

# qxltool

qxltool is a program to access QXL.WIN files from a native operating system (Linux, DOS, Win 3.x, Win 95, NT, OS2, or even QDOS).

qxltool allows read (and optionally), write access to the QXL.WIN file, making directories, deleting, formatting etc.

PLEASE ENSURE YOUR QXL.WIN FILE IS BACKED UP BEFORE USING qxltool, as:

1. The documentation covering QXL.WIN files is subject to the usual QDOS 'Official Secrets Act' and is not (to the author's knowledge) openly and freely available to non-commercial programmers. This program is based on the only available information, 'qxlwin.html' as provided in the UQLX distribution. Sad, isn't it ? Why don't the vendors put this sort of useful info on their web sites ? Can't be that they don't like useful free programs that you haven't paid for, or that they are just waiting for QDOS to die because no one knows how to program it. No, that would be foolish. Beats me.

2. Given the sad documentation situation, you might not like the idea of my program writing to your QXL.WIN file. That's your choice.

If qxltool corrupts your precious data, then more fool you for using it; still, you can blame the information hoarders.

The file qxlwin.html on which this program is based contains significant errors! You have been warned.

I would also caution STRONGLY against running QXL and qxltool at the same time. Actually, I'd recommend that you don't run QXL at all; install Linux, use uqlx, and qxltool to transfer the files out of the QXL.WIN file into the Unix file system. Just so NO to closed software.

## License

GPL: Please see file 'COPYING'.

## Installation

### Unix

To install the supplied binary on Linux (or other Unix)

- 1) cd Unix
- 2) ./configure
- 3) make
- 4) strip qxltool
- 5) # copy qxltool to a suitable location

### DOS & OS2

Find a compiler, write a Makefile and build

### Win32 (Win95, Win98, NT)

Copy the file nt\qxltool.exe onto your path.

or

- 1) cd NT
- 2) ./configure

- 3) make
- 4) strip qxltool.exe
- 5) # copy qxltool.exe to a suitable location

## QDOS

The qxltool source compiles under c68 (and runs :-).

Copy the file QDOS\_qxltool to a suitable directory.

## Test Status

The different OS variants of qxltool have been tested by the author as follows:

<u>OS</u>	<u>Status</u>
Linux	Tested
NT/Win9x	Tested, marginally
QDOS	Not Tested
DOS	Not Tested
OS2	Not Tested

## Usage

qxltool needs to know where the QXL.WIN file is located; in order of precedence:

1. From the command line  
qxltools file\_name
2. From the environment
3. Defaults
 

/dos/QXL.WIN	(Linux)
C:\QXL.WIN	(DOS,Win*,OS2)
win2_tmp_qxl.win	(QDOS)

The environment variable is named QXL\_FILE and may be set as:

### Linux

```
(sh, bash, ksh)
export QXL_FILE=/dos/QXL.WIN
```

```
(csh,tcsh)
setenv QXL_FILE /dos/QXL.WIN
```

### DOS etc

```
set QXL_FILE=H:\QXL.WIN
```

### QDOS

```
setenv "QXL_FILE=win2_tmp_qxl.win"
```

(Obviously) the file name is setup dependent.

qxltool defaults to a readonly QXL.WIN file to protect your data, if you're feeling brave, you can run qxltool in read-write mode by giving a '-w' option.

```
qxltool -w /cdrom/qxl.win
```

A single command can be given with a -c option.

```
qxltool -c lsir /tmp/qxl.win
```

qxlttool can attempt to format and use a virgin QXL.WIN file by giving more than three non-option parameters:

```
qxlttool -w file_name size_in_MB Label0 ... LabelN
```

for example:

```
qxlttool -w /tmp/qxl.win 8 QXL Disk Label
```

Would create an 8Mb QXL file (/tmp/qxl.win) with a disk label "QXL Disk Label".

In order to format an existing QXL file (or partition), then you must give a -W option. This is to protect people from accidentally formatting an existing file/partition.

```
qxlttool -W /tmp/oldqxl.win 8 QXL Disk Label
```

Under QDOS, the console window will fill the display by default. You can change the size of the display using the singularly appropriate environment variable "QXL\_CON".

