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YES*tation* User's Guide for Text Based Terminal Model 2209

YES*tation* Limited Warranty

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c o m p u t e r   p r o d u c t s

Installing Your Terminal

- Your terminal has no internal fan, and relies on natural airflow for cooling. When you mount it, *make sure to keep as many ventilation holes, as possible, unobstructed.*
- DO NOT use any AC-DC adapter other than the one provided with the terminal or acquired from Affirmative Computer Products or its distributors.

Mounting

The 2209 terminal can be placed horizontally on a flat surface, or it can be mounted vertically on a wall. A self-adhesive template and four #3, ½-inch wood screws are included with every terminal. The following figure shows one mounting possibility.
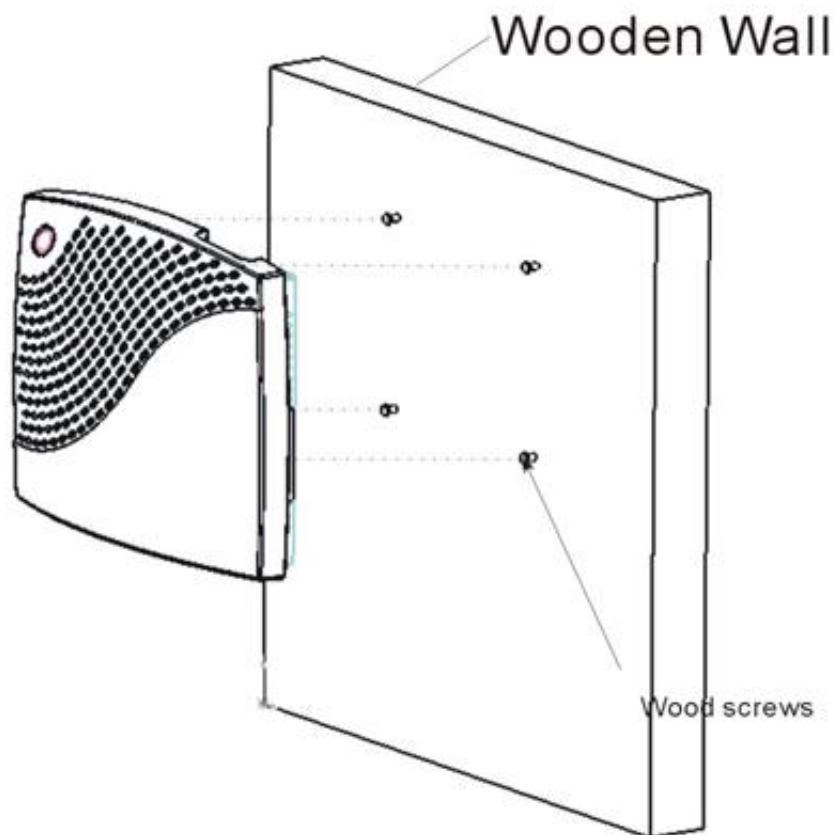
2209 Wall Mounting

Another possibility is shown here.

2209 Monitor Mounting

We have done some testing with the provided screws, and have the following suggestions:
- In soft wood, such as pine, no pilot holes are needed.
- In hard wood or plastic, such as the side of a monitor, create pilot holes by:
  - Drilling with a 3/64" drill bit.
  - Using a pushpin.
  - Using an ice pick.
- In dry wall, these screws do not hold well; if you must install on dry wall, we suggest that you:
  - Drill 3/64" pilot holes and put super glue in the holes before inserting the screws.
  - Or
  - Use longer screws with coarser threads.

Cabling

Please make all cable connections before turning on the power. The following figures show the 2209 rear and front connectors.
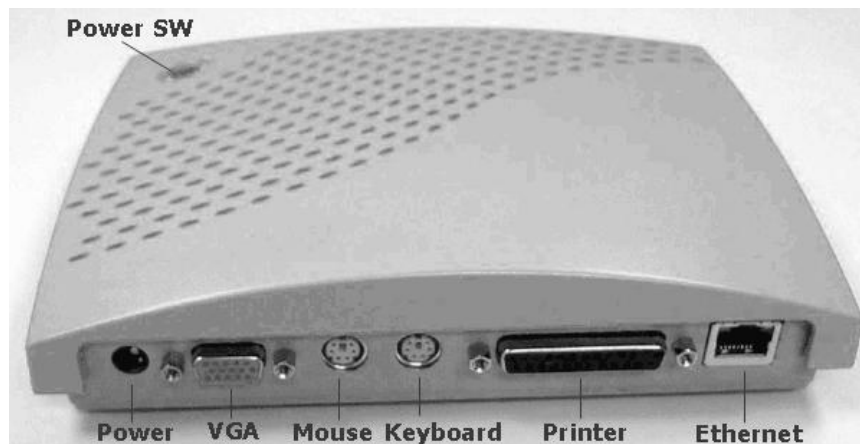
2209 Rear Connectors

2209 Front Connectors

Power On and Boot Up

1. Turn on the terminal after all rear panel connections have been made.
2. The translucent **Power** button will change from faint orange to light green.
3. You will see the message **Starting System. Please Wait…** on a black screen.
4. After several seconds, you will see the YES*tation* logo screen with a progress bar at the top and a dialog box at the bottom announcing significant steps in the boot up process.
5. After the progress bar is complete, you will see a blank black screen, followed in several seconds by a blank grey screen, followed quickly by:
   - In the default TBT viewing mode, the grey screen will be quickly followed by a blank black screen and then by a "green screen" displaying the Terminal Properties categories. If you have already configured some sessions, you will see a session green screen


```
Affirmative Computer Products INC.                Linux Terminal YES
----------------------------------------------------------------------
                            Terminal Properties

   Terminal Properties ->

   Network Settings ->

   Input Settings ->

   Display Settings ->

   Upgrade ->

   Security Settings ->

   Connections ->




   ENTER - Select      F3 - Save & Exit    F12 - Exit without saving
----------------------------------------------------------------------
```
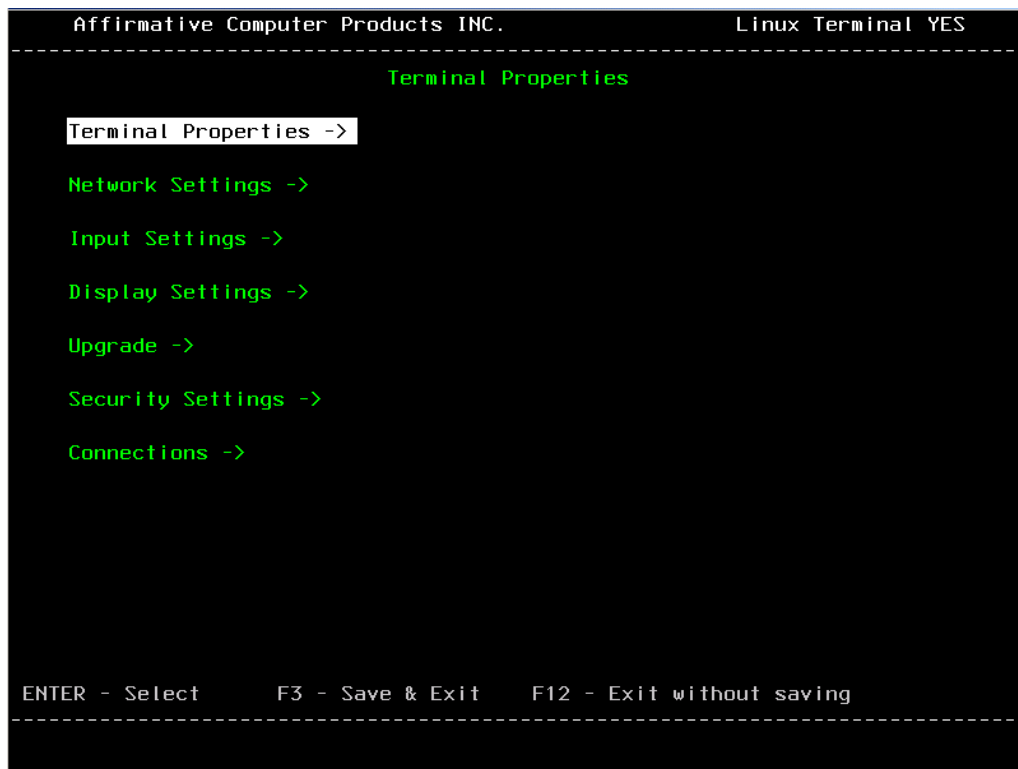
Bootup Terminal Properties Screen for TBT Viewing Mode

- In the WBT viewing mode, the black screen will be quickly followed by a blue screen that is overlaid with the Connections tab of the Connections Management screen. If you have configured some sessions to Autostart (see Connections Management|Configuration|Startup), you will see a session green screen.
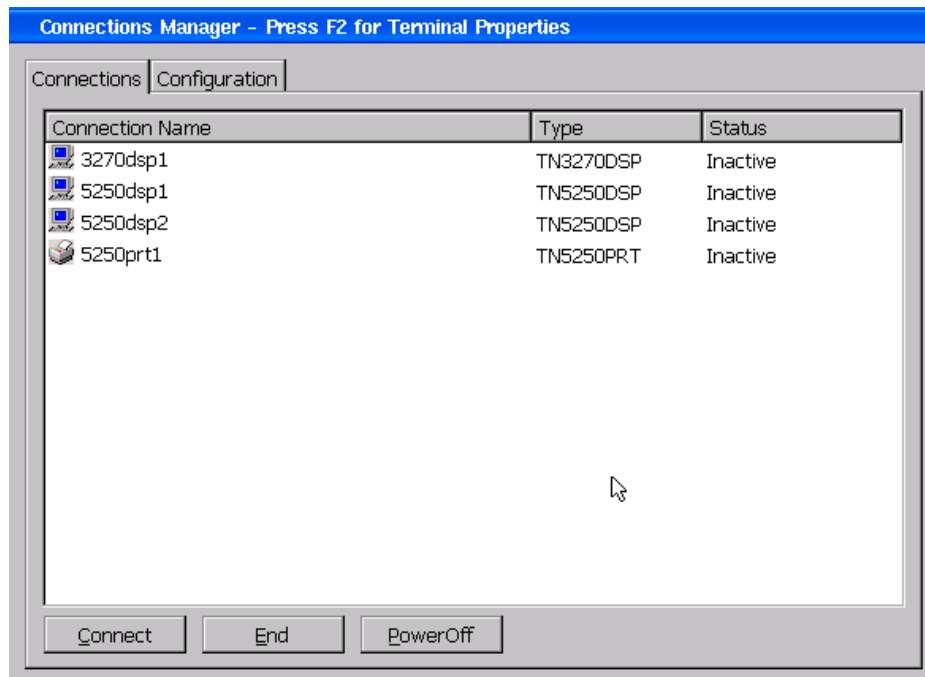
Bootup Connections Manager Screen for WBT Viewing Mode

- In the Desktop viewing mode, the black screen will be quickly followed by a blue screen and then the Desktop screen.
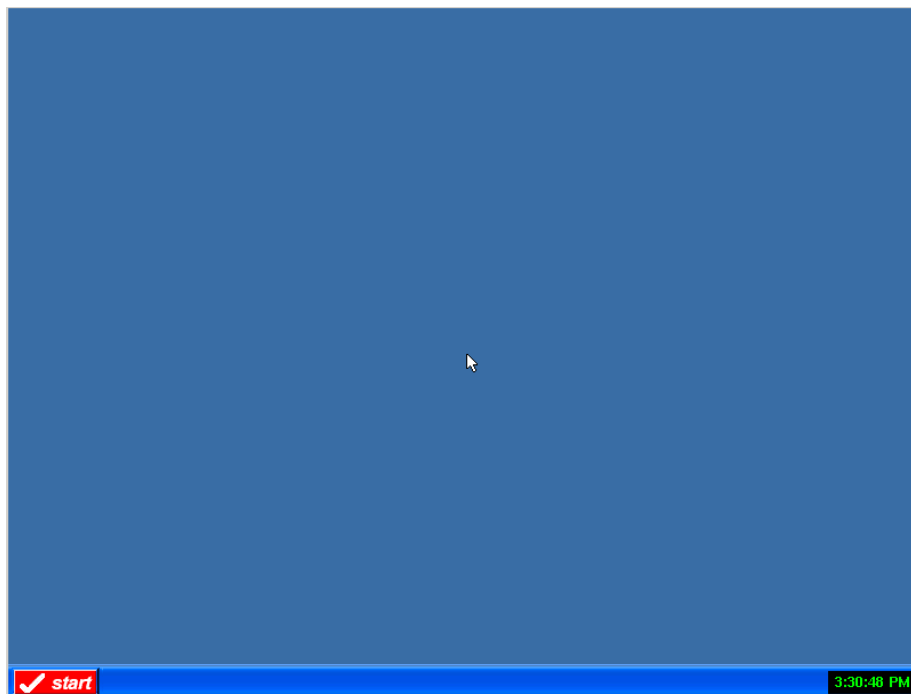
Bootup Desktop Screen for Desktop Viewing Mode

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Terminal Setup

The 2209 can be operated in one of three viewing modes: TBT (Text Based Terminal), WBT (Windows Based Terminal), or Desktop. The default is TBT, which provides a familiar terminal "green screen" look, and the mechanics of TBT setup are covered here. However, the terminal properties and session properties are identical in the different viewing modes; only the look and feel are different. Initial terminal setup is done from the Terminal Properties screen in TBT viewing mode. Initial setup is done when:

- A terminal is first booted up after being received from the factory.
- A terminal is reset to factory defaults and then rebooted.

```
 Affirmative Computer Products INC.                 Linux Terminal YES
--------------------------------------------------------------------------
                            Terminal Properties

 Terminal Properties ->

 Network Settings ->

 Input Settings ->

 Display Settings ->

 Upgrade ->

 Security Settings ->

 Connections ->




 ENTER - Select       F3 - Save & Exit    F12 - Exit without saving
--------------------------------------------------------------------------
```
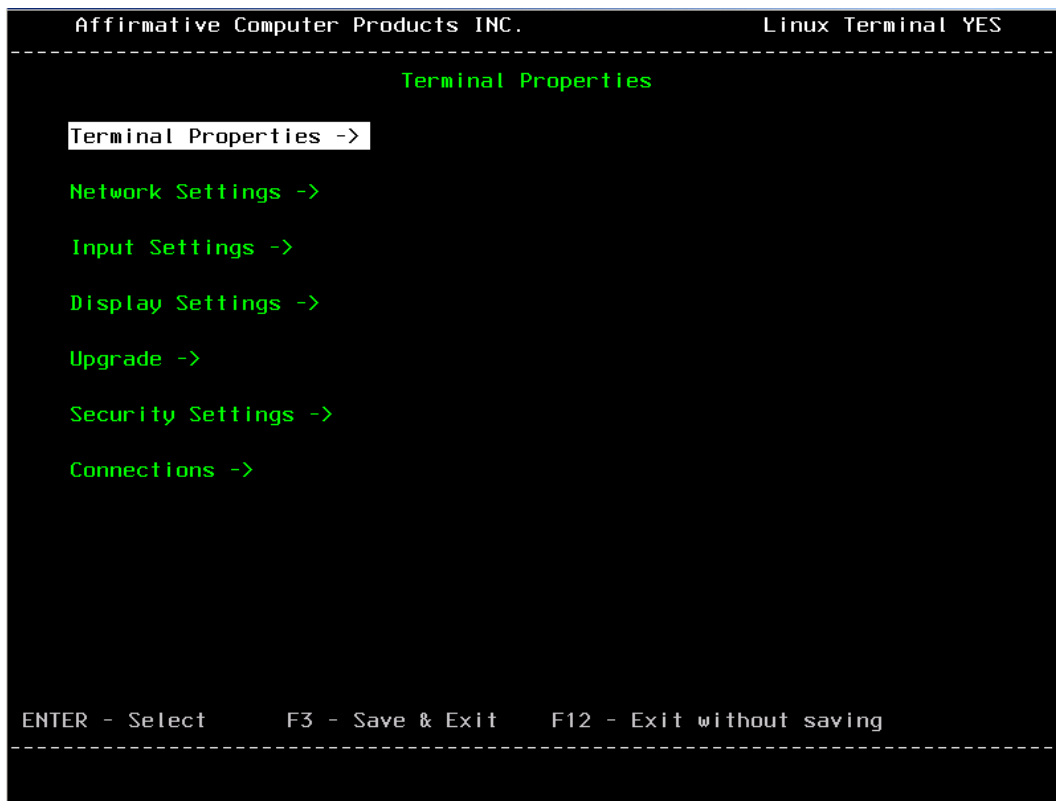
Bootup Terminal Properties Menu for TBT Viewing Mode

The Terminal Properties property sheets set the basic terminal network configuration and display parameters. Any parameters set here can be changed later.

The Terminal Properties property sheets in TBT viewing mode can be navigated without a mouse; in fact you cannot use a mouse here. When proceeding through these sheets:
- Move among properties or property sheets using the **Tab**, **UpArrow**, or **DownArrow** keys.
- Move among the property options using the four **Arrow** keys.
- Select an option by pressing either the PC **Enter** key or the terminal **Enter** (**RightCtrl**) key.

- When you have completed configuring the properties in a sheet, press **F3** to back up one screen. Note: The input focus must be on a property, not on a property option, for **F3** to function.
- To save any changes, you *must back up* to the Terminal Properties screen and then press **F3**. Some settings will take effect immediately after you **F3** out of this screen. Others may cause the screen to go blank for several seconds, and some will cause the terminal to reboot.
- After you have saved your changes, you will often encounter a blank black screen. Press **LeftCtrl+Alt+End** to return to a regular screen.

The Terminal Properties property sheets are discussed here in the order in which they appear on the Terminal Properties menu.

Terminal Properties

```
Affirmative Computer Products INC.              Linux Terminal YES
---------------------------------------------------------------
                       Terminal Properties

   Affirmative Computer Products INC.
   http://www.affirmative.net


   Product Name ............... Linux Terminal YES
   Product ID ................. 00:90:DC:02:0C:FC
   Kernel Version ............. 2.4.18
   Software Version ........... 02.03l1-TBT 2003-07-28 *MOD*

   Total RAM .................. 53836 KB
   Used RAM ................... 22256 KB
   Video RAM .................. 8192 KB

   CPU Info ................... ff/00 - 199.50 MHz

   Terminal Modality .........  TBT      WBT      Desktop

   <Parameters to factory default>



 ENTER - Select      F3 - Back           F12 - Cancel
---------------------------------------------------------------
```

Terminal Properties Property Sheet for TBT Viewing Mode

- **Product ID**. This is a unique product identification code that also happens to be the terminal MAC address. Every device on every LAN in the world is supposed to have a unique MAC address.
- **Kernel Version**. This is the version of the Linux kernel used on the terminal.
- **Software Version**. This is the version of the firmware installed in this terminal. If you contact Affirmative Computer Products Tech Support about a problem, please have this version information available.
- **Total RAM**. This is the amount of DRAM in the terminal after subtracting the memory used for some basic functions and the memory reserved for video.
- **Used RAM**. This is the amount of total RAM that is currently being used.

- **Video RAM**. This is the amount of RAM that has been reserved for video display. This amount is set in the terminal BIOS and is not a configurable parameter.
- **CPU Info**. This shows some basic information about the CPU in the terminal.
- **Terminal Modality**.   You can choose one of three viewing modes.
  - **TBT**. The Text Based Terminal mode is what you are seeing in this section. It is designed to allow terminal operation and basic configuration without a mouse. The screens are very familiar to those users who have stared at dumb terminal "green screens". Sessions are Autostart at bootup by default, and only one session can be viewed on the screen at a time.
  - **WBT**. The Windows Based Terminal mode presents the kind of screens that you normally see in an Affirmative Computer Products YES*tation* that uses the Windows CE operating system. More configuration options are accessible in the WBT and Desktop modes than in the TBT mode, so if you want to do some fine-tuning, you will have to switch to WBT or Desktop mode. Sessions are launched from the Connections Manager, although they can be configured to Autostart at bootup. All sessions can be viewed simultaneously in a split-screen mode, if desired; each session will get the same amount of space on the screen.
  - **Desktop**. The Desktop mode presents a desktop screen with a Taskbar and a **Start** button, very similar to a standard Windows desktop. The same configuration options are available here as in WBT mode. Sessions are launched from the Start menu or from Connections Manager, although they can be configured to Autostart at bootup**.**   In Desktop mode, you can size and show multiple sessions on the screen in normal Windows fashion.

  See Viewing Modes for examples and more details.
- **Restore the terminal parameters to factory default**. Activate this check box to reset the terminal to its factory default settings. When you do this, you will get a dialog box asking you to confirm your intentions.

Network Settings

```
   Affirmative Computer Products INC.              Linux Terminal YES
-------------------------------------------------------------------------
                         Network Settings

   Use DHCP .................         Yes  No


   IP address:  ...............      100.100.100.115
   Subnet Mask: ..............       255.255.255.0
   Default Gateway:  ..........      100.100.100.254


   Terminal Name: ............       YES_020CFC







   Advanced parameters ->




   ENTER - Select       F3 - Back          F12 - Cancel
-------------------------------------------------------------------------
```

Network Settings Property Sheet for TBT Viewing Mode

- **Use DHCP**. Leave this setting at the default **Yes** to enable DHCP addressing. Select **No** to enable the following three fields for a specific IP address setting.
    - o **IP Address**. Enter a static IP address in this field. If you have selected DHCP addressing, the assigned address will appear in grey in this field.
    - o **Subnet Mask**. Enter the subnet mask of the local network. If you have selected DHCP addressing, the assigned subnet mask will appear in grey in this field
    - o **Default Gateway**. Enter the IP address of a gateway if any server is not on the local sub-net. If you have selected DHCP addressing, the assigned gateway will appear in grey in this field
- **Terminal Name.** The default name uses the last six characters of the terminal MAC address to provide a unique name for easy identification when using network management and administration software. You can change it to a more-friendly name if you wish.

Advanced Parameters

Select this property set to see the following screen.

```
PC HOSTNAME                                                          _ | □ | x
         Affirmative Computer Products INC.              Linux Terminal YES
-----------------------------------------------------------------------------

         Enable DNS ................  Yes  No

         Default Domain: ...........  search
         Primary Server IP address ..  100.100.100.26
         Secondary Server IP address


         Network: ..................
         Broadcast: ................


         Ethernet Mode                          ▶
         Mode:  ....................  Autonegotiation
                                       10 Mbit per sec, Half-Duplex
                                       10 Mbit per sec, Full-Duplex
                                       100 Mbit per sec, Half-Duplex
                                       100 Mbit per sec, Full-Duplex
         MTU: ......................  1500




  ENTER - Select        F3 - Back          F12 - Cancel
-----------------------------------------------------------------------------
```

Network Settings Advanced Parameters Sub-Property Sheet for TBT Viewing Mode

- **Enable DNS.** This entry will be active only if you chose not to use DHCP in the previous screen. You will need to identify a Domain Name System server only if you wish to identify session hosts by network name rather than IP address. Select **Yes** to enable the three fields for the DNS setting. Get the entries from your network administrator.

- **Network/Broadcast**. These entries will be active only if you chose not to use DHCP in the previous screen. For typical networks, nothing need be entered here. But some networks will require that you enter the first three octets of the network IP address in **Network** and the IP address of the network gateway in **Broadcast**. Let your network administrator determine the need.
- **Ethernet Mode**.
  - o **Mode**. Select network speed and traffic mode from the list, or let the network circuitry perform auto-negotiation with the hub or switch.
  - o **MTU**. Leave this number alone unless your network administrator dictates a change

Input Settings

```
 Affirmative Computer Products INC.              Linux Terminal YES
------------------------------------------------------------------------
                           Input Settings


   Keyboard
   Layout:  ...................   it  us  gr  se
   Enable Numlock at startup ..  Yes  No


   System Language
   Lang:  .....................  English     Italiano

















 ENTER - Select      F3 - Back           F12 - Cancel
------------------------------------------------------------------------
```

Input Settings Property Sheet for TBT Viewing Mode

- **Keyboard**
  - o **Layout**. Select a language for the keyboard.
  - o **Enable NumLock on Boot**. Select **Yes** to force Numeric Pad NumLock when the TBT starts up.
- **System Language**. Select the language to be used for most non-session screens.

Display Settings

```
Affirmative Computer Products INC.                Linux Terminal YES
----------------------------------------------------------------------
                          Display Settings

      Video Resolution
      Resolution ................ 640x480   800x600   1024x768   1280x1024
      Frequency ................. 60Hz   72Hz   75Hz   85Hz
      Color bits per pixel: ...... 8bpp   16bpp
      <Test Video Settings>

      Screen Saver
      Type: ..................... None     Blank     X Logo     Penguin
      Timeout (minutes): ......... 1    5    10   15   30   45   60

      Enable Power Saving - DPMS
      Enable .................... Yes   No
      Standby after - minutes: ... 20
      Suspend after - minutes: ... 30
      Power off after - minutes: . 60




      ENTER - Select      F3 - Back           F12 - Cancel
----------------------------------------------------------------------
```

Display Settings Property Sheet for TBT Viewing Mode

- **Video Resolution**. Select your resolution, refresh frequency, and color depth here. Even in the TBT viewing mode, the **Video Resolution** settings will have an effect on the green screen font since higher resolutions provide more pixels per character.
    - o **Test Video Settings**. Use this to preview the selected resolution and frequency. Testing is required before locking in your settings; if the monitor will not support your selection, you will be faced with an unreadable screen after boot-up. If you have ventured into the Video Resolution settings in any way, you will not be allowed to back out of this screen until you have performed the test.
- **Screen Saver**. By default this function is not enabled.
    - o **Type**. Choose none or one of three screen saver types.
    - o **Timeout.** Select the screen saver timeout
- **Enable Power Saving**. If you select **Yes** to enable power saving, you will activate the following three settings:
    - o **Standby**. Enter the number of minutes (1-999) for the Standby timeout. Standby acts much like a blank screen saver.
    - o **Suspend**. Enter the number of minutes (1-999) for the Suspend timeout.. Suspend turns off most terminal functions, such as the video sync signal.
    - o **Power off**. Power Off is not supported at this time.

Note: The timeout numbers are *not* cumulative; if the Suspend timeout is shorter than the Standby timeout, the terminal will go into Suspend without ever going into Standby.

Upgrade

```
Affirmative Computer Products INC.            Linux Terminal YES
-------------------------------------------------------------------

                            Upgrade

    Upgrade Server
    IP address  .................        [                    ]
    Port  .......................        [9999  ]

    Available Upgrade
    Package  ....................        None
    Version  ....................

    <Query upgrade server>
    <Upgrade>




    ENTER - Select      F3 - Back           F12 - Cancel
-------------------------------------------------------------------
```

Upgrade Property Sheet for TBT Viewing Mode

Use the Upgrade sheet if you wish to update your terminal's firmware from a YES*manager* host. For more information, please refer to the Firmware Upgrades section.

Security Settings

Select various levels of configuration, access, and shadowing security here.

```
 Affirmative Computer Products INC.              Linux Terminal YES
---------------------------------------------------------------------
                        Security Settings

   Require password to modify configuration
   Active .....................   Yes  No
   Password: .................        [          ]
   Confirm:  .................        [          ]

   User Authentication
   Active ....................   Yes  No
   Password: .................        [          ]
   Confirm:  .................        [          ]
   Allow change ..............   Yes  No

   Shadowing
   View Only .................   Yes  No
   Full Control ..............   Yes  No




   ENTER - Select      F3 - Back         F12 - Cancel
---------------------------------------------------------------------
```

Security Settings Property Sheet for TBT Viewing Mode

- **Require Password…**. Select **Yes** to enable password security for terminal configuration. Then enter and confirm a password in the boxes.
  Note: The password is designed to avoid any unreasonable change to the Terminal Properties Settings. Please do NOT activate the password unless you are the administrator. If you forget the password, it will be difficult to recover. There is only one method of local recovery if you forget the password.
  o   Ask your system administrator to use the secret hot key sequence to reset Terminal Properties to factory defaults.
- **User Authentication**. Select **Yes** to enable password security for user access to sessions. Then enter and confirm a password in the boxes. You can also allow or forbid the user to change the user password.
  Note: Even if a user password is required, the user can still access Terminal Properties without entering the correct password. Therefore, it is strongly recommended that you also enable **Require Password…** if you are going to use user authentication.

- **Shadowing**. When used in conjunction with YES*manager*, Affirmative Computer Products' powerful Remote Central Manager, the terminal's screens can be viewed remotely, and full remote control of the terminal can be enabled.
  - o **View Only**. Select **Yes** to allow the terminal screens to be viewed at the remote YES*manager* console.
  - o **Full Control**. Select **Yes** to allow full control of terminal functions from the remote YES*manager* console. Actually, when shadowing is activated in YES*manager*, control will be shared between the remote administrator and the local user. **Note:** Enabling **Full Control** will have no effect unless you also enable **View Only**.

Connections

Select this category to display the Connections Manager sheet. In this sheet, you can add and edit emulation sessions. Initially, there will be no sessions shown on this screen, so you will have to add at least one in order to get any use out of the terminal.
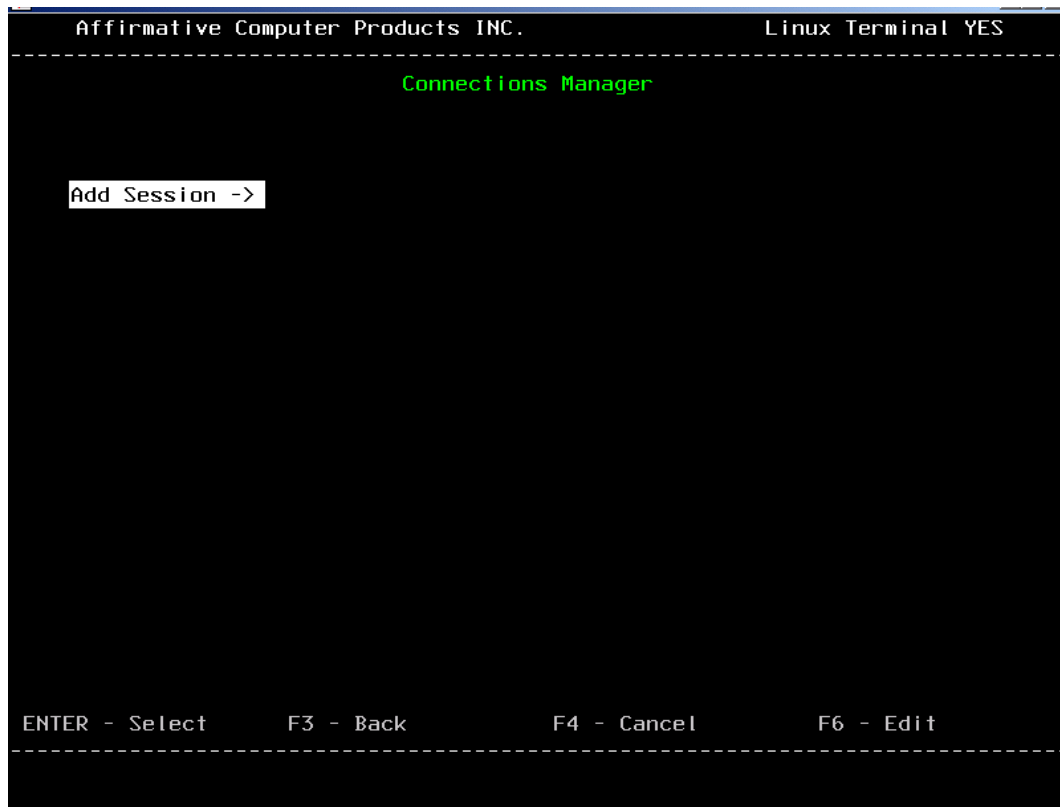
Connections Manager Sheet for TBT Viewing Mode

See Creating an Emulation Connection for details on adding emulation sessions.

