QUANTA HELPLINE   Dilwyn Jones

Members wishing to submit helpline requests via email can use the email address helpline@quanta.org.uk or if you prefer to use traditional post, please send the helpline request to me via the address printed inside the front cover of the newsletter.

Obviously, we cannot guarantee to answer every query we receive, but we will do our best! Where we have been unable to answer the queries, we may print the help request as an open request in the newsletter to ask if any of the readers can come up with a solution. And, of course, if readers feel that they have a better solution than we came up with, or would like to correct any errors we make, please write to us!

This Helpline column is dedicated to a little problem I ran into with my printer. It's connected to the USB port on my PC. I knew QemuLator could print to the parallel port, but I didn't want to crawl under my desk and get stuck in the tangle of wires trying to change printer connections every time I wanted to print from QemuLator. My printer is an Epson Stylus Colour 880, which happens to have both a parallel and USB socket, so could use either port. Actually, the parallel port is connected to the parallel port of the Super Gold Card in my Aurora system alongside and as long as both computers don't try to print at the same time (total chaos would occur if they did!), it forms a convenient printer-sharing solution for the PC and Aurora systems, so I didn't really want to deprive my Aurora of a printer just for the sake of occasional printing from QemuLator.

You may ask, "Why does Dilwyn want to use both QemuLator and QPC2 on his PC?"

Good question! Actually, it's because I have some old QL software which won't run on QPC2. It's handy to have a "QDOS" system to test and run older QL software. QemuLator can also use the Aurora SMSQ/E developed by Marcel Kilgus to use QemuLator in 256 colour mode like the Aurora. The same 256 colour mode drivers were first implemented on QPC2 while Marcel was developing them, so the Aurora 256 colour mode can be used on both emulators and on the Aurora itself.

Being unable to solve the USB printer query myself, I turned yet again to the ql-users email mailing and once again it came up trumps with a number of people offering advice to help me sort out the problem.

My original question was:

"Anyone know if Q-emuLator can print to a printer on a USB port? As far as I can see it seems to be only possible to print to a parallel LPT port on the PC, or in some cases a serial port printer if using the emulation mode."

Daniele Terdina (author of Q-emuLator) kindly came to my rescue with such helpful information that I thought it would be of interest to our members using Q-emuLator. In versions of QemuLator up to about v2.5 only parallel port printers could be used. The printer on my QPC2 system is connected to a USB port on my PC. I am now using the new version 3 of Q-emuLator.

Daniele wrote:

"See the manual (chapter 6), but this is the gist of it:
1) Prerequisite is to have the printer installed under Windows
2) In the QL Configuration window, make sure the serial port you'll use is redirected to the printer (it is by default for SER1 and SER2)

3) In the QL software, print to the SER port. If the QL software allows you to choose a printer, choose an old Epson model.

An easy test is:
OPEN#3,SER:PRINT#3,"HELLO":CLOSE#3

*This should print "HELLO" to your PC printer (USB or otherwise)."*

What this means is that Daniele has implemented a whole new "virtual printer" system for the latest Q-emuLator, allowing it to work with the currently installed Windows printer. The old method for printing to the parallel port still works, if you are using a parallel port printer.

QPC2 users may be used to the QPCprint software, which allows them to print to Windows-only printers, the modern types that have no control code sets built in. The "virtual printer" system is similar in concept as far as the user is concerned, and works by redirecting serial port output to wherever Windows drives your printer (in my case, a USB port). You don't have to figure out where, which USB port or anything like that.

First you should make sure you have a suitable printer installed in Windows – your existing printer driver should work as long as you can print from Windows software to the printer.

Start QemuLator. It must be version 3 or later, as this is a new facility.

