March 1996

THE Quick Answer

The independent monthly guide to Q&A expertise

How to Merge-Print Your Bitmap Files

Q&A 5.0 includes support for displaying and printing .BMP and .PCX graphic files. If you want to merge print your bitmaps, though, the documentation doesn't provide a clue.

By Bob Hansen

DOS 5.0

WHEN I finally received my copy of Q&A 5.0 for DOS, I immediately had to try out the new bitmap graphic file support because one of my accounts needed this feature. I was able to add bitmap images to a database and view them. I found I could print them in Write using the *GRAPH* command, but I needed a way to merge them with Write documents so I could print the bitmap along with the data from selected records.

Initially, when I tried to print some bitmaps from Write, Q&A responded with error messages that the files were damaged. They weren't, but I learned that the BITMAP.EXE conversion utility that comes with Q&A 5.0 (it converts .BMP files to Q&A's .BIN file format for printing) is fussy; it likes some .BMPs, but not others. If Q&A likes your .BMPs (or .PCXs), you

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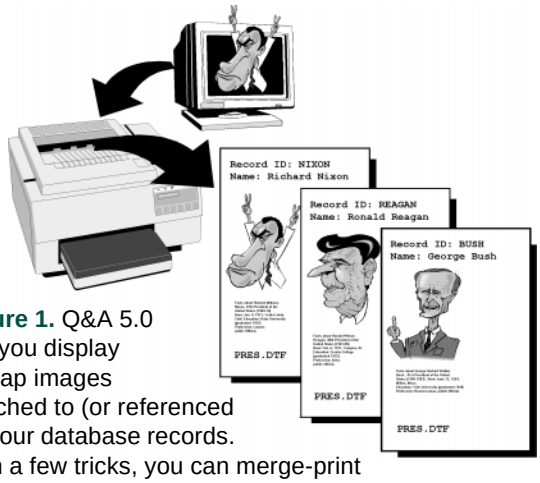

Figure 1. Q&A 5.0 lets you display bitmap images attached to (or referenced in) your database records. With a few tricks, you can merge-print them on your laser, too.

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Editorial

Permit me to quote unabashedly from two recent letters:

> *I've used Q&A for several years, starting with version 3.0.* The Quick Answer *has been a great help in getting Q&A to do a vast number of tasks to meet our business needs.*
>
> Lee Weber, Klamath Falls, Oregon

> *I've worked with Q&A for five years now and I can truly say that your newsletter is the best thing ever to happen to regular users of this program. The tips and tricks you publish are useful, but more than that, they've made me aware of how powerful this thing is! I used to approach a new application wondering if the program could handle it. Now, I approach a new problem assuming Q&A can do what I want, I just have to figure out how. With this little off-the-shelf program and your publication, I've been able to develop thousands of dollars worth of applications tailor-made for the company I work for, and infinitely customizable as our conditions change. Excellent, excellent work!*
>
> Erika Yoxall, Burton, Ohio

You won't catch us resting on our laurels—this issue contains even more amazing feats you can do with "this little off-the-shelf program."

Clients are trained from birth in the fine art of demanding the impossible, and one of **Bob Hansen**'s clients handed him a doozie. He had to come up with a way to merge print sales orders with small engineering drawings in bitmap image file format. Bob was able to link the image files to the client's database, but merge printing the darned things took a stroke of genius.

Speaking of graphics, find out how **Roger Skidmore** adds dazzling shaded text boxes and the like to his Write documents by going straight to his laser printer with the commands it needs.

Try making Q&A execute a loop routine on target records during a batch post, and you might be tempted to utter the ultimate blasphemy: "Q&A can't do it." But when **Joe Bryant** needed to post to the first empty field in a group of fields, an angelic voice whispered "Gosub, not Goto," and soon he had Q&A walking on water.

You can't XPost to a record that isn't there—you have to add it first. Normally, this means you have to stop what you're doing and press a whole lot of extra keys, but not if you use my technique that makes Q&A create those new records on-the-fly.

Time is money, but what does Q&A do when you *add* time to money? **Jeff Nitka** shows you how to expertly combine Q&A's various data types to obtain the results you're after.

Tom Marcellus
Editor

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MARBLE PUBLICATIONS

Merge-Print Bitmaps

Continued from page 1

won't have a problem. If it doesn't, you can try converting them manually to .BIN format. See the sidebar, "Converting Your .BMP Files."

Sample database design

I'll illustrate the bitmap merge-printing technique using a database that includes the following four fields. If you have a few .BMP (or .PCX) files to play with, create the database so you can follow along:

```
 ShowFile:  Text (T)
PrintFile:  Text (T), Read-only
MergeFile:  Text (T), Read-only
ImageFile:  Bitmap (B)
```

The ShowFile field contains the path and name of the .BMP or .PCX file to display when working in the database. (When you attached an image file to a Bitmap field, there's no convenient reference to its path and name. The ShowFile field provides that reference.) I'll assume you're using .BMP files.

