

QWS3270 EXTRA Help Index

QWS3270 EXTRA 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 EXTRA is a Winsock 1.1 compliant application.

Availability

Change History

Command Line Parameters

Connecting to a Host

Disclaimer & Copyright

Enhancements Requested

Features

Installation

Keyboard Mapping

Menu Commands

System Requirements & Restrictions

Availability:

QWS3270 EXTRA is shareware and is available from:

Jolly Giant Software Inc.,
56 Chartwell Crescent,
Kingston Ontario
Canada K7K 6P3.

You can also send e-mail to Rymerson @ Post.QueensU.Ca. This is an enhanced version of the base QWS3270 product which is freeware. These enhancements were added on my own time, thus the charge to get a modest return for my time and to regain some of my investment in hardware and software. Attempts will be made to solve reported problems. Suggestions for enhancements are welcome. The inclusion of suggested enhancements will be determined by their perceived usefulness to the registered users of QWS3270 EXTRA.

These programs are protected by copyright law. Un-authorized reproduction or distribution of this program or any portion of it is not permitted without the expressed written permission of the author.

These programs are not to be re-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 EXTRA:

1. Use the CONNECT menu item. QWS3270 EXTRA 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 EXTRA to your preference. You can specify the default host using this menu. If you set the AUTO CONNECT feature to yes, then QWS3270 EXTRA 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\qws3270x host port. The port is optional and defaults to the value in the qws3270x.ini file. When a command line host is found, QWS3270 EXTRA 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 EXTRA will accept a host and port as command line arguments, it can be used with ARCHIE clients to connect to 3270 hosts.

Disclaimer & Copyright:

Programs are Copyright © 1994, 1995 by Jolly Giant Software. All Rights Reserved.

Written by:

Jim Rymerson
Jolly Giant Software
56 Chartwell Crescent
Kingston Ontario Canada
K7K 6P3
<Rymerson @ Post.QueensU.Ca>

These programs are protected by copyright law. Un-authorized reproduction or distribution of this program or any portion of it is not permitted without the expressed written permission of the author.

THE INFORMATION AND CODE PROVIDED IS PROVIDED AS IS WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DAMAGES WHATSOEVER INCLUDING DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, LOSS OF BUSINESS PROFITS OR SPECIAL DAMAGES, EVEN IF THE AUTHOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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 the University of California, Berkeley whose unix TN3270 telnet was the base for some of the 3270 code. Thanks to Amaresh R. Joshi of Michigan State University for his time spent drawing the QWS3270 icon.

Enhancements Requested:

Suggestions for improvements and enhancements are welcome. The inclusion of suggested enhancements will be determined by their perceived usefulness to the users of QWS3270 EXTRA.

Still to do:

1. Add some form of file transfer capability.
2. Allow a list of hosts in the connect dialog box.
3. Add some form of HLLAPI support.

Other suggestions that have been received:

1. Allow copy screen contents to file function.

Installation:

QWS3270 EXTRA 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 EXTRA.

1. Copy the distribution files to the directory of your choice.
2. The QWS3270X.INI must be in the working directory.

- OR -

- a. Copy QWS3270X.INI to the directory of your choice
 - b. Add a line in your autoexec.bat file to point to this file:
SET QWS3270X=c:\directory
 - c. Restart your computer for the SET command to take effect.
3. Create a program item for QWS3270 EXTRA.
The easiest way to add QWS3270 EXTRA 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 qws3270x.exe.
(c:\directory\qws3270x.exe)
 - e. Set the working directory as appropriate.
 - f. Click on OK.
4. Customize QWS3270 EXTRA using the SETUP menu within the application.

Note that you must have QWS3270X.HLP in your working directory OR in the Windows directory.

Keyboard Mapping:

The following describes the keyboard mapping as it applies to QWS3270 EXTRA. Also see the SETUP / KEYBOARD menu item for programmable keys.