From the "QL" menu (see figure 1) , select the sub-menu called "QL Configuration".
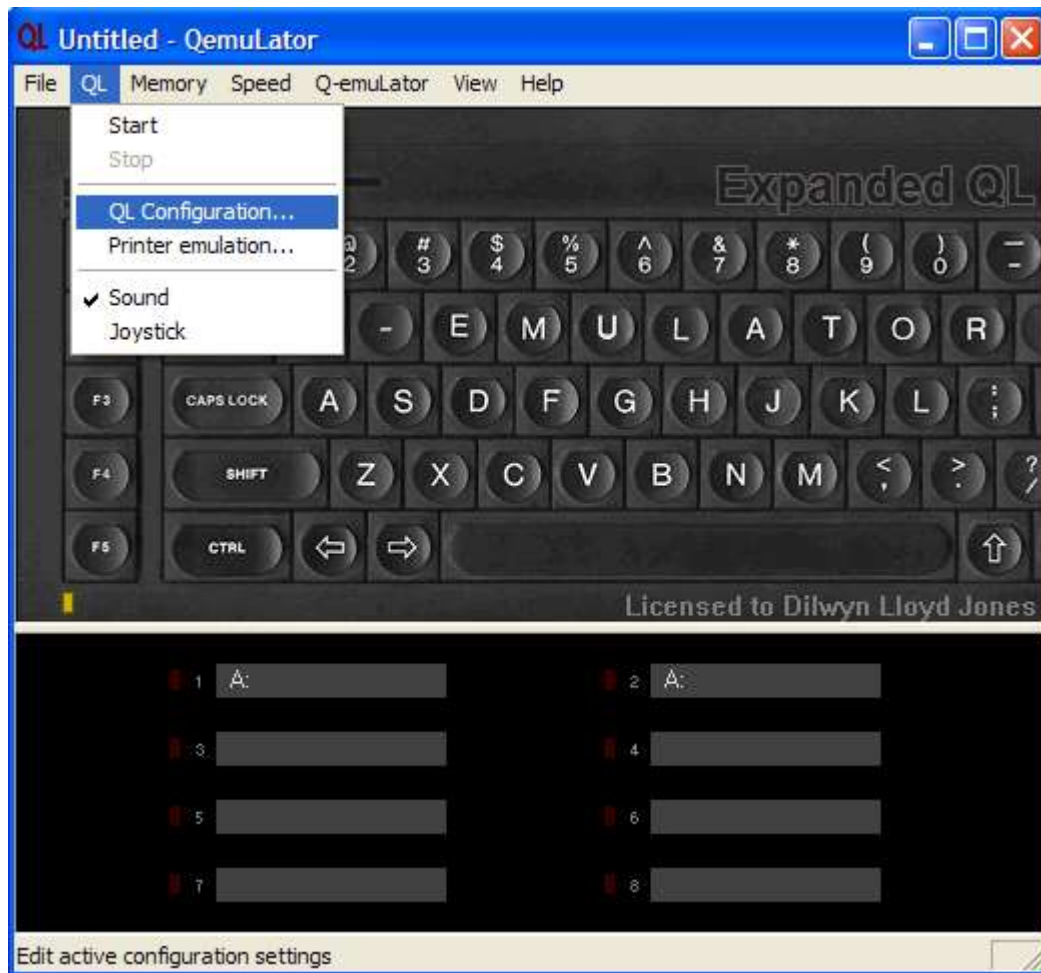
This brings up the menu shown in figure 2. Click on the 'Serial Ports' tab at the top to get to the right page tab.
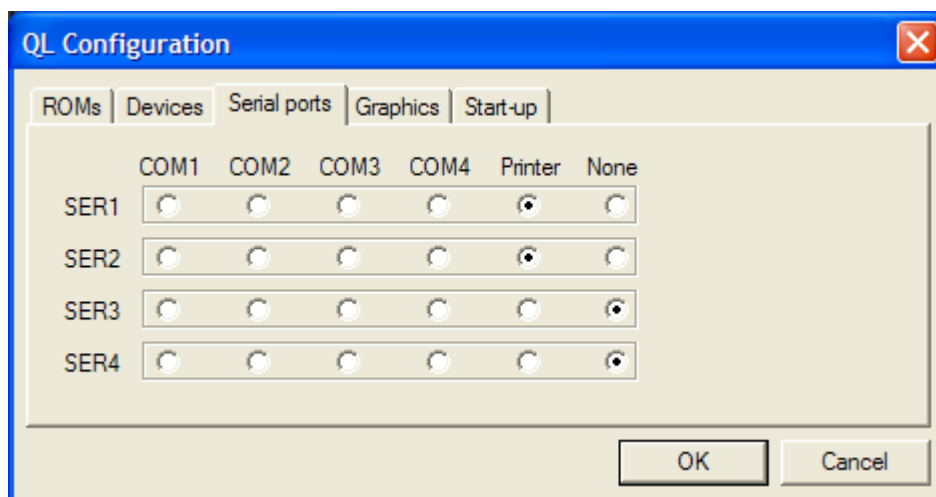
If you have used QemuLator before, you'll be familiar with this menu, where you can tell which QL SER serial port corresponds to which of the PC's COM ports. You can now see that there is an extra option, called simply 'Printer'. Any of the four QL serial ports SER1, SER2, SER3 and SER4 can be assigned to any of the PC's COM ports if you wish to use an external modem for example, or redirected to the current Windows printer via these optiuons. Most QL software expects to be able to print

