RSC

Remote Serial Communications System

Manual

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RSC - Remote Serial Communications

1 Introduction

The Remote Serial Communications (RSC) system is a communication package that allows RS232 serial communications to be transported over modern communications networks. The system uses the power of the IP network to provide access to remote serial devices as well as a reliable end-to-end serial communication path between two serial ports.

Many software applications have been written to communicate with serial devices that are directly connected to the computer's COM ports. These devices are sometimes moved to remote locations where, due to distance limitations can no longer be directly connected to their servers.

In order to enable these applications to communicate with serial devices across an IP network infrastructure, a solution, which is seamless to both the application and device, is required.

The RSC communications system uses industry standard IP protocols to address these requirements in two major ways. The system allows telnet access to the remote serial ports for remote access and monitoring. The client / server configuration brokers an IP communication path between two serial ports and provides a reliable end to end communication path between the applications software and the target serial device.

2 Example Applications

While RSC is very flexible and not tied to any specific application or industry it has had extensive use in the wireless industry. Below are some examples.

2.1 TNPP over IP / Internet

The RSC System is a great solution for network connections to remote paging systems. TNPP over the Internet provides a cost effective and reliable alternative to expensive dedicated facilities. Another unique feature is the ability to have multiple concurrent connections. This allows the technicians to monitor the data without affecting the TNPP traffic. This can be a handy tool while troubleshooting data communications problems.

2.2 Operator Ports

The RSC System is a great tool for providing local and remote access to paging systems. The operator can use a cheap PC or an existing computer to replace the Glenayre's old and expensive "dumb terminal" for CN00 access. Using RSC, all CN00 activity can be recorded to a log file that can provide invaluable information during error conditions and system crashes.

The multiple concurrent connections capability allows multiple employees to participate in the system menus and connections. This creates a virtual training classroom from any location(s). This feature can also be extremely useful as fast and convenient system access is required to minimize customer outages.

Gone are the days of having to fight modem errors and long distance access issues associated with dedicated telephone / modem lines. With RSC any authorized user can quickly access system with an efficient reliable connection. Solving customer service or system related issues are as close as a pc (telnet client, command prompt, many cell phone pda's etc.).

Another side benefit of RSC is that the system will generally require less operator ports. Users find that they no longer need a dedicated dumb terminal on their workstation. Operators prefer accessing the Glenayre from a scalable window on their existing pc. With RSC, users can handle service calls from any pc in the world. With a common pool of access ports more operators can share a given group of Glenayre ports. Each RSC port is configurable with a timeout so ports with no activity are release back to the pool for access to a larger number of users. The multiple concurrent connections capability allow senior staff to train and monitor transactions in real time.

2.3   Printer Logs and Reports

The RSC System was designed to reduce cost and increase system reliability. Connecting printer ports to RSC ensures that this valuable information is accessible. Often printers run out of paper or get locked up in error conditions. RSC provides an invaluable service by allowing users to monitor and log all error transactions. An intermittent problem can easily be pinpointed by searching through electronic copies of the printer log. This is a sharp contrast to digging through boxes of old printouts.

2.4   TAP over IP / Internet:

TAP over IP and connections over the Internet are excellent alternatives to expensive dialup and dedicated TAP facilities. RSC connections are much more reliable and efficient and provide many cost saving alternatives. RSC can also be used with simple applications to replace a dedicated paging system at strategic customer sites (such as a hospital or large customer).

3 RSC Server

The Remote Serial Communication (RSC) Server accepts IP based communications sessions from a remote client and forwards communications to the server's local serial port.

Using the RSC client, the system establishes an IP communication path between two serial ports and provides a reliable end-to-end communication path between the applications software and the target serial device.

A remote user can also establish a telnet session to server and transparently gain access to the serial device connected to the RSC server. This allows remote access and monitoring capabilities to the remote device.

The admin can remotely configure the RSC server's settings via a graphical user interface.

4 RSC Client

The Remote Serial Communication (RSC) Client is a COM port re-director. The client accepts serial communication on a local serial port and forwards the data to the target serial device connected to the RSC Server across the IP/Ethernet network.

All COM port data sent by the application is re-directed by RSC Client across the IP/Ethernet network to RSC Servers that have the target serial devices connected to them.

Data and serial port signaling is transparently communicated between the application and serial device. Application software changes are not required, eliminating costly upgrades and modifications.
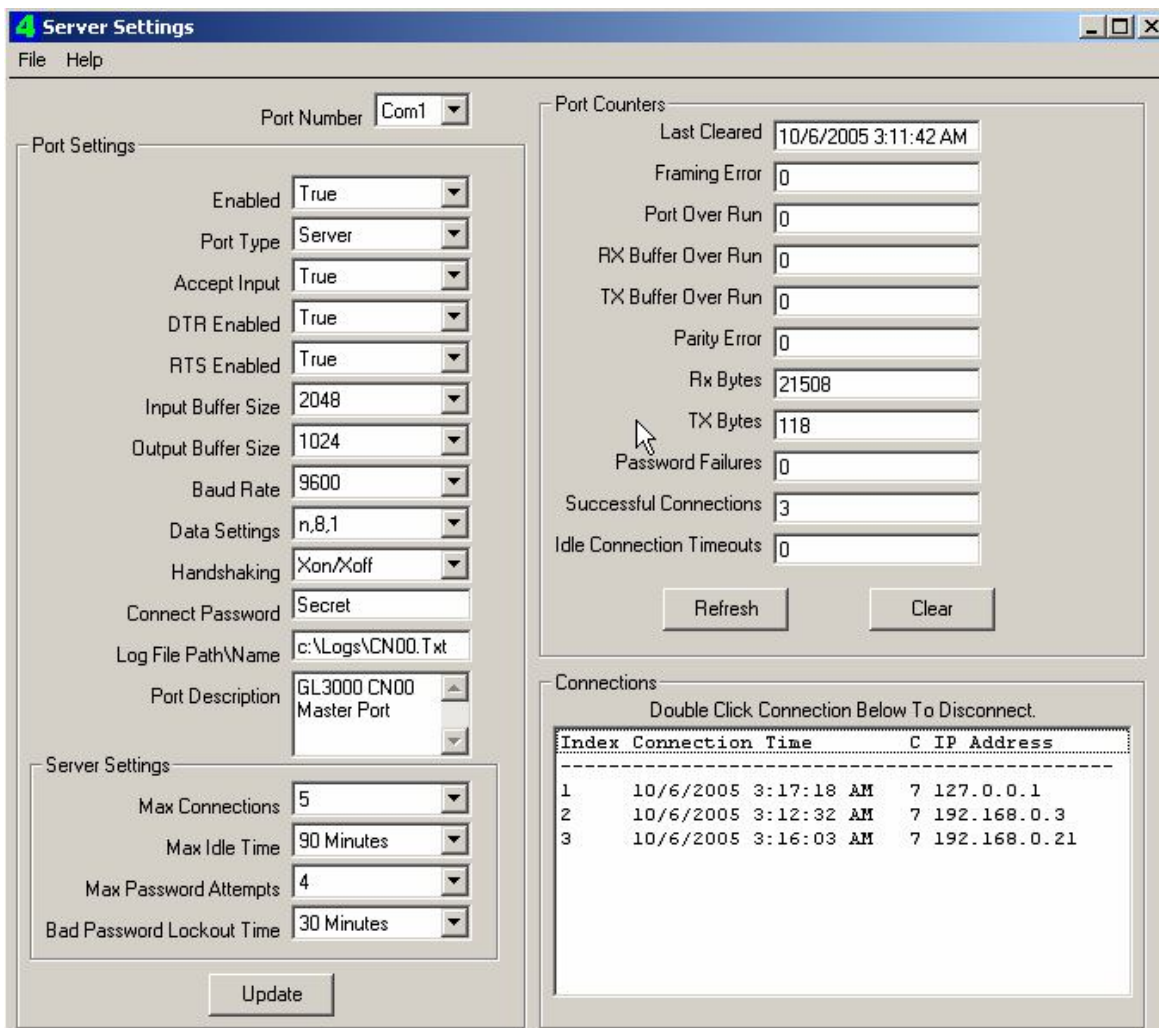
5 RSC Configuration

The program RSCServerConfig manages the user interface and system configuration settings. Normally this program is optioned to start when the user logs into windows and is minimized to the system tray.