3270 Function

ATTN
Clear
Dup
Erase End of Field
Erase Input
Field Mark
PA1
PA2
PA3
PF1 thru PF12
PF13 thru PF24
PF1 thru PF10
PF11 thru PF20
PF21 thru PF24
RESET
SYS REQ

PC key equivalent

ATTN button
Pause key or ALT C or Clear button
Dup button
CTRL E or Erase EOF button
Erase Input button
Field Mark button or CTRL F
ALT F1 or PA1 button
ALT F2 or PA2 button
ALT F3 or PA3 button
F1 thru F12 (enhanced keyboards)
shift F1 thru F12 (enhanced keyboards)
F1 thru F10 (normal keyboards)
shift F1 thru F10 (normal keyboards)
CTRL F1 thru F4 (normal keyboards)
CTRL R or ALT R or Reset button
ALT V or Sys Req button

PC key

Backspace
Cursor Keys
Shift Cursor Keys
End
F1 thru F12
Shift F1 thru F12
F1 thru F10
Shift F1 thru F10
Ctrl F1 thru F4
Home
Insert
^
|
Page Down
Page Up
Pause
Print Screen
Tab
Shift Tab

3270 Function

move cursor one position to the left
Normal Cursor Movement
Fast Cursor Movement (by 2s)
Move cursor to end of field
PF1 thru PF12 (enhanced keyboard)
PF13 thru PF24 (enhanced keyboard)
PF1 thru PF10 (normal keyboards)
PF11 thru PF20 (normal keyboards)
PF21 thru PF24 (normal keyboards)
Move cursor to first un-protected field on screen
Toggle insert mode
EBCDIC not sign (uppercase 6)
EBCDIC vertical bar (split bar on PC keyboard)
PF8
PF7
Clear
causes screen contents to be sent to the printer
Move cursor to next field
Move cursor to previous field

Special Keys

Alt C

Function

Clear

Alt F1	PA1
Alt F2	PA2
Alt F3	PA3
Alt R	Reset
Alt V	Sys Req
Backspace (when insert on)	Error Correcting Backspace
Ctrl A	Entry Assist toggle on/off
Ctrl C	Clipboard copy
Ctrl Delete	Delete word
Ctrl E	Erase End of Field
Ctrl Enter	Newline
Ctrl F	Field Mark key
Ctrl Insert	Clipboard Copy
Ctrl N	Newline
Ctrl R	Reset
Ctrl V	Clipboard Paste
Ctrl W	Word Wrap toggle on/off
Ctrl \	Cent sign
Ctrl <right arrow>	Tab to next word
Ctrl <left arrow>	Tab to previous word
Shift Insert	Clipboard Paste

System Requirements & Restrictions:

System Requirements:

QWS3270 EXTRA 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 EXTRA.

My development and testing is being done using the Trumpet Winsock Alpha #18. The application is running on a Packard Bell 486sx/33 with a 101 key keyboard running Windows for Workgroups 3.11.

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 3270 extended attributes have not been implemented:

- Field validation
- Field outlining
- Character sets
- Background colour
- Transparency

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

Command Line Parameters:

This section describes the command line arguments and syntax. All parameters are optional. Each parameter should be separated from the previous parameter by one space character. The command line syntax is:

QWS3270X <host> <port> <-Sfile.nam> <-Tnn>

<host> host to which the connection should be attempted. This can be a host name or an IP address. QWS3270 EXTRA will automatically attempt to make a connection to this host when the application is started.

<port> port number to which the connection should be attempted. The default is 23.

<-Sfile.nam> fully qualified script file name to execute. QWS3270 EXTRA will attempt to execute this script file when the application is started.

<-Tnn> Title number to use as Window Title. QWS3270 EXTRA will then use the nn portion of this parameter to look up a TITLEnn= parameter in the [QWS3270X] section of the .ini file. The TITLEnn= parameter can be added to the .ini file with the editor of your choice.

Notes:

If present the host and port parameters must be the first two parameters. The relative order of title and script parameters doesn't matter.

If the command line includes a host parameter, the script file, if present, should not contain a connect command.

