QWS3270 Help Index

QWS3270 is a telnet client application   to allow a network attached PC running Windows 3.1 to connect to an IBM mainframe using the Windows Sockets interface in 3270 mode(TN3270).   The application was designed to take full advantage of the point and click capabilities of the Windows 3.1 environment.

QWS3270 is a Winsock 1.1 compliant application.

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Availability & Pricing:

 This version is functionally stable and is no longer being enhanced.   Users who require additonal function or have suggestions for enhancements should contact the author.

QWS3270 is available FREE of charge to anyone that wants to use it   on an as is basis (ie no guarantees whatsoever). These programs are not to be sold or distributed with other programs that are for sale without the expressed written permission of the author.

Connecting to a Host:

There are several ways to connect to a host using QWS3270:

1. Use the CONNECT menu item.   QWS3270 will open the connect dialog box to allow you to enter the name or IP address of the host.   This method is useful if you connect to many different hosts.

2. Use the AUTO CONNECT option.   The SETUP / OPTIONS menu allows you to customize QWS3270 to your preference.   You can specify the default host using this menu.   If you set   the AUTO CONNECT feature to yes, then QWS3270 will automatically connect to the host when you select the icon from Program Manager.   This is useful if you always connect to the same host and want to bypass the connect dialog box.

3. Include a host on the command line.   You can include a host on the command line when you create the icon.   The command line would be: c:\directory\qws3270 host port.   The port is optional and defaults to the value in the qws3270.ini file.   When a command line host is found, QWS3270 will automatically connect to the host when you select the icon from Program Manager.   This method is useful when you have a couple of hosts that you connect to frequently and want to bypass the connect dialog box.   Simply create an icon for each host with the host name or IP address on the command line.   Because QWS3270 will accept a host and port as command line arguments, it can be used with ARCHIE clients to connect to 3270 hosts.

Disclaimer & Copyright:

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Acknowledgements:

 Some of the original Winsock code was developed by John A. Junod in his WS_FTP application.   I thank him for his efforts.   I also thank   Marvin Solomon from the University of Wisconsin whose unix WISC3270   telnet was the base for some of the 3270 code.

Enhancements Requested:

This version is functionally stable and is no longer being enhanced.   Users who require additonal function or have suggestions for enhancements should contact the author.

Features:

This explains some of the special features available in QWS3270:

Clipboard Support:
QWS3270 includes support for the common copy and paste functions.   It also provides an APPEND function where data can be appended to data already in the clipboard.   A PRINT function allows the clipboard data to be sent to the Windows printer.

Disabling Setup Menu Item:
The setup menu can be disabled by adding a DISABLESETUP=YES line in the [QWS3270] section of the qws3270.ini.

Mouse Support:
The cursor can be positioned anywhere on the screen using a single click of the left mouse button.

Transparent Print Support:
QWS3270 includes support for the transparent write feature available with IBMs 7171 ASCII Device Attachment Control Units.   The transparent write feature is documented in the 7171 Reference Manual and Programming Guide (manual number GA37-0021).   Yale University offers a TPRINT package that can be used on VM systems to print files to a printer attached to your PC.   You can obtain this package by issuing the following VM command: tell listserv at yalevm get tprintv2 package.   If using the standard package from Yale the following commands should be used:

1. "TPRINT fn ft fm (VT100"   causes the output to be sent to both the screen and the printer port.

2. "TPRINT fn ft fm (IBMPC NOYTP" causes the output to be sent only to the printer.   This is the correct setting for QWS3270.

Tektronix 4010 graphics emulator support:
QWS3270 includes support for Tektronix 4010 terminal emulation.

Type Ahead Buffer:
QWS3270 has a 64 character type ahead buffer.   This allows key board input while waiting for the host to process the last attention key.

Installation:

QWS3270 is a winsock compliant application.   You must have a properly installed WINSOCK.DLL already running on your PC.   Refer to the System Requirements & Restrictions section for the Winsocks that support QWS3270.

1. Copy the distribution files to the directory of your choice.

2. The QWS3270.INI must be in the working directory.

                    - OR -

    a. Copy QWS3270.INI to the directory of your choice
    b. Add a line in your autoexec.bat file to point to this file:
        SET QWS3270=c:\directory
    c. Restart your computer for the SET command to take effect.

3. Create a program item for QWS3270.
    The easiest way to add QWS3270 to your Program Manager is to drag the program name out of the File Manager into the desired Program Manager window.