Start the program from the windows start bar or click on the blue icon ▨ in the system tray to bring up the RSC Server Settings screen.

5.1 Server Settings

The Server Settings screen is the main activity and configuration screen for the RSC System. The screen is divided into three major parts:

- **Port Settings:** Defines the configuration settings for each serial port.

- **Port Counters**: Displays activity counters for each serial port.

- **Connections:** Displays IP connection status for each serial port.

Figure 1: Server Settings screen

5.1.1   Port Settings

5.1.1.1   Port Number: COM1 – COM16

The port number is a drop down box that selects the specific serial port number to display and configure. This number corresponds to the computers COM port. The RSC software license determines the maximum number of serial ports controlled by the system.

Note: RSC inventories and indexes the port numbers from the **first** COM port reported by windows. This is performed at boot time and when the RSC Server is restarted.

Please note that adding new COM ports or changing windows COM port configurations may change the associations with the RSC configuration.

5.1.1.2   Port Type: Server, Client

The Port Type parameter is used to define the Client or Server operating mode of the RSC serial port. As a Server, RSC functions as a receiver and listens for requests on an IP socket. As a Client, RSC functions as a sender and opens a telnet connection to the defined IP address. Once connected, RSC will communicate via telnet to the serial port.

The Server function is used for most applications including an operator port, a local printer port logger and the receiving or consolidating point of a TAP or TNPP connection.

The Client function is used to initiate IP connections to RSC from legacy serial devices. Examples include TNPP over the Internet, dedicated TAP over the Internet, remote printer connections and remote dumb terminals.

5.1.1.3   Enabled: True, False

The Enabled parameter is the On / Off switch for RSC. When set to True, RSC is enabled and takes control of the serial port to perform the client or server function.

Note: When Enabled, RSC takes exclusive control of the serial port. If the COM has problems or is use by another windows application, the Enabled field will display "False" to indicate the conflict.

5.1.1.4   Accept Input: True, False

The Accept Input parameter is used in special applications. This setting inhibits a telnet connection from sending data to the serial port. This creates remote access to the serial port in a read only or listen only mode.

With this setting set to True, data received from the serial port is transmitted to the telnet device in the normal fashion. Data received from the telnet device is discarded.

5.1.1.5   DTR Enabled: True, False

The DTR Enabled parameter is used to control the output of the RS232 handshake line Data Terminal Ready. When set to True the DTR signal outputs a steady state "True" signal. When set to False the DTR signal outputs a steady state "False" signal.

5.1.1.6   RTS Enabled: True, False

The RTS Enabled parameter is used to control the output of the RS232 handshake line Request To Send. When set to True the RTS signal outputs a steady state "True" signal. When set to False the RTS signal outputs a steady state "False" signal.

Note: When the "Handshaking" parameter is set to "RTS/CTS" or "Both" the RTS signal is maintained by RSC regardless of the RTS Enabled Settings.

5.1.1.7   Input Buffer Size: 512, 1024, 2048, 4096

The Input Buffer Size parameter is used to buffer (or store) serial data received from the serial port before forwarding to the associated telnet connection.

5.1.1.8   Output Buffer Size: 512, 1024, 2048, 4096

The Output Buffer Size parameter is used to buffer (or store) serial data received from telnet connections before forwarding to the associated serial port.

5.1.1.9   Baud Rate: 300, 1200, 2400, 4800, 9600, 19200

The Baud Rate parameter is used to define the data rate of the COM port. This setting must match the settings of the connected serial device.

5.1.1.10   Data Setting: n,8,1   e,7,1

The Baud Rate parameter is used to define the parity, data bits and stops bits of the COM port. This setting must match the settings of the connected serial device.

5.1.1.11   Handshaking: None, Xon/Xoff, RTS/CTS, Both

The Handshaking parameter is used to enable or disable hardware and software flow control on the serial port. Options include; "None" no flow control, "Xon/Xoff" software flow control and "RTS/ CTS" hardware flow control. When set to "Both", Xon/Xoff and RTS/CTS flow control is enabled.

5.1.1.12   Connect Password: Secret, User_Programmable

The Connect Password parameter allows the administrator to set a password that will be required to establish a connection to this serial port. The default value is "Secret". Erasing the data in this parameter will allow connections without a password.

Note: If a password is set and the wrong password is entered, the connection will be rejected and future connection refused depending on the parameters "Max Password Attempts" and "Bad Password Lockout Time".

5.1.1.13   Log File\Path Name: User_Programmable

The Log File\Path Name parameter allows the administrator to enable serial data to be logged to a text file. To enable logging simply type in a fully qualified windows path and file name. Example: C:\logs\CN01.TXT. Erasing the data in this parameter disables this logging option.

Note: The administrator must manually create the windows directory associated with the log file. RSC will automatically create and append to the specified file name. The administrator is responsible for maintaining log files. RSC will continue to write to a file until the hard disk is filled up. The maximum log file size is approximately 2 Gigabytes

5.1.1.14   Port Description: User_Programmable

The Port Description parameter is a user-defined field that is not used by the program. The user is encouraged to use this field to describe the connected device or application associated with this serial port.

5.1.2   Server Settings

The following settings are available when the "Port Type" parameter is set to the "Server" application.

5.1.2.1   Max Connections: 0 - 10

The Max Connections parameter sets the number of simultaneous connection allowed on this serial port. The default value for a server is 3, which allows up to three simultaneous users to connect and share this serial port.

5.1.2.2   **Max Idle Time:** 10 minutes – 32 hours, No Time Out

The Max Idle Time parameter is used to disconnect connections that have been inactive for long time periods. This feature minimizes bandwidth requirements and frees up inactive ports.

5.1.2.3   **Max Password Attempts:** 1 – 10, No Limit

The Max Password Attempts parameter sets the number of bad password attempts allowed before the connection is disconnected. The default value is 3.

When the optional "Connect Password" parameter is set this parameter is utilized for security purposes. After establishing a connection, the user is presented with the prompt "Password:". The user is allowed up to 45 seconds to enter a valid password. If no password is entered the session is disconnected.

If the correct password is entered, RSC displays "Connected...." and allows the user to access the serial port.

If the wrong password is entered, RSC displays: "Invalid Password...." If more attempts are available, RSC displays "password:" to allow the user to try again. If the
"Max Password Attempts" has been reached the session is disconnected.

5.1.2.4   **Bad Password Lockout Time:** No Lockout, 10 – 120 minutes

The Bad Password Lockout Time setting comes into play when a user has entered the wrong password beyond the "Max Password Attempts" parameter.

If the Bad Password Lockout Time setting is programmed for "No Lockout" further connections are allowed. If the value is set to a lockout time of 10 to 120 minutes, RSC will refuse connection attempts during the defined time period.

Note: During the Bad Password Lockout Time period, all connection attempts for this serial port are ignored and will result in an error from the telnet client. Examples include: "Connect failed", "TELNET Winsock Error – Connect failed Error No.(0)", "Unable to connect to *host_name port_number".*

After the Bad Password Lockout Time period has expired, RSC will resume normal operations and allow further connections.

5.1.3 Client Settings

The following settings are available when the "Port Type" parameter is set to the "Client" application.