Change History:

Version 2.1 Changes:

Jan 24, 1995

1. Added a Scripting feature. See the Features section of the help file for details.
2. Increased the Type Ahead buffer to 1024 characters to support scripting.
3. Added support for the Cursor Select key and the destructive backspace key.
4. Added ability to customize the Left Mouse Double Click to be used either for the point and click (hot spots) feature or as the cursor select key.
5. Added ability to remove a key re-definition from the keyboard re-mapping definitions using the None (key not defined) selection from the key selection dialog.
6. Added the ability to redefine the Right ALT key using the keyboard map dialogs. You will probably have to use the RESET ALL button before you can re-define the right ALT key.
7. Corrected following bugs:
 - a. Problems with word wrap in insert mode when the cursor is not in word that wraps.
 - b. Problems with ALT + key combinations on European keyboards being ignored.
 - c. Problem with SET QWS3270X=<dir> in autoexec.bat not being parsed properly.
 - d. Problem with Tab and Backtab keys not working properly on some PROFS screens.
 - e. Problems with blinking fields on some screens.
 - f. Problem with horizontal scroll bar overlaying button bars with 3278-5 terminals.

Version 2.0 Changes:

Nov 25, 1994

1. Added an Entry Assist feature. See the Entry Assist Features section of the help file for details.
2. Added support for the following keys: Tab to next Word; Tab to Previous Word; Delete Word; and Error Correcting Backspace. These key functions were added as part of the Entry Assist feature but are available even if the Entry Assist feature is not enabled.
3. Corrected following bugs:
 - a. Problems with window size at start up when terminal font is used.
 - b. Problems with two cursors displaying after using ERASE INPUT key.

Version 1.9 Changes:

Oct 21, 1994

1. Replaced buttons DUP and FIELD MARK with HOME and TAB.
2. Changed PASTE function to stop at bottom of the screen.
3. Added Reply Query parameters for Useable Area and Implicit Partition. Support for the Read Partition Query List command was also added.
4. Added the ability to have a thick frame border around the window.
5. Added ability to modify keypad keys /, *, -, + back to their actual key values.
6. Corrected following bugs:
 - a. Crashes when buffer network buffer was exactly 4096 bytes long.
 - b. Adjusted screen width calculation for Window title.
 - c. Corrections to Reply Query Highlighting for underline and reverse video.
 - d. Corrected problems when a PF key was pressed on a blank un-formatted screen.
 - e. Corrections so that Alt-Spacebar invokes the Control Menu.
 - f. Modified Read Buffer code to eliminate unnecessary extended attributes.

Version 1.8 Changes:

Oct 4, 1994

1. Added ability to use Windows standard key sequences for clipboard COPY and PASTE functions. You might have to use the RESET ALL button in the keyboard mapping menu to enable these keys. You will then have to re-map the keyboard to your preference.
2. Added ability to alter the window title. A command line parameter -tnn can be used to point to a TITLEnn= parameter in the .ini file. This title replaces the host name portion of the window title.
3. Added point click mouse feature. See the Mouse Support description in the FEATURES section of the help file for details.
4. Corrected following bugs:
 - a. Mapping for keypad ENTER key can be different from main keyboard ENTER key.
 - b. First mouse click not processed after window activated by mouse in non-client area.
 - c. Changes made to increase screen painting speed when changing screen sizes.
 - d. Changes to allow support of 14 bit buffer addresses.

- e. Changes to allow a Graphic Escape character in Repeat to Address orders.
- f. Changes so xSYS indicator is a more accurate indicator that keyboard is locked.
- g. Problems with escaped FF characters corrected.
- h. Problems with Write Structured Field command length calculations.
- i. Problems with window size or icon disappearing when QWS3270 started iconized.
- j. Changes in transparent print logic to reduce printing delays on some systems.
- k. Problem with Read Modified Command not generating proper Attention Identifier.

Version 1.7 Changes:

Sep 17, 1994

1. Streamlined code dealing with font selection.
2. Keyboard interface was completely re-written in preparation for a fully customizable keyboard.
3. Screen handling routines re-written to reduce the use of global variables.
4. Colour selection dialog expanded to include the ability to customize the 3279 colours.
5. Added option to display PF keys as button bars. PF1 thru PF12 are on one line. The other line includes PF13 thru PF24.
6. Modified telnet negotiation code to eliminate the dependence on the order which the telnet commands are received.
7. Full customized keyboard feature added.
8. Changed size of button bars to combine both rows into one. The Sys Req button was dropped.
9. Change menu to be more consistent with other Windows applications. Connect, Close, Exit, and Print Screen have been moved to the Host menu item.
10. Changed processing for button bars when the window is re-sized in an effort to speed up the window paint process.
11. Corrected following bugs:
 - a. Problems with EDIT / PASTE function when data spanned multiple lines.
 - b. Problem with Read Buffer command and Character Attributes.
 - c. Reset Key now clears the type ahead buffer.
 - d. Problems with null characters in blinking fields.

