InterChange® Thin Server
Lodging Link II™
Installation and Configuration

Introduction

This document discusses Lodging Link II (*LL2*) software installation and configuration topics. It is designed to help you set up the InterChange Thin Server with or without a *property image* installed.

Information available in this document includes:

- Optionally for Thin Servers *without* a pre-loaded image, what you *need download to install* Lodging Link II. A software *installation overview* and *example* provides you with the information you need to *configure* the Thin Server for the *GSS* devices.
- *Troubleshooting* installation and configuration problems.
- *Using the web site* to locate files and information.
- *Configuring HyperTerminal* to communicate with the Thin Server.

This document also provides an *Interactive Table of Contents* and a *Glossary*. The first time a glossary term is referenced in text is illustrated in red, italics, and underlined to denote a hyperlink.

See the *Hardware Installation documentation* for information about:

- Hardware installation procedures for the InterChange Thin Server
- Hardware product overviews and specifications
- Hardware specific information, such as pin outs and building cables
- Connecting devices
- Troubleshooting hardware problems

The *www.protocoltech.com/Vendors/vendors.htm* page provides links to valuable installation and configuration information and utilities.

Prerequisites

You will need the following to install and configure the Thin Server.

- PC with Windows® 95/98 or Window NT and with TCP/IP installed and a 10 Base-T network adapter.
- Internet and email access.
- HyperTerminal or other serial communications software on the PC.
- If using an Ethernet connection, the appropriate Ethernet cable
- The appropriate DB9 straight-through serial cable from the DB9 male console port on the Thin Server to a COM port on your system.
- Installation files if you need to load an image, see *Installation Files* and for information.
- Static IP address for the Thin Server.

Quick Start for Pre-loaded Thin Servers

If your Thin Server was ordered with a pre-loaded *corporate property image*, you skip installing the image. To set up your Thin Server, you need to do the following:

- *Set up HyperTerminal*
- *Configure GSS devices*

Interactive Table of Contents

Installation Files

Before you can install and configure your system, you will need the following if you purchased a Thin Server with*out* a property image:

- The property image, which you will need to use the *Build Wizard*. In some installations, you may be installing a corporate property image.
- The *Thin Server Application Server* (**TSAppServer**) for uploading the property image to the Thin Server.

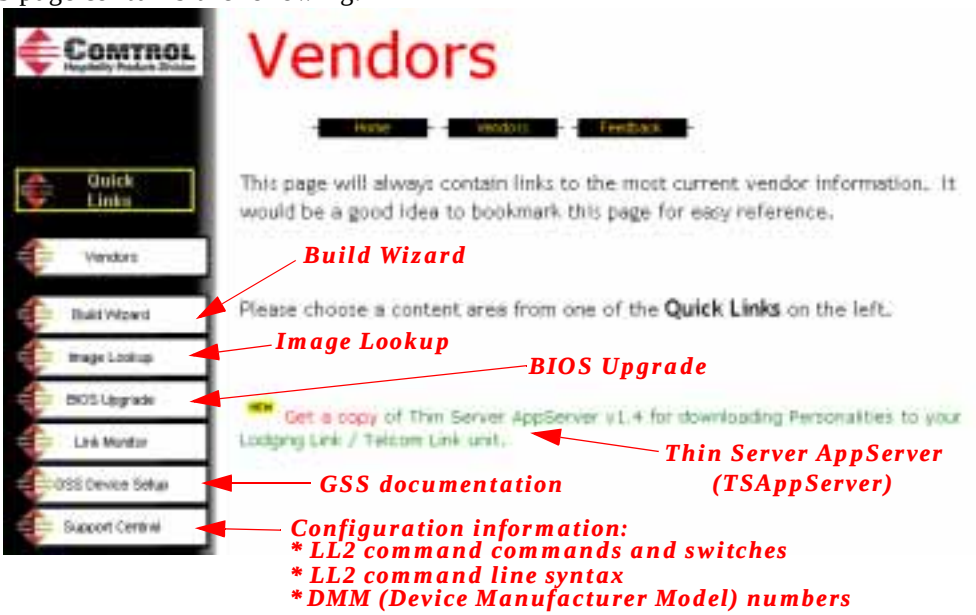
It may be necessary to download these files from web site. If you need information about the web site and using the Build Wizard, use the following discussion.

Using the Web Site

The *www.protocoltech.com/VENDORS/vendor.htm* page provides links to valuable installation and configuration information, and utilities.

Note: *You must use the user name and password issued to access the VENDORS page on the web site.*

The **VENDORS** page contains the following:



Check Support Central for our growing library of information.

