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# Exporting Data to Windows Programs

## TOM MARCELLUS

If you're running Q&A 5.0 in Windows 95, you can pass information to a Windows application, and have it manipulate the data then return you to Q&A—all without breaking a sweat.

**A**S versatile as Q&A for DOS is, for some tasks it just can't compare with today's Windows programs. You might want to view your data in a graph or chart, or print invoices or merge letters containing sophisticated graphic elements and fancy formatting. For this kind of output, you need your Q&A data elsewhere.

To make your Q&A data useable by another program, you export it to a compatible file format, then import the file into the other program. These are two separate procedures, each requiring its own series of steps.

Ordinarily, you'd run the export end with a Q&A macro that selects the records and fields, and creates a compatible export file. You'd then start the other program, and run the import and data manipulation end with a macro in *that* program.

I'll show you two ways to *completely* automate the process. The first lets you create an instant export file of selected data from the record you're viewing, launch the external program, import the data, then return to the same record. The second lets you *add* selected data, record after record, to an export file that keeps growing. This way, you can start the other program when it's convenient, and import the data from multiple records using a macro in that program.

The sample import macros I'll show you—one for Microsoft Excel 7.0, and another for a Microsoft Word 6.0/7.0 mail merge—import the data from your Q&A export file, process it, then return you to Q&A. You can adapt these import macros to import and manipulate your data in whatever way you want.

I'm using Word and Excel for my examples simply because they come preinstalled on most new PCs. Once you've seen how you can start these programs from Q&A, pass your data to them, then return to Q&A, you should have enough know-how to work out how to automate the kind of procedure you need in just about any Windows program.

## Exporting Q&A data on-the-fly

For my examples, I'll use a simple Q&A 5.0 database you can create to follow along. It has the following fields and formatting:

```
Customer ID: T
       Name: T
    Address: T
       City: T          State: T    Zip: T
Sale Amount: M

     Export: T
```

Go to the Program Spec, and type *#100* in the Export field. Press F8, type *100* on the *On exit field ID* line, then press F10. This tells Q&A to execute the Export field's program when you exit (save) the record.

Press F6 to expand the Export field, and type the following program:

```
< #100: If Export <> "Done" Then If
@Askuser(
"","Export this record to Excel?","")
Then {
Export = @Chr(34) + @Str(@Date) + Chr(34)
+ "," + @Chr(34) + @Str(Customer ID) +
@Chr(34) + "," + @Chr(34) + City +
@Chr(34) + "," + @Chr(34) + State +
@Chr(34) + "," + @Chr(34) + @Str(Sale
Amount) + Chr(34);

Export=
@Shell("echo " + Export + " > d:\qa\data\
Export1.txt ");
Export = @Shell("C:\MSOffice\Excel\
Excel.exe Import1.xls");
If Export = "0" Then Export = "Done" }
```

Q&A will exectute this program when you move to the Export field or press F10 to save the record. If the Export field doesn't contain *Done*, the

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## TOM MARCELLUS

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# *Quick Tip* — Enter 21st Century Dates the Easy Way

If your database has a Date field, you probably know that Q&A lets you type just the last two digits of the year. For example, you can enter *12 5 95* and Q&A assumes you mean *December 5, 1995*. For 21st century dates, though, a two-digit year won't work. Enter *10 5 01* and Q&A will think you mean *October 5, 1901*.

If you'd like to type a two-digit year for 21st century dates, you'll need to program your Date field. Create a test database with the following fields and formatting, and choose date format #14 at the Global Format Options screen:

```
Date:  D
Date Internal: T
Date in 4 years: D
```

Program the Date field as follows:

```
> If @Year(Date) < 1910 Then {
  { Date = @Str(@Year(Date) + 100) + "/"
+ @Str(@Month(Date)) + "/" + @Str(@Dom(Date));
@Msg("Date assumed to be 21st Century") };
Date Internal = @Str(Date);
Date in 4 years = Date + (365.25 * 4)}
```

Add a record. Type *12 5 01* in the Date field, press Enter, and the date appears as *12-5-2001*. Enter *12 10 0* (a one-digit year!) and the date appears as *12-10-2000*.

(The other two fields show how Q&A stores dates internally, and how you can add years to a date. They aren't required)

The program tells Q&A you want a 21st century date if the year is before 1910. This works if the dates you enter are no earlier than 1910 and no later than 2009. You can change the *< 1910* parameter to whatever year you want as your cutoff year. If you make it *< 1950*, for example, you'll be able to enter 21st century dates out to 2049 by typing the two-digit year.

Remember, you need a four-digit-year date format for this to work. But with the millennium fast approaching, you should be updating your databases, reports, specs, and so forth, to a four-digit-year date format anyway.

**TOM MARCELLUS**

# Export... *continued from page 1*

program asks if you want to export the record's data. If you answer Yes, it creates a comma-delimited Standard ASCII file named *Export1.txt* with the current date, Customer ID, City, State, and Sale Amount. The @*Chr(34)* function places each data value in quotes.

The program saves Export1.txt to the D:\QA\Data\ subdirectory, launches Excel, and autoloads an existing Excel workbook named *Import1.xls*. All these parameters, of course, can be modified to suit your needs.

## Auto-importing the data in Excel

Next, you need to automate the import procedure.

Most Windows programs include automatic macro execution features. Microsoft Access lets you specify a macro to run when you open a database. Word lets you specify a macro to run when you start the program or open a document. Likewise, Excel lets you attach an *Auto_Open* macro to a workbook file.