For example:

```
setenv "QXL_CON=484x240a16x10"
```

qxlttool presents you with a prompt '> ', and accepts the following commands.

info	-	Shows some info about the QXL.WIN file
ls	-	Lists the current QXL.WIN directory
lsr	-	Lists the current QXL.WIN directory and all sub-directories.
cat	-	types or copies a file from QXL.WIN
cp	-	types or copies a file from QXL.WIN
cd	-	changes the QXL.WIN working directory
pwd	-	displays the current QXL.WIN directory
exit	-	exits the qxlttool program
quit	-	exits the qxlttool program
write	-	write a file to the QXL.WIN file.
rm	-	Deletes a file
rmdir	-	Deletes an empty directory
version	-	Displays version number
help	-	Displays some unhelpful text
dump	-	Dumps out whole directory structure, including inconsistent entries (0 or -ve file size with name length and/or valid cluster pointer. Viewing this information may not do much for your confidence in the QPC or QXL software that wrote the original QXL.WIN, particularly given the state of the documentation.
init	-	Initialises existing QXL.WIN
mkdir	-	Creates a directory. There must be no name clash with an existing file.
open	-	Opens a new QXL.WIN file
close	-	Closes current QXL.WIN file
format	-	Create a new QXL.WIN file
shell	-	Spawns a shell
clone	-	copies all or part of a QXL.WIN file to another QXL.WIN file.
RW	-	Sets read-write mode for filesystem (O_RDWR)
RO	-	Sets read-only mode for filesystem (O_RDONLY)

and for mc68000 systems only, as the geometry coding has yet to be revealed (no doubt RZ will crack that too!).

fix\_geometry - Fixes the disk geometry to what SMSQ expects

qxltool also accepts commands from a file using normal STDIN redirection, useful for populating a QXL.WIN file for use with the QPCDEMO program.

```
qxltool <mycommands
```

Or, for Unix at least, using shell 'here-doc' syntax.

```
#!/bin/sh
```

```
echo "Create a new QXL file for QPCDemo
```

```
qxltool <<EOF
wr boot
mkdir exe
cd exe
wr /ql/exe/qtpi
wr /ql/exe/unzip
cd
mkdir extn
cd extn
wr /ql/qlsoft/qpac2
EOF
```

```
echo "OK done that"
```

Commands may have their output redirected.

```
>file    - redirect output to 'file' and overwrite.
>>file   - redirect output to 'file' and append.
| prog    - pipes output to 'pipe'
```

Please note that '| prog' syntax requires a real operating system and will not work on DOS, Win 3.\* or Win95. It is currently untested on NT or OS2.

It is, of course, perfectly functional for Linux.

```
> cat boot | vless
```

I expect it also works for QDOS.

For 'DOS like' (DOS, Win 3\*, Win 95, NT, OS2) operating systems, redirected files for 'cat' and 'cp' are opened in binary mode and thus do not translate QDOS LF to 'DOSlike' CR/LF. This translation may be forced by the commands 'tcat' and 'tcp'.

```
> tcat boot >boot.txt
```

In such OS, it is also possible to write DOS text (CR/LF) files to the QXL.WIN file removing the CR, using the 'twrite' command.

## Command Details

Please note that for your convenience, 'qxltool' uses the standard concept of a current working directory; listing and copying works from the current directory or relative to it.

All examples are taken from the demo QXL.WIN file on Peta Jäger's web site.

Comments are preceeded by a hash.