PrintFile contains the same value as ShowFile, but with the .BMP filename extension replaced with .BIN. (You don't need this field unless you'll be converting your .BMPs to .BINs.) The MergeFile field contains a special command designed to accommodate merge printing, and the ImageFile field—formatted "B" for Bitmap—stores the bitmap image. (If you're not storing your bitmaps in the database, you won't need this field, either.)

Assuming that Q&A prints your .BMPs without a hitch, you can eliminate the PrintFile field and add the following statement to the ShowFile field to auto-fill the MergeFile field:

```
> MergeFile = "*G " + ShowFile + "*"
```

This statement fills MergeFile with the ShowFile value preceded by an asterisk, "G" (for GRAPH), a space, and a closing asterisk. This creates a *GRAPH* command that lets you use MergeFile as a merge field in a Write document.

If you need to manually convert your .BMPs to BINs for printing, you can keep the PrintFile field and modify your program like this:

```
> PrintFile=ShowFile;
  PrintFile=@Repllas(PrintFile,"BMP","BIN");
  MergeFile="*G " + PrintFile + "*"
```

A typical record might then look like this:

```
 ShowFile:  C:\PIX\IMAGE1.BMP
PrintFile:  C:\PIX\IMAGE1.BIN
MergeFile:  *G C:\PIX\IMAGE1.BIN*
ImageFile:
```

For each image field in the database you plan to merge print, you'll need a set of supporting fields.

Attach the image files to the database

With the database design completed, you can begin adding records and attaching your bitmap files to them. Assuming the path to your image files is C:\PIX, and the first image filename is IMAGE1.BMP, open the database in Add Data mode and enter the full path and filename to the .BMP file in the ShowFile field, like this:

```
ShowFile:
C:\PIX\IMAGE1.BMP
```

Press Enter, and your program will fill the optional PrintFile field along with the MergeFile field.

To attach a bitmap to the ImageFile field, press Alt-F11, press Enter, and find and select the .BMP file you typed in the ShowFile field. Press F10 to attach it to the field, then press F10 to save the record and add another, or Shift-F10 to save and exit.

Create the merge document

You can now create a Write document to merge print your bitmaps. With the document on screen, press Alt-F7, enter the name of the database, and Q&A will display the merge field list. Select MergeFile, press Enter, and *MergeFile* will be inserted in the document at the cursor position.

If you had only one record in the database, the *MergeFile* command would work the same as if you included the following *GRAPH* command in the document:

```
*G C:\PIX\IMAGE1.BIN*
```

Converting Your .BMP Files

If you need to convert your .BMP files to .BIN format, go to your Q&A 5.0 program files directory (where the BITMAP.EXE utility should be stored) and enter a command like this on one line:

```
BITMAP CONVERTBIN C:\PIX\IMAGE1.BMP
C:\PIX\IMAGE1.BIN
```

When you've done this, the C:\PIX directory will contain two IMAGE1 files: IMAGE1.BMP and IMAGE1.BIN. IMAGE1.BMP is for viewing in the database, while IMAGE1.BIN is for printing. If you have other .BMP or .PCX files you want to merge print, you can convert them in the same manner.

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If you have three records in the database with IMAGE1, IMAGE2, and IMAGE3 bitmap files linked to them, and you leave the merge printing Retrieve Spec blank, Q&A will print three pages (records), each with its own image file.

Conclusion

Remember, these procedures aren't necessary unless you want to merge print the images in Write as well as display them in the database. And converting your .BMPs to .BINs is necessary only if Q&A rejects your .BMPs during printing.

You don't have to attach the .BMP files to the database for this merge printing technique to work. (See editor's note.) All you need is the MergeFile field filled in as shown earlier and, if necessary, .BIN versions of the files on disk.

Once you've formatted a field as Bitmap, you can't change it like you can change fields formatted for text, numbers, dates, and money—you'll have to add a new field to the database, then delete the original one.

The *GRAPH* command options for fonts, scaling, and rotation apply only to .PIC files. You'll have to use a graphics program to scale or otherwise manipulate your .BMP images.

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[Interesting solutions like Bob's always inspire me to experiment. When I did, I discovered that you can also merge print images referenced in an external database.

Suppose your merge document includes these fields from a primary merge database named CUSTOMER:

```
*First Name* *Last Name*
*Address*
*City*, *State* *Zip*
```

Now, suppose you have a separate IMAGES database set up as in Bob's example. If, for example, the Last Name field in CUSTOMER has a matching field—say, Item ID—in IMAGES, you can make IMAGES the secondary merge file, retrieve the MergeFile value in the linked IMAGES record, and print its bitmap image during the merge.