- A link to the most current **TSAppServer** program that you need to upload an image to the Thin Server.
- **Build Wizard**, which provides on-line Thin Server image creation. You will need to know the following before you can request an image build with the wizard:
  - Purchase order number
  - Hotel name or property ID
  - Whether the *PMS* is connected using a serial or an Ethernet connection
  - BIOS version
  - MAC address of Thin Server unit (located on a label on the bottom of the unit)
  - Guest Service System manufacturers and models
- **Image Lookup**, which allows you to check the status or download the image created for your site after submitting a request using the Build Wizard.

- **BIOS Upgrade**, which typically contains the files and documentation that you need to upgrade your Thin Server hardware to the most current BIOS before installing the image.

  Note: *BIOS V2.0 and up is delivered on the "new-style" hardware labeled* InterChange Thin Server, *which can also be distinguished by it's color (black).*

  If you have an older installation, make sure that you select the BIOS version that reflects your installation. If you want to upgrade to V2.0 or higher, there is a link on this page with BIOS upgrade instructions.
- **Link Monitor**, which is a Windows based tool providing real-time data capture and logging to remotely monitor activity of any Thin Server unit.
- **GSS Device Setup**, which provides you with access to the growing *Library of GSS Configuration and Setup* information. These documents are intended to assist both the Thin Server installer and GSS vendor when connecting systems on a property.
- **Support Central**, which provides *links to other supporting documentation*, including the hardware installation information and the reference pages BIOS command line syntax.

Software Installation Overview

After the hardware is installed, the software installation typically follows this set of steps.

1. File preparation (**TSAppServer** and property image). See *Installation Files* for information.
2. Setup the console port.
3. Setup and configuration of HyperTerminal (or a similar product).
4. Opening the **TSAppServer** program.
5. Uploading the property image to the Thin Server.

See the *Software Installation Example* for guidance on installing and configuring Lodging Link II.

Software Installation Example

The configuration host can be either the PMS or any other PC or laptop running the Windows 95/98 or Windows NT operating system. The installation procedure requires that you have available the following that were discussed in *Installation Files*:

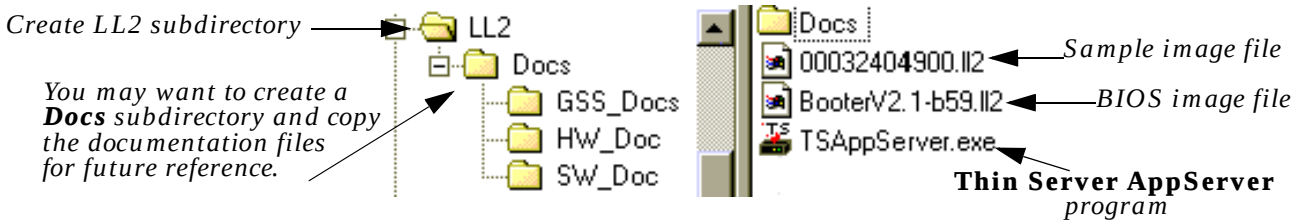
- **TSAppServer** program
- Property image

Note: *In addition to the files, you should have installed the hardware using the Thin Server Hardware Installation documentation.*

1. If necessary, see the System Administrator for a static IP address that you can assign to the Thin Server.
2. Create a subdirectory on the C: drive for the **TSAppServer.zip** file. For example: **LL2**.
3. Unzip the **TSAppServer.zip** file into the **LL2** subdirectory.

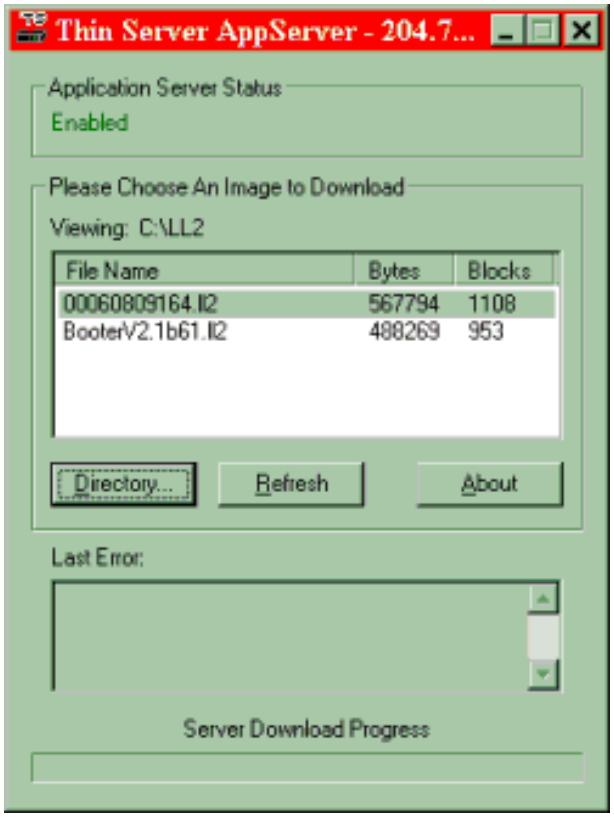
4. Copy the image file that you downloaded into the **LL2** subdirectory.