**cd: Changes the current working directory.**

```
> cd      # changes to top level (root) directory
```

```
> ls      # lists current directory
```

CUESHELL	192	(Directory)
DISA	256	(Directory)
LD	1088	(Directory)
QSPREAD	128	(Directory)
util	1600	(Directory)
code	832	(Directory)
boot	2022	21-04-97 02:43:22
MODEM	128	(Directory)
SPIELE	1408	(Directory)

```
> cd MODEM
```

```
> ls
```

QTPI	1088	(Directory)
QFAX	832	(Directory)

```
> cd QTPI
```

```
> ls
```

QBook_dat	3590	11-10-96	01:55:47	
qtpi	113624	19-04-97	18:57:38	(50)
qtpi-keys_dat	358	11-10-96	00:54:33	
QTPI160_man	7099	11-10-96	00:54:40	
QTPIMenu_dat	224	11-10-96	00:54:42	
README	558	11-10-96	00:54:46	
XPR351_txt	199	11-10-96	00:56:54	
xprascii_library	19982	11-10-96	00:56:54	(382)
xprkermit_library	32070	11-10-96	00:56:54	(612)
xprsealink_library	24622	11-10-96	00:56:54	(292)
xprxmodem_library	23046	11-10-96	00:56:54	(294)
xprymodem_library	27146	11-10-96	00:56:54	(212)
xprzmodem_library	37506	11-10-96	00:57:37	(50)
XPRZ352_txt	341	11-10-96	00:57:35	
qtpi_dat	941	11-10-96	01:57:35	

**ls: Lists current directory (see above)**

**lslr: Lists current directory and all sub-directories**

For example:

```
> cd
```

```
> cd MODEM
```

```
> lslr
```

QTPI	1088	(Directory)
QTPI_QBook_dat	3590	11-10-96 01:55:47
QTPI_qtpi	113624	19-04-97 18:57:38 (50)
QTPI_qtpi-keys_dat	358	11-10-96 00:54:33
QTPI_QTPI160_man	7099	11-10-96 00:54:40
QTPI_QTPIMenu_dat	224	11-10-96 00:54:42
QTPI_README	558	11-10-96 00:54:46
QTPI_XPR351_txt	199	11-10-96 00:56:54
QTPI_xprascii_library	19982	11-10-96 00:56:54 (382)
QTPI_xprkermit_library	32070	11-10-96 00:56:54 (612)
QTPI_xprsealink_library	24622	11-10-96 00:56:54 (292)
QTPI_xprxmodem_library	23046	11-10-96 00:56:54 (294)

QTPI_xprymodem_library	27146	11-10-96	00:56:54	(212)
QTPI_xprzmodem_library	37506	11-10-96	00:57:37	(50)
QTPI_XPRZ352_txt	341	11-10-96	00:57:35	
QFAX	832		(Directory)	
QFAX_doc_qfax_ref	10775	11-10-96	00:59:39	
QFAX_doc_qfax280_man	210141	11-10-96	00:59:39	
QFAX_text2g3	62626	19-04-97	19:02:52	(2182)
QFAX_qfv	91936	19-04-97	19:02:36	(762)
QFAX_qfax	71448	19-04-97	19:02:18	(894)
QFAX_printfax	77986	19-04-97	19:01:58	(986)
QFAX_qfax_font	14336	19-04-97	19:03:59	
QFAX_qfax_dat	310	19-04-97	19:07:16	

### **pwd: Display current directory**

```
> pwd
cwd is "MODEM"
> cd QFAX
> pwd
cwd is "MODEM_QFAX"
> cd
> pwd
cwd is ""
```

### **cat: Copy a file (to "stdout" or redirected) (tcat for DOS text files)**

### **cp: Copy a file (to "stdout" or redirected) (tcp for DOS text files)**

```
> cd MODEM_QFAX
> ls
doc_qfax_ref          10775 11-10-96 00:59:39
doc_qfax280_man      210141 11-10-96 00:59:39
text2g3              62626 19-04-97 19:02:52 (2182)
qfv                  91936 19-04-97 19:02:36 (762)
qfax                 71448 19-04-97 19:02:18 (894)
printfax            77986 19-04-97 19:01:58 (986)
qfax_font           14336 19-04-97 19:03:59
qfax_dat             310 19-04-97 19:07:16
qfax_phone           275 19-04-97 19:07:00
```

```
> cat doc_qfax_ref |more
V2.8
```