from SER1 or SER2, so to make sure that QL software printing to SER1 or SER2 gets sent to the Windows printer, just click in the white circles under the word 'Printer'. You'll see in figure 2 that I have set both SER1 and SER2 to 'Printer' for my system. I don't use the single 'COM' port on my PC at all, so I have set SER3 and SER4 to 'None' as they are not required.

You may also wish to click on the Devices tab, and make sure there's no tick next to the 'Parallel ports' entry if that port is not to be used.

Now, click on OK and you are done except for one extra option you can choose.

If you return to the 'QL' menu in QemuLator (this also has to be done while the emulator is stopped (i.e. it is showing the QL keyboard picture you get before you start the 'QL' running), you will see that there is now an extra option in this menu called 'Printer emulation…', just under the 'QL configuration…' entry we used earlier. See figure 1.

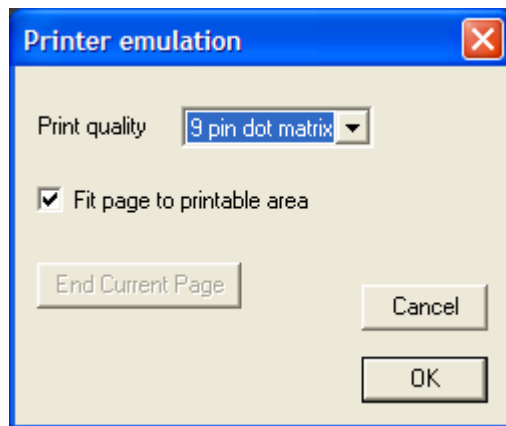Clicking on the 'Printer emulation…' item brings up another small menu – see figure 3.

Figure 3 – Printer emulation menu.

This menu contains three options which can be selected. First, there is the 'Print quality.' You can choose either 'High Quality' or '9 pin dot matrix'. As the names imply, these allow to print in high quality, which you might want to use for correspondence quality printing. The other option sets it to print more like an old fashioned 9-pin dot matrix printer. This gives the printout a more 'dotty' feel, ideal for BASIC program listings for example as it seems to use less ink, with appearance similar to the 'draft' modes on some printer. A nice simple choice of settings.

Under this, there is an option called 'Fit page to printable area.'

If ticked (click in the square white box alongside it to place a tick in the box) it tries to shrink the page being printed to fit into the printable area of the PC printer, which might be handy if your QL program is trying to print a page a little larger than can be fitted within the margins of the page on your Windows printer. Daniele warns in the manual that "this can result in a smaller print, but at least there should be no pieces mssing' and that "if your QL software provides paper margins, you can try unchecking this option to avoid excessive margins."

The third option under this is a button called 'End Current Page.' It is shown greyed out in figure 3. If the virtual printer buffer contains an incomplete page, in other words the last page didn't contain enough text to fill the page, or you had aborted printing before it completed, clicking on this will cause the incomplete page to be "forced" out to the printer. This can be useful when the last page printed from a QL program fails to appear out of some printers.

Once you have chosen your settings, just click on OK and you are ready to go!