5.1.3.1 Always Connect: True, False

The Always Connect parameter is used in special applications where the client must maintain a connection to the server. Examples include a remote printer that would rarely send transmissions.

5.1.3.2 Remote IP Address: aaa.bbb.ccc.ddd

The Remote IP Address parameter defines the IP address or resolvable Host Name of the device to establish connectivity.

5.1.3.3 Remote IP Port: xxxxx

The Remote IP Port parameter defines the IP port of the device to establish connectivity.

5.1.4 Update

The Update button saves the programmed parameters for the specified serial port. When the user presses this button, settings are saved and the values are passed to the RSC Server for immediate execution.

5.1.5 Port Counters

The Port Counters are used to display activity counters for each serial port. This is useful for gathering statistics and troubleshooting issues on serial ports and telnet connections.

The following provides more information on each of the associated fields:

5.1.5.1 Last Cleared: 0 - 2000000000

Displays the time and date when the Port Counters were last cleared to zero.

5.1.5.2 Framing Error: 0 - 2000000000

Displays the number of characters received from the serial port with a framing error.

5.1.5.3   Port Over Run: 0 - 2000000000

Displays the number of characters overrun on the serial port.

5.1.5.4   Rx Buffer Over Run: 0 - 2000000000

Displays the number of characters received from the serial port that resulted in a buffer overrun.

5.1.5.5   Tx Buffer Over Run: 0 - 2000000000

Displays the number of characters transmitter to the serial port that resulted in a buffer overrun.

5.1.5.6   Parity Error: 0 - 2000000000

Displays the number of characters received from the serial port with parity errors.

5.1.5.7   Rx Bytes: 0 - 2000000000

Displays the number of characters received *"from the serial port"*.

5.1.5.8   Tx Bytes: 0 - 2000000000

Displays the number of characters transmitter *"to the serial port"*.

5.1.5.9   Password Failures: 0 - 2000000000

Displays the number of times the port denied access due to an incorrect password.

5.1.5.10   Successful Connections: 0 - 2000000000

Displays the number of times the port was successfully connected.

5.1.5.11   Idle Connection Timeouts: 0 - 2000000000

Displays the number of times the port was disconnected due to no activity transmitted to the serial port (see "Max Idle Time" parameter).

5.1.5.12   Refresh

This button "refreshes" the Port Counters to the latest values.

5.1.5.13   Clear

This button "clears" the Port Counters to zero and sets the "Last Cleared" date field.

5.1.6   Connections

The "Connections window" displays a list of active connections to the COM port. There are 5 columns displayed:

5.1.6.1   **Index:** 1 - 10

Displays the index or reference number of the active connection(s).

5.1.6.2   **Connection Time:** 1 - 10

Displays the time and date when the connection was established.

5.1.6.3   **C:** 1 - 10

Displays the "Connection State" of the IP socket connection. A value 7 is the normal connection state.

The complete lists of states are as follows:

> 0 – Closed
> 1 – Open
> 2 – Listening
> 3 - Connection pending
> 4 - Resolving Host
> 5 - Host resolved
> 6 – Connecting
> 7 – Connected
> 8 - Peer is closing the connection
> 9 - Error

5.1.6.4   **IP Address:** aaa.bbb.ccc.ddd

Displays the IP address of the active connection.

5.2 Server Settings - Sub Menu

The RSC Server Configuration program has two Sub Menus; File and Help.

- **File Menu:** The File Menu there are five options; Trace Window, Minimize to Tray, Settings, License Entry and Exit.

- **Help Menu:** The Help menu access the program Help files and information about the software version and licensing status.

The following is an example of the pull down menu and detailed description of the File menu options:
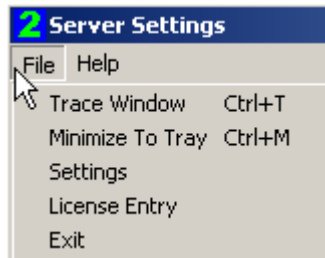
Figure 2: File Menu selections

5.2.1   RSC Trace

The RSC Trace Window is a system wide monitor and debug tool. This screen can monitor and log serial port and IP activity. Check boxes are included to enable monitoring of one or more serial ports. Data types to be included are selected by checking the Serial Events, Socket Events and Serial Data options. There are also options to add time stamps and log trace information to a log file.

The screen is used for diagnostic purposes and can be very useful for troubleshooting issues on serial ports and telnet connections.

The following is an example of RSC Trace screen:
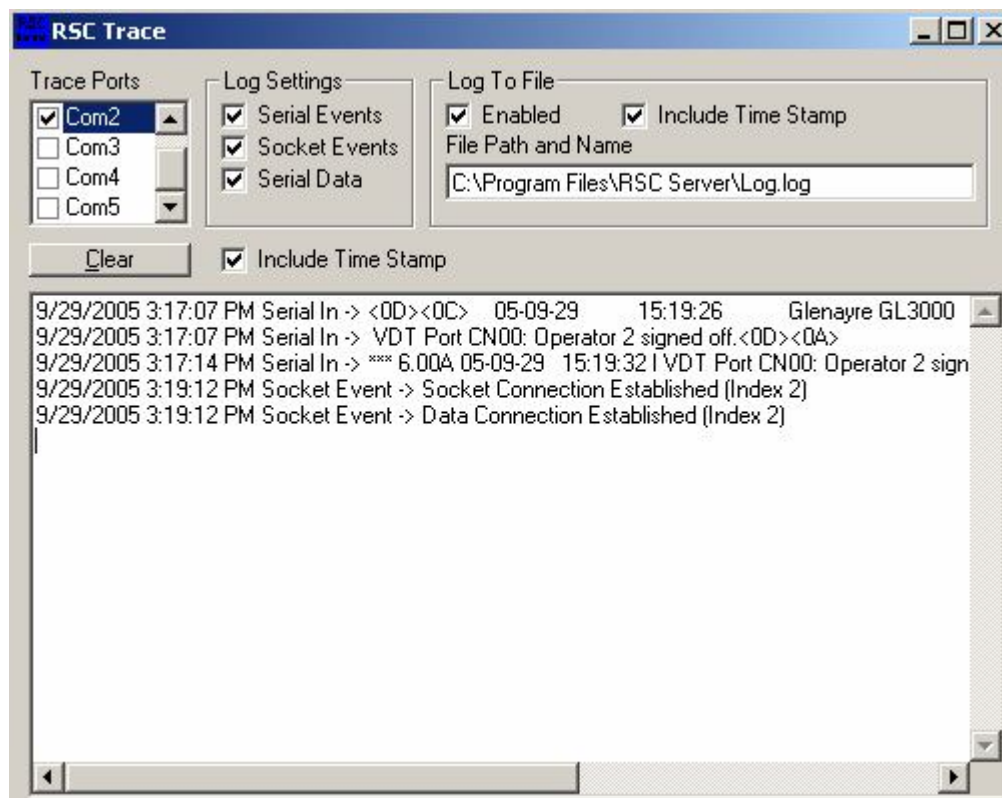
Figure 3: RSC Trace screen

Note: The Trace ports settings are not saved and thus disabled when RSC Server starts.

5.2.2   Minimize To Tray

The Minimize to Tray option simply drops the RSC Server Configuration Screen to the Windows System Tray. While in the system tray, the program can be "opened" to full screen access by double clicking on the RSC icon. If the user right clicks on the RSC icon, the options include; Open (open to full screen access), About (show RSC Version and License information) and Exit (terminate the RSC Setup program).

Below is an example of the RSC icon in the windows system tray. In this example RSC has 2 active IP connections:
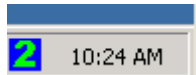
Figure 4: RSC Icon in system tray

Note: Pressing the "X" at the top right corner of the System Configuration Screen will also minimize the configuration screen to the tray. This allows the tray icon to act as a system status monitor. To exit the program, select File then click Exit or right click on the tray icon and select Exit.