            -OR-

    a.   In the Windows Program Manager, select the File New menu option
    b.   Select the new program item option.
    c.   Enter the description of your choice
    d.   Enter in the command line the full path to qws3270.exe.
        (c:\directory\qws3270.exe)
    e.   Set the working directory as appropriate.
    f.   Click on OK.

4. Customize QWS3270   using the SETUP menu within the application.

Note that you must have QWS3270.HLP   in your working directory OR in the Windows directory.

Keyboard Mapping:

The following describes the keyboard mapping as it applies to QWS3270.

3270 Key	PC key equivalent
ATTN	ATTN button
Back Tab	shift Tab
Clear button	keypad plus(+) or CTRL C or Clear
Delete	Delete
Dup	Dup button
Erase End of Field button	keypad minus(-) or CTRL E or Erase EOF
Erase Input	Erase Input button
Field Mark colon)	Field Mark button or ESC ; (ESC semi-
Home	Home
Insert	Insert
PA1	ESC Z or ALT F1 or PA1 button
PA2	ESC X or ALT F2 or PA2 button
PA3	ESC C or ALT F3 or PA3 button
PF1 thru PF12	F1 thru F12
PF7	Page up
PF8	Page down
PF13 thru PF24	shift F1 thru F12
RESET	CTRL R or ALT R or Reset button
SYS REQ	ESC V or Sys Req button
Tab	Tab

Other Functions or keys

New Line	CTRL N or New Line button
Cent Sign	CTRL \

PC key definitions:

Backspace	move cursor one position to the left
End	tabs to one position past the last non-blank character in the field.
Page Down	PF8
Page Up	PF7

System Requirements & Restrictions:

System Requirements:

QWS3270 is a winsock compliant application.   You must have a properly installed WINSOCK.DLL already running on your PC.   Listed below are the Winsocks that are known to support QWS3270.

My development and testing is being done using the Trumpet Windows Sockets DLL Alpha #18.   The application is running on   a Packard Bell 486sx/25 with a 101 key keyboard running Windows 3.1.

Winsocks Supported:

The following is a list of the winsock implementations that   have been tested by the developer:

1. Trumpet Windows Sockets Alpha #16 , #17, and #18.

2. PC/TCP 2.22 and winsock 1.09 alpha 5

3. PC/TCP 2.3 and winsock 1.10

The following is based on a notes that I have received from users of the application:

1. Lanera TCPOpen - works

2. Netmange Chamelon 3.11n - works

3. Microsoft TCP/IP for Windows for Workgroups   - works

4. Windows NT 3.1   - works

5. PC/NFS version 5.0   -   works

6. Novell LWP 4.1 with Novell's Winsock API -   works

7. OS/2 2.1 with OS/2 TCP/IP 2.0 with DOS/Access Kit -   works

8. Frontier Technologies Super-TCP winsock DLL version 3.68 -   works

9. Pathway 3.0 from Wollongong - works

MainFrame Hardware/Software Supported:

The following is a list of the mainframe software that have been tested by the developer:

1. MVS/ESA 4.3 with IBM TCP/IP 2.2.1

2. VM/ESA 1.0 with IBM TCP/IP 2.2.

The following is based on a notes that I have received from users of the application:

1. Works with NCR's COMTEN boxes.

2. Works with Interlinks SNS/TCP.

Known Restrictions:

1) The following terminal types are not supported:
    IBM-3278-5,   IBM-3279-2,   IBM-3279-3

2) Only supports 101 key keyboards.

3) The following 3270 commands have not implemented:
    start field extended
    modify field
    set attribute

4) The CURSOR SELECT key is not supported.

5) If using a TOKEN RING card it must have at least 16k of shared   memory.

6) There are sporadic problems with some versions of Novell's winsock stack.   Several users have complained about error message '4e52'.   The fix (according to Joe M. Killpack,   Manager of Workstation   Development with Delta Air Lines, Inc. in Atlanta, GA USA.) is to insure that winsock.dll, wlibsock.dll, and novasync.exe are all placed in the same sub directory and that this sub directory must   be included in the path.

Change History:
Version 3.1e Changes: May 17, 1994

1.   Corrected problem with EDIT / COPY menu item not being enabled after clipboard contents are cleared and a portion of the screen is marked. Also corrected a problem with the copy function when the first character marked was in column 1 of the screen.

2.   Corrected problem with transparent print message not displaying while transparent print was in progress.

3.   Added ESC ; (escape semi-colon) as the Field Mark key.

4.   Added the ability to disable the   setup menu by adding a DISABLESETUP= YES line in the [QWS3270] section of the qws3270.ini. This line can be added with the text editor of your choice.

