Crossfile Searching with QPAT-US Using WordBasic Macro Tools

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QPAT-US, Questel−Orbit's database of U.S. Patents (1974−present) accessible via the Internet, is a powerful and cost-effective tool for full-text searching. In our searching group, it has also largely replaced CD-ROMs as the preferred means of browsing U.S. Patents. However, the resource provides poor help in crossfile searching efforts. Tools and techniques have been developed, using Microsoft Word and WordBasic Macros, to ease export of search results from QPAT-US to other online databases (e.g., Derwent's World Patents Index) and to ease import of U.S. patent numbers from other online databases to permit browsing the full text of the patent. Examples of use and source code for these tools are provided.

INTRODUCTION

QPAT-US is Questel/Orbit's Internet[1] database providing the searchable full text of U.S. patents from 1974 to the present. It was the first such Internet database and has many features that endear it to patent-searching professionals, including a powerful and flexible search engine and a reasonable cost for monthly or annual subscriptions. The patents are well formatted for on-screen reading (except subscripts and superscripts, see below), and the excellent hypertexted hit terms are one of the nicest features. Also, the data in most (but not all) tables are searchable and readable on-screen (in contrast to some other products, such as Derwent's Patent Explorer and Corporate Intelligence patents, both of which assume you will download images if interested in tables). Another nice feature is the implementation of forward and backward citation searching (but it is not quite as fast as the IBM patent site). In our searching group, use of QPAT-US has largely replaced CD-ROMs as the preferred means of browsing U.S. patents.

QPAT-US also has a number of features that are less endearing (e.g., limited output options, as described below) and some that show it has not kept up with the pace of HTML (hypertext markup language) development (e.g., the failure to properly represent subscripts and superscripts—which is done correctly in more recent Internet products such as Patent Explorer). In particular, the resource provides poor help in crossfile searching efforts: it has always been somewhat difficult to integrate searching at this source with searching on the traditional, dial-up, online database services (e.g., Orbit, STN, and Dialog).

This report describes techniques and tools that have been developed, using Microsoft Word and WordBasic Macros, to ease export of search results from QPAT-US to other online databases (e.g., Derwent's World Patents Index) and to ease import of U.S. patent numbers from other online databases to permit browsing the full text of the patents.

It is not the intent of this report to teach how to search on the QPAT-US web site or to provide a review of all the features available for such searching. Nancy Lambert has written a detailed review[2] for *DATABASE* magazine, and the online help available while using QPAT-US is excellent. However, note will be made of several features useful in crossfile searching that may not be known to the average user, as will several shortcomings in the current implementation of the database which make it unnecessarily hard to use the search results with other databases.

WHY CROSSFILE SEARCH?

The problems associated with searching in a full-text database versus use of well-indexed patent abstract databases have been discussed by others,[3] and I fully agree that a full-text database cannot take the place of searching in the indexed databases such as Derwent's World Patents Index, the American Petroleum Institute's patent database (API-PAT), or IFI/Plenum's Claims databases. However, there are some situations where it makes sense to *begin* in a full-text database and other situations where it makes sense to *end* in a full-text database. Several personal techniques are listed below.

For example, I often begin a search in QPAT-US with a very specific search strategy (i.e., one using many qualifiers) to find a few very relevant patents. Since the QPAT-US database is subscription-based, there is no charge for each record examined in this way. I may find the "killer" reference right away (if it is a patentability or novelty search), or if not, I have a few good references to use in developing a strategy for the indexed databases ("good hits"). In the process, I may also develop a list of references that I now know are not relevant and that I do not need to see again in the indexed databases ("bad hits"). Next, I will make a list (as will be described below) of the patent numbers that I want to upload to a traditional online service, log on to the service, enter the appropriate file, and upload the list or lists of patent numbers. For the good hits, I then download the indexing for these references and use this to help develop a search strategy for the indexed database. For the bad hits, I can eliminate the references from subsequent search results using the Boolean NOT function and not have to pay to see the records.

10.1021/ci980124j CCC: $18.00
Published on Web 03/23/1999

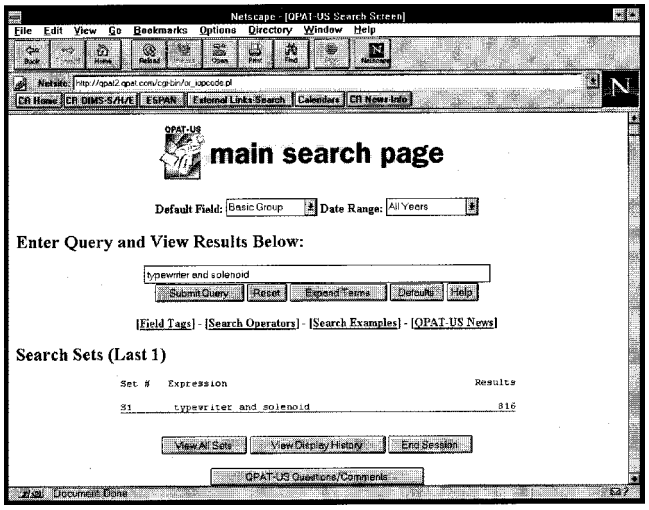

Figure 1.