- e. Program crashes if window cancel option of window close message box choosen.
- f. Marking shows correctly after window has overlaid by another window.
- g. Marking show correctly after font is changed. The cursor size is also correct.

Version 1.6 Changes:

Aug 23, 1994

1. Added support for function keys for 84 key keyboards. See the Keyboard Mapping section of the help file for details.
2. Added ability to customize some keys. This feature will be changed and/or expanded in future releases.
3. Added option to allow QWS3270 EXTRA to become the top window whenever a message is received from the host. See the SETUP/OPTIONS menu item for details.
4. Added option to allow the selection of printer fonts. This will allow users to select the font size required to fit all 80 columns of data on the printer page. The selection is saved in the .ini file.
5. Expanded support for 3270 structured fields by adding code for the following Read Partition operations: Read Modified, Read Modified All, and Read Buffer.
6. Corrected following bugs:
 - a. Problems with screen painting with mod 3 terminals after CLEAR key pressed.
 - b. Display problems with SETUP / COLOURS dialog on 1024 x 768 displays.
 - c. Problems with reverse video highlight fields not displaying properly.
 - d. GPF with EDIT / PASTE function when Clipboard data was longer than 256 bytes.
 - e. Problems with Set Attribute (SA) All 3270 order.
 - f. Problems with Paste function and international characters.

Version 1.5 Changes:

Aug 4, 1994

1. Corrected following bugs:
 - a. General protection fault (GPF) problems with ATTN key.
 - b. Invisible fields displaying when they have an extended colour attribute.
 - c. Button bars not being created when new session started and log fills screen.
2. Modified code dealing with printer setup so that the options selected will be used for the remainder of the current 3270 session.
3. Expanded support for 3270 structured fields.

4. Changed key definitions that used ESC combinations in preparation for a customized keyboard feature.

Version 1.4 Changes:

Jul 26, 1994

1. Added Horizontal scroll bar for 3278 mod 5 terminals.
2. Corrected several bugs:
 - a. READ MODIFIED looping problems on some screens.
 - b. HOME key not working properly on some screens.
 - c. insert toggle now is set to off when the RESET key is pressed.
 - d. NEW LINE key now works with 3278 model 5 terminals.
 - e. cursor positioning when typing with insert mode on and field is full..
3. Added the ability to change the cursor shape. The default cursor shape is an underscore. It changes to a block when insert mode is on.
4. Added rapid cursor movement. Shift arrow keys caused cursor to move two spaces or lines.

Version 1.3 Changes:

Jul 6, 1994

1. The code to provide support for NVT terminals was completely re-written.
2. Added support for 3278 mod 5 terminals.
3. Corrected problem with the READ BUFFER command introduced by the 3279 support for entended highlighting and extended colours.

Version 1.2 Changes:

Jun 28, 1994

1. Corrected following bugs:
 - a. potential storage overlay problem with the Printer Setup dialog.
 - b. looping problems when connected to some hosts.
2. Added Blinking support for 3270 extended highlighting.

Version 1.1 Changes:

Jun 25, 1994

1. Corrected following bugs:
 - a. HOME key not working properly on some screens.

b. END key if the cursor was positioned after the last non-blank character in the field.

2. Defined the PAUSE key to function as the CLEAR key.
3. Defined PRINT SCREEN key to act like its name and cause the contents of the screen to be sent to the printer.
4. Changed the colour selection dialog to limit the available colours to the sixteen that are available for text and background colours.
5. Added support for 3279 extended colours and extended highlighting. At the moment blinking characters are displayed as marked fields (colour bits have been reversed).