The sample Excel Auto_Open macro I'll show executes when the Import1.xls workbook is opened. Just for fun, I designed it to provide three options:

- Don't import the Export1.txt file.

- Import the file, and remain in the spreadsheet.

- Import the file, save changes, and return to Q&A.

If you choose to import the file, Excel adds it to the next available row of the worksheet named *Sheet1*.

To try it out, start a new Workbook. Click *Insert / Macro / Module*. In the module editor, type the macro shown below. When you're done, click on the *Sheet1* tab at the bottom of the screen, and format the first column for dates, and the fifth for currency. Save the Workbook to *Import1.xls* in your \Excel directory, then quit Excel:

```
' Auto_Open macro runs when Import1.xls workbook opens
' Imports D:\QA\Data\Export1.txt (Q&A current record info)
' Copies to next available row of Import1.xls Sheet1
'
Sub Auto_Open()

Application.ScreenUpdating = False
On Error Resume Next
Open "D:\qa\data\Export1.txt" For Input As 1
If Err > 0 Then
Exit Sub
End If
Close

Response = MsgBox("Import EXPORT1.TXT file from Q&A?",
vbQuestion + vbYesNo, "Choose Option")
If Response = vbNo Then
Exit Sub
End If

Workbooks.OpenText Filename:="D:\QA\Data\Export1.txt",
Origin:=xlWindows, StartRow:=1, DataType:=xlDelimited,
TextQualifier:=xlDoubleQuote, Comma:=True,
FieldInfo:=Array(Array(1, 1), Array(1, 2), Array(1, 3),
Array(1, 4), Array(1, 5))

ActiveSheet.UsedRange.Copy
ActiveWorkbook.Close saveChanges:=False
Workbooks("Import1.xls").Worksheets("Sheet1").Activate
If ActiveSheet.Range("A1") <> "" Then
ActiveSheet.Cells.SpecialCells(xlLastCell).Activate
ActiveCell.End(xlToLeft).Offset(rowOffset:=1).Activate
```

```
Else Range("A1").Select
End If

ActiveSheet.Paste
Application.End (xlToLeft)
Kill "d:\qa\data\Export1.txt"
Application.ScreenUpdating = True

Response = MsgBox("Save changes and return to Q&A?",
vbQuestion + vbYesNo, "Choose Option")
If Response = vbNo Then
Exit Sub
End If

Workbooks("Import1.xls").Close saveChanges:=True
Application.Quit

End Sub
```

Now, add a record to your Q&A database. Move to the Export field, and answer Yes to the export prompt. Excel should start, and you should see a prompt asking if you want to import the Export1.txt file. Answer yes, then let the Excel macro save your changes and quit.

## Exporting multiple records

Rather than export and import one record at a time, you might want to add several new records to your Q&A database, *then* start Excel and import them as a batch. You can do this with a minor change to the Q&A program.

Add another right angle bracket to the first @Shell command, and delete the second @Shell command (the one that starts Excel), so the program reads like this:

```
Export =
@Shell("echo " + Export + " >> d:\qa\data\Export1.txt ");
If Export = "0" Then Export = "Done" }
```

The two right angle brackets tell DOS to keep adding data (from each new record) to Export1.txt as you build a multi-record export file. When you open the Import1.xls workbook in Excel, its Auto-Run macro will give you the options described earlier. But this time, the Export1.txt file will contain *multiple* records, and the Excel macro will import them into the next available rows of Sheet1.

## Mail-merge your Q&A data in Word

You can use the instant export trick for other tasks as well. Suppose you'd like to print "Thank You" letters for new customers you add to your database, but Q&A's word processor can't give you the special formatting and graphic elements you'd like in your merge document. You can create your "Thank You" letter in Word for Windows, and merge your Q&A data with it.

First, you'll need to create a Q&A export file that Word can use as a merge *data source*. If you want to print each merge letter as you add the record to your Q&A database, try a program like this:

```
< #100:  If Export <> "DONE" then If @Askuser(
     "","Export for 'Thank You' letter?","") Then {

     Export = Name + ";" + Address + ";"
          + City + ";" + State + ";" + Zip;
Export =
@Shell("echo " + Export + " > d:\qa\data\Export1.txt ");
Export =
@Shell("C:\MSOffice\Winword\Winword.exe /mImport1");
If Export = "0" Then Export = "DONE" }
```

Notice that you're separating your Q&A field values with semicolons this time, and omitting the quote marks.

When you add a new record to the database, the program will ask if you want to print a "Thank You" letter. If you answer Yes, The first @Shell command will create the export file. The second one will then launch Word with the /mImport1 switch to run the Word *Import1* startup macro I'll show later. Word will print the merge letter, and return you to the Q&A record you left.

If you prefer to print your "Thank You" letters in a batch at the end of the day, change the last few lines of the program as follows:

```
Export =
@Shell("echo " + Export + " >> d:\qa\data\Export1.txt ");
If Export = "0" Then Export = "DONE" }
```

Again, the two right angle brackets in the @Shell command add each new record to the Export1.txt file, building it as you go. After finishing your data entry, you can start Word and run its *Import1* macro to print the day's "Thank You" letters.

As for the Word end of the process, the first step is to turn the Export1.txt file into a *data source* for the Word merge document to come. You have several options here. I'll focus on the one I like.

Start a new Word document and type these two lines:

```
Name;Address;City;State;Zip
Joe Dokes;100 AnyStreet;AnyCity;AnyState;AnyZip
```

The first line contains the merge field names. (Use simple field names. They don't have to be the same as the ones in your Q&A database). The second line represents, for now, data in an Export1.txt file.

