



SXBlue Server



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1. Introduction

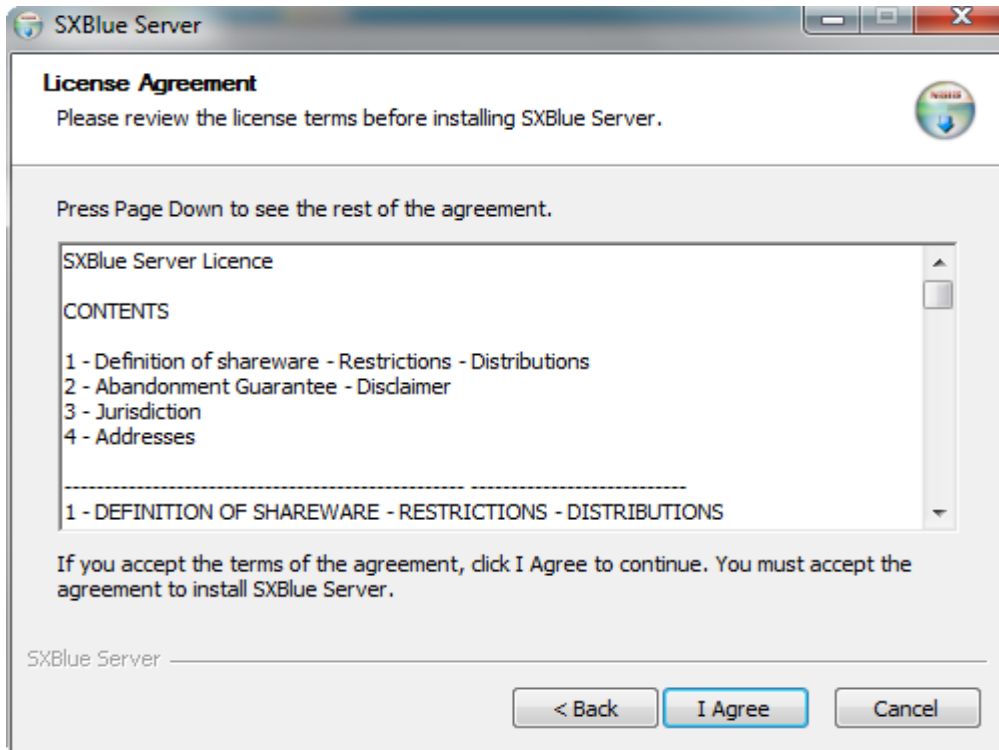
SXBlue Server is a software designed to broadcast corrections through internet with the series of SXBlue receiver. There is plenty of benefit for user who need RTK/DGNSS corrections for specific accuracy such as surveyors, farmers, the marine staff, etc. This software includes several features such as:

- Ability to use a dynamic IP address with a scan of the address on a period of time
- Opportunity to spend NTRIP protocol
- Allows the configuration of the Server from a script file.
- Use of non-fixed station
- Possibility of corrections direct IP to multiple clients simultaneously.