Woodlands, Sep'96

```
QFAX - Facsimile System for Class 2.0/2 fax modems
~~~~~
and
SMS2 and QDOS Compatible computers
~~~~~
v2.8 Quick Reference Guide
~~~~~
```

```
'qfax'
~~~~~
```

```
ex qfax;`[-2 | -2.0] [-i ini] [-l logfile] [-v] [-x] [-eN] [-bN]
-s phone file | -S phone [file] | -z phone file
```

```
-2 force Class 2
-2.0 force Class 2.0
```

- v displays progress/debug information on the console (stderr device)
- l defines a log file for process/debug info.
- x suppresses the c68 'Any key to exit' message
- i defines additional Hayes commands to be sent before dialing.
- e defines exit code.

.....

WAIT2SEND	WAIT	YES
WIDTH_RECEIVE	WIDTH_R	0
WIDTH_SEND	WIDTH_S	0
XDIAL	XDIAL	(none)

```
jh 05/10/96
line 243/277 (END)
>
```

For DOSLike systems:

```
> tcat doc_qfax_ref
```

To save binary files

```
> cat qfax >/ql/exe/qfax
> cat qtpi >qtpi
```

When a QDOS program is copied using 'cat' or 'cp', then if the output device is 'seekable' (a file, not a pipe or terminal), then an 'XTcc' data block (as used by the xtc68 cross compiler) is added to the executable. These XTcc blocks are recognised by QLAY, uqlx/qcp and some versions of InfoZip's Zip program to preserve QDOS data space for executable programs.

To append text files

```
> cat boot >qlstuff.txt # create file
> cat README >>qlstuff.txt # append
```

**info: Returns information about the QXL.WIN file**

Information is returned as follows:

```
> info
Info for QXL file /tmp/qxl.win
Label QPCD [QPCDEMO]
Sector size 2048 bytes
Total sectors 1536 (3.00 Mb, on disk 3145728 b)
Free sectors 68 (136.00 Kb)
Formatted 7, rand 7838, access 215
```

Note that the tested QXL.WIN file, the volume label length does not agree with the length of volume label. In this case, qxltool will display what it believes to be the correct volume label in square brackets (see line 2 of the example above). Choose who you believe. Of course, the non-existent documentation might be wrong ....

**version: Shows the version information**

```
> version
qxltool 1.07, Jul 27 1999 for Linux
```

## **help: May not be very helpful**

> help

Commands in qxltool 1.07

- cd
- lslr
- ls
- dump
- pwd
- cat
- cp
- info
- quit
- exit
- init
- wr
- rmdir
- rm
- mkdir
- version
- help
- open
- close
- format
- shell
- clone
- RO
- RW

Read the fine manual for more information

### **rm: Deletes a file**

> rm boot

### **rmdir: Deletes an empty directory**

> rmdir FAX

### **write: copies a file into the QXL.WIN file system.**

> write native/file.spec file\_spec  
> write native/file.spec

This command takes one for two parameters. The first is the native (Linux/DOS/Win etc) file name, the second is, optionally the name the file will have in the QXL.WIN file system. If the second parameter is not given, the QDOS file name is constructed by removing any directory part and replacing '.' with '\_'.

Note that the above examples have the same effect. Likewise

> cd FAX  
> write qxltool.c

> cd  
> wr qxltool.c FAX\_qxltool\_c



do the same.

On DOS-like systems the 'twrite' ('twr') command translates DOS CR/LF to QDOS LF.

```
> twr DOS.txt
> twr readme.txt readme_txt
```

### **init: Initialises existing QXL.WIN**

You can specify a new label. All data is lost.

```
> init WOT! A new QXL file
Formatting .... Done
> info
Info for QXL file /tmp/qxl.win
Label WOT! A new QXL file
Sector size 2048 bytes
Total sectors 1536 (3.00 Mb, on disk 3145728 b)
Free sectors 1532 (2.99 Mb)
Formatted 7, rand 13261, access 1
```

### **mkdir: Creates a directory.**

```
> cd
> ls
FAX                0          (Directory)
util              1600        (Directory)
code              832        (Directory)
> mkdir FAX_TEST
```

or

```
> cd
> cd FAX
> mkdir TEST
```

There must be no name clash (so unlike QDOS, you cannot have existing candidate files for the new directory).