Version 3.1d Changes: May 2, 1994

1.   Changed PRINT SCREEN and PRINT from clipboard from SPOOLFILE back to   standard Windows printer interface in an attempt to correct some screen print problems with post script printers and international character sets.

2.   Changes made to NVT processing to allow transition from NVT mode to 3270 mode and back to NVT mode.

3.   Changed the SETUP / COLOURS dialog box to include a sample of how the current colour selections will appear.   Changes were also made in an attempt to prevent the drain of GDI resources when colours are changed multiple times in succession.

Version 3.1c Changes: Apr 20, 1994

1.   Corrected problem with about box not displaying properly on some machines.

2.   Corrected cursor positioning problem when last stacked key was an arrow key or a tab function.

Version 3.1b Changes: Apr 18, 1994

1.   Added ability to specify the printer which QWS3270 should use for all printed output. This function can be invoked using the SETUP/PRINTER menu item.   The settings are saved in the qws3270.ini file for subsequent use. More work is still required on this feature to display the current settings when the dialog is displayed after the ititial seetings have been saved.

2.   Added support for Network Virtual Terminals (NVT).   This will allow QWS3270 to connect to hosts that send a menu of connection choices in NVT mode.   This also involved some general code cleanup especially the telnet negotiation sequence.

3.   Corrected problems with graphics support that occasionally caused windows to lock up.

Version 3.1a Changes: Apr 4, 1994

1.   Corrected problem with foreign language characters entered from keyboard not displaying properly.

2.   Fixed problem when default printer is set to FILE.   QWS3270 now prompts you for a file name to use.   Also added an un-documented option to the .ini file to force all printer files to drive a: when the default printer is set to FILE.   (forcetoa=yes).

Version 3.0d Changes: Mar 25, 1994

1.   Corrected problem with CTRL x key sequences for clear, erase end of field etc that stopped working after type ahead buffer was added.

2.   Expanded Clipboard function capabilities. Added Append, Append All, Clear, and Print functions.

3.   Changed PRINT SCREEN function to use the SPOOLFILE function.

4.   Added the ability to include or exclude the Button bars as an option. The button bars have been re-configured to represent commonly used functions versus rarely used functions.

Version 3.0c Changes: Mar 17, 1994

1.   Added a time of day clock to the right hand corner of the status line.

2.   Changed the PASTE function to treat any imbedded carriage return linefeed combination as a NEWLINE function.

3.   Added a COPY ALL menu item to copy the entire contents of the screen to the clipboard.

4.   Corrected problem introduced in version 3.0b that caused the BUTTON BARS to stop working.

5.   Changed search order for the qws3270.ini file.   The search order is: a) if a SET QWS3270= command was executed in the autoexec.bat file, this directory is used to search for the ini file. If the file is not found in this directory default settings are used.   b)   the file from the working directory is used. If the file is not found in the working directory default settings are used.

Version 3.0b Changes: Mar 14, 1994

1.   Fixed problem with PRINT SCREEN function where the second line on the screen did not print properly.

2.   Changed initialization code sequence in an attempt to make the auto-connect feature and   command line host feature work with the PC-NFS and Microsoft winsock stacks. Also changed code to use the default port from the qws3270.ini if the command line port is equal to zero.   Initial reports from the advance testers is that this has solved the problem.

3.   General code cleanup in preparation for adding a type ahead buffer.

4.   Modified transparent print code to use the Windows SPOOLFILE API call instead of opening LPT1.   This allows users who use a LPR function to re-direct their output to another network printer have their taranparent print output re-directed automatically.

5.   Fixed a couple of minor bugs that only occurred when the window was iconized.

6.   Added a 64 character type ahead buffer.

7.   Fixed a problem with cursor positioning with the left mouse button was pressed when QWS3270 was not the active window.   The cursor will only be moved when QWS3270 is the active window.

Version 3.0a Changes: Mar 1, 1994

1.   Added support for 3278 model 3 (32 line) and 3278 model 4 (43 line) terminals.   The default terminal type is still 3278 model 2.   The SETUP/OPTIONS menu item can be used to change the terminal type.

2.   Added ability to use any fixed pitch screen font that is installed in Windows.   This SETUP/FONTS menu item uses the Windows supplied Font selection dialog box.

3.   Fixed a problem with the read buffer command when Yale Nulls processing is turned on.   Trailing blanks in fields are now sent to the mainframe as nulls.

4.   QWS3270 now saves the window location when the window is closed. This saved location is used to position the window the next time it is opened.