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Viewing Modes

You can choose one of three viewing modes (see Terminal Setup|Terminal Properties) to be used during configuration and terminal operation.

NOTE: In the remainder of this document, a reference to the **Ctrl** key actually means the **LeftCtrl** key, a reference to the **Alt** key actually means the **LeftAlt** key, and a reference to a click actually means a mouse left click.

TBT (Text Based Terminal)

The Text Based Terminal mode is the default mode. It is designed to allow terminal operation and basic configuration without a mouse. The screens are very familiar to those users who have stared at dumb terminal "green screens". Sessions are Autostart at bootup by default, and normally only one session can be viewed on the screen at a time. However, all sessions can be viewed simultaneously in a split-screen mode, if desired; each session will get the same amount of space on the screen.

Terminal Properties
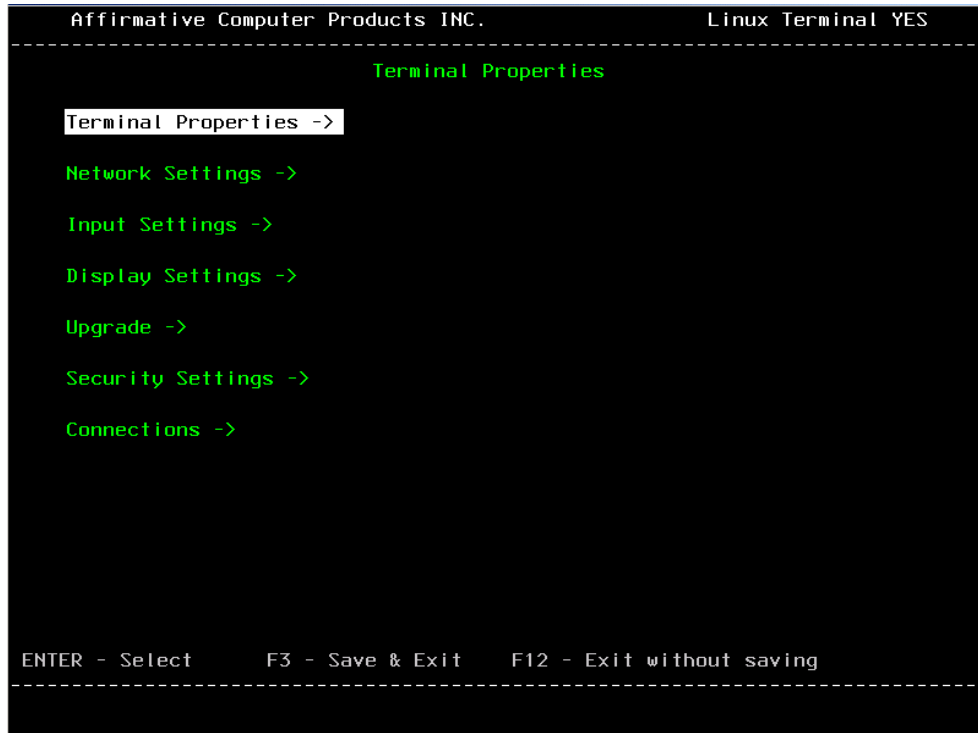
Terminal Properties Menu Screen in TBT Viewing Mode

The Terminal Properties screens in TBT mode provide a basic set of configuration parameters. Details are given in Terminal Setup. To access the complete set, you will have to be in WBT or Desktop modes.

Connections Manager


```
Affirmative Computer Products INC.          Linux Terminal YES
---------------------------------------------------------------------------
                         Connections Manager

    TN5250PRT - 5250prt1      ..........  Active        Inactive
    TN5250DSP - 5250dsp2      ..........  Active        Inactive
    TN5250DSP - 5250dsp1      ..........  Active        Inactive
    TN3270DSP - 3270dsp1      ..........  Active        Inactive


    Add Session ->










ENTER - Select     F3 - Back         F4 - Cancel        F6 - Edit
---------------------------------------------------------------------------
```
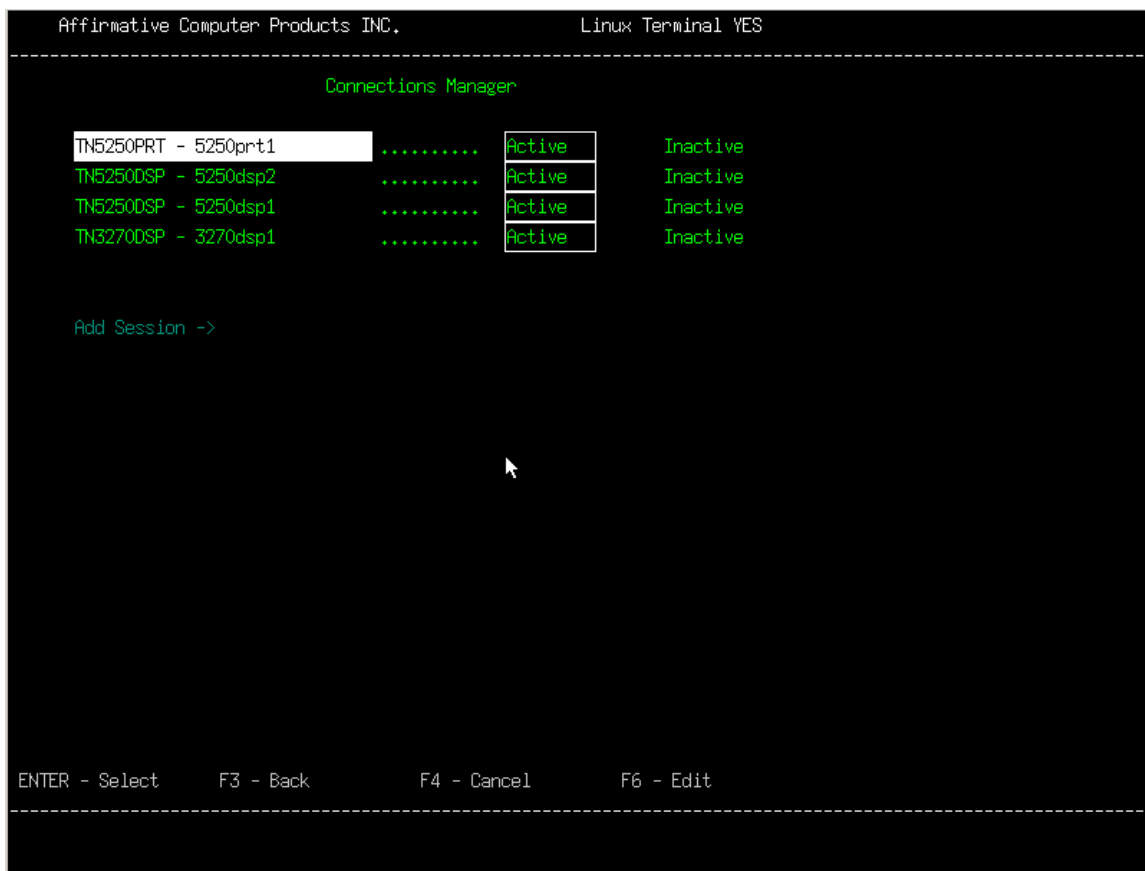
Connections Manager Screen for TBT Viewing Mode

The Connections Manager screen is accessed from the **Connections** category of the Terminal Properties screen. Sessions can be added, edited, and deleted from this screen. You can prevent a session from being launched at bootup by marking it as **Inactive** in this screen.

Navigation

- In TBT viewing mode, you can get to the Terminal Properties screen by:
  - Pressing **Ctrl+Alt+End**, even from a blank screen.
  - If you are using an Affirmative Computer Products 122-key keyboard and are in an active session, you can press the **SetUp** key.
- To get back to an active session from Terminal Properties, use the **Esc** key if no changes are to be saved.
- To move among active emulator sessions:
  - Press **Alt+PgUp** for 101 keyboards.
  - Press **Alt+PgDn** for 122 keyboards.
  - Press **Ctrl+Alt+UpArrow/DownArrow** for all keyboards.

- Press **RightAlt+Up/Down Arrow** for all keyboards, if this sequence is enabled (see Editing Terminal Properties|Desktop).
  - Click on the appropriate button (I, II, III, or IV) in the tool bar.
- To show multiple sessions in a split-screen, activate them and then press **Shift+Alt+F2**. Each session will get the same amount of space on the screen. To return to a single-session screen, move the input cursor to that session and again press **Shift+Alt+F2**.
- If your display session is configured to hide the Menu and Tool bars, you can invoke the **File** menu by pressing **Alt**. Then you can get to other menus by using the **RightArrow** and **LeftArrow** keys.
- To close a display session, go to the Sign On screen, open the **File** menu, and activate **Close** or **Close All**. Also, if all your display sessions are at the Sign On screen, you can just power down. **Note:** If you close a session, you cannot reopen it without rebooting the terminal.

WBT (Windows Based Terminal)

The Windows Based Terminal mode presents the kind of screens that you normally see in an Affirmative Computer Products YES*tation* that uses the Windows CE operating system. More configuration options are accessible in the WBT and Desktop modes than in the TBT mode, so if you want to do some fine-tuning, you will have to switch to WBT or Desktop mode. Sessions are launched from the Connections Manager, although they can be configured to Autostart at bootup. All sessions can be viewed simultaneously in a split-screen mode, if desired; each session will get the same amount of space on the screen.

A split screen with four sessions is shown below.
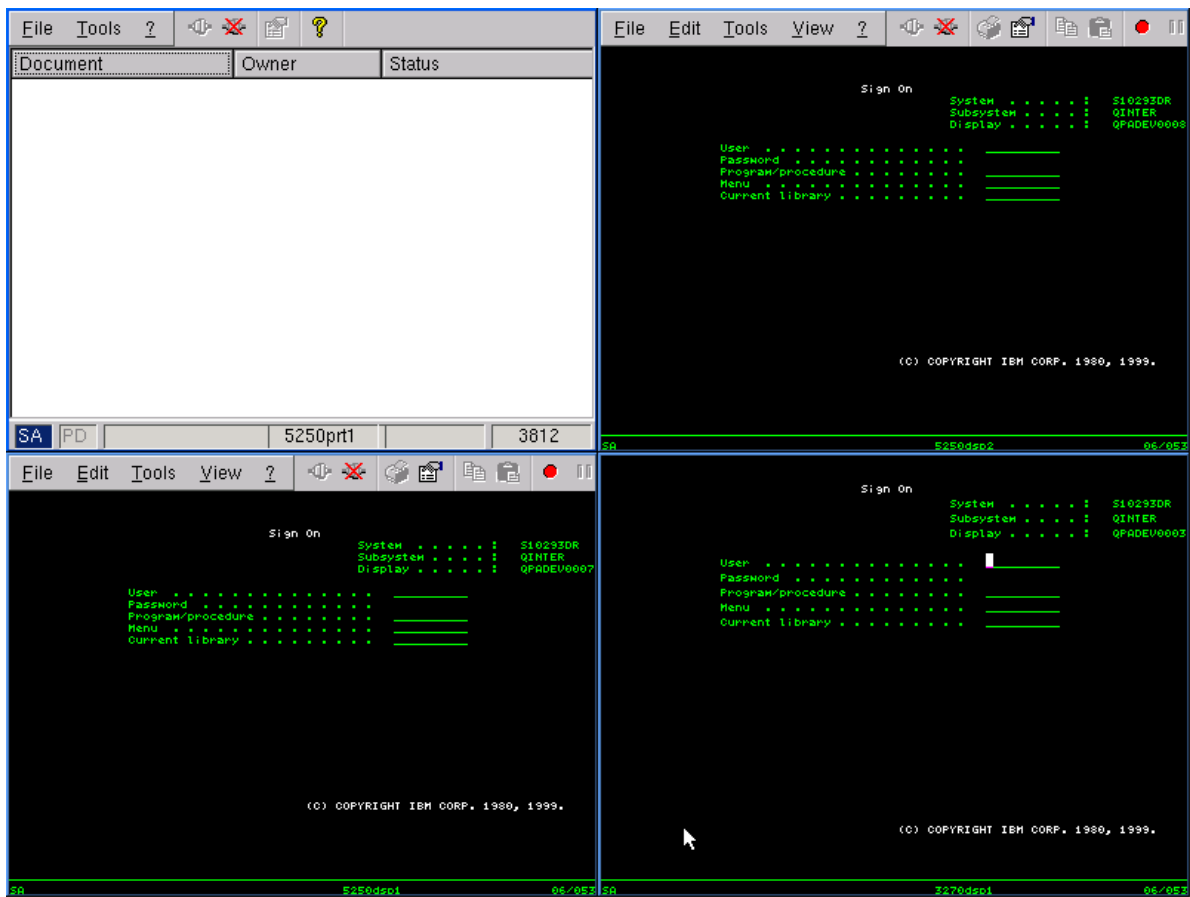
Split Session Screen in WBT Viewing Mode

Terminal Properties
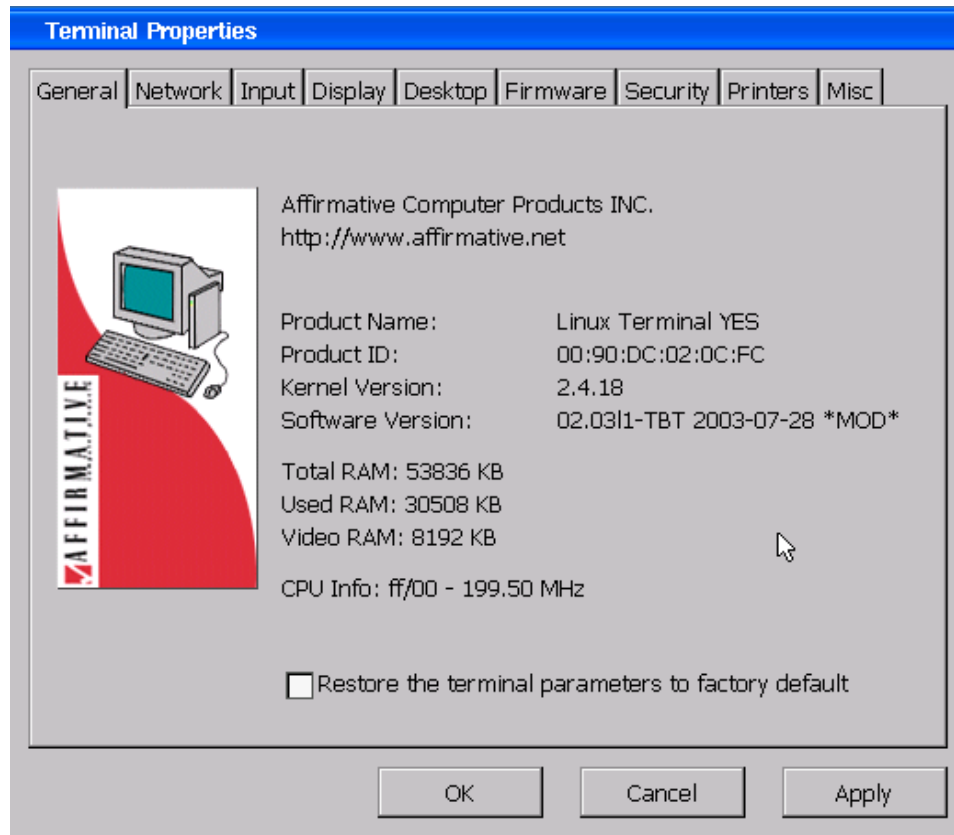
Terminal Properties Screen for WBT and Desktop Viewing Modes

The Terminal Properties screen is exactly the same in the WBT and Desktop viewing modes. Note that there are more Properties tabs here than there are Category line items in the TBT Terminal Properties sheet. More configuration parameters are available here than in TBT mode, so you may have to move to WBT or Desktop mode to fine-tune your configuration. See Editing Terminal Properties for more information.

Connections Manager

The Connections Manager screen in the WBT viewing mode has two tabs and provides more control over launching and editing sessions than in TBT mode.
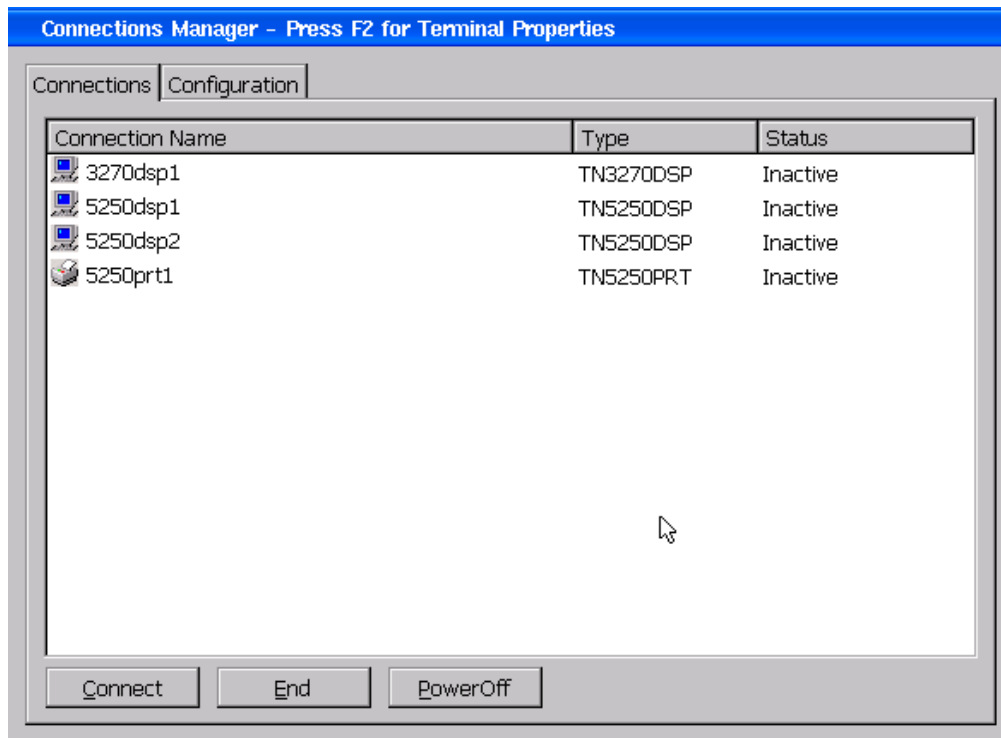
Connections Manager Screen for WBT Viewing Mode

Navigation

- To access Terminal Properties, press **F2** while in the Connections Manager screen.
- If you wish to activate more than one session in WBT viewing mode, press **Ctl+Alt+End** to be returned to the Connection Manager window. You can now select another session for activation. All sessions can be activated at the same time. You can also set any or all sessions to start automatically at boot-up.
- To move among active emulator sessions, use one of the following methods:
    - Press **Alt+PgUp** for 101 keyboards or **Alt+PgDn** for 122 keyboards.
    - Press **Ctrl+Alt+UpArrow/DownArrow** for all keyboards.
    - Press **RightAlt+Up/DownArrow** for all keyboards, if enabled in Editing Terminal Properties|Desktop.
    - Click on the appropriate button (**I, II, III**, or **IV**) in the tool bar.
    - Return to Connections Manager and select another session.
    - Move your mouse cursor to a new session if you are showing multiple sessions on the screen.

    Note: The first two hot key methods listed above are only valid if the default **WBT** is selected for HotKeys in Editing Terminal Properties|Desktop.

- To show multiple sessions in a split-screen, activate them and then press **Shift+Alt+F2**. Each session will get the same amount of space on the screen. To return to a single-session screen, move the input cursor to that session and again press **Shift+Alt+F2**.
- If your display session is configured to hide the Menu and Tool bars, you can invoke the **File** menu by pressing **Alt**. Then you can get to other menus by using the **RightArrow, LeftArrow**, and **Tab** keys.
- To close a display session, go to the Sign On screen, open the **File** menu, and activate **Close** or **Close All**. Also, if all your display sessions are at the Sign On screen, you can just power down.

Desktop

The Desktop viewing mode presents a desktop screen with a Taskbar and a **Start** button, very similar to a standard Windows desktop. The same configuration options are available here as in WBT mode. Sessions are launched from the Start menu or from Connections Manager, although they can be configured to Autostart at bootup**.**   In Desktop mode, you can move, size, and show multiple sessions on the screen in normal Windows fashion.

An example of a Desktop screen with four sessions is shown below.
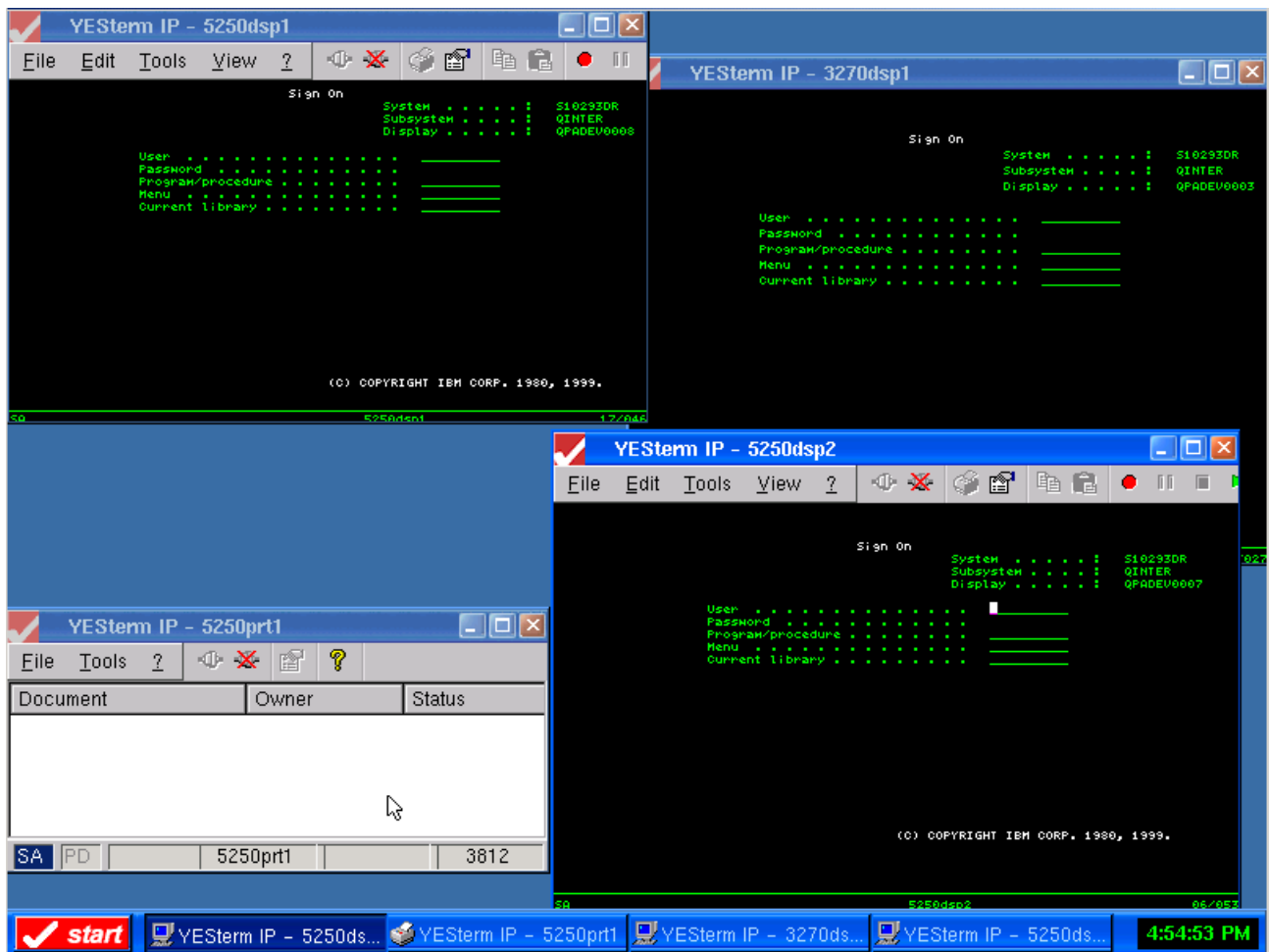
Four-Session Screen in Desktop Viewing Mode

Sessions can be minimized, maximized, or midsized just as on a Windows desktop, and placeholders appear in the Taskbar.

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Terminal Properties

The Terminal Properties screen is exactly the same in Desktop viewing mode as in WBT viewing mode.

Connections Manager

The Connections Manager screen has only one tab, Configuration, in the Desktop viewing mode. However, an extra button, **Connect**, is added to allow launching from this tab.
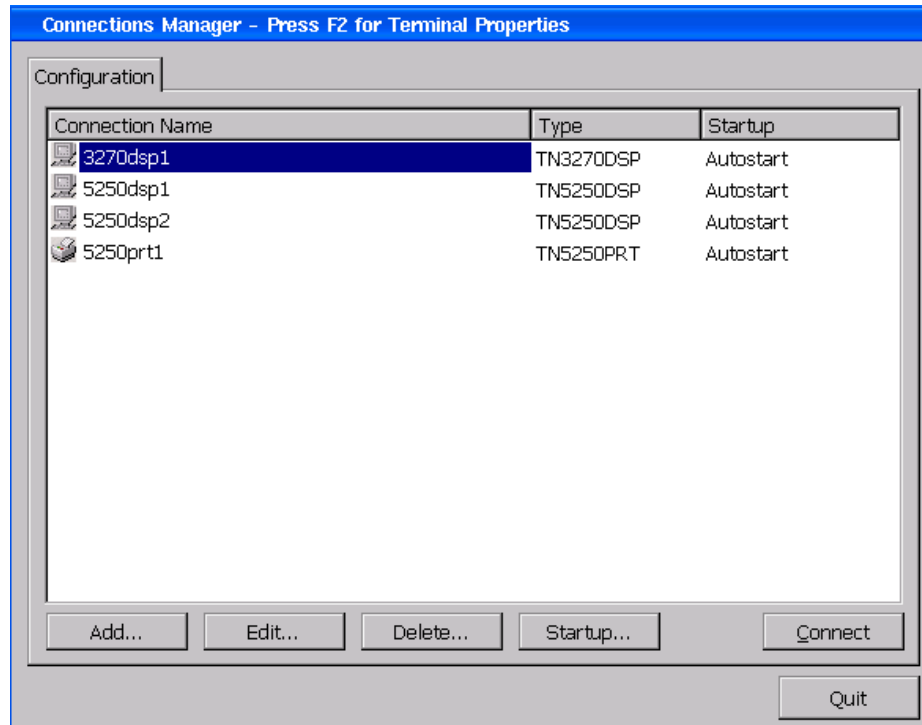
Connections Manager Screen in Desktop Viewing Mode

Navigation

- To open the Start menu, use either of the following methods:
  - Click on the **Start** button in the Taskbar.
  - Right-click on any unused portion of the Desktop.
- To access Terminal Properties, use one of the following methods:
  - Press **F2** while in the Connections Manager screen.
  - Select it from the Start menu.
  - If you are using an Affirmative Computer Products 122-key keyboard and are in an active session, press the **SetUp** key
- To open the Connections Manager screen, use either of the following methods:
  - Select it from the Start menu.
  - Press **Ctrl+Alt+End** at any time.

- To open non-Autostart sessions, use either of the following methods:
    - In the Connections Manager screen, highlight the session name and click on **Connect**.
    - Select it from the Start menu.
- If your display session is configured to hide the Menu and Tool bars, you can invoke the **File** menu by pressing **Alt**. Then you can get to other menus by using the **RightArrow** and **LeftArrow** keys.
- To close a display session, go to the Sign On screen, open the **File** menu, and activate **Close** or **Close All**. If all your display sessions are at the Sign On screen, you can just power down.
- To move among active emulator sessions, use one of the following methods:
    - Press **Alt+PgUp** for 101 keyboards or **Alt+PgDn** for 122 keyboards.
    - Press **Ctrl+Alt+UpArrow/DownArrow** for all keyboards.
    - Press **RightAlt+Up/DownArrow** for all keyboards, if enabled in Editing Terminal Properties|Desktop.
    - Click on the appropriate button (**I, II, III**, or **IV**) in the tool bar.
    - Return to Connections Manager and select another session.
    - Move your mouse cursor to a new session if you are showing multiple sessions on the screen.
    - Click on the placeholder in the Taskbar.

    Note: The first two hot key methods listed above are only valid if the default **WBT** is selected in HotKeys in Editing Terminal Properties|Desktop.
- In Desktop mode, you can size and show multiple sessions on the screen in normal Windows fashion.
- To power down or reboot, select **Shutdown** from the Start menu, and then select **Shutdown** or **Reboot**.

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Creating an Emulation Connection

Note: The terms "connection" and "session" are used interchangeably in this manual.

The YES*term* IP emulators are powerful Telnet emulators that provide users with the capability to connect to an AS/400, iSeries, or IBM mainframe via the TCP/IP protocol. They provide enhanced emulation functions for a wide range of IBM terminals and "true" IBM 3812 or 3287 Printer emulation with the support of all the enhanced features normally available only on very expensive printer interfaces. The 2209 terminal can easily support up to four concurrent TCP/IP connections with identical or unique hosts. In addition, YES*term*/IP TN5250E supports the "Enhanced Display Auto-Signon and Password Encryption" allowing a secure connection to the AS/400, with no need of any SSL option. Basic session configuration is made simple by a Wizard application that guides the user during the configuration process.

Significant characteristics of YES*term* IP display sessions are:
- IBM emulations supported: 3180-2, 3196, 3278/9, 3477-FG, 3477-FC, 5251, 5291.
- Numerous resident national keyboard templates and Code Pages.
- Enhanced keyboard mapping and customization, including macro assignment.
- EURO (€) symbol supported.
- Enhanced copy and paste options.
- Programmable Keypad.
- Attributes editing.
- Enhanced customizable Hot Spot feature.
- Enhanced macro Record/Playback feature.
- Supports "Enhanced Display Auto-Signon and Password Encryption" allowing a secure connection to the AS/400.
- **Choice of Windows or 5250 Text presentation modes.**

Significant characteristics of YES*term* IP printer sessions are
- IBM Emulation supported: 3287, 3812.
- Support for continuous forms, multi drawers, envelope, manual feeders, simplex/duplex, auto page orientation, and COR (Computer Output Reduction).
- Supports CPI, LPI Override and LQ, NLQ.
- Supports Host Transform Feature (TN5250e only).
- Supports Hex Pass-Through (HPT) feature, with customizable leading and ending sequences and support of "non-printable characters".
- Supports EURO symbol (€).

Connections are created in Connections Manager, but the Add path is somewhat different in TBT and non-TBT viewing modes. Initially, there will be no sessions configured in the terminal, so you will have to add at least one in order to get any use out of the terminal.