Example of an Installation Subdirectory



5. Execute **TSAppServer.exe** and highlight the image property file name.

   Note: *You may want to note the IP address of the **TSAppServer** program, you will need the IP address later during the installation process.*



6. Start and configure a HyperTerminal session with the following values. See *Configuring HyperTerminal* if you need detailed information.
   - Bits per second = 38400 (default) or 9600 (specified by some customers)
   - Data bits = 8
   - Parity = None
   - Stop bits = 1
   - Flow control = None
7. ***If necessary***, connect a straight-through cable from an available COM port on your PC to the Thin Server connector labeled **Console**.

   Note: *This COM port must not be used by any other device and any drivers running on this port will cause installation problems.*

8. If the Thin Server power is off, apply the power to the unit.
9. When the *Main Menu* appears, type **1** to configure the network for the Thin Server.

Note: *This illustrates the Thin Server main menu for BIOS V2.1 <build 61>. The actual version on your Thin Server could be higher. If you are running an older version of the BIOS, there may be some options missing, such as, 9600 baud support.*

```
        InterChange Thin Server Booter v2.1 <build 61>

   Main Menu

        [ 1 ] Network Configuration menu >>
        [ 2 ] Update Date or Time menu >>
        [ 3 ] Port Configuration menu >>
        [ 4 ] Update Image menu >>
        [ 5 ] Set Console Speed
        [ 6 ] Reboot

   Enter Selection:
```

a. When the *Network Configuration Menu* appears, type **2**.

```
          InterChange Thin Server Booter v2.1 <build 61>

     Network Configuration Menu

          [ 1 ] Enable/Disable DHCP [DISABLED]
          [ 2 ] Set IP Address [10.10.10.8]
          [ 3 ] Set Subnet Mask [255.255.255.0]
          [ 4 ] Set Default Gateway [0.20.8.85]
          [ 5 ] Load default Ethernet configuration

         [ ESC ] for previous menu
```

b. Enter the static IP address assigned to the Thin Server (this is ***not*** the address that displays in the **TSAppServer** program) and press the **Enter** key.

```
   System IP address currently: [10.10.10.8]
   Please enter new IP address [?] for help [ESC] to cancel:
```

Note: *Remember, if using HyperTerminal, keys such as the backspace key and so forth do not function like they do in Windows. You may have to* **ESC** *and return to the menu item and retype the information.*

c. Type **3**.
d. Enter the subnet mask and press the **Enter** key.

```
   System Subnet mask currently: [255.255.255.0]
   Please enter new Subnet mask [?] for help [ESC] to cancel:
```

Note: *The subnet mask must be the same as the one set on the Configuration Host. The IP address and subnet mask have to reside in the same address range as the computer to which it is connected.*

e. Press the **ESC** key to return to the Main Menu.

```
            InterChange Thin Server Booter v2.1 <build 61>

      Main Menu
              [ 1 ] Network Configuration menu >>
              [ 2 ] Update Date or Time menu >>
              [ 3 ] Port Configuration menu >>
              [ 4 ] Update Image menu >>
              [ 5 ] Set Console Speed
              [ 6 ] Reboot
      Enter Selection:
```

10. At the Main Menu, type **2** to update the system time and date.

    Note: *Make sure that you follow the format for both the time and date.*

```
            InterChange Thin Server Booter v2.1 <build 61>

      Update Date or Time Menu

           [ 1 ] Change the Current Date [06/08/2000]
           [ 2 ] Change the Current Time [12:15:21]

           [ ESC ] for previous menu
```

    a. If necessary, type **1** so that you can update the date.
    b. Enter the date and press the **Enter** key.
    c. If necessary, type **2** so that you can update the current time.
    d. Enter the time and press the **Enter** key.
    e. Press the **ESC** key two times to return to, first the Network Configuration Menu and then the Main Menu.

```
            InterChange Thin Server Booter v2.1 <build 61>

      Main Menu
              [ 1 ] Network Configuration menu >>
              [ 2 ] Update Date or Time menu >>
              [ 3 ] Port Configuration menu >>
              [ 4 ] Update Image menu >>
              [ 5 ] Set Console Speed
              [ 6 ] Reboot

      Enter Selection:
```

11. Enter **6** to reboot the unit.
12. Enter **4** to access the *Update Image Menu*.

```
            InterChange Thin Server Booter v2.1 <build 61>

      Update Image Menu

              [ 1 ] EIS Image Update menu >>
              [ 2 ] Booter Image Update menu >>

              [ ESC ] for previous menu

      Enter Selection:
```