5.   Changed the SETUP/COLOURS dialog to use the Windows supplied Colour selection dialog box.   This allows any colour that can be defined in Windows to be used by QWS3270.

Version 2.5c Changes: Feb 22, 1994

1.   Corrected problem introduced in version 2.5b that caused Windows to lock up when changing fonts.

2.   Added a blank line to the top of the screen image when Print Screen is performed.   This prevents the first line from being dropped on some postscript printers.

3.   Corrected problem that caused QWS3270 to loop when it received a start field extended 3270 order string.   This 3279 order string is not supported by QWS3270.

4.   General code cleanup especially the Tektronix code in an attempt to free up some additional storage.

5.   Added a conversion of input characters from ANSI to OEM when the OEM font is being used.   This corrected problems where the character typed on the keyboard was not   being displayed on the screen properly.

Version 2.5b Changes: Feb 14, 1994

1.   Menu items are disabled and enabled depending on the connect status

with a host.

2.   Changed EDIT / COPY function to be activated only after screen portion to copy has been selected using the left mouse button.   Now only the selected portion of the screen is copied to the clipboard.

3.   Corrected problem where button bars occasionally disappeared if the window was iconized during the 3270 connect sequence.

4.   Added EXIT menu item.

5.   Corrected problem that caused QWS3270 to loop when the delete key was used on an un-formatted screen.

6.   Added support for the Transparent WRITE/READ function.   I believe that the data is being formatted   correctly but I dont have any mainframr application that is expecting any data so cant check it further.

7.   Added Tektronix 4010 graphics support to allow SAS graphs to be displayed on the screen.   This is the first attempt and modifications may still be required.

Version 2.5a Changes: Jan 31, 1994

1.   Help file support expanded. (I am open for suggestions for improvements to the Help system).

2.   Added ability to specify a language file to use instead of the default table used by QWS3270.   This allows better support for international character sets.   See the HELP file item Menu Commands / Setup / Options for details.

3.   Changed Windows title to use input host instead of the IP address. The input host will also be used when the window is conized.

Version 2.4c Changes: Jan 24, 1994

1.   Added Help file support. (More work is still required).

2.   Fixed problem where multiple sets of button bars were being created. This happened
when a connection to a host was made multiple times without closing the

window.

3.   Fixed problem that occasionally caused Windows to crash when changing fonts and   the window is not positioned in the top left corner on the screen.

 4.   Fixed bug in the Repeat To Address command when the character to be repeated was greater than ascii x7f.

Version 2.4b Changes: Jan 17, 1994

1.   Fixed problem with Field Mark button.   The cursor is now advanced to the next unprotected character location.

2.   Added text for additional winsock error messages.

3.   Fixed problem with Reset button.   It can now be used when the xSYS indicator is displayed.

4.   Fixed problem where windows locked up if fonts where changed multiple times.

5.   Changed the delete key to work like all other 3270 emulators. This change involves fields that span multiple lines on a screen. On a true 3270 terminal, when characters are deleted from the first row of a multiple row field,   only characters on the row where the cursor is positioned are shifted to the left and vacated character positioned are blanked out.   On the 3270 emulators that I tested, the characters from rows below the cursor position are shifted up to the currect row and the vacated positions at the end of the field are blanked out.

6.   Added support for the READ MODIFIED, READ MODIFIED ALL, and ERASE ALL UNPROTECTED commands.

7.   Corrected a minor bug in the transparent print logic.

Version 2.4a Changes: Jan 6, 1994

1.   Added support for the ERASE INPUT button.

2.   Added support for the ATTN button.   This will only work for terminals connected to MVS systems using IBM's TCP/IP with apar PN07602 applied. This apar is in the base code for TCP/IP version 2.2.1.

3.   Added support for a New Line Button.   The New Line function can also be invoked using the CTRL N keys.

4.   Added CTRL C key as 3270 clear key.

5.   Added CTRL E key as 3270 erase end of field key.

6.   Added support for the cent sign key (CTRL \).   This change may also allow better support for international character sets based on the ISO8859/1 translation tables.   I can't test them here, so any feedback would be appreciated.

Version 2.3d Changes: Jan 3, 1994

1.   Added an additional RESET key (ALT R).   The previous definition as CTRL R still exists.

2.   Added a button bar at the bottom of the screen for the special 3270 keys that do not have equivalet keys on a PC keyboard.

3.   Added support for the DUP and FIELD MARK keys.   I have verified that the proper hex code is in the buffer that is sent to the mainframe but I don't know of any mainframe applications that actually use these keys.   Any assistance in testing these keys would be appreciated.