TBT Viewing Mode

Select the Connections category in Terminal Properties to display the Connections Manager property sheet. In this sheet, you can add and edit emulation sessions.
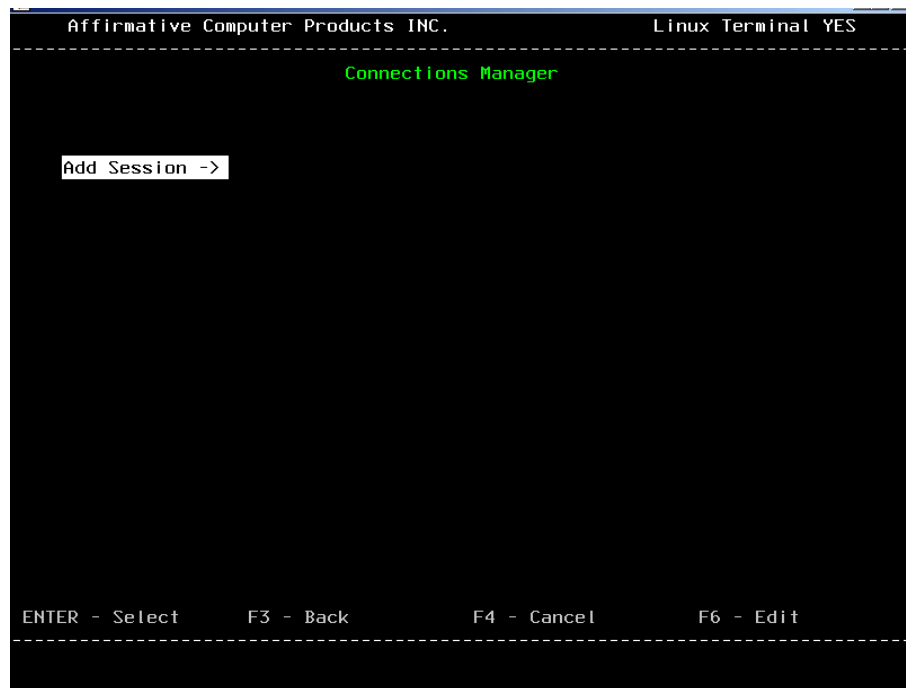
Connections Manager Property Sheet for TBT Viewing Mode

Activate **Add Session** to see the session menu.
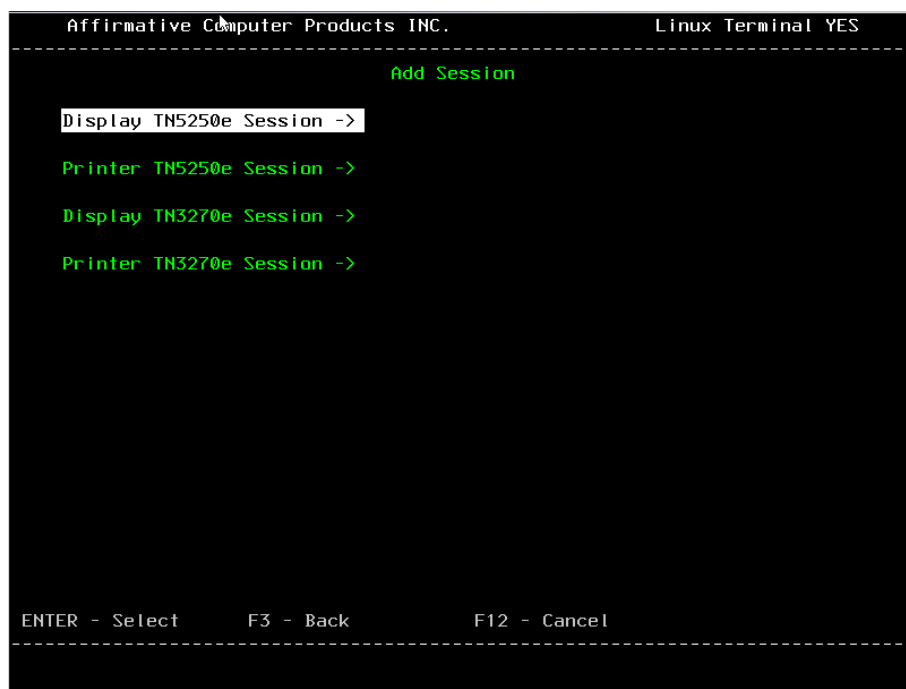
Add Session Menu

Select the desired menu type to begin the appropriate Add Wizard. In each wizard, press **F3** to advance to the next screen, or **F12** to cancel the add.

Display Sessions

Use TN5250e protocol to connect to AS/400 or iSeries hosts. Use TN3270e protocol to connect to IBM mainframes. You will be led through two configuration screens.

1.

```
 Affirmative Computer Products INC.              Linux Terminal YES
 --------------------------------------------------------------------

     Host Connection
     Host name/IP  ...............  [                    ]
     Port Number   ...............  23
     Encryption Level  ...........  None

     Session
     Connection Name  ............  [                          ]
     Unit Name  ..................  [                ]
     Device Type  ................  5251     5291     3196     3180-2   3477-FG
                                    3477-FC




     ENTER - Select      F8 - Next            F12 - Cancel
 --------------------------------------------------------------------
```

Display Session Add Wizard Screen #1

- **Host Name/IP Address**. If you have a local DNS or WINS server or are using a hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the host.
- **Port Number**. Use the default of **23** unless directed to do otherwise by your system administrator.
- **Encryption Level**. You have no choice here.
- **Connection Name**. This is the friendly name that will appear in the Connection Manager screen and at the bottom of your session screens and in the Taskbar (in Desktop Mode).
- **Unit Name** (aka Device Name). If you are using named sessions, enter the session name here
- **Device Type**. The default **3477-FC** works well for TN5250e emulation, unless you have special needs. If you are adding a TN3270e session, you will see a choice of 3278/9 terminal types here.

2.

```
   Affirmative Computer Products INC.              Linux Terminal YES
   ------------------------------------------------------------------------

      Code Page  ................   Internazional 5 (CP 500)
                                    U.S./Canadian (CP 037)
                                    Austrian/German (CP 273)
                                    Belgian (CP 274)
                                    Brazilian (CP 275)
                                    Canadian/French (CP 260)
                                    Danish/Norwegian (CP 277)
                                    Finnish/Swedish (CP 278)
                                    French (CP 297)
                                    Italian (CP 280)
                                    Portuguese (CP 282)
                                    Spain/Spanish Speak.(CP 284)
                                    English U.K. (CP 285)


      Language  ...................  English USA    German       Franch
                                     Italian        Swiss German Swedish


      Keyboard Type  .............   Terminal    PC          122 keys



   ENTER - Select      F3 - Finish        F7 - Back          F12 - Cancel
   ------------------------------------------------------------------------
```

Display Session Add Wizard Screen #2

- **Code Page**. Choose the applicable country from the list.
- **Language**. Choose a keyboard language.
- **Keyboard Type**. Choose **Terminal** if you are using the Affirmative Computer Products 1010T, 1019T, 1023T, or 1027T 101-key keyboard; choose **122 keys** if you are using the Affirmative Computer Products 1220T, 1223T, or 1227T 122-key keyboard; otherwise, choose **PC**.

This concludes the configuration parameters covered by the wizard. However, you can customize many more parameters in each display session by using a non-TBT viewing mode and editing from the Configure tab of Connection Manager

Printer Sessions

You can have multiple local printers, but you must create a printer session for each one. If you want to create a session for extended local Print Screens (TN5250e only), you can create it here, but you will have to edit it in non-TBT mode since the default in TBT mode is for standard host printing..

When you add a printer session, you will be led through three configuration screens.

1.

Printer Session Add Wizard Screen #1

- **Host Name/IP Address**. If you have a local DNS or WINS server or are using a hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the host. If you are creating this session for extended local print screens, an IP address is irrelevant, but you must enter at least one character to satisfy the wizard.
- **Port Number**. Use the default of **23** unless directed otherwise by your system administrator.
- **Encryption Level**. You have no choice here.
- **Connection Name**. This is the friendly name that will appear in the Connections Manager screen and at the bottom of your session screens and on the Taskbar (in Desktop mode).
- **Unit Name** (aka Device Name). If you are using named sessions, enter the session name here.
- **Device Type**. Only **3287** (3270) or **3812** (5250) is available for TCP/IP devices.
- **Queue Name/Queue Library/Default Port**. These are host parameters and should be given to you by your host administrator. If this session is for extended local print screens, these parameters are ignored.

27

2.

```
Affirmative Computer Products INC.                     Linux Terminal YES
----------------------------------------------------------------------------

      Code Page  . . . . . . . . . . . . . . .    Internazional 5 (CP 500)
                                                  U.S./Canadian (CP 037)
                                                  Austrian/German (CP 273)
                                                  Belgian (CP 274)
                                                  Brazilian (CP 275)
                                                  Canadian/French (CP 260)
                                                  Danish/Norwegian (CP 277)
                                                  Finnish/Swedish (CP 278)
                                                  French (CP 297)
                                                  Italian (CP 280)
                                                  Portuguese (CP 282)
                                                  Spain/Spanish Speak.(CP 284)
                                                  English U.K. (CP 285)
                                                         ▶






    ENTER - Select       F7 - Back          F8 - Next          F12 - Cancel
----------------------------------------------------------------------------
```

Printer Session Add Wizard Screen #2

- **Host Code Page**.   Choose the applicable country from the list.

3.

Printer Session Add Wizard Screen #3

- **Time Out**. This parameter defines a timer (in seconds) that starts to count down every time, during a printing job, that the host system stops sending data. If no more data are received within the timeout value selected, the printer session will assume that the print job is finished, and a Form Feed command is sent to the printer.
- **Host Print Transform** (TN5250e only). When Host Print Transform is enabled, the host does the EBCDIC-to-ASCII conversion of the print stream, and the local Passthrough Driver is not used.
- **Driver**. If you are doing extended local Print Screens, or if you are not using the AS/400 Host Print Transform, choose a driver here that is compatible with the local-attached or LAN printer. If you can't find one in the list, try **Empty Driver**.
- **Printer port**. Choose **LPT1** or **Network**, since the 2209 has no COM ports.
- **Port printer configuration**. After you choose a printer port, you need to configure it.
- **LPT1**. Click on **Port printer configuration** to configure whether or not to reset the printer at the start of every print job.
- **Network**. Click on **Port printer configuration** to see the Network Printer configuration screen.

```
Affirmative Computer Products INC.              Linux Terminal YES
--------------------------------------------------------------------

    Printers Type .............    LPR  RAW

    LPR
    Host name/IP ...............
    LPR queue name .............
    Port Number ................   515
    Count job len ..............   Yes  No

    RAW
    Host name/IP ...............
    Port Number ................   9100




ENTER - Select      F3 - Back           F12 - Cancel
--------------------------------------------------------------------
```

Network Printer Configuration Screen

- **Printer type-LPR**. Choose **LPR** (Line Printer Remote) to assign print jobs to a network printer that is configured as an LPD server.
    - **Host name/IP**. If you have a local DNS or WINS server or are using a Hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the LPD host
    - **LPR queue name**. This will be the queue name assigned at the LPD host to be used by LPR devices to assign print jobs.
    - **Port Number**. Leave at the default unless otherwise directed by your network administrator.
    - **Count job length**. Leave at the **No** default unless otherwise directed by your system administrator.
- **Printer type-RAW**. RAW is the default protocol for most TCP/IP networks. RAW data is not modified by the spooler at all, but is sent directly to the printer.
    - **Host name/IP**. If you have a local DNS or WINS server or are using a hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the RAW host.
    - **Port Number**. Leave at the **9100** default unless otherwise directed by your system administrator.

This concludes the configuration parameters covered by the wizard. However, you can customize many more parameters in each printer session by using a non-TBT viewing mode and editing from the Configure tab of Connection Manager.

Non-TBT Viewing Mode

In WBT and Desktop viewing modes, sessions are added from the Configure tab of Connections Manager. Each session can be to a unique server, if desired. Click on **Add** to see the New Connection dialog box. Then click on the drop-down arrow to see the drop-down list of possible connections.
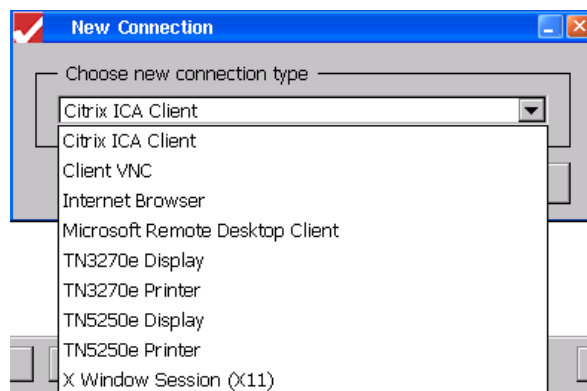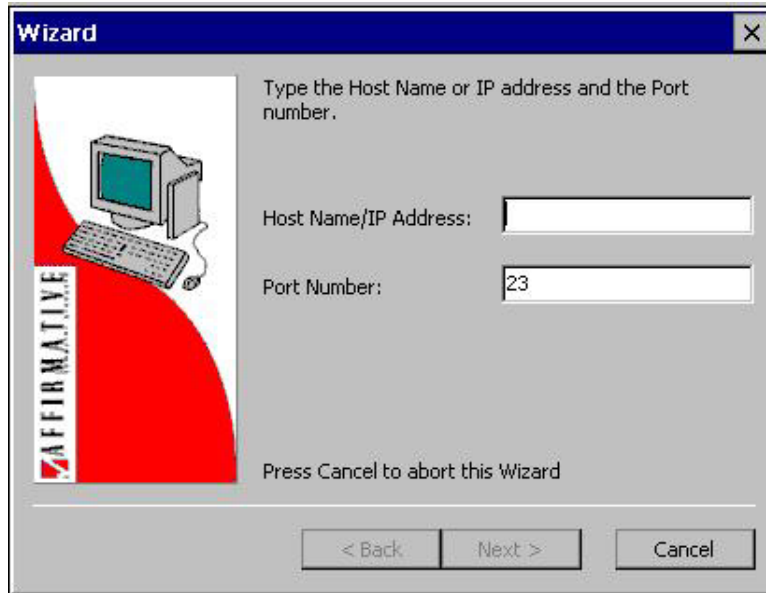
New Connection Dialog Box

Your sharp eye has immediately noticed that there are some non-emulation choices here. You can, if you wish, add these non-emulation choices to your Connections list. However, they cannot be activated until a license key, available from Affirmative Computer Products for a fee, is installed. Only emulation sessions will be discussed here.

Display Sessions

In the Add drop-down list, you are faced with a choice of TN3270e or TN5250e emulation types. After choosing one, a wizard will guide you through setup. The Setup Wizard will take you through three dialog boxes. Activate **Next** to go to the next box, **Back** to return to the previous dialog box, and **Cancel** or the **Esc** key to abort the process.
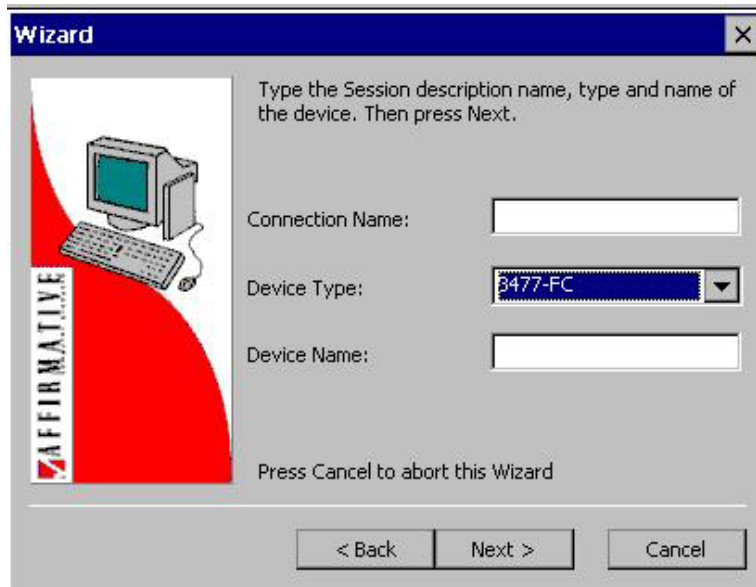
1.

Display Setup Wizard Dialog Box #1

- **Host Name/IP Address**. If you have a local DNS or WINS server or are using a hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the host.
- **Port Number**. Use the default of **23** unless directed to do otherwise by your system administrator.

2.

Display Setup Wizard Dialog Box #2

- **Connection Name**. This is the friendly name that will appear in the Connection Manager screen and at the bottom of your session screens and in the Taskbar (in Desktop Mode).
- **Device Type**. Select one from the drop-down list. The default **3477-FC** works well for TN5250e emulation, unless you have special needs. If you are adding a TN3270e session, you will see a choice of 3278/9 terminal types here.
- **Device Name**. If you are using named sessions, enter the session name here.

3.
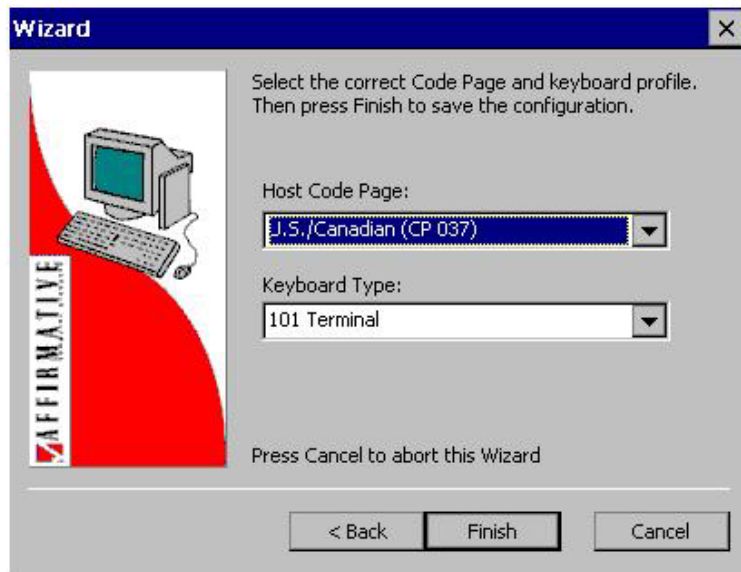
Final Display Setup Wizard Dialog Box

- **Host Code Page**. Choose the applicable country from the drop-down list.
- **Keyboard Type**. Choose **101 Terminal** if you are using the Affirmative Computer Products 1010T, 1019T, 1023T, or 1027T 101-key keyboard; choose **122 keys** if you are using the Affirmative Computer Products 1220T, 1223T, or 1227T 122-key keyboard; otherwise, choose **101 PC**.

This concludes the configuration parameters covered by the Wizard. However, you can customize many more parameters in each display session by highlighting the connection name in the Configure tab of Connection Manager and activating **Edit**.

Printer Sessions

You can have multiple local printers, but you must create a printer session for each one. After you choose a session type, a Setup Wizard will take you through three dialog boxes.
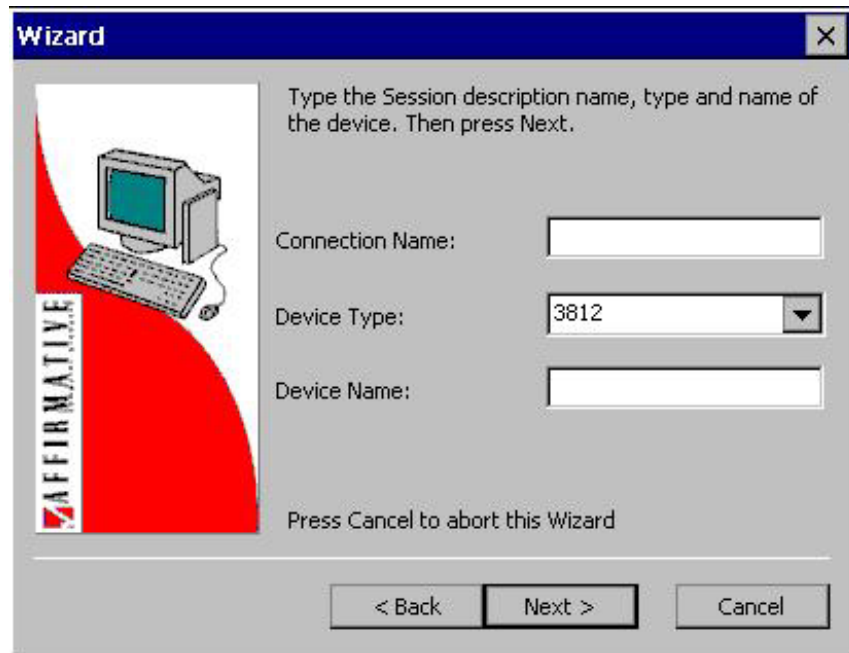
1.
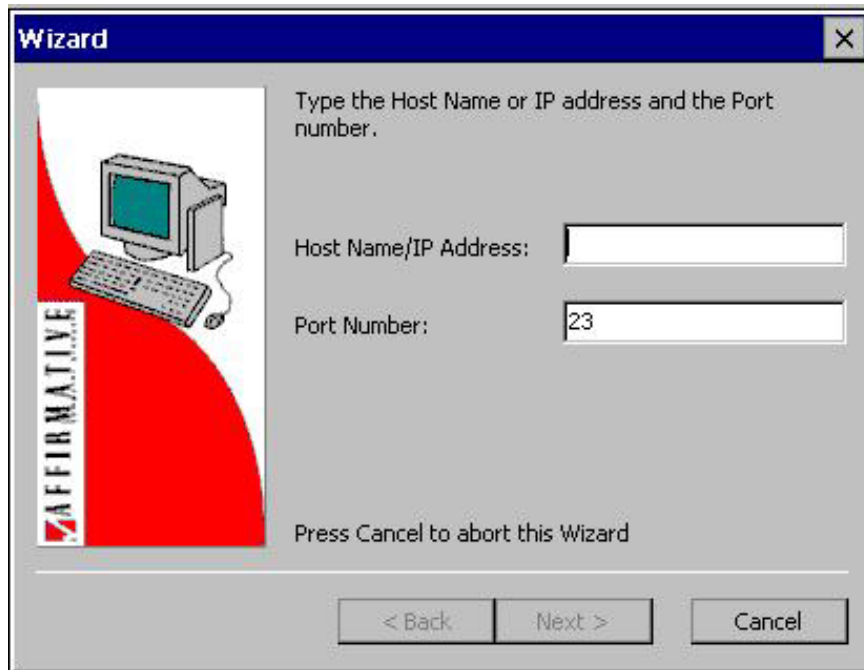
Printer Setup Wizard Dialog Box #1

- **Host Name/IP Address**. If you have a local DNS or WINS server or are using a hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the host. If you are creating this session for extended local print screens, an IP address is irrelevant, but you must enter at least one character to satisfy the Wizard.
- **Port Number**. Use the default of **23** unless otherwise directed by your system administrator.

2.

Printer Setup Wizard Dialog Box #2

- **Connection Name**. This is the friendly name that will appear in the Connections Manager screen and at the bottom of your session screens and on the Taskbar (in Desktop mode).
- **Device Type**. Only **3287** (3270) or **3812** (5250) is available for TCP/IP devices.
- **Device Name**. If you are using named sessions, enter the session name here.

3.

Printer SetupWizard Dialog Box #3

- **Host Code Page**. Choose the applicable country from the drop-down list.

- **Printer Driver**. If you are doing extended local Print Screens, or if you are not using the AS/400 Host Print Transform, choose a driver here that is compatible with the local-attached or LAN printer. If you can't find one in the list, try **Empty Driver**.

This concludes the configuration parameters covered by the wizard. However, you can customize many more parameters in each printer session by highlighting the connection name in the Configure tab of Connection Manager and activating **Edit**. If you are adding multiple printer sessions, you will have to edit the sessions in this manner in order to assign a unique port to each session.

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Connections Manager

Note: The terms "connection" and "session" are used interchangeably in this section.

The Connections Manager window is used to manage or activate your terminal's emulation sessions in WBT and Desktop viewing modes. In WBT mode, Connections Manager has both a Connections tab and a Configuration tab. In Desktop mode, there is only a Configuration tab since connections are usually made from the Start menu.

Initially, Connections Manager starts without any sessions. Sessions are added from the Configuration tab.

Configuration

The Configuration tab allows four basic functions.
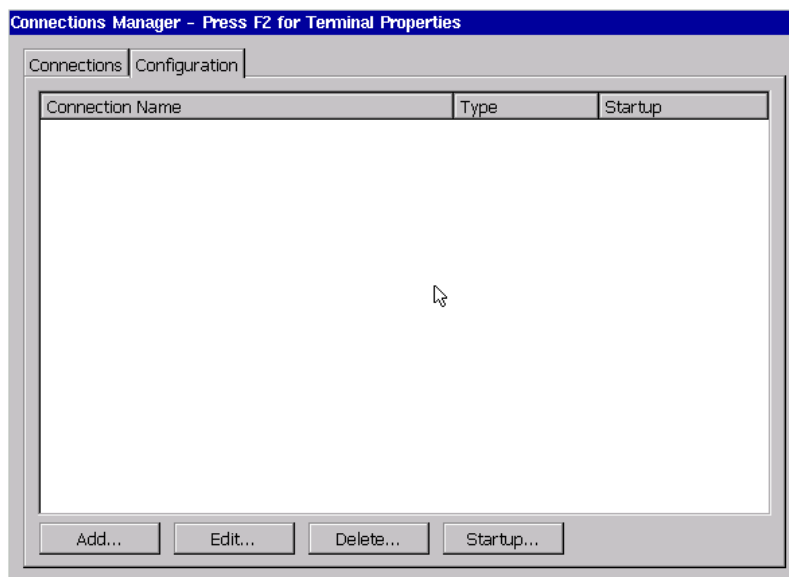
Configuration Tab in WBT Viewing Mode

Add

Activate the **Add** button to create a new session. A New Connection dialog box is displayed.
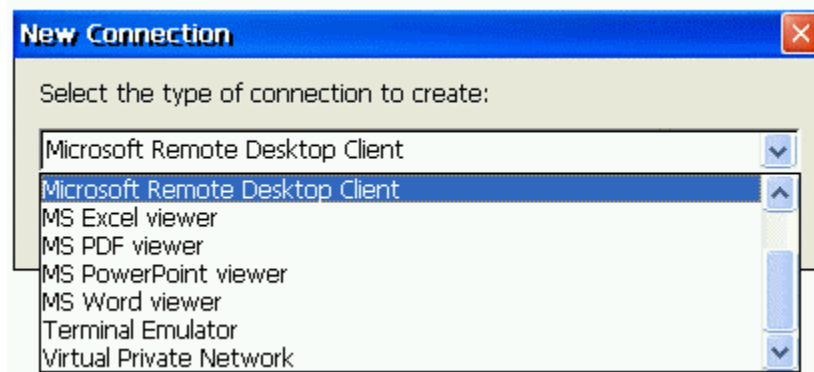
New Connection Dialog Box

Click on the drop-down arrow to see a list of four possible emulation connections. See Creating an Emulation Connection for information on adding specific connections. As sessions are added, they will be displayed alphabetically.

Edit

Activate the **Edit** button to edit the properties of a selected connection. A Sessions Properties window will pop up. Please refer to Editing an Emulation Connection for more information about editing a connection.

Delete

Activate the **Delete** button to delete the highlighted connection. When you activate this button, a Connection Delete dialog box is displayed.
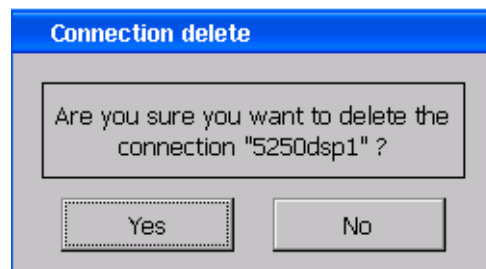
Connection Delete Dialog Box

Activate the **Yes** button to complete the deletion. Activate **No** to cancel the deletion.

Startup

Activate the **Startup** button to configure startup options when the terminal boots up. The Startup Options dialog box displays after the Startup button is pressed. Using the dialog box, your terminal can be set to automatically connect to a server when the terminal is booted. Any or all sessions can be configured for automatic startup.
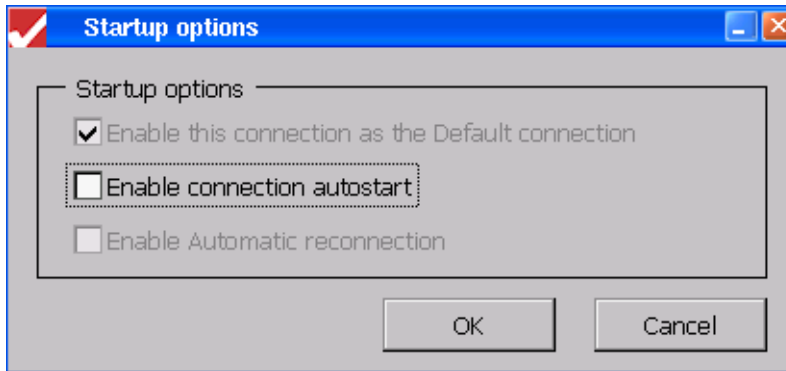
Connection Startup Dialog Box

- **Enable the connection as the Default connection**. Check this box to use the selected connection as the default connection. This connection will be highlighted in Connection Manager when the terminal is powered up. If there is only one configured session, this option is grayed out.
- **Enable connection autostart**. Check this box to automatically start the selected connection when the terminal boots up.
- **Enable Automatic reconnection**. This is not supported in the 2209.

Connect
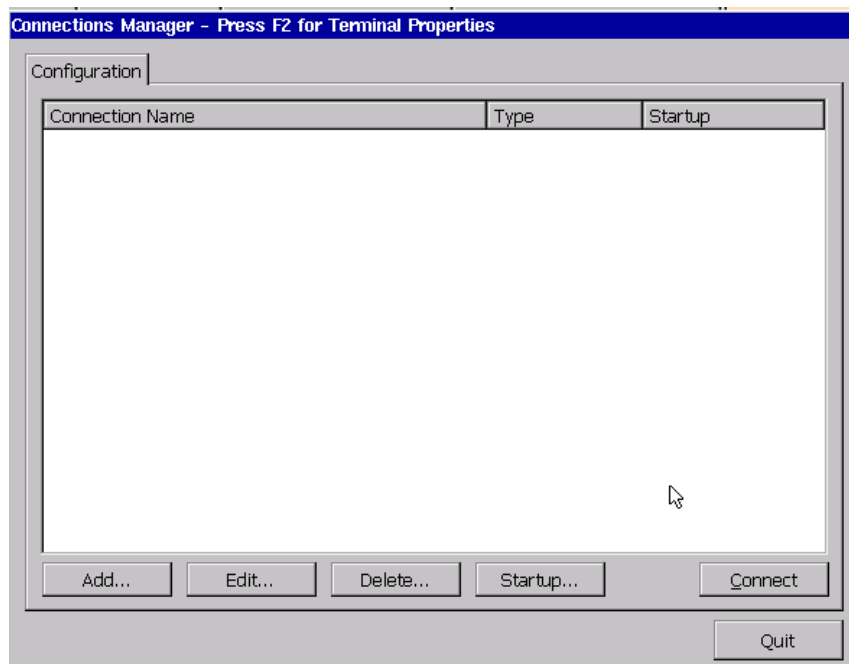
Connections Manager for Desktop Viewing Mode

In Desktop viewing mode, you will see a **Connect** button in addition to the four buttons previously discussed.   This allows you to start a session from Connections Manager even though the Connections tab is not available.

