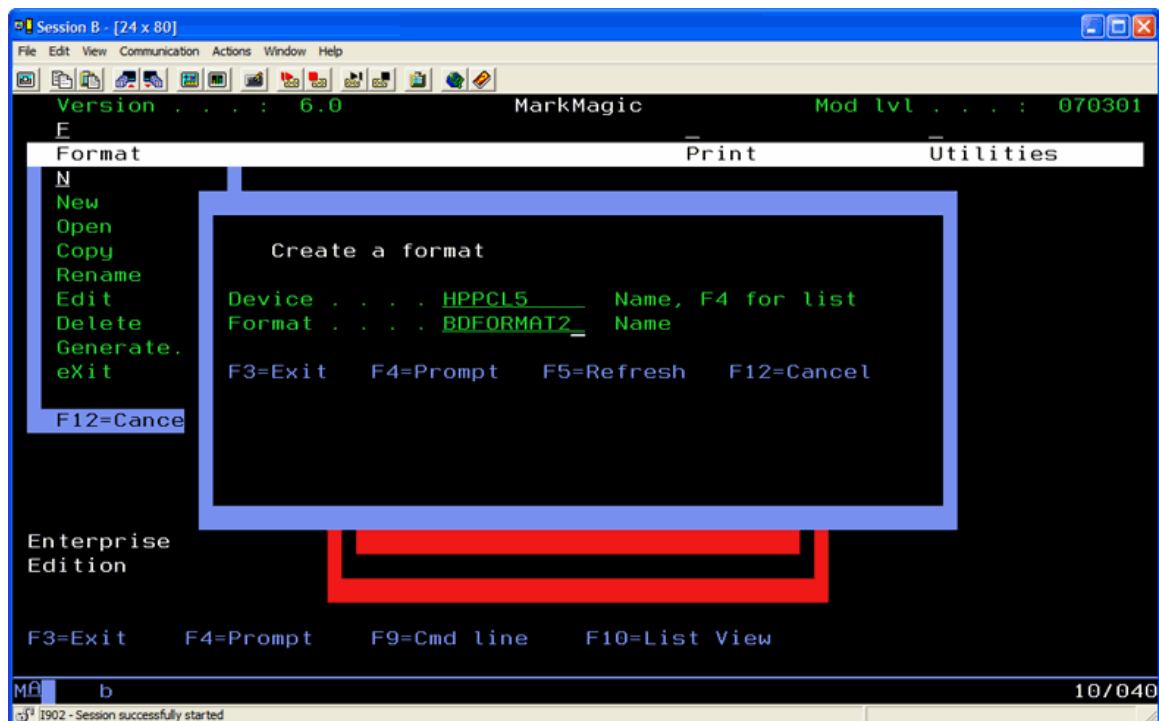
Complete the Master Format by adding the Data fields you will need in your dependent formats. See Introduction to Fields, Adding New Fields and see Working with Data Fields.

Formats



Creating a New Format





How To:

- From the **Format** menu, select **New**. This opens the **Work With Format Definition Screen**.



Session A [24 x 80]

Work with Formats - List View

Position to printer type _____
 Position to format _____

Type option, press Enter.

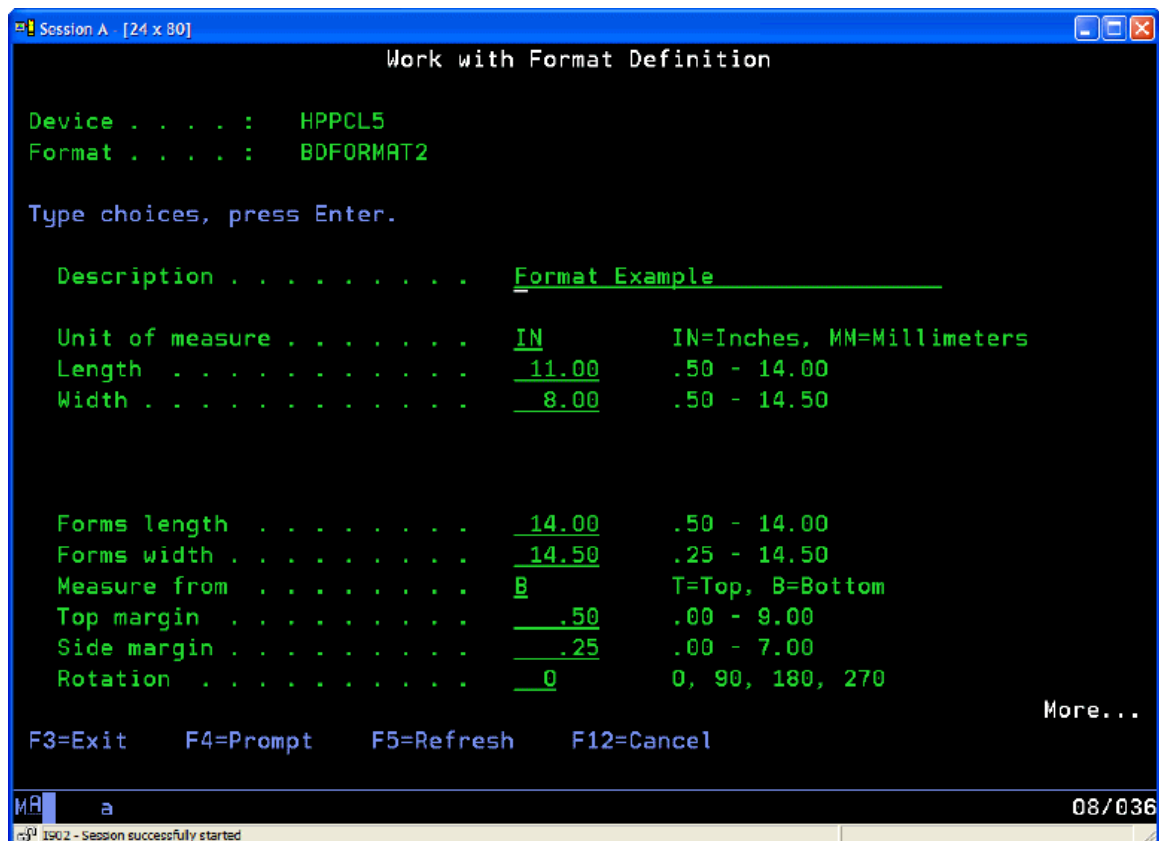
1=Create 2=Change 3=Copy 4=Delete 5=Display
 6=Print format 7=Rename 8=Work with fields

Opt	Ptr type	Name	Description	Length	Width
<u>1</u>	<u>HPPCL5</u>	<u>BDFOR</u>			
-	HPPCL5	LEARNBD2		11.00"	8.50"
-	HPPCL5	LEARNBD3		11.00"	8.50"
-	HPPCL5	LEARNCCC		11.00"	8.50"
-	HPPCL5	LEARNEFL	Tutorial example	2.00"	4.00"
-	HPPCL5	LEARNGJK	tutorial format	11.00"	8.50"
-	HPPCL5	LEARNJWH	KENJTEST	3.00"	3.00"
-	HPPCL5	LEARNJWH2	KENJTEST	3.00"	3.00"
-	HPPCL5	LEARNKC	JMagic/400 Form Tutorial	11.00"	8.50"
-	HPPCL5	LEARNKWH	Form	11.00"	8.50"
-	HPPCL5	LEARNMIK	Test Format for Mike	11.00"	8.50"
					More...

F3=Exit F5=Refresh F9=Command line F10=Design view
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MA a A 11/024

1902 - Session successfully started



How To:

- On the Work with **Formats - List View** screen, tab to the **Opt (Option)** field, type **1** (Create) and specify a name for the new format. Press Enter. This opens the **Work With Format Definition Screen**.



The Work with Format Definition Screen

When you create a new format with the System i native interfaces, you define the format on the Work with Format Definition Screen.

Session A [24 x 80]

Work with Format Definition

Device : HPPCL5
Format : BDFORMAT2

Type choices, press Enter.

Description	Format	Example
Unit of measure	IN	IN=Inches, MM=Millimeters
Length	11.00	.50 - 14.00
Width	8.00	.50 - 14.50
Forms length	14.00	.50 - 14.00
Forms width	14.50	.25 - 14.50
Measure from	B	T=Top, B=Bottom
Top margin50	.00 - 9.00
Side margin25	.00 - 7.00
Rotation	0	0, 90, 180, 270

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel

MA a 08/036

1902 - Session successfully started

- **Description** - Type a description of the format for documentation purposes. This will also appear as the title of the Edit Data screen for this format.
- **Unit of measure** - Based on your preference, format definition and field placement measurements can be either in inches or in millimeters. Specify IN to measure in inches or MM for millimeters. If you choose inches, then all measurement values can contain two decimal positions (hundredths of an inch). Millimeter measurement values can contain one decimal position (tenths of a millimeter).
- **Format Length/Width** - Key in the length and width of the label, or form. Width is always measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Based on the unit of measure you selected in the previous field, key in measurements as follows. Do not enter the decimal point unless the measurement is a fraction of the unit of measure (for example, a length of four inches would be entered as **4**, and a length of eight and one-half inches would be entered as **8.5**). If your format definition requires that you enter a forms gap (see below), measure the length from the top of one label to the top of the next label. Otherwise, measure from the top of the label or form to the bottom. If the supply is not die cut label stock (it's a butt cut label, a tag or a ticket), measure from the top of one index mark (either a black mark or an aperture) to the top of the next index mark. Make sure these measurements are exact. If you estimate the size of your label or tag instead of defining exact measurements, your format may not print, you may receive an error message, or your format may print but not appear the way you anticipated.
- **Sensor Type** — You need to specify sensor type in the format definition when your selected printer type does not have an offline printer configuration option for

supply type. This value instructs the printer (usually a thermal printer) which supply sensor to enable. There are two basic types of sensors — reflective and transmissive—but a printer can have multiple sensors of each type installed. Reflective mechanisms sense either the presence of a black mark on the back (non-printing side) of the supply, or sense the presence or absence of the actual supply itself (used most often with a notched tag or stock that has center apertures “holes” punched between tickets). Transmissive mechanisms sense the gap between adjacent die cut labels. Alternately, it may be possible to disable supply sensing. Some printers permit the use of non-indexed supplies, i.e., forms which have no black mark, label gap, or aperture and rely solely on the format measurement instructions sent by MarkMagic. These supplies permit the mixing of variable length formats in a single stream. Sensor Types include

B - if your supply is indexed with a black mark at the center.

E - if your supply is indexed with a black mark on the edge.

L - if your supply is a one-up die cut label. (default)

M - if your supply is a die cut label stock with more than one label across the width.

T - if your supply is a tag indexed with a center aperture.

P - if your supply is a label and will be used in a “peel off,” on demand mode (see Mode).

O - if your supply is non-indexed and you wish to disable all supply sensors.

- **Label Gap** - When you measure the length of a format from the top of one die-cut label to the top of the next die-cut label, measure and enter the exact space between the adjacent labels. A typical industry standard gap is .12" (an eighth of an inch). Measure your supply precisely to be sure.
- **Forms Length/Width** - Type the length and width of the actual supply. Forms width is always measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Type measurements as follows. Do not enter the decimal point unless the measurement is a fraction of the unit of measure. For example, a forms length of eleven inches would be entered as 11, and a forms width of eight and one-half inches would be entered as 8.5.
- **Measure from** - Decide if you wish MarkMagic to measure from the bottom or the top of the label. If you select B for Bottom, MarkMagic will measure from the lower left corner. If you select T for Top, MarkMagic will measure from the upper left corner. (The only permitted value in Version 5.1 of MarkMagic is B for Bottom).
- **Top Margin** - Applies to laser and forms printers only. Type the amount of the non-printable area at the top of the form in hundredths of an inch, or hundredths of a millimeter.
- **Side Margin** - Applies to laser and forms printers only. Type the amount of the non-printable area at the side of the form in hundredths of an inch, or hundredths of a millimeter.
- **Rotation** - Key in the amount you wish to rotate the label — 90, 180, 270 degrees, or 0 for no rotation. PAGE FORWARD to the next Work with Format Definition screen.

Session A - [24 x 80]

Work with Format Definition

Device : HPPCL5
Format : BDFORMAT2

Type choices, press Enter.

Batch default values:

Quantity	<u>1</u>	1 - 99
Reference field	<u> </u>	Field name, F4 for field list
Parts across	<u>1</u>	1 - 8
Parts down	<u>1</u>	1 - 12
Repetition	<u>1</u>	1 - 999

Batch control fields Y Y=Yes, N=No

Master format Master format name, F4 for list

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel

MA a 09/036

1902 - Session successfully started

- **Batch default values** - These are specific values that control the printing of labels unless overridden at print time.
 - **Quantity** - The default number of labels you want to print for each record in a batch. If you wish to use MarkMagic's AutoQuantity feature to automatically print a quantity of labels or forms for each record based on database information, tab to Reference Field.
 - **Reference field** - This field is optional. You may choose the database field that will contain the quantity for each record that MarkMagic will refer to at printing time. To complete the AutoQuantity format definition, the referenced database field for quantity must also be defined in the label file as either a data, bar code, or text field.
 - **Parts across** - The number of formats across the forms width. After you design your format, it will be replicated across the supply width at print time by the number of parts across specified.
 - **Parts down** - The number of formats down the forms length. After you design your format, it will be replicated down the forms length at print time by the number of parts down specified.
 - **Cut**— The Cut parameter determines how a thermal printer with an optional printer knife cuts supplies during printing. Because the knife edge is not at the same physical location as the printhead, the last ticket in a batch will be left in the printer unless instructed to cut. If so instructed, the printer advances a blank ticket to advance the last ticket to the knife edge. Therefore, the values of the cut parameter should be selected based on your expected operating procedure. If you will be running interactive ticketing, and printing one or two tickets in a batch you will need to cut every ticket including the last ticket. But, if you're running

batch processing, you do not need to cut the last ticket — the printer doesn't have to advance a blank ticket. Subsequent batches will advance the last ticket of the previous batch to the knife edge for cutting. Permitted values are:

N - no, if you do not want the knife to cut any tickets.

Y - yes, if you want the knife to cut every ticket, but leave the last tag in the printer.

A - all tickets are to be cut, including last tag in the printer.

B - if you want the knife only to cut between batches.

- **Repetition** - How many 'sets' of the same label do you want to print. For example, to print the following six labels for each record in a batch, enter a value of 3 in the repetition parameter and a default quantity of 2.
- **Mode** - This parameter controls feeding of supplies and batch separators, and also works in conjunction with the cut parameter. Permitted values are:
 - C (default)** - in Continuous mode, all labels in a batch are printed without pause on one strip of supply.
 - D** - on Demand mode, feeds one label at a time to the operator, and when the label is taken from the printer, the next label is printed and presented. This parameter also controls the rewinding of backing paper if a takeup motor (optional) is installed.
 - B** - Back feed mode, an alternate "on demand" mode for supplies with a label gap less than the distance between the tear bar and the printhead. Use back feed mode when you will be printing on demand, but not peeling and rewinding the backing paper.
 - F** - Form feed mode, the preferred alternate "on demand" mode for supplies with a label gap less than the distance between the tear bar and the printhead. Form feed mode is more efficient than back feed mode on certain printer device types.
 - N** - continuous mode, Separator off.
 - R** - continuous mode, Separator with black stripe on regular length label or tag.
 - S** - continuous mode, 3 mm Separator with black stripe.
 - T** - Continuous mode, double length Separator.
- **Batch name** - This field is optional. You may use it to assign a name to this particular batch. This name can be up to eight characters long. Depending upon your printer type, this optional naming convention can display the name of the current batch that is being printed on the printer's display panel. You can key in a specific name for the batch or use the special values *SEQ or *REF.
 - *SEQ = Displays the current record number being received from the AS/400.
 - *REF = Displays the value of a selected Reference Field in the current batch record being received from the System i.
- **Reference field** - This field is only used when Batch name field is *REF (Reference). Choose the database field that will contain the batch name value for each record that MarkMagic will refer to at label printing time. The Reference Field must be a data, bar code, or text field defined in the label file.
- **Batch Control Fields** - Specify if you wish the Batch Control Fields to be included when the Label file for this format is generated. The default is Yes.
- **Master Format** - use the drop-down menu to select a format for which this new format is dependent. For more information about Master and Dependent formats, see the **Master Formats Section**.

Press ENTER to accept your format definition and press ENTER to confirm. The Design a Format screen will be displayed.



Existing Formats

MarkMagic comes with a selection of predefined formats. We recommend that you go through the tutorials and experiment with copies of the supplied formats to learn how MarkMagic values affect your printer output and to become familiar with MarkMagic operations. Modify them by moving fields around, changing text fonts and colors, selecting varying densities for the bar code fields, and changing thicknesses of the lines and boxes. Adjust the supplied formats to fit *your* needs.



```

Session A - [24 x 80]
MAIN                                OS/400 Main Menu                                System:  CYBRA7

Select one of the following:

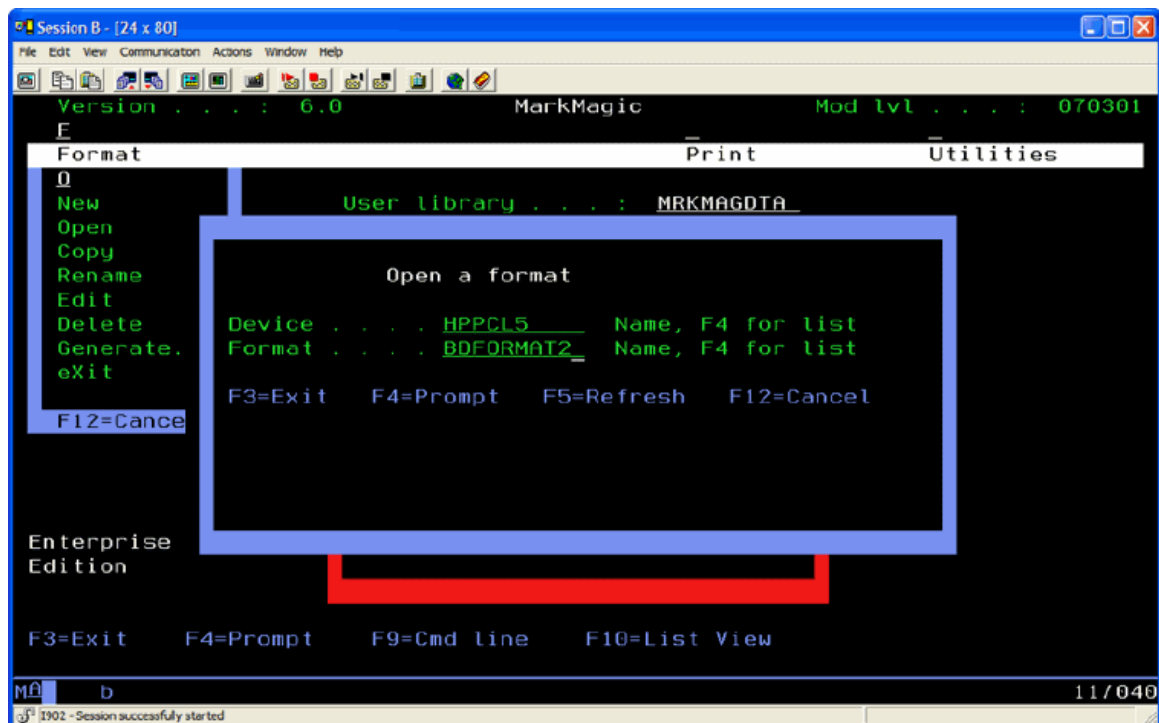
    1. User tasks
    2. Office tasks
    3. General system tasks
    4. Files, libraries, and folders
    5. Programming
    6. Communications
    7. Define or change the system
    8. Problem handling
    9. Display a menu
   10. Information Assistant options
   11. Client Access/400 tasks

   90. Sign off

Selection or command
==> strmrkmag

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F23=Set initial menu

MA  a                                20/007
1902 - Session successfully started
  
```



How To:

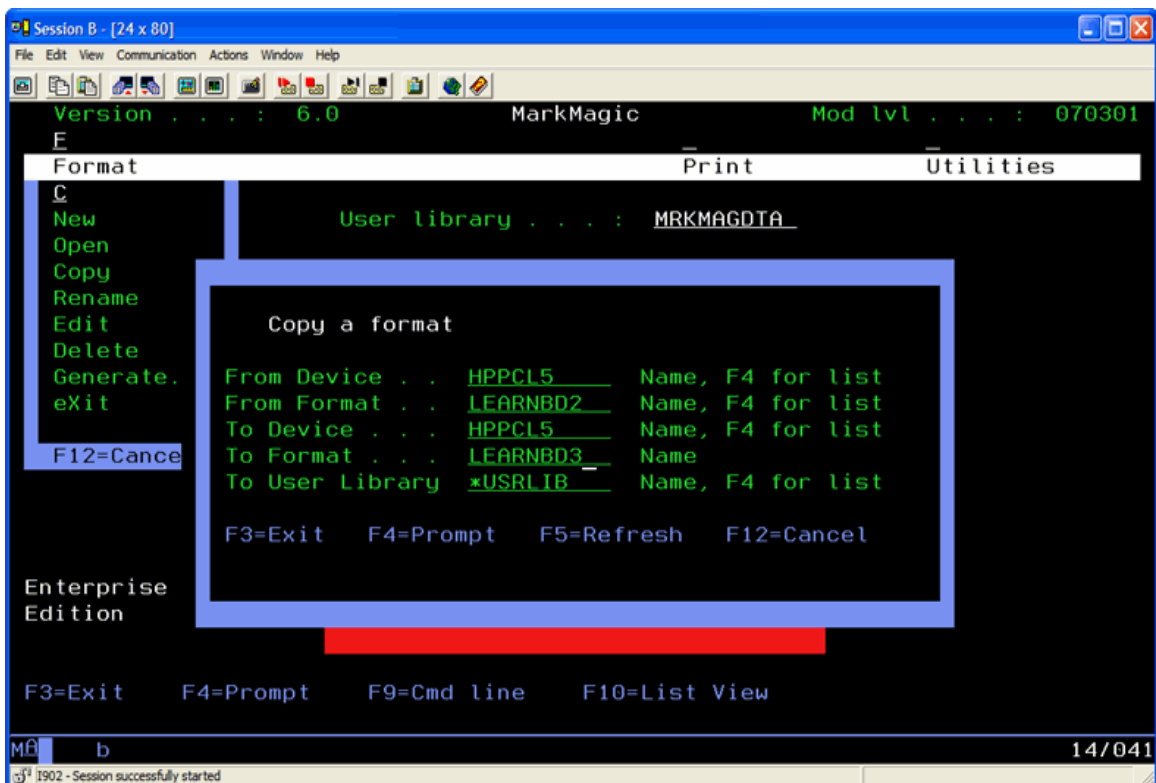
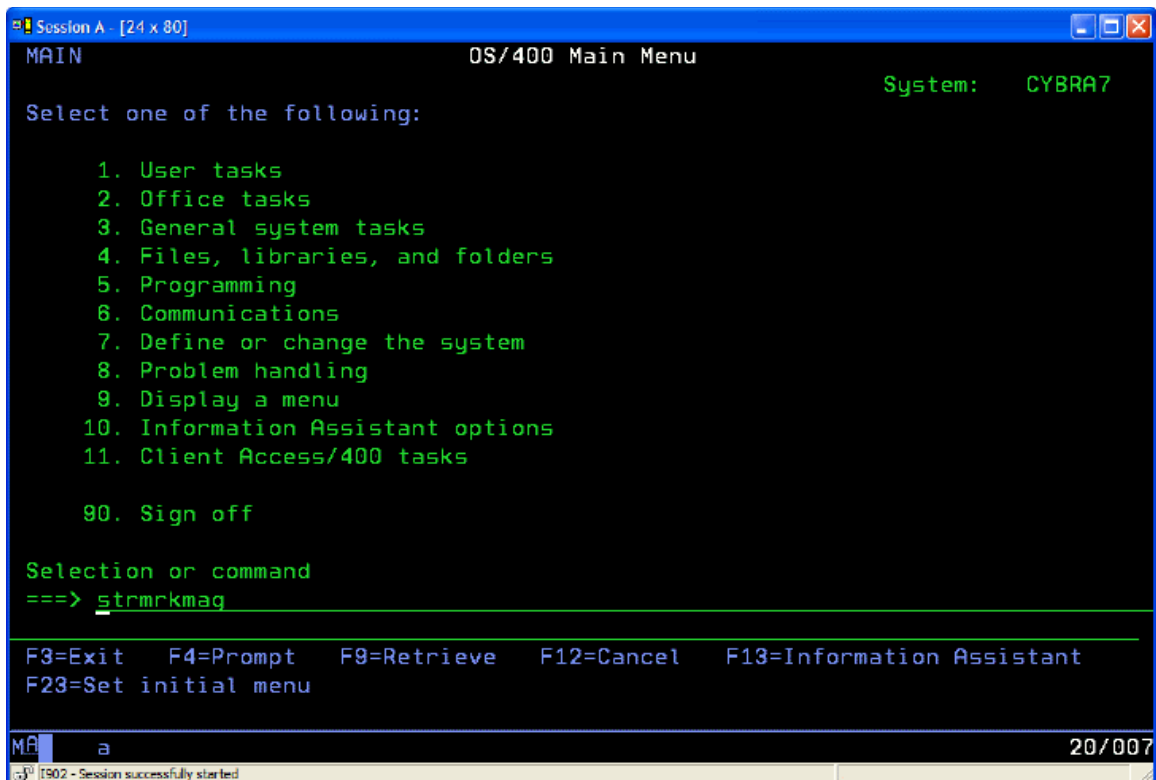
- Type `STRMRKMAG` from the command line to open the visual edit
- From the **format** menu, select the **Open Option**. This opens the **Open Format Screen**.
- Select the format you wish to open by navigating to its name and pressing the **Enter Key**. This will open the format into the **Virtual Canvas** for editing.



Copy Formats

Copying formats is a great way to jump start the design of a new format. By copying a format, you can modify it without the worry about accidentally saving over the original format





How To:

- Type STRMRKMAG from the command line to open the visual edit

- From the format menu, select the Copy a Format Option. This opens the Copy a Format window.
- Specify the device type and format to Copy from and specify the device type, format, and User Library to Copy to.
- Once copy operation is completed, open the copied format.



Note: If you have more than one printer type installed and you copy a format from one printer type to another, be aware that certain values (text fonts, bar code types and densities, etc.) may not be supported across all printer types. A copy “progress” window will show you which values were changed during the copy. You will need to print a layout of the copied format and modify field values to ensure the copy resembles the original when printed.



Session A [24 x 80]

Work with Formats - List View

Position to printer type

Position to format

Type option, press Enter.

1=Create 2=Change 3=Copy 4=Delete 5=Display

6=Print format 7=Rename 8=Work with fields

Opt	Ptr type	Name	Description	Length	Width
3	HPPCL5	LEARNBD2		11.00"	8.50"
—	HPPCL5	LEARNBD3		11.00"	8.50"
—	HPPCL5	LEARNCCC		11.00"	8.50"
—	HPPCL5	LEARNEFL	Tutorial example	2.00"	4.00"
—	HPPCL5	LEARNGJK	tutorial format	11.00"	8.50"
—	HPPCL5	LEARNJWH	KENJTEST	3.00"	3.00"
—	HPPCL5	LEARNJWH2	KENJTEST	3.00"	3.00"
—	HPPCL5	LEARNKC	JMagic/400 Form Tutorial	11.00"	8.50"
—	HPPCL5	LEARNKWH	Form	11.00"	8.50"
—	HPPCL5	LEARNMIK	Test Format for Mike	11.00"	8.50"

More...

F3=Exit F5=Refresh F9=Command line F10=Design view

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MA a 13/003

1902 - Session successfully started

Session A - [24 x 80]

Copy a Format Definition

Device : HPPCL5
 Format : LEARNBD2
 To format name : LEARNBD3
 Device : HPPCL5
 User library : *USRLIB
 Description :

 Unit of measure : IN
 Length : 11.00
 Width : 8.50

 Forms length : 11.00 Letter (8.5 x 11")
 Forms width : 8.50
 Measure from : B
 Top margin :
 Side margin :
 Rotation : 0

 More...

This format is about to be copied, along with all its fields.
 Press Enter to confirm, or F12 to cancel.

MA a 05/041

1902 - Session successfully started

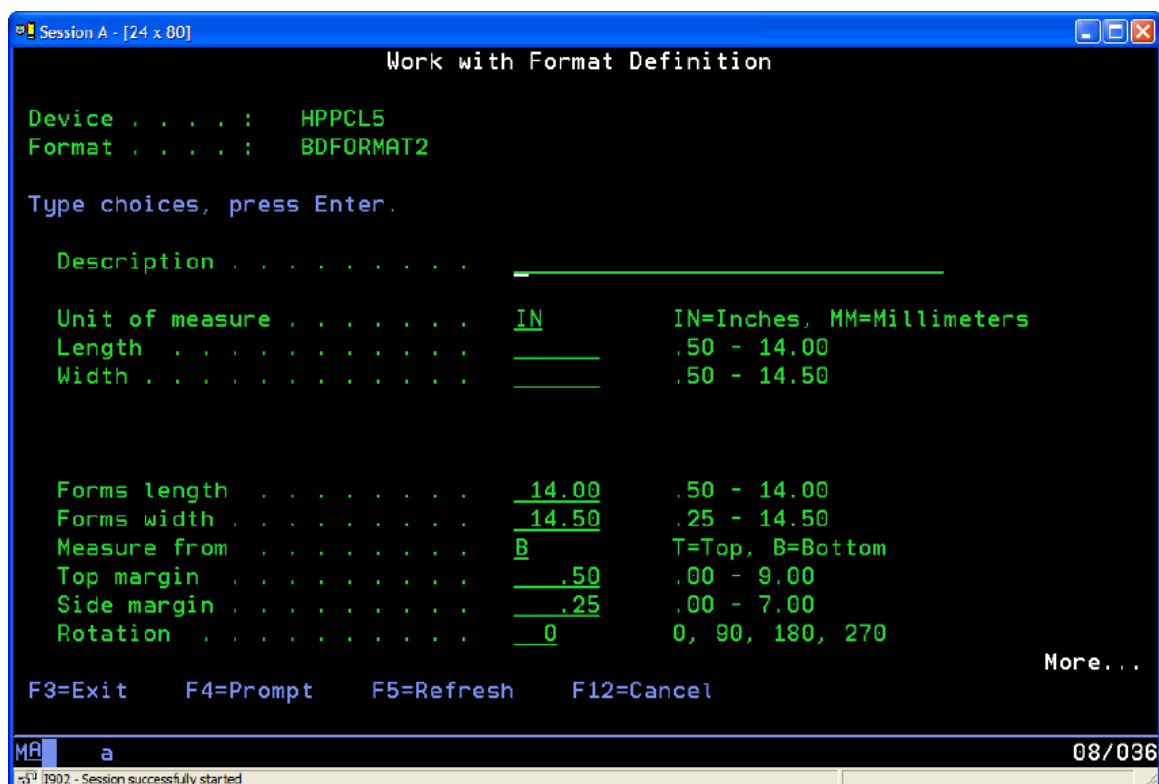
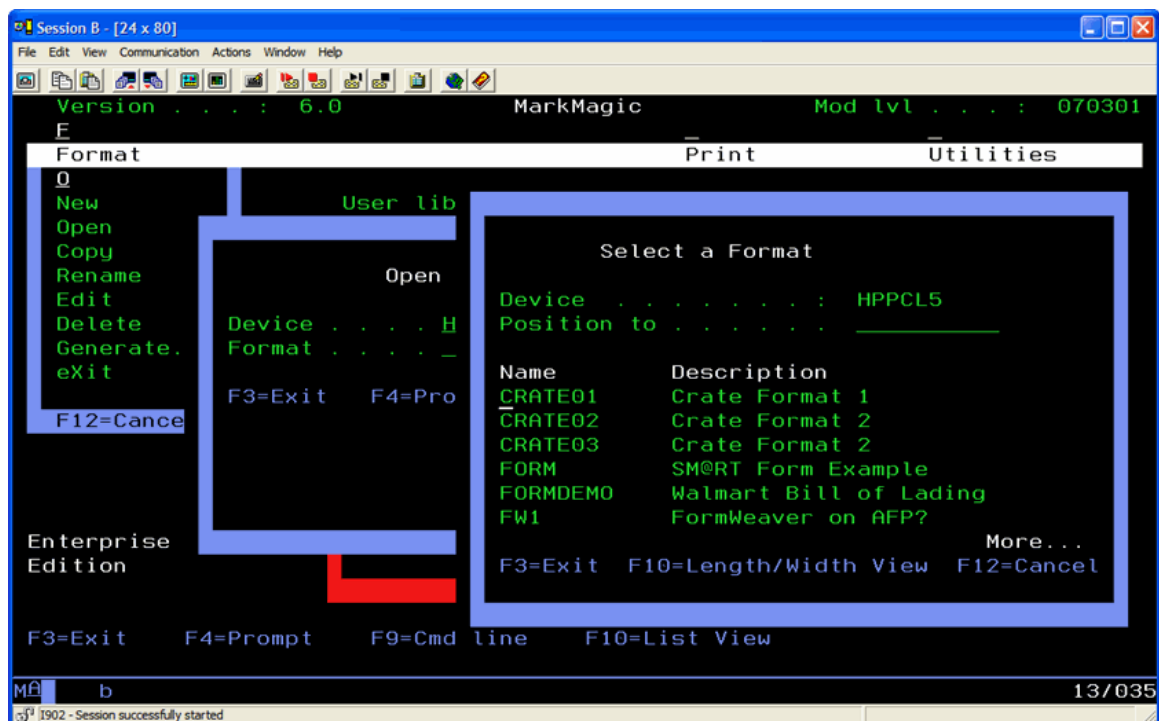
How To:

- On the Work with Formats - List View screen, tab to the Opt (Option) field next to the format you wish to copy, type 3 (Copy). Press Enter. This opens the Copy a Format Screen.

Edit a Format

You can edit the parameters of an existing or copied format.





How To:

- Select **Edit** from the **Format Menu** and press **F4** to display a list of formats.
- Press the **Enter Key** twice to open the **Format Definition Window** where you can specify format parameters.



Session A - [24 x 80]

Work with Formats - List View

Position to printer type _____
 Position to format _____

Type option, press Enter.
 1=Create 2=Change 3=Copy 4=Delete 5=Display
 6=Print format 7=Rename 8=Work with fields

Opt	Ptr type	Name	Description	Length	Width
2	HPPCL5	BDFORMAT2	Format Example	11.00"	8.00"
—	HPPCL5	BIBBY4CPY3	Bibby Test for CE logo	11.00"	8.50"
—	HPPCL5	BIBBY4J	Bibby Test for CE logo	11.00"	8.50"
—	HPPCL5	BIBBY5	Test Bibbi	11.00"	8.50"
—	HPPCL5	BIBBY6	John Ross test	11.00"	8.50"
—	HPPCL5	BIBBY7	bibby 7	11.00"	8.50"
—	HPPCL5	BILLOFLA	bILL OF lADING	4.00"	3.00"
—	HPPCL5	BILLOFLA2	bILL OF lADING	4.00"	3.00"
—	HPPCL5	BOLMAIN	vics main -one page	11.00"	8.50"
—	HPPCL5	BOLMAIN12	vics main -one page	11.00"	8.50"

More...

F3=Exit F5=Refresh F9=Command line F10=Design view
 (c) Copyright CYBRA Corp. 1991, 2005

MA a 13/003

1902 - Session successfully started

Session A - [24 x 80]

Work with Format Definition

Device HPPCL5
 Format BDFORMAT2

Type choices, press Enter.

Description _____

Unit of measure IN IN=Inches, MM=Millimeters
 Length _____ .50 - 14.00
 Width _____ .50 - 14.50

Forms length 14.00 .50 - 14.00
 Forms width 14.50 .25 - 14.50
 Measure from B T=Top, B=Bottom
 Top margin50 .00 - 9.00
 Side margin25 .00 - 7.00
 Rotation 0 0, 90, 180, 270

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel

MA a 08/036

1902 - Session successfully started

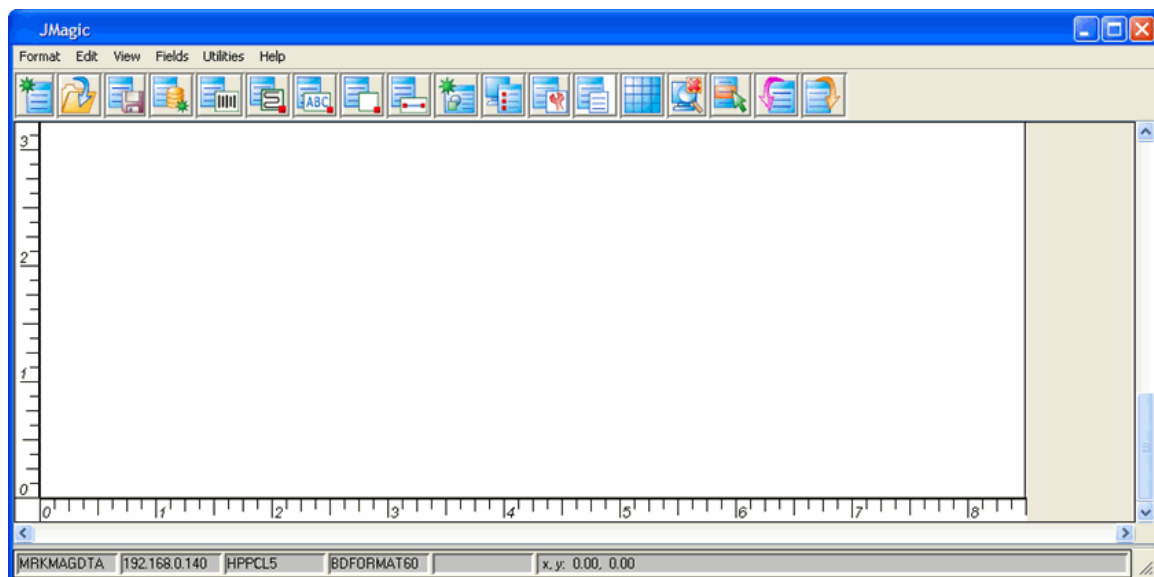
How To:

- On the Work with **Formats - List View** screen, tab to the **Opt (Option)** field next to the format you wish to edit, type 2 (Edit). Press Enter. This opens the **Work With Format Definition Screen**.

JMagic

Format Design Area (JMagic)

Designing a format in JMagic is carried out through the Design Area. This design area is a “canvas” where you can place, move, and work with elements on your format.



Format elements are added through the buttons in the main button bar and can be dragged and placed around the Design Area by clicking and moving. For more information about creating fields on the Virtual Canvas, see the appropriate field-type section.

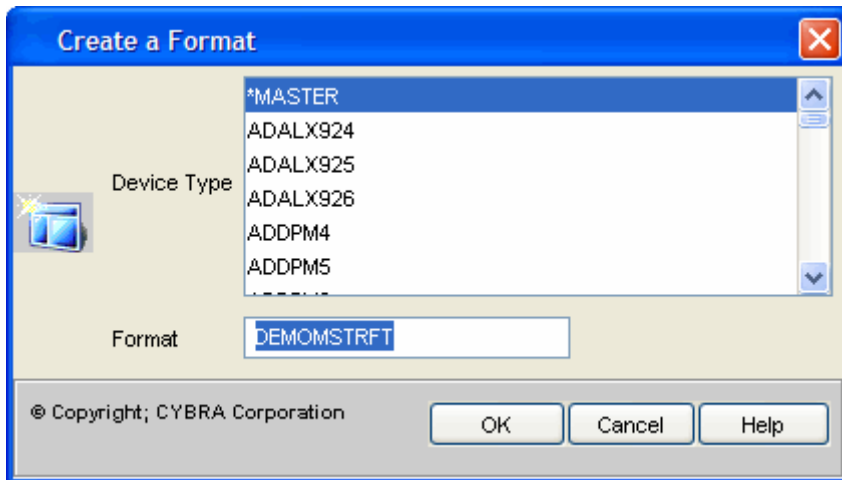
Master Formats



Create a Master Format

Master Formats allow customers to maintain one label format, one label file, and one label DDS, and have any number of formats dependent on each Master Format. The dependent formats inherit the fields of the Master Format, reducing considerably the time needed to maintain a label format library. If a new field, for example, needs to be added, only the Master Format needs to be modified and all dependent formats can instantly use the new field.

Master formats contain Data fields only. Other “Dependent” formats refer to Master formats, linking to the Data fields as needed. Dependent format variable Text and Bar Code fields are linked to their associated Master fields. This makes it easier to maintain many formats, especially across different device types, without having to deal with Data field changes and resulting label file impact to each individual format.



How To:


- Click the New Format Button or select the New Format Option from the File Menu.
- Specify *MASTER for the Device Type.
- Create a name for the new format
- Click OK.

Formats



Creating a New Format

How To:

- Click the  **New Format Button** or select the **New Format Option** from the **File Menu**.
- To create a new format, you must define the following
 - Device—select a device from the drop-down menu
 - Name—create a name for the new format
- This opens the **Create a New Format Window**.

Properties:

Create a New Format

Device
 Name: HPPCL5
 Description: & Compatible

Format
 Name: JFORMAT60
 Length: 0.0" Width: 0.0"
 Description:
 Rotation: 0°

Properties | Options | Batch

General
 Description:
 Unit of Measure: ☒ Inches ☐ MM
 Measure From: ☐ Top ☒ Bottom
 Rotation: ☒ 0° ☐ 90° ☐ 180° ☐ 270°

Size
 Format Length: 0.0" Format Width: 0.0"
 Forms Length: 14.0" Forms Width: 14.5"
 Letter: (9.5 x 11")

Form Settings
 Margins: Top Margin: 0.0" Side Margin: 0.0"
 Parts: Parts Across: 1 Parts Down: 1

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OK Cancel Help

General

- **Description** - A description of the format for documentation purposes.
- **Unit of measure** - Based on your preference, format definition and field placement measurements can be either in inches or in millimeters. Specify IN to measure in inches or MM for millimeters. The default is IN for inches. Convert the Unit of Measure for the entire format, change the Unit of Measure to the alternate value (from inches to millimeters, or millimeters to inches) and JMagic will prompt you to proceed with converting the unit of measure for the format.

Size

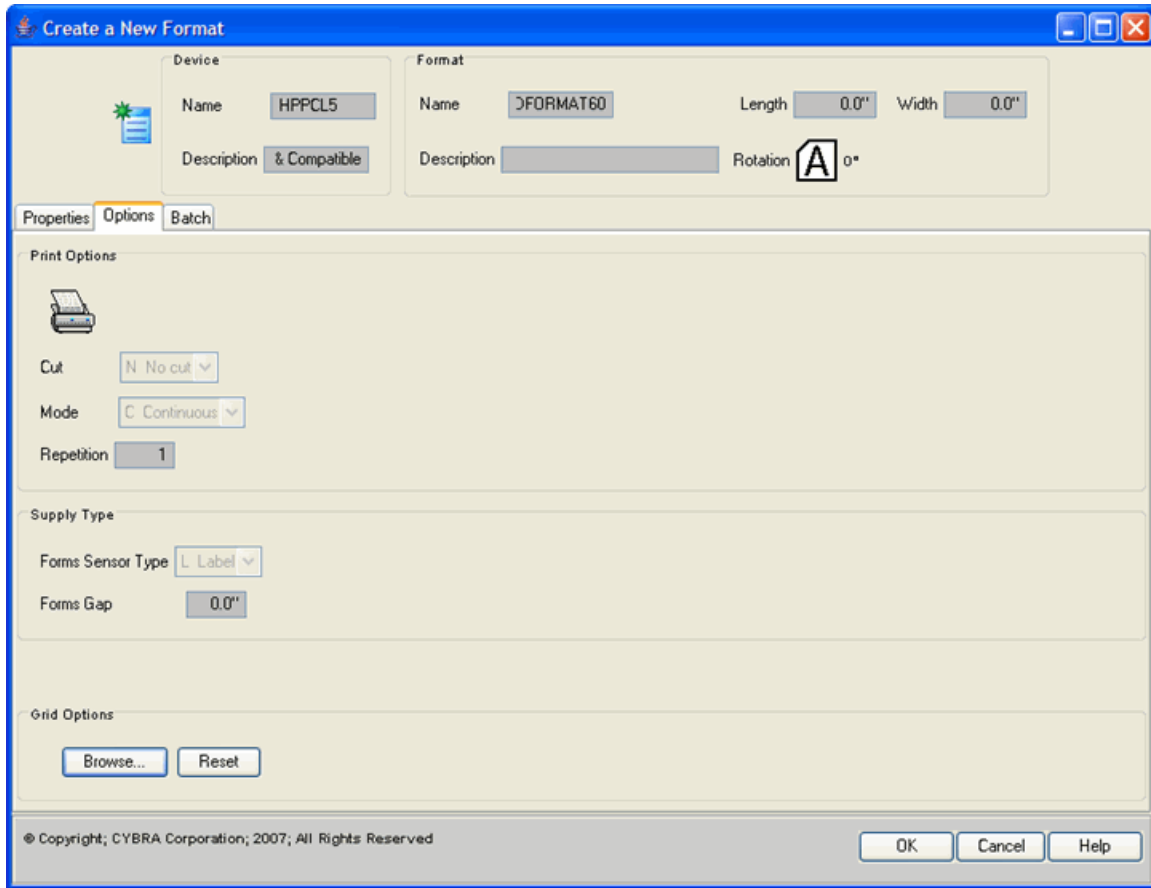
- **Length** - If your format definition will require you to enter a forms gap (see below), and parts down (see below) will be equal to 1, measure the length from the top of one label to the top of the next label. If you will not be entering a forms gap, and your parts down will be equal to 1, measure from the top of the label to the bottom. If you will be If the supply is not die cut label stock (it's a butt cut label, a tag or a ticket), measure from the top of one index mark (either a black mark or an aperture) to the top of the next index mark. Make sure measurements are exact. If you estimate the size of your label or tag instead of defining exact measurements, your format may not print, you may receive an error message, or your format may print but not appear the way you anticipated.
- **Width** - Width is always measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Based on the

unit of measure you selected in the previous field, key in tenths of millimeters or hundredths of an inch.

Form Setting

- **Forms length** - If your format definition will require you to enter parts across and parts down (see below), measure the forms length from the top of one label to the top of the next label. Otherwise, measure from the top of the label to the bottom.
- **Forms Width** – Width is always measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Based on the unit of measure you selected in the previous field,
- **Top Margin** - Applies to laser and forms printers only. Type the amount of the non-printable area at the top of the form in hundredths of an inch, or hundredths of a millimeter.
- **Side Margin** - Applies to laser and forms printers only. Type the amount of the non-printable area at the side of the form in hundredths of an inch, or hundredths of a millimeter.
- **Parts Across** – The number of labels across the supply width. The maximum number is printer dependent. To use this feature, be sure to define the format width based on a single label width, not the total supply width. After you design your format, it will be replicated across the supply width at print time by the number of parts specified. The default is 1.
- **Parts Down** – The number of labels down the supply length. The maximum number is printer dependent. To use this feature, be sure to define the format length based on a single label length, not the total supply length. After you design your format, it will be replicated down the forms length at print time by the number of parts down specified. The default is 1.

Options:



- **Cut** – The Cut parameter determines how a thermal printer with an optional printer knife cuts supplies during printing. Because the knife edge is not at the same physical location as the printhead, the last ticket in a batch will be left in the printer unless instructed to cut. If so instructed, the printer advances a blank ticket to advance the last ticket to the knife edge. Therefore, the values of the cut parameter should be selected based on your expected operating procedure. If you will be running interactive ticketing, and printing one or two tickets in a batch you will need to cut every ticket including the last ticket. But, if you're running batch processing, you do not need to cut the last ticket -- the printer doesn't have to advance a blank ticket. Subsequent batches will advance the last ticket of the previous batch to the knife edge for cutting.

Permitted values are:

- **N** – No, if you do not want the knife to cut any tickets.
- **Y** - Yes, if you want the knife to cut every ticket, but leave the last tag in the printer.
- **A** – all tickets, including last tag in the printer.
- **B** - if you want the knife only to cut between batches.

The default is **N**.

- **Mode** – This parameter controls feeding of supplies and batch separators, and works in conjunction with the cut parameter. Permitted values are:
 - **C** – in Continuous mode, all labels in a batch are printed without pause on one strip of supply.

- **D** – On Demand mode, feeds one label at a time to the operator, and when the label is taken from the printer, the next label is printed and presented. This parameter also controls the rewinding of backing paper if a takeup motor (optional) is installed.
 - **B** - Back feed mode, an alternate on demand mode for supplies with a label gap less than the distance between the tear bar and the printhead. Use back feed mode when you will be printing on demand, but not peeling and rewinding the backing paper.
 - **N**- Continuous mode, separator off
 - **R** – Continuous mode, Separator with black stripe on regular length label or tag.
 - **S** – Continuous mode, 3 mm separator with black stripe
 - **T** - Continuous mode, double length separator
- The default is C, for Continuous feed mode.
- **Repetition** – How many "sets" of the same label do you want to print. Important if you will be using incrementing fields and wish to repeat the incrementing values on multiple sets of labels. The default is 1.

Supply Type

- **Sensor Type** - You need to specify sensor type in the format definition when your selected printer type does not have an off-line printer configuration option for supply type. This value instructs the printer (usually a thermal printer) which supply sensor to enable. There are two basic types of sensors -- reflective and transmissive -- but a printer can have multiple sensors of each type installed. Reflective mechanisms sense either the presence of a black mark on the back (non-printing side) of the supply, or sense the presence or absence of the actual supply itself (used most often with a notched tag or stock that has center apertures -- holes -- punched between tickets). Transmissive mechanisms sense the gap between adjacent die cut labels. Alternately, it may be possible to disable supply sensing. Some printers permit the use of non-indexed supplies, i.e., forms which have no black mark, label gap, or aperture and rely solely on the format measurement instructions sent by MarkMagic. These supplies permit the mixing of variable length formats in a single stream.

When defining a format enter:

- **B** - If your supply is indexed with a black mark at the center.
- **E** – If your supply is indexed with a black mark on the edge.
- **L** – If your supply is a one-up die cut label.
- **M** – If your supply is a die cut label stock with more than one label across the width.
- **T** – If your supply is a tag indexed with a center aperture.
- **P** – If your supply is a label and will be used in a peel off, on demand mode (see Mode).
- **O** - If your supply is non-indexed and you wish to disable all supply sensors.
- **Forms Gap** - When you measure the length of a format from the top of one die-cut label to the top of the next die-cut label, measure and enter the exact space between the adjacent labels. A typical industry standard gap is .12" (an eighth of an inch). Measure your supply to be sure.

Grid Options –

Batch

The screenshot shows the 'Create a New Format' dialog box with the 'Batch' tab selected. The dialog is organized into several sections:

- Device:** Name: HPPCL5, Description: & Compatible.
- Format:** Name: >FORMAT60, Length: 0.0", Width: 0.0", Rotation: A 0°.
- Batch Default Values:** Quantity: 1, Reference Field: (empty), Browse... button.
- Batch Name:** Batch Name: (empty), Reference Field: (empty), Browse... button, Batch Control Fields: Yes (selected), No.
- Master:** Master Format: *NONE (dropdown menu).

At the bottom, there is a copyright notice: © Copyright; CYBRA Corporation; 2007; All Rights Reserved, and buttons for OK, Cancel, and Help.

- **Quantity** – The default number of labels you want to print for each record in a batch. The default is 001. If you wish to use MarkMagic's AutoQuantity feature to automatically print a quantity of labels for each record based on database information, tab to Reference Field.
- **Reference Field** – Choose the database field that will contain the quantity for each record that MarkMagic will refer to at label printing time. To complete the AutoQuantity format definition, the referenced database field for quantity must also be defined in the label file as either a data, bar code, or text field.
- **Batch Name** – The name given to this particular batch. This name can be up to eight characters long. Depending upon your printer type, this optional naming convention can display the name of the current batch that is being printed on the printer's display panel. You can key in a specific name for the batch or use the special values *SEQ or *REF.
 - ***SEQ** – Displays the current record number being received from the AS/400.
 - ***REF** - Displays the value of a selected Reference Field in the current batch record being received from the AS/400.

- **Reference Field** – Choose the database field that will contain the batch name value for each record that MarkMagic will refer to at label printing time. The Reference Field must be a data, bar code, or text field defined in the label file.
- **Batch Control Fields** – These are specific values that control the printing of labels unless overridden at print time.
- **Master Format** - Master Formats allow customers to maintain one label format, one label file, and one label DDS, and have any number of formats dependent on each Master Format. The dependent formats inherit the fields of the Master Format, reducing considerably the time needed to maintain a label format library. If a new field, for example, needs to be added, only the Master Format needs to be modified and all dependent formats can instantly use the new field.



Create a New Format Window

New formats within JMagic are defined through the Create a New Format Window.

Create a New Format

Device: Name: HPPCL5, Description: & Compatible

Format: Name: JFORMAT60, Length: 0.0", Width: 0.0", Description: , Rotation: A 0°

Properties | Options | Batch

General

Description:

Unit of Measure: ☒ Inches ☐ MM

Measure From: ☐ Top ☒ Bottom

Rotation: A 0° 90° 180° 270°

Size

Format: Format Length: 0.0", Format Width: 0.0"

Forms: Forms Length: 14.0", Forms Width: 14.5"

Letter: (3.5 x 11")

Form Settings

Margins: Top Margin: 0.0", Side Margin: 0.0"

Parts: Parts Across: 1, Parts Down: 1

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OK Cancel Help

The **Create a New Format Window** is divided into three tabs

- [Properties](#)
- [Options](#)
- [Batch](#)

Properties Tab

The **Properties Tab** has the following fields that you can define

- **Description** - a brief description of the format
- **Unit of Measure** - select inches or MM
- **Measure From** - select whether to measure the size of the format from the Top or the Bottom. (The only permitted value in Version 5.1 of MarkMagic is B for Bottom).
- **Rotation** - select the rotation of the format
- **Format Length** - specify a length (in the Unit of Measure)
- **Format Width** - specify a width (in the Unit of Measure)
- **Forms Length** - specify a length of forms
- **Forms Width** - specify a width of forms
- **Top Margin** - specify a top margin height for the form
- **Side Margin** - specify a side margin width for the form
- **Parts Across** - The number of formats across the forms width. After you design your format, it will be replicated across the supply width at print time by the number of parts across specified.
- **Parts Down** - The number of formats down the forms length. After you design your format, it will be replicated down the forms length at print time by the number of parts down specified.

Options Tab

Create a New Format

Device
 Name: HPPCL5
 Description: & Compatible

Format
 Name: >FORMAT60
 Length: 0.0\"
 Width: 0.0\"
 Description:
 Rotation: A 0°

Properties Options Batch

Print Options

Cut: N No cut
 Mode: C Continuous
 Repetition: 1

Supply Type

Forms Sensor Type: L Label
 Forms Gap: 0.0\"

Grid Options

Browse... Reset

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OK Cancel Help

- **Cut**—use the drop-down menu to select how the printer will print multiple copies. Options include
 - **N (No Cut)** - the printer will print continuously
 - **A (Cut All Tickets)** - the printer will print each new output separately
 - **B (Cut Between Batches)** - the printer will print each new batch separately
- **Mode**—use the drop-down menu to select a mode. Options include
 - **C (default)** - in Continuous mode, all labels in a batch are printed without pause on one strip of supply.
 - **D** - on Demand mode, feeds one label at a time to the operator, and when the label is taken from the printer, the next label is printed and presented. This parameter also controls the rewinding of backing paper if a takeup motor (optional) is installed.
 - **B** - Back feed mode, an alternate “on demand” mode for supplies with a label gap less than the distance between the tear bar and the printhead. Use back feed mode when you will be printing on demand, but not peeling and rewinding the backing paper.
 - **F** - Form feed mode, the preferred alternate “on demand” mode for supplies with a label gap less than the distance between the tear bar and the printhead. Form feed mode is more efficient than back feed mode on certain printer device types.
 - **N** - continuous mode, Separator off.

- **R** - continuous mode, Separator with black stripe on regular length label or tag.
- **S** - continuous mode, 3 mm Separator with black stripe.
- **T** - Continuous mode, double length Separator.
- **Repetition** - When a record quantity is greater than 001, and fields are incrementing or decrementing, it indicates the number of times to reset the initial value that is incremented or decremented.
- **Forms Sensor Type**—use the drop-down menu to select a Forms Sensor Type. Options include
 - **B** - if your supply is indexed with a black mark at the center.
 - **E** - if your supply is indexed with a black mark on the edge.
 - **L** - if your supply is a one-up die cut label.
 - **M** - if your supply is a die cut label stock with more than one label across the width.
 - **T** - if your supply is a tag indexed with a center aperture.
 - **P** - if your supply is a label and will be used in a “peel off,” on demand mode
 - **O** - if your supply is non-indexed and you wish to disable all supply sensors.

Batch

Create a New Format

Device

Name: HPPCL5
Description: & Compatible

Format

Name: JFORMAT60
Length: 0.0" Width: 0.0"
Description:
Rotation: A 0°

Batch

Batch Default Values

Quantity:
Reference Field:

Batch Name

Batch Name:
Reference Field:

Batch Control Fields: ☒ Yes ☐ No

Master

Master Format: *NONE

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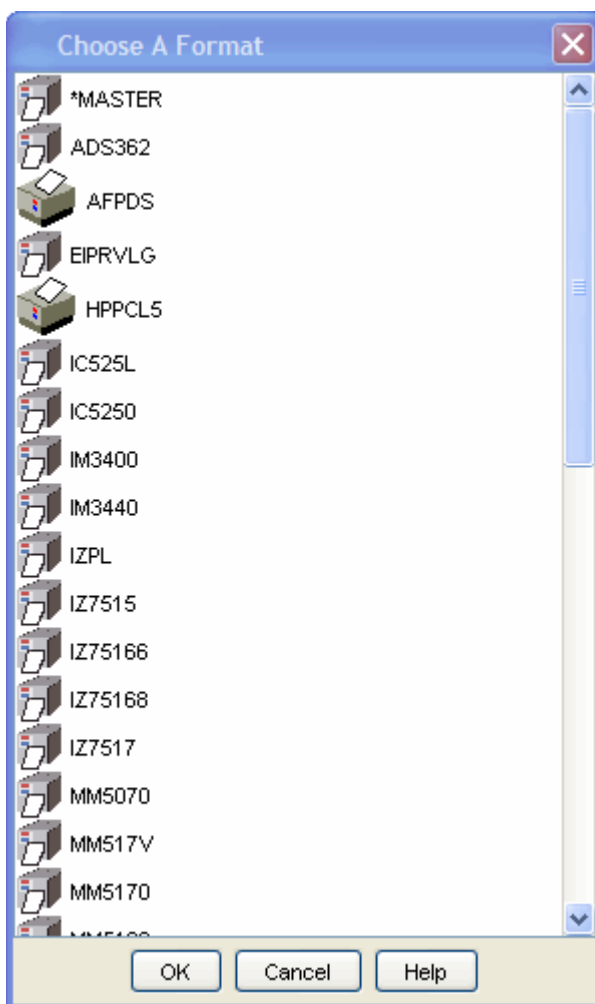
- **Quantity** - define the quantity for a batch

- **Reference Field** - This field is optional. You may choose the database field that will contain the quantity for each record that MarkMagic will refer to at printing time.
- **Batch Name** - specify a name for the batch
- **Batch Control Fields** - Specify if you wish the Batch Control Fields to be included when the Label file for this format is generated. The default is Yes.
- **Master Format** - use the drop-down menu to select a format for which this new format is dependent. For more information about Master and Dependent formats, see the **Master Formats Section**.




Open Formats

MarkMagic comes with a selection of predefined formats. We recommend that you go through the tutorials and experiment with copies of the supplied formats to learn how MarkMagic values affect your printer output and to become familiar with MarkMagic operations. Modify them by moving fields around, changing text fonts and colors, selecting varying densities for the bar code fields, and changing thicknesses of the lines and boxes. Adjust the supplied formats to fit *your* needs.



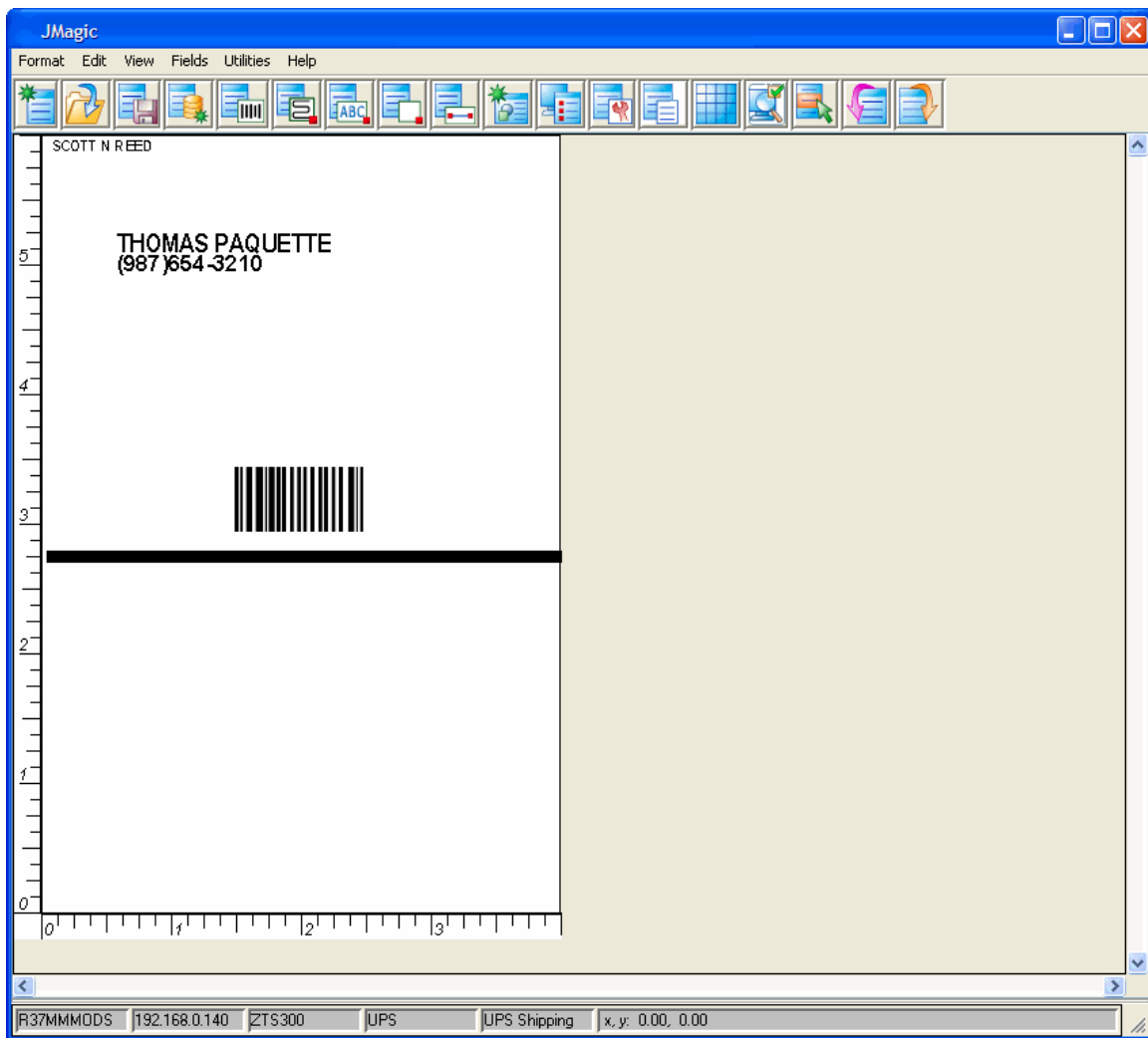
How To:

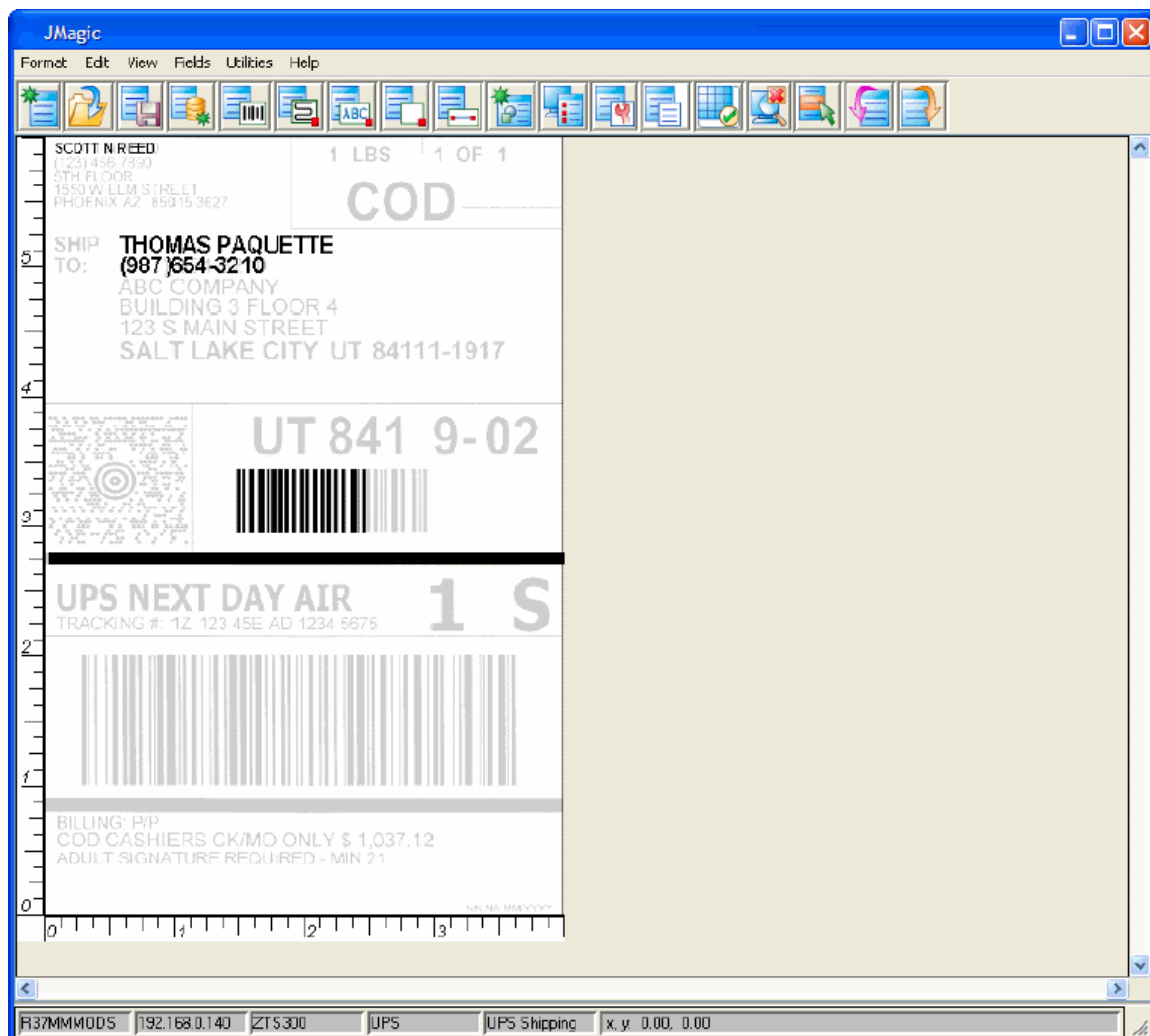
- Click the  **Open Format Button** or select the **Open Format Option** from the **File Menu**.
- Double-click on a format from the available list
- Double-click on the format name
- This will open the format into the Design Area



Templates & Grids

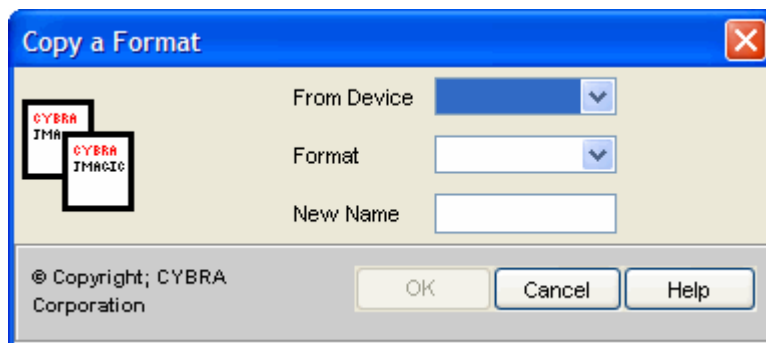
To speed your design of a new label, an image of your target label or form can be scanned and imported into JMagic as a Template. When you enable a template in the design session, a light gray image of the template will appear as a backdrop on your canvas. You can design the format over the template by overlaying the lines, boxes, text, bar codes, and graphics literally tracing them to make sure they match. For example: a template of a UCC128 Compliance label would help speed the design process and help you ensure compliance. Click on the Template/Grid toolbar icon to toggle back and forth between template and standard view (see below).





Copy Formats

Copying formats is a great way to jump start the design of a new format. By copying a format, you can modify it without the worry about accidentally saving over the original format



How To:

- Select the **Copy Format Option** from the **File Menu**.
- Specify the device and format you wish to copy
- Enter a new name for the copied format
- Open the newly copied format onto the Design Area



Edit a Format

How To:

- Open an existing format
 - Select the **Edit Option** from the **File Menu**. This will open the **Edit a Format Window** (the same parameters as [Create a New Format Window](#)).

This window is broken into three tabs

- [Properties](#)
- [Options](#)
- [Batch](#)

Properties:

Edit a Format

Device: Name Description

Format: Name Length Width Description Rotation 0°

Properties Options Batch

General

Description

Unit of Measure ☒ Inches ☐ MM

Measure From ☐ Top ☒ Bottom

Rotation ☒ 0° ☐ 90° ☐ 180° ☐ 270°

Size

Format: Format Length Format Width

Forms: Forms Length Forms Width

Form Settings

Margins: Top Margin Side Margin

Parts: Parts Across Parts Down

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OK Cancel Help

General

- **Description** - A description of the format for documentation purposes.
- **Unit of measure** - Based on your preference, format definition and field placement measurements can be either in inches or in millimeters. Specify IN to measure in inches or MM for millimeters. The default is IN for inches. Convert the Unit of Measure for the entire format, change the Unit of Measure to the alternate value (from inches to millimeters, or millimeters to inches) and JMagic will prompt you to proceed with converting the unit of measure for the format.

Size

- **Length** - If your format definition will require you to enter a forms gap (see below), and parts down (see below) will be equal to 1, measure the length from the top of one label to the top of the next label. If you will not be entering a forms gap, and your parts down will be equal to 1, measure from the top of the label to the bottom. If you will be If the supply is not die cut label stock (it's a butt cut label, a tag or a ticket), measure from the top of one index mark (either a black mark or an aperture) to the top of the next index mark. Make sure measurements are exact. If you estimate the size of your label or tag instead of defining exact measurements, your format may not print, you may receive an error message, or your format may print but not appear the way you anticipated.
- **Width** - Width is always measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Based on the unit of measure you selected in the previous field, key in tenths of millimeters or hundredths of an inch.

Forms

- **Forms length** - If your format definition will require you to enter parts across and parts down (see below), measure the forms length from the top of one label to the top of the next label. Otherwise, measure from the top of the label to the bottom.
- **Width** – Width is always measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Based on the unit of measure you selected in the previous field,

Form Settings:

- **Top Margin** - Applies to laser and forms printers only. Type the amount of the non-printable area at the top of the form in hundredths of an inch, or hundredths of a millimeter.
- **Side Margin** - Applies to laser and forms printers only. Type the amount of the non-printable area at the side of the form in hundredths of an inch, or hundredths of a millimeter.-
- **Parts Across** – The number of labels across the supply width. The maximum number is printer dependent. To use this feature, be sure to define the format width based on a single label width, not the total supply width. After you design your format, it will be replicated across the supply width at print time by the number of parts specified. The default is 1.
- **Parts Down** – The number of labels down the supply length. The maximum number is printer dependent. To use this feature, be sure to define the format length based on a single label length, not the total supply length. After you design your format, it will be replicated down the forms length at print time by the number of parts down specified. The default is 1.

Options:

Edit a Format

Device
 Name: HPPCL5
 Description: & Compatible

Format
 Name: >FORMAT60
 Length: 0.0\"
 Width: 0.0\"
 Description:
 Rotation: A 0°

Properties Options Batch

Print Options

Cut: N No cut
 Mode: C Continuous
 Repetition: 1

Supply Type

Forms Sensor Type: L Label
 Forms Gap: 0.0\"

Grid Options

Browse... Reset

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OK Cancel Help

- **Cut** – The Cut parameter determines how a thermal printer with an optional printer knife cuts supplies during printing. Because the knife-edge is not at the same physical location as the printhead, the last ticket in a batch will be left in the printer unless instructed to cut. If so instructed, the printer advances a blank ticket to advance the last ticket to the knife-edge. Therefore, the values of the cut parameter should be selected based on your expected operating procedure. If you will be running interactive ticketing, and printing one or two tickets in a batch you will need to cut every ticket including the last ticket. But, if you're running batch processing, you do not need to cut the last ticket -- the printer doesn't have to advance a blank ticket. Subsequent batches will advance the last ticket of the previous batch to the knife-edge for cutting.

Permitted values are:

- **N** – No, if you do not want the knife to cut any tickets.
- **Y** - Yes, if you want the knife to cut every ticket, but leave the last tag in the printer.
- **A** – all tickets, including last tag in the printer.
- **B** - if you want the knife only to cut between batches.

The default is **N**.

- **Mode** – This parameter controls feeding of supplies and batch separators, and works in conjunction with the cut parameter. Permitted values are:
 - **C** – in Continuous mode, all labels in a batch are printed without pause on one strip of supply.

- **D** – On Demand mode, feeds one label at a time to the operator, and when the label is taken from the printer, the next label is printed and presented. This parameter also controls the rewinding of backing paper if a takeup motor (optional) is installed.
- **B** - Back feed mode, an alternate on demand mode for supplies with a label gap less than the distance between the tear bar and the printhead. Use back feed mode when you will be printing on demand, but not peeling and rewinding the backing paper.
- **N**- Continuous mode, separator off
- **R** – Continuous mode, Separator with black stripe on regular length label or tag.
- **S** – Continuous mode, 3 mm separator with black stripe
- **T** - Continuous mode, double length separator
- **Repetition** – How many "sets" of the same label do you want to print. Important if you will be using incrementing fields and wish to repeat the incrementing values on multiple sets of labels. The default is 1.
- **Sensor Type** - You need to specify sensor type in the format definition when your selected printer type does not have an off-line printer configuration option for supply type. This value instructs the printer (usually a thermal printer) which supply sensor to enable. There are two basic types of sensors -- reflective and transmissive -- but a printer can have multiple sensors of each type installed. Reflective mechanisms sense either the presence of a black mark on the back (non-printing side) of the supply, or sense the presence or absence of the actual supply itself (used most often with a notched tag or stock that has center apertures -- holes -- punched between tickets). Transmissive mechanisms sense the gap between adjacent die cut labels. Alternately, it may be possible to disable supply sensing. Some printers permit the use of non-indexed supplies, i.e., forms which have no black mark, label gap, or aperture and rely solely on the format measurement instructions sent by MarkMagic. These supplies permit the mixing of variable length formats in a single stream.

When defining a format enter:

- **B** - If your supply is indexed with a black mark at the center.
- **E** – If your supply is indexed with a black mark on the edge.
- **L** – If your supply is a one-up die cut label.
- **M** – If your supply is a die cut label stock with more than one label across the width.
- **T** – If your supply is a tag indexed with a center aperture.
- **P** – If your supply is a label and will be used in a peel off, on demand mode (see Mode).
- **O** - If your supply is non-indexed and you wish to disable all supply sensors.
- **Forms Gap** - When you measure the length of a format from the top of one die-cut label to the top of the next die-cut label, measure and enter the exact space between the adjacent labels. A typical industry standard gap is .12" (an eighth of an inch). Measure your supply to be sure.

Grid Options –

Batch

The screenshot shows the 'Edit a Format' dialog box with the 'Batch' tab selected. The 'Device' section shows 'Name: HPPCL5' and 'Description: & Compatible'. The 'Format' section shows 'Name: >FORMAT60', 'Length: 0.0"', 'Width: 0.0"', and 'Rotation: A 0°'. The 'Batch' tab contains the following sections:

- Batch Default Values:** 'Quantity' is set to '1'. 'Reference Field' has a 'Browse...' button.
- Batch Name:** 'Batch Name' is empty. 'Reference Field' has a 'Browse...' button. 'Batch Control Fields' has 'Yes' selected.
- Master:** 'Master Format' is set to '*NONE'.

At the bottom, there is a copyright notice: '© Copyright; CYBRA Corporation; 2007; All Rights Reserved' and buttons for 'OK', 'Cancel', and 'Help'.

- **Quantity** – The default number of labels you want to print for each record in a batch. The default is 001. If you wish to use MarkMagic's AutoQuantity feature to automatically print a quantity of labels for each record based on database information, tab to Reference Field.
- **Reference Field** – Choose the database field that will contain the quantity for each record that MarkMagic will refer to at label printing time. To complete the AutoQuantity format definition, the referenced database field for quantity must also be defined in the label file as either a data, bar code, or text field.

Batch Name – The name given to this particular batch. This name can be up to eight characters long. Depending upon your printer type, this optional naming convention can display the name of the current batch that is being printed on the printer's display panel. You can key in a specific name for the batch or use the special values *SEQ or *REF.

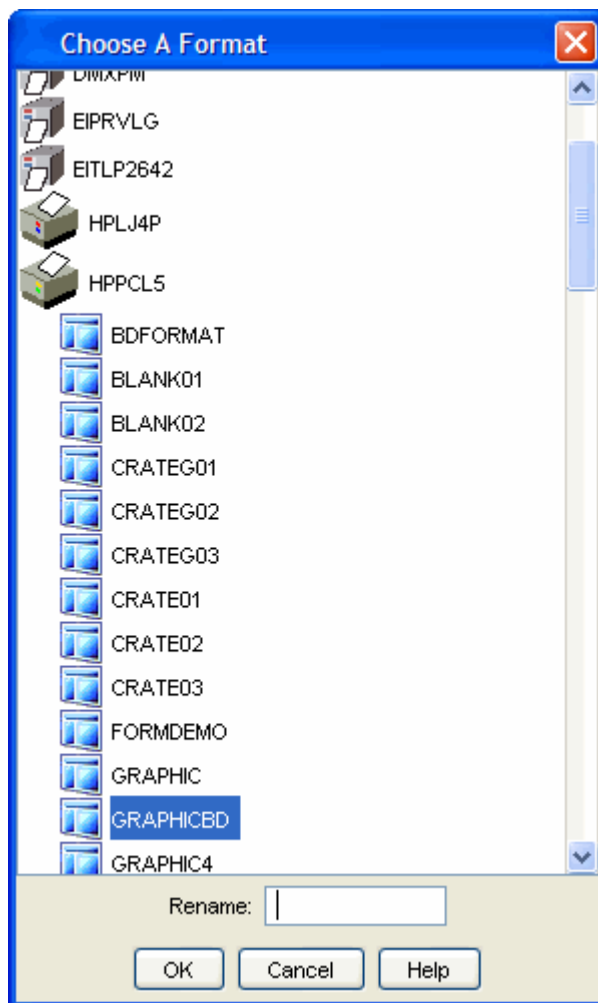
- ***SEQ** – Displays the current record number being received from the AS/400.
- ***REF** - Displays the value of a selected Reference Field in the current batch record being received from the AS/400.
- **Reference Field** – Choose the database field that will contain the batch name value for each record that MarkMagic will refer to at label printing time. The Reference Field must be a data, bar code, or text field defined in the label file.
- **Batch Control Fields** – These are specific values that control the printing of labels unless overridden at print time.
- **Master Format** - Master Formats allow customers to maintain one label format, one label file, and one label DDS, and have any number of formats dependent on

each Master Format. The dependent formats inherit the fields of the Master Format, reducing considerably the time needed to maintain a label format library. If a new field, for example, needs to be added, only the Master Format needs to be modified and all dependent formats can instantly use the new field.



Rename Format

Select Rename to give an existing format a new name. Choose the Device and Old Format Name you want to rename. Type the New Name you wish to give this format and click OK.



Working with Fields

Working With Fields

- [Creating Fields](#)
- [Working with Text Fields](#)
- [Working with BarCode Fields](#)
- [Working with Data Fields and Linking](#)
- [Working with Box and Line Fields](#)
- [Working with Graphics](#)
- [Working with RFID Fields](#)

Creating Fields

Creating Fields

In the previous chapter, “Designing Formats,” you learned how to describe general information about the format — the printer type you will be using, the orientation of the format, size and type of the supply, how field placement is measured, and other “default” values. In this chapter, we will introduce the concept of field definition.

Field definition is how you provide MarkMagic with specific instructions regarding where a field will appear on the label, what kind of field it is, how the field will look when printed, and from where the information in the field is supplied. In addition, MarkMagic offers powerful editing capabilities that can process information at print time.

This chapter covers:

- [The different field types](#)
- [Special field names](#)
- [How to create a Field Native System i](#)
- [How to create a Field JMagic](#)
- [How to select a variable database field Native System i](#)

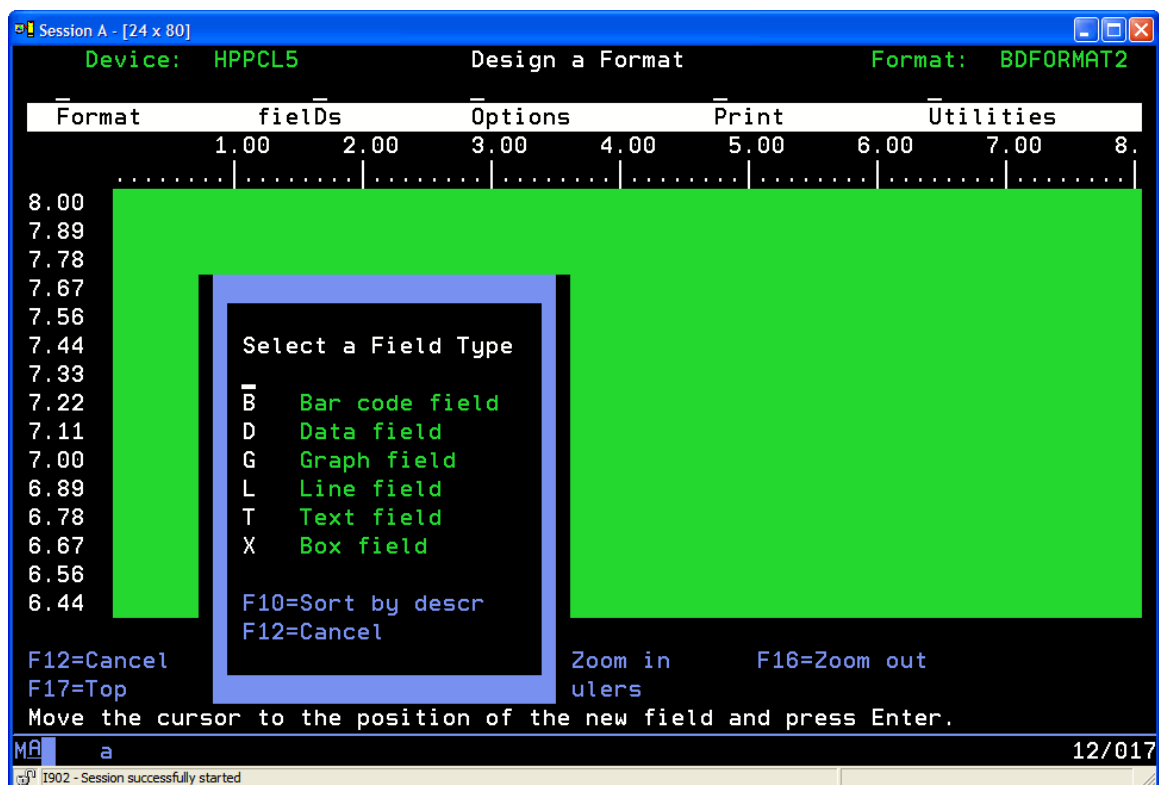
- [How to select a variable database field JMagic](#)
- [How to copy a field based on another field's definition Native System i](#)
- [How to copy a field based on another field's definition JMagic](#)
- [How to select a spooled file Native System i](#)
- [How to select a spooled file JMagic](#)

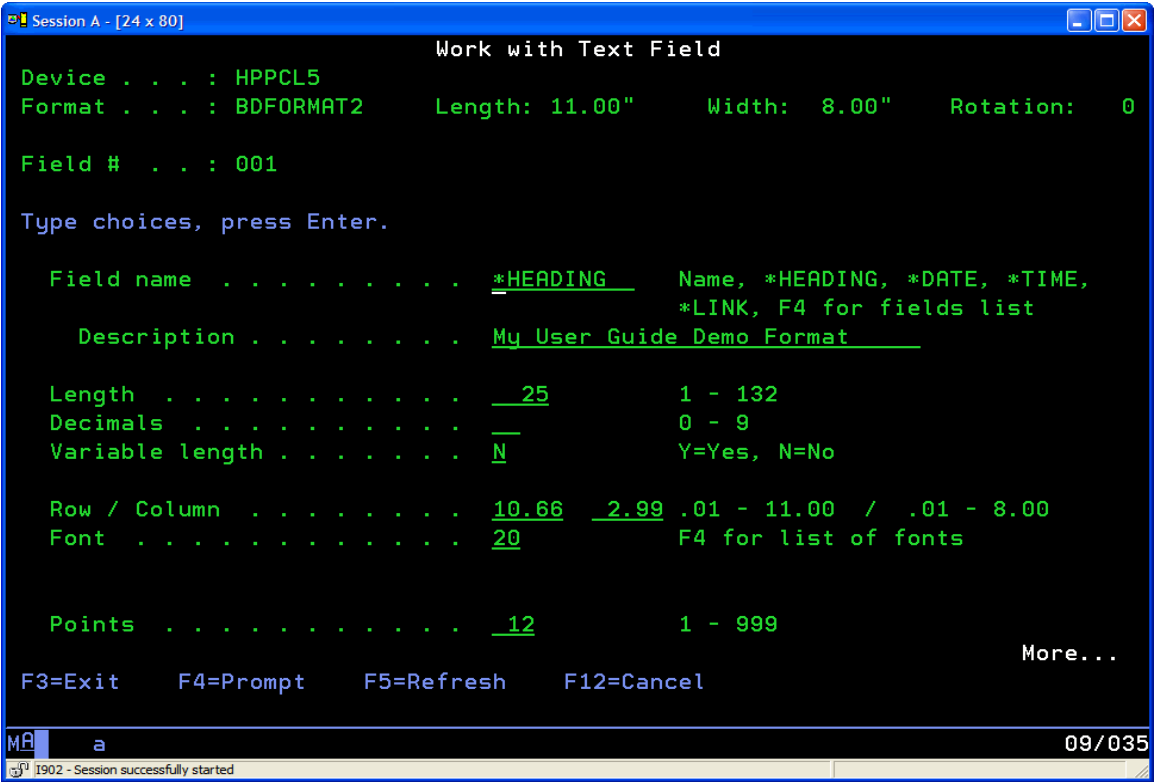
Native iSeries



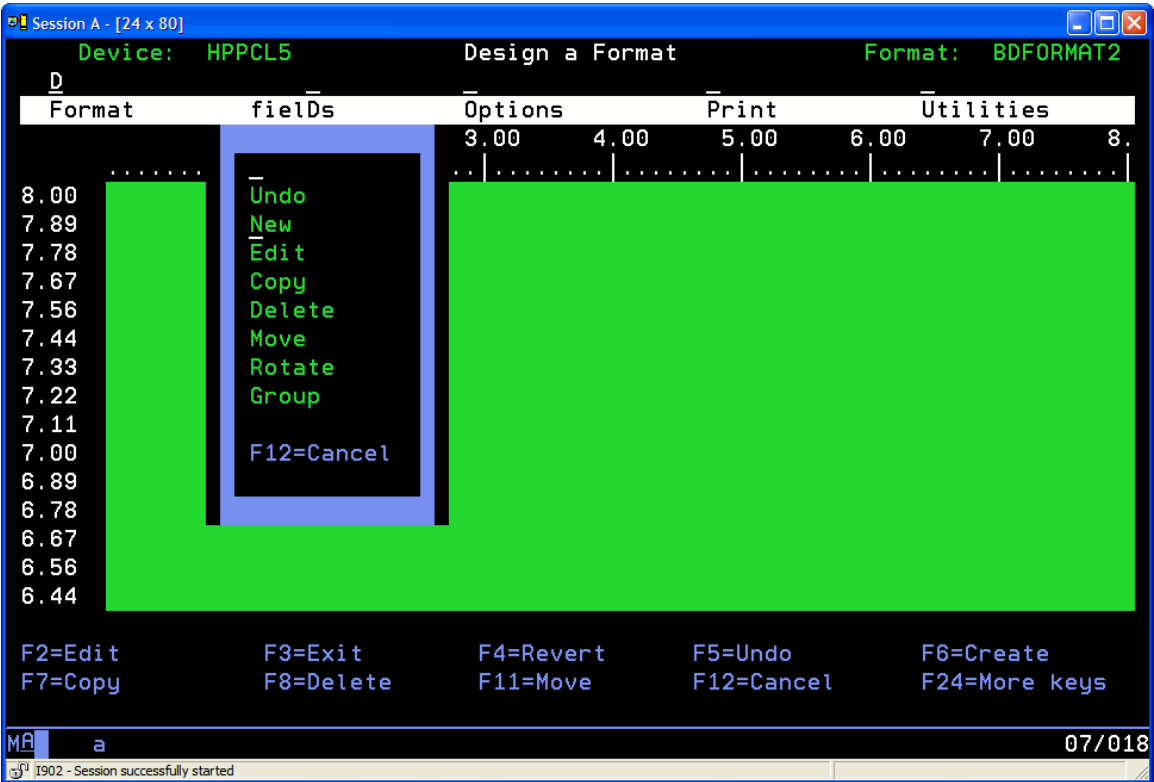
Creating a New Field

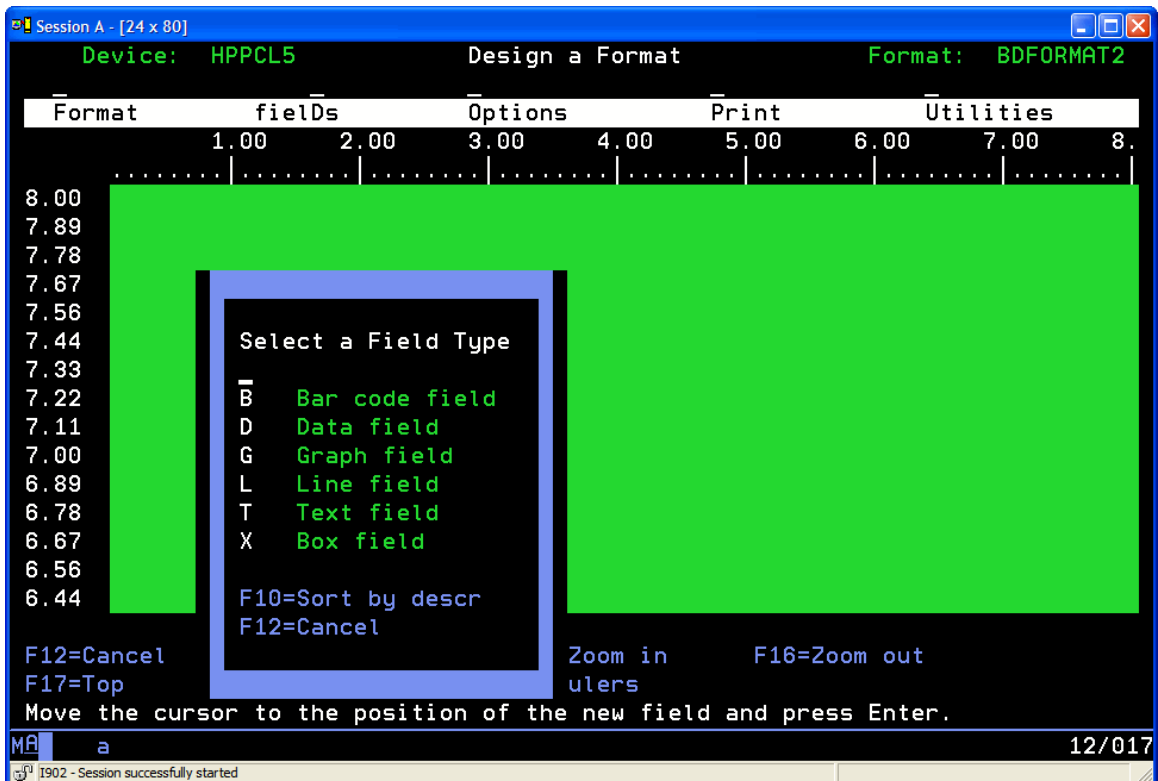
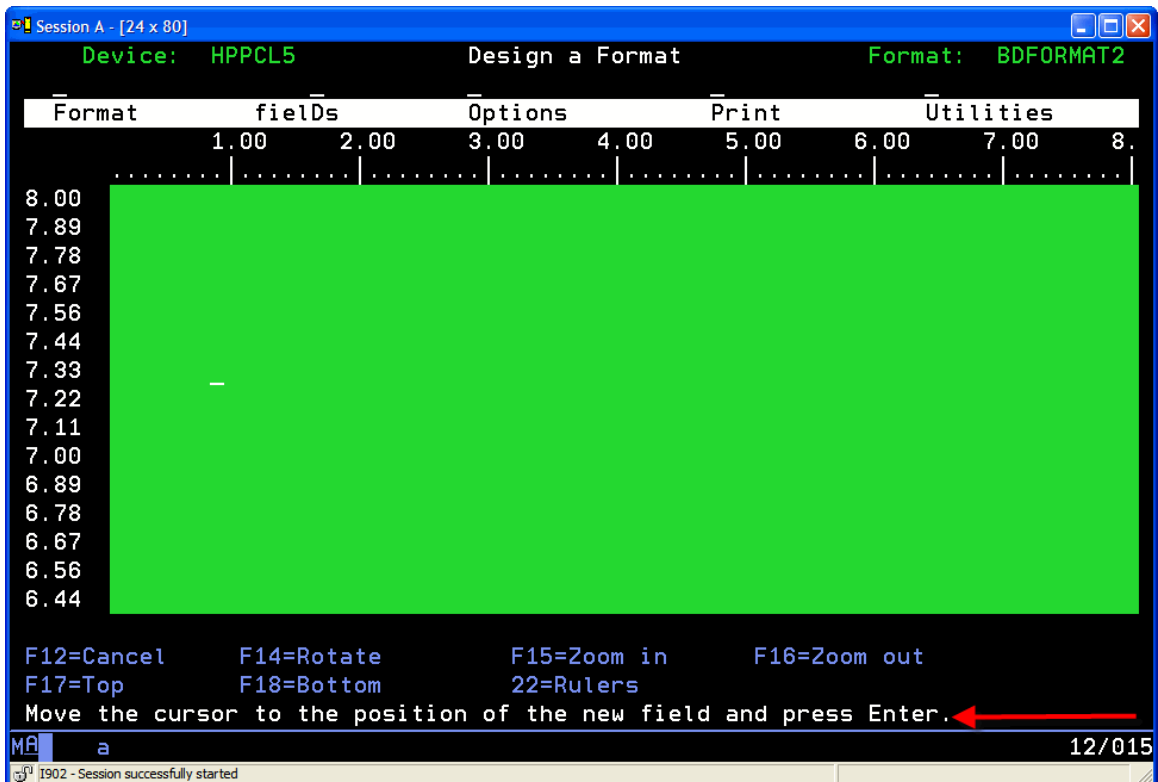
Creating fields in MarkMagic is as easy as moving your cursor to where you want a field to appear, and either clicking a toolbar icon or pressing a function key, and filling in printer-specific parameters for the field type.