Version 2.3c Changes: Dec 21, 1993

1.   Fixed a problem with the READ BUFFER command.   The attention key was not inserted into the buffer properly.

Version 2.3b Changes: Dec 20, 1993

1.   Added additional definitions of PA1 (ALT F1),   PA2 (ALT F2), and PA3 (ALT F3).   The previous definitions still exist.

2.   Added a RESET key (CTRL R).

Version 2.3a Changes: Dec 14, 1993

1.   Added support for transparent print feature which allows hosts to send data directly to an printer attached to the PC using the special transparent write SBA.

2.   Added support for the SYS REQ key.   This key is obtained by pressing ESC V.

3.   Implemented a keyboard locking mechanism in preparation for the inclusion of a type ahead buffer.

4.   Corrected problem with read modified command including nulls in the buffer sent to the host when YALE null processing is turned off.   The nulls are now excluded from the buffer.

Version 2.2e Changes: Dec 9, 1993

1.   Corrected problem of various characters disappearing on some displays. This problem occurred in version 2.2d when support for international character sets was introduced.

2.   Corrected bug is screen print logic.

Version 2.2d Changes: Dec 6, 1993

1.   Corrected with name and path of the QWS3270.INI file being over-written when a host was present on the command line.

2.   Changed print screen logic to include a formfeed at the end of the screen contents.   Without this formfeed nothing appeared on the printer.

3.   Corrected problems connecting to mainframes using NCR'S Comten FEP. The terminal negotiation sequence should now be correct.   This mod also include support for some remote unit 3270 commands.

4.   Corrected problem of application loops caused by pressing TAB key when the cursor is positioned on an attribute byte and there are no un-protected fields on the screen.

5.   Changes made to code dealing with cursor positioning.   The cursor was off by 1 pixel in some cases.

6.   Changed to a fixed window border instead of a variable border because the application only supports 24x80 screens.

7.   Changes made to internal handling of start locations for screen fields. This now allows for international character sets based on ISO8859/1 translation tables.

Version 2.2c Changes: Dec 1, 1993

1.   Corrected problem connecting to mainframes that are running INTERLINK's SNS/TCP.   This fix works with PC/TCP's winsock v1.09 alpha 5. A bug in Trumpet Winsock alpha #17 causes QWS3270 to loop.   Trumpet Winsock alpha #18 is supposed to fix this problem.

2.   Installed the SHARE recomended ascii to edcdic and ebcdic to ascii translation tables.   Thanks to Andre Pirard for sending them to me.   A future enhancement may allow you to customize   these tables.

3.   Added option to turn Yale null processing onor off.   It is turned on by default.   With Yale null processing turned on all nulls (x'00') sent to the mainframe are converted to blanks (x'40').   This option can be changed using the SETUP /   OPTIONS dialog.

4.   Changed logic dealing with trapping numeric key pad plus sign as the 3270 clear key.   The program now looks for scan code 0x4e.   This allows keyboards with the plus sign defined as a lower case key to work properly.

5.   Added option to automatically exit to windows when the connection to the mainframe host is closed.   The default is not to exit to windows.   This option can be changed using the SETUP / OPTIONS dialog.

Version 2.2b Changes: Nov 26, 1993

1.   Changes made in close connection logic to re-display the QWS3270 console log when dis-connecting from VM hosts.

2.   The status line is expanded to include CAPSLOCK and NUMLOCK indicators.

3.   Changes text that appears when application minimized to an icon to show application name and connected to host address.   The text "not

connected" will appear if no host connection exists.

4.   Added ability to paste the contents of the clipboard to the screen.   The data from the clipboard is input character by character just as if you were typing it on the keyboard.

5.   Corrected the problem of the program not accepting 7 character directory names in the SET QWS3270=C:\1234567   command.

Version 2.2a Changes: Nov 23, 1993

1.   Allow background colour to be changed.   It defaults to the value found in the QWS3270.INI file or to values predefined in the program. The default colour can be changed via the setup dialog.

2.   Allow font to be changed.   It defaults to the value found in the QWS3270.INI file or to the value predefined in the program.   The default font can be changed via the setup dialog. (A future enhancement will be to add additional fonts.)

3.   Corrected problems with 3270 read buffer command.   Nulls are now sent as nulls instead of blanks.

4.   Changes made to code dealing with cursor positioning.   These changes should prevent QWS3270 from stealing the cursor from other applications.