Connections
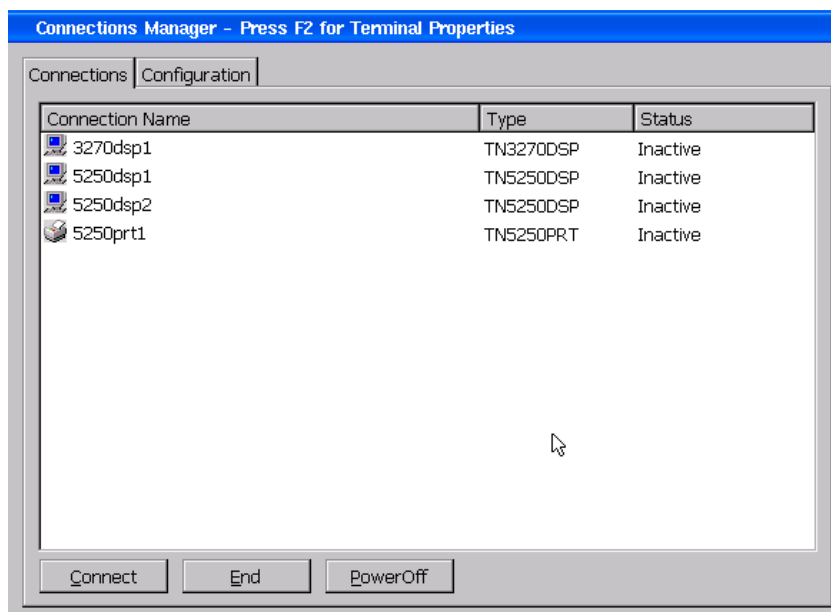
Connections Tab in WBT Viewing Mode

The Connections tab is used to make or end network connections with the server(s).

- **Connect**. Highlight the session name and activate the **Connect** button to make a network connection. You can also activate a connection by double-clicking on it.
- **End**. Highlight the session name and activate the **End** button to end a connection shown as Active in the status field. A dialog box will pop up asking for confirmation. You can also end a session from the session screen itself, without going to Connections, and that is the recommended way to end a session.
- **PowerOff**. It is recommended that you shut down your terminal using this button, although usually just shutting off the power does no harm. You will see the following dialog box.
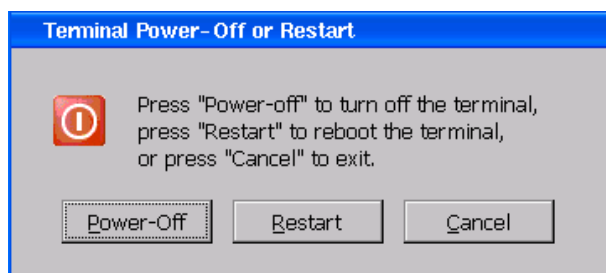
Power Off Dialog Box

- **Power-Off**. Click on this button to turn off terminal power.
- **Restart**. Click on this button to reboot without turning off terminal power.
- **Cancel**. Click on this button to cancel any power-off action and return to Connections.

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Editing Terminal Properties

If you are in TBT viewing mode, you can edit many terminal properties using the property sheets described in Terminal Setup. However, you can see a more comprehensive set of terminal properties in the Terminal Properties window of the WBT or Desktop viewing modes, and that comprehensive set will be discussed in this section.

You must use a mouse to navigate Terminal Properties as discussed here. Invoke this window by pressing the **F2** key in the Connections Manager window or by selecting it from the Start menu. If a password has been enabled (see Security) for this terminal, you will see the Password dialog box when you press **F2**. Type in your password and activate **OK**.

The Terminal Properties window consists of nine property sheets that can be invoked by activating their individual tabs. At the bottom of each sheet are three buttons:

- **OK**. Activate **OK** to save changes and exit Terminal Properties *after* you have set desired properties in *all* the property sheets. Some settings will take effect immediately after you **OK** out, while others may cause the screen to go blank for several seconds, and some will cause the terminal to reboot.
- **Cancel**. Activate **Cancel** to quit Terminal Properties without saving any changes. You can also do this by clicking on **X** in the upper right corner.
- **Apply**. Activate **Apply** to immediately apply the settings on the current properties sheet without exiting Terminal Properties. **Note:** You must subsequently **OK** out of Terminal Properties to save any changes in these settings. If you **Cancel** out, the changes will be lost after the next reboot.

General

This property sheet is informational except for **Restore…**.
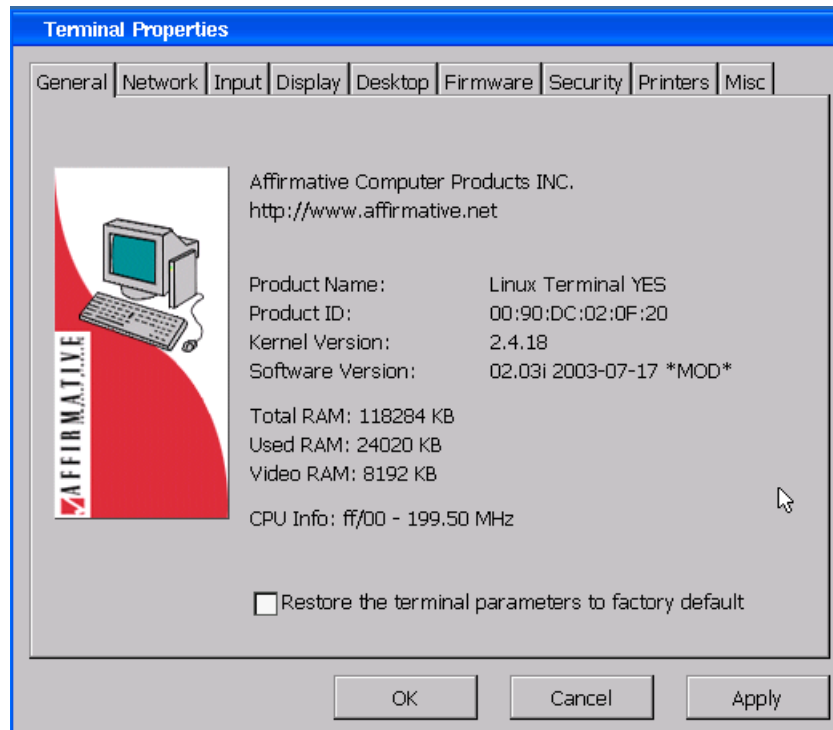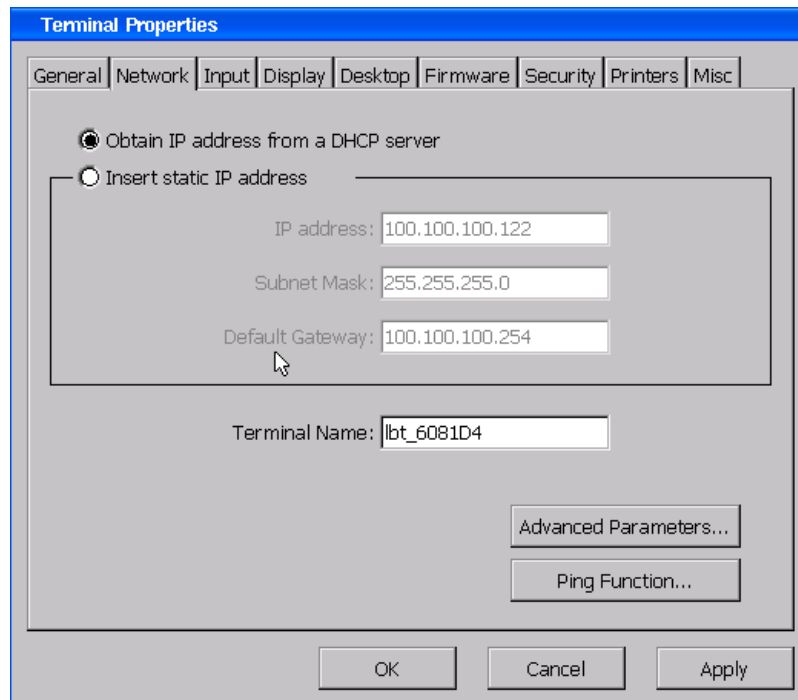
General Property Sheet

- **Product ID**. This is a unique product identification code that also happens to be the terminal MAC address. Every device on every LAN in the world is supposed to have a unique MAC address.
- **Kernel Version**. This is the version of the Linux kernel used on the terminal.
- **Software Version**. This is the version of the firmware installed in this terminal. If you contact Affirmative Computer Products Tech Support about a problem, please have this version information available.
- **Total RAM**. This is the amount of DRAM in the terminal after subtracting the memory used for some basic functions and the memory reserved for video.
- **Used RAM**. This is the amount of total RAM that is currently being used.
- **Video RAM**. This is the amount of RAM that has been reserved for video display. This amount is set in the terminal BIOS and is not a configurable parameter.
- **CPU Info**. This shows some basic information about the CPU in the terminal.
- **Restore the terminal parameters to factory default**. Activate this check box to reset the terminal to its factory default settings. When you do this, you will get a dialog box asking you to confirm your intentions.

Network

The Network property sheet lets you control the terminal IP address, name server addresses, and network speed, as well as providing the useful ping function.

Network Property Sheet

- **Obtain an IP address from a DHCP Server**. Select this radio button to enable DHCP addressing.
- **Insert static IP address**. Select this radio button to enable the following three fields for a specific IP address setting.
    - o **IP Address**. Enter a static IP address in this field. If you have selected DHCP addressing, the assigned address will appear in grey in this field.
    - o **Subnet Mask**. Enter the subnet mask of the local network. If you have selected DHCP addressing, the assigned subnet mask will appear in grey in this field
    - o **Gateway**. Enter the IP address of a gateway if any server is not on the local sub-net.
- **Terminal Name.**   We recommend that you enter a unique name here for easy identification when using network management and administration software.

Ping Function

Activate this button to display the Ping dialog box. You can ping the name or IP address of a host or any other device connected on the network. You can even ping a web site through a gateway.
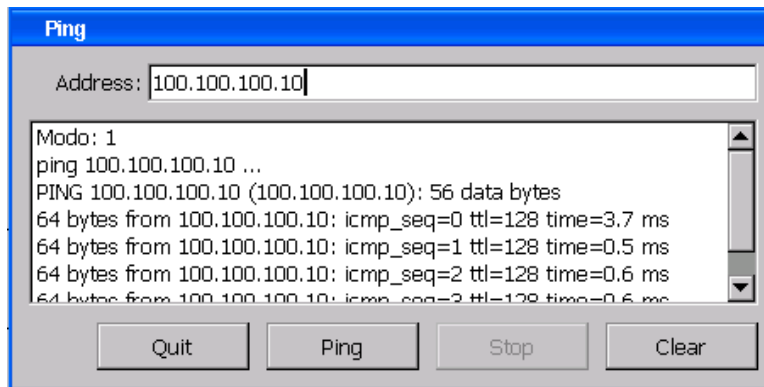
Ping Dialog Box

- **Address**. Enter the network name or the IP address of the device to be pinged.
- **Ping**. Activate this button to begin the ping action. Results will be displayed in the scroll box.
- **Stop**. After you start pinging, the ping action will continue until you press **Stop**.
- **Clear**. Activate this button to clear the scroll box.
- **Quit**. Activate this button to exit the Ping dialog box.

Advanced Parameters

Activate this button to configure name server settings or proceed to other advanced parameters. You will see the Advanced Network Parameters dialog box.
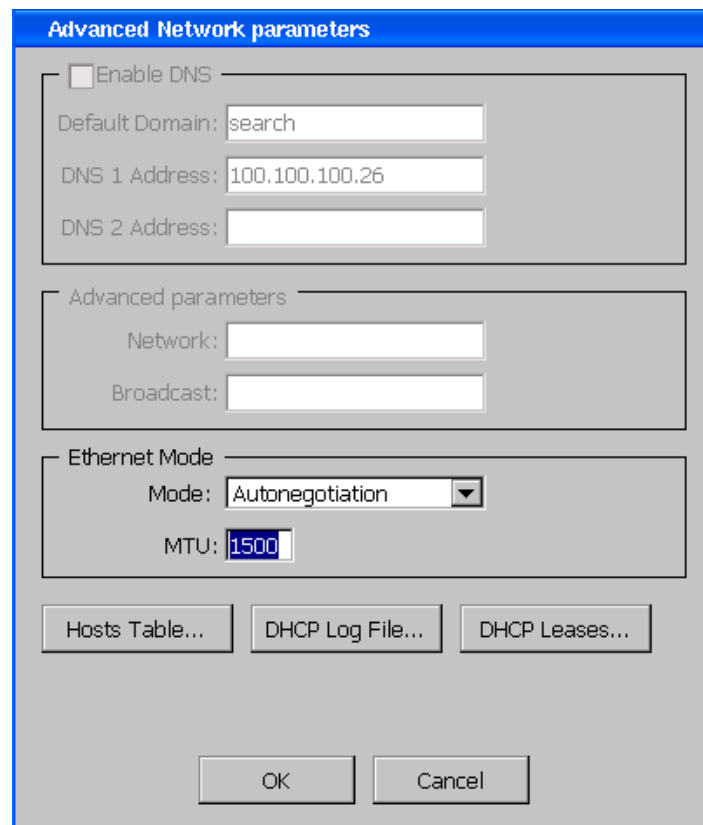
Advanced Network Parameters Dialog Box

- **Enable DNS.** You will only see this box if you if you have selected the radio button for **Insert static IP address.** Activate this check box to enable the three fields for the DNS setting. Get the entries from your network administrator. If you have selected DHCP addressing and *are not* using a USB wireless LAN adapter, the assigned DNS information will appear in grey in these fields.
- **Advanced parameters**. These entries will be active only if you have selected the radio button for **Insert static IP address.** For typical networks, nothing need be entered here. But some networks will require that you enter the first three octets of the network IP address in **Network** and the IP address of the network gateway in **Broadcast**. Let your network administrator determine the need.
- **Ethernet Mode**.
  - o **Mode**. Select network speed and traffic mode from the drop-down list, or let the network circuitry perform auto-negotiation with the hub or switch.
  - o **MTU**. Leave this number alone unless your network administrator dictates a change.

Hosts Table

A Hosts table allows you to create your own mini-DNS server, for use by your terminal only. You can make one or more entries in the table—each entry correlating an IP address with a friendly name for that address. These friendly names can be your sole creations; they do not have to be identical to the network names for that address. After you make these entries, you can then use the friendly names in place of IP addresses in any configuration dialog box or utility on your terminal that requires an IP address. Of course, if you have a local network DNS server, you probably won't need to use a Hosts table.

Activate the **Hosts Table** button to see the Hosts Table dialog box.
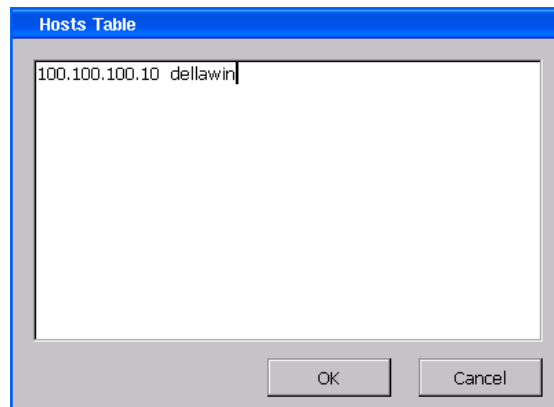
Hosts Table Dialog Box

In this example, the friendly name "dellawin" is equated to the IP address 100.100.100.10. Make all your entries in this format, one per line.

DHCP Log File

Activate this button to see the DHCP Log File.box.
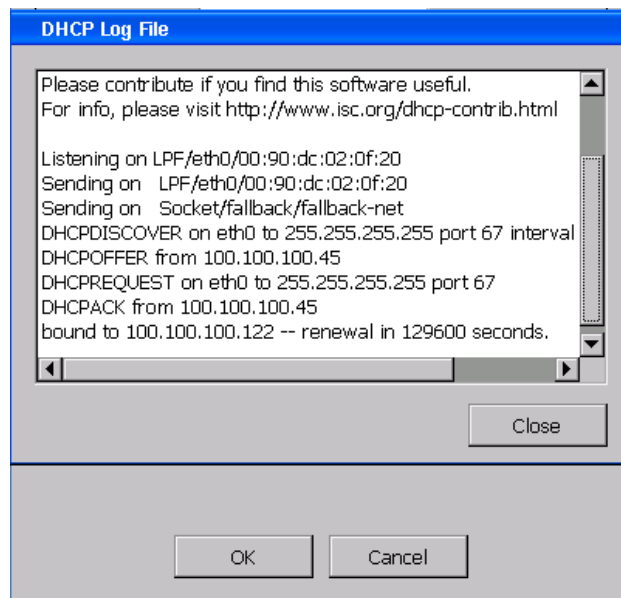
DHCP Log File Box

This file logs the steps encountered by the terminal in obtaining a DHCP address.

DHCP Leases

Activate this button to see the DHCP Lease File box.
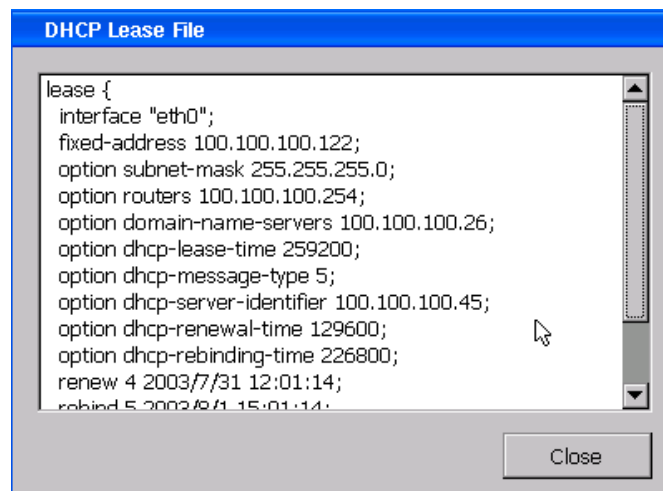
DHCP Lease File Box

This file shows the current state of the DHCP address lease, as well as showing a list of the options configured at the DHCP server.

Input

This property sheet allows you to configure your keyboard and mouse parameters.
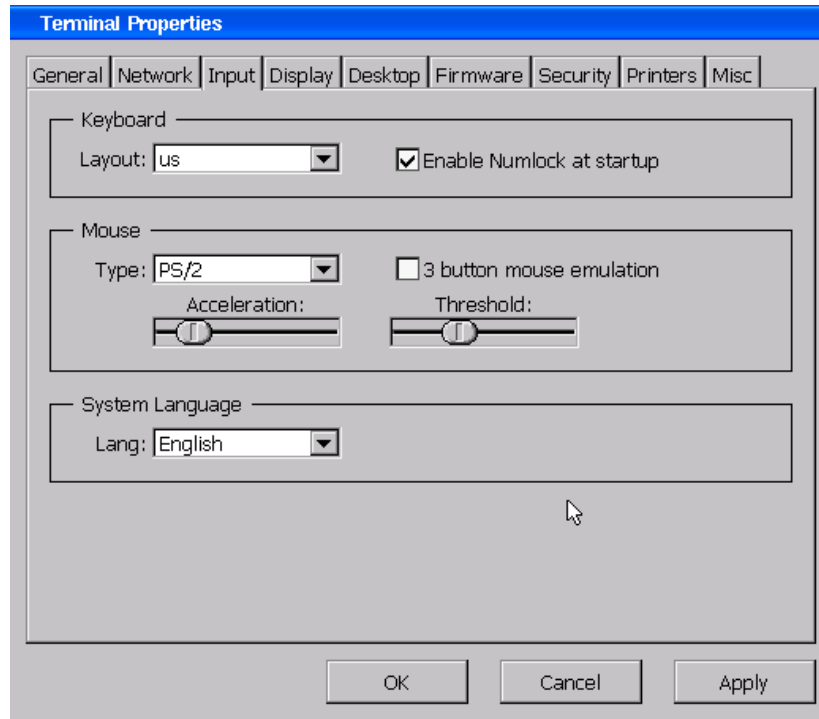
Input Property Sheet

- **Keyboard**
  - o **NumLock on Boot**. Check to force Numeric Pad NumLock when the TBT starts up.
  - o **Locale**. Use the scroll list to select a language and number of keys for the keyboard. Default is **OEM 122 USA**, which is the setting required if the Affirmative Computer Products 122-key keyboard is used with the terminal. If "122" is not shown, the number of keys is assumed to be 101.
- **Character Repeat**
  - o **Repeat Delay**. Use this slider control to define how long a character key must be held down before that character will start to repeat on the screen.
  - o **Repeat Rate**. Use this slider control to define how often a character will repeat when that character key is held down.

  You can test your repeat settings in the test box.
- **Volume Control**.
  - o Use the slider control to adjust the volume of the audio.
  - o Use the "Mute" check box to disable the audio of the TBT.

Display

Use the Display property sheet to configure the terminal's display screen properties.
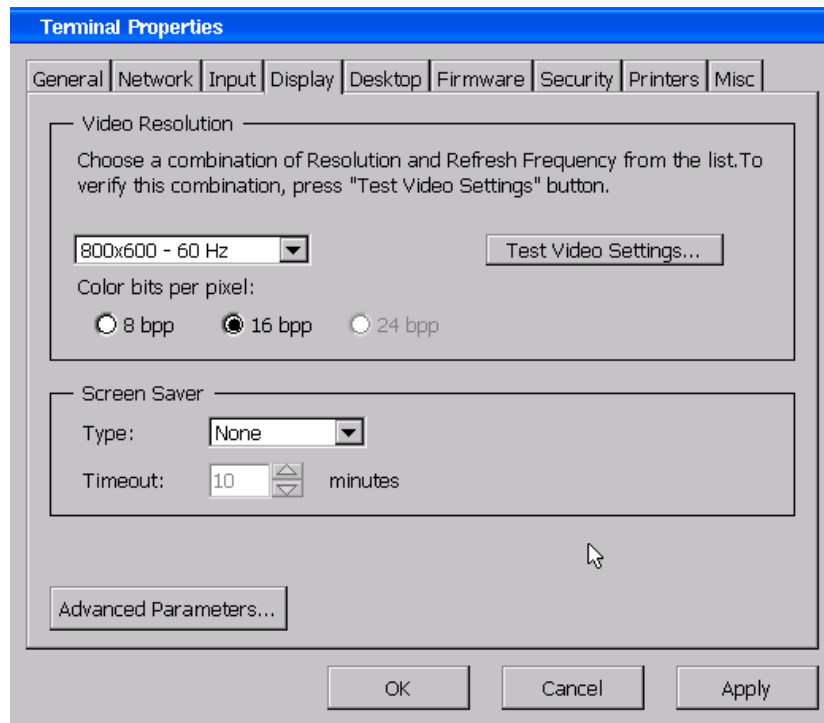
Display Property Sheet

- **Video Resolution**. Use the drop-down list to select the terminal display resolution, and the radio buttons to select the color depth. The terminal will support resolutions from 600x480x8x60 up to1280x1024x16x75 if the monitor will support them. Eight-bit color is typically sufficient for emulator sessions
    - o **Test Video Settings**. Use this button to preview your video changes. If you make any change in the video settings, you will not be allowed to advance from this sheet until you have tested the new settings.
- **Screen Saver**. By default this function is not activated.
    - o **Type**. If you want a screen saver, choose, from the drop-down list, a blank screen, X logo, or the Linux penguin.
    - o **Timeout**. Adjust the amount of idle time before either your Screen Saver is activated.

- **Advanced Parameters**. Click on this button to see the following dialog box.
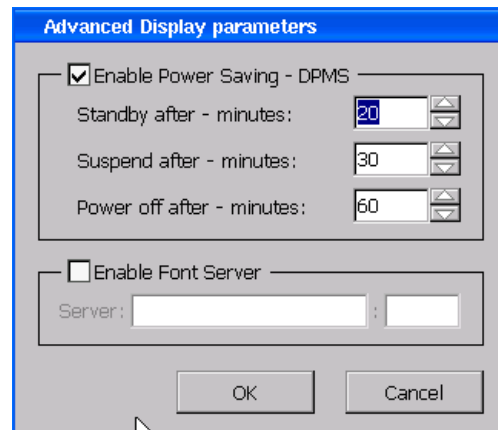
Advanced Display Parameters Dialog Box

- o **Enable Power Saving**. If you check this box to enable power saving, you will activate the following three settings:
    - ▪ **Standby**. Enter the number of minutes (1-999) for the Standby timeout. Standby acts much like a blank screen saver.
    - ▪ **Suspend**. Enter the number of minutes (1-999) for the Suspend timeout.. Suspend turns off most terminal functions, such as the video sync signal.
    - ▪ **Power off**. Power Off is not supported at this time.
    - **Note:** The timeout numbers are *not* cumulative; if the Suspend timeout is shorter than the Standby timeout, the terminal will go into Suspend without ever going into Standby.
- o **Enable Font Server**. Font servers are used with Linux X-Windows terminals and have no use here. Ignore this parameter.

Desktop

This tab provides a number of desktop appearance and session-jump Hot Key options.
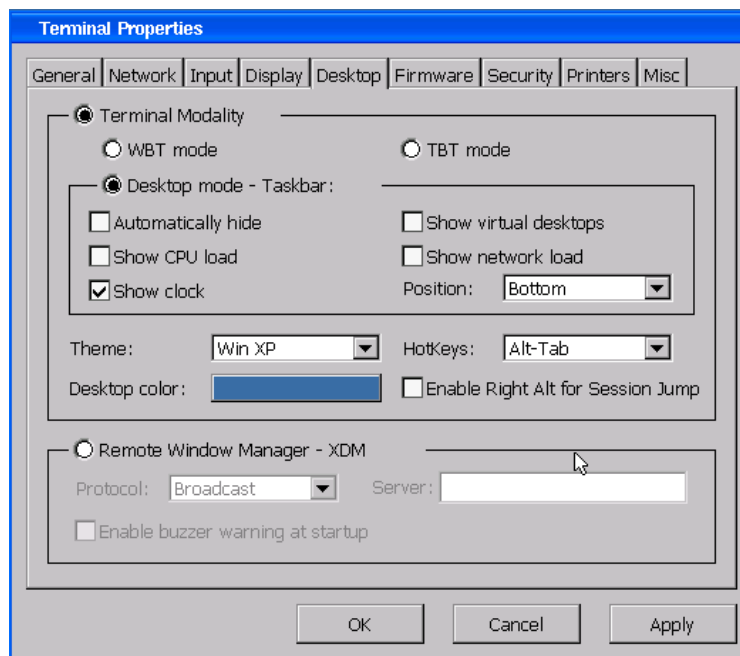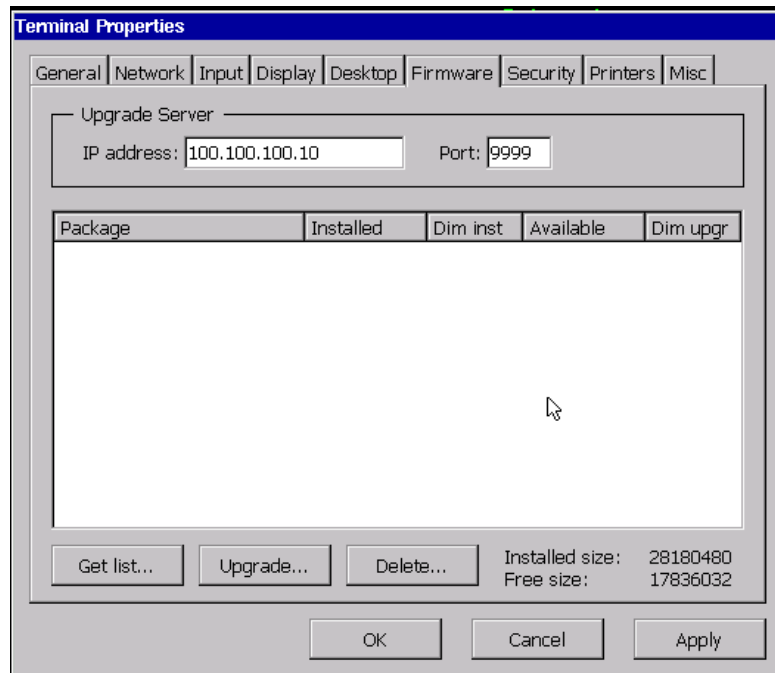
Desktop Property Sheet

- **Terminal Modality**. These are the three viewing modes discussed in <u>Viewing Modes</u>. Change to a different mode here if you wish.
- **Desktop mode-Taskbar**. If you choose Desktop mode, you are presented with a number of Taskbar appearance options.
  - o **Position**. You may choose to place the Taskbar at either the top or bottom edge of the Desktop screen.
  - o **Automatically hide**. Check this box to hide the Taskbar. With this setting, the Taskbar will appear only when you move the cursor to the Desktop edge where the Taskbar is hidden.
  - o **Show CPU load**. Check this box to display a small moving line graph representing the load on the terminal CPU.
  - o **Show clock**. Check this box to display the system clock. You can set the clock in the <u>Misc</u>. tab.
  - o **Show virtual desktops**. Virtual desktops are not supported in the 2209.
  - o **Show network load**. Check this box to display a small moving bar graph representing the load on the terminal network.
  - o **Theme**. Select a **Windows XP** or a **Windows 2000** appearance in the Taskbar and the Start menu.
- **Desktop color**. Click on the color bar to display a color palette from which to choose the background screen color. This choice will be applied in both WBT and Desktop viewing modes.
- **HotKeys**. This drop-down list provides a number of options for task switching in WBT and Desktop viewing modes.
  - o **WBT**. This is the default task-switching option, and is the only one available for the TBT viewing mode. See <u>Viewing Modes|TBT|Navigation</u> for an explanation of WBT Hot Keys.
  - o **Alt-Tab**. Switch among tasks by pressing **Alt+Tab**.
  - o **Ctrl-Tab**. Switch among tasks by pressing **Ctrl+Tab**.
  - o **Alt-Tab List**. This is very similar to Alt-Tab task switching in Windows. Press **Alt+Tab** to see an iconed list of tasks. Each depression of the **Alt** key will highlight the next icon, and lifting the **Tab** key will select the highlighted task.
- **Enable Right Alt…**. Check this box to allow the hot key combinations **RightAlt+Up/DownArrow** for task switching in all viewing modes.
- **Remote Window Manager**. This is not supported in the 2209.

Firmware

Use the Firmware properties sheet if you wish to update your terminal's firmware from a YES*manager* host. For more information, please refer to the Firmware Upgrade Utilities section.

Firmware Property Sheet

Security

The 2209 provides four levels of security.

