

MarkMagic



Bar Code Label, RFID Tag, and SM@RT Forms Software for IBM System i

The screenshot displays the MarkMagic software interface. On the left, a terminal window shows a list of database fields with their lengths, types, and descriptions. The fields listed are: ORDER# (5, 0, S, Order Number), PDPRD# (7, 0, S, Product Number), PDUPC# (12, 0, S, UPC Number), PO# (15, S, Purchase Order Number), PKSLIP (8, S, Picking Slip Number), PDTYPE (1, S, Product Type), PDDESC (25, S, Product Description), PDWGHT (7, 2, S, Weight), PDQTY (5, 0, S, Quantity), CSKEY (5, 0, S, Customer Key), CSCODE (1, S, Customer Code), CSSTOR (4, 0, S, Store Number), CSDEPT (4, 0, S, Dept Number), CSNAME (25, S, Customer Name), and CSADDR (25, S, Customer Address). The terminal also shows the file path 'File . . : SHIPFILE' and library 'Library . : MRKMAGDTA'. Below the list, it says 'F3=Exit'.

Overlaid on the terminal is a 'Choose A Field' dialog box. This dialog box contains a table with the following columns: Key, Name, Length, Decimals, and Description. The table lists the same fields as the terminal, with checkboxes in the 'Key' column. The 'ORDER#' and 'PDPRD#' fields have their checkboxes checked. At the bottom of the dialog box, there are 'OK', 'Cancel', and 'Help' buttons, and a copyright notice: '© Copyright; CYBRA Corporation'.

Key	Name	Length	Decimals	Description
<input checked="" type="checkbox"/>	ORDER#	5 0		Order Number
<input checked="" type="checkbox"/>	PDPRD#	7 0		Product Number
<input type="checkbox"/>	PDUPC#	12 0		UPC Number
<input type="checkbox"/>	PO#	15		Purchase Order Number
<input type="checkbox"/>	PKSLIP	8		Picking Slip Number
<input type="checkbox"/>	PDTYPE	1		Product Type
<input type="checkbox"/>	PDDESC	25		Product Description
<input type="checkbox"/>	PDWGHT	7 2		Weight
<input type="checkbox"/>	PDQTY	5 0		Quantity
<input type="checkbox"/>	CSKEY	5 0		Customer Key
<input type="checkbox"/>	CSCODE	1		Customer Code
<input type="checkbox"/>	CSSTOR	4 0		Store Number
<input type="checkbox"/>	CSDEPT	4 0		Dept Number
<input type="checkbox"/>	CSNAME	25		Customer Name
<input type="checkbox"/>	CSADDR	25		Customer Address

Tutorial 2A: Intermediate Concepts – Database Field Selection

Welcome

Welcome to Part 2A of the MarkMagic and JMagic combined tutorials. This tutorial will introduce variable text and barcode fields that use information retrieved from a database. As with the first tutorial, the steps are split up and in different colors so you can focus only on the MarkMagic or JMagic steps separately.

Before we begin we are assuming:

1. You have completed the “Basic Concepts” tutorial and understand what was introduced. (You will be making use of the format that you created and also utilize many commands and methods that were introduced.)
2. You have a Hewlett Packard PCL compatible Laser Printer available at your location that is configured for printing on the System i server. (If not, you can use our PDF option to produce your output.)

In this tutorial, you will learn:

1. How to copy a format and why you would want to copy a format.
2. How to delete a field from a format.
3. How to add variable “non-**LINK*” fields.
4. What a MarkMagic Data field is.
5. How to add Data fields defined from a database.
6. What a MarkMagic **LINK* field is.
7. How to add text and barcodes that are “linked” to the variable data fields via **LINK*.
8. What a MarkMagic label file is and how to create and copy sample data to one.
9. How to view the records in a label file.
10. How to print with data from your label file.

Copying a Format

In this tutorial, you *could* make changes to your existing **HPPCL5/LEARNXXX** format, but you do not want to lose your original work. (It will be used again in future tutorials.) Therefore, it’s best to make a copy of your original format and use the new copy during this tutorial.

MarkMagic Start MarkMagic and make sure you are at the main menu. Press “F” for Format and then “C” for Copy. The Copy a format dialogue box will appear. You need to specify the source format device and name in the first two fields. *From device* will be **HPPCL5** and *From format* will be **LEARNXXX**. (Replacing XXX with your initials.) Now you must specify the new format device and name. Since this will still be an HPPCL5 format, *To device* will be HPPCL5. Now, specify a new name for the copied format. It cannot be the same name as your original. For this tutorial, you will add a “2” at the end. Type **LEARNXXX2** for *To format*. Leave *To User Library* as ***USRLIB** (keep the copy within the same user library) and press ENTER.

```
Version . . . : 7.2          MarkMagic          Mod lvl . . . : 100118
F
Format          Print          Utilities
C
New             User library . . . : MRKMAGDTA
Open
Copy
Rename
Edit
Delete
Generate.
eXit
F12=Cancel

Copy a format
From Device . . HPPCL5      Name, F4 for list
From Format . .  LEARNXXX     Name, F4 for list
To Device . .   HPPCL5      Name, F4 for list
To Format . .    LEARNXXX2   Name
To User Library *USRLIB     Name, F4 for list

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

Enterprise
Edition

F3=Exit  F4=Prompt  F9=Cmd line  F10=List View
```

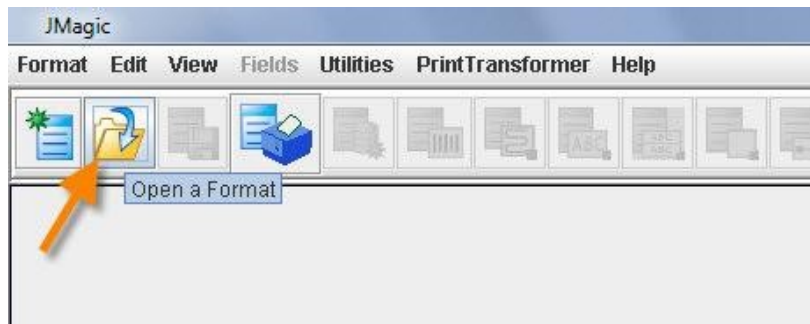
You should eventually see a message stating that the copy completed successfully.



When you start making changes, open your new LEARNXXX2 format instead of your original LEARNXXX format.

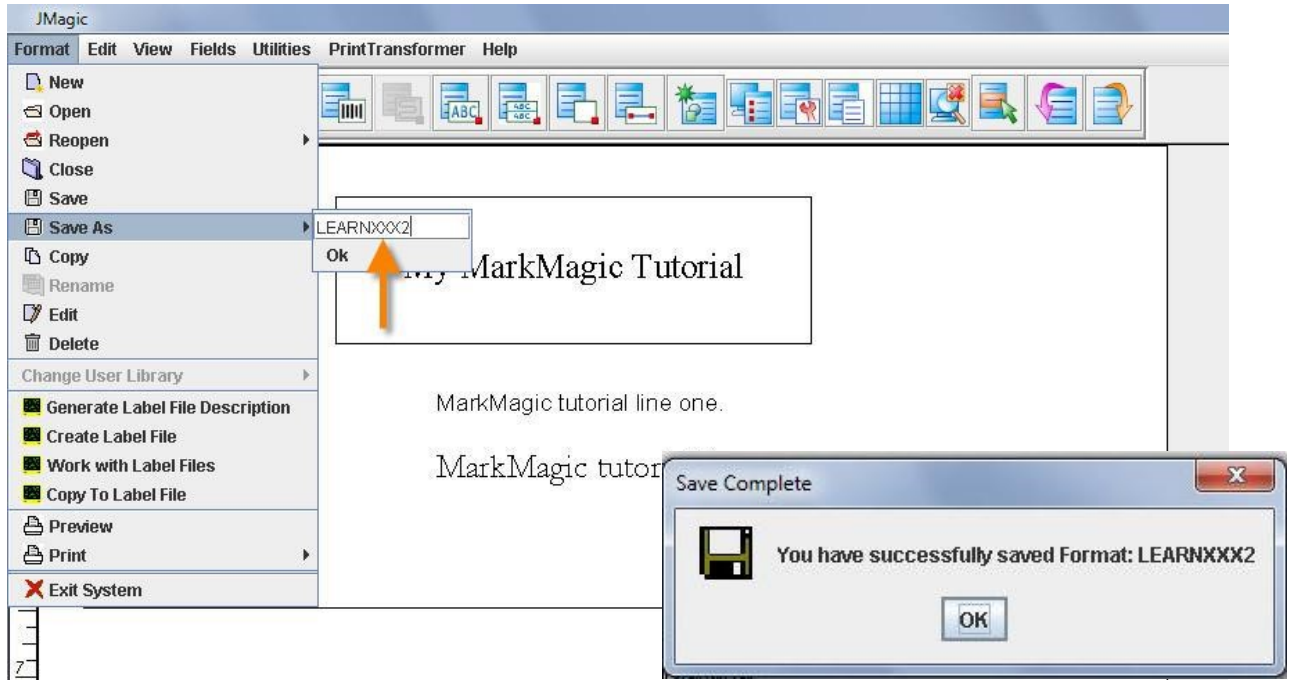
JMagic

Start JMagic and open the format that we made in the first tutorial by going to *Format* and then *Open*. Or you can simply click the *Open Format* button.



On the *Choose a Format* window, click **HPPC5** and then choose your existing **LEARNXXX** format to open it. We will use the new “Save As” feature in JMagic to save your original format with a new name. This will result

in a new version of the format that we can modify in this tutorial leaving the original intact. With your original format open, click Format and then Save As. Type **LEARNXXX2** as the new name and click Ok.



You will get a message stating the save was complete. You will also notice that the format name has changed in the information bar at the bottom of the format. Any changes you make from here will be made on your new **LEARNXXX2** format.

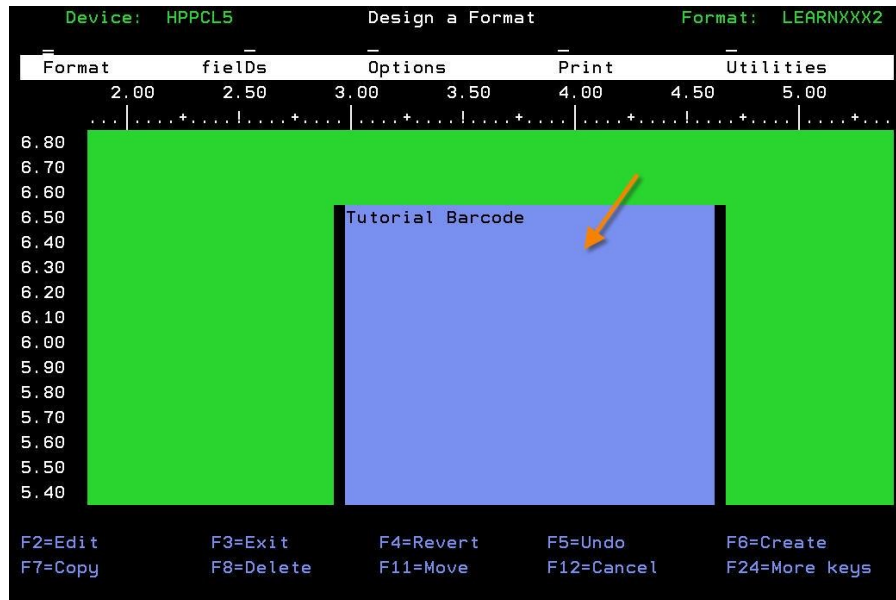


Deleting a Field

You will be using the space between the two lines on your format to add new variable text and barcode fields. There is a large barcode in the way though, so you are going to delete it to make way for your new field.

MarkMagic

Start MarkMagic and open your newly copied **HPPCL5/LEARNXXX2** format. Press the *PageUp* and/or *PageDown* keys to scroll the format up and down. Locate the barcode on your format. (Remember, to view left or right, you can Press **F19** or **F20**.)



Place your cursor anywhere inside of the box that represents the barcode and press F8. You will be told that the field is about to be deleted. Press ENTER to delete the field.

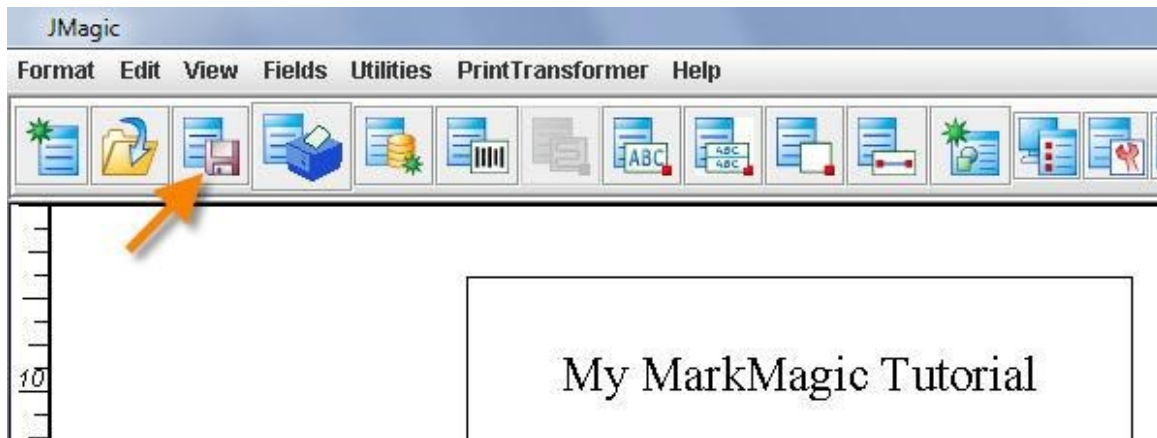


JMagic

Using your mouse, click on the barcode field to select it. You should see the red selection handles in the corners of the barcode field. To delete the field, simply press the Delete key on your keyboard. You will be asked if you are sure you want to delete the field. Click **Yes** to accept. The barcode field is removed from the canvas.



NOTE: When editing in MarkMagic (green screen), changes are saved immediately when deleting/editing fields, but in JMagic they are not. You must click the Save icon at the top for the changes to be saved back to your System i.



Adding New Fields

You will be designing the format seen on the following page. All of the fields that you see in between the horizontal lines contain variable data retrieved from a database. You will be using a sample database file included with MarkMagic called "SHIPFILE" which is located in library MMEXAMPLES. Once again, the steps are numbered so you can skip ahead to the explanations if you wish.

NOTE: Once in the MarkMagic design screen, you may not be able to view your entire format on the screen. You can scroll the format up and down with the PageUp and PageDown keys. You can scroll the format left and right using F19 (Shift+F7) and F20 (Shift+F8).

NOTE: When adding fields, MarkMagic provides coordinate, length and height values, etc. based off where you had your cursor on the screen at the time. You can override these values in most of the steps in this tutorial to ensure that lines, text fields, etc are placed exactly where you want.

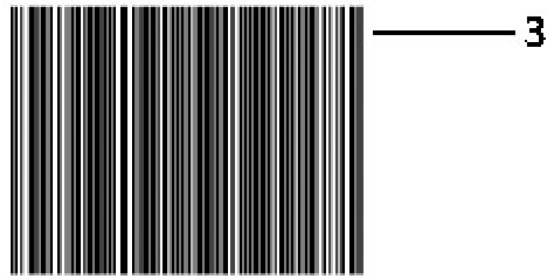
JMagic takes it one step further and provides a “WYSIWYG” (What you see is what you get.) view. This lets you see what the format will look like before you print it.

My MarkMagic Tutorial

MarkMagic Tutorial line one.

MarkMagic Tutorial line one.

Windows on the World — 1
2 Main Street
New York, NY 10015 — 2



A-54621 12324 S — 4

Made By: Your Name

#1 – Variable Text Fields: Non-*LINK

There are two basic ways to display variable data on your format. This section describes how to pass data directly to a text field. There is nothing wrong with using this method in your designs, but you will discover that using *LINK fields along with Data fields (next section) is much easier and keeps things neat and organized.

MarkMagic

Place your cursor on the green design screen in the general area where the first letter of the company name would be. Press **F6** and add a text field. Previously, you left the *Field Name* as *HEADING, but now you must prompt (**F4**) this field. You will be shown the *List Field Options* window.

```

List Fields Options

Field type . . . . . 1  1=Database fields
                        2=Format fields
                        3=Spooled File

Database file . . . SHIPFILE  Name, F4 for list
Library . . . . . MMEXAMPLES  Name, *USRLIB, *LIBL,
                        F4 for list

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

This is the window you use to tell MarkMagic the type and location of the file you want to retrieve field names and lengths from. Type **1** for *Database fields*. Next, type **SHIPFILE** for *Database file* and **MMEXAMPLES** for *Library*. Press ENTER to accept. You will be shown a list of fields found in the SHIPFILE file.

```

Select a Database Field      File . . : SHIPFILE
                             Library . : MMEXAMPLES

K Field      Length  Type  Description
PDQTY        5, 0    S     Quantity
CSKEY        5, 0    S     Customer Key
CSCODE       1      A     Customer Code
CSSTOR       4, 0    S     Store Number
CSDEPT       4, 0    S     Dept Number
CSNAME       25     A     Customer Name ←
CSADDR       25     A     Address
CSCITY       20     A     City

More . . .

F3=Exit   F12=Cancel
```


Page down and place your cursor on **CSNAME** and press ENTER. You will notice that *Field name*, *Description* and *Length* have been brought into MarkMagic. (Field name is not *HEADING anymore.) All you have left to do is type over the *Row / Column* values with **7.00** and **1.00** respectively so your field is placed exactly where you want it. (We will leave the *Font* and *Points* at their default values for now.)