Highlight both lines, then click *Table / Convert Text to Table*. Under the *Separate Text At* section of the dialog box, click *Other*, and type a semicolon. The *Number of Columns* field should contain *5* (for the five merge fields). Click OK, and Word will convert the text to a table.

Click *File / Save As*, save the file as a Word document to the name *Import1.doc*, then close it.

Your data source is now Import1.doc. Go ahead and create your merge letter. When you're ready to insert your merge fields, Click *Tools / Mail Merge*. Then, click *Main Document / Form Letters / Active Window* to make the document you're creating the merge document.

Next, click *Get Data / Open Data Source*. Type the path to Import1.doc, click *Open*, then click *Edit Main Document*.

Back in the merge letter, clickthe *Insert Merge Field* button, and a list of the fields in Import1.doc should appear (Name, Address, City, State, and Zip). Insert the fields in the document where you want them to print.

When you've finished the letter, click *Tools / Mail Merge*, then click *Merge*. Pull down the *Merge to* list, select *Printer,* then click *Merge*. The Print dialog box will appear. Click OK to print a test "Thank You" letter for Joe Dokes.

Click *File / Save*, and save the document to a filename such as C:\MSOffice\Winword\Letters\Thanks.doc.

All that's left is to create a Word macro to automate all these steps. The sample macro I'll show converts Export1.txt to a merge data source, prints the merge letter, then closes Word, returning you to Q&A.

Click *Tools / Macro*, and type *Import1* for the macro name. Click *Create* to open Word's macro editor, and type this macro, substituting your own filenames and paths:

```
Sub MAIN
ScreenUpdating 0
FileOpen .Name = "d:\qa\data\export1.txt",
.ConfirmComversions = 0
EndOfDocument 1
FieldSeparator$ ";"
TextToTable .ConvertFrom = "3", .NumColumns = "5",
.InitialColWidth = "Auto", .Format = "0", .Apply = "167"
CharLeft 1
TableInsertRow .NumRows = ""
Insert "Name"
NextCell
Insert "Address"
NextCell
Insert "City"
NextCell
Insert "State"
NextCell
Insert "Zip"
FileSaveAs .Name = "d:\qa\data\Import1.doc", .Format = 0
FileClose
FileOpen .Name = "c:\msoffice\winword\letters\thanks.doc"
MailMerge .CheckErrors = 1, .Destination = 1, .MergeRecords
= 0, .From = "", .To = "", .Suppression = 0, .MailMerge,
.MailSubject = "", .MailAsAttachment = 0, .MailAddress = ""
Kill "d:\qa\data\export1.txt"
FileExit 2
End Sub
```

Add a new record to your Q&A database (or several records, if you're using the multi-record export technique). When you launch Word, its macro will prepare the print job, prompt you to click OK to print, then exit Word as printing begins.

Tom Marcellus is editor of *The Quick Answer.*

# Notes on the Macros

- If Q&A is running in a window when you launch Excel or Word, you'll be returned to the Q&A record you were on. If Q&A is running full screen, you'll have to click the Q&A button on the Windows 95 Taskbar to return to the record.

- The sample Excel and Word macros were created in version 7.0 of both programs. The Word macro works in Word 6.0 and might work without changes in Word 8.0.

- If a macro fails—and it isn't a syntax error—verify that the paths and filenames it's using match those in your Q&A program, and don't conflict with default settings.
  In Excel, check *Tools / Options / General / Default File Location.* In Word, check *Tools / Options / File Locations.*

- To find out more about the macro commands, click Help in Excel or Word, and use the Help Index to locate the command by name.

# Picklists That Work Like a Retrieve Spec

## Izzy Gindi

For quickly finding people by name, department, or both, this data entry helper is hard to beat.

**Y**OU need to see an employee's record. You know they're in Sales, but you're not sure how the last name is spelled. So you go to the Last Name field of the Retrieve Spec, type the first few letters followed by two periods, then type *Sales* in the Department field. You press F10, Q&A retrieves a few records, and you quickly find the one you need.

I needed a similar way to quickly find a person in an *external* database. I'll show you how I did it. To illustrate, I'll use two databases, Employee and Payroll. During Payroll data entry, the technique helps you quickly find the employee you want in a number of ways:

- If you happen to know the person's Employee ID number, you can enter it to retrieve the pertinent data from the matching Employee record.

- If you can't think of the person's name, but you know the department, you can get a picklist of everyone in that department.

- If you don't know the department, but know the last name, you can get a picklist of all employees in the company with that last name, showing their departments.

- If you know the department, but not the exact spelling of the last name, you can type in a few characters of the last name to get a picklist of employees in that department whose last names start with those letters.

- If you don't know the department or how to spell the last name, you can type in one or more characters of the last name to get a picklist of all the names in the company that begin with those characters.

The technique makes it easy to isolate the right person to get that all-important unique employee ID number you need to retrieve the data for the payroll record. And the more you know about the person you're seeking, the faster the picklist will display and the narrower the selection range on it.

The technique handles four possible combinations of search criteria (in addition to the employee ID number)

using the last name and department fields. **Table 1** shows the possible combinations that display a picklist you can use to quickly select the person and retrieve the pertinent data from their Employee record.