Figure 5: Server Settings screen

5.2.3   Settings - System Config

The System Config Settings window is accessed from the File menu in the RSC Server Configuration program. The window is divided into three major parts:

5.2.3.1   RSC Server Configuration Settings

Defines startup options for the RSC Server Configuration (RSCSeverConfig) program. The "Load At Login" option is included to automatically load the configuration program when the user signs into windows.

The second option specifies the Startup Style; Normal Window (full screen window), Minimized Window or Minimize to System Tray.

Note: No changes occur until the Update button is activated.

5.2.3.2   RSC Server Settings – Base TCP Port

Sets the IP port offset for all telnet connections. Example: A setting of 5000 will define the 1st COM port to be accessed from Telnet port 5001.
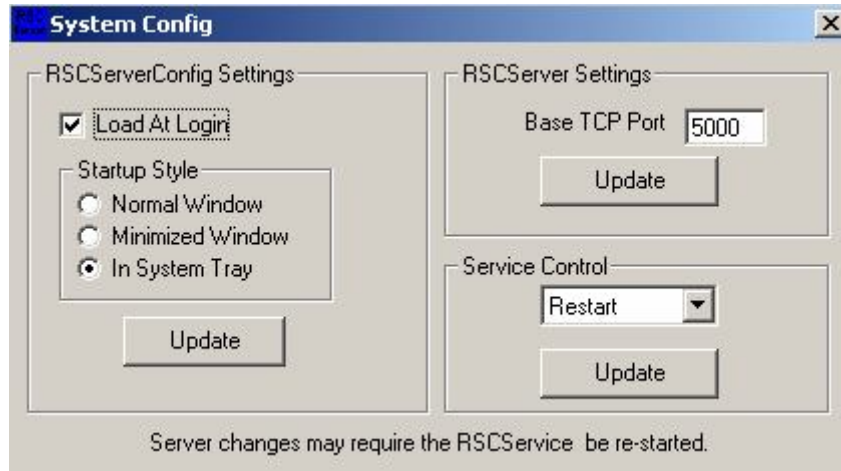
5.2.3.3   RSC Server Settings – Service Control

The RSC Server Program automatically starts and runs as a windows service. Select Start, Stop or Restart to start or stop the RSC Server program.

Note: Some RSC Server settings require the RSC service to stop and restart. Use the Restart option to perform this function.

The following is an example System Config screen:

Figure 6: System Configuration screen

5.2.4 License Entry

The License Entry Window is used to enter the software license information into the program during software installation or upgrade time. The Licensee information contains the user's name or company information. The License Key is used to validate the software license. The Signature key contains the serial number of the RSC software.

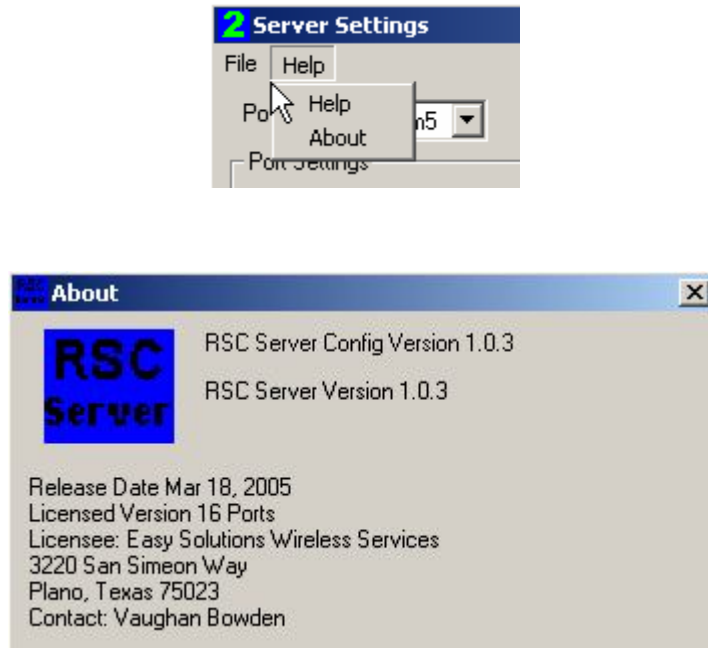The following is an example License Entry screen:
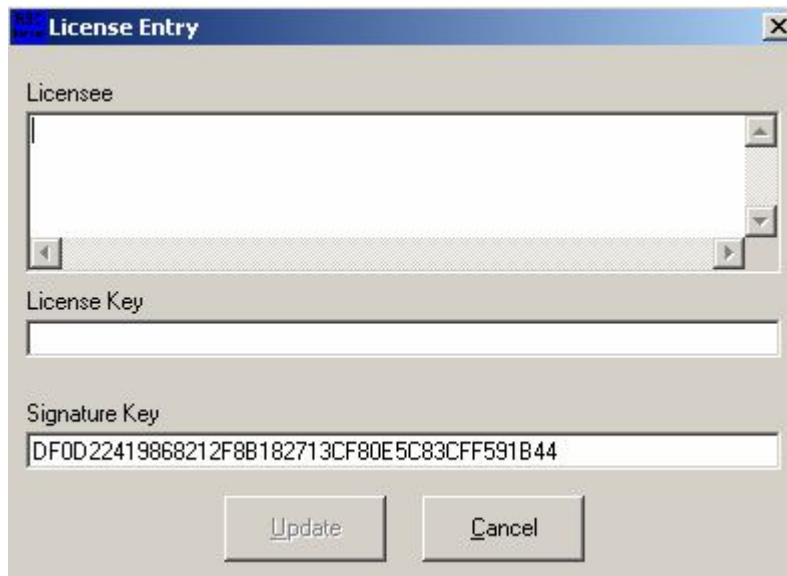
Figure 7: License Entry screen

Warning: *Entering invalid Licensee or License Key data on an operational system will cause the system to stop operating.*

5.3 Help / About

The Help menu access the program Help files and information about the software version and licensing status.

Figure 8: Help / About screen

Appendix A: RSC Installation Example

A.1 Start Installation Program

Start the RSC Server installation by clicking on the RSC installation program RSC.EXE. Follow the install wizard prompts to complete the installation of the program. Below is an example RSC Server Setup screen.

Figure A.1: RSC Server Setup Wizard screen

After the RSC installation is complete, the RSC Configuration screen is "grayed out" until the software license information is added to the program:
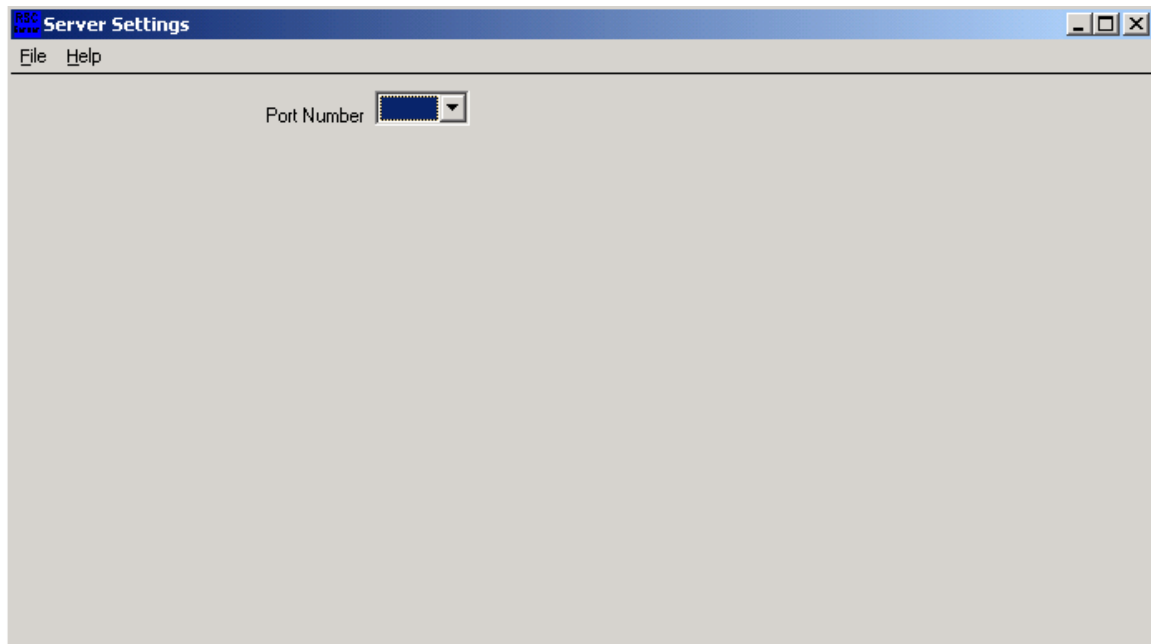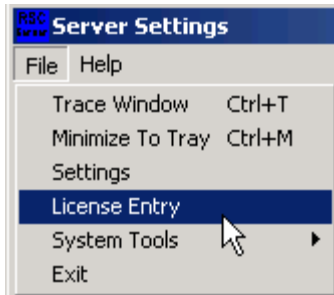