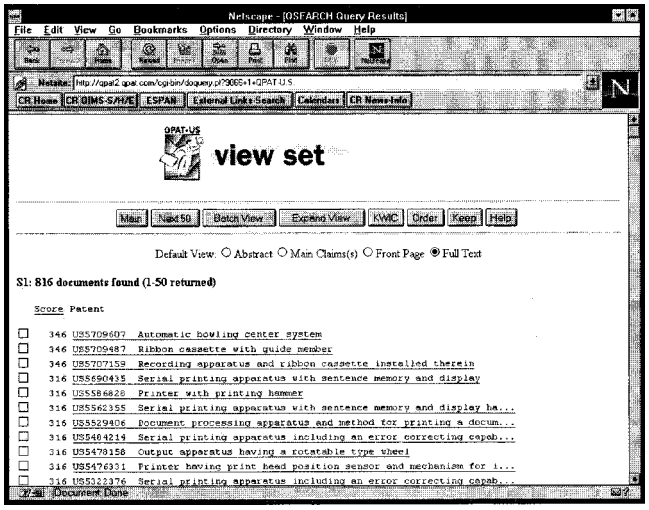

Figure 2.

At other times, I might use QPAT-US after completing a search in an indexed database. For example, say I have used the indexed database to find a set of patents that might contain the specific information I am looking for. Often, that information is not in the abstract, and I must browse the document itself to learn the details. However, if I upload the U.S. patent numbers for the set to QPAT-US, I can then AND the patent number set created by the upload with a term of interest (e.g., a specific chemical, a trade name, a physical property, an operating condition, etc.) and use QPAT's excellent hypertext tool to quickly scan through each patent for the relevant information.

IMPORTING PATENT NUMBERS INTO QPAT-US

QPAT-US provides a single input line at the ***main search page*** screen. Figure 1 shows the main search page interface containing the results of a simple search. It is important to note that, unlike the traditional online services, the *results* of searches are not retained on QPAT-US. Instead, each search *query* is given an S number (S1, S2, ..., S*n*). If the S number is used in a subsequent search, the entire query is evaluated again. Thus, it is usually more time-efficient to modify a query rather than combine S numbers. An exception to this rule is that a set of patent numbers uploaded (or saved in the S0 set, see below) can be efficiently combined with search terms to narrow the search to that set.

What many users may not know is that the single input line will accept 32 000 characters (without carriage returns). This means that up to 3200 patent numbers could be imported into QPAT-US at one time! In contrast, the input capabilities of more recent full-text resources such as Derwent's Patent Explorer[4] and PatIntelligence from Corporate Intelligence[5] are more limited—Patent Explorer permits input of up to only 20 patent numbers at a time, and while Corporate Intelligence permits upload of "thousands" of patent numbers, not all of the full text of the patents can be searched.[6]

To import a set of patent numbers (PNs) into QPAT, format a list of PNs as a single paragraph in Microsoft Word, using spaces to separate the numbers. The following is an example:

US3837458 US3887437 US3831730 ... US5407402 US5362298

Then select and copy the paragraph and paste it into the QPAT-US input line. For faster results, enclose the numbers with parentheses and search only in the patent number field as in

(US3837458 US3887437 US3831730 ... US5407402 US5362298)/pn

Search the set, and it will be assigned an S number, which can be used in further queries to narrow or find specific details in the set.

While this can be done manually, the QPATFormatting macro described below can help by turning a list of patent numbers obtained from a search into a properly formatted input line.

EXPORTING PATENT NUMBERS FROM QPAT-US TO ONLINE SERVICES

Figure 2 shows the ***view set*** output screen from the search shown in Figure 1. The results are shown in a "relevance ranked" list, with the score, patent number, and truncated title on each line, for the first 50 hits. Here is where a few of the less endearing features of QPAT-US can be seen. There is no option to show the patent numbers in any other order—in particular, you cannot obtain the results in patent number or date order. Neither can you get a list of *just* the patent numbers—which would greatly ease copying for crossfile searching. Finally, you cannot get more than 50 hits listed per page. So if you want to capture the patent numbers for all 816 patents found in this search, you will need to use the **Next 50** button 17 times, capturing the patent numbers 50 at a time. Even with a fast Internet connection, the delays associated with each use of the Next 50 button make this a slow, tedious process.