Version 1.0 Changes:

Jun 13, 1994

1. Corrected problem with alternate screen sizes. QWS3270 Extra changes to alternate screen size only after receiving an erase/write alternate command. The screen size reverts to the standard screen size when one of the following occurs: a) an erase/write command is received; b) the terminal operator presses either the CLEAR key or the SYSREQ key.
2. Corrected sporadic problems with PA keys sometimes not sending the proper AID to the mainframe host.
3. Corrected sporadic problem reading data from the network when the last byte in the block is the TELNET Interpret as Command character.
4. Corrected problem where column 80 was dropped for EDIT / PRINT and PRINTSCREEN menu items on some printers.
5. Changed EDIT / COPY menu item to work like most other Windows applications.

Menu Commands:

Here is a list of the Menu Commands available:

Host

Edit

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 EXTRA 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 EXTRA 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 EXTRA should use to provide the character translation between the mainframe and the PC. This allows QWS3270 EXTRA to use a different language translation table to providesupport forinternationalcharacter sets. The default language file that appears in this box can be changed using the SETUP/OPTIONS menu. Enter avalue of English(U.S.) to use the default translation table that corresponds to the Country Extended Code Page number 037.

Script File: (optional)

Enter the fully qualified name of the file (ie c:\directory\file.typ) that QWS3270 EXTRA should use as the script file when connecting to the host. This parameter is optional.

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 connection 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.

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.

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.

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.

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.

Run Script:

This menu item invokes the Windows supplied File Selection dialog box to allow you to choose the script file that QWS3270 EXTRA should execute. Choose the script file to execute and press the OK button.

Host:

This menu item allows access to menu items that deal with connecting to and disconnecting from hosts.

Connect

Close

Print Screen

Run Script

Exit

Setup:

This menu item allows you to customize QWS3270 EXTRA to your preference. The setup menu can be disabled by adding a DISABLESETUP= YES line in the [QWS3270X] section of the qws3270x.ini. This line can be added with the text editor of your choice.

Colours

Cursor

Entry Assist

Fonts

Keyboard

Mouse

Options

Printer

Printer Font

Options:

This menu item allows to to set the options provided in QWS3270 EXTRA 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 appear in the connect dialog box. The default is 23.

Auto Connect:

When marked, QWS3270 EXTRA 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 not marked.

Bring to top with message from host:

When marked, QWS3270 EXTRA will automatically restore the window to full size if it is iconized and bring it to the top whenever data from the host is received. The default setting is not marked.

Button Bars:

Miscellaneous Keys:

When marked, QWS3270 EXTRA will display a row of mouse activated button bars for the following 3270 keys: ATTN, Clear, Erase end of Field, Erase Input, Home, Newline, Tab, PA1, PA2, PA3 and Reset. The default setting is marked.

PF1 - PF12:

When marked, QWS3270 EXTRA will display a row of mouse activated button bars for PF1 through PF12 at the bottom of the screen. The default setting is not marked.

PF13 - PF24:

When marked, QWS3270 EXTRA will display a row of mouse activated button bars for PF13 through PF24 at the bottom of the screen. The default setting is not marked.

Exit on Close:

When marked, QWS3270 EXTRA will automatically close the window when the connection to the host is closed. The default setting is not marked.

Message Beep:

When this indicator is not marked, QWS3270 EXTRA will suppress the beeps that are sent from the host to the PC. The default setting is marked.

Terminal Type:

This allows you to choose the 3278 terminal type that QWS3270 EXTRA 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 a 32 line by 80 column display. The IBM-3278-4 is a 43 line by 80 column display. The default is the IBM-3278-2.

Window Border:

This allows you to choose whether the window will have the thick frame border surrounding it. The default is no thick frame border.

Yale Null Processing:

When marked, QWS3270 EXTRA 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 EXTRA to simulate a true 3270 terminal. The default setting is marked.

Language File:

This allows QWS3270 EXTRA 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 EXTRA should use to 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 EXTRA:

english.lan - CECP page 037 English (U.S.). I would like to thank Andre Pirard,
University of Liege (Belgium) for his efforts in helping to

develop
the international characters portions of this file.