OR





```

Session A - [24 x 80]
Work with Text Field

Device . . . . : HPPCL5
Format . . . . : BDFORMAT2      Length: 11.00"      Width:  8.00"      Rotation:  0

Field # . . . : 001

Type choices, press Enter.

Field name . . . . . *HEADING      Name, *HEADING, *DATE, *TIME,
                                   *LINK, F4 for fields list
Description . . . . . My User Guide Demo Format

Length . . . . . 25      1 - 132
Decimals . . . . .      0 - 9
Variable length . . . . . N      Y=Yes, N=No

Row / Column . . . . . 10.66  2.99 .01 - 11.00 / .01 - 8.00
Font . . . . . 20      F4 for list of fonts

Points . . . . . 12      1 - 999

More...

F3=Exit      F4=Prompt      F5=Refresh      F12=Cancel

MA a
1902 - Session successfully started
09/035

```

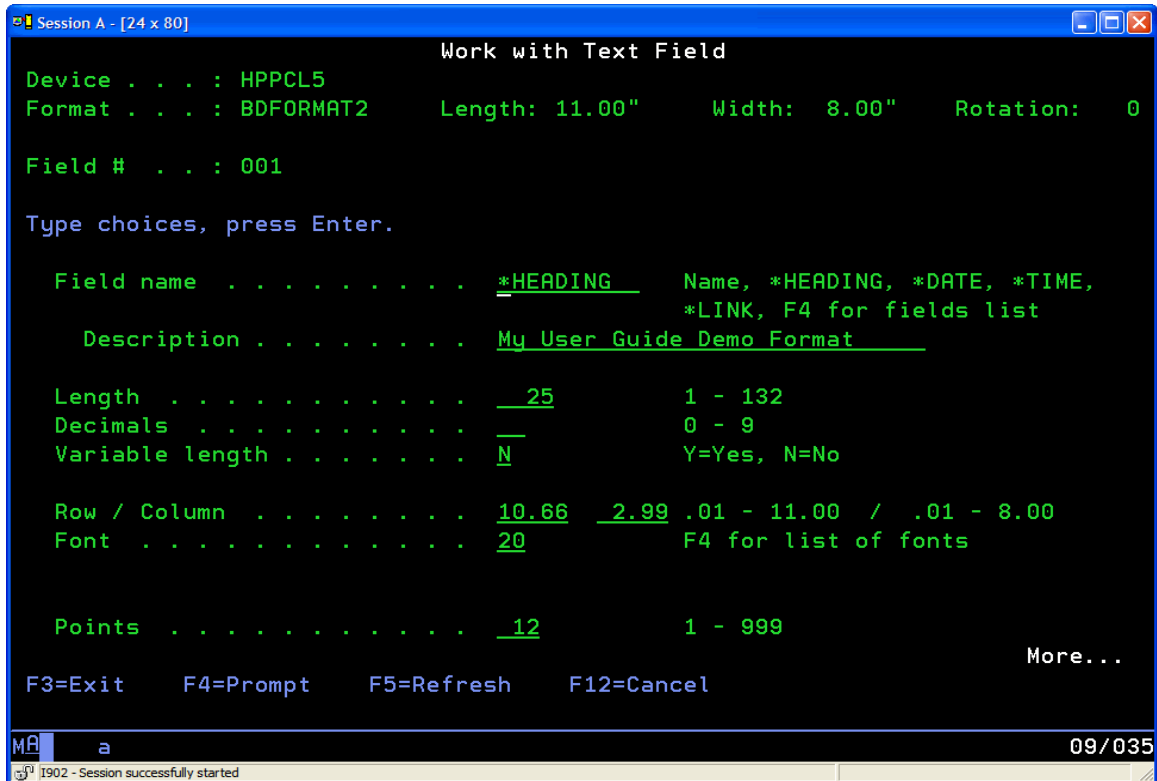
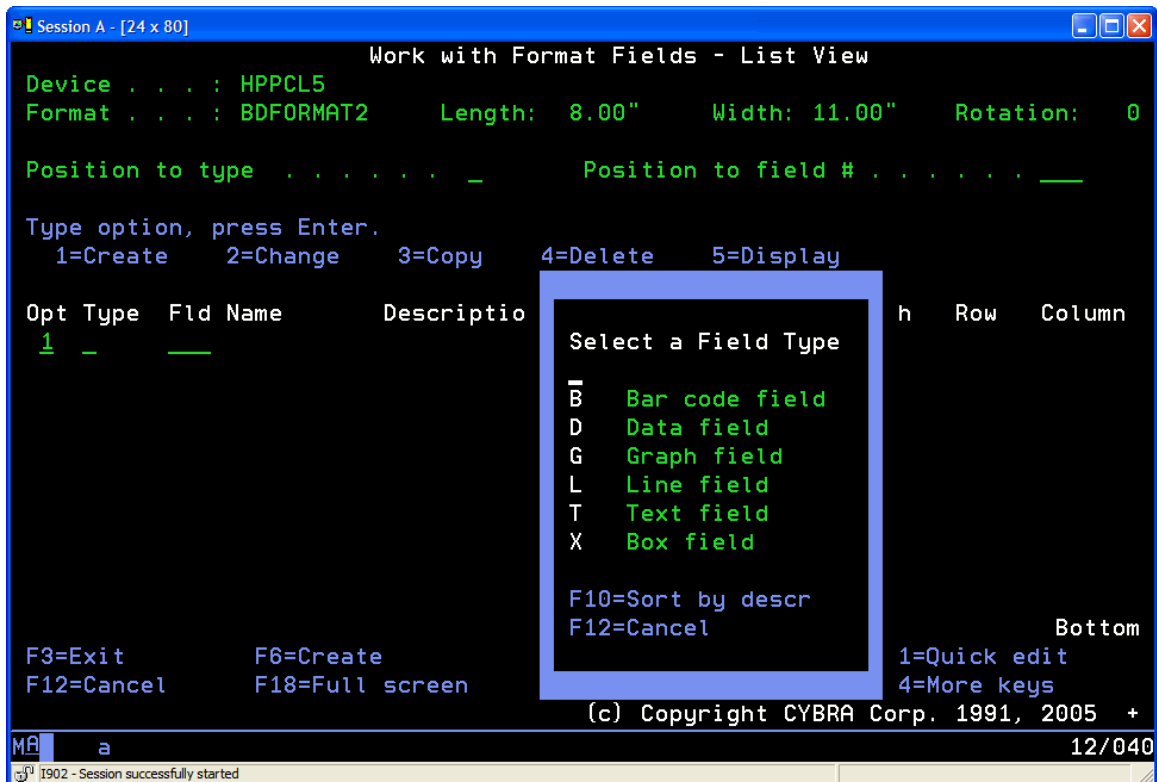
How To:

- Move the cursor to the position on the format design area you wish the field to appear and press F6 (Create).
- Select the Field Type you wish to create, press ENTER and the Work with... Field screen is displayed.

OR

- Select fields from the Design a Format menu.
- Select New from the Fields menu.
- Move the cursor to the position of the new field and press ENTER.
- Select the Field Type you wish to create, press ENTER and the Work with... Field screen is displayed.





How To:

- On the Work with Format Fields - List View screen, tab to the Opt (Option) field, type 1 (Create).

- Select a Field Type.
- Press ENTER.
- The Work with... Field screen is displayed.



```

Session A - [24 x 80]
Work with Text Field

Device . . . : HPPCL5
Format . . . : BDFORMAT2      Length: 11.00"      Width:  8.00"      Rotation:  0

Field # . . . : 001

Type choices, press Enter.

Field name . . . . . *HEADING      Name, *HEADING, *DATE, *TIME,
                                   *LINK, F4 for fields list
Description . . . . . My User Guide Demo Format

Length . . . . . 25                1 - 132
Decimals . . . . .                0 - 9
Variable length . . . . . N        Y=Yes, N=No

Row / Column . . . . . 10.66  2.99 .01 - 11.00 / .01 - 8.00
Font . . . . . 20                F4 for list of fonts

Points . . . . . 12                1 - 999

More...

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel

MA a 09/035
1902 - Session successfully started
  
```

How To:

- On the Quick Edit screen, press F6 (Create).
- Select a Field Type.
- Press ENTER.
- The Work with... Field screen is displayed.

To select an OS/400 database field, an OS/400 spooled file, or an existing format field definition see the instructions on the following pages. To complete a field definition see:

- [Working with Text Fields](#)
- [Working with Bar Code Fields](#)
- [Working with Data Fields and Linking](#)
- [Working with Box and Line Fields](#)
- [Work with Graphic Fields](#)
- [Working with RFID Fields](#)

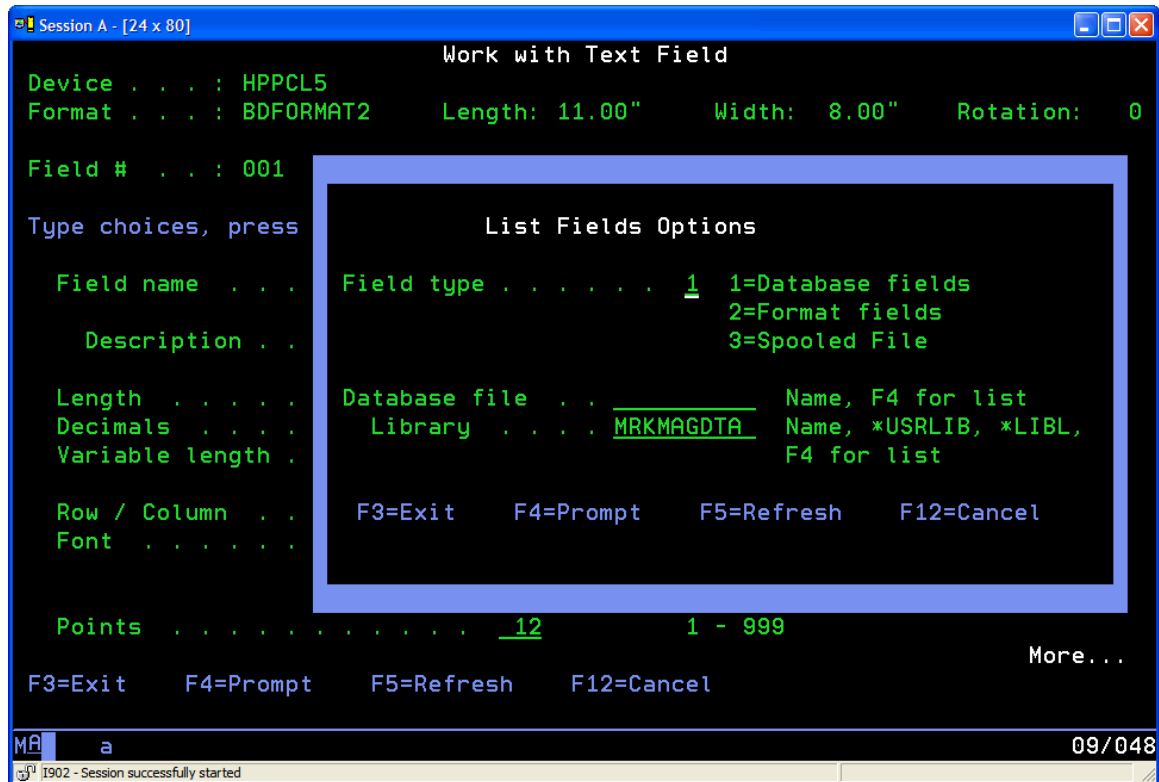


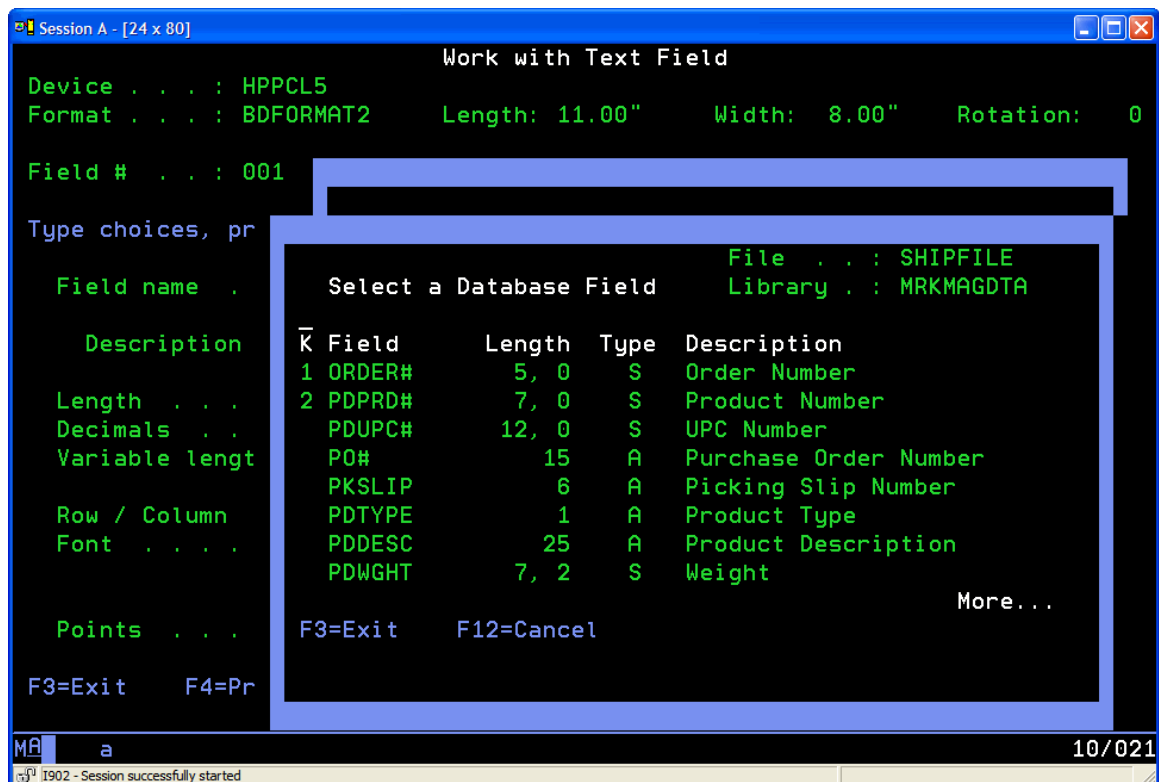
Selecting OS/400 Database Fields

One of the strengths of the IBM System i is its integrated relational database, DB2/400, part of the OS/400 operating system. Any OS/400 database field on a System i system

can be defined in a MarkMagic format, and printed with MarkMagic, regardless of what program created the database records.

Using the OS/400 standard F4 (Prompt) key to select a database field definition is the easiest and fastest way to define variable fields and ensure that the field definitions will be consistent with those used by your application programs.





How To:

- On the field name parameter of a Work with Bar code, Data, Graphic or Text field screen, press F4 to display the List Field Options dialogue window.
- Enter 1 to select database fields. For the database file parameter, type the name of the file that contains the field you want to appear on your label, or press F4 to select a database file. You may also need to supply the name of the library your files are in. Press ENTER, and the Select a Database Field window is displayed
- Move the cursor to the field you wish to select and press ENTER.

When you select an OS/400 database field, MarkMagic/400 enters the parameters for field name, description, length, and decimals automatically. You should not change these values so that the label file's fields will be consistent with those in your application files. This information, in each field definition, has to match the field definitions in the OS/400 database file when you use MarkMagic to automatically retrieve application data into the label file.

To select all OS/400 Database Fields in a File

The ability to select all OS/400 Database Fields in a File is available only when defining Data fields in a native System i interface.

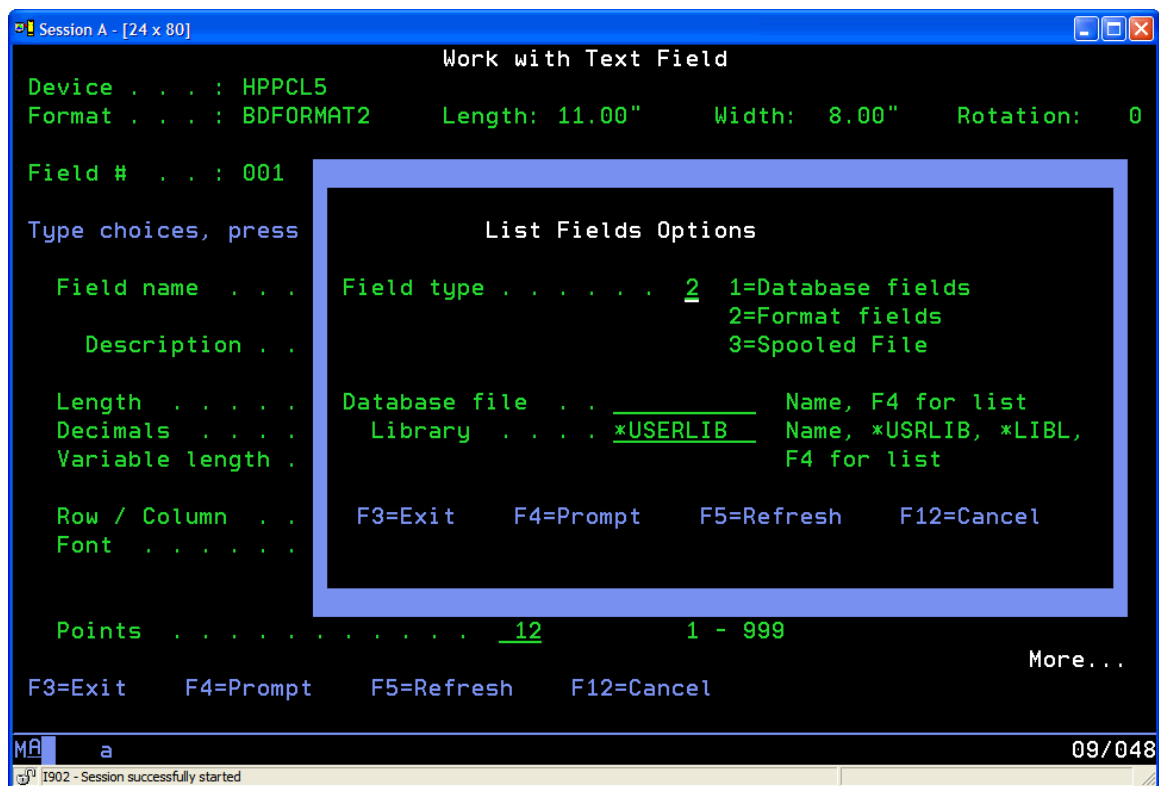
1. On the field name parameter of a Work with Data field screen, press F4 to display the List Field Options dialogue window.

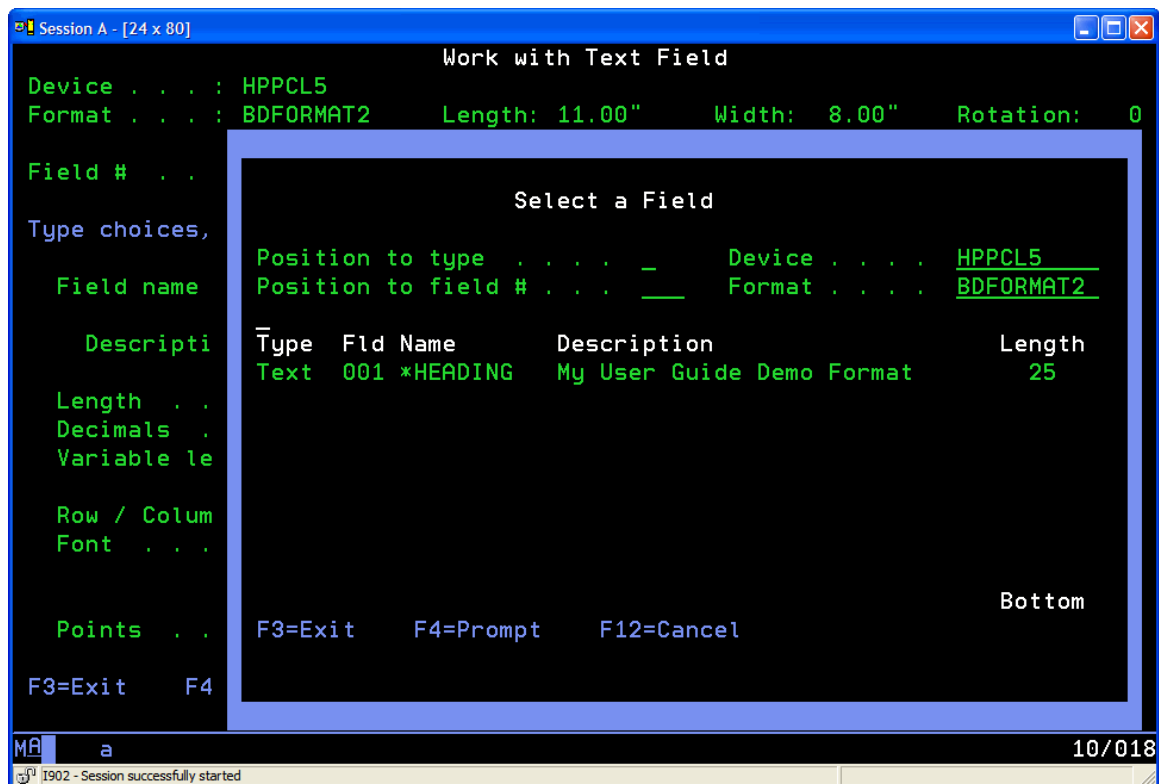
2. Enter 1 to select database fields. For the database file parameter, type the name of the file that contains the field you want to appear on your label, or press F4 to select a database file. You may also need to supply the name of the library your files are in. Press ENTER, and the Select a Database Field window is displayed.
3. Press F21 (Select All).
4. Press ENTER to add Data field records for each field in the database file.

When you select all OS/400 database fields in a file, MarkMagic creates the parameters for Data field name, description, length, and decimals automatically. You should not change these values so that the label file's fields will be consistent with those in your application files. This information, in each field definition, has to match the field definitions in the OS/400 database file when you use MarkMagic to automatically retrieve application data into the label file.



To Select an Existing Field Definition





How To:

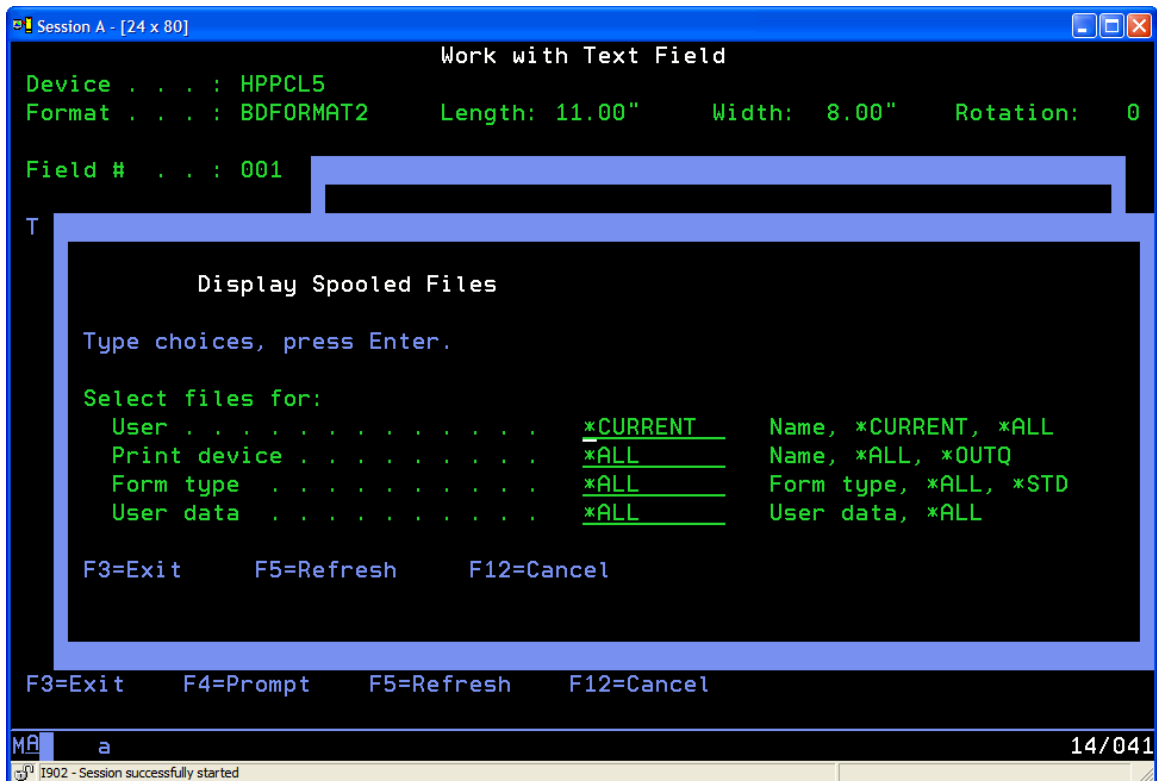
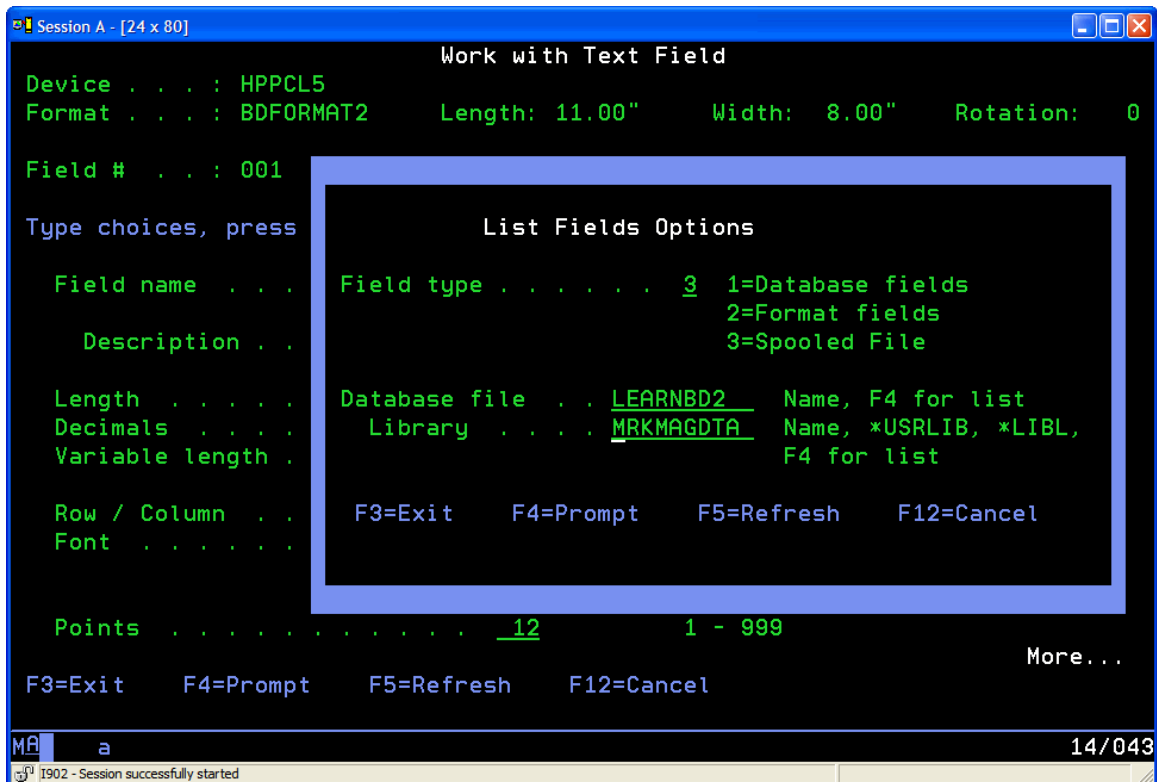
- On the field name parameter of a Work with Bar code, Data, Graphic or Text field screen, press F4 to display the List Field Options dialogue window.
- Enter 2 to select format fields.
- Press ENTER, and the Select a Field window is displayed
- Move the cursor to the field you wish to select and press ENTER.
- Tab to the Device parameter or Format parameter to select fields from another format.

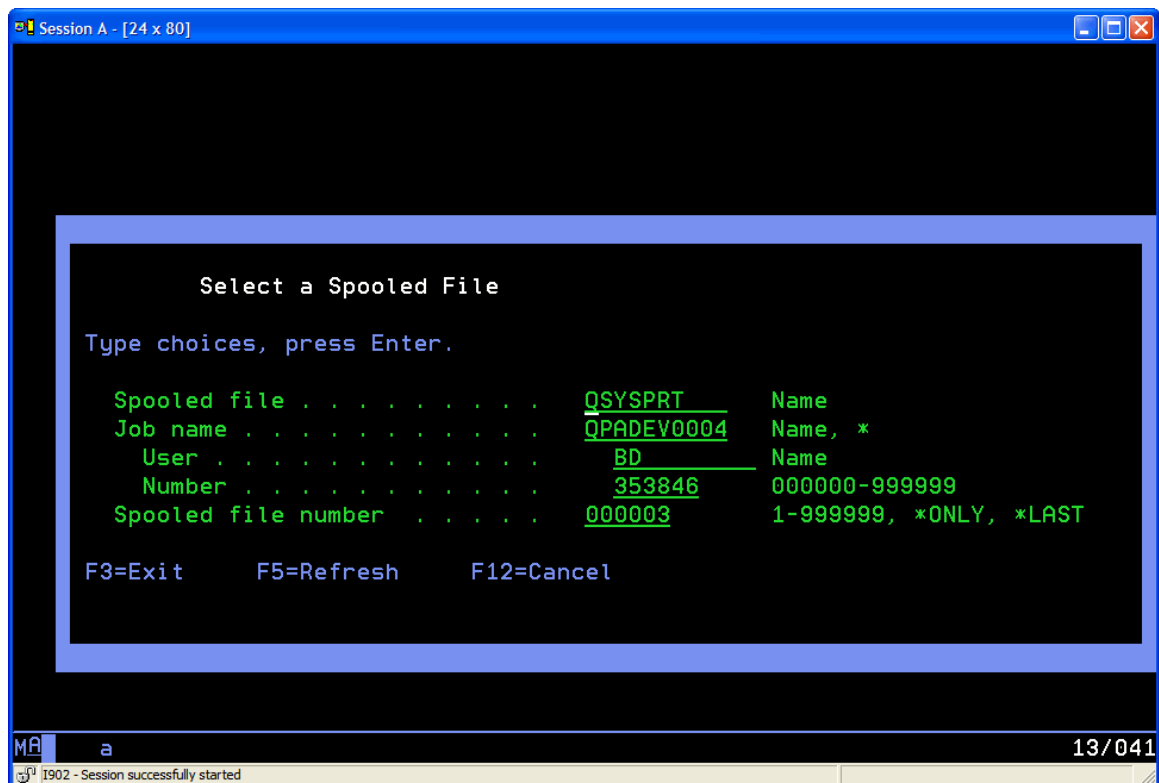
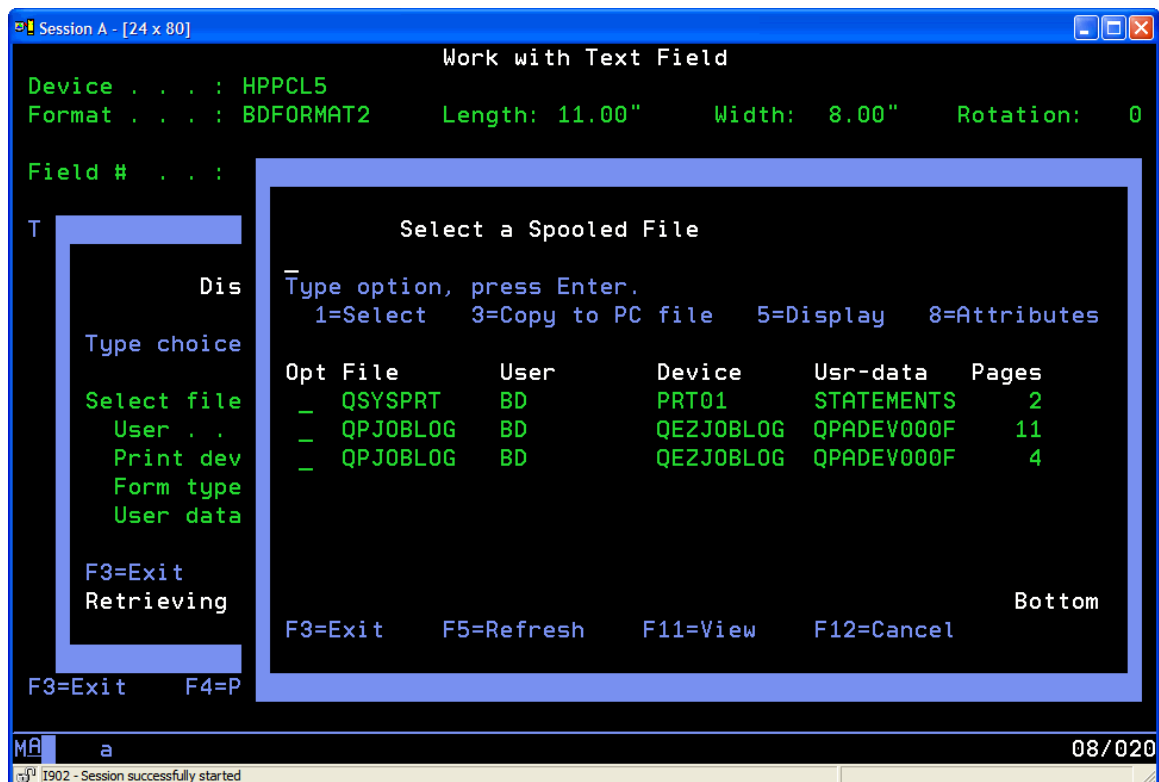
Once you have selected the field definition to copy, you will notice that the field's name, description, length, text font and magnification (or bar code type and density), edit values, and field links have been copied. If you are copying a field definition from a different field type, only the applicable values are copied. The row and column coordinates are passed from the current Visual Designer Design a Format screen when you pressed F6 (Create).



To Select an OS/400 Spooled File







Session A - [24 x 80]

File: QSYSPRT Number: 00000 Job: QPADEV0004/BD/353846 1

*...+...1...+...2...+...3...+...4...+...5...+...6...+...7...

1					
2	Windows for Less				21250
3	167 Orchard Street				
4	New York				
5	NY 11001-0099				10/25/2005
6					
7					
8					
9	2/14/1999	12345	Invoice	823.15	823.15
10	3/10/1999	25345	Invoice	1,080.00	1,903.15
11	3/12/1999	25347	Adjustment	25.10-	1,878.05
12	3/22/1999	25377	Invoice	2,125.47	4,003.52
13	3/28/1999	25397	Invoice	490.98	4,494.50
14					
15					
16					
17					
18					
19					

F3=Exit F5=Refresh F6=New splf F7=Next page F8=Prev More...
 F12=Cancel F17=Top F18=Bottom F19=Left F20=Right
 Select field by moving the cursor to beginning of data & press Enter.

MA a 01/002

1902 - Session successfully started

How To:

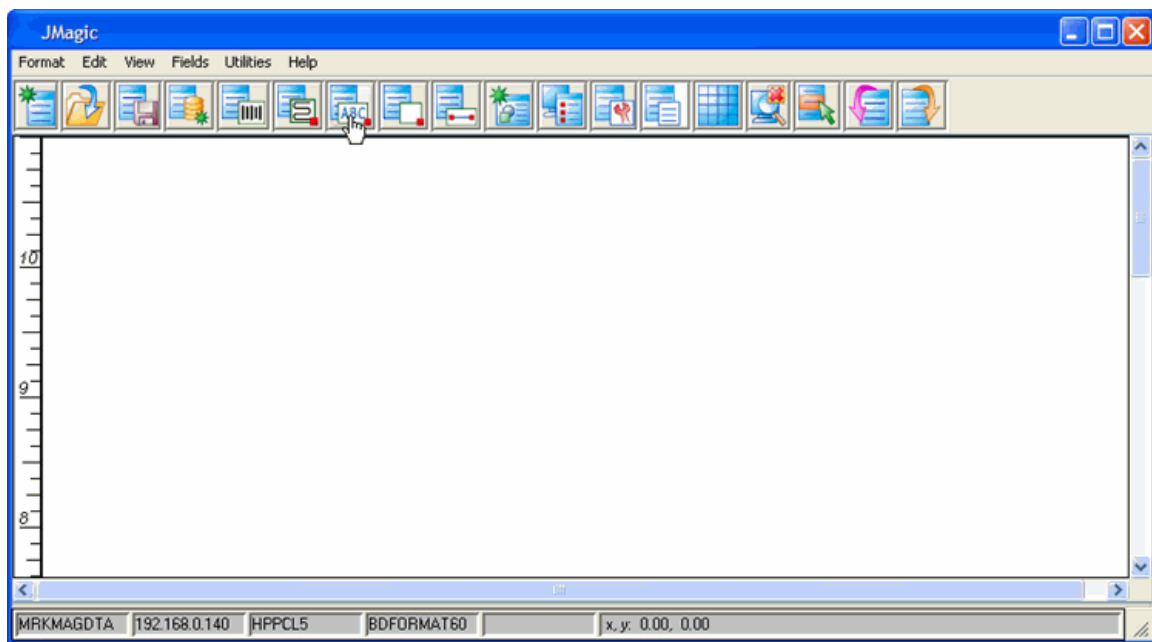
- On the field name parameter of a Work with Bar code, Data, Graphic or Text field screen, press F4 to display the List Field Options dialogue window.
- Enter 3 to select Spooled file.
- Press ENTER. The Display Spooled Files window is displayed.
- Four positional values can be specified to select the files
 - the user that created the file
 - the device that the file is queued for,
 - the form type specified,
 - or the user data associated with the file.
- Press ENTER
- The spooled files that meet each of the values are displayed.
- Select a spooled file and press ENTER.
- The spooled file mapping window is displayed.
- Select the spooled file data you want to include in the format by moving the cursor to the start of the data and pressing ENTER. The characters will be highlighted. Move the cursor to the end of selected data and press ENTER.

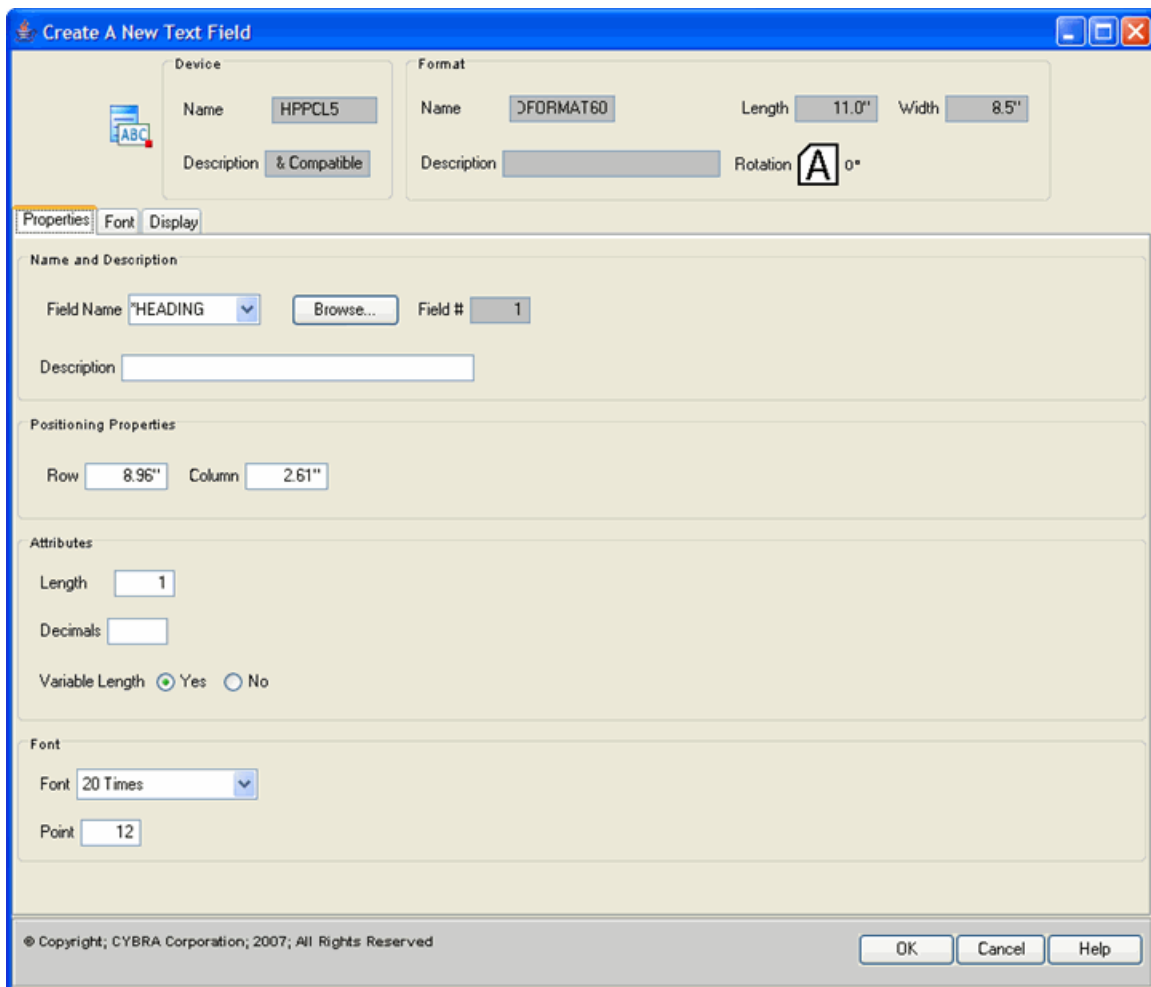
JMagic



Creating a New Field

Creating fields in MarkMagic is as easy as moving your cursor to where you want a field to appear, and either clicking a toolbar icon or pressing a function key, and filling in printer-specific parameters for the field type.





Create A New Text Field

Device
 Name: HPPCL5
 Description: & Compatible

Format
 Name: JFORMAT60
 Length: 11.0"
 Width: 8.5"
 Description:
 Rotation: A 0°

Properties: Font Display

Name and Description
 Field Name: HEADING
 Browse...
 Field #: 1
 Description:

Positioning Properties
 Row: 8.96"
 Column: 2.61"

Attributes
 Length: 1
 Decimals:
 Variable Length: ☒ Yes ☐ No

Font
 Font: 20 Times
 Point: 12

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OK Cancel Help

How To:

- Click the toolbar icon for the field type you wish to create.
- Move the cursor to where you want the field to appear
- Click to open the Work with Field window.

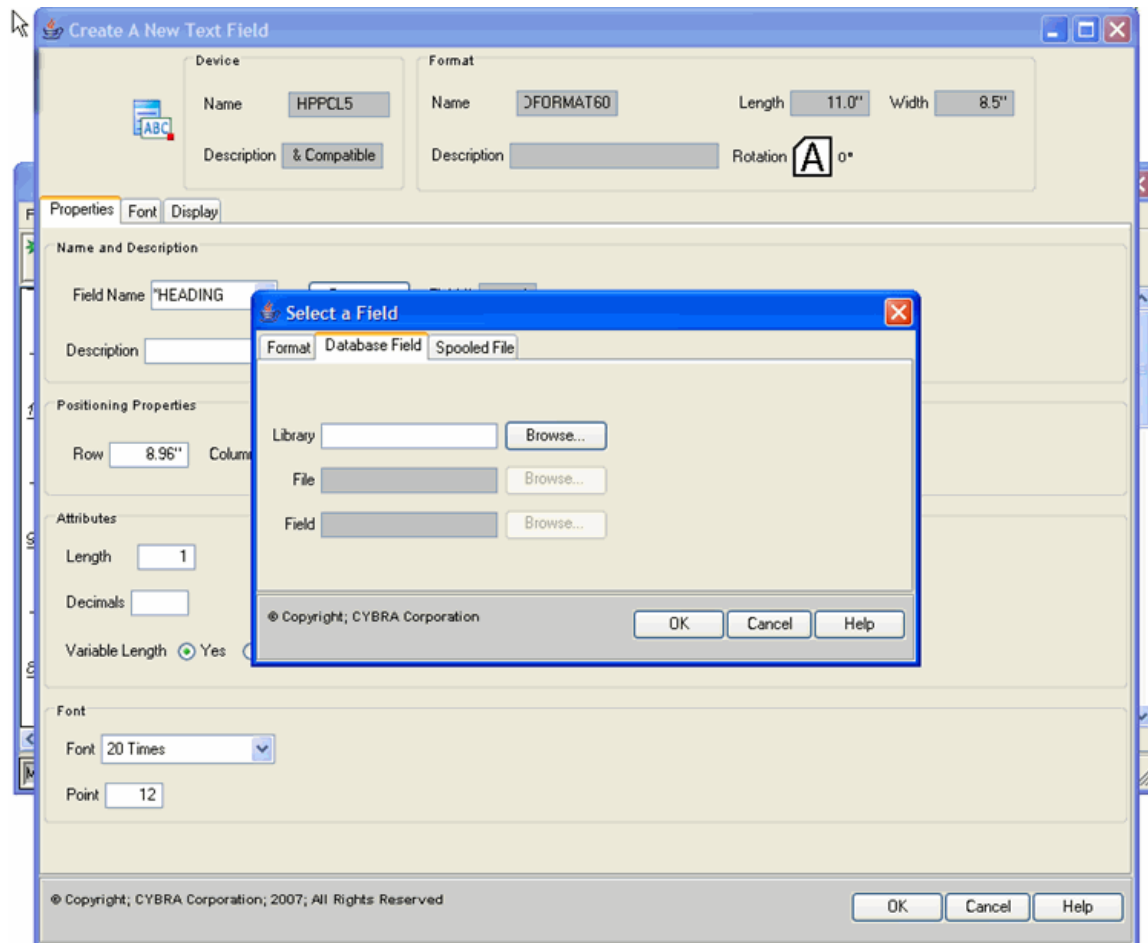
To select an OS/400 database field, an OS/400 spooled file, or an existing format field definition see the instructions on the following pages. To complete a field definition see:

- [Working with Text Fields](#)
- [Working with Bar Code Fields](#)
- [Working with Data Fields and Linking](#)
- [Working with Box and Line Fields](#)
- [Work with Graphic Fields](#)
- [Work with RFID Fields](#)

Selecting OS/400 Database Fields

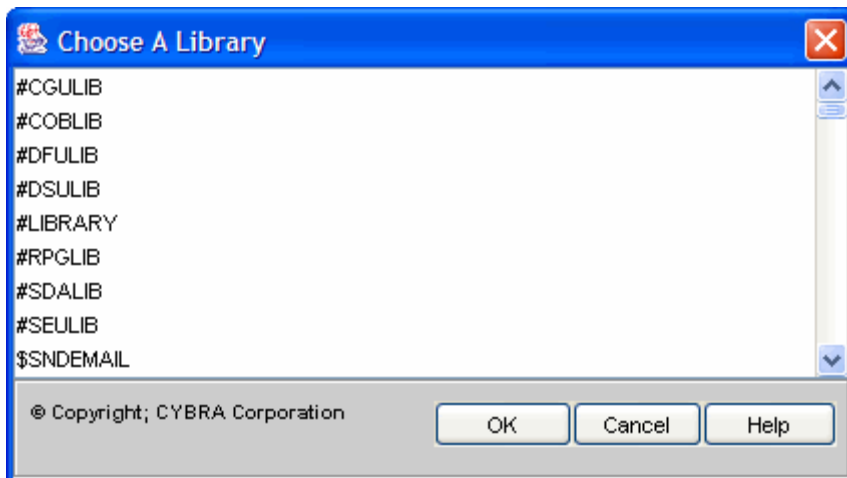
One of the strengths of the IBM System i is its integrated relational database, DB2/400, part of the OS/400 operating system. Any OS/400 database field on a System i system can be defined in a MarkMagic format, and printed with MarkMagic, regardless of what program created the database records.

Using the JMagic “Browse” button next to the field name to select a database field definition is the easiest and fastest way to define variable fields and ensure that the field definitions will be consistent with those used by your application programs.

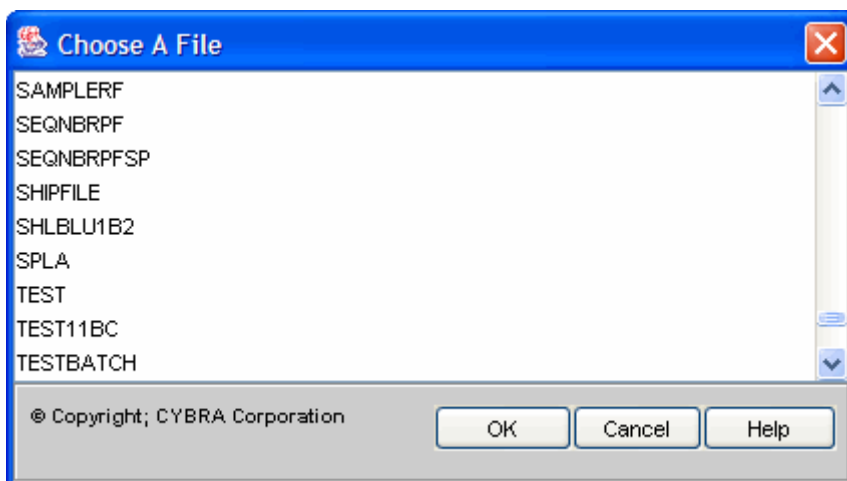


Use the Select a Field Window to:

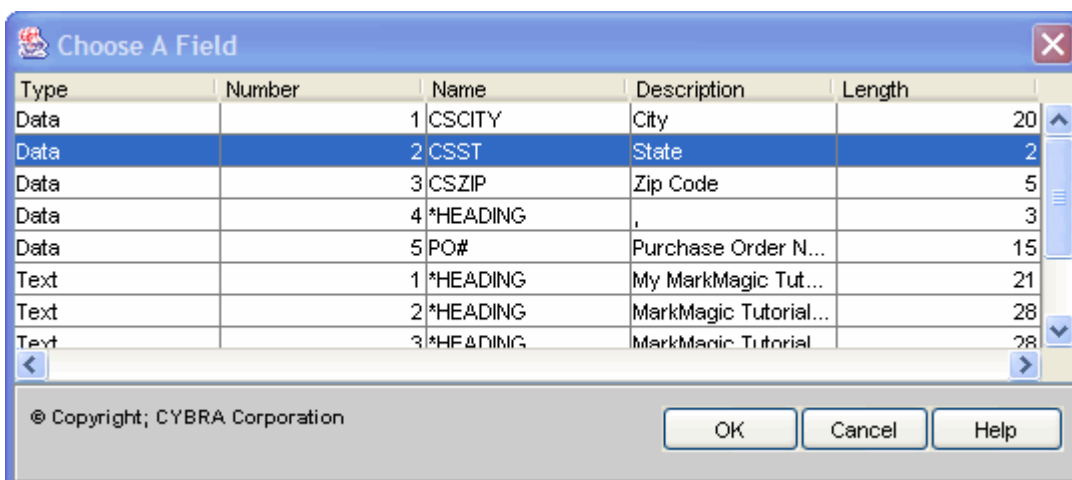
- Specify Library and File. (You may use the browse button to see a list of libraries.)



- Choose a file. (You may click the browse button to see a list of files found in your chosen library.)



- Choose a field in the file you specified. (You may click the browse button to see a list of fields found in the database file.)



- Select the field you wish to use on your format. (Click OK to be brought back to JMagic.)

When you select an OS/400 database field, JMagic enters the parameters for field name, description, length, and decimals automatically. You should not change these values so that the label file's fields will be consistent with those in your application files. This information, in each field definition, has to match the field definitions in the OS/400 database file when you use MarkMagic to automatically retrieve application data into the label file.



To Select an Existing Field Definition

Select a Field

Format Database Field Spooled File

Device HPPCL5 Browse...

Format LEARNBD2 Browse...

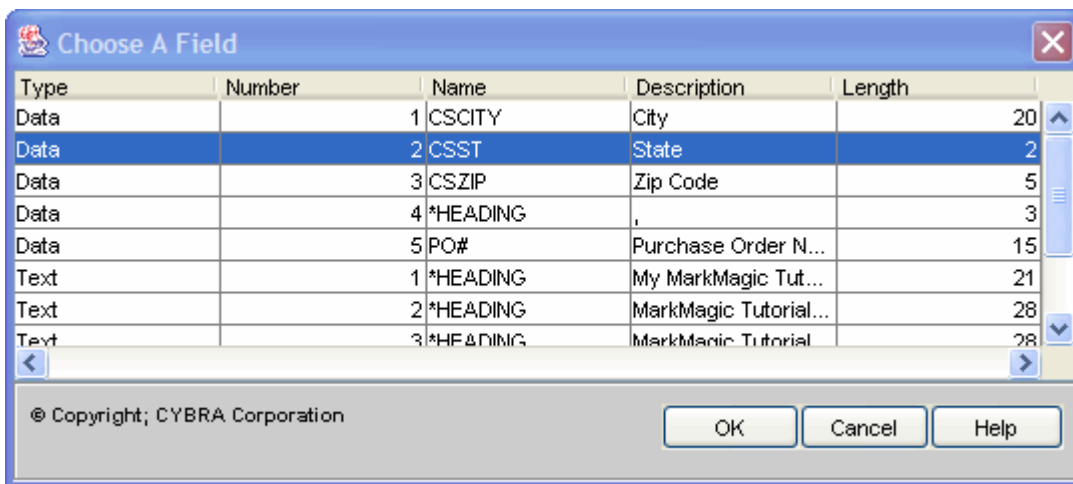
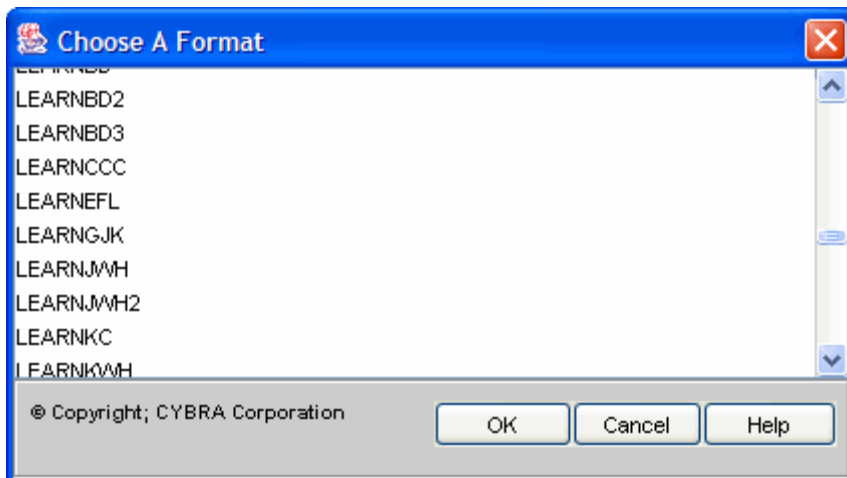
Field Browse...

© Copyright; CYBRA Corporation OK Cancel Help

Choose A Device

FAMP5
HPDSKJET
HP11
HPLJ4P
HPLJ6L
HPPCL5
HPPCL5EDG
HPPCL5J
HPPCL5JC

© Copyright; CYBRA Corporation OK Cancel Help



How To:

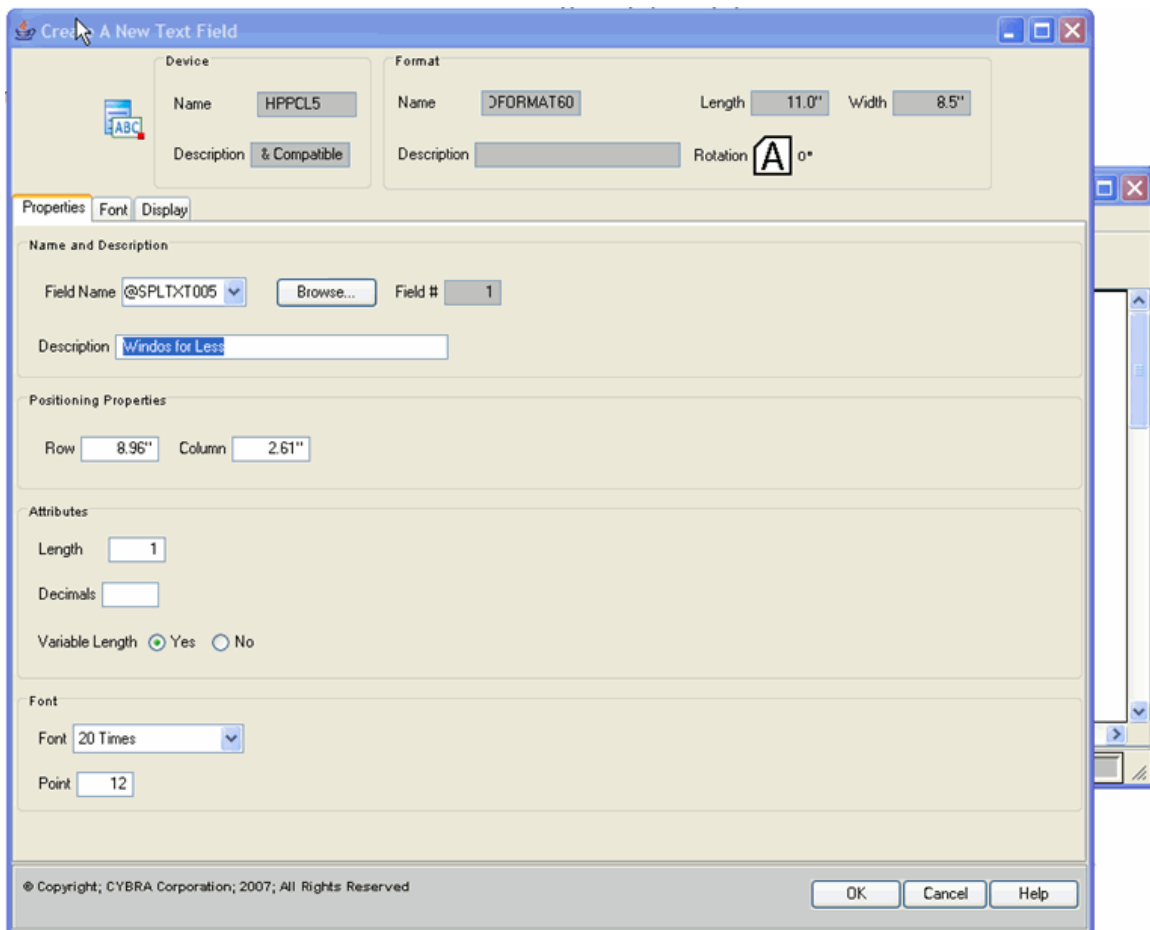
- Click the browse button to display the select a field window.
- Specify Device type and Format.
- Tab to the Field field.
- Click the browse button to open the Choose a Field window.
- Click the field you wish select and click OK.

Once you have selected the field definition to copy, you will notice that the field's name, description, length, text font and magnification (or bar code type and density), edit values, and field links have been copied. If you are copying a field definition from a different field type, only the applicable values are copied. The row and column coordinates are passed from the current JMagic field definition Design a Format screen.

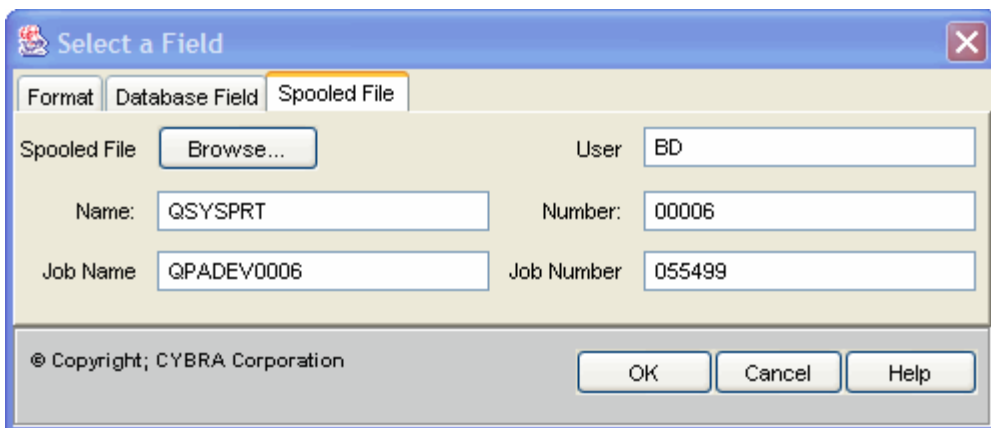


To Select an OS/400 Spooled File

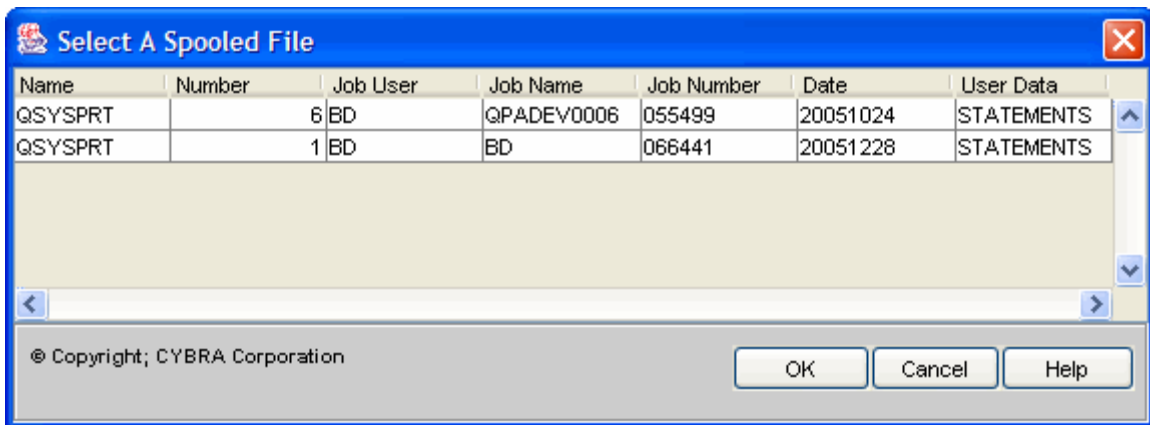
- Next to the field name, click on the **Browse Button** in the **Properties Tab**. This opens the **Select a Field Window**.



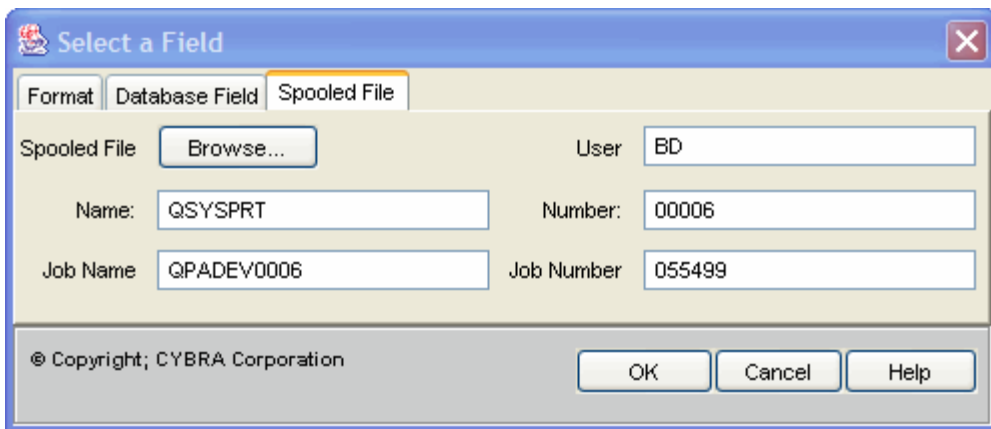
- Click on the Spooled File Tab.



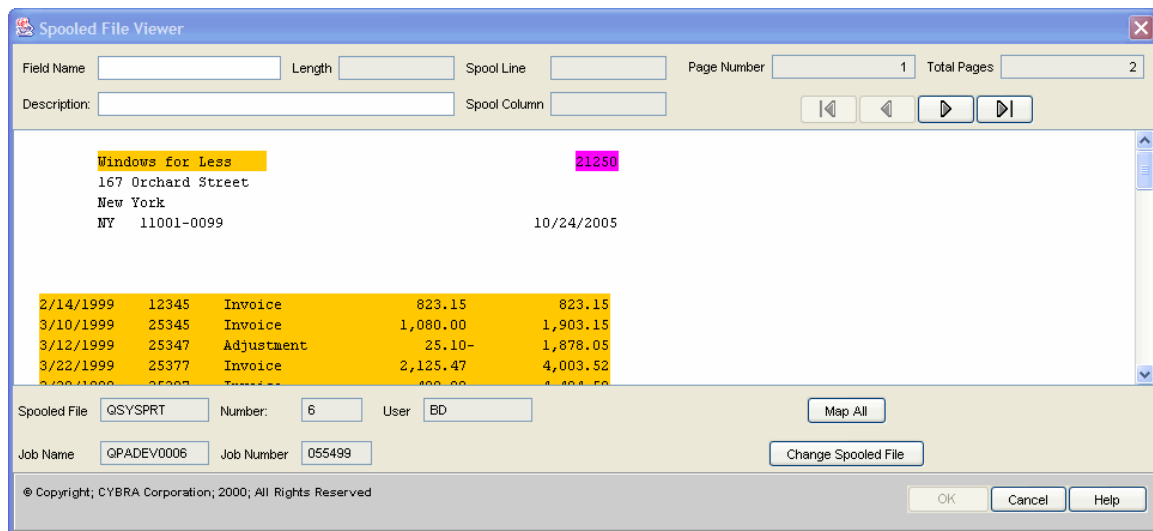
- Click on the **Browse Button** to find the spooled file. (Or you can manually enter in the spooled file attributes manually if you know them.)
- The Select a Spooled File window is displayed.



- Select a file and click OK. The attributes are entered in for you. Click OK to view your file in the Spooled File Viewer.



- To select an area in your file to map, click and drag your mouse left to right, over the area you wish to map, then let go to highlight the area. (Can only be on one line.)



- When you click OK, JMAGIC will enter in a default name for the field @SPL##### and automatically provide the correct length and spoolfile line / column information in the field.

Map All Spooled File Fields

Defining MarkMagic Forms is easier than ever. You can automatically create an entire format against an existing spooled file. JMAGIC will create a new text field every time there are one or more blank spaces between the text in your spooled data file. This is a fast way to duplicate your spooled data. You can add lines, boxes, bar codes, and graphics without mapping each text field individually. Font changes can be made quickly, fields can be deleted to customize your form, and you can put it into production in minutes. Here's how:

1. Create a new format or open an existing format.
2. Create a new variable text field, for example, using Font 27, (Courier), 11 pt.
3. Click the Browse button next to the field name and choose the Spooled file tab.
4. Browse and select the spooled output file to map. Click OK.
5. A window will appear displaying your spooled output file, click the **Map All** button to initiate the mapping process. JMAGIC will create a separate text field in your format for each field in your spooled output file.

Once the mapping is complete, add lines, boxes, graphics, and bar codes to the format. You can also modify the mapped text fields' sizes or font types.

MarkMagic Field Types

MarkMagic Field Types

Do you need to print bar codes or both bar codes and text information? Do you want to include your company logo on your format? Does your compliance marking specification require lines or boxes on the label or form? Depending on the type of information you need to convey, MarkMagic has a field type that will either do the job itself, or in combination with other field types.

MarkMagic supports:

- three types of fields that process and print numeric or alphanumeric data:
 - T = Text.
 - B = Bar code.
 - R = RFID
- one field type that is used to process numeric or alphanumeric data, but is not a printing field:
 - D = Data.
- and three types of fields that are used for design purposes, but can change depending on data selected:
 - L = Line.
 - G = Graphic.
 - X = Box.

There are slightly different steps for creating or changing each field type, and specific formatting instructions relevant to each field type. These “formatting” instructions control both the aesthetic look of each field as well as the processing of data. Numeric or alphanumeric data can be variable, or constant, and if variable, can be extracted from an OS/400 database file, or an OS/400 spooled file.

Variable data fields can be defined to print either as Text or as Bar code fields. If variable data is to appear in only one field in a format, then you may define the variable field as either a Text or Bar code field. If the variable data has to be edited or has to appear in more than one field on the label, then define the variable field as a Data field and link Bar Code or Text fields to the Data field. See Working with Data Fields, for more information.

- [Text Field](#)
- [Barcode Field](#)
- [RFID Field](#)
- [Data Fields](#)
- [Link Fields](#)
- [Line and Box Fields](#)

- [Graphic Fields](#)
- [MarkMagic Special Field Names](#)
- [Copy Existing Field Definitions](#)
- [Spooled Files](#)
- [Spooled File Parameters](#)

Text Field

MarkMagic gives you complete control over the text fields in your format. Optional features include printer support for outline fonts and color. Working with Text Fields demonstrates how to create text fields to exactly convey the information you wish to present. Text field definitions are associated with a specific printer type. The parameters you specify during the field definition process depend upon the printer you select. Some of the parameters covered in this section may not appear on your Work with Text Field screens.

Barcode Fields

MarkMagic's powerful bar code field definition features let you take full advantage of your printer's bar code printing capabilities. Working with Bar Codes will show you how to create bar code fields to exactly match your bar code specifications. Bar code field definitions are associated with a specific printer type. The parameters you specify during the field definition process depend upon the printer you select. Some of the parameters covered in this section may not appear on your Work with Bar Code Field screens.

RFID Fields

Data Fields

MarkMagic data fields (combined with MarkMagic field linking) multiply MarkMagic formatting options by giving you virtually unlimited possibilities to manipulate data before printing bar codes and text. These features add editing capabilities that eliminate programming, yet give you the tools you need to format fields exactly as you want.

A MarkMagic Data field is a placeholder — a temporary “bucket” to put information for further processing. A Data field is a non-printing field that can have any of these MarkMagic special field names: *HEADING, *DATE, or *TIME, or an OS/400 database fieldname. Just like a Text field or a Bar code field, a MarkMagic Data field can contain constant or variable data.

Data fields are typically associated with *LINK fields when you need to combine multiple variable and/or constant source fields into one bar code or text field, or when variable data is to appear in more than one bar code or text field. When creating MarkMagic Forms, spooled file fields can be defined as Data fields and then linked to create edited bar code or text fields on the form.

For example, if your production data file has a field for product number, (5 positions), but no field for UPC number, (12 positions), Data fields make it easy to define a UPC-A bar

code field. Data fields can also be used as a reference field for the Format Auto-Quantity feature.

Note: Data field definitions are the same for all printer types. **Data fields do not print! If you wish to define a printing field, define a bar code or text field.**

Note: Master Formats contain only Data fields, and dependent formats do not contain Data fields of their own. Dependent formats inherit all the Data fields in a Master Format.

Link Fields

MarkMagic *LINK fields extend MarkMagic formatting options by adding the capability to define a field once, and have the data appear in multiple fields on a format, each edited differently if need be.

MarkMagic reduces format design time by letting you “link” data fields, bar code fields, and text fields, whether they are a *HEADING, *DATE, *TIME, an OS/400 database fieldname, or a variable field mapped to an OS/400 spooled file. A *LINK field can be composed of portions of different fields and can merge information from multiple bar code, data, or text fields. *LINK fields enable printing of one bar code or text field from multiple sources of data.

*LINK Fields let you

- print variable data repeated in multiple fields in a format
- edit variable data for improved readability
- add a text field to provide human readable information for any bar code field
- add *edited* human readable information to *any* bar code field
- create *edited* bar code and text fields from *portions* of fields and combine dozens of fields for large 2D bar code fields.

Line and Box Fields

MarkMagic Line and Box Fields provide you the ability to add boxes and lines to your format designs. Lines and boxes serve as an excellent means to separate and group items visually on a format or label.

Graphic Fields

MarkMagic Graphic Fields provide you the ability to import and add graphics to your labels or formats. This is a great way to brand your designs (i.e., a label for a consumer package) with your company’s logo. Graphics can also be variable, accessed by a variable number, or an alphanumeric look up field.

This is ideal for an apparel / footwear company or any consumer goods manufacturer who wishes to automatically print a graphic associated with an SKU or style.

MarkMagic Special Field Names

To save time in the field definition process, reduce programming requirements, and for improved performance, MarkMagic/400 takes advantage of optional, reserved field names for Bar code, Data, Graphic, and Text fields. These field types can be defined with specific field instructions which tell MarkMagic how to process data before it is formatted for printing by using the following MarkMagic Special Field Names:

- ***HEADING** — If *HEADING is the Field Name, then the value in the Field Description prints. Use this special field name to define character constant fields such as your company name and return address. After you supply the rest of the text field parameters and press ENTER, you will be brought back to the Design a Format screen, and the text you typed in the field description will be displayed.

Note: Need to support multiple languages? MarkMagic SM@RT Heading fields let you load a heading field's descriptive information from a message file. This is done by keying "@msg" followed by a message id in the Description field of a *HEADING field. Press F4 to choose a message ID from a list. This is also useful when an application needs to support long heading fields -- up to 132 characters.

- ***LINK** — The field's data is supplied (at print time) from one or more "linked" source fields defined in the format. The linked source fields can be of Bar code, Data, or Text type. To learn more about Link fields, see Working with Link Fields.
- ***DATE** — The system date (at the time the label is printed) is the date format defined in the System i system value QDATE. The default system date, for example, in the United States, appears as MMDDYY. *DATE fields can be edited to appear as MM/DD/YY, for example.
- ***TIME** — The system time (at the time the label is printed) in HHMM format (if four digits are specified) or HHMMSS format (if six digits are specified). *TIME fields can be edited in either AM/PM or 24-hour clock format.

Tip: To speed creation of MarkMagic/400 Special Field Names, use the following shortcut. Type *H, *L, *S, *D, or *T and press ENTER. MarkMagic/400 will fill in the rest of the special field name.

Copying Existing field definitions

You can speed up the field definition process by retrieving a field definition that you have used before. If you have a corporate standard for a price marking field, for example, and you have fine tuned a field definition with optimal parameters (database field of choice, text font, size and style, correct price marking edit code), these parameters can be recalled each time you need to define a price field.

Spooled Files

An alternative way of defining the data source of variable fields is to "map" the Bar code, Data, or Text fields to an existing spooled file. You visually specify where, and how, each spooled file field will appear on the form. Spooled file fields can be copied, relocated, rearranged, removed, and rotated. Different font types and sizes can be mixed. Text fields can be changed to bar code fields. Fields can be reformatted and edited.

Spooled File Parameters

- **User** - Type *CURRENT (only files created by the user running this command are displayed); *ALL (files created by all users are displayed); or user-name (only files created by that user name are displayed).
- **Print Device** — Type *ALL (files on any device-created or user-created output queue are displayed); *OUTQ (all files on any user-created output queue are displayed. A user-created output queue is any output queue that is not automatically created by a device. A user-created output queue does not generally have the same name as a device, but if it does, it does not reside in library QUSRSYS); or device-name (only files on the device created output queue for that device are displayed. A device created output queue is one that has the same name as a device and resides in the QUSRSYS library).
- **Form** - Type *ALL (files for all form types are displayed); *STD (only files that specify the standard form type are displayed); or specify the form type to select the file.
- **User data** - Type *ALL (files with any user data specified are displayed); or specify the user data to select the file.

Type the user, print device, form type, or user data that will help you select the spool file to which you wish to map the fields of the format and press ENTER. The Select a Spooled File window displays a list of all the spooled files on the system or a selected list that matches your selection criteria.

Note: In the JMagic Spooled File Viewer you can click the Map All button to map all the fields in the spooled file. This is the fastest way to map a form to a spooled output file.

Note: A MarkMagic format cannot contain data retrieved from both the OS/400 database and spooled data. You must choose one data source method — either database records or spooled data records. Do not precede an entry with an asterisk unless that entry is a “special value” that is shown (on the display or in the help information) with an asterisk. This option requires MarkMagic Forms or MarkMagic 5 Enterprise Edition license.

Modifying Fields

Modifying Fields

- [Modifying Sample Format Fields](#)
- [Rotating a Group of Fields](#)
- [Moving Fields](#)
- [Copying Fields](#)

- [Deleting Fields Native System i](#)
- [Deleting Fields JMagic](#)
- [Grouping Native System i](#)
- [Grouping JMagic](#)
- [Aligning a Group of Fields Native System i](#)
- [Aligning a Group of Fields JMagic](#)
- [Copying a Group of Fields](#)
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- [Deleting a Group of Fields JMagic](#)
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- [Rotating Fields Native System i](#)
- [Rotating Fields JMagic](#)
- [Editing Fields Native System i](#)
- [Editing Fields JMagic](#)
- [Undo Native System i](#)
- [Undo JMagic](#)

Modifying Sample Format Fields

MarkMagic supplied format fields contain “sample” values to demonstrate what type of information to put in the field. In most cases, to use the format, all you need to do is replace the “sample” information with your own text, or variable field names, to complete your format.



Edit a Format Field

All available parameters for the field can be modified. For example, if the field is a *HEADING field, you can change the character constant information that will print by entering new text, or numeric data, in the field description. If you change the length of a *HEADING field, press the TAB key to move your cursor to the length field, and press FIELD EXIT to blank out the value. When you complete your modifications, MarkMagic

will recalculate the *HEADING field length. Press ENTER to accept your changes and press ENTER to confirm. Press F3 to exit to the MarkMagic Main menu. The supplied format is now modified.



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Edit a Format Field

Rotating a Group of Fields

Note: When you rotate fields, MarkMagic rotates from the lower left corner. If you want to “mirror” a field (i.e., flip it upside down), you will need to take this into consideration.



Moving Fields

Moving Fields in JMagic

1. Click on the field you want to move and keep the mouse button pressed.
2. Drag the field to where you want it located on the Design Canvas.
3. Release the mouse button when finished.

Moving a Field using the Function Keys

To move a field using function keys

1. Move the cursor until it is on the field you wish to move and press F11 (Move).

2. Move the cursor to the new position of the field. You may roll up or down, or window left or right to the new position of the field. Press ENTER to complete the operation.

Moving a Field using the Design a Format Menu

To move a field using the Design a Format menu

1. Select Move from the fieldDs menu.
2. Move the cursor until it is on the field you wish to move and press ENTER.
3. Move the cursor to the new position of the field. You may roll up or down, or window left or right to the new position of the field. Press ENTER to complete the operation.

For information about moving a Group of Fields see the [Moving A Group of Fields Sections](#) in the [Grouping Chapter](#).



Copying Fields

Copy a Field using the function keys

To copy a field using function keys

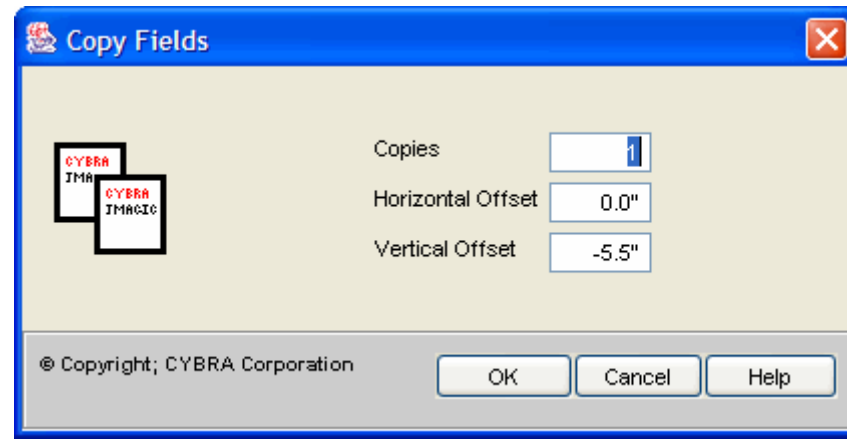
1. Move the cursor until it is on the field you wish to copy and press **F7** (Copy).
2. Move the cursor to the position of the copied field. You may roll up or down, or window left or right to position the copied field. Press **ENTER**. The Duplicate a Field window is displayed.
3. Enter the number of copies you wish to paste.
4. The copied fields will be positioned on the format at the vertical and horizontal offsets shown in the dialogue window. You may override these values by typing a different Vertical offset and Horizontal offset in hundredths of an inch (or tenths of a millimeter). Press **ENTER**.

Copy a Field using the Design a Format menu

To copy a field using the Design a Format menu

1. Select Copy from the fieldDs menu.
2. Move the cursor until it is on the field you wish to copy and press **ENTER**.
3. Move the cursor to the position of the copied field and press **ENTER**. The Duplicate a Field window is displayed.
4. Enter the number of copies you wish to paste.
5. The copied fields will be positioned on the format at the vertical and horizontal offsets shown in the dialogue window. You may override these values by typing a different Vertical offset and Horizontal offset in hundredths of an inch (or tenths of a millimeter). Press **ENTER**.

Copy a Field (JMagic)



Copying fields in JMagic is accomplished through the **Copy Fields Window**. This window has several criteria that can be specified when copying fields.

- **Copies** - enter the number of copies that you want to make
- **Horizontal offset** - enter an amount (in inches from the left-menu) where you want the field placed
- **Vertical offset** - enter an amount (in inches from the top-margin) where you want the field placed

JMagic will place the field on the **Design Canvas** at the intersection of the horizontal offset and vertical offset. The top-left corner of the field will be placed at the intersection.

Native iSeries

Deleting Fields

MarkMagic supplied format fields contain “sample” values to demonstrate what type of information to put in the field. In most cases, to use the format, all you need to do is replace the “sample” information with your own text, or variable field names, to complete your format.



Delete a Field using the Function Keys

To delete a field using function keys

1. Move the cursor until it is on the field you wish to delete and press **F8** (Delete).
2. The **Confirm Delete of a... Field screen** is displayed. Press **ENTER** to confirm deletion of the field.