There are several options for capturing the patent numbers associated with the output:

1. Save the patent numbers to the S0 set.

2. Copy the lines containing patent numbers and paste them to another location, where you can (a) manually format the text with a text editor or word processor, e.g., Microsoft Word, KEDIT, or Word Perfect, or (b) use the WordBasic macro QPATFormatting, described below.

3. Save the view set screen from the Internet browser as a text file (filename.txt), import it into a text editor or word processor, and format as in 2a or 2b above.

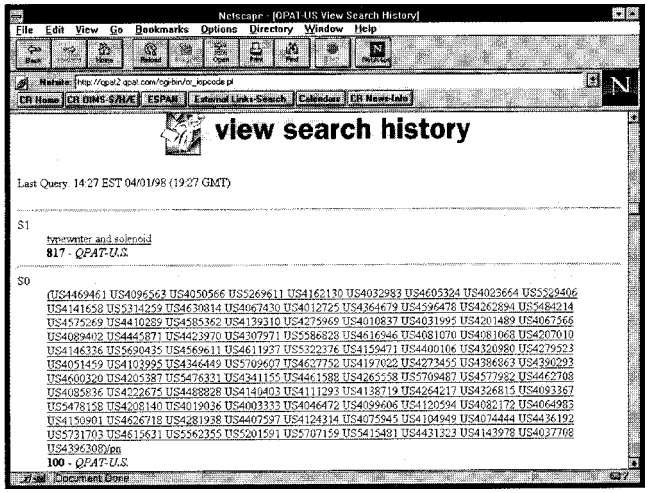

Figure 3.

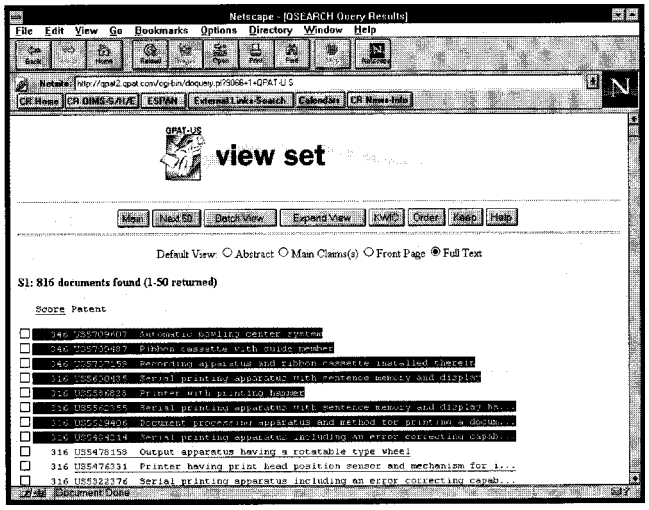

Figure 4.

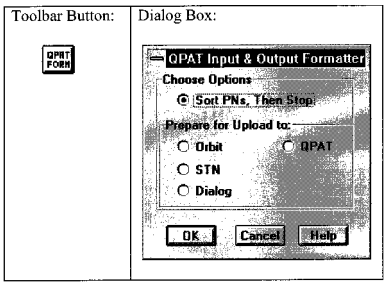

Figure 5.

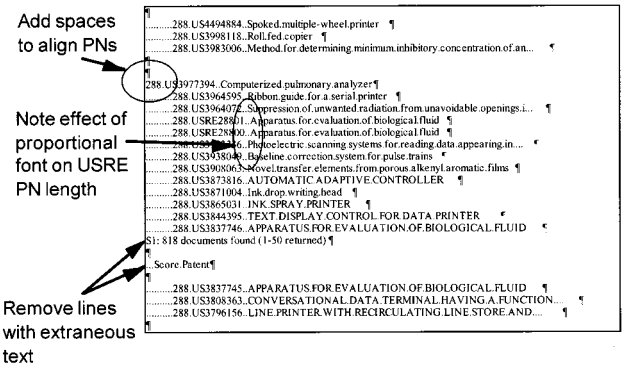

Figure 6.

In practice, I have found it fastest, and certainly easiest, to use the 2b route. But for the sake of those who have not discovered the S0 set, I will quickly describe how it works.

S0 Set. The S0 set can be used to accumulate patent numbers for use in subsequent queries. To do so, manually check the checkbox at the start of each line containing a patent number to be kept and then use the **Keep** button. This will save the patent numbers to the special S0 set. If this is done for each set of 50 shown by use of the Next 50 button, all desired patent numbers can be added to this set. This can become *very* tedious if there are many patent numbers to capture. Questel/Orbit should provide an option to set the desired number of patents to be displayed at the view set screen, up to a more reasonable maximum, say 500, or at least a button to select all of the displayed patents.