Your Write programming expression to perform the feat would look like this:

```
*Pg {@Xlookup("Images", Last Name, "Item ID",
              "MergeFile")}*
```

When you run the merge-print, Q&A will print the corresponding bitmap image referenced in IMAGES with each merged CUSTOMER record.

When printing bitmaps, I get the best results with monochrome (black and white) bitmaps. Color and gray-shaded bitmaps display fine when viewing them in the database, but they print unpredictably.

Be sure your bitmaps are appropriately cropped. Otherwise, they'll take up too much of the page when printed, displacing your text. You'll need a graphics program to crop your images.

Printing Bitmaps Via File / Print

You can print your bitmaps using File / Print (with a Print Spec) instead of a Write merge document. To do so, add a NewPage field to the database, format it for text, make it read-only, and set its initial value to the eject page printer control code. On a LaserJet 4, the code is *P 27,38,108,48,72*. On a LaserJet 5, the code is *P 27,48,108,48,72*. (See your printer manual for the correct eject page code for your make and model.) Each record you plan to print must include this eject code.

At the Fields Spec, use the coordinate method, and make NewPage the first field to print by typing a 1,1 in it. Be sure no other field overprints the NewPage printer control code. (Since it's 19 characters, you can print a field on the same line only if it begins at column position 20 or greater.) Make MergeFile the last field to print, unless you know how much space on the page the bitmaps in the printing job will need.

Print the output to Disk instead of to the printer, then display it in Write. Press F2, and print the file to your printer. Q&A will print a page for each retrieved record, including its linked bitmap.

Figure 2 shows an example of what the first page of the disk file from the File / Print operation might look like. When you print this "document" from Write, the data in the first record is printed, and the final line prints the IMAGE1.BMP file. Before printing the second page, the printer control code ejects the first page, and Q&A proceeds to print the next page (the second record), and so on for as many records that met your original File / Print Retrieve Spec.

```
*P 27,48,108,48,72*
Field 1 data         Field 2 data
Field 3 data
Field 4 data

                     Field 5 data

 *G C:\PIX\IMAGE1.BMP*
```

Figure 2. An example of what the first page of your disk file might look like.

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Magic with Gosubs and Batch Posting

How would you like to be able to post to the first empty field in a matching target record? Sounds impossible, but you can with this innovative technique that uses a Gosub in the on-record-exit program.

By Joe Bryant

DOS

ONE of the limits of Batch Posting is that you can't tell Q&A to post to the "first empty field" in the target record. Yet many applications could benefit from such a capability.

When working in a database, you can *copy* a value to the first empty field by programming a loop to increment the field by sequential field ID numbers until an empty field is found, then have @Field put the value in it. The problem is that the procedure requires an on-field-entry program for the loop to work, and you can't execute on-field-entry statements when Batch Posting. (The only kinds of statements you can execute in the target record during a post are calculation, on-record-entry, and on-record-exit.)

I discovered, though, that by using a Gosub statement in the looping field (where you'd normally use a Goto statement), you can get the program to execute during a post just as it does on-field-entry within the database. The only difference is that you're having the program execute on-record-exit during the post. Here's an example of the kind of loop I'm referring to:

```
Loop: < #1: If #1 <> 10 then #1 = #1 + 1; Gosub #1
```

The program works not just during data entry, but during Batch Posting as well. And it opens the door to finding the first empty field in the target record and getting your posted value into it.

A working program

In the following program, if the on-record-exit field has been set to #200, then field #200 will check for a value in field #100 (the target field of the post). If field #100 contains a value, the program will search for the first empty field in a series of fields (in this case, #1 through #29), copy field #100's value to it, then clear #100. Be sure field #200 is formatted for numbers:

```
Entry: #100

Postit: < #200: If #100 = "" then Stop;
If #200 = 30 then { @Msg("This form is full");
  #200 = 0; Stop };
If @(@Str(#200)) = "" then { @(@Str(#200))= #100;
  #100 = "";
  #200 = 0; Stop };
If @(@Str(#200)) <> "" then #200 = #200 + 1;
  Gosub #200
```

Name the series of text fields that finally receive the posted values 1, 2, 3, and so on through 29. (If they have different field names, you must assign #1, #2, #3, and so forth to them—in the order you want them filled—at the Program Spec.) The last field must be 29 because a Gosub will execute only that many times before generating a *Too many Gosubs* error message. But you can get around this by adding another Gosub field, letting the initial Gosub field control the first 29 loops, then passing control to the second Gosub field to control the next 29 loops, like this:

```
If "counter" < 29 then Gosub #200
If "counter" > 29 then Gosub #210
```

If you're posting numbers, format all the fields for numbers, then change field #200's program to this:

```
< #200: If #100 = "" then Stop;
If #200 = 0 then #200 = 1;
If #200 = 30 then { @Msg("This form is full");
  #200 = 1; Stop };
If @(@Num(#200)) = 0 then { @(@Num(#200)) = #100;
  #100 = ""; #200 = 1; Stop };
If @(@Num(#200)) <> "" then #200 = #200 + 1;
  Gosub #200
```

If you're posting money, format fields 1 through 29 for money.