Delete a Field using the Design a Format Menu

To delete a field using the Design a Format Menu

1. Select **Delete** from the **fields menu**.
2. Move the cursor until it is on the field you wish to delete and press **ENTER**.
3. The **Confirm Delete of a... Field** screen is displayed. Press **ENTER** to confirm deletion of the field.

For information about deleting a group of fields, see the [Delete Section](#) in the [Grouping Chapter](#) below.



Grouping

The MarkMagic Design View feature Group Change is the fastest way to easily and quickly select fields for modification. When defining a large, complex format such as a form with many fields, Group Change is essential to fine tune field values consistently.

Defining a group of fields for modification is as easy as moving the cursor to a corner of a group of fields. You may roll up/down (or window left/right) to specify the opposite corner of the group. Any field that is “touched” by the group indicator will be part of the group — you do not need to enclose the entire field within the group.



Move a Field Group using the Function Keys

To move a field group using function keys

1. Move the cursor until it is at the point where you wish to begin selection of a group of fields to copy and press F13 (Group).
2. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
3. Select Move.
4. Move the cursor to the new starting position of the selected group and press ENTER.



Move a Field Group using the Design a Format Menu

To move a group of fields using the Design a Format menu

1. Select Group from the fields menu.
2. Move the cursor until it is at the point where you wish to begin selection of a group of fields to move and press ENTER.
3. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
4. Select Move.
5. Move the cursor to the new starting position of the selected group and press ENTER.



Aligning a Group of Fields



Aligning a Field Group to a column using the Function Keys

To align a field group to a column using function keys

1. Move the cursor until it is at the point where you wish to begin selection of a group of fields to align and press F13 (Group).

2. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
3. Select align column**N**.
4. Move the cursor along the horizontal ruler to the new column position of the selected group and press ENTER. The column positions of each bar code, graphic, and text field selected and the starting column of each line and box field selected will match. The fields will AutoAlign accordingly.



Aligning a Field Group to a column using the Design a Format Menu

To align a field group to a column using the Design a Format menu

1. Select Group from the field**S** menu.
2. Move the cursor until it is at the point where you wish to begin selection of a group of fields to align and press ENTER.
3. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
4. Select align column**N**.
5. Move the cursor along the horizontal ruler to the new column position of the selected group and press ENTER. The column positions of each bar code, graphic, and text field selected and the starting column of each line and box field selected will match. The fields will AutoAlign accordingly.



Aligning a Field Group to a row using the Function Keys

To align a field group to a row using function keys

1. Move the cursor until it is at the point where you wish to begin selection of a group of fields to align and press F13 (Group).
2. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
3. Select align **Row**.
4. Move the cursor along the vertical ruler to the new row position of the selected group and press ENTER. The row positions of each bar code, graphic, and text field selected and the starting row of each line and box field selected will match. The fields will AutoAlign accordingly.



Aligning a Field Group to a row using the Design a Format Menu

To align a field group to a row using the Design a Format menu

1. Select Group from the field**S** menu.
2. Move the cursor until it is at the point where you wish to begin selection of a group of fields to align and press ENTER.
3. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
4. Select align **Row**.
5. Move the cursor along the vertical ruler to the new row position of the selected group and press ENTER. The row positions of each bar code, graphic, and text field selected, and the starting row of each line, and box field selected, will match. The fields will AutoAlign accordingly.

Copying a Group of Fields



Copying a Field Group using the Function Keys

To copy a field group using function keys

1. Move the cursor until it is at the point where you wish to begin selection of a group of fields to copy and press F13 (Group).
2. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
3. Select Copy.
4. Move the cursor to the position of the copied group and press ENTER. The Duplicate a Field window is displayed.
5. Enter the number of copies you wish to paste.
6. The copied fields will be positioned on the format at the vertical and horizontal offsets shown in the dialogue window. You may override these values by typing a different Vertical offset and Horizontal offset in hundredths of an inch (or tenths of a millimeter). If you are defining a MarkMagic Form, and you are mapping fields to a spooled output file, you will also be asked to specify the spool line and spool column offsets of the copies.
7. Press ENTER to complete the copy.



Copying a Field Group using the Design a Format Menu

To copy a group of fields using the Design a Format menu

1. Select Group from the fieldDs menu.
2. Move the cursor until it is at the point where you wish to begin selection of a group of fields to copy and press ENTER.
3. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
4. Select Copy.
5. Move the cursor to the position of the copied group and press ENTER. The Duplicate a Field window is displayed.
6. Enter the number of copies you wish to paste.
7. The copied fields will be positioned on the format at the vertical and horizontal offsets shown in the dialogue window. You may override these values by typing a different Vertical offset and Horizontal offset in hundredths of an inch (or tenths of a millimeter). If you are defining a MarkMagic Form, and you are mapping fields to a spooled output file, you will also be asked to specify the spool line and spool column offsets of the copies. Press ENTER to complete the copy.
8. column offsets of the copies. Press ENTER to complete the copy.



Deleting a Group of Fields



Deleting a Field Group using the Function Keys

To delete a field group using function keys

1. Move the cursor until it is at the point where you wish to begin selection of a group of fields to delete and press F13 (Group).

2. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
3. Select Delete.
4. The Group Delete confirmation window is displayed.
5. Type Y if you wish to delete the group, or N if you wish to cancel the operation. Press ENTER.



Deleting a Field Group using the Design a Format Menu

To delete a group of fields using the Design a Format menu

1. Select Group from the fieldDs menu.
2. Move the cursor until it is at the point where you wish to begin selection of a group of fields to delete and press ENTER.
3. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
4. Select Delete.
5. The Group Delete confirmation window is displayed.
6. Type Y if you wish to delete the group, or N if you wish to cancel the operation. Press ENTER.

Editing a Group of Fields



Editing a Field Group using the Function Keys

To edit a field group using function keys

1. Move the cursor until it is at the point where you wish to begin selection of a group of fields to edit and press F13 (Group).
2. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
3. Select Edit.
4. The Work with... Field screen is displayed for each of the fields selected. Modify the field parameters you wish to change.
5. Press ENTER to accept your modifications and then press ENTER to confirm.



Editing a Field Group using the Design a Format Menu

To edit a group of fields using the Design a Format menu

1. Select Group from the fieldDs menu.
2. Move the cursor until it is at the point where you wish to begin selection of a group of fields to edit and press ENTER.
3. Move the cursor diagonally to the opposite corner of the group of fields and press ENTER. The Select Group Action window is displayed.
4. Select Edit.
5. The Work with... Field screen is displayed for each of the fields selected. Modify the field parameters you wish to change.
6. Press ENTER to accept your modifications and then press ENTER to confirm.



Rotating Fields

Note: MarkMagic rotates fields from the lower-left corner.

Rotating a Field using the Function Keys

To rotate a field using function keys

1. Move the cursor until it is on the field you wish to rotate and press F14 (Rotate).
2. The field will rotate 90 degrees counterclockwise. Press F14 (Rotate) again to rotate the field an additional 90 degrees.

Rotating a Field using the Design a Format Menu

To rotate a field using the Design a Format menu

1. Select Rotate from the fieldDs menu.
2. Move the cursor until it is on the field you wish to rotate and press ENTER.
3. The field will rotate 90 degrees.

For information about rotating a Group of Fields see the [Rotating A Group of Fields Sections](#) in the [Grouping Chapter](#).



Editing Fields

Editing a Field using the Function Keys

To edit a field using function keys

1. Move the cursor until it is on a portion of the Format Design area not occupied by a field and press F2 (Edit). You will be presented with the Select a Field window.
2. Page until you see the field you want to edit. You may type **B**, **D**, **G**, **L**, **T** or **X** in the Position to field type parameter and press ENTER.
3. Place the cursor on the field you want to edit and press ENTER. The Work with... Field screen is displayed. Modify the field parameters you wish to change.
4. Press ENTER to accept your modifications and then press ENTER to confirm.

Editing a Field using the Design a Format Menu

To edit a field using the Design a Format menu

1. Select Edit from the fieldDs menu.
2. Move the cursor until it is on the field you wish to edit and press ENTER. The Work with... Field screen is displayed. Modify the field parameters you wish to change.
3. Press ENTER to accept your modifications and then press ENTER to confirm.

For information about editing a Group of Fields see the [Editing A Group of Fields Sections](#) in the [Grouping Chapter](#). You can also edit the supplied field formats. For more information about editing the supplied field formats, see the [Modifying Supplied Field Formats Section](#).



Undo

Undo gives you the ability to reverse every action performed during MarkMagic Design View operations. Each single (or group) create, copy, delete, edit, move, and rotate can

be undone, one at a time, all the way back to the start of your session. Or, if you prefer, you can revert all the way back to when the Design View session was started with a few keystrokes (Visual Designer only).

The following restrictions apply to the revert/undo function in Visual Designer: MarkMagic List View has no undo function and any modifications made in List View must be manually reversed. In addition, when you toggle List View, the Design View revert/undo actions are cleared for List View modifications. When you toggle back Design View, there will be no actions to revert or undo.

Undo Edits using the function keys

To undo Design View modifications using function keys

1. Press F5 (Undo).
2. The most recent single field or group modification will be cancelled. Press F5 (Undo) again to undo additional modifications until the format was last opened in Design View.

Undo Edits using the Design a Format menu

To undo Design View modifications using the Design a Format menu

1. Select Undo from the fieldDs menu.
2. The most recent single field or group modification will be cancelled. Select Undo from the fieldDs menu again to undo additional modifications until the format was last opened in Design View.

Revert using the function keys

To revert Design View modifications using function keys

1. Press F4 (Revert). You will be presented with a confirmation screen.
2. If you type Y, and press ENTER, all field modifications since the format was last opened in Design View will be cancelled.

Revert using the Design a Format menu

To revert Design View modifications using the Design a Format menu

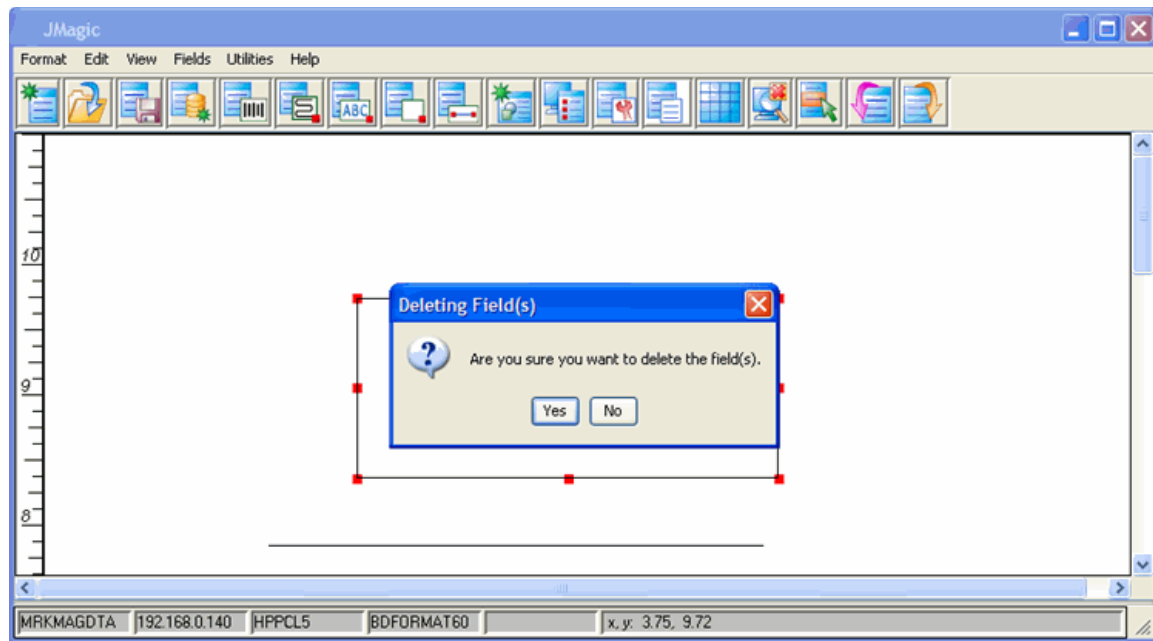
1. Select Revert from the Format menu. You will be presented with a confirmation screen.
2. If you type Y, and press ENTER, all field modifications since the format was last opened in Design View will be cancelled.

JMagic



Deleting Fields

MarkMagic supplied format fields contain “sample” values to demonstrate what type of information to put in the field. In most cases, to use the format, all you need to do is replace the “sample” information with your own text, or variable field names, to complete your format.



How To:

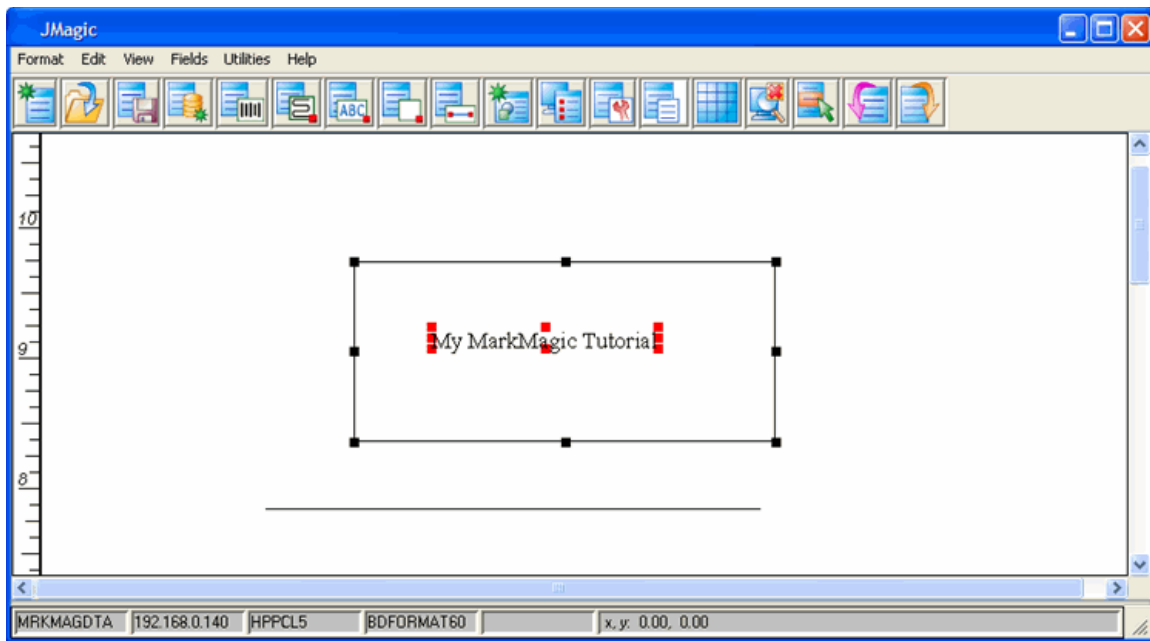
- Click on the field you want to delete on the **Design Canvas**.
- Press the **Delete Key**. This opens the **Delete Confirmation Dialog Box**.
- Click the **Yes Button** to delete the field

For information about deleting a group of fields, see the [Delete Section](#) in the [Grouping Chapter](#) below.

Grouping

The MarkMagic Design View feature Group Change is the fastest way to easily and quickly select fields for modification. When defining a large, complex format such as a form with many fields, Group Change is essential to fine tune field values consistently.

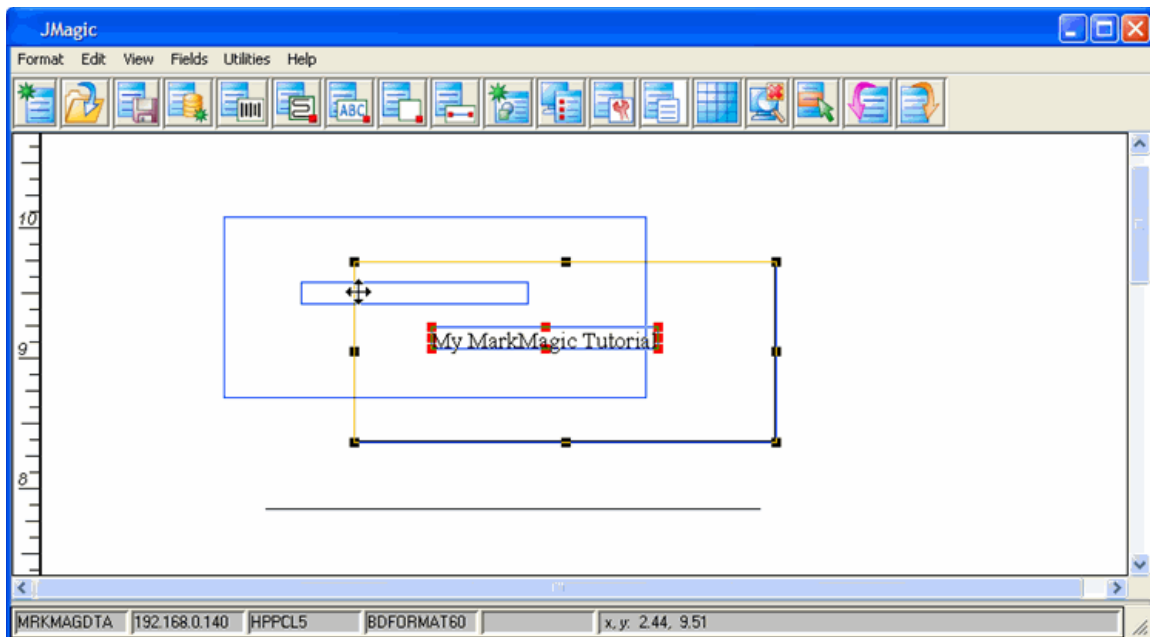
Defining a group of fields for modification is as easy as moving the cursor to a corner of a group of fields. You may roll up/down (or window left/right) to specify the opposite corner of the group. Any field that is “touched” by the group indicator will be part of the group — you do not need to enclose the entire field within the group.



How To:

Hold the **CTRL Key** down while clicking on the fields you want to include in your group.
Each field that you select is part of your group.

Moving a Group of Fields

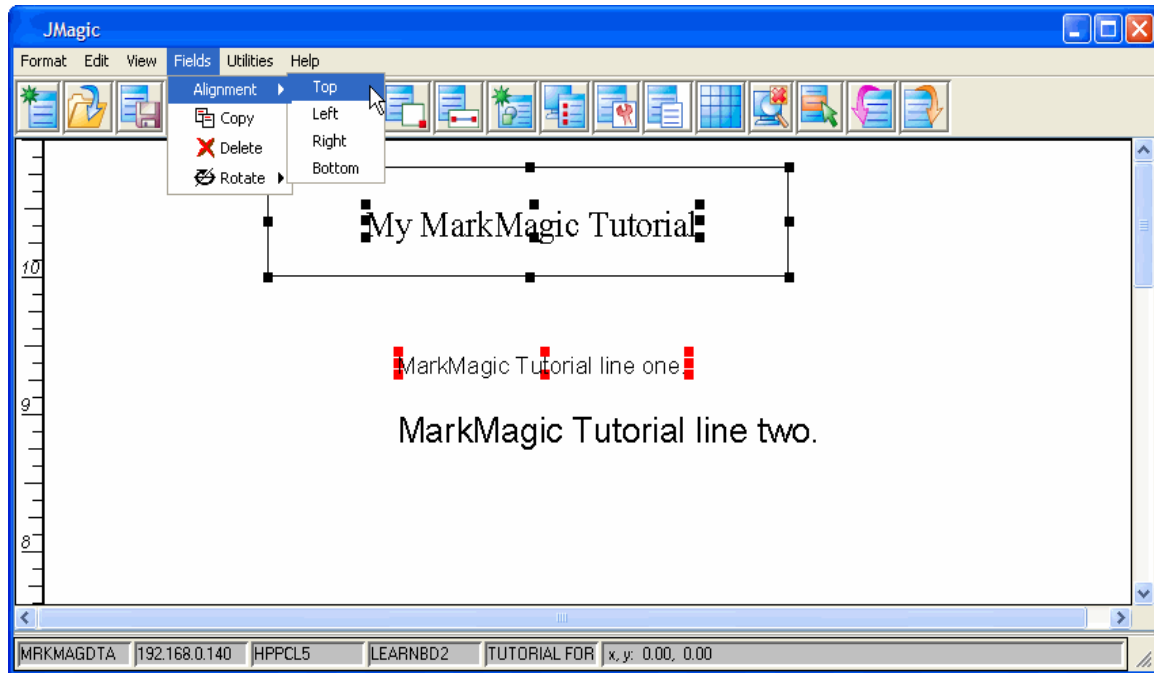


How To:

- Click on a field in the group (other than the first field you clicked on when creating the group) and hold down the mouse button
- Drag the group to where you want it to be on the **Design Canvas** and release the mouse button.



Aligning a Group of Fields

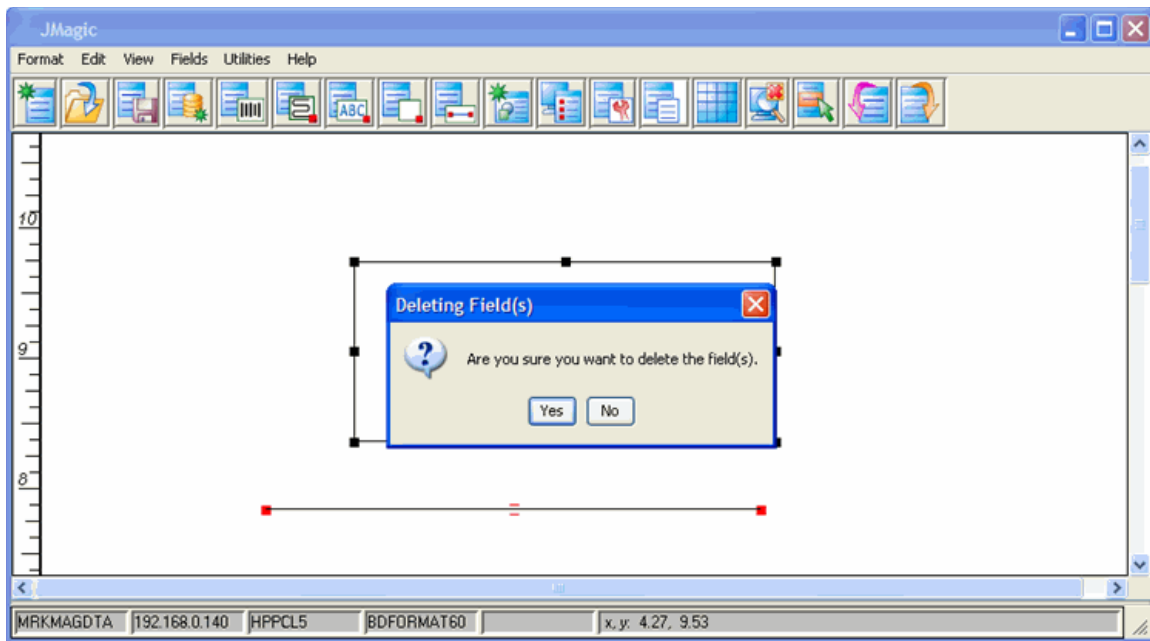


How To:

- After selecting a group, choose how you want the group aligned by selecting the alignment from the **Alignment Submenu** of the **Fields Menu**. Options include
 - Top
 - Left
 - Right
 - Bottom



Deleting a Group of Fields



How To:

- With your group selected, press the **Delete Key** or select the **Delete Option** from the **Fields Menu**. This will display the **Delete Confirmation Dialog**.
- Click **Yes** to delete the fields.

Aligning Fields

Aligning fields is only carried out on a group of fields. For more information about aligning a group of fields, see the [Aligning a Group of Fields](#) in the [Grouping Section](#).



Editing Fields

Edit A Text Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: >FORMAT60
 Length: 11.0" Width: 8.5"
 Description:
 Rotation: A 0"

Properties: Font Display

Name and Description
 Field Name: *HEADING Browse... Field #: 1
 Description: My MarkMagic Tutorial

Positioning Properties
 Row: 9.42" Column: 2.0"

Attributes
 Length: 21
 Decimals:
 Variable Length: ☐ Yes ☒ No

Font
 Font: 20 Times
 Point: 12

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OK Cancel Help

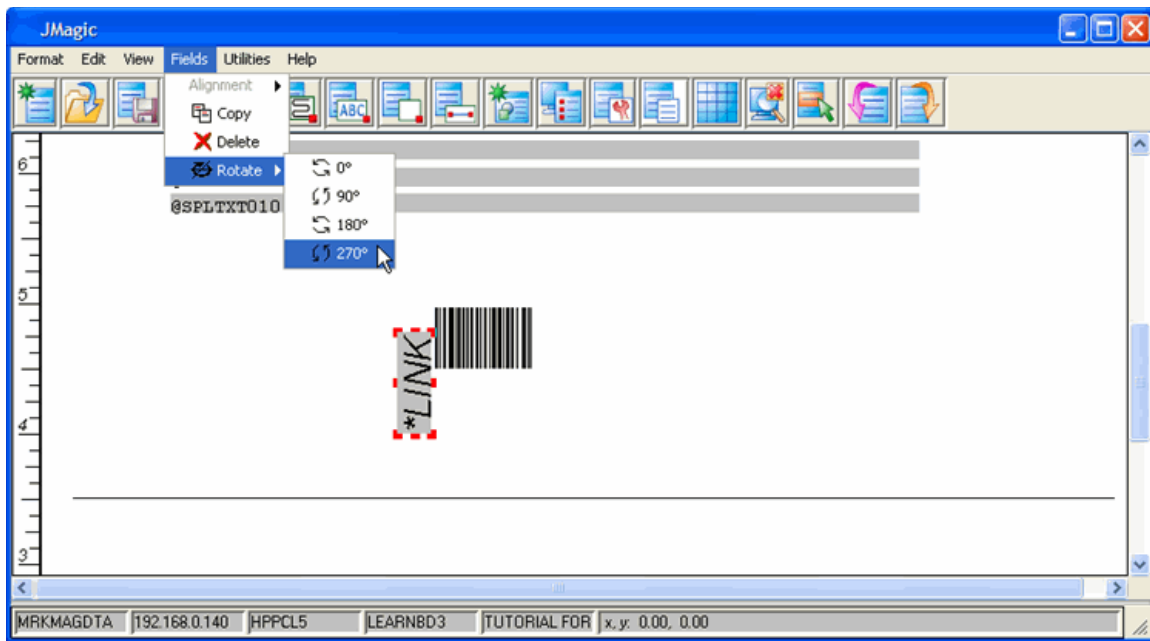
How To:

- Double click on the field you want to edit. This will open the **Edit a Field Window**.

For information about editing a Group of Fields see the [Editing A Group of Fields Sections](#) in the [Grouping Chapter](#). You can also edit the supplied field formats. For more information about editing the supplied field formats, see the [Modifying Supplied Field Formats Section](#).



Rotating Fields



How To:

- Click on the field you want to rotate
- From the **Fields Menu**, select the appropriate rotation from the **Rotate Submenu**.

Note: MarkMagic rotates fields from the lower-left corner.

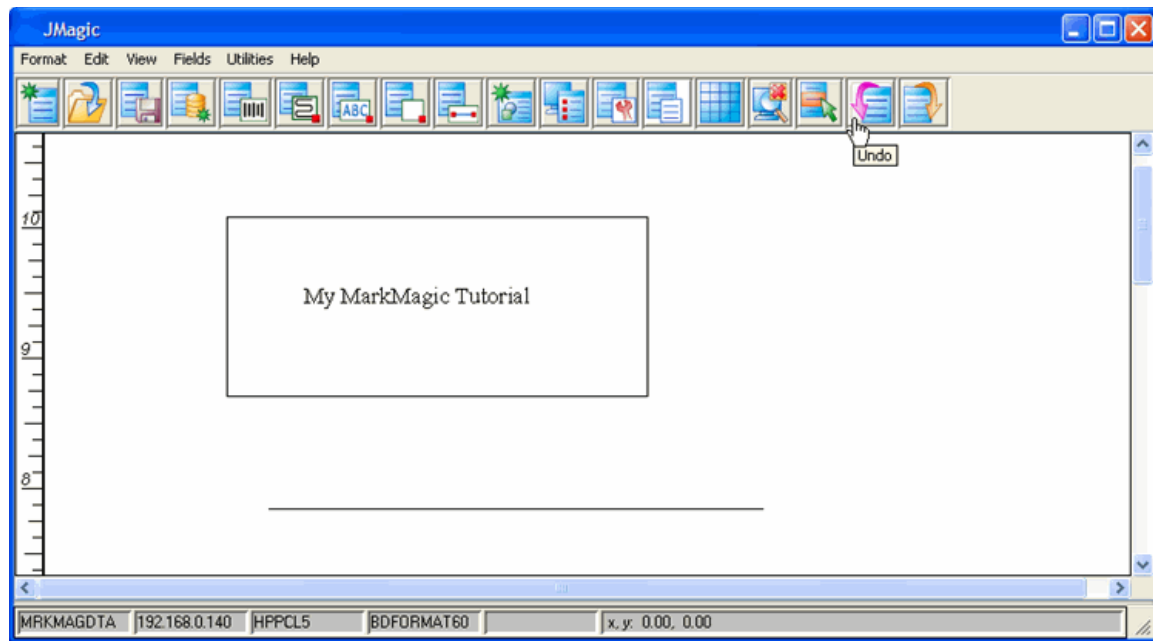
For information about rotating a Group of Fields see the [Rotating A Group of Fields Sections](#) in the [Grouping Chapter](#).



Undo

Undo gives you the ability to reverse every action performed during MarkMagic Design View operations. Each single (or group) create, copy, delete, edit, move, and rotate can be undone, one at a time, all the way back to the start of your session. Or, if you prefer, you can revert all the way back to when the Design View session was started with a few keystrokes (Visual Designer only).

The following restrictions apply to the revert/undo function in Visual Designer: MarkMagic List View has no undo function and any modifications made in List View must be manually reversed. In addition, when you toggle List View, the Design View revert/undo actions are cleared for List View modifications. When you toggle back Design View, there will be no actions to revert or undo.



How To:

- Press the **CRTL-Z** until the Design Canvas has reverted to the format you need.

Working with Text Fields

Working with Text Fields

- [Overview](#)
- [The Work with Text Field Screens Native System i](#)
- [Text Field Window JMagic](#)
- [Edit a Text Field](#)
- [Delete a Text Field](#)
- [Group Text Fields](#)
- [SM@RT Headings](#)

Overview

MarkMagic gives you complete control over the text fields in your format. Optional features include printer support for outline fonts and color. This section demonstrates how to create text fields to exactly convey the information you wish to present.

Note: Text field definitions are associated with a specific printer type. The parameters you will work with during the field definition process depend upon the printer you select. Some of the parameters covered in this section may not appear on your Work with Text Field screens.

Edit a Text Field

For more information about editing a text field, see the [Modifying Fields Section](#) in the [Fields Chapter](#).

Delete a Text Field

For more information about deleting a text field, see the [Modifying Fields Section](#) in the [Fields Chapter](#).

Group Text Fields

For more information about grouping text fields, see the [Native System i Grouping](#) and [JMagic Grouping](#) Section in the [Fields Chapter](#).

Electronic Forms Headings

Do you need to support multiple languages? MarkMagic Electronic Forms Heading fields let you load a heading field's descriptive information from a message file. This is done by keying "@msg" followed by a message id in the Description field of a *HEADING field. Press F4 to choose a message ID from a list.

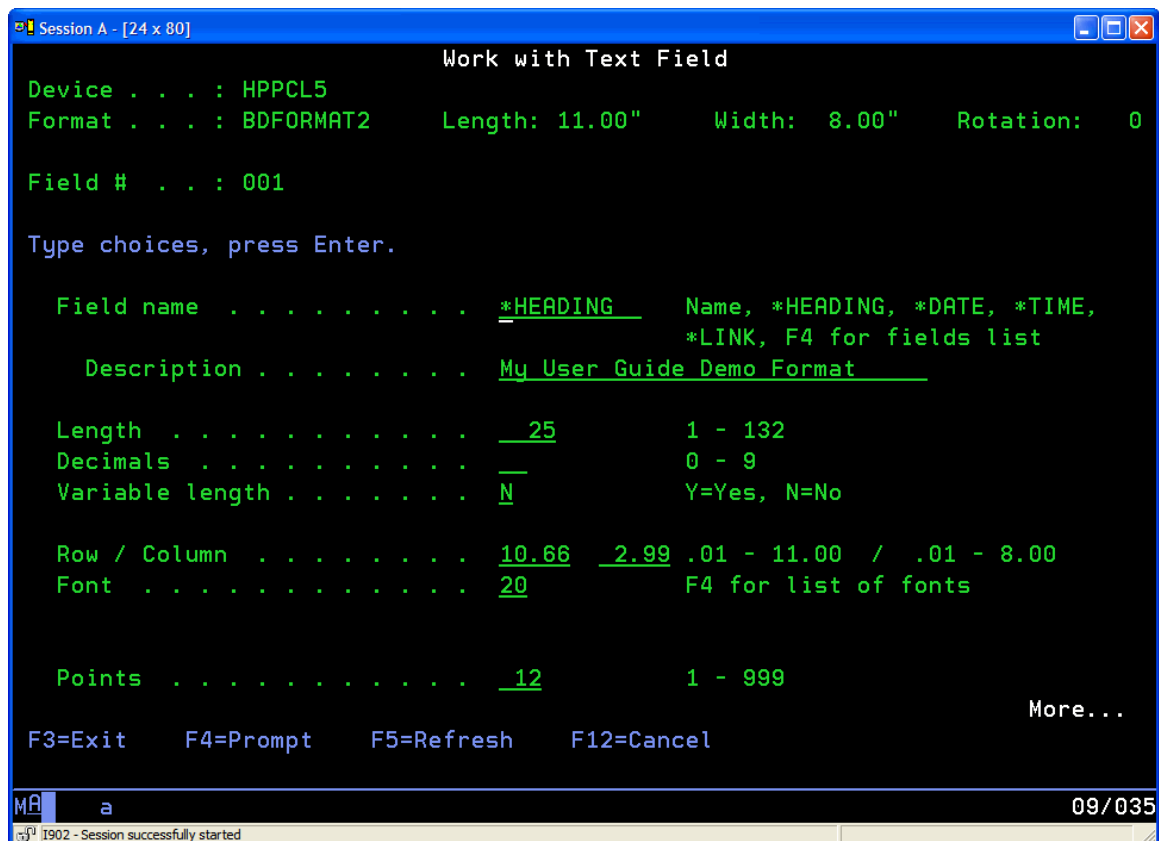
Note: Electronic Forms Heading fields are also useful when an application needs to support long heading fields -- up to 132 characters.

Native iSeries



The Work with Text Field Screens





- **Field Name** — Enter the name of an OS/400 database field, a format field, spooled file data, or use one of the MarkMagic special field names: *HEADING, *DATE, *TIME, *LINK, or *SEQ. If you select an OS/400 database field or a text field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should not change these values so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.
- **Description** - If *HEADING is specified for Field name, the value in this field will print. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Length** - Length of the database field, format field, spooled file data length, or text in the description field. If you use the MarkMagic special field name *HEADING, and leave this field blank, the program calculates field length for you.
- **Decimals** - Number of decimal positions in the field, if numeric.
- **Variable Length** - Indicates whether this is a variable length field. If you select No, an alpha field will be padded with blanks and a numeric field will be padded with zeros.
- **Row/Column** — The position of the field on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the "Measure from" parameter value in the Format definition. Column is measured from the left edge of the format. If the text field was created on the Design a Format screen, these values will already be filled in, based on where you placed the text field on the Design a Format screen.

- **Font** — Specify the typeface in which you wish the text field to print. Press F4 to select a typeface from a list of available fonts for your printer type. Optional fonts may not be installed in your printer. Contact your printer reseller to determine which, if any, optional fonts are installed in your printer. Text field appearance on the Design a Format screen may differ from the actual printed label or tag. For example, a field may appear not to extend off the edge of the tag on the Design a Format screen yet at print time, the printer will display an error message to that effect. This is primarily because the printer “reserves” the greatest possible field length for imaging. For example, if the font selected is proportional, and the field length is 10, the printer “reserves” the maximum imaging area the font would need if the entire field were made up of the characters: WWWWWWWWWWW. To print the actual area being reserved for a font on Monarch Marking thermal printers for example, select white on black as the field color, and the Monarch Marking printer will print a black box the full length of the field. To change MarkMagic design defaults to display text fields at their maximum width.
- **Magnify or Magnify Height / Width** - Select the degree of magnification for the height and/or width of each character.
- **Height / Width** - Enter the actual height and width of each character in tenths of millimeters or hundredths of an inch.
- **Points** — Certain printer fonts can be magnified by specifying point size — a typographic term that is used to measure the height of the font from the bottom of the descenders (such as the letter p) to the top of the ascenders (such as the letter h). One point is equal to 1/72nd of an inch, 18 pts is equal to 1/4 inch, 36 pts is equal to 1/2 inch, and 72 pts equals 1 inch.

Session A - [24 x 80]

Work with Text Field

Device . . . : HPPCL5
 Format . . . : BDFORMAT2 Length: 11.00" Width: 8.00" Rotation: 0

Field # . . . : 001
 Name . . . : *HEADING Description: My User Guide Demo Format

Type choices, press Enter.

Edit code	=	F4 for list
Check digit	0	F4 for list
Increment type	I	I=Incr, D=Decr, *=Seq reference
Increment value	___	0 - 999

Rotate Field	0	0, 90, 180, 270
------------------------	---	-----------------

Style	N	F4 for list of styles
Color	B	F4 for list of colors

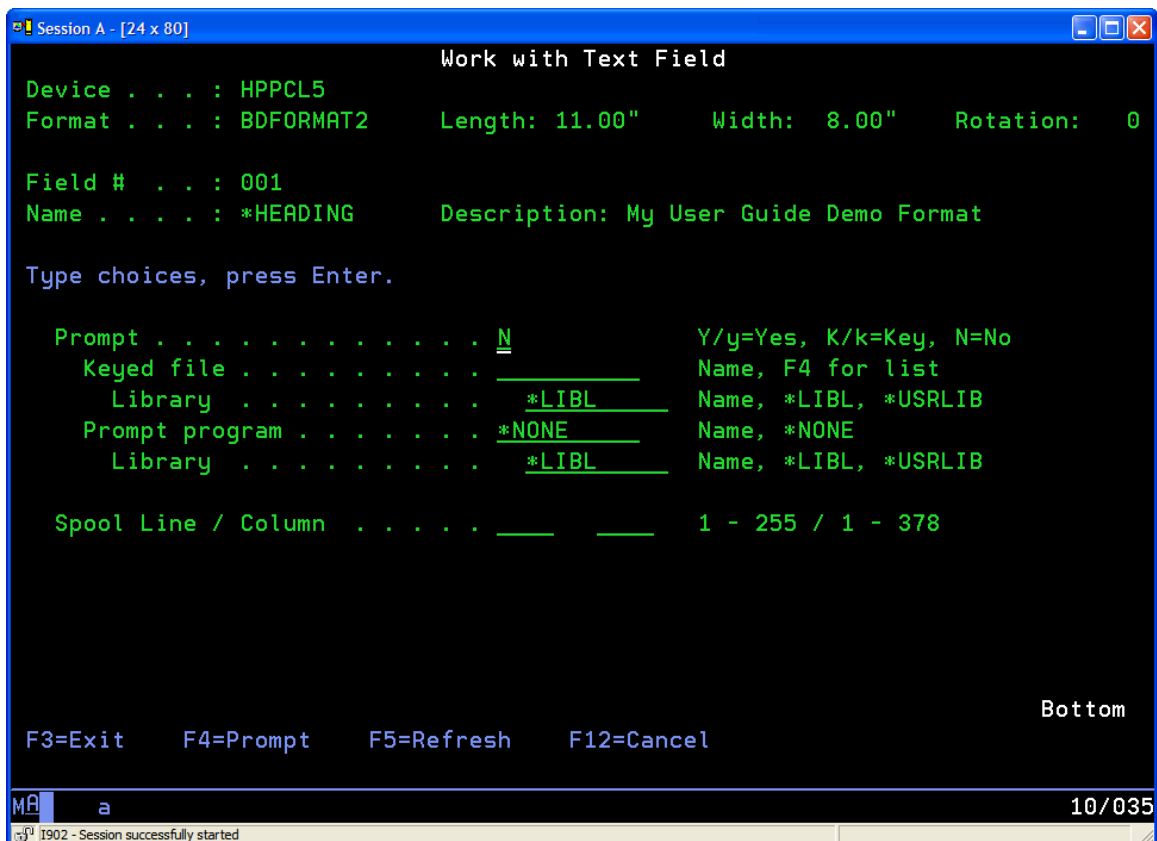
More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel

MA a 10/035

I902 - Session successfully started

- **Edit Code** — Indicate whether or not you wish MarkMagic to edit a numeric text field before it is sent to the printer. Press F4 to select an edit code type. In addition to standard OS/400 edit codes that control commas and zero values, there are additional edit code types for date, time, UCC128 container code, UPS Tracking Format and price fields. If you need to format a field in a way not handled by one of the supplied Edit codes, you may use the MarkMagic Link field feature to do this.
- **Check Digit** - If you want MarkMagic to calculate a check digit and append it to the end of a numeric text field, press F4 to select from a list of Check Digit schemes.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields can be incrementing (I) or decrementing (D) unless the increment value is equal to 0.
- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 001, and the quantity field in the label file must be greater than
- **Block End Row/Column** — If you wish to print the text in a defined “box type” text block, enter the end row (measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition) and the end column (measured from the left edge of the format) of the block. These values will force the printer to automatically wrap the text field data within the boundaries of the text block.
- **Block Spacing** - To set the space between lines within a text block greater than the default minimum (0), enter the number of dots.
- **Rotate Field** — Amount to rotate field with reference to the top of the format. If the format rotation is 0, the top of the format is the format width measured across the printhead of a thermal printer, the exit tray of a laser printer or the platen roller of a dot matrix printer. Allowable values are 90, 180, or 270 degrees. Leave 0 for no rotation. Fields can be rotated in increments of 90 degrees on the Design a Format screen by placing the cursor on a field and pressing F14 (rotate).
- **Rotate Character** - Amount to rotate individual text characters within a text field.
- **Color** - Specify if you want your text field to print black on white (B), white on black (W), or if your printer is capable of printing in color, press F4 to select from a list of supported colors.
- **Style** - Press F4 to select from a list of styles — italic, shadow, outline, etc. — supported by your printer.
- **Alignment** - — If the characters to be printed are less than the full length of the text field, specify whether the variable data in the field is to be left justified (L), right justified (R), or centered (C).
- **Character Gap** - To set the space between characters greater than the default (0), enter the number of dots. Maximum value is 99.



- **Prompt** —In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, MarkMagic would retrieve the field name, the field description, the length and the field's attributes. Now, MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved database record. If you wish the text field to be a prompt field the following values are supported:
 - **K** - If the field is a keyed field and only upper case values are permitted
 - **k** - If the field is a keyed field and lower or upper case values are permitted
 - **Y** - If the field is not-keyed, but you want the operator to only type upper case values
 - **y** - If the field is not-keyed, and you want the operator to type lower or upper case values
 - **N** - If the field should not be defined as a prompt field
- **Keyed file** - Type the name of the file that contains the field you want to be prompted on your label, or press F4 to select a database file.
- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Prompt program** — MarkMagic lets you specify a user exit "prompt" program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. You can either develop your own

file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records. MarkMagic is automatically "CodeScope aware." To use it, simply specify CS in library MRKMAG60 for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.

- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.

Press ENTER to complete the text field definition. The field will appear on the Design a Format screen.

- If the text field was defined as *HEADING, the field description will appear on the Design a Format screen.
- If the field was defined as a variable field, the field name will appear, preceded by an "=" (equal) sign.
- If the text field was defined as *LINK, "=*L:" followed by the description value, will appear.
- Depending on the field length, font selected, and zoom factor, the entire field name or description may not appear on the Design a Format screen. To display the text field legibly it may be necessary to zoom in for a greater degree of magnification.

JMagic



Text Field Window

Adding a Text Field to the Design Canvas in JMagic is accomplished through the **Add a New Text Field Window**. This window is broken into three tabs

- [Properties](#)
- [Font](#)
- [Display](#)

Properties Tab

Create A New Text Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: FORMAT60
 Length: 11.0"
 Width: 8.5"
 Description:
 Rotation: A 0°

Properties: Font Display

Name and Description
 Field Name: *HEADING (dropdown) [Browse...] Field #: 1
 Description:

Positioning Properties
 Row: 8.96" Column: 2.61"

Attributes
 Length: 1
 Decimals:
 Variable Length: ☒ Yes ☐ No

Font
 Font: 20 Times (dropdown)
 Point: 12

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OK Cancel Help

- **Field Name** - Enter the name of an OS/400 database field, a format field, spooled file data, or use one of the MarkMagic special field names: *HEADING, *DATE, *TIME, or *LINK. If you select an OS/400 database field or a text field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should not change these values so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.
- **Description** - If *HEADING is specified for Field name, the value in this field will print. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Row/Column** — The position of the field on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the "Measure from" parameter value in the Format definition. Column is measured from the left edge of the format. These values will already be filled in, based on where you placed the cursor on the JMagic screen.
- **Length** - Length of the database field, format field, spooled file data length, or text in the description field. If you use the MarkMagic special field name *HEADING, and leave this field blank, the program calculates field length for you.

- **Decimals** - Number of decimal positions in the field, if numeric.
- **Variable Length** - Indicates whether this is a variable length field. If you select No, an alpha field will be padded with blanks and a numeric field will be padded with zeros.
- **Font** - Specify the typeface in which you wish the text field to print. Use the drop-down menu to select a font supported by your printer type.
- **Points** — Certain printer fonts can be magnified by specifying point size — a typographic term that is used to measure the height of the font from the bottom of the descenders (such as the letter p) to the top of the ascenders (such as the letter h). One point is equal to 1/72nd of an inch, 18 pts is equal to 1/4 inch, 36 pts is equal to 1/2 inch, and 72 pts equals 1 inch.

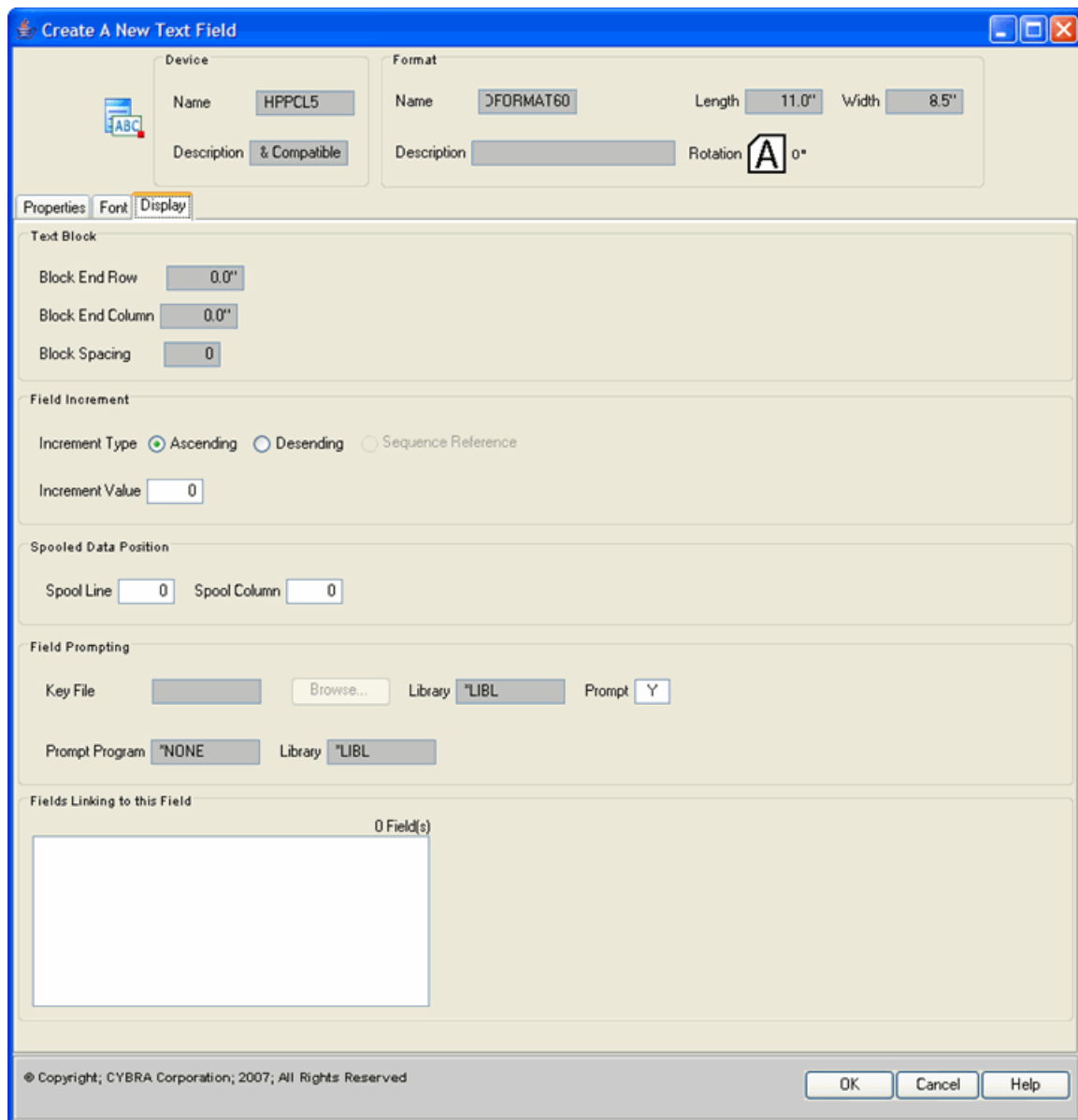
Font

The screenshot shows the 'Create A New Text Field' dialog box with the 'Font' tab selected. The 'Device' section shows 'Name: HPPCL5' and 'Description: & Compatible'. The 'Format' section shows 'Name: >FORMAT60', 'Length: 11.0"', 'Width: 8.5"', and 'Rotation: A 0°'. The 'Font Properties' section includes 'Color: B Black', 'Alignment: L Left', 'Style: N Normal', and 'Character Gap (Dots): 0'. The 'Rotation Values' section has 'Field Rotation' and 'Character Rotation' both set to 0°. The 'Field Editing' section has 'Edit Code: No edit code' and 'Check Digit: 00 No check digit added'. The 'Positioning Properties' section has 'Height: 0.0"', 'Width: 0.0"', and 'Magnify' buttons for Height and Width. The bottom of the dialog shows copyright information and 'OK', 'Cancel', and 'Help' buttons.

- **Color** - Specify if you want your text field to print black on white (B), white on black (W), or if your printer is capable of printing in color, use the drop-down menu select from a list of supported colors.
- **Style** - Use the drop-down menu to select from a list of styles — italic, shadow, outline, etc. — supported by your printer.

- **Alignment** - If the characters to be printed are less than the full length of the text field, use the drop-down menu to specify whether the variable data in the field is to be left justified (L), right justified (R), or centered (C).
- **Character Gap** - To set the space between characters greater than the default (0), enter the number of dots. Maximum value is 99.
- **Field Rotation** — Amount to rotate field with reference to the top of the format. If the format rotation is 0, the top of the format is the format width measured across the printhead of a thermal printer, the exit tray of a laser printer or the platen roller of a dot matrix printer. Allowable values are 90, 180, or 270 degrees. Leave 0 for no rotation.
- **Character Rotation** - Amount to rotate individual text characters within a text field.
- **Edit Code** — Indicate whether or not you wish MarkMagic to edit a numeric text field before it is sent to the printer. Use the drop-down menu to select an edit code type. In addition to standard OS/400 edit codes that control commas and zero values, there are additional edit code types for date, time, UCC128 container code, UPS Tracking Format and price fields. If you need to format a field in a way not handled by one of the supplied Edit codes, you may use the MarkMagic Link field feature to do this.
- **Check Digit** - If you want MarkMagic to calculate a check digit and append it to the end of a numeric text field, use the drop-down menu to select from a list of Check Digit schemes.

Display



Create A New Text Field

Device
 Name: HPPCL5
 Description: & Compatible

Format
 Name: FORMAT60
 Length: 11.0"
 Width: 8.5"
 Description:
 Rotation: A 0°

Properties | Font | Display

Text Block
 Block End Row: 0.0"
 Block End Column: 0.0"
 Block Spacing: 0

Field Increment
 Increment Type: ☒ Ascending ☐ Descending ☐ Sequence Reference
 Increment Value: 0

Spooled Data Position
 Spool Line: 0 Spool Column: 0

Field Prompting
 Key File: Browse... Library: *LIBL Prompt: Y
 Prompt Program: *NONE Library: *LIBL

Fields Linking to this Field
 0 Field(s)

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OK Cancel Help

- **Block End Row/Column** — If you wish to print the text in a defined “box type” text block, enter the end row (measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition) and the end column (measured from the left edge of the format) of the block. These values will force the printer to automatically wrap the text field data within the boundaries of the text block.
- **Block Spacing** - To set the space between lines within a text block greater than the default minimum (0), enter the number of dots.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields can be incrementing (I) or decrementing (D) unless the increment value is equal to 0.
- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 001, and the quantity field in the label file must be greater than

- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.
- **Key file** - Type the name of the file that contains the field you want to be prompted on your label, or click the Browse button to select a database file.
- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Prompt** — In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, MarkMagic would retrieve the field name, the field description, the length and the field's attributes. Now, MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved database record. If you wish the text field to be a prompt field the following values are supported:
 - **K** - If the field is a keyed field and only upper case values are permitted
 - **k** - If the field is a keyed field and lower or upper case values are permitted
 - **Y** - If the field is not-keyed, but you want the operator to only type upper case values
 - **y** - If the field is not-keyed, and you want the operator to type lower or upper case values
 - **N** - If the field should not be defined as a prompt field
- **Prompt program** — MarkMagic lets you specify a user exit “prompt” program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. You can either develop your own file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records. MarkMagic is automatically “CodeScope aware.” To use it, simply specify CS in library MRKMAG60 for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.
- **Library** - Type the name of the library in which your prompt program can be found, or *LIBL.

Working with BarCode Fields

Working with BarCode Fields

- [Bar Code Field Overview](#)
- [Edit a BarCode Field](#)
- [Delete a BarCode Field](#)
- [Group BarCode Fields](#)

- [What is RFID?](#)
- [RFID and MarkMagic](#)
- [Magnetic Stripe](#)
- [MarkMagic SM@RT Codes & Files](#)
- [Using MarkMagic SM@RT Codes](#)
- [The Work with BarCode Screen Native System i](#)
- [The Work with 2D Barcode Screen Native System i](#)
- [BarCode Field Window JMagic](#)
- [2D Barcode Field Window JMagic](#)
- [UPS Maxicode Barcode Wizard Native System i](#)
- [UPS Maxicode Barcode Wizard JMagic](#)

BarCode Field Overview

MarkMagic's powerful bar code field definition features let you take full advantage of your printer's bar code, magnetic stripe, and RFID printing capabilities. This section will show you how to create bar code fields, RFID tags, and magnetic stripes to exactly match your specifications. Bar code field definitions are associated with a specific printer type. The parameters you specify during the field definition process depend upon the printer you select.

Note: Bar code field definitions are associated with a specific printer type. The parameters you specify during the field definition process depend upon the printer you select. Some of the parameters covered in this section may not appear on your Work with Bar Code field screens.

Edit a BarCode Field

For more information about editing a barcode field, see the [Modifying Fields Section](#) in the [Fields Chapter](#).

Delete a BarCode Field

For more information about deleting a barcode field, see the [Modifying Fields Section](#) in the [Fields Chapter](#).

Group BarCode Fields

For more information about grouping barcode fields, see the [JMagic Grouping](#) and [Native System i Grouping](#) Fields Section in the [Fields Chapter](#).

Native iSeries



The Work with BarCode Screen

```

Session A - [24 x 80]
Work with Bar Code Field

Device . . . : HPPCL5
Format . . . : BDFORMAT2   Length: 11.00"   Width: 8.00"   Rotation: 0

Field # . . . : 001

Type choices, press Enter.

Field name . . . . . _____ Name, *HEADING, *LINK,
                                F4 for list of fields
Description . . . . . _____

Length . . . . . _____ 1 - 50
Decimals . . . . . _____ 0 - 9
Variable length . . . . . Y Y=Yes, N=No

Row / Column . . . . . 9.88 2.66 .01 - 11.00 / .01 - 8.00
Bar code type . . . . . 1 F4 for list
Height . . . . . .33 .10 - 2.00
Narrow bar (module) width . . 2 1 - 30
Wide to narrow bar ratio . . . 2.0 - 4.0

More...

F3=Exit F4=Prompt F5=Refresh F12=Cancel

MA a 09/035
I902 - Session successfully started

```

- **Field Name** — Enter the name of an OS/400 database field, a format field, spooled file data, or use one of the MarkMagic special field names: *HEADING, *DATE, *TIME, or *LINK. If you select an OS/400 database field or a bar code field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should leave these values intact so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.
- **Description** - If *HEADING is specified for Field name, the value in this field will print. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Length** — Length of the database field, format field, spooled file data length, or character data in the description field. If you use the MarkMagic special field name *HEADING, and leave this field blank, the program calculates field length for you. Some bar code types, such as UPC-A, require a fixed length (12 positions) and others, I 2 of 5 for example, require an even number of characters.

If your bar code field has strict formatting requirements, make sure your definition for this field meets the bar code type's requirements.

- **Decimals** - Number of decimal positions in the field, if numeric. Bar code types UPC, EAN, and I 2 of 5 must consist of numeric values only. If your bar code field will be one of these types, make sure your data for this field will be numeric only.
- **Variable Length** - Indicates whether this is a variable length field. If you select No, an alpha field will be padded with blanks and a numeric field will be padded with zeros.
- **Row/Column** —The position of the field on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. If the bar code field was created on the Design a Format screen, these values will already be filled in, based on where you placed the bar code field on the Design a Format screen.
- **Bar code type** - Specify the bar code symbology (or RFID Tag, or Magnetic Stripe) you wish to print. Press F4 to select from a list of available bar code symbologies, RFID Tags, and Magnetic Stripes for your printer type.
- **Density** — Defines either the characters per inch or the density percentage, as defined by the published specifications for the particular bar code type. This determines how wide the bar code will be when it prints. Not all densities are valid for all bar code symbologies. Rotation can also affect density, as can printer type.
- **Height** — Height of the bar code field in tenths of millimeters or hundredths of an inch. If the bar code field was created on the Design a Format screen, this value will already be filled in, based on the height of the bar code field you created on the format. Minimum values are based on bar code type selected.
- **Narrow bar (module) width** - Some printer types define density as a ratio of wide to narrow bars. Enter the value of the narrow bar width in dots.
- **Wide to narrow bar ratio** — If your printer type defines density as a ratio of wide bars to narrow bars, enter the value of the wide to narrow ratio. The width of the narrow bar multiplied by the wide to narrow ratio equals the width of the thick bar. Refer to the published specifications for the bar code for more information regarding wide to narrow bar ratio requirements. This value is specified as a whole number and a decimal. You need to key the number with the decimal point.

Session A - [24 x 80]

Work with Bar Code Field

Device . . . : HPPCL5
 Format . . . : BDFORMAT2 Length: 11.00" Width: 8.00" Rotation: 0

Field # . . . : 001
 Name . . . : Description:

Type choices, press Enter.

Check digit	<u>0</u>	F4 for list
Increment type	<u>I</u>	I=Incr, D=Decr, *=Seq reference
Increment value	<u> </u>	0 - 999
Rotation	<u>0</u>	0, 90
Human readable	<u>0</u>	F4 for list
Number of columns	<u>0</u>	1 - 30
Security level	<u>0</u>	0 - 8

F3=Exit F4=Prompt F5=Refresh F12=Cancel More...

Field cannot be blank

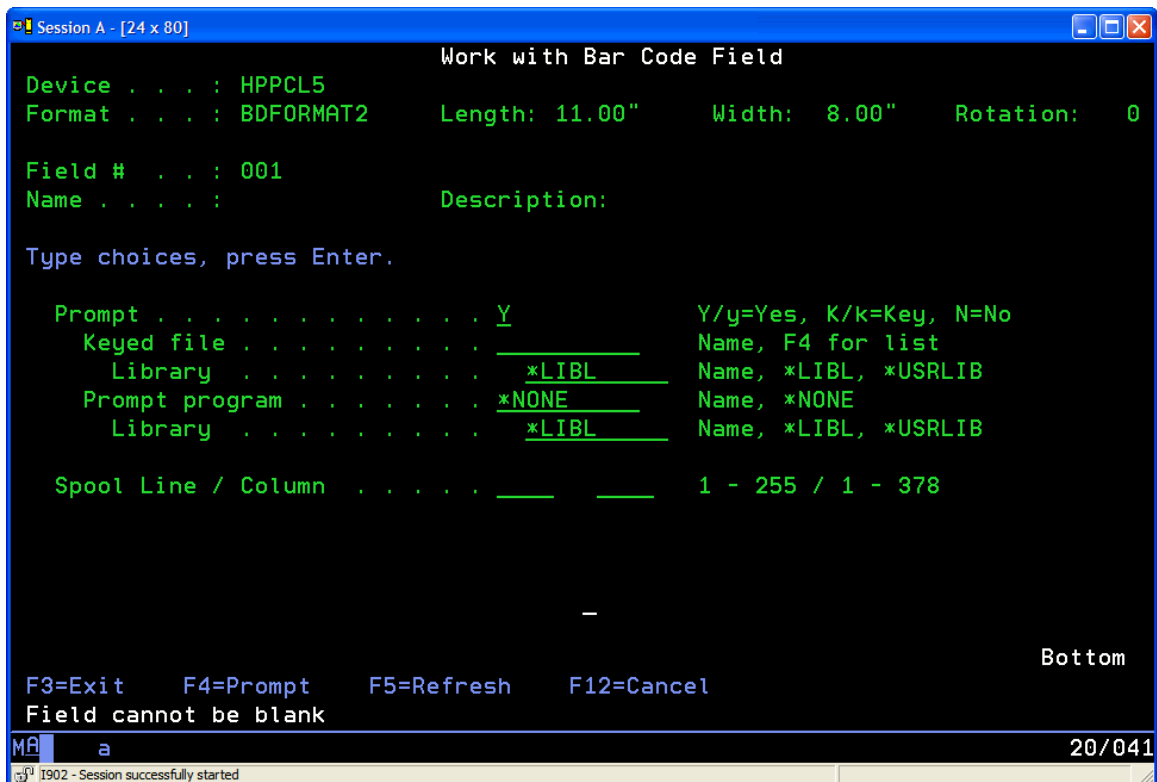
MA a 10/035

1902 - Session successfully started

- **Check Digit** — Most bar code types require a check digit. If you want MarkMagic to calculate a check digit and append it to the end of a numeric bar code field, press F4 to select from a list of Check Digit schemes. Otherwise, you will have to supply the check digit in your data. You can use the MarkMagic GENCKD routine for this purpose.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields are incrementing (I) or decrementing (D) unless the increment value is equal to 0.
- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 1, and the quantity field in the label file must be greater than 1.
- **Rotate Field** — Amount to rotate bar code field with reference to the top of the format. If the format rotation is 0, the top of the format is the format width measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Allowable values are 90, 180, or 270 degrees. Some printer types cannot print a bar code in "ladder" orientation (perpendicular to the printhead — rotations 90 and 270), only in "picket fence" (parallel to the printhead— rotations 0 and 180). Others must print "ladder" oriented bar codes at medium or low speed. And on certain printer types not all densities available in "picket fence" orientation are available in "ladder" orientation. Bar code fields can be rotated in 90 degree increments on the Design a Format screen by placing the cursor on a field and pressing F14 (rotate).
- **Human Readable** — Press F4 to display the human readable characters selection window. This list will vary depending upon your printer. Move your cursor to where you want to place the human readable characters and press ENTER to select. You can easily define human readable characters for any bar code field by linking it to a text field. The advantages of using a linked text field

for human readable characters include greater flexibility in font selection, editing capabilities (such as inserting blanks, dashes, and parentheses), and greater control in placement of the text in relation to the bar code field.

- **Alignment** - If the characters to be printed are less than the full length of the bar code field, specify whether the variable data in the field is to be:
 - **E** - Endpoint
 - **M** - Midpoint
 - **R** - Right justified
 - **C** - Centered
 - **L** - Left justified
- **Number of columns** — A parameter used for PDF417 stacked bar codes. This value is the number of data columns to encode. This value controls the width of the code and functions similarly to the density parameter of a standard bar code type. Refer to the published specifications for PDF417 for more information regarding number of columns.
- **Security level** — A parameter used for PDF417 stacked bar codes. This value determines the number of error detection and correction codewords to be generated for the symbol. The default value, 0, provides only error detection (no correction). Increasing the security level adds increasing levels of error detection and increases the symbol size. Refer to the published specifications for PDF417 for more information.



- **Prompt** —In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, Mark-Magic would retrieve the field name, the field description, the length and the field's attributes. Now, MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic

in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved database record. If you wish the text field to be a prompt field the following values are supported:

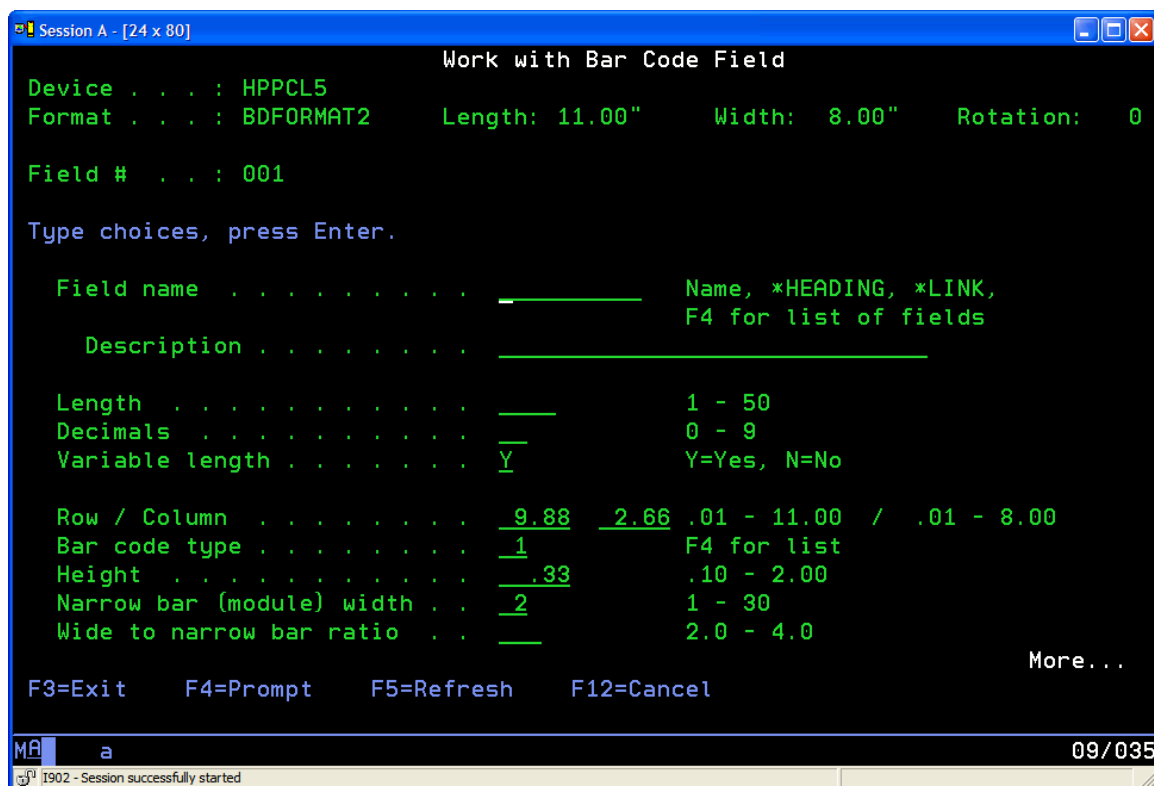
- **K** - If the field is a keyed field and only upper case values are permitted
- **k** - If the field is a keyed field and lower or upper case values are permitted
- **Y** - If the field is not-keyed, but you want the operator to only type upper case values
- **y** - If the field is not-keyed, and you want the operator to type lower or upper case values
- **N** - If the field should not be defined as a prompt field
- **Keyed file** - Type the name of the file that contains the field you want to be prompted on your label, or press F4 to select a database file.
- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Prompt program** — MarkMagic lets you specify a user exit “prompt” program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. You can either develop your own file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records. MarkMagic is automatically “CodeScope aware.” To use it, simply specify CS in library MRKMAG for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.
- **Library** - Type the name of the library in which your prompt program can be found, or *LIBL.
- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.

Press ENTER to complete the bar code field definition. The field will appear on the Design a Format screen. If the bar code field was defined as *HEADING, the field description will appear. If the field was defined as a variable field, the field name will appear, preceded by an “=” (equal) sign. If the bar code field was defined as *LINK, “=*L:” followed by the description value, will appear. Depending on the field length and zoom factor, the entire field name or description may not appear on the Design a Format screen. To display the bar code field name or description legibly, it may be necessary to zoom in for a greater degree of magnification.

Note: RFID and Magnetic Stripe fields do not display. Toggle to List View to modify these fields.



The Work with 2D Barcode Screen



```

Session A - [24 x 80]
Work with Bar Code Field

Device . . . : HPPCL5
Format . . . : BDFORMAT2   Length: 11.00"   Width: 8.00"   Rotation: 0

Field # . . . : 001

Type choices, press Enter.

Field name . . . . . _____ Name, *HEADING, *LINK,
                                F4 for list of fields

Description . . . . . _____

Length . . . . . _____ 1 - 50
Decimals . . . . . _____ 0 - 9
Variable length . . . . . Y Y=Yes, N=No

Row / Column . . . . . 9.88 2.66 .01 - 11.00 / .01 - 8.00
Bar code type . . . . . 1 F4 for list
Height . . . . . .33 .10 - 2.00
Narrow bar (module) width . . . 2 1 - 30
Wide to narrow bar ratio . . . _____ 2.0 - 4.0

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   More...

MA a 09/035
1902 - Session successfully started

```

- **Field Name** — Enter the name of an OS/400 database field, a format field, spooled file data, or use one of the MarkMagic special field names: *HEADING, *DATE, *TIME, or *LINK. If you select an OS/400 database field or a bar code field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should leave these values intact so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.
- **Description** - If *HEADING is specified for Field name, the value in this field will print. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Length** — Length of the database field, format field, spooled file data length, or character data in the description field. If you use the MarkMagic special field name *HEADING, and leave this field blank, the program calculates field length for you. Some bar code types, such as UPC-A, require a fixed length (12 positions) and others, I 2 of 5 for example, require an even number of characters. If your bar code field has strict formatting requirements, make sure your definition for this field meets the bar code type's requirements.
- **Decimals** - Number of decimal positions in the field, if numeric. Bar code types UPC, EAN, and I 2 of 5 must consist of numeric values only. If your bar code field will be one of these types, make sure your data for this field will be numeric only.
- **Variable Length** - Indicates whether this is a variable length field. If you select No, an alpha field will be padded with blanks and a numeric field will be padded with zeros.

- **Row/Column** —The position of the field on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. If the bar code field was created on the Design a Format screen, these values will already be filled in, based on where you placed the bar code field on the Design a Format screen.
- **Bar code type** - Specify the bar code symbology (or RFID Tag, or Magnetic Stripe) you wish to print. Press F4 to select from a list of available bar code symbologies, RFID Tags, and Magnetic Stripes for your printer type.
- **Density** — Defines either the characters per inch or the density percentage, as defined by the published specifications for the particular bar code type. This determines how wide the bar code will be when it prints. Not all densities are valid for all bar code symbologies. Rotation can also affect density, as can printer type.
- **Height** — Height of the bar code field in tenths of millimeters or hundredths of an inch. If the bar code field was created on the Design a Format screen, this value will already be filled in, based on the height of the bar code field you created on the format. Minimum values are based on bar code type selected.
- **Narrow bar (module) width** - Some printer types define density as a ratio of wide to narrow bars. Enter the value of the narrow bar width in dots.
- **Wide to narrow bar ratio** — If your printer type defines density as a ratio of wide bars to narrow bars, enter the value of the wide to narrow ratio. The width of the narrow bar multiplied by the wide to narrow ratio equals the width of the thick bar. Refer to the published specifications for the bar code for more information regarding wide to narrow bar ratio requirements. This value is specified as a whole number and a decimal. You need to key the number with the decimal point.

Session A - [24 x 80]

Work with Bar Code Field

Device . . . : HPPCL5
 Format . . . : BDFORMAT2 Length: 11.00" Width: 8.00" Rotation: 0

Field # . . . : 001
 Name . . . : Description:

Type choices, press Enter.

Check digit	<u>0</u>	F4 for list
Increment type	<u>I</u>	I=Incr, D=Decr, *=Seq reference
Increment value	<u> </u>	0 - 999
Rotation	<u>0</u>	0, 90
Human readable	<u>0</u>	F4 for list
Number of columns	<u>0</u>	1 - 30
Security level	<u>0</u>	0 - 8

F3=Exit F4=Prompt F5=Refresh F12=Cancel More...

Field cannot be blank

MA a 10/035

1902 - Session successfully started

- **Check Digit** — Most bar code types require a check digit. If you want MarkMagic to calculate a check digit and append it to the end of a numeric bar code field, press F4 to select from a list of Check Digit schemes. Otherwise, you will have to supply the check digit in your data. You can use the MarkMagic GENCKD routine for this purpose.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields are incrementing (I) or decrementing (D) unless the increment value is equal to 0.
- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 1, and the quantity field in the label file must be greater than 1.
- **Rotate Field** — Amount to rotate bar code field with reference to the top of the format. If the format rotation is 0, the top of the format is the format width measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Allowable values are 90, 180, or 270 degrees. Some printer types cannot print a bar code in “ladder” orientation (perpendicular to the printhead — rotations 90 and 270), only in “picket fence” (parallel to the printhead— rotations 0 and 180). Others must print “ladder” oriented bar codes at medium or low speed. And on certain printer types not all densities available in “picket fence” orientation are available in “ladder” orientation. Bar code fields can be rotated in 90 degree increments on the Design a Format screen by placing the cursor on a field and pressing F14 (rotate).
- **Human Readable** — Press F4 to display the human readable characters selection window. This list will vary depending upon your printer. Move your cursor to where you want to place the human readable characters and press ENTER to select. You can easily define human readable characters for any bar code field by linking it to a text field. The advantages of using a linked text field for human readable characters include greater flexibility in font selection, editing capabilities (such as inserting blanks, dashes, and parentheses), and greater control in placement of the text in relation to the bar code field.
- **Alignment** - If the characters to be printed are less than the full length of the bar code field, specify whether the variable data in the field is to be:
 - **E** - Endpoint
 - **M** - Midpoint
 - **R** - Right justified
 - **C** - Centered
 - **L** - Left justified
- **Number of columns** — A parameter used for PDF417 stacked bar codes. This value is the number of data columns to encode. This value controls the width of the code and functions similarly to the density parameter of a standard bar code type. Refer to the published specifications for PDF417 for more information regarding number of columns.
- **Security level** — A parameter used for PDF417 stacked bar codes. This value determines the number of error detection and correction codewords to be generated for the symbol. The default value, 0, provides only error detection (no correction). Increasing the security level adds increasing levels of error detection and increases the symbol size. Refer to the published specifications for PDF417 for more information.

```

Session A - [24 x 80]
Work with Bar Code Field

Device . . . : HPPCL5
Format . . . : BDFORMAT2      Length: 11.00"      Width: 8.00"      Rotation: 0

Field # . . . : 001
Name . . . :      Description:

Type choices, press Enter.

Prompt . . . . . Y          Y/y=Yes, K/k=Key, N=No
Keyed file . . . . .      Name, F4 for list
Library . . . . . *LIBL     Name, *LIBL, *USRLIB
Prompt program . . . . . *NONE Name, *NONE
Library . . . . . *LIBL     Name, *LIBL, *USRLIB

Spool Line / Column . . . . . 1 - 255 / 1 - 378

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
Field cannot be blank

20/041
1902 - Session successfully started

```

- Prompt** —In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, Mark-Magic would retrieve the field name, the field description, the length and the field's attributes. Now, MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved database record. If you wish the text field to be a prompt field the following values are supported:
 - K** - If the field is a keyed field and only upper case values are permitted
 - k** - If the field is a keyed field and lower or upper case values are permitted
 - Y** - If the field is not-keyed, but you want the operator to only type upper case values
 - y** - If the field is not-keyed, and you want the operator to type lower or upper case values
 - N** - If the field should not be defined as a prompt field
- Keyed file** - Type the name of the file that contains the field you want to be prompted on your label, or press F4 to select a database file.
- Library** - Type the name of the library your keyed file is in or *LIBL.
- Prompt program** — MarkMagic lets you specify a user exit "prompt" program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. You can either develop your own file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records.

MarkMagic is automatically “CodeScope aware.” To use it, simply specify CS in library MRKMAG for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.

- **Library** - Type the name of the library in which your prompt program can be found, or *LIBL.
- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.

Press ENTER to complete the bar code field definition. The field will appear on the Design a Format screen. If the bar code field was defined as *HEADING, the field description will appear. If the field was defined as a variable field, the field name will appear, preceded by an “=” (equal) sign. If the bar code field was defined as *LINK, “=*L:” followed by the description value, will appear. Depending on the field length and zoom factor, the entire field name or description may not appear on the Design a Format screen. To display the bar code field name or description legibly, it may be necessary to zoom in for a greater degree of magnification.

Note: RFID and Magnetic Stripe fields do not display. Toggle to List View to modify these fields.



UPS Maxicode Barcode Wizard

MarkMagic contains a SM@RT file, @@MAXICODE, that has all the MarkMagic SM@RT Codes for a MaxiCode bar code. Another SM@RT file, @@MAXISMPL, contains both SM@RT Codes and sample application fields to correctly format a UPS MaxiCode bar code field. If you create Data fields for each of the MarkMagic SM@RT file fields from @@MAXISMPL, you may rename the variable Data fields to match your application field names.

You may reorder the fields if you need to, but keep in mind that the correct variable Data field must follow the SM@RT Code Data field for that element—city, state, etc.

How to define a UPS MaxiCode Bar code field using a SM@RT File



1. Create a new format and move your cursor to where you wish to create a UPS MaxiCode bar code field. Press F6 to create a Data field. Press F4 (list) to select an OS/400 variable database field.
2. Type MRKMAGDTA for the Library, and press F4 (list) to retrieve the list of files in the library MRKMAGDTA.

3. From the list of OS/400 database files in MRKMAGDTA, select the MarkMagic SM@RT File @@MAXISPL (MarkMagic supplied SM@RT Files begin with "@@"). Press ENTER to retrieve the field names.
4. Press F21 to select all the field names. Press ENTER to create MaxiCode fields — Headings and variable pairs. The Data *HEADING fields are the MaxiCode SM@RT codes, and the variable fields contain application data. You may change the variable field names to match those in your database files. The MaxiCode SM@RT Code table shows acceptable variable field lengths.
5. Press F6, and type B to create a Bar code field. Move your cursor to the top of the field and press ENTER. Do not worry about drawing the field height precisely — UPS MaxiCode is always printed 1" by 1".
6. Type *LINK for Field name, select MaxiCode (UPS) for Bar Code Type, and press ENTER. The Work with *LINK Source Fields screen is displayed. Press F6 to add a link.
7. Move your cursor to Data field 001 and press F21 (Select range). Data field 001 will be highlighted. Position the cursor at Data field 030 and press ENTER. MarkMagic will retrieve the range of links selected. Press F12 to return to the Bar code field definition and press ENTER to create the Bar code field.

Note: Your data must contain a valid value for Postal Code and Country Code. If not, the data will not be formatted as a Postal MaxiCode —the actual SM@RT Codes will appear in the bar code field output and will not be processed.

MaxiCode Bar Code Element	SM@RT Code	Acceptable Data Lengths
Postal Code	@MPC	5,0 or 9,0
Class of Service	@MCS	3
Country Code	@MCC	3,0
Tracking Number	@MTN	10
Standard Carrier Alpha Code	@MSC	4
Shipper Number	@MSN	6
Julian Date of Pickup	@MJD	6,0 or 8,0
Shipment ID	@MSI	1 to 30
Package Number	@MPN	1,0 to 4,0
Package Total	@MPT	1,0 to 4,0
Number of Packages	@MPF	3 to 9
Weight	@MWT	1,0 to 5,0
Address Validation	@MAV	1 (Y or N)
Street Address	@MAD	1 to 35
City	@MCT	1 to 35
State	@MST	2

JMagic



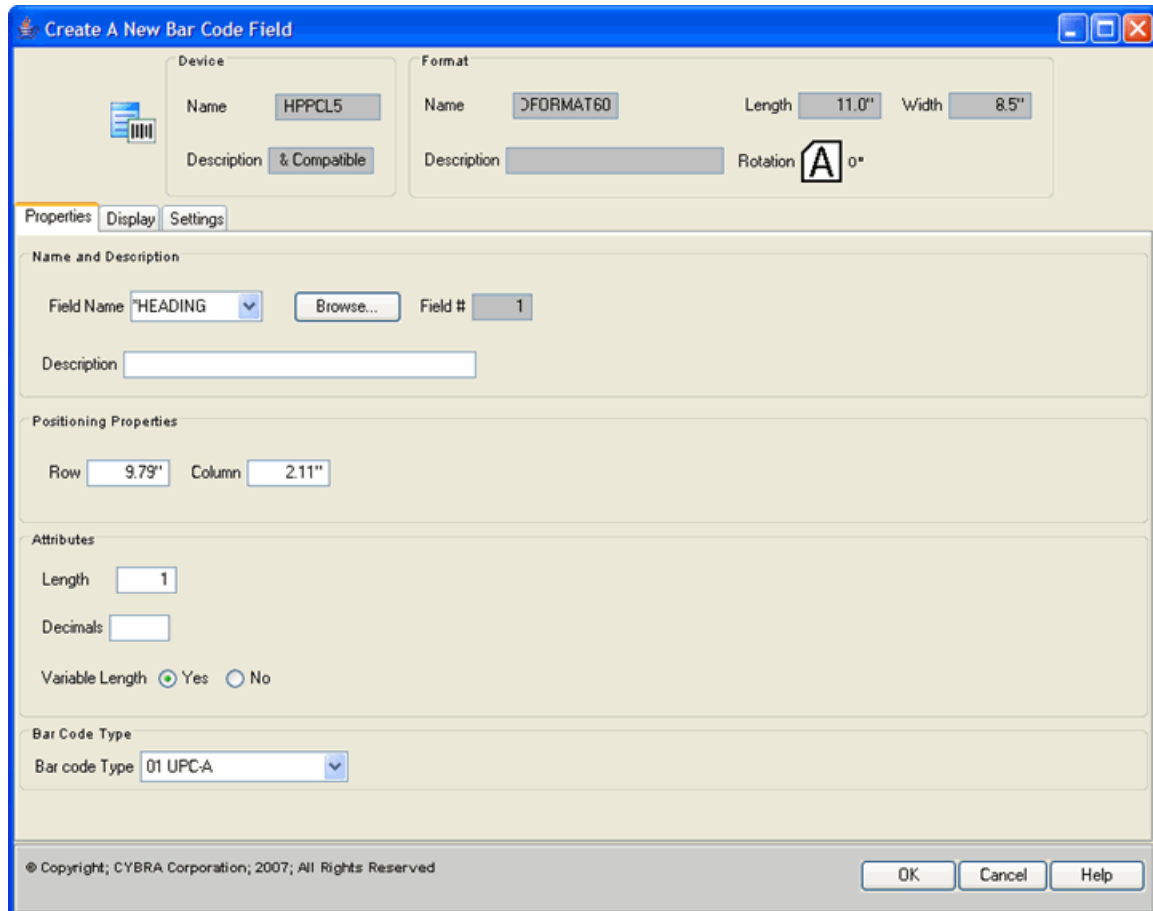
BarCode Field Window

Adding a Barcode Field to the Design Canvas in JMagic is accomplished through the Add a New BarCode Field Window. This window is broken into three tabs

- [Properties](#)

- [Display](#)
- [Settings](#)

Properties



Create A New Bar Code Field

Device

Name: HPPCL5
Description: & Compatible

Format

Name: >FORMAT60
Length: 11.0"
Width: 8.5"
Description:
Rotation: A 0°

Properties | Display | Settings

Name and Description

Field Name: *HEADING [Browse...] Field #: 1
Description:

Positioning Properties

Row: 9.79" Column: 2.11"

Attributes

Length: 1
Decimals:
Variable Length: ☒ Yes ☐ No

Bar Code Type

Bar code Type: 01 UPC-A

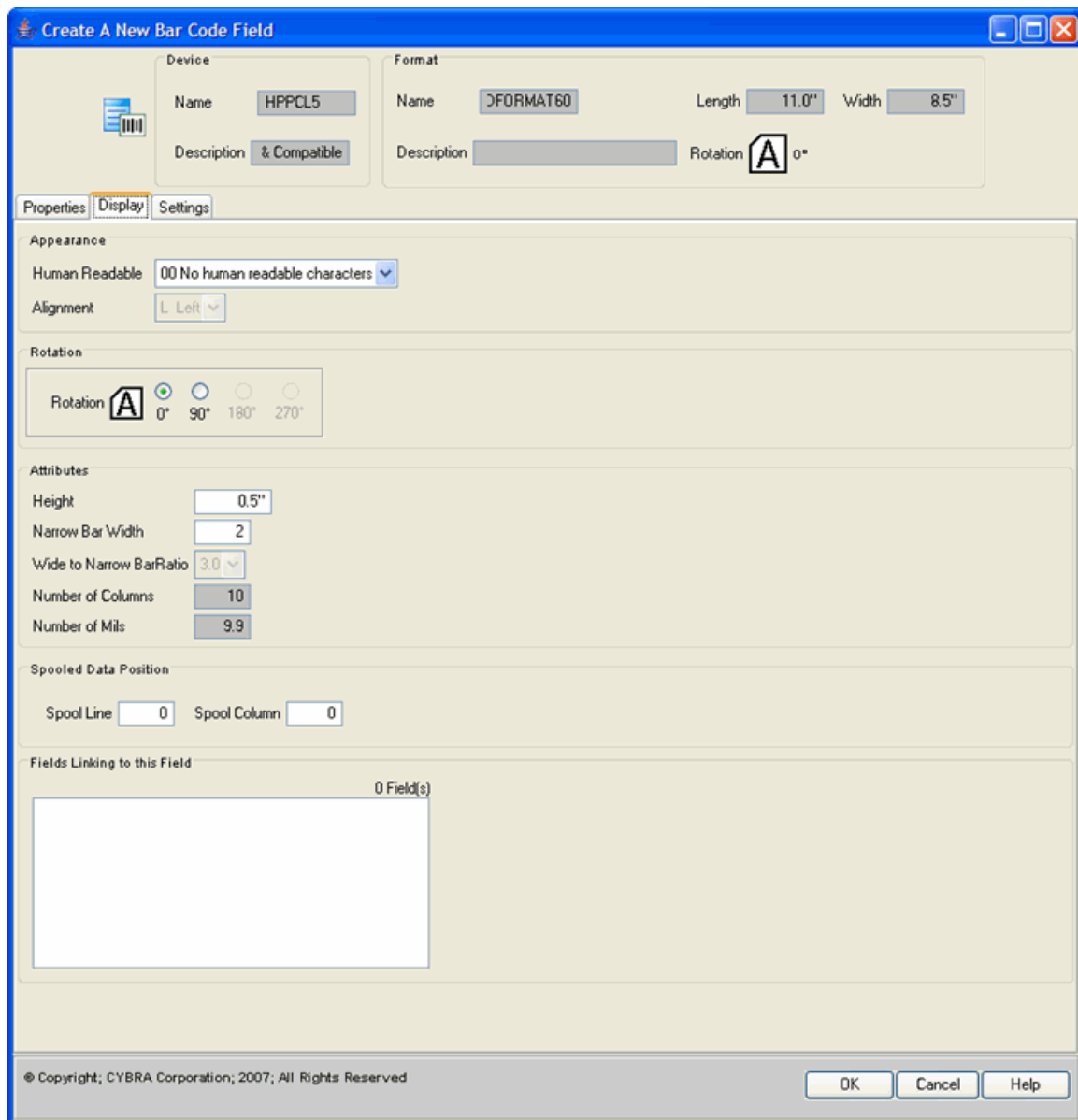
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OK Cancel Help

- **Field Name** — Enter the name of an OS/400 database field, a format field, spooled file data, or use one of the MarkMagic special field names: *HEADING, *DATE, *TIME, or *LINK. If you select an OS/400 database field or a bar code field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should leave these values intact so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.
- **Description** - If *HEADING is specified for Field name, the value in this field will print. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Row/Column** —The position of the field on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the "Measure from" parameter value in the Format definition. Column is measured from the left edge of the format. If the bar code

- field was created on the Design a Format screen, these values will already be filled in, based on where you placed the bar code field on the JMagic screen.
- **Length** — Length of the database field, format field, spooled file data length, or character data in the description field. If you use the MarkMagic special field name *HEADING, and leave this field blank, the program calculates field length for you. Some bar code types, such as UPC-A, require a fixed length (12 positions) and others, I 2 of 5 for example, require an even number of characters. If your bar code field has strict formatting requirements, make sure your definition for this field meets the bar code type's requirements.
 - **Decimals** - Number of decimal positions in the field, if numeric. Bar code types UPC, EAN, and I 2 of 5 must consist of numeric values only. If your bar code field will be one of these types, make sure your data for this field will be numeric only.
 - **Variable Length** - Indicates whether this is a variable length field. If you select No, an alpha field will be padded with blanks and a numeric field will be padded with zeros.
 - **Bar code type** - Specify the bar code symbology you wish to print. Use the drop-down menu to select from a list of available bar code symbologies for your printer type.
 - **Density** — Defines either the characters per inch or the density percentage, as defined by the published specifications for the particular bar code type. This determines how wide the bar code will be when it prints. Not all densities are valid for all bar code symbologies. Rotation can also affect density, as can printer type.