Once all desired patent numbers have been added to the S0 set, the **View All Sets** button can be used to show all query sets in the view search history screen, including the S0 set. Figure 3 shows an example of 100 patent numbers placed in an S0 set by this technique. From this screen, the patent numbers can be copied from the S0 query and pasted into a text processor for conversion into a query for upload to one of the traditional online services. Additional processing will be needed to convert the string of patent numbers to a suitable query.

Copy and Paste. A faster way to capture the patent numbers is to simply select (click and drag over) and copy the appropriate lines in the browser window showing the view set screen, as shown in Figure 4. These can then be pasted into a new text editor or word-processor document for further processing.

Manually processing the lines involves selecting out the patent numbers and converting them into a string suitable for upload to one of the online services. This can be a time-consuming process if there are many patent numbers involved, but it is a process that lends itself to automating with a macro.

Use of KEDIT macros for postprocessing output is one approach, which has been described,[7] and could also be used in this case. However, I do most of my report writing in Microsoft Word and find it most convenient to use a Microsoft WordBasic macro for this purpose.

QPATFORMATTING MACRO

The QPATFormatting macro described below can process a source of patent numbers either for input into QPAT-US or for upload to any of the Orbit, STN, or Dialog online services. It can also be used to extract the patent numbers and just sort them into a list in patent number order. Using the commented macro text as a guide, it should be easy to modify the macro to format for other services if desired. This macro has been tested and works with Microsoft Word 6 for both Windows and Macintosh and for Word 97 for Windows 95; it should also work with Word 98 for Macintosh.

The QPATFormatting macro can be obtained in several ways. First, it could be typed into a New Macro in MS Word, following the text in the commented macro (Figure 11). More conveniently, this same text can be obtained from the Patent Information Users Group (PIUG) website[8] and pasted into a New Macro. Finally, on e-mail request,[9] the author can

```
.........288.US4494884..Spoked.multiple-wheel.printer
.........288.US3998118..Roll.fed.copier
.........288.US3983006..Method.for.determining.minimum.inhibitory.concentration.of.an...
.........288.US3977394..Computerized.pulmonary.analyzer
.........288.US3964595..Ribbon.guide.for.a.serial.printer
.........288.US3964072..Suppression.of.unwanted.radiation.from.unavoidable.openings.i...
.........288.USRE28801..Apparatus.for.evaluation.of.biological.fluid
.........288.USRE28800..Apparatus.for.evaluation.of.biological.fluid
.........288.US3943336..Photoelectric.scanning.systems.for.reading.data.appearing.in....
.........288.US3938049..Baseline.correction.system.for.pulse.trains
.........288.US3908063..Novel.transfer.elements.from.porous.alkenyl.aromatic.films
.........288.US3873816..AUTOMATIC.ADAPTIVE.CONTROLLER
.........288.US3871004..Ink.drop.writing.head
.........288.US3865031..INK.SPRAY.PRINTER
.........288.US3844395..TEXT.DISPLAY.CONTROL.FOR.DATA.PRINTER
.........288.US3837746..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3837745..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3808363..CONVERSATIONAL.DATA.TERMINAL.HAVING.A.FUNCTION.REPEAT.CAPABILITY
.........288.US3796156..LINE.PRINTER.WITH.RECIRCULATING.LINE.STORE.AND.LINE.PRINT.MEM...
Formatted Results:
/pn USRE28801 or USRE28800 or US4494884 or US3998118 or US3983006 or US3977394 or
    US3964595 or US3964072 or US3943336 or US3938049 or US3908063 or US3873816 or
    US3871004 or US3865031 or US3844395 or US3837746 or US3837745 or US3808363 or
    US3796156
```