### **open: Opens a new QXL.WIN file.**

```
> open                                # opens the default file
> open /tmp/qxl.test
```

### **close: closes currently open file.**

```
> close
```

### **format: Create a new QXL.WIN file**

With no parameters, you are asked for new file name, size in Mb and label.

```
> format
```

You may, if you wish, give these parameters as part of the command.

```
> format /tmp/qxl.demo 8 This is an 8MB file
```

The above line creates an 8Mb QXL file (/tmp/qxl.demo), with the label "This is an 8MB file".

### **shell: Spawns a shell**

```
> shell
```

Type 'exit' in the shell to return to qxltool.

You may also give shell commands.

```
> shell ls *.ch]
```

```
> shell ls -l *.ch]
```

```
-rw-r--r--  1 jrh  users   33195 Apr 21 19:35 qxltool.c
-rw-r--r--  1 jrh  users   2048 Apr 21 18:27 qxltool.h
-rw-r--r--  1 jrh  users    23 Apr 21 18:27 version.h
```

The shell command uses the environment variable SHELL (Unix) or COMSPEC (DOSlike) to find the default shell.

QDOS also uses the environment variable "SHELL" to find a shell. This may be usable with, for example, Adrian Ives (Adrian\_Ives@classic.msn.com) "shell" program.

### **RW: Sets read-write mode for filesystem (O\_RDWR)**

### **RO: Sets read-only mode for filesystem (O\_RDONLY)**

Above commands change read-write permissions.

### **clone: Clones all or part of an QXL.WIN file**

```
> clone src-spec dst-spec
```

The clone command copies some or all files from an QXL.WIN file to another QXL.WIN file. The copy may be to and from any arbitrary directory. One of the QXL files is the existing, open file and the other is given in the command. You can copy either to or from the current file. The 'other' QXL.WIN file (i.e. the one not currently open is specified as:

FilenameSeparatorDirectory

where the separator is

```
':' for Unix and QDOS
';' for DOS/Win/OS2
```

The specifier for the open QXL.WIN file is just a directory name, with a single '\_' used to indicate the top level directory.

Note that a '#' introduces a commentary.

Some examples may help.

```
$ qxltool /tmp/test.win          # open an existing QXL file
```

```

> RW                                # make it read-write
> clone /dos/qpc.win:_ qpc         # copy the whole of the QPCDEMO 'disk'
                                   # into a directory 'qpc_'

> cd
> ls
   qpc                               640          (Directory)
> cd qpc
> ls
CUESHELL                               128          (Directory)
DISA                                   256          (Directory)
LD                                   768          (Directory)
QSPREAD                               64          (Directory)
FAX                                   0          (Directory)
util                               2944          (Directory)
code                               896          (Directory)
MODEM                               192          (Directory)
SPIELE                              1472          (Directory)
boot                               2058 10-07-97 01:09:15

```

Or to specify the existing QWL.WIN as the source:

```

$ qxltool /tmp/qpc.win
> ls
CUESHELL                               128          (Directory)
DISA                                   320          (Directory)
LD                                   896          (Directory)
QSPREAD                               128          (Directory)
FAX                                   0          (Directory)
util                               3008          (Directory)
code                               960          (Directory)
MODEM                               192          (Directory)
SPIELE                              1536          (Directory)
boot                               2058 10-07-97 01:09:15

```

```

> clone _ /tmp/qxl.win:qpc         # copy to a QXL.WIN file,
                                   # into a qpc directory

> close                             # close qpc.win
> open /tmp/qxl.win                # see what we've done
> ls
   qpc                               640          (Directory)
> cd qpc
> ls
CUESHELL                               128          (Directory)
DISA                                   256          (Directory)
LD                                   768          (Directory)
QSPREAD                               64          (Directory)
FAX                                   0          (Directory)
util                               2944          (Directory)
code                               896          (Directory)
MODEM                               192          (Directory)
SPIELE                              1472          (Directory)
boot                               2058 10-07-97 01:09:15

```

If you're copying to or from the top level directory of the 'other' QXL.WIN, then you can omit the ' \_ '.

```

> clone /dos/qpc.win:_ qpc         # copy the whole of the QPCDEMO 'disk'
> clone /dos/qpc.win: qpc          # copy the whole of the QPCDEMO 'disk'

```

However the local top level directory must be denoted by ' \_ '.