Security Property Sheet

- **Hide connections configuration tab**. Check this box to hide the Connections tab in Connections Manager. This prohibits a user from adding, deleting, or editing sessions. **Note:** In Desktop viewing mode, this renders the Connections Manager useless.
- **Shadowing**. When used in conjunction with YES*manager*, Affirmative Computer Products' powerful Remote Central Manager, the terminal's screens can be viewed remotely, and full remote control of the terminal can be enabled.
    - **Allow Shadowing View Only**. Check this box to allow the terminal screens to be viewed at the remote YES*manager* console.
    - **Allow Shadowing Full Control**. Check this box to allow full control of terminal functions from the remote YES*manager* console. Actually, when shadowing is activated in YES*manager*, control will be shared between the remote administrator and the local user. **Note:** Enabling **Full Control** will have no effect unless you also enable **View Only**.
- **Require Password…**. Check this box to enable password security for terminal configuration. Then enter and confirm a password in the boxes.
  Note: The password is designed to avoid any unreasonable change to the Terminal Properties Settings. Please do NOT activate the password unless you are the administrator. If you forget the password, it will be difficult to recover. There is only one local method of recovery if you forget the password.
    - Ask your system administrator to use the secret hot key sequence to reset Terminal Properties to factory defaults.
- **User Authentication**. Check this box to enable password security for user access to sessions.
    - **Local Authentication**. This radio button is always enabled. If you checked **User Authentication**, enter and confirm a password in the boxes. You can also allow or forbid the user to change the user password.
    - **Remote Authentication…**. This is not supported in the 2209 terminal.
  Note: Even if a user password is required, the user can still access Terminal Properties without entering the correct password. Therefore, it is strongly recommended that you also enable **Require Password…** if you are going to use user authentication.
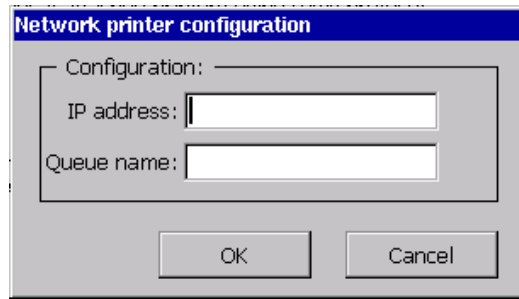
Printers

Printers Property Sheet

In addition to using local printers for printer emulation sessions, 2209 terminals can be configured as network print servers for use from other stations on the network. Either local printers or network printers can serve as the printing devices. Two modes of network printing are possible.

LPD

The Berkeley versions of the UNIX™ operating system provide printer spooling with a collection of programs: lpr (assign to queue), lpq (display the queue), lprm (remove from queue), and lpc (control the queue). These programs interact with an autonomous process on network print servers called the line printer daemon (LPD).

Each 2209 terminal includes an LPD module that allows an LPR device on the network to assign print jobs to a local printer or network printer attached to the terminal. Check the **Share local…using LPD/LPR** box to enable LPD printing.
.
- **Printer Port**. Select one, two, or three ports from **LPT1**, **Net,** and **USB**. There are no **COM** ports on a 2209.
- **Queue name**. Define a queue name for each printer port. This will be the queue name used by LPR devices to assign print jobs to that port.
- **Configure**. If you chose **Net**, you will have to configure the network printer. Click on the **Configure** button to see the Network Printer Configuration dialog box.

Network Printer Configuration Dialog Box

- **IP address**. Enter the IP address of the network printer.
- **Queue name**. Enter the queue name used to assign print jobs to the network printer. It is *not* the same name as the Net **Queue name** assigned in the Printers properties sheet.

RAW

RAW is the default protocol for network printing from a Windows client. RAW data is not modified by the spooler at all, but is sent directly to the printer. Check the **Share local…using RAW protocol** box to enable RAW printing. Then check **LPT1**, since this is the only port available on a 2209 for RAW printing. There should be no reason to change the default port number, **9100**.

ThinPrint

ThinPrint is not supported in the 2209.

Miscellaneous
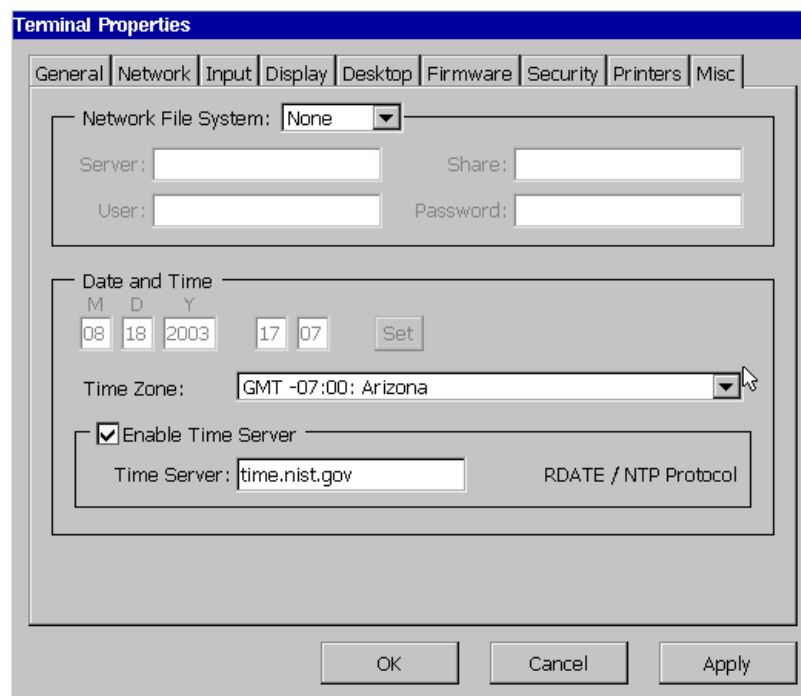
Miscellaneous Property Sheet

- **Network File System**. This is a parameter for mounting network drives as local drives. It is not applicable for the 2209, so leave it at the default **None**.
- **Date and Time**. You can enter the date and time here. Actually, the date may do you little good since it is not used for anything on a 2209, but the time may be useful if you have enabled the clock display (see [Desktop](#)) on the Taskbar.
- **Time Zone**. You can choose your time zone here from the drop-down list, but it will be of no use unless you also enable a timeserver.
- **Enable Time Server**. Check this box to allow the terminal to sync the local current time, shown in the Date/Time dialog box, with a timeserver on the Web. Obviously, it only works if you have a Web connection (but you don't need a browser session). If you check the box, and then enter a valid timeserver (**time.nist.gov** works well for us) in the **Time Server** box, the local clock will sync up with the timeserver every time the terminal is booted up.

Return to

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Editing an Emulation Connection

Editing an existing emulation connection is quite different in TBT and non-TBT viewing modes. Many more configuration parameters are accessible in non-TBT mode, and you may have to edit from one of those modes in order to get the emulation settings you need. Settings made in non-TBT mode remain in effect if you return to the TBT viewing mode.

TBT Viewing Mode

Editing in TBT mode is done from the same parameter screens used when adding a connection. Highlight the connection name in Connections Manager and press **F6** to open the parameter screens for that connection. Refer to Creating an Emulation Connection|TBT Viewing Mode for parameter details.
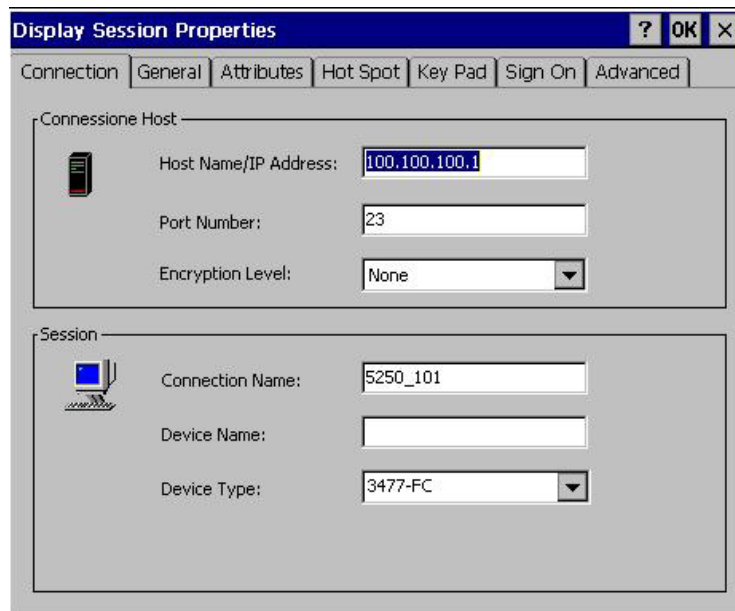
Non-TBT Viewing Mode

Connection properties are edited in the Configure tab of Connections Manager. Highlight the session of interest and click on **Edit**.

Display Sessions

For TN5250e sessions, you will see a Displays Sessions Properties sheet with seven property tabs. For TN3270e sessions, you will see a Displays Sessions Properties sheet with six property tabs. The opening view is of the Connections tab and property sheet.

Connection
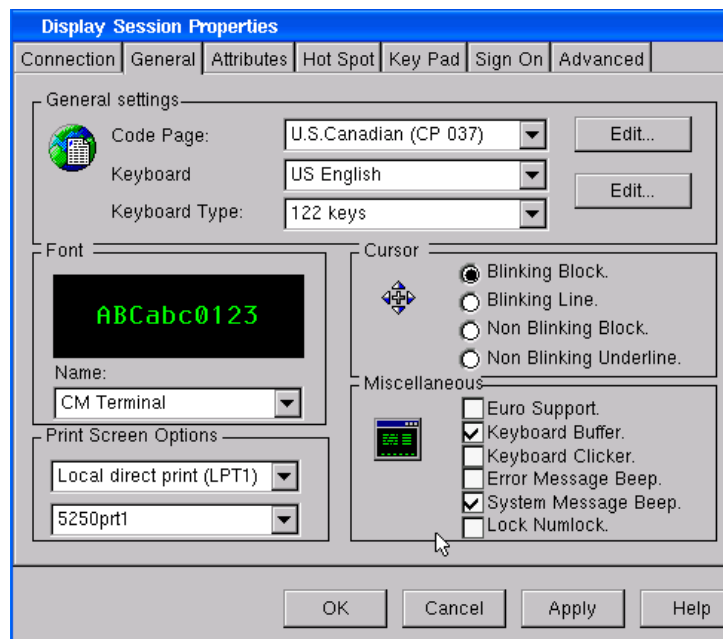
Connection Property Sheet for TN5250e Display

The properties on this property sheet were already configured in the Setup Wizard, although you can change them here if you wish

General

**General Property Sheet for TN5250e Display**

Code Page

YES*term*/IP supports numerous language Code Pages. The Code Page selected here from the drop-down list should be the same one configured on the AS/400 for this specific device. It is also possible to create a new custom Code Page Table.   See How To…|Create a Custom Language Code Page for instructions.

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Keyboard Language

YES*term*/IP supports several non-English keyboard languages. If you wish to use one of them, select it from the drop-down list.

Keyboard Type

YES*term*/IP supports 3 different keyboard types (101 PC, 101 Terminal, and 122 Key) for several different languages. It is also possible to create a custom keyboard map, if desired. Activate **Edit** to get to the keyboard map page.
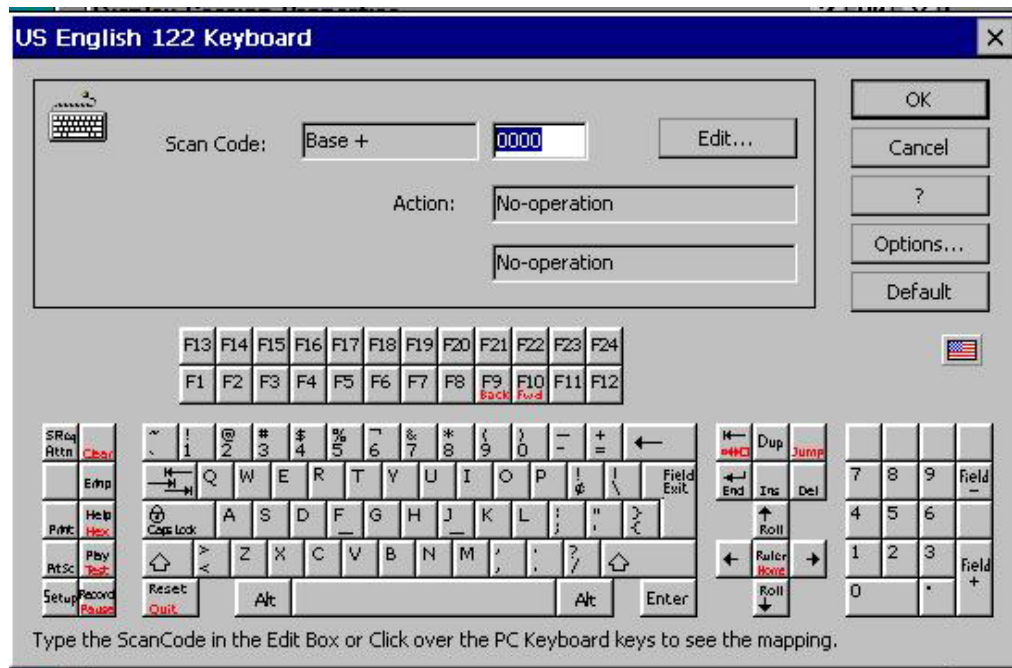
Keyboard Map Page for 5250 122-Key U.S. English Keyboard

You can check the current mapping in one of two ways:

- Scan Codes. The keyboard sends a unique scan code to the terminal when a key is pressed. If you want to see what key is associated with a specific scan code, type that code in the Edit box, shown highlighted in the above figure. The associated key will highlight, and any command mapped to that key will show in the Action boxes. Of course, most people couldn't care less about scan codes, so this method may be of little use to you.
- Mouse Clicks. Position the cursor over the key of interest and click. The scan code for that key will show in the Edit box, and any mapped command will show in the Action boxes. If you want to see the effect of that key plus a modifier key (**Shift, Alt, Ctrl**), click on the modifier key and then on the action key.

Edit

Activate this button to initiate custom keyboard mapping. See How To…|Create a Custom Keyboard Map for the mapping procedure.

Default

This button will erase any custom mapping that exists in this map. Everything goes back to defaults. Obviously, you want to be very careful around this key if you have done much custom mapping.

Options

Keyboard Options Dialog Box

This button opens a special dialog box where you can specify the Host Keyboard Language Option, and enable the Multinational character set. Keyboard ID is not used in the 7370.

Font

Select one of two Font styles to be used as the default Font for the display session.

Print Screen

From the drop-down list, select how the Print Screen function is to be performed:
- **Local Direct Print**. Make this selection if you wish to print to a local printer attached to the LPT1 port.
- **Through the Host**. Make this selection if you wish to print to a remote printer through the AS/400.
- **Extended Local Print**. This selection provides local printing on steroids. To use it, you must create a printer emulation session. This session can be used with either a local or a network printer, and it allows you to format your print output. See Printer Sessions for more information. If you select this option, you must choose a printer session from the lower drop-down list.
- **Function Disabled**. Screens cannot be printed.

The Print Screen function can be activated from:
- Emulator Button bar.
- Emulator Menu bar (**File|Print**)
- Keyboard in accordance with the keyboard map.
- Key Pad, if it contains a corresponding button.

Cursor

Select the type of cursor you want to use.

Miscellaneous

- Euro Support. When this option is enabled, you will enter the Euro symbol when you press **Alt+E**.
- Keyboard Buffer. This option enables Typeahead, but this option is of little use with a virtual keyboard.
- Keyboard Clicker. If this option is enabled, you can hear an enhanced click every time you press a key on the keyboard.
- Error Message Beep. If this option is enabled, you can hear a "Beep" when an input error is made.
- System Message Beep. If this option is enabled, you can hear a "Beep" when a message is received from the Host.
- Lock NumLock. This option has no effect since NumLock is always enabled in an emulator session.

Attributes

This properties sheet allows extensive editing of your screen appearance. At the lower right corner of this sheet are two radio buttons allowing you to make these edits global for all sessions, or restrict their use to this session only.
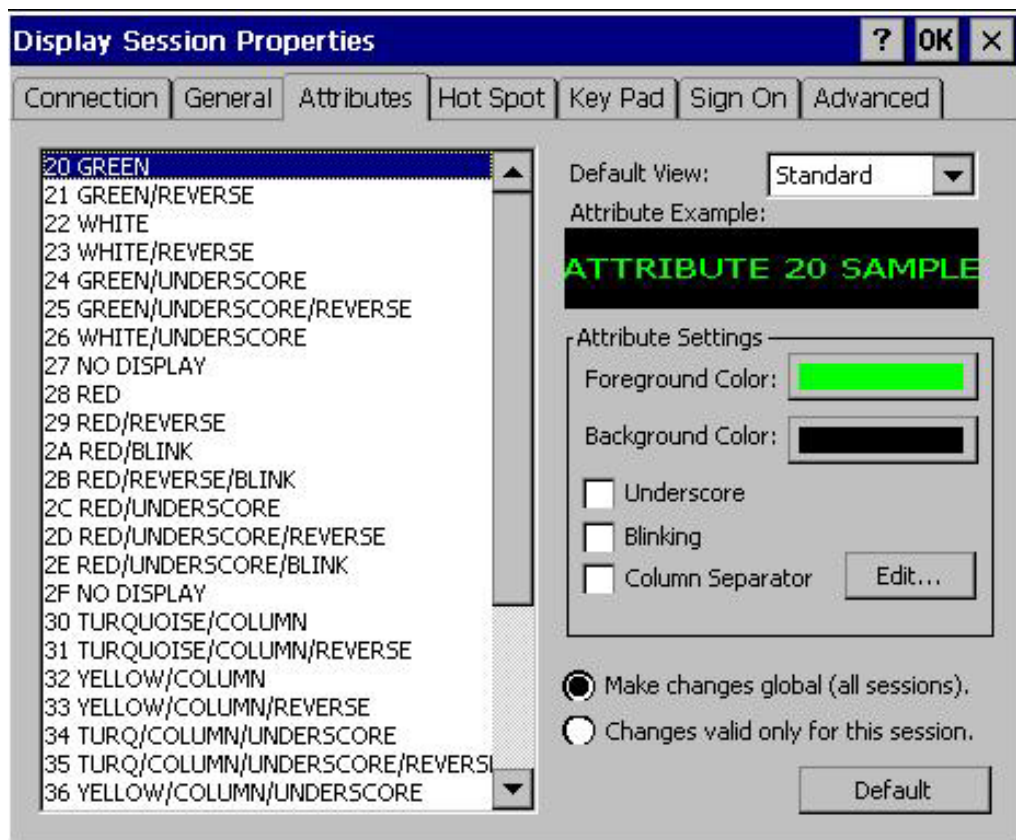
Attributes Property Sheet

Default View

- **Standard.** This selection provides the standard green screen "text" appearance for your session screens, duplicating terminal screens. Hot Spots are invisible unless the mouse cursor is placed over one of them, and then only that one Hot Spot is visible. If you are in TBT mode, the Standard view is most familiar to you. But you can operate in the Advanced view if you wish, although the efficiency of the Advanced view is lost without use of a mouse.
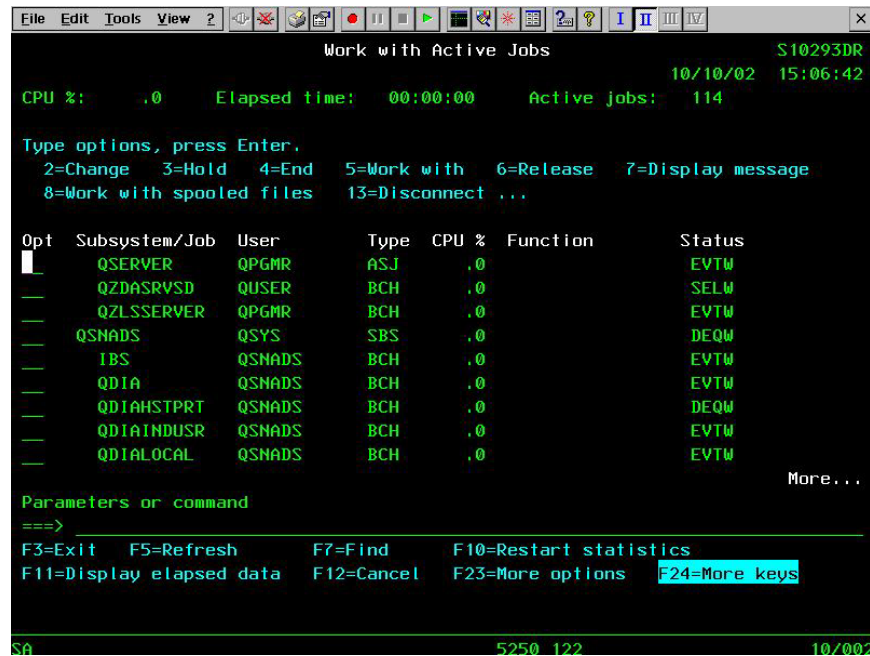
Display Emulation Screen with Standard View and Hot Spots

- **Advanced** (Recommended for WBT and Desktop modes). This selection provides a "graphics" appearance for your session screens, resembling a Windows application. All the Hot Spots are shown as raised buttons. Advanced View is the most productive way to operate in non-TBT viewing modes since all menu items, Function Keys, sub-file options, and custom hot spots are always visible and accessible as raised buttons. The use of custom Hot Spot keywords, which can be linked to keyboard commands, often eliminates the need to use the virtual keyboard and reduces the number of screen taps required to run applications.

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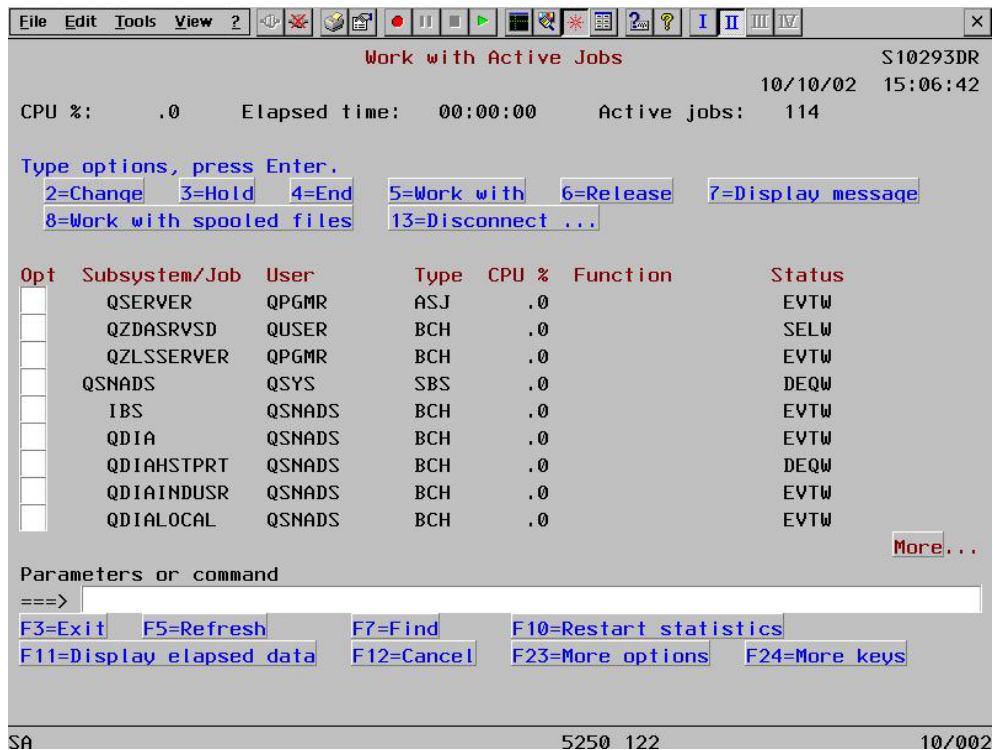
Display Emulation Screen with Advanced View and Hot Spot

Either view can be overridden from the emulation screen Toolbars if desired.

Attribute Settings

Set the appearance of the attribute font on the screen. This includes properties such as foreground and background color, blinking, underscore, and the use of column separators. You will see a preview of the "new look" in the Sample field. Be careful with the colors you choose; a wrong choice can cause text or fields to be invisible on the screen because of lack of color contrast.

- **Edit** (Column Separator). Activate this button to invoke this dialog box.
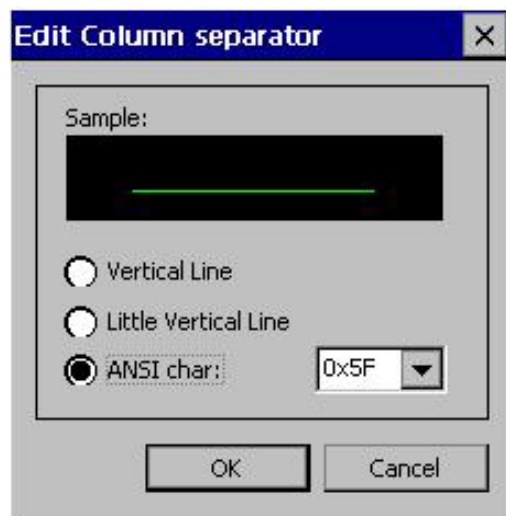
Edit Column Separator Dialog Box

Make your choices and view them in the Sample field.

Hot Spot

Changes made in this property sheet affect all sessions. There is only one Hot Spot configuration per emulator, not one per session. Hot Spots are of little value if you are using the TBT viewing mode.

Hot Spot Property Sheet

A Hot Spot is an area of the session window on which you can single-click the left mouse button to execute a command or function. Actually, a Hot Spot is the result of a text search by the emulator for the specified Keyword on the screen. The Function Key and Numeric fields (from 1 to 99 followed by a "period" or "space") Hot Spots are active by default, but you can add other Hot Spot keys and/or edit/remove them.

A Hot Spot can be used to:
- Simulate a function key.
- Execute a Recorded Sequence that has the same name as the word that you select on the screen.
- Execute a command that you select.

To enable the use of Hot Spots, you must check the **Enable Hot Spots** box.

Standard View

If **Standard View** is selected in the Advanced tab or the emulation screen Toolbars, Hot Spots are invisible unless a mouse cursor is dragged over them, and then only the one under the mouse cursor becomes visible.
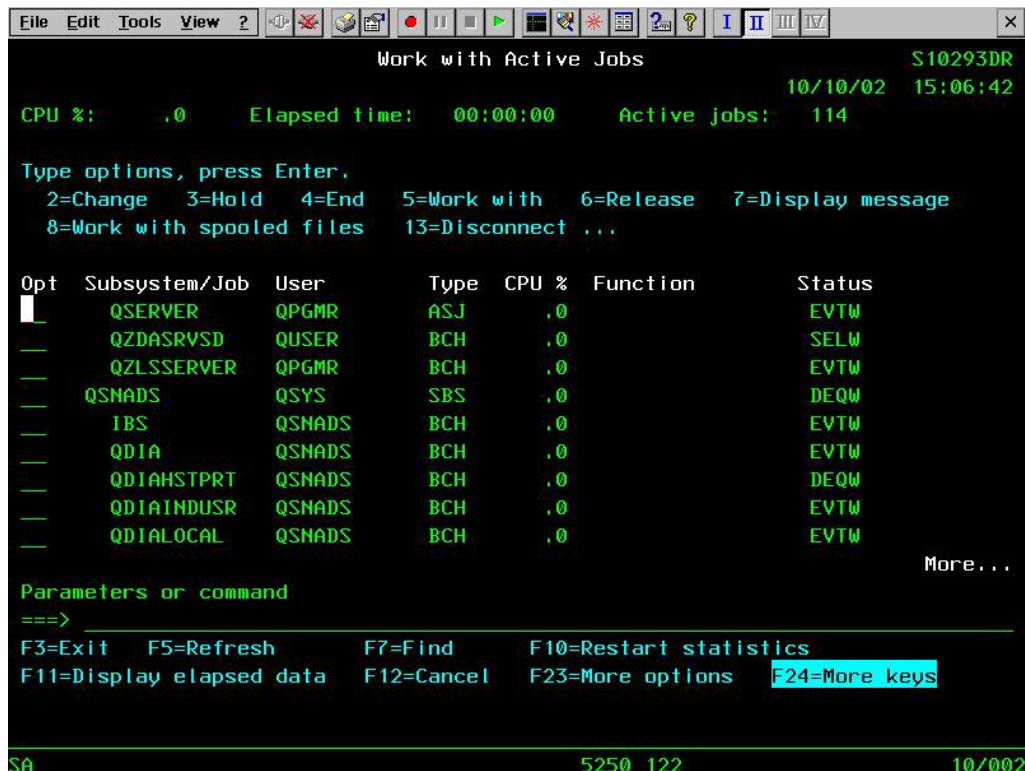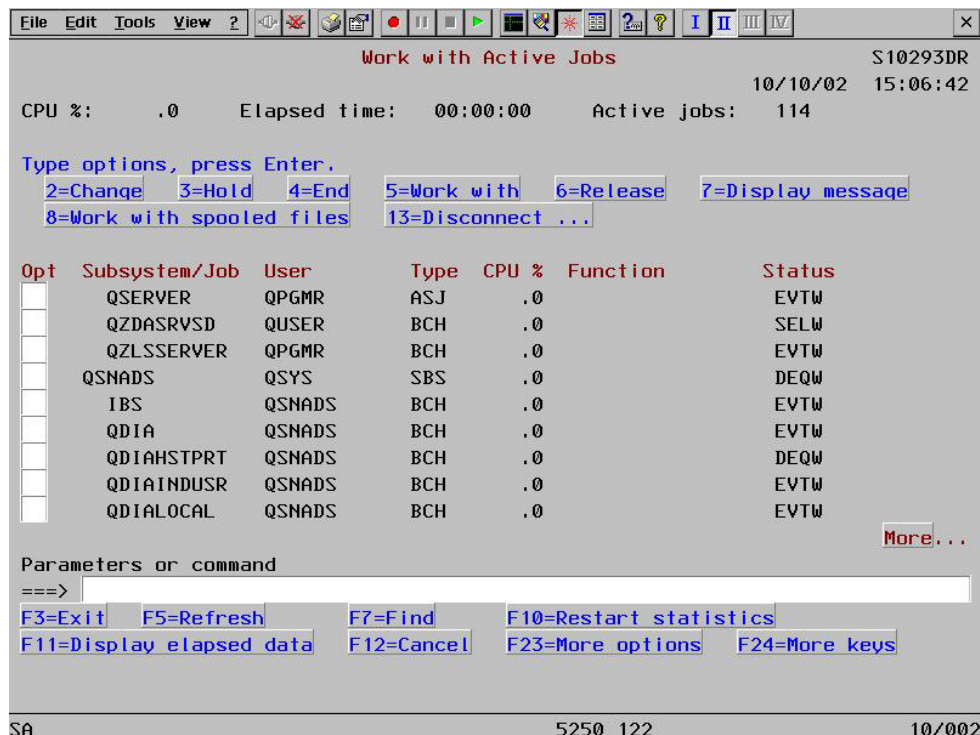
Emulation Screen with Standard View and Hot Spots

Advanced View

Hot Spots are displayed as raised buttons if the **Advanced View** option is selected in the Attributes tab or the emulation screen Toolbars. Advanced View is the most productive way to operate in non-TBT viewing mode since all menu items, Function Keys, sub-file options, and custom hot spots are always visible and accessible as raised buttons.