Figure A.2: Initial RSC Server Settings Screen (No license entered)
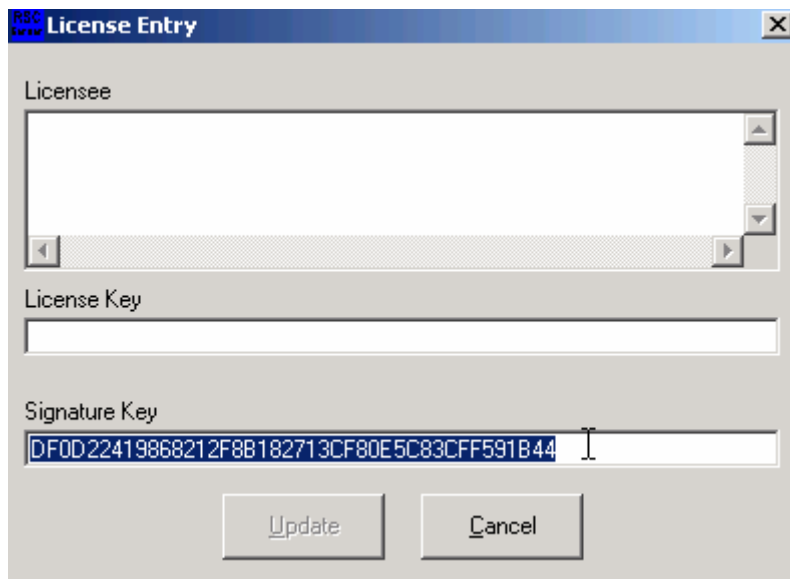
A.2 License Entry

The License Entry window is used to enter the software license information into the program during software installation or upgrade time.

Access the license screen by clicking "File" then "License Entry".

Figure A.3: RSC Server Configuration program, File Menu

Figure A.4: RSC Server Configuration, License Entry window

- The "**Licensee**" field contains the user's name or company information.

- The "**License Key**" field is the user specific key which validates the software license.

- The "**Signature Key**" field is populated by the program and contains the unique serial number of the RSC software.

Copy the Signature Key information from the License Entry window and Email the Signature Key information to support@EasySolutions4You.com.

> **Hint:** Use the mouse to highlight the "Signature Key" information, then use Copy (Control C) and Paste (Control P) to transfer the Signature Key information to your email program.

Easy Solutions will generate the corresponding Licensee and License Key to activate the program. After receiving the license information, please cut and paste the information into the appropriate fields exactly (being careful not to add extra spaces or carriage returns). Then press Update.

After successfully entering the license information the program will display the server setting menu (see RSC Manual, Server Setting for specific setup information).
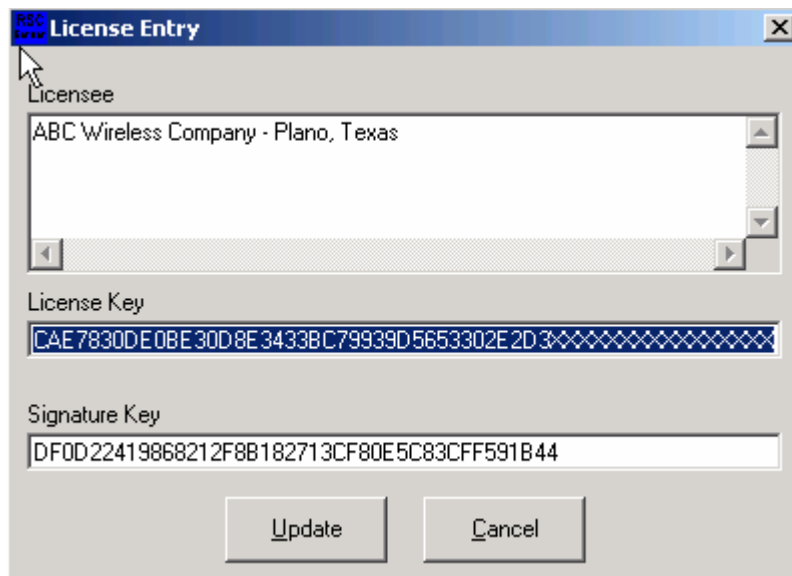
Example License Entry:

Licensee:
ABC Wireless Company - Plano, Texas

License Key:
CAE7830DE0BE30D8E3433BC79939D5653302E2D3XXXXXXXXXXXXXXXXX

Figure A.5: RSC Server Configuration, License Entry window with example data

A.3 Enable COM Ports

Once a valid RSC Server license has been entered, the Server Settings screen will display setup information for the first COM Port as shown below:

Figure A.6: RSC Server Settings, COM1 Configuration

The next step is to enable the COM port. Use the mouse to select the port setting value "**Enabled True**", then click "**Update**" to save the setting.

Note: If any application is using the COM port, RSC will not be able to open and gain control of the serial port.

The Port Setting "Enabled" status will remain at status "**False**" if RSC cannot access the COM port.

Please remember to close any application that may be holding the serial port before changing configurations and pressing the Update button on the Port Settings.

A.4 Complete Configuration Requirements

Once the COM port has gained a status of "Enabled True" the program is fully operational will allow TCP access to the serial port.

The next step is to adjust any serial settings and enable all required COM ports. Please see the Server Settings section of the RSC Server Manual for additional details.
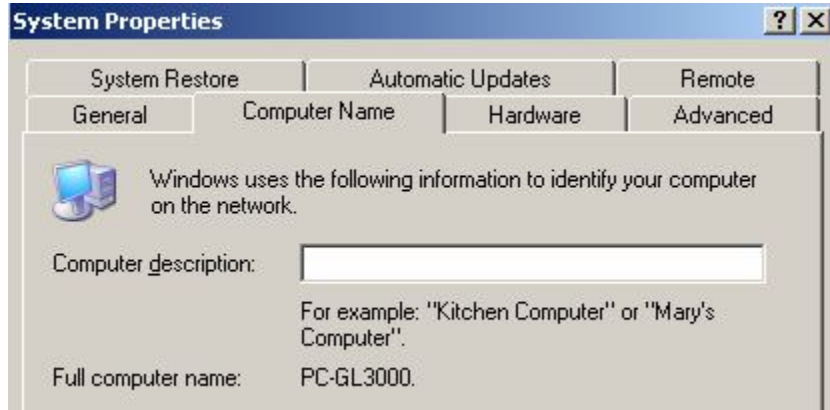
See Appendix B for an example telnet connection.