```
Work with Text Field
Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      Width: 8.50"      Rotation: 0
Field # . . . : 005
Type choices, press Enter.
Field name . . . . . CSNAME      Name, *HEADING, *DATE, *TIME,
                                   *LINK, F4 for fields list
Description . . . . . Customer Name
Length . . . . . 25              1 - 132
Decimals . . . . . _            0 - 9
Variable length . . . . . Y      Y=Yes, N=No
Row / Column . . . . . 7.00  1.00 .01 - 11.00 / .01 - 8.50
Font . . . . . 20                F4 for list of fonts
Points . . . . . 12              1 - 999
More . . .
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

Once your text field settings match the screenshot above, press ENTER twice to create the field. You will see the field placed on to your format with the name =CSNAME. The “=” lets you know that the field is a variable field.

```

Device: HPPCL5          Design a Format          Format: LEARNXXX2
-----
Format      fields      Options      Print      Utilities
+Data      0.50      1.00      1.50      2.00      2.50      3.00      3.50
.....+.....!.....+.....|.....+.....!.....+.....|.....+.....!.....
8.20
8.10
8.00
7.90
7.80
7.70
7.60
7.50
7.40
7.30
7.20
7.10      =CSNAME
7.00
6.90
6.80

F2=Edit      F3=Exit      F4=Revert      F5=Undo      F6=Create
F7=Copy      F8=Delete      F11=Move      F12=Cancel      F24=More keys

```

The street address will be added in exactly the same fashion. Place the cursor just below the =CSNAME field and press **F6** and add a new text field. Prompt Field name and you will notice that MarkMagic remembers the database information. Press ENTER to view the list of fields again. Page down and place your cursor on **CSADDR** and press ENTER.

```

File . . . : SHIPFILE
Library . . : MMEXAMPLES

Select a Database Field

K Field      Length  Type  Description
PDQTY       5, 0    S     Quantity
CSKEY       5, 0    S     Customer Key
CSCODE      1       A     Customer Code
CSSTOR      4, 0    S     Store Number
CSDEPT      4, 0    S     Dept Number
CSNAME      25      A     Customer Name
CSADDR      25      A     Address ←
CSCITY      20      A     City

More . . .

F3=Exit      F12=Cancel

```

Once again, *Field name*, *Description* and *Length* are automatically brought into MarkMagic. Change Row / Column values to **6.80** and **1.00** so the address is placed .2 inches below the Customer Name. Press ENTER twice to create your second variable text field.

```

Work with Text Field
Device . . . . : HPPCL5
Format . . . . : LEARNXXX2   Length: 11.00"   Width:  8.50"   Rotation:  0

Field # . . . . : 009

Type choices, press Enter.

Field name . . . . . CSADDR   Name, *HEADING, *DATE, *TIME,
                          *LINK, F4 for fields list
Description . . . . . Address
Length . . . . . 25           1 - 132
Decimals . . . . . —           0 - 9
Variable length . . . . . Y     Y=Yes, N=No

Row / Column . . . . . 6.80 1.00 .01 - 11.00 / .01 - 8.50
Font . . . . . 20             F4 for list of fonts

Points . . . . . 12           1 - 999

More...

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

```

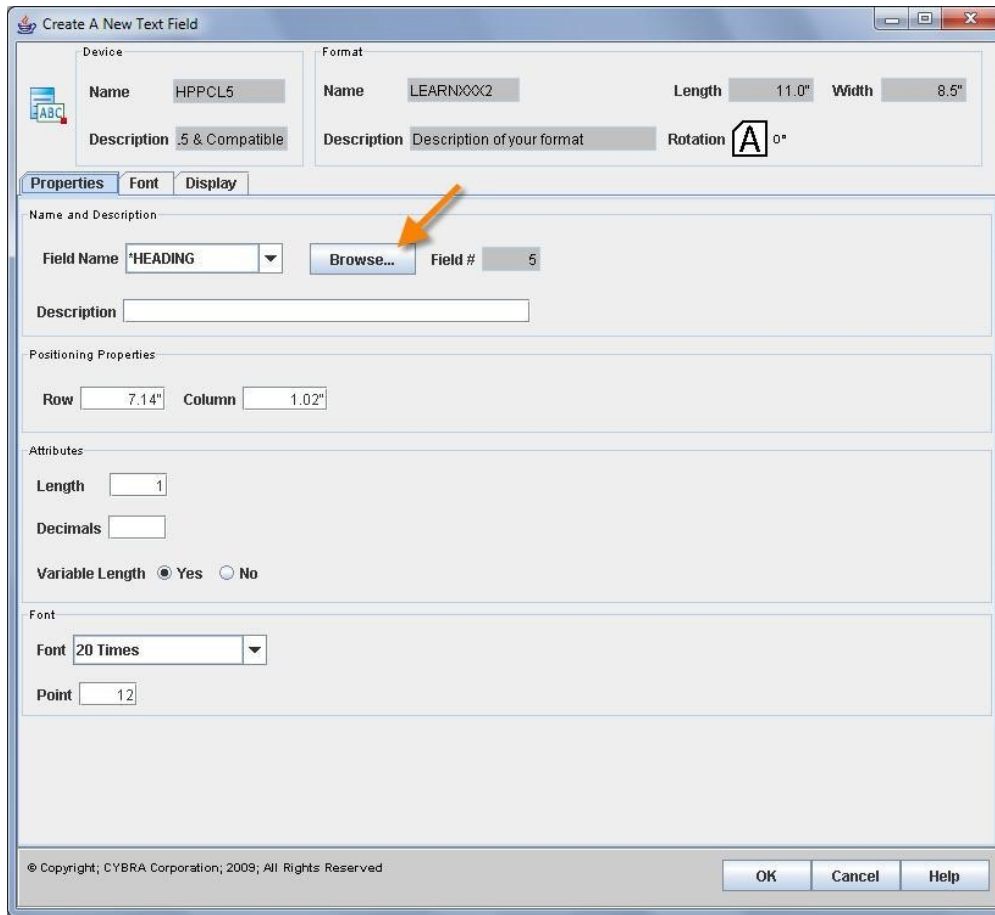
```

Device: HPPCL5           Design a Format           Format: LEARNXXX2
-----
Format   fields   Options   Print   Utilities
+Data   0.50    1.00    1.50    2.00    2.50    3.00    3.50
.....+.....!.....+.....+.....+.....+.....+.....+.....+.....!.....
7.50
7.40
7.30
7.20
7.10
7.00
6.90
6.80
6.70
6.60
6.50
6.40
6.30
6.20
6.10
-----
=F3=Edit   F3=Exit   F4=Revert   F5=Undo   F6=Create
=F7=Copy   F8=Delete  F11=Move    F12=Cancel F24=More keys

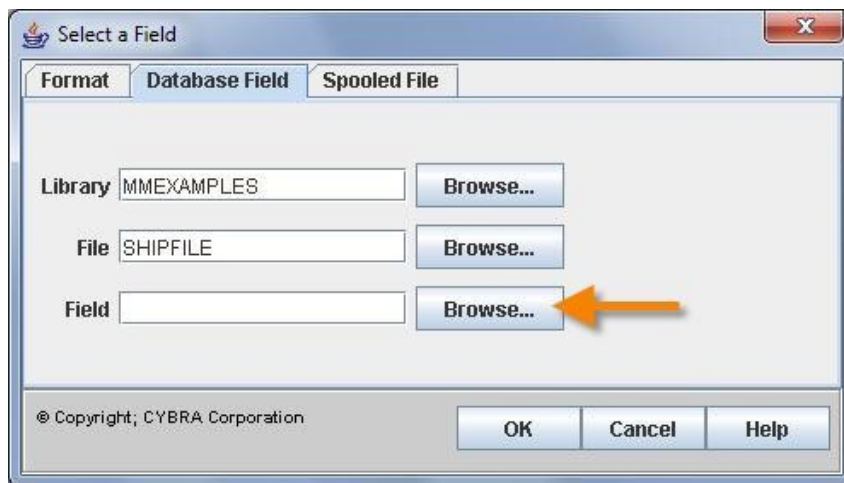
```

JMagic

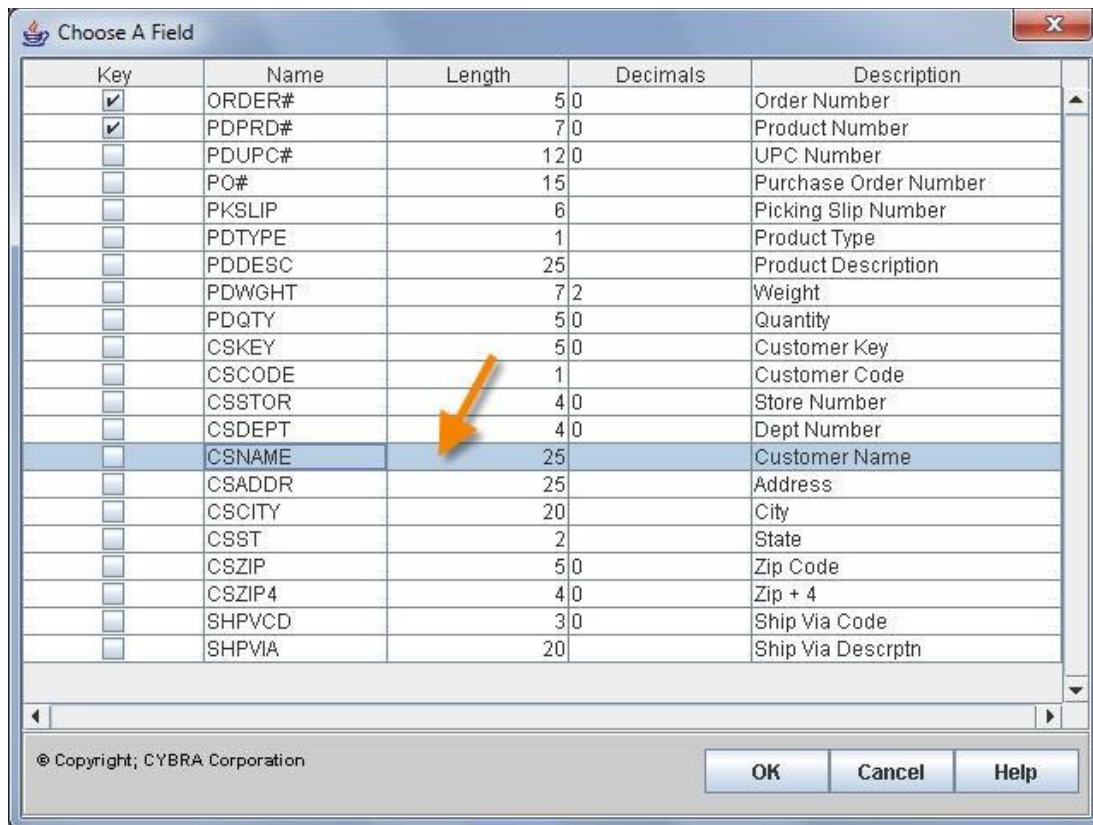
Click the *Create a Text Field* button at the top and then click on your form in the general location of the customer's name. You will be presented with the familiar *Create a New Text Field* window. Previously, you created constant text fields by leaving the *Field Name* as **HEADING*. Now you must click the *Browse* button.



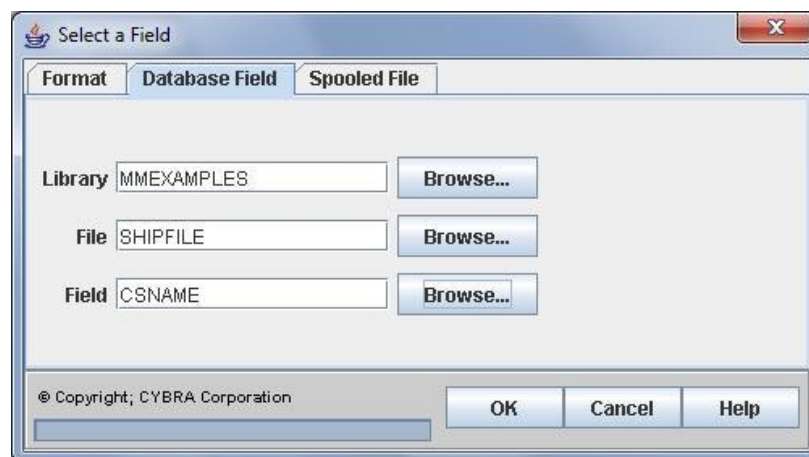
The *Select a Field* window will be shown. This is the window you use to tell JMagic the type and location of the file you want to retrieve information from. Click on the *Database Field* tab. Next, type **MMEXAMPLES** for *Library* and **SHIPFILE** for *File*. Click the *Browse* button next to *Field*.



You are shown a list of fields found in the **SHIPFILE** database file. Scroll down and click on **CSNAME**. Click OK to select the field.



You will be brought back to the *Select a Field* screen. This time with the correct field name filled in for you. Alternatively, if you know the database field name already, you can type it in without browsing for it first.



Click OK to accept your field settings and you will be returned to the *Create a Text Field* window. You will notice that *Field Name*, *Description* and *Length* are automatically brought into JMagic for you. To place the field exactly where you want it, change *Row* to **7.0** and *Column* to **1.0**.

Create A New Text Field

Device
 Name: HPPCL5
 Description: .5 & Compatible

Format
 Name: LEARNXXX2
 Length: 11.0" Width: 8.5"
 Description: Description of your format
 Rotation: A 0°

Properties | **Font** | **Display**

Name and Description
 Field Name: CSNAME [Browse...] Field #: 5
 Description: Customer Name

Positioning Properties
 Row: 7.0" Column: 1.0"

Attributes
 Length: 25
 Decimals: 0
 Variable Length: Yes No

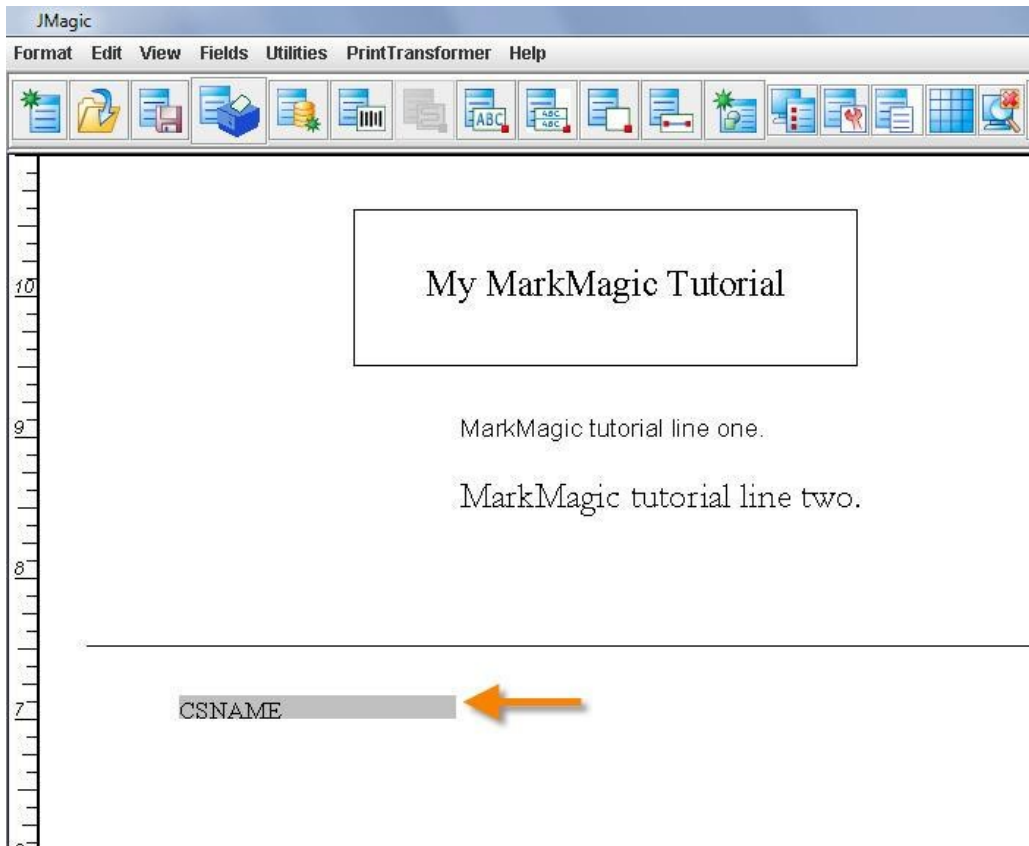
Font
 Font: 20 Times
 Point: 12

Usage
 Usage: 00 NONE

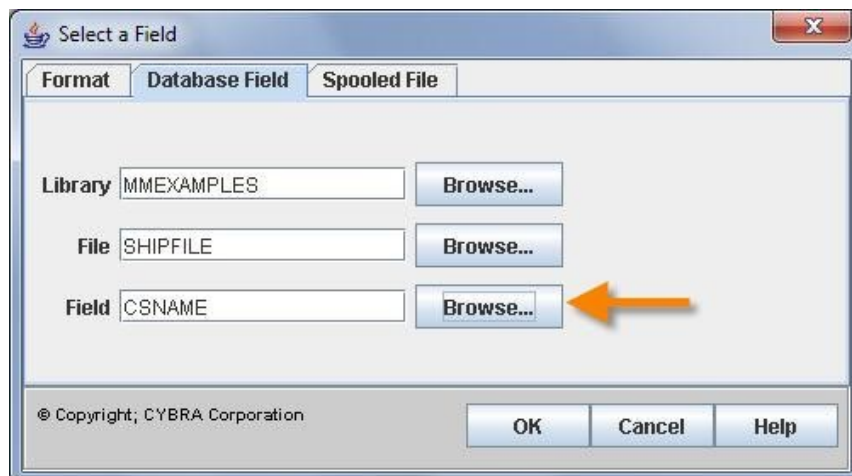
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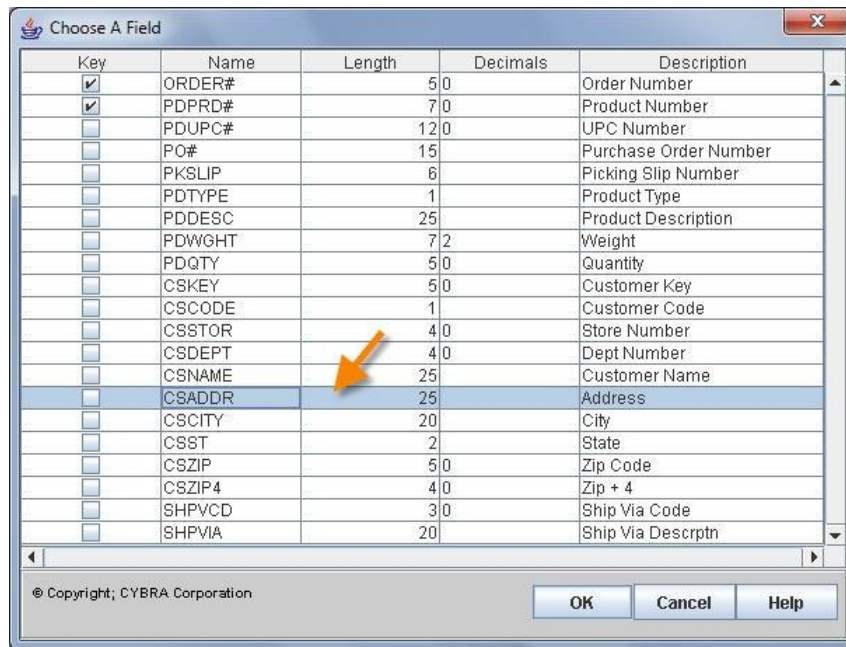
OK Cancel Help

Click OK to create your new variable text field. Notice the grey box with the label CSNAME. The grey box represents the approximate length of the field if all 25 spaces were filled with text. The box also serves as an indicator to you that the field is a variable field.