You can check your program by typing a value in field #100, pressing F10 to execute the on-record-exit program, then reviewing the record for accuracy.

Once you've assured yourself that the program performs reliably in the database, you can put the posting end of the application together.

Add a unique Customer ID or Account No field to the database that will have a matching field in the database you're posting from. Make this field Speedy/Unique (SU) at the Speed-up Spec.

Set up your "post from" database, then add some postable test records to it. Finally, create and save a Posting Spec that posts to the target Entry field on a match on the Customer ID or Account No. (Don't

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forget to set on-record-exit statements to Yes at the Batch Posting Auto Program Recalc screen). Run the post, and you should be happily surprised at the results.

Using this technique, no matter how many records are in the batch you're posting to the same target record, each posted value will execute the on-record-exit Gosub loop on it, copying the value to the next available empty field.

[Joe's technique works slick as the dickens—fast, too, for the work it does. If you're using Q&A 5.0, you might find XPosting in real time more to your liking. You can obtain the same results, and you won't need the on-record-exit program and Posting Spec. Simply add a text field named PostTo to the post from database, and program it like this:

```
< PostTo = PostTo + 1;
  If PostTo > 29 then
  { @Msg("Target record fields are filled"); CPrev };
  If @XLookup("TARGET", RecID, "RecID", PostTo) = ""
  Then { XPost("TARGET", RecID, "RecID", Postit, PostTo);
   @Msg(Postit + " posted to field " + PostTo + " in "
   + RecID + " record."); Clear(PostTo); CPrev }
  Else Goto PostTo
```

The program assumes matching "RecID" (Record ID) key fields in both files. It also assumes a series of 29 postable fields (named 1 through 29) in the TARGET.DTF database, though you could have many more than that, and you could adapt the program to accommodate a different series of field names.

The program starts by setting PostTo to 1 and checking that field in the target record. If it finds it filled, it increments PostTo by 1 (PostTo then equals 2), then checks target field 2. It continues like this until it reaches a blank field, whereupon it posts the PostIt value to it and lets you know it has done so. Your target fields can be formatted for text, numbers, or money.

For a different approach to batch posting to multi-line records—one that posts a receipt number, date, amount, and transaction type—see "Posting to Multi-line History Records in the April 1993 issue.—Ed.]

Joe Bryant, a veteran Q&A enthusiast and application developer, resides in Moore, Oklahoma. 405-794-7892, fax 405-799-0499.

QUICKTIP

Create a Userselect "Special Action" Menu

DOS 5.0

Normally, you'd use the Userselect list command to display a list of values for a field. But you can also use it to display a *special action* list—that is, to select actions such as launch a macro, copy a field to the Clipboard, or move to a field on a another page of the form. Here's how.

Add a six-character labelless field to the form. At the Format Spec, set it to T,JC for text, justified center. At the Palette Spec, assign it a background color that's different from the rest of the form, then set its Initial Value to *Menu*. This way, it will look like a "button" on the data entry form.

Next, add a second field in an out-of-the-way place on the form. Make it labelless and read-only, and name it *Selection* at the Field Names Spec.

You can now add your *special action* Userselect program to the Menu field, setting it to execute on-field-enty. Your program might look something like this:

```
< Selection = @Userselect("Print to PtrA,Print to PtrB,
  Print to disk,Save and Exit,Copy ID Clipboard, Go to
Update");

  If Selection = "Print to PtrA" then
  @Macro("Print to Printer A")
  Else If Selection = "Print to PtrB then
  @Macro("Print to Printer B")
  Else If Selection = "Print to disk then
  @Macro("Print to Disk")
  Else If Selection = "Save and Exit" then @Exit
  Else if Selection = "Copy ID Clipboard" then
  @Macro("Copy ID to Clipboard")
  Else if Selection = "Go to Update" then
  Goto Update; Cnext
```

Tom Marcellus

Merge-Print Bitmaps

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*You can use a graphics program such as Windows Paintbrush to create a letterhead or logo to include in your Write documents. Simply specify the bitmap's path and filename in the *GRAPH* command, and position the first asterisk where you want the graphic image to begin printing.*

For more on bitmap images in databases, see Dave Dvorin's "Pictures in a Database: The Cost" in the October 1995 issue. Dave shows how to display bitmaps from records without physically attaching them to the database. Also, see my review of Q&A 5.0 in the August 1995 issue.—TM.]