The only other thing you may need to do is on the QL side. Make sure if possible that your QL printer driver is set to an Epson compatible printer - Daniele says in his message above, to "*choose an old Epson model*", which I take to mean an older 9-pin dot matrix printer such as an Epson FX80 or similar (you'll see what I mean below after I tried printing graphics). This virtual printing system translates the Epson printer driver output to send to the Windows printer.

In your QL software, you can now print using your normal print setup and the clever emulator takes care of sending the printed output to the USB printer via the Windows printing system automatically.

After a while I realised the "virtual printer" system could handle QL graphics too, at least it can handle Epson-compatible ones. I installed the sdump_rext extensions, then used the commands

SDP_DEV 'SER1'
SDP_SET 2,1,1,0
SDUMP

These commands specify that printed output should go to QemuLator's SER1 to go to my printer, then set Epson FX80 format screen dumps (2), scale number 1, inverse (swap black/white) and random 0. It worked first time. I tried the FX80 and LQ2500 printers (numbers 2 and 5) with success, but the LQ2500 24 pin printer (number 6) failed to print properly. I then tried the printer number 7, 8-pin colour LQ2500. That printed, but in black and white only. Printer number 8 (another colour dump which I think is 24-pin) failed miserably. Good job I had the Windows Print Preview enabled for my printer – it claimed that it would need 552 pages and stepping through the previewed pages showed about one or two random text character to be printed per page. I guess I won't be trying printer number 8 again unless I want to wallpaper my house!

If you are using QPCprint with QPC2, it also can handle graphics printing.

Before Daniele gave me the "definitive" answer on this one, a couple of others had offered what turned out to be useful extra information, concerning the use of USB printers in general, which may be of use to people trying to use a USB printer with a QL emulator which does not offer the ability to print to a USB printer.

Much of this is probably similar to the problems encountered by DOS users, namely that printing from MSDOS might not work via the Windows system, or might only be able to drive parallel or serial printers. I admit I haven't tested all this, so I offer it in good faith with the usual disclaimer that it hasn't been tested at all!

First, Tobias Fröschle offered some advice on how to redirect or "translate" an unused LPT printer port (PC parallel printer port) to a USB port for printing. In other

words, print to an unused parallel port such as LPT3: and it should get redirected to the USB printer instead. Tobias wrote:

"What you could try:

Export your USB printer as network printer.

Go to a terminal session and redirect LPT3 (or whatever your first unavailable LPT: is to that "network enabled" printer with the command:

net use LPT3: \\yourcomputername\usbprintername

Voila, you've got your USB printer on LPT!"

You would need to know the network name of your printer (the full name including the part between the double slash and single slash – the Windows Help system can advise you on how to search for this), I found some information by searching for "redirect port" as well as "net use" (the latter will show you how to use the various options available with NET USE and if you use the NET HELP command in a DOS box you can also get some help on the various NET commands available (net use is only one of them) – at this point it all went above my head and I stopped reading!).

Note that the 'net use' before LPT3: in the example must be two separate words with spaces between them, in case you do what I did without thinking and typed it more like a QL command with an underscore by mistake.

Rich Mellor also offered this information:

"QPCPrint can be used to capture the output from any QL emulator, or other program running on the PC - it does this by setting up a virtual printer driver which captures the LPT1 port and then uses the Windows printer processor to send the output to any connected printer. Printfil is something similar - both programs are detailed with links on www.rwapsoftware.co.uk/Printers2.html as an option for emulator users.

The other option is to investigate other options for capturing the LPT1 port and redirecting output - a good guide appears at:
http://geekswithblogs.net/dtotzke/articles/26204.aspx

Read this in conjunction with the step by step guide on the QPCPrint site if you want more details - http://www.kilgus.net/qpcprint/printer.html

There are others out there also - DOS2USB for example (I have never tried this) - but no free solutions unless you follow the examples listed above."

I learned quite a lot from the above articles, and there was a lot there I'll never be clever enough to understand, but it's there for those who want to know about these things.

This article might seem a bit too Windows-orientated for a QL magazine, but as I learned to my cost it pays to know a bit about the underlying Windows systems when you run into problems using QL emulators.