The street address field will be added in exactly the same fashion. Add a new text field just below the **CSNAME** field. Click the *Browse* button next to *Field Name* to select a new database field. Notice how JMagic remembers the names from your last selection. All you must do this time is click *Browse* next to the *Field* parameter. Choose **CSADDR** and click OK. Click OK on the *Select a Field* window.





Once again, *Field Name*, *Description* and *Length* are automatically brought into JMagic. To place the address field .2 inches below the name, simply change *Row* to **6.8** and *Column* to **1.0**.

Create A New Text Field

Device
Name: HPPCL5
Description: .5 & Compatible

Format
Name: LEARNXXX2
Length: 11.0" Width: 8.5"
Description: Description of your format
Rotation: A 0°

Properties | **Font** | **Display**

Name and Description
Field Name: CSADDR [Browse...] Field #: 6
Description: Address

Positioning Properties
Row: 6.8" Column: 1.0"

Attributes
Length: 25
Decimals: 1
Variable Length: Yes No

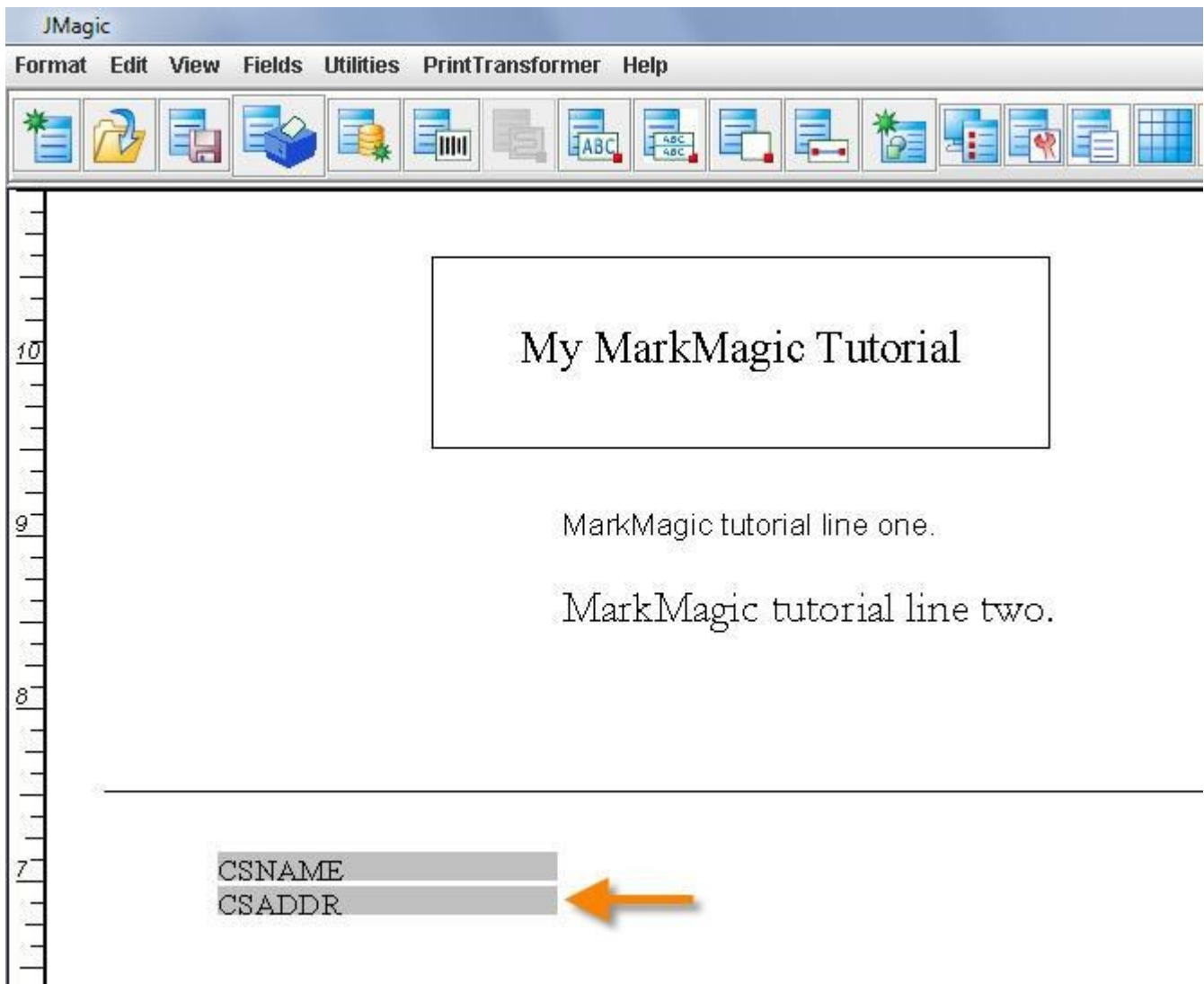
Font
Font: 20 Times
Point: 12

Usage
Usage: 00 NONE

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OK Cancel Help

Click OK to add your second variable text field. You should see it just below the first field you created.



#2 - Variable Text Fields: *LINK Fields

In many design scenarios, you would want to display the same bit of information more than once on a format and in more than one fashion (i.e.: a barcode with human readable text below it.). Using the method explained in Step #1, you would end up needing to create two fields each with different field names, but you would have to pass the same variable data twice during print time. Obviously, this creates unnecessary extra work and you shouldn't need to pass the same data twice to a label.

MarkMagic *LINK fields extend MarkMagic formatting options by adding the capability to define a variable field *once*, and have that same data appear in multiple fields on a format, each edited and formatted differently if need be. You can link a text field to another text field for example, but the preferred method is to use *Data* fields.

A MarkMagic Data field is a placeholder — a “bucket” to put information in at print time 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.

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.

The City, State and Zip code line is actually one text field made up of 4 different data fields “*LINKed” together. 3 of which are variable data retrieved from the SHIPFILE. Let’s see how it’s done.

MarkMagic

First, you must add your Data fields. You can add them just like any other field. Since they are non-printing it doesn’t matter where your cursor is when you add them, so place your cursor somewhere on the design area and press **F6** and then **D** for data. You will be presented with the *Work with Data Field* screen.

```
Work with Data Field
Device . . . . : HPPCL5
Format . . . . : LEARNXXX2   Length: 11.00"   Width:  8.50"   Rotation:  0
Field # . . . . : 007
Type choices, press Enter.
Field name . . . . . *HEADING   Name, *HEADING, *DATE, *TIME,
                        F4 for list of fields
Description . . . . . _____
Length . . . . . _____   1 - 3000
Decimals . . . . . _____   0 - 9
Increment type . . . . . I       I=Incr, D=Decr, *=Seq reference
Increment value . . . . . _____   0 - 999
More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel
```

Since it is non-printing, you’ll notice that there are no coordinate values or fonts to choose. You just need to specify a field name and length. Do this just like you did with the variable text field. Prompt the *Field name* and **SHIPFILE** should still be there. Press ENTER and then page down to place your cursor on **CSCITY**. Press ENTER to accept. MarkMagic automatically brings in the *Field Name* and *Length*.

```

Work with Data Field
Device . . . . : HPPCL5
Format . . . . : LEARNXXX2   Length: 11.00"   Width: 8.50"   Rotation: 0

Field # . . . . : 007

Type choices, press Enter.

Field name . . . . . CSCITY      Name, *HEADING, *DATE, *TIME,
                                F4 for list of fields
Description . . . . . City
Length . . . . . 20             1 - 3000
Decimals . . . . .             0 - 9
Increment type . . . . . I      I=Incr, D=Decr, *=Seq reference
Increment value . . . . .      0 - 999

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

```

Press ENTER twice to accept your new data field. You should now see a +DATA in the top left hand corner. This flag lets you know that your format contains Data fields. Data fields are not visible anywhere on the canvas, that is why we use this flag to inform the user that the format contains Data fields.

```

Device: HPPCL5
-----
Format      fields
+Data      0.50  1.00
.....+.....!.....+.....|.....+
11.00
10.90
10.80
10.70
10.60

```

Create two more Data fields following the same steps used to create CSCITY. The two fields that you should add from SHIPFILE are CSST and CSZIP. Since these three new Data fields are non-printing fields, you might want to know where they really are since you cannot see them on the canvas. Press F10 to toggle between “Design View” and “List View”.


```

Device: HPPCL5          Design a Format          Format: LEARNXXX2
Format  fields  Options  Print  Utilities
+Data  0.50    1.00    1.50    2.00    2.50    3.00    3.50
.....+.....!.....+.....|.....+.....!.....+.....|.....+.....!.....+.....!.....
7.50
7.40
7.30
7.20
7.10
7.00
6.90
6.80
6.70
6.60
6.50
6.40
6.30
6.20
6.10

```

=CSNAME
 =CSADDR

↓

```

F9=Cmd line      F10=List View   F13=Group       F14=Rotate
F15=Zoom in     F16=Zoom out   F24=More keys

```

```

Work with Format Fields - List View
Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"   width:  8.50"   Rotation:  0
Position to type . . . . . _   Position to field # . . . . . ___
Type option, press Enter.
  1=Create      2=Change      3=Copy      4>Delete      5=Display

```

Opt	Type	Fld	Name	Description	Length	Row	Column
—	Data	001	CSCITY	City	20	v	
—	Data	002	CSST	State	2	v	
—	Data	003	CSZIP	Zip Code	5,0	v	
—	Text	001	*HEADING	My MarkMagic Tutorial	22	10.00"	2.75"
—	Text	002	*HEADING	MarkMagic tutorial line one.	28	9.00"	3.00"
—	Text	003	*HEADING	MarkMagic tutorial line two.	28	8.50"	3.00"
—	Text	004	*HEADING	Made by: Your Name	18	2.00"	4.50"
—	Text	005	CSNAME	Customer Name	25	v 7.00"	1.00"
—	Text	006	CSADDR	Address	25	v 6.80"	1.00"

More...

```

F3=Exit          F6=Create       F10=Design View  F11=Quick edit
F12=Cancel      F18=Full screen F21=Print layout F24=More keys
(c) Copyright CYBRA Corp. 1991, 2010

```

Here in "List View" you get a listing of all fields on the format grouped by field type. Data fields are listed first and here you can see the three Data fields that you created in the previous steps. You can also Page Up and Page Down to scroll through the list of all fields on the format. You will see all Text fields grouped together, then the Line and Box fields. You can still create fields while in "List View".

Let's add a "special" Data field; one that will be used more than once in the City/State/Zip text line. Since the database does not contain a comma or spaces, you must devise a way to create your own. Press F6 and add another Data field, but this time leave it as *HEADING. Remember when using Text fields that anything in the

description line prints when the *Field name* is ***HEADING**. Yes, this data field does not print, but when it is used in a ***LINK** field, information entered in the Description will be what is linked to. Type a comma in the description line, but as an important step, also make the length 2. This will allow us to link to a “space character” when we need to link in spaces in our city/state/zip text field.

```

Work with Data Field
Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      width:  8.50"      Rotation:  0
Field # . . . : 004
Type choices, press Enter.
Field name . . . . . *HEADING      Name, *HEADING, *DATE, *TIME, *L
Description . . . . . , _____ *SEQ, F4 for list of fields
Length . . . . . 2 ←                1 - 3000
Decimals . . . . . _                0 - 9
Increment type . . . . . I          I=Incr, D=Decr, *=Seq reference
Increment value . . . . . _        0 - 999
More...
F3=Exit      F4=Prompt      F5=Refresh      F12=Cancel

```

Create the field as shown above and press ENTER twice to accept your new Data field. You will see the new Data field added to the list of fields. Now it is time to create the ***LINK** field containing these data fields that you made.

```

Work with Format Fields - List View
Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      Width:  8.50"      Rotation:  0
Position to type . . . . . _      Position to field # . . . . . _
Type option, press Enter.
  1=Create    2=Change    3=Copy    4>Delete    5=Display
Opt Type  Fld Name      Description      Length  Row  Column
- - - - -
Data 001 CSCITY      City            20  v
Data 002 CSST       State           2  v
Data 003 CSZIP      Zip Code        5,0v
Data 004 *HEADING    ,                2  v ←
Text 001 *HEADING    My MarkMagic Tutorial  22  10.00"  2.75"
Text 002 *HEADING    MarkMagic tutorial line one.  28  9.00"  3.00"
Text 003 *HEADING    MarkMagic tutorial line two.  28  8.50"  3.00"
Text 004 *HEADING    Made by: Your Name  18  2.00"  4.50"
Text 005 CSNAME      Customer Name   25  v  7.00"  1.00"
More...
F3=Exit      F6=Create      F10=Design View  F11=Quick edit
F12=Cancel   F18=Full screen F21=Print layout  F24=More keys

```

Press **F10** to toggle back to the "Design View". Place your cursor just below the **CSADDR** address line you made earlier in the tutorial. Add a new Text field. This time make the field name ***LINK**. Doing this will unlock the *Work with *LINK Source Fields* screen. You must Page Down 3 times to get to it.

```

Work with *LINK Source Fields

Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      Width: 8.50"      Rotation: 0

Link field . : Text  010      Description . . :

Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt  Order  Type  Fld Name      Description      Start Length

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel
There are no links for this field.  Press F6 to add a source field.
Bottom
  
```

Press **F6** to add a Source field (this is how you pick the fields that this new text field will be linked to). You will be presented with a list of fields that have already been added to your format. The Data fields should be listed at the top. You will add the Source fields in the order you want the text to appear. Place your cursor on **CSCITY** and press ENTER. You will be brought to the *Add a Source Field* screen.

```

Select a Field

Position to type . . . . _
Position to field # . . . . _

Type  Fld Name      Description      Length
Data  001  CSCITY      City            20  v
Data  002  CSST       State           2   v
Data  003  CSZIP      Zip Code        5,0v
Data  004  *HEADING    ,               2   v
Text  001  *HEADING    My MarkMagic Tutorial      22
Text  002  *HEADING    MarkMagic tutorial line one. 28
Text  003  *HEADING    MarkMagic tutorial line two. 28
Text  004  *HEADING    Made by: Your Name          18
More...

F3=Exit      F4=Prompt      F12=Cancel      F21=Select range
  
```

```

Add a Source Field

Device . . . . : HPPCL5
Format . . . . : LEARNXXX2      Length: 11.00"      Width:  8.50"      Rotation:  0

Link field . . : Text  010      Description . . . :

Link to:
Field type / number . . . . . : Data  001
Field name . . . . .          : CSCITY
Description . . . . .         : City
Length . . . . .              : 20

-----

Type choices, press Enter.

Start position . . . . .      = 1      Number
Length . . . . .              = 20     Number
Variable length . . . . .     N       Y=Yes, N=No
Edit code . . . . .           _       F4 for list
Check digit . . . . .         0       F4 for list

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

```

At this screen, you decide whether you want to link the whole source field or just a segment of it. You would like to see the whole city name print, therefore set the *Start position* to **1** and *Length* to **20**. (These values should already be present; MarkMagic always starts by linking the whole field.) Press ENTER twice to accept your settings. You will see your new source field added to the list.

```

Work with *LINK Source Fields

Device . . . . : HPPCL5
Format . . . . : LEARNXXX2      Length: 11.00"      Width:  8.50"      Rotation:  0

Link field . . : Text  010      Description . . . :

Type option, press Enter.
2=Change      4=Delete      5=Display

Opt  Order  Type  Fld  Name      Description      Start Length
=   10   Data  001  CSCITY    City              1    20

F3=Exit   F5=Refresh   F6=Add   F10=View 2   F12=Cancel

Bottom

```

From here, you “build” the *LINK text field by adding new source fields to link to. You could simply add in the State and Zip code, but there would not be a comma or any spaces. The field would print as just

“CITYSTATEZIPCODE”. This is where your “special” data field comes in. Press **F6** to add another source field. Place your cursor on the *HEADING data field that you made and press ENTER. You want a comma and one space, so you will want a *Start position* of **1** for a *Length* of **2**. This will pull in the comma and that one extra space from the Data field (you made the field length 2 so there would be that extra space after the comma). Press ENTER. You will see the source field added to the list.

```

Work with *LINK Source Fields

Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      Width: 8.50"      Rotation: 0

Link field . : Text  010      Description . . . :

Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt  Order  Type  Fld  Name      Description      Start Length
--  ----  ---  ---  ---      ---              --  ----
_   10   Data  001  CSCITY    City              1    20
=   20   Data  004  *HEADING  ,                  1     2

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel

Bottom
  
```

Next, it is time to link in the State. Press **F6** and add in CSST. Leave the default *Start position* and *Length*.

```

Work with *LINK Source Fields

Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      Width: 8.50"      Rotation: 0

Link field . : Text  010      Description . . . :

Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt  Order  Type  Fld  Name      Description      Start Length
--  ----  ---  ---  ---      ---              --  ----
_   10   Data  001  CSCITY    City              1    20
=   20   Data  004  *HEADING  ,                  1     2
_   30   Data  002  CSST      State              1     2

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel

Bottom
  
```

Now, you want to add in one space between the state and zip code. Press **F6** and choose that same “special” Data field again (you can link to the same field as many times as you need to). This time set the *Start position* to **2** (you do not need the comma) and Length of **1**. This will pull in the space character at the end of the Data field Description. Press **ENTER** twice to accept and you’ll see the source field added to the list.

```

Work with *LINK Source Fields

Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      width:  8.50"      Rotation:  0

Link field . : Text  007      Description . . : ,

Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt  Order  Type  Fld  Name      Description      Start Length
--  ----  ----  ---  ----      ----            -
  10  Data   001  CSCITY  City      City            1    20
  20  Data   004  *HEADING  ,          ,              1     2
  30  Data   002  CSST    State    State          1     2
  40  Data   004  *HEADING  ,          ,              2     1

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel

Bottom
  
```

One last source field needs to be added and that is the Zip code. Press **F6** again and choose the full length of **CSZIP**. Your final source field list should look like this:

```

Work with *LINK Source Fields

Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      width:  8.50"      Rotation:  0

Link field . : Text  007      Description . . : Zip Code

Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt  Order  Type  Fld  Name      Description      Start Length
--  ----  ----  ---  ----      ----            -
  10  Data   001  CSCITY  City      City            1    20
  20  Data   004  *HEADING  ,          ,              1     2
  30  Data   002  CSST    State    State          1     2
  40  Data   004  *HEADING  ,          ,              2     1
  50  Data   003  CSZIP   Zip Code  Zip Code       1     5

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel

Bottom
  