The technique can be adapted to other kinds of databases as well. For example, I use it to quickly find tenants by property.

| No | Last Name | Dept | Picklist includes |
|----|-----------|------|-------------------|
| 1 | M | SA | All names in Sales that start with "M" |
| | Mar | SA | All names in Sales that start with "Mar" |
| | Martin | SA | All the "Martins" in Sales |
| 2 | M | blank | All names in database that start with "M" |
| | Mar | blank | All names in database that start with "Mar" |
| | Martin | blank | All "Martins" in the database |
| 3 | blank | SA | All names in Sales |
| 4 | blank | blank | All names in the database |

**Table 1.** Picklist options. *SA* stands for Sales. The more characters of the last name you type, the shorter the picklist and the faster it displays.

## The Employee database

Your own Employee database will include more fields, but here are the ones needed for the programming:

```
Employee No   Number, Speedy/Unique
First Name    Text
Last Name     Text
Dpt Code      Text, Speedy
Dpt Name      Text, Speedy
Full Name     Text, Speedy
List Name     Text, Speedy
```

Full Name and List Name can be hidden, read-only fields as they're for programming use only. For this sample Employee database, I assign Employee ID numbers using Q&A's @Number function this way:

```
If @Add then Employee No = @Number
```

The Dpt Code field is for a two-character department code. The code for Sales might be *SA*, and *AD* for Administration. You can fill the Dpt Name and Dpt Code fields with a program along these lines:

```
< Userselect("Sales,Administration,Production", Dpt Name;)
  If Dpt Name = "Sales" then Dpt Code = "SA"
  Else If Dpt Name = "Administration" then Dpt Code = "AD"
  ...and so on.
```

You'll need an *on-record-exit* program like the following to fill the Full Name and List Name fields when you save the record:

```
If Last Name <> "" and First Name <> "" then  {
Full Name = Dpt Code + "-" + Last Name + "," + First Name ;
List Name = Last Name + "," + First Name + "-" + Dpt Code }
```

You can use the Restrict Spec to make entry of the First Name Last Name, Dpt Name, and Dpt Code mandatory. The program produces two picklist-ready values with the Dpt Code tacked onto the name:

```
Full Name:  SA-Henderson,Alfred
List Name:  Henderson,Alfred-SA
```

## The Payroll database

For the Payroll database (which can be any database where you need to lookup employee information), the following fields are required for the programming:

```
Employee No
Employee Name
Last Name
Dpt Code
Dpt Name
Text Code
Matching Band
XLooker
```

Text Code, Matching Band, and XLooker can be hidden, read-only fields as they're for programming use only. Here's the programming for Payroll.dtf

```
Employee No:
> If Not Employee No = "" then
{ Employee Name = @Xlookup ("Employee", Employee No,
"Employee No", "Full Name");

If @Error then { @Play("Click");
@Msgbox(@Str(Employee No) + " is an invalid Number.",
"Please try again","");
Clear(Employee No) ; goto Employee No }

Else { gosub XLooker; Employee Name = @Del(Employee
Name,1,3);
Chome } };
if Employee No = "" then goto Dpt Code
```

If a valid Employee No is entered, the program calls the XLooker subroutine to retrieve the pertinent payroll data. If an invalid Employee No is entered, an error message is displayed and the cursor returns to the field. If the Employee No field is left blank, the cursor moves to the Dpt Code field.

```
Dpt Code:
> If Dpt Code <> "" then
{ Dpt Name = @Xlookup("Employee", Dpt Code, "Dpt Code",
"Dpt name") ;
If @Error then {@Play("Click");
@Msgbox(@Str(Dpt Code) + " is an invalid Code","Please try
again","") ;
Clear(Dpt Code,Dpt Name,Last Name) ; goto Dpt Code}} ;

If Dpt Code = "" then {Dpt Name =
@Xuserselect("Employee","Dpt Name") ;
Dpt Code = @XLookup("Employee", Dpt Name, "Dpt Name", "Dpt
Code")} ;
goto Last Name
```

If the department code is entered correctly, then the department name is retrieved. Otherwise, an error message is displayed. If the field is left blank, a picklist of department names appears, the selection returns the department code, and the cursor moves to the Last Name field.

```
Last Name:
> If Last Name <> "" then
{ Text Code = Last Name + @Text (15,"Z") ;
Employee Name = @XlookupR("Employee", Text Code , "List
Name", "List Name") ;
Matching Band=@Len (Last Name) ;
If @Left(Employee Name, Matching Band) <> Last Name then
{ @Play("Click") ;
If Dpt Code <> "" then
@Msgbox ("Could not find any",Last Name + " in this
department","")
Else @Msgbox ("Could not find any",Last Name + " in
Employee file","") ;
goto Last Name } } ;

If Dpt Code <> "" then { If Last Name <> "" then {
Employee Name = Dpt Code + "-" + Last Name ;
Employee Name=@XuserselectR ("Employee","Full Name","Full
Name",
Employee Name,Employee Name)  }
Else Employee Name = @XuserselectR("Employee" , "Full
Name", "Full Name",
Dpt Code ,Dpt Code) ;
Employee No = @XLookup("Employee", Employee Name, "Full
Name" , "Employee No") } ;

If Dpt Code = "" then {  If Last Name <> ""  then
Employee Name=@XuserselectR ("Employee" , "List Name",
"List Name",
Last Name, Last Name) Else
Employee Name = @XUserselect("Employee", "List Name")  ;
Employee No = @XLookup("Employee", Employee Name, "List
Name", "Employee No") } ;

If Employee Name <> "" then {gosub XLooker ;
Employee Name = @Del(Employee Name,1,3) }
Else goto Last Name
```

The Last Name field includes four groups of statements. If the Last Name field isn't empty, the first group checks to see if the name (or the first few characters of it) has a match in the Employee database. If no match is found, an error message is displayed.