    Note: *You can download BIOS update information.*

a. Enter **1** to access the *Update EIS Image Menu*

```
          InterChange Thin Server Booter v2.1 <build 61>

   Update EIS Image Menu

          [ 1 ] Set AppServer IP address [192.168.0.1]
          [ 2 ] Set image file name [ ]
          [ 3 ] Update image

          [ ESC ] for previous menu
          [ M ] for main menu

   Enter Selection:
```

b. Enter **1**.

c. Enter the IP address of where the **TSAppServer** (Thin Server **AppServer**) program and image reside for the property and press the **Enter** key.

```
   AppServer IP address: [192.168.0.1]
   Please enter new EIS image file name [?] for help [ESC] to cancel:
```

Note: *If necessary, you can locate the IP address in the* **TSAppServer** *program's title bar.*

d. Enter **2** and either enter the image file name (*without* the **.LL2** extension) or the wildcard character - (dash or minus), which selects the current image number that is highlighted in the **TSAppServer** window in *Step 5* and press the **Enter** key.

```
   EIS Image File Name: [-]
   Please enter new EIS image file name [?] for help [ESC] to cancel:
```

e. Enter **3** at the Update EIS Image Menu.

```
          InterChange Thin Server Booter v2.1 <build 61>

   Update EIS Image Menu

          [ 1 ] Set AppServer IP address [192.168.0.1]
          [ 2 ] Set image file name [ ]
          [ 3 ] Update image

          [ ESC ] for previous menu
          [ M ] for main menu

   Enter Selection:
```


Warning

f. Enter **yes** and press the **Enter** key to start the download process.

```
UPDATING THE APPLICATION MAY RENDER SOME OR ALL DEVICES INOPERABLE!
Type "YES" then press [ENTER} to start the download
[?] for help  [ESC] to cancel:
```

Note: *Updating the image may render some or all of the GSS devices inoperable.*

13. When the download process completes, you are prompted to return to the main menu.

Note: *You may do this by pressing the* **ESC** *key or the* **M** *key.*

```
Image update starting.
Press [ESC} to cancel download

Beginning image download...
```

```
.............
Image download complete.

Erasing second FEPROM device

Erasing third FEPROM device

Programming second FEPROM device
................................................................................
Programming third FEPROM device
................................................................................
Programming completed
Setting port defaults
```

14. Enter **M** to return to the Main Menu.
15. At the *Main Menu*, enter **6** to reboot the Thin Server. After the Thin Server reboots, it is running the property specific image.

    The following displays a normal bootup heading for an image.

```
Rebooting...
Booter Initialized.
Press any key for boot menu or wait to run current image
..............................
Decompressing FEPROM image to DRAM.
/
Image decompressed, booting.
Listening for ethernet connection [Port 28673]
[PWatchDogApp] 1 'Initialized status information'
[PWatchDogApp] 1 'Created Debug Monitor'


**** Board Information ************************************
MPC860 CPU <Rev C.1> running at 24Mhz
4MB 60ns EDO DRAM

**** Network Information **********************************

IP address: 204.73.219.249
Subnet address: 255.255.255.0
Gateway IP: INVALID
MAC Address: 00:10:c5:00:0C:28

**** Image Information ************************************

Site:  Sample's Hotel
Image: 00060809164

Logical    Physical  Device [DMM]
--------   -------   -------------------------------------
      1         1   Mitel SX-2000 VS [333]
      2         2   Micros Generic - B [637]
      3         3   InnOvation InnLine (20/20) [254]
      4         4   Lodgenet VCO (BIO + with X-Checkout [544]
      5         5   Micros 8700 [114]
      6         6   VingCard Vision V3000 [823]
      7         7   Minibar North America ServiTron 4.5 [931]
      0  Ethernet   Protocol Technologies Made-up PMS - Ethernet [444]

Component        Version
--------         -------
BSP              1.5
Watchdog         2.4
```

```
PTILibrary      2.2
LL2AuxLibrary   2.3
LL2Library      2.1
Derivations     1.0
MessageRouter   1.0
TimerApp        1.0
DebugMonitor    1.0
EthernetPort    1.1
SerialPort      1.1

[PWatchDogApp] 1 'Created timer application.

Copyright <c> Integrated Systems, Inc., 1992
Welcome to pSOSystem...

Howdy -->
```

16. Press the **Enter** key to get the **Howdy->** prompt.

```
Howdy->
```

You are now prepared to perform the procedures in the *Configuring a Unit After Installing an Image* discussion.

Configuring the Thin Server

Configuring the Thin Server is several basic steps, if you did not purchase a unit with a pre-loaded image:

- Configuring the PMS connection.
- Configuring port characteristics of each GSS device.

Whether you purchased a pre-loaded unit or installed the image yourself, you should verify that each device is properly configured for the Thin Server. Use the appropriate discussion for your site:

- *Configuring a Unit After Installing an Image*
- *Configuring a Unit with a Pre-loaded Image*

Configuring a Unit After Installing an Image

Use the following procedure to configure the Thin Server after you uploaded an image.