```


Page back up to *Work with Text Field* and change the *Row / Column* to **6.60** and **1.00**. This will put the last line of the address in the correct spot. You can also provide a description for the field. Note, the description will not print, it is just for informational purposes at this point. Press ENTER twice to create your *LINK field.

```

Work with Text Field
Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      Width:  8.50"      Rotation:  0
Field # . . . : 007
Type choices, press Enter.
Field name . . . . . *LINK_____  Name, *HEADING, *DATE, *TIME, *LINK,
                                   *CALC, *SEQ, F4 for fields list
Description . . . . . City State and Zip_____
Length . . . . . 30              1 - 132
Decimals . . . . .              0 - 9
Variable length . . . . . Y      Y=Yes, N=No
Row / Column . . . . . 6.60  1.00 .01 - 11.00 / .01 - 8.50
Font . . . . . 20                F4 for list of fonts
Points . . . . . 12              1 - 999
F3=Exit   F4=Prompt   F5=Refresh  F12=Cancel

```

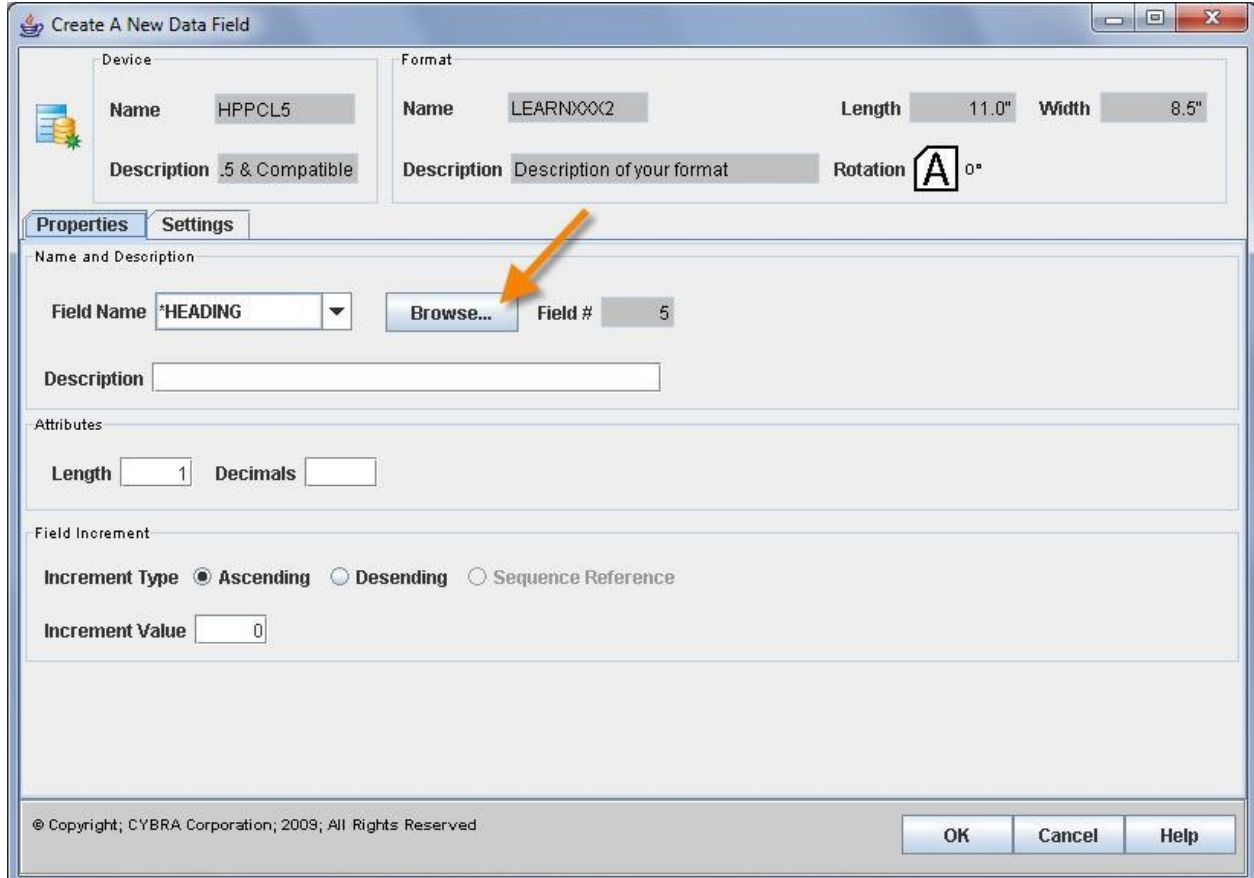
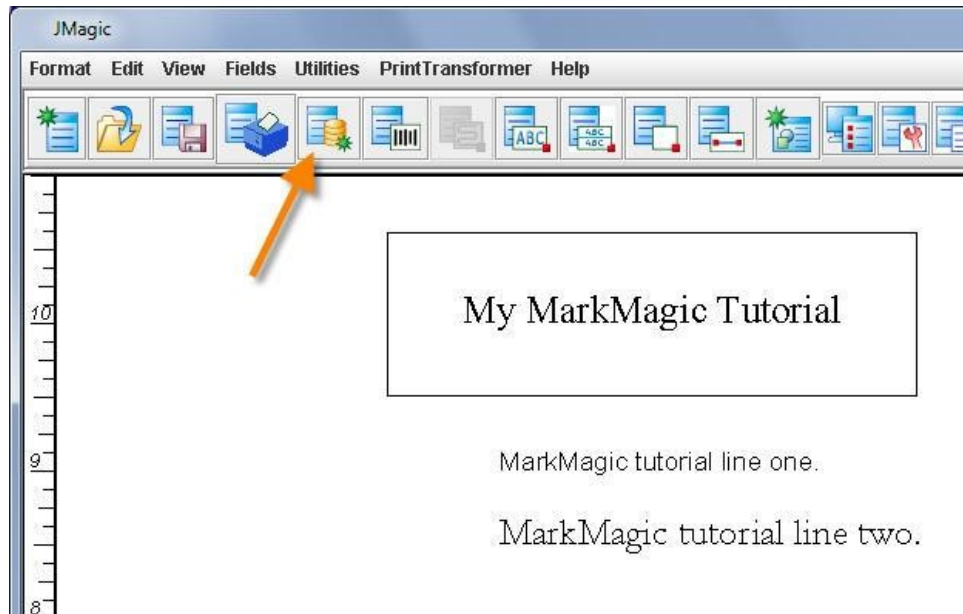
```

Device: HPPCL5      Design a Format      Format: LEARNXXX2
Format      fields      Options      Print      Utilities
+Data      0.50      1.00      1.50      2.00      2.50      3.00      3.50
.....+.....!.....+.....|.....+.....!.....+.....!.....+.....!.....
7.50
7.40
7.30
7.20
7.10
7.10      =CSNAME
7.00
6.90      =CSADDR
6.80
6.70
6.60      =*L:City State and Zip
6.50
6.40
6.30
6.20
6.10
F2=Edit   F3=Exit   F4=Revert   F5=Undo   F6=Create
F7=Copy   F8=Delete  F11=Move   F12=Cancel F24=More keys

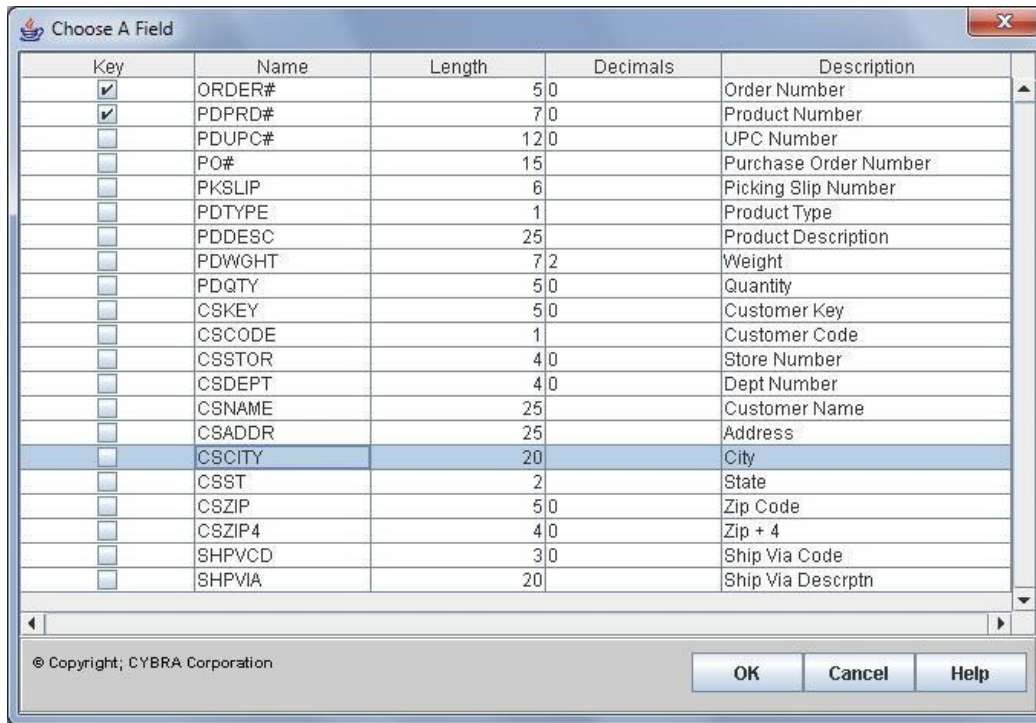
```

JMagic

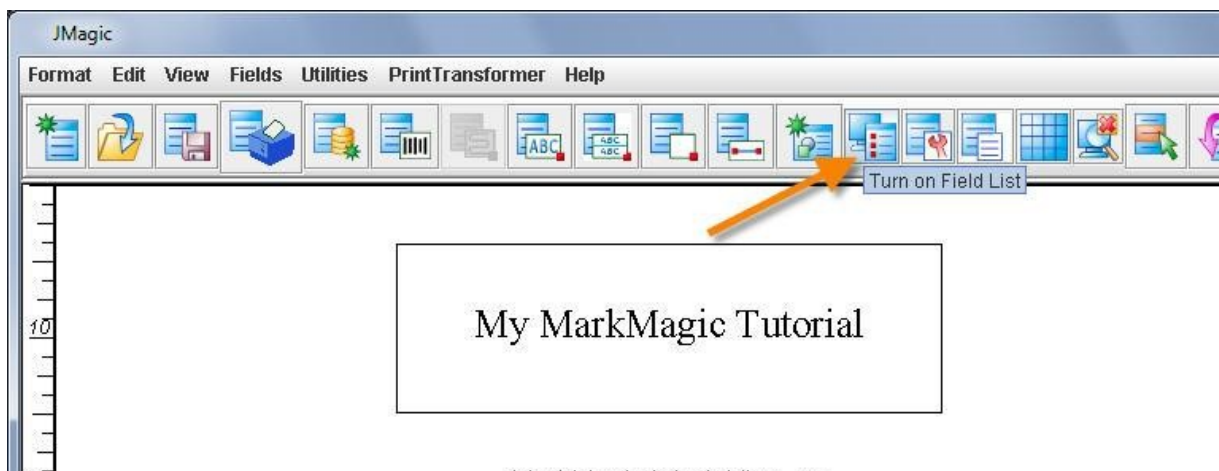
First you will add the data fields. Click the *Create a Data Field* button. The *Create a New Data Field* window will appear. Since it is non-printing, you'll notice that there are no coordinate values or fonts to choose. You just need to tell JMagic that this is going to be a variable data field by providing a field name and length. Do this just like you did with the variable text field. Press the *Browse* button next to *Field Name*.

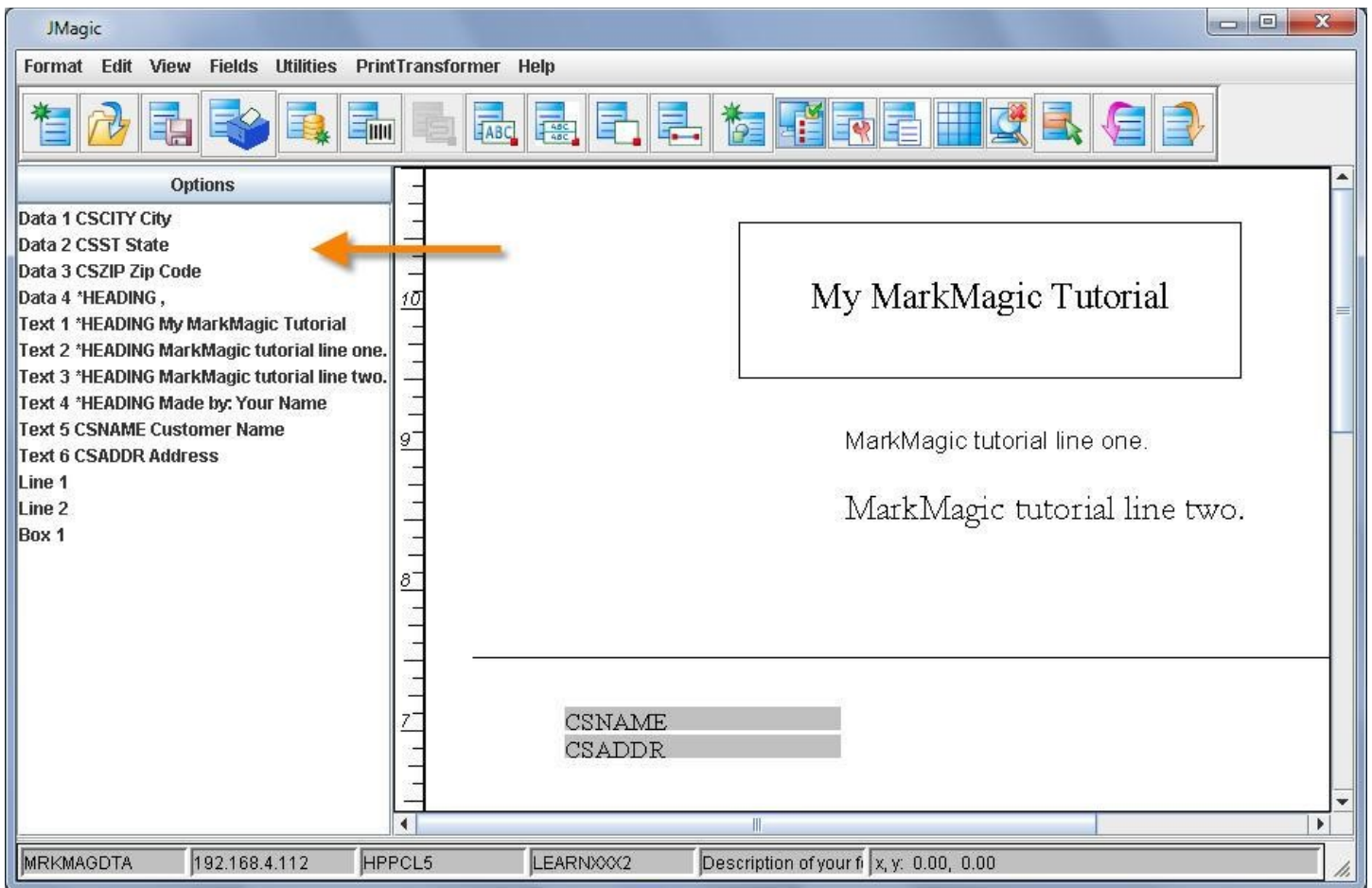


JMagic remembers the SHIPFILE that you used before. You need to select a different field though. Press *Browse* next to *Field* and scroll down to **CSCITY**. Select it and press OK. Press OK again on the *Select a Field* window and on the *Create a New Data Field* window to create the Data field.



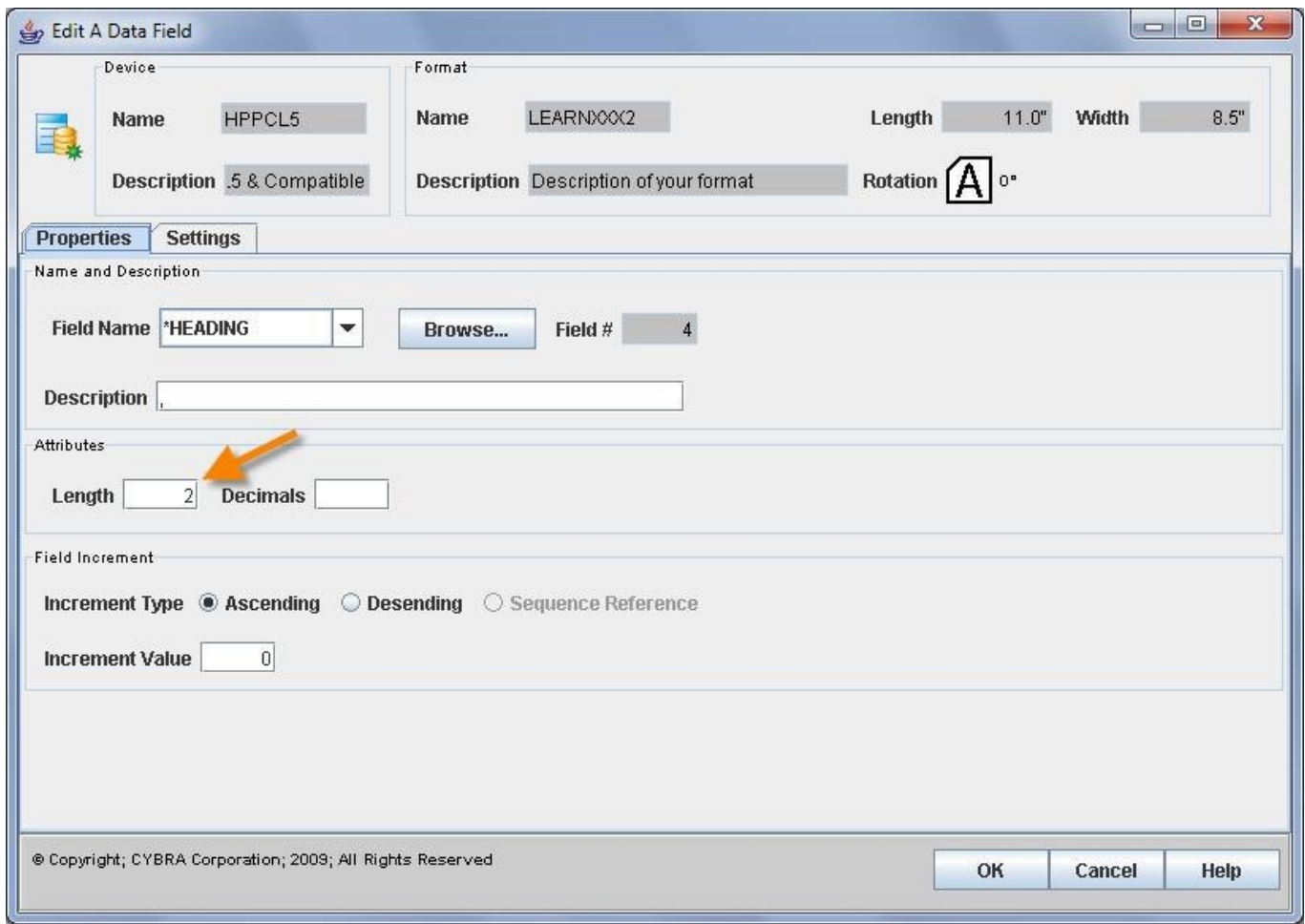
Create two more Data fields following the same steps used to create **CSCITY**. The two fields that you should add from **SHIPFILE** are **CSST** and **CSZIP**. Since these three new Data fields are non-printing fields, you might want to know where they really are since you cannot see them on the canvas. To view the Data fields you created, you can turn on the field list by clicking the *“Turn On Field List”* button at the top. This button can be used to toggle on and off the field list.