Display



Create A New Bar Code Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: >FORMAT60
 Length: 11.0" Width: 8.5"
 Description:
 Rotation: A 0"

Properties | **Display** | Settings

Appearance
 Human Readable: 00 No human readable characters
 Alignment: L Left

Rotation
 Rotation: A 0° 90° 180° 270°

Attributes
 Height: 0.5"
 Narrow Bar Width: 2
 Wide to Narrow Bar Ratio: 3.0
 Number of Columns: 10
 Number of Mills: 9.9

Spooled Data Position
 Spool Line: 0 Spool Column: 0

Fields Linking to this Field
 0 Field(s)

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OK Cancel Help

- **Human Readable** — Use the drop-down menu select where you want to place the human readable characters. You can easily define human readable characters for any bar code field by linking it to a text field. The advantages of using a linked text field for human readable characters include greater flexibility in font selection, editing capabilities (such as inserting blanks, dashes, and parentheses), and greater control in placement of the text in relation to the bar code field.
- **Alignment** - If the characters to be printed are less than the full length of the bar code field, use the drop-down menu to specify whether the variable data in the field is to be:
 - **E** - Endpoint
 - **M** - Midpoint
 - **R** - Right justified
 - **C** - Centered

- **L** - Left justified
- **Rotation** — Amount to rotate bar code field with reference to the top of the format. If the format rotation is 0, the top of the format is the format width measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Allowable values are 90, 180, or 270 degrees. Some printer types cannot print a bar code in “ladder” orientation (perpendicular to the printhead — rotations 90 and 270), only in “picket fence” (parallel to the printhead— rotations 0 and 180). Others must print “ladder” oriented bar codes at medium or low speed. And on certain printer types not all densities available in “picket fence” orientation are available in “ladder” orientation.
- **Height** - Height of the bar code field in tenths of millimeters or hundredths of an inch. A default value will already be filled in. Minimum values are based on bar code type selected.
- **Narrow bar (module) width** - Some printer types define density as a ratio of wide to narrow bars. Enter the value of the narrow bar width in dots.
- **Wide to narrow bar ratio** — If your printer type defines density as a ratio of wide bars to narrow bars, use the drop-down menu to enter the value of the wide to narrow ratio. The width of the narrow bar multiplied by the wide to narrow ratio equals the width of the thick bar. Refer to the published specifications for the bar code for more information regarding wide to narrow bar ratio requirements.
- **Number of columns** — A parameter used for PDF417 stacked bar codes. This value is the number of data columns to encode. This value controls the width of the code and functions similarly to the density parameter of a standard bar code type. Refer to the published specifications for PDF417 for more information regarding number of columns.
- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.

Settings

Create A New Bar Code Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: DFORMAT60
 Length: 11.0" Width: 8.5"
 Description:
 Rotation: A 0"

Properties Display **Settings**

Characteristics
 Security Level: 0
 Check Digit: 00 No check digit added

Increment Values
☒ Ascending
 Increment Type: ☐ Descending
☐ Sequence Reference
 Increment Value: 0

Field Prompting
 Key File:
 Browse... Library: *LIBL Prompt: Y
 Prompt Program: *NONE Library: *LIBL

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OK Cancel Help

- **Security level** — A parameter used for PDF417 stacked bar codes. This value determines the number of error detection and correction codewords to be generated for the symbol. The default value, 0, provides only error detection (no correction). Increasing the security level adds increasing levels of error detection and increases the symbol size. Refer to the published specifications for PDF417 for more information.
- **Check Digit** — Most bar code types require a check digit. If you want MarkMagic to calculate a check digit and append it to the end of a numeric bar code field, use the drop-down menu to select from a list of Check Digit schemes. Otherwise, you will have to supply the check digit in your data. You can use the MarkMagic GENCKD routine for this purpose.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields are incrementing (I) or decrementing (D) unless the increment value is equal to 0.
- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 1, and the quantity field in the label file must be greater than 1.
- **Key file** - Type the name of the file that contains the field you want to be prompted on your label, or click the Browse button to select a database file.
- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Prompt** — In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, MarkMagic would retrieve the field name, the field description, the length and the field's attributes. Now,

MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved database record. If you wish the text field to be a prompt field the following values are supported:

- **K** - If the field is a keyed field and only upper case values are permitted
- **k** - If the field is a keyed field and lower or upper case values are permitted
- **Y** - If the field is not-keyed, but you want the operator to only type upper case values
- **y** - If the field is not-keyed, and you want the operator to type lower or upper case values
- **N** - If the field should not be defined as a prompt field
- **Prompt program** — MarkMagic lets you specify a user exit “prompt” program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. You can either develop your own file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records. MarkMagic is automatically “CodeScope aware.” To use it, simply specify CS in library MRKMAG60 for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.
- **Library** - Type the name of the library in which your prompt program can be found, or *LIBL.



2D Barcode Field Window

Adding a Barcode Field to the Design Canvas in JMagic is accomplished through the Add a New BarCode Field Window. This window is broken into three tabs

- [Properties](#)
- [Display](#)
- [Settings](#)

Properties

Create A New Bar Code Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: DFORMAT60
 Length: 11.0" Width: 8.5"
 Description:
 Rotation: A 0"

Properties | Display | Settings

Name and Description
 Field Name: *HEADING [Browse...] Field #: 1
 Description:

Positioning Properties
 Row: 9.79" Column: 2.11"

Attributes
 Length: 1
 Decimals:
 Variable Length: ☒ Yes ☐ No

Bar Code Type
 Bar code Type: 01 UPC-A

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OK Cancel Help

- **Field Name** — Enter the name of an OS/400 database field, a format field, spooled file data, or use one of the MarkMagic special field names: *HEADING, *DATE, *TIME, or *LINK. If you select an OS/400 database field or a bar code field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should leave these values intact so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.
- **Description** - If *HEADING is specified for Field name, the value in this field will print. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Row/Column** —The position of the field on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the "Measure from" parameter value in the Format definition. Column is measured from the left edge of the format. If the bar code field was created on the Design a Format screen, these values will already be filled in, based on where you placed the bar code field on the JMagic screen.
- **Length** — Length of the database field, format field, spooled file data length, or character data in the description field. If you use the MarkMagic special field name *HEADING, and leave this field blank, the program calculates field length for you. Some bar code types, such as UPC-A, require a fixed length (12 positions) and others, I 2 of 5 for example, require an even number of characters.

If your bar code field has strict formatting requirements, make sure your definition for this field meets the bar code type's requirements.

- **Decimals** - Number of decimal positions in the field, if numeric. Bar code types UPC, EAN, and I 2 of 5 must consist of numeric values only. If your bar code field will be one of these types, make sure your data for this field will be numeric only.
- **Variable Length** - Indicates whether this is a variable length field. If you select No, an alpha field will be padded with blanks and a numeric field will be padded with zeros.
- **Bar code type** - Specify the bar code symbology you wish to print. Use the drop-down menu to select from a list of available bar code symbologies for your printer type.
- **Density** — Defines either the characters per inch or the density percentage, as defined by the published specifications for the particular bar code type. This determines how wide the bar code will be when it prints. Not all densities are valid for all bar code symbologies. Rotation can also affect density, as can printer type.

Display

Create A New Bar Code Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: >FORMAT60
 Length: 11.0" Width: 8.5"
 Description:
 Rotation: A 0"

Properties **Display** Settings

Appearance
 Human Readable: 00 No human readable characters
 Alignment: L Left

Rotation
 Rotation: A 0° 90° 180° 270°

Attributes
 Height: 0.5"
 Narrow Bar Width: 2
 Wide to Narrow Bar Ratio: 3.0
 Number of Columns: 10
 Number of Mills: 9.9

Spooled Data Position
 Spool Line: 0 Spool Column: 0

Fields Linking to this Field
 0 Field(s)

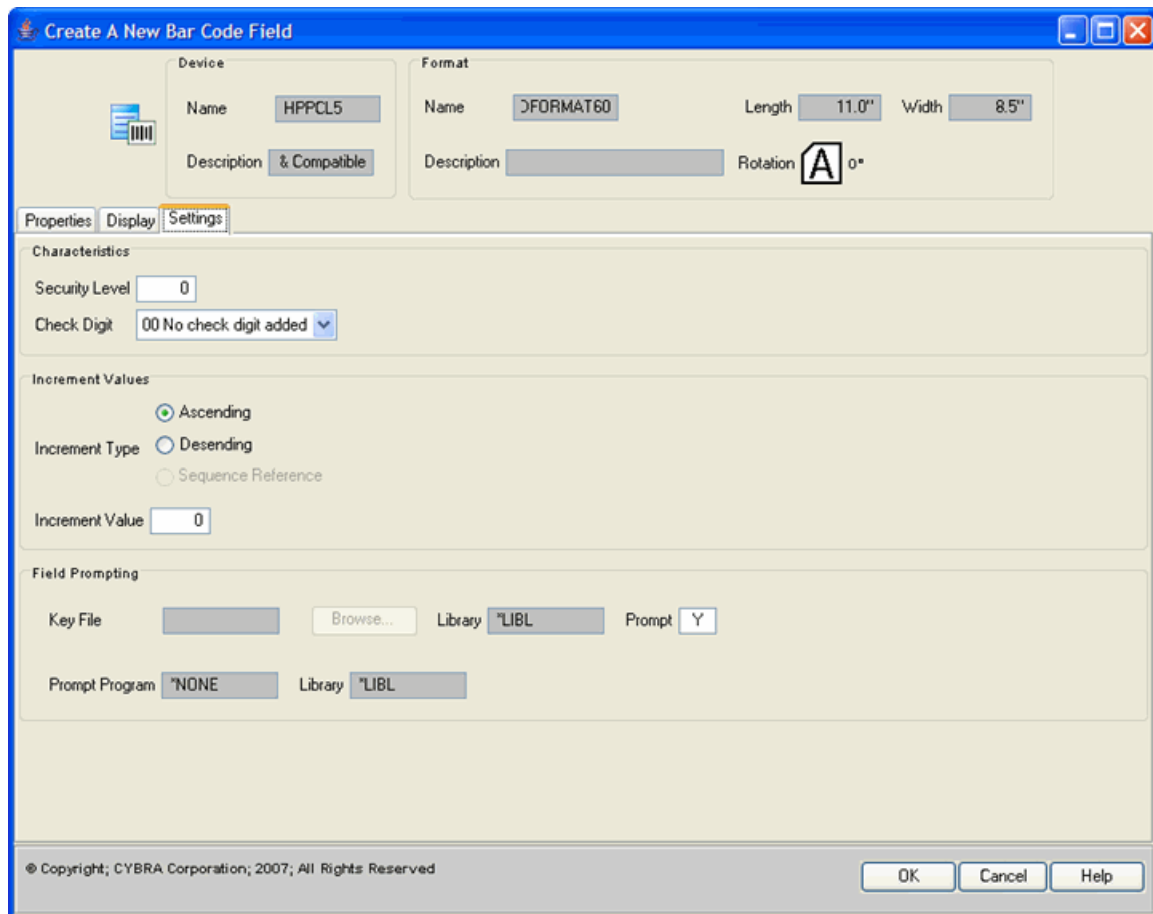
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OK Cancel Help

- **Human Readable** — Use the drop-down menu select where you want to place the human readable characters. You can easily define human readable characters for any bar code field by linking it to a text field. The advantages of using a linked text field for human readable characters include greater flexibility in font selection, editing capabilities (such as inserting blanks, dashes, and parentheses), and greater control in placement of the text in relation to the bar code field.
- **Alignment** - If the characters to be printed are less than the full length of the bar code field, use the drop-down menu to specify whether the variable data in the field is to be:
 - **E** - Endpoint
 - **M** - Midpoint
 - **R** - Right justified
 - **C** - Centered

- **L** - Left justified
- **Rotation** — Amount to rotate bar code field with reference to the top of the format. If the format rotation is 0, the top of the format is the format width measured across the printhead of a thermal printer, the exit tray of a laser printer, or the platen roller of a dot matrix printer. Allowable values are 90, 180, or 270 degrees. Some printer types cannot print a bar code in “ladder” orientation (perpendicular to the printhead — rotations 90 and 270), only in “picket fence” (parallel to the printhead— rotations 0 and 180). Others must print “ladder” oriented bar codes at medium or low speed. And on certain printer types not all densities available in “picket fence” orientation are available in “ladder” orientation.
- **Height** - Height of the bar code field in tenths of millimeters or hundredths of an inch. A default value will already be filled in. Minimum values are based on bar code type selected.
- **Narrow bar (module) width** - Some printer types define density as a ratio of wide to narrow bars. Enter the value of the narrow bar width in dots.
- **Wide to narrow bar ratio** — If your printer type defines density as a ratio of wide bars to narrow bars, use the drop-down menu to enter the value of the wide to narrow ratio. The width of the narrow bar multiplied by the wide to narrow ratio equals the width of the thick bar. Refer to the published specifications for the bar code for more information regarding wide to narrow bar ratio requirements.
- **Number of columns** — A parameter used for PDF417 stacked bar codes. This value is the number of data columns to encode. This value controls the width of the code and functions similarly to the density parameter of a standard bar code type. Refer to the published specifications for PDF417 for more information regarding number of columns.
- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.

Settings



Create A New Bar Code Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: DFORMAT60
 Length: 11.0\"
 Width: 8.5\"
 Rotation: A 0"

Properties | Display | **Settings**

Characteristics
 Security Level: 0
 Check Digit: 00 No check digit added

Increment Values
☒ Ascending
☐ Descending
☐ Sequence Reference
 Increment Value: 0

Field Prompting
 Key File: [] Browse... Library: *LIBL Prompt: Y
 Prompt Program: *NONE Library: *LIBL

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OK Cancel Help

- **Security level** — A parameter used for PDF417 stacked bar codes. This value determines the number of error detection and correction codewords to be generated for the symbol. The default value, 0, provides only error detection (no correction). Increasing the security level adds increasing levels of error detection and increases the symbol size. Refer to the published specifications for PDF417 for more information.
- **Check Digit** — Most bar code types require a check digit. If you want MarkMagic to calculate a check digit and append it to the end of a numeric bar code field, use the drop-down menu to select from a list of Check Digit schemes. Otherwise, you will have to supply the check digit in your data. You can use the MarkMagic GENCKD routine for this purpose.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields are incrementing (I) or decrementing (D) unless the increment value is equal to 0.
- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 1, and the quantity field in the label file must be greater than 1.
- **Key file** - Type the name of the file that contains the field you want to be prompted on your label, or click the Browse button to select a database file.
- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Prompt** — In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, MarkMagic would retrieve the field name, the field description, the length and the field's attributes. Now,

MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved database record. If you wish the text field to be a prompt field the following values are supported:

- **K** - If the field is a keyed field and only upper case values are permitted
- **k** - If the field is a keyed field and lower or upper case values are permitted
- **Y** - If the field is not-keyed, but you want the operator to only type upper case values
- **y** - If the field is not-keyed, and you want the operator to type lower or upper case values
- **N** - If the field should not be defined as a prompt field
- **Prompt program** — MarkMagic lets you specify a user exit “prompt” program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. You can either develop your own file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records. MarkMagic is automatically “CodeScope aware.” To use it, simply specify CS in library MRKMAG60 for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.
- **Library** - Type the name of the library in which your prompt program can be found, or *LIBL.



UPS Maxicode Barcode Wizard

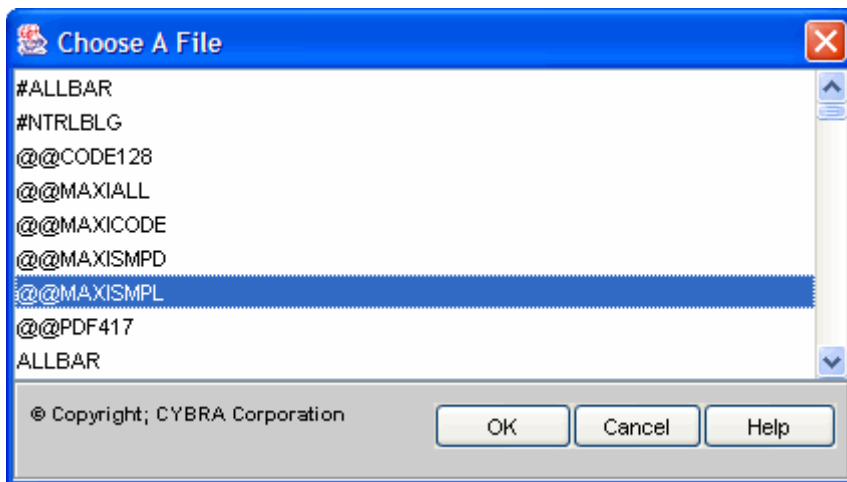
1. Click the **New Data Field Button** to create a Data field. This opens the Create a **New Data Field Window**.

The 'Create A New Data Field' dialog box is shown with the 'Properties' tab selected. It contains two main sections: 'Device' and 'Format'. The 'Device' section has fields for 'Name' (HPFCL5) and 'Description' (& Compatible). The 'Format' section has fields for 'Name' (JFORMAT60), 'Length' (11.0"), 'Width' (8.5"), 'Description', and 'Rotation' (A 0°). Below these are tabs for 'Properties' and 'Settings'. The 'Properties' tab is active, showing 'Name and Description' with a 'Field Name' dropdown (HEADING), a 'Browse...' button, and a 'Field #' field (1). It also has a 'Description' text field. The 'Attributes' section has 'Length' (1) and 'Decimals' fields. The 'Field Increment' section has 'Increment Type' (Ascending selected, Desending, Sequence Reference) and 'Increment Value' (0). At the bottom are 'OK', 'Cancel', and 'Help' buttons, and a copyright notice: © Copyright; CYBRA Corporation; 2007; All Rights Reserved.

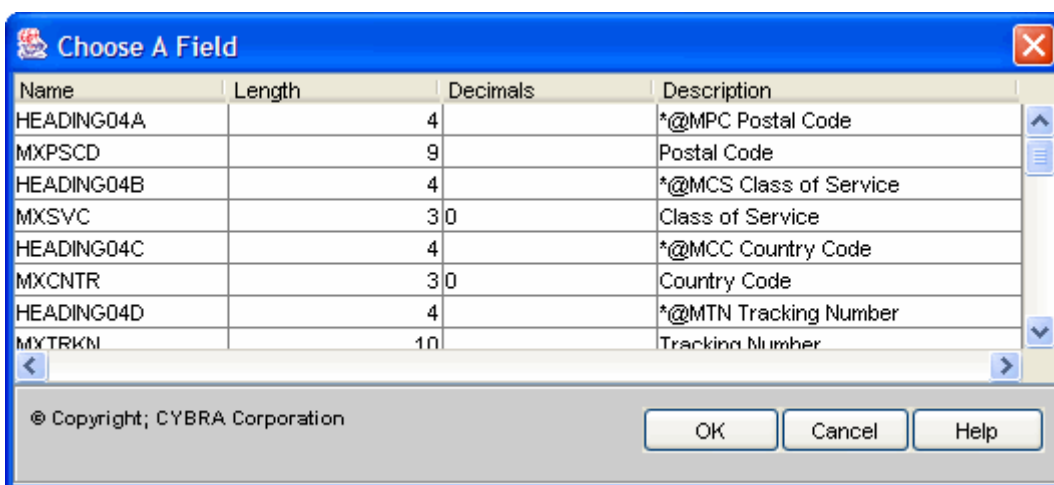
2. Click the **Browse Button** to attach a data field. This opens the **Field Browse Window**.

The 'Select a Field' dialog box is shown with the 'Format' tab selected. It has two tabs: 'Database Field' and 'Spooled File'. The 'Database Field' tab is active, showing 'Library', 'File', and 'Field' text fields, each with a 'Browse...' button. At the bottom are 'OK', 'Cancel', and 'Help' buttons, and a copyright notice: © Copyright; CYBRA Corporation.

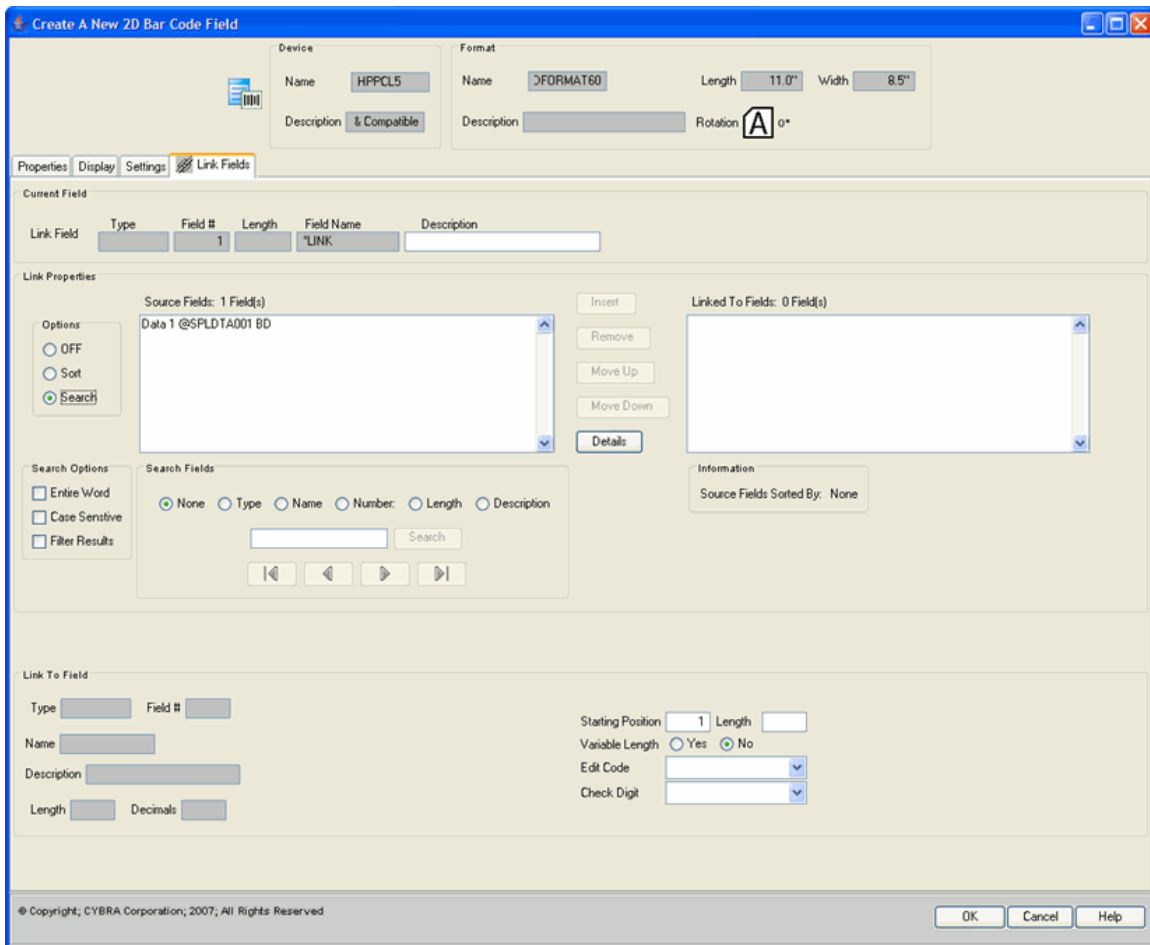
3. Type MRKMAGDTA for the Library, and click the **Browse Button** to retrieve the list of files in the library MRKMAGDTA.



4. From the list of OS/400 database files in MRKMAGDTA, select the MarkMagic SM@RT File @@MAXISMPL (MarkMagic supplied SM@RT Files begin with "@@"). Click the **OK Button** to retrieve the list of fields.



5. To select all the field names, click on the first name and scroll to the bottom of the list. Holding down the **Shift Key**, click on the last name in the list. Click the **Ok Button** to create MaxiCode fields — Headings and variable pairs. The Data *HEADING fields are the MaxiCode SM@RT codes, and the variable fields contain application data. You may change the variable field names to match those in your database files. The MaxiCode SM@RT Code table shows acceptable variable field lengths.
6. Click the **BarCode Field Button** to create a new barcode field. Move your cursor to the top of the field and press ENTER. Do not worry about drawing the field height precisely — UPS MaxiCode is always printed 1" by 1".
7. Type *LINK for Field name, select MaxiCode (UPS) for Bar Code Type, and click on the **Link Fields Tab**.



8. Scroll through the **Source Fields List** until you find the **Data Field** that you just created. Select it from the list and click the **Insert Button**. This will add it to the **Linked Fields List** and provide you additional opportunity to specify field information

Create A New 2D Bar Code Field

Device: Name: HPPCL5 Description: & Compatible

Format: Name: >FORMAT60 Length: 11.0" Width: 8.5" Rotation: A 0°

Properties Display Settings **Link Fields**

Current Field

Link Field	Type	Field #	Length	Field Name	Description
		1	1	*LINK	

Link Properties

Options: ☐ OFF ☐ Sort ☒ Search

Source Fields: 1 Field(s)

Data 1 @SPLDTA001 BD

Insert Remove Move Up Move Down Details

Linked To Fields: 1 Field(s)

Data @SPLDTA001 BD

Information: Source Fields Sorted By: None

Search Options: ☐ Entire Word ☐ Case Sensitive ☐ Filter Results

Search Fields: ☒ None ☐ Type ☐ Name ☐ Number ☐ Length ☐ Description

Search: [] Search

Link To Field

Type: Data Field #: 1

Name: @SPLDTA001

Description: BD

Length: 2 Decimals:

Starting Position: 1 Length: 2

Variable Length: ☒ Yes ☐ No

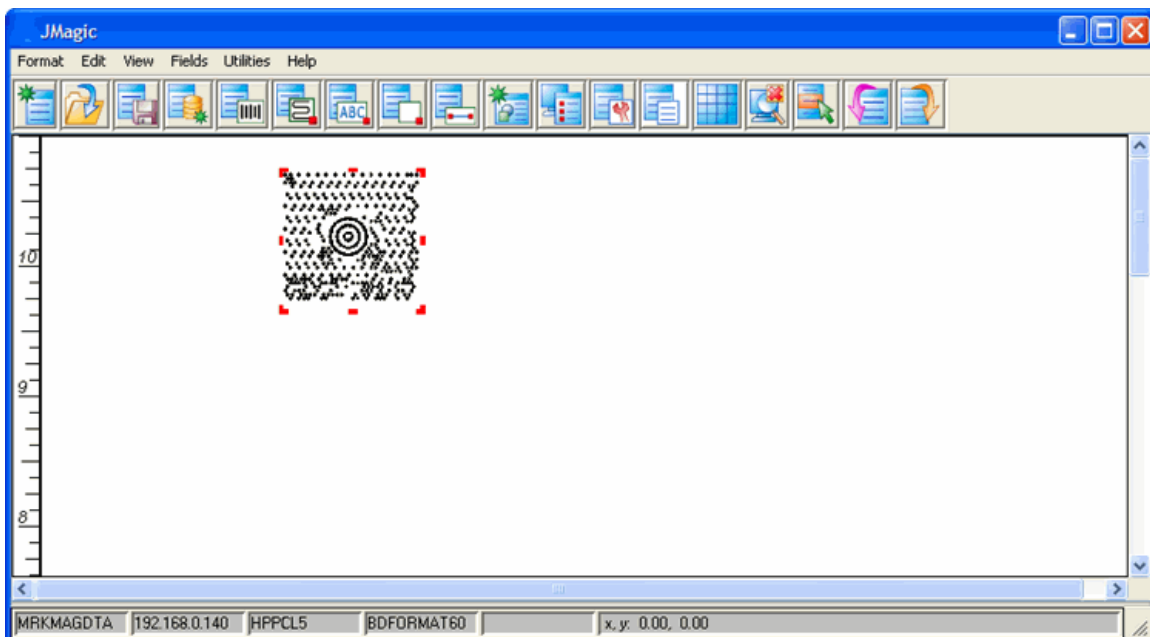
Edit Code: No edit code

Check Digit: 00 No check digit added

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OK Cancel Help

9. When you have finished, click the **OK Button**.



10. The new barcode will be added to the design canvas.

Note: Your data must contain a valid value for Postal Code and Country Code. If not, the data will not be formatted as a Postal MaxiCode —the actual SM@RT Codes will appear in the bar code field output and will not be processed.

MaxiCode Bar Code Element	SM@RT Code	Acceptable Data Lengths
Postal Code	@MPC	5,0 or 9,0
Class of Service	@MCS	3
Country Code	@MCC	3,0
Tracking Number	@MTN	10
Standard Carrier Alpha Code	@MSC	4
Shipper Number	@MSN	6
Julian Date of Pickup	@MJD	6,0 or 8,0
Shipment ID	@MSI	1 to 30
Package Number	@MPN	1,0 to 4,0
Package Total	@MPT	1,0 to 4,0
Number of Packages	@MPF	3 to 9
Weight	@MWT	1,0 to 5,0
Address Validation	@MAV	1 (Y or N)
Street Address	@MAD	1 to 35
City	@MCT	1 to 35
State	@MST	2

RFID

What is RFID?²

A basic RFID system consist of three components:

- An antenna or coil
- A transceiver (with decoder)
- A transponder (RF tag) electronically programmed with unique information

The antenna emits radio signals to activate the tag and read and write data to it. Antennas are the conduits between the tag and the transceiver, which controls the system's data acquisition and communication. Antennas are available in a variety of shapes and sizes; they can be built into a door frame to receive tag data from persons or things passing through the door, or mounted on an interstate toll booth to monitor traffic passing by on a freeway. The electromagnetic field produced by an antenna can be constantly present when multiple tags are expected continually. If constant interrogation is not required, the field can be activated by a sensor device.

Often the antenna is packaged with the transceiver and decoder to become a reader (a.k.a. interrogator), which can be configured either as a handheld or a fixed-mount device. The reader emits radio waves in ranges of anywhere from one inch to 100 feet or more, depending upon its power output and the radio frequency used. When an RFID tag passes through the electromagnetic zone, it detects the reader's activation signal. The reader decodes the data encoded in the tag's integrated circuit (silicon chip) and the data is passed to the host computer for processing.

RFID tags come in a wide variety of shapes and sizes. Animal tracking tags, inserted beneath the skin, can be as small as a pencil lead in diameter and one-half inch in length. Tags can be screw-shaped to identify trees or wooden items, or credit-card shaped for use in access applications. The anti-theft hard plastic tags attached to merchandise in stores are RFID tags. In addition, heavy-duty 5- by 4- by 2-inch rectangular transponders used to track intermodal containers or heavy machinery, trucks, and railroad cars for maintenance and tracking applications are RFID tags.

RFID tags are categorized as either active or passive. Active RFID tags are powered by an internal battery and are typically read/write, i.e., tag data can be rewritten and/or modified. An active tag's memory size varies according to application requirements; some systems operate with up to 1MB of memory. In a typical read/write RFID work-in-process system, a tag might give a machine a set of instructions, and the machine would then report its performance to the tag. This encoded data would then become part of the tagged part's history. The battery-supplied power of an active tag generally gives it a longer read range. The trade off is greater size, greater cost, and a limited operational life (which may yield a maximum of 10 years, depending upon operating temperatures and battery type).

Passive RFID tags operate without a separate external power source and obtain operating power generated from the reader. Passive tags are consequently much lighter than active tags, less expensive, and offer a virtually unlimited operational lifetime. The trade off is that they have shorter read ranges than active tags and require a higher-powered reader. Read-only tags are typically passive and are programmed with a unique set of data (usually 32 to 128 bits) that cannot be modified. Read-only tags most often operate as a license plate into a database, in the same way as linear barcodes reference a database containing modifiable product-specific information.

RFID systems are also distinguished by their frequency ranges. Low-frequency (30 KHz to 500 KHz) systems have short reading ranges and lower system costs. They are most commonly used in security access, asset tracking, and animal identification applications. High-frequency (850 MHz to 950 MHz and 2.4 GHz to 2.5 GHz) systems, offering long read ranges (greater than 90 feet) and high reading speeds, are used for such applications as railroad car tracking and automated toll collection. However, the higher performance of high-frequency RFID systems incurs higher system costs.

The significant advantage of all types of RFID systems is the noncontact, non-line-of-sight nature of the technology. Tags can be read through a variety of substances such as snow, fog, ice, paint, crusted grime, and other visually and environmentally challenging conditions, where barcodes or other optically read technologies would be useless. RFID tags can also be read in challenging circumstances at remarkable speeds, in most cases responding in less than 100 milliseconds. The read/write capability of an active RFID system is also a significant advantage in interactive applications such as work-in-process or maintenance tracking. Though it is a costlier technology (compared with barcode), RFID has become indispensable for a wide range of automated data collection and identification applications that would not be possible otherwise.

Developments in RFID technology continue to yield larger memory capacities, wider reading ranges, and faster processing. It is highly unlikely that the technology will

ultimately replace barcode — even with the inevitable reduction in raw materials coupled with economies of scale, the integrated circuit in an RF tag will never be as cost-effective as a barcode label. However, RFID will continue to grow in its established niches where barcode or other optical technologies are not effective. If some standards commonality is achieved - whereby RFID equipment from different manufacturers can be used interchangeably - the market will very likely grow exponentially.

RFID and MarkMagic

To create an RFID field, create a new format or copy an existing format to MM9855RFID, ZTR140, ZTR4M, ZTR402, PXT5204, PXT5304, PXSL5204, or PXSL5304 device types. Create a new bar code and use type 71 (RFID Tag). This field can be variable or constant. Specify values for the following field definitions.

- **Length** - Number of characters. The characters are hexadecimal characters 0-9, A-F.
- **Number of columns** - Starting block. Specify 1 for EPC tags.
- **Security level** - 0=no write protect; 1=write protect (where supported)

Since RFID fields do not visibly print on the label, you will not see your new field on the design canvas. Instead, you will see **+RFID** in the upper left portion of the Visual Designer screen indicating that an RFID field has been added to your format.

Note: JMagic, List view or Quick edit can be used to make changes to the RFID field.

Magnetic Stripe

A Magnetic Stripe is a strip of magnetic tape affixed to the back of credit cards containing identifying data, such as account number and cardholder name.

MarkMagic supports the generation of Magnetic Stripes through the barcode field. To define the barcode as a Magnetic Stripe, you must select a printer that is capable of printing a Magnetic Stripe (i.e., EIPRVLG Eltron Privilege Card).

- To create a Magnetic Stripe field, create a new format or copy an existing format to EIPRVLG device type. Create a new bar code and use type 81 (Magnetic Stripe). This field can be variable or constant.

Since Magnetic Stripe fields do not visibly print on the label, you will not see your new field on the design canvas. Instead, you will see **+Mag** in the upper left portion of the Visual Designer screen indicating that an Magnetic Stripe field has been added to your format.

Note: JMagic, List view or Quick edit can be used to make changes to the Magnetic Stripe field.

For more information about creating barcode labels, see the Barcode Section.

MarkMagic Electronic Form Codes and Files

Stacked 2D bar code types such as PDF417 and UPS MaxiCode offer enhanced capabilities — the ability to encode as much as 2,000 bytes of data — and greater formatting challenges. Where does the customer information go? At what position in the bar code does the postal code or service code start?

To comply with the UPS MaxiCode specifications, for example, without MarkMagic, you would have to write an extensive application program to correctly populate each segment — postal code, class of service, country code, tracking number, etc., along with embedded ASCII control codes, in the correct order, and build a custom string of data. And of course, the specifications would be different for every printer type.

MarkMagic Electronic Form Codes and Electronic Form Files eliminate this formatting — and programming — challenge. MarkMagic Electronic Form Codes are special mnemonic character strings that when processed as part of a linked field instruct MarkMagic to perform certain operations —insert a Code 128 Function code, or insert a carriage return or a line feed in a PDF417 stream. Electronic Form Codes are preceded by an “@” symbol. This default Electronic Forms character can be changed, if necessary. Contact CYBRA Technical Support or your local reseller for assistance.

Code 128 Action	Electronic Forms Code
Delete	@DL
Insert F1 function	@F1
Insert F2 function	@F2
Insert F3 function	@F3
Insert F4 function	@F4
Shift	@SH
Switch to Subset A	@SA
Switch to Subset B	@SB
Switch to Subset C	@SC
PDF 417 Bar Code Action	Electronic Forms Code
Insert Carriage Return	@CR
Insert Line Field	@LF

MarkMagic Electronic Form Files are predefined "templates" - files containing all the MarkMagic Electronic Form Codes and variable fields needed, for example, to format a complex 2D bar code field.

MarkMagic ships with a number of Electronic form files in library MRKMAGDTA: The file @@MAXISMPL contains MaxiCode Electronic Form Codes and sample variable fields to format a UPS MaxiCode bar code field. (See MaxiCode Bar Code Wizard later in this chapter).

Using MarkMagic Electronic Form Codes

MarkMagic Electronic Form Codes are used to:

- switch between Subsets A, B, and C in Code 128 bar codes
- insert F1, F2, F3, and F4 functions in Code 128 bar codes
- insert line fields and carriage returns in PDF417 bar codes
- insert UPS MaxiCode elements

Defined as Data fields, Electronic Form Codes are easiest to work with within linked fields, and are processed at print time when the links are processed. Alternatively, you may place Electronic Form Codes directly within a variable field in your user program.

How to insert function codes in a Code 128 Bar Code field

To insert function codes in a Code 128 Bar Code field:

1. Open a format
2. Define a Data field for each variable field that will comprise the Bar code field
3. Define a Data field as *HEADING and type @ plus the mnemonic (F1, F2, F3, or F4) as indicated in the table.
4. Define a Bar code field as *LINK.
5. Add a source field link to *HEADING Data field, @F1.
6. Add source field links to the variable Data fields.
7. Select Bar code type, Code 128, and complete the Bar code field definition.

How to switch between subsets in a Code 128 Bar Code field

To switch between Subset A, B, or C within a Code 128 Bar Code field:

1. Open a format and define a Data field for each variable field that will comprise the Bar code field
2. Define a Data field as *HEADING and type @ plus the mnemonic (SA, SB, or SC) as indicated in the table.
3. Define a Bar code field as *LINK.
4. Add a source field link to the variable Data field that represents the first component of the Bar code field.
5. Add a source field link to the Data field,*HEADING @SA (or @SB, or @SC).
6. Add a source field link to the variable Data field that represents the component of the Bar code field that needs to be in the different subset.
7. If necessary, add a source field link to the Data field,*HEADING @SA (or @SB, or @SC) to switch back to your original subset.
8. Add any additional source field links to variable Data fields, if necessary.
9. Select Bar code type, Code 128, and complete the Bar code field definition.

Working with Data Fields and Linking

Work with Data Fields and Linking

MarkMagic data fields (combined with MarkMagic field linking) multiply MarkMagic formatting options by giving you virtually unlimited possibilities to manipulate data before printing bar codes and text. These features add editing capabilities that eliminate programming, yet give you the tools you need to format fields exactly as you want.

A MarkMagic Data field is a placeholder — a temporary “bucket” to put information for further processing. A Data field is a non-printing field that can have any of these MarkMagic special field names: *HEADING, *DATE, *TIME, or an OS/400 database fieldname. Just like a Text field or a Bar code field, a MarkMagic Data field can contain constant or variable data.

Data fields are typically associated with *LINK fields when you need to combine multiple variable and/or constant source fields into one bar code or text field, or when a variable field is to appear in more than one bar code or text field. When creating MarkMagic Forms, spooled file fields can be defined as Data fields and then linked to create edited bar code or text fields on the form.

For example, if your production data file has a field for product number, (5 positions), but no field for UPC number, (12 positions), Data fields make it easy to define a UPC-A bar code field. Data fields can also be used as a reference field for the Format Auto-Quantity feature or Stored Sequences.

Note: Data field definitions are the same for all printer types. **Data fields do not print! If you wish to define a printing field, define a bar code or text field to which to attach the Data Field.**

- [Data Field Considerations](#)
- [Edit a Data Field](#)
- [Delete a Data Field](#)
- [Data Fields and Linking](#)
- [The Work with Data Fields Screen Native System i](#)
- [The Work with Data Fields Screen JMagic](#)
- [Work with *LINK Fields Native System i](#)
- [Work with *LINK Fields JMagic](#)
- [How to use Auto Quantity](#)
- [How to print multiple barcode and text fields from a single Data Field](#)
- [How to combine information from multiple fields into one printing field](#)

- [How to create edited human readable text fields for barcode fields](#)
- [How to create UCC-128 barcode fields with human readable characters](#)
- [*LINK Field Considerations](#)

Data Field Considerations

Due to its function as a “placeholder” for information to be processed later, care should be exercised when working with Data fields.

- To define a Data field as a dash (“-”), to create an edited, *LINK text field, define the Data field as *HEADING, enter a hyphen in the description and MarkMagic will calculate a field length of 1. To define a Data field as a space (“ ”), to be used to create an edited, *LINK text field, define the Data field as *HEADING, enter no data in the description and enter a field length of 1.
- Do not use the same field name more than once within a format. This also applies to variable Data fields. Doing so may cause errors during processing.
- If you defined a Data field by selecting an OS/400 database field, do not change these values so that the label file’s fields will be consistent with those in your application files.
- In one step, you can create a Data field to correspond to every field in your application database file. When selecting an OS/400 database field (see Introduction to Fields: Selecting OS/400 Database Fields), press F21 (Select All) to retrieve all field names and create MarkMagic Data fields for each field in the database file. This is quicker than choosing fields one at a time. And once the Data fields have been created you can always eliminate those you won’t need by deleting them.
- If a Data field is used as a linked source field, and you need to modify the *LINK field, you must first delete the linked source field, then modify the Data field, and finally re-link the source field. No linked source field can be changed or deleted as long as it is referred to by a *LINK field.
- If a Data field contains non-numeric data, and is used as a linked source field in a bar code field definition, a check digit if defined, will not calculate properly.
- There are times when you will want to define a Data field in a format, without linking it to be used to print fields in that format. This is useful for three purposes:
 1. if you defined quantity (or batch name) in the format definition based on a reference field but do not wish to have this information appear on the format, define the reference field for quantity (or batch name) as a Data field.
 2. if you defined Stored Sequence name in the format definition based on a reference field but do not wish to have this information appear on the format, define the reference field as a Data field.
 3. if you wish to create a master format (and an associated master label file) that is a superset of every possible variable field you might need. You will want all master Data fields to be included in every format, regardless of whether the Data fields are used on each particular format or not.

Edit a Data Field

For more information about editing a data field, see the [Modifying Fields Section](#) in the [Fields Chapter](#).

Delete a Data Field

For more information about deleting a data field, see the [Modifying Fields Section](#) in the [Fields Chapter](#).

Data Fields and Linking

MarkMagic data fields not only multiply MarkMagic formatting options (by allowing you to manipulate data before printing bar codes and text) but when used properly can save you time in application development and program maintenance. We recommend that all variable fields be defined as Data fields for the following reasons:

- **Program design** - It is a good idea to separate the data processing steps of the system from the formatting steps, the "look and feel" of the system. First decide what data you need on the label, then decide how each printed field should appear.
- **Advanced features** — If you want to mix formats on a record by record basis or even to sort records by customer format type (label A for Customer A, label B for Customer B, etc.) it is easier if you use one label file. By defining all the variable fields as Data fields, you will be assured that both formats will print with the correct data
- **Ease of navigation** - By defining your variable fields as Data fields, all your variable fields will appear first and in a group when you need to browse the fields in the format or when working in List View or Quick Edit modes.
- **Ease of use** — By defining your variable fields as Data fields, you can delete, edit and rearrange Bar Code and Text link fields without impacting the label file. In addition, you can copy formats between printer types and be assured that your program will load the data for each format properly
- **Program maintenance** — By eliminating the requirement to recreate your label file after variable field modifications, you also will eliminate file level checks and the requirement to recompile your programs because a file changed. Define your variable fields as Data fields once, create a label file, and you are finished. You will need to recompile your programs only if you need to recreate your label file.
- **Data field exclusive features** - Two features are available only when working with Data fields — F21 to select all the fields to create a Data field for each variable field in a database file, and the capability to change the Prompt parameter in Quick Edit mode.

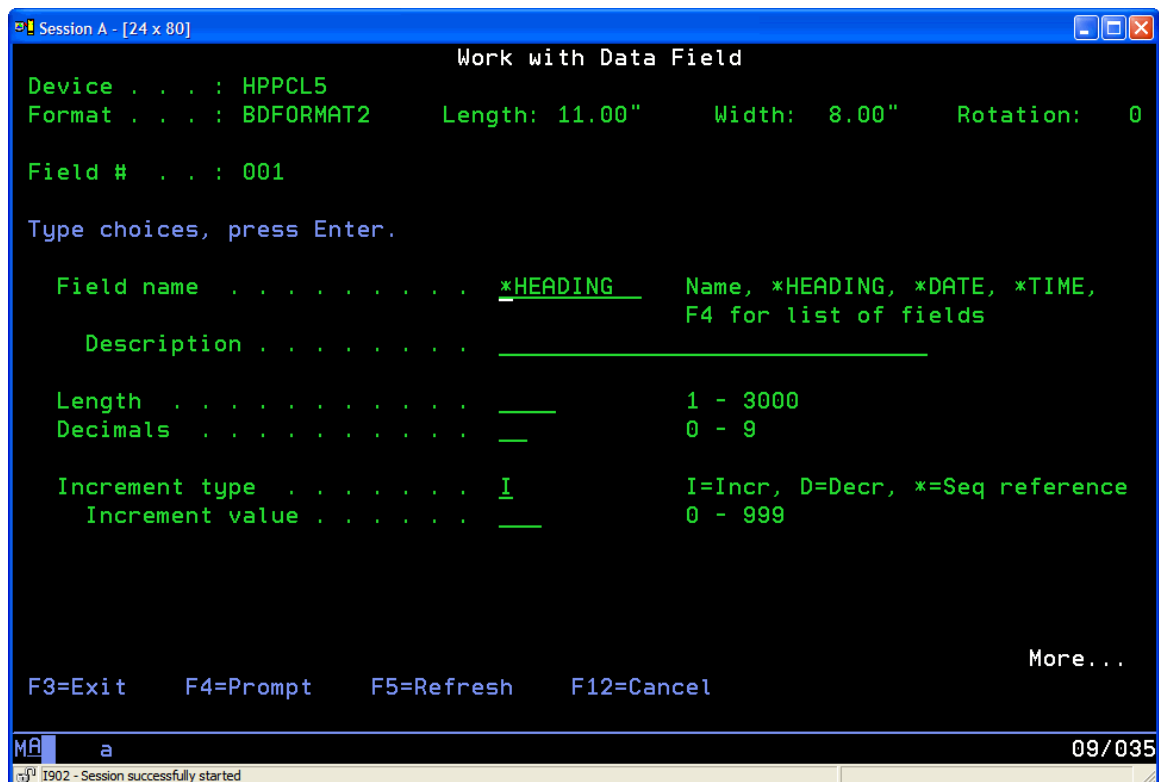
We recommend that all variable fields be defined as Data fields

Native iSeries



The Work with Data Fields Screen





- **Field Name** — Enter the name of an OS/400 database field (see Introduction to Fields: Selecting OS/400 Database Fields), a format field (see Introduction to Fields: Selecting Existing Field Definitions), spooled file data (see Introduction to Fields: Selecting OS/400 Spooled Files), or use one of the MarkMagic special field names: *HEADING, *DATE, or *TIME. (See Introduction to Fields: MarkMagic Special Field Names).

If you select an OS/400 database field or a bar code field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should not change these values so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.

- **Description** - If *HEADING is specified for Field name, the value in this field will be contained in the Data field. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Length** - Length of the database field, format field, spooled file data length, or character data in the description field. If you use the MarkMagic special field name *HEADING, the program calculates field length for you.
- **Decimals** - Number of decimal positions in the field.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields are incrementing (I) or decrementing (D) unless the increment value is equal to 0.
- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 1, and the quantity field in the label file must be greater than 1.

Session A - [24 x 80]

Work with Data Field

Device . . . : HPPCL5
 Format . . . : BDFORMAT2 Length: 11.00" Width: 8.00" Rotation: 0

Field # . . . : 001
 Name . . . : *HEADING Description:

Type choices, press Enter.

Prompt	<u>N</u>	Y/y=Yes, K/k=Key, N=No
Keyed file		Name, F4 for list
Library	<u>*LIBL</u>	Name, *LIBL, *USRLIB
Prompt program	<u>*NONE</u>	Name, *NONE
Library	<u>*LIBL</u>	Name, *LIBL, *USRLIB

Spool Line / Column 1 - 255 / 1 - 378

F3=Exit F4=Prompt F5=Refresh F12=Cancel

This value is out of range.

Bottom

MA a 10/035

1902 - Session successfully started

- **Prompt** —In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, Mark-Magic would retrieve the field name, the field description, the length and the field's attributes. Now, MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved database record. If you wish the data field to be a prompt field the following values are supported:
 1. **K** - 1. K If the field is a keyed field and only upper case values are permitted
 2. **k** - If the field is a keyed field and lower or upper case values are permitted
 3. **Y** - If the field is not-keyed, but you want the operator to only type upper case values
 4. **y** - If the field is not-keyed, and you want the operator to type lower or upper case values
 5. **N** - If the field should not be defined as a prompt field
- **Keyed file** - Type the name of the file that contains the field you want to be prompted on your label, or press F4 to select a database file.
- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Prompt program** — MarkMagic lets you specify a user exit "prompt" program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. The interface for this user

program can be found in the Programming chapter. You can either develop your own file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records. MarkMagic is automatically "CodeScope aware." To use it, simply specify CS in library MRKMAG for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.

- **Library** - Type the name of the library in which your prompt program can be found, or *LIBL.
- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.



Press ENTER to complete the Data field definition. The field itself will not appear on the Design a Format screen since it does not print on the label. An indicator, "+Data," will appear in the upper left corner of the Design a Format screen.

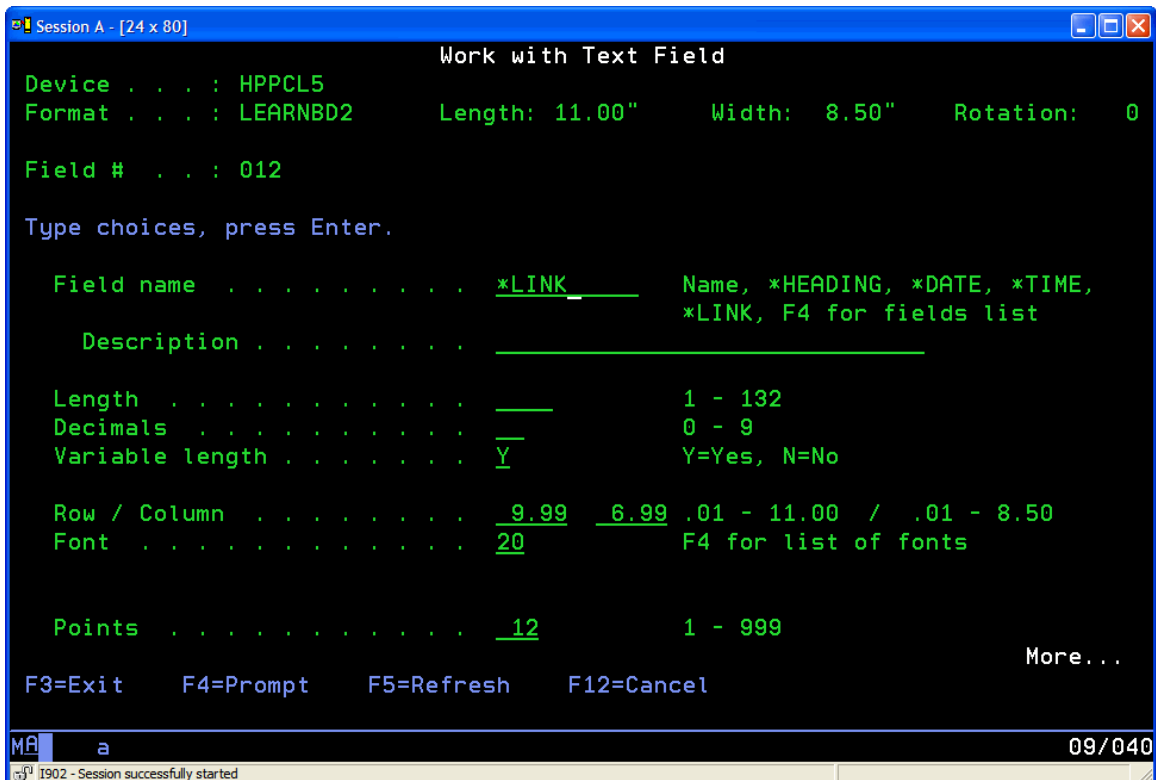


Work with *LINK Fields

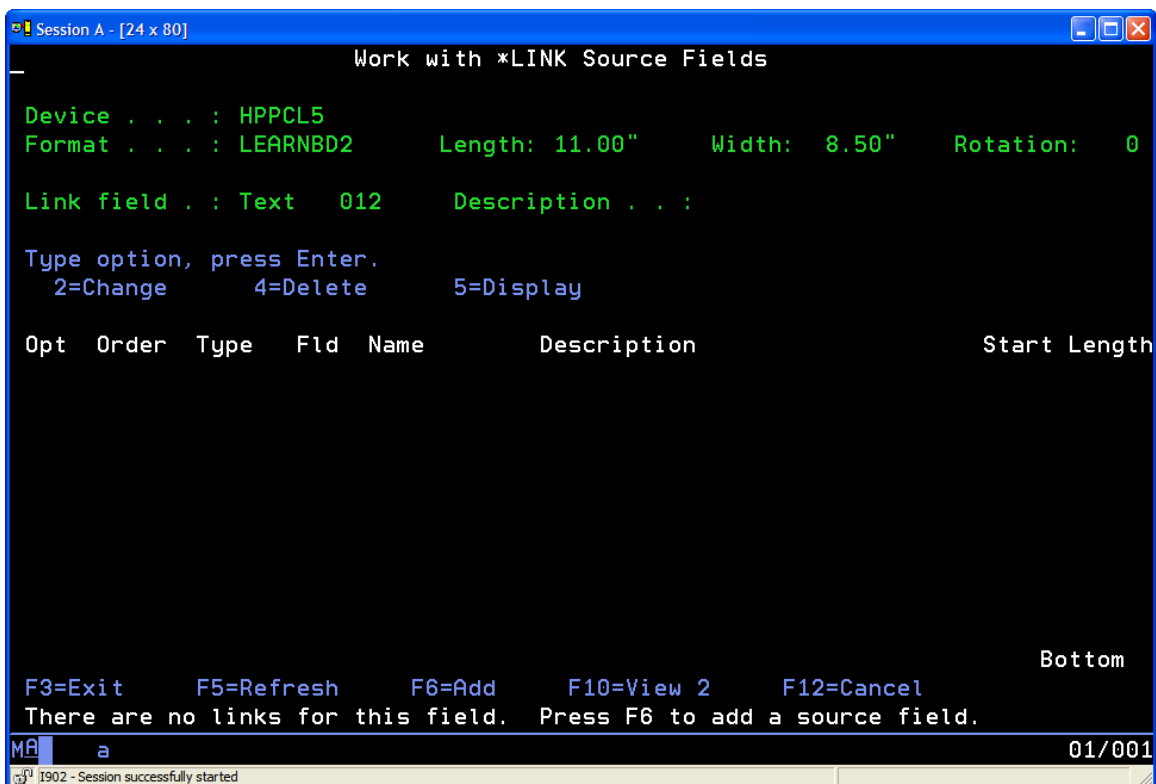
If you have not done so already, create a new format, or open an existing format. Make sure that the source fields to which you want to link (data, text, and/or bar code) are created before you create the *LINK field. Once the *LINK Bar code or Text field is created, you cannot change or delete the source field(s) to which you are linked.

Select Bar Code or Text Field from the Select a Field Type window and press ENTER. If you have selected Bar Code field, draw the height of the field by moving the cursor to the top of the bar code field and press ENTER. The Work with Bar Code Field or Text Field screen is displayed.

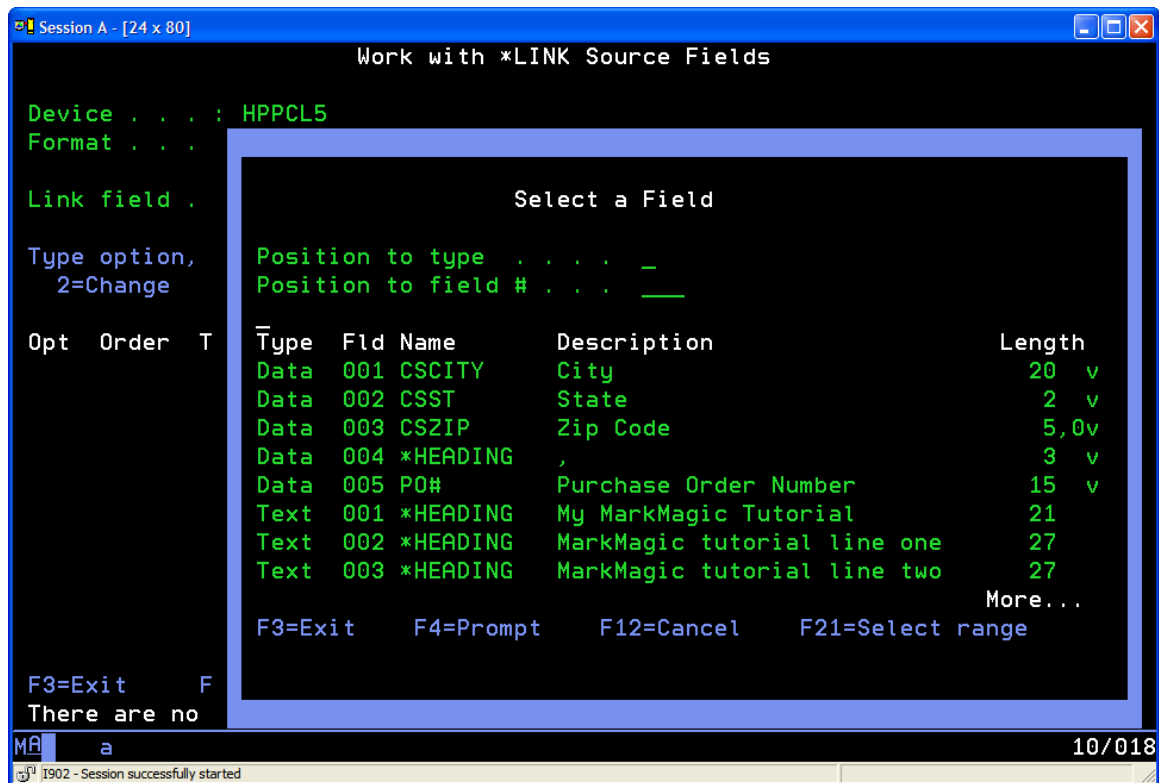




- **Field Name** - Type the MarkMagic special field name *LINK, (or the shortcut, *L) and press ENTER to go to the Work with *LINK Source Field screen.



- Press **F6** (Add). The Select a Field window is displayed.



- Move the cursor to the source field you wish to add and press **ENTER**. The **Add a Source Field** screen is displayed.

Session A - [24 x 80]

Add a Source Field

Device . . . : HPPCL5
 Format . . . : LEARNBD2 Length: 11.00" Width: 8.50" Rotation: 0

Link field . . : Text 009 Description . . . :

Link to:

Field type / number : Data 001
 Field name : CSCITY
 Description : City
 Length : 20

Type choices, press Enter.

Start position	<u>1</u>	Number
Length	<u>20</u>	Number
Variable length	<u>N</u>	Y=Yes, N=No
Edit code	<u>-</u>	F4 for list
Check digit	<u>0</u>	F4 for list

F3=Exit F4=Prompt F5=Refresh F12=Cancel

MA a 17/043

1902 - Session successfully started

- **Start position** - If you wish to link the entire field, leave the default start position of 1. If you wish to link a portion of the field, enter a start position for this link. The maximum permitted value for the start position is the field length.
- **Length** - If you wish to link the entire field, leave the default field length. If you wish to link a portion of the field, enter the length to be linked from the start position for this link. The maximum permitted value for link length is the field length.
- **Variable Length** - Indicates whether the field link is of variable length. If the field is alphanumeric and you specify Yes, trailing blanks are eliminated. To suppress leading zeros in a numeric field, also specify an edit code of Z (see below).
- **Edit Code** — Indicate whether or not you wish MarkMagic to edit a numeric source field link. Press F4 to select an edit code type. In addition to standard OS/400 edit codes that control commas and zero values, there are additional edit code types for *DATE, *TIME, and price fields. You may also specify an edit code for the *LINK Bar code or Text field. If you do, then each source field will be edited first, and then the *LINK Bar code or Text field will be edited last.
- **Check Digit** — If you want MarkMagic to calculate a check digit and append it to the end of this specific source field link, press F4 to select from a list of Check Digit schemes. After you have entered the source field link parameters press ENTER to accept your values, and press ENTER to confirm the source field link. The Work with *LINK Source Fields screen is redisplayed showing the newly defined link. If your *LINK field is to consist of more than one source field, press F6 (Add) once again to choose your next source field. Repeat this process until all source fields have been added. To complete the bar code or text field definition, PAGE BACKWARD to return to the Work with Bar Code Field or Work with Text Field screen and supply the required parameters based on the features supported by your printer type. Press ENTER to complete the *LINK field

definition. The bar code or text field will appear on the Design a Format screen marked =*L:field description.

To add a range of source fields

The ability of 2D bar codes such as PDF417 and UPS MaxiCode to encode up to 2,000 characters presents a formatting challenge: how to link to dozens of source fields without defining each source field one at a time. Here's how to add a range of source fields:

- PAGE FORWARD to the Work with *LINK Source Fields screen. Press **F6** (Add). The Select a Field window is displayed.
- Position the cursor at the first source field you wish to link to and press **F21** (Select range). The first source field is highlighted. Place cursor at the end of the range of source fields you wish to link to and press ENTER. The Work with *LINK Source Fields screen is displayed with all the selected source fields now linked.
- To complete the bar code or text field definition, PAGE BACKWARD to return to the Work with Bar Code Field or Work with Text Field screen and supply the required parameters based on the features supported by your printer type.
- Press ENTER to complete the *LINK field definition. The field will appear on the Design a Format screen marked =*L:field description. Once you have returned to the Work with... field definition screen, you cannot modify the total field length of a *LINK field. If the field length is wrong you will need to PAGE FORWARD to return to the Work with *LINK Source Fields screen and change the source field lengths. Depending on the field length, text font or bar code type selected, and zoom factor, the entire =*L:field description indicator may not appear on the Design a Format screen. To display the indicator legibly it may be necessary to zoom in for a greater degree of magnification.

JMagic



The Work with Data Fields Screen

A MarkMagic Data field is a placeholder — a temporary “bucket” to put information for further processing. A Data field is a non-printing field that can have any of these MarkMagic special field names: *HEADING, *DATE, or *TIME, or an OS/400 database fieldname. Just like a Text field or a Bar code field, a MarkMagic Data field can contain constant or variable data.

Adding a Data Field to the Design Canvas in JMagic is accomplished through the **Add a New Data Field Window**. This window is broken into two tabs

- [Properties](#)
- [Settings](#)

Properties

Create A New Data Field

Device
 Name: HPPCL5
 Description: & Compatible

Format
 Name: JFORMAT60
 Length: 11.0" Width: 8.5"
 Description:
 Rotation: A 0°

Properties | **Settings**

Name and Description
 Field Name: *HEADING [Browse...] Field #: 1
 Description:

Attributes
 Length: 1 Decimals:

Field Increment
 Increment Type: ☒ Ascending ☐ Descending ☐ Sequence Reference
 Increment Value: 0

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OK Cancel Help

- **Field Name** — Enter the name of an OS/400 database field (see Introduction to Fields: Selecting OS/400 Database Fields), a format field (see Introduction to Fields: Selecting Existing Field Definitions), spooled file data (see Introduction to Fields: Selecting OS/400 Spooled Files), or use one of the MarkMagic special field names: *HEADING, *DATE, or *TIME. (See Introduction to Fields: MarkMagic Special Field Names).

If you select an OS/400 database field or a bar code field definition from another format, MarkMagic enters the parameters for field name, description, length, and decimals automatically. You should not change these values so that the label file's fields will be consistent with those in your application files. For MarkMagic to automatically retrieve application data into the label file, these values must match the field definitions in the OS/400 database file.

- **Description** - If *HEADING is specified for Field name, the value in this field will be contained in the Data field. Otherwise, this field is for documentation purposes and is the field's description on the Edit Data screen.
- **Length** - — Length of the database field, format field, spooled file data length, or character data in the description field. If you use the MarkMagic special field name *HEADING, the program calculates field length for you.
- **Decimals** - Number of decimal positions in the field.
- **Increment Type** - MarkMagic supports automatic counting in ascending (increment) or descending order (decrement). Numeric text fields are incrementing (I) or decrementing (D) unless the increment value is equal to 0.

- **Increment Value** - The value to automatically count in ascending (increment) or descending order (decrement). The value must be at least 1, and the quantity field in the label file must be greater than 1.

Settings

Create A New Data Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: JFORMAT60
 Length: 11.0"
 Width: 8.5"
 Description:
 Rotation: A 0°

Properties | **Settings**

Spooled Data Position
 Spool Line: 0
 Spool Column: 0

Field Prompting
 Key File: Browse...
 Library: *LIBL
 Prompt: Y
 Prompt Program: *NONE
 Library: *LIBL

Fields Linking to this Field
 0 Field(s)

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OK Cancel Help

- **Spool Line/Column** — If variable data for the field will be supplied from an OS/400 spooled file, specify the line and column position at which the data begins. Spool Line is counted as the number of lines from the top of the spooled file page. Spool Column is the number of character positions from the left edge of the spooled file page.
- **Key file** - Type the name of the file that contains the field you want to be prompted on your label, or click the Browse button to select a database file.
- **Library** - Type the name of the library your keyed file is in or *LIBL.
- **Prompt** —In versions of MarkMagic prior to V3, when you selected a variable field by pressing F4 and browsing an OS/400 file, Mark-Magic would retrieve the field name, the field description, the length and the field's attributes. Now, MarkMagic retrieves not only that information, but the file name/library as well, and, whether the field is a key field or not. These values are used by MarkMagic in determining how to display and retrieve label file data on the Edit Data screen. You can specify which fields the user can enter and which are display only. You can also specify which field, or fields, are Key fields, with optional F4 (Prompt) capabilities, that will be used to retrieve all label fields contained in the retrieved

database record. If you wish the data field to be a prompt field the following values are supported:

1. **K** - If the field is a keyed field and only upper case values are permitted
 2. **k** - If the field is a keyed field and lower or upper case values are permitted
 3. **Y** - If the field is not-keyed, but you want the operator to only type upper case values
 4. **y** - If the field is not-keyed, and you want the operator to type lower or upper case values
 5. **N** - If the field should not be defined as a prompt field
- **Prompt program** — MarkMagic lets you specify a user exit “prompt” program for keyed record selection. This is the program that is called when the user presses F4 next to a Key field on the Edit Data screen. The interface for this user program can be found in the Programming Chapter. You can either develop your own file query program, or use CYBRA's CodeScope product. CodeScope automatically creates pop-up query windows for users to select records. MarkMagic is automatically “CodeScope aware.” To use it, simply specify CS in library MRKMAG60 for the Prompt Program parameter. If you define a field as a key, and specify CS as the Prompt Program, when you edit the label file, you can press F4 to browse the file.
 - **Library** - Type the name of the library in which your prompt program can be found, or *LIBL.



Work with *LINK Fields

If you have not done so already, create a new format, or open an existing format. Make sure that the source fields to which you want to link (data, text, and/or bar code) are created before you create the *LINK field. Once the *LINK Bar code or Text field is created, you cannot change or delete the source field(s) to which you are linked.

In order to create a *LINK field in JMagic, you must first define the data field
To create a *LINK field in JMagic

- Click the **BarCode** or **Text Field Button**. This will open the appropriate **New Field Window**.

Create A New Bar Code Field

Device
Name: HPPCL5
Description: % Compatible

Format
Name: DFORMAT60
Length: 11.0\"
Width: 8.5\"
Rotation: A 0\"

Properties | Display | Settings

Name and Description
Field Name: *HEADING (dropdown) [Browse...] Field #: 1
Description: [text box]

Positioning Properties
Row: 9.79\"
Column: 2.11\"

Attributes
Length: 1
Decimals: [text box]
Variable Length: ☒ Yes ☐ No

Bar Code Type
Bar code Type: 01 UPC-A (dropdown)

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OK Cancel Help

- In the **Field Name**, select *LINK from the drop-down menu. This will make the **Linked Fields Tab** available for editing.

Create A New Bar Code Field

Device
 Name: HPPCL5
 Description: & Compatible

Format
 Name: >FORMAT60
 Length: 11.0" Width: 8.5"
 Description: Rotation: A 0°

Properties | **Display** | **Settings** | **Link Fields**

Current Field

Link Field	Type	Field #	Length	Field Name	Description
		2	1	*LINK	

Link Properties

Options
☐ OFF
☐ Sort
☒ Search

Source Fields: 3 Field(s)
 Bar code 1 *HEADING 01234567890
 Text 1 *HEADING My MarkMagic Tutorial
 Data 1 @SPLDTA001 BD

Insert
 Remove
 Move Up
 Move Down
 Details

Linked To Fields: 0 Field(s)

Search Options
☐ Entire Word
☐ Case Sensitive
☐ Filter Results

Search Fields
☒ None ☐ Type ☐ Name ☐ Number ☐ Length ☐ Description
 Search
 < << >> >

Information
 Source Fields Sorted By: None

Link To Field

Type: Data Field #: 1
 Name: @SPLDTA001
 Description: BD
 Length: 2 Decimals:

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OK Cancel Help

- In the **Source Fields List**, select the data field that you defined prior to starting the linked field definition
- Click on the **Insert Button**. This will add the field to the **Linked to Fields List**.
- Repeat the steps to link more than one field.

The screenshot shows the 'Create A New Bar Code Field' dialog box. The 'Link Fields' tab is selected. It displays a table of linked fields with columns: Link Field, Type, Field #, Length, Field Name, and Description. Below the table, there are sections for 'Link Properties' (Options: OFF, Sort, Search; Search Options: Entire Word, Case Sensitive, Filter Results; Search Fields: None, Type, Name, Number, Length, Description) and 'Link To Field' (Type: Text, Field #: 1, Name: *HEADING, Description: My MarkMagic Tutorial, Length: 21, Decimals: , Starting Position: 1, Length: 21, Variable Length: Yes/No, Edit Code: No edit code, Check Digit: 00 No check digit added). The bottom of the dialog has OK, Cancel, and Help buttons.

- For each field in the **Linked to Fields List**, you can specify additional information by clicking on the field name
 - a. **Description** - a description to describe the *LINK field
 - b. **Start position** - If you wish to link the entire field, leave the default start position of 1. If you wish to link a portion of the field, enter a start position for this link. The maximum permitted value for the start position is the field length.
 - c. **Length** - If you wish to link the entire field, leave the default field length. If you wish to link a portion of the field, enter the length to be linked from the start position for this link. The maximum permitted value for link length is the field length.
 - d. **Variable Length** - Indicates whether the field link is of variable length. If the field is alphanumeric and you specify Yes, trailing blanks are eliminated. To suppress leading zeros in a numeric field, also specify an edit code of Z (see below).
 - e. **Edit Code** — Indicate whether or not you wish MarkMagic to edit a numeric source field link. Press F4 to select an edit code type. In addition to standard OS/400 edit codes that control commas and zero values, there are additional edit code types for *DATE, *TIME, and price fields. You may also specify an edit code for the *LINK Bar code or Text field. If you do, then each source field will be edited first, and then the *LINK Bar code or Text field will be edited last.

- f. **Check Digit** - If you want MarkMagic to calculate a check digit and append it to the end of this specific source field link, select from a list of Check Digit schemes

How to use Auto Quantity

Published shipping label compliance specifications often call for an incrementing carton count field. By taking advantage of three MarkMagic features: AutoQuantity, Data fields, and linking, you can define and print an automatic incrementing carton count field without programming and without prompting an operator for carton quantity.

To create an incrementing automatic carton count text field

1. Create a new format (or edit an existing format) and define batch quantity based on a reference field. The reference field is any numeric field in the label file that contains a quantity value.
2. Open the format and define Data field 01 with the same name as the reference field for quantity in the format definition.
3. Define Data field 02 as *HEADING, type BOX in the field description, and a field length of 4 (to include a trailing space).
4. Define Data field 03 as *HEADING, type 01 in the field description, enter a field length of 2, enter 0 for the number of decimal positions, and specify an increment value of 001.
5. Define Data field 04 as *HEADING, type space OF space ("OF") in the field description, and a field length of 4.
6. Define a text field as *LINK.
7. Add a link to *HEADING Data field 02, "BOX space."
8. Add a source field link to *HEADING Data field 03, "01."
9. Add a source field link to *HEADING Data field 04, "space OF space."
10. Add a source field link to Data field 01 —the reference field for quantity.
11. Use an edit code to suppress leading zeroes. The Work with *LINK Source Fields screen will look like this:

The Carton Counting Text Field will print like this:

BOX 01 OF 5
BOX 02 OF 5
BOX 03 OF 5
BOX 04 OF 5
BOX 05 OF 5

How to print multiple barcode and text fields from a single Data Field

If, for example, your production data file has single fields for UPC number, regular price, and sale price, *LINK fields make it easy to print an item marking price sheet with multiple item fields. Here's an example of how this can be done:

1. Create Data fields for UPC number, regular price, and sale price, by selecting the corresponding fields in your production data file.
2. Create a Text field (1), by linking the field to the source Data field UPC number.
3. Create a Bar code field (2) that also is linked to the source Data field UPC number.

4. Create Text fields (4) and (6) by linking the fields to the source Data fields for regular and sale prices and using the edit code P, for fixed currency symbol.
5. Create Text fields (3) and (5) as *HEADING fields for “Regular Price” and “On Sale”.
6. Using the Group Function, select all six fields and copy the group as needed.

Some printer types support parts across and parts down in the format definition. In that case you define your format once and MarkMagic will automatically copy your format to fill the form.

How to combine information from multiple fields into one printing field

Use Data fields and *LINK fields when you need to combine information from multiple fields but only wish to print this data in one bar code or text field. For example, if your production data file has a field for product number (5 positions), but no field for UPC number (12 positions) follow these steps:

1. Define a Data field as *HEADING with a length of 6 positions. Enter your national manufacturer number (the first six digits of the UPC code) in the field description. Enter 0 in the decimal parameter.
2. Define a variable Data field for product number (5 positions). Enter 0 in the decimal parameter.
3. Define a Bar code field as *LINK, type UPC-A.
4. Roll forward to the Work with *LINK Source Fields screen and add a source field link to the *HEADING Data field, starting at position 1 for a length of 6.
5. Add a link to the source field, Data field - product number, starting at position 1 for a length of 5.
6. Complete the bar code field definition by selecting a UPC type Modulus 10 check digit for a total field length of 12.

How to create edited human readable text fields for bar code fields

You may need to modify published bar code specifications for your internal requirements. For example, UPC-A bar code prints human readable characters directly above or below the bar code in small text. Here's how to use *LINK to create your own bold typeface human readable interpretation of a UPC-A bar code, formatted with intervening spaces:

1. Define a 12 position, variable UPC-A Bar code field with no human readable interpretation.
2. Define a Data field as *HEADING, enter nothing in the field description, and enter a field length of 1. This represents one blank space.
3. Define a Text field as *LINK, font Bold.
4. Add a source field link to the UPC Bar code field, starting at position 1 with a length of 1.
5. Add a source field link to the *HEADING Data field representing one blank.
6. Add a second source field link to the UPC Bar code field, starting at position 2 with a length of 5.
7. Add a second source field link to the *HEADING Data field.
8. Add a third source field link to the UPC Bar code field, starting at position 7 with a length of 5.

9. Add a third source field link to the *HEADING Data field.
10. Add a final source field link to the UPC Bar code field, starting at position 12 with a length of 1.
11. Advanced Topics

The Work with *LINK Source Fields screen will look like this:

How to create UCC-128 bar code fields with human readable characters

If your labeling requirements require a UCC-128 compliant serial container bar code, MarkMagic functions include a bar code type and text field edit code to simplify the creation of UCC-128 bar code fields and related edited human readable characters.

Here's how to use *LINK fields to create compliant UCC-128 bar code fields (including all required function codes, and check digit results) and properly edited human readable interpretation, formatted with intervening spaces, parentheses, etc.:

1. Define a Data field as *HEADING, type **00** in the field description, and enter a field length of **2**. Type **0** in the decimal parameter. This is the UCC-128 application identifier.
2. Define a Data field as PKGTYPE, type **Package Type** in the field description, and enter a field length of **1**. Type **0** in the decimal parameter. In this field, a value of **0** is written if the container is a carton, and a value of **1** if the container is a skid. If you do not mix packaging types on your packing lines, you may define this field as *HEADING with a value of 0 or 1 in the description based on your package type.
3. Define a Data field as *HEADING with a length of 7 positions. Type **00** in the first two positions of the field description and your national manufacturer number in the next 5. Type **0** in the decimal parameter.
4. Define a variable Data field for serial number (9 positions). Type **0** in the decimal parameter.
5. Define a Bar code field as *LINK, bar code type UCC-128.
6. Add a link to the source field, *HEADING Data field, 00, starting at position 1 with a length of 2.
7. Add a link to the source Data field, PKGTYPE, starting position 1 for a length of 1.
8. Add a link to the source Data field, *HEADING, for national manufacturer number, starting at position 1 with a length of 7.
9. Add a final link to the source variable Data field for serial number, starting at position 1 with a length of 9.
10. Roll back to the bar code field definition and complete it by typing a value of **11** for check digit (to have MarkMagic calculate a Modulus 10 type check digit). Press ENTER to complete the bar code field definition.
11. Define a text field as *LINK, font Bold.
12. Add a link to the source Data field, *HEADING, 00, starting at position 1 with a length of 2.
13. Add a link to the source Data field, PKGTYPE, starting at position 1 with a length of 1.
14. Add a link to the source Data field, *HEADING, for national manufacturer number, starting at position 1 with a length of 7.

15. Add a final link to the source variable Data field for serial number, starting at position 1 with a length of 9.
16. Roll back to the text field definition and complete it by typing an edit code value of 1 (for UCC-128 human readable format), and a value of **11** for check digit (to have MarkMagic calculate a Modulus 10 type check digit). Press ENTER to complete the text field definition.

***LINK Field Considerations**

The following rules should be kept in mind when creating and modifying *LINK Bar Code and Text fields.

- You can add as many source field links as you need in a *LINK field as long as the total length of the source fields does not exceed the maximum permitted Bar Code or Text field length.
- While variable Data, Bar Code, and Text fields should not appear twice (with the same field name) in a format, you can have multiple *LINK fields pointing to these variable fields. When defining *LINK fields, a variable Bar Code, Data, or Text field can be used more than once in a single *LINK definition.
- A *LINK Bar Code or Text field can be deleted.
- A *LINK Bar Code or Text field cannot be linked to another *LINK Bar Code or Text field.
- A linked source field cannot be deleted until the field link definitions in the *LINK Bar Code or Text field have been deleted.
- If any linked source fields contain non-numeric data, check digits defined in a *LINK Bar Code or Text field will not calculate properly.

Working with Box and Line Fields

Working with Box and Line Fields

- [Box Fields](#)
- [Line Fields](#)

Box Fields

Box Fields Overview

MarkMagic Box Fields provide you the ability to add boxes to your format designs. Boxes (like lines) serve as an excellent means to separate and group items visually on a format or label.

- [Grouping Box Fields](#)
- [Adding Box Fields Native System i](#)
- [Adding Box Fields JMagic](#)

- [The Work with Box Fields Screen Native System i](#)
- [The Work with Box Fields Screen JMagic](#)
- [Editing Box Fields Native System i](#)
- [Editing Box Fields JMagic](#)
- [Deleting Box Fields](#)

Grouping Box Fields

For more information about grouping box fields, see the [JMagic Grouping](#) and [Native System i Grouping](#) Chapter.

Native iSeries



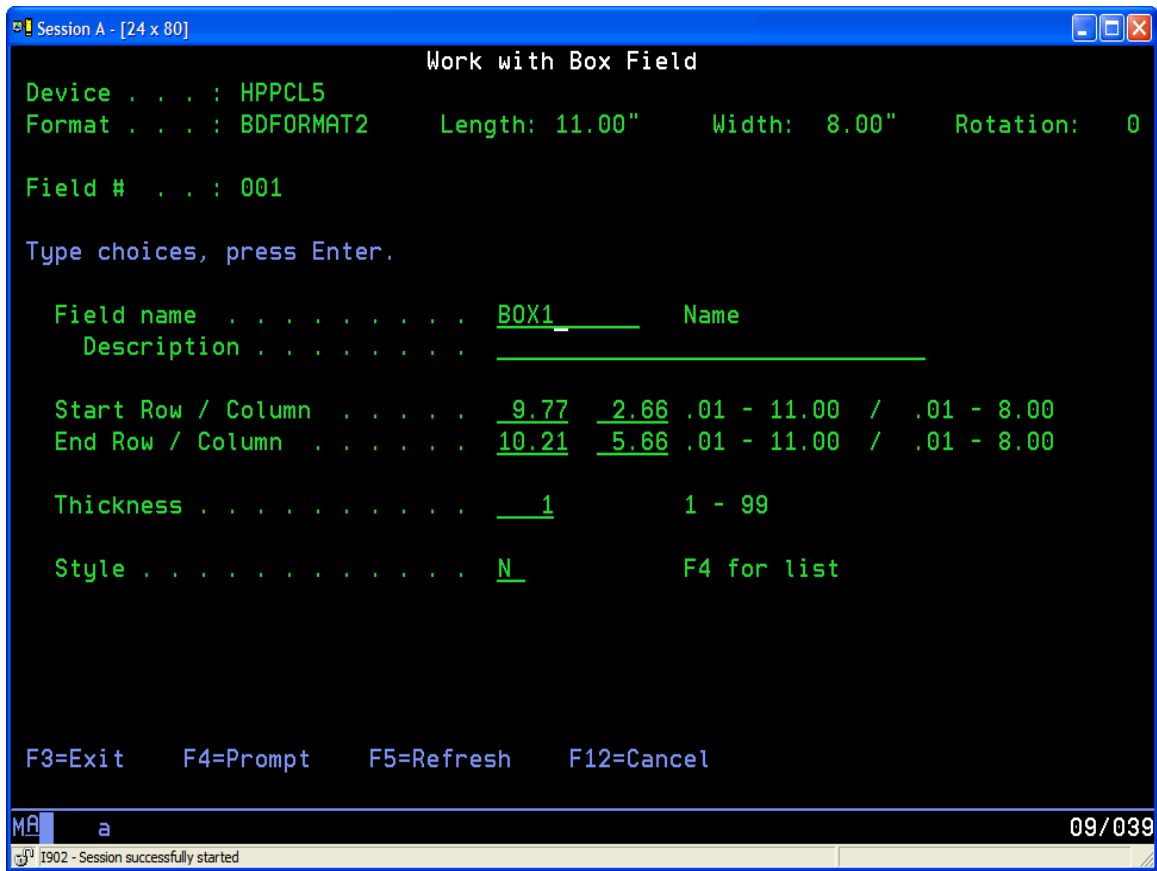
Adding Box Fields

How To:

- Draw the box field by moving the cursor horizontally and vertically to where you want the line field to end and press ENTER. Some printer types allow diagonal lines.
- The **Work with... Field screen** is displayed.



The Work with Box Fields Screen



If you have not done so already, create a new format, or open an existing format, and create a box field. Draw the field by moving the cursor diagonally to the opposite corner of the box and press ENTER. The Work with Box Field screen is displayed.

- **Field Name** - The name of the field for documentation purposes.
- **Description** - A description for documentation purposes.
- **Start Row/Column** — The position of the beginning of the box on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. These values are based on where you placed the cursor on the Design a Format screen when you pressed F6 (Create).
- **End Row/Column** — The opposite corner of the box, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. These values are based on where you drew the box field with the cursor on the Design a Format screen.
- **Thickness** — Specify the thickness of the box’s outline. This measurement is expressed in dots. Press ENTER to complete the box field definition. The field will appear on the Design a Format screen. The field name will appear on the Design a Format screen. Depending on the box size and zoom factor, the entire field may not appear on the Design a Format screen. To display the box field distinctly it may be necessary to zoom in for a greater degree of detail. You may

also page up and down and shift left and right to view the edges of the box. Zoom out to see the entire box on the screen.

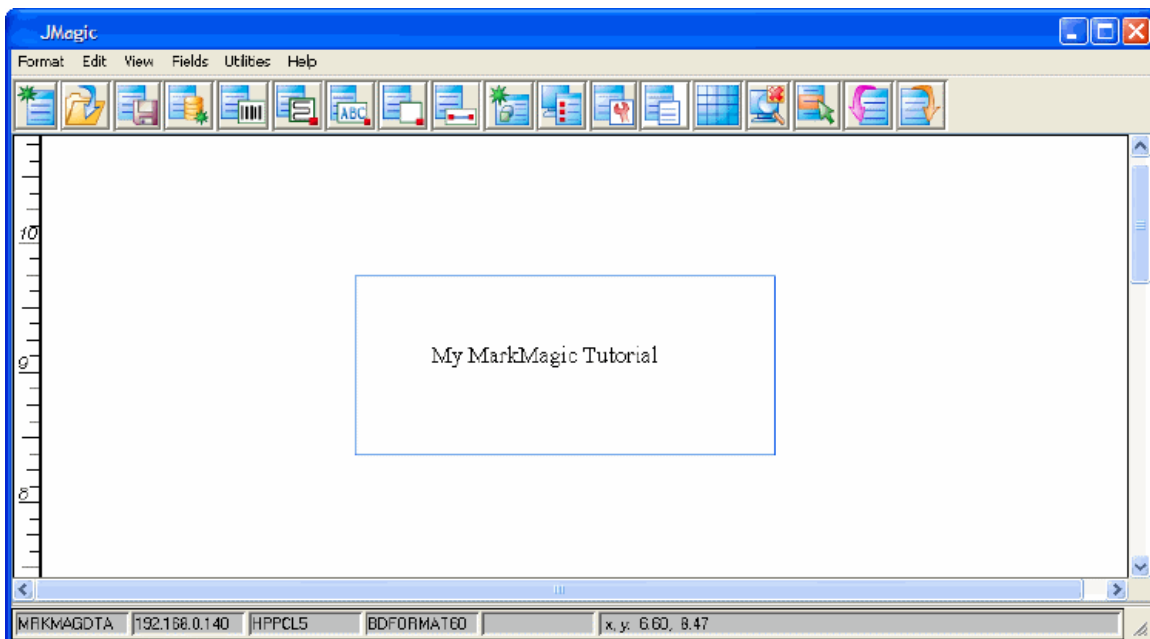
- **Style** - Specify the style of the box's outline. Press F4 to select from a list of styles supported by your printer type.

Editing Box Fields

For more information about editing box fields, see the [Modifying Fields Chapter](#).