Figure 7. Patent numbers formatted for upload to Orbit.

```
.........288.US4494884..Spoked.multiple-wheel.printer
.........288.US3998118..Roll.fed.copier
.........288.US3983006..Method.for.determining.minimum.inhibitory.concentration.of.an...
.........288.US3977394..Computerized.pulmonary.analyzer
.........288.US3964595..Ribbon.guide.for.a.serial.printer
.........288.US3964072..Suppression.of.unwanted.radiation.from.unavoidable.openings.i...
.........288.USRE28801..Apparatus.for.evaluation.of.biological.fluid
.........288.USRE28800..Apparatus.for.evaluation.of.biological.fluid
.........288.US3943336..Photoelectric.scanning.systems.for.reading.data.appearing.in....
.........288.US3938049..Baseline.correction.system.for.pulse.trains
.........288.US3908063..Novel.transfer.elements.from.porous.alkenyl.aromatic.films
.........288.US3873816..AUTOMATIC.ADAPTIVE.CONTROLLER
.........288.US3871004..Ink.drop.writing.head
.........288.US3865031..INK.SPRAY.PRINTER
.........288.US3844395..TEXT.DISPLAY.CONTROL.FOR.DATA.PRINTER
.........288.US3837746..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3837745..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3808363..CONVERSATIONAL.DATA.TERMINAL.HAVING.A.FUNCTION.REPEAT.CAPABILITY
.........288.US3796156..LINE.PRINTER.WITH.RECIRCULATING.LINE.STORE.AND.LINE.PRINT.MEM...
Formatted Results:
s USRE28801/pn or USRE28800/pn or US4494884/pn or US3998118/pn or US3983006/pn
s US3977394/pn or US3964595/pn or US3964072/pn or US3943336/pn or US3938049/pn
s US3908063/pn or US3873816/pn or US3871004/pn or US3865031/pn or US3844395/pn
s US3837746/pn or US3837745/pn or US3808363/pn or US3796156/pn
s L1-L4
```

Figure 8. Patent numbers formatted for upload to STN.

provide a Microsoft Word template containing the macro (and a toolbar with a suitable toolbar button, see Figure 5) which can be imported into your own Normal Template via the MS Word Template Organizer.

The macro can be installed and started by any of the following means:

1. Run the macro from the Tools Menu: Tools/Macros.../QPATFormatting.

2. Add the macro to the Format menu: e.g., as QPAT-Format, select it from the Format menu.

3. Assign the macro to a function key: e.g., Ctrl-Shift-Q, use keystroke to start the macro.

4. Assign the macro to a Toolbar button, and use it to start the macro (preferred method; see Figure 5 for a suitable button).

Prior to starting the macro, paste the desired lines containing the PNs of interest into a New Document window in MS Word. When started, the macro displays the Dialog Box shown in Figure 5. Here is where the choice is made to either (1) just extract the PNs, sort them into numerical order,

```
.........288.US4494884..Spoked.multiple-wheel.printer
.........288.US3998118..Roll.fed.copier
.........288.US3983006..Method.for.determining.minimum.inhibitory.concentration.of.an...
.........288.US3977394..Computerized.pulmonary.analyzer
.........288.US3964595..Ribbon.guide.for.a.serial.printer
.........288.US3964072..Suppression.of.unwanted.radiation.from.unavoidable.openings.i...
.........288.USRE28801..Apparatus.for.evaluation.of.biological.fluid
.........288.USRE28800..Apparatus.for.evaluation.of.biological.fluid
.........288.US3943336..Photoelectric.scanning.systems.for.reading.data.appearing.in....
.........288.US3938049..Baseline.correction.system.for.pulse.trains
.........288.US3908063..Novel.transfer.elements.from.porous.alkenyl.aromatic.films
.........288.US3873816..AUTOMATIC.ADAPTIVE.CONTROLLER
.........288.US3871004..Ink.drop.writing.head
.........288.US3865031..INK.SPRAY.PRINTER
.........288.US3844395..TEXT.DISPLAY.CONTROL.FOR.DATA.PRINTER
.........288.US3837746..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3837745..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3808363..CONVERSATIONAL.DATA.TERMINAL.HAVING.A.FUNCTION.REPEAT.CAPABILITY
.........288.US3796156..LINE.PRINTER.WITH.RECIRCULATING.LINE.STORE.AND.LINE.PRINT.MEM...
Formatted Results:
s pn=(US RE28801 or US RE28800 or US 4494884 or US 3998118 or US 3983006 or US 3977394 )
s pn=(US 3964595 or US 3964072 or US 3943336 or US 3938049 or US 3908063 or US 3873816 )
s pn=(US 3871004 or US 3865031 or US 3844395 or US 3837746 or US 3837745 or US 3808363 )
s pn=(US 3796156)
s S1:S4
```