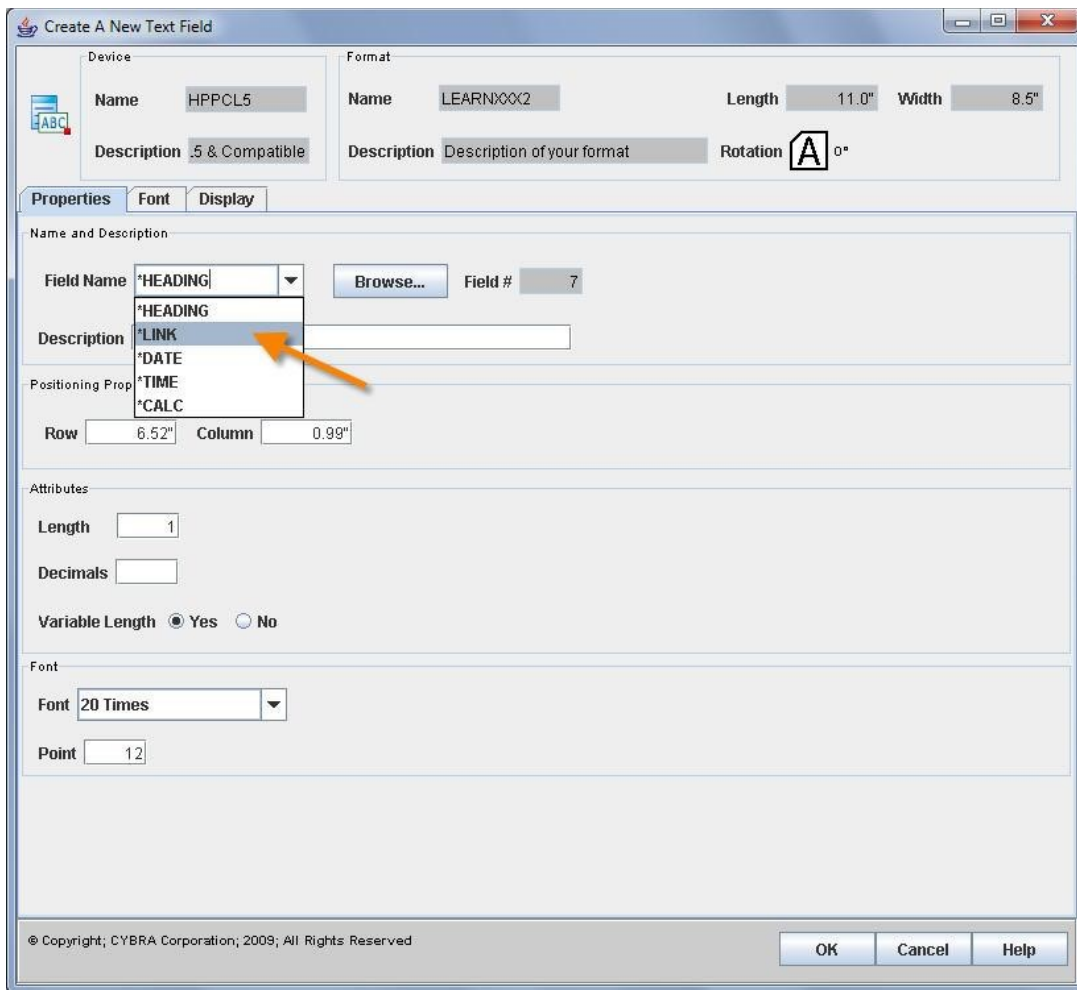


Turning on the JMagic “List View” you can get a listing of all fields on the format grouped by field type. Data fields are listed first and here you can see the three Data fields that you created in the previous steps. You will also see all Text fields grouped together, then the Line and Box fields. *Tip: You can directly edit fields by double clicking them in the list.*

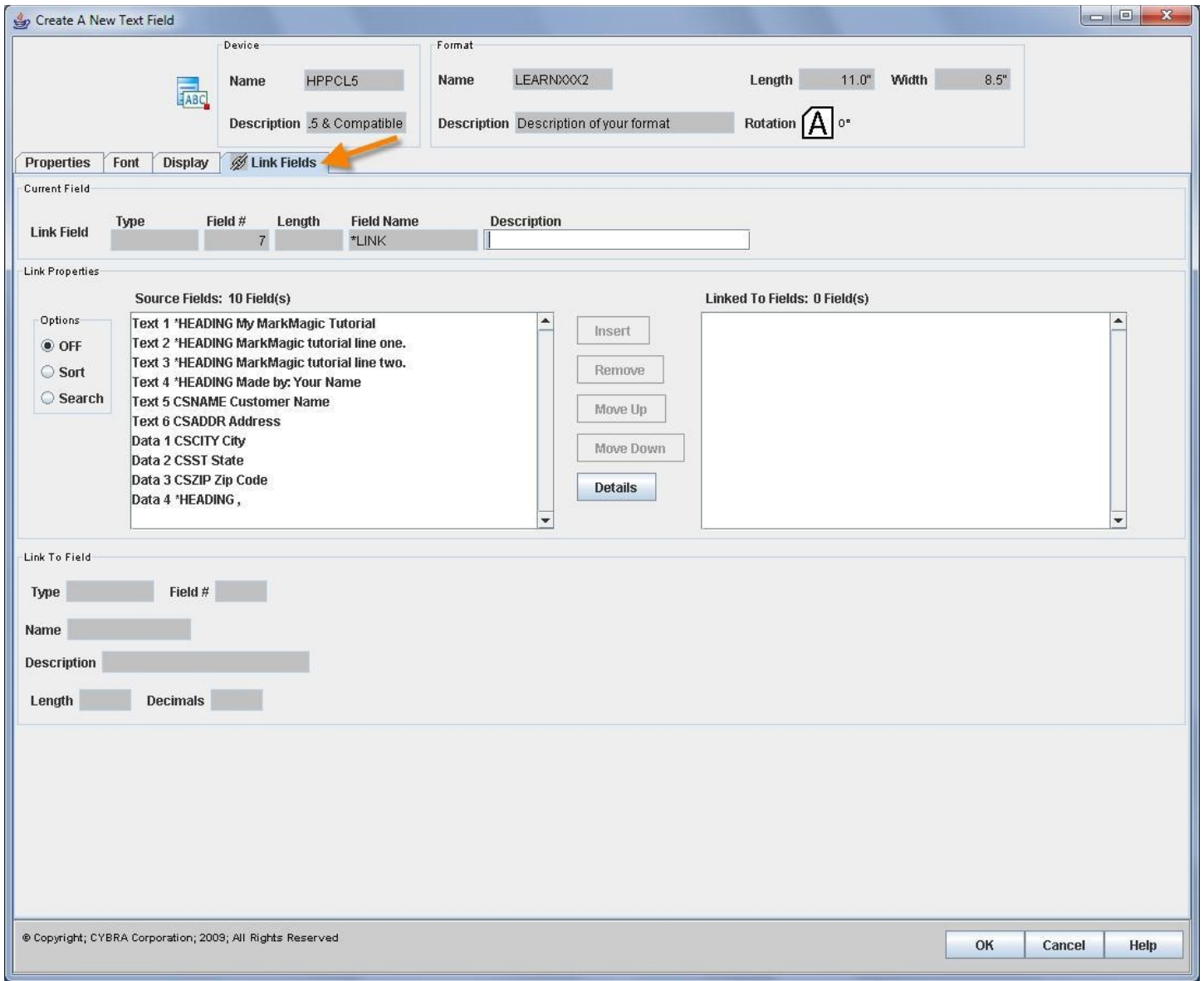
Let’s add a “special” Data field; one that will be used more than once in the City/State/Zip text line. Since the database does not contain a comma or spaces, you must devise a way to create your own. Create another Data field, but this time leave it as *HEADING. Remember when using Text fields that anything in the description line prints when the *Field name* is *HEADING. Yes, this data field does not print, but when it is used in a *LINK field, information entered in the Description will be what is linked to. Type a comma in the description line, but as an extra step, also make the length 2. This will allow us to link to a “space character” when we need to link in spaces in our city/state/zip text field.



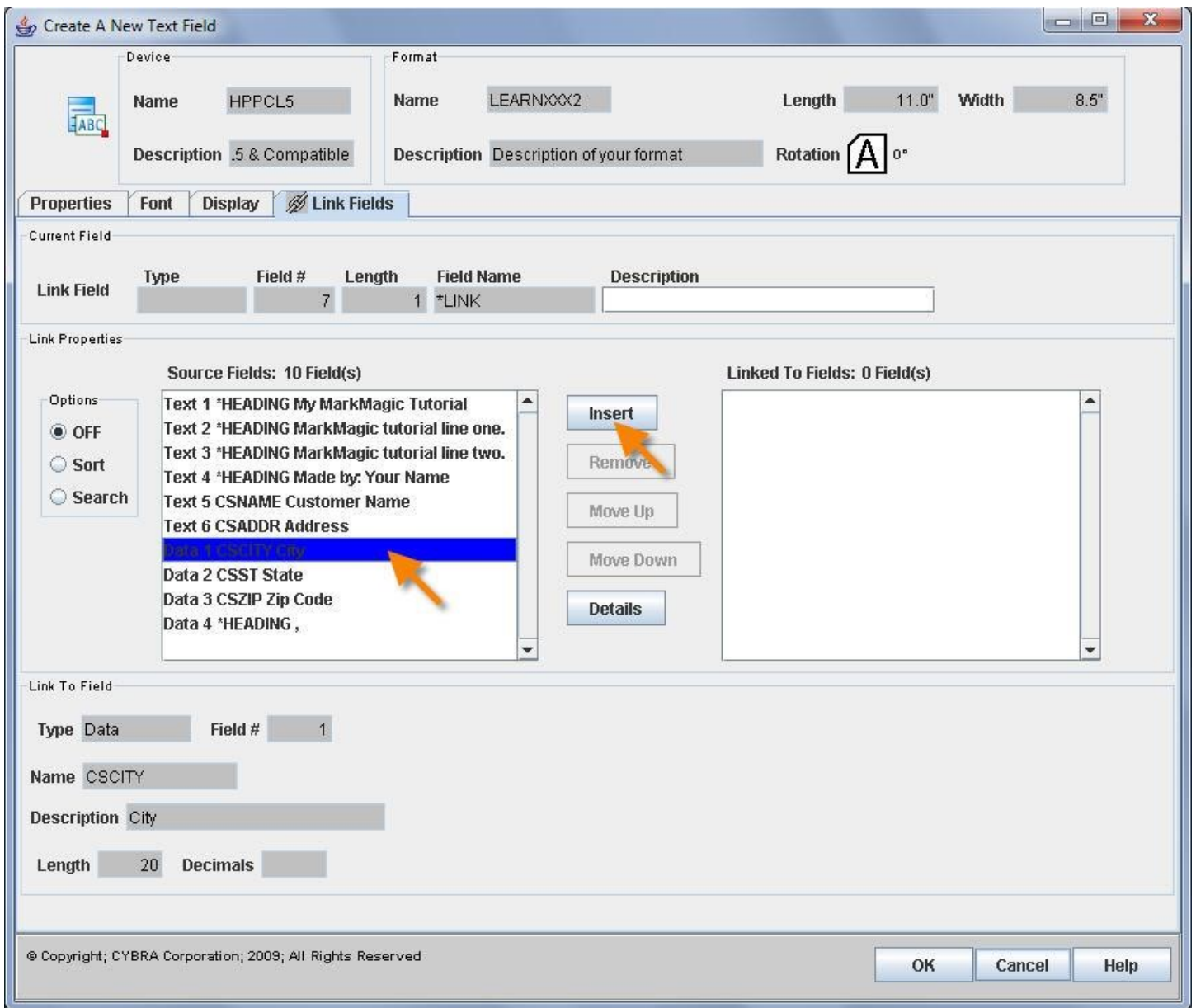
You are now ready to create the *LINK text field that will contain the new data fields that you made. Add a new text field just below the address field you made earlier. You need to tell JMagic that this is going to be a *LINK field. Use the *Field Name* drop the menu and select *LINK.



You should see a new tab appear next to the “Display” tab. Click the new *LINK tab to reveal the JMagic *LINK interface.



The window on the left displays all of the fields currently added to your format. You “build” the text string by inserting fields from the left into the right window pane. You will add source fields in the order you want the text to appear. Select Data **CSCITY** and click the *Insert* button. This will add the **CSCITY** field to the list on the right.



At this point you can decide whether to link the whole source field or just a segment of it. You would like to see the whole city name print; therefore you should set a *Start position* of **1** for a *Length* of **20**. (These values should already be present; JMagic always starts by linking to the entire field.)

Create A New Text Field

Device
 Name: HPPCL5
 Description: .5 & Compatible

Format
 Name: LEARNXXX2
 Length: 11.0" Width: 8.5"
 Description: Description of your format
 Rotation: A 0°

Properties | **Font** | **Display** | **Link Fields**

Current Field

Link Field	Type	Field #	Length	Field Name	Description
	Link Field	7	1	*LINK	

Link Properties

Source Fields: 10 Field(s)

- Text 1 *HEADING My MarkMagic Tutorial
- Text 2 *HEADING MarkMagic tutorial line one.
- Text 3 *HEADING MarkMagic tutorial line two.
- Text 4 *HEADING Made by: Your Name
- Text 5 CSNAME Customer Name
- Text 6 CSADDR Address
- Data 1 CSCITY City
- Data 2 CSST State
- Data 3 CSZIP Zip Code
- Data 4 *HEADING ,

Options:
 OFF
 Sort
 Search

Linked To Fields: 1 Field(s)

- Data 1 CSCITY City

Link To Field

Type: Data Field #: 1
 Name: CSCITY
 Description: City
 Length: 20 Decimals:
 Starting Position: 1 Length: 20
 Variable Length: Yes No
 Edit Code: No edit code
 Check Digit: 00 No check digit added

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OK Cancel Help

You could simply add in the State and Zip code Data fields, but there would not be a comma or any spaces when you print. Just "CITYSTATEZIPCODE". This is where the "special" data field comes in. On the left, click on the Data *HEADING , and click the Insert button to add it to the list. You want a comma and one space, so you will want a *Start position* of 1 for a *Length* of 2. This will pull in the comma and one space from the data field. Make sure that the option for *Variable Length* just below that is set to **No**. This will stop MarkMagic from suppressing spaces at the end of that individual source field. (We want the space.)

Create A New Text Field

Device: Name HPPCL5, Description .5 & Compatible

Format: Name LEARNXXX2, Length 11.0", Width 8.5", Description Description of your format, Rotation A 0°

Properties | Font | Display | **Link Fields**

Current Field

Link Field	Type	Field #	Length	Field Name	Description
		7	1	*LINK	

Link Properties

Options: OFF, Sort, Search

Source Fields: 10 Field(s)

- Text 1 *HEADING My MarkMagic Tutorial
- Text 2 *HEADING MarkMagic tutorial line one.
- Text 3 *HEADING MarkMagic tutorial line two.
- Text 4 *HEADING Made by: Your Name
- Text 5 CSNAME Customer Name
- Text 6 CSADDR Address
- Data 1 CSCITY City
- Data 2 CSST State
- Data 3 CSZIP Zip Code
- Data 4 *HEADING ,

Linked To Fields: 2 Field(s)