JMagic

Adding Box Fields




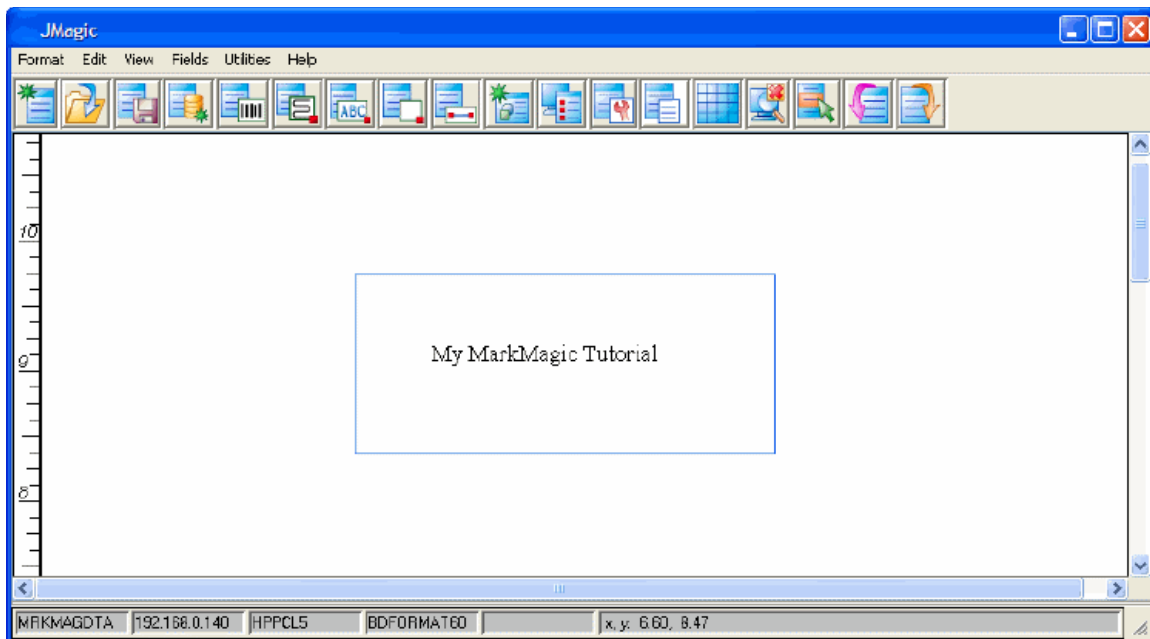
How To:

- Click on the  **Box Field Button** in the button bar.

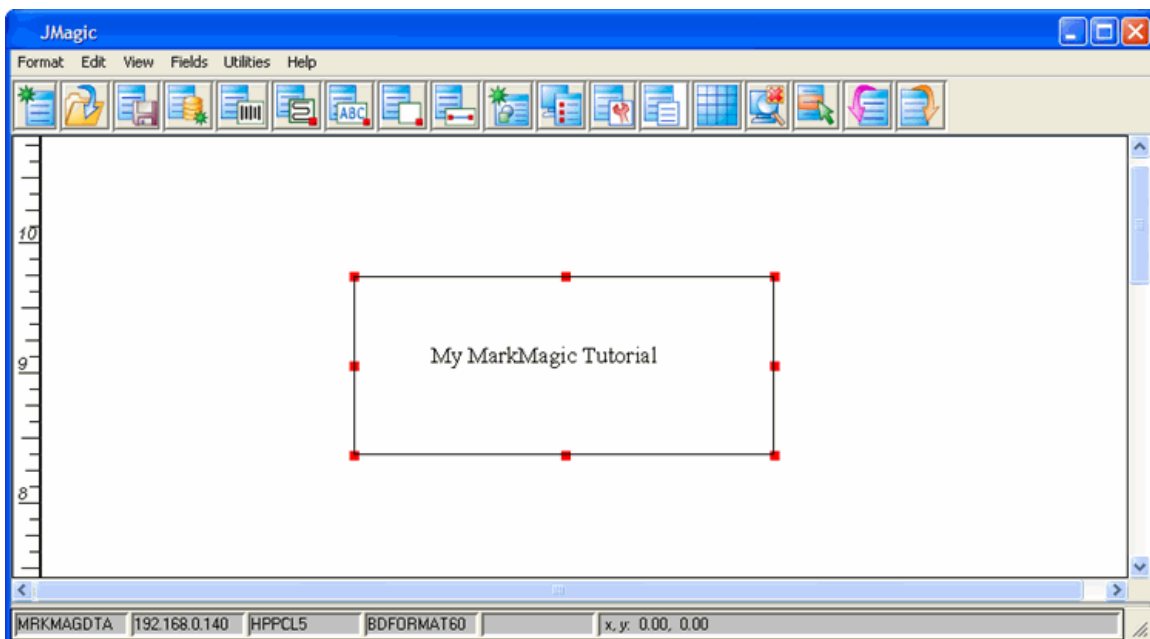
The Work with Box Fields Screen

To create a new **Box Field** on the JMagic Design Canvas

- Click on the  **Create a Box Field Button** in the toolbar. This will turn the mouse pointer into a crosshair cursor.
- Click on the Design Canvas where you would like the box field to start.



- Keeping your mouse button pressed, drag the crosshair cursor along the Design Canvas (horizontally and vertically) until you have created a box the size you want.
- Release the mouse button

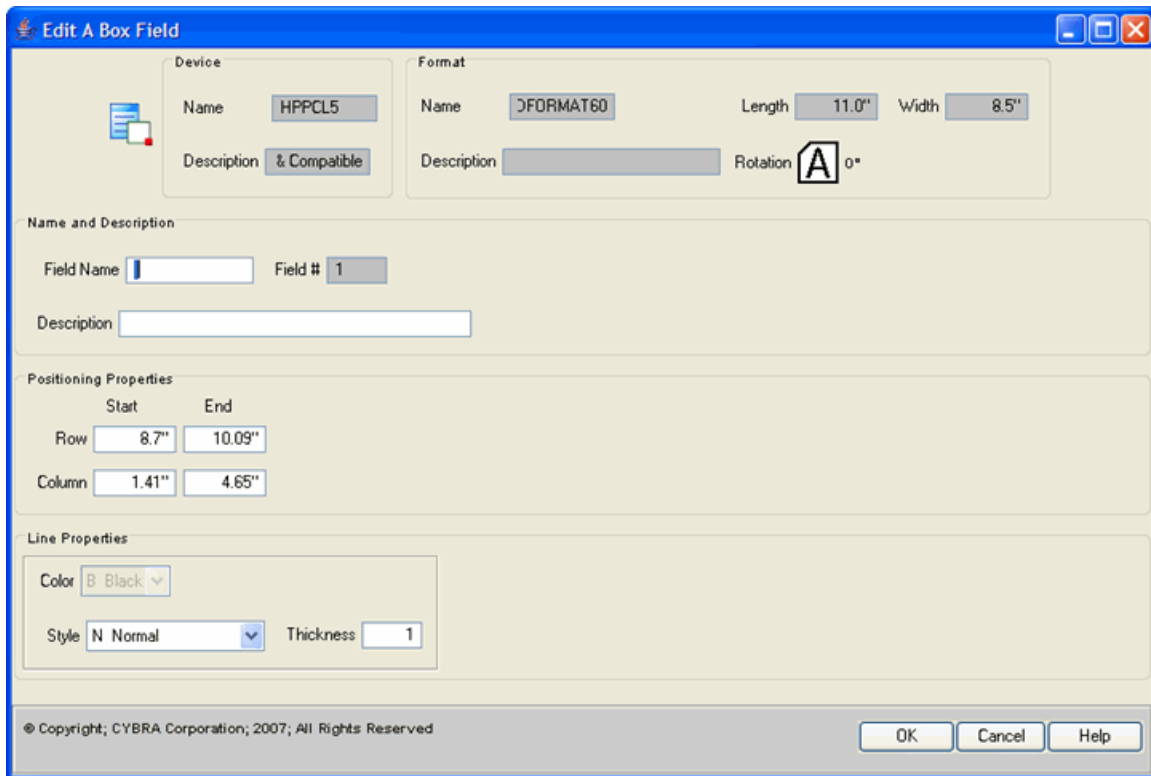


Editing Box Fields

You can edit Box Fields in JMagic in number of ways.

- **Size** - you can resize a box field by using the handles.

1. Click on one of the handles and hold down the mouse button.
 2. Drag the box in the direction you want it to grow or shrink.
 3. Release the mouse button
- **Location** - you can relocate a box field by clicking and dragging
 1. Click anywhere inside of the box field and hold down the mouse button
 2. Move the box to where you want it
 3. Release the mouse button
 - **Properties** - you can edit the box field properties by double clicking on it.



Edit A Box Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: JFORMAT60
 Length: 11.0" Width: 8.5"
 Description:
 Rotation: A 0°

Name and Description
 Field Name:
 Field #: 1
 Description:

Positioning Properties

	Start	End
Row	8.7"	10.09"
Column	1.41"	4.65"

Line Properties
 Color: B Black
 Style: N Normal
 Thickness: 1

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OK Cancel Help

- **Field Name** - The name of the field for documentation purposes.
- **Description** - A description for documentation purposes.
- **Start Row/Column** — The position of the beginning of the box on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. These values are based on where you drew the original box.
- **End Row/Column** — The opposite corner of the box, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. These values are based on where you drew the original box.
- **Style** - Specify the style of the box’s outline. Use the drop-down to select a style supported by your printer.
- **Thickness** — Specify the thickness of the box’s outline. This measurement is expressed in dots. Press ENTER to complete the box field definition. The field will appear on the Design a Format screen. The field name will appear on the Design a Format screen. Depending on the box size and zoom factor, the entire

field may not appear on the Design a Format screen. To display the box field distinctly it may be necessary to zoom in for a greater degree of detail. You may also page up and down and shift left and right to view the edges of the box. Zoom out to see the entire box on the screen.



Deleting Box Fields

To delete a box field in JMagic, simply click on it and press the **Delete Key**.

Line Fields



Line Fields Overview

MarkMagic Line Fields provide you the ability to add lines to your format designs. Lines (like boxes) serve as an excellent means to separate and group items visually on a format or label.

- [Deleting Line Fields](#)
- [Grouping Line Fields](#)
- [Adding Line Fields Native System i](#)
- [Adding Line Fields JMagic](#)
- [Editing Line Fields Native System i](#)
- [Editing Line Fields JMagic](#)



Deleting Line Fields

To delete a line field in JMagic, simply click on it and press the Delete Key.

For more information about delete line fields in



, see the [Deleting Chapter](#).



Grouping Line Fields

For more information about grouping line fields, see the [Native System i Grouping](#) and [JMagic Grouping](#) Chapter.

Native iSeries



Adding Line Fields



Session A - [24 x 80]

Device: HPPCL5 Design a Format Format: BDFORMAT2

Format	fields	Options	Print	Utilities
1.00	2.00	3.00	4.00	5.00
6.00	7.00	8.		

11.00
10.89
10.78
10.67
10.56
10.44
10.33
10.22
10.11
10.00
9.89
9.78
9.67
9.56
9.44

My User Guide D

F12=Cancel F14=Rotate F15=Zoom in F16=Zoom out
F17=Top F18=Bottom 22=Rulers
Move the cursor to end of line field and press Enter.

MAa 15/013

1902 - Session successfully started

```

Session A - [24 x 80]
Work with Line Field
Device . . . : HPPCL5
Format . . . : BDFORMAT2    Length: 11.00"    Width:  8.00"    Rotation:  0
Field # . . . : 001
Type choices, press Enter.

Field name . . . . . LINE1      Name
Description . . . . .
Start Row / Column . . . . . 9.99  .66 .01 - 11.00 / .01 - 8.00
End Row / Column . . . . . 9.88  7.77 .01 - 11.00 / .01 - 8.00
Thickness . . . . . 1          1 - 99
Style . . . . . N             F4 for list

F3=Exit    F5=Refresh    F12=Cancel
MA a 09/040
I902 - Session successfully started

```

How To:

- Draw the line field by moving the cursor horizontally or vertically to where you want the line field to end and press ENTER. Some printer types allow diagonal lines.
- The **Work with... Field screen** is displayed.



- **Field Name** - The name of the field for documentation purposes.
- **Description** - A description for documentation purposes.
- **Start Row/Column** — The position of the beginning of the line on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. These values are based on where you placed the cursor on the Design a Format screen when you pressed F6 (Create).
- **End Row/Column** — The position of the end of the line on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. These values are based on where you drew the line to with the cursor on the Design a Format screen.
- **Style** - Specify the style of the line. Press F4 to select from a list of styles supported by your printer type.

- **Thickness** — Specify the thickness of the line. This measurement is expressed in dots. Press ENTER to complete the line field definition. The field will appear on the Design a Format screen. The field name appears in the line field. Depending on the field length and zoom factor, the entire field may not appear on the Design a Format screen. To display the line field distinctly it may be necessary to zoom in for a greater degree of magnification. You may also page up and down and shift left and right to view the beginning and end points of the line. To see the entire line, zoom out.



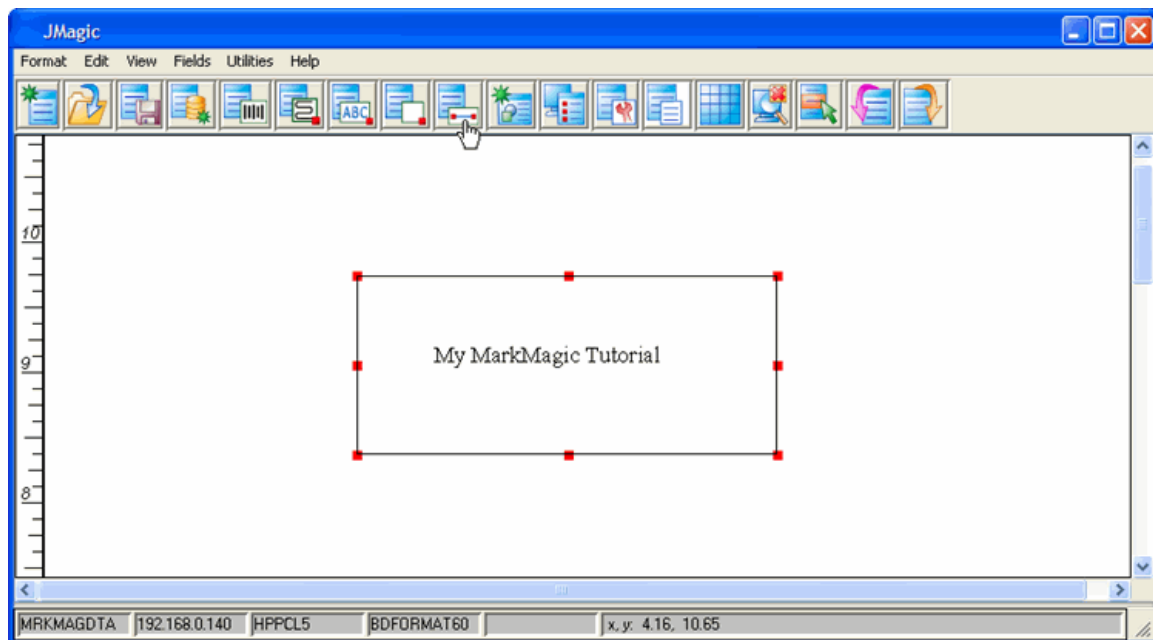
Editing Line Fields

For more information about editing line fields, see [Modifying Fields](#).

JMagic



Adding Line Fields



How To:

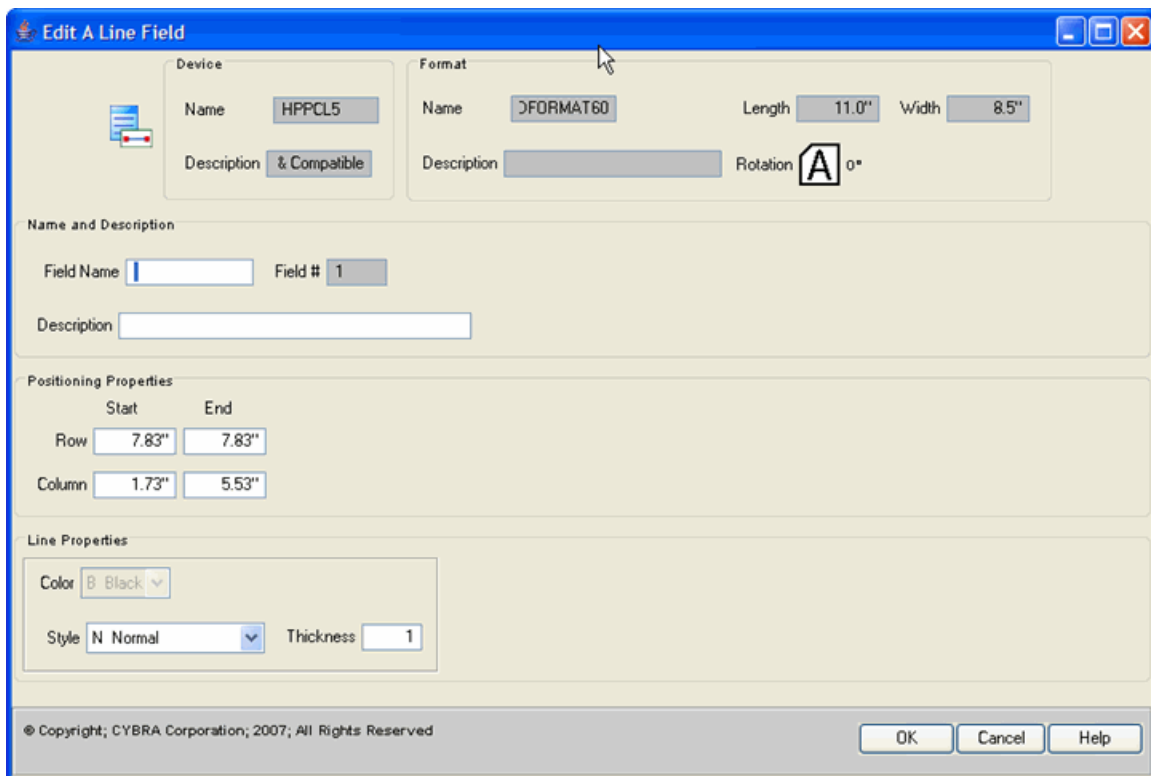


- Click on the **Create a Line Field Button** in the toolbar. This will turn the mouse pointer into a crosshair cursor.
- Click on the Design Canvas where you would like the line field to start.
- Keeping your mouse button pressed, drag the crosshair cursor along the Design Canvas (horizontally and vertically) until you have created a line the size you want.
- Release the mouse button

Editing Line Fields

You can edit line Fields in JMagic in number of ways.

- **Size** - you can resize a line field by using the handles.
 1. Click on one of the handles and hold down the mouse button.
 2. Drag the line in the direction you want it to grow or shrink.
 3. Release the mouse button
- **Location** - you can relocate a line field by clicking and dragging
 1. Click on the line field and hold down the mouse button
 2. Move the line to where you want it
 3. Release the mouse button
- **Properties**—you can edit the line field properties by double clicking on it. This opens the **Edit a Line Field Window**.



Edit A Line Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: >FORMAT60
 Length: 11.0\"
 Width: 8.5\"
 Rotation: A 0\"

Name and Description
 Field Name:
 Field #: 1
 Description:

Positioning Properties

	Start	End
Row	7.83\"	7.83\"
Column	1.73\"	5.53\"

Line Properties
 Color: B Black
 Style: N Normal
 Thickness: 1

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OK Cancel Help

- **Field Name** - The name of the field for documentation purposes.
- **Description** - A description for documentation purposes.
- **Start Row/Column** — The position of the beginning of the line on the format, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format definition. Column is measured from the left edge of the format. These values are based on where you drew the original line.
- **End Row/Column** — The opposite corner of the line, measured in hundredths of an inch or tenths of a millimeter. Row is measured from the bottom or top of the format, depending on the “Measure from” parameter value in the Format

definition. Column is measured from the left edge of the format. These values are based on where you drew the original line.

- **Style** - Specify the style of the line. Use the drop-down to select a style supported by your printer.
- **Thickness** — Specify the thickness of the box's outline. This measurement is expressed in dots. Press ENTER to complete the line field definition. The field will appear on the Design a Format screen. The field name will appear on the Design a Format screen. Depending on the line size and zoom factor, the entire field may not appear on the Design a Format screen. To display the line field distinctly it may be necessary to zoom in for a greater degree of detail. You may also page up and down and shift left and right to view the edges of the box. Zoom out to see the entire line on the screen.

Working with Graphics

Working with Graphics

- [Graphics Overview](#)
- [Graphics Fields](#)
- [Edit Graphic Field](#)
- [Group Graphic Fields](#)

Edit Graphic Field

To edit a graphic field in JMagic, simply double click on it. This will open the **Edit Graphic Field Window**. For more information about editing graphic fields, see [Modifying Fields](#).

Group Graphic Fields

For more information on grouping fields, see the [Grouping Fields](#) Chapter.

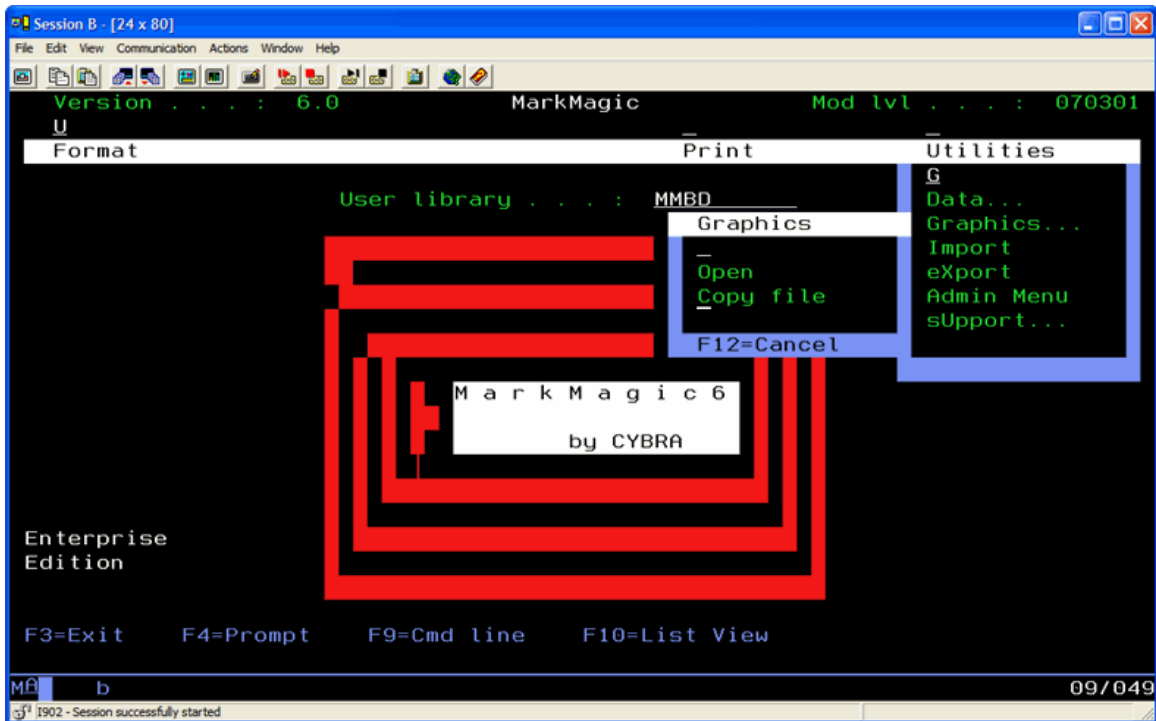
Native iSeries

Graphics Overview

A MarkMagic graphic field instructs your printer where a graphic image will appear on a format. Before you can define a graphic field using your image, the graphic may have to be converted into your printer's native printer description language, and copied (or imported) into the MarkMagic graphics gallery. A graphic field defines the location of the graphic. If you are designing a format for a thermal printer, the graphic should be sized (and rotated) exactly as it will appear when printed, before it is copied (or imported) into MarkMagic/400. A graphic field defined for a specific printer's graphic description language type may not print on another printer.

To convert graphics with a MarkMagic command:

1. Use the Utilities/Graphics/Copy file option from the MarkMagic Visual Designer main menu
2. Select the graphic you would like to copy to the MarkMagic graphics gallery by specifying its path in the IFS.
3. For graphic type, provide the type of graphic you are copying to the gallery, such as GIF, JPEG, etc.
4. MarkMagic will convert and copy your source GIF or JPG to the target graphic type you specify.
5. You may specify up to five target graphic type conversions within one command.



```

Session A - [24 x 80]
Copy File to Graphics Gallery (CPYGRAF)

Type choices, press Enter.

From PC file . . . . . > 'home/cybra/srr/monarch.gif'

Graphic type . . . . . > GIF           Name, F4 for list
Graphic number . . . . . > *NEXTAVAIL Number, *NEXTAVAIL
Graphic name . . . . . > MONARCHLOG   Character value
Graphic text description . . . . . > 'Monarch Logo'
Replace or add graphic . . . . . *ADD   *ADD, *REPLACE
Create target graphics:
  Target graphic type . . . . . > PCL   Name, F4 for list
  Target graphic number . . . . . *NEXTAVAIL Number, *NEXTAVAIL
    + for more values _
User library name . . . . . *CURRENT   Name, *CURRENT, F4 for list

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

Bottom
MA a 08/037
1902 - Session successfully started

```



Graphics Fields



How To:

- Select Graphic Field from the Select a Field Type window and press ENTER.
- The **Work with... Field screen** is displayed.



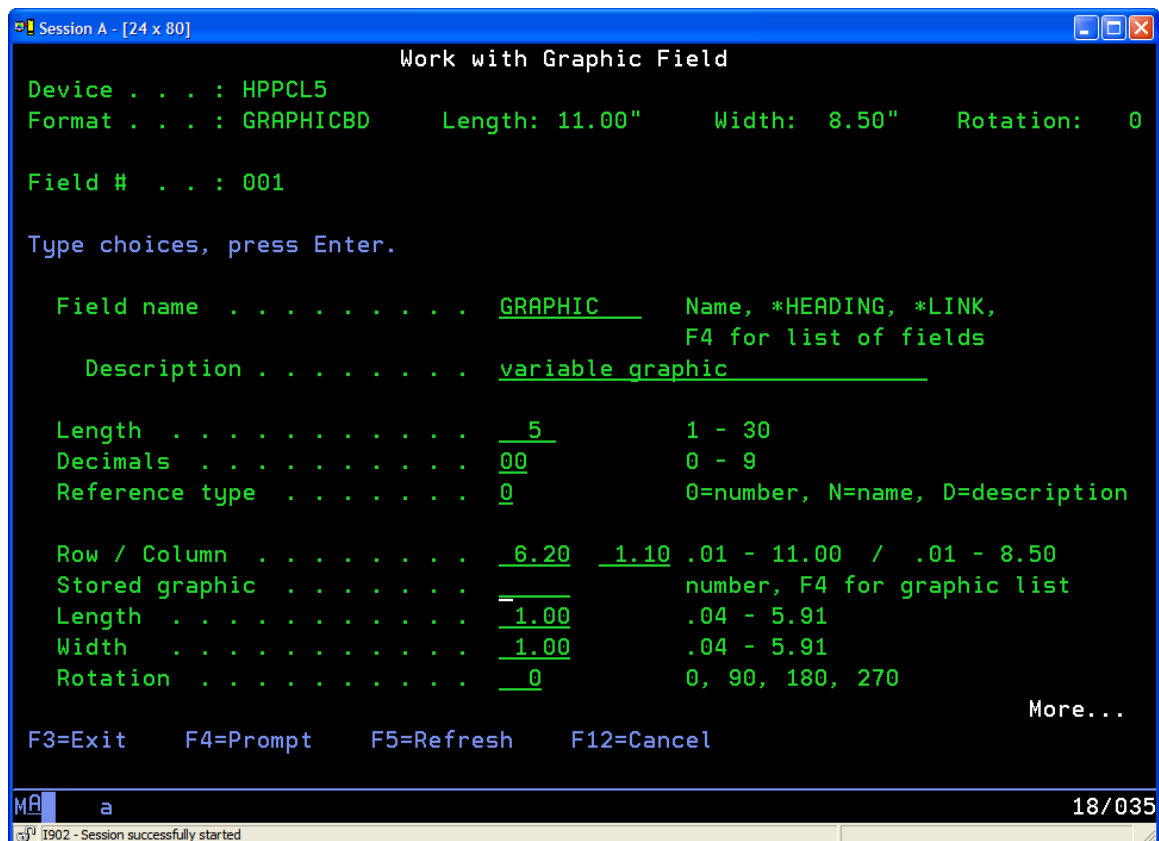
How To:

- Press F6

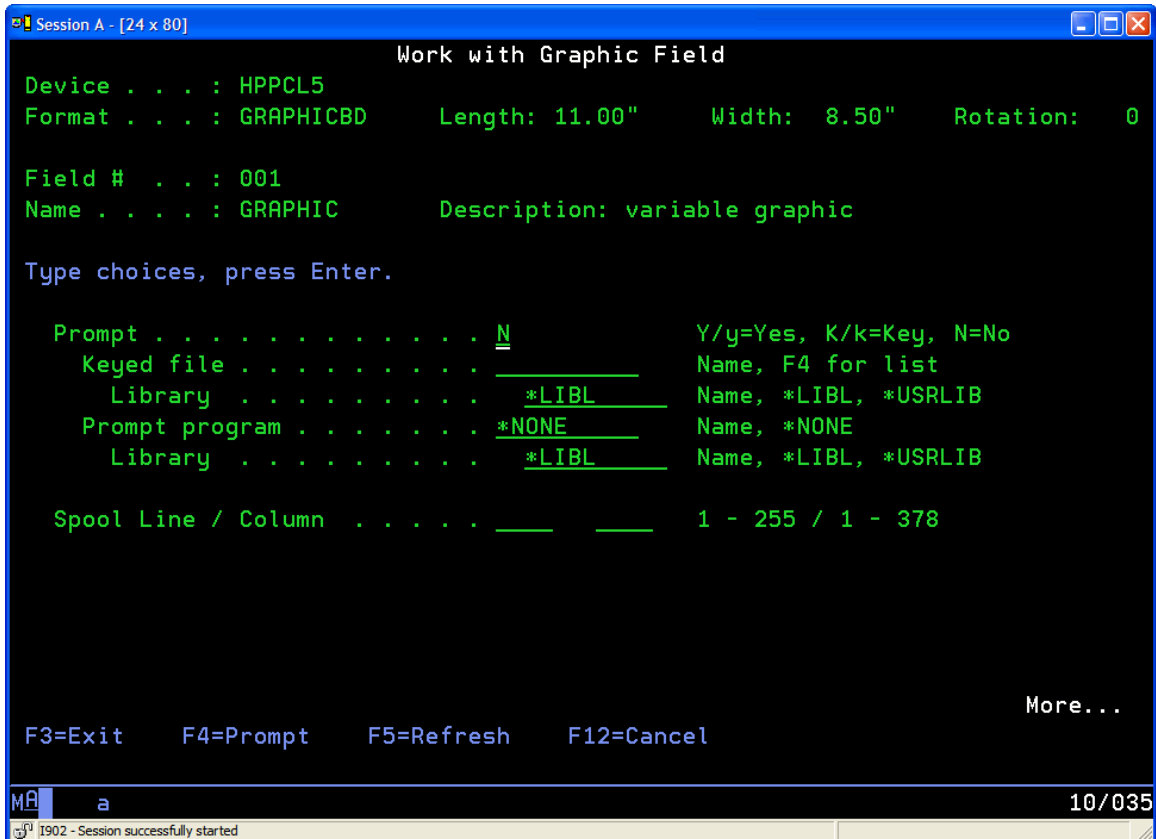


How To:

- Press F6



- **Field Name** - The name of the field for documentation purposes.
- **Description** - A description for documentation purposes.
- **Row/Column** — The position of the left corner of the graphic image on the format, measured in hundredths of an inch or tenths of a millimeter. If the “Measure from” parameter value in the Format definition is Top, this would be the upper left corner. If the “Measure from” parameter value is Bottom, this would be the lower left corner. Column is measured from the left edge of the format. These values are based on where you placed the cursor on the Design a Format screen when you pressed F6 (Create).
- **Stored graphic** - Press F4 to display a list of graphic images available for your printer type. Enter 1 in the option field for the graphic you wish to select and press ENTER.
- **Length** - If your printer is capable of resizing a graphic, specify the length of the graphic measured in hundredths of an inch or tenths of a millimeter.
- **Width** - If your printer is capable of resizing a graphic, specify the width of the graphic measured in hundredths of an inch or tenths of a millimeter.



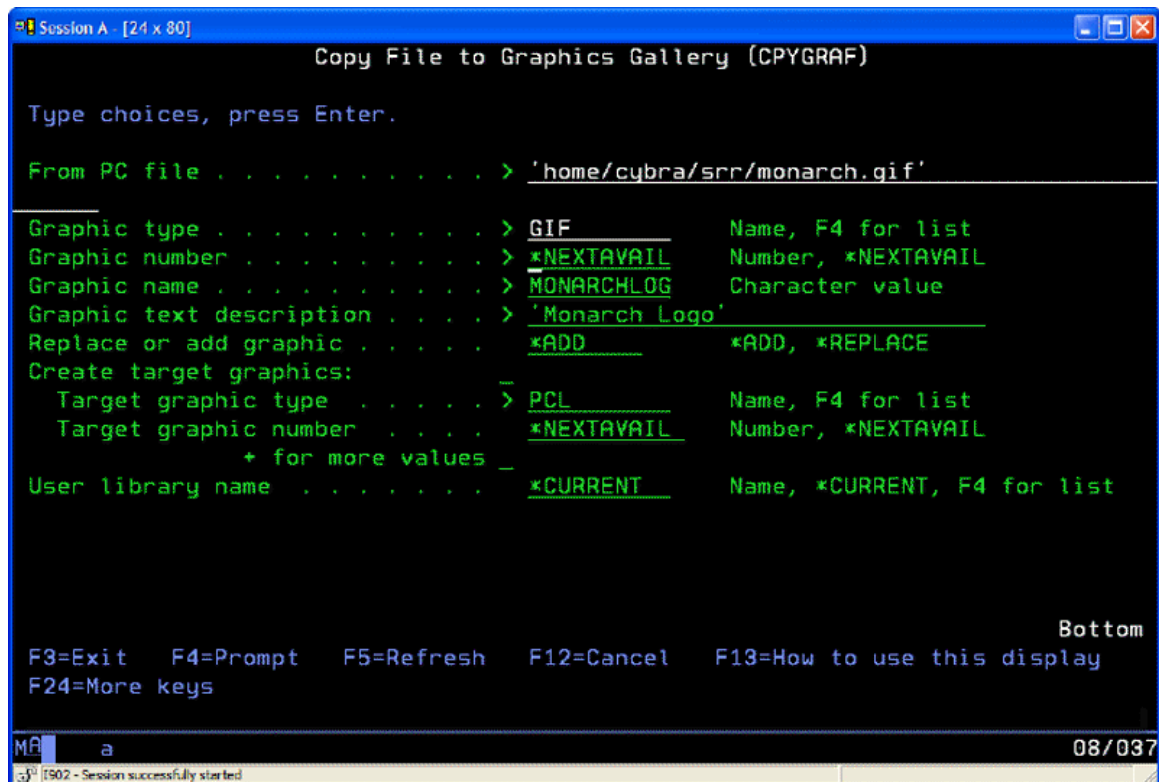
Press ENTER to complete the graphic field definition. The field will appear on the Design a Format screen. The field name will appear in the field.

Copy Graphics to MarkMagic Library

MarkMagic allows a monochrome GIF or JPG “source graphic” to be converted to your target printer type directly via a MarkMagic OS/400 command. Graphic conversion using a MarkMagic command requires OS/400 V5R2 or higher.

To convert graphics with a MarkMagic command:

1. Use the Utilities/Graphics/Copy file option from the MarkMagic Visual Designer main menu
2. Select the graphic you would like to copy to the MarkMagic graphics gallery by specifying its path in the IFS.
3. For graphic type, provide the type of graphic you are copying to the gallery, such as GIF, JPEG, etc.
4. MarkMagic will convert and copy your source GIF or JPG to the target graphic type you specify.
5. You may specify up to five target graphic type conversions within one command.



To use Variable Graphics

1. Create a new format or open an existing one.
2. Press F6 to add a new Graphic field.
3. Supply a valid variable field name for Field name, or press F4 to choose a variable field from a database file, another format, or a spooled file (for MarkMagic Form formats).
4. Type the description of the graphic (optional).
5. Specify a field length.
6. Next, specify the Reference type. You can use any of these three Graphic Gallery field definitions to recall your variable graphic:
 - "0"= Up to 5 position Graphic Number
 - "N"= Up to 10 position Graphic Name
 - "D"= Up to 30 position Graphic Description.
7. Do not supply a Stored graphic number — the graphic number only applies to *HEADING (static) graphics. Press Enter to complete the Field definition. Press F3 to exit the format.
8. Select the Utilities/Graphics/Open option from the MarkMagic Visual Designer main menu to work with the Graphics Gallery. You will want to make sure that there are graphic gallery entries that match the Reference type that you set in the variable graphic field(s). For example, if you are referencing by graphic number, you should have graphic gallery entries that match the graphic numbers your application will be setting. Similarly, if you are referencing by Graphic Name, graphic names in the gallery should match values that your application will set. And finally, if you are referencing by Graphic Description, graphic descriptions in the gallery should match values that your application will set. If the desired target

graphics already appear in the gallery, you may just need to modify selected graphics' name and/or description attributes to achieve the appropriate match.

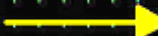
9. In the example above, the Field name was set to SKU, with Reference type N for Graphic Name.


```

Work with Graphic Field
Device . . . : ZTS500
Format . . . : IDIS          Length: 6.00"   Width: 4.00"   Rotation: 0
Field # . . . : 001

Type choices, press Enter.

Field name . . . . . SKU      Name, *HEADING, *LINK,
                               F4 for list of fields
Description . . . . . SKU Number

Length . . . . . 10           1 - 30
Decimals . . . . . 00         0 - 9
Reference type  N           0=number, N=name, D=description

Row / Column . . . . . 3.00 .05 .04 - 6.00 / .04 - 4.00
Stored graphic . . . . .  number, F4 for graphic list
Length . . . . . 1.00       .04 - 6.00
Width . . . . . 1.00       .04 - 4.00

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   More...

```

10. In the Graphics Gallery, the Graphic Name would contain the actual SKU # that matches the item. For example, the Shower Head graphic will print when SKU 0122587589 appears in the Label File record, the Pipe Fitting graphic will print when SKU 0256565899 appears in the Label File record, etc.

```

Work with Graphics Gallery

Position to graphics type . . . . . _____
Position to graphic number . . . . . _____

Type option, press Enter.
    2=Change description    4=Delete    5=Display    7=Renummer

Opt  Graphics  Graphic
     Type      Number  Name      Description
-   -   -
-   ZPL      404      0122587589 Shower Line Art
-   ZPL      405      0256565899 Pipe Fitting
-   ZPL      406      4548789985 Faucet - Kitchen
-   ZPL      407      4687798168 Faucet - Bath
-   ZPL      409      MAPLELEAF  Linens n Things Maple Leaf
-   ZPL      410      MAPLELEAF  Linens n Things Maple Leaf

```

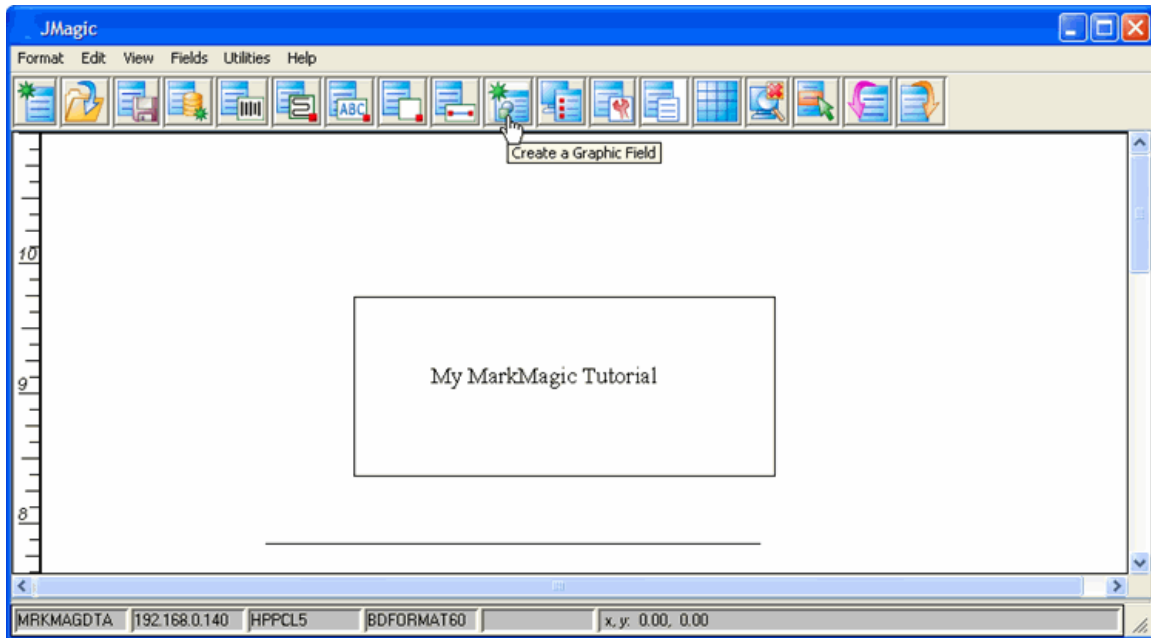
11. Test the function by printing a label file that has a different SKU associated with each graphic. As the SKU changes, the graphic image printed will change.

JMagic



Graphics Fields

A MarkMagic graphic field instructs your printer where a graphic image will appear on a format. Before you can define a graphic field using your image, the graphic may have to be converted into your printer's native printer description language, and copied (or imported) into the MarkMagic graphics gallery. A graphic field defines the location of the graphic. If you are designing a format for a thermal printer, the graphic should be sized (and rotated) exactly as it will appear when printed, before it is copied (or imported) into MarkMagic/400. A graphic field defined for a specific printer's graphic description language type may not print on another printer.



How To:

- To insert a graphic onto the JMagic Design Canvas, click on the  **Insert a Graphic Field Button** and click anywhere on the design canvas. This will open the **Insert a New Graphic Window**.

- **Field Name** - name of the field for documentation purposes. Click the **Browse Button** to select an existing field from a format, database, or spooled file.
- **Description** - A description for documentation purposes.
- **Field Reference**
- **Row/Column** — The position of the left corner of the graphic image on the format, measured in hundredths of an inch or tenths of a millimeter. If the “Measure from” parameter value in the Format definition is Top, this would be the upper left corner. If the “Measure from” parameter value is Bottom, this would be the lower left corner. Column is measured from the left edge of the format. These values are based on where you first click on the Design Canvas after clicking the



Insert a Graphic Field Button.

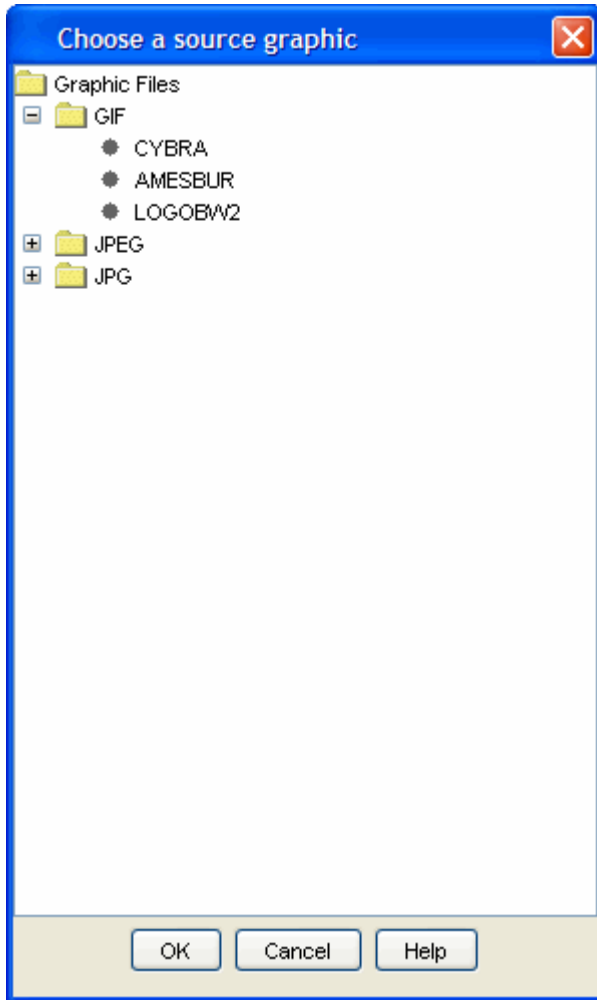
- **Stored graphic** - Use the drop-down to select a graphic that is currently stored on the OS/400 server.
- **Length** - If your printer is capable of resizing a graphic, specify the length of the graphic measured in hundredths of an inch or tenths of a millimeter.
- **Width** - If your printer is capable of resizing a graphic, specify the width of the graphic measured in hundredths of an inch or tenths of a millimeter.

Press ENTER to complete the graphic field definition. The field will appear on the Design a Format screen. The field name will appear in the field.



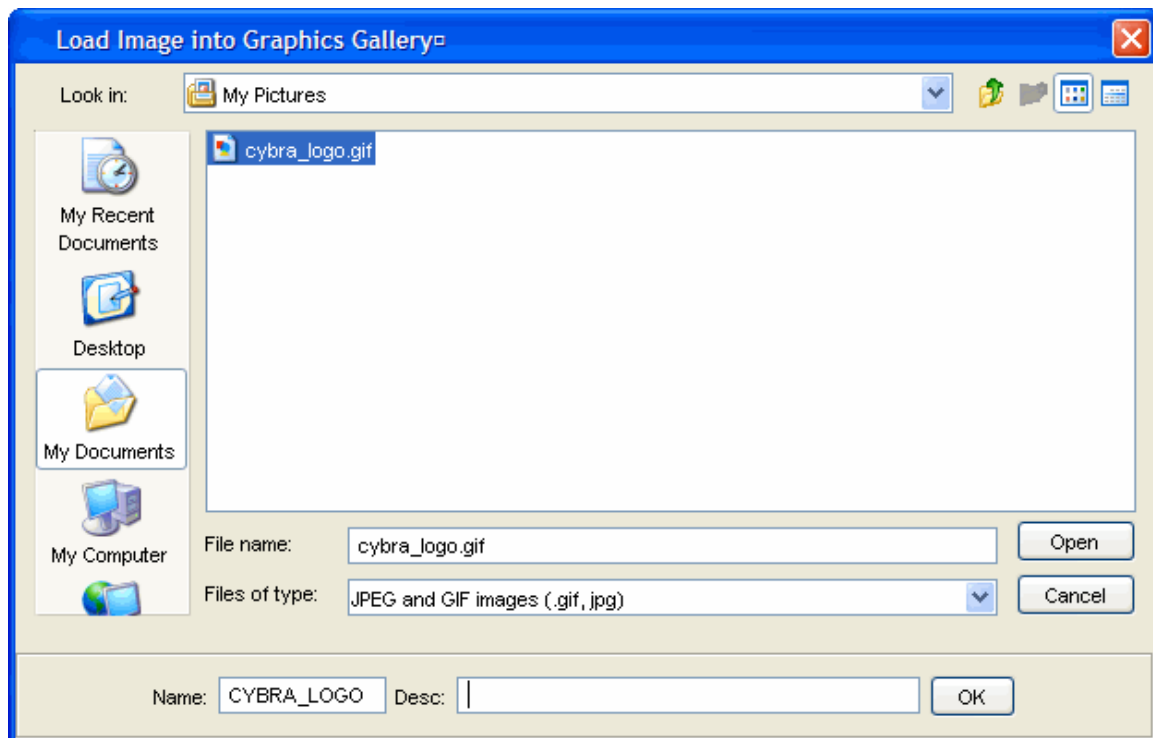
Choose a Source Graphic

To print graphics in MarkMagic, on any type of printer, you first need a “source graphic”. This is the actual graphic file, as it exists on your PC. MarkMagic and JMagic support GIF and JPG (JPEG) source files. The source graphic is converted, using tools within MarkMagic and JMagic, to a “target graphic”. A target graphic is a copy of the source graphic, but formatted to be compatible with your target printer type (Zebra, Monarch, Laser, Intermec).



How To:

- Select the **Convert Option** from the **Graphics Submenu** of the **Utilities Menu**. This opens the **Choose a Source Graphic Window**. The **Choose a Source Graphic Window** provides a tree-based interface to identify the graphic to convert. To select a graphic
- Expand the **Gif Folder**. This will list all of the available .gif graphics you can convert
- Select the graphic to convert and click the **OK Button**. This opens the **Cybra GIF Converter Window**.
- You will be shown a list of JPG and/or GIF files that are found on your desktop. Select your graphic and click **OPEN**. Doing this simply unlocks the Name and Description fields.



- This data will be used for the source image once it is uploaded to the System i. JMagic will provide a name for you based on the actual graphic name. You can overwrite this with whatever you wish, making sure the name is uppercase and no longer than 10 characters. Once you are satisfied with your graphic selection and its source name, click **OK**. JMagic will upload the file to your System i and you will eventually receive a notice that the image is loaded into the Graphics Gallery.
- Click **OK** and you will automatically be brought to The **Image Converter screen**.



Editing a Graphic Field

To edit a graphic field in JMagic, simply double click on it. This will open the **Edit Graphic Field Window**.

Edit A Graphic Field

Device
 Name: HPPCL5
 Description: % Compatible

Format
 Name: >FORMAT60
 Length: 11.0" Width: 8.5"
 Description: Rotation: A 0"

Properties
 Name and Description
 Field Name: *LINK Browse... Field #: 1 Reference Type: 0
 Description: Length: 0

Positioning Properties
 Row: 10.04" Column: 3.96"
 Length: 0.75" Width: 0.75"

Graphic
 Stored Graphic: 1 Cybra Cybra Logo

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OK Cancel Help

- **Field Name** – The name of the field for documentation purposes.
- **Description** – A description for documentation purposes.
- **Row / Column**– The position of the left corner of the graphic image on the format, measured in hundredths of an inch or tenths of a millimeter. If the "Measure from" parameter value in the Format definition is Top, this would be the upper left corner. If the "Measure from" parameter value is Bottom, this would be the lower left corner. Column is measured from the left edge of the format. These values are based on where you placed the cursor on the Design a Format screen when you pressed F6 (Create).
- **Length** – If your printer is capable of resizing a graphic, specify the length of the graphic measured in hundredths of an inch or tenths of a millimeter.
- **Width** – If your printer is capable of resizing a graphic, specify the width of the graphic measured in hundredths of an inch or tenths of a millimeter.
- **Stored Graphic** - Press F4 to display a list of graphic images available for your printer type. Enter 1 in the option field for the graphic you wish to select and press ENTER..

Delete Graphic Field

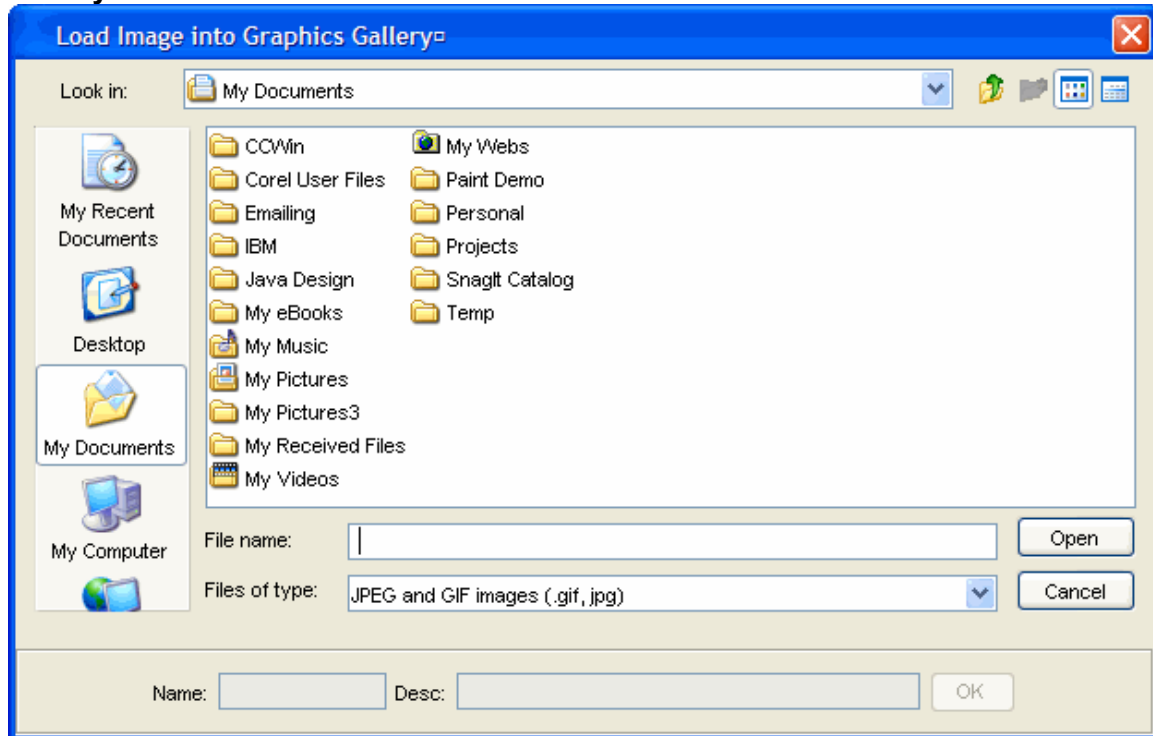
To delete a graphic field in JMagic, simply click on it and press the **Delete Key**.



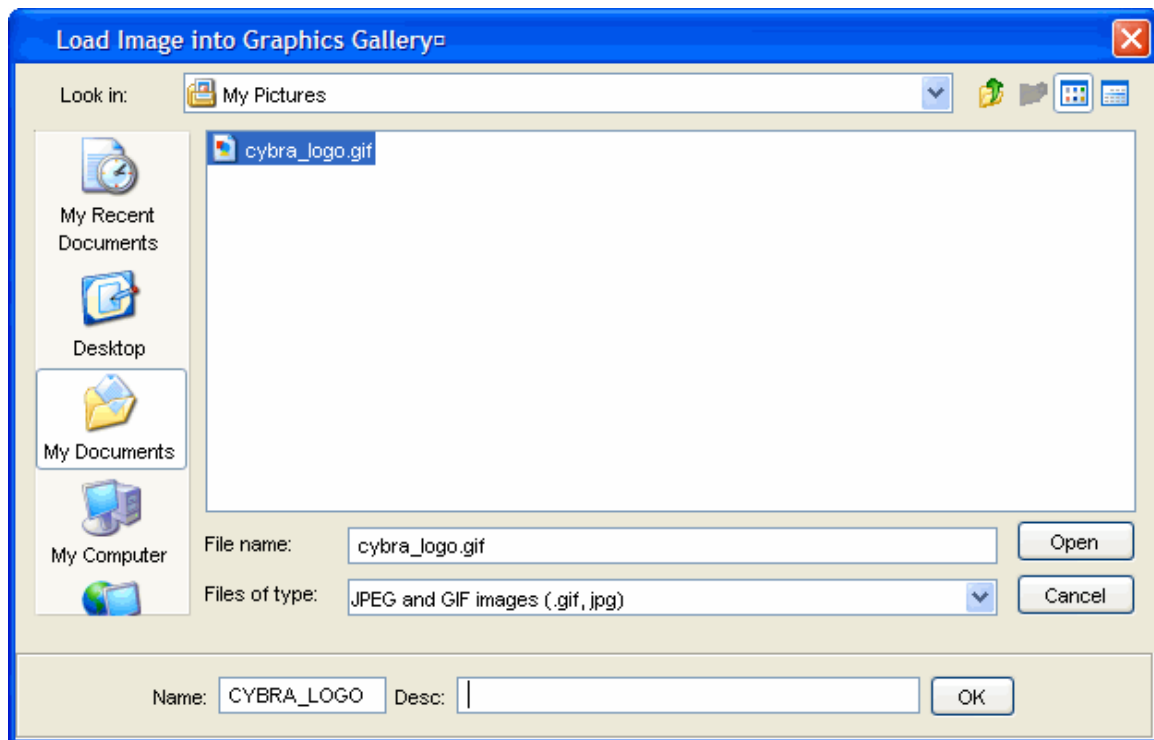
Import Graphics Using JMagic

MarkMagic allows a monochrome GIF or JPG “source graphic” to be converted to your target printer type directly via JMagic. We strongly recommend using JMagic to convert your graphic. JMagic gives you the ability to resize and preview the image before storing in the gallery. It is also quicker than the MarkMagic command version. Graphic conversion using a MarkMagic command requires OS/400 V5R2 or higher.

To add graphics to MarkMagic through JMagic, select the **Import Option** from the **Graphics Submenu** of the **Utilities Menu**. This opens the **Import Image into Graphics Library Window**.



To import a graphic, simply locate it on your hard drive and click the **Open Button**. This will allow you to specify a name and description of the graphic for inclusion in Graphic Fields later.



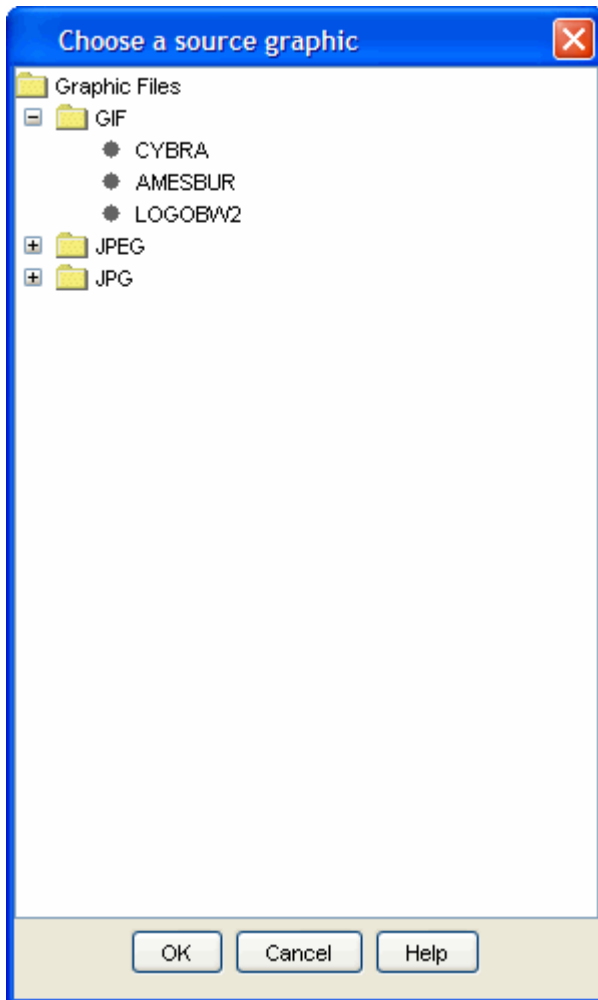
- Name - enter a name for the graphic
- Desc - enter a description of the graphic
- Click the **OK Button** when finished to upload the graphic.



Delete A Graphic

To delete a graphic,

- Select the **Delete Option** from the **Graphics Submenu** of the **Utilities Menu**. This opens the **Choose a Source Graphic**.



- Expand the **GIF Folder** to reveal the graphics currently in the MarkMagic library
- Click on the graphic that you want to delete
- Press the **Delete Key**.

Note: MarkMagic will automatically delete the graphic. This action cannot be reversed.

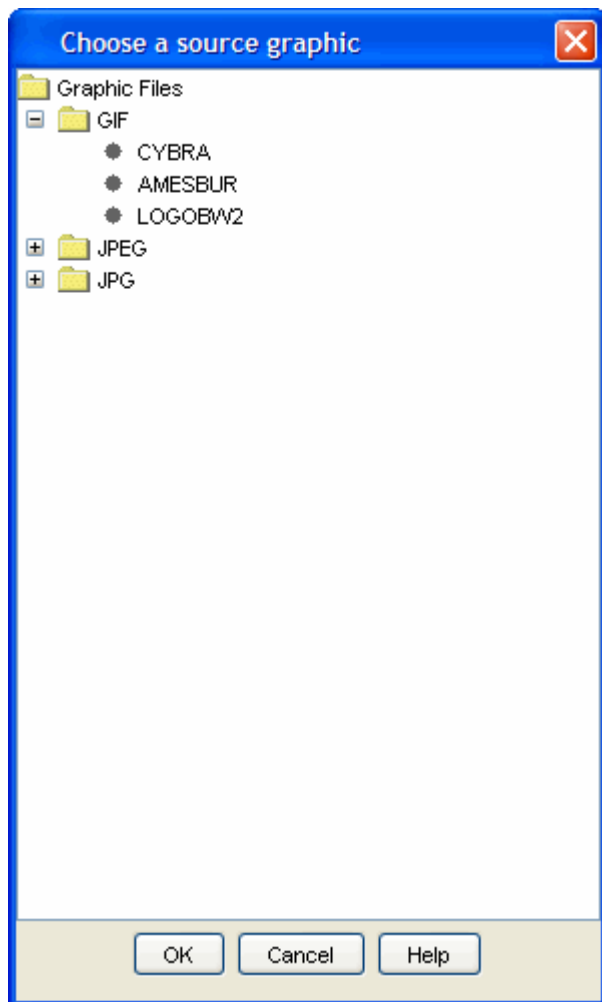


Converting Graphics

MarkMagic provides you the ability to upload a .GIF or .JPG graphic to a format or the MarkMagic Graphics Gallery. This special graphic can then be converted to the target printer graphic type or converted at print time to the target printer type.

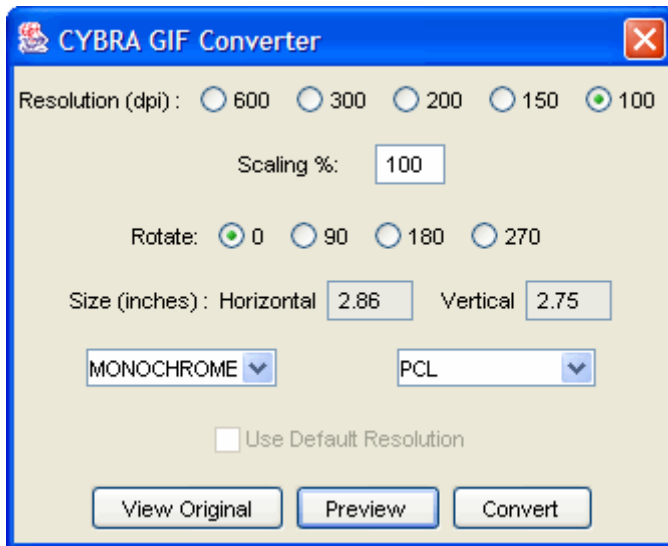
To convert a Graphic

- Select the **Convert Option** from the **Graphics Submenu** of the **Utilities Menu**. This opens the **Choose a Source Graphic Window**.

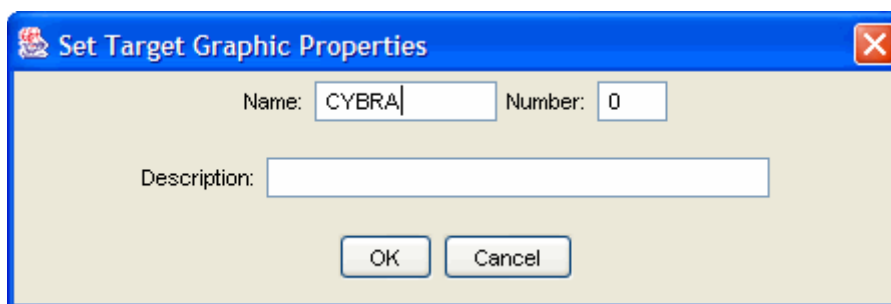


The **Choose a Source Graphic Window** provides a tree-based interface to identify the graphic to convert. To select a graphic

- Expand the **Gif Folder**. This will list all of the available .gif graphics you can convert
- Select the graphic to convert and click the **OK Button**. This opens the **Cybra GIF Converter Window**.



- **Resolution** - select the resolution you want for the converted graphic
- **Scaling** - enter a percentage of size that the new graphic should be (in relation to the original graphic)
- **Rotate** - select a rotation for the graphic
- **Size** - you can specify a horizontal and vertical length (in inches) for the new graphics
- **Color Depth** - use the drop-down menu to specify what color depth the new graphic will have. Options include
 - **Monochrome**
 - **Graphic**
 - **Photo**
 - **Photo++**
- **Target Printer Type** - Specify the target printer type.
- **Use Default Resolution** - check this box to retain the graphic's original resolution. For example, if the graphic was originally 300dpi, it will remain 300dpi when you convert it.
- Click on the **View Original Button** to see the original graphic. This will open the graphic in a new window.
- Click on the **Preview Button** to preview the converted graphic. This will open the converted graphic in a new window.
- Click the **Convert Button** to convert the graphic using the parameters you have specified. This opens the **Set Target Graphic Properties**.



The **Set Target Graphic Properties Window** allows you to create a new graphic (for the converted graphic) rather than writing over the original. To create a new graphic, specify the following

- **Name** - type a new name
- **Number** - enter a number for the graphic
- **Description** - enter a description for the logo
- Click the **OK Button** to save the graphic

If you would rather overwrite the existing graphic, simply leave everything unchanged and click the **OK Button**.

Working with RFID Fields

RFID Overview

- [Adding RFID Fields Native System i](#)
- [Editing RFID Fields Native System i](#)
- [Deleting RFID Fields Native System i](#)
- [Adding RFID Fields JMagic](#)
- [Editing RFID Fields JMagic](#)
- [Deleting RFID Fields JMagic](#)

Native iSeries



Adding RFID Fields

```

Work with Rfid Field
Device . . . : ZTR110XI8
Format . . . : WMRFIDLBL   Length:  6.00"   Width:  4.00"   Rotation:  0
Master . . . : RFID
Field # . . . : 001

Type choices, press Enter.

Tag type . . . . . 1      F4 for list
Tag size (bits) . . . . . 96
Antenna offset . . . . . 0
Number of retries . . . . . 0      0 ~ 10
Verify write . . . . . N      Y=Yes, N=No

More...

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel

```

- **Tag type:** Specify the type of RFID tag you are encoding. MarkMagic supports numerous tag types. NOTE: Existing 5.1 RFID bar code fields will be converted to the new RFID Field type with a Tag Type of NONE.
- **Tag Size:** The size (in bits) of the tag you are encoding.
- **Antenna Offset:** Amount you need the antenna offset on the tag
- **Number of Retries:** Number of write retries, 0-10
- **Verify Write:** Y/N


```

Work with Rfid Field
Device . . . : ZTR110XI8
Format . . . : WMRFIDLBL   Length:  6.00"   Width:  4.00"   Rotation:  0
Master . . . : RFID
Field # . . . : 001

Type choices, press Enter.

Field name . . . . . *LINK      Name, *HEADING, *LINK,
                               *SEQ, F4 for list of fields
Description . . . . . _____
Length . . . . . 24
Encoding scheme . . . . . 01      F4 for list
Convert data . . . . . Y          Y=Yes, N=No
Protect . . . . . 0              F4 for list

More...

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
  
```

- **Field Name:** This will need to be *LINK if you are converting your data to hex (Convert Data: Y)
- **Description:** Your description of the RFID Field
- **Length:** This will be filled in automatically, depending on the encoding scheme chosen.
- **Encoding Scheme:** Supported Encoding Schemes are:
 - SGTIN
 - SSCC
 - SGLN
 - GRAI
 - GIAI
 - GID
- **Convert Data:** Choose Y to have MarkMagic convert your data to hex, and **N** to enter the hex string. **NOTE:** Existing 5.1 RFID bar code fields will be converted to the new RFID Field type with Convert: **N**.
- **Protect:** Indicate here whether you want the RFID tag to have no lock, a password lock, a permanent lock or permanent unlock.

Once you fill in your parameters, you will be brought to the Work with *LINK Source Fields screen (If you have chosen “Y” for “Convert Data”. Here is where you will add your data to the RFID field to be encoded. Press **F6** to add a Source Field. You will only be able to add your data according to the appropriate specifications. For example, if you chose SGTIN for the Encoding Scheme, MarkMagic will show you the appropriate fields that you can add, along with the lengths of each field. **NOTE:** You will need to add each field in order.

```

Work with *LINK Source Fields

Device . . . : ZTR110XI8
Format . . . : WMRFIDLBL      Length: 6.00"      Width: 4.00"      Rotation: 0
Master . . . : RFID
Link field . : Rfid 001      Description . . :

Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt Sequence      Type Fld Name      Description      Start Len
- Filter Value     MData 015 FILTER      RFID Filter      1 1
- Company Prefix   MData 017 COMPANYPFX    RFID Company Prefix 1 7
- Item Reference   MData 018 ITMREF        RFID Item Refernce 1 6
- Serial Number    MData 019 SERIALNUM      RFID Serial Num    1 12

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel

Bottom

```



Editing RFID Fields

```

Work with Rfid Field
Device . . . : ZTR110XI8
Format . . . : WMRFIDLBL   Length:  6.00"   Width:  4.00"   Rotation:  0
Master . . . : RFID
Field # . . . : 001

Type choices, press Enter.

Tag type . . . . . 1      F4 for list
Tag size (bits) . . . . . 96
Antenna offset . . . . . 0
Number of retries . . . . . 0      0 ~ 10
Verify write . . . . . N      Y=Yes, N=No

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel

More...

```

- **Tag type:** Specify the type of RFID tag you are encoding. MarkMagic supports numerous tag types. NOTE: Existing 5.1 RFID bar code fields will be converted to the new RFID Field type with a Tag Type of NONE.
- **Tag Size:** The size (in bits) of the tag you are encoding.
- **Antenna Offset:** Amount you need the antenna offset on the tag
- **Number of Retries:** Number of write retries, 0-10
- **Verify Write:** Y/N

```

Work with Rfid Field
Device . . . : ZTR110XI8
Format . . . : WMRFIDLBL   Length:  6.00"   Width:  4.00"   Rotation:  0
Master . . . : RFID
Field # . . . : 001

Type choices, press Enter.

Field name . . . : *LINK      Name, *HEADING, *LINK,
                        *SEQ, F4 for list of fields
Description . . . : _____
Length . . . : 24
Encoding scheme . . . : 01      F4 for list
Convert data . . . : Y          Y=Yes, N=No
Protect . . . : 0              F4 for list

More...

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel

```

- **Field Name:** This will need to be *LINK if you are converting your data to hex (Convert Data: Y)
- **Description:** Your description of the RFID Field
- **Length:** This will be filled in automatically, depending on the encoding scheme chosen.
- **Encoding Scheme:** Supported Encoding Schemes are:
 - SGTIN
 - SSCC
 - SGLN
 - GRAI
 - GIAI
 - GID
- **Convert Data:** Choose Y to have MarkMagic convert your data to hex, and **N** to enter the hex string. **NOTE:** Existing 5.1 RFID bar code fields will be converted to the new RFID Field type with Convert: **N**.
- **Protect:** Indicate here whether you want the RFID tag to have no lock, a password lock, a permanent lock or permanent unlock.

Once you fill in your parameters, you will be brought to the Work with *LINK Source Fields screen (If you have chosen “Y” for “Convert Data”. Here is where you will add your data to the RFID field to be encoded. Press **F6** to add a Source Field. You will only be able to add your data according to the appropriate specifications. For example, if you chose SGTIN for the Encoding Scheme, MarkMagic will show you the appropriate fields that you can add, along with the lengths of each field. **NOTE:** You will need to add each field in order.

```

Work with *LINK Source Fields

Device . . . : ZTR110XI8
Format . . . : WMRFIDLBL      Length:  6.00"      Width:  4.00"      Rotation:  0
Master . . . : RFID
Link field . : Rfid  001      Description . . :

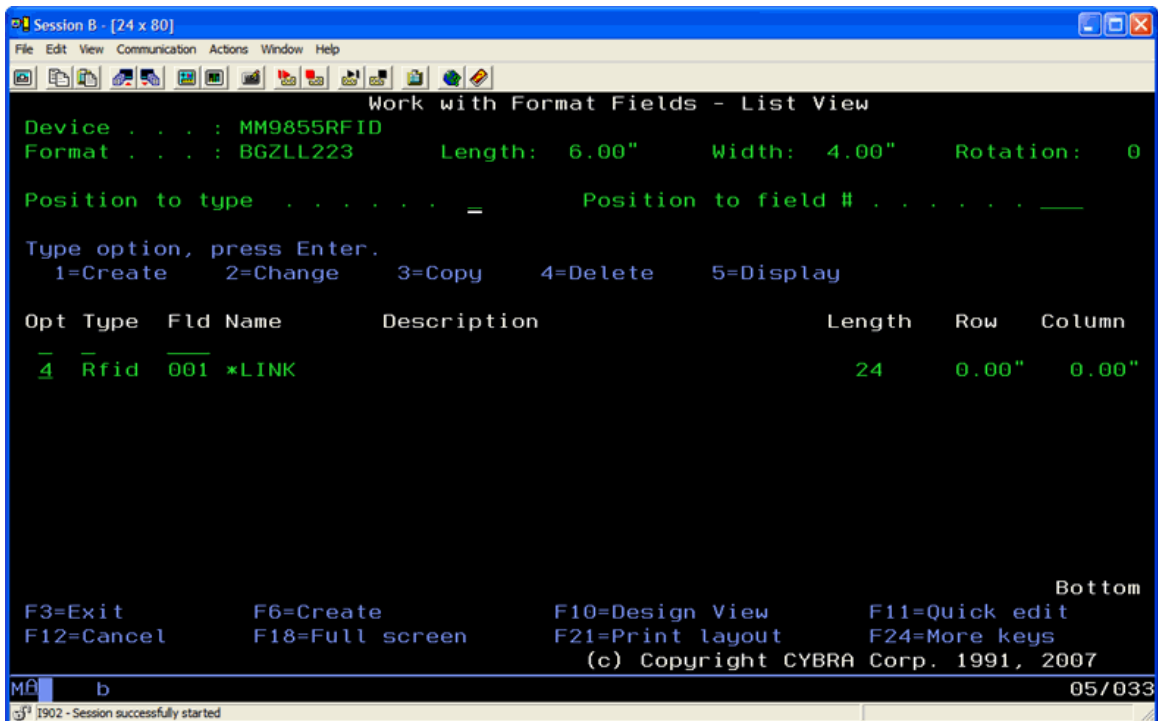
Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt Sequence      Type Fld Name      Description      Start Len
- Filter Value     MData 015 FILTER      RFID Filter      1 1
- Company Prefix   MData 017 COMPANYPFX      RFID Company Prefix 1 7
- Item Reference   MData 018 ITHREF      RFID Item Refernce 1 6
- Serial Number    MData 019 SERIALNUM      RFID Serial Num    1 12

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel      Bottom
  
```



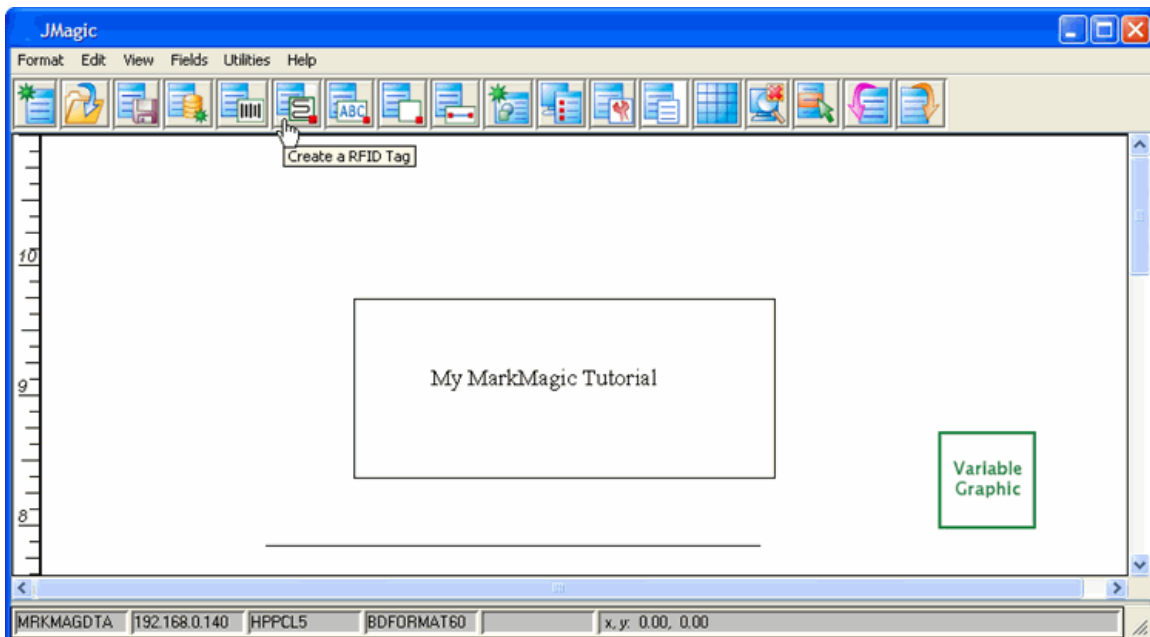
Deleting RFID Fields

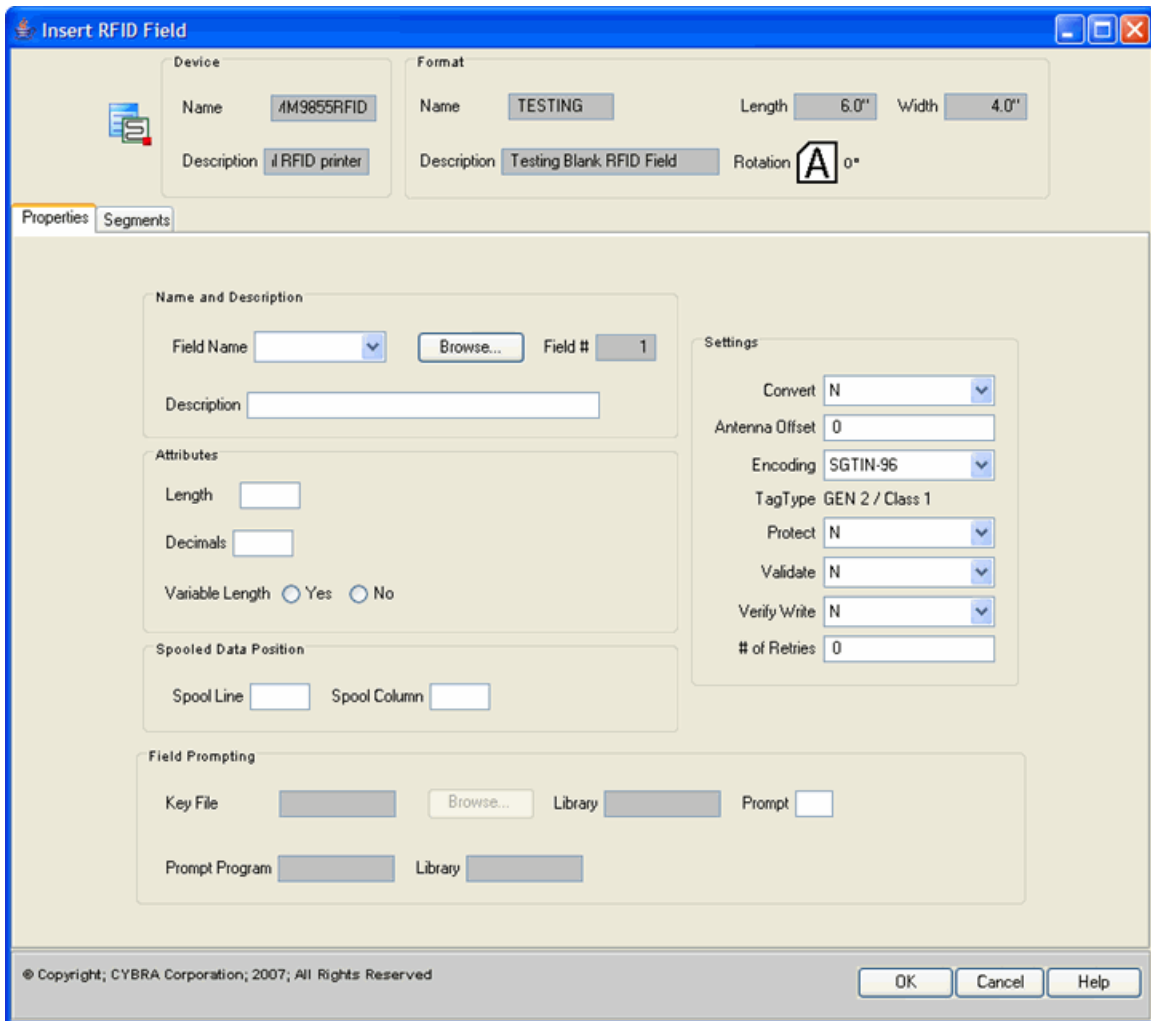


JMagic



Adding RFID Fields





Insert RFID Field

Device
 Name: /M9855RFID
 Description: i RFID printer

Format
 Name: TESTING
 Length: 6.0"
 Width: 4.0"
 Description: Testing Blank RFID Field
 Rotation: A 0°

Properties | **Segments**

Name and Description
 Field Name: [dropdown] [Browse...] Field #: 1
 Description: [text box]

Attributes
 Length: [text box]
 Decimals: [text box]
 Variable Length: ☐ Yes ☐ No

Spooled Data Position
 Spool Line: [text box] Spool Column: [text box]

Field Prompting
 Key File: [text box] [Browse...] Library: [text box] Prompt: [text box]
 Prompt Program: [text box] Library: [text box]

Settings
 Convert: N
 Antenna Offset: 0
 Encoding: SGTIN-96
 TagType: GEN 2 / Class 1
 Protect: N
 Validate: N
 Verify Write: N
 # of Retries: 0

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OK Cancel Help



Editing RFID Fields

Edit RFID Field

Device
Name:
Description:

Format
Name:
Length: Width:
Description: Rotation: 0°

Properties **Segments**

Name and Description
Field Name: Field #:
Description:

Attributes
Length:
Decimals:
Variable Length: ☐ Yes ☐ No

Spooled Data Position
Spool Line: Spool Column:

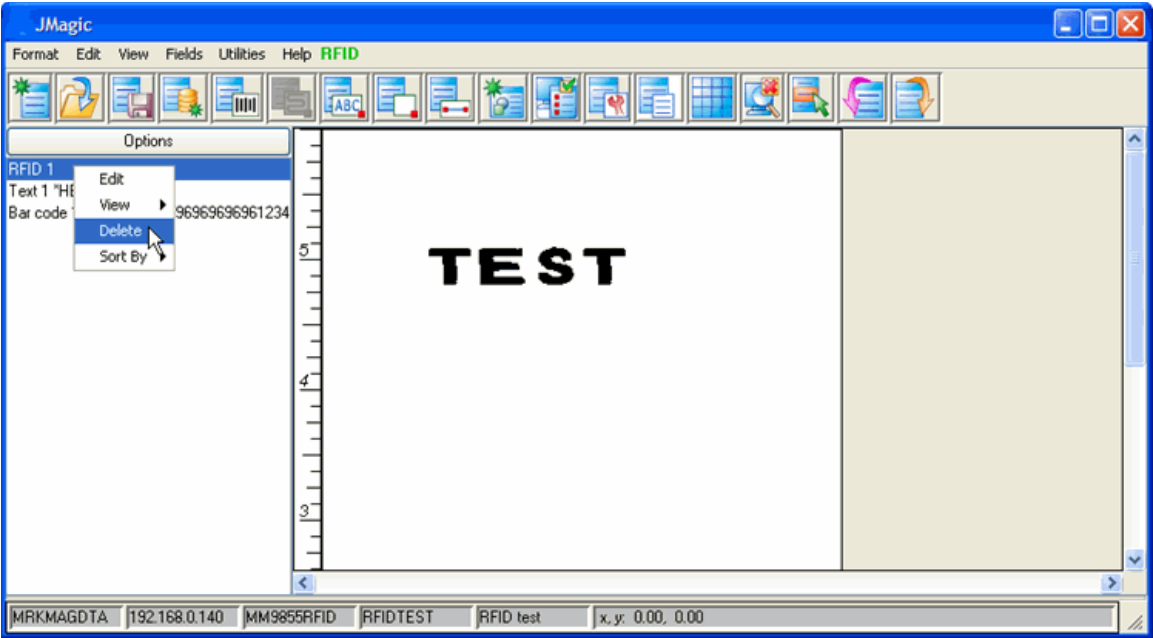
Settings
Convert:
Antenna Offset:
Encoding:
TagType:
Protect:
Validate:
Verify Write:
of Retries:

Field Prompting
Key File: Library: Prompt:
Prompt Program: Library:

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Deleting RFID Fields



Printing

Printing Overview

MarkMagic Jobs were designed primarily to make the task of integrating bar code printing into current applications as easy as possible by minimizing the amount of program coding necessary. MarkMagic Jobs also:

- give users the necessary tools to develop a full labeling system—including data entry, application database browse and record selection, and printing—without programming.
- provide the ability to audit a history log of Jobs.
- simplify the user interface to MarkMagic for the average operator who needs to enter only two or three parameters (select an order and type a quantity to print, for example) to complete a job.
- make user applications “version proof,” meaning that as new versions of MarkMagic are released, user applications do not require any modifications.
- [Label Files](#)
- [Format Layouts](#)
- [Printing MarkMagic Forms](#)
- [Forms/Printing with Overlays](#)
- [Print Monitor \(Print Preview\)](#)
- [Adobe PDF Option](#)
- [Creating Jobs](#)
- [Work with Jobs](#)
- [Running Jobs Native System i](#)
- [Running Jobs JMagic](#)
- [What is PDF](#)
- [SNDMMFAX\(Send MarkMagic Fax\) Command](#)
- [What is Form Weaver?](#)
- [Print Preview Window](#)
- [Print format Report \(PRTFMTRPT\)](#)
- [Start Analyze Print](#)

- [End Analyze Print](#)
- [Work with Configuration Status](#)
- [Work with Spool Files](#)

Label Files

Label Files

- [Creating a Label File](#)
- [Creating a Label File Screens](#)
- [Editing a Label File](#)
- [Copy a Label File Native System i](#)
- [Copy a Label File JMagic](#)
- [Printing a Label File Native System i](#)
- [Printing a Label File JMagic](#)

Creating a Label File

After you have printed a format layout, “proofed” your design, and, if necessary, modified any field definitions, you are ready to begin printing labels or tags with variable data. The final step in the format definition process is the creation of a label file description with database fields that correspond to the variable fields defined in the format. If your format does not contain any variable fields this step is not necessary. There are three ways to create a label file description and merge data with a format:

Physical Label File

Use the MarkMagic Create a Label File command to create an actual OS/400 physical label file for the format and copy, enter, or write (from another program) records to the physical file. This is the most common method because a user can easily merge (or enter) data without any programming knowledge. The data can be retained in the label file for editing, reprinting, or further processing.

Data Structure

Use the MarkMagic Create a Label File command to create an actual OS/400 physical label file for the format (just as in the first method) and refer to this file as an external data structure. The data structure is passed to the MarkMagic print step in the Data parameter. This method requires programming knowledge, but may result in improved throughput.

Data Specifications

Use the MarkMagic Generate Label File Description command to generate RPG or COBOL data specifications for the format and include the specifications generated by MarkMagic into application source code that does not use external data specifications. This method requires programming knowledge. This method is used primarily for System/36 programs.

If your format was designed with fields mapped to a spooled file, the Create a Label File step is not needed. Proceed to [Printing MarkMagic Forms](#) later in this chapter

Editing a Label File

If you have created a label file, but did not copy variable data to the label file when it was created, or your application programs are not yet ready to write records to the label file, MarkMagic provides a menu option, Edit a Label File, and a command, EDTLBLF, that allows you to enter data into an empty label file. This option can also be used to edit existing records in a label file and is a useful tool for modifying batch default values and debugging your printing efforts. Edit a Label File is most commonly run as the third step of a MarkMagic Job.



To edit a label file

1. Select **Utilities** from the MarkMagic Main Menu.
2. Select **Data...** from the Utilities menu.
3. Select **Edit file** from the Data menu
4. Choose a format and then press ENTER.
5. Select a Label File as follows:
 - **Label file** - Type the name of the label file created with the MarkMagic Create a Label File or the Generate a Label File Description command. To print properly, the label file should be created by MarkMagic/400.
 - **Library** - Type the name of the OS/400 user library where the label file can be found.
 - **Label file member** — If the label file consists of more than one member, type the member name. Otherwise, leave *FIRST as the value. After you have specified Database file, Library, and Member, press ENTER. The Edit a Label File command prompt is displayed.
 - **Clear** — If you are editing a file with existing records (for example, a label file with records copied from a from-file) specify *NO. If you will be entering records and you wish the file to be empty, specify *YES. Press ENTER to process the command. **If your format was designed with fields mapped to a spooled file, the Edit a Label File command is not applicable. Proceed to Printing MarkMagic Forms later in this chapter.** If you specified Clear (*YES), the Edit Data screen is displayed. If you specified Clear(*NO) and there are records in the label file, the Work with Data screen is displayed. Press F6 to add additional records.