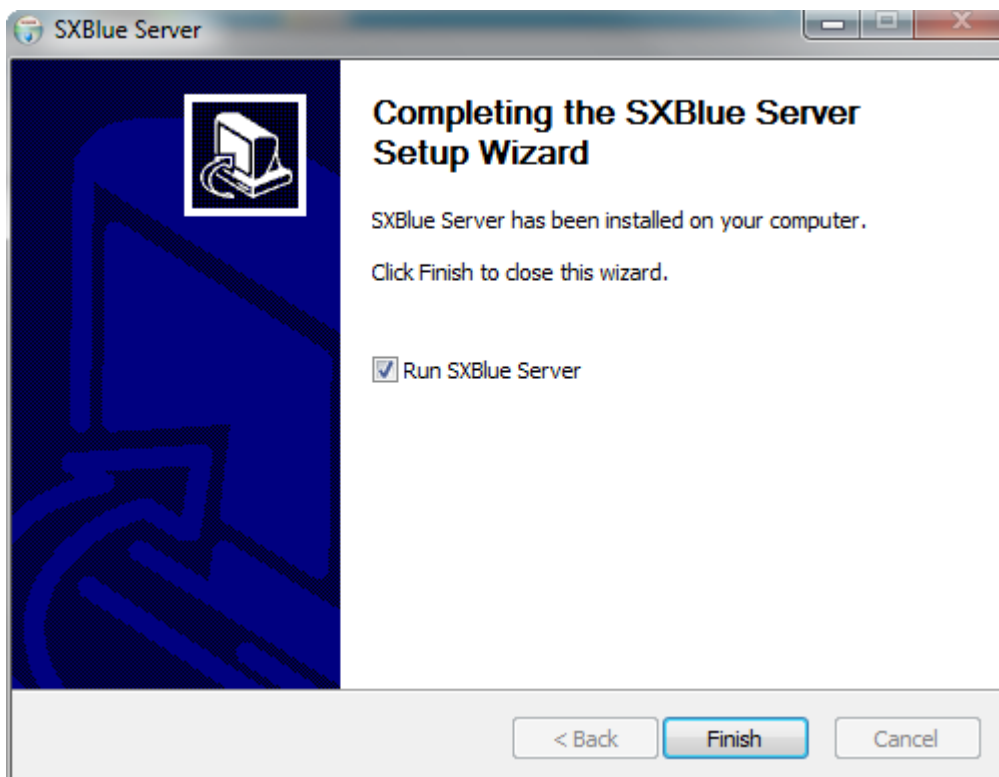
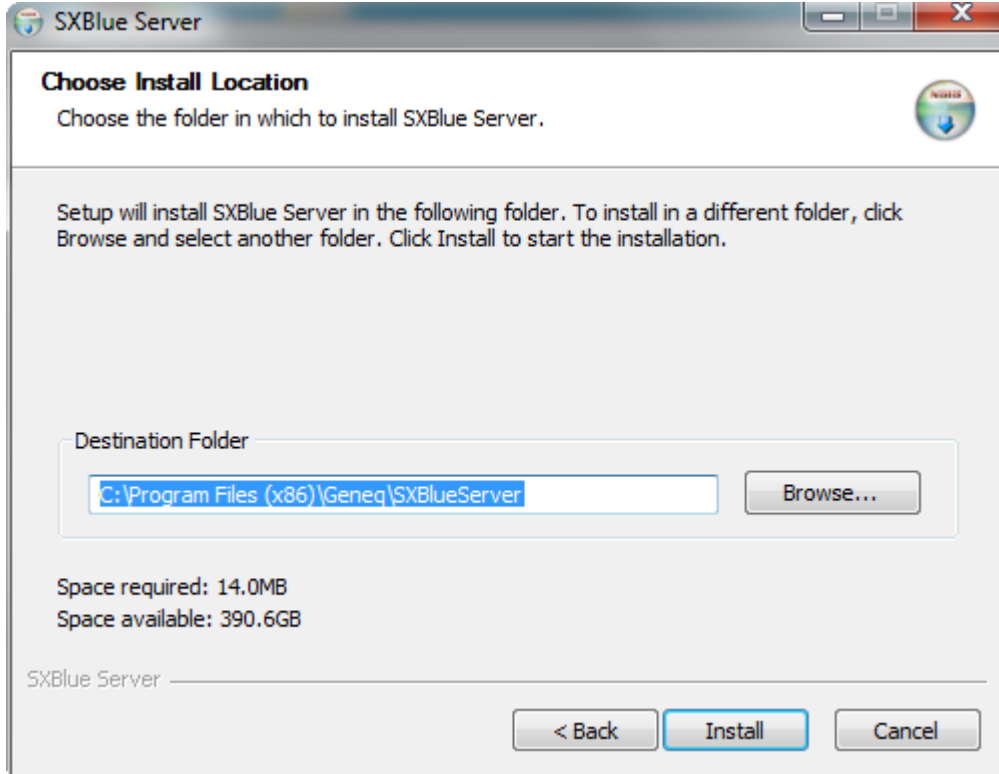
Regardless of others possibilities to receive corrections from RTK. SXBlue Server doesn't need any renewal of registration or any extra fees after the purchase. Once it has been set up as a base station. You will be able to use it as an NTrip protocol, as Direct IP (DIP) and as Mirror.