The second group takes care of options 1 and 3 in Table 1. The third group takes care of options 2 and 4 in Table 1. If the lookup is successful, the fourth group calls the XLooker subroutine to retrieve the pertinent information from the Employee database.

Let me give you an example of how it works. Suppose you can't recall how the last name *Vanderploeg* is spelled, but you know it begins with *Vander*, so you enter *Vander* in the Last Name field. The @Text function adds 15 Zs to it and the value becomes:

```
VanderZZZZZZZZZZZZZZZ
```

The first 16 characters represent the upper limit of any possible match in the Employee database. Even if you enter just one character (*V*, for example) there will always be 16 characters to match.

If an exact match isn't found (which it won't),

# Quick Tip

## Special Record Numbering

A client of mine wanted to do all the invoicing for three branches of his business in the same database. The invoice numbers for each branch had to be sequential, and prefixed with the branch letter. I couldn't use @Number because if an invoice for branch A were followed by three for branch B, the next branch A invoice would lose three numbers, like this:

```
Branch A        Branch B
A123
                B124
                B125
                B126
A127
```

I added three Speedy, read-only number fields to the database: **Inv No A**, **Inv No B**, and **Inv No C**, along with a **Branch** field to show which branch (A, B, or C) was being invoiced. Using an exclamation point ("!") in the Restrct Spec, I forced entry of a branch letter. I then programmed the **Inv No** field this way:

```
<#1: If @Add and #1 = "" Then

{ If Branch = "A" Then
{ Inv No = "A" + @Str(1 + (@XLookupR("INVOICE", "10000",
```

```
"Inv No A", "Inv No A"))); Inv No A = @Num(#1) };

If Branch = "B" Then
{ Inv No = "B" + @Str(1 + (@XLookupR("INVOICE", "10000",
"Inv No B ", "Inv No B"))); Inv No B=@Num(#1) };

If Branch = "C" Then
{ Inv No = "C" + @Str(1 + (@XLookupR("INVOICE", "10000",
"Inv No C ", "Inv No C"))); Inv No C = @Num(#1) } }
```

When adding a branch A invoice, the program performs an XLookupR to the current database, looking for a record with 10000 in the **Inv No A** field. It won't find one because 10000 is greater than the highest invoice number, so it retrieves the next highest value. It adds 1 to it, converts it to a string, prefaces it with an "A" (the branch letter), and places it in the Inv No field. It then places the numerical value of Inv No into the Inv No A field. This generates an invoice number that's one greater than the highest number for the branch A invoices.

A similar process takes place when the branch is B or C. This way, using just the one database, any number of branches can have their own sequential invoice numbers.

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## Working with Special ASCII Files

Suppose you had a Special ASCII file with a structure something like this:

```
940215186658  1101446256    101300010   DEL ASAP PLS
940216186659  1101442121    100500002   DEL ASAP PLS
940216186660  1101451097    100400020   DEL ASAP PLS
940216186661  1101451097    101300020   DEL ASAP PLS
```

This file includes the date and order number in column one; an agent code and client code in column two; a product code and quantity in column three, and delivery instructions in column four. Now, suppose you needed to import this data into a Q&A database with the following fields:

```
Date
Agent Code
Agents Order No
Client No
Product Code
Quantity
Delivery Instructions
```

The problem is that three of the four columns contain multiple values that must be split up and distributed to the various fields (there's no field delimiter such as a comma), so you need to *parse* the data by specifying each value's starting character (or column) position, and length.

The figure at the top of the next column shows the first line of the Special ASCII file over a character position ruler line. You can see that the date begins at character 1 and extends to
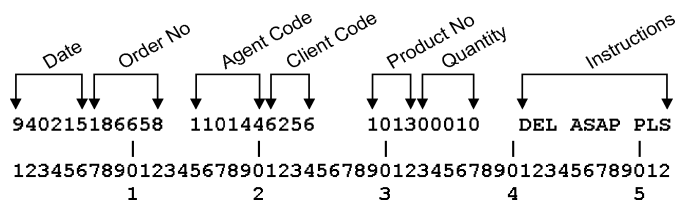


character 6; the order number starts at character 7 and extends to character 12; the agent code starts at character 15 and extends to character 20, and so on to the end of the file. Once you've made a note of all these starting positions and lengths (you can view the file in Write), you can then import a Special ASCII file like this into a Q&A database.

Select File / Utilities / Import Data / Special ASCII. Type the name of the Special ASCII file, then the name of the receiving database. For this file, you'd fill in the Merge Spec as follows:

```
Date: 1,6
Agent Code: 15,6
Order No: 7,6
Client No: 21,4
Product Code: 29,4
Quantity: 33,5
Delivery Instructions: 41,12
```

Press F10, and Q&A will import the data into the right fields.

DAVID FLAKS, SOUTH AFRICA, dfc@PIXIE.CO.ZA

# @Help

EDITED BY **T.J.** SHUFLIN

## Easier Document Updating

**My company recently standardized on a document style. We have lots of Q&A 4.0 documents I have to make conform by changing fonts, removing italics and underlining, and so on. Is there an easier way than trudging, paragraph by paragraph, through each document?**

Julie Erikson, St. Paul, Minnesota

You can take advantage of some shortcuts—particularly Write's advanced Search/Replace options—to ease the task. (They're the same in both Q&A 4.0 and 5.0 for DOS.) First, make backups of all your important documents, then perform some "dry runs" on a test document until you feel comfortable using these features.