To change existing records

1. Position to the field you want to modify. Type **2** and then press ENTER.
2. The Work with Data screen is displayed. Modify the field values you wish to change.
3. Press ENTER to accept your modifications and then press ENTER to confirm. Values for the variable fields you defined as well as batch control values can be modified. If a field in the Work with Data screen is input inhibited, and you are unable to modify values, do the following: Exit the Edit a Label File application, open the format, and edit the field, changing the prompt parameter to Y or y. Recreate the label file and then retry the Edit a Label File application.

To copy existing records

1. Position to the field you want to copy. Type **3** and then press ENTER.
2. The record is duplicated and numbered with the next available record number.

To delete existing records

1. Position to the field you want to delete. Type **4** and then press ENTER.
2. Press ENTER to confirm the deletion.

To display existing records

1. Position to the field you want to display. Type **5** and then press ENTER.
2. The Display Data screen is displayed.
3. Press ENTER to continue.

Native iSeries

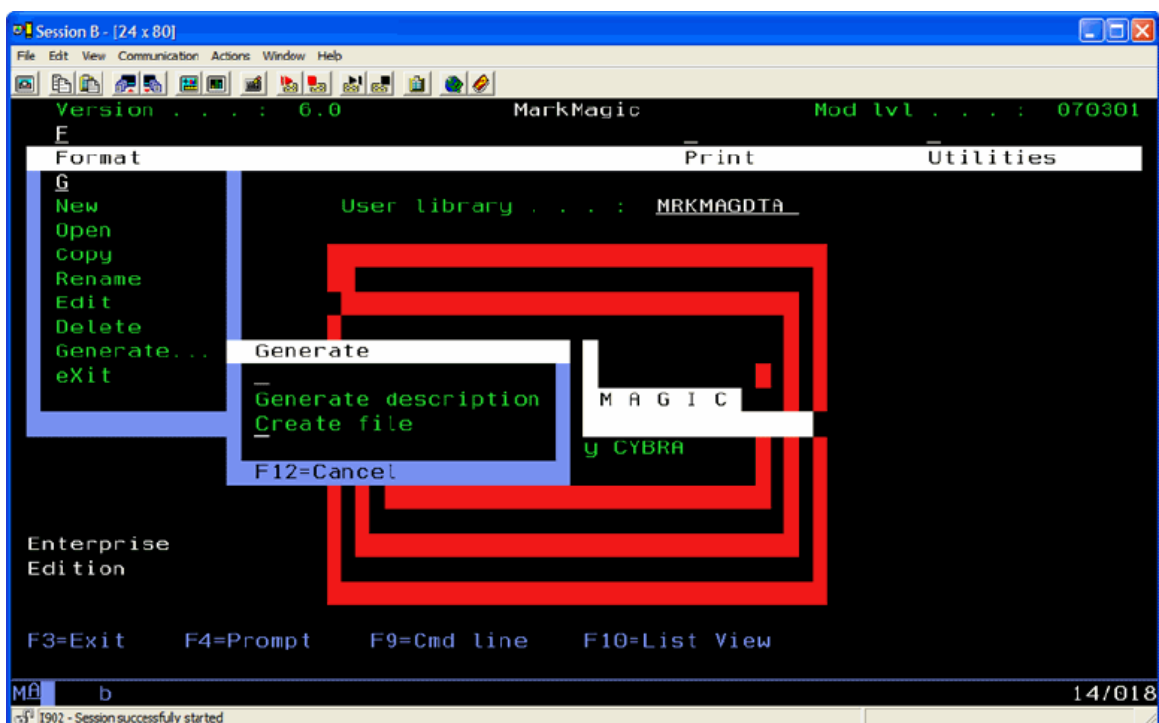


Creating a Label File Screens

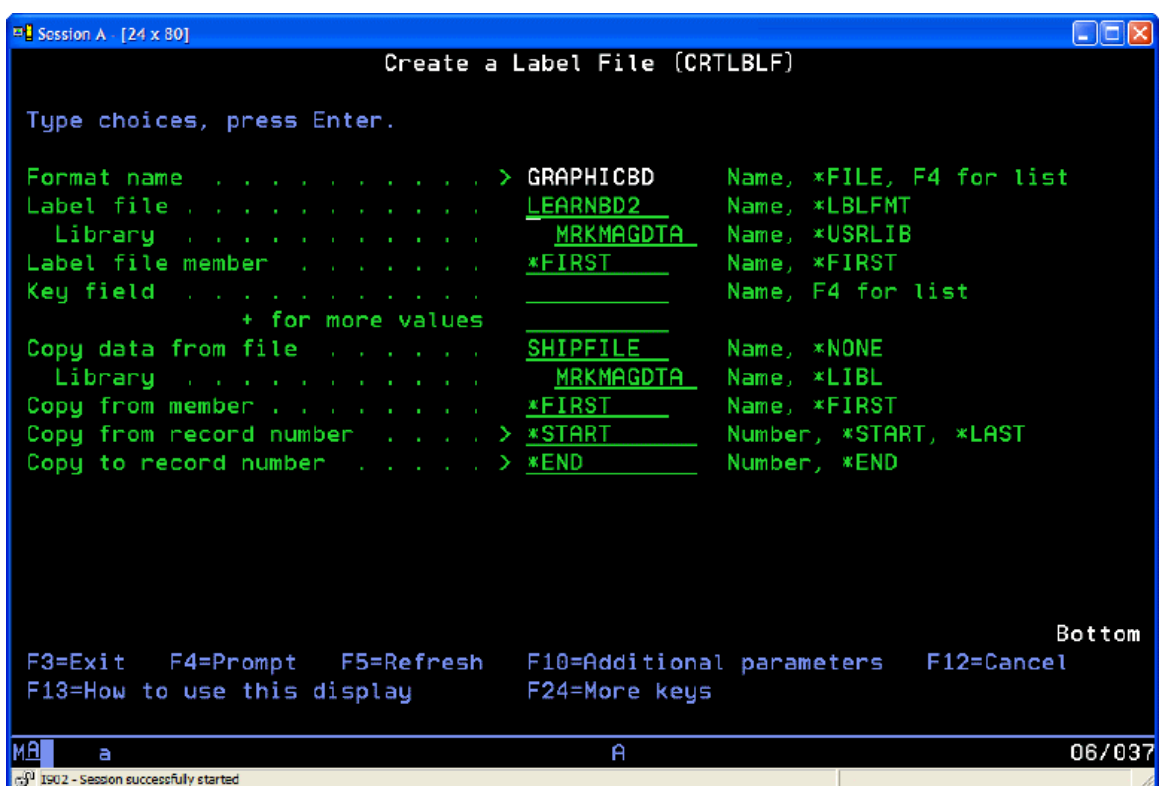


To create a label file

1. Select **F**ormat from the MarkMagic Main Menu.
2. Select **G**enerate from the Format menu.
3. Select **C**reate from the Generate menu.
4. Select the format for which you wish to create a label file, and press ENTER. The Create a Label File command prompt is displayed.



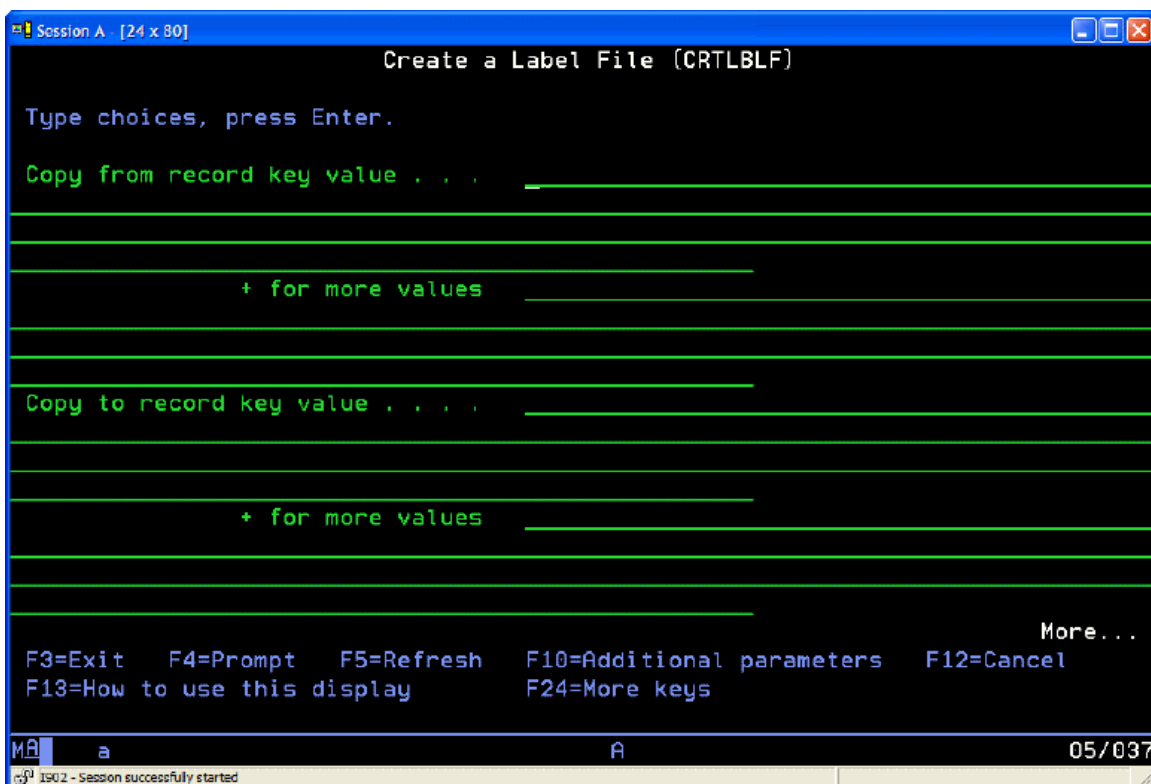
Create a Label File (CRTLBLF) Command Prompt



- **Label file** — Type an OS/400 valid file name up to 10 characters long. The file name must start with the letters A to Z, or the characters #, \$, or @. The

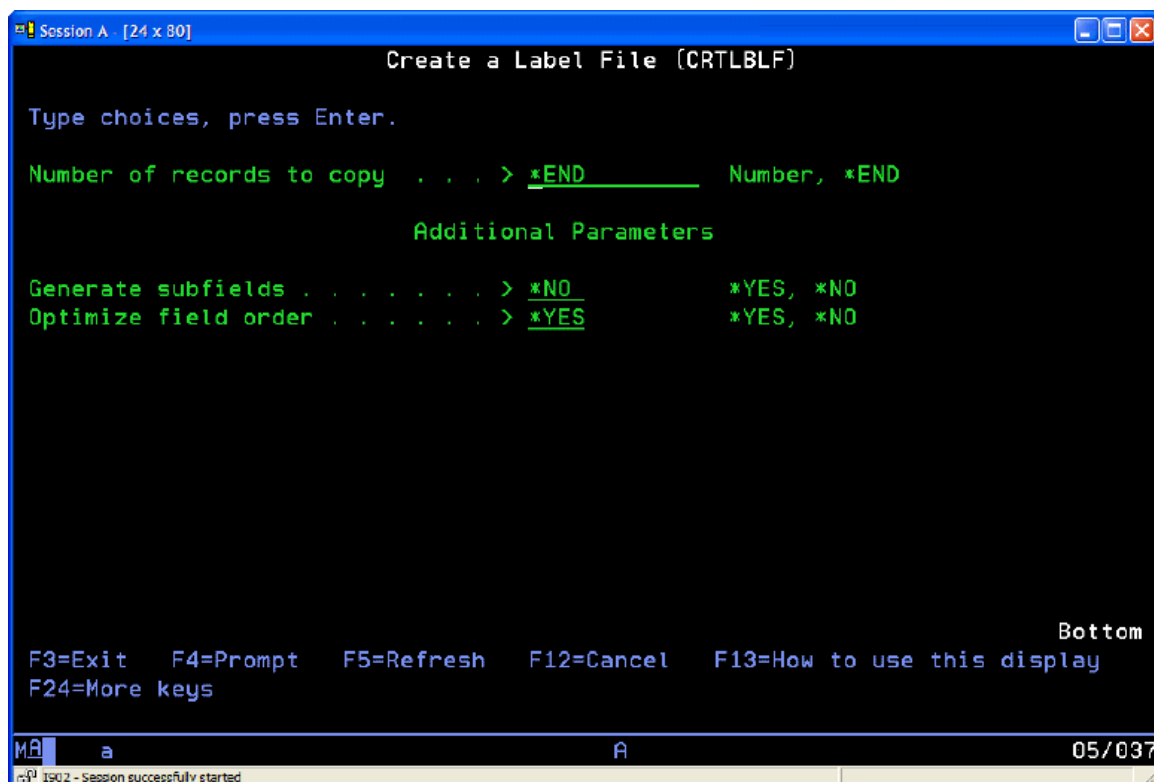
remaining 9 positions can be the letters A to Z, numeric characters, or the characters #, \$, or @. You will want to name your label file something descriptive so that it will be easy to associate this label file with its format. You may also want to think about naming conventions for your label files so that all label files will be named according to the same method.

- **Library** - Type the name of an OS/400 user library. Do not use the MarkMagic library, MRKMAG60. If you do not have access to OS/400 libraries, or if you are not sure, contact your OS/400 System Administrator.
- **Label file member** — If you use file members in your data processing application programs, type a unique member name. The use of members requires application system knowledge. If you are not sure, contact your OS/400 System Administrator, or leave *FIRST as the value.
- **Key field** — If you want to select a format field to be used to sort the records within the label file, and/or to select records at print time, press F4 for a list of format fields. If you require a composite key (a key for the label file that is composed of more than one field), you can type up to five key fields. To specify more than one key field, type a plus sign (+) in the entry field opposite the phrase “+ for more” and press Enter. To print with records selected by a key, you must specify in the Create a Label file command which field in the label file is to be keyed. Do not confuse the label file key field with the Prompt parameter value, K, for Key, in field definition. This refers to a key field in the file from which records are retrieved in the Edit Label File application. It is not a key field in the label file unless you specify that in the CRTLBLF key field parameter.
- **Copy data from file** — This optional parameter will automatically copy data into the label file if you defined your format fields by selecting OS/400 database fields from a single OS/400 physical or logical file. Type the name of the database file that contains the fields that correspond to the field definitions in your format. To create an empty label file, type *NONE.
- **Library** - If you entered a filename for the Copy from file parameter, type the name of the library in which the file is located. The default is *LIBL.
- **Copy from member** - If the file from which you are copying consists of more than one member, you may type an existing member. If you are not sure, contact your OS/400 System Administrator, or leave *FIRST as the value.
- **Copy from record number** — Specifies the record number from which to start the copy. A record number is not valid if a value is specified for the Copy from record key parameter, or for the Copy to record key parameter, and it is not allowed if the from-file is a keyed logical file. The default is *START.
- **Copy to record number** — Specifies the record number of the last record in the from-file that is copied. A record number is not valid if a value is specified for the Copy from record key value prompt or the Copy to record key value prompt, if a value other than *END is specified for the Number of records to copy prompt, or if the from file is a keyed logical file. The default is *END.



- Copy from record key value** — Specifies the key value of the first record in the from-file to be copied. This parameter is valid only for a from-file that is a keyed database file. Type a character string that specifies the actual value for the key of the database file that contains the fields from which you wish to copy. For example, if your from-file is keyed by CUSTOMER, the actual value might be “Joe’s Shirts.” MarkMagic supports partial keys — you can select all customers beginning with the letters “Joe” by typing just “Joe” as the actual from key value. If the key is a composite key (a key for the from-file composed of more than one field), you can type up to five from key values. To specify more than one key field, type a plus sign (+) in the entry field opposite the phrase “+ for more” and press ENTER. If you are not sure which fields form the key of the from database file, contact your OS/400 System Administrator. If you are not using key values to copy, leave the parameter blank. To see which fields in the from-file are key fields, return to the MarkMagic main menu, open the format, and press F6 to create a data or text field. Press F4 to browse the from-file and select an OS/400 database field. When the list of fields is retrieved, Key fields are noted with a Key sequence number in the first column next to the field name. This sequence is important for composite fields. You need to specify the key field values in the right order. Press F12(Cancel) to ensure the field is not created.
- Copy to record key value** — Specifies the key value of the last record in the from-file that is copied. This parameter is valid only for a from file that is a keyed database file. Type a character string that specifies the actual value for the key of the database file that contains the fields from which you wish to copy. For example, if your from-file is keyed by CUSTOMER, and the ‘from record’ key value is “Joe’s Shirts,” the ‘to record’ key value could be “Joe’s Shirts” (to copy only one customer’s records) or “Mary’s Tee Shirts,” (to copy all customer records beginning with “Joe’s Shirts” and ending with “Mary’s Tee Shirts.”)

MarkMagic supports partial keys — if the to key value is “Mar” your selection will end with all customers beginning with the letters “Mar.” If the key is a composite key (a key for the from-file composed of more than one key field), you can type up to five to key values. To specify more than one key field, type a plus sign (+) in the entry field opposite the phrase “+ for more” and press ENTER. If you are not using key values to copy, leave the parameter blank.



- **Number of records to copy** - If you are not using key values to copy, type the number of records to copy or *END. If you are using key values, the only permitted entry is *END.
- **Generate subfields** — If you have any fields that are more than 256 characters long, this parameter controls whether these fields are left as is, or whether they are split into subfields of 256 characters each. If the label file will be used in a RPG/400 or RPG II program, this parameter should be *YES, so that the RPG program compiles correctly. (RPG/400 and RPG II do not accept fields longer than 256 characters). If the label file will be used in a program in a language other than RPG/400 or RPG II, set this parameter’s value to *NO. This will work with ILE RPG, as well as other languages.
- **Optimize field order** — When you create a label file you can also decide whether the Edit Data display panel(s) associated with the label file present the fields in optimized ordering (key fields first, fields grouped by file name, protected fields last, etc.), or in order of their sequence, by field type and field number, in the format. Type *YES to show the label file’s variable fields in optimized ordering. To show the label file’s variable fields in the sequence that they appear in the format, type *NO.

Press ENTER to process the command. If you specified a value for the Copy from file parameter, the label file is ready for printing after the command completes. If you specified *NONE for the Copy from file parameter, the label file is not yet ready for printing. You will need to either:

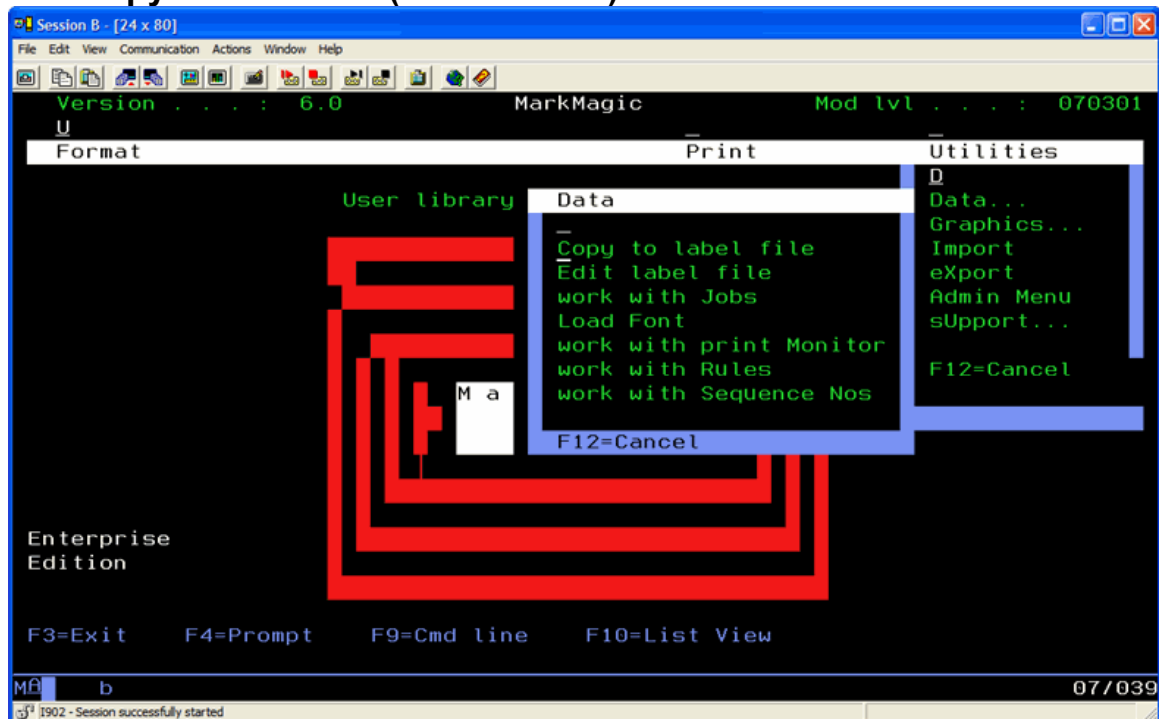
- copy records to the label file using the MarkMagic Copy To Label File (CPYTOLBLF) command, or
 - write records to the label file from an application program, or
 - use the MarkMagic Edit a Label File command to add records.
- You must regenerate a label file description and recreate a label file each time you: resequence fields; add variable data, bar code or text fields; change variable field names, lengths, or attributes; or modify any reference fields. In addition, printing will be unpredictable if a variable field name is defined more than once in a format. If you need to use variable data in more than one location on a label, define the field once as a data field and link each bar code or text field needed to the data field. If your format does not contain any variable fields you do not have to create a label file in order to print. You can specify *NONE or *LAYOUT in the label file parameter of the Print a Label File (PRTLBLF) Command.

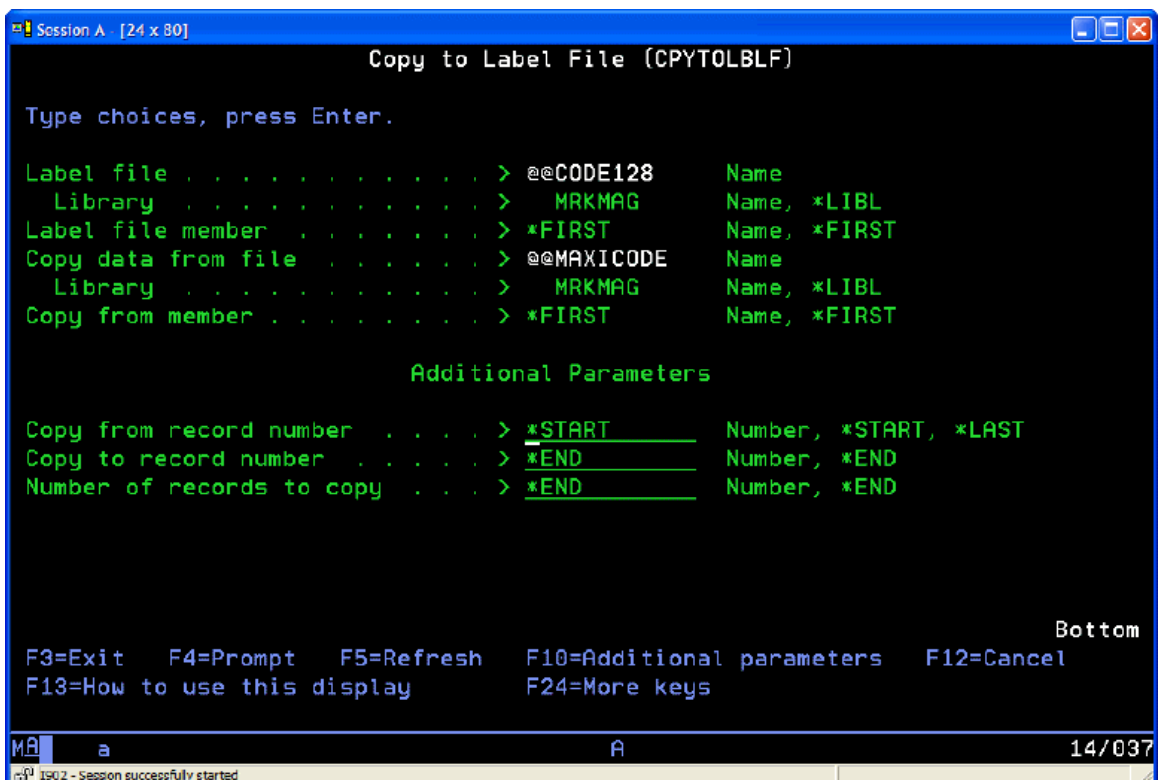
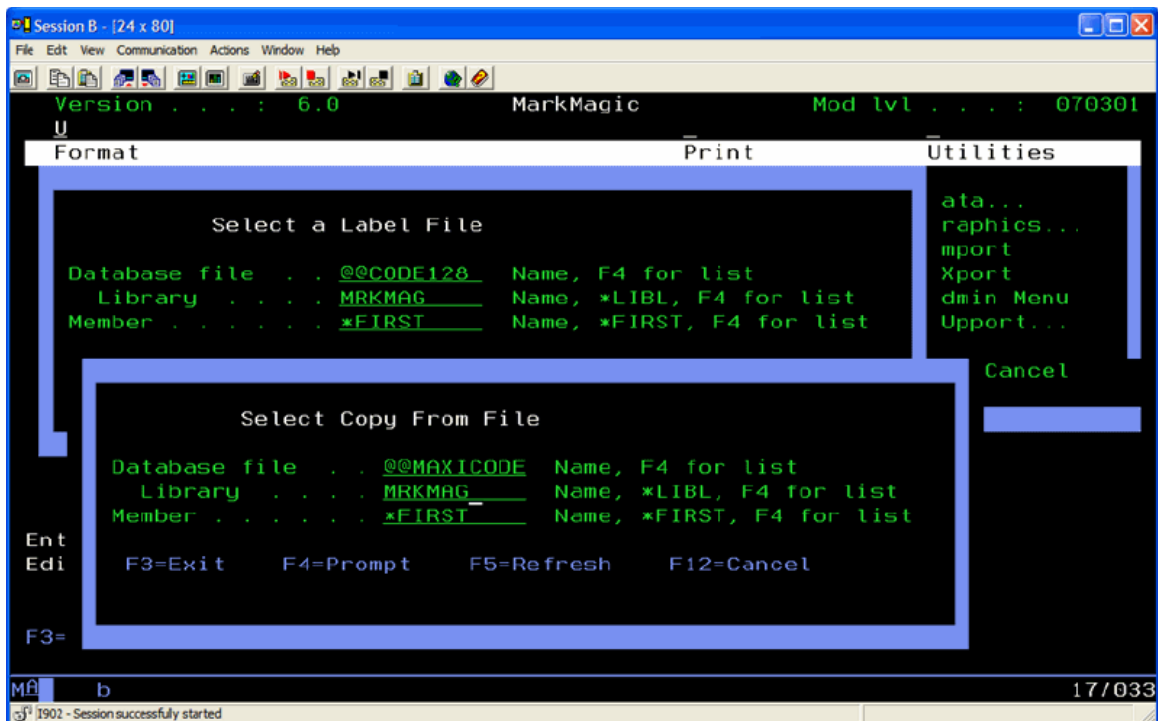


Copying a Label File



The Copy to Label File (CPYTOLBLF) command





The Copy to Label File (CPYTOLBLF) command is displayed. Press F10 for additional parameters.

- **Copy from record number** — Specifies the record number from which to start the copy. A record number is not valid if a value is specified on the Copy from

record key parameter, or on the Copy to record key parameter, and it is not allowed if the from-file is a keyed logical file. To start at the beginning of the file, specify *START.

- **Copy to record number** — Specifies the record number of the last record in the from-file that is copied. A record number is not valid if a value is specified for the Copy from record key parameter or the Copy to record key parameter, if a value other than *END is specified for the Number of records to copy prompt, or if the from file is a keyed logical file. To copy records until the end of the file, specify *END.
- **Copy from record key value** — Specifies the key value of the first record from which the from-file is copied. This parameter is valid only for a from-file that is a keyed database file. Type a character string that specifies the actual value for the key of the database file that contains the fields from which you wish to copy. For example, if your from-file is keyed by CUSTOMER, the actual value might be “Joe’s Shirts.” If the key is a composite key (a key for the from-file composed of more than one field), you can enter up to five from key values. To specify more than one key field value, type a plus sign (+) in the entry field opposite the phrase “+ for more” and press ENTER. If you are not sure which fields form the key of the from database file, contact your OS/400 System Administrator. If you are not using key values to copy, leave the parameter blank. To see which fields in the from-file are key fields, return to the MarkMagic main menu, open a format, and press F6 to create a data or text field. Press F4 to browse the from-file and select an OS/400 database field. When the list of fields is retrieved, Key fields are noted with a Key sequence number in the first column next to the field name. This sequence is important for composite fields. You need to specify the key field values in the right order. Press F12(Cancel) to ensure the field is not created.

Printing a Label File



Once you have created a label file, copied, entered, or written data, and edited records, if necessary, you are ready to print. MarkMagic provides a menu option, Print a Label File, and a command, PRTLBLF, that allow you to print a label with variable data. Print a Label File is most commonly run as the last step of a MarkMagic Job.

1. Select **Print** from the MarkMagic Main Menu or the MarkMagic Design a Format menu.
2. Select **Label file** from the Print menu.
3. The Print a Label File command prompt is displayed.

```

Session A - [24 x 80]
Print a Label File (PRTLBLEF)

Type choices, press Enter.

Label file . . . . . > *LAYOUT      Name, *NONE, *DTAQ...
Library . . . . . > *LIBL          Name, *LIBL
Label file member . . . . . > *FIRST Name, *FIRST
Format name . . . . . > GRAPHICBD  Name, *FILE, F4 for list
Printer device . . . . .           Name, *JOB, F4 for list
Form type . . . . . > *STD          Character value, *STD
Spooled printer output . . . . . > *YES    *YES, *NO
Spooled file name . . . . . > *FMT      Character value, *PRTF, *FMT
Quantity . . . . . > *DEFAULT        1-9999, *DEFAULT
Printer type . . . . . > HPPCL5      Name, F4 for printer list

Additional Parameters

Print from record number . . . . . > *START    Number, *START, *LAST
Print to record number . . . . . > *END        Number, *END
Number of records to print . . . . . > *END      Number, *END

More...

F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

MA a A 18/037
1902 - Session successfully started

```

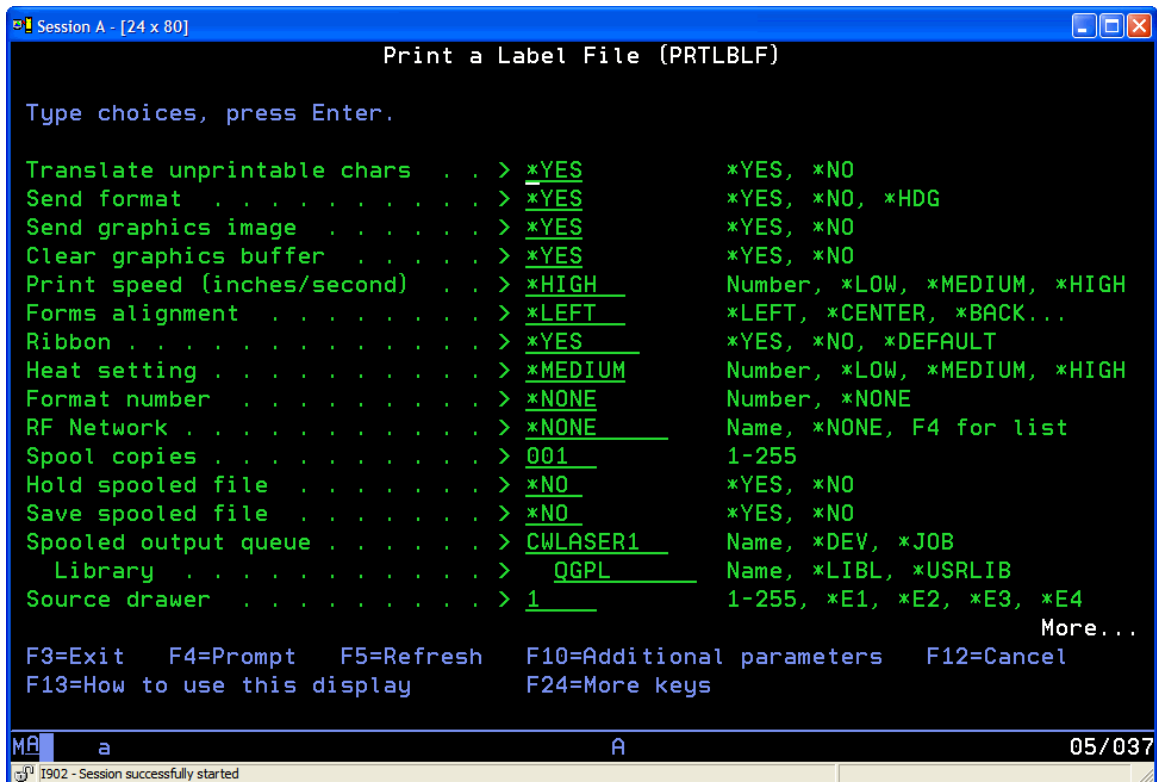
Print a Label File (PRTLBLEF) Command Prompt

- **Label file** — Type the name of the label file created with the MarkMagic Create a Label File or the Generate a Label File Description command. To print properly, the label file should be created by MarkMagic/400. You may also pass variable data via the Data parameter instead of the label file. If so, use a value of *NONE.
- **Library** - Type the name of the OS/400 library where the label file can be found.
- **Label file member** - If the label file consists of more than one member, type the member name. Otherwise, leave *FIRST as the value.
- **Format name** — Type the default format for the label file. You may press F4 to display a list of formats. If you have written label records that contain the format name in the LBPARM field, this parameter is ignored. You would use the LBPARM field when different formats are used within one batch. **If your format was designed with fields mapped to a spooled file, skip to the section, Printing MarkMagic Forms**
- **Printer device** — Type the OS/400 device name for your bar code printer. This parameter is ignored if any value other than *DEV is specified in the Spooled output queue parameter (see below). Press F4 for a list of local, remote and virtual OS/400 printers. A maximum of 142 devices can be displayed.
- **Form type** - Type the form type you wish to use for this label file. If you will not be printing labels requiring different types of forms, leave *STD as the value.
- **Spool printer output** — If the writer has been started for the OS/400 printer device, type *YES. If the writer has not been started, type *NO to print directly to the device, or *YES to spool the layout to the printer output queue. If more than one workstation will be initiating label printing for the print device, you should use *YES.

- **Spool file name** - If *YES was specified for Spool printer output, type either: a unique name to identify the job on the printer output queue by name; *FMT to identify the job by format; or *PRTF to identify the job by MarkMagic print file (MMLABELx).
- **Quantity** - The number of copies of each label record to print. Use *DEFAULT to print the default quantity defined in the format definition, the quantity defined by AutoQuantity, or the number of labels to print specified on a record by record basis in the label file.
- **Label printer type** - Type the MarkMagic printer type of the device to which you will be printing. You may press F4 (Prompt) to select from a list of installed label printer types. If you only have one device type installed, this parameter will not show.
- **Print from label record number** — Specifies the record number from which to start printing. A record number is not valid if a value is specified for the Print from record key parameter, or for the Print to record key parameter. To begin printing with the first record in the file, type *START. To print the last record in the file, type *LAST.
- **Print to label record number** — Specifies the record number of the last record that is printed. A record number is not valid if a value is specified for the Print from record key parameter, or for the Print to record key parameter, or a value other than *END is specified for the Number of records to print prompt. To end printing with the last record in the file, type *END.
- **Print from record key value** — Specifies the key value of the first record from which the label file is printed. This parameter is valid only for a label file that is keyed when created with the MarkMagic Create a Label File command. Type a character string that specifies the actual value for a key field as defined in the label file. For example, if your label file is keyed by CUSTOMER, the actual value might be "Joe's Shirts." MarkMagic supports partial keys — you can select all customers beginning with the letters "Joe" by typing just "Joe" as the from key value. If a composite key has been defined (a key for the label file composed of more than one field), you can enter up to five from key values. To specify more than one key field, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press Enter. If you did not use key values to create the label file, leave the parameter blank. To print with records selected by a key, you must specify in the Create a Label file command which field in the label file is to be keyed. Do not confuse the label file key field with the Prompt parameter value, K, for Key, in field definition. This refers to a key field in the file from which records are retrieved in the Edit Label File application. It is not a key field in the label file unless you specify so in the CRTLBLF key field parameter.
- **Print to record key value** — Specifies the key value of the last record in the label file that is printed. This parameter is valid only for a label file that is keyed when created with the MarkMagic Create a Label File. Type a character string that specifies the actual value for a key field as defined in the label file. For example, if your label file is keyed by CUSTOMER, and the from record key value is "Joe's Shirts," the to record key value could be "Joe's Shirts" (to print only one customer's records) or "Mary's Tee Shirts," (to print all customer records beginning with "Joe's Shirts" and ending with "Mary's Tee Shirts." MarkMagic supports partial keys — if the to key value is "Mar" your selection will end with all customers beginning with the letters "Mar." If a composite key has been defined (a key for the label file composed of more than one key field), you can enter up to five to key values. To specify more than one key field, type a plus sign (+) in the

entry field opposite the phrase “+ for more” and press ENTER. If you did not use key values to create the label file, leave the parameter blank. To see which fields in the label file are key fields, return to the MarkMagic main menu, open the format, and press F6 to create a data or text field. Press F4 to browse the label file and select an OS/400 database field. When the list of fields is retrieved, Key fields are noted with a Key sequence number in the first column next to the field name. This sequence is important for composite fields. You need to specify the key field values in the right order. Press F12(Cancel) to ensure the field is not created.

- **Number of records to print** - If you are not using key values to print, type the number of records to print, or *END. If you are using key values, the only permitted entry is *END.

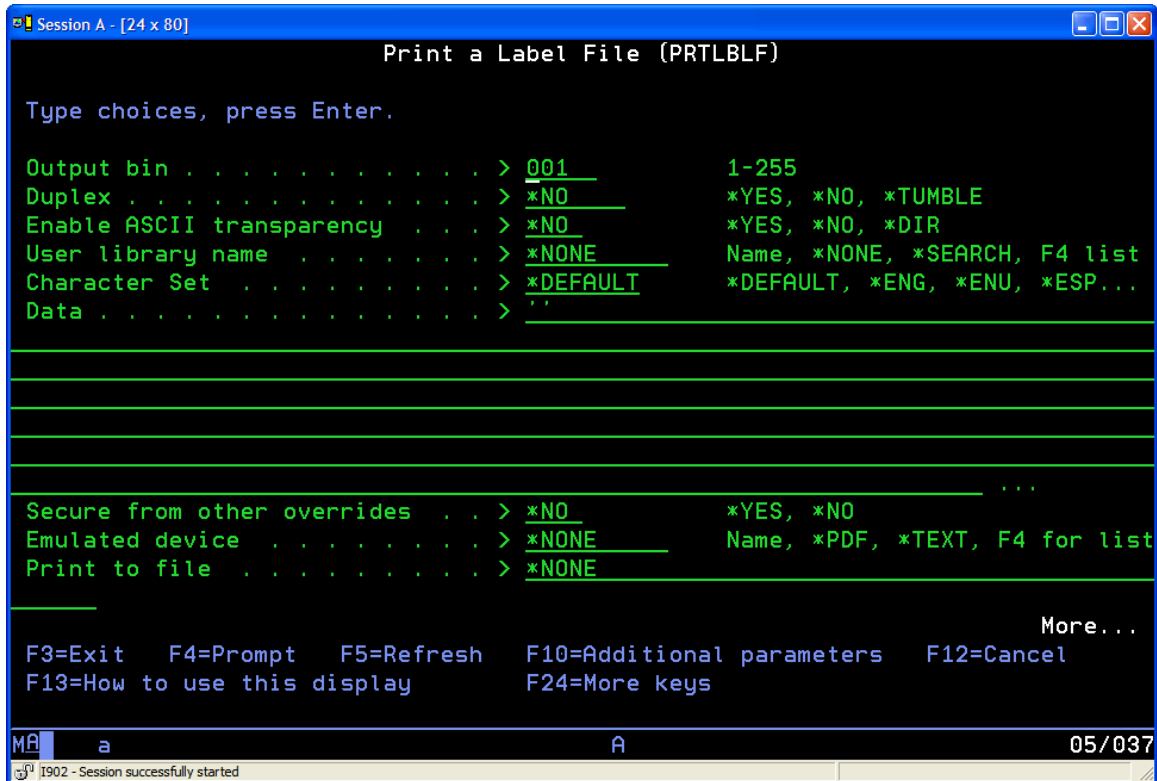


- **Translate unprintable chars** - Not all text fonts support lower case characters. If any text fields were defined with fonts that print only in upper case, type *YES to ensure lower case characters for those fonts will print as upper case.
- **Send format** — Specify *YES when you are printing the default format for the first time. When printing additional records from the label file without changing the format specify *NO. If you change the format, or if the printer is powered off and the format is cleared from the printer’s memory, specify *YES.
- **Send graphics image** — If the default format you are printing contains a graphic image that has not yet been printed, or has been cleared from the printer memory, type *YES. If you are printing additional records with a format that contains a graphic that has not been cleared from the printer memory, type *NO.
- **Clear graphics buffer** — If the default format you are printing contains a graphic image, and you need to clear the printer memory, type *YES. If you are printing

additional records with a format that contains a graphic, or if you are printing formats that contain no graphics, type *NO.

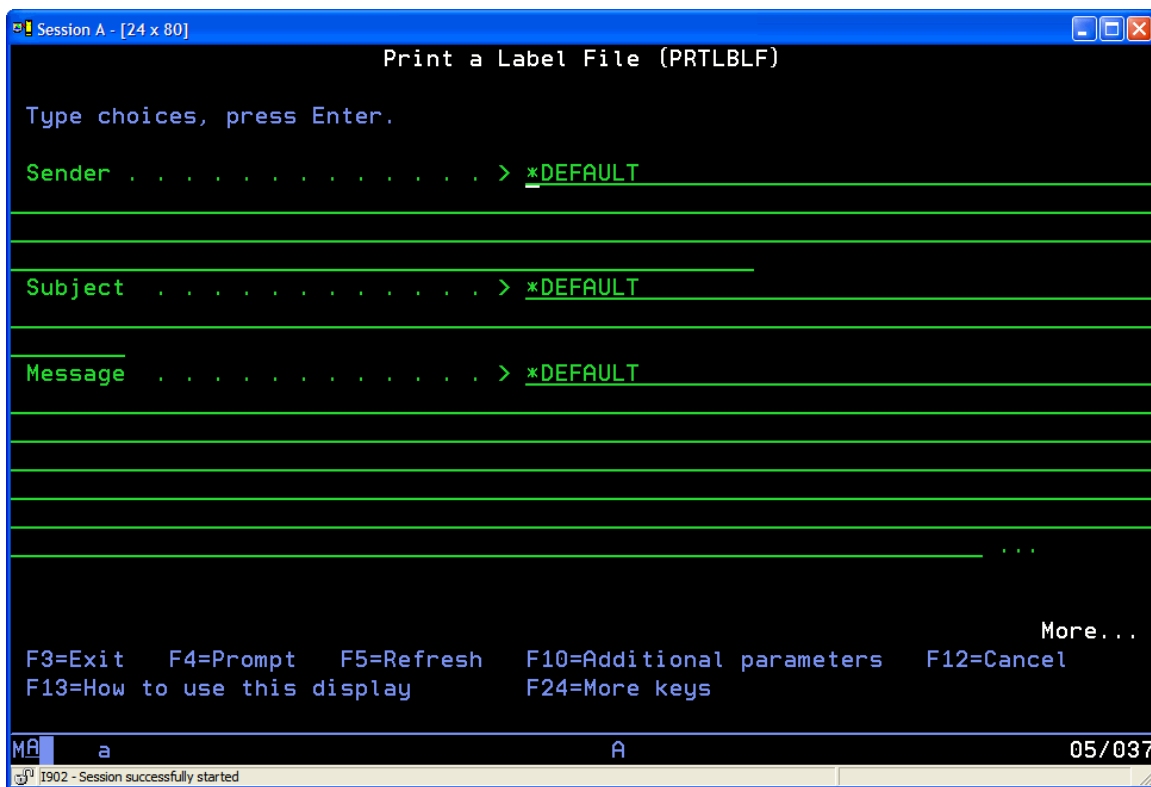
- **Print speed (inches/second)** — This parameter applies only to specific printer types. The default is *HIGH. Certain printer types must print “ladder” oriented bar codes at medium or low speed to improve readability. If you are experiencing scanning difficulties with these types of bar codes, try lowering the speed value. You can use a specific numeric value for inches per second.
- **Forms Alignment** - This parameter applies only to specific printer types. If the supply is not as wide as the printhead or exit tray of the printer, this value determines how the supply is loaded — flush left, or centered.
- **Ribbon** - This parameter, which controls thermal transfer or thermal direct printing, applies only to specific printer types. Type *YES for thermal transfer, *NO for thermal direct.
- **Heat setting** - This parameter, which controls printhead energy, applies only to specific printer types. Type a specific numeric value as instructed by your printer reseller or label supplier.
- **Print sensitivity** - This parameter, which must match the sensitivity of the loaded supply, applies only to specific printer types. Type a specific value as instructed by your printer reseller or label supplier.
- **Format number** — This parameter, which controls how multiple formats are stored in a printer’s memory, applies only to specific printer types. If your printer supports prestoring formats, you can load multiple formats in the printer’s memory by invoking the Print Label File command with the following parameters: *FORMAT as the file name, the name of each format, and a format number, one through 99 to identify each format in the printer memory. After loading the format numbers, a label file can be printed (with the Send format parameter as *NO) with the format number parameter value determining which format is to be recalled from the printer’s memory. Alternatively, different formats can be used for each record in a label file by using the record’s LBFMT# field.
- **RF Network** — If you are printing labels on a portable printer attached to a wireless terminal configured in an RF network, specify the RF network type. You may press F4 to display a list of supported RF networks. If you wish to print to a portable printer that is physically attached to an RF terminal’s auxiliary printer port, you must initiate the print command from that RF terminal. If you are not printing over an RF network, type *NONE.
- **Spool Copies** - The number of copies to be printed to the output queue. This parameter is used when the Spool Printer Output parameter is *YES.
- **Hold spooled file** - Type *YES to hold the spooled output file until it is released by the Release Spooled File (RLSSPLF) command, or *NO to not hold the spooled output file. This parameter is used when the Spool Printer Output parameter is *YES.
- **Save spooled file** — Specifies, when the Spool Printer Output parameter is *YES, whether the spooled file is saved on the output queue after it has been printed. Type *YES to keep the spooled output file on the queue until it is deleted, or *NO to not keep the spooled output file on the output queue.
- **Spooled output queue** - The name of the output queue to which the output data is spooled. If *DEV is specified, the OS/400 printer device’s output queue is used.
- **Library** - The name of the library in which the output queue is located. This parameter is ignored if *DEV (the default) is specified for Spooled output queue.

- **Source drawer** - Specifies the source drawer used when cut sheets are fed into a laser or impact printer. Type a drawer number from 1 to 255 or envelope drawer *E1, *E2, *E3, or *E4.



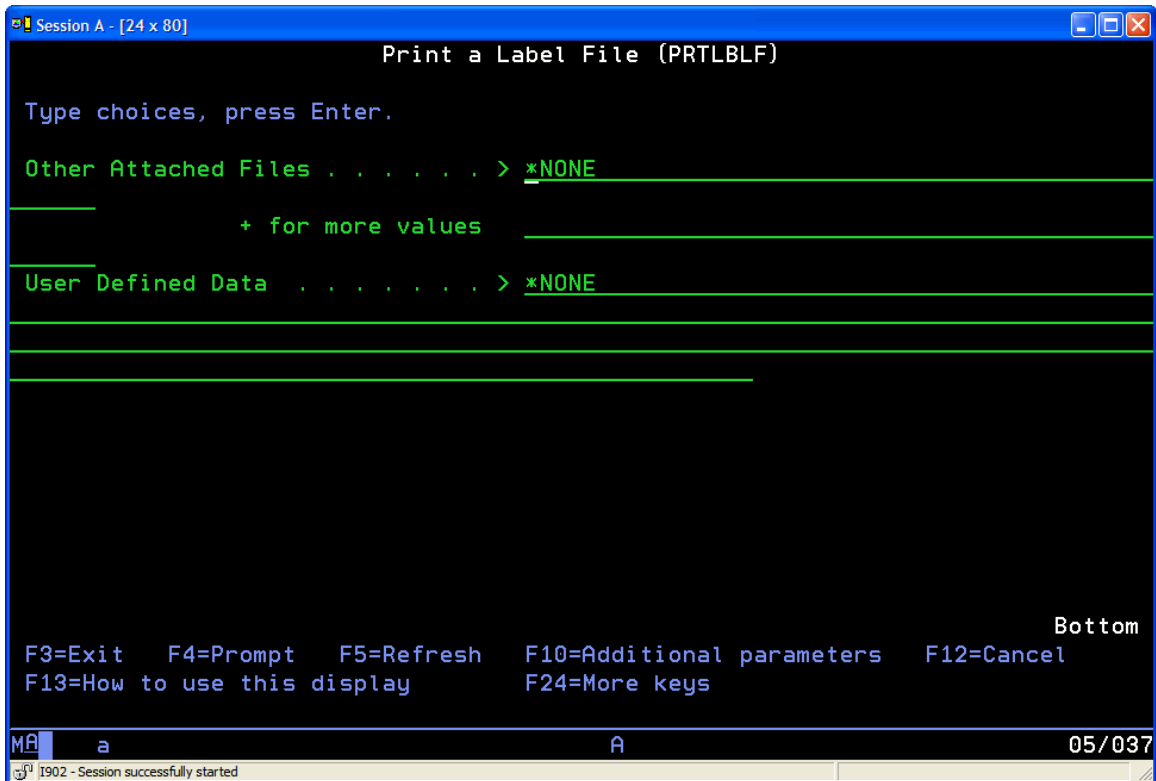
- **Output bin** - Specifies the destination of the output on laser or impact printers capable of multiple output bins. Type a bin number from 1 to 255.
- **Duplex** — Specifies whether output on page printers is printed on one side or two sides of the paper. Specify *YES to print on two sides for jobs to be bound along the forms length, or specify *TUMBLE for jobs to be bound along the forms width. Specify *NO to print on one side only.
- **Enable ASCII transparency** - Permitted values are *YES, *DIR, and *NO. Use *NO unless directed otherwise by a customer support representative.
- **User Library** - Type the user library (if any) where the format definition is located. If the format is located in the MarkMagic XXX library, specify *NONE.
- **Character Set** — If you wish to print data in a character set other than that defined as your OS/400 system value, specify *ENU for U.S. English, *ENG for U.K. English, *FRA for French, *FRC for French Canadian, *ESP for Spanish, *SVE for Swedish. The Character Set parameter also controls decimal formatting based on character set. This involves substituting comma for decimal and blank or period for 3 digit group separator (thousands), where necessary.
- **Secure from other overrides** — allows you to secure the MarkMagic print file from any other overrides. Specify whether the print file ignores the effects of previously issued file override commands. This is normally *NO, so that a user application can add overrides not addressed by MarkMagic. In some cases, you may want to specifically isolate MarkMagic from any other overrides and therefore you would specify *YES.

- **Emulated device** — This provides you with the ability to design formats for one printer type and then print to any printer in the printer type family. It also allows you to specify that instead of printed output you would like MarkMagic to produce an Adobe PDF file that can be stored on a PC running the JFGConsole.exe (see JMagic features) and/or e-mailed to one or more recipients. Finally, using this parameter you can direct your output to a text file in the IFS instead of to an actual printer. The possible values for Emulated Device are:
 - Emulated Device — The name of the MarkMagic printer type that should be emulated. You may press F4 for a list of MarkMagic installed printer types.
 - *PDF — An Adobe PDF file is created instead of the actual printed output in a directory on the PC running the JFGConsole.
 - *TEXT — A text file of the printer stream is created in the IFS



- **Recipient** — Specifies the email address of one or more users to whom an email message will be sent, optionally containing a PDF file or other attached files. Up to ten email addresses can be specified. At least one of the recipients must be type *PRI (primary). Up to 253 characters can be specified for each address.
- **Sender** - The possible values for sender are:
 - A valid email address
 - *USERID — MarkMagic will use the user id of the current user as the sender of the email message,
 - *USERNAME — MarkMagic will use the text description of the current user's profile as the sender of the email message, the user's email address.
- **Subject** - A maximum of 88 characters can be specified for the subject of the email.

- **Message** - A 300 character message can be specified





- **Other Attached Files** - Allows the user to attach up to five additional files to the email. Enter the IFS path for each file.

JMagic



Create a Label File (CRTLBLF)

 **Create a Label File (CTRLBLF)** 

File Edit View Help

Format name:	<input type="text" value="LEARNBD2"/>	Name
Label file:	<input type="text" value="LEARNBD2"/>	Name
Library:	<input type="text" value="MRKMAGDTA"/>	Name
Label file member:	<input type="text" value="*FIRST"/>	Name
Key field:	<input type="text"/>	<input type="button" value="Add"/>
	<input type="text"/>	<input type="button" value="Remove"/>
	<input type="text"/>	<input type="button" value="Move up"/>
	<input type="text"/>	<input type="button" value="Move down"/>
Label printer type:	<input type="text" value="HPPCL5"/>	Name, F4 for printer list
Copy data from file:	<input type="text" value="SHIPFILE"/>	Name
Library:	<input type="text" value="MRKMAGDTA"/>	Name
Copy from member:	<input type="text" value="*FIRST"/>	Name
Copy from record number:	<input type="text" value="*START"/>	Number
Copy to record number:	<input type="text" value="*END"/>	Number
Copy from record key value:	<input type="text"/>	<input type="button" value="Add"/>
	<input type="text"/>	<input type="button" value="Remove"/>
	<input type="text"/>	<input type="button" value="Move up"/>
	<input type="text"/>	<input type="button" value="Move down"/>
Copy to record key value:	<input type="text"/>	<input type="button" value="Add"/>
	<input type="text"/>	<input type="button" value="Remove"/>
	<input type="text"/>	<input type="button" value="Move up"/>
	<input type="text"/>	<input type="button" value="Move down"/>
Number of records to copy:	<input type="text" value="*END"/>	Number

Advanced Parameters

Generate subfields: ☐ *YES ☒ *NO

Optimize field order: ☒ *YES ☐ *NO

- **Format Name** - Name of the format.
- **Label File** - Specifies the file name and library of the label file. You must use a valid AS/400 file name (up to 10 characters long) to name a label file you wish to create from a format. You may want the label file to have the same name as the format. It is strongly recommended that label files not be placed into the library MRKMAG60 or MRKMAGDTA.
- **Library** - • (See "Label file".)
- **Label file Member** - Name of file member in the AS/400 file, or *FIRST, if the first member of the specified file is used.
- **Key Field** - The format fields to be used to extract and/or sort the records within the label file. Press F4 for a list of format fields.
- **Label printer type** - The name of the printer device the format is associated with.
- **Copy data from file** - Optional name and library of AS/400 file that contains records to copy data into the label file after the label file is created. The default is *NONE.
- **Library** - (See "Copy data from file.")
- **Copy from member** - The member within the database file to be used for the copy operation, or *FIRST, the first member of the specified file is used.
- **Copy from record number** - Specifies the record number from which to start the copy. A record number is not valid if a value is specified for the Copy from record key value prompt or for the Copy to record key value prompt, and it is not allowed if the from-file is a keyed logical file. To begin with first record number, enter *START.
- **Copy to record number** - Specifies the record number of the last record in the from-file that is copied. A record number is not valid if a value is specified for the Copy from record key value prompt or the Copy to record key value prompt, if a value other than *END is specified for the Number of records to copy prompt, or if the from-file is a keyed logical file. To end with last record number, enter *END.
- **Copy from record key value** - Specifies the key value of the first record in the from-file to be copied. This parameter is valid only for a from-file that is a keyed database file. Type a character string that specifies the actual value for the key of the database file that contains the fields from which you wish to copy. If the key is a composite key (a key for the from-file composed of more than one field), you can enter up to five from key values. Type a plus sign (+) in the entry field opposite the phrase "+ for more" and press Enter. If you are not sure which fields form the key of the from database file, contact your AS/400 System Administrator. If you are not using key values to copy, leave the parameter blank.
- **Copy to record key value** - Specifies the key value of the last record in the from-file that is copied. This parameter is valid only for a from-file that is a keyed database file. Type a character string that specifies the actual value for the key of the database file that contains the fields you from which you wish to copy. If the key is a composite key (a key for the from-file composed of more than one key field), you can enter up to five to key values. Type a plus sign (+) in the entry field opposite the phrase "+ for more" and press Enter. If you are not using key values to copy, leave the parameter blank.
- **Number of records to copy** - If you are not using key values to copy, type the number of records to copy, or *END. If you are using key values, the only permitted entry is *END.

- **Generate subfields** - If you have any fields that are more than 256 characters long, this parameter controls whether these fields are left as is, or whether they are split into subfields of 256 characters each. The possible values for generate subfields are:
 - ***YES** - Format fields longer than 256 characters are replaced by subfields. If the label file will be used in a RPG/400 or RPG II program, this parameter should be *YES, so that the RPG program compiles correctly. (RPG/400 and RPG II do not accept fields longer than 256 characters).
 - ***NO** - Format fields longer than 256 characters are included in the label file. If the label file will be used in a program in a language other than RPG/400 or RPG II, set this parameter's value to *NO. This will work with ILE RPG, as well as other languages.
- **Optimize field order** - When you create a label file you can also decide whether the Edit Data display panel(s) associated with the label file present the fields in optimized ordering (key fields first, fields grouped by file name, protected fields last, etc.), or in order of their sequence, by field type and field number, in the format. The default value is OPTIMIZE = *YES. The possible values for optimize field order are:
 - ***YES** - The Edit Data display panel(s) show the label file's variable fields in optimized ordering.
 - ***NO** - The Edit Data display panel(s) show the label file's variable fields in the sequence that they appear in the format.



Generate Label File Description (GENLBLFD)

Generate Label File Descriptn (GENLBLFD)

File Edit View Help

Format name: Name

File description type: DDS, RPG, CBL, OVL

Label printer type: Name, F4 for printer list

Advanced Parameters

Generate subfields: ☐ *YES ☐ *NO

Optimize field order: ☐ *YES ☐ *NO

Basic OK Cancel Help ?

- **Format name** - Name of format from which to generate file description.
- **File description type** - Specifies the type of file description to be generated. The possible values for the option are:

- DDS - Generate Data Description Specifications and store in file QDDSSRC.
 - RPG - Generate RPG file specifications and store in file QRPGRSRC.
 - CBL - Generate COBOL file specifications and store in file QLBLSRC.
 - OVL - Create an AS/400 overlay object and store in the MarkMagic user library or in MarkMagic main library, MRKMAG60.
- **Label printer type** - (optional) The name of the printer type for the format you wish to generate a file description.
- **Generate subfields** - If you have any fields that are more than 256 characters long, this parameter controls whether these fields are left as is, or whether they are split into subfields of 256 characters each. The possible values for generate subfields are:
 - *YES - Format fields longer than 256 characters are replaced by subfields. If the label file will be used in a RPG/400 or RPG II program, this parameter should be *YES, so that the RPG program compiles correctly. (RPG/400 and RPG II do not accept fields longer than 256 characters).
 - *NO - Format fields longer than 256 characters are included in the label file. If the label file will be used in a program in a language other than RPG/400 or RPG II, set this parameter's value to *NO. This will work with ILE RPG, as well as other languages.
- **Optimize field order** - When you create a label file you can also decide whether the Edit Data display panel(s) associated with the label file present the fields in optimized ordering (key fields first, fields grouped by file name, protected fields last, etc.), or in order of their sequence, by field type and field number, in the format. The default value is OPTIMIZE = *YES. The possible values for optimize field order are:
 - *YES - The Edit Data display panel(s) show the label file's variable fields in optimized ordering.
 - *NO - The Edit Data display panel(s) show the label file's variable fields in the sequence that they appear in the format.



Copying a Label File

How To:

- Select the **CopyToLabel file Option** from the **File Menu**. This opens the **Copy to Label File Window**.

Copy to Label File (CPYTOLBLF)

File Edit View Help

Label file:
Name

Library:

*LIBL

Name

Label file member:
Name

Copy data from file:
Name

Library:

*LIBL

Name

Copy from member:
Name

Advanced Parameters

Copy from record number:

*START

Number

Copy to record number:

*END

Number

Copy from record key value:

Add
Remove
Move up
Move down

Copy to record key value:

Add
Remove
Move up
Move down

Number of records to copy:

*END

Number

Link files:

☐ *YES
☐ *NO

Format name:

LEARNBD2

Name

Label printer type:

HPPCL5

Name, F4 for printer list

Override files:

File being overridden:
Name

Overriding to data base file:
Name

Library:

*LIBL

Name

Overriding member:

*FIRST

Add
Remove
Move up
Move down

Basic

OK

Cancel

Help

?

The **Copy to Label File Window** allows you to specify both **Basic** and **Advanced Settings**. These settings include

- **Label file** — Type an OS/400 valid file name up to 10 characters long. The file name must start with the letters A to Z, or the characters #, \$, or @. The remaining 9 positions can be the letters A to Z, numeric characters, or the characters #, \$, or @. You will want to name your label file something descriptive so that it will be easy to associate this label file with its format. You may also want to think about naming conventions for your label files so that all label files will be named according to the same method.
- **Library** - Type the name of an OS/400 user library. Do not use the MarkMagic library, MRKMAG60. If you do not have access to OS/400 libraries, or if you are not sure, contact your OS/400 System Administrator.
- **Label file member** — If you use file members in your data processing application programs, type a unique member name. The use of members requires application system knowledge. If you are not sure, contact your OS/400 System Administrator, or leave *FIRST as the value.
- **Copy data from file** — This optional parameter will automatically copy data into the label file if you defined your format fields by selecting OS/400 database fields from a single OS/400 physical or logical file. Type the name of the database file that contains the fields that correspond to the field definitions in your format. To create an empty label file, type *NONE.
- **Library** - If you entered a filename for the Copy from file parameter, type the name of the library in which the file is located. The default is *LIBL.
- **Copy from member** - If the file from which you are copying consists of more than one member, you may type an existing member. If you are not sure, contact your OS/400 System Administrator, or leave *FIRST as the value.
- **Copy from record number** - Specifies the record number from which to start the copy. A record number is not valid if a value is specified on the Copy from record key parameter, or on the Copy to record key parameter, and it is not allowed if the from-file is a keyed logical file. To start at the beginning of the file, specify *START.
- **Copy to record number** - Specifies the record number of the last record in the from-file that is copied. A record number is not valid if a value is specified for the Copy from record key parameter or the Copy to record key parameter, if a value other than *END is specified for the Number of records to copy prompt, or if the from file is a keyed logical file. To copy records until the end of the file, specify *END.
- **Copy from record key value** - Specifies the key value of the first record from which the from-file is copied. This parameter is valid only for a from-file that is a keyed database file. Type a character string that specifies the actual value for the key of the database file that contains the fields from which you wish to copy. For example, if your from-file is keyed by CUSTOMER, the actual value might be "Joe's Shirts." If the key is a composite key (a key for the from-file composed of more than one field), you can enter up to five from key values. To specify more than one key field value, type a plus sign (+) n the entry field opposite the phrase "+ for more" and press ENTER. If you are not sure which fields form the key of the from database file, contact your OS/400 System Administrator. If you are not using key values to copy, leave the parameter blank.
- **Copy to record key value** - Specifies the key value of the last record in the from-file that is copied. This parameter is valid only for a from-file that is a keyed

database file. Type a character string that specifies the actual value for the key of the database file that contains the fields you from which you wish to copy. If the key is a composite key (a key for the from-file composed of more than one key field), you can enter up to five to key values. Type a plus sign (+) in the entry field opposite the phrase "+ for more" and press Enter. If you are not using key values to copy, leave the parameter blank.

- **Number of records to copy** - If you are not using key values to copy, type the number of records to copy, or *END. If you are using key values, the only permitted entry is *END.
- **Link files** - (for future use)
- **Format name** - (for future use)
- **Label printer type** - (for future use)
- **Override files** - (for future use)
- **File being overridden** - (for future use)
- **Overriding to database file** - (for future use)
- **Library** -(for future use)
- **Overriding member** - (for future use)



Printing a Label File

Print a Label File (PRTLBLF)

File Edit View Help

Label file: *LAYOUT Name
 Library: *LIBL Name
 Label file member: *FIRST Name
 Format name: GRAPHICBD Name
 Printer device: Name
 Form type: *STD Character value
 Spooled printer output: ☒ *YES ☐ *NO
 Spooled file name: 'QSYSPRT' Character value
 Quantity: *DEFAULT 1-9999
 Printer type: HPPCL5 Name, F4 for printer list

Advanced Parameters

Print from record number: *START Number
 Print to record number: *END Number
 Print from record key value:
 Add
 Remove
 Move up
 Move down
 Print to record key value:
 Add
 Remove
 Move up
 Move down
 Number of records to print: *END Number
 Translate unprintable chars: ☒ *YES ☐ *NO
 Send format: ☒ *YES ☐ *NO ☐ *HDG
 Send graphics image: ☒ *YES ☐ *NO
 Clear graphics buffer: ☒ *YES ☐ *NO

Basic OK Cancel Help ?

How To:

- Select the **Print Option** of the **File Menu**.
- From the **Print Submenu**, select the **PRTLBLF Option**. This opens the **Print Label File (PRTLBLF) Window**.

The **Print a Label File Window** is broken down into **Basic** and **Advanced**. By default, the **Basic Settings** appear first. To set the **Advanced Options**, click the **Advanced Button**. This will expand the screen with additional fields.

- **Label File** - The name of the label file containing the variable fields corresponding to the format you wish to print.
 - **Label-file-name** - The name of the label file containing the variable fields corresponding to the format you wish to print.
 - ***NONE** - No label file is used; variable data (if any) is contained in the DATA parameter.
 - ***DTAQ** - Instead of a label file, variable data is contained in the MarkMagic print data queue, MMPRTQ in the QTEMP library
 - ***SPOOLFILE** - Prints a MarkMagic Form based on a specified spooled file.
 - ***FORMAT** - Sends a format to a printer without printing in order to restore a format. This is used when an application requires high performance
 - Note: all printer types do not support this function. Check the Printer Specific Reference for your printer for more information.
 - ***LAYOUT** - Prints layout of a label without including actual data.
 - ***TEST** - Prints a test label to validate the printer connection status.
- **Library** - Specifies the file name and library of the label file. The possible values for label file are:
- **Label-file-name** The name of the label file containing the variable fields corresponding to the format you wish to print.
 - ***NONE** No label file is used; variable data (if any) is contained in the DATA parameter.
 - ***DTAQ** Instead of a label file, variable data is contained in the MarkMagic print data queue, MMPRTQ in the QTEMP library.
 - ***SPOOLFILE** Prints a MarkMagic Form based on a specified spooled file.
 - ***FORMAT** Sends a format to a printer without printing in order to restore a format. This is used when an application requires high performance.

Note: This function is not supported by all printer types. Check the Printer Specific Reference for your printer for more information.

 - ***LAYOUT** Prints layout of a label without including actual data.
 - ***TEST** Prints a test label to validate the printer connection status.
- **Label File Member** - Prints a test label to validate the printer connection status.
- **Spooled file name** - Relevant if *YES was specified for spool printer output parameter. The possible values are:
 - **Name** - Unique name to identify the job on the output queue by name.
 - ***FMT** - To identify the job by format.
 - ***PRTF** - To identify the job by label printer type.
- **Format Name** - The name of the format that will be printed. Press F4 for a list of format names. If you have written label records that contain the format name in the LBPARM fields, this parameter is ignored.
- **Printer Device** - If your printer is an OS/400 device, type the name here.
- **Form Type** - The name of any special form that needs to be loaded on the printer, or *STD if no special form is required.

- **Spooled printer output** - Dependent on whether or not the printer writer has been started on the AS/400.
 - ***YES** - If the writer is started, spool to the printer output queue.
 - ***NO** - If the writer isn't started, print directly to the device
- **Spooled file name** -
- **Quantity** - The number of copies of each label record to print, or *DEFAULT.
- **Printer type** - The printer type on which the labels will be printed.
- **Print from record number** - Specifies the record number from which to start printing. The possible parameter values are:

Starting-record-number - The record number with which printing begins.

- ***START** - Start printing with the first record.
- ***LAST** - Print the last record.
- **Print to record number** - Specifies the record number of the last record that is printed, or *END to stop printing at the last record number.
- **Print from record key value** - When a label file with key fields is printed, you can specify the key value of the first record.
- **Print to record key value** - When a label file with key fields is printed, you can specify the key value of the last record.
- **Number of records to print** - The number of records to print, or *END. If you specify a Print to Record Key value, this parameter cannot be used.
- **Translate unprintable chars** - Specifies whether lower case characters will print if any text fields were defined with fonts that print only in upper case. The possible values for translate unprintable characters are:
 - ***YES** - Lower case characters will print as upper case.
 - ***NO** - Do not attempt to print unsupported characters.
- **Send format** - Specifies whether the format is sent to the printer and whether it contains variable data in the form of constants. The possible values for send format are:
 - ***YES** - When printing the label file and default format for the first time, or if the format has changed.
 - **NO** - When printing additional records from the label file without changing the format.
 - **HDG** - For printing formats in which variable fields are changed to headings (constants). This can provide improved performance when many different formats need to be printed in on demand label application.
- **Send graphics image** - Specifies whether a graphic is sent to the printer. The possible values for send graphic are:
 - ***YES** - When the format you are printing contains a graphic image that has not been printed, or has been cleared from the printer memory.
 - ***NO** - When the format you are printing does not contain an image, or contains a graphic that was stored in the printer memory.
- **Clear graphics buffer** - Specifies whether a clear graphic is sent to the printer. The possible values for clear graphics are:
 - ***YES** - When the format you are printing contains a graphic image and you need to clear the printer memory.
 - ***NO** - To reprint a format that contains a previously stored graphic, or to print a format that does not contain a graphic.

Print a Label File (PRTLBLE)

File Edit View Help

Print speed (inches/second): *HIGH Number

Forms alignment: *LEFT

Ribbon: ☒ *YES ☐ *NO ☐ *DEFAULT

Heat setting: *MEDIUM Number

Print sensitivity: Character value

Format number: *NONE Number

RF Network: *NONE Name

Spool copies: 1 1-255

Hold spooled file: ☐ *YES ☒ *NO

Save spooled file: ☐ *YES ☒ *NO

Spooled output queue: CWLASER1 Name

Library: QGPL Name

Source drawer: 1 1-255

Output bin: 001 1-255

Duplex: ☐ *YES ☒ *NO ☐ *TUMBLE

Enable ASCII transparency: ☐ *YES ☒ *NO ☐ *DIR

User library name: *NONE Name

Character Set: *DEFAULT

Data: Character value

Rule set name: *NONE Name

Rule set library name: *NONE Name

Secure from other overrides: ☐ *YES ☒ *NO

Emulated device: *NONE Name

Print to file: *NONE' Path name

Basic OK Cancel Help ?

- **Print Speed (inches/second)** - Inches per second; applies only to specific printer types. Some printers are incapable of producing readable ladder bar codes at particular densities when printed at high speeds. Please see Printer Specific Reference booklet.
- **Forms alignment - The possible values for print alignment are:**
 - ***LEFT** - Regular alignment, no field centering
 - ***CENTER** - Center the fields relative to the maximum print width.
 - ***BACK** - Back feed the print supply before printing
 - ***SUPPLY** - Calibrate the supply. This is useful after changing the supply to a different type.
- **Ribbon - Controls thermal transfer or thermal direct printing, applies only to specific printer types. The possible values for ribbon are:**
 - ***YES** - Print with a ribbon - used for thermal transfer printing.
 - ***NO** - Print without a ribbon - used for thermal direct printing

- ***DEFAULT** – JMagic does not instruct the printer whether to print with a ribbon or not. The setting in the printer is used instead.
- **Heat Setting** - Applies only to specific printer types. Please see Printer Specific Reference booklet. The possible values for heat are:
 - **Number** – Burn time expressed as a 3-digit field with one decimal position. The higher the number, the darker the **print**.
 - ***LOW** – The printer's lowest burn time.
 - ***MEDIUM** – The printer's average burn time.
 - ***HIGH** – The printer's highest burn time.
- **Print sensitivity** - Applies only to specific printer types that require form sensitivity to be controlled by software. Please refer to the Printer Specific Reference information for your printer.
- **Format number** - The number the format is assigned in the printer's memory. Type *NONE if formats are not referred to by prestoring.
- **RF Network** - For printing labels on a portable printer attached to a wireless terminal on a Radio Frequency network.
 - **RF-network-name** - Name of the Radio Frequency network type. Press F4 for a list of RF network types.
 - ***NONE** - RF network support not used. (default)
- **Spool Copies** - The number of copies to be printed to the output queue. This parameter is used when the Printer Device Parameter is blank.
- **Hold spooled file** - Type *YES to hold the spooled output file until it is released by the Release Spooled File (RLSSPLF) command, or *NO to not hold the spooled output file. This parameter is used when the Printer Device Parameter is *OUTQ.
- **Save spooled file** - Specifies, when Printer Device Parameter is *OUTQ, whether the spooled file is saved (kept on the output queue) after the output has been produced. Type *YES to keep the spooled file data on the output queue until the file is deleted, or *NO to not keep the spooled file data on the output queue.
- **Spooled output queue** - The name of the output queue to which the output data is spooled. Enter the value *JOB to use the job's default output queue. This parameter is used when the Printer Device Parameter is *OUTQ.
- **Library** - The name of the output queue to which the output data is spooled. Enter the value *JOB to use the job's default output queue. This parameter is used when the Printer Device Parameter is *OUTQ.
- **Source drawer** - Specifies the source drawer used when single-cut sheets are fed into the printer. The possible values are:
 - **Source-drawer** – Specify the drawer from which the paper is fed. Valid values range from 1 through 255
 - ***E1-*E4** - Envelopes are fed from the designated envelope drawer on the sheet-feed paper handler.
- **Output bin** - Specifies the destination of the output on printers capable of multiple output bins. Valid values range from 1 through 255.
- **Duplex** - For printers that are capable of printing on both sides of a page, specifies whether output is printed on one side or two sides of the paper. The possible values are:
 - ***NO** – The output is printed on one side of the paper.
 - ***YES** - The output is printed on both sides of the paper, with the top of each printed page at the same end of the sheet of paper. This is usually used for printed output that is bound at the side of the sheet.

- ***TUMBLE** - The output is printed on both sides of the paper, with the top of one printed page at the opposite end from the top of the other printed page. This is usually used for printed output that is bound at the top of the sheet.
- **Enable ASCII transparency** - Controls how printer commands are sent from the AS/400 to the printer. The default is *NO. Use the *DIR parameter value to send printer commands in an ASCII file directly to the printer. This is sometimes used to overcome connectivity difficulties

Note: Please see the Printer Specific Reference information on whether your printer type requires ASCII transparency to be enabled (*YES), or whether direct ASCII file printing (*DIR) is appropriate. Use *NO unless specifically instructed otherwise.

- **User library name** - Name of user library where format definition is located, or *NONE if format definitions are accessed from the MarkMagic product library (MRKMAG). *SEARCH can be used to have MarkMagic scan the library list in search of the library containing the necessary MarkMagic Jobs and Formats.
- **Character Set** - Specifies the Character Set used for printing. Choosing the correct Character Set is important for special symbol characters to print correctly. The possible values for Character Set are:

NOTE: Not all parameter values may be available at this time.

- ***DEFAULT** – The default Character Set is used. The default Character Set is either the Character Set defined for the user (if any), or else it is the Character Set of the current language library.
- ***DAN** – Danish/Norwegian (code page 277)
- ***DEU** – German (code page 273)
- ***ENG** – U.K. English (code page 285)
- ***ENU** – U.S. English (code page 37)
- ***ESP** - (code page 273)
- ***FRA** – French (code page 297)
- ***FRC** – French Canadian (code page 500)
- ***ITA** – Italian (code page 280)
- ***MNC** – Multinational Characters (code page 500)
- ***NLD** – Netherlands –(code page 256)
- ***SVE** – Swedish (code page 278)
- **Data** - This parameter is applicable only if you specify *NONE in the Label file parameter. This is used when printing labels without a label file (requires programming knowledge), or when the format has no variable fields.
- **Rule set name** - The name of the rule set and the user library where the rule set is located. Specify *NONE if no rule set is to be used. For the rule set library name you may specify *SEARCH to have MarkMagic scan the library list in search of the library containing the desired rule set.
- **Rule set library name** - The name of the rule set and the user library where the rule set is located. Specify *NONE if no rule set is to be used. For the rule set library name you may specify *SEARCH to have MarkMagic scan the library list in search of the library containing the desired rule set.
- **Secure from other overrides** - Specify whether the print file ignores the effects of previously issued file override commands. This is normally *NO, so that a user application can add overrides not addressed by MarkMagic. In some cases, you may want to specifically isolate MarkMagic from any other overrides and therefore you would specify *YES.

- **Emulated device** - This provides you with the ability to design formats in one printer type and print in another. It also allows you to specify that instead of printed output you would like MarkMagic to produce an Adobe PDF file that can be stored in the IFS, e-mailed to one or more recipients or both. Finally, using this parameter you can direct your output to a text file in the IFS instead of to an actual printer. The possible values for this parameter are:
 - **Emulated-device** - The name of the MarkMagic printer type that should be emulated. You may press F4 for a list of MarkMagic installed printer types.
 - ***PDF** - An Adobe PDF file is created instead of the actual printed output. The PDF file can optionally be sent as an e-mail attachment to one or more recipients.
 - ***TEXT** - This option allows printing to an IFS text file, which can optionally be sent as an e-mail attachment to one or more recipients.
- **Print to file** - Specifies the path name of the file that will contain the output stream. All directories in the path name must exist. New directories are not created. If the stream file does not exist, it is created. If it exists, it is replaced.

Recipient

- **Recipient type** - Specifies the email address of one or more users to whom an email message will be sent, optionally containing a PDF file or other attached files. Up to ten email addresses can be specified. At least one of the recipients must be type *PRI (primary Specify the email address of a person or organization to whom the email will be sent. Up to 253 characters can be specified for each

address you can enter multiple values for this parameter. If you are on an entry display and you need additional entry fields to enter these multiple values, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press the Enter key. The possible Recipient Type values are:

- ***PRI** - The email address is the primary recipient of the distribution. At least one of the recipients must be primary.
- ***CC** - The email address will receive a copy of the email sent to the primary recipient.
- ***BCC** - The email address will receive a copy of the email. However, this copy recipient is not identified on the email as a receiver.
- **Internet Address** - Specifies the email address of one or more users to whom an email message will be sent, optionally containing a PDF file or other attached files. Up to ten email addresses can be specified. At least one of the recipients must be type *PRI (primary). Specify the email address of a person or organization to which the email will be sent. Up to 253 characters can be specified for each address. You can enter multiple values for this parameter. If you are on an entry display and you need additional entry fields to enter these multiple values, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press the Enter key. The possible Recipient Type values are:
 - ***PRI** - The email address is the primary recipient of the distribution. At least one of the recipients must be primary.
 - ***CC** - The email address will receive a copy of the email sent to the primary recipient.
 - ***BCC** - The email address will receive a copy of the email. However, this copy recipient is not identified on the email as a receiver.
- **Sender** - Identifies the name of the person sending the email. The possible values for sender are:
 - **Name-of-sender** - The name of the sender.
 - ***USERID** - MarkMagic will use the user id of the current user as the sender of the email message
 - ***USERNAME** - MarkMagic will use the text description of the current user's profile as the sender of the email message.
- **Subject** - Specifies the subject of the email. A maximum of 88 characters can be specified.
- **Message** - Specify an optional message for the email. The message can be up to 5,000 characters long.
- **Other Attached Files** - Specifies the path name of up to five files that will be sent as e-mail attachments. You can enter multiple values for this parameter. If you are on an entry display and you need additional entry fields to enter these multiple values, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press the Enter key.
- **User Defined Data** - Specifies the user-defined data to be used by user applications or user-specified programs that process spooled files. The possible values for user-defined data are:
 - ***NONE** - No user-defined data specified.
 - **User-defined-data** - Specify user-defined data to be used by user applications or user-specified programs that process spooled files. All characters are acceptable.

Format Layouts

As you design a format, and before you begin printing forms, labels, or tags, it is a good idea to print a format layout to “proof” your design. This will ensure fonts appear as you wish, lines are not too thick or thin, bar codes are printing correctly, and the overall look of the format is as anticipated. The special file name *LAYOUT instructs MarkMagic to print the format as follows:

- Field descriptions will print for *HEADING fields.
- “*LINK” will print for *LINK fields.
- Field names will print for variable alphanumeric fields of seven positions or more.
- Zeroes will print for variable numeric fields of seven positions or more.
- Dashes will print for variable fields and *LINK fields of six or less positions.
- Boxes, lines, and graphics will print as defined.
- *DATE and *TIME fields will print as defined.



1. Select Print from the MarkMagic Main Menu or use the keyboard shortcut — P. Select Format layout from the Print menu or use the keyboard shortcut — F.
2. Press F4 to display a list of formats for your printer type. Press F10 to change views between Format Description and Label Size (length and width).
3. Select the format whose layout you wish to print and press ENTER.
4. The Print a Label File *LAYOUT command prompt is displayed.



1. 1. Open a format
2. 2. Press F21 and press ENTER.
3. 3. The Print a Label File *LAYOUT command prompt is displayed.

Printing MarkMagic Forms

An alternative source of variable data fields is an existing spooled file. This is typically how you print electronic forms. After you have visually specified where, and how, each spooled file field will appear on a MarkMagic Form format, follow these steps to print. Typically MarkMagic Forms are designed for impact and laser printers to replace preprinted forms. Label printers, too, can be used to print data from an existing OS/400 spooled file. The Print a Label File *SPOOLFILE command is most commonly run as the last step of a MarkMagic Job.

Forms/Printing with Overlays

An additional method of printing forms is to use the MarkMagic Overlay technique. Overlays, like MarkMagic Forms, address the requirement of existing applications that need to replace preprinted forms with electronic laser forms, with little or no programming effort. Overlays are not as powerful as MarkMagic Forms — you cannot edit, duplicate, or delete spooled file data fields, but in certain situations, MarkMagic Overlays are an adequate replacement for preprinted forms.

Overlays are IBM OS/400 AFPDS objects. Make sure that AFPDS (IBM Advanced Function Printing Data Stream) is one of your installed printer device types.

Using JMagic or Visual Designer to design the constant elements of a form, an AFP overlay object can be produced by MarkMagic. Your user application continues to use its current print file, along with the overlay, to print the electronic form. The overlay replaces the preprinted form, with no application changes. The form's variable fields are not affected at all—they appear exactly as they did before on the preprinted form. Overlays work only with AFPDS printer device types, and work best with AFP/IPDS laser printers.

To replace preprinted forms using overlays

- Create a new format (or edit an existing format) for MarkMagic printer device type AFPDS.
- Define text fields as *HEADING to replace the constant fields preprinted on the form
- Define any lines, boxes, and graphics (logo, etc.) required to replace preprinted elements.
- After you have finished the format definition, press F3 to exit.
- At the MarkMagic Main Menu, press F to open the Format Menu. This option requires MarkMagic Forms or MarkMagic Enterprise Edition license
- Press G to open the Generate Menu, and G to select Generate description.
- Type the name of the format and press ENTER.
- On the Generate Label File Description (GENLBLFD) Command Prompt specify OVL for File description type and press ENTER.
- MarkMagic will create an OS/400 overlay object for the format in the MarkMagic User Library or in library MRKMAGDTA. Note: Overlay object names are limited to 8 positions. Format names will be truncated if greater than 8 characters.
- Return to the MarkMagic Main Menu, press P to open the Print Menu and press W for Writer status.
- Position to the print writer attached to your forms printer, type 3, and press ENTER to hold the print writer used to print your forms.
- Run the OS/400 job that normally prints on the pre-printed form.
- Return to the MarkMagic Main Menu, press P to open the Print Menu and press S for Spool files. Press ENTER.
- Position to the spooled file for the forms job and type 2 to change. Change the name of the OS/400 printer to an IPDS (AFP *YES) printer device. Press F10 for additional parameters, and roll twice. Type the name and the library of the overlay object for the parameters Front side overlay and Back side overlay. Press ENTER.
- Type 6 to release the spooled file and to send it to the OS/400 laser printer.

Note: If you use unique print files for your reports (invoices, statements, and other forms jobs) you can use the OS/400 Change Print File (CHGPRTF) command to permanently use an overlay every time the forms job is run. If you do not use unique print files you can use the OS/400 Override Print File (OVRPRTF) command to temporarily use an overlay each time a forms job is run.

Print Monitor

What could be easier than telling MarkMagic to run a job when a spooled file appears in an Output Queue or when a record is added to a file? The new MarkMagic Print Monitor is one reason why MarkMagic requires no programming to achieve sophisticated results.

Via the Print Monitor, MarkMagic watches output queues for spool files and watches physical files for added records. Files that meet user-defined criteria can be automatically printed.



Select the *Utilities/Data/work with print Monitor* option from the MarkMagic Visual Designer main menu.

1. Press F6 to add a new monitor
2. Name your monitor.
3. Select the monitor type. Do you want to monitor a particular output queue for a certain spooled file or do you want to monitor a physical file? Depending on the monitor type selected, a MarkMagic job will be triggered every time a spooled file hits the queue or each time a record is added to the database file.
4. Next, enter the MarkMagic Job and Group name to run with this monitor.
5. After the Monitor definition is complete, use option 10 to start the monitor.
6. Test the monitor by running a program that creates a spooled file, or by adding a record to the physical file, you specified in the monitor definition.

.Adobe PDF Option

With the new Adobe PDF Option, MarkMagic can send PDF documents as e-mail attachments. Great for reprinting and e-mailing copies of invoices, statements, and even labels. These .pdfs can even contain searchable text and scannable bar codes.

Running Jobs

After you are satisfied that the Job executes as you anticipated, the Job can be placed in production. You can predefine jobs and create a label printing system without requiring any programming effort at all. The Work with MarkMagic Jobs screen is intended for authorized users who create and modify Jobs. Other users can be presented with a Run MarkMagic Job menu that allows them to display or run a MarkMagic Job.



To run a MarkMagic Job

- Select **Print** from the MarkMagic Main Menu or the MarkMagic Design a Format menu.
- Select **run Job** from the Print menu.
- The **Select a MarkMagic Job** window is displayed.
- Press F4 to display a list of Job Groups defined for your system. Select the Job Group from which you wish to print and press ENTER.

- Press F4 to display a list of MarkMagic Jobs defined for your selected Job Group. Select the MarkMagic Job you wish to run and press ENTER. A MarkMagic Job can also be executed by typing MRKMAG/RUNMMJOB JOBNAME(groupname/jobname) from an OS/400 command line, an application menu option or an application program .

To display the MarkMagic Job menu for a Job Group

- Select **Print** from the MarkMagic Main Menu or the MarkMagic Design a Format menu.
- Select **run Job** from the Print menu.
- The Select a MarkMagic Job window is displayed.
- Press F4 to display a list of Job Groups defined for your system. Select the Job Group from which you wish to print and press ENTER.
- Type *SELECT for the Job parameter and press ENTER.
- The Run MarkMagic Jobs menu is displayed.
- Select a job by typing option 6 (Run) in the Opt (Option) field and pressing ENTER. MarkMagic will execute the selected MarkMagic Job. The Run MarkMagic Job menu for a Job Group can also be displayed by typing MRKMAG/RUNMMJOB JOBNAME (groupname/*SELECT) from an OS/400 command line, an application menu option or an application program.

To display the MarkMagic Job menu for all Job Groups

- Select **Print** from the MarkMagic Main Menu or the MarkMagic Design a Format menu.
- Select **run Job** from the Print menu.
- The Select a MarkMagic Job window is displayed.
- Type *SYSTEM or *ALL for the Job Group parameter and press ENTER.
- Type *SELECT for the Job parameter and press ENTER.
- The Run MarkMagic Jobs menu is displayed.
- Position to the group that contains your defined MarkMagic Jobs.
- Position to the job you would like to run.
- Select a job by typing option 6 (Run) in the Opt (Option) field and pressing ENTER. MarkMagic will execute the selected MarkMagic Job. The Run MarkMagic Job menu can also be displayed by typing MRKMAG/RUNMMJOB JOBNAME(*ALL/*SELECT) from an OS/400 command line, an application menu option or an application program.