Figure 9. Patent numbers formatted for upload to Dialog.

```
.........288.US4494884..Spoked.multiple-wheel.printer
.........288.US3998118..Roll.fed.copier
.........288.US3983006..Method.for.determining.minimum.inhibitory.concentration.of.an...
.........288.US3977394..Computerized.pulmonary.analyzer
.........288.US3964595..Ribbon.guide.for.a.serial.printer
.........288.US3964072..Suppression.of.unwanted.radiation.from.unavoidable.openings.i...
.........288.USRE28801..Apparatus.for.evaluation.of.biological.fluid
.........288.USRE28800..Apparatus.for.evaluation.of.biological.fluid
.........288.US3943336..Photoelectric.scanning.systems.for.reading.data.appearing.in....
.........288.US3938049..Baseline.correction.system.for.pulse.trains
.........288.US3908063..Novel.transfer.elements.from.porous.alkenyl.aromatic.films
.........288.US3873816..AUTOMATIC.ADAPTIVE.CONTROLLER
.........288.US3871004..Ink.drop.writing.head
.........288.US3865031..INK.SPRAY.PRINTER
.........288.US3844395..TEXT.DISPLAY.CONTROL.FOR.DATA.PRINTER
.........288.US3837746..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3837745..APPARATUS.FOR.EVALUATION.OF.BIOLOGICAL.FLUID
.........288.US3808363..CONVERSATIONAL.DATA.TERMINAL.HAVING.A.FUNCTION.REPEAT.CAPABILITY
.........288.US3796156..LINE.PRINTER.WITH.RECIRCULATING.LINE.STORE.AND.LINE.PRINT.MEM...
Formatted Results:
(USRE28801 USRE28800 US4494884 US3998118 US3983006 US3977394 US3964595 US3964072 US3943336
US3938049 US3908063 US3873816 US3871004 US3865031 US3844395 US3837746 US3837745 US3808363
US3796156)/pn
```

Figure 10. Patent numbers formatted for upload to QPAT-US.

and stop; (2) format the PNs captured from QPAT for upload to Orbit, STN, or Dialog; or (3) format PNs obtained from an online source for upload to QPAT-US.

The macro begins by formatting the working document in 10-pt Courier with 0.5-in. margins and Normal view. The next step is selecting the patent numbers from any list where the PNs are all in the same column position, using the Column Select feature of Word [this is the type of selection done manually by using the Alt key (Option key on Macintosh) while dragging over the column of PNs]. However, to work properly, there are preliminary formatting requirements which must be met for the list: extraneous lines must be removed, the text must be formatted with a monospaced font (since reissued patents will not properly align using a proportional font), thus the 10 pt Courier, and leading spaces must be added, if necessary, to align all the PNs in the same column. Figure 6 illustrates these types of problems. The macro will itself automatically remove any blank lines captured and (as noted above) will format the text with a suitable monospaced font, but adding leading spaces where needed and removing any lines with extraneous text must be done manually before running the macro.