- Data CSCITY City
- Data CSNAME

Buttons: Insert, Remove, Move Up, Move Down, Details

Link To Field

Type Data, Field # 4

Name *HEADING

Description ,

Length 2, Decimals

Starting Position 1, Length 2

Variable Length Yes No

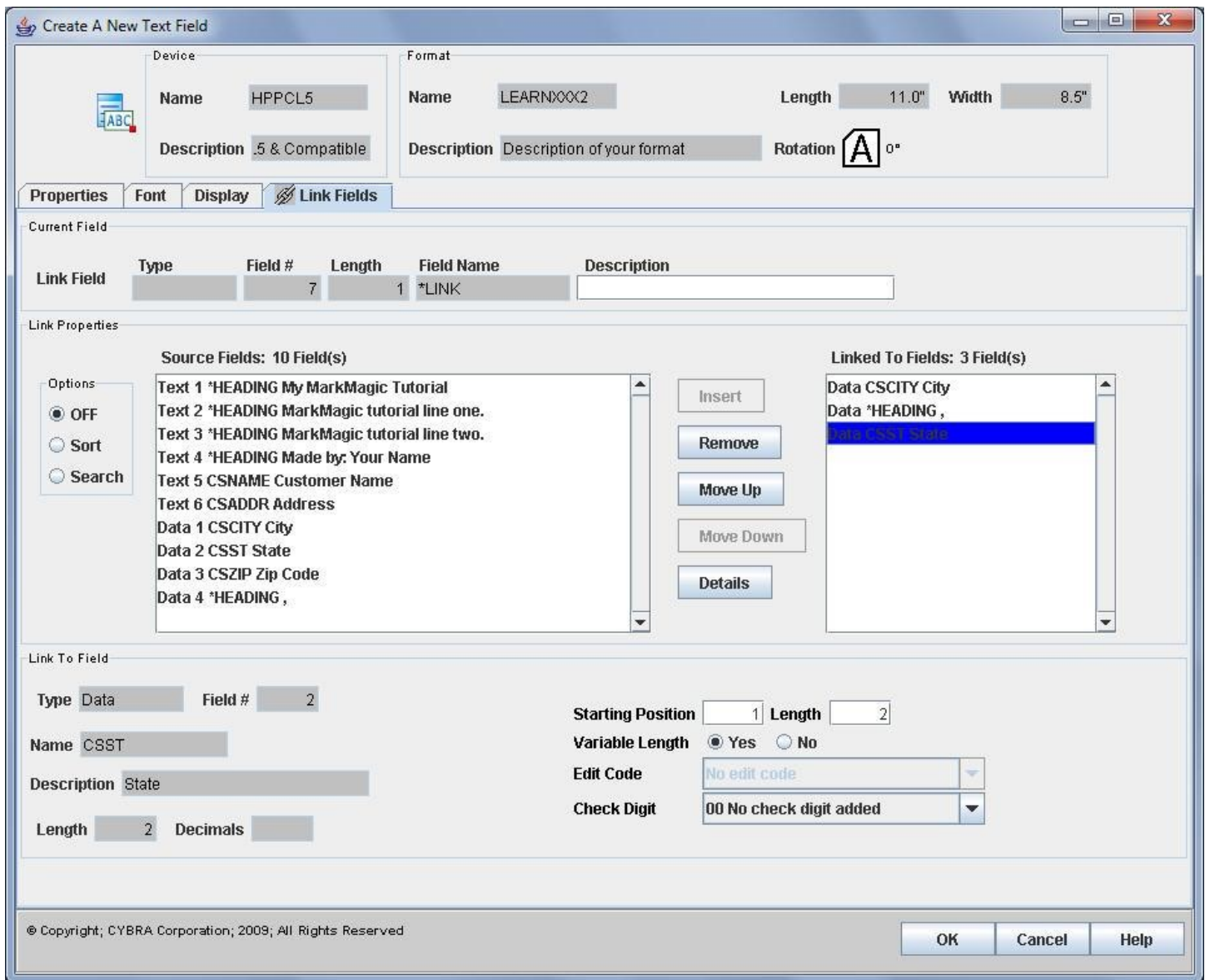
Edit Code No edit code

Check Digit 00 No check digit added

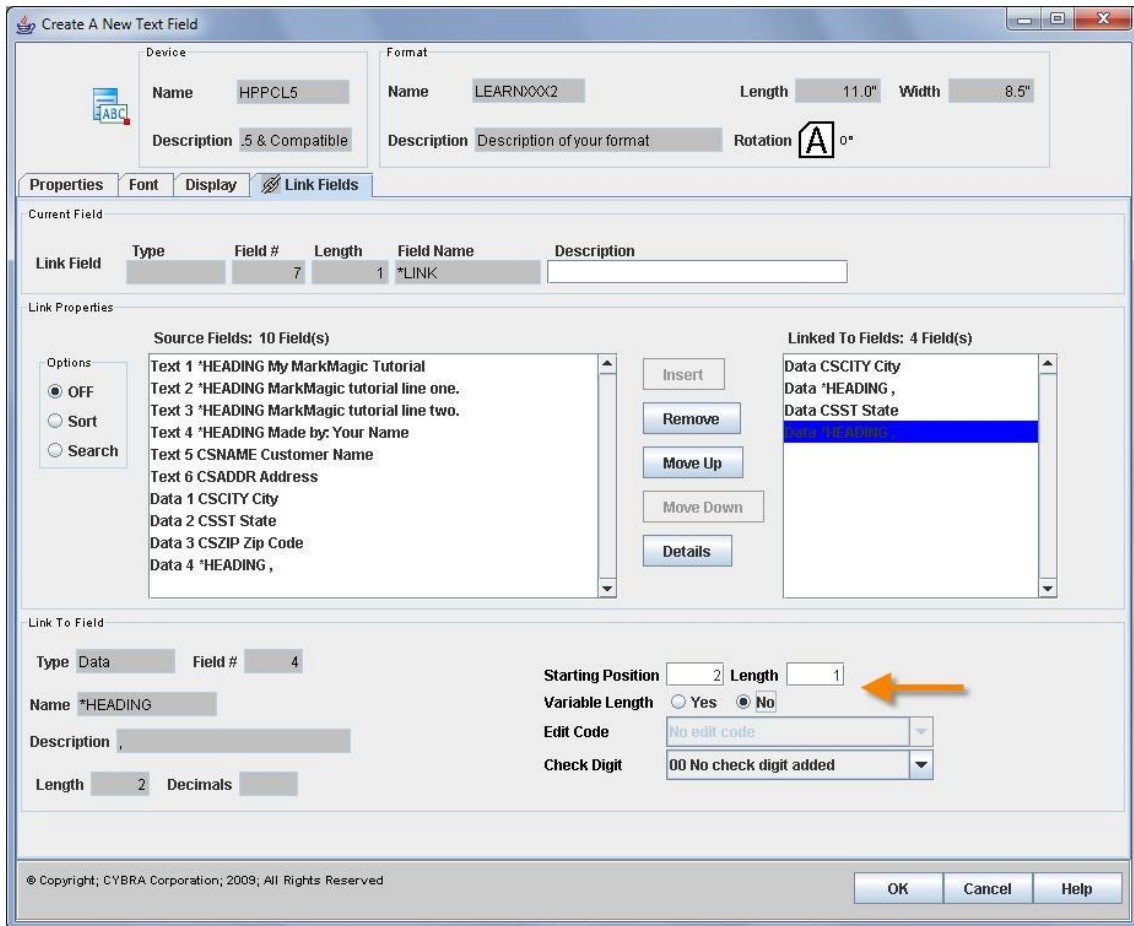
© Copyright; CYBRA Corporation; 2009; All Rights Reserved

OK Cancel Help

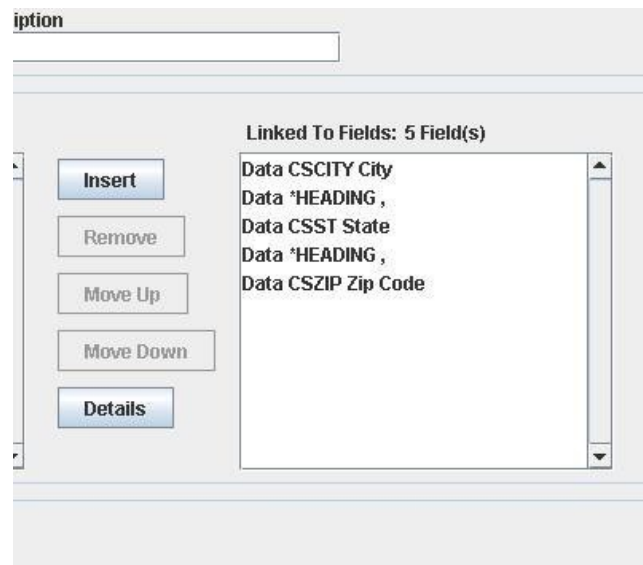
Next, click on Data CSST and insert that to the list, making no changes to the Start position or Length.



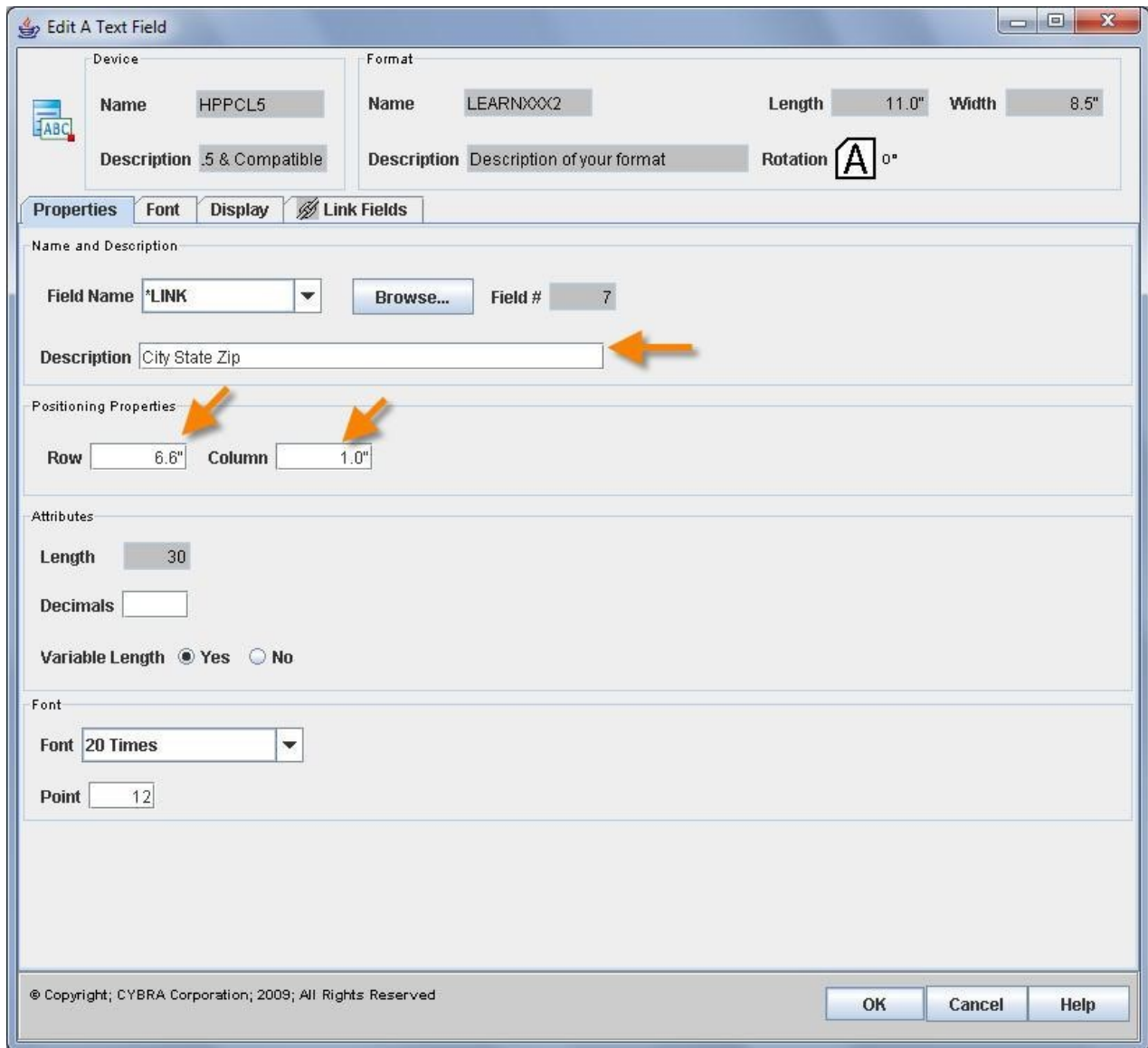
Now, you want to add in one spaces between the state and zip code. On the left, click on Data *HEADING , and Insert it one more time. This time set the *Start position* to 2 (you do not need the comma this time) and *Length* of 1. This will pull in the space character at the end of the data field description. As before, make sure *Variable Length* is set to **No** (preserve all trailing spaces).



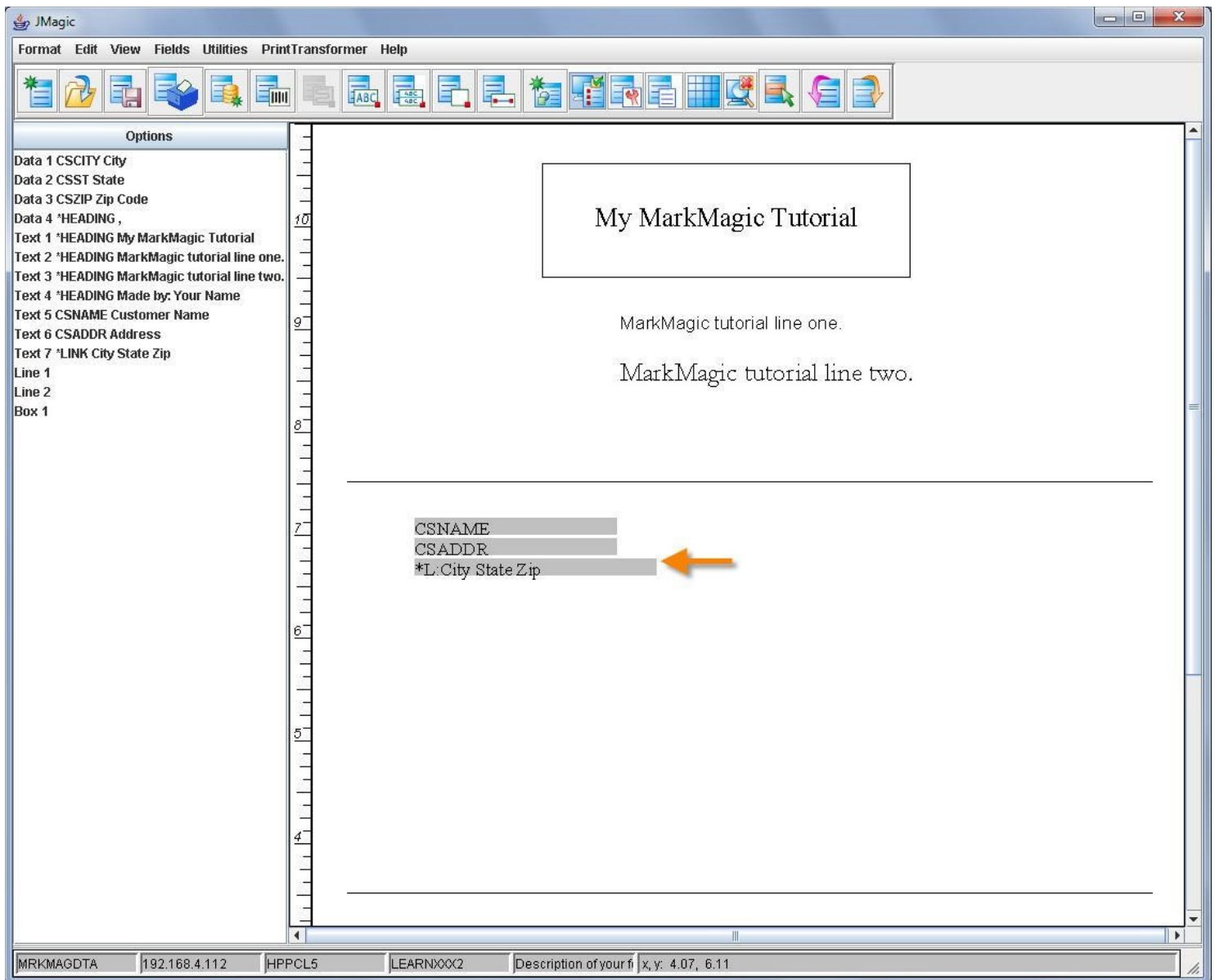
One last source field needs to be added to the list. On the left, select Data field **CSZIP** and insert it. Your final list, on the right, should look like this:



Now, click back on the *Properties*. Change *Row* to **6.6** and change *Column* to **1.0**. This will place the text field directly below the address line where it needs to be. You can also provide a description for the field. Note, the description will not print, it is just for informational purposes at this point. Press OK to create your *LINK field.



Click OK to add your new *LINK text field to your format. JMagic displays it as a grey box with the name of *L: City State Zip. (The description shows in the grey box.)



#3 – Variable Barcode Field:

You are now going to add a variable data barcode to your format. It will contain the PO# number from the SHIPFILE. You will be using the method described in Step #2. (Linking to a data field.)

MarkMagic

Place your cursor anywhere in your design area and press **F6** and add a new Data field. Prompt the Field name parameter and MarkMagic should still remember the **SHIPFILE** database. Find **PO#** in the list.


```

File . . . : SHIPFILE
Library . . : MRKMAGDTA

Select a Database Field

Field Length Type Description
1 ORDER# 5, 0 S Order Number
2 PDPRD# 7, 0 S Product Number
  PDUPC# 12, 0 S UPC Number
→ PO# 15 A Purchase Order Number ←
  PKSLIP 6 A Picking Slip Number
  PDTYPE 1 A Product Type
  PDDESC 25 A Product Description
  PDWGHT 7, 2 S Weight

More...

F3=Exit F12=Cancel F21=Select All

```

Place your cursor on PO# and press ENTER. MarkMagic will bring in the required information as shown below:

```

Work with Data Field

Device . . . : HPPCL5
Format . . . : LEARNXXX2 Length: 11.00" Width: 8.50" Rotation: 0

Field # . . . : 007

Type choices, press Enter.

Field name . . . . . PO# Name, *HEADING, *DATE, *TIME,
                          F4 for list of fields
Description . . . . . Purchase Order Number
Length . . . . . 15 1 - 3000
Decimals . . . . . 0 0 - 9
Increment type . . . . . I I=Incr, D=Decr, *=Seq reference
Increment value . . . . . 0 0 - 999

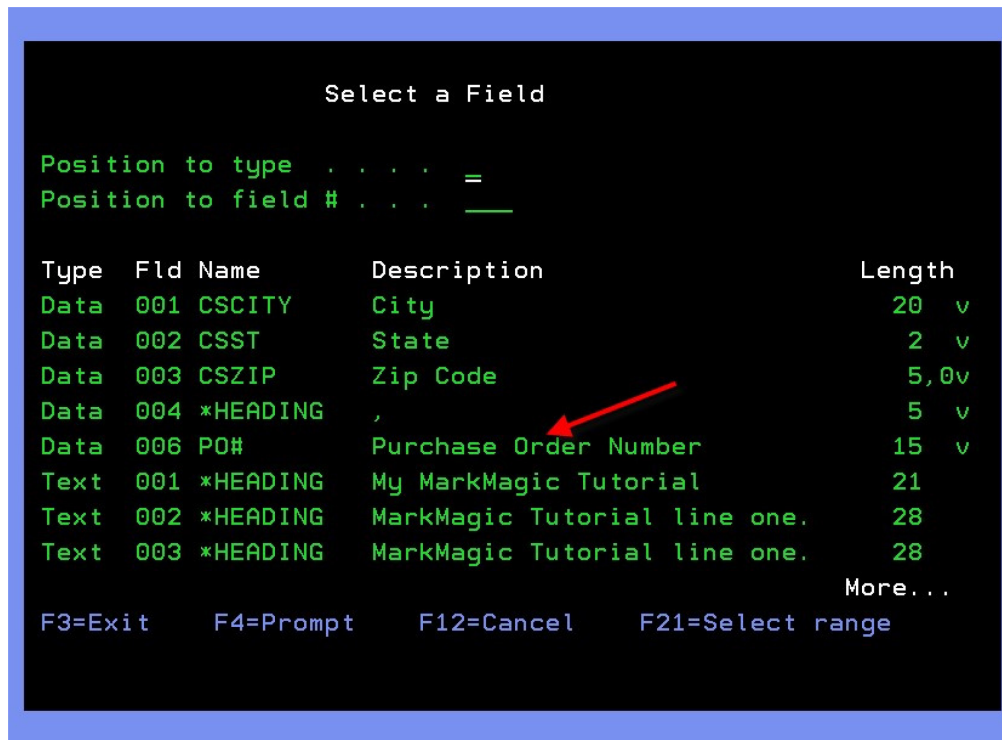
More...

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

```

Press ENTER twice to create your new data field. Next, navigate to the area where the barcode will be placed. Press F6, then B for *Barcode*, and then S for *Standard*. Remember, it will ask you to move the cursor up to provide the height of the barcode. Move up about an inch and press ENTER.