Appendix B: Example Telnet Connections

B.1 Example RSC Computer Setup Information

Below is an example configuration for a RSC Computer:

Figure B.1: Windows System properties for RSC Computer

Ethernet Information:
Local LAN IP Address: 192.168.1.22
Local LAN IP Name: PC-GL3000

Internet IP Address: Dynamic Public IP Address
Internet IP Name: account_name.gotdns.com

Serial Port Information:
Port Settings: COM 1, 9600 8 N 1
Description: GL3000-ES, CN00
RSC Access Port: 5001
Password   xxxxxxxx

B.2 Telnet Syntax

The syntax for connecting to COM1 on the RSC server is:

   telnet *<hostname> < port number>*

Note: Most telnet clients use a "space" between the hostname and port number but some use a "colon" (example: Telnet *<hostname>*:*<port_number>*).

B.3 DOS Telnet Connection Example

Most windows installations include a DOS telnet client. To access this functionality, simple open a DOS windows and type the following commands:

Access from Local LAN Connections:
Telnet 192.168.1.22 5001   or   telnet PC-GL3000 5001

Access from Internet Connections:
Telnet account_name.gotdns.com 5001   (Public Computer Name)
Telnet aaa.bbb.ccc.ddd 5001   (Public IP Address)
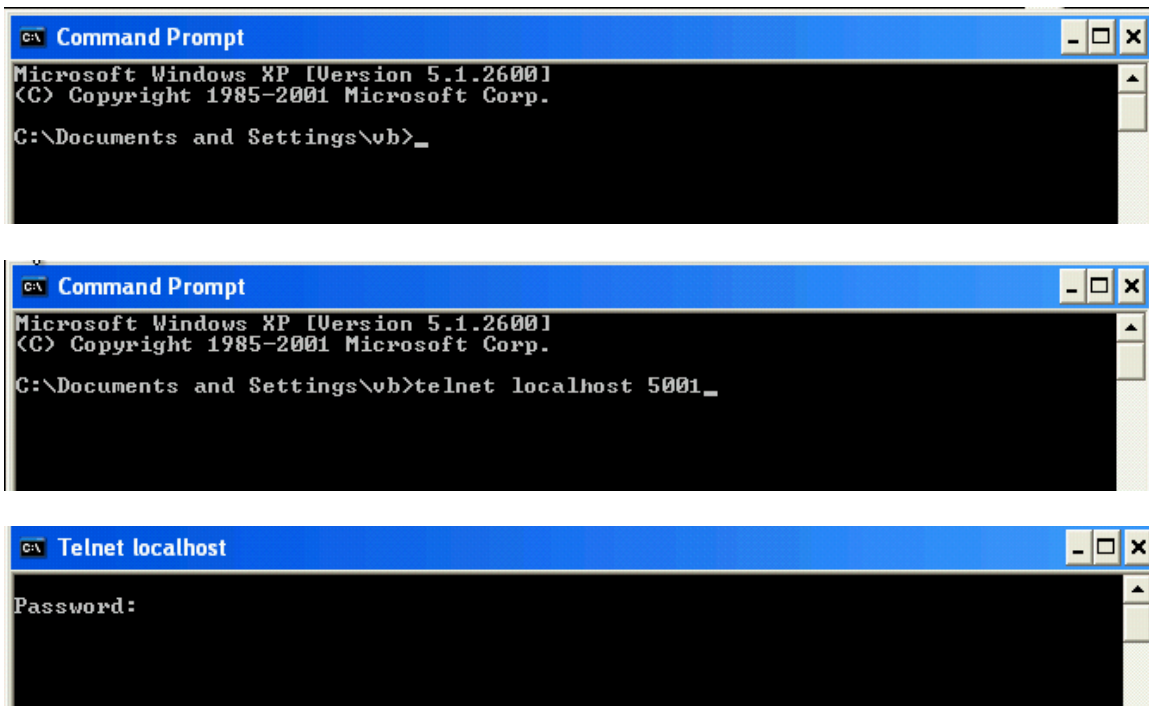
Figure B.2: Example DOS Telnet screens

B.4 HyperTerminal Setup

Most windows installations include a HyperTerminal telnet client. To access this functionality, simply start the HyperTerminal application and set the following configuration options.

- **Change the "Connect using" connection type to TCP/IP (Winsock).**

- **Change the host address to the RSC computer IP address.**

  Enter the local LAN address (192.168.1.22) for local connections or the public IP Name (account_name.gotdns.com) or public IP address for remote connections.

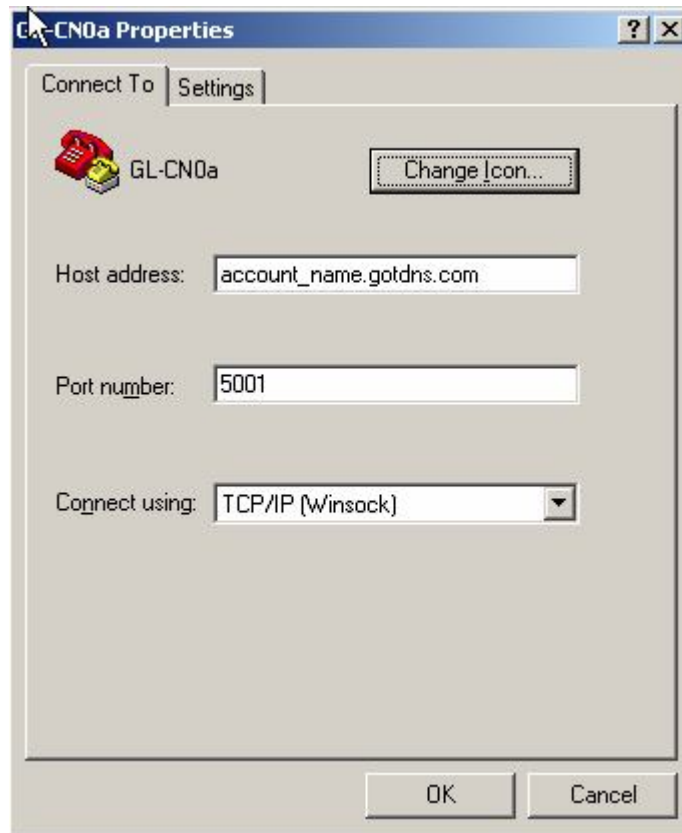- **Change the port number to match the destination device.**

  Example: Port 5001 for connecting to COM1.