Next, the macro pastes the column of PNs below the source text, sorts them into numerical order, and, depending

```
REM ************************************************************
REM     QPATOutputFormatting [Elvin Hoel, elhoel@erenj.com, 3/24/98]
REM ************************************************************
REM  This Macro will extract the US patent numbers from a copy of a
REM  QPAT screen(s) and format the numbers for a search statement on
REM  Orbit, STN, or Dialog using DialogLink, STN Express or Imagination
REM  software (using the type-ahead buffer). To Use:
REM  1. Copy the lines from the QPAT screen in the browser (including
REM     leading blanks, the Score, PN and Title) and paste into a new
REM     word document.
REM  2. Repeat, if necessary, to capture as many screens as desired.
REM  3. Remove any extraneous lines (Macro removes blank lines).
REM     The document should then look something like: (all PNs lined up)
REM
REM      1025 US4825255  Document handler vacuum belt platen tra...
REM       987 US4786041  Document handler jam clearance and job ...
REM       ...
REM       758 US4055746  Method of and apparatus for securing and..
REM       757 US4526309  Compatible copying of computer form doc...
REM
REM  4. Run the macro (set up a keystroke or button if used frequently).
REM  5. Copy the search statement(s) and paste into the DialogLink or
REM     STN Express or Imagination Type-ahead Buffer.
REM  ************************************************************
Sub MAIN
ScreenUpdating 0        'Macro twice as fast without Screen Updating
Lcount = 1
Lnum$ = "L1-L"
Snum$ = " S1:S"
REM  ************************************************************
REM  Define Dialog Box:
REM  ************************************************************
Begin Dialog UserDialog 291, 174, "QPAT Output Formatter"
      Text 67, 0, 3, 12, "", .Text1
      GroupBox 12, 4, 266, 129, "Choose Options"
      GroupBox 15, 47, 261, 84, "Prepare for Upload to:"
      OptionGroup  .OptionGroup1
            OptionButton 40, 21, 173, 18, "Sort PNs, Then Stop",
            .OptionButton1
            OptionButton 40, 65, 179, 18, "Orbit", .OptionButton2
            OptionButton 40, 85, 186, 18, "STN", .OptionButton3
            OptionButton 40, 105, 72, 18, "Dialog", .OptionButton4
      OKButton 25, 145, 65, 20
      CancelButton 117, 145, 65, 20
      PushButton 201, 145, 65, 20, "Help", .Push1
End Dialog
REM  ************************************************************
REM  Activate Dialog Box:
REM  ************************************************************
Start:
Dim dlg As UserDialog
buttonchoice = Dialog(dlg)
If buttonchoice = 0 Then Goto endit       'If Cancel chosen, end macro
If buttonchoice = 1 Then                  'If Help chosen, display Help
      MsgBox "This Macro will extract the US patent numbers from a copy of a QPAT
screen(s) and format the numbers for a search statement on Orbit, STN, or Dialog
using DialogLink, STN Express or Imagination software. See QPATFORM.DOT for more
information.", "Help for QPATOutputFormatting"
      Goto Start
EndIf
REM  ************************************************************
REM  Format in normal view, monospaced font for correct column selection
REM  ************************************************************
ViewNormal
FilePageSetup .LeftMargin = "0.5", .RightMargin = "0.5"
```

```
EditSelectAll
Font "Courier", 10
REM  *****************************************************************
REM  Remove any blank lines picked up in copy/paste
REM  *****************************************************************
For I = 1 To 4
      EditReplace .Find = "^p^p", .Replace = "^p", .Direction = 0,
            .MatchCase = 0, .WholeWord = 0, .PatternMatch = 0, .ReplaceAll,
      .Format = 0, .Wrap = 0
Next I
      EditReplace .Find = "^p^p", .Replace = "", .Direction = 0,
      .MatchCase = 0, .WholeWord = 0, .PatternMatch = 0, .ReplaceAll,
      .Format = 0, .Wrap = 0
StartOfDocument
REM  *****************************************************************
REM  Column Select PNs (works with up to 10000 lines [LineDown])
REM  *****************************************************************
EditFind .Find = "US", .Direction = 0, .MatchCase = 1, .WholeWord = 0,
      .PatternMatch = 0, .Format = 0, .Wrap = 0
ColumnSelect
CharRight 9
LineDown 10000
EditCopy
REM  *****************************************************************
REM  Paste PNs below source
REM  *****************************************************************
EndOfDocument
InsertPara
Insert "Formatted Results:"
InsertPara
EditPaste
ExtendSelection
EndOfDocument
Cancel
REM  *****************************************************************
REM  Sort PNs in decending order
REM  *****************************************************************
TableSort .Order = 1
EditGoTo .Destination = "\StartOfSel"
If dlg.OptionGroup1 = 0 Then Goto endit         'End Here if Sort Only
REM  *****************************************************************
REM  Prepare first line prequalification
REM  *****************************************************************
If dlg.OptionGroup1 = 1 Then
      Insert "/pn "
ElseIf dlg.OptionGroup1 = 2 Then
      Insert "s "
ElseIf dlg.OptionGroup1 = 3 Then
      Insert "s pn=("
End If
REM  *****************************************************************
REM  Convert paragraph marks to appropriate connectors
REM  *****************************************************************
If (dlg.OptionGroup1 = 1 Or dlg.OptionGroup1 = 3) Then
      EditReplace .Find = "^p", .Replace = " or ", .Direction = 0,
            .MatchCase = 0, .WholeWord = 0, .PatternMatch = 0, .ReplaceAll,
      .Format = 0, .Wrap = 0
ElseIf dlg.OptionGroup1 = 2 Then
      EditReplace .Find = "^p", .Replace = "/pn or ", .Direction = 0,
      .MatchCase = 0, .WholeWord = 0, .PatternMatch = 0, .ReplaceAll,
      .Format = 0, .Wrap = 0
End If
REM  *****************************************************************
REM  Break lines as appropriate
```

```
REM  *****************************************************************
While Not AtEndOfDocument()
      If dlg.OptionGroup1 = 1 Then
            CharRight 78
            InsertPara
            Insert "    "
      ElseIf dlg.OptionGroup1 = 2 Then
            CharRight 80
            DeleteBackWord
            InsertPara
            Insert "s "
            Lcount = Lcount + 1
      ElseIf dlg.OptionGroup1 = 3 Then
            CharRight 78
            DeleteBackWord
            Insert ")"
            InsertPara
            Insert "s pn=("
            Lcount = Lcount + 1
      End If
Wend
REM  *****************************************************************
REM  Clean up fonts, last line
REM  *****************************************************************
EditSelectAll
Font "Courier", 10
EndOfDocument
If dlg.OptionGroup1 = 1 Then
      DeleteBackWord
      DeleteBackWord
      DeleteBackWord
ElseIf dlg.OptionGroup1 = 2 Then
      Insert Lnum$ + LTrim$(Str$(Lcount - 1))
ElseIf dlg.OptionGroup1 = 3 Then
      DeleteBackWord
      DeleteBackWord
      If Lcount > 51 Then                              'Max Dialog range = 50 sets
            Ntotal = Int(1 + (Lcount - 2) / 50)
            DeleteBackWord
            For i = 1 To Ntotal - 1
                  Insert "s S" + LTrim$(Str$((i - 1) * 50 + 1)) + ":S" +
                              LTrim$(Str$(i * 50))
                  InsertPara
            Next i
            Insert "s S" + LTrim$(Str$((Ntotal - 1) * 50 + 1)) + ":S" +
                        LTrim$(Str$(Lcount - 1))
      Else
            Insert Snum$ + LTrim$(Str$(Lcount - 1))
      End If
      EditFind .Find = "Results", .Direction = 1, .MatchCase = 0,
            .WholeWord = 0, .PatternMatch = 0, .Format = 0, .Wrap = 0
      CharRight 1
      EditReplace .Find = "US", .Replace = "US ", .Direction = 0,
            .MatchCase = 0, .WholeWord = 0, .PatternMatch = 0, .ReplaceAll,
      .Format = 0, .Wrap = 0
End If
endit:
ScreenUpdating 1        'Restore Screen Updating
End Sub
```