2. Installing Sxblue Server

Below are the procedures to install SXBlue Server on a desktop PC. Locate and launch the SXBlue Server Setup executable file.

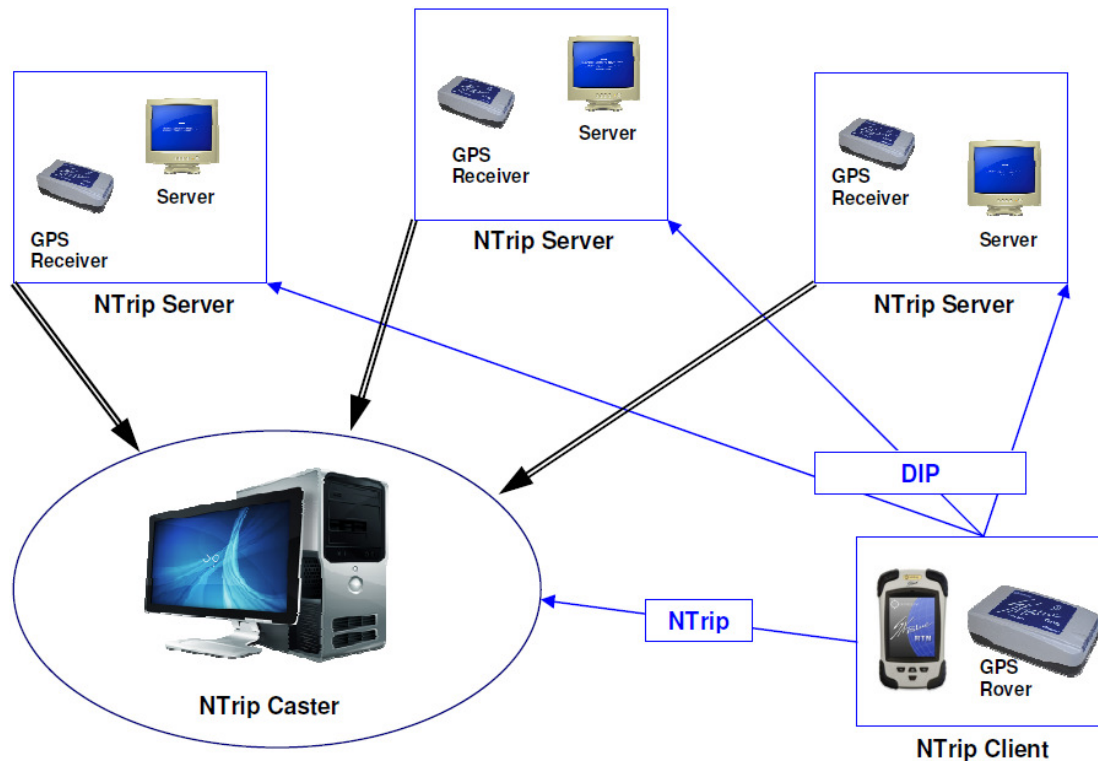


Choose the Install location on your drive (Next) and then select a Start Menu folder or leave the default then click on the “Install” button.