Open a document and press F7 to display the Search/Replace box. If it contains just three lines, press Page Down, and you'll see four more lines of advanced options that might prove helpful. With the Search/Replace box displayed, you can press F1 for two help screens. The second one is likely to prove particularly valuable, since it shows Write's built-in @ functions you can use in the *Search for* field. Here are a few examples of how you can use these functions:

- To change text from one font to another, press Shift-F6 and make sure both fonts are listed on the Text Enhancements and Fonts menu. If the text is currently in Font 2, and you want to change it to Font 4, for example, type @F2 in the *Search for* field, then type @F4 in the *Replace with* field.

- To remove underlining from text that's in Font 2, you'd type @UL@F2 in the *Search for* field, then type @F2 in the *Replace with* field to keep the same font assignment.

- You can use these @ functions in combination as needed. Just be sure to type them in the order that's correct for the affected text. You can determine the order by placing the cursor on the text, checking the status line at the bottom of the screen, and making a note of the order of the enhancements and font. Using the earlier example, if you typed @F2@UL (rather than @UL@F2) in the *Search for* field, you'd receive a message saying *@F2@UL NOT FOUND*.

Write gives you a great deal of flexibility when using these @ functions to modify an entire document or just portions of it. The help screens show many of the options. You can choose to perform the replacements manually (have Q&A perform one replacement at a time), or use an automatic method. You can have Q&A search portions or all of a document, search for specific text, and you can even use wildcard searches.

## Printing Days of the Week in Crosstabs

**I track daily sales information in a database programmed to determine the day of the week from the Date field, and return Monday, Tuesday, and so forth, to a field I use when merge-printing "Thank You" letters. I need a report that shows which days of the week generate the highest sales volume. I thought a crosstab would be ideal since I already had the days of the week in the database. However, when I make the day of the week the column field, and the "Value" field the row, the days of the week print in alphabetical order (Friday, Monday, Saturday, and so forth), instead of in day-of-week *sequence.* How can I correct this problem?**

Ed Henley, Albuquerque, New Mexico

Because you have a date field in the database, you don't need to use your Day of the Week field (programmed with the @Dow$ function). Design your crosstab report as follows, using whatever Retrieve Spec you need. At the Crosstab Spec, enter *Row, Summary* in your Value column, and *Column* in the Date field. Press F7 to display the Cross Tab Groupings screen, and in the area designated as Column Groupings (Date), replace the @ALL with @DOW. Run your report, and the data should appear in the regular day-of-the-week sequence.

## Automatically Move to the End of a Field

**I have to continually update a Q&A 4.0 for DOS database with cumulative text entries in various fields. I use macros to simplify the task. When a macro enters one of these text**

## Stumped?

fields, it "presses" the End key (followed by a "wait," so I can verify the insertion point) to take me to the end of the line where the new text will be inserted. The problem is, this works only when there's text in just the field's first line. If the text has wrapped to the second (and subsequent) lines, I have to manually press Down Arrow, then press End again to place the insertion point at the end of the line before I can insert the new text. Is there an easier way?

William Clarke, Missoula, Montana

You can have your macro move to the pertinent multiline field, then "press" F6 to open the Field Editor. Once the field has been expanded, you can take advantage of Q&A's word processing shortcuts, including Ctrl-End to move to the end of the text in the field. By incorporating F6 and Ctrl-End keypresses into your macros, you can have them open the field, move to the very end of the text, and wait for your keyboard command(s). F6 or F10 will close the Field Editor.

## Statistical Calculations in Reports

**My work in a processing plant requires calculating the average, standard deviation, and variance for each of several instruments. We take several readings during a shift, and I have to turn in the information at the end of my shift. I'm using a Q&A database to track the information and generate a report, but I'm getting erroneous values for standard deviation and variance in my derived columns. What am I doing wrong?**

Mike Matthews, via The Internet

The bad answers you're getting are probably due to the fact that standard deviation and variance are designed to act on a *list* of values—the @Std and @Var functions aren't suitable for use in derived report columns.

I can suggest two alternatives. One is to keep all an instrument's data for a particular shift in one database record, and perform the calculations in the record. The other is to add a new record to the database for each reading on each instrument, and have your report calculate the average in a derived column, but leave the variance and standard deviation in the same column as the data for that instrument.

### Single-record method
I'll assume you take hourly readings, and need eight fields to record them. Make these number fields, and number them #10, #20, #30, and so on, through #80 at the Program Spec. Add the following three number fields, and program them with the statements shown. Be sure to set the number of decimal places for all the fields to suit the data:

```
Average:  <#100: #100=@Avg(#10..#80)
Std Dev: <#110: #110=@Std(#10..#80)
Variance: <#120: #120=@Var(#10..#80)
```

When you've filled any of the first eight readings fields and move to the programmed fields, Q&A will calculate the results. If a reading is skipped, just the data from the filled fields will be included in the calculations. Designing a report to print the three calculations for each instrument (record) should be a simple matter.

### Multiple-record method
I'll show you a sample report that includes data on a single instrument. Design the database with Instrument, Date, Shift, Reading No, and Value (for the instrument reading) fields. You can use the Instrument, Date, and Shift fields to specify which records to include in a report for a specific instrument, and sort on the Date and Reading No fields. Format the Reading No and Value fields for numbers, and specify the number of decimal places you'll need in the Value field.