- **Change the terminal emulation as required.**

  Example: VT100 for GL3000.
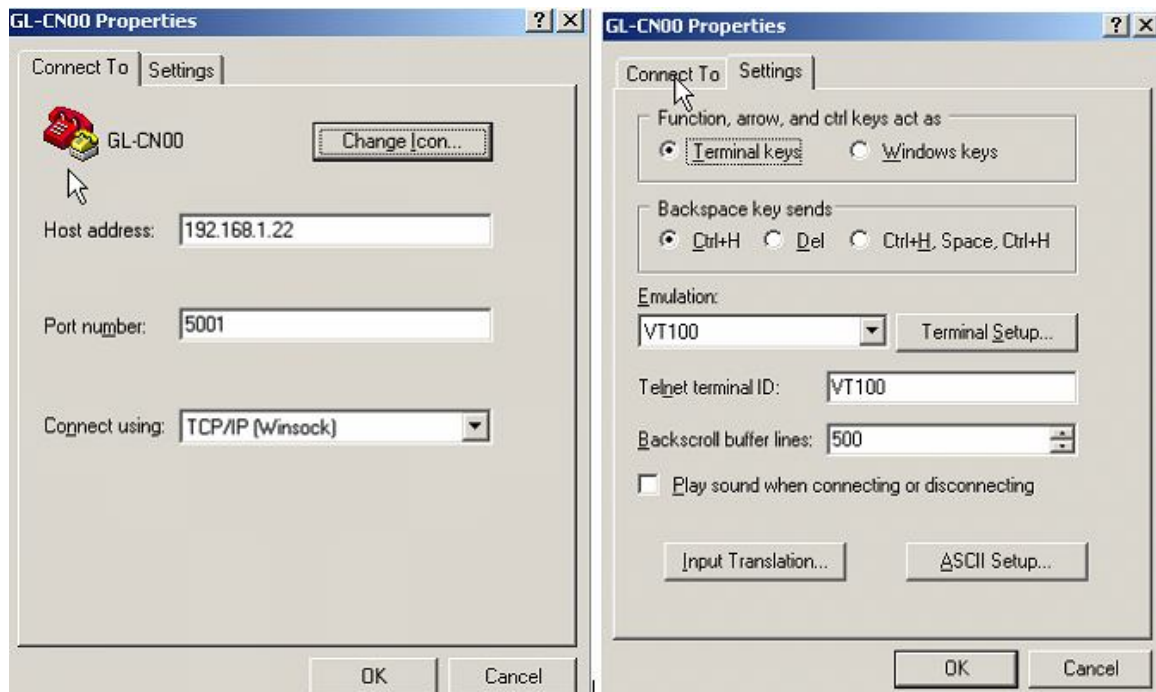
Figure B.3: Configuration screens for telnet session on the local LAN

Figure B.4: Configuration screen for telnet session through the Internet

Figure B.5: HyperTerm Desktop Icon

# Appendix C: Example Windows XP Firewall Configuration

Firewalls can prevent users from accessing IP sockets on an RSC computer. The following information shows how to access the programming screens for the Windows XP firewall:


Figure C.1: HyperTerm Desktop Icon

Open the **Network Connections** screen by right clicking on My Network Places icon on the desktop and select properties.

One can also access the Network Connections screen from the Start Menu; Select Settings, then Network Connections.
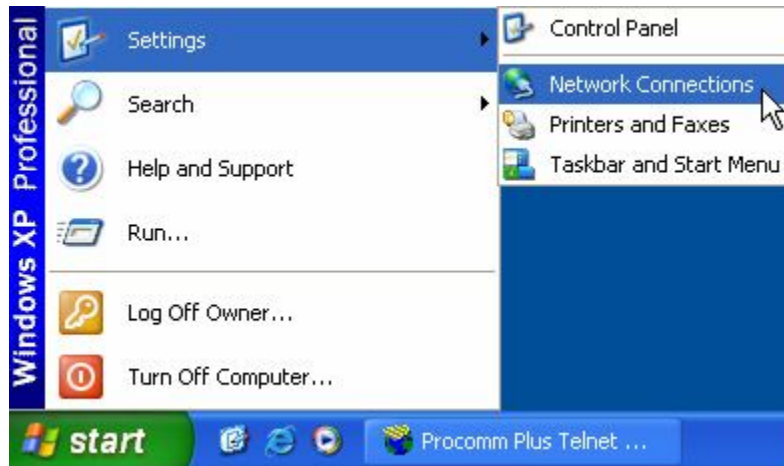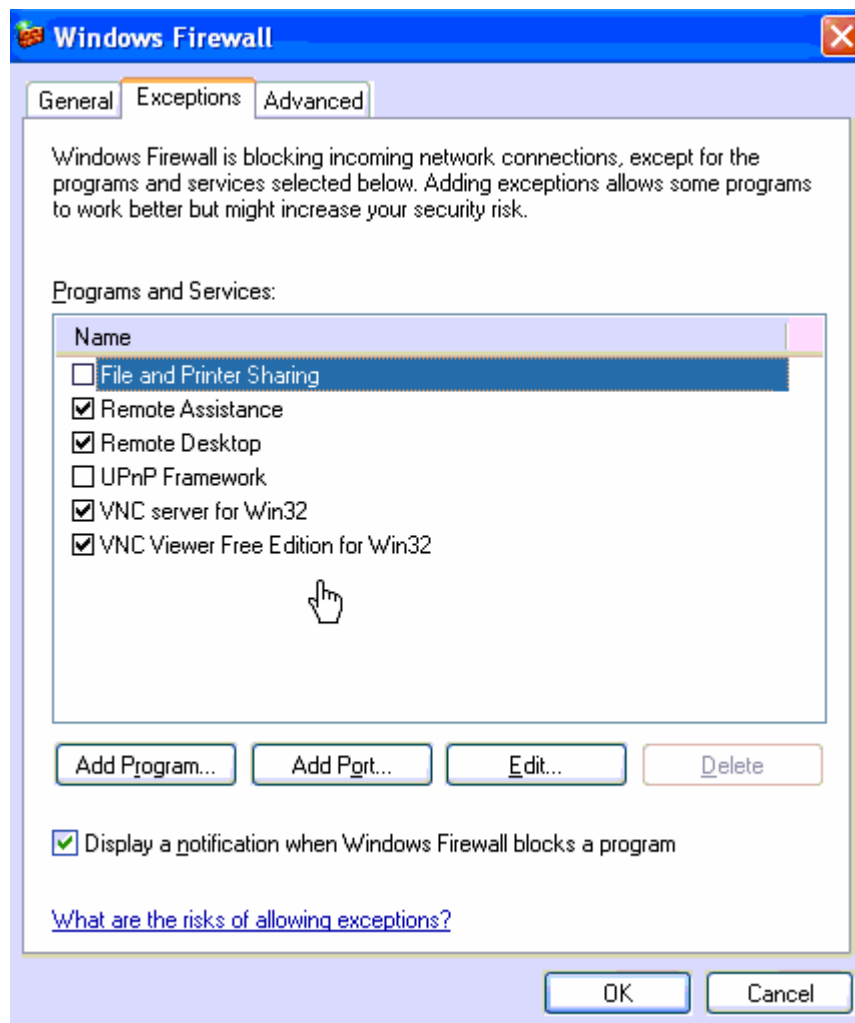

Figure C.2: Network Connections Screens

On the left side under Network Tasks, click on **Change Windows Firewall settings** to bring up the Windows Firewall window.
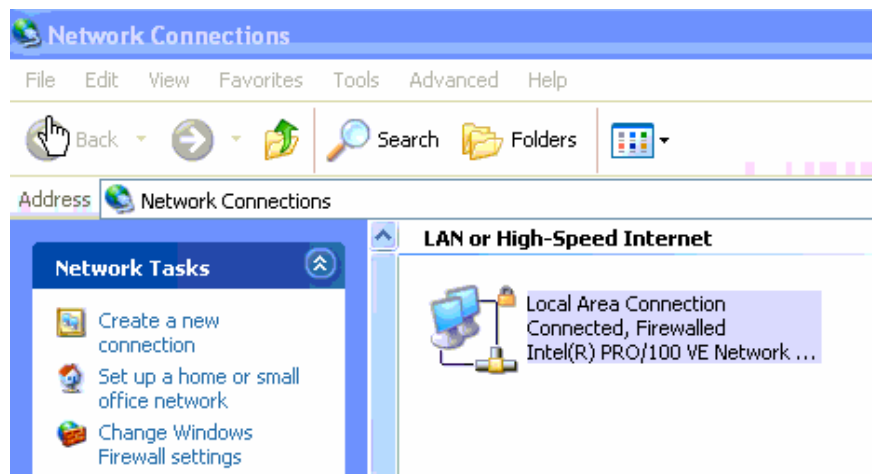
Figure C.3: Network Connections screen

Click on the **Exceptions tab**, and then click on **Add program**.