Note: *This subsection references command line options for LL2. If necessary, you can download the latest command line information.*

1. Verify the PMS port settings from the **Howdy->** prompt, for example:

```
Howdy->portconfig -i
```

where: **-i** displays verbose information about a port. If no port number is indicated, all ports display.

```
Logical | Physical |                                  |
  Port  |   Port   | Baud    Data   Parity   Stop | IP Address          Port
=============================================================================
    0      Ethernet |   1200    8       N       1  | 0.0.0.0               0
    1        L1     |   1200    8       N       1  |
    2        L2     |   1200    8       N       1  |
    3        L3     |   1200    8       N       1  |
    4        L4     |   1200    8       N       1  |
    5        L5     |   1200    8       N       1  |
    6        L6     |   1200    8       N       1  |
    7        L7     |   1200    8       N       1  |
```

Note: *This example illustrates an Ethernet configuration. Logical Port 0 (L0) may be configured as Serial and therefore would have no default IP address displayed.*

2. Change the IP address and port address for Logical Device 0 (L0) so that the Thin Server knows where the PMS is located. *This example illustrates an Ethernet connection and ### illustrates the IP address:*

   Howdy->portconfig -d=0 -a=###.##.###.### -p=28672

   where: **-d** is the logical port number (0 - 7).
   -a is the Ethernet address of the PMS.
   -p is the port number.

Logical Port	Physical Port	Baud	Data	Parity	Stop	IP Address	Port
0	Ethernet	1200	8	N	1	###.##.###.###	28672
1	L1	1200	8	N	1		
2	L2	1200	8	N	1		
3	L3	1200	8	N	1		
4	L4	1200	8	N	1		
5	L5	1200	8	N	1		
6	L6	1200	8	N	1		
7	L7	1200	8	N	1		

   This example illustrates a serial connection: **Howdy->portconfig -d=0 -t=serial -p=28672**

3. Use **portconfig** with the correct GSS device settings that correspond to each port. For example:

   Howdy->portconfig -baud=2400 -d=1 -data=7 -parity=e -stop=2

   where: **-baud** is the baud rate of the GSS device.
   -d is the logical port number (0 - 7).
   -data is the number of data bits on the GSS device.
   -parity is **e**=even, **o**=odd, or **n**=none.
   -stop is the number of stop bits (**0**, **1**, or **2**)

   Note: *It may be necessary to change the parameters of a corporate image because the settings do not reflect the installed devices. Make sure that you are using the correct baud rate.*

Logical Port	Physical Port	Baud	Data	Parity	Stop	IP Address	Port
0	Ethernet	1200	8	N	1	24.221.16.229	28672
1	L1	2400	7	E	2		
2	L2	1200	8	N	1		
3	L3	1200	8	N	1		
4	L4	1200	8	N	1		
5	L5	1200	8	N	1		
6	L6	1200	8	N	1		
7	L7	1200	8	N	1		

4. If the property equipment (GSS devices) are not connected to the Thin Server:
   a. Turn off the Thin Server.
   b. Connect the property equipment (GSS devices) to the Thin Server. If you need cabling information, see the *Thin Server Hardware* documentation.

      Note: *If you have a RS-232 Mini Tester available you can place the tester on the device output cable and check which LED is ON. If the RD LED is on then the device is DCE and you would use a DTE adapter. If the TD LED is on, then the device is DTE and you would use a DCE adapter. DB25 gender changers may be needed to accomplish this. After you determine which device type you have and you are ready to connect to the Thin Server.*

   c. Turn on the Thin Server.
5. If the equipment is connected to the Thin Server, reboot the Thin Server:

   Howdy->LL2 -reset

6. Verify that the green and amber port LEDs (L0 through L7) to which a GSS device is connected are lit on the Thin Server. If both LEDs are on, then you have a good connection between the Thin Server and the GSS device.

Configuring a Unit with a Pre-loaded Image

Use the following procedure to verify that your Thin Server is pre-loaded with an image.

1. Start and configure a HyperTerminal session with the following values. See *Configuring HyperTerminal* if you need detailed information.
   - Bits per second = 38400 or 9600
   - Data bits = 8
   - Parity = None
   - Stop bits = 1
   - Flow control = None
2. ***If necessary***, connect a straight-through cable from an available COM port on your PC to the Thin Server connector labeled **Console**.

   Note: *This COM port must not be used by any other device and any drivers running on this port will cause installation problems.*
3. If the Thin Server power is off, apply the power to the unit. As soon as power is applied, there should be activity on the monitor.
4. Press the **Enter** key to get the **Howdy->** prompt.