5.   Implemented a crude mechanism for graphic escape characters. These characters are translated to the screen buffer based on the existing translate table.

Version 2.1e Changes: Nov 16, 1993

1.   Changed the sequence of initialization code to allow the Winsock routines (in my case Trumpet) to be demand loaded.   This change appears to have solved most of the problems.   If you are using the autoconnect or command line argument feature you may still experience some problems.   I will continue to make refinements in this area.   Note: If you leave your winsock routines running these problems do not occur.

Version 2.1d Changes: Nov 15, 1993

1.   Corrected problems with one character fields that was introduced in 2.1c by fix for empty fields.

2.   Corrected problems with parsing the directory name as specified using the SET QWS3270=...   command if the autoexec.bat file. The program will still not accept a 7 character directory name. I spent about 2 hours trying to track this problem and finally gave up.

3.   Corrected problems with writing beep and autoconnect changes to the .ini file.

Version 2.1c Changes: Nov 12, 1993

1.   Corrected problems with application looping when on certain PROFS screens and paging forward or backwards.

2.   Corrected problems with empty fields with MDT set.   The application was sending 1 blank instead of a null field.

3.   Re-structured program variables such that all arrays are at the end of the data area.   This should eliminate the possibility of destroying integer variables if a loop goes past the end of the array.

Version 2.1b Changes: Nov 11, 1993

1.   Corrected problems with 3270 orders PT(program tab),   RA(repeat to address) and EUA(erase unprotected to address).

2.   Added windows accelerator keys for menu items.

3.   Changed window size calculation to allow for different font sizes and display the 24 line screen plus the status line.

Version 2.1a Changes: Nov 9, 1993

1.   Added ability to specify host name and port number to be input via the command line.   The application automatically connects host using the specified port number.

2.   Corrected problems associated with the setup colour dialog.

3.   Added ability to copy screen contents to printer or clipboard.

Version 2.0c Changes: Nov 8, 1993

1.   Attempting to correct connect problems to mainframes that are running INTERLINK's SNS/TCP version 3.2.2 (8/26/91). The fix works for this version but does not seem to work for other versions.

2.   Changed SETUP menu item PORT to DEFAULTS.   This now allows the host name and the port number defaults to be entered.

3.   Added option to turn off message beeps.   This can be set dynamically using the setup menu item.

4.   Added auto connect option.   When this option is set to yes, the application automatically connects to the default host using the default port.

Version 2.0b Changes: Nov 4, 1993

1.   Added ability to specify a DOS envrionment variable to that the qws3270.ini file does not have to be in the WINDOWS directory.
      SET QWS3270=c:\directory

2.   Removed need for the SERVICES and PROTOCOL files.   The application no longer users calls that require these files.

3.   Corrected screen paint problem where typed characters were shifted left by 1 screen unit.

Version 2.0a Changes: Nov 3, 1993

1.   Changed name of the .INI file from WINSOCK.INI to QWS3270.INI.   This file with its default settings will be shipped with product.   New options will be added to this file as they are developed.   It must reside in the WINDOWS directory.

2.   Allow port number to be changed.   It defaults to the value found in the QWS3270.INI file or to 23.   The default in the qws3270.ini file can be changed via the setup dialog.

3.   Allow colours to be changed.   It defaults to the value found in the QWS3270.INI file or to values predefined in the program.   The default colours can be changed via the setup dialog.

4.   Corrected "System error, Divide by zero or overflow error" when a key is pressed before a connection has been made.

Version 1.1d Changes: Nov 1, 1993

1.   Changed 25th line to be a status line.   It will indicate INSERT when the keyboard is in insert mode.   It will indicate x SYS when an attention key is pressed and data is sent to the host.

2.   Corrected GPF fault when attempting to connect to a non 3270 host.

3.   Fixed a timing problem with read sockets on some slower machines.

4.   Allow cursor to be moved by pressing the left mouse button.

5.   Corrected problems painting the screen when inserting into a field that ends on line 24 position 80.

6.   Corrected problems painting the screen when using erase end of field key on fields that end on line 24 position 80.

Version 1.1c Changes:

1.   Fixed major problem with 3270 read buffer command. I think that this problem is now fixed.

2.   Extra debug logic added.

Version 1.1b Changes:

1.   Fixed problems with numeric fields.   Only allow 0 thru 9 minus and decimal to be typed from keyboard.

2.   Trailing nulls in fields are not sent to host.

Version 1.1a Changes:

1.   Fixed bug causing loops when cursor inserted on position 1,1 for some formatted screens

2.   implemented the erase unprotected to address 3270 command

Menu Commands:

Here is a list of the Menu Commands available:

Connect
Close
Exit
Edit
Print Screen
Setup
Help

Connect:

This item opens a dialog box which will allow you to establish a connection to a host.   The dialog box contains the following fields:

Host:

Enter the name or IP address of the host to which QWS3270 should connect. The default host that appears in this box can be changed using the SETUP/OPTIONS menu.