3. Principle of Operation

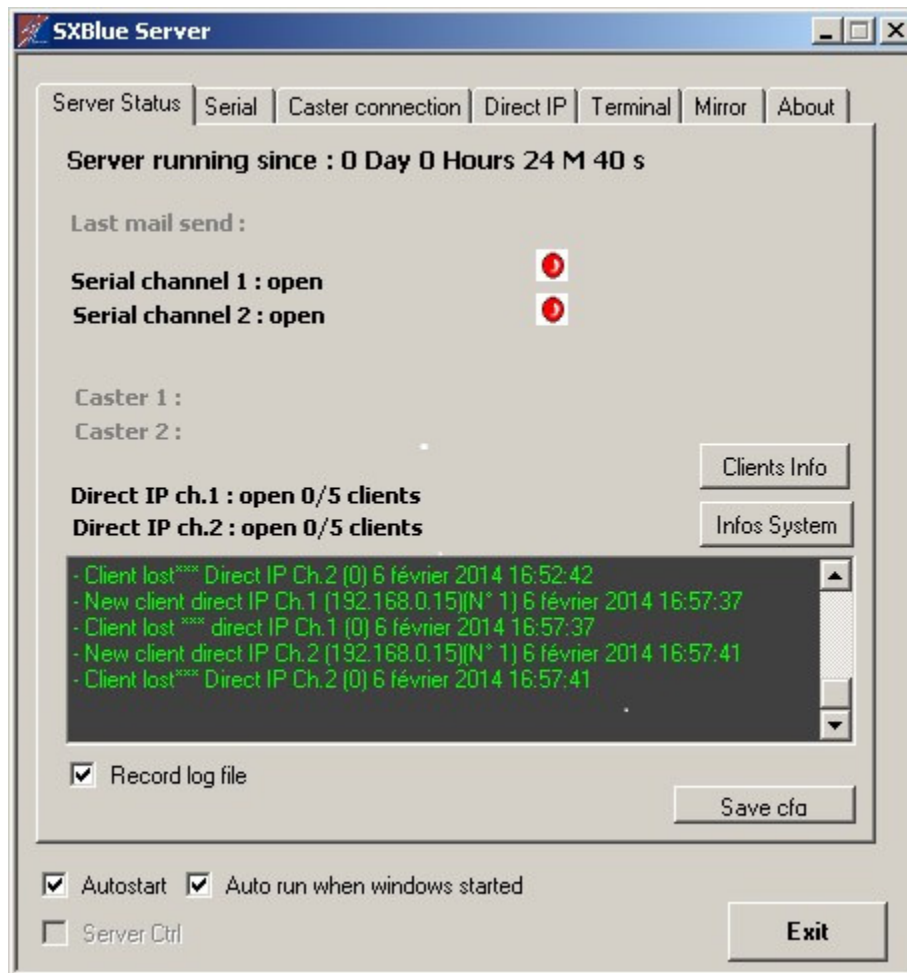
An RTK Network (or RTN, Real-Time Network) consists of three segments: the Server, the Ntrip Broadcaster (Caster) and the Client. The server commonly hosts the GNSS base station receiver that is computing the differential corrections with an antenna set at known coordinates. A client can connect directly to the server using a Direct IP address and a TCP port number. This is what is referred to as a DIP in SXBlue RTN. This is a direct link from the client to the server.



In a RTN, the servers are connected to one or more Casters. The Caster follows a standard protocol called Ntrip (**N**etworked **T**ransport of **R**TCM via **I**nternet **P**rotocol) to stream differential GNSS data over the Internet. Connection to an Ntrip Caster requires an address, a port number, a user ID and a password. The Caster holds the *Source Table* which contains the list of all the *Mountpoints* (Servers) in the Network. From this table, the Client can choose a single baseline solution (a specific server) or, if the caster features it, a virtual reference solution (a correction specific to the client's location; in this case the client sends its position to the network via a standard NMEA GGA string. The SXBlue RTN client handles this automatically).

4. Server Configuration

4.1 Server Status



This tab lets you know the status of the server real-time and historical since it had being started. The logging window memorize about the client status, the caster status, which channel is used, the last email send, etc.