   ```
   Howdy->
   ```
5. Verify the PMS port settings from the **Howdy->** prompt, for example:

   ```
   Howdy->portconfig -i
   ```

   where: **-i** displays verbose information about a port. If no port number is indicated, all ports display.

```
Logical | Physical |                                    |
  Port  |   Port   | Baud    Data   Parity   Stop | IP Address            Port
=============================================================================
    0       L0     |  4800    8       N       1  |
    1       L1     |  9600    8       N       1  |
    3       L3     |  1200    7       E       1  |
    4       L4     |  2400    7       O       1  |
```

   Note: *This example illustrates a pre-loaded image. If an image was not pre-loaded, your display would have the default values. For example, the display would illustrate; Baud=1200 and Parity=N.*
6. If the property equipment (GSS devices) are not connected to the Thin Server:
   a. Turn off the Thin Server.
   b. Connect the property equipment (GSS devices) to the Thin Server. If you need cabling information, see the *Thin Server Hardware* documentation.

      Note: *If you have a RS-232 Mini Tester available you can place the tester on the device output cable and check which LED is ON. If the RD LED is on then the device is DCE and you would use a DTE adapter. If the TD LED is on, then the device is DTE and you would use a DCE adapter. DB25 gender changers may be needed to accomplish this. After you determine which device type you have and you are ready to connect to the Thin Server.*
   c. Turn on the Thin Server.
7. If the equipment is connected to the Thin Server, reboot the Thin Server:

   ```
   Howdy->LL2 -reset
   ```
8. Verify that the green and amber port LEDs (L0 through L7) to which a GSS device is connected are lit on the Thin Server. If both LEDs are on, then you have a good connection between the Thin Server and the GSS device.

Troubleshooting

Use the following tables for troubleshooting information. If you contact Technical Support, performing these tasks will be required to help diagnose a problem.

General Troubleshooting

This table provides you with basic troubleshooting information and solutions.

Condition	Possible Solution
Rx/Tx LEDS not ON	1. Check for proper cabling. 2. Is it DCE or DTE? A null modem adapter may be needed.
Unable to communicate through a hub to the PMS	1. Check the Ethernet cable, it should be a straight-through cable. 2. Verify that the cables are securely connected. 3. Verify whether you can *ping* the PMS and Thin Server.
Not communicating to PMS - direct connection	Check the Ethernet cable, it should be a crossover cable. See the *Hardware Installation* document for information about building this cable.
Not communicating with PMS	1. *Ping* from the Thin Server to the PMS. 2. *Ping* from the PMS to the Thin Server.
Does not run image	1. Verify that the image is loaded on to Thin Server. 2. Disconnect and reconnect the power, to reset the Thin Server. 3. Check monitor for activity.
Power LED is not ON	1. Verify that the power cord is plugged into the power supply. 2. Verify that the power supply is connected to the Thin Server.
Active LED is not ON	1. Make sure power is applied. 2. Disconnect, reconnect the power, and watch to see if the Active LED comes ON. If not, see *Hardware Failures*.
Active LED blinks all the time	Bootup process not complete. Disconnect and reconnect the power, and watch for activity on the monitor. If the Active LED stops blinking, see *Contacting Technical Support*, if this problem continues for more than 2 minutes.

Downloading Images

This table provides troubleshooting information for downloading images.

Symptoms	Description: Action
Download process fails	Can be caused by the wrong information entered while downloading the image to the Thin Server BIOS. Verify the following: 1. The Thin Server has an IP address assigned to it in the BIOS and that the subnet address is the same as the computer that runs the **TSAppServer** program. 2. The IP address of server running **TSAppServer** was entered correctly at the beginning of the download process. 3. The image number was entered properly, without the **.LL2** extension. 4. The image file is corrupt. To check to see if the image file is corrupt, download the image file from the web site again, and reinstall the image.
Packet Timeout Error	Caused by a bad network connection or an extremely busy network. Try the following from the **Howdy ->** prompt: 1. *Ping* the IP address of the server. 2. If the nodes cannot be reached, use an Ethernet crossover cable and connect the PC directly to the Thin Server. Repeat the ping test. If the test works, try uploading the image to the Thin Server again. If this works, there is a network problem. 3. Verify that the Thin Server is connected to a 100 MB LAN, the Thin Server only functions on 10 Mb network. Connect a mini-group hub that supports 10/100 Mb into the LAN and connect the Thin Server to the mini-hub.

Hardware Failures

This table provides basic hardware failure troubleshooting information.

Symptoms	Description: Action
Active light does not come on Thin Server	Caused by download failure or the Thin Server unit is exposed to a highly magnetic field. Try the following: 1. Reboot the Thin Server. 2. If the Active light still does not come on, try reloading the image. 3. If the Active light still does not come, see *Contacting Technical Support*.
Cannot connect to Console port through HyperTerminal	Can be caused by bad cables or configuration, or the unit's inability to keep the image stored in the BIOS. Try the following to correct the problem: 1. Verify that the cable is in good condition. 2. Verify that the port is configured in HyperTerminal to 38400, 8, N, 1 and that the cable is connected to the corresponding COM port on the PC. 3. Reboot the Thin Server. 4. If the above do not remedy the problem, see *Contacting Technical Support*.