Design a report with the following Column/Sort Spec and derived columns:

```
Date: 10,AS
Reading No: 15,AS,CS      Value: 20,F(N3), SVAR, SSTD

Heading        Formula             Column Spec
Average        @Average(#20,#10)   30,I
Repeat Date    #10                 50,I
Average        @Text(#50<>#10,#30) 40,F(N3)
```

Following is a sample report showing just a few values for three dates. The SVAR (sub-variance) and SSTD (sub-standard deviation) commands in the Column Spec perform subcalculations when the date changes. The Column/Sort Spec for Reading No employs the CS (cancel subcalculations) code to eliminate the possibility of a blank line between each line of the report. You could incorporate the Shift field into the report if you wanted data for multiple shifts.

```
      Date          Reading No  Value  Average
------------------- ----------- ----- -------
02/03/97                     1    41  40.333
02/03/97                     2    38
02/03/97                     3    42
                                 -----
Variance:                         3
Standard Deviation:               2

02/04/97                     1    42  39.000
02/04/97                     2    38
02/04/97                     3    37
                                 -----
Variance:                         5
Standard Deviation:               2

02/05/97                     1    41  41.000
                                 -----
Variance:                         0
Standard Deviation:               0
```

Notice that if only one reading appears for an instrument (the entry on 02/05/97), the variance and standard deviation are zero.

T.J. Shuflin is a forensic chemist and crime lab director in Alexandria, Louisiana. He served as the National Q&A User Group's first president in 1991-92, and maintains the group's Web site at http://www.qaug.com.

# Selective Mail Merge Made Easy

## Jeff Nitka

*Want a fast way to choose the records to include in a mail merge? Try this clever approach.*

**S**OME of my clients use Q&A's mail merge feature for invoice printing, while others use it to print form letters and envelopes. When merge-printing, you tell Q&A which records from the merge database you want to print. For large merge databases, though, it can be quite a task to type in all the parameters that select the records you want to merge.

A more convenient option is to create an interface that uses picklists to help you select the records to merge print. I'll show you a database that provides such an interface. It prompts you to select the customers to be merged, then runs a macro that prints the merge document for them.

### How it works

You start by adding a record to Select.dtf, the interface database. You type a character (or several) and press Enter, and a list of customers beginning with the character(s) appears. You select one, and a prompt asks you to confirm the selection. You continue selecting customers this way until finished. A selection list then displays with options to begin printing, continue selecting customers, or quit the operation altogether. When you opt to print, a macro merges the selected customers with a predetermined Write merge document.

### What you'll need

You need three items: the merge document (let's call it Letter.doc), the merge database (let's say it's Customer.dtf) to which Letter.doc is linked, and the interface database (Select.dtf). For this application, Customer.dtf must contain a Speedy/Unique identifying field, such as an account number (let's call it **AcctNo**), along with a Speedy customer name field (let's call it **CustName**).

### Setting up Select.dtf

Select.dtf requires four text fields in the following order:

**Name**
**Field1**
**Field2**
**List**

Make Field1 and Field2 read-only. For aesthetics, you can make them invisible as well. To do this, go to the Palette Spec and set the background and text color for these fields to the same color as the form background.

### Programming Select.dtf

In Select.dtf's Navigation Spec, go to the Name field, type **>** *goto Field1*, then press F10. Here's the programming for the Program Spec:

```
Name: < @Msg("Type a few letters, then press " +
            "Enter. (For all accounts, type ..)")

Field1: <

if Name = ".." then
if @AskUser("You've designated all accounts.",
            "Are you sure?","")
then { List = ""; Goto Field2 }
else Goto Name;

Field2 = @XUsr("Customer","CustName","AcctNo",
                Name, Name);
if Field2 = "" then
  if @AskUser("Selection error.","Try Again?","")
  then Goto Name else Goto Field2
else
if @In(List+";",Field2+ ";") > 0 then
  if  @AskUser(
     @Xlu("Customer",Field2,"AcctNo","CustName"),
     " is already chosen. Any others?","")
  then Goto Name else Goto Field2
else
if @AskUser(
  @Xlu("Customer",Field2,"AcctNo","CustName"),
  "("+Field2+")"+" to be printed" +
  @Text(List = "","?"), @Text(List <> "",
  "with others already chosen?"))
then {List = Field2 + @Text(List<>"",";") + List;
 if @AskUser(
   @Xlu("Customer",Field2,"AcctNo","CustName"),
                   "added. Any others?","")
 then Goto Name else Goto Field2 }
else if @AskUser("None chosen.","Get another?","")
     then Goto Name else Goto Field2

Field2: <

Field2 = @Us("1 -Begin Printing,2 -Start Over," +
            "3 -Add Account No,4 -Quit");

if  Field2 = ""
then { @Msg("You must make a selection " +
            "from this menu!"); Goto Field2 }
else

if  @Left(Field2,1) = "1"
then if @AskUser("Make sure printer has paper",
     "and is ready to print.","Begin printing?")
    then { @Msg("Printing in progress.");
           @Macro("Print") }
```

```
      else Goto Field2
else
if   @Left(Field2,1) = "2"
then { Clear(Name,Field1,Field2,List); Goto Name }
else if @Left(Field2,1) = "3" then Goto Name else
if   @AskUser("You really want to quit?","","")
then @Macro("Escape")
else Goto Field2
```

The List field requires no programming.

## What the programming does

The program gives you the option of performing a selective merge, or typing two periods ("..") to specify a complete merge (all the records in Customer.dtf). If you choose a selective merge, the @XUserselectR (XUsR) command displays the selection list of customer names.