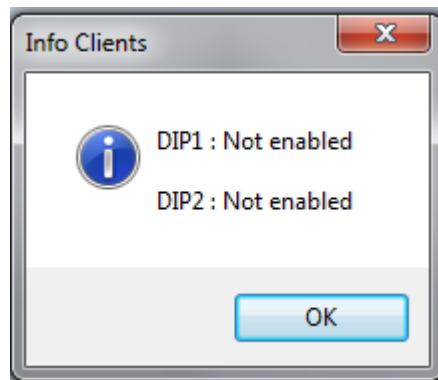
There is a possibility to record the log file by clicking on the check mark and it will generate a file in the working directory.

The function of the Autostart check mark is to automatically start the server with the last settings.

The function of the Auto run check mark will execute SXBlue Server running at startup WINDOWS.

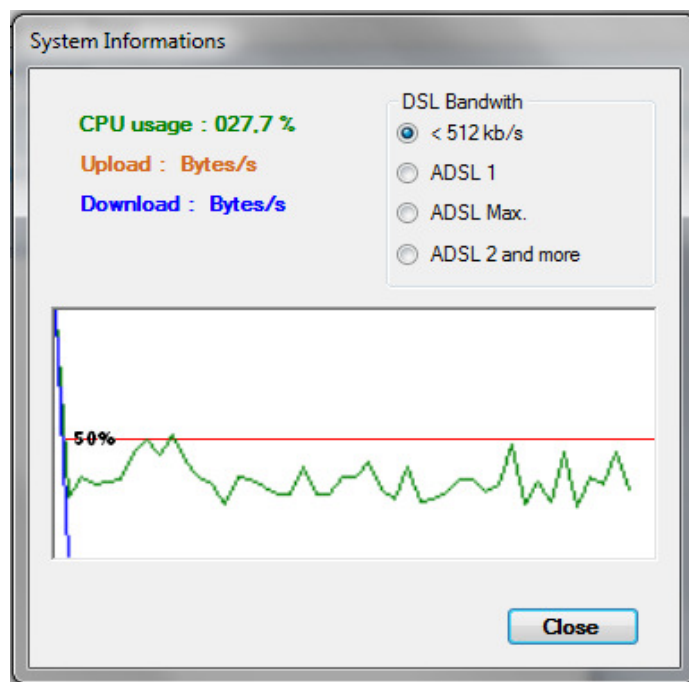
4.1.1 Info Clients

The button Clients Info provide the DIP connection.