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

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

norweg.n.lan - language translation file for Norwegian. This file is provided courtesy
of
Sven K. Strom, Technical University Library of Norway, N-7034
Trondheim, Norway

swedish.lan - language translation file for Swedish. This file is provided courtesy of
Johan Hofvander, Swedish University of Agricultural Sciences,
Uppsala, Sweden

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

Create a file containing 512bytes. 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 EXTRA.

Script File: (optional)

Enter the fully qualified name of the file (ie c:\directory\file.typ) that QWS3270 EXTRA
should use as the script file when auto-connecting to the host. This file name will also
appear in the Script File field of the Connect dialog box. This parameter is optional.

Colours:

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

Background:

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

3278 Colours:

Unprotected Dim:

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

Unprotected Bright:

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

Protected Dim:

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

Protected Bright:

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

3279 Colours:

Blue:

Select the colour to be used for blue fields.

Red:

Select the colour to be used for red fields.

Pink:

Select the colour to be used for pink fields.

Green:

Select the colour to be used for green fields.

Turquoise:

Select the colour to be used for turquoise fields.

Yellow:

Select the colour to be used for yellow fields.

White:

Select the colour to be used for white fields.

Cursor:

This menu item allows you to change the shape of the cursor. You can choose a shape for normal typing mode and a separate one when insert mode is active.

Entry Assist:

This menu item allows you to specify the Entry Assist parameters so they can be saved between sessions or activated automatically when your session is established.

Entry Assist:

When marked, QWS3270 EXTRA will enable Entry Assist when connection to the host is established. If the connection has already been made, this entry can be used to toggle Entry Assist on and off. Entry Assist can also be toggled on and off using the Entry Assist key (default CTRL-A). The default setting is not marked.

Word Wrap:

When marked, QWS3270 EXTRA will enable Word Wrap (if Entry Assist is enabled) when connection to the host is established. If the connection has already been made, this entry can be used to toggle Word Wrap on and off. Word Wrap can also be toggled on and off using the WordWrap key (default CTRL-W). The default setting is not marked.

Margins:

Left Margin:

This specifies the column to be used as the left margin when the NEW LINE key is pressed or a word wrap occurs when Entry Assist is enabled. The default is column 1.

Right Margin:

This specifies the column to be used as the right margin when Entry Assist is enabled. If Word Wrap is on, the last word on this line will wrap to the next line when a character is entered in the column prior to the right margin. If word wrap is off and the margin type is standard, input will be inhibited when you attempt to type in this column. The default is column 80.

Bell Margin:

This specifies the column to be used as the bell margin when Entry Assist is enabled. The bell will sound when the cursor enters this column after a character has been entered. The default is column 80.

Right Margin Type:

A standard right margin causes input to be inhibited when you try to enter a character at the right margin position. The alternate right margin signifies an automatic margin release at the right margin when word wrap is off. The default is standard.

Tab Stops:

This allows you to define typewriter style tab stops to be used when in Entry Assist mode. A maximum of 20 tab stops can be defined. To add a new tab stop enter the number in the box to the left of the ADD button and press the Add button. To delete a tab stop, click it with the mouse and press the DELETE button. To delete all the tab stops, press the DELETE ALL button.

Fonts:

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

Mouse:

This menu item allows you to configure the left mouse double click to your preference:

None:

The left mouse double click is ignored

Hot Spots:

If the word under the mouse location contains PF1-PF24, PA1-PA3, CLEAR or ENTER then send the corresponding AID to the host (as if that key has been pressed).

Otherwise, move the cursor to current mouse location and simulate the ENTER key.

Cursor Select Key:

Move cursor to current mouse location and simulate the Cursor Select key.

Keyboard:

This menu item invokes a dialog box that allows you to customize the keyboard to your preferences. The settings are saved in the qws3270x.key file.

Printer:

This menu item invokes the Windows supplied Printer Setup dialog box to allow you to choose the printer that QWS3270 EXTRA should use for all Print Screen and Clipboard Print requests. This setting remembered as long as the window remains open.

Printer Font:

This menu item invokes the Windows supplied Font Selection dialog box to allow you to choose the font that QWS3270 EXTRA should use to output text to the printer. This dialog box only shows fixed pitch printer fonts. The default font is FIXEDSYS. The selection is saved in the .ini file.