Figure 11. QPATFormatting macro.

on the option chosen, formats the PNs for upload to the chosen service. As an example of the formatting applied, see Figures 7−10. Once the formatting is applied, the formatted text can be copied and then pasted into the appropriate input area (e.g., the type-ahead buffers of DialogLink, STN Express, or Questel/Orbit's Imagination software, or the input line of the QPAT-US main search page).

Table 1. Searching Subscripts and Superscripts in QPAT-US

	molec form C_6H_6	time required, min
QPAT display	C(*6*)_H(*6*)	
original file	C/sub_6/H/sub_6/	
search as	'C_sub_6_H_sub_6'	~20
search as	'C_sub_6' adj 'H_sub_6'	~13
will show as	C.sub.6 H.sub.6	
	^{13}C NMR	
QPAT display	(^*13*)_C_NMR	
search as	'sup_13_C_NMR'	~3
will show as	.sup.13 C NMR	

TIDBITS

Finally, here are a few tidbits on searching QPAT-US for chemical information, picked up in my use of the service, that may be of use to other searchers.

First, searching for subscripts and superscripts is not explained in the online help. Table 1 describes how to search for these.

Second, QPAT-US can be used as an online resource for a variety of information which can be found in patents. Examples include information about the compositions of materials known by tradenames (e.g., NALCO-AG-1115 or "nalco ag 1115"), unusual chemical names (e.g., polysilazane), or various physical properties (e.g., cholesterol near/10 (mp m-p melting-point)). It is often useful to search the single term of interest and then Batch View the results for the 10 or so highest relevance patents in KWIC format.

SUMMARY/CONCLUSION

Although the QPAT-US service provides few tools to help the searcher in crossfile searching with traditional online services, many of the necessary techniques can be automated with Microsoft WordBasic macros to greatly ease the effort. This paper describes several ways to efficiently use the available tools and gives a number of examples of how to get the most out of QPAT-US. The specific WordBasic macro described herein (QPATFormatting) can provide nonprogrammers with an easier start and may be all that is needed to perform more efficient crossfile searching with QPAT. For persons with programming skills, it can be a model for developing a personalized tool for combination of Internet and online search techniques.

REFERENCES AND NOTES

(1) http://www.qpat.com/.

(2) Lambert, N. QPAT-US, A New Patent Search Tool for the Internet. *DATABASE* **1996 (Aug/Sept)**, *19* (4), 56−61.

(3) (a) Kaback, S. M. ONLINE Patent Information. *World Patent Information* **1990**, *12* (1), 45−46. (b) Simmons, E. S.; Kaback, S. M. Patents, Literature. In *Kirk−Othmer Encyclopedia of Chemical Technology*, 4th ed.; Wiley: New York, Vol. 18, pp 102−156.

(4) http://www.patentexplorer.com/.

(5) Corporate Intelligence Corp., 10 Caledonia Summit, Browns Point, WA 98422.

(6) Note that I am not counting DialogWeb access to the U.S. Patents Fulltext database in this group since, even though it is available via the Internet, it operates such as the traditional dial-up service, saving search result sets for reuse.

(7) Unger, S. Why Patent Searchers (And Others) Need KEDIT When They Already Have a Word Processor; Or, Postprocessing at the Power Level. *DATABASE* **1994 (Aug)**, *17* (4), 63−67.

(8) http://www.piug.org/.

(9) elhoel@erenj.com.

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