Native iSeries

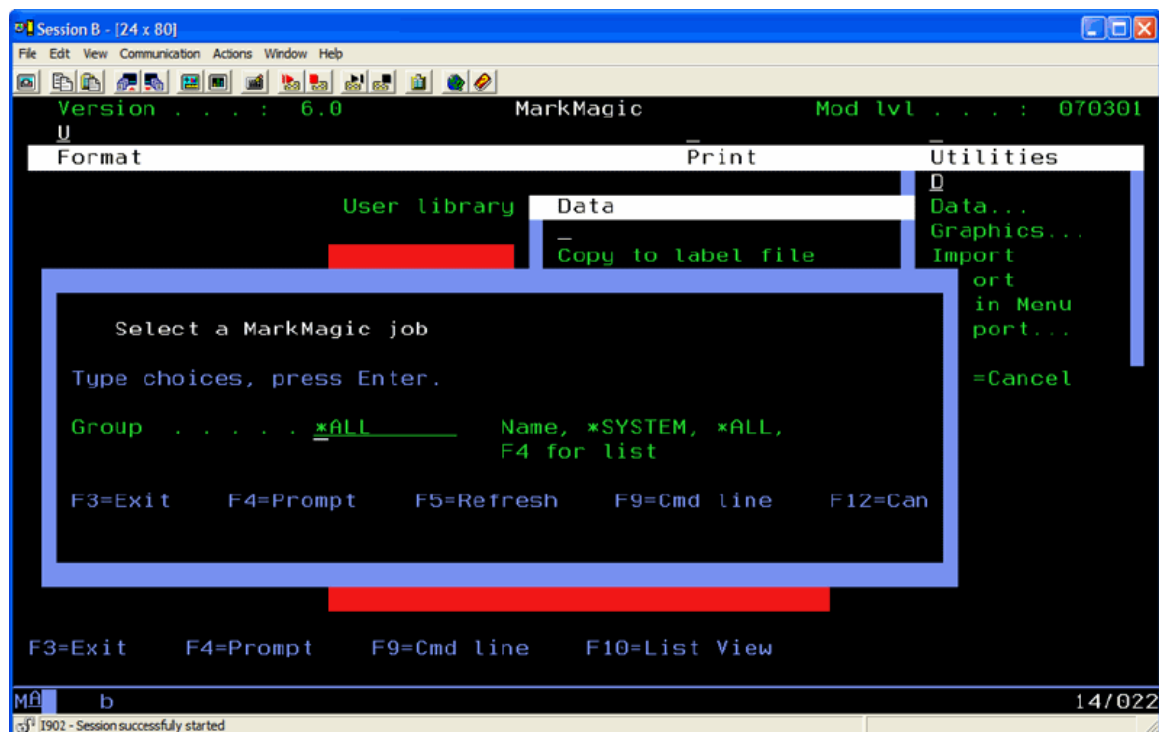
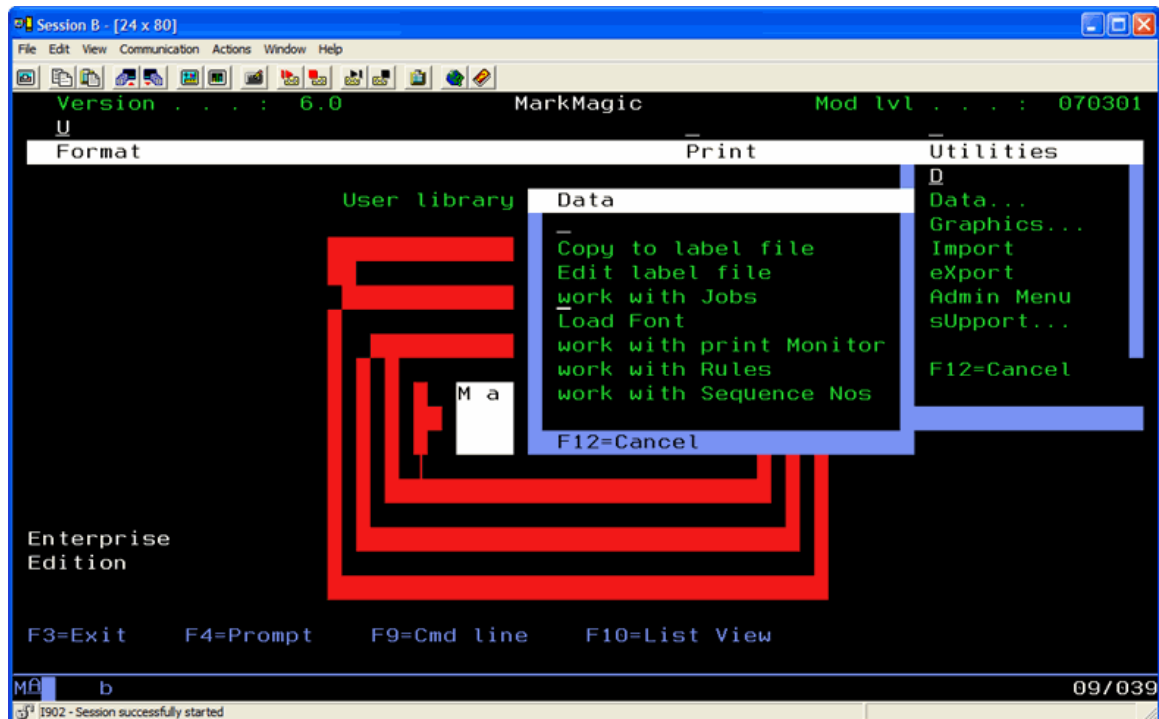
Creating Jobs

MarkMagic Jobs let a user predefine jobs that copy data from a production file to the label file, edit data in the label file, and print the label file. These jobs can be defined to display only the parameters that are required by the operator, and can be organized by job groups and/or user libraries.

To create a Job

- Select **Utilities** from the MarkMagic Main Menu.
- Select **Data...** from the Utilities menu.
- Select **work with Jobs** from the Data menu.

Type *ALL for the Group name to see all Job Groups, or type a specific group with which you want to work, and press ENTER. Type the User Library you use or *NONE and press ENTER. The Work with MarkMagic Jobs screen is displayed. Press F6 (Create). Type a Group Job name or *SYSTEM, and press ENTER. The Add Job screen is displayed.



Session A - [24 x 80]

Work with MarkMagic Jobs

Position to group _____
 Position to job _____

Type options, press Enter.

2=Change 3=Copy 4=Delete 5=Display
 6=Run 7=Rename 8=Warnings

Opt	Group	Job	Description	Type	C	E	P	Chg	date
—	*SYSTEM	AA						Y	07/14/05
—	*SYSTEM	AVERYTDI	Avery TDI Tag Test					Y	12/26/03
—	*SYSTEM	DFSDF						Y	12/04/03
—	*SYSTEM	DREYER		Y				Y	07/15/05
—	*SYSTEM	LL						Y	11/08/04
—	*SYSTEM	MMSQUARE	Print Square Ship Label on Monarch	Y	Y			Y	05/24/04
—	*SYSTEM	PERMACEL	PRINT ITEM LABELS BEHIND SHIPPING	Y				Y	02/02/04
—	*SYSTEM	PICKSTICK	Stickers for huge automated machine	Y				Y	06/22/05
—	*SYSTEM	RAMATEST	Spoolfile job					Y	06/13/05
—	*SYSTEM	SRRA	FormWeaver job					Y	04/26/05

More...

F3=Exit F5=Refresh F6=Create F9=Cmd line
 F10=View F11=Warnings F12=Cancel F14=Overrides

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MA a 04/039

1902 - Session successfully started

Session A - [24 x 80]

Add Job

Type choices, press Enter.

Group job name *SYSTEM Name, *SYSTEM, F4 for list
 Description _____

F3=Exit F4=Prompt F5=Refresh F9=Cmd line F12=Cancel

MA a 13/035

1902 - Session successfully started

Session A [24 x 80]

Add Job

Group : *SYSTEM

Type choices, press Enter.

Job name

Description

User program *NONE Name, *NONE, F4 for list

Library *LIBL Name, *LIBL, *USRLIB, F4 list

Copy file Y=Yes, N=No

Edit file Y=Yes, N=No

Print file Y=Yes, N=No

Retrieve values *LAST *LAST, *NEW, User id, F4 list

Job mode I I=Interactive, B=Batch

Job run priority *DFT 11-99, *DFT

F3=Exit F4=Prompt F5=Refresh F9=Cmd line F12=Cancel

MA a 05/037

1902 - Session successfully started

The Add Job screen

- **Job name**—Type a Job name up to 10 characters long. The file name must start with the letters A to Z, or the characters #, \$, or @. The remaining 9 positions can be the letters A to Z, numeric characters, or the characters #, \$, or @.
- **Description** - Type a Job Description to help the operator select the correct job.
- **User program**—Type the name of a User program, if any, you would like to run before the Job is executed. A User program might be one that sets up a special environment or sorts a group of records for printing, for example. No parameters are sent to the user program.
- **Library** - Type the name of the library where the User program can be found.
- **Copy file** - If the Job contains a Copy step, type Y. If not, type an N. (If you are defining a Job for MarkMagic Forms, type N).
- **Edit file** - If the Job contains an Edit step, type Y. If not, type an N.(If you are defining a Job for MarkMagic Forms, type N).
- **Print file** - If the Job contains a Print step, type Y. If not, type an N
- **Retrieve values**—To speed up the Job definition process, MarkMagic saves the values of all the user parameters specified in copy, edit and print commands. If you are creating a Job for a format you designed, type *LAST to retrieve your last values. This will start you off with all the parameters you last used in the copy, edit, and print commands. If you are working in a team and creating Jobs for other members of the team, press F4 to select the User ID of your associate to retrieve his or her values.
- **Job mode** - Specify whether the Job will run as an interactive (I), or a batch job (B).
- **Job run priority** - If the MarkMagic Job will run in batch, type its run attributes, or type *DFT for default.

- **Job description** - If the MarkMagic Job will run in batch, type a Job description and a library where the Job description can be found, or type *USRPRF for User Profile.
- **Job queue** - If the MarkMagic Job will run in batch, type the Job Queue and Library in which it will run, or type *JOBQ for the default queue of the Job Description.
- **Job priority** - If the MarkMagic Job will run in batch, type its run attributes on the Job Queue, or type *JOBQ for the default Job priority of the Job Description. Press ENTER to advance to the next screen.

Edit Copy Step Parameters

If the Job will have a Copy step, you are presented with the Edit CPYTOLBLF (Copy To Label File) Parameters screen. See Copy to a label file earlier in this chapter for detailed explanations of each parameter.

After typing or modifying the Copy To Label File Parameters, press ENTER to advance to the next screen in the Job definition process.

Edit Edit Step Parameters

If the Job will have an Edit step, you are presented with the Edit EDTLBLF (Edit Label File) Parameters screen. See Edit a label file earlier in this chapter for detailed explanations of each parameter. Specify whether the label file should be cleared before editing is invoked. If the Job contains a Copy step, specify *NO. After typing or modifying the Edit Label File Parameters, press ENTER to advance to the next screen in the Job definition process.

Edit Print Step Parameters

If the Job will have a Print step, you are presented with the Edit PRTLBLF (Print a Label File) Parameters screen. See Printing a label file or Printing MarkMagic Forms earlier in this chapter for detailed explanations of each parameter.

After typing or modifying the Print a Label File Parameters, press ENTER to advance to the next screen in the Job definition process.

Edit Parameter Attributes

For each MarkMagic Job step, you are presented with the Enter Parameter Attributes screen. Here is where you decide which parameters are to be presented to the Job's users. You can set the attributes for each of the parameters as follows:

- if you want the user to be able to type information and change the value for the parameter
- if you want the parameter value to be displayed but not input enabled
- if you do not want the parameter to be displayed at all. To speed entry of attributes, press F15 (Set Attributes) to toggle all parameters to 1, 2, or 3. Then, select individual attributes to change. For instance, if you only want one attribute to be presented to the user for entry, press F15 twice to set all attributes to 3 (no display). Then change the attribute of the one parameter you want to 1 (enabled). After you have set the attributes, press ENTER to continue. MarkMagic will present the Enter Parameter Attributes screen for each job step.

To test a MarkMagic Job

To test a MarkMagic Job, type option 8 (Warnings) in the Opt (Option) field and press ENTER. MarkMagic will display any potential errors it can identify in the Job steps.

To run a MarkMagic Job

To run a MarkMagic Job, type option 6 (Run) in the Opt (Option) field and press ENTER. MarkMagic will execute the Job steps in sequence.

Working With Jobs

The Work with MarkMagic Jobs screen is intended for users who create and modify Jobs. Options include the ability to change, copy, delete, display, run, rename, and test a selected job.

To change the view on the Work with MarkMagic Jobs screen

The default view on the Work with MarkMagic Jobs screen shows the Job Group, Job name, Description, which of the three steps comprise the job, and when the job was last changed. To change the view to show the label format, printer type, label file, User, and run mode, press F10 (View). To return to the default view press F10 (View) again.

To change a MarkMagic Job

To change a MarkMagic Job, type option 2 (Change) in the Opt (Option) field and press ENTER. The Change Job screen is displayed. Modify the job description, included MarkMagic Job steps, mode and priority, and press ENTER. Continue to make any changes to parameters and attributes.

To copy a MarkMagic Job

To copy a MarkMagic Job, type option 3 (Copy) in the Opt (Option) field and press ENTER. The Copy MarkMagic Job window is displayed. Press F4 to display a list of Job Groups defined for your system. Select the Job Group you wish to copy to, or to leave the Job in the same Job Group press ENTER. Name the new MarkMagic Job, and press ENTER. Press ENTER to confirm.

To delete a MarkMagic Job

To delete a MarkMagic Job, type option 4 (Delete) in the Opt (Option) field and press ENTER. The Confirm Delete Job screen is displayed. Press ENTER to confirm.

To display a MarkMagic Job

To display a MarkMagic Job, type option 5 (Display) in the Opt (Option) field and press ENTER. The Display Job screen is displayed. The job description, included MarkMagic Job steps, mode and priority are displayed. Press F22 (History) to display when the job was created, updated, and run. Press ENTER to continue to display parameters and attributes. When you are finished, press F3 to exit.

To print a MarkMagic Job report

To print a MarkMagic Job report, type option 5 (Display) in the Opt (Option) field and press ENTER. Press F6 (Job report) to run the report. The MarkMagic Job report contains summary information about the Job (when the Job was created, updated, and last run). Detailed information includes parameters and display attributes for each of the Job's steps. When you have printed the Job Report, press F3 to exit the Job definition.

To rename a MarkMagic Job

To rename a MarkMagic Job, type option 7 (Rename) in the Opt (Option) field and press ENTER. The Rename Job window is displayed. Type a new name, and press ENTER. Press ENTER to confirm.

Print Monitor

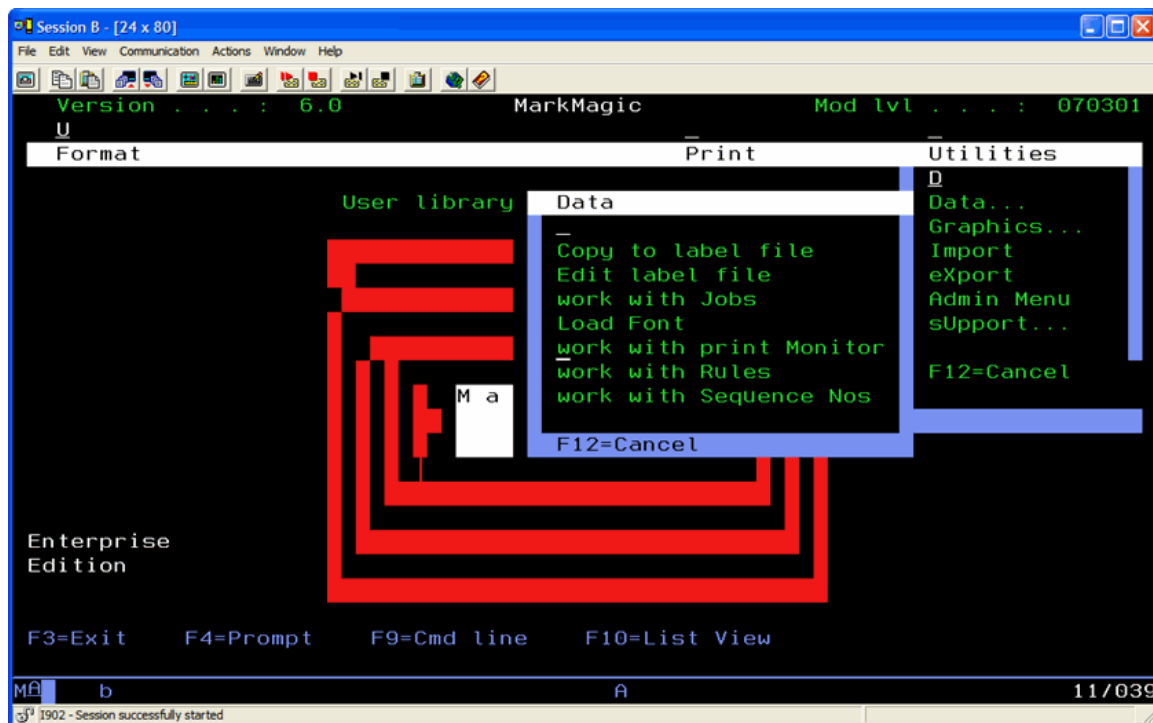


Print Monitor

What could be easier than telling MarkMagic to run a job when a spooled file appears in an Output Queue or when a record is added to a file? The new MarkMagic Print Monitor is one reason why MarkMagic requires no programming to achieve sophisticated results.

Via the Print Monitor, MarkMagic watches output queues for spool files and watches physical files for added records. Files that meet user-defined criteria can be automatically printed.

Select the Utilities/Data/work with print Monitor option from the MarkMagic Visual Designer main menu.



You are brought to the [“Work with MarkMagic Print Monitor”](#) screen

Press **F6** to [Add a New Monitor](#)

Press Enter to proceed to the [“Define selection for input File”](#)

Pressing Enter will take you to the [“Define Options for Monitor Process”](#)

Press Enter twice to create your new MarkMagic print monitor. [You will see it in the list of monitors.](#)



Work with print Monitor

```

Session B - [24 x 80]
File Edit View Communication Actions Window Help
Work with MarkMagic Print Monitor
Monitor Status . . . . . : Started by QSYSOPR 12/13/06 14:59:30
Position to monitor . . . . .
Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  10=Start  11=End

Opt Name      Library/Outq-File  Description      Typ  Sts
__ MONITOR    QUSRSYS/PRT01             New MarkMagic Monitor  *SPL *END

Bottom

F3=Exit      F5=Refresh    F6=Add      F8=Active Job   F9 Cmd line
F10=Start print monitor  F11=End print monitor  F12=Cancel
(c) Copyright CYBRA Corp. 1991, 2005
MA b 03/039
I902 - Session successfully started

```

Type options, and press Enter for the new monitor:

- **2, Change** – Use this option to make changes to a monitor. You will be shown the same screens used in creation of the monitor.
- **3, Copy** – Use this option to copy a monitor. Provide a new name and/or description.
- **4, Delete** – Use this option to delete a monitor.
- **5, Display** – Use this option to view the monitor's parameters without being able to make changes to them.
- **10, Start** – Change the Sts (Status) to ***STR**. The monitor is now active only if the main MarkMagic monitor subsystem is active. (See top of screen.)
- **11, End** – Change the Sts (Status) to ***END**. The monitor is now stopped. It will not trigger, regardless of the state of the MarkMagic monitor subsystem.

Important Screen Function Keys:

- **F6** – Create a new MarkMagic print monitor.
- **F8** – Same as WRKACTJOB command. Used to view the **MM_MONITOR** subsystem and job.

- **F10** – Use this Function key to start the main MarkMagic **MM_MONITOR** subsystem and job. All individual print monitors with Sts = ***STR** will now be active.
- **F11** – Use this Function key to end the main MarkMagic **MM_MONITOR** subsystem and job. No print monitors will be active, regardless of them being ***STR** or ***END**.

Press **F6** to [Add a New Monitor](#)



Add MarkMagic Print Monitor

The screenshot shows a terminal window titled "Session B - [24 x 80]". The main window displays "Work with MarkMagic Print Monitor" with status information: "Monitor Status : Started by QSYSOPR 12/13/06 14:59:30" and "Position to monitor : _____". Below this, it says "Type options, press Enter." followed by a list of options: "2=Change 3=Copy 4=Delete 5=Display 10=Start 11=End". A dialog box titled "Add MarkMagic Print Monitor" is open, prompting the user to "Type choices, press Enter." It has two input fields: "Monitor name : _____" and "Text description : _____", with a "Name" label next to the first field. Below the fields are function key options: "F3=Exit F5=Refresh F9=Cmd line F12=Cancel". At the bottom of the terminal window, a status bar shows "MA b" on the left, "14/038" on the right, and a message "I902 - Session successfully started" on the far left.

- **Monitor Name** – Type a name for your new monitor.
- **Text description** – Type a description for your new monitor.

Press Enter to proceed to the ["Define selection for input File"](#)



Define selection for input File

Session B - [24 x 80]

File Edit View Communication Actions Window Help

Define selection for input File

Name : MONITOR1 Monitor Description

Monitor Profile

Monitor type *SPLF *PF, *SPLF

Monitor mode *JOB *JOB, *RULE

Input Spool File

File name *ALL Name, *ALL, Generic*

Output queue QPRINT Name, *ALL, Generic*

Library *LIBL Name, *LIBL, *USRLIB

User *ALL Name, *CURRENT, *ALL

User data *ALL User data, *ALL

Form type *ALL Form type, *ALL, *STD

Program *ALL Name, *ALL, Generic*

Library Name, *LIBL, *USRLIB

Input Physical File

File name Name

Library Name

F3=Exit F4=Prompt F5=Refresh F9=Cmd line F12=Cancel

MA b 03/028

1902 - Session successfully started

Monitor Profile:

- **Monitor Type:**
 - *SPLF – Use this option if you want to monitor a queue for a released spool file.
 - *PF – Use this option if you want to monitor a physical file for added records.
- **Monitor Mode** – What type of Monitor you are creating. Currently, only *JOB is supported. This means that when the monitor is triggered, a MarkMagic job will run.

Input Spool File: (Use this section if you chose *SPLF for “Monitor Type”)

- **File name** – Specify the name of the spool file that you are monitor for. Use *ALL to allow the monitor to be triggered by any spool file that enters the queue.
- **Output queue** – Specify the name and library of the output queue where the spool file you are monitoring for will be released.
- **User** – Only spool files generated by this user ID will trigger the monitor. Use *ALL to allow spool files generated by any user ID to trigger then monitor.
- **User data** – Only spool files with matching user data in its “user data” attribute field will trigger the monitor. This is helpful if you want to single out spool files that have the same name and are generated by the same user.
- **Form type** – Only spool files with a matching form type that you specify here will trigger the monitor. Use *ALL to allow any form type setting to trigger the monitor.
- **Program** – Only spool files generated by the program you specify here will trigger the monitor.

Input Physical File: (Only use this section if you chose *PF for “Monitor Type”)

- **File name** – Name of the physical file that will be monitored for added records.
- **Library** – Library where the physical file is stored.

Pressing Enter will take you to the “[Define Options for Monitor Process](#)”



Define Options for Monitor Process

```

Session B - [24 x 80]
File Edit View Communication Actions Window Help

Define Options for Monitor Process

Name/Outq . : MONITOR1  Monitor Description          *LIBL/QPRINT

Type choices, press Enter.

Monitor process for *JOB
Run MarkMagic print job . . . . . *NONE          Name, *NONE
Print job group . . . . .          Name, *SYSTEM
Job library name . . . . . *NONE          Name, *NONE, *SEARCH

Exit program
Exit program name . . . . . *NONE          Name, *NONE
Library . . . . .          Name, *LIBL, *USRLIB

Action for input splf
Action . . . . . *NONE          *NONE, *HLD, *DLT, *MOV, *CPY
Output queue . . . . . *OUTQ        Name, *OUTQ
Library . . . . .          Name, *LIBL, *USRLIB

F3=Exit  F4=Prompt  F5=Refresh  F9=Cmd line  F12=Cancel

MAR  b  02/002
1902 - Session successfully started

```

Monitor Process for *JOB:

- **Run MarkMagic print job** – Specify the job name, job group, and library of the MarkMagic job that will run when the monitor is triggered. If you are unfamiliar with MarkMagic Jobs please see [Creating Jobs](#).

Exit program:

- **Exit program name** – Specify the name of a program that you would like to run immediately after the job completes.
- **Library** – Library for the program specified in the above parameter.

Action for input splf:

- **Action** – Specifies what the monitor should do with the spool file once it is finished processing the job.
 - ***NONE** – Do not do anything. The spool file will remain in *HLD status in the out queue you are monitoring.
 - ***HLD** – Put the spool file on hold.
 - ***DLT** – Delete the spool file.

- ***MOV** – Move the spool file to the queue specified in the parameter below this one.
- ***CPY** – Copy the spool file to the queue specified in the parameter below this one.
- **Output queue** – Type the output queue name and library here if using ***MOV** or ***CPY** in the previous parameter.

Press Enter twice to create your new MarkMagic print monitor. [You will see it in the list of monitors.](#)

PDF/Email



What is PDF?

PDF (Portable Document Format) is special file format created by **Adobe Systems Inc.** Documents in this format can be distributed electronically across the web and on a variety of platforms all the while retaining their original look.

With the use of Adobe's PDF reader program, documents originally created by any number of programs (word processors, spreadsheets, desktop publishing programs, and in this case, MarkMagic) appear on the screen exactly as they were meant to look.

These facsimiles can be viewed electronically or printed.

Adobe's PDF reader is called **Adobe Acrobat Reader** and can be downloaded free of charge. ***For best results, use the latest version of Acrobat.***

Read more about **PDF** at Adobe's website:

<http://www.adobe.com/products/acrobat/adobepdf.html>



How to turn your existing MarkMagic forms and labels into PDF Files?

MarkMagic can take what normally would print and instead, create a PDF document on the System i IFS. Just a few parameter changes are all that is needed to make a PDF.

The parameters in question are *Emulated device* and *Print to file*.

```

Print a Label File (PRTLBLF)

Type choices, press Enter.

Output bin . . . . . > 001          1-255
Duplex . . . . . > *NO             *YES, *NO, *TUMBLE
Enable ASCII transparency . . . > *NO        *YES, *NO, *DIR
User library name . . . . . > *NONE      Name, *NONE, *SEARCH, F4 list
Character Set . . . . . > *DEFAULT     *DEFAULT, *ENG, *ENU, *ESP...
Data . . . . . > ''

Secure from other overrides . . > *NO      *YES, *NO
Emulated device . . . . . > *PDF          Name, *PDF, *TEXT, F4 for list
Print to file . . . . . > /home/cybra/filename.pdf

More...

F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

- **Emulated device** - Setting this parameter to ***PDF** will instruct MarkMagic to create a PDF file of your print job instead of printing to your printer.
- **Print to file** – Type the IFS (Integrated File System) path and filename here. MarkMagic automatically assumes ROOT is the root of the path. The example shown above will create a PDF file with the name “filename.pdf” in the /home/cybra folder.



How to Setup MarkMagic to Email the PDF file:

Before you email PDF files directly from your AS400, the QSECOFR profile must be configured using our supplied email information updater java program. This program stores your login, password, email address, and the SMTP server's address. Currently, the only profile that needs to be configured is QSECOFR. If your individual profile does not have a MarkMagic email profile of its own, then it will default to QSECOFR's email configuration.

If you can log on as QSECOFR, please do so and continue with this portion of the tutorial. If you cannot, it is acceptable to carry out this section using your profile, but make sure when you attempt to email, you are logged on with this same profile.

At a command line, type **MRKMAG60/WRKMMEML** and press ENTER. You will be brought to the following screen:

```

                                Work With Email Information

Default Email Server ID: . . . . . QSECOFR

Type options, press Enter.
    2=Edit  3=Copy  4=Delete  5=Display  6=Test Email

Opt  User ID      Email Data      Name
=    AMR          YES             Angela Roberts
     ACC          YES             Ann C Cosgrove
     EFL          YES             Frank Flustig
     KWH          YES             Ken Hunter
     QSECOFR      YES             Security Officer

F3=Exit  F6=Add  F9=Cmd Line  F17=Change System Default

Bottom

(c) Copyright CYBRA Corp. 1991, 2005
    
```

Enter "2" before your User ID so you can edit your email information. This will bring up the following screen:

```

                                MarkMagic Email Information

User ID . . . . . _____
Login . . . . . _____
Address . . . . . _____
Password. . . . . _____
SMTP Server . . . . . _____

Enter=Update  F12=Cancel
    
```

All you must do is type in the required information. Your User ID will automatically be filled in. The *Login* parameter is the username that you use to sign on to check or send email. (Typically it is the email address *without* the @company.com portion.) The *Address* parameter is your full email address. Type your password in the *Password* parameter. (You will not see it entered in, so be careful.) The *SMTP Server* parameter is where you type the address of your outgoing (SMTP) email server. If you are unsure about any of these parameters, please ask your administrator for assistance.

```

Change User ID Email Information

User ID . . . . . AMR
Login . . . . . youremail@yourdomain.com
Address . . . . . youremail@yourdomain.com
Password. . . . .
SMTP Server . . . . . smtp.yourwebsite.com

Enter=Update  F12=Cancel

```

Be aware that there are unique security settings on every SMTP server that may prevent MarkMagic from successfully emailing PDF files. MarkMagic has no control over these settings, so if there are problems, you must consult your SMTP system administrator to resolve these issues. Examples are:

1. You must send mail using a valid, working email address on the SMTP server's domain.
2. If it is not a valid email address, you may only be allowed to send emails to addresses on the SMTP server's domain and not relay messages outside of it.

When you press ENTER after typing all of the information in, you will eventually be brought back the command line and you should see a message at the bottom of the screen saying "user information changed."

It is recommended that you test your email configuration before attempting to email your PDF file. On the Work With Email Information screen, place a "6" next to your User ID. This will bring you to the Test Email screen.

```

Work With Email Information

Default Email Server ID: . . . . . QSECOFR

Type options
  2=Edit  3

Opt  User
  6    AMR
     ACC
     EFL
     KWH
     QSECO

- Test Email

The following connection will be tested:
  smtp.yourdomain.com

An Email will be sent to the following address:
  youremail@yourdomain.com

Press Enter to Continue

F12=Exit

User information changed.
F3=Exit  F6=Add  F9=Cmd Line  F17=Change System Default

Bottom

(c) Copyright CYBRA Corp. 1991, 2005

```

Press ENTER, and if everything you provided is correct, you will get the following message:

```

Work With Email Information

Default Email Server ID: . . . . . QSECOFR

Type options, press Enter.
  2=Edit  3=Copy  4=Delete  5=Display  6=Test Email

Opt  User ID  Email Data  Name
=    AMR      YES        Angela Roberts
     ACC      YES        Ann C Cosgrove
     EFL      YES        Frank Flustig
     KWH      YES        Ken Hunter
     QSECOFR  YES        Security Officer

SMTP Connection is OK

F3=Exit  F6=Add  F9=Cmd Line  F17=Change System Default

Bottom

(c) Copyright CYBRA Corp. 1991, 2005

```

Once you are satisfied with your changes and the email tests successfully, Press F3 to exit the WRKMMEMPL program. You will be returned to the command line. MarkMagic is now configured to email from your server.



Emailing using the PRTLBLF command:

The PRTLBLF command contains parameters that, when used, will invoke the emailing engine of MarkMagic and instruct it to email the PDF file being created at that time.

```

Print a Label File (PRTLBLF)

Type choices, press Enter.

Recipient:
  Recipient type . . . . . = *PRI          *PRI, *CC, *BCC
  Internet address . . . . . > recipient@domain.com

+ for more values _
Sender . . . . . > sender@domain.com

Subject . . . . . > 'Email Subject'

More...

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

- **Recipient:** - type a "+" to specify more than one value for the recipient parameter.
 - **Recipient type** - *PRI for primary recipient. *CC if the recipient should be Carbon Copied and *BCC if the recipient should be Blind Carbon Copied.
 - **Internet address** – If an email address is provided in this parameter, the MarkMagic emailing engine will be invoked at the end of the PDF file creation process. It will email the created PDF file to this and any other recipients that are provided in this parameter.
- **Sender** – Recipients of the email will see this address as being the sender of the email. (The address they see in the "From" portion of the email.)
- **Subject** – The data provided in this parameter will be used as the subject of the email.


```

Print a Label File (PRTLBLE)

Type choices, press Enter.

Message . . . . . > 'Body of email. Type your message here.'

Other Attached Files . . . . . > *NONE

+ for more values

User Defined Data . . . . . > *NONE

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

- **Message** – Any data provided here will be included as the main body of the email message.

Running a PRTLBLE command with all of these parameters set correctly will, instead of printing to your printer, create a PDF file on the IFS and email that PDF file using the address and information provided in the command.

Fax

SNDDMMFAX(Send MarkMagic Fax) Command

The PDF/Fax/Email Option now supports faxing directly from the System i. To use the Fax capability, prompt (F4) the **MRKMAG60/SNDDMMFAX** command, or you can enter your Fax information directly into our Print a Label File (PRTLBLE) Command. You now have the ability to fax a PCL (HPPCL5, HPLJ4P or AFPDS) format along with a Fax Cover Sheet. You can fill in the appropriate fields (To, From, Subject, Message) from right within the SNDDMMFAX or PRTLBLE commands.

NOTE: *AFP Utilities (AFPU) must be installed for AFP graphic conversion to create the needed page segment. Contact IBM to purchase AFPU if you desire to convert AFP graphics.*



Prerequisites and thing to be aware of.

1. MarkMagic Fax requires IBM's Facsimile 400 "Fax 400" on the system. Type: **GO LICPGM** and press Enter. Check for: *5798FAX IBM Facsimile Support for System i*
2. You must have a Fax Profile already created in order to use SNDMMFAX fax. If you do not have one, you should be able to create one for yourself by using the following command: **CRTFAXPRF**. Please consult with your system administrator before doing this though.
3. The AFPDSFX device must be present in the printer devices list. To access the list, type the following at a command line: **MRKMAG60/SETMMPRM** and press Enter. Example screenshot:

```

Set MarkMagic Parameters

Date: 4/23/07      CPU model type:      Version: 6.0
Time: 11:23:36    CPU serial num:      Mod lvl: 070301
                  Processor group:
                  Logical partitn:

Type choices, press Enter.

Printer device types . . . *MASTER          F4 for list
                           HPPCL5
                           ZTZ140XI12
                           AFPDS
                           MM9830
                           AFPDSFX
                           _____
                           _____
                           _____
                           _____

F3=Exit    F5=Refresh    F8=Product Keys    F12=Cancel    More...
```

If your list says ***ALL**, you are safe. This means every printer type is activated. If you see a list of printers not including AFPDSFX, please type AFPDSFX in an available position and press Enter to add it to the list.

If you are using a Fax Cover Sheet, it will need to be created using this **AFPDSFX** device. There is an example Fax Cover Sheet provided in library **MMEXAMPLES** called **FAXCOVER**. You can use this format in your own fax application, but remember, it must be in the same user library as the format you are faxing. Please copy it out of **MMEXAMPLES** and into your own library.

3. If your form has white on black text, we will suppress the black box and convert the white text to black.

4. Shaded boxes will also be suppressed.
5. You may have a PTF installed that causes fax output to be reduced nearly 30% in size. To resolve this issue please follow these steps:

Rename the existing wscsts, QFFFINE and QFFNORM.

RNMOBJ OBJ(QFAX/QFFFINE) OBJTYPE(*WSCST) NEWOBJ(AFFFINE)

RNMOBJ OBJ(QFAX/QFFNORM) OBJTYPE(*WSCST) NEWOBJ(AFFNORM)

Copy the new wscsts, QFFFINE2 and QFFNORM2, to QFFFINE and QFFNORM

**CRTDUPOBJ OBJ(QFFFINE2) FROMLIB(QFAX) OBJTYPE(*WSCST)
TOLIB(QFAX) NEWOBJ(QFFFINE)**

**CRTDUPOBJ OBJ(QFFNORM2) FROMLIB(QFAX) OBJTYPE(*WSCST)
TOLIB(QFAX) NEWOBJ(QFFNORM)**

The changes will take effect immediately.

6. AFP Utilities (AFPU) must be installed for AFP graphic conversion to create the needed page segment. Contact IBM to purchase AFPU if you desire to convert AFP graphics.



Command example using MRKMAG60/SNDMMFAX

```

Fax a Label File (SNDMMFAX)

Type choices, press Enter.

Label file . . . . . > *SPOOLFILE      Name, *SPOOLFILE
Library . . . . .      *LIBL           Name, *LIBL
Label file member . . . . . *FIRST      Name, *FIRST
Spooled file . . . . . > QSYSPRT       Name
Job name . . . . .      *              Name, *
User . . . . .          _____      Name
Number . . . . .          _____      000000-999999
Spooled file number . . . . . > *LAST    1-999999, *ONLY, *LAST
Format name . . . . . > INVOICE        Name, *FILE, F4 for list
Printer type . . . . . > HPPCL5        Name, F4 for printer list
Fax Number . . . . . > '1-716-712-0666'
To:
  To . . . . . > 'Mr. John Smith'
_____
      + for more values _

More...

F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

```

Fax a Label File (SNDMMFAX)

Type choices, press Enter.

From:
  From . . . . . > 'CYBRA Corporation'
_____
      + for more values _
Subject . . . . . > 'INVOICE #32917'
Message . . . . . > 'John, Please see fax #32917. Thank you.'
_____
_____
_____
_____
_____
_____
Cover Page Format . . . . . _____      Name
Library . . . . .      *LIBL           Name, *LIBL
User library name . . . . . *SEARCH     Name, *NONE, F4 for list
Bottom

F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

Listed below are the new Fax parameters and their "Print a Label File" (PRTLBLF) command equivalents:

NOTE: If you are sending a fax using the PRTLBLF, you will need to change the Emulated Device to *FAX and send the output to the queue: **MMFAXQ** in **MRKMAGDTA**.

Label File: Specifies the file name and library of the label file. The possible values for label file are:

Label-file-name: The name of the label file containing the variable fields corresponding to the format you wish to fax.

***NONE:** No label file is used; variable data (if any) is contained in the DATA parameter.

***DTAQ:** Instead of a label file, variable data is contained in the MarkMagic print data queue, MMPRTQ in the QTEMP library.

***SPOOLFILE:** Faxes a MarkMagic Form based on a specified spooled file.

Library: Specifies the file name and library of the label file.

Format Name: The name of the format that will be faxed. Press F4 for a list of format names. If you have written label records that contain the format name in the LBPARM fields, this parameter is ignored.

Fax Number: Specifies the recipient's fax number. This should be in the format '1-111-111-1111'.

PRTLBLF Equivalent: Put your fax number in the FIRST "Recipient" Field

To (Recipient): Identifies the receiver of the fax. Up to 3 lines can be filled. Specify the data to fill the 'To' line of the fax's cover page. Up to 40 characters can be specified for each line. You can enter multiple values for this parameter. If you are on an entry display and you need additional entry fields to enter these multiple values, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press the Enter key.

PRTLBLF Equivalent: 2nd, 3rd, and 4th, Recipient/Internet Address parameters.

From (Sender): Identifies the name of the person/company sending the fax. Up to 3 lines can be filled. Specify the data to fill the 'From' line of the fax's cover page. Up to 40 characters can be specified for each line. You can enter multiple values for this parameter. If you are on an entry display and you need additional entry fields to enter these multiple values, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press the Enter key.

PRTLBLF Equivalent: Sender

Subject: Specifies the subject of the fax to be printed on the cover page. Up to 40 characters can be specified.

Message: Specify an optional message for the fax cover page. The message can be up to 5,000 characters long.

Cover Page Format: Specifies the format name and library of the cover page. *NOTE if you are using a Cover Page Format, it must be defined as an AFPDSFX device and in the same library as the format you are faxing.

PRTLBLF Equivalent: "Other Attached Files" parameter. (First 10 characters represents the cover page format name, the next 10 represent the user library where the format is stored. Spaces must be filled in to the right of the format name to fill in all of the first 10 characters. See the screenshot below that shows how to fax using PRTLBLF.)

User Library Name: Name of user library where format definition is located

Once all of the correct parameters are filled in, press Enter and you will see a brief message saying that your file is being sent to output queue MRKMAGDTA/MMFAXQ. MMFAXQ is used for all fax output, and will be created the first time you call MarkMagic to fax a document. After a few moments your System i fax transmission will be sent, and the MMFAXQ is cleared.



Sending a Fax with the PRTLBLF Command Example

You don't have to use only the SNDMMFAX command to utilize the faxing capabilities found in MarkMagic. You can also use the MarkMagic PRTLBLF command. This was designed to make programming easier for customers who already create PRTLBLF command calls. This way you don't have to write a new program just to use SNDMMFAX.

Simply, plug the appropriate information into the parameters shown in the following screenshots.

NOTE: *AFP Utilities (AFPU) must be installed for AFP graphic conversion to create the needed page segment. Contact IBM to purchase AFPU if you desire to convert AFP graphics.*

Screenshot #1: (Parameters needed when sending a fax using PRTLBLF)

```

Print a Label File (PRTLBLE)

Type choices, press Enter.

Spool copies . . . . . > 001          1-255
Hold spooled file . . . . . > *NO      *YES, *NO
Save spooled file . . . . . > *NO      *YES, *NO
Spooled output queue . . . . . > MMFAXQ ← Name, *DEV, *JOB
  Library . . . . . > MRKMAGDTA ← Name, *LIBL, *USRLIB
Source drawer . . . . . > 1          1-255, *E1, *E2, *E3, *E4
Output bin . . . . . > 001          1-255
Duplex . . . . . > *NO              *YES, *NO, *TUMBLE
Enable ASCII transparency . . . > *NO  *YES, *NO, *DIR
User library name . . . . . > LIBRARY Name, *NONE, *SEARCH, F4 list
Character Set . . . . . > *DEFAULT  *DEFAULT, *ENG, *ENU, *ESP...

More...

F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

Screenshot #2 and 3: (More parameters used when sending a fax using PRTLBLE)

```


Secure from other overrides . . . > *NO      *YES, *NO
Emulated device . . . . . > *FAX ← Name, *PDF, *TEXT, F4 for list
Print to file . . . . . > *NONE

```

```


Print a Label File (PRTLBLF)

Type choices, press Enter.

Recipient:
Recipient type . . . . . - *PRI *PRI, *CC, *BCC
Internet address . . . . . > '1-716-712-0666' 

```

```

Recipient type . . . . . - *PRI *PRI, *CC, *BCC
Internet address . . . . . > 'Mr. John Smith' 

```

```

+ for more values _

```

More...

```

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

Screenshot #4: More Parameters needed to fax using PRTLBLF command

```

Sender . . . . . > 'CYBRA Corp.'
Subject . . . . . > 'Invoice #39817'

```

Screenshot #5: (The rest of the parameters needed to send a fax using PRTLBLF)


```

Print a Label File (PRTLBLF)

Type choices, press Enter.

Message . . . . . > 'John, Please see fax #32917. Thank you'

Other Attached Files . . . . . > 'COVER    LIBRARY'
                                   12345678901234567
                                   + for more values

User Defined Data . . . . . > *NONE

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
    
```

Here is the command string resulting from the above screenshots:
 (Parameters in blue are needed for faxing using the PRTLBLF command).

```

PRTLBLF  FILE(LIBRARY/LABELFILE)
         MBR(*FIRST)
         FMTDFT(TESTDN)
         FORM(*STD)
         SPOOL(*YES)
         SPOOLNAME(*FMT)
         LBLQTY(*DEFAULT)
         PTRTYP(HPPCL5)
         FROMRCD(*START)
         TORCD(*END)
         NBRRCDS(*END)
         TRNUNPRT(*YES)
         SNDFMT(*YES)
         SNDGRA(*YES)
         CLRGRA(*YES)
         SPEED(*MEDIUM)
         ALIGN(*LEFT)
         RIBBON(*YES)
         HEAT(*MEDIUM)
         FMTNUM(*NONE)
         RFNETWK(*NONE)
         COPIES(001)
         HOLD(*YES)
         SAVE(*NO)
    
```

```

OUTQ(MRK MAGDTA/MMFAXQ)
DRAWER(1)
OUTBIN(001)
DUPLEX(*NO)
ATRN(*NO)
USRLIB(MMACC)
CHRSET(*DEFAULT)
DATA("")
?-RULE(*NONE/*NONE)
SECURE(*NO)
EMLDEV(*FAX)
PRTTOF(*NONE)
RECIPT(((*PRI '1-716-712-0666') (*PRI 'Mr. John Smith') (*P
RI 'West Seneca Division') (*PRI 'Attn:
Tech Support'))
SENDER('CYBRA Corp.')
SUBJECT('Invoice #32917')
MSG('John, please see invoice #39817. Thank you.')
ATTACHF('COVERPG LIBRARY')
USRDFNDDTA(*NONE)

```

FormWeaver


What is Form Weaver?

FormWeaver enables printing of documents that combine multiple formats. FormWeaver Documents come in many varieties, including the merging of two or more formats on one page. An example of merged formats would be a bill of lading form with a shipping label in the lower left hand corner. FormWeaver documents can also consist of multiple formats per input record. A printed invoice that contains a duplexed back page with special instructions, is an example of this feature.

Certain industries, particularly those that ship directly to the consumer, require that the shipping document contains both a pick ticket, and a FedEx ground or UPS carrier label. You no longer need to program complex documents that contain, for example, a packing list with header information, detail information, and shipping information, as well as an integrated bar code shipping or return label. All you must do is design the packing list, then design a standard shipping label, and use the MarkMagic FormWeaver Option to merge the different formats into one document at print time.

Sample FormWeaver Document

(Different colors represent separate MarkMagic formats.)



Ship To: Jeremy M. Thomas
209 West 5th Street
Downers Grove, IL 60515

Shop Online at
www.cybra.com

One Executive Blvd.
Yonkers, NY 10701
(914)963-6600
CYBRA Store #3

Sold To: Kelly Thomas
4840 Hanover Drive
Flower Mound, TX 75028

Package Date: 08/23/06

SKU	Description	Quantity	Unit Price	Ext Price
452-135	Gas Grill - Coleman	1	349.99	349.99
234-146	EZ-Setup Party Tent	1	199.99	199.99
872-174	Lawn Chair - Brown	4	39.99	159.96
340-457	Tiki Torch - with fuel	10	9.99	99.90
230-176	Lawn Table - Glass 5' x 5'	1	39.99	39.99
TOTAL				849.83

VISA 5206

Package Totals


Some items may be shipped separately and are not noted on this pack.

Order Nbr	B23980
Tax	25.87
Package ID	7734582

Name & Address (if different from shipping address above): _____ **State:** _____

Name: _____ **Zip:** _____ **Phone:** _____

Address: _____ **email Address:** _____



Package ID 7734582
Order B23980

Reason	Qty	Description	Ship Qty	Return Qty	Refund	Replace	Exchange	Exchange for Item
452-135	1	Gas Grill - Coleman	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
234-146	1	EZ-Setup Party Tent	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
872-174	4	Lawn Chair - Brown	4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
340-457	10	Tiki Torch - with fuel	10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
230-176	1	Lawn Table - Glass 5' x 5'	1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please indicate reason for return by placing a reason code in the space provided. Reason codes are listed below.

430: Merchandise received 112: Difficult to assemble 113: Item not as described 120: Changed mind / did not want 410: Received wrong item

420: Merchandise defective 113: Color not as picture 116: Size - smaller than expected 121: Received as gift / did not want 440: Arrived too late

111: Quality not as expected 114: Does not match 117: Size - larger than expected 180: Other (please describe):

UPS Ground

TRACKING #: 1Z2866673987567

IL 605 1-90

H

Ship To: Jeremy M. Thomas
209 West 5th Street
Downers Grove, IL 60515

CYBRA Corporation
(914) 963 - 6600
One Executive Blvd
Yonkers, NY 10701

1281 BS, 1 of 1
DWT 135 LBS

Package ID 7734582
Order B23980

From: _____

To: CYBRA Corporation
Attn: Returns Dept.
One Executive Blvd.
Yonkers, NY 10701

Package ID 7734582

Order Nbr B23980

Package ID 7734582

Print Date: 08/23/06

Slot Number 187 DYM

SKU	Qty	Description
452-135	1	Gas Grill - Coleman
234-147	1	EZ-Setup Party Tent
872-174	4	Lawn Chair - Brown
340-457	10	Tiki Torch - with fuel
230-176	1	Lawn Table - Glass 5' x 5'

OFF DATE: 08/17/06 02:32:49

Pack Mail: BOX
Box: 258
New Box: YES
Hold Date: N
Group: REPT
Insert: N

Congratulations, you
twice! We wish you all
the best for many happy
years to come!
Love, Matt and Kelly



How to use FormWeaver

FormWeaver is the **RUNMFJOB** command. The command can be found in library **MRKMAG60** and can be run by typing **MRKMAG60/RUNMFJOB** and prompting (F4). The command can also be found in the Print menu of the MarkMagic 6 main menu.

MRKMAG60/RUNMFJOB:

```

Run a Multi-Format Job (RUNMFJOB)

Type choices, press Enter.

Job name . . . . . _____ Name
Group . . . . . _____ Name, *SYSTEM
Run mode . . . . . *DEFAULT *DEFAULT, *INTER, *BATCH
Job library name . . . . . *NONE Name, *NONE, F4 for list
Number of formats per page . . . 1 Number, *VARYING
Number of formats per record . . 1 Number
Record order . . . . . *SEQ *SEQ, *RANDOM
Format Specifications:
Format name . . . . . _____ Name, F4 for list
Offset up/down amount . . . . 0 0-9999
Offset across amount . . . . 0 0-9999
Format rotation . . . . . 0 0, 90, 180, 270
+ for more values _