## Helpers : qxlcopyp.pl

The example script qxlcopyp.pl shows how you can copy a whole QXL.WIN onto a native filesystem (where native == OS you're running under). This has been tested under Linux, NT and QDOS (uqlx). Yes, contrary to the mis-informed crap printed in QUANTA that you have to program Linux in C or ASM, we know that that perl is just one of \_\_dozens\_\_ of languages you can program in Linux. (I have this theory that you can tell when an operating system is in terminal decline; instead of promoting it, its proponents resort to slagging off the alternatives). Anyway, I digress.

The document "xfer/xfer.txt" describes some methods by which you might move a large binary file between systems.

## Compiling

qxlttool, as distributed, compiles with gcc under Linux to produce the distributed Linux binary. dos-gcc is used, under Linux, to produce the 'DOSLike' binary. Porting to a native DOSLike compiler may produce a smaller binary at the loss of binary portability. Porting for other ANSI compilers should be easy. If you do not have the GNU 'readline', use the dos-gcc (\_\_GO32\_\_) solution; you may also need to remove a few other GNU-isms.

The Win32 version is compiled with gcc for Win32 (mingw32).

QLqxlttool compiles using c68 (or at least xtc68), adopting the Makefile for QDOS should be trivial.

## License

qxlttool is (c) Jonathan R Hudson.

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The author would be grateful if distributors of programs derived from qxlttool would include a reference to where the original documentation may be found.

Please report enhancements, spelling mistakes, bugs (and hopefully fixes) to the author.

The QXL.WIN file format and QXL may possibly be trade marks or copyright of one or more of Tony Tebby, Jochen Merz and/or Miracle Systems. Alas, given the lack of documentation, it is impossible for me to tell.

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Linux is freedom.

### 'rpxl' beta releases:

0.01	18/04/98	Initial release
0.02	19/04/98	Adds readline for Unix, fixes XTcc block addition, added rm and rmdir, write.
0.03	20/04/98	Added init,format,mkdir

0.04 21/04/98 Fixed some bugs (label for init) and documentation errors.

**qxltool:**

1.00 22/04/98 allow parameters to format  
optimise the code a bit.

1.01 02/05/98 Enable compilation under QDOS (no change to other platforms.

1.02 02/05/98 Allow longer synonymns (write == wr). What the heck, add the QDOS binary.

1.04 08/09/98 Incorporated Richard Zidlickys's patches to compile on more diverse Unix  
platforms  
  
Made readonly, added -w option and command line format options.

1.05 04/06/99 Allowed existing files/partitions to be formatted (patch from Richard Zidlicky),  
combined with -W option.  
Y2K fix, memory leak fixed.

1.06 16/06/99 Further formatting patches from Richard Zidlicky  
Added some command line help.

1.07 28/07/99 Added clone command. Added separate W32 executable.

1.08 06/08/99 Fixed clone command.

1.09 ? Never released

1.10 06/11/99 Pipe support for wxqt2

1.11 06/02/00 Fixed a bug in writing files where the begining of the name matched a  
directory.

1.12 08/02/00 Fixed typo that caused runtime failure on bigendian Unix systems.

1.13 ? Possibly some more bug fixes

1.14 30/09/00 Fixes 3 bugs reported by Theirry Godefroy.  
1. Zero size files silently lost  
2. Files starting with > chr(127) not listed.  
3. configure failed when libreadline depended on libtermcap (typically  
Mandrake releases of Linux).  
Various other tidy ups.

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