Emulation Screen with Advanced View and Hot Spots

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To Edit a Hot Spot:
1. Select the Function Key you want to modify.
2. Click on **Edit.**
3. If you want to send a Text String to the host every time you press the Function key, type it into the Text String field.
4. Select the Action from the Drop-Down List
5. From the drop-down list, select the command or the Recorded Sequence that you want to associate to the Hot Spot key.
6. In c.80, specify where, in an 80-column screen, the text search engine should start looking for the specified Keyword. For example, the default start for the word "More" is column 68. So if there is a word "More" to the left of that column, it will not be defined as a Keyword or Hot Spot.
7. In c.132, specify where, in a 132-column screen, the text search engine should start looking for the specified Keyword.
8. Click on **Accept.**
9. Click on **Apply**.

To Remove a pre-defined Hot Spot:
1. Select the Function Key.
2. Click on **Remove**.
.
To Add a Hot Spot:
1. Click on **Add**.
2. Type the Hot Spot Key Word you want to detect. If you want to send a Text String to the host, type it into the Text String field.
3. Select the Action from the Drop-Down List
4. From the drop-down list, select the command or the Recorded Sequence that you want to associate to the Hot Spot.
5. Specify the text search start columns in c.80 and c.132.
6. Click on **Accept**.
7. Click on **Apply**.

Key Pad

A Key Pad is a small window with several customizable push buttons, each having an assigned function. You can make it visible on the screen by clicking on the **Key Pad** button on the Buttons toolbar, or selecting **View/Key Pad** from the Menu bar. You can choose a function from the Key Pad with your mouse instead of typing the equivalent command, pressing a key, or running a Recorded Sequence.
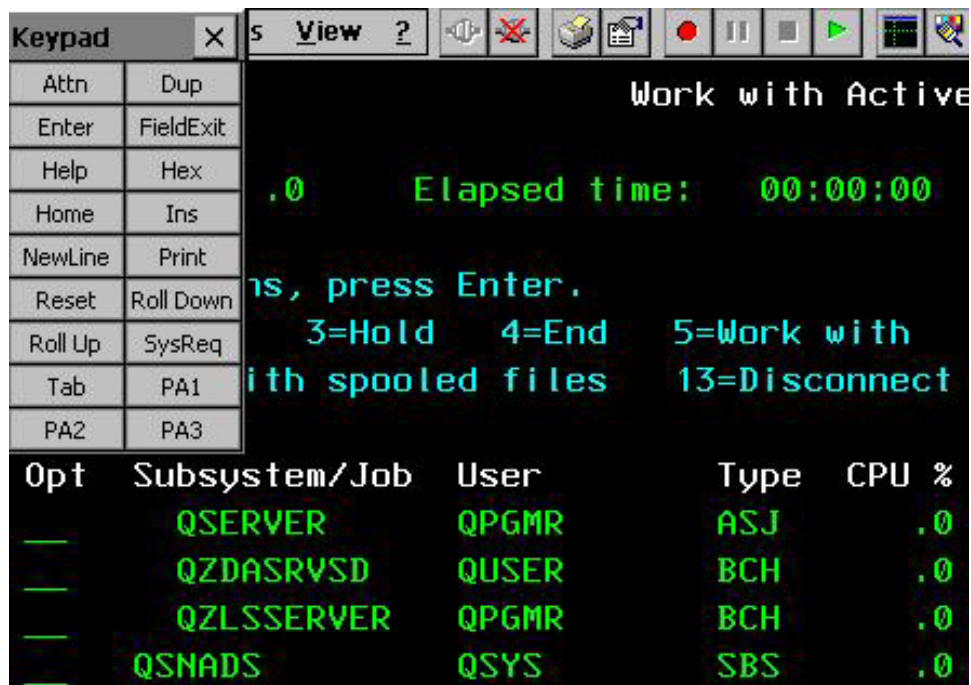
Emulation Screen with Key Pad

The Key Pad tab allows you to change the characteristics of the pop-up Key Pad. Changes made in this property sheet affect all sessions. There is only one Key Pad configuration per emulator, not one per session.
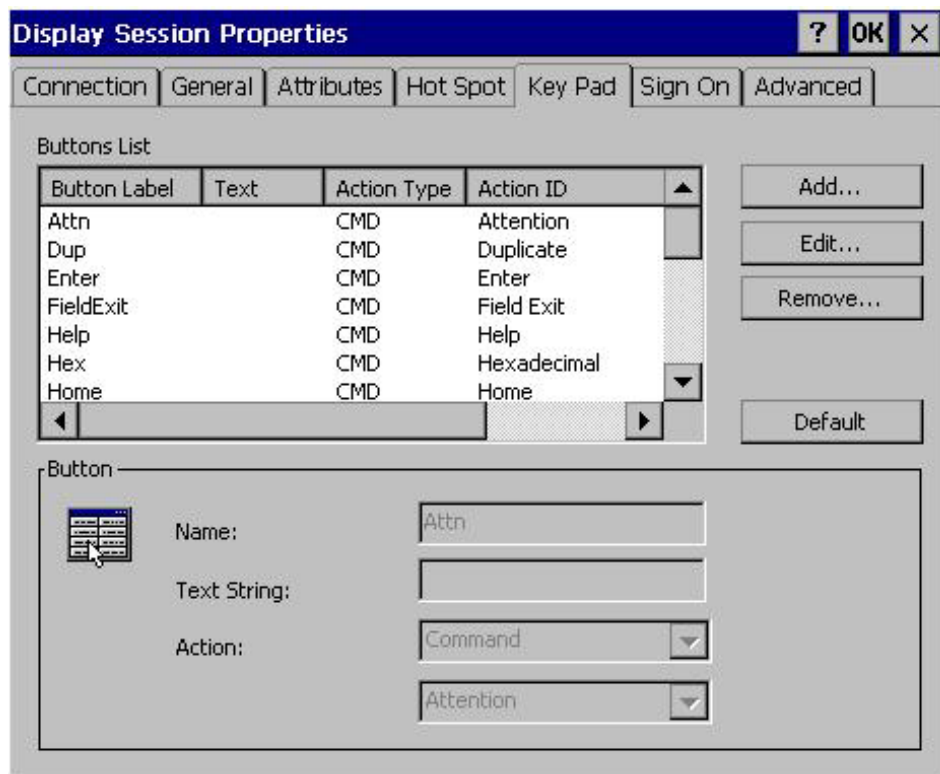
Key Pad Property Sheet

To Edit a Key Pad button:
1. Select the Function Key you want to modify from the Button Label list.
2. Click on **Edit**.

3. If you want to send a Text String to the host every time you press the Function key, type it into the Text String field.
4. Select the Action from the Drop-Down list
5. Select the command or the Recorded sequence from the Drop-Down list that you want to associate to the Hot Spot key.
6. Click on **Accept**.
7. Click on **Apply**.

To Remove a Key Pad button:
1. Select the Function Key you want to remove.
2. Click on **Remove**.
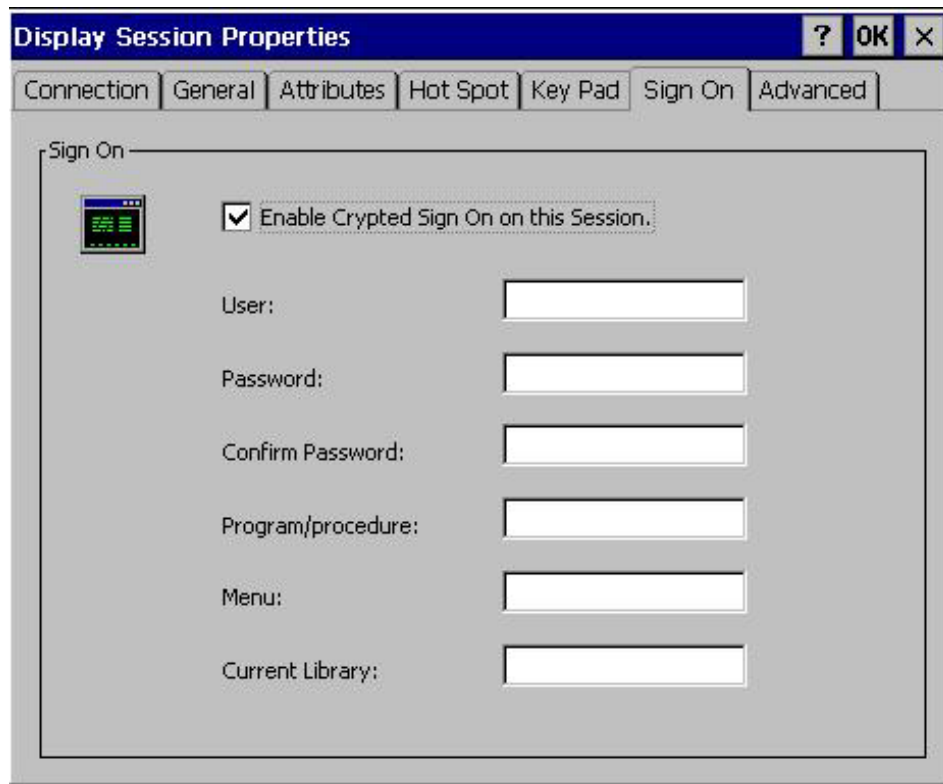
To Add a Key Pad button:
1. Click on **Add**.
2. In the Name field, type the text you want to associate to the button when you pop up the Key Pad.
3. If you want to add a Text String to be sent to the host, type it into the Text String field.
4. Select the Action from the Drop-Down List.
5. From the Drop-Down list, select the command or the Recorded sequence that you want to associate to the Key Pad button.
6. Click on **Accept**.
7. Click on **Apply**.

Sign On (5250 only)

The Sign On feature of the emulator uses the "Enhanced Display Auto-Signon and Password Encryption" feature of the AS/400 to allow a secure connection to the AS/400 without using SSL.

Sign On Property Sheet

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For this feature to work to your benefit, the "Remote Signon" parameter of the AS/400 configuration should be enabled. To verify if this parameter is enabled, use the WRKSYSVAL command. To enable this parameter, you may use the following command:
CHGSYSVAL SYSVAL(QRMTSIGN) VALUE('*VERIFY')

Advanced

The Advanced property sheet allows enabling/disabling of several useful features.
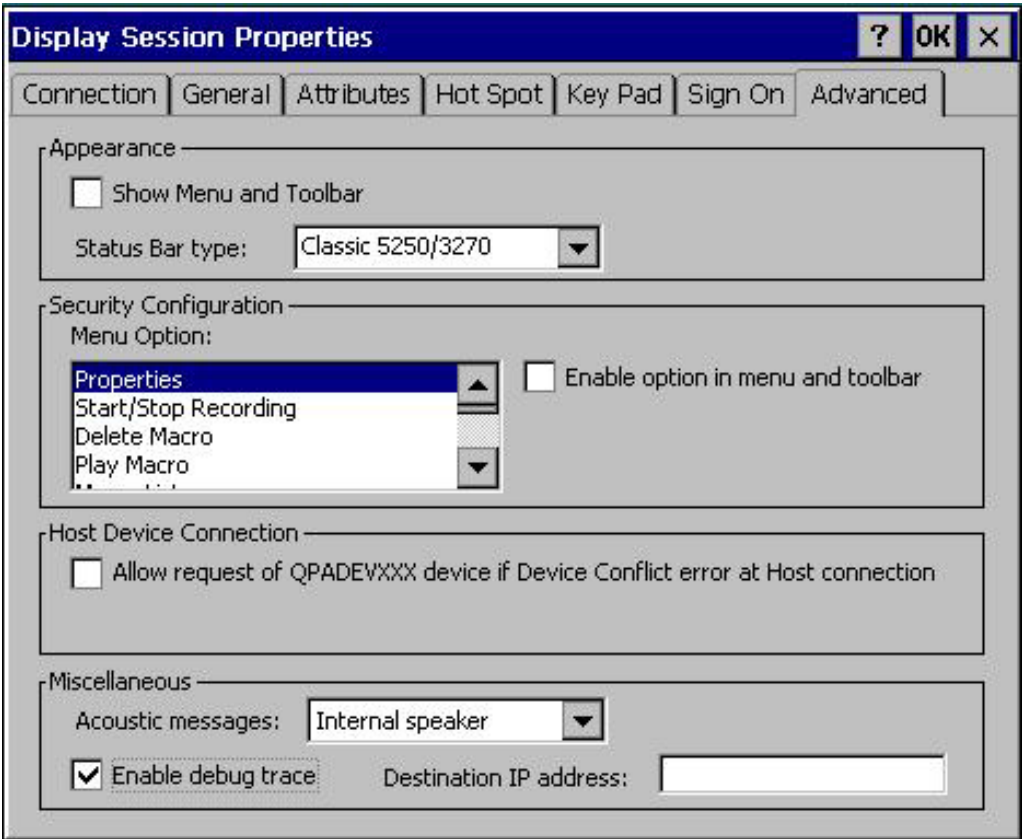
Advanced Property Sheet

Appearance

- **Show Menu and Toolbar**. *If you want to eliminate the "Windows" look, uncheck this box. In addition to changing the appearance, this will also prevent the user from using Hot Spots or Key Pad, and from viewing the keyboard mapping.*
- **Status Bar type**.
  - ○ *Classic 5250*. *Provides the classic "green screen" look in the status bar.*

  - ○ *Graphic*. *Provides the "Windows" look to the status bar and displays the connection name.*

Security Configuration

YES*term*/IP provides extreme flexibility in allowing, or prohibiting, the user to view and change the characteristics of the display screen. If you choose to show the Menu and Tool bars in Appearance above, you can choose to individually enable or hide every option item shown in the Menu bar, and its corresponding button in the Buttons bar. The default is that all options except Properties are enabled.

1. Select the appropriate item from the drop-down list
2. Click on the **Enable…** check box. to insert a check in the check box, or to remove one that is already there.

Host Device Connection

When using named devices, careless name assignment or unusual session activation circumstances, such as a power failure/reconnect, can cause two sessions to request the same name. In such a case, the host will not open the second session. Checking the **Allow request of….** box will cause the emulator to request a virtual assignment for the second session if it is rejected because of name conflict. This doesn't fix the basic problem, but at least the session can be opened.

For IBM recommends setting the AS/400 "Keep Alive Timeout" to 40 seconds in order to facilitate reconnection of named sessions. The AS/400 command CHGTELNA, executed from an AS/400 green screen, followed by the F4 key will display the screen that controls the setting of this parameter.

Miscellaneous

- **Acoustic messages**. Only the **Internal speaker** selection is valid, since **Wave device** requires external speakers.
- **Enable debug trace**. If you enable the trace, enter the Destination IP Address.

Printer Sessions

For TN5250e sessions, you will see a Printer Sessions Properties sheet with six properties tabs. For TN3270e sessions, you will see a Printer Sessions Properties sheet with four properties tabs. The opening view is of the Connections tab and properties sheet.

Connection (5250)

Connection Property Sheet for TN5250e

Six of the seven parameters on this property sheet were already configured in the Setup Wizard, although you can change them here if you wish. The additional parameter is:

- **Use this session to support…**. If this session is used for Extended Local Printing, check this box.

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Connection (3270)

Connection Property Sheet for TN3270e

Six of the eight parameters on this property sheet were already configured in the Setup Wizard, although you can change them here if you wish. The additional parameters are:

- **Use this session to support…**. If this session is used for Extended Local Printing, check this box.
- **Associate device**. Usually a printer session is associated with a specific printer device name. However, there are some mainframe configurations with no "free" printer devices, but only printer devices associated to specific display devices. In this case, you have to specify a display session name to which a printer is associated.

Input (5250)

The Input tab allows you to define specific parameters that affect the appearance of the printed page. **Note:** If you are using Host Print Transform, the Input settings do not apply.

Input Property Sheet for TN5250e

Language

YES*term*/IP supports a number of different Code Pages. The Code Page selected here from the drop-down list should be the same as that configured on the AS/400 for the specific device.

It is also possible to create a new custom Code Page Table. See How To…|Create a Custom Language Code Page for instructions.

Page Layout

Set the default page layout. Parameters are:

- **Page Orientation**. Select from **Portrait**, **Landscape**, and **COR** (Computer Output Reduction). **Note:** If you are using an impact dot-matrix printer, **Portrait** is recommended.
- **Automatic Page Orientation**. This option is enabled by Default. **Note:** If you are using an impact dot-matrix printer, it is recommended that this be **Disabled**.

- **COR Line Spacing Reduction.** This feature solves the problem of nonprintable margin area on the printer. **Note**: It is recommended that this feature be used only with laser printers.
- **COR Override**. This function corresponds to the IBM 3812 configuration parameter and defines that a job with draft quality is printed in COR.

Overrides

If you wish to override the host system output settings, you can do so here.
Note: If you are using an impact dot-matrix printer, it is recommended that you set Print Quality to **Force Draft**.

Input (3270)

Input Property Sheet for TN3270e

Language

YES*term*/IP supports a number of different Code Pages. The Code Page selected here from the drop-down list should be the same as that configured on the mainframe for the specific device.

It is also possible to create a new custom Code Page Table. See How To…|Create a Custom Language Code Page for instructions.
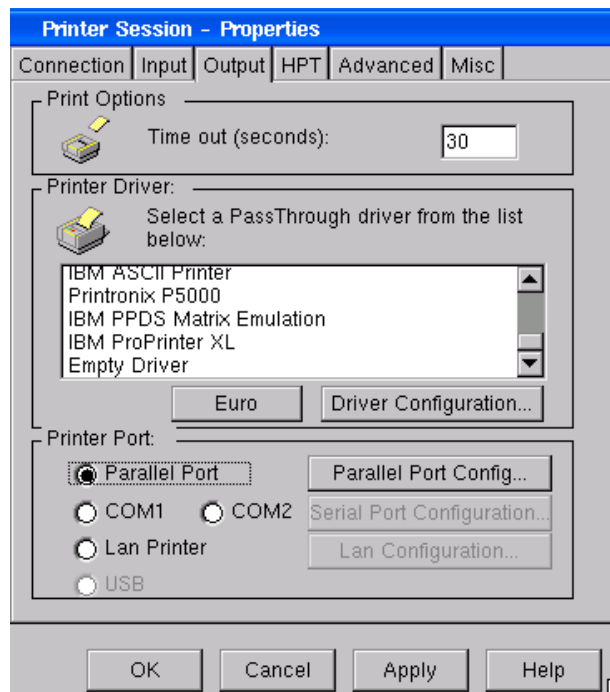
Default Page Settings

Select the desired default settings from the drop-down lists and enter the maximum print parameters.
Note: If you are using an impact dot-matrix printer, **Portrait** is recommended for Page Orientation.

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Output

The Output properties define the communication with the printer.

Output Property Sheet

- **Time Out.** This parameter defines a timer (in seconds) that starts to count down every time, during a printing job, that the host system stops sending data. If no more data are received within the timeout value selected, the printer session will assume that the print job is finished, and a Form Feed command is sent to the printer.
- **Printer Driver.** The PassThrough Drivers offered here, specifically developed by Affirmative, generate a standard text data stream. Everything is sent to the printer in text mode allowing better control of the printer and better performance. Select a PassThrough Driver from the drop-down list of pre-configured Printer Profiles for your selection and use. Even if your printer is not on this list, it probably emulates one of the listed printers. **Note:** If you are using an HP PCL printer, it is recommended that you use **HP PCL (Standard COR)** for U.S. operation and **HP PCL Laser Emulation** for European operation. **Note:** If you are using Host Print Transform, select **Empty Driver**.
- **Driver Configuration**. If you wish, you can modify parameters of a listed driver. For more information on how to customize or create a new Passthrough Printer Driver, refer to How To…|Modify a Passthrough Driver.

Euro

If your printer is Euro ready, you may wish to bypass the PassThrough Euro sequence. To do so, activate the **Euro** button to bring up the Euro Printing Mode dialog box
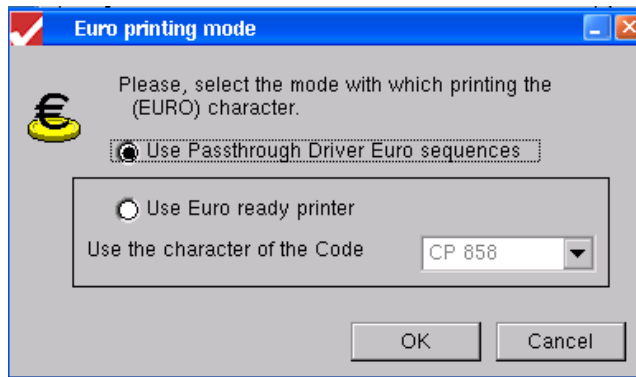
Euro Printing Mode Dialog Box

Select the **Use Euro ready printer** radio button and choose a Code Page character.

Printer Port

Choose and configure the local or network printer port used in this session. Choose **Parallel port** or **Lan printer**, since the 2209 has no COM ports and direct USB printing is not supported in an emulation session.

- **Port printer configuration**. After you choose a printer port, you need to configure it.
  - o **Parallel Port**. Click on **Parallel Port Config…** to configure whether or not to reset the printer at the start of every print job.
  - o **Lan Printer**. Click on **Lan Configuration** to see the Lan Printer Configuration dialog box. Note that **SMB printer** is grayed out, since it is not supported in emulation sessions.

LAN Printer Configuration Dialog Box

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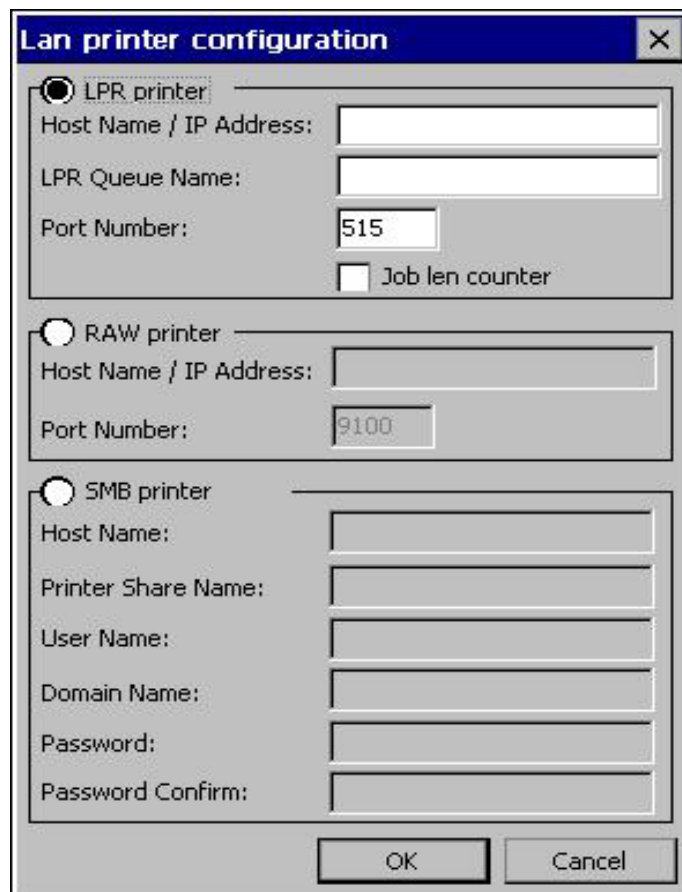
- o **LPR printer**. Make this selection to assign print jobs to a network printer that is configured as an LPD server.
    - **Host name/IP Address**. If you have a local DNS or WINS server or are using a hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the LPD host.
    - **LPR queue name**. This will be the queue name assigned at the LPD host to be used by LPR devices to assign print jobs.
    - **Port Number**. Leave at the default unless otherwise directed by your network administrator.
    - **Job length counter**. Leave unchecked unless otherwise directed by your system administrator.
  - o **RAW printer**. RAW is the default protocol for most TCP/IP networks. RAW data is not modified by the spooler at all, but is sent directly to the printer.
    - **Host name/IP**. If you have a local DNS or WINS server or are using a hosts table (see Editing Terminal Properties|Network|Advanced Parameters|Hosts Table), you can type in the host network name. Otherwise, type in the IP address of the RAW host.
    - **Port Number**. Leave at the **9100** default unless otherwise directed by your system administrator.
- **USB**. Even though USB is grayed out, there is a circuitous way to print to a local USB printer. If you wish to do this, proceed as follows:
  1. Set up the printer as an LPD printer, as described in Editing Terminal Properties|Printers|LPD.
  2. Select **Lan printer** under Printer Port.
  3. Configure the LAN printer as an **LPR printer**.
     - o **Host name/IP Address**. Enter the IP Address of this terminal.
     - o **LPR queue name**. Enter the queue name that you assigned in step 1.
     - o **Port Number**. Leave at the default.
     - o **Job length counter**. Leave unchecked.
  4. Now you should be able to print to this printer from this session.

HPT (Hex Passthrough) (5250 only)

Hex Passthrough allows portions of a data stream to be sent directly from the host to the printer. There is no modification done to these portions by the emulator driver. In order for the emulator to recognize these inviolate data stream portions, they must be identified at the beginning and end by escape sequences – a combination of special characters that the emulator can identify.

Hex Passthrough Property Sheet

- **Sequences**. Enter the Leading Sequence and the Trailing Sequence you want to use. The default sequences are **%&** and **%&**; however, most printers use the reverse (**&%**). You can enter up to 4 characters for each sequence.
- **HPT Mode**. Select one of four modes to define rather or not HPT prints spaces and rather or not it updates the column counter.

Advanced (5250 only)

The Advanced Tab allows you to set Default parameters and enable the Host Print Transform feature.

Advanced Property Sheet

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- **Queue Name/Queue Library/Default Port**. These are host parameters and should be given to you by your host administrator.

Host Transform

When Host Print Transform is enabled, the host does the EBCDIC-to-ASCII conversion of the print stream, and the local Passthrough Driver is not used.

- **Printer**. You must choose a compatible model from the drop-down list. Your AS/400 may have a more extensive list of compatible printers. If your printer is on the AS/400 list, but not on our list, you can type in the printer model here as it appears in the AS/400 list; be sure to put an asterisk in front of the model name.
- **Drawer # 1**. Choose an input print media size if applicable.
- **Drawer # 2**. Choose an input print media size if applicable.
- **Envelope**. Choose an envelope size if applicable.
- **Customizing Object Name**. Enter the object name here if you have chosen ***WSCTS** from the Printer drop-down list.
- **Customizing Object Library**. Enter the object library name here if you have chosen ***WSCTS** from the Printer drop-down list.
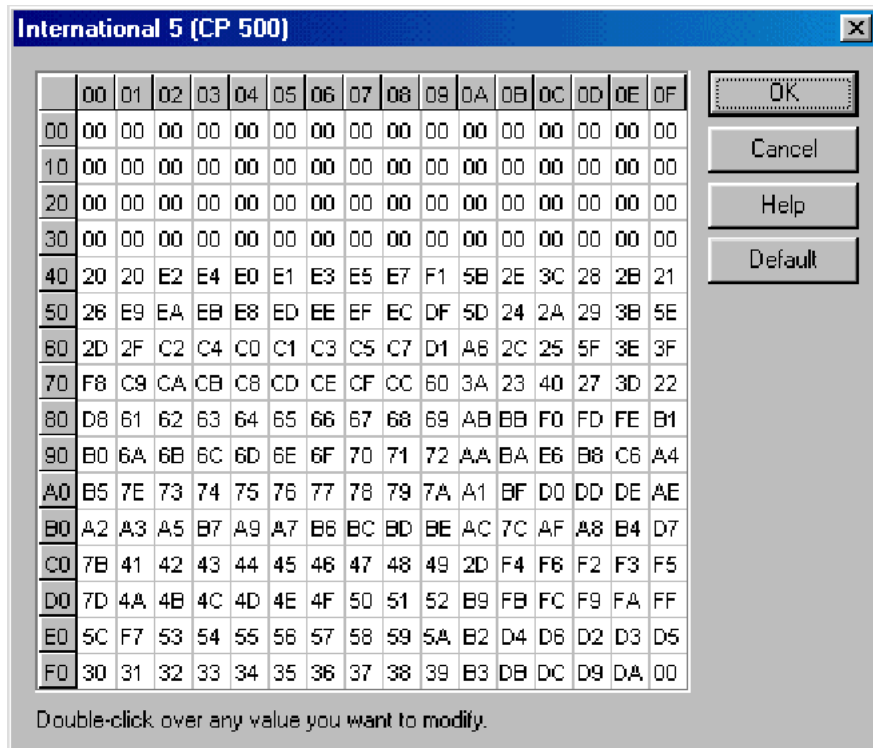
Miscellaneous

Miscellaneous Property Sheet

- **Security Configuration**. Default mode is to hide the Properties entries from the Tool bar and the Menu bar so that the user cannot make configuration changes. Check this box if you wish to provide user access to the configuration parameters.
- **Misc**. If you enable the debug trace, enter the **Destination IP Address**.

How To…

Create a Custom Language Code Page

This procedure is the same for either a display or a printer session. To do this, select one of the available Code Pages (the one that comes closest to the one you want to create) and click on **Edit**. Assuming that your base Code Page is International 5, the following screen will appear:

International 5 (CP 500)

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
40	20	20	E2	E4	E0	E1	E3	E5	E7	F1	5B	2E	3C	28	2B	21
50	26	E9	EA	EB	E8	ED	EE	EF	EC	DF	5D	24	2A	29	3B	5E
60	2D	2F	C2	C4	C0	C1	C3	C5	C7	D1	A6	2C	25	5F	3E	3F
70	F8	C9	CA	CB	C8	CD	CE	CF	CC	60	3A	23	40	27	3D	22
80	D8	61	62	63	64	65	66	67	68	69	AB	BB	F0	FD	FE	B1
90	B0	6A	6B	6C	6D	6E	6F	70	71	72	AA	BA	E6	B8	C6	A4
A0	B5	7E	73	74	75	76	77	78	79	7A	A1	BF	D0	DD	DE	AE
B0	A2	A3	A5	B7	A9	A7	B6	BC	BD	BE	AC	7C	AF	A8	B4	D7
C0	7B	41	42	43	44	45	46	47	48	49	2D	F4	F6	F2	F3	F5
D0	7D	4A	4B	4C	4D	4E	4F	50	51	52	B9	FB	FC	F9	FA	FF
E0	5C	F7	53	54	55	56	57	58	59	5A	B2	D4	D6	D2	D3	D5
F0	30	31	32	33	34	35	36	37	38	39	B3	DB	DC	D9	DA	00

Double-click over any value you want to modify.

International 5 Code Page Table

To read the table, use the left column for the first hex character of the EBCDIC code, and the top row for the second hex character of the EBCDIC code. For example, the standard EBCDIC code for A is C1; the standard ASCII code for A is 41. Look at the table above and you see that the cell corresponding to EBCDIC C1 has the value 41 in it.

Double-click the cells you want to change and enter the new values.   To assist you in your customization, the standard code tables for EBCDIC and ASCII are shown here.