When you make a selection, the program checks to see if the same customer has already been selected. If not, an @Askuser message prompts you to confirm the new selection. Once the selection is confirmed, the account number is added to any other account numbers selected so far in the List field, and another @Askuser prompts you for the next customer.

This process is repeated until you've completed the selection process. Control is then passed to Field2, where another selection list gives you four options—print, start over from scratch, continue the selection process, or quit. Quitting invokes the *Escape* macro. Choosing to print invokes the *Print* macro.

## The macros

The two macros here assume automatic execution. They also assume that the merge document is in your default documents directory, and that the unique identifying field (AcctNo in this case) is the first field in your Customer database form.

Here's the Print macro:

```
<begdef><nokey><name>"Print"<vidoff><end><end>
<f11><esc><lft><enter><esc>wg<capsf4>LETTER.DOC
<enter><f2><f10><f12><f10><enter><esc><esc><esc>
<enddef>
```

Here's the Escape macro:

```
<begdef><nokey><name>"Escape"<vidoff><esc><lft>
<enter><esc><esc><enddef>
```

The *Escape* macro simply abandons the record and returns you to the Q&A Main menu. The *Print* macro performs the following steps:

1. Presses End twice to move to the List field, then presses F11 to copy its contents to Q&A's clipboard.

2. Escapes from the record, then opens Letter.doc that's designed to be merged with Customer.dtf.

3. Continues to the Customer.dtf Retrieve Spec, and presses F12 to paste the contents of the clipboard into the AcctNo field. (AcctNo is assumed to be the first field on the Customer.dtf form).

4. Prints Letter.doc for the selected accounts, then returns to the Q&A Main menu.

What I've shown here is a basic design. Other bells 'n whistles you can add might include a selection list of documents in your default document directory, so you can choose the merge document. (See The Program Spec in the December 1996 and January 1997 issues.) You can also make the List field larger and visible so you can see which accounts have already been selected.

You can use this technique for all kinds of merge printing tasks—envelopes, labels, or documents.

Happy printing!

Jeff Nitka works for a chemical manufacturer and develops Q&A applications part-time for Epoch Software, 732-874-3989. Jeff is the author of the Program Evaluator (a Q&A program debugging utility), SurfDrve (a Q&A disk drive reader), and FaxMan (a Q&A faxing database), all of which are available from Marble Publications.

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# *Quick* **Tip**

# Workaround for XPost Subtract Glitch

When XPosting a numerical value, and the Subtract (Sub) operator is specified, the target field *must contain a value* or Q&A will *add* the posted value.

Here's a sample XPost command:

```
XPost("C:\QA\APPS\POSTED.dtf", #1, "Client", #2,
    "Amount", "Sub")
```

If the **Amount** field in the target record is empty, Q&A will add, rather than subtract, the posted value. Here's a revised XPost command that works around the problem:

```
XPost("C:\QA\APPS\POSTED.dtf", #1, "Client", #2 * -1,
    "Amount", "Add")
```

Instead of subtracting the positive number from the target field, the number is first converted to a negative number (#2 * -1) then added to the target field.

PETER VENUTO, MICKLETON, NEW JERSEY, PETERV@MAINSITE.COM

# Picklists... *continued from page 6*

XlookupR will return the next lowest value from the List Name field in Employee.dtf.

In this case, you've entered six characters in the Last Name field (*Vander*), so the first six characters of the retrieved value are compared with them. If they don't match, an error message appears. If they match, the program progresses to the second group of statements.

The second group displays one of two picklists depending on whether the department code was entered or left blank:

```
Dpt Code blank          Dpt Code = SA

Vander,Alan-MA          SA-Vanderbelt,Kim
Vanderan,James-AD       SA-Vanderploag,Alfred
Vanderbelt,Kim-SA
Vanderploag,Alfred-SA
```

The selection from either picklist is used as a matching field to retrieve the employee number from Employee.dtf.

If you leave the Last Name field blank, the third group of statements will display one of two picklists. If you enter the Dpt Code, all employees in that department are included on the list. Otherwise all employees in Employee.dtf are included.

The final statements are executed once an employee name has been selected from any picklist. After the XLooker subroutine is finished, control is passed back to the fourth group of statements, where the Employee Name is extracted in this format:

```
Vanderploeg,Alfred

XLooker:
< Xlookup("Employee", Employee No, "Employee No", "Full
Name", Employee Name, "Salary ", Salary, "Commission" ,
Commission, ... etc ...) ; Return
```

The Employee No is used as a matching field between the two databases once the employee has been correctly identified.

*Izzy Gindi lives in Hanover, Ontario, Canada, and creates Q&A applications for his own business and for clients. 519-364-3536, fax 519-364-6181.*

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## Q&A Product News

*They're Listening?* — Want to request a Q&A feature, report a bug, or register your complaint about the lack of a Q&A driver for your new printer? Natasha Osborn wants to hear from you in writing at Symantec Corporation, 175 West Broadway, Eugene OR 97401.

*Got an unsupported printer? Can't access your printer's features?* — Now you can consult with the former Symantec technician who created most of the printer drivers for Q&A for DOS. For strictly printer-related problems, printer support, or even a custom printer driver, call Rick Bertaut at 408-984-6363. Support calls cost $50 per half-hour. Custom drivers start at $500. Custom Font support also available.

*Help for damaged databases* — If your database becomes so damaged you can't extract the data, Symantec's Data Recovery Services might be able to help. Contact data recovery telchnician Kim Leet at 541-984-7910, datarec@symantec.com.

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