Now, you are going to link the barcode to the data field that you just made. Name the field *LINK. Next, PageDown 3 times to the *Work with *LINK Source Fields* screen. Press F6 to add a new source field and select the Data field that you just created.



You do not need to make any changes to the *Start position* or *Length*, so press ENTER twice to add the new source field.



Your final *Work with *LINK Source Fields* screen should look like this:

```

Work with *LINK Source Fields

Device . . . : HPPCL5
Format . . . : LEARNXXX2      Length: 11.00"      Width:  8.50"      Rotation:  0

Link field . : BarCd 002      Description . . :

Type option, press Enter.
  2=Change      4=Delete      5=Display

Opt  Order  Type  Fld  Name          Description          Start Length
=   10   Data  006  PO#           Purchase Order Number      1    15

F3=Exit      F5=Refresh      F6=Add      F10=View 2      F12=Cancel

Bottom
    
```

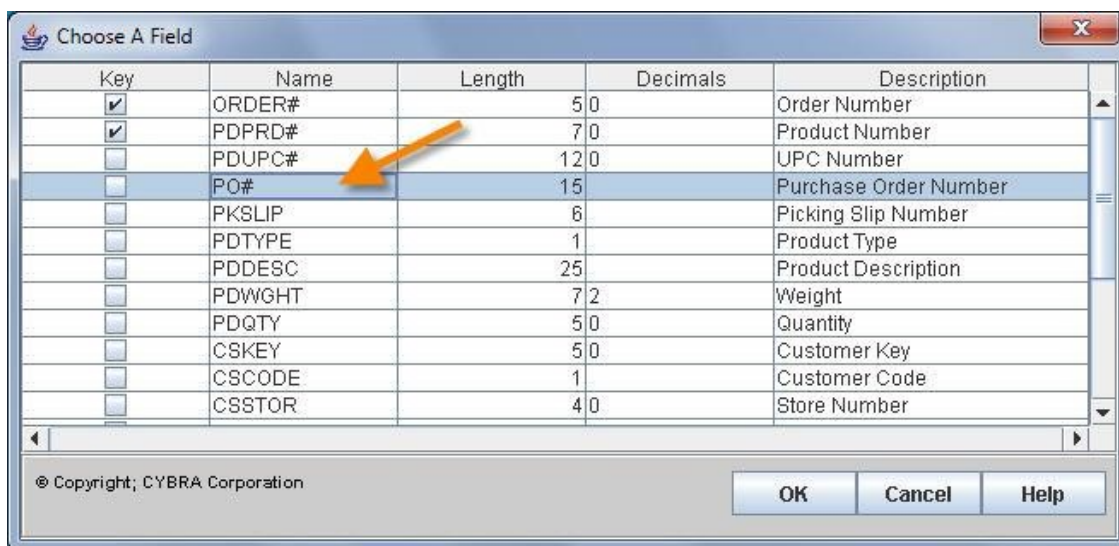
Page back up to the *Work with Bar Code Field* screen. You need to make some changes here so the barcode print correctly. Change the *Row / Column* to **4.50** and **3.00**. This will place the barcode more towards the middle of the page. Set *Barcode Type* to **22**. This value represents Code 128 auto-switch. The PO# has letters and numbers in it, so you must select a barcode that is capable of encoding all of the data. Set the Barcode height to 1.50. Lastly, set the *Narrow Bar Module width* to **4.0**. This will make the barcode print a little wider. For a visual, the following screenshot shows all of these settings:



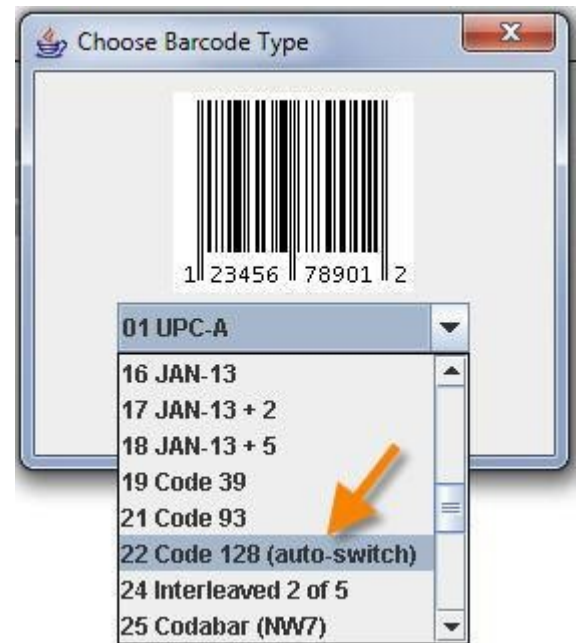
Press ENTER twice to accept your new barcode field.

JMagic

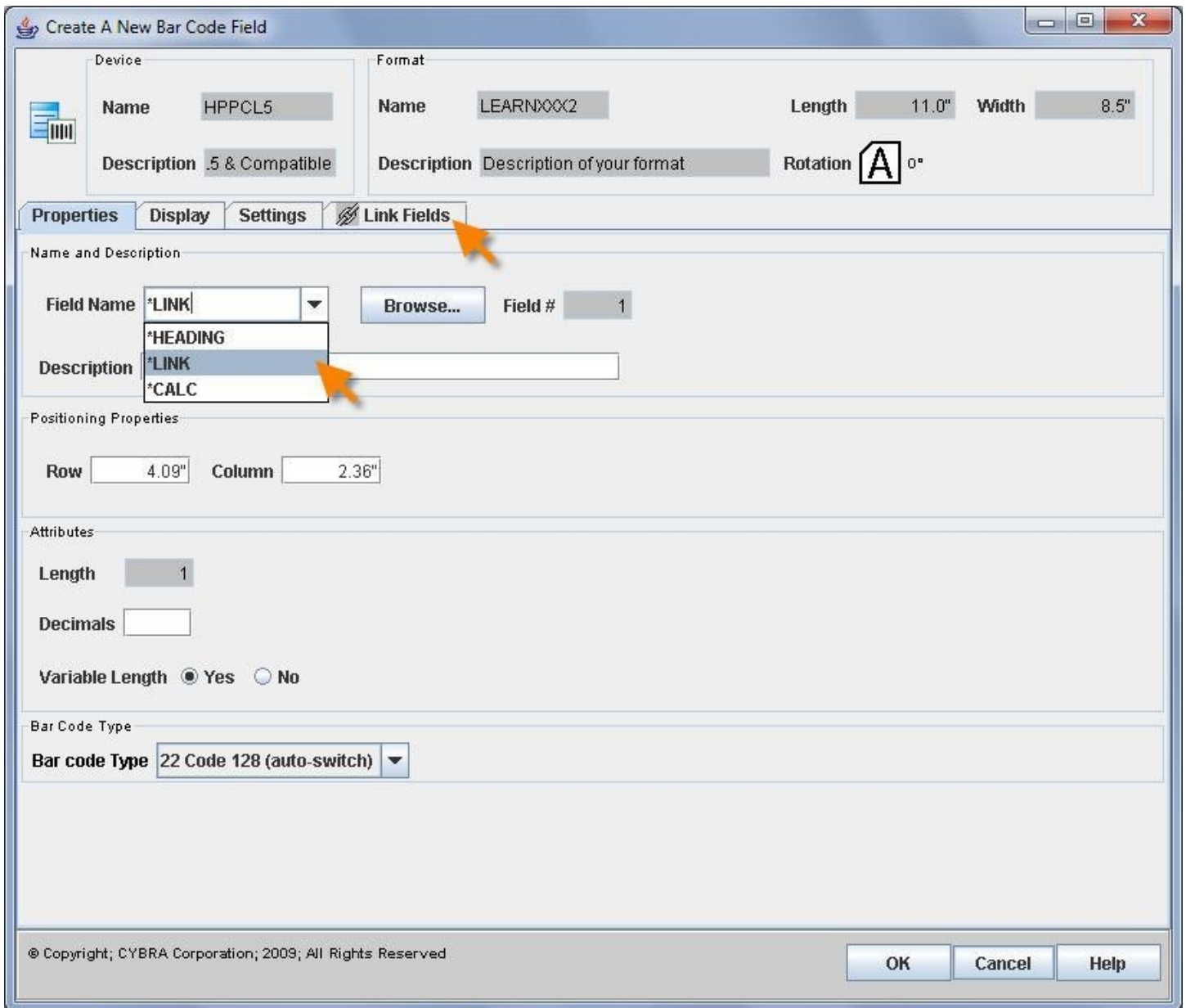
Click the *Create a Data Field* button at the top and click *Browse* next to the *Field name*. JMagic should still remember the SHIPFILE that you have been using. Next to *Field*, click *Browse* and select the **PO#** field.



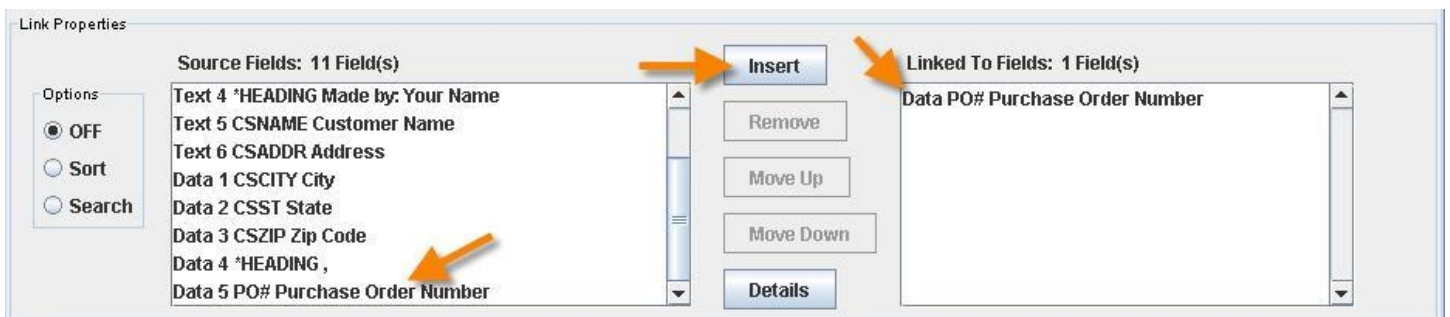
Click OK three times to create your new data field. Now it is time to add the barcode. Click the *Create a Barcode* button at the top and add the barcode in the middle of the format canvas. The *Choose a Barcode Type* window appears. Pull the menu down, choose **Code 128 (auto-switch)** and then Click OK.



Just like the previous text field you created, you need to tell JMagic that it will be a *LINK field. Pull the menu down next to *Field Name* and select *LINK. You will see the *LINK tab appear.



On the left, click on Data PO# and insert the Data field to the list of Linked to Fields.



Next, click back to the *Properties* tab and type **4.5** for the *Row* and **3.0** for *Column*. Since the PO# field contains numbers and letters, you must select a barcode type that is capable of encoding all of the data. That is why we chose Code 128 (auto-switch) when we initially created the bar code. Two final settings for the barcode must be set on the *Display* tab. Set the *Height* to **1.5** and set the *Narrow Bar Width* to **4.0**.

Click OK to create your new barcode.

© Copyright, CYBRA C



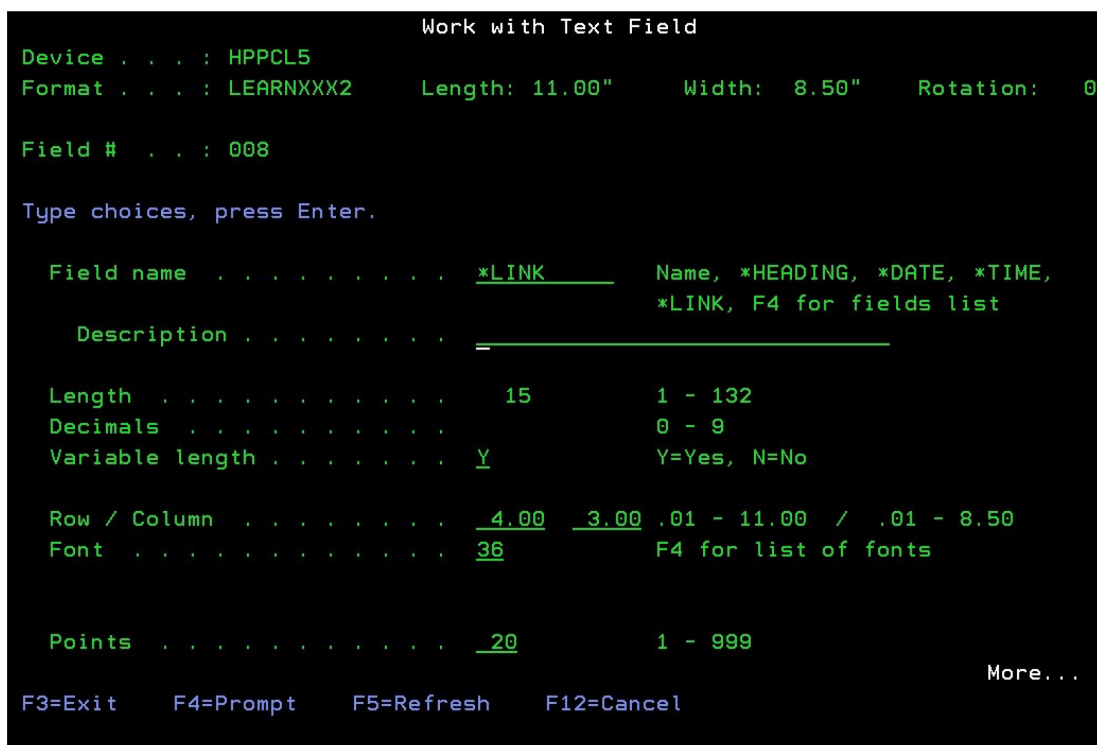
#4 – Variable Text Field: Barcode Human Readable Text

The last field to be added to this format is a text field placed directly below the barcode. The text will contain the same information that is encoded in the barcode. You will create a text field that is linked to the *same* **PO#** Data field that the barcode is linked to. This is the benefit of using Data fields + *LINK fields. You are able to define the variable field once and use it in multiple places on the format.

MarkMagic

Navigate to an area just below your new barcode. Add a new Text field and name it *LINK as before. Page down 3 times to the *Work with *LINK Source Fields* screen. Press **F6** and add the same **PO#** Data field as a source field that you used for the barcode. This will be the only source field you will need.

Page back up to the *Work with Text Field* screen. Change *Row / Column* to **4** and **3**. That will place the text exactly below the barcode. Change the *Font* to **36** (Arial) and the *Points* to **20**.

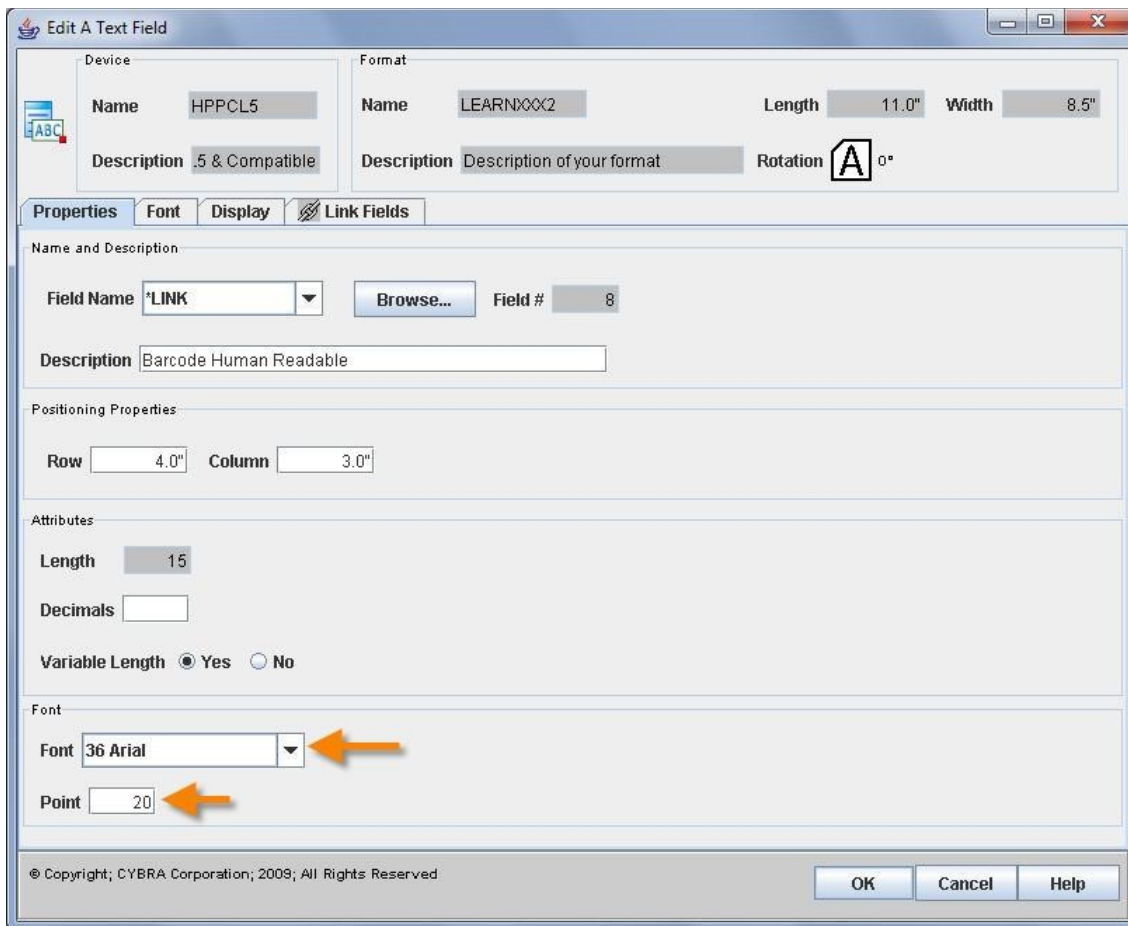


Let's get daring and make this text italic. Page down once and change *Style* to **I**. Press ENTER twice to create your new barcode human readable text field.

JMagic

Add a new text field below the barcode you just created. This will be a *LINK field, so pull the menu down next to *Field name* and select *LINK. The *Link Fields* tab appears. Insert the Data **PO#** to the *Linked to Fields* list.

Click back on to the *Properties* tab. Change the *Row* to **4** and change the *Column* to **3**. This will place the text field just below your barcode. Pull the menu down for *Font* and choose **36** Arial. Set the *Point* to **20**.



Click the *Font* tab and change the *Style* to **I** (Italic). Click OK to create your new barcode human readable text field. It is “linked” to the same Data field as the barcode, so whatever information is encoded in the barcode will be printed in this text field. Make sure to click the “Save” icon at the top to save all of your changes back to the System i.