HEX DIGITS 1ST→ 2ND↓	4-	5-	6-	7-	8-	9-	A-	B-	C-	D-	E-	F-
-0	(SP) SP010000	& SM030000	– SP100000	ø LO610000	Ø LO620000	° SM190000	µ SM170000	^ SD150000	{ SM110000	} SM140000	\ SM070000	0 ND100000
-1	(RSP) SP300000	é LE110000	/ SP120000	É LE120000	a LA010000	j LJ010000	~ SD190000	£ SC020000	A LA020000	J LJ020000	÷ SA060000	1 ND010000
-2	â LA150000	ê LE150000	Â LA160000	Ê LE160000	b LB010000	k LK010000	s LS010000	¥ SC050000	B LB020000	K LK020000	S LS020000	2 ND020000
-3	ä LA170000	ë LE170000	Ä LA180000	Ë LE180000	c LC010000	l LL010000	t LT010000	· SD630000	C LC020000	L LL020000	T LT020000	3 ND030000
-4	à LA130000	è LE130000	À LA140000	È LE140000	d LD010000	m LM010000	u LU010000	© SM520000	D LD020000	M LM020000	U LU020000	4 ND040000
-5	á LA110000	í LI110000	Á LA120000	Í LI120000	e LE010000	n LN010000	v LV010000	§ SM240000	E LE020000	N LN020000	V LV020000	5 ND050000
-6	ã LA190000	î LI150000	Ã LA200000	Î LI160000	f LF010000	o LO010000	w LW010000	¶ SM250000	F LF020000	O LO020000	W LW020000	6 ND060000
-7	å LA270000	ï LI170000	Å LA280000	Ï LI180000	g LG010000	p LP010000	x LX010000	¼ NF040000	G LG020000	P LP020000	X LX020000	7 ND070000
-8	ç LC410000	ì LI130000	Ç LC420000	Ì LI140000	h LH010000	q LQ010000	y LY010000	½ NF010000	H LH020000	Q LQ020000	Y LY020000	8 ND080000
-9	ñ LN190000	ß LS610000	Ñ LN200000	` SD130000	i LI010000	r LR010000	z LZ010000	¾ NF050000	I LI020000	R LR020000	Z LZ020000	9 ND090000
-A	¢ SC040000	! SP020000	¦ SM650000	: SP130000	« SP170000	ª SM210000	¡ SP030000	[SM060000	(SHY) SP320000	¹ ND011000	² ND021000	³ ND031000
-B	. SP110000	$ SC030000	, SP080000	# SM010000	» SP180000	º SM200000	¿ SP160000	] SM080000	ô LO150000	û LU150000	Ô LO160000	Û LU160000
-C	< SA030000	* SM040000	% SM020000	@ SM050000	ð LD630000	æ LA510000	Đ LD620000	¬ SM150000	ö LO170000	ü LU170000	Ö LO180000	Ü LU180000
-D	(SP060000	) SP070000	_ SP090000	' SP050000	ý LY110000	¸ SD410000	Ý LY120000	¨ SD170000	ò LO130000	ù LU130000	Ò LO140000	Ù LU140000
-E	+ SA010000	; SP140000	> SA050000	= SA040000	þ LT630000	Æ LA520000	Þ LT640000	´ SD110000	ó LO110000	ú LU110000	Ó LO120000	Ú LU120000
-F	| SM130000	¬ SM660000	? SP150000	" SP040000	± SA020000	¤ SC010000	® SM530000	× SA070000	õ LO190000	ÿ LY170000	Õ LO200000	(EO)

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EBCDIC Code Page

HEX DIGITS 1ST → / 2ND ↓	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	A-	B-	C-	D-	E-	F-
-0		► SM590000	(SP) SP010000	0 ND100000	@ SM050000	P LP020000	` SD130000	p LP010000	Ç LC420000	É LE120000	á LA110000	▒ SF140000	└ SF020000	╨ SF460000	α GA010000	≡ SA480000
-1	☺ SS000000	◄ SM630000	! SP020000	1 ND010000	A LA020000	Q LQ020000	a LA010000	q LQ010000	ü LU170000	æ LA510000	í LI110000	▓ SF150000	┴ SF070000	╤ SF470000	ß LS610000	± SA020000
-2	☻ SS010000	↕ SM760000	" SP040000	2 ND020000	B LB020000	R LR020000	b LB010000	r LR010000	é LE110000	Æ LA520000	ó LO110000	█ SF160000	┬ SF060000	╥ SF480000	Γ GG020000	≥ SA530000
-3	♥ SS020000	‼ SP330000	# SM010000	3 ND030000	C LC020000	S LS020000	c LC010000	s LS010000	â LA150000	ô LO150000	ú LU110000	│ SF110000	├ SF080000	╙ SF490000	π GP010000	≤ SA520000
-4	♦ SS030000	¶ SM250000	$ SC030000	4 ND040000	D LD020000	T LT020000	d LD010000	t LT010000	ä LA170000	ö LO170000	ñ LN190000	┤ SF090000	─ SF100000	╘ SF500000	Σ GS020000	⌠ SS260000
-5	♣ SS040000	§ SM240000	% SM020000	5 ND050000	E LE020000	U LU020000	e LE010000	u LU010000	à LA130000	ò LO130000	Ñ LN200000	╡ SF190000	┼ SF050000	╒ SF510000	σ GS010000	⌡ SS270000
-6	♠ SS050000	▬ SM700000	& SM030000	6 ND060000	F LF020000	V LV020000	f LF010000	v LV010000	å LA270000	û LU150000	ª SM210000	╢ SF200000	╞ SF360000	╓ SF520000	µ GM010000	÷ SA060000
-7	• SM570000	↨ SM770000	' SP050000	7 ND070000	G LG020000	W LW020000	g LG010000	w LW010000	ç LC410000	ù LU130000	º SM200000	╖ SF210000	╟ SF370000	╫ SF530000	τ GT010000	≈ SA700000
-8	◘ SM570001	↑ SM320000	(SP060000	8 ND080000	H LH020000	X LX020000	h LH010000	x LX010000	ê LE150000	ÿ LY170000	¿ SP160000	╕ SF220000	╚ SF380000	╪ SF540000	Φ GF020000	° SM190000
-9	○ SM750000	↓ SM330000	) SP070000	9 ND090000	I LI020000	Y LY020000	i LI010000	y LY010000	ë LE170000	Ö LO180000	⌐ SM680000	╣ SF230000	╔ SF390000	┘ SF040000	Θ GT620000	• SA790000
-A	◙ SM750002	→ SM310000	* SM040000	: SP130000	J LJ020000	Z LZ020000	j LJ010000	z LZ010000	è LE130000	Ü LU180000	¬ SM660000	║ SF240000	╩ SF400000	┌ SF010000	Ω GO320000	· SD630000
-B	♂ SM280000	← SM300000	+ SA010000	; SP140000	K LK020000	[SM060000	k LK010000	{ SM110000	ï LI170000	¢ SC040000	½ NF010000	╗ SF250000	╦ SF410000	█ SF610000	δ GD010000	√ SA800000
-C	♀ SM290000	∟ SA420000	, SP080000	< SA030000	L LL020000	\ SM070000	l LL010000	| SM130000	î LI150000	£ SC020000	¼ NF040000	╝ SF260000	╠ SF420000	▄ SF570000	∞ SA450000	ⁿ LN011000
-D	♪ SM930000	↔ SM780000	- SP100000	= SA040000	M LM020000	] SM080000	m LM010000	} SM140000	ì LI130000	¥ SC050000	¡ SP030000	╜ SF270000	═ SF430000	▌ SF580000	φ GF010001	² ND021000
-E	♫ SM910000	▲ SM600000	. SP110000	> SA050000	N LN020000	^ SD150000	n LN010000	~ SD190000	Ä LA180000	Pts SC060000	« SP170000	╛ SF280000	╬ SF440000	▐ SF590000	ε GE010000	■ SM470000
-F	☼ SM690000	▼ SV040000	/ SP120000	? SP150000	O LO020000	_ SP090000	o LO010000	△ SM790000	Å LA280000	ƒ SC070000	» SP180000	╖ SF030000	╘ SF450000	▀ SF600000	∩ SA380000	(RSP) SP300000

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ASCII Code Page for Terminal Font

Create a Custom Keyboard Map

To do this, select, in Display Session Properties>General>Keyboard Type, one of the available Keyboard Layouts (the one that best matches the one you want to create) and click on **Edit**. Assuming that you chose the 101 PC keyboard for U.S. English, the following screen will appear
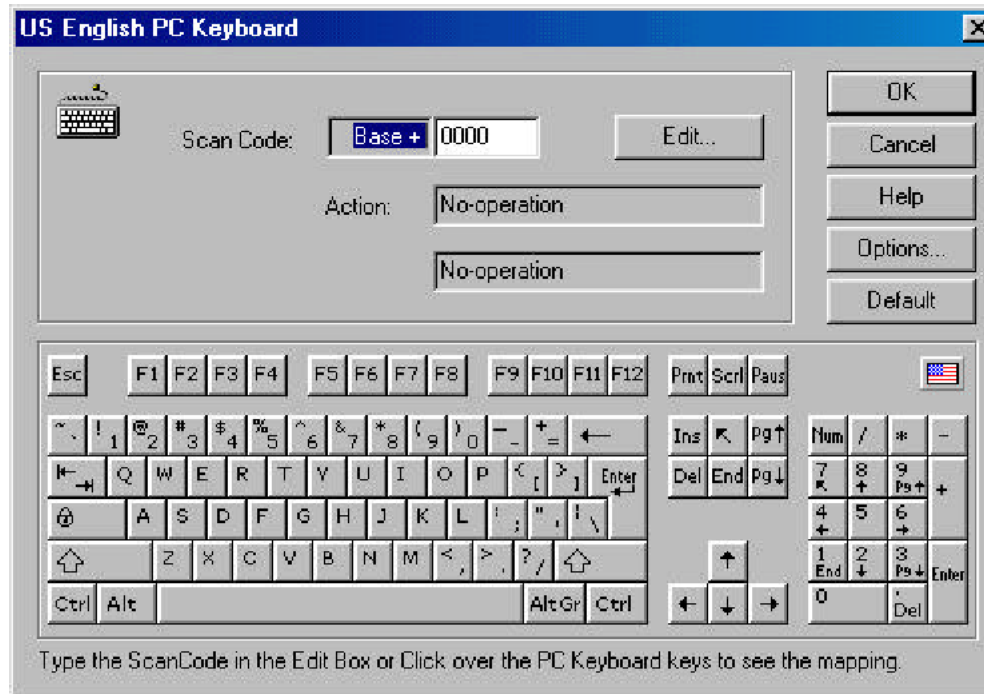
Keyboard Map Page for 101 PC Keyboard

Select the key, or key plus modifier (**Ctrl, Alt, Shift**) to which you want to associate a specific action. On the upper half of the window, you can see the keyboard Scan-Code and the associated default action. To modify the action, click on **Edit**. The following dialog box will appear:
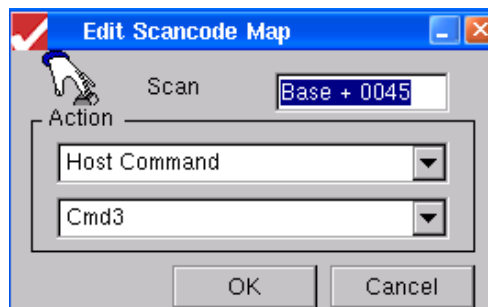
Edit Scancode Map Dialog Box

From the Action drop-down list, you can select the action that you want to associate with the selected key from among the following options:

- **No operation**. No action will be performed when you press the key.
- **Host Command**. Choose the desired 5250 command function from the lower drop-down list.
- **Recorded Key Sequence**. If you have previously recorded one or more key sequences, you will see their names in the lower drop-down list. Choose the desired Recorded Sequence from this list.
- **EBCDIC Characters Sequence**. Enter the Scan-Code sequence you want to associate to the key. Although you can use this to enter multiple characters, like a Recorded Sequence, this option is

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typically used to access some special character not normally seen on a keyboard. See Create a Custom Language Code Page for a standard code page for EBCDIC.

Record a Keystrokes Sequence (Macro)

If you regularly do the same things when you work with a host system, it is convenient to record the keystrokes you make and have YES*term*/IP play them back when you want to do the same job again. Record/Playback allows you to do this. All your keystrokes can be saved in a file; when you play the file back (Playback), everything that happened will be reproduced. The macro that you create is available in all display emulation sessions.

Note: Macros are limited to 512 data "items". A character keystroke counts as one item, while a cursor movement keystroke counts as two items. If you try to enter more than 512 items, an error message will appear and a spurious character will be attached to the macro that may make the macro useless.

Graphics Display Session

When configuring a display emulation session, you have the choice of a graphics display mode or a 5250 text display mode. See Display Sessions|Advanced|Appearance for details on making this choice.

In order to create a macro in a graphics display session, you have to:
1. Open a display session.
2. Place the cursor in the field where you wish to start the sequence.
3. Activate **Tools|Start Recording** or press the **Recrd** key or click on the corresponding Toolbar button. You will see, in the right side of the Status bar, the information **REC: 0**. This tells you how much information has been entered into the macro.
4. Type the data and cursor movements that you want to record. As you type, the information counter will advance by one for each character and by two for each cursor movement.
5. Stop the recording by activating **Tools|Stop Recording** or pressing the **Recrd** or clicking on the corresponding Toolbar button.
6. Name the macro. There are no naming restrictions.

Example:
Assume you want to record the CL command to display the description of a specific device. The command is WRKDEVD PRTXXXX, where PRTXXXX identifies a specific printer. So, the procedure is:
1. Place the cursor.
2. Activate S**tart the Recording**.
3. Type WRKDEVD
4. Activate **Pause**.
5. Type PRTXXXX (the name of the device) and press **Enter**.
6. Activate **Stop the Recording**. When you stop, you will be prompted to save the recorded keystrokes to a file.
Note: The Pause function will automatically end when you press the **Enter** key.

5250 Text Display Session

In a 5250 text display session, you can record a macro by using Menu commands or Toolbar icons in exactly the same way as in a graphics display session (see above). But, if you are using a 122-key keyboard, the **Recrd** key works differently. This additional procedure for recording macros is as follows:

1. Place the cursor in the field where you want to record the macro.
2. Press **Recrd**. You will see, in the center of the Status bar, an **R** indicating Record mode and a countdown counter. For the first macro, this count starts at 8161. (Why 8161? I have no idea.)
3. Press the **F** key, **Fx**, that you wish to associate with the forthcoming macro. You will see the **R** in the status bar replaced by **Fx**.
4. Type the data and cursor movements that you want to record. The counter will count down by one for each character keystroke and down by two for each cursor movement keystroke
5. When you are finished with the desired keystrokes, press **Recrd** again. This ends the recording process. You now have a macro named **Fx**. This macro will appear in the Macro list as **Fx**.
6. When you record the next macro, the counter will start at the final count of the preceding macro. This count is for information purposes only; there is no limit to the total number of keystrokes in all the macros.

Note: You must use the keyboard **Recrd** key. Activating **Start Recording** from the Menu or Button bars will result in the graphical procedure explained in the previous section.

Play a Recorded Keystrokes Sequence (Macro)

Graphics Display Session

In order to play a recorded keystrokes sequence in a graphics display session, you have to:
1. Place the cursor on the screen where you want to play the sequence.
2. Activate **Tools** or press the **Play** key or click on the corresponding Toolbar button. You will see a list of available macros.
3. Select the sequence from the list. The sequence will be executed.

If you have assigned a sequence to a key as part of a custom keyboard map, you can also play the sequence as follows:
1. Place the cursor on the screen where you want to play the sequence.
2. Press the designated key. The sequence will be executed.

5250 Text Display Session

In a 5250 text display session, you can play back a macro from the Tools menu or from the Toolbar in exactly the same way as in a graphics display session (see above). But you also have another option if you are using a 122-key keyboard and if you have used the alternate method of sequence recording. This additional procedure for playing macros is as follows:
1. Place the cursor on the screen where you want to play the sequence.
2. Press the **Play** key. You will see, in the center of the Status bar, a **P** indicating playback mode and a count that has no bearing whatsoever on the macro execution.
3. Press the **F** key corresponding to the desired macro. The macro will be executed, and the Status bar will resume its regular appearance.

Modify a Printer Passthrough Driver

Any Passthrough Driver can be customized, and it is also possible to create a new Driver. To edit an existing Passthrough Driver, do the following:
1. Highlight the connection name in the Configure tab of Connection Manager and activate **Edit**.
2. Follow the path Printer Session Properties>Output>Printer Driver.
3. Select the Driver from the drop-down list and activate **Driver Configuration** in the Output. You will see a screen with five tabs.

General
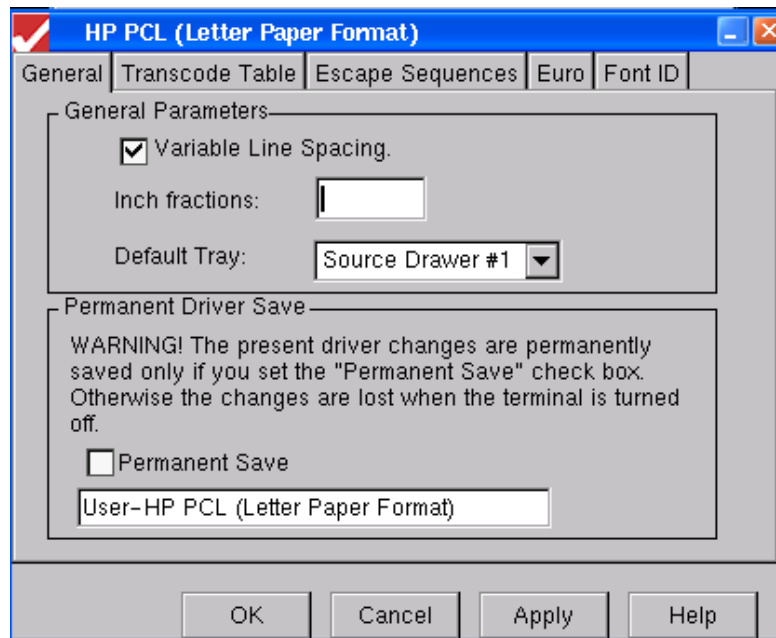
Driver General Property Sheet

This sheet allows you to select:
- **Variable Line Spacing**. If you enable this function you must enter the Inch fractions.
- **Default Tray**.
- **Permanent Save**. You *must* check this box if you wish to save the driver changes.
- **New Driver Name**. This name will appear in the Passthrough Driver drop-down list *if* you check **Permanent Save**. The default new name is User- in front of the selected driver name. But you can enter a completely new name if you wish.

Transcode Table
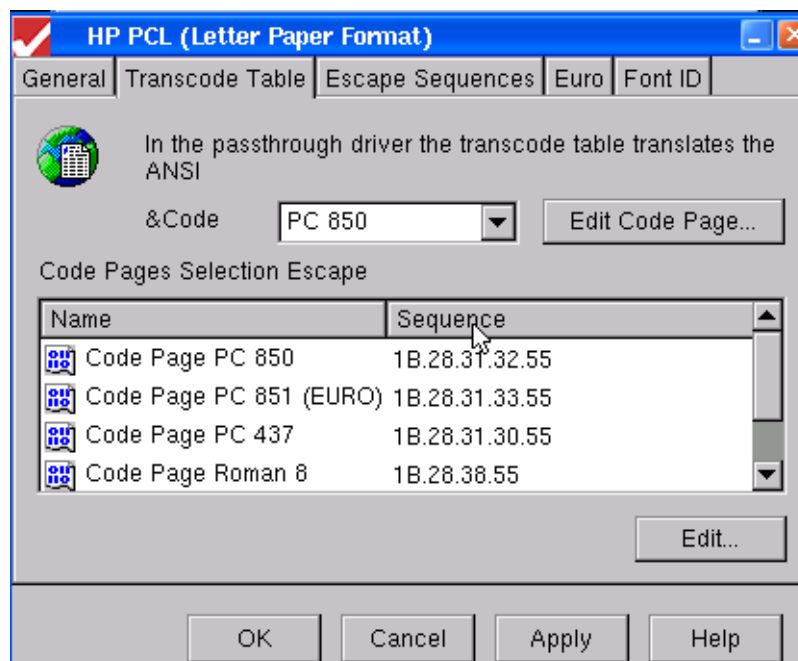
Driver Transcode Property Sheet

85

This sheet allows you to:
- **Define the Default Code Page**. If you want, you can also edit the Code Page by clicking on **Edit Code Page**. Select a value that you wish to modify, click on **Edit**, and a Code Page screen will appear where you can enter the new value. See [Create a Custom Language Code Page](#) for editing instructions.
- **Customize the Escape sequence** used to call the Code Page. Select the Code Page from the list, activate **Edit**, and an Edit Passthrough Sequence dialog box will appear where you can enter the new value.
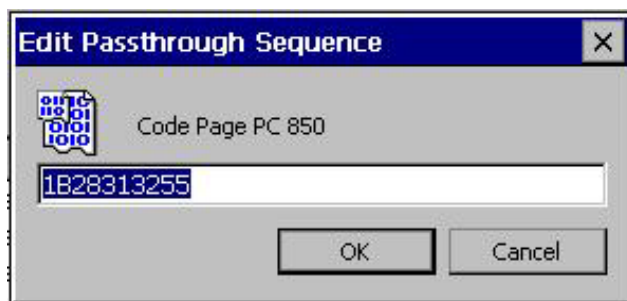
Transcode Edit Passthrough Sequence Dialog Box

Escape Sequences
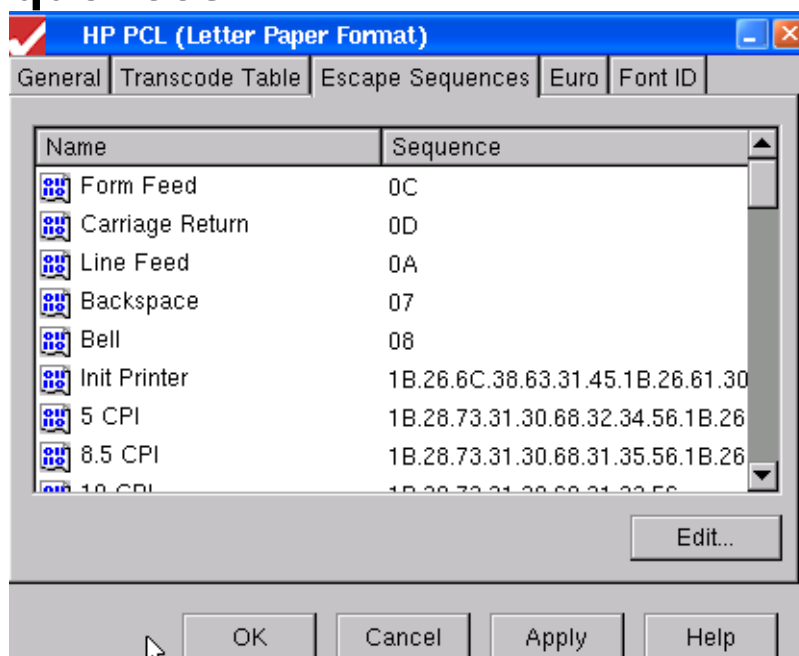
Driver Escape Sequences Property Sheet

This sheet allows you to customize all the Escape commands used to perform specific functions. Select a function, activate **Edit**, and an Edit Passthrough Sequence dialog box will appear. Make your changes there.
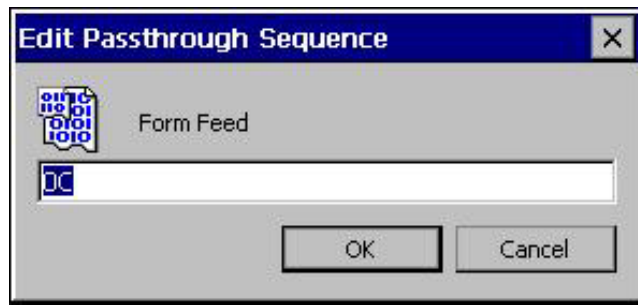
Edit Passthrough Sequence Dialog Box

Euro
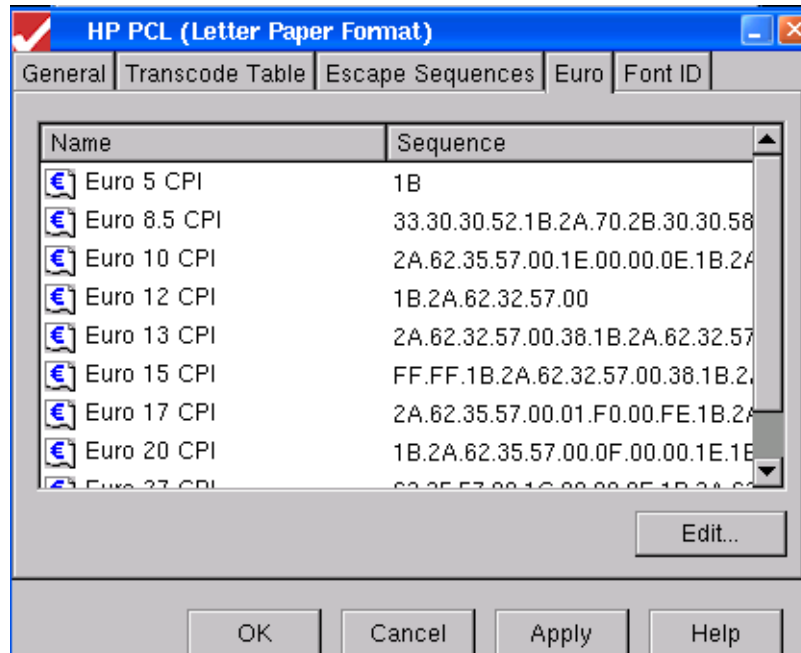
Driver Euro Property Sheet

This sheet allows you to customize the Escape command used to print the EURO symbol. This special function allows you to print the EURO symbol even on those printers that are not EURO ready. Select the command you wish to customize, then activate **Edit**, and an Edit Passthrough Sequence dialog box will appear where you can enter the new value.
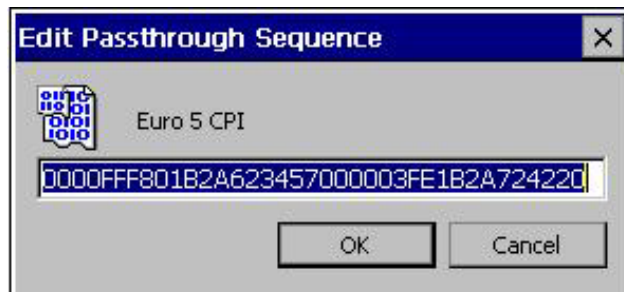
Edit Passthrough Sequence Dialog Box

Font ID
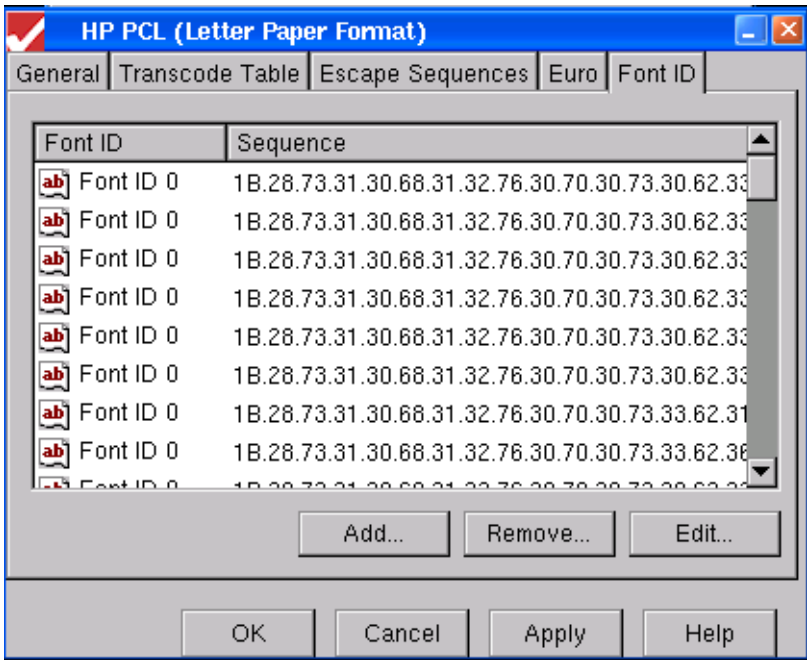
Driver Font ID Property Sheet

This sheet allows you to customize the Escape commands used to call a Printer Font that has been associated with a Host System Font ID. To edit a Font ID, select the item, activate **Edit**, and an Edit Font ID and Sequence dialog box will appear where you can enter the new value.
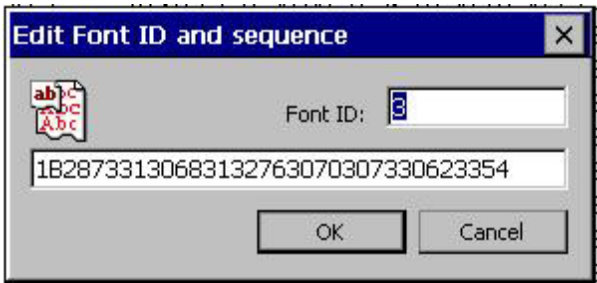
Edit Font ID and Sequence Dialog Box

You can also remove a font or add a new font to the list. If you activate **Add**, an Edit Font ID and Sequence dialog box will appear where you can enter the new values.

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Emulation Operation

Display Session Menu Bar

Menu-bar commands of the display session window consist of commands and functions that are unique for each window (session).

Display Session Menu Bar

The system administrator may disable any or all of the Menu bar commands. See Editing an Emulation Connection|Non-TBT Viewing Mode|Display Sessions|Advanced|Security Configuration.

If you have a mouse, open the desired menu by left-clicking on the menu name. Without using a mouse, you can view the File menu by pressing and releasing the **LeftAlt** key. Then you can use the **Tab** or **Left/RightArrow** keys to move to other menus. Or you can press **Alt+e/t/v/?** to open the Edit/Tools/View/? menu.

The Menu bar may be enabled but invisible, if visibility is not enabled in Editing an Emulation Connection|Non-TBT Viewing Mode|Display Sessions|Advanced|Appearance. In this case, use the mouseless method of menu viewing described above

File (Alt)
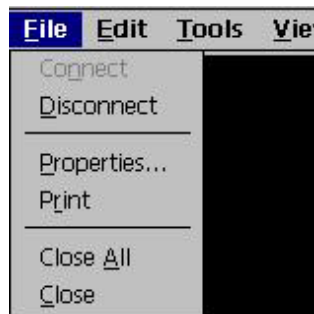
Display File Menu

- **Connect** (**n**). A display session typically comes up in the connected state. But if, for some reason, the session is not connected, this command will attempt to connect the display session to the host.
- **Disconnect** (**d**). This command disconnects the display session from the host. It is recommended that you disconnect only from the Sign-On screen.

- **Properties** (**p**)… This command allows you to edit/modify the Properties of the display session in use. For more information on this function, please refer to Editing an Emulation Connection|Non-TBT Viewing Mode|Display Sessions. When you change properties here, most changes are effective immediately, but some require that you exit the session and reopen it.
- **Print** (**r**). This command prints the contents of the display screen to the printer designated in Editing an Emulation Connection|Non-TBT Viewing Mode|Display Sessions|General|Print Screen.
- **Close All** (**a**). This command closes all active sessions, including printer sessions.
- **Close** (**c**). This command closes the display session in use.