Port:

Enter the telnet port number that QWS3270 should use to make the connection.   The default port number that appears in this box can be changed using the SETUP/OPTIONS menu.

Language File:

Enter the fully qualified name of the file (ie c:\directory\file.typ) that QWS3270 should use to provide the character translation between the mainframe and the PC.   This allows QWS3270 to use a different language translation table to provide support forinternationalcharacter sets. The default language file that appears in this box can be changed using the SETUP/OPTIONS menu. Enter a value of English(U.S.) to use the default translation table that corresponds to the Country Extended Code Page number 037.

Close:

This menu item allows you to close the connection with the host.   No attempt is made to logoff or sign off from the host before the conection is closed.

Exit:

This menu item closes the window if no connection with a host exists.

Edit:
Allows access to the Windows clipboard functions:

Copy:
Copies the marked contents of the screen to the clipboard.   The area is marked by holding down the left mouse button and dragging the mouse until the desired area is marked.   If the marked area spans more than one screen line, the last non-blank character of   each screen row is followed by a carriage return and linefeed character.   The data is sent as text. This menu item is de-activated after the first Copy or Copy All.

Copy All:
Copies the entire contents of the screen to the clipboard. A carriage return and linefeed character are inserted after the last non-blank character in each line. The data is sent as text. This menu item is de-activated after the first Copy or Copy All.

Append:
Appends the marked contents of the screen to the clipboard.   The area is marked by holding down the left mouse button and dragging the mouse until the desired area is marked.   If the marked area spans more than one screen line, the last non-blank character of   each screen row is followed by a carriage return and linefeed character.   The data is sent as text. This menu item is activated after the first Copy or Copy All.

Append All:
Appends the entire contents of the screen to the clipboard. A carriage return and linefeed character are inserted after the last non-blank character in each line. The data is sent as text. This menu item is activated after the first Copy or Copy All.

Clear:
Deletes any data currently in the clipboard.   Menu items Append, Append All, and Print are de-activated.   Menu items Copy and Copy All are activated.

Paste:
Retrieves the contents from the clipboard and adds it to the screen starting at the current cursor position just as if the data was typed from the keyboard. Imbedded   carriage return and linefeed combinations are treated as a NEWLINE function.   Invalid characters in the retrieved data are ignored.

Print:
This function will invoke the Windows Print Manager to send the contents of the clipboard to the printer. The contents of the clipboard are cleared.   Menu items Append, Append All, and Print are de-activated.   Menu items Copy and

Copy All are activated.

Print Screen:

Allows the contents of the screen to be copied to an attached printer.   It can be activated using the mouse or by pressing the CTRL   and   P keys at the same time. This function will invoke the Windows Print Manager.

Setup:

This menu item allows to to customize QWS3270 to your preference.   The setup menu can be disabled by adding a DISABLESETUP= YES line in the [QWS3270] section of the qws3270.ini. This line can be added with the text editor of your choice.

Colours
Fonts
Options
Printer

Options:

This menu item allows to to set the options provided in QWS3270 to your preference.

Default Host:
This is the default host that will appear in the connect dialog box.   It can be a host name or an IP address.

Default Port:
This is the default port number that will apear in the connect dialog box. The default is 23.

Auto Connect:
When set to YES, QWS3270 will automatically attempt a connection to the default host and port when you double click on the icon from the Program Manager.   The default setting is NO.

Button Bars:
   Line 1:
When set to YES, QWS3270 will display a row of   mouse activated button bars for the following 3270 keys: Clear, Erase end of Field, Newline, PA1, PA2, and PA3.   The default setting is YES.

   Line 2:
When set to YES, QWS3270 will display a row of   mouse activated button bars for the following 3270 keys: ATTN, Dup, Erase Input, Reset, and Sys Req. The default setting is NO.

Exit on Close:
When set to YES, QWS3270 will automatically close the window when the connection to the host is closed.   The default setting is NO.

Language File:
This allows QWS3270 to use an external file as the character translation table to provide support for international character sets. Enter the fully qualified name of the file (ie c:\directory\file.typ) that QWS3270 should useto provide the character translation between the mainframe and the PC. Enter a value of English(U.S.) to use the default translation table that corresponds to the Country Extended Code Page number 037.