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The Program Spec

By Jeff Nitka

Type Checking in Q&A: Good, Bad, or Ugly?

MOST popular programming language compilers perform type-checking—that is, they make sure you've used data types consistently in a program. In contrast, Q&A's compiler ignores how you've used data types, letting you get away with almost anything.

To illustrate, suppose you have three fields named Num (a number field), Date (a date field), and Time (a time field) in a statement like this:

```
Num = Date + Time
```

Most compilers would reject such a statement as the three fields aren't the same information type, but Q&A would accept it. Is this good or bad? The only drawback is that if you didn't intend to use multiple data types in the same statement, the problem might go undetected until it's executed and your data goes off the rails.

On the other hand, there can be practical uses for mixing data types. (Tom Marcellus employs some of them in his Quick-Click Calendar Plus.) Table 1 shows the resulting data type when you add different data types, and Table 2 describes the results you can expect. What about adding two identical types? We're all familiar with adding text values ("Jeff" + " Nitka" yields Jeff Nitka), numbers, and money, but what happens when you add dates and times? The last two entries in Table 2 describe what Q&A does.

+	Date	Time	Number	Text	Money	Yes/No
Date	Date	Number	Date	Date	Number	Date
Time	Number	Time	Time	Time	Number	Time
Number	Date	Time	Number	Number	Number	Number
Text	Date	Time	Number	Text	Money	Yes/No
Money	Number	Number	Number	Money	Money	Money
Yes/No	Date	Time	Number	Yes/No	Money	Yes/No

Table 1. The result when Q&A adds different data types.

Table 2. What to expect when you add different data types.

Date + Time	Converted to a number, with the date changed to the number of days since the year 0000, and the time changed to the number of minutes after midnight.
Date + Number	The result is a date—the number of days after the original date.
Date + Text	The result is the date. The text value is ignored.
Date + Money	Converted to a number, with the date changed to the number of days since the year 0000, and the money changed to a number.
Date + Yes/No	The result is a date one day after the original date if the Yes/No value is Yes. Otherwise, the original date is unchanged.
Time + Number	The result is a time value—the original time plus the number of minutes.
Time + Text	The result is the original time value. The text value is ignored.
Time + Money	The result is a number. The time value is converted to the number of minutes, and the money value is converted to a number.
Time + Yes/No	The result is a time—one minute after the original time if the Yes/No value is Yes. Otherwise, the original time is unchanged.
Number + Text	The result is the original value of the number. The text value is ignored.
Number + Money	This yields a number, with the money value changed to a number.
Number + Yes/No	The result is a number—one greater than the original Number if the Yes/No value is Yes. Otherwise, the result is the original number.
Text + Money	The result is the original money value. The text value is ignored.
Text + Yes/No	The result is the original Yes/No value. The text value is ignored.
Money + Yes/No	The result is a money value—one dollar greater than the original money value if the Yes/No value is Yes. Otherwise, the result is the original money value.
Date + Date	Q&A converts them to numbers (based on the number of days since the year 0000), adds them, and converts the resulting number to a date.
Time + Time	Q&A converts them to numbers (based on the number of minutes since midnight), adds them, and converts the resulting number to a time of day.

The examples we've looked at apply to adding data types, but don't expect results to be consistent

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QUICKTIP

Another Date Bug Side Effect

DOS 5.0

Q&A 5.0 lets you use programming expressions in report headers and footers, but there's a quirk that makes it handle dates strangely. For example, if the current date is January 31, 1996, and the database is set to date format 15 (mm-dd-yy), the expression *PG{@Date-1}* returns -127. Q&A appears to convert the expression to 1-31-96-1 and subtract the numbers as though the expression read *1 minus 31 minus 96 minus 1*. To work around the glitch, specify a date format that spells out the month. For example, if the date is January 31, 1996, the expression *PG{@Date(1) -1}* will return the current date minus one day.

Erika Yoxall, Troy Manufacturing, Burton, Ohio

QUICKTIP

Date Bug Can Be Double Trouble

DOS 5.0

If you're using Q&A 5.0, you've probably noticed the bug that affects some date formats. The upgrade was originally an international English edition, which the U.S. edition was based on, and somebody dropped the ball. If you choose date format 7, MM/DD/YY (Q&A provides 20 date formats you can choose from the Global Format Options screen when designing or redesigning a database), you'll get a European display format of *DD.M.YY*. Similarly, when you select date format 9, MM/DD/YYYY, you'll get a strange display format of *DD. Month(spelled out) YYYY*.

But a far more serious side effect can occur if you import date values. If the database uses date format 1, 3, 5, 11, 13, 14, 15, 16, 19, or 20, you'll be okay. But if it uses 2, 4, 6, 7, 8, 9, 10, 12, 17, or 18, you're playing with fire. A transposition of the day and month portions of an imported date can occur when the day is 12 or less—that is, Q&A will interpret the day as the month, and vice versa.