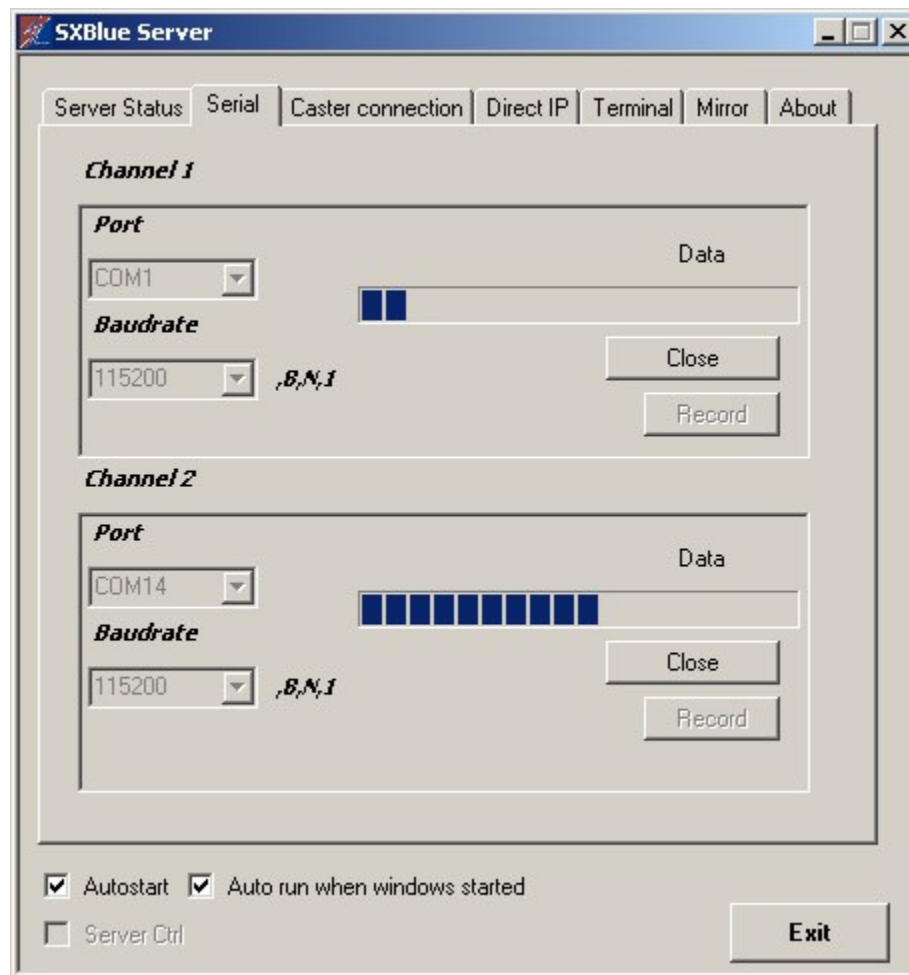
4.1.2 Infos System

The button Infos System provide various information on the occupation of your system such as the DSL bandwidth, CPU usage, upload and download.



Note: For automatic startup to launch WINDOWS both last previous options must be validated.

4.2 Serial



This tab is to make the setting of two port depending on the baud rate and the com port of your SXBlue receiver. That's a possibility to generate different type of corrections via theses port with only one SXBlue receiver or two SXBlue receivers. Any port can handle correction such as RTCM 1/3/9, CMR, ROX, etc. The scroll bars allow you to view the activity of the port.

4.3 Caster connection

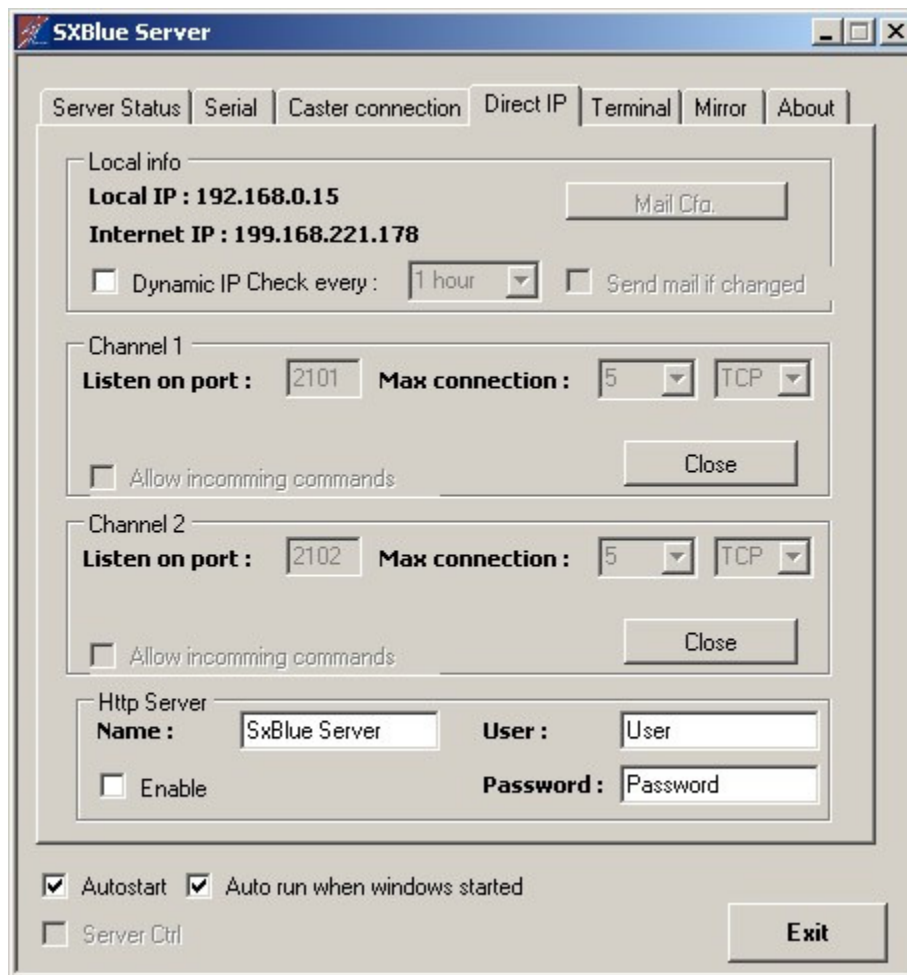
The screenshot shows the 'Caster connection' tab of the 'SXBlue Server' application. The window has a title bar with standard Windows controls. Below the title bar is a tabbed interface with tabs for 'Server Status', 'Serial', 'Caster connection' (selected), 'Direct IP', 'Terminal', 'Mirror', and 'About'. The main area is divided into two sections, 'Channel 1' and 'Channel 2', each with its own 'Connect' button. Each channel section contains fields for 'IP', 'Mount point', 'Reconnect after' (with a 'Sec.' label), 'Port', 'Password', 'Max retry', and 'Redirect ch.' (a dropdown menu). Channel 1 has pre-filled values: IP '00.00.00.00', Mount point 'mntP', Reconnect after '30', Port '2101', Password 'PwD', Max retry '5', and Redirect ch. '1'. Channel 2 has empty fields. At the bottom, there are checkboxes for 'Autostart' (checked), 'Auto run when windows started' (checked), and 'Server Ctrl' (unchecked). An 'Exit' button is located in the bottom right corner.

This tab allow to make a connection to one or two Ntrip Caster. Specifically, any client will connect to a Caster that also known of correction distributor.

To Configure the Caster connection, Geneq support will provide the IP address, the Mount point, the port and the password. If there is failure with the Caster connection while being connected. SXBlue Server will attempt to reconnect after a specific number of second write in the box. There is also max retry of 9999 to reattempt the connection.

User have the possibility to output the data corrections from channel 1 and 2 on each Caster. It could be only channel 1, channel 2 or both channel. One possible configuration is to redirect the same data on two different CASTER in case of loss of a CASTER. The data is always available on the second.

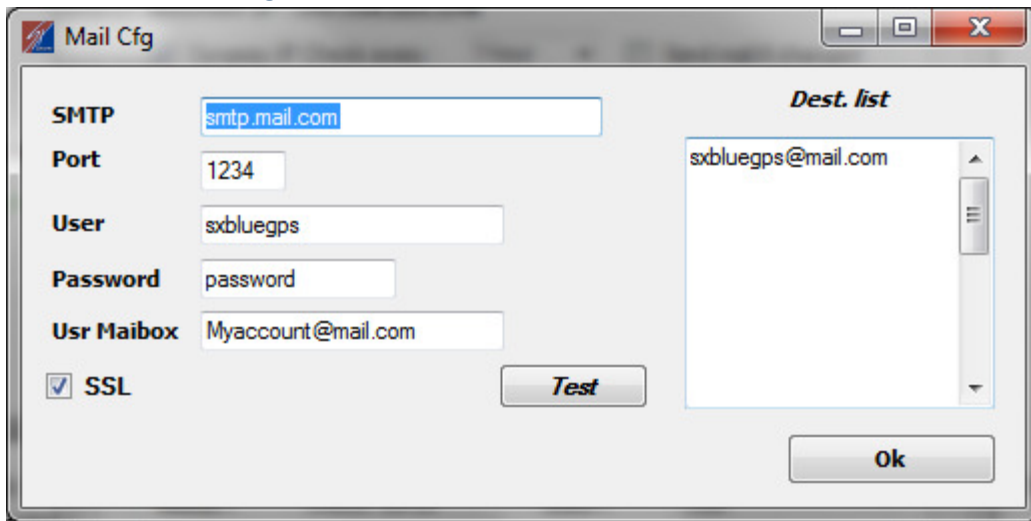
4.4 Direct IP



This tab allows to establish a connection between a client and SXBlue Server using the Server IP address and an available Port. Most Customer uses an ADSL internet connection and probably will have a dynamic IP address if the user have made a request to his internet provider. It means that every day or every reconnection, the Server IP address will change automatically. Perhaps, there is a possibility as client to receive an email with the new Server IP address. By clicking the check box "Send mail if changed", SXBlue Server will send the new IP address to a list of client each time it changed but the Port remain the same.

The box "http: server" help to configure and startup the embedded server by clicking on the enable check box.

4.4.1 Mail Cfg.



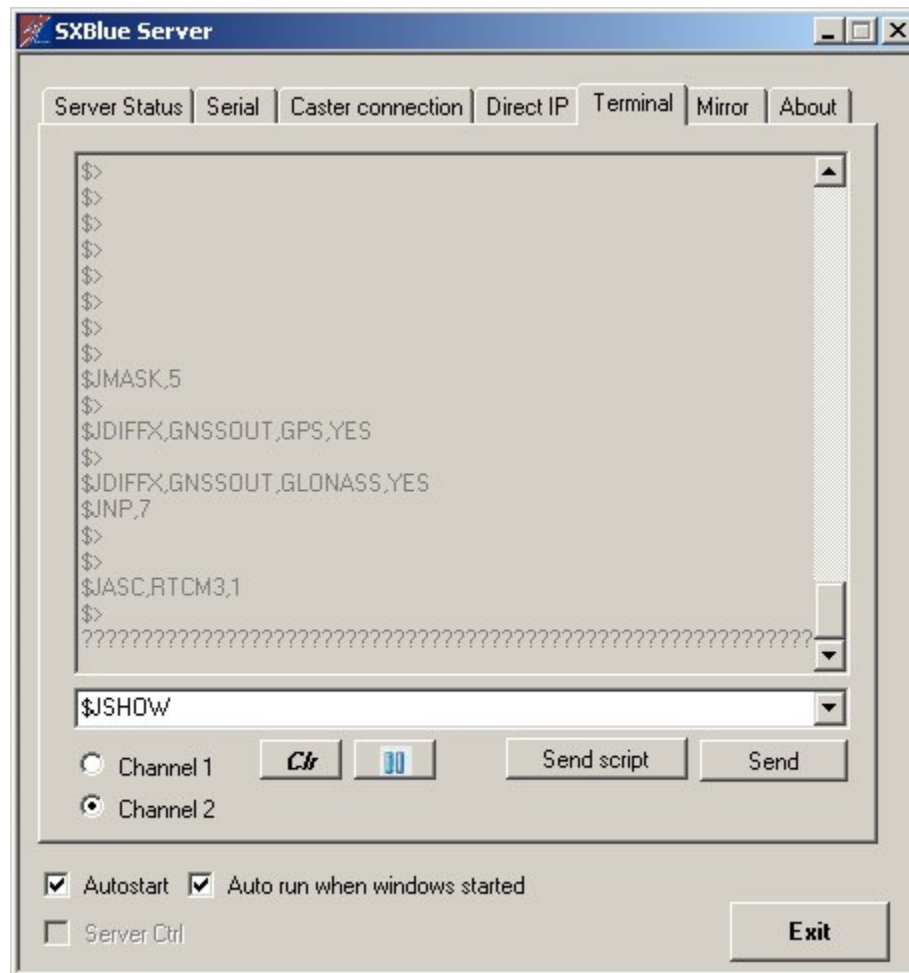
The 'Mail Cfg.' window is a configuration interface for email settings. It features several input fields: 'SMTP' (smtp.mail.com), 'Port' (1234), 'User' (sxbluegps), 'Password' (password), and 'Usr Maibox' (Myaccount@mail.com). A checkbox for 'SSL' is checked. A 'Test' button is located below the password field. On