MarkMagic Label Files and Printing Variable Data

A MarkMagic label file is a physical file created by MarkMagic that contains fields that correspond to the variable fields found within a MarkMagic format. The recommended way to create this “work file” is to use the MarkMagic **CRTLBLF** (*Create a Label File*) command to create the OS/400 physical file for you. The command can also be setup to copy in records of data from an existing database file. You will use this extra functionality to add records of data to the file that will be used to print.

MarkMagic

At the MarkMagic main menu, type **F** for *Format*, **G** for *Generate* and then **C** for *Create File*. You will immediately be asked which format you want to base the label file off of. Type **HPPCL5** for *Device*, and **LEARNXXX2** for the *Format*.


```

Choose a format

Device . . . . HPPCL5      Name, F4 for list
Format . . . . LEARNXXX2   Name, F4 for list

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

```

Pressing ENTER will bring you to the *Create a Label File* command screen. The Format name is already specified. Name the *label file* **LEARNXXX2** and create it in *library* **MRKMAGDTA**. (It's ok that the database name be the same as the format.) Since you referenced the **SHIPFILE** database while creating the format fields, take this opportunity to copy the data you need from **SHIPFILE** to your new label file. Type **SHIPFILE** for *Copy data from file* and for library, type **MMEXAMPLES**.

```

Create a Label File (CTRLBLF)

Type choices, press Enter.

Format name . . . . . > LEARNXXX2      Name, *FILE, F4 for list
Label file . . . . . > LEARNXXX2      Name, *LBLFMT
Library . . . . . > MRKMAGDTA      Name, *USRLIB
Label file member . . . . . > *FIRST      Name, *FIRST
Key field . . . . . > _____      Name, F4 for list
+ for more values
Copy data from file . . . . . > SHIPFILE      Name, *NONE
Library . . . . . > MMEXAMPLES      Name, *LIBL
Copy from member . . . . . > *FIRST      Name, *FIRST
Copy from record number . . . . . > *START      Number, *START, *LAST
Copy to record number . . . . . > *END      Number, *END

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display   More...
F24=More keys

```

The rest of the parameters can be left at the default values. After pressing ENTER, MarkMagic will create the new label file and also copy data from the SHIPFILE, but only filling in the fields that you referenced when creating the format. You should be brought back to the MarkMagic main menu after the process is complete.

If you want to view the data in the label file, you can use the MarkMagic file editor by going to **U** for *Utilities*, **D** for *Data* and **E** for *Edit label file*. You will be asked which format you will be using (should already be filled in) and then you will be asked which label file you want to view. Type the name and library of your label file.

```

Select a Label File

Database file . . . LEARNXXX2 Name, F4 for list
Library . . . . . MRKMAGDTA Name, *LIBL, F4 for list
Member . . . . . *FIRST Name, *FIRST, F4 for list

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

```

After choosing your label file, you will be brought to the *Edit a Label File* screen. Make sure *Clear* is set to ***NO** (might need to press F10 to see all parameters) and press ENTER. You will see the data that has been copied into your label file.

```

Edit a Label File (EDTLBLF)

Type choices, press Enter.

Format name . . . . . > LEARNXXX2      Name, *FILE, F4 for list
Label file . . . . . > LEARNXXX2      Name
Library . . . . . > MRKMAGDTA      Name, *LIBL
Label file member . . . . . > *FIRST      Name, *FIRST

Additional Parameters

Clear . . . . . > *NO          *NO, *YES

Bottom

F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display   F24=More keys

```

```

Work with Data

Position to . . . . . _____

Type option, press Enter.
  2=Change  3=Copy  4=Delete  5=Display

      Purchase
      Record Order
Opt  Number Number      City      State  Zip  Customer Name
-    1.  A-54621 12324 S  New York  NY   10015  Windows on th
=    2.  A-890 84393 FD  Los Angeles  CA   12321  Windows to th
-    3.  A-424 1565 56   Los Angeles  CA   10232  No Pane No Ga
-    4.  A-789 897 789   Chicago      IL   54320  Windows on Ti
-    5.  X-80234 8932 0   New York     NY   10012  Windows for L
-    6.  X-2873 782979   New York     NY   10015  We do Windows
-    7.  B-8271 782 973   Brooklyn     NY   11454  Winnie's Wind
-    8.  A-9038 890890-0   Richmond     NY   11653  Sally's Sills
-    9.  A-45646 546464   New York     NY   10012  World of Wind
-   10.  A-08320984      New York     NY   10120  Window Broker
-   11.  C-972983-78-9   Riverdale    NY   10471  Window Breake
                                           More...

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
(c) Copyright CYBRA Corp. 1991, 2005

```

You can actually add or modify records at this screen, but the data that was copied in during the CRTLBLF process is all that is needed for the purpose of the tutorial. Now that you understand what a label file is and how the SHIPFILE data is retrieved and inserted into your “work file” label file, it is time to print these records with your new format.

We will assume that you successfully printed in the last tutorial and know how to print a format layout to your laser printer whether it is an AS400 device description or a remote out queue. From the MarkMagic main menu, press **P** for *Print*, and, this time, **L** for *Label File*. You will be brought to the *Print a Label File* command screen.

```

Print a Label File (PRTLBLF)

Type choices, press Enter.

Label file . . . . . > LEARNXXX2 ← Name, *NONE, *DTAQ...
  Library . . . . . > MRKMAGDTA ← Name, *LIBL
Label file member . . . . . > *FIRST Name, *FIRST
Format name . . . . . > LEARNXXX2 Name, *FILE, F4 for list
Printer device . . . . . > _____ Name, 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 . . . . . > 000001 ← Number, *START, *LAST
Print to record number . . . . . > 000003 ← 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

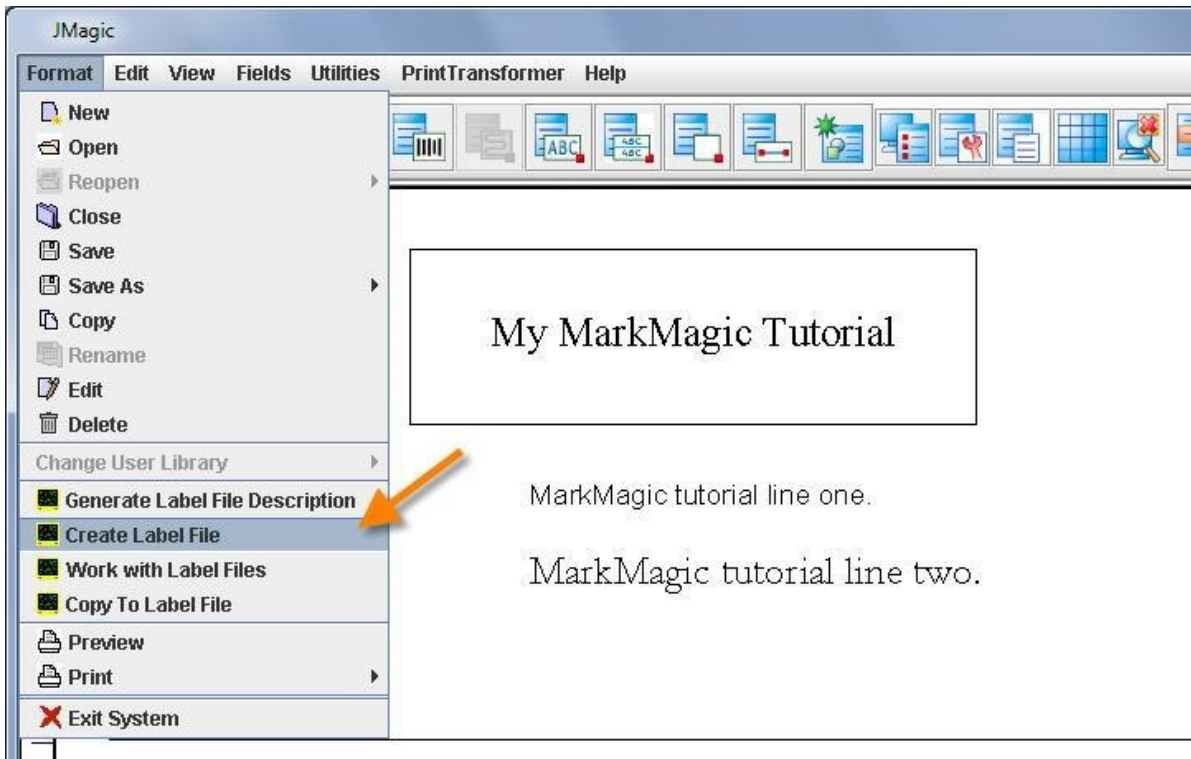
```

Now that you have a label file with some sample records of data inside of it, you can specify its name and library in the first two parameters. (Previously you had this value set to ***LAYOUT**.) Make sure *Format name* is **LEARNXXX2**. If your laser printer is setup as an AS400 device, type the name in *Printer device*. Also make sure *Printer type* is **HPPCL5**.

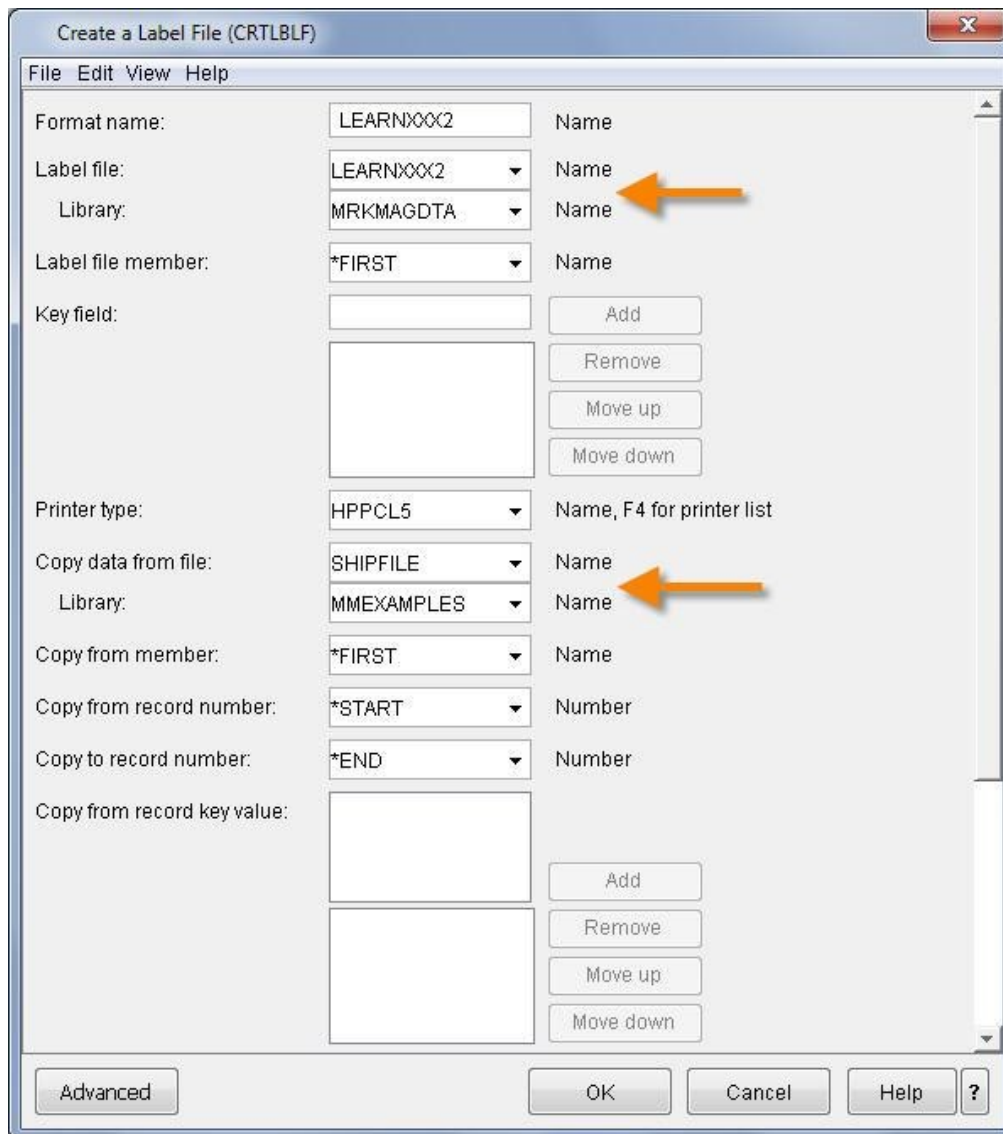
Each record in the label file will result in one page being printed on your printer. So we don't waste paper by printing 17 pages (17 records in the label file), let's set *From Record* to 1 and *To Record* to 3. (You may need to press F10 to see these additional parameters.) Lastly, if you use a remote out queue to print, remember to type this information in the *Spooled Output Queue* parameter. Press ENTER to execute this print command. You should receive 3 pages each with different data in the middle corresponding to the first 3 records in your label file.

JMagic

With your LEARNXXX2 format open, click *Format* and then *Create Label File*.

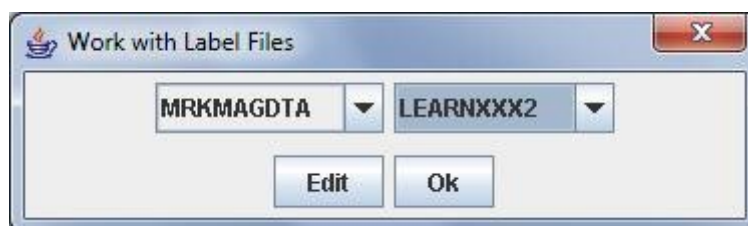


You will be shown the *Create a Label File* screen. Make sure *Format name* is **LEARNXXX2**. Name the label file **LEARNXXX2** and create it in library **MRKMAGDTA**. (It's ok that the database name be the same as the format.) Since you referenced the **SHIPFILE** database while creating the format fields, take this opportunity to copy the data you need from **SHIPFILE** to your new label file. Type **SHIPFILE** for *Copy data from file* and for library, type **MMEXAMPLES**.



Click OK to create your label file. JMagic will create the new label file directly on the System i server and copy in data from SHIPFILE, but only filling in the fields that you referenced when creating the format.

If you want to view the data in the label file, you can use the new JMagic file editor by going to *Format* and then *Work With Label Files*. It will bring up a list of files currently found in MRKMAGDTA library. Choose the LEARNXXX2 file using the menu on the right and click *Edit*.



You will be presented with the JMagic database file viewer / editor:

Quantity	Print Separate	Cut	Repetition	Mode	Batch	CSCITY	CSST	CSZIP	PO#	CSNAME	CSADDR
0			0			New York	NY	10015	A-54621 12324 S	Windows on the World	2 Main Street
0			0			Los Angeles	CA	12321	A-890 84393 FD	Windows to the Future	Telkowsky Street
0			0			Los Angeles	CA	10232	A-424 1565 56	No Pane No Gain	34-22-36 Jackla Lane
0			0			Chicago	IL	54320	A-789 897 789	Windows on Time	45 Domino Lane
0			0			New York	NY	10012	X-80234 8932 0	Windows for Less	167 Orchard Street
0			0			New York	NY	10015	X-2873 782979	We do Windows	13 Scaffold Lane
0			0			Brooklyn	NY	11454	B-8271 782 973	Winnie's Windows	3 Glass Street
0			0			Richmond	NY	11653	A-9038 890890-0	Sally's Sills	166 Jonas Ledge
0			0			New York	NY	10012	A-45646 546464	World of Windows	3 WTC
0			0			New York	NY	10120	A-08320984	Window Brokers	40 Wall Street
0			0			Riverdale	NY	10471	C-972983-78-9	Window Breakers	803 East 260th Street
0			0			Venice	CA	81321	U-9-21-90-21	Leading Blinds	12 Vertical Lane
0			0			Los Angeles	CA	85430	D-82108 8092 30	Shades of Shades	Upper Shadow Park

Add

MRKMAGDTA LEARNXXX2

Edit Ok

You can actually add or modify records at this screen, but the data that was copied in during the CRTLBLF process is all that is needed for the purpose of the tutorial. Now that you understand what a label file is and how the SHIPFILE data is retrieved and inserted into your “work file” label file, it is time to print these records with your new format.

We will assume that you successfully printed in the last tutorial and know how to print a format layout to your laser printer whether it is an AS400 device description or a remote out queue. Click *Format* and then *Print* and then *Print Label File*. Now that you have a label file with some sample records of data inside of it, you can specify its name and library in the first two parameters. (Previously you had this value set to *LAYOUT.) Make sure *Format name* is **LEARNXXX2**. If your laser printer is setup as an AS400 device, type the name in *Printer device*. Also make sure *Printer type* is **HPPCL5**. See the screenshot on the next page for the exact parameters that you need to use:

Print a Label File (PRTLBLF)

File Edit View Help

Label file: LEARNXXX2 Name
 Library: MRKMAGDTA Name
 Label file member: *FIRST Name
 Format name: LEARNXXX2 Name
 Printer device: LASERDEV Name
 Form type: *STD Character value
 Spooled printer output: *YES *NO
 Spooled file name: *FMT Character value
 Quantity: *DEFAULT 1-9999
 Printer type: HPPCL5 Name, F4 for printer list

Advanced Parameters

Print from record number: 1 Number
 Print to record number: 3 Number
 Spooled output queue: OUTQNAME Name
 Library: LIBRARY Name
 User library name: MRKMAGDTA Name

Advanced OK Cancel Help ?

Each record in the label file will result in one page being printed on your printer. So we don't waste paper by printing 17 pages (17 records in the label file), let's set *From Record* to **1** and *To Record* to **3**. (You may need to click the *Advanced* button to see these additional parameters.) Lastly, if you use a remote out queue to print, remember to type this information in the *Spooled Output Queue* parameter. Click OK to print your format. You should receive 3 pages each with different data in the middle corresponding to the first 3 records in your label file.

Congratulations! If all went well, you should have three nice looking pages of variable data. Let's review what was covered in this "Intermediate Database Concepts":

Topics Covered:

11. How to copy a format and why you would want to copy a format.
12. How to delete a field from a format.
13. How to add variable “non-*LINK” fields.
14. What a MarkMagic Data field is.
15. How to add Data fields defined from a database.
16. What a MarkMagic *LINK field is.
17. How to add text and barcodes that are “linked” to the variable data fields via *LINK.
18. What a MarkMagic label file is and how to create and copy sample data to one.
19. How to view the records in a label file.
20. How to print with data from your label file.

This tutorial only covered methods of printing information from a database. If you are looking for a tutorial that covers printing data retrieved from a spooled file, please see tutorial 2B: “Intermediate Forms Concepts”.