Suppose you're importing this standard ASCII file:

```
"422","Haver","B20180","Prudential","10/4/94","2/24/95"
"438","Riddle","S35415","Haverford","11/8/94","6/29/95"
"404","Uncha","S30942","Weichert","6/2/94","2/28/95"
```

If the database is using date format 9, the six imported dates will wind up as follows in the new records (note the problem with the first date in each record.):

Record 1	10. April 1994	24. February 1995
Record 2	11. August 1994	29. June 1995
Record 3	6. February 1994	28. February 1995

With the same import file and date format 7, you'll get this:

Record 1	10.4.94	24.2.95
Record 2	11.8.94	29.6.95
Record 3	6.2.94	28.2.95

Again, the day and month in the first date field are transposed. You'll get similar results with the other problem date formats, so you'd do well to avoid them until a fix is available.

Gordon Meigs, PCTA, Newtown, Pennsylvania

The Program Spec

Continued from page 7

for other arithmetic operations. For example, dividing money by text results in ERR, because the text value is converted to 0 (zero), which can't be a denominator.

Okay, so Q&A's lack of type checking can get you into trouble. But it also gives you the flexibility to perform the kind of data manipulation you might need.

Jeff Nitka is pursuing a Masters Degree in computer science at Rutgers University while developing Q&A applications for Epoch Software, 908-874-3989. Jeff is the author of the Q&A Program Evaluator, a program debugging utility available from Marble Publications, Inc., publisher of *The Quick Answer.*

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Automatically Create Records to Post To

To XPost data to a record that doesn't exist, you have to exit the database, add the record, then return to the original database to execute the post. Or do you? Here's a technique that creates a record to post to as required, then posts to it, all without interrupting the flow of data entry.

By Tom Marcellus

DOS 5.0

Q&A 5.0's XPost command lets you automate data entry so you can add a record, post its data immediately, add the next record, post its data, and so on. This real-time posting keeps the records in the external file in sync with their related records in the data entry file. (See Figure 1.)

But what if there's no related record in the target database to post to? You're barreling along, entering transactions or whatever, and up comes an order, say, for a new customer. Q&A 5.0 provides no easy way to conditionally add a record to the target database before posting to it, so you're forced to stop what you're doing, exit the database, open the target database, create the record, then return to the original record to execute the post. This takes time and too many keystrokes. Automating the process with macros helps, but it's still not an ideal solution.

Suppose you could get Q&A to do all the work for you—that is, check the target file to see if a postable record exists. If it does, then post the data to it; if it doesn't, create it first then post to it—all without having to leave the current record.

Not only would this boost your productivity, it would keep your databases in sync, and you and anyone using the system would be better informed and more productive. Interested? Read on.

Two simple test databases

The technique I'll show you isn't a universal solution, but it covers the essentials. Once you've become familiar with the way it works, you can adapt it to meet your own requirements.

Start by creating two test databases—one to post from, and another to post to. Name the one to post *from* SOURCE.DTF, and add the following fields to it, formatted as shown:

```
   Name: T
Address: T
   City: T
  State: TU
    Zip: T     Purchase Amount: M
Posted:  D
```

When SOURCE is done, return to the Main menu and select Utilities / DOS File Facilities / Copy a Database. Enter SOURCE.DTF at the prompt, then enter TARGET.DTF. This creates a duplicate TARGET database—the one you'll be posting *to*, or updating in real-time.

TARGET requires a few modifications. From the File menu, select Design File / Redesign a File, and enter TARGET.DTF. Delete the Posted field, change

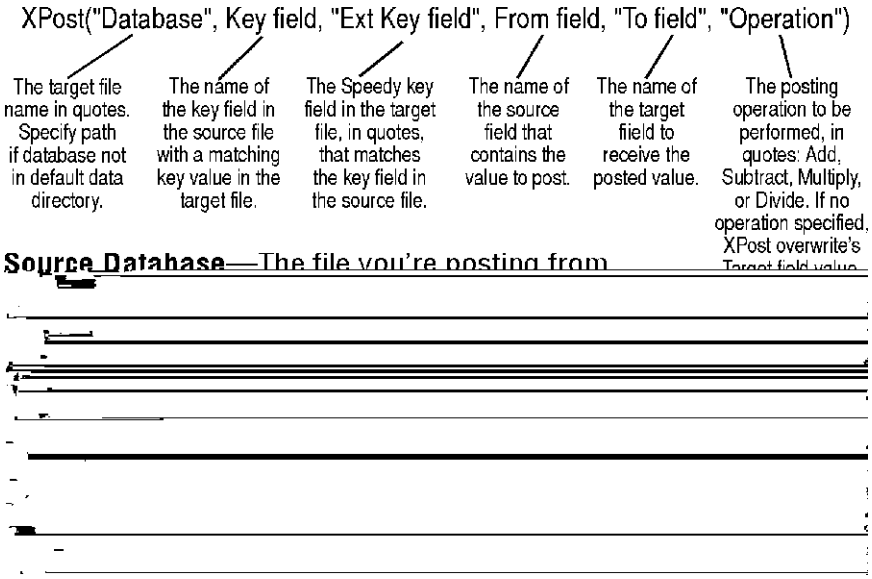

Figure 1. The XPost command requires five criteria. The sixth, "Operation," is required only if you're not replacing the value in the target field.