Bottom
F3=Exit F4=Prompt F5=Refresh F10=Additional parameters F12=Cancel
F13=How to use this display F24=More keys

```

- **Job name** – FormWeaver requires a predefined MarkMagic job. Type the name of the job and the group name here. The job may contain a user exit, a copy step and/or an edit step. It must contain a print step. If the print step's Format name (FMTDFT) parameter contains a value, that format is used to set the FormWeaver document's page (supply) size, margins and rotation. If the print step's FMTDFT is blank, the first format in this command's FORMAT list parameter is used to set the page (supply) size, margins and rotation values.
- **Run mode** – Whether or not RUNMFJOB should run in interactive (**INTER*) or batch (**BATCH*)
- **Job library name** – the MarkMagic user library where the job is stored.
- **Number of formats per page** - This is the number of MarkMagic formats that make up one printed page. The special value **VARYING* is not currently supported. There must be enough records in whatever data source you are using (physical file or spoolfile) to match this value. Each format on the printed page will use 1 record from that data source. If you plan to print 3 formats on the

page, your physical file must contain 3 (or a value that is a multiple of 3) records. For example, if your file has 9 records, you will receive 3 pages of printed data.

- **Number of formats per record** - This is the number of formats (and pages) that correspond to each input record. When this parameter's value is greater than 1, the number of formats per page parameter, MULTIUP, should be set to 1. Similarly, when the number of formats per page is greater than 1, this parameter should be set to 1.

An example of using multiple formats (or pages) per input record would be printing an invoice that contains a duplexed back page with special instructions. You would set this parameter to 2 and for every record in your data source, MarkMagic will print with 2 formats, each on a separate page. On a side note: to duplex your form, you would have to modify the job that the RUNMFJOB command is using to say *Duplex* ***YES**.

- **Record order** - Specifies the order of the input records. The possible values are:
 - ***SEQ** - The records will be in sequence. This means that the input records will follow the same sequence as the list of formats in the FORMATS parameter. When record order is sequential, MarkMagic ignores the LBPARM field in the label file that normally can be used to indicate the format to use for each input record. *SEQ should be used when printing with spoolfiles.
 - ***RANDOM** - Records will be in *RANDOM order. In this case the LBPARM field in the MarkMagic label file is examined to determine the format to use, record by record. *RANDOM cannot be used when printing with spoolfiles.
- **Format Specifications** - Specifies the formats that will be used to process the FormWeaver document. Each format is described in this parameter by a list of attributes. The attributes are format name, row offset, column offset and rotation. You can enter multiple values for this parameter. If you are on an entry display and you need additional entry fields to enter these multiple values, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press the Enter key. The possible values are:
 - **Format-name** - The name of the format. Press F4 for a list of format names.
 - **Offset-up/down** - This is a four digit value that specifies the vertical offset for positioning the format on the page. This parameter value is specified in the unit of measure of the associated format. That means that if the format's unit of measure is Inches, the 4 digits are interpreted as 2 integer digits followed by 2 decimal digits (for example, 0425 is 4.25 inches). If the format's unit of measure is Millimeters, the 4 digits are interpreted as 3 integer digits followed by 1 decimal digit (for example, 0425 is 42.5 millimeters). **Note:** If this parameter is 0 the format will print at the bottom of the page if the format is measured from the bottom, or at the top of the page if the format is measured from the top.
 - **Offset-across** - This is a four digit value that specifies the horizontal offset for positioning the format on the page. This parameter value is specified in the unit of measure of the associated format. That means that if the format's unit of measure is Inches, the 4 digits are interpreted

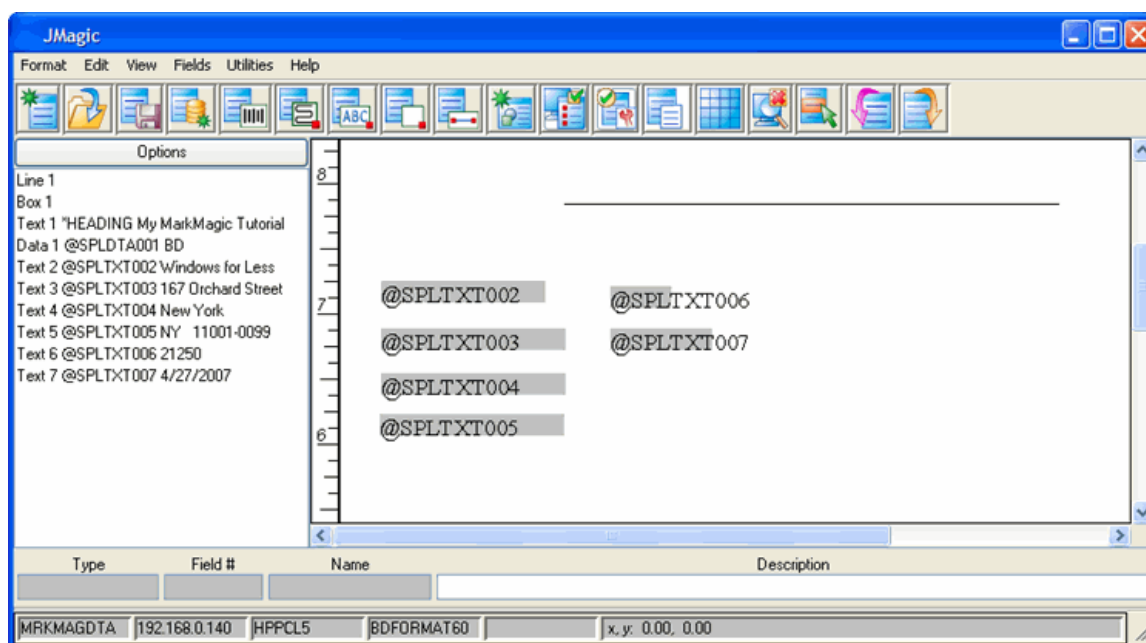
as 2 integer digits followed by 2 decimal digits (for example, 0425 is 4.25 inches). If the format's unit of measure is Millimeters, the 4 digits are interpreted as 3 integer digits followed by 1 decimal digit (for example, 0425 is 42.5 millimeters). Note: If this parameter is 0 the format will print at the left edge of the page.

- **Rotation** - Specify the amount the format should be rotated on the printed page. The default value is 0. Other possible rotation values are 90 degrees, 180 degrees, or 270 degrees.

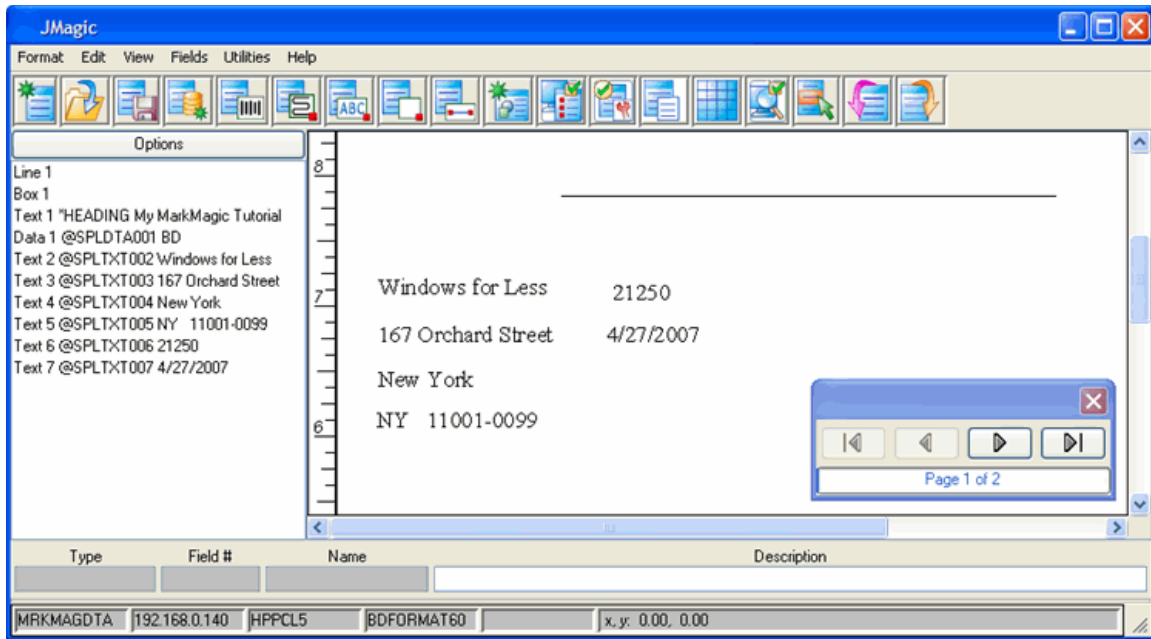
JMagic

JMagic Print Preview


At anytime in the design process, a preview of your format can be generated. Save your format and click the Turn On Preview toolbar icon. A preview of your format with the spool file or database file data you were working with during your design session will be shown. If the spool file and database file you used to design your format is no longer on your system, JMagic will prompt you to browse your system for another file to supply data to your preview.

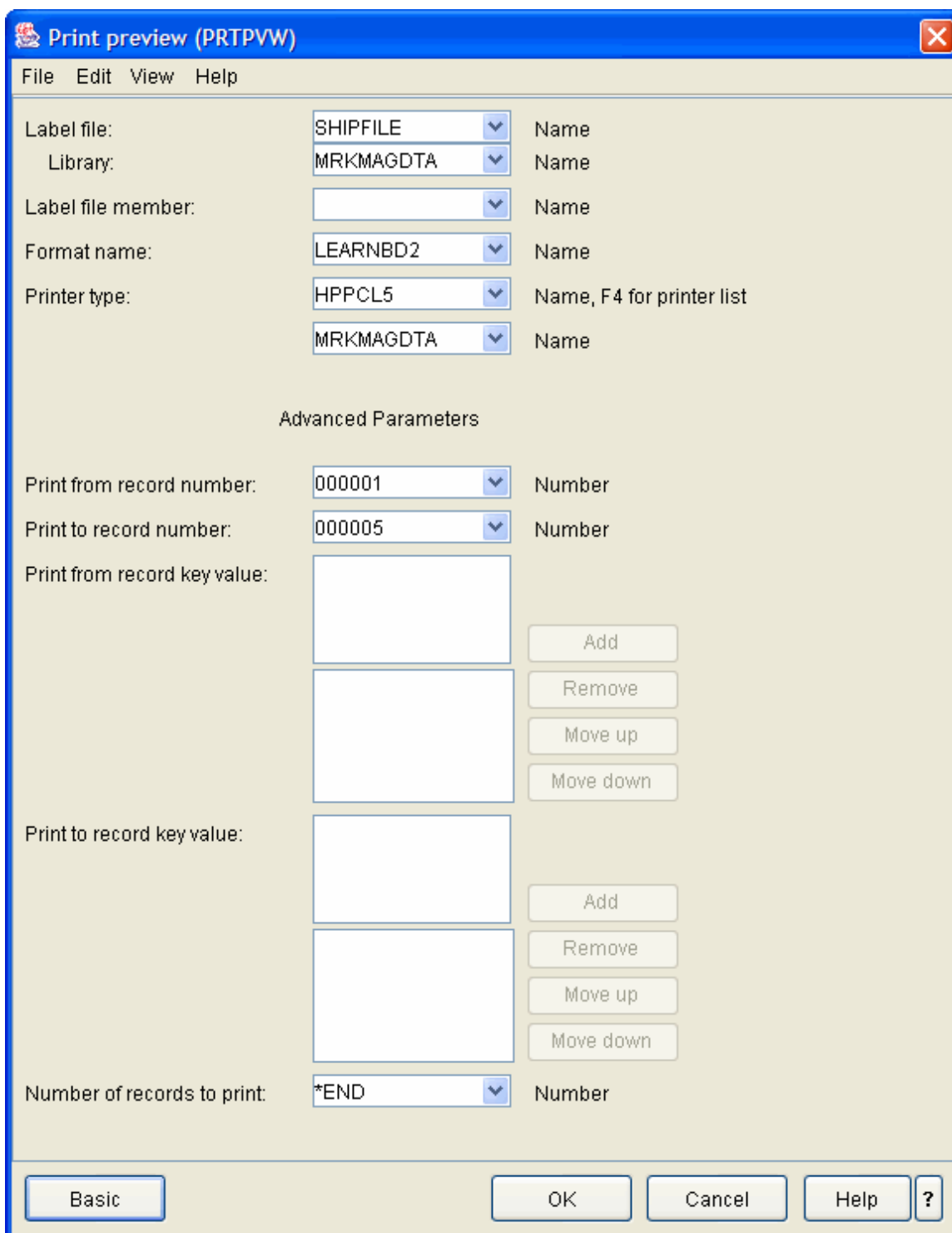


Once in preview mode, a navigation window allows you to view multiple pages by clicking next page. While in preview mode, existing variable fields can be changed or moved to other locations. New constant fields along with box, line and graphic fields can be added. You can also modify the previewed text fields' sizes or font types.



Print Preview Window

The **Print Preview Window** is broken down into **Basic** and **Advanced**. By default, the **Basic Settings** appear first. To set the **Advanced Options**, click the **Advanced Button**. This will expand the screen with additional fields. This will expand the screen with additional fields. Once a preview is created the “Turn On Preview”  button can be used to toggle between preview and design mode.



The image shows a Windows-style dialog box titled "Print preview (PRTPVW)". It has a menu bar with "File", "Edit", "View", and "Help". The dialog is divided into two main sections: "Basic" and "Advanced Parameters".

Basic Section:

- Label file:** A dropdown menu showing "SHIPFILE". To its right is the label "Name".
- Library:** A dropdown menu showing "MRKMAGDTA". To its right is the label "Name".
- Label file member:** An empty text box. To its right is the label "Name".
- Format name:** A dropdown menu showing "LEARNBD2". To its right is the label "Name".
- Printer type:** A dropdown menu showing "HPPCL5". To its right is the label "Name, F4 for printer list".
- Below the printer type, there is another dropdown menu showing "MRKMAGDTA" with the label "Name" to its right.

Advanced Parameters Section:

- Print from record number:** A text box containing "000001" with a dropdown arrow. To its right is the label "Number".
- Print to record number:** A text box containing "000005" with a dropdown arrow. To its right is the label "Number".
- Print from record key value:** A large empty text box. To its right are four buttons: "Add", "Remove", "Move up", and "Move down".
- Print to record key value:** A large empty text box. To its right are four buttons: "Add", "Remove", "Move up", and "Move down".
- Number of records to print:** A dropdown menu showing "*END". To its right is the label "Number".

Buttons: At the bottom of the dialog, there are five buttons: "Basic" (which is highlighted with a blue border), "OK", "Cancel", "Help", and a question mark icon.

- **Label file** - The name of the label file containing the variable fields corresponding to the format you wish to print preview.
 - **Label-file-name** - The name of the label file containing the variable fields corresponding to the format you wish to print preview.
 - ***NONE** - No label file is used; variable data (if any) is contained in the DATA parameter.

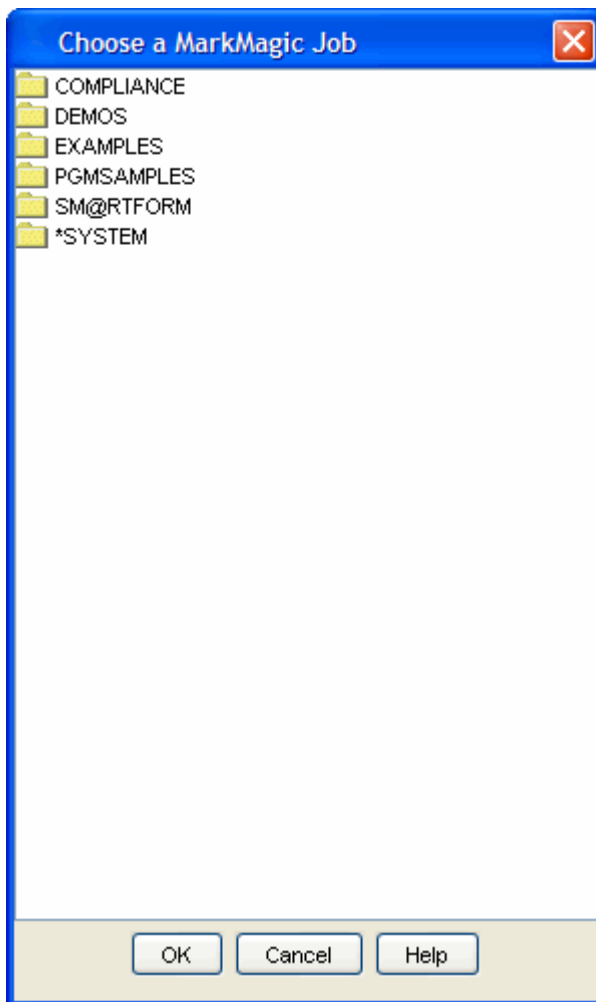
- ***DTAQ** - Instead of a label file, variable data is contained in the MarkMagic print data queue, MMPRTQ in the QTEMP library
- ***SPOOLFILE** - Print Preview a MarkMagic Form based on a specified spooled file.
- ***FORMAT** - Sends a format to a printer without printing in order to restore a format. This is used when an application requires high performance
Note: all printer types do not support this function. Check the Printer Specific Reference for your printer for more information.
- ***LAYOUT** - Print Preview layout of a label without including actual data.
- ***TEST** - Print Preview a test label to validate the printer connection status.
- **Library** - Specifies the file name and library of the label file.
- **Label file member** - The name of the member in the physical file, or *FIRST for the first member of the specified file.
- **Format name** - The name of the format that will be print previewed. If you have written label records that contain the format name in the LBPARM fields, this parameter is ignored.
- **Printer type** - If your printer is an OS/400 device, type the name here or select a printer from the drop down menu.
- **Print from record number** - Specifies the record number of the first record that is print previewed, or *START to start print previewing at the first record number or *LAST to print the last record in the file.
- **Print to record number** - Specifies the record number of the last record that is print previewed, or *END to stop printing at the last record number.
- **Print from record key value** - When a label file with key fields is print previewed, you can specify the key value of the first record.
- **Print to record key value** - When a label file with key fields is print previewed, you can specify the key value of the last record.
- **Number of records to print** - The number of records to print previewed, or *END. If you specify a Print to Record Key value, this parameter cannot be used.
Note: Preview will only display the first 5 records in the file.

Running Jobs

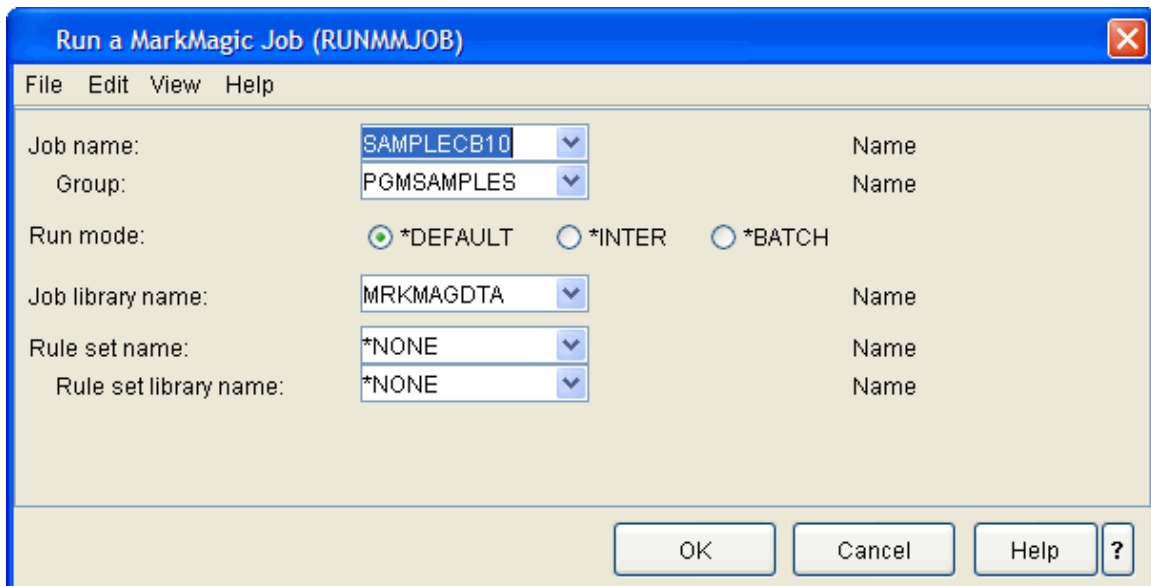
After you are satisfied that the Job executes as you anticipated, the Job can be placed in production. You can predefine jobs and create a label printing system without requiring any programming effort at all. The Work with MarkMagic Jobs screen is intended for authorized users who create and modify Jobs. Other users can be presented with a Run MarkMagic Job menu that allows them to display or run a MarkMagic Job.

To run a MarkMagic Job with JMagic

- Select the **Print Menu** from the **File Menu**.
- From the **Print Menu**, select the **RunMMJob Option**. This opens the **Select a MarkMagic Job Window**.



- From the list, select the job that you want to run and click the **OK Button**. This will open that job's specifications window.



- **Job Name** - use the drop-down to specify the Job Name
- **Group** - this is the group that you specified in the first window
- **Run Mode** - select the Run Mode by clicking the appropriate radio button
 - ***DEFAULT**: Use the mode that was defined when the job was created.
 - ***INTER**: Run the job interactively.
 - ***BATCH**: Submit the job to batch.
- **Job Library Name** - What library the job is stored in
- **Rule Set Name** - select a rule-set from the drop-down (not currently implemented, leave as *NONE.)
- **Rule Set Library Name** - select a rule-set library from the drop-down. (not currently implemented, leave as *NONE.)
- Click the **OK Button** to run the job.

Print format Report (PRTFMTRPT)

Print Format Report (PRTFMTRPT)

File Edit View Help

Print from format name: Name

Print to format name: Name

Label printer type: Name

Printer device: Name

Advanced Parameters

Spooled output queue: Name

Library: Name

Hold spooled file: ☐ *YES ☐ *NO

Save spooled file: ☐ *YES ☐ *NO

Basic OK Cancel Help ?

- **Print from format name** - Name of the format with which to begin the report, or *START to begin the report with first format.
- **Print to format name** - Name of the last format in the report, or *END to end the report with the last format.
- **Label printer type** - Name of label printer device types, or *ALL to print the report for all label printer types.

- **Printer device** - The System i device name of the printer to print the format report. To print to the job's default printer, specify *DEFAULT for the parameter value. If printing to an output queue, this parameter is ignored.
- **Spooled output queue** - The name of the output queue to which the format report is spooled. If you prefer to print to a specific print device, this parameter's value should be *DEV. For printing to an output queue the possible library values are:
 - ***LIBL** - All libraries in the job's library list are searched until the first match is found.
 - ***USRLIB** - The current MarkMagic user library is searched.
 - **Library-name** - The current MarkMagic user library is searched.
- **Hold spooled file** - Type *YES to hold the spooled output file until it is released or *NO to not hold the spooled output file. This parameter is used when the Printer Device Parameter is *OUTQ.
- **Saved spooled file** - Specifies, when Printer Device Parameter is *OUTQ, whether the spooled file is saved (kept on the output queue) after the output has been produced. Type *YES to keep the spooled file data on the output queue until the file is deleted, or *NO to not keep the spooled file data on the output queue.

Start Analyze Print

This option turns on the MarkMagic Print Analysis feature for a specific user. If Print Analysis is already enabled for the user, this command can be used to change the parameter values previously set. Print Analysis provides a report of the status of a MarkMagic print. It contains a number of sections which can be selected via optional command parameters. The Print Analysis Report is used to troubleshoot a printing problem for which technical support representatives require detailed information in order to diagnose the cause of the problem. Note: Once Analysis Mode is started for a user, all MarkMagic printing initiated by the user will create a report. It is important to end Analysis Mode once the desired report is generated.

Start Analyze Print (STRANZPRT)

File Edit View Help

Analysis mode: ☒ *ANZ ☐ *DBG ☐ *TIM

Printer device: *JOB Name

Print mode: ☒ *INTER ☐ *BATCH

User profile: *CURRENT Name

Advanced Parameters

Print stream report:

Print report: ☒ *YES ☐ *NO

Maximum records to print: 500 Number

Format report: ☒ *YES ☐ *NO

MarkMagic job report: ☒ *YES ☐ *NO

Label file report:

Print report: ☒ *YES ☐ *NO

Maximum records to print: 20 Number

Device table report: ☐ *YES ☒ *NO

Device description report: ☐ *YES ☒ *NO

Basic OK Cancel Help ?

- **Analysis mode (ANZMOD)** - Specify the type of print analysis required.
 - ***ANZ** - This is the normal analysis mode.
 - ***DBG** - Debug mode is only used in certain specialized troubleshooting situations. Use this only when specifically instructed by a technical support representative.
- **Printer device (DEV)** - device-name The name of a printer device description. The spooled file is placed on the output queue with the same name as the device.
 - ***JOB** - The output device associated with the current OS/400 job.
 - ***OUTQ** - The report is placed on a specified system output queue.
 - ***PCFILE** - The report is placed in a specified folder as a document. It can then be accessed via Client Access by an attached PC. This option is

- useful when the report is to be e-mailed as an attachment, instead of printing or transmitting via facsimile.
 - ***NETFILE** - The report is sent to a specified user at a specified network address.
- **Print mode (PRTMOD)** - Specifies whether the Print Analysis report is created interactively or in batch mode.
 - ***INTER** - The report is created as an interactive job step. You have to wait until the report is completed before proceeding with the current job.
 - ***BATCH** - The report is created in batch. You may proceed with the current job without waiting for the Print Analysis Report to complete.
- **User profile (USER)** - The user name for which print analysis is started.
 - ***CURRENT** - Print analysis is started for the current user.
 - **user-name** - Specify the user name that identifies the user profile for which print analysis is started. Recommended technique

Note: The user-name parameter value is typically used by a technical support professional to test or troubleshoot a problem for an end user.

- **Spooled output queue (OUTQ)** - When the DEV parameter (Printer device) is *OUTQ, you must specify the name of the spooled output queue and the library in which it is located.

The possible library values are:

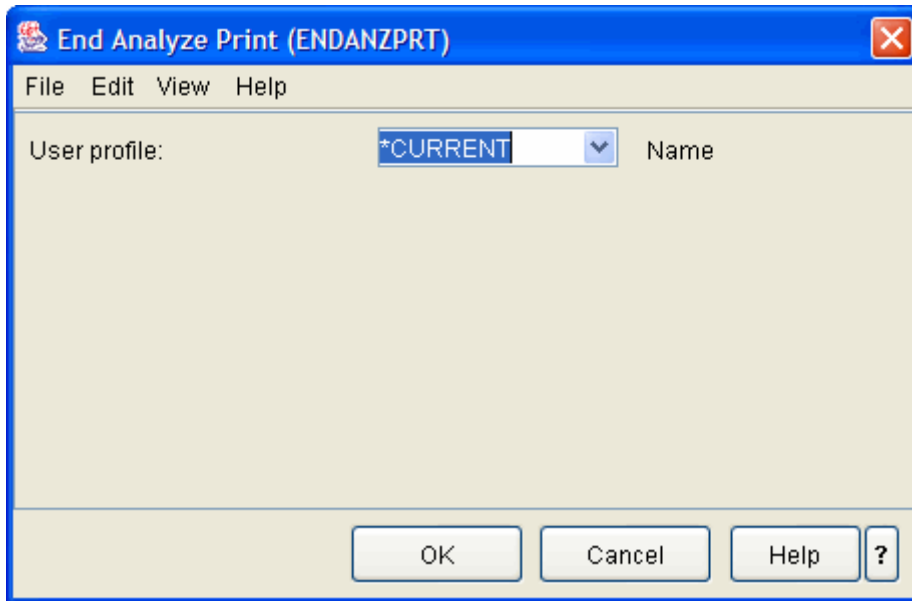
- ***CURLIB** - The current library for the job is used to locate the output queue.
- **library-name** - Specify the library where the output queue is located.
 - **Send to user id (TOUSRID)** - When the DEV parameter (Printer device) is *NETFILE, you must specify the two-part user ID of a user to whom the report is to be sent. Both parts of this parameter must be specified - the user ID and the Address.
- **Print Stream report (PRTSTMRPT)** - Specify whether to print the Print Stream Report section, and the maximum number of records to print. This report shows the actual spool records that are sent to the printer. These spool records are referred to as the "print stream". Since the stream can sometimes be quite long, it is best to place a limit on the number of records, unless you are instructed to do otherwise.
- **MarkMagic job report** - Specify whether to print the MarkMagic Job Report. This report shows all parameter values related to the MarkMagic job that was run, if any.
- **Label file report** - Specify whether to print the Label File Report section, and the maximum number of records to print. This report displays a formatted listing of records in the label file.
- **Device table report** - Specify whether to print the Device Table Report section. This lists the MarkMagic configuration record of the printer referred to in the

PTRTYP (Label Printer Type) parameter of the PRTLBLF (Print Label File) command.

- **Device description report** - Specify whether to print the Device Description Report section. This lists the OS/400 system configuration of the printer referred to in the DEV (Printer Device) parameter of the PRTLBLF (Print Label File) command, if any.

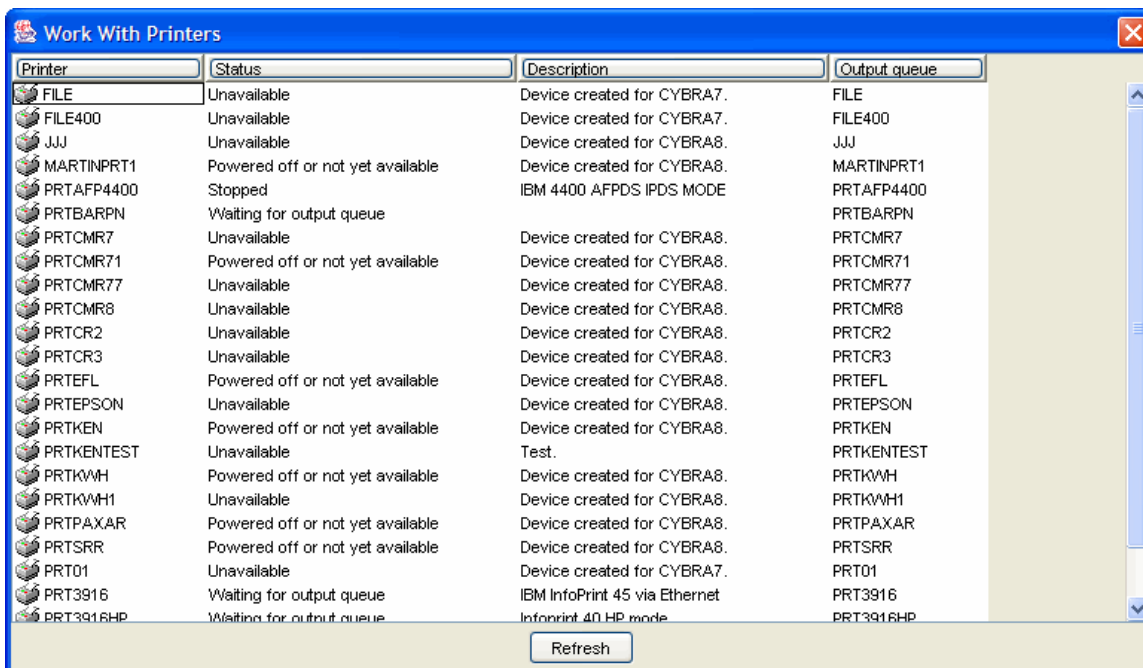
End Analyze Print

This option turns off the MarkMagic Print Analysis feature for a specific user. Print Analysis is initiated with the (Start Analyze Print) option.



- **User Profile (USER)** - The user name for which print analysis is ended.
 - ***CURRENT** - Print analysis is ended for the current user.
 - **user-name** - Specify the user name that identifies the user profile for which print analysis is ended. (*Recommended*)

Work with Configuration Status

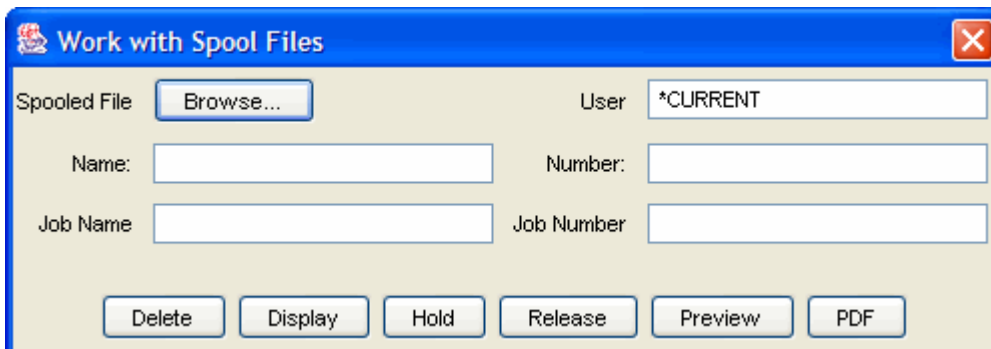


The 'Work With Printers' dialog box displays a list of printers with their status, descriptions, and output queues. The interface includes a title bar, a close button, and a 'Refresh' button at the bottom.

Printer	Status	Description	Output queue
FILE	Unavailable	Device created for CYBRA7.	FILE
FILE400	Unavailable	Device created for CYBRA7.	FILE400
JJJ	Unavailable	Device created for CYBRA8.	JJJ
MARTINPRT1	Powered off or not yet available	Device created for CYBRA8.	MARTINPRT1
PRTAFP4400	Stopped	IBM 4400 AFPDS IPDS MODE	PRTAFP4400
PRTBARPN	Waiting for output queue		PRTBARPN
PRTCMR7	Unavailable	Device created for CYBRA8.	PRTCMR7
PRTCMR71	Powered off or not yet available	Device created for CYBRA8.	PRTCMR71
PRTCMR77	Unavailable	Device created for CYBRA8.	PRTCMR77
PRTCMR8	Unavailable	Device created for CYBRA8.	PRTCMR8
PRTCR2	Unavailable	Device created for CYBRA8.	PRTCR2
PRTCR3	Unavailable	Device created for CYBRA8.	PRTCR3
PRTEFL	Powered off or not yet available	Device created for CYBRA8.	PRTEFL
PRTEPSON	Unavailable	Device created for CYBRA8.	PRTEPSON
PRTKEN	Powered off or not yet available	Device created for CYBRA8.	PRTKEN
PRTKENTEST	Unavailable	Test.	PRTKENTEST
PRTKWH	Powered off or not yet available	Device created for CYBRA8.	PRTKWH
PRTKWH1	Unavailable	Device created for CYBRA8.	PRTKWH1
PRTPAXAR	Powered off or not yet available	Device created for CYBRA8.	PRTPAXAR
PRTSRR	Powered off or not yet available	Device created for CYBRA8.	PRTSRR
PRT01	Unavailable	Device created for CYBRA7.	PRT01
PRT3916	Waiting for output queue	IBM InfoPrint 45 via Ethernet	PRT3916
PRT3916HP	Waiting for output queue	Infoprint 40 HP mode	PRT3916HP

- **Printer -**
- **Status -**
- **Description -**
- **Output queue -**
- **Refresh -**

Work with Spool Files



The 'Work with Spool Files' dialog box provides fields for identifying a spooled file and buttons for managing it. It includes a title bar, a close button, and a 'Browse...' button for file selection.

Spooled File User

Name: Number:

Job Name Job Number

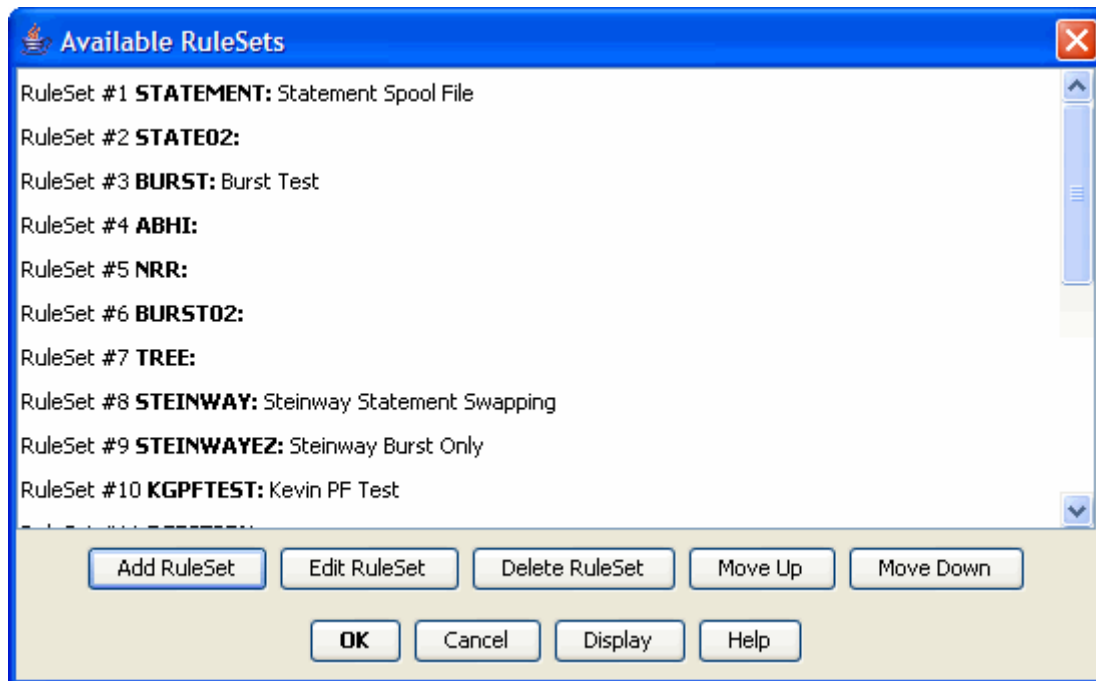
- **Name -**
- **Job Name -**
- **User -**
- **Number -**
- **Job Number -**
- **Browse -**
- **Delete -**
- **Display -**
- **Hold -**

- **Release** -
- **Preview** -
- **PDF** -

Rules



Available Rule Sets



- **Add Rule Set** – Click this button to create a new Rule Set from scratch.
- **Edit Rule Set** – Click this button to edit an already existing Rule Set. You must, first, highlight the Rule Set you wish to edit before clicking this button.
- **Delete Rule Set** – Click this button to delete the highlighted Rule Set. You will be asked to confirm your decision.
- **Move Up** – (This button performs no function as of yet.)
- **Move Down** - (This button performs no function as of yet.)
- **Display** – Click this button to view a summary of the currently highlighted Rule Set. Everything about the Rule Set including its associated Rules / Options / Tests and Actions will be visible in an easy to read tabbed tree structure.



Edit Rule Sets

Edit RuleSet

Name: Description:

Rule #1 **INVNUM:**

Rule #2 **INVNUM2:**

Rule #3 **NEW RULE:**

Select Burst Mode : ☒ Off ☐ Change ☐ Reset

- **Name** – Use this field to provide a name for your new Rule Set. If you arrived at this screen using the “Edit RuleSet” button, this field will display the name of your already existing Rule Set.
- **Description** - Use this field to provide a description for your new Rule Set. If you arrived at this screen using the “Edit RuleSet” button, this field will display the description of your already existing Rule Set.
- **Add Rule** – Use this button to add a new Rule to your Rule Set. Each Rule in a Rule Set contains a list of options to be tested and the associated actions to be executed if said option is true.
- **Edit Rule** – Click this button to edit an already existing Rule.
- **Delete Rule** – Click this button to delete the currently highlighted Rule. You will be asked to confirm your decision.
- **Move Up** – Rules are processed in order from top to bottom in this list. You can change the order of processing by moving a Rule up by clicking this button.

- **Move Down** - Rules are processed in order from top to bottom in this list. You can change the order of processing by moving a Rule down by clicking this button.
- **Select Device and Format** – Certain aspects of the Rules engine require the use of field names selected from an existing MarkMagic format. Use this button to pick one MarkMagic format for use in this Rule set. Its fields will be used throughout the Rule set wherever format field names need to be referenced.
- **Select Burst Mode** – What normally would be one large print job resulting from a PRTLBLE call can now be automatically split up into individual PRTLBLE calls. The Rules engine will “burst” the input data (spoolfile or physical file) into smaller “chunks”, as a pre processing step before any printing is done, based off of the following instructions:
 - **Off** – Bursting will not take place when this Rule is used. All data will be processed with one PRTLBLE command.
 - **Change** – This bursting instruction groups sets of input records or spoolfile pages based on matching data fields that occur sequentially. For example, several records sequentially in a label file may have the same customer# or same order#. The bursting process will detect these sequential matching fields and extract their respective records or pages they fall on and process them with their own separate PRTLBLE call. Additionally, this is extended to include multiple fields that can be said to form a concatenated key. (See explanation on “Keys” below.) Whenever this concatenated key is the same sequentially, those records are grouped together. For example, records may be grouped together by department# and region. Whenever the concatenation of these two fields is the same sequentially these records are grouped together. The maximum number of fields that can be concatenated is 5.
 - **Reset** – This bursting instruction groups sets of input records or spoolfile pages when the specified key resets to its original value. The classic example here is a page number value in a spoolfile. An input spoolfile might have many orders in it, each order consisting of multiple pages labeled with a page number. When the number resets back to 1, the Rules engine will group the previous pages and process them with their own separate PRTLBLE call.
- **Add Key** – When a format is selected using the “Select Device and Format” button, that format’s fields are shown when clicking this button. You can select any field from that format and it will be analyzed at print time for the sole purpose of bursting based on the instruction chosen above. After choosing one field as a key, subsequent fields can be added to form a concatenated key. The maximum number of fields that can be concatenated is 5.
- **Delete Key** – Click this button to delete the currently highlighted key. You will be asked to confirm your decision.



Edit Rule

Name: Description:

Option #1 **INV NUM:**

- **Name** - Use this field to provide a name for your new Rule. If you arrived at this screen using the “Edit Rule” button, this field will display the name of your already existing Rule.
- **Description** - Use this field to provide a description for your new Rule. If you arrived at this screen using the “Edit Rule” button, this field will display the description of your already existing Rule.
- **Add Option** - Use this button to add a new Option to your Rule. Within the option is where you will define your tests and actions to be performed if all tests are found to be true.
- **Edit Option** – Click this button to edit the currently highlighted option in the list.
- **Delete Option** – Click this button to delete the currently highlighted option in the list. You will be asked to confirm your decision.
- **Move Up** - Options are processed in order from top to bottom in this list. You can change the order of processing by moving the highlighted Option up one spot by clicking this button.

- **Move Down** - Options are processed in order from top to bottom in this list. You can change the order of processing by moving the highlighted Option down one spot by clicking this button.



Edit Option

Edit Option

Name: Description:

Test

Action

- **Name** - Use this field to provide a name for your new Option. If you arrived at this screen using the “Edit Option” button, this field will display the name of your already existing Option.
- **Description** - Use this field to provide a description for your new Option. If you arrived at this screen using the “Edit Option” button, this field will display the description of your already existing Option.
- **Add Test** – Click this button to add a new test to your option. You will have the ability to setup tests against a myriad of variables including those associated with the environment the MarkMagic job is running in, the input spoolfile or database file, the users’ default printer or out queue, or even the actual data that is going to be printed! For a more detailed explanation on tests and how to configure them, please see the help section for the *Edit Test* window.

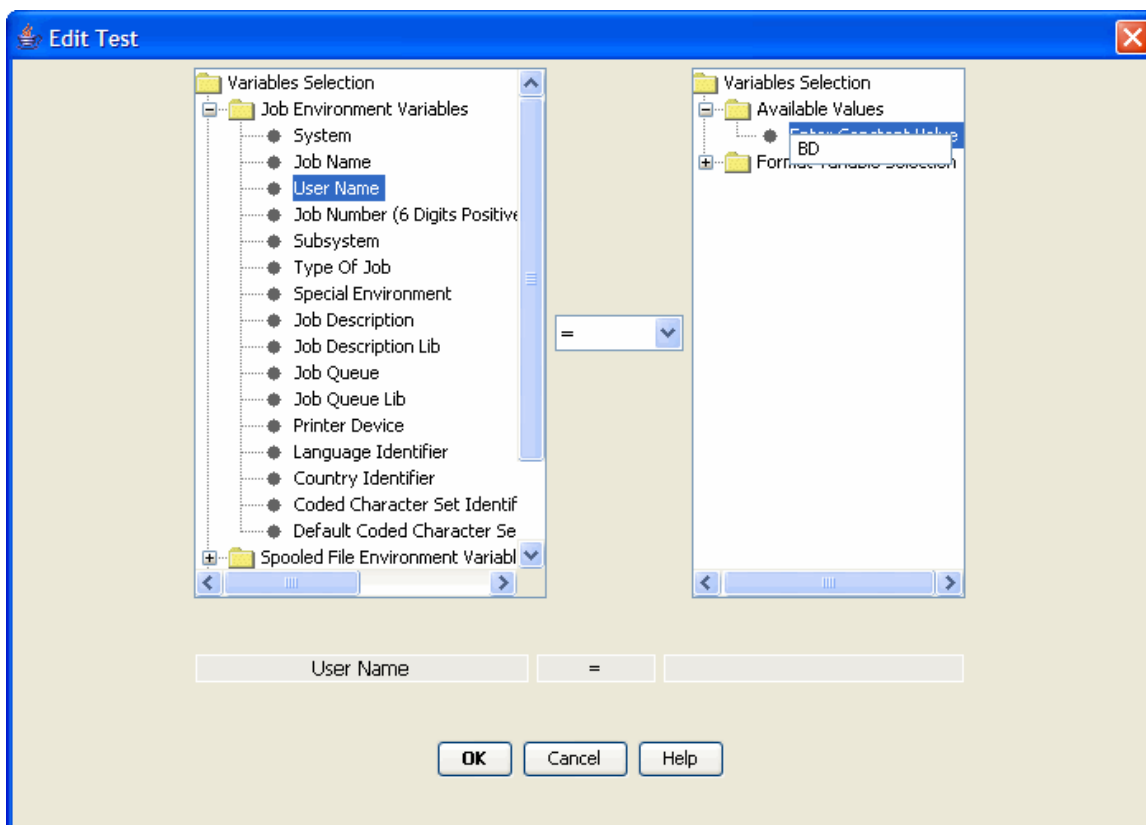
NOTE: You have the ability to add multiple tests to an option. All tests must return true in order for your Actions to be processed. If a test is found to be

false, processing of the current Option is halted and the Rules engine will be going to process the next Option (if any).

- **Edit Test** – Click this button to edit the currently highlighted test. You will be shown the *Edit Test* window.
- **Delete Test** – Click this button to delete the currently highlighted test. You will be asked to confirm your decision.
- **Add Action** – Click this button to add a new action to your option. An action is a change to a parameter in the MarkMagic PRTLBLF (Print a label file) command. You have the ability to add multiple actions, all of which will be executed only when all tests of an option are true.
- **Edit Action** – Click this button to edit the currently selected action. The Edit Action window will be displayed.
- **Delete Action** – Click this button to delete the currently selected action. You will be asked to confirm your decision.



Edit Test



The **Edit Test** window allows the user to configure a new test or modify an existing test. A test compares two variables using an operator and returns “true” or “false” to the Option. The variable selected in the left side is tested against the variable selected on the right side using the operator chosen in the middle.

The panel on the left displays the many different variables you can choose to test. They are grouped into six different categories:

1. **Job Environment Variables** – Variables associated with the System i job that is executing the MarkMagic print job at that time.
2. **Spooled File Environment Variables** – Variables associated with the attributes of the input source spooled file used in the MarkMagic print job.
3. **Printer Device Description Variable** – Variables associated with the device description of the printer device defined in the MarkMagic print job.
4. **Physical / Logical File Variables** – Variables associated with the attributes of the input source physical file used in the MarkMagic print job.
5. **Output Queue Description** – Variables associated with the output queue description of the out queue defined in the MarkMagic print job.
6. **Format Variable Selection** – If a MarkMagic format is tied to this Rule set, the names of every field in that format will be listed here. The actual data in the field at print time will be subject to the test.

When a desired variable is selected, an Operator must be chosen. Choose an operator using the menu found between the two main panels:



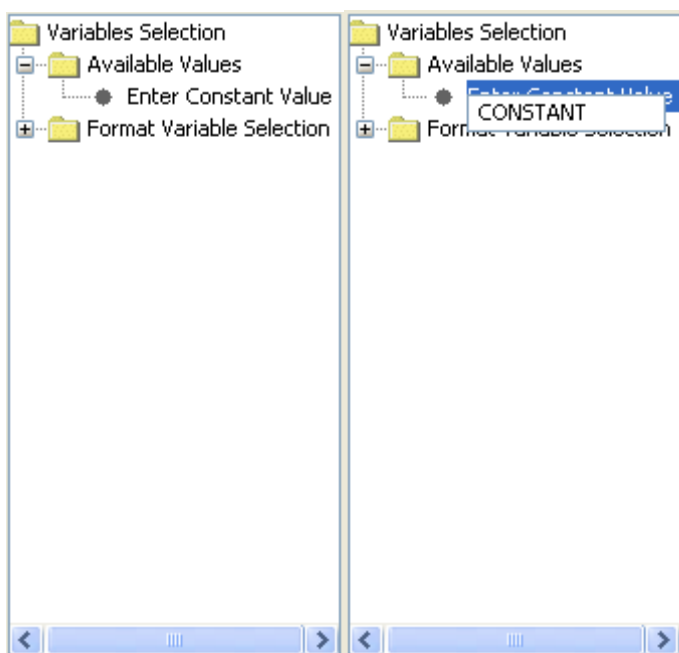
The available operators are:

1. **Less Than “ < ”** – The test will return true if and only if the selected variable is LESS THAN the value defined in the right side panel.
2. **Less Than or Equal To “ ≤ ”** – The test will return true if the selected variable is LESS THAN OR EQUAL TO the value defined in the right side panel.
3. **Equal To “ = ”** - The test will return true if and only if the selected variable is EQUAL TO the value defined in the right side panel.
4. **Greater Than “ > ”** - The test will return true if the selected variable is GREATER THAN the value defined in the right side panel.

5. **Greater Than or Equal To “ \geq ”** - The test will return true if the selected variable is GREATER THAN OR EQUAL TO the value defined in the right side panel.
6. **Not Equal To “ \neq ”** - The test will return true if the selected variable is NOT EQUAL TO the value defined in the right side panel.
7. **Starts With** - The test will return true if the selected variable STARTS WITH the value defined in the right side panel.
8. **Contains** - The test will return true if the value defined in the right side panel is found anywhere within the variable selected in the left panel. Example:

“*khunter@cybra.com* - CONTAINS - @” will return TRUE.

Right Panel:



Use the right side panel to define a variable to test against. Clicking “*Enter Constant Value*” allows the user to provide their own constant data directly into the test.

If a MarkMagic format is tied to this Rule set, the names of every field in that format will be listed under “*Format Variable Selection*” just as in the left side panel. The actual data in the field at print time will be subject to testing.

Something to remember when using MarkMagic field data in tests:

The *Print a Label File* command is normally called only once during any print job. If bursting is enabled, then there is a separate PRTLBLE command call generated for each “chunk” of records that is made as a result of the burst instructions.

Keeping this in mind, when your option's action is configured to change PRTLBLF command parameters and using format fields as variables, only the field values from the first record of data are used to determine if the option is true or not.

The only time when data from every record is analyzed is when the action is configured to modify MarkMagic batch control fields. These are special fields at the beginning of every record in a MarkMagic label file that control various print options for that record only.



Edit Action

Print valid value or select one from drop down

Format Name

SET Format Name

TO Statement

OK Cancel Help

The **Edit Action** window allows the user to configure a new action or modify an existing action. An action is a change to a parameter in the PRTLBLF (Print a Label File) command or a MarkMagic batch control field that is executed only when all of the tests in the associated option return true. Multiple actions can be added to a single option, all of which will be executed if the associated test(s) all return true.

Start by using the pull-down menu on the left to choose the PRTLBLF parameter or batch control field the action should change. Below are the available parameters and batch control fields that can be changed via Print Manager actions:

PRTLBLF command parameters:

Format Name

Print Label File Parameters

- None
- Format Name
- Form Type
- Quantity
- Printer Device
- Printer Type
- Spooled Printer Output
- Spooled File Name
- Spool Copies
- Hold Spooled File
- Save Spooled File
- Spooled Output Queue
- Spooled Output Queue Library
- Translate Unprintable
- User Library Name
- Character Set
- Emulated Device
- Print to file
- Send Format

RF Network

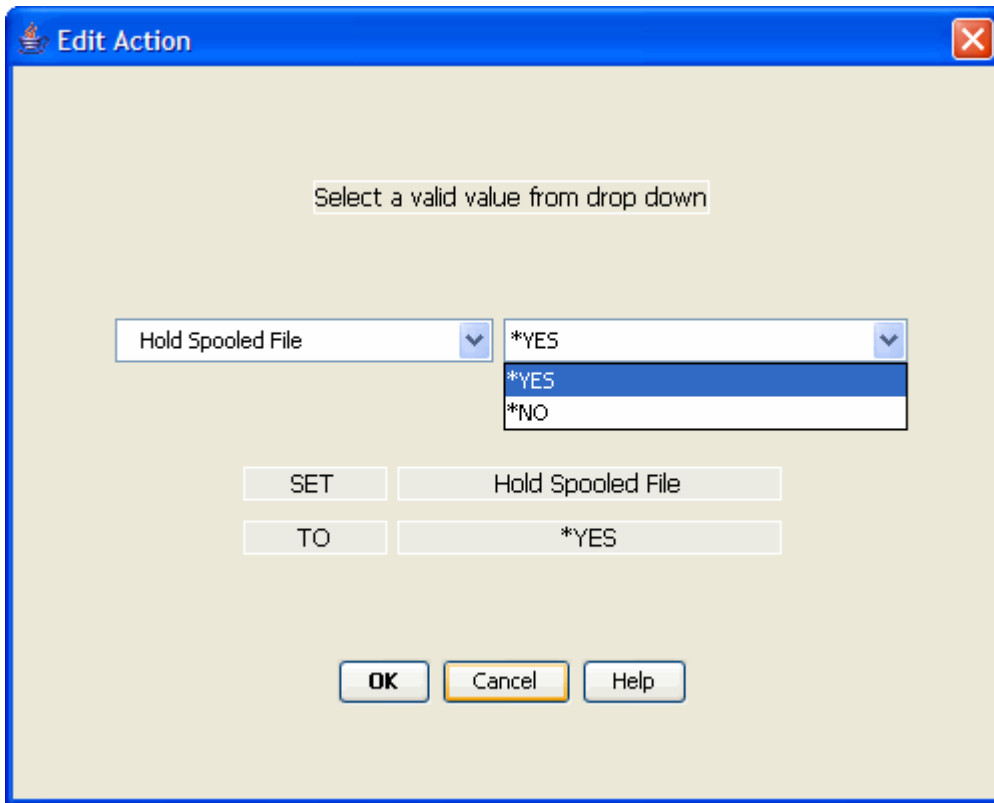
- Enable ASCII transparency
- Print Speed
- Forms alignment
- Ribbon
- Heat Setting
- Print Sensitivity
- Clear Graphics Buffer
- Send Graphics Image
- Source Drawer
- Duplex
- Output Bin
- Primary Email Addresses
- CC Email Addresses
- BCC Email Addresses
- Sender Email Address
- Email Subject (upto 88 chars)
- Message Content
- Other Attached files

Batch Control Fields:

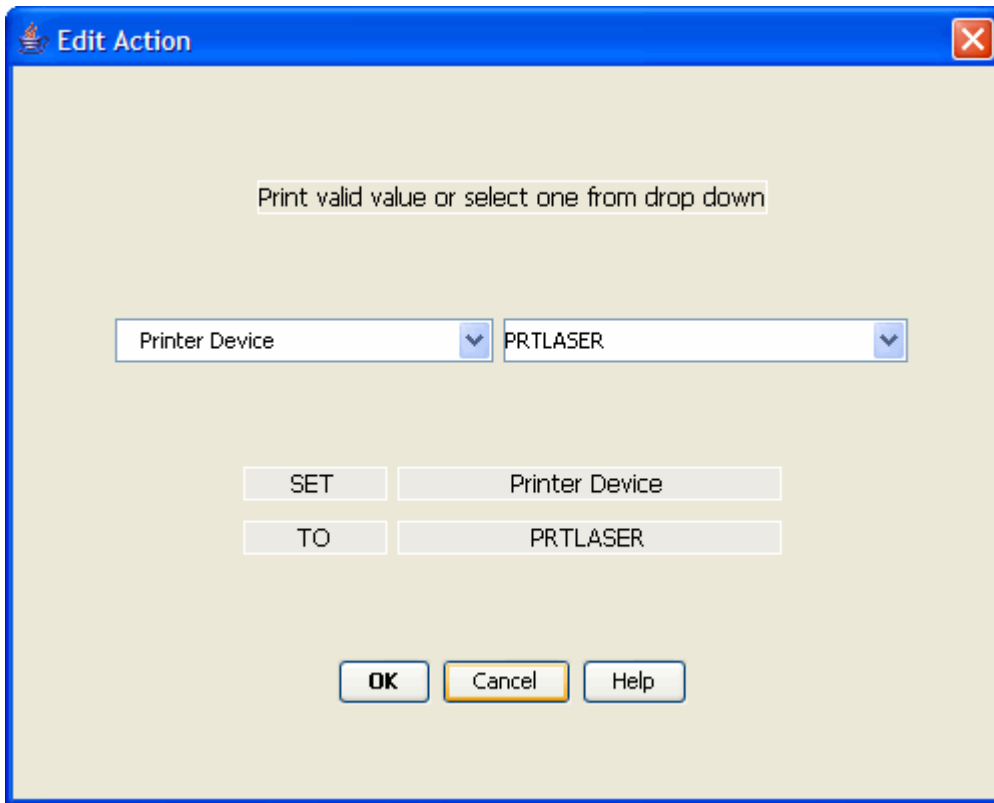
Batch Control Fields

- None
- Batch Control Function
- Batch Control Parameter
- Batch Control Format Number
- Batch Control Quantity
- Batch Control Parts
- Batch Control Cut
- Batch Control Repetition
- Batch Control Mode
- Batch Control Batch Name

After choosing a parameter or batch control field, the pull-down menu on the right will provide the user with choices valid only for the selected parameter/field. For example, if “*Hold Spooled File*” is selected, the only valid choices are *YES and *NO.



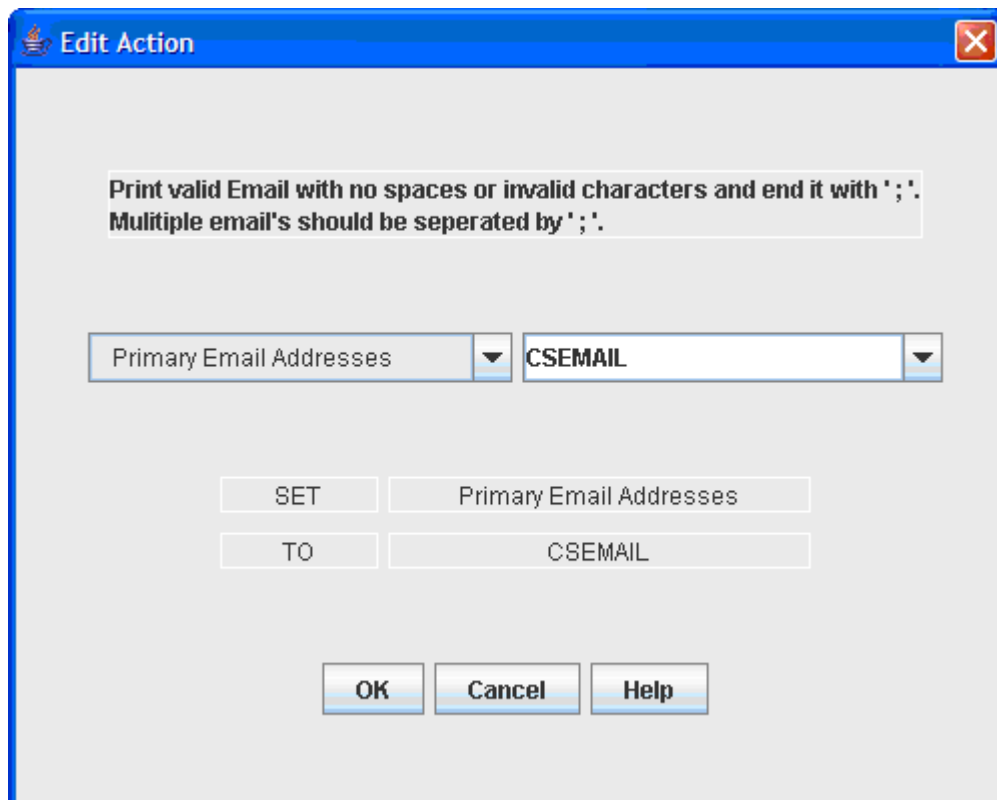
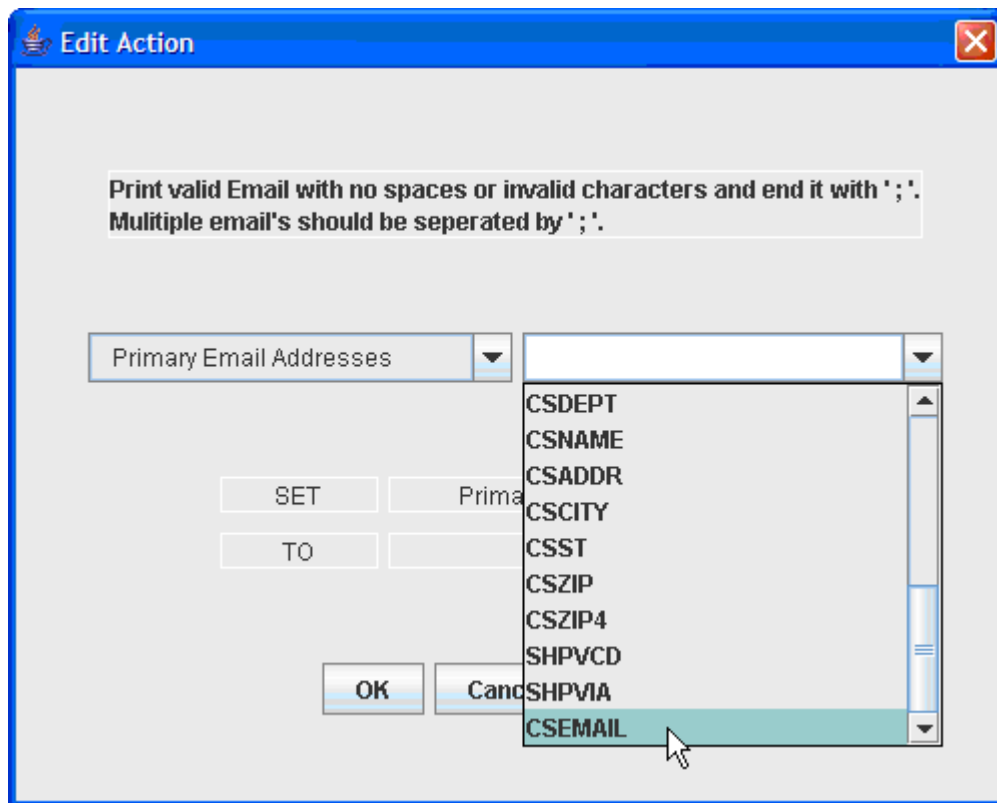
Some PRTLBLE parameters and batch control fields accept actual text values as input. In this case, the user can manually type the value that the parameter or field will be changed to. For example, if “*Printer Device*” is selected, the user will have the ability to manually type the printer device name directly into the menu on the right. If the option’s tests return true, this action will change the PRTLBLE parameter “*Printer Device*” to the value provided by the user in the action.



To make actions even more versatile, in the case of accepting data as input, the user can configure the action to take actual MarkMagic field data from the label file or spooled file and use that data as the “*change TO*” value in the action.

If a MarkMagic format is tied to this Rule set, the names of every field in that format will be listed in the pull-down menu on the right. The actual data in the field at print time will be used in the action.

For example, if one of the fields in the format prints the customer email address, the data in that field at print time can be used in the action to change the PRTLBLF parameter “*Primary Email Addresses*”. The below screenshots demonstrate how to create dynamic actions.



Something to remember when using MarkMagic field data in actions:

The *Print a Label File* command is normally called only once during any print job. If bursting is enabled, then there is a separate PRTLBLE command call generated for each “chunk” of records that is made as a result of the burst instructions.

Keeping this in mind, when the action is configured to change PRTLBLE command parameters and using format fields as variables, only field values from the first record of data are passed into the action.

The only time when data from every record is analyzed is when the action is configured to change MarkMagic batch control fields. These are special fields at the beginning of every record in a MarkMagic label file that control various print options for that record only. The most popular use of batch control fields is when the application requires a different MarkMagic format to print from record to record or page to page within a file.

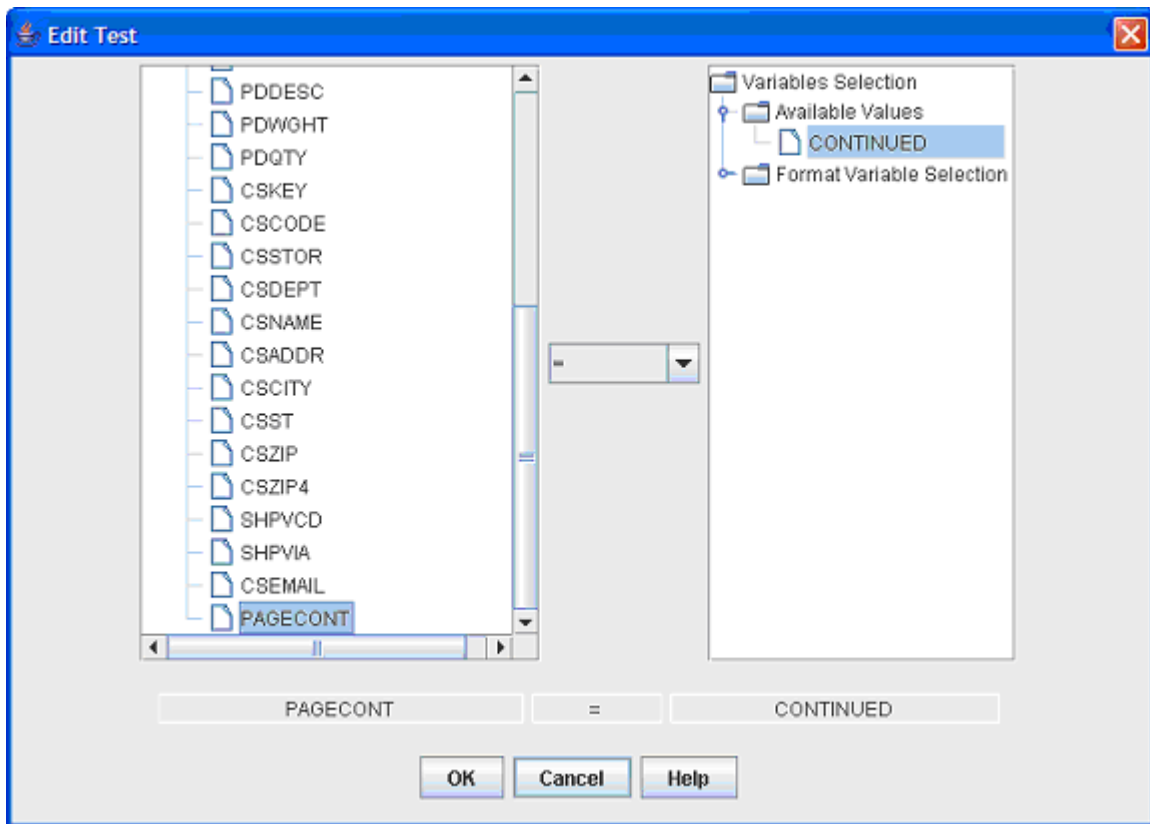
A good example of this would be printing a different MarkMagic format when the listings on a Statement's first page are continued on the next page. The header information is not necessarily needed and because of that, a separate MarkMagic format that does not print the heading information can be called to print only for that next record.

The rule could be setup to test a MarkMagic format field where the word “Continued” appeared. The spooled file would print “*Continued*” only on a page that had information that is continued from the page before it. The associated action could then be setup to change the MarkMagic format to a different one only for that specific page in the spooled file.

The batch control field: Parameter (or LBPARM) is used to specify the MarkMagic format to print for that record. The format name should be passed to LBPARM. You cannot change to a different MarkMagic device type, only formats that use the same device type can be “swapped” within a file.

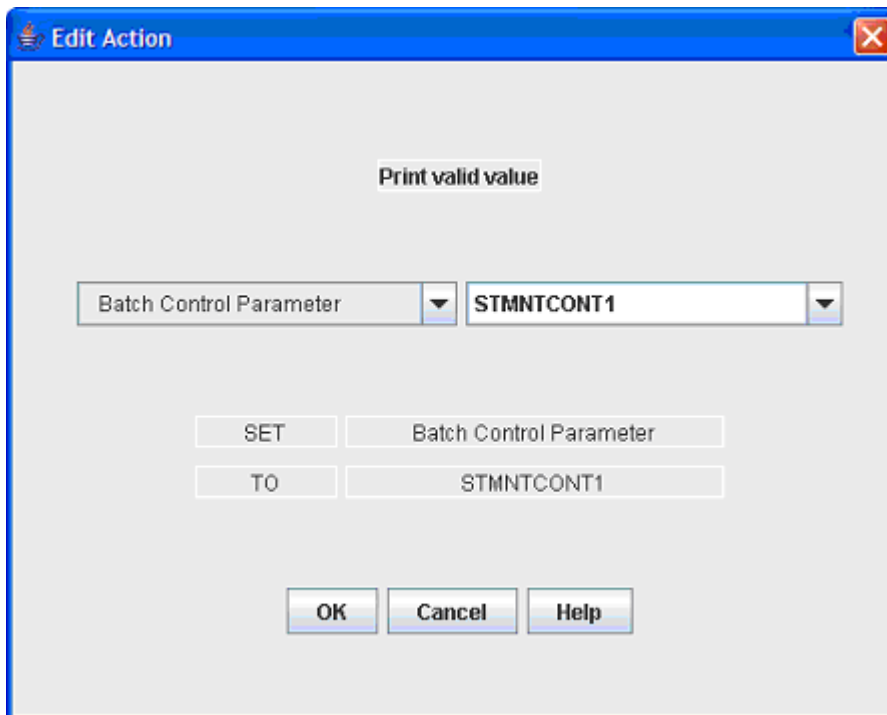
Below are screenshots of an example test and action that could accomplish this:

Test:



The test is analyzing the format field PAGECONT for a string equal to CONTINUED.

Action:



The action will change the Batch Control Parameter field (LBPARM) to STMNTCONT1 only when the format field PAGECONT = CONTINUED in the test.



Select Format Variable

Various steps in the Rule Set creation process require the use of format field names selected directly from a preexisting MarkMagic format. Use this window to associate one MarkMagic format to a Rule set. Any time format field names are needed, the fields from this format will be presented.

Device – The MarkMagic device type under which the format is created. Click “Browse...” to see a list of devices. This list will only display device types that contain formats in the user library you selected while starting JMagic.

Format – This field is activated only after the Device field is filled in. Your format name can either be keyed in or selected from the list provided after clicking the “Browse...” button. Once your format name is entered, click OK to continue.

Important note related to MarkMagic format swapping:

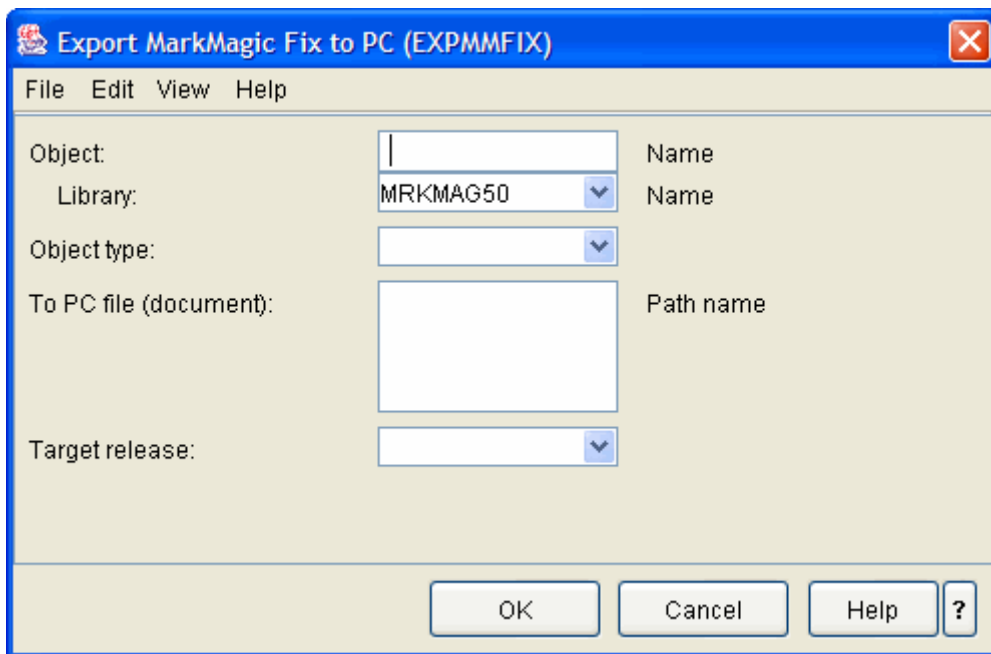
It is quite common that a Rule set will change the MarkMagic format printed from record to record within a print job. Because of this, it is extremely important to realize that any and all formats that might be used within a given print job *all share the same set of variable fields!* If they do not, problems will most definitely arise. The easiest way to ensure that all formats are compatible with each other is to utilize the MarkMagic [*MASTER](#) format approach.

Support

Fixes

Export MarkMagic Fix

Use Export MarkMagic Fix to transmit MarkMagic objects to another AS/400. The exported objects are placed in a specified folder as a document. They can then be accessed by an attached PC. This allows the exported objects to be e-mailed as an attachment, or transferred via diskette, etc.



- **Object (OBJECT)** - Specify the name of the object to be exported, and the library in which it is located. If you need to export a number of objects, it is often best to place the objects into a single library and export the library as one object.

The possible library values are:

- ***CURLIB** - The current library for the job is used to locate the specified objects.
- ***LIBL** - The library list is searched to locate the specified objects.
- **Library** - Specify the library where the objects are located.
- **Object type (OBJTYP)** - Specifies the type of system object to export.

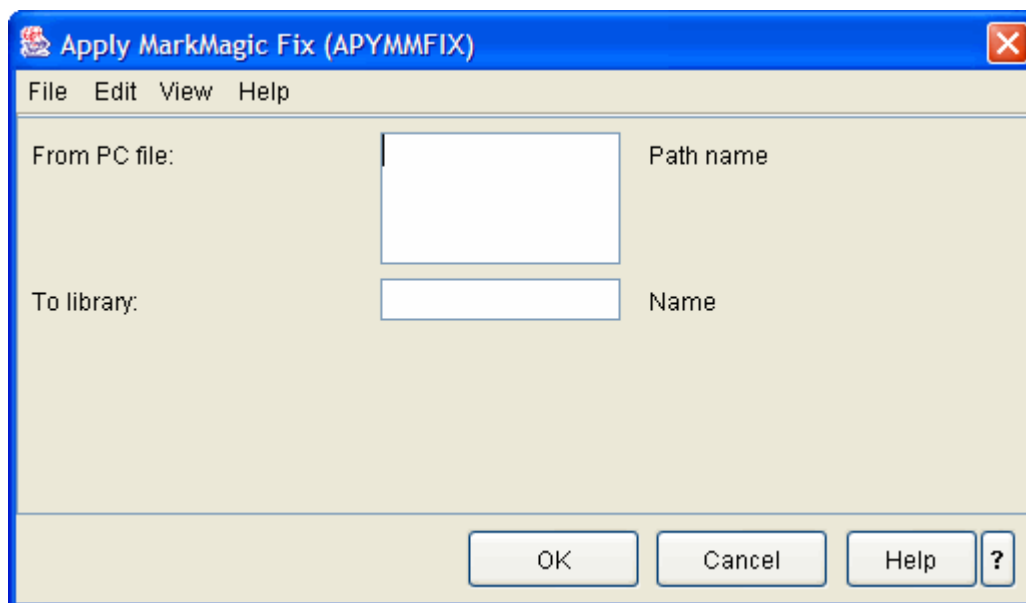
The possible values are:

- ***ALL** - All object types that are specified by name and are in the specified library are exported.
- ***LIB** - Library
- ***PGM** - Program
- ***FILE** - File
- ***CMD** - Command

- ***DTAARA** - Data area
- ***USRSPC** - User space
- ***SRVPGM** - Service program
- ***MODULE** - Program module
- ***OUTQ** - Output queue
- ***MSGF** - Message file
- ***TBL** - Table
- ***PNLGRP** - Panel group
- **To PC file (document) (TOSTMF)** - Specifies the IFS path name of the file that will contain the exported objects. All directories in the path name must exist. New directories are not created. If the file does not exist, it is created. If it exists, it is replaced.
- **Target release (TGTRLS)** - Specifies the release of the operating system of the machine to which you are exporting.
The possible values are:
 - ***CURRENT**- The machine to which you are exporting is at the same operating system release level as your machine.
 - ***PRV** - The machine to which you are exporting is at the previous operating system release level to your machine.
 - **target-release** - Specify the release in the format VxRxMx. The fix can be restored to a system with the specified release or with any subsequent release of the operating system installed. Valid values depend on the current version, release, and modification level. Press **F4** to see a list of target release values.

Apply MarkMagic Fix

Use Apply MarkMagic Fix to update your MarkMagic library with program modifications contained in a PC file.



- **From PC file (FROMSTMF)** - Specifies the path name of the file that contains the MarkMagic program modifications.
- **To library (TOLIB)** - Type the name of the library to which the updates apply. This is normally the MarkMagic library, MRKMAGDTA, but it can be another library. Refer to the modification instructions you received.

Programming

Programming Overview

Programming Examples

If you choose to program and integrate MarkMagic with your application, you can copy and paste working source that is included free with MarkMagic in the new MMEXAMPLES library. The source code examples cover virtually all real world requirements. Choose the one or ones that fit your needs best.

Programming Overview

MarkMagic can accommodate a wide range of label and form printing needs without any programming whatsoever. In most cases, using just MarkMagic Jobs, users can create a printing application menu, and create a number of different jobs that allow operators to select and print batches of records as needed. When necessary, MarkMagic Jobs can be called from an application program and passed parameter overrides (label file, printer device, etc.) to print records on demand.

MarkMagic now has a new examples library: MMEXAMPLES. MMEXAMPLES contains several sample formats, jobs and graphics.

Formats:

- *MASTER FORMWEAVER Copied: HPPCL5/PACKLIST1
- *MASTER RFID Master for RFID Example Fmts
- AD6405RF WMRFIDLBL Walmart To DC
- DMXH4212X WMRFIDLBL Walmart To DC
- HPPCL5 FEDEXFW UPS Label FormWeaver
- HPPCL5 PACKLIST Packing List for FormWeaver
- HPPCL5 PACKLISTFW Packing List for FormWeaver
- HPPCL5 STATEMENT Example Form For PDF
- HPPCL5 UPSFW UPS Label FormWeaver
- IMPM4I WMRFIDLBL Walmart To DC
- MM9830 WMRFIDLBL2 Walmart To DC
- MM9855 EXMIXMST Example of a Master Format
- MM9855 EXMIX1A EXMIX1 example Format A
- MM9855 EXMIX1B EXMIX1 example Format B
- MM9855 MXCASE Case label (Mixed labels)
- MM9855 MXSHIP Shipping label (Mixed labels)
- MM9855 SAMPLE30 Label used in program examples
- MM9855RF08 WMRFIDLBL Walmart To DC
- MM9855RF08 WMRFIDLBL2 Walmart To DC
- PXT5304 WMRFIDLBL Walmart To DC
- SACL408RF WMRFIDLBL Walmart To DC
- ZTR110XI8 COPYME Walmart To DC
- ZTR110XI8 TEST Walmart To DC
- ZTR110XI8 WMRFIDLBL Walmart To DC

Jobs:

- FORMWEAVER PACKLIST FormWeaver Pack and Ship Label Example
- PDF EXPDF Example job for creating PDF
- PGMSAMPLES SAMPLE30 Sample print job - no user prompting
- PGMSAMPLES SAMPLE31 Sample print job - with user prompting
- PGMSAMPLES SAMPLE33 Sample print job - with no label file
- PGMSAMPLES SAMPLE34 Sample print job - RF printing
- PGMSAMPLES SAMPLE40 Sample print job - Similar formats use
- PGMSAMPLES SAMPLE41 Sample print job - Different formats j
- PGMSAMPLES SAMPLE42 Sample print job - Print formats w/Dat
- RFID EXRFID RFID Example Job
- Graphics:
 - EPT 1 EPC EPC Logo
 - IMC 1 EPC EPC Logo
 - MMMPCL 1 EPC EPC Logo
 - PCL 1 CYBRA CYBRA Logo
 - PCL 2 MMLogo MM Logo BW
 - PCX 1 EPC EPC Logo
 - ZPL 1 EPCLOGO EPC Logo .75x.75 200dpi

In addition to passing MarkMagic Job Override parameters to the RUNMMJOB command, programmers can use the label file to override default values at print time. Each of the bar code, text, and data fields in the printed label or form as well as default batch information (such as record quantity) has a corresponding position in the label file description.

This chapter is divided into two sections:

- Programming Fundamentals
- Advanced Programming Techniques

In Programming Fundamentals, you will learn how to:

- choose MarkMagic programming options
- call MarkMagic Jobs from your applications
- override MarkMagic Job parameters
- Call the MarkMagic Print a Label File command
- use the label file to control printing
- use the Format Report as a documentation tool
- use the supplied programming examples that illustrate how to integrate MarkMagic Jobs into your applications.

In Advanced Programming Techniques, you will learn how to:

- use key fields to select records for printing
- combine different label formats in one spool file
- replace multi-part preprinted forms with laser forms
- select the correct OS/400 printer
- notify the printer operator between batches
- suppress messages when printing
- print labels using prestored formats for higher performance
- print to a printer attached to a radio frequency terminal
- print to Internet attached printers

Before attempting to run a sample program:

To run any of the program examples from the MarkMagic Main Menu, press F9 (Command Line). Type CALL program-name and then press ENTER. Feel free to copy the source code from these examples and use them in your applications.

Before running an example:

1. Check that the format exists. You will need the sample format in order to run the program successfully. Check that the sample format exists for your printer type. If you do not find the sample format, you will need to copy the format from another printer type. A good one to use is the MM9830 (Monarch Marking 9830) printer device type. To copy a sample format from the MM9830 printer type, the MM9830 printer type must be added to your printer device type list, if it is not already there. You can use the SETMMPRM command to do this.
2. Check the format width and length. The width and length of the sample format need to match the stock in your printer. If they do not match, you will have to adjust the format width and length in the sample format definition before running the sample program.
3. Check the printer device and printer type. In order to print successfully you need to check and, if necessary, modify the following parameter values in the PRTLBLE command or in the Print step of the MarkMagic job:
 - PRTDEV (Printer Device) - The OS/400 printer device name of the label printer.
 - PTRTYP (Printer Type) - The MarkMagic device type.

MarkMagic Jobs**Calling MarkMagic Jobs**

To simplify the integration of MarkMagic Jobs into user applications, the command, RUNMMJOB, can be called from a user program. By defining the steps and parameters required to print label and forms in a Job, a programmer can have MarkMagic print labels or forms with a simple call, passing a few parameters. This method can save the programmer many hours of programming and reduces maintenance costs by eliminating the need to edit application source code for a change in print job parameters.

The Run a MarkMagic Job (RUNMMJOB) Command

To execute the RUNMMJOB command from a CL program or directly on an OS/400 command line, type:

```
MMEXAMPLES/RUNMMJOB JOBNAME(gggggggggg/nnnnnnnnnn) RUNMOD
(mmmmmmmmm) JOBLIB(1111111111)
```

where **gggggggggg** is the Job Group, **nnnnnnnnnn** is the Job Name, **mmmmmmmmmm** is the Run mode and **1111111111** is the Job library name.

If you type MMEXAMPLES /RUNMMJOB and press F4 you will be presented with the RUNMMJOB command prompt.

- **Job name** - Supply a valid previously defined MarkMagic Job name, or *SELECT to present the MarkMagic Job Menu for the supplied Job group.

- **Job group** - Supply a valid previously defined MarkMagic Job group, or *ALL to present the MarkMagic Job Menu for all Job groups.
- **Run mode** - You can override the run mode defined in the MarkMagic Job by specifying *INTER (interactive) or *BATCH. Otherwise, specify *DEFAULT.
- **Job library name** - The MarkMagic User Library where this MarkMagic Job definition is located. If the Job is located in the standard MarkMagic library, specify *NONE.

Calling MarkMagic Job Programming Examples

To aid in understanding how a MarkMagic Job call can be integrated into your applications, source code is provided in the following programming examples:

Member name: **EXCLLE10**

Library/File: MMEXAMPLES /QCLSRC

Program description: CL program to run a Job.

Member name: **EXCLLE30**

Library/File: MMEXAMPLES /QCLSRC

Program description: CL program to print MarkMagic Form.

Member name: **EXCLLE31**

Library/File: MMEXAMPLES /QCLSRC

Program description: CL program to print multi-part MarkMagic Form.

Member name: **EXRPGLE20**

Library/File: MMEXAMPLES /QRPGLESRC

Program description: Executes the RUNMMJOB command by forming a command string and calling the OS/400 Command Execution program QCMDExc.

Member name: **EXRPGLE30**

Library/File: MMEXAMPLES /QRPGLESRC

Program description: Passes user data to MarkMagic via a label file, and calls a CL program to execute the RUNMMJOB command.

Member name: **EXRPGLE31**

Library/File: MMEXAMPLES/QRPGLESRC

Run job with CL call and prompt

Member name: **EXRPGLE40**

Library/File: MMEXAMPLES/QRPGLESRC

Run a job to print similar formats in a label file using an externally described master file.

Member name: **EXRPGLE41**

Library/File: MMEXAMPLES/QRPGLESRC

Run a job to print a batch of labels consisting of different formats and a label file

Member name: **EXRPGLE42**

Library/File: MMEXAMPLES/QRPGLESRC

Run a job to print a batch of labels consisting of different formats using a data queue

These programming examples execute EDTPRTMULT, a MarkMagic Job with an Edit and a Print step that retrieves records from multiple files. This example retrieves records from multiple files using a natural join. By a natural join we mean that a primary file contains fields which have the same name and attributes as the key fields of secondary files used in the same format. In EDTPRTMULT, the file EXPORDPF (Example: Purchase Order Master File) contains a Customer key field (CSKEY) that is the key field of the file EXCUSTPF (Example: Customer Master File). When the Purchase Order is selected, MarkMagic retrieves the customer name, address, and other information from EXCUSTPF as well as shipper information from another secondary file, EXSPCDTB, whose key is SCSPCD (Shipper Code). The MarkMagic Job, EDTPRTMULT, is designed to print on a thermal printer and requires the MM9830 device type to be installed. You can, of course, copy the format to another printer device type and modify the Job to use the other device type without changing the sample programs.

Overriding MarkMagic Jobs

MarkMagic Jobs simplify the integration of bar code label and forms printing into user applications. There are times when you need the flexibility to replace a Job value at run time, under program control. Programmers can override MarkMagic Job steps through the OVRCPYJOB, OVREDTJOB, and OVRPRTJOB commands. The DLTMMOVR command deletes a MarkMagic Job's overrides. The program flow of a MarkMagic Job override works as follows:

1. Execute OVRCPYJOB, OVREDTJOB, and/or OVRPRTJOB commands as needed for each MarkMagic Job step parameter you need to override.
2. Execute the RUNMMJOB command to run the MarkMagic Job.
3. Execute the DLTMMOVR command to restore the MarkMagic Job's original parameter values as defined.

Overriding MarkMagic Job Programming Examples

To aid in understanding how these overrides can be integrated into your applications, source code is provided in the following programming examples:

Member name: **EXCLLE11**

Library/File: MMEXAMPLES/QCLSRC

Program description: This example executes a MarkMagic 6 Job consisting of an Edit step and a Print step, preceded by a Job Step Override. The override redirects the output to a different printer. The Delete MarkMagic 6 Overrides command clears the environment at the end.

Member Name: **EXCLLE32**

Library/File: MMEXAMPLES/QCLSRC

Override print job with sm@rtform

Member name: **EXRUNJOB**

Library/File: MMEXAMPLES/QCLSRC

Program description: CL program that can be used to execute the RUNMMJOB command preceded by optional Print Step overrides. The program can optionally clear the label file after the job is run, and overrides can be deleted after the MarkMagic 6 Job is run.

Member name: **EXRPGLE11**

Library/File: MMEXAMPLES/QRPGLESRC

Program description: Calls a CL program to execute the RUNMMJOB command. The CL program also executes the MarkMagic 6 OVRPRTJOB and DLTMMOVR commands to set and delete MarkMagic 6 overrides.

Member name: **EXRPGLE21**

Library/File: MMEXAMPLES/QRPGLESRC

Program description: Executes the RUNMMJOB, OVRPRTJOB, and DLTMMOVR commands by forming command strings and calling the OS/400 Command Execution program QCMDExc.

Member name: **EXRPGLE32**

Library/File: MMEXAMPLES/QRPGLESRC

Program description: Passes user data to MarkMagic 6 via a label file. Executes the RUNMMJOB, OVRPRTJOB, and DLTMMOVR commands by forming command strings and calling the OS/400 Command Execution program QCMDExc.

Member name: **EXRPGLE33**

Library/File: MMEXAMPLES/QRPGLESRC

Program description: Passes user data to MarkMagic 6 via a data structure, instead of a label file. Executes the RUNMMJOB, OVRPRTJOB, and DLTMMOVR commands by forming command strings and calling the OS/400 Command Execution program QCMDExc.

Working with MarkMagic Job Overrides

Job Overrides resemble System Overrides. They remain in effect for the duration of an Interactive Job (from Sign On to Sign Off) or a Batch Job. It is a good programming practice to execute the optional DLTMMOVR command.

To help troubleshoot Job printing problems, the command OVRMMJOB allows users to interactively override each step of a Job, and the Work with Jobs option shows which Job overrides are currently in effect.



To work with Job overrides

To see which Job overrides are currently in effect:

1. Select **Utilities** from the MarkMagic Main Menu.
2. Select **Data...** from the Utilities menu. Select work with Jobs from the Data menu.
3. Type *ALL for the Group name and press ENTER. The Work with MarkMagic Jobs screen is displayed.

4. Press F14 (Work with Overrides). The Display MarkMagic Jobs Overrides screen is displayed.
5. Position to the job you would like to examine. Select the job to display by typing option 5 (Display) in the Opt field and pressing ENTER.
6. The Job's values and overrides are displayed.

Print a Label Command

The print step of a MarkMagic Job actually executes the MarkMagic PRTLBLF (Print a Label File) Command. You may choose to execute the PRTLBLF command directly instead of running a MarkMagic Job.

Calling PRTLBLF Programming Examples

To aid in understanding how to integrate the PRTLBLF command into your applications, source code is provided in the following programming examples:

Member name: **EXCLie20**

Library/File: MMEXAMPLES/QCLSRC

Program description: CL program to execute the PRTLBLF command without a Job.

Member name: **EXPRTLBLF**

Library/File: MMEXAMPLES/QCLSRC

Program description: Execute PRTLBLF for RPG.

Member name: **EXPRTLBLFC**

Library/File: MMEXAMPLES/QCLSRC

Program description: Execute PRTLBLF for COBOL.

Member name: **EXRPGLE35**

Library/File: MMEXAMPLES/QRPGLESRC

Program description: RPG program to print without a Job.

Member name: **EXRPGLE36**

Library/File: MMEXAMPLES/QRPGLESRC

Program description: RPG program to print without a Job with QCMDEXC.

Send fax:

Member Name: **EXSNDMMFAX**

Library/File: MMEXAMPLES/QCLSRC

Send a fax using the SNDMMFAX command

Member Name: **EXPRTLBLFX**

Library/File: MMEXAMPLES/QCLSRC

Send a fax using the PRTLBLF command

Using the Label File

Once you have created a label file using the MarkMagic CRTLBLF (Create Label File) command or the GENLBLFD (Generate Label File Description) command, you can use the label file in a program as an externally described file, or as an externally described data structure. Or, if you used the MarkMagic Generate Label File Description command to generate RPG or COBOL data specifications for the format, you can use the label file description in a program as a program described file (especially useful for System/36 programs). The field names and attributes are those you defined for the format.

Upon generation, a source member containing data specifications is placed in your User Library if you have started MarkMagic with the User Library feature; otherwise the specifications are placed in the MRKMAGDTA library. DDS specifications are placed in file QDDSSRC, RPG specifications are placed in file QRPGRSRC, and COBOL specifications are placed in file QLBLSRC. The source member name is the format name.

The label file contains all the information that MarkMagic needs to print labels and forms. Each label file record contains a field corresponding to each variable bar code, data, and text field defined in a particular format. The label file record also contains batch control fields to direct the printing of a batch of records.

Batch control fields

The batch control fields appear at the beginning of the label file record.

Function Field

The Function field is normally blank. This indicates a data record. In this case, the Parameter/Format name field can contain the format name or it can be left blank. If the format name is blank, the format name must be specified in the FMTDFT (format default) parameter of the PRTLBLF (Print Label File) command. A label file can contain label records for different formats. If this is required, the format name should appear in each label record, and MarkMagic will automatically send the correct format for each record in the label file. Some printer types are able to preload formats by number, and can swap between formats at print time (negating the need to send a new format with each record change). If your printer type supports format numbering, the format number should appear in each label record.

If the function field contains a C, MarkMagic issues a clear graphics image buffer command. The Parameter field for function C contains the graphic number to clear from the printer's buffer. If the Parameter field is blank, all graphic images stored in the printer are cleared. If the function field contains an S, MarkMagic will print a batch separator. The parameter field for function S contains the separator type. Permitted values for separator type are printer dependent.

Other batch control fields

To use preloaded formats at print time, provide a format number value (between 1 and 99) in the LBFMT# field for each record, in addition to providing the format name in the LBPARM field. This value will override the default format name parameter value in the Print a Label File command.

To modify quantity on a record by record basis, provide a quantity value in the LBQTY field for each record to override the batch default value for quantity in the format definition. The LBQTY field, if used, also overrides the Label Quantity Parameter on the Print a Label File (PRTLBLF) Command.

To modify batch name on a record by record basis, provide a character value in the LBBTNM field for each record to override the batch default value for batch name in the format definition. The other batch control values in the label file — Parts, Cut, Repetition, Mode — are printer dependent.

Advanced Programming Techniques

Advanced Programming Techniques

MarkMagic is designed to support virtually all of the advanced capabilities of supported printers. With all the power MarkMagic offers, you know there must be a way to get a certain job done, but just don't know how to do it. Here are a number of tips and techniques to help you:

- select records by...
 - using key fields
- organize your spool files by...
 - combining different label formats in one spool file
 - replace multi-part forms
- make it easier for your program to...
 - select the correct OS/400 printer
 - notify the printer operator between batches
 - suppress alignment messages when printing
 - calculate a check digit
 - get information about a MarkMagic Job
- and...
 - print labels using prestored formats for higher performance
 - print to a printer attached to a radio frequency terminal
 - print to Internet attached printers
 - develop your own prompt program

How to select label records for printing by key order

You can specify keys for selecting records in MarkMagic in two ways — one to copy records into the label file, and the second to extract and/ or sort label file records for printing.

To use keys to copy records into the label file

1. Define Data, Text, or Bar code fields by selecting an OS/400 file from which to retrieve fields. This OS/400 file is the file that contains records to copy into the label file. MarkMagic displays which fields are keys to this file by showing the key field sequence to the left of key fields, in the Select a Database field window.
2. Copy the records you want into the label file using the MarkMagic Copy To Label File (CPYTOLBLF) command. Select the range of records to copy into the label file by specifying record key values in the FROMKEY and TOKEY parameters to populate the label file.

To use keys to extract records out of the label file for printing

1. After you have completed the format definition, create a label file for the format. Specify the format field with which you wish to key the label file in the KEYFLD parameter of the Create a Label File (CRTLBLF) command.
2. When the label file is printed, you can print a range of records by specifying record key values in the FROMKEY and TOKEY parameters of the Print a Label File (PRTLBLF) command. Note: The key fields used to copy data into the label file are different from the key fields used for printing records in the label file. To print records using record key values you must specify a key field when you create a label file.

The key fields used to copy data into the label file do not have to be the same fields in the label file. For example, you can retrieve records from an order file (keyed by ORDER#) into a label file, yet print the selected orders sorted by state to facilitate easy consolidation of labeled cartons.

To print a label file in Descending key order

By default, MarkMagic sorts keyed records in Ascending order. Here are two methods to print a label file in Descending key order:

- **Method 1**—For numeric key fields, create a MarkMagic Data field (a “sort” field) containing the “9s complement” (i.e., 999999 minus the key field value, computed by your application program) to force the descending sequence, and define the sort field as a MarkMagic key field when creating the label file.
- **Method 2**—When executing Create a Label File (CRTLBLF) command, specify the key fields. After creating the label file description, change the DDS source created by MarkMagic to descending rather than ascending key and recompile the label file object.

Mixing Formats

There are times when it is necessary to mix different formats in one batch of labels.

There are two ways to do this:

1. If all the formats in the batch have similar variable fields, you can create a master format (and an associated master physical label file) that is a superset of every possible variable field you might need. In each record of the label file, place the name of the associated MarkMagic format in the LBPARM field.
2. If the formats in the batch have different variable field requirements, you can use a logical file to organize the labels in a desired sequence within one spool file.

How to mix similar formats in one label file

If your production printing requirements call for different format types (for example, for different customers) you may wish to create a master format (and an associated master label file) that is a superset of every possible variable field you might need. At print time, a user written program directs MarkMagic to swap formats as needed, even record by record if need be.

This technique simplifies programming requirements as the application program or programs only have to deal with one physical file, regardless of the number of different formats used.

To create a master format/master label file

1. Define a format that contains only Data fields, and create a label file for the master format.
2. Copy the master format when you wish to define a format that uses a subset of the fields defined in the master format.
3. Open the format copy and define bar code and text fields by creating links to the previously defined data fields. (After you have finished modifying each of the format copies you will not need to create a label file for each format since you have not added any variable fields).

To print a master format/master label file

When the application program writes label records to the label file, it must set the LBPARM field to the name of the MarkMagic 5 format with which it is associated. For an example of the master format approach, see EXRPG40

How to mix different formats in one spool file

MarkMagic creates a spool file each time a label file is printed. Even if your label records require different formats, this is generally not a problem as long as you use a master label file and switch formats on a record by record basis within a label file. But what if you want to print a batch of different formats whose variable data are so dissimilar that a master label file is not feasible? And what if you want the labels to print in a particular sequence? For instance, you might want to have a Batch Header Format (with data from the Order Header file) followed by its associated Item Labels (with data from the Order Detail file) in one spool file so header labels and detail labels from different orders do not get mixed up.

Here's how to combine different label formats in one spool file — when the data for each format needs to come from different label files:

1. Choose a common field or fields that will be used to join the two or more files. The common field or fields do not have to appear on the labels — they can be non-printing Data fields. If you are printing header and detail order records, for instance, you could use the order number field.
2. Create a Header Format and define the Data, Text and/or Bar code fields by selecting your OS/400 Order Header file to retrieve the one or more variable fields.
3. Complete the format definition, and specify the one or more variable format fields, (for example, Order Number), to key the label file in the KEYFLD parameter of the Generate a Label File Description (GENLBLFD) command. To specify the KEYFLD parameter, after filling in the label format name and the

- printer device type, specify DDS for the File description type, and *NO for Create Label File. Press F9 to display all command parameters. Type one or more (up to 5) key fields and press ENTER.
4. Create a Detail Format and define the Data, Text and/or Bar code fields by selecting your OS/400 Order Detail file to retrieve variable fields.
 5. Complete the format definition, and specify the same key fields in the Header format, to key the label file in the KEYFLD parameter of the Generate a Label File Description (GENLBLFD) command.
 6. Edit the DDS members corresponding to your formats (the DDS members are located in the file QDDSSRC of your current MarkMagic library and have the same names as the associated formats). Change the record name of each DDS member from the standard LBLREC to some other name, so that each format's label file will contain a unique record name.
 7. Create one physical file for each format in the batch by compiling each modified DDS member. The DDS members are compiled with the standard OS/400 Create Physical File (CRTPF) command.
 8. Build an OS/400 multi-record format Logical File, joining the two MarkMagic physical Label Files created in Step 7, using the common key field or fields.
 9. Write records to each of the label files from an application program. Each label file record's LBPARM field must contain the name of the MarkMagic format with which it is associated. An example of the source for building a logical file over two physical files (ORDRHDRF and ORDRDTLF) using the field ORDER# to key the logical file.
 10. When the label file is printed, specify the OS/400 Logical File you built over the MarkMagic physical Label Files for the Label File parameter, and specify the beginning and ending Order Numbers in the FROMKEY and TOKEY parameters of the Print a Label File (PRTLBLF) command.

Note: To print records from an OS/400 Logical File, you cannot use relative record number (or *START to *END), you must specify record key values — in the FROMKEY and TOKEY parameters of the Print a Label File (PRTLBLF) command. If you want to print the entire logical file, specify a record key value of 0 (or A) for the FROMKEY and specify a record key value of 9999 (or ZZZZ) for the TOKEY. For an example of mixing label formats in a spool file see EXRPG41.

Replacing multi-part preprinted forms with laser forms

MarkMagic Forms and Overlays generally replace a straightforward preprinted form — instead of loading statement paper or invoice paper, the MarkMagic Form or Overlay format replaces the constants, lines, boxes and graphics. But what if the preprinted form is an NCR (No Carbon Required) multi-part form?

How can you run a job and print an original and a copy at the same time? The MarkMagic RUNMPFJOB ([Run a MarkMagic Multiple Parts Form Job](#)) command lets you do this in either interactive or batch mode.

This command is intended to provide an easy to use interface for printing multiple part forms on a page printer. For each part of the form, you can specify the format that applies, the source drawer, and the output bin.

This provides you with the ability to draw paper from one drawer and print different formats to different output bins. Alternatively, you can draw different color paper from different source drawers and have them come out in sets in one output bin. Finally, you can draw from different input drawers and send the same, or different, formats to multiple output bins.

MarkMagic Multiple Parts Form Job (RUNMPFJOB) command

- **Job-name** - Specifies the job name to be run, and the group in which it is located. The possible values for this parameter are: the name of the job to be run, or, *SELECT to select jobs from the specified job group.
- **Group-name** - The name of the job group in which the job is located. The possible values for this parameter are: *SYSTEM, the *SYSTEM job group; *ALL, when job name is *SELECT, job group *ALL lets you select a job from any job group.
- **Run mode** — Specifies the run mode of the MarkMagic job, interactive or batch. The possible values for this parameter are: *DEFAULT, Use the mode defined in the MarkMagic job; *INTER, to run the MarkMagic job interactively; *BATCH, to run the MarkMagic job in batch.
- **Job library name** — Specifies the library containing the MarkMagic job. Press F4 for a list of MarkMagic User Libraries. Possible values for this parameter are: library-name, the name of the MarkMagic User Library where the job is located; *NONE, the job is located in the MarkMagic library; *SEARCH, to have MarkMagic scan the library list in search of the library containing the specified MarkMagic Job.
- **Parts Specifications** — Specifies the formats of from 1 to 10 parts. Each part is described in this parameter by a list of attributes. The attributes are format name, source drawer, and output bin. You can enter multiple values for this parameter. If you are on an entry display and you need additional entry fields to enter these multiple values, type a plus sign (+) in the entry field opposite the phrase "+ for more" and press the Enter key. The possible values are:
 - **Format-name** - The name of the format that will be used to the print the part. Press F4 for a list of format names.
 - **Source-drawer** - — Specifies the source drawer used when single-cut sheets are fed into the printer. Valid values range from 1 through 255; *EI- *E4, Envelopes are fed from the designated envelope drawer on the sheet-feed paper handler.
 - **Output bin** - Specifies the destination of the output on printers capable of multiple output bins. Valid values range from 1 through 255.

How to select the correct OS/400 printer

Where many users are printing labels, each to their own printer, the user program has to either override the MarkMagic Job print step with the printer device name, or if you are not using Jobs, pass the printer device name to the PRTLBLE command. There are two methods for associating the printer device with the user.

- Method 1: To do this, set up a physical file, with two fields: display device and printer device. The user label printing program would then chain to this file to retrieve the printer device associated with the display. Alternatively the file could

be keyed on User, or department code, etc. to associate printers with users, departments, etc.

- Method 2: Another method would be to set the printer device name in each display device description to the associated printer name, and then call the MarkMagic program, GETDSPRT (Get a Display's Printer) to retrieve the associated printer from the display device name, which is the job name when running interactively. The parameters passed to GETDSPRT are display device name (10) and printer device name (10). The display device name parameter should contain either the actual device name, or '*' for the current display device. See the table for the values returned by GETDSPRT in printer device name.

Note the following disadvantage of Method 2. It will cause Print Screen output to go to the display device description's printer. This may not be desirable.

How to notify printer operator between batches

To have the printer or system operator notified that each spooled file is beginning, do a CHGPRTF to the MarkMagic print file for your printer device type.

- To determine which print file to change, hold the writer and browse your spool for a file name that begins with the characters MMLABEL...
- Then do a CHGPRTF (MMLABELx) to specify ALIGN(*YES). This is especially useful when printing large batches of labels, each of which is rewound and placed on an applicator. This way the operator gets an alignment message, knowing to tear off the previous batch before proceeding. Also, in the STRPRTWTR command for that printer, the ALIGN parameter would have to be *FILE instead of the usual default of *WTR. (If the spool writer for the printer is already started, you would have to end it, and then re-issue the STRPRTWTR command.)

How to suppress the verify alignment message when printing

In the STRPRTWTR command for that printer, the ALIGN parameter has to be *FILE instead of the usual default of *WTR. (If the spool writer for the printer is already started, you would have to end it, and then re-issue the STRPRTWTR command.)

Check Digit Calculation

MarkMagic will automatically calculate check digits for text and bar code fields. If you need to generate your own check digit, this example shows you how.

This program is an example of calling the MarkMagic subroutine for calculating a check digit for those instances when you may need to generate a check digit for your own application.

Source member: **CALLGENCKD**

Source Member: MRKMAG/QRPGSRC

Description: Contains the call statement and parameters necessary to call the GENCKD (Generate Check Digit) program to calculate a check digit based on a user provided field.

How to get information about a MarkMagic Job

The GETMMJOB (Get MarkMagic Job) program can be used to check if a particular MarkMagic Job exists. In addition, it can find in which library on the library list a Job is contained. It can also be used to return Job-related fields, such as printer device, printer type, label file, default format, etc.

How to print using prestored formats

If your production printing requirements call for different formats intermixed in on-demand mode and your printer type supports format numbering and prestoring, you may wish to load your formats into the printer before you send any data. This can eliminate sending and resending formats during the print process, resulting in improved response time. This technique is more appropriate for improving on demand printing than batch printing, where you choose not to use a master label file.

Note: Not all printers support prestoring formats.

To prestore formats in printer memory

As part of the user sign on (and each time the printer is powered on), run a MarkMagic Job with a print step that contains *FORMAT for the Label File parameter. Run this Job for each format you have defined, and number each in the Print Label File (PRTLBLE) Command Format Number parameter.

To print prestored formats

In a MarkMagic Job Print step, specify *NO for the Send format PRTLBLE command parameter since the format or formats have already been stored in the printer's memory.

If only one format is used in a batch, you can specify the format number in the PRTLBLE command Format Number parameter. If more than one format is used in a batch, select the format to use for each record by writing the corresponding format number in the Format Number field of each label file record, along with the Format Name in the label record's Format Name field.

How to print over an RF network

Wireless computing lets you bring an OS/400 terminal to the goods — instead of requiring an operator to bring the material to be labeled to a wired display station. Wireless RF technology is essential for paperless picking, WMS-directed put away, and the real-time counting of physical inventory.

MarkMagic makes it easy to print to a printer attached to a wireless terminal. You must initiate the print command from that RF terminal. We recommend that if you are developing labels for RF printing, you should work near both a fixed display station and a wireless RF terminal. The MarkMagic label design work is done on the wired terminal. When you are ready to print a format layout, pick up the wireless terminal, and run a job that has a supported RF network type specified for the RFNETWK parameter in the PRTLBLE (Print a Label File) command, or the Print step of a MarkMagic Job. Check

your work and return to the wired terminal to modify your designs and switch back to the RF terminal to test your label printing.

Sample Program for RF Printing

Member name: **EXRPG34**

Library/File: MRKMAG/QRPGSRC

Program description: Prints labels over a Radio Frequency (RF) network. Passes user data to MarkMagic via a label file, and calls a CL program to execute the RUNMMJOB command. The MarkMagic job prompts the user with selected print parameters that can be overridden (such as RF network type) before printing.

Printing to Internet-Attached Printers

If you do not have TCP/IP set up on your AS/400, you can still print MarkMagic output over the Internet. Here's how:

1. Be sure the PC workstation is running PC Support/Client Access, the Workstation function has started, and you are enrolled in PC Support/Client Access.
2. Configure a WSF (or Client Access 5250 emulation) printer session.
3. Set up the printer to: use the Generic/Text Only printer driver, and, to print to FILE.
4. Print a MarkMagic label file to the PC disk file — the disk file is the output of the emulated OS/400 printer session.
5. The PC file can be e-mailed to anyone on the Internet as an attached file.
6. Further instructions for labels can be included in the Subject and body of the e-mail message.
7. After the attachment has been saved, labels can be printed in MSDOS by copying the file to the appropriate PC printer port to which the bar code printer is connected.

How to print to Internet-attached printers

Transmission Control Protocol/Internet Protocol (TCP/IP) is a common set of communications protocols that support host-to-host communications for both local and wide area networks. This "open" connectivity standard is the language of the Internet, and is fast becoming the connectivity method of choice among OS/400 professionals. If you wish to print to TCP/IP-attached, Internet-attached printers, you have a number of options. You can:

- Print MarkMagic printer device type HPPCL5 directly to TCP/IP attached printers using a *LAN device description (OS/400 V3R7 or later only)
- Print any MarkMagic printer device type directly to TCP/IP -attached printers using a Remote Output Queue (RMTOUTQ)
- Print MarkMagic printer device type HPPCL5 to PC-attached printers using a Remote Output Queue (RMTOUTQ) over TCP/IP
- Print any MarkMagic printer device type to PC-attached printers over the Internet in a Dial Up Networking environment

Prompt Program Parameters

If you choose to develop your own Prompt program rather than using CYBRA's CodeScope, here are the input/output parameters and parameter lengths your program needs:

INPUT

1. Window name - this is the file name 10
2. Reserved 10
3. Reserved 99
4. Reserved 99
5. Reserved 99

OUTPUT

1. Return code* 2
2. Return key 99
3. Return record (can be left blank) 1000
4. Return field name (can be left blank) 10

* valid values are OK (record selected) or NS (no selection)

Multilingual Operations

Multilingual Operations

MarkMagic has two multilingual capabilities — user interface and character sets. If you are more comfortable with a language other than English, you can work with a different user interface language version of MarkMagic. In addition, you can work in any supported language and print foreign language characters. Printed characters needn't be in the same language as the interface language of MarkMagic — you may work in English, or French, yet print in Swedish, for example.

The preferred interface language can be selected on a system-wide basis, on a user basis, or each time MarkMagic is started. Each user on the system can work in their language of preference.

To use MarkMagic in a different language

The SETMMLANG command allows setting of interface language and/or print character set on a system-wide or individual user level.

To set the MarkMagic language and character set

Sign on to the OS/400 but do not start MarkMagic.

1. Type: **ADDLIB MRKMAG**
2. Type: **SETMMLANG** and press F4
3. Type ***SYSTEM** to set the language for the system or ***CURRENT** to set the language for the current user. Press ENTER. MarkMagic will recommend an interface language and a printer character set based on your system value language.
4. Tab to the Language Identifier parameter and press F4. Change the recommended default value by typing one of the supported interface languages. Press ENTER.
5. Tab to the Character Set parameter and press F4. Change the recommended default value by typing one of the following supported character sets: *ENU for

U.S. English, *ENG for U.K. English, *FRA for French, *FRC for French Canadian, *ESP for Spanish, *SVE for Swedish.

To change the MarkMagic interface language at startup

To work in French, type STRMRKMAG, press F4, press F10 for additional parameters, and type *FRA for language identifier.

To print foreign language characters

Printer character sets supported in MarkMagic include: U.S. English, U.K. English, French, Spanish, and Swedish. This character set support also includes decimal formatting based on character set which involves substituting comma for decimal and blank or period for three digit group separator (thousands), where necessary.

To print foreign language characters at print time

If you wish to print data in a Character Set other than that defined as your OS/400 system value, specify *ENU for U.S. English, *ENG for U.K. English, *FRA for French, *FRC for French Canadian, *ESP for Spanish, or *SVE for Swedish in the PRTLBLF (Print a Label File) command parameter Character Set.

Native iSeries

OVRCPYJOB Parameter Keywords

[See Chapter 9, Printing](#), for a full explanation of each of the CPYTOLBLF (Copy To Label File) command parameter values.

MarkMagic Objects

MarkMagic Objects

MarkMagic customers typically conduct business with numerous trading partners. Some customers are responsible for supporting multiple companies in multiple locations conducting business with multiple trading partners. If your business is growing, chances are your compliance labeling requirements will grow as well.

Here are a few techniques to help you organize your MarkMagic objects, no matter how complex your installation may be. The techniques include the use of file members (to help you organize your data in your label files), the creation of MarkMagic User Libraries (to help you organize your label formats and graphics) and the use of MarkMagic User Libraries as Job libraries (to help you organize the components of your MarkMagic Jobs).

- [Data Screen Customization](#)
- [Exporting Objects](#)
- [Importing Objects](#)
- [Using File Members](#)
- [Work with Job Libraries](#)
- [Work with User Libraries](#)

Using File Members

File members are a generic method of segmenting data without programming. Depending on your application, use of file members can be beneficial, but there can be a drawback as well — file maintenance can be more difficult with multiple members to archive or purge. File members are typically used if your label file is particularly large. For example, a shipping file in which data is segmented by shipping carrier, would be a good use of a file member. Each member would contain data for one carrier. This can improve performance because fewer disk accesses are required to read and write records in a member as opposed to creating records with key fields, which require multiple accesses to build records with key values.

A keyed file is advantageous when you need to segment data on more than one field and when you will be writing records that need to be sorted by a key value.

File members are also advantageous when multiple users are sharing the same label file. Each user has their own member (named after their job name, for example), and can print the label file records they have selected without impacting other users label file

records. The alternative would be to copy the label file into each user's QTEMP library when the application is initialized.

In addition, because you can add a virtually unlimited number of members to a file, file members can be used to archive a job, for example, with the member named with the system value for the date and/or time the job ran.

Working with User Libraries

If you have multiple users, responsible for different applications, who will be working with the MarkMagic system, it is advantageous to organize formats, label files, and graphic images by User Library for the following reasons:

1. It will be easier for multiple MarkMagic users to find and work with the formats they are responsible for maintaining.
2. Security is improved by the ability to grant different authorities to different User libraries.
3. Customers supporting multiple sites can distribute User libraries of updated objects without needing to distribute the MRKMAG product library.



To create MarkMagic User Libraries

From an OS/400 command line enter STRMRKMAG, and press F4. Type a valid OS/400 library name in the User Library parameter. If the User library does not exist MarkMagic will create it. We recommend MarkMagic User Library names begin with "MM" to make it easy to browse all MarkMagic libraries.

The first time you work with a User Library, it will be empty —no formats, Jobs, or graphic images will appear when you press F4 for a list. If you need to work with previously defined formats, graphics, or Jobs they must be first exported from MarkMagic or another MarkMagic User Library, and then imported into the new MarkMagic User Library. See Importing and Exporting MarkMagic Objects and Working with Graphic Images in MarkMagic later in this chapter.

Working with Job Libraries

MarkMagic formats, graphics and Jobs are normally all found in the same User Library. However, you can have the formats and graphics in one User Library, while a MarkMagic Job is in a different library.

As you work with User Libraries there may be times where you will need to override a MarkMagic Job defined in a particular User Library. To do this you specify a MarkMagic Job Library in the Override MarkMagic Job Commands (see Chapter 10, [Programming](#)). Because the Print Step of a MarkMagic Job contains a User Library parameter (where the format will be found), the Override MarkMagic Print Job (OVRPRTJOB) Command needs a separate parameter for Job Library — the User Library where the Job definition can be found.

As an example, let's say you have three User Libraries, one called CYBRA1, another called CYBRA2, and a third called CYBRA3. In CYBRA1 you defined a Job called

LABELX that uses a Format, LABEL1, defined in CYBRA2. A different Format (also called LABEL1) has been defined in CYBRA3. To run the Job LABELX, the Run MarkMagic Job (RUNMMJOB) Command syntax would look as follows:

```
RUNMMJOB JOBNAME (group/LABELX) JOBLIB (CYBRA1)
```

To run the same job, but to override the User Library where the Format LABEL1 is defined, the following syntax would be used:

```
OVRPRTJOB JOBNAME (group/LABELX) JOBLIB (CYBRA1) USRLIB (CYBRA3)
```

followed by the run command:

```
RUNMMJOB JOBNAME (group/LABELX) JOBLIB (CYBRA1)
```

If you wish to add (and remove) library list entries to manage your MarkMagic User and Job libraries, you can specify *SEARCH in the Job library name and/or User library name parameters to have MarkMagic search the library list (from the top down) for User Libraries where the specified Job or Label Format may be found. This is similar to the OS/400 "LIBL" value used for library name in OS/400 System commands.

Data Screen Customization

Many customers use the MarkMagic application Edit a Label File, and associated command, EDTLBLF, in production — as part of MarkMagic Jobs to enter data into an empty label file, or edit existing records in a label file. The application builder follows optimization rules to determine the order in which the format's fields are presented on the Edit Data display panels.

The optimization rules present the format fields in the following order:

1. Format fields which are keys to a database file
2. Input-enabled format fields from a database file
3. Input-protected format fields from a database file
4. Input-enabled format fields not from a database file
5. Input-protected format fields not from a database file
6. Batch default values, beginning with the quantity field

At times, you may wish to present the format fields to your users in an order other than optimized. This is a two step process. First, you need to resequence and reorder your format's fields to appear in the order you prefer, and then you need to turn off optimization when you create the label file.

Note: You can reorder all field types but we recommend defining all variable fields as Data fields. MarkMagic groups all Data fields first, then all Text fields, then all Bar code fields. It will be easier to visualize the new sequence if the fields you are reordering are of one type.



How to reorder Edit Label File fields

1. Open the format and press F10 to toggle List View.
2. Type D, to position to Data fields. Press ENTER.
3. Press F16 (Resequence) and specify an increment value of 10. If the format contains more than 99 Data fields use a lower increment value. Press ENTER.
4. After format fields have been resequenced, press Tab to position to the field you wish to appear at the top of the Edit Data panel.
5. Type 3 to copy the Data field. Specify 001 in the Field # parameter. Press ENTER.
6. Position back to the original field you copied and type 4 to delete. Press ENTER.
7. Tab to position to the field you wish to appear in the 2nd position of the Edit Data panel.
8. Type 3 to copy the Data field. Specify 002 in the Field # parameter. Press ENTER.
9. Position back to the original field you copied and type 4 to delete. Press ENTER. Repeat the above steps until you have reordered the format fields as you prefer.

How to choose whether to optimize Edit Label File fields

1. Select **Format** from the MarkMagic Main Menu.
2. Select **Generate** from the Format menu.
3. Select **Create** from the Generate menu.
4. Select the format for which you wish to create a label file, and press ENTER. The Create a Label File command prompt is displayed.
5. Press F10 for additional parameters. Position to the Optimize field order parameter.
 - **To optimize field order** - Type *YES to show the label file's variable fields in optimized ordering (key fields first, fields grouped by file name, protected fields last, etc.).
 - **To use field order sequence** - Type *NO to show the label file's variable fields in the sequence by field type and field number that they appear in the format.
6. Press ENTER to create the label file.

Native iSeries

Importing Objects

1. Select **Utilities** from the MarkMagic Main Menu.
2. Select **Import** from the Utilities menu. The Import MarkMagic Objects (IMPMOBJ) command prompt is displayed.
 - **Restore from device** — Specify the location of the exported objects. The possible parameter values are: **tape-device-name** , the name of a tape device that contains the exported objects; ***SAVF**, an OS/400 save file where the exported objects are stored; ***PCFILE**, a PC document in a specified folder that contains the exported objects; ***NETFILE**, the imported objects were received from another system on the network. The objects are received as a library named MRKMAGXP (MarkMagic Import/Export); ***CFD**, the imported objects are defined using CYBRA's Common Format Description (CFD) language.

- **Label printer type** - Press F4 to display a list of installed printer types. Select the printer type that will be used to print this format, or enter *ALL to import formats for all installed printer types.
- **Group** — Specifies the Job group from which Jobs are to be imported. The possible values for this parameter are: *ALL, Jobs from any Job group are selected; *SYSTEM, select Jobs from the *SYSTEM Job group only; **group-name**, select Jobs from a specified Job group.
- **Replace or add records** — Enter *SELECT to be presented with a list of objects to import, *ADD to import only objects with different names than those in the system, or *REPLACE to import (and overwrite) all objects with the same names as those in the system.
- **Save file** - Type the name of the OS/400 save file if you are importing objects from a save file.
- **Library** - Type the name of the OS/400 library containing the save file.
- **Volume Identifier** - Type the name of a specific tape volume or *MOUNTED to load from whatever tape is currently in the tape drive.
- **Sequence number** - Enter *SEARCH to instruct the system to find the MarkMagic exported format file, or enter a sequence number from 1 to 9999.
- **End of Tape option** - Specifies how the tape is handled after the import operation. The possible values are: *REWIND to rewind the tape, *UNLOAD to unload the tape, or *LEAVE to leave the tape alone after the import operation.
- **From folder** - When the DEV (Restore from device) parameter is *PCFILE or *CFD, specify the name of the folder that contains the PC document with the exported objects.
- **From PC file** — When the DEV (Restore from device) parameter is *PCFILE or *CFD, specify the name of the PC document that contains the exported objects. Press ENTER to process the command. If you specified *SELECT the Import Objects screen is displayed. Position the cursor at the object you wish to import, type 1 and then press ENTER. The Confirm Object Import screen is displayed. If you wish to rename the imported object, type a new name. Press ENTER to confirm the import. The Import Objects screen is redisplayed, and the status of the previously selected object changes to *SELECTED.

Repeat these steps to import other objects. Press F19 to continue to the next step and complete the import function. After you receive an OS/400 message confirming the import, the objects are ready to be used.

Exporting Objects

1. Select **Utilities** from the MarkMagic Main Menu.
2. Select **eXport** from the Utilities menu. The Export MarkMagic Objects (EXPMMOBJ) command prompt is displayed.
 - **Save to device** — Specify the destination of the export. The possible parameter values are: **tape-devicename**, the name of a tape device to store the exported objects; *SAVF (save file), to store the exported objects in an OS/400 save file; *PCFILE, to store the exported objects in a specified folder as a PC document. The document can then be

accessed via Client Access by an attached PC. This option is useful when the exported objects are to be e-mailed as an attachment, or transferred via diskette, etc.; ***NETFILE**, the exported objects are sent to a specified user at a specified network address. Specify ***SAVF** if you want to transfer formats amongst the MarkMagic library and user libraries on the same AS/400.

- **MarkMagic object type**— Specifies the MarkMagic object types to be exported. You may specify one type, list multiple types, or all types. The possible values for this parameter are: ***ALL**, MarkMagic Jobs, formats, and graphic objects are exported; ***JOB**, MarkMagic Job objects are exported; ***FMT**, MarkMagic Format objects are exported; ***GRA**, MarkMagic Graphic objects are exported. Press ENTER to continue.
- **Label printer type** - — Press F4 to display a list of installed printer types. Select the printer type for which the format to be exported was defined, or enter ***ALL** to export formats from all installed printer types.
- **Group**— Specifies the Job group in which any Jobs to be exported are located. The possible values for this parameter are: ***ALL**, Jobs from any Job group are selected; ***SYSTEM**, select Jobs from the ***SYSTEM** Job group only; **group-name**, select Jobs from a specified Job group.
- **Save file** - Type the name of the OS/400 save file if you are exporting formats to another MarkMagic system on a network, or to a user library.
- **Library** - Type the name of the OS/400 library to contain the save file. If the save file is to be contained in the current library, enter ***CURLIB**.
- **Text description** - Type a meaningful description of the save file such as 'MarkMagic exported formats.'
- **Volume Identifier** - Type the name of a specific tape volume or ***MOUNTED** to save to whatever tape is loaded in the tape drive.
- **Sequence number** - Type a specific sequence number or ***END** to place it after the last file on the tape.
- **End of Tape option** - Specifies how the tape is handled after the export operation. The possible values are: ***REWIND** to rewind the tape, ***UNLOAD** to unload the tape, or ***LEAVE** to leave the tape alone after the export operation.
- **Send to User ID** - When the DEV (Save to device) parameter is ***NETFILE**, you must specify the two-part user ID of a user to whom the objects are to be sent.
- **To folder** - When the DEV (Save to device) parameter is ***PCFILE**, specify the name of the folder that will contain the PC document with the exported objects.
- **To PC file** - When the DEV (Save to device) parameter is ***PCFILE**, specify the name of the PC document that will contain the exported objects.
- **Target release** — Enter the value for the OS/400 Operating System release level of the MarkMagic OS/400 system to which you will be exporting. Permitted values are: ***CURRENT** if the system is at the same release level as yours, ***PRV** if the target system is at the previous release level or you can specify the release in the format VxRxMx. The exported objects can be restored to a system with the specified release or with any subsequent release of the operating system installed. Valid values depend on the current version, release, and modification level. Valid values are: **V2R3M0**, **V3R0M5**, **V3R1M0**, **V3R2M0**, **V3R7M0**,

V4R1M0, **V4R2M0**, or **V4R3M0**. If you are not sure, contact your OS/400 System Administrator.

- **Clear** — Specifies whether an uncleared save file, or uncleared diskettes or tapes encountered during the export operation are automatically cleared. The possible values are: ***NONE** (None of the uncleared tapes, or save files encountered during the export operation are automatically cleared); ***ALL** (All the uncleared tapes or save files encountered during the export operation are automatically cleared); ***AFTER** (All the uncleared tapes after the initial tape are automatically cleared. This option is not valid for export operations to a save file).
- **Data compression** — Specifies whether data compression is used. The possible values are: ***DEV** (If the export is to tape and the target device supports compression, hardware compression is performed. Otherwise, no data compression is performed); ***NO** (No data compression is performed); ***YES** (If the export is to tape and the target device supports compression, hardware compression is performed. If compression is not supported, or if the export data is written to a save file, software compression is performed). Press ENTER to process the command. If you specified ***ALL**, or ***JOB** for the MarkMagic object type (MMOBJTYP) parameter, then the Export MarkMagic Jobs screen is displayed. If you specified ***FMT** then the Export Label Formats screen is displayed. If you specified ***GRA**, then the Export Label Graphics screen is displayed.

Position the cursor at the Job, format, or graphic you wish to export, type a **1** and then press ENTER. The Confirm Export screen is displayed. Press ENTER to confirm the export. The Export screen is redisplayed, and the status of the previously selected object has changed to ***SELECTED**. You may repeat these steps to select as many objects to export as you wish.

Press F19 to continue to the next step and complete the export selection function. After you receive an OS/400 message confirming the export to the specified device or save file, the exported objects are ready to be imported into another MarkMagic system, or to a user library.

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