Cabling and Configuration Problems

This table provides basic cabling and configuration information.

Symptoms	Description: Action
Rx light on Thin Server port not lit when cable is plugged into the unit	Usually caused by Pins 2 and 3 not configured properly. Remember, the Thin Server is a DCE device that uses only Pins 2, 3, and 7. Try the following: 1. Make sure that the device is turned on. 2. Verify whether the device is DTE or DCE. 3. If possible, use a mini-tester plugged into the end of the cable from the device (and not plugged into the Thin Server). • If the TD light comes on, the device is DTE. • If the RD light comes on, the device is DCE and a null modem adapter is needed to cross Pins 2 and 3. 4. Recheck the cables and any adapters to make sure that the pins are properly configured.
Tx and Rx lights are on, but the data does not display through HyperTerminal	Typically, this is a problem with the flow control, which is set to Hardware or Xon/Xoff on the device. The Thin Server does not support hardware flow control. Also, the device may not be configured properly. 1. Verify that the device does not have hardware flow control enabled. If the device cannot be configured without hardware flow control, a special adapter is needed to satisfy flow control for the device. This can be accomplished by strapping back: • Pins 4 and 5 • Pins 6, 8, and 20 2. Check and make sure that the device is plugged into the correct port on the Thin Server. 3. Recheck all cables and adapters, verify that all pin outs are configured properly. 4. Verify that the person in charge of setting up the device followed the *set up instructions for the GSS device* on the web site. 5. Contact the vendor to see if any special cables are required for the device. 6. Verify that the PMS to Thin Server start-up sequence was completed successfully. If not, the Thin Server will not communicate to any devices. 7. Connect a straight-through cable from a laptop into the Thin Server port and send an ENQ or ACK command. a. Verify that HyperTerminal responds. If not, the Thin Server port may be bad. b. If it does respond, perform the test on the device to see if the device responds.

Port Configuration Problems

This table provides troubleshooting port configuration information.

Symptoms	Description: Action
Badly formatted data is seen from the port in HyperTerminal	1. Verify cabling and port settings: baud, parity, data bits, and stop bits. 2. Verify that the device does not require a special cable from the device vendor. 3. Verify that the set-up procedures for the device have been followed completely.
Data comes through the interface from the device, but the device cannot receive any data	Cause could be a baud rate problem 1. Check with device vendor to verify baud rate. 2. Verify that the device was installed completely using the *device set up instructions*.
Cannot establish a connection to the PMS	1. Verify that the port settings are set up correctly. 2. Verify that the IP address of the PMS is correctly set in **portconfig**. 3. Verify that the port number is also set to the same number that the PMS is using when it opens the connection with the Shell Control. 4. If using an Ethernet connection, verify that the Thin Server is not connected to a 100 Mb hub. The Thin Server only supports 10 Mb. To remedy the problem, connect a 10/100 Mb mini-workgroup hub in the LAN and connect the Thin Server to the mini-workgroup hub. 5. Perform the ping test from the Thin Server to the PMS and vice versa. 6. Verify that the Thin Server and PMS are configured with the same subnet address. 7. Try to establish a direct connection using an Ethernet crossover cable. If the connection can be made, the problem is with the network or the cable.

Data Formatting Problems

This table discusses data formatting problems.

Symptom	Description: Action
The Thin Server sends NAKs in response to data received from a device.	1. Verify with the vendor that the device is sending the correct data format and checksum. 2. Verify that they have followed the set up instructions completely.
The Thin Server does not send any data to a device.	1. Make sure that the device is in a “Responding” state. If the Thin Server determines that the device is not responding, it will send up to three times before timing out. At this point, the Thin Server will not try to establish communications with the device until the device responds first. 2. Verify that the device is operational. If not, have the vendor correct the problem and then reboot the Thin Server. 3. If the device is in a responding state, the problem may be due to the current baud rate.

How to Ping Devices

You may want to ping the Thin Server or PMS to verify that the equipment is configured correctly, before contacting Technical Support.

1. Go to the DOS prompt or the **Run** command line.
2. Enter the following to ping the Thin Server:

   `ping IP_address_thin_server`

   Note: *The Thin Servers requires that the System Administrator has assigned the Thin Server a static IP address.*
3. Enter the following to ping the PMS:

   `ping IP_address_PMS`

   Note: *The PMS IP address is illustrated in the* **TSAppServer** *program.*

Contacting Technical Support

Comtrol has a staff of support technicians available to help you. Before you call, please have the following information available:

- Thin Server serial number
- Thin Server BIOS version
- Image number
- Site name

Comtrol	Headquarters
Phone	(888) 400-5854
Email	HPDsupport@comtrol.com
web site	HPD.comtrol.com

Configuring HyperTerminal

You can use this subsection to configure HyperTerminal.