Edit

Display Edit Menu

- **Cut (t)**. This command copies, into the Clipboard, data contained in the selected area and removes it from the display. A mouse is required for this operation, since the mouse cursor is used to draw a box around the selected area. The Cut process is:
  1. Use the mouse cursor to draw a box around the area to be copied. Be precise when you draw the box, or else the paste process may try to copy the data into a restricted area. The selected area will be highlighted in white.
  2. Open the **Edit** menu.
  3. Activate **Cut. Note:** Cut does not duplicate host attributes such as color and intensity.
  4. Return the mouse cursor to the green screen and left click. The white highlight will disappear.
- **Copy (r)**. This command accomplishes the same function as **Cut**, except that the selected data is not removed from the display. The Copy process is the same as the Cut process, except that you activate **Copy** in Step 3.
- **Copy All (a)**. This command copies the entire screen into the Clipboard.
- **Paste (p)**. This command pastes the current contents of the Clipboard onto the session window, starting at the current cursor position. If the contents of the clipboard are larger than the space available in the presentation space (screen), they may be clipped. Paste does not overlay the clipboard contents onto areas that are protected by the host application.

Tools
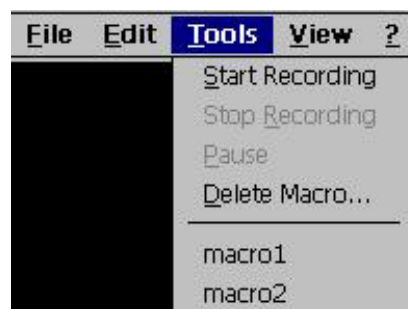
Display Tools Menu

Tools commands allow you to work with the Record/Playback function. If you regularly do the same things when you work with a host system, it is convenient to record the keystrokes you make and have YES*term*/IP play them back when you want to do the same job again. Record/Playback allows you to do this. All your keystrokes can be saved in a macro file; when you play the file back (Playback), everything that happened will be reproduced exactly. Any macro that you create is available in all display emulation sessions. For more information on how to work with Record/Playback, refer to: How To…|Record a Keystrokes Sequence.

- **Start Recording** (**s**). This command starts the Keystrokes Recording process.
- **Stop Recording** (**r**). This command stops the Keystrokes Recording process.

Macro Recording Dialog Box

When you Stop Recording, the Macro Recording dialog box will be displayed, allowing you to save the recorded keystrokes into a named file for subsequent playback.

- **Pause Recording** (**p**). Including a Pause command into a recorded sequence will cause the Playback operation to pause at this point in the sequence. This pause is typically used to enter variable data during Playback.
- **Delete Macro** (**d**). This command will bring up the Recorded Macro Delete dialog box.

Recorded Macro Delete Dialog Box

In this box will be a list of the available macros for this session. Select the one to be deleted and activate **OK**. This macro will now be deleted from all display emulation sessions.

- **Playback**. No, you don't see an actual Playback command. But, at the bottom of the Tools menu below the line, you will see a list of the available macros for this session. Select the one to be played and press the PC **Enter** key; that macro will then be executed.

View

Commands in the View menu are used to manipulate the Emulator display window.

Display View Menu

- **Toolbar-Menu** (t). This toggle command hides or displays the Menu and Buttons toolbars. After you hide the toolbars, you will have to use **LeftAlt** and the **Arrow** keys to access menu options.
- **Ruler** (**r**). This toggle command hides or displays the crosshairs Ruler. It has the same effect as the Rule key on the keyboard. When the command is checked, the Ruler is displayed.
- **Attributes** (**a**). This toggle command hides or displays the 5250 attribute fields.
- **Advanced View (d)**. This toggle command activates/deactivates the graphics Windows look, with Hot Spots displayed as raised buttons if they have been enabled.
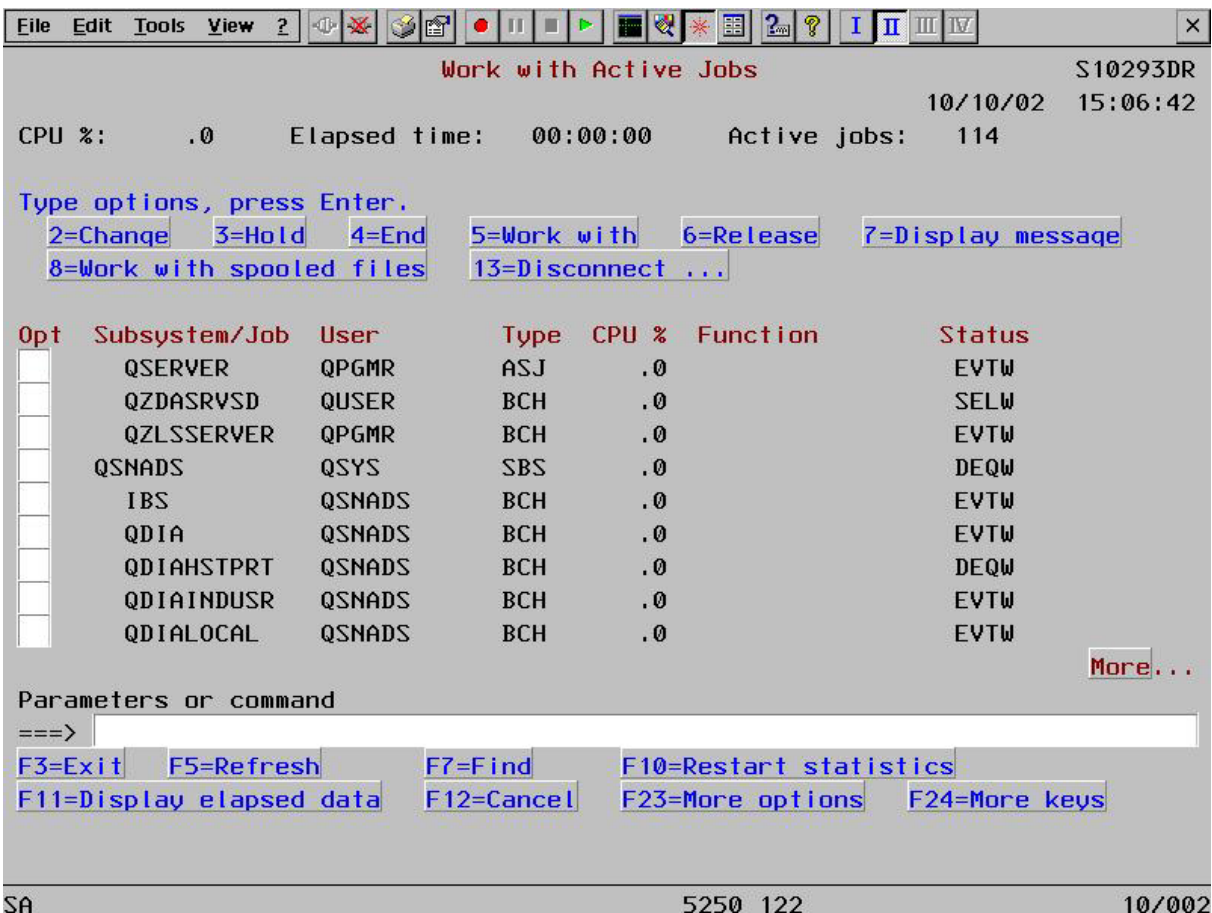
Emulation Screen with Advanced View and Hot Spots

Hot Spots are only useful if you have a mouse. For more information on the Hot Spot feature, refer to Editing an Emulation Connection|Non-TBT Viewing Mode|Display Sessions|Hot Spot.

- **Keypad** (**k**). This toggle command hides or displays the Key Pad. The Key Pad can be repositioned as desired on the screen by dragging and dropping.
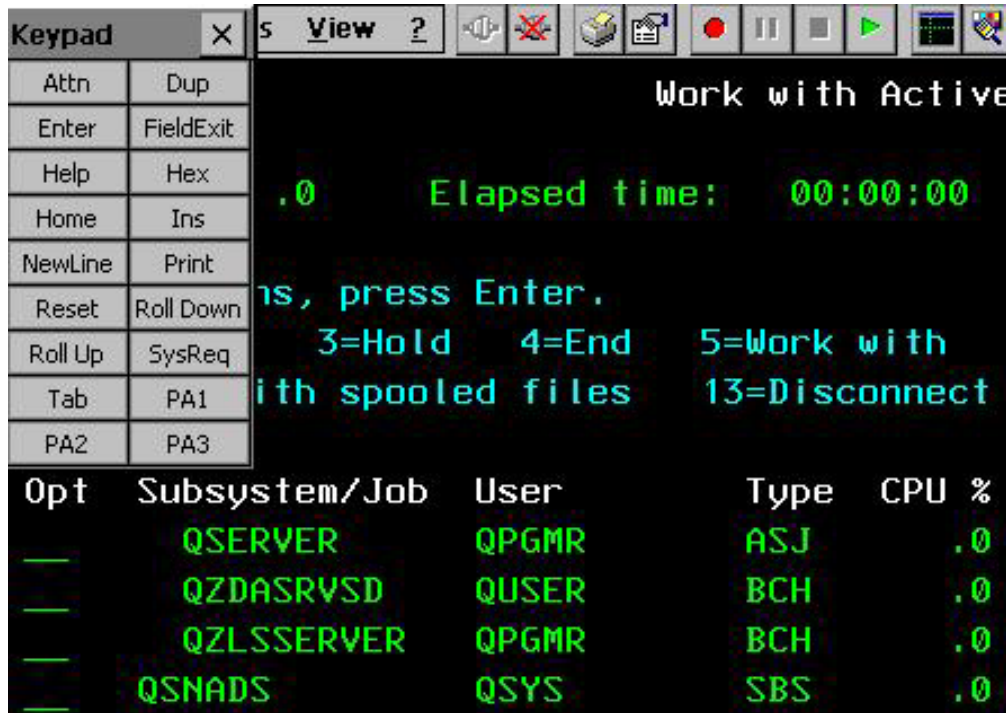
Partial Emulation Screen Showing Keypad

Key Pad is only useful if you have a mouse. For more information on the Key Pad feature, refer to Editing an Emulation Connection|Non-TBT Viewing Mode|Display Sessions|Key Pad.

?
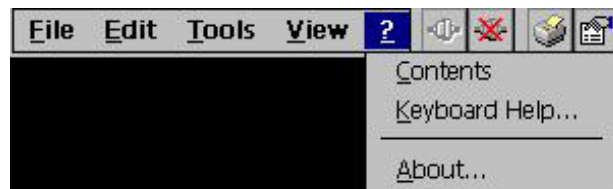
Display Help Menu

- **Contents** (**c**). This command is not used in the TBT.
- **Keyboard Help…** (**k**). This command displays the keyboard map in use. You can see the mapping, but you cannot edit it from this screen. This display can be used in two ways:
  1. If you click on a key to which a command has been mapped, you will see that command highlighted in the List Box.
  2. If you highlight a command in the List Box, the key or key combination that executes that command will be highlighted on the keyboard graphic. Some commands can be executed from several different key combinations. In that case, you will see the notation (x of y), which indicates that this is the xth sequence out of y possibilities. To cycle through the combinations for that command, click on **Next Sequence**.
- **About…** (**a**). This command displays detailed information on the YES*term*/IP program such as version, copyrights, and other useful information.

Display Session Buttons Toolbar

The Buttons bar is displayed across the top of the application window to the right of the Menu bar. The Buttons bar provides quick access to commands you use on a regular basis, if you have a mouse. If you do not need it, you can hide it and the Menu bar to increase the size of your display window. When the toolbar is displayed, a check mark appears next to the Toolbar option in the View menu.

Display Session Buttons Bar

The system administrator may disable any or all of the Menu bar commands. See Editing an Emulation Connection|Non-TBT Viewing Mode|Display Sessions|Advanced|Security Configuration.

The command/button definitions are:

Connect. Duplicates the function of the menu File|Connect command.

Disconnect. Duplicates the function of the menu File|Disconnect command.

Print. Duplicates the function of the menu File|Print command.

Properties. Duplicates the function of the menu File|Properties command.

Copy. Duplicates the function of the menu Edit|Copy command.

Paste. Duplicates the function of the menu Edit|Paste command

Start Recording. Duplicates the function of the menu Tools|Start Recording command. In fact, if you use the menu version, you will see that this button is also depressed.

Pause. Duplicates the function of the menu Tools|Pause command. If you use the menu version, you will see that this button is also depressed.

Stop Recording. Duplicates the function of the menu Tools|Stop Recording command.

Playback. Displays a list of available macros. Click on the one to be played, and that macro will then be executed.

Ruler. Duplicates the function of the menu View|Ruler command.

Attributes. Duplicates the function of the menu View|Attributes command.

Hot Spots. Duplicates the function of the menu View|Advanced View command.

Keypad. Duplicates the function of the menu View|Keypad command.

Keyboard Help. Duplicates the function of the menu ?|Keyboard Help command.

I, II, III, IV. These buttons correspond to the emulation sessions shown in order in the Terminal Connections Manager screen. Inactive sessions will have corresponding grayed-out buttons, while buttons for active sessions will not be grayed-out. To jump to another active session, just click on the button for that session.

Printer Session Menu Bar

Menu-bar commands of the printer session window consist of commands and functions that are unique for each printer window (session).

If you have a mouse, open the desired menu by left-clicking on the menu name. Without using a mouse, you can view the File menu by pressing and releasing the **LeftAlt** key. Then you can use the **Tab** or **RightArrow** keys to move to other menus. Or you can press **Alt+t/?** to open the Tools or ? menu.

Printer Session Menu Bar

File (Alt)

Printer File Menu

- **Connect** (**n**). A printer session typically comes up in the connected state. But if, for some reason, the session is not connected, this command will attempt to connect the printer session to the host.
- **Disconnect** (**d**). This command disconnects the printer session from the host.
- **Properties…** (**p**). This command allows you to view/edit/modify the Properties of the printer session in use. It will be grayed out and inactive unless it has been enabled in Editing an Emulation Connection|Non-TBT Viewing Mode|Printer Sessions|Miscellaneous. For more information on Properties, please refer to Editing an Emulation Connection|Non-TBT Viewing Mode|Printer Sessions. When you change properties here, most changes are effective immediately.
- **Close** (**c**). This command closes the printer session.

Tools
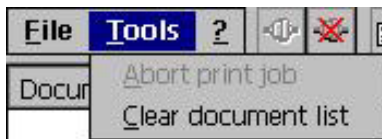
Printer Tools Menu

- **Abort Print Job** (**a**). This command aborts the print job in process.
- **Clear Document List** (**c**). This command clears the Document List. The Document List contains a history of all printed documents.
.

?

Printer Help Menu

- **Contents** (**c**). This command is not used in the TBT.
- **About…** (**a**). This command displays detailed information on the YES*term*/IP program such as version, copyrights, and other useful information.

Printer Session Buttons Toolbar

The Buttons bar is displayed across the top of the application window to the right of the Menu bar. The Buttons bar provides quick access, if you have a mouse, to commands you use on a regular basis.

Printer Session Buttons Bar

The command/button definitions are:

Connect. Duplicates the function of the menu File|Connect command.

Disconnect. Duplicates the function of the menu File|Disconnect command.

Properties. Duplicates the function of the menu File|Properties command.

Contents. Duplicates the function of the menu ?|Contents command.

I, II, III, IV. These buttons correspond to the emulation sessions shown in order in the Terminal Connections Manager screen. Inactive sessions will have corresponding grayed-out buttons, while buttons for active sessions will not be grayed-out. To jump to another active session, just click on the button for that session.

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AFFIRMATIVE ®
c o m p u t e r   p r o d u c t s

Firmware Upgrades

You will need to use the Affirmative Computer Products remote central management software, YES*manager*, to upgrade the 2209 firmware. YES*manager* is available free of charge; contact Affirmative Computer Products to obtain the latest version. The User Guide for YES*manager* is available at http://www.affirmative.net/pub/YESmanagerUserGuide.pdf.

After you have obtained the install files for YES*manager*, proceed as follows:
1. Install YESmanager on a PC or server on the same network as the target terminal. The operating system can be Windows 98 on up through XP. It installs quite easily, and you will not even have to reboot the computer.
2. Download the latest 2209 firmware per Affirmative Computer Products' instructions. It will arrive in a zipped .tar format. **Note:** Do not extract the zipped files.
3. Move the .tar file to the computer with the YESmanager installation.
4. From this point, you have a choice of two methods to upgrade your firmware:
    a. "Push" the new firmware from YES*manager*.
    b. "Pull" the new firmware from YES*manager*.

"Push"

There are advantages to pushing the new firmware down to your 2209 terminals.
- There need be no user interaction at the terminal end, other than to power up the terminal.
- The system administrator can upgrade all the 2209 terminals without ever leaving the YES*manager* console.
- The system administrator can save the terminal properties and session configurations before the upgrade and reinstall them after the firmware upgrade.

The push procedure is as follows:
1. Turn on the 2209.
2. Open YES*manager*.
3. In the left pane of the YES*manager* screen, you will see a list of all the Affirmative terminals found on your network.
4. Select the 2209 needing the upgrade.
5. Right click
6. Select **Configurations>Upload from device**. The current configuration of the terminal will be uploaded and stored in YES*manager*.
7. Select the 2209 again.
8. Right click.
9. Select **Firmware Update**.
10. Browse to the .tar file containing the new firmware.
11. Select **OK**. YESmanager will push the new firmware down to the 2209, and the 2209 will automatically reboot upon completion.

12. When the terminal status light in YES*manager* turns green again, select the terminal. If the terminal is on a different sub-net than the YES*manager* console, you will have to exercise Refresh on the terminal in order to see the status.
13. Right click.
14. Select **Special Functions>Factory Default** and confirm that you want to reset the terminal to defaults.
15. When the terminal status light in YES*manager* turns green again, select the terminal. If the terminal is on a different sub-net than the YES*manager* console, you will have to exercise Refresh on the terminal in order to see the status.
16. Select **Configurations>Download to device**. The original configuration that you uploaded in step 6 will be downloaded to the terminal, and the terminal will be rebooted.
17. The terminal will now have the new firmware with all of the original sessions and terminal properties.

"Pull"

A firmware upgrade can also be initiated from the terminal, after some initial preparation at the YES*manager* console. The procedure is:
1. At the YES*manager* console, move the new firmware .tar file into the folder **C:\Program Files\Affirmative\YESmanager\htdocs**.
2. Turn on the 2209.
3. Open YES*manager*.
4. In the left pane of the YES*manager* screen, you will see a list of all the Affirmative terminals found on your network.
5. Select the 2209 needing the upgrade.
6. Right click
7. Select **Configurations>Upload from device**. The current configuration of the terminal will be uploaded and stored in YES*manager*. You are doing this because, after the upgrade, the terminal should be reset to factory defaults for stability purposes. But with this step, you have the terminal and session configuration details safely stored and can restore them after the reset.
8. The look and feel of the succeeding steps will be different, depending upon viewing mode, although the actions will be the same, so the rest of the procedure will be separated into TBT and non-TBT.

TBT Viewing Mode

9. At the terminal, go to **Terminal Properties>Upgrade**.


```
Affirmative Computer Products INC.                Linux Terminal YES
--------------------------------------------------------------------------
                              Upgrade

Upgrade Server
IP address ................
Port ......................   9999

Available Upgrade
Package ...................   None
Version ...................

<Query upgrade server>
<Upgrade>




ENTER - Select     F3 - Back          F12 - Cancel
--------------------------------------------------------------------------
```

Upgrade Property Sheet for TBT Viewing Mode

10. In Upgrade Server, enter the IP address of the YES*manager* console.
11. Leave Port at **9999**.
12. Activate **Query update server**. You will see the Available Upgrade information filled in as shown in the next screen.

```
----------------------------------------------------------------------------
                              Upgrade

   Upgrade Server
   IP address       ........................  100.100.100.10
   Port             ...............................  9999

   Available Upgrade
   Package          ............................  Everything (YES)
   Version          ............................  02.03q3-DOM

   <Query upgrade server>
   <Upgrade>




                                                ▶




ENTER - Select     F3 - Back          F12 - Cancel
----------------------------------------------------------------------------
```
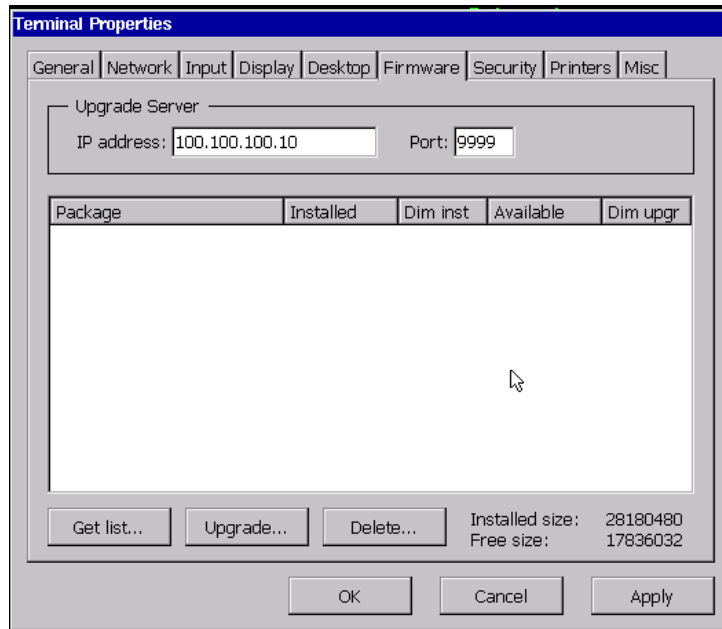
Upgrade Property Sheet with Upgrade Information for TBT Viewing Mode

13. Information about the Available Upgrade is now displayed. If you don't see this information, your Upgrade Server parameters are incorrect or the .tar file is not in the correct folder on the YES*manager* server.
    - **Package**. This is the upgrade description.
    - **Version**. This is the version of the upgrade. **NOTE: Verify that this is the version you are expecting**. If you try to upgrade to a firmware package intended for another model of Affirmative Computer Products terminal, strange things can happen.
14. After verifying the upgrade version, activate **Upgrade**.
15. You will see the upgrade progress displayed on the screen in a series of messages as each module in the firmware is upgraded. When the upgrade is complete, the terminal will be automatically rebooted.
16. It is recommended that you do a reset to factory defaults at this point. If you do not, you may experience some performance instability, depending upon the nature of the upgrade, and when you call Affirmative Computer Products Tech Support, the first thing they will ask you to do is to reset to defaults. So save yourself the aggravation and reset now.
17. Remember back in step 7, where we had you do a configuration upload in YES*manager*? Well, now you can do a configuration download from YES*manager* and restore all your pre-upgrade settings and sessions.
18. You can resume normal terminal operation.

Non-TBT Viewing Mode

9. At the terminal, go to **Terminal Properties>Firmware**.
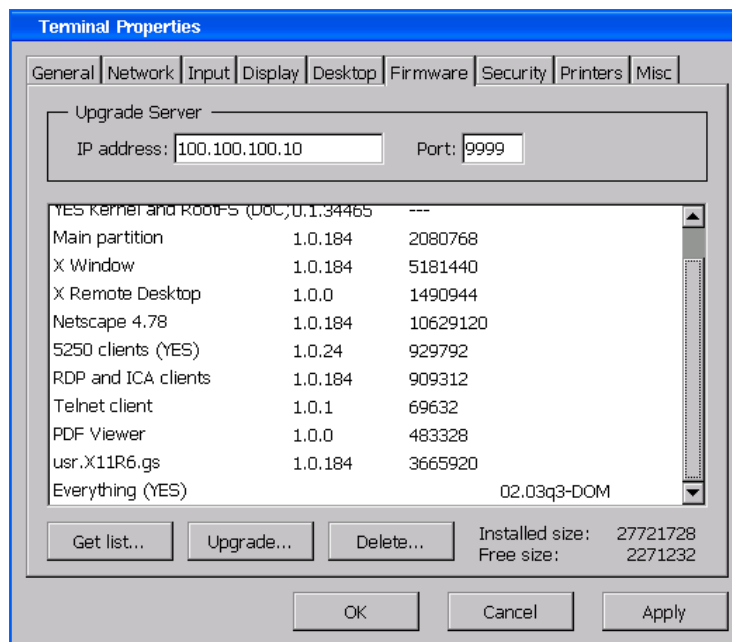

Firmware Property Sheet for Non-TBT Viewing Mode

10. In Upgrade Server, enter the IP address of the YES*manager* console.
11. Leave Port at **9999**.
12. Activate **Get list**. You will see the properties sheet updated with information similar to that shown in the next screen.

Firmware Property Sheet with Upgrade Information for Non-TBT Viewing Mode

13. You probably have more information here than you need, or want, to know. This is a list of the modules making up the terminal firmware:
    - **Package**. This is the module name.
    - **Installed**. This is the module version.
    - **Dim inst**. This the amount of flash memory required for the module.
    - **Available**. This is the available module upgrade. It is possible to upgrade or delete individual modules, but we see no advantage to doing that at the user level, so you won't see any individual module information here. Instead, you will see **Everything (YES)** at the bottom of the list, and the new firmware package version on the right. If you don't see this information, your Upgrade Server parameters are incorrect or the .tar file is not in the correct folder on the YES*manager* server. **NOTE: Verify that this is the version you are expecting**. If you try to upgrade to a firmware package intended for another model of Affirmative Computer Products terminal, strange things can happen.
    - **Dim upgr**. This is the amount of flash memory required for the upgraded module, if we were providing individual module upgrades.
14. After verifying the upgrade version, activate **Upgrade**.
15. You will see the upgrade progress displayed on the screen in a series of messages as each module in the firmware is upgraded. When the upgrade is complete, the terminal will be automatically rebooted.
16. It is recommended that you do a reset to factory defaults at this point. If you do not, you may experience some performance instability, depending upon the nature of the upgrade, and when you call Affirmative Computer Products Tech Support, the first thing they will ask you to do is to reset to defaults. So save yourself the aggravation and reset now.
17. Remember back in step 7, where we had you do a configuration upload in YES*manager*? Well, now you can do a configuration download from YES*manager* and restore all your pre-upgrade settings and sessions.
18. You can resume normal terminal operation.

Return to

Troubleshooting Your Terminal

The following table provides some solutions to common problems that can occur during setting up or using your Text Based Terminal.

	Problems	Solution
1	The monitor screen is blank	• Make sure the terminal is turned on. • Make sure the monitor is plugged into an AC outlet and turned on. • Make sure the VGA connector is plugged into the terminal.
2	Your monitor can not display after advancing past the logo screen or after changing the display setting	The display setting may be at a higher resolution or refresh frequency than the monitor will support. Execute one of the following recovery options: • Use a better monitor for display. • Use a better monitor for display while changing the display settings to be compatible with the original monitor. • Ask your MIS or network administrator to reset your terminal to factory default settings through the Remote Management" software, if it is installed at your server site.
3	The mouse does not work	• Make sure the mouse is plugged into the mouse port, not the keyboard port. • Test the terminal using a known good PS/2 mouse.
4	The keyboard does not respond	• Make sure the keyboard is plugged into the keyboard port, not the mouse port. • Test the terminal using a known good PS/2 keyboard.
5	The network connection does not work	• Check the network connection. • Verify the terminal IP address is correct in Terminal Properties. • Check the server's IP address. • If you are using the terminal default setting of DHCP address assignment, make sure there is a workable DHCP server on your network. • If you are using a specified IP address, make sure that there is not another network device with the same IP address.
6	Forgot the password setting and cannot reconfigure the terminal.	Ask your MIS or network administrator to reset your terminal to factory default settings through the Remote Management software, if it is installed at your server site.

7	The mouse cursor is jittery.	Your terminal is being shadowed from the Remote Management console.

Support

Affirmative Computer Products offers Technical Support services for all the Affirmative products. You can access Affirmative Technical Support in one of the following ways:

- via Phone
  - 480-946-1444
  - 888-353-5250
- via Fax
  - 480-946-9250
- via E-mail
  - support@affirmative.net

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Appendix 1. Specifications

ITEM		SPECIFICATIONS
Processor		SIS 550 200 MHz
Communication and Ports		• 10/100 dual-speed Ethernet, Twisted Pair (RJ45). • One parallel port (DB-25 Female connector). • Enhanced ps/2 keyboard interface. • Enhanced ps/2 mouse interface. • Two USB ports.
Embedded O.S.		• Linux
Video		• SVGA • 640x480, 800x600, 1024x768, and 1280x1024 with high color. • Refresh frequency up to 85 Hz
Memory		• SDRAM -- 64 MB SDRAM standard. (Max. 256MB) • Flash -- 16 MB DOC standard. (Max. 64MB)
Software Features		• Remote Management Software • Wake on LAN (WOL) • Time zone and SNTP support • Terminal access password for security • Multi-session Autostart • LPD • Terminal emulation
Environment	Temperature	• Operating: 5 ºC to 40 ºC (41 ºF to 104 ºF) • Storage: -40 ºC to 60 ºC (-4 ºF to 140 ºF)
	Relative Humidity	• 90% maximum, non-condensing

ITEM		SPECIFICATIONS
	Operating Altitude Range	• 0 to 10,000 feet (0 to 3050 meters)
	Power	• Full range auto-sensing 100 ~ 240 VAC at 50 Hz ~ 60 Hz • 10 Watts
Regulatory Compliance		• UL • C-UL • TUV • FCC Class B • CE mark
Physical Characteristics	Dimension (WxDxH)	• 194.5 x 151.5 x 40 (mm)
	Weight	• 0.65 Kg

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Appendix 2. TCP/IP Error Codes

Here is a comprehensive list of standard TCP/IP error codes that can occur during network operation. Some of them are quite esoteric and may not be applicable to YES*tation* operation, but this list should include any networking error code that you encounter. They should be useful in troubleshooting network errors, many of which are caused by incorrect configuration.

10004
Interrupted function call.

10013
Permission denied.

10014
Bad address.

10022
Invalid argument.

10024
Too many open sockets.

10035
Resource temporarily unavailable.

10036
Operation now in progress. A blocking operation is in progress.

10037
Operation already in progress.

10038
Socket operation on non-socket.

10039
Destination address required.

10040
Message too long.

10041
Protocol wrong type for socket.

10042

Bad protocol option.

10043

Protocol not supported.

10044

Socket type not supported.

10045

Operation not supported.

10046

Protocol family not supported.

10047

Address family not supported by protocol family.

10048

Address is already in use. If you attempt to set up a server on a port that is already is in use, you will get this error.

10049

Cannot assign requested address.

10050

Network is down.

10051

Network is unreachable.

10052

Network dropped connection on reset.

10053

Software caused the connection to abort, usually due to connection or protocol error.

10054

Connection reset by peer. This occurs when an established connection is shut down for some reason by the remote computer.

10055

No buffer space available.

10056

Socket is already connected.

10057

Socket is not connected.

10058

Cannot send after socket shutdown.

10060

Connection timed out.

10061

Connection refused. You will usually see this error when a server refuses a connection from a client, because the server is not listening on that port.

10064

Host is down.

10065

No route to host.

10067

Too many processes.

10091

Network subsystem is unavailable.

10092

Unsupported version of WINSOCK.DLL.

10093

TCP networking has not been initialized on your computer.

10094

Graceful shutdown in progress.

11001

Host not found. (DNS error.)

11002

Non-authoritative host not found. Temporary DNS error.

11003

Non-recoverable error. (DNS error.)

11004

Valid name, no data record of requested type. (DNS error).

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