Help:

Provides access to the following QWS3270 EXTRA help features:

Help:

Provides access to the Windows Help file for QWS3270 EXTRA.

Keyboard Mapping:

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

About:

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

Features:

This explains some of the special features available in QWS3270 EXTRA:

Clipboard Support

Enhanced Key Support

Entry Assist

Mouse Support

Other Features

Scripting Support

Transparent Printing

Clipboard Support:

QWS3270 EXTRA 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.

Enhanced Key Functions:

Delete Word

Press the DeleteWord (CTRL-DEL by default) key to delete a word. This deletes the remainder of the word from and including the cursor position. The deletion includes the trailing null or space if it is not a partial word delete. The words following (to the end of the row or the first attribute character) shift to close the gap. Subsequent rows do not shift.

Error Correcting Backspace

Press the backspace when in insert mode to delete the character to the left of the cursor position. All characters to the right of the deleted character in the same field are shifted to close the gap.

Tab to Next Word

To move the cursor to the first character of the next word, press the NextWord (CTRL-right arrow by default) key. If the cursor is within the last word on a line within margins, the cursor moves to the first null or blank after that word. The final cursor location must be an unprotected field.

Tab to Previous Word

To move the cursor to the first character of the previous word, press the PreviousWord (CTRL-left arrow by default) key. The cursor moves to the first character of the current word. If the cursor is at the first position of the current word, or if it is not positioned under a word, the cursor moves to the first character of the previous word. The final cursor location must be an unprotected field.

Entry Assist:

The Entry Assist function provides functions that make it easier to enter and edit text material. Entry Assist has margins, tabs and an audible end of line signal. Each of these functions acts just like the corresponding functions on a typewriter.

Entry Assist has a word wrap facility, which allows you to type without having to use the New Line key. Word Wrap automatically does a New Line function for you when you need a new line. Word wrap picks up any partially typed word and places it on the next line. (the next line must be empty).

Entry Assist has functions that allow you to delete a word, move the cursor to the next or previous word, display the row and column number of the current cursor position, and backspace-delete when in insert mode.

Enabling Entry Assist and/or Word Wrap

To enable Entry Assist, press the Entry Assist (CTRL-A by default) key sequence. This will enable Entry Assist. If Entry Assist was off, the 'DOC' indicator will appear in the operator information area. Enabling Entry Assist will provide a cursor position indicator. As you move the cursor, the indicator will provide the location of the cursor in a row/column format.

If Word Wrap was previously enabled it will automatically be enabled at this time. A w (lower case w) will display beside the DOC indicator. To enable/disable Word Wrap, press the WordWrap (Ctrl-W by default) key sequence.

Changing the Margins and Tabs

To change the margins, tabs, and bell margin, select the "Entry Assist" option from the SETUP menu item. Once you have changed the settings to your preference, press the OK button to save and activate the settings.

Entry Assist Features

Cursor Position Indicator

Enabling Entry Assist will provide a cursor position indicator. As you move the cursor, the indicator will provide the location of the cursor in a row/column format.

Word Wrap

With Word Wrap enabled, QWS3270 Extra will automatically wrap the word to the next line as you reach the right margin. The restriction is that the next line must be clear if you are not in Insert mode. If you are in Insert mode, the word will be wrapped only if there are enough ending spaces or nulls within the margins of the next line to

accommodate the wrap.

Enhanced Cursor Tab

When you press the Tab key, the cursor moves to the next unprotected tab stop, replacing unprotected null characters with space characters. If there are no intervening tab stops, the cursor moves to the next unprotected field. Null characters are not changed to space characters in this operation. The Enhanced Cursor Tab function does not wrap the cursor from the lower right to the upper left of the screen. **NOTE:** This key replaces nulls with blanks only when tab stops are set and Entry Assist is enabled.

Enhanced Cursor BackTab

The enhanced cursor backtab function moves the cursor to the previous tab stop or the first unprotected character location of the current or previous field, whichever is closer. Nulls are not changed to spaces. The enhanced cursor backtab function does not wrap the cursor from the upper left to the lower right of the screen.