At the present time the following language translation files are provided with QWS3270:

english.lan   -   CECP page 037 English (U.S.)

belgian.lan   - language translation file for Belgian based   on CECP page 500.   This file

is provided courtesy   of Chi Xiaochen (xchi@ulb.ac.be)

danish.lan   - language translation file for Denmark/Norway based on CECP page 277.

Not all of CP277-1 has been   implemented)   This file is provided courtesy

of Peter Cordsen, Dan Computer Management, Copenhagen, Denmark

dutch.lan   - language translation file for Dutch.   This file   is provided courtesy of

Chi Xiaochen (xchi@ulb.ac.be)

french.lan   - language translation file for French.   This file   is provided courtesy of

Chi Xiaochen (xchi@ulb.ac.be)

german.lan   - language translation file for German/Austrian based on CECP page 273.

This file is provided courtesy of Michael Pellmann, MD-ADV, Vienna,

Austria

hebrew.lan   - language translation file for Hebrew.   This file is provided courtesy of

Tuvia Rothem, Haifa University,   Computer Center, Israel

itialian.lan   - language translation file for Italian.   This file   is provided courtesy of

Chi Xiaochen (xchi@ulb.ac.be)

norwegn.lan   - language translation file for Norwegian.   This file is provided courtesy of

Sven K. Strom, Technical University Library of Norway, N-7034

Trondheim, Norway

portugue.lan   - language translation file for Portuguese.   This file   is provided courtesy

of   Chi Xiaochen (xchi@ulb.ac.be)

spanish.lan   - language translation file for Spanish.   This file   is

provided courtesy of

                Chi Xiaochen (xchi@ulb.ac.be)

swedish.lan   - language translation file for Swedish.   This file is provided courtesy of

                 Johan Hofvander, Swedish University of Agricultural Sciences,

                Uppsala, Sweden

uk.lan   - language translation file for English(U.K.).   This file   is provided courtesy

               of   Chi Xiaochen (xchi@ulb.ac.be)

If you create one, send it to me with the appropriate docemetation and I will include it as part of the distribution.   Create your own custimized file as follows:

Create a file containing 512 bytes.   The first 256 represent the PCASCII hex equivalents of the host EBCDIC codes x'00' thru x'ff'.   The next 256 bytes represent the host EBCDIC hex   equivalents of the PC ASCII codes x'00' thru x'ff'.   The file ENGLISH.LAN is the default table used by QWS3270.

Message Beep:
When set to OFF, QWS3270 will suppress the beeps that are sent from the host to the PC.   The default setting is ON.

Terminal Type:
This allows you to choose the 3278 terminal type that QWS3270 will use when negotiating terminal types with the host.   The permitted values are displayed in the list box.   The IBM-3278-2 is a 24 line by 80 column display. The IBM-3278-3 is a32 lineby 80 column display.   The IBM-3278-4 is a 43 line by 80 column display.   The default is the IBM-3278-2.

Yale Null Processing:
When set to ON, QWS3270 will translate all null characters to blanks before sending the screen data to the host.   Most 3270 emulators have Yale Null Processing turned on.   Setting this parameter OFF will cause QWS3270 to simulate a true 3270 terminal.   The default setting is ON.

Colours:

This Menu allows you to customize the colours used by QWS3270.   You can select a colour for the following items:

Background:
Select the colour to be used for the background.   The default is black.

Unprotected Fields:
Normal:
Select the colour to be used for normal intensity un-protected fields.   The default is white.

Bright:
Select the colour to be used for high intensity un-protected fields.   The default is cyan.

Protected Fields:
Normal:
Select the colour to be used for normal intensity protected fields.   The default is yellow.

Bright:
Select the colour to be used for high intensity protected fields.   The default is red.

Fonts:

This menu item invokes the Windows supplied Font Selection dialog box to allow you to choose the font that QWS3270 should use to display the text on the terminal.   This dialog box only shows fixed pitch screen fonts.The default font is FIXEDSYS.

Printer:

This menu item invokes the Windows supplied Printer Setup dialog box to allow you to choose the printer that QWS3270 should use for all printer output.   This setting is saved in the .ini file for future use.

Help:

Provides access to the following QWS3270   help features:

Help:

Provides access to the Windows Help file for QWS3270.

Keyboard Mapping:

Provides information on special 3270 keys that do not have PC keyboard equivalents.

About:

Provides information about QWS3270 including the author, version number and the email address to use when reporting bugs.