Create Shaded Text Boxes—and More

Want to add some dazzling graphic effects to your documents? Write doesn't have the tools, but you can go straight to your laser printer with the commands it needs.

By Roger Skidmore

THERE'S only so much you can do with Q&A Write's Line Draw and special ASCII graphics characters. If you find these unfulfilling—and you're the adventurous sort—you can use the Hewlett Packard Graphics Language (HPGL) to create lines and boxes—even shaded text boxes—in your Write documents. You'll find all the HPGL commands in tables located near the back of your LaserJet manual.

For example, the following HPGL command tells the printer to print a box 600 dots or two inches wide (600a) by 150 dots or half an inch high (150b), with a 20 percent gray (20g) shaded fill pattern (2p):

```
←*c600a150b20g2p
```

The left arrow is the HPGL Escape character. You type it in Q&A by pressing Alt-F10, holding down the Alt key, then pressing 27 on the numeric keypad. To create an inch-square solid black box, replace the 600a, 150b, and 20g with 300a, 300b, and 100g, respectively. These graphic elements won't show up in Write's Page Preview, but they'll print on your LaserJet.

You can control where your graphic elements appear on the printed page by placing the commands at the corresponding locations on the Type/Edit screen. Or, you can use HPGL *x* and *y* coordinates. The following command prints a three-inch by three-inch 15 percent shaded box starting two inches from the left margin and four inches below the top margin. (The numeric values are based on 300 dots per inch.):

```
← *p600x1200y ←*c900a900b15g2p
```

Use this technique to print smart-looking shaded boxes with text inside. The commands work in headers and footers as well. By experimenting with them, you'll find you can create lines and borders (by specifying long, narrow, solid black boxes), shades, and fills that spruce up your documents.

Roger Skidmore is a longtime Q&A aficionado and optician who lives on the Isle of Wight in the United Kingdom.

[I couldn't resist trying Roger's undocumented technique on my LaserJet 4P, so I set out to create a shaded text box in a merge document. Figure 1 shows my Type/Edit screen with the HPGL commands, followed by the text for the shaded box, then the merge fields. Figure 2 shows the printed result.

For my Define Page settings I used 1-inch margins all around, an 8.5-inch Page Width, and found that leaving the Page Length blank kept the graphic box from creeping up when printing a batch of single-page merge documents. I left the HPGL commands and merge fields in the default Courier font, and enhanced the text box text with a 30 point extra bold font. Here are the six HPGL commands shown in Figure 1, followed by their logic:

Continues on page 15

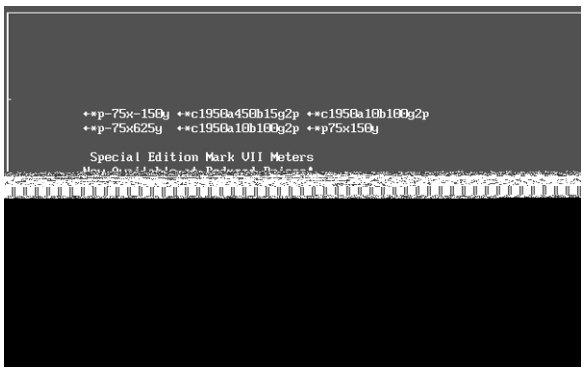

Figure 1. Write's Type/Edit screen with the HPGL commands and text to create 6.5 inch by 1.5 inch 15 percent shaded text box.

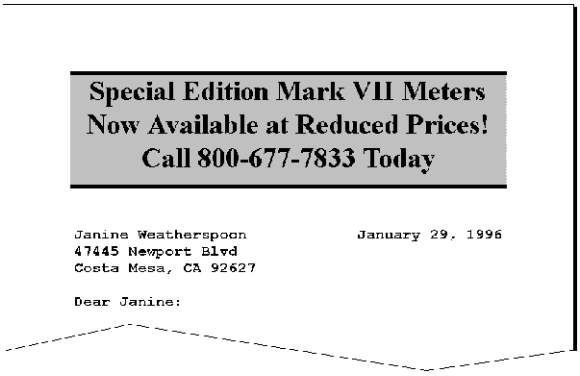

Figure 2. The resulting output. Not bad.