Enhanced New Line

Press the New Line key to move the cursor to a new line. The New Line key observes the left margin and moves the cursor to the left margin of the next row. If the left margin is protected, the cursor moves to the first unprotected position to the right of the left margin within the entry areas. Unprotected null characters on the newline (from the position to the left of the left margin, and within the same field as the cursor) are changed to spaces. If the entire screen within the margins is protected, the cursor moves to the left margin of the first screen row.

Mouse Support:

left mouse button single click:

Move cursor to current mouse location.

left mouse button double click:

If the word under the mouse location contains PF1-PF24, PA1-PA3, CLEAR or ENTER then send the corresponding AID to the host (as if that key has been pressed).

Otherwise, move the cursor to current mouse location and simulate the ENTER key.

right mouse button single click:

Copy the word under the mouse pointer to the current cursor position if the cursor is within an un-protected field, otherwise beep and no action.

right mouse button double click:

Copy the word under the mouse pointer to the current cursor position if the cursor is within an un-protected field and simulate the ENTER key, otherwise beep and no action.

Other Features:

Changing default Window Title:

The host name in the window title can be replaced with a parameter from the .ini file. This can be done by placing a -Tnn parameter as the last command line parameter of the Program Item Properties entry for the QWS3270 icon. QWS3270 will then use the nn portion of this parameter to look up a TITLEnn= parameter in the [QWS3270X] section of the .ini file. TheTITLEnn= parameter can be added to the .ini file with the editor of your choice.

Disabling Setup Menu Item:

The setup menu can be disabled by adding a DISABLESETUP=YES line in the [QWS3270X] section of the qws3270x.ini.

Tektronix 4010 graphics emulator support:

QWS3270 EXTRA includes support for Tektronix 4010 terminal emulation.

Type Ahead Buffer:

QWS3270 EXTRA has a 1024 character type ahead buffer. This allows key board input while waiting for the host to process the last attention key.

Transparent Printing:

QWS3270 EXTRA 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 EXTRA.

Scripting Support:

This explains some of the scripting features available in QWS3270 EXTRA:

Commands Supported

Executing Scripts

Executing Scripts:

There are several ways to execute scripts:

1. The **Host / Run Script** menu item invokes the Windows supplied File Selection dialog box to allow you to choose the script file that QWS3270 EXTRA should execute. Choose the script file to execute and press the OK button.
2. The **Host / Connect** dialog box allows you to choose a script file that QWS3270 EXTRA should execute after a connection is established with the host.
3. The **Setup / Options** dialog box allows you to choose a default script file that QWS3270 EXTRA should execute after a connection is established with the host. This script will be executed when the application is started if **Auto Connect** box is checked or a host is present on the command line.
4. The **<-Sfile.nam>** command line parameter allows you to specify a fully qualified script file name to execute. QWS3270 EXTRA will attempt to execute this script file when the application is started.

Commands Supported:

General Command Syntax:

<command> "parameter" where <command> can be one of the following:

connect key title lookfor password prompt type

The syntax is fairly flexible (I hope). The command '**lookfor**"text"' is the same as '**lookfor** "text"' and '**lookfor** "text"'. In other words, the blanks between the command and the parameter are ignored. The commands can be strung together like **type**"myname"**key**"tab"**type**"mypass"**key**"enter". Each of these commands could be on separate lines separated by CR LF characters. Scripts can be created with the editor of your choice.

The meaning of the parameter for each of the commands is:

connect - host to which connection is to be established. This can be an IP address or an host name

key - name of a key to be simulated. . For example: **key** "enter" will simulate an enter key; **key** "PF1" will simulate a PF1 key; **key** "tab" will simulate a tab key. The names are the same as those found in the keyboard mapping dialogs.

lookfor - text that QWS3270 EXTRA will scan for in future data streams received from the host. The text is case sensitive. The command **lookfor** "userid" is not equivalent to **lookfor** "USERID".

password- the message that is to appear in the dialog box that will receive the input. All characters typed will display as astericks (*). This is ideal for password prompts.

prompt - the message that is to appear in the dialog box that will receive the input. All characters will appear as typed.

type - the characters that would be typed on the keyboard. This data is case sensitive. For example **type** "This Text" will result in the characters "This Text" to be typed at the current cursor location.

title - text to be used as the Window title instead of the host name.