Figure C.4: Windows Firewall, Exceptions screen
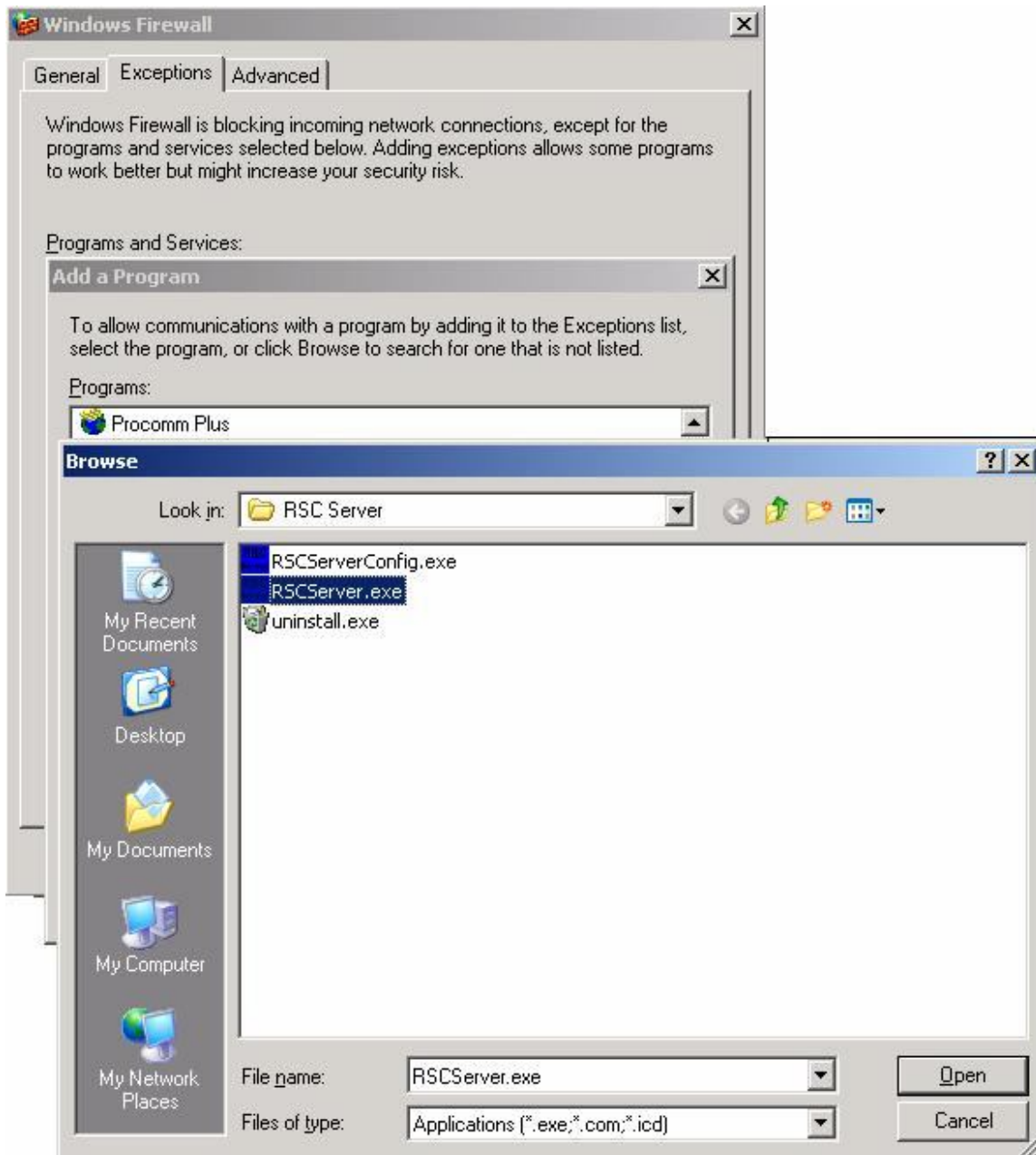
Figure C.5: Adding RSC Server to the Exceptions screen

Click on "Browse" navigate to the RSC Server install directory and select RSCServer.exe (C:\Program Files\RSC Server\RSCServer.exe).

Hint: Make sure to select RSCServer.exe (not RSC ServerConfig.exe).

Click Open, then OK and OK to save the setting.

Windows will now automatically allow RSC Server to open all associated ports (5001, 5002, etc).

Appendix D: DB-25 and DB-9 Cables Connections

The following tables show typical cable pin outs for RS232 serial ports.

DB-9 to DB-25
PC to GL3000 Cable

PC (DTE)			GL3000 (DCE)	
PC	RS232		GL	RS232
DB-9	Signal		**DB-25**	Signal
7	RTS (**Out**)		4	RTS
4	DTR (**Out**)		20	DTR
5	**GND**	*	7	GND
3	TX (**Out**)	*	2	TX
2	RX	*	3	RX (**Out**)
1	CD		8	CD (**Out**)
6	DSR		6	DSR (**Out**)
8	**CTS**		5	CTS (**Out**)

Note: * DB-25 pins 2, 3 and 7 are the only required connections.

Figure D.1: DB-9 to DB-25, PC to GL3000 Cable

DB-9 to DB-25
PC to GL3000 Printer Logger Cable

Add these 5 connections to the existing pins
on the DB-25 connector attached to CN01

PC (DTE)			GL3000 (DCE)	
PC	RS232		GL	RS232
DB-9	Signal		**DB-25**	Signal
			4	RTS
			20	DTR
5	**GND**	*	7	GND
			2	TX
2	RX	*	3	RX (**Out**)
1	CD		8	CD (**Out**)
6	DSR		6	DSR (**Out**)
8	**CTS**		5	CTS (**Out**)

Note: * DB-25 pins 3 and 7 are the only required connections.

Figure D.2: DB-9 to DB-25, PC to GL3000 Printer Logger Cable

Appendix E: FAQ Frequently Asked Questions

How can I disable RSC and use another application to communicate directly with the serial port.

Select the associated COM port in the RSC Configuration program. Change the parameter "**Enabled**" to False. Press the "Update" button.

RSC cannot communicate with the COM Port
Similar issues: Serial port will not open

RSC must have exclusive control over the serial port to function properly. When the RSC Server program starts it attempts to open all "Enabled" COM ports. Any port that cannot open properly is reported to the event log and displayed with the status Enabled: False.

Various issues can cause this problem. Some examples include:
- Another application may be using the associated COM port.
- The COM port may have a hardware problem.
- The COM port may be disabled in the windows control panel.

To trouble shoot this problem, **disable RSC** form this COM port and use windows' HyperTerminal to further investigate the details.

See FAQ: How can I disable RSC and use another application to communicate directly with the serial port.

RSC Server Configuration screen disappears to the system tray when starting windows.
Similar issues: RSC Server Configuration screen is minimized to the task bar when starting windows.

This is an optional setting that is defined in the System Config screen. To view or change this option; access the RSC Server Config screen, clock on File, then click on Settings. See Startup Style settings.

RSC port configurations change when adding new COM ports:

RSC inventories and indexes the port numbers from the **first** COM port reported by windows. This is performed at boot time and when the RSC Server is restarted.

RSC will control the first x amount of serial ports reported by windows (where x is the number of ports licensed by the RSC software). For simplicity it is recommended that the administrator configure the ports to be used by RSC to start at COM1.

Example 1: Windows reports COM ports 1, 2, 3 and 4. A four port RSC license will default to a telnet configuration of port 5001 for COM1 (COM2 = 5002, COM3 = 5003 and COM4 = 5004).

Example 2: Windows reports COM ports 1, 4, 5, 6 and 7. A four port RSC license will default to a telnet configuration of port 5001 for COM1 (COM4 = 5004, COM5 = 5005 and COM6 = 5006)

Note: COM7 is not available to RSC in this example as the software is configured for a 4 port license.