1. Open HyperTerminal from your **Start** button.

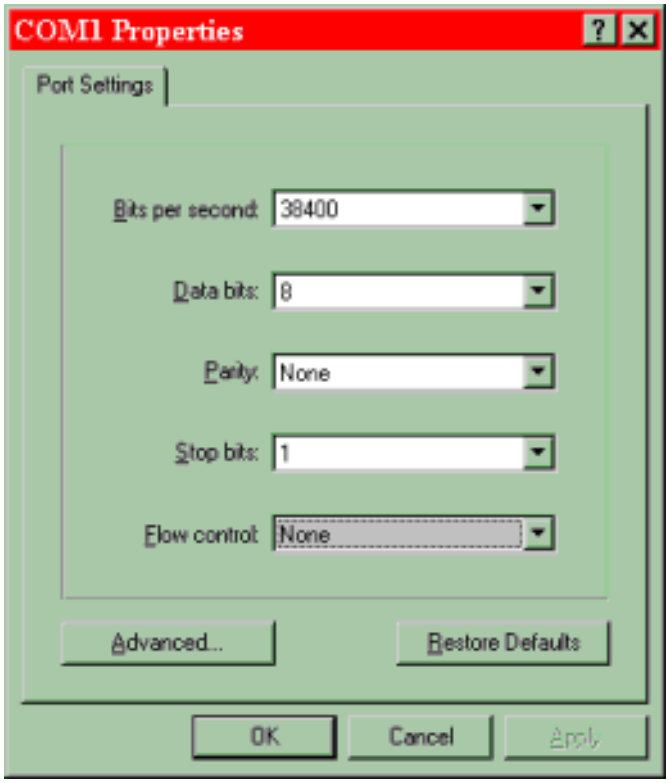
2. Double-click on the **HYPERTRM.EXE** icon to create a new connection.

3. Enter a connection description, optionally, select an icon, and select the **Ok** button.

4. Select the appropriate COM port number that you are connecting to the Thin Server Console port from the **Connect using** droplist and select the **Ok** button.

5. Configure the COM port with the following values:
   - Bits per second = 38400 or 9600 depending on the baud rate selected while downloading the image
   - Data bits = 8
   - Parity = None
   - Stop bits = 1
   - Flow control = None

   Note: *If your unit is shipped with a unique BIOS version, you may need to use different HyperTerminal settings. See the Property Management System provider specifications for configuration information.*



6. Click on OK to complete HyperTerminal configuration.

7. A HyperTerminal session begins. To continue the Lodging Link II installation, go back to *Step 7* in the *Software Installation Example* discussion.

Note: *You may want to save the session the first time that you close HyperTerminal, for any future work.*

Glossary

Build Wizard

You may need to use this utility on the web site to build a property image for your site. To use the Build Wizard, you will need to know your username, password, and the GSS manufacturers and models.

corporate property image

Some sites may install a specified image (default) for a chain of properties that defines a specific set of *Guest Service System*.

folios

Data files pertaining to the guest and their usage of the Guest Service Systems.

GSS

See Guest Service Systems.

Guest Service Systems

Examples of Guest Service Systems are:

- PBX
- Call accounting
- Voice mail
- Movies
- Point-of-sale (POS)
- Keys
- Minibar
- Internet

image

The image contains all of the software device interfaces that will manage the communications to each GSS. To create a property image, you may use the *Build Wizard*.

Interchange Thin Server

This is often referred to as the Thin Server and is the hardware used in the Lodging Link II platform.

LGS

Lodging Guest Services. See Guest Service Systems for a list of services.

LL2

See Lodging Link II.

Lodging Link II

Lodging Link II is a multiple link protocol management system that uses the Universal Hospitality Language Layer to allow systems with different communications protocols to communicate with the Property Management System and with each other.

PMS

See Property Management System.

property image

See image.

Property Management System

This is the computer-based system that is used by the property to track and log guest information to folios.

Thin Server

See InterChange Thin Server.

Thin Server Application Server

The Thin Server Application Server (**TSAppServer.exe**) is a program used to upload the image from a Windows 95/98 or Windows NT system to the Thin Server. This is a simple TFTPC program that sends the image to the Thin Server through a connection to the Ethernet port on the Thin Server. The upload process is initiated by the Thin Server unit from a BIOS command. The BIOS menu is accessed by a serial connection from a PC using a terminal emulation software program, such as HyperTerminal or ProComm to the Thin Server Console port. See the *Installation Files* discussion to obtain the program.

TSAppServer

See Thin Server Application Server.

UHLL

See Universal Hospitality Language Layer.

Universal Hospitality Language Layer

Protocol developed for the hospitality industry that eliminates the need to develop multi-protocol capabilities for Guest Services Systems.

Trademarks

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