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QUICKTIP

Set Auto-Insert Mode for Data Entry

DOS 5.0

When you're updating certain fields, typing in insert mode—where the text to the right of the cursor is moved farther to the right as you type—can be more productive than overtype mode. If you're using Q&A 5.0, you can program such fields to be in insert mode when you move to them. Here's how. Record a nokey macro named "Insert" whose only keystroke is the Insert key. Then, at the Navigation Spec (or the Program Spec), add the following on-field-entry program to any field you want in insert mode:

```
< @Macro("Insert")
```

When you enter the field during Add Data or Search/Update, the cursor will be in insert mode. (Pressing the Insert key will toggle to overtype mode.) When you move out of the field, Q&A will revert to overtype mode unless the next field contains the same program.

If you want insert mode on only during Search/Update, use this program instead:

```
< If @Update then @Macro("Insert")
```

This technique won't work if you back into the field, only when you enter it in the usual left-to-right manner. It will work when you're updating the same field in a group of records and pressing F10 to move from one to the next.

For *expanded* fields, you set the default editing mode at the Write / Utilities / Global Options / Editing Options screen.

Tom Marcellus

QUICKTIP

Welcomed @Fedit Quirk

DOS 5.0

Q&A 5.0's *Application Programming Tools* manual says you can use the programming statement *<#3: @Fedit* to open the field editor for field #3 when the curser enters it. What it doesn't say is that you can also use @Fedit to open the field editor for a target goto field, like this:

```
>#2: If #1 = "A" then { @Fedit; goto #3 }
     else goto #4
```

The program executes when you leave field #2. If field #1 contains "A," the cursor moves to field #3 and the field editor opens for editing; otherwise, the cursor moves to field #4. This gives you more programming flexibility, and @Fedit works in the Navigation Spec as well as the Program Spec.

Peter Venuto, Santa Clara, California

[You can also use @Fedit and a Goto in an on-field-entry program as well. The following program moves to the Comments field and opens the field editor when adding a new record and field #1 = "A":

```
< If @Add and #1 = "A" then
  {@Fedit; Goto Comments}
  Else Cnext
```

The statement will work in the Program or Navigation Spec.—Ed.]

Shaded Text Boxes

Continued from page 14

```
←*p-75x-150y ←*c1950a450b15g2p ←*c1950a10b100g2p
←*p-75x625y  ←*c1950a10b100g2p ←*p75x150y
```

The first command positions the printer's "cursor" so that printing begins 1 inch down and 1 inch to the right on the sheet of paper. (The negative numeric values reconciled my Q&A document margins to the LaserJet's printable area. At least I think so—I found them by trial and error.) The second command creates a 6.5-inch wide (1950 dots) by 1.5-inch (450 dots) 15 percent shaded area, and the third adds a solid black line along the top of it. The fourth and fifth commands add a solid black line along the bottom of the shaded area, and the final command moves the text inside the box.

Because of its complexity, I don't recommend the technique unless Q&A is your only word processor, or you're just dying to have graphic elements like these in your documents. Incidentally, because of the asterisks in the HPGL commands, Q&A will complain at printing time that they aren't database fields. Ignore the warning, and press F10 to continue.—Ed.]

QUICKTIP

Make Your Mouse Perform Tricks

DOS

A public message on CompuServe caught my attention the other day. A Q&A for DOS user wanted to know if he could make his right mouse button run a macro instead of displaying the default list of Macro Names. I thought it was common knowledge that you can attach a macro to any mouse button, but it turns out that many Q&A users don't know they can.

In my office, I use a three-button trackball (a stationary pointing device with the ball on top) as a kind of time clock. The right button is labelled #1, the left button is labelled #3, the center button is labelled #4, and there's a #2 label adjacent to the ball itself. To clock in and out, my employees simply press the applicable button.

Pressing #1 displays Q&A's default Macro menu. Using #2 (the trackball), the employee moves the cursor to their name (a macro name). Pressing #3 selects the name, running the macro; and button #4 is programmed to save and exit.

Programming a mouse button is as simple as changing the name of the macro you want the button to activate. Here's a macro that sets the center mouse button to save and exit:

```
<begdef><nokey><name>"Center<sp>Button"<vidon>
<capsf10><enddef>
```

By default, the right button displays Q&A's list of Macro Names, and I generally leave it at that. I consider the center button "fair game"—that is, depending on which macro file I have loaded, I can make it run any macro I want. You can even have your center or right mouse button display a custom menu simply by naming the menu *Center Button* or *Right Button*.

Joe Bryant, Moore, Oklahoma

QUICKTIP

Which Icon Does What?

WIN

Confused as to what the toolbar icons in Q&A for Windows do? Simply click on one with the right mouse button and hold it down momentarily. A brief description of the icon will appear on the status bar at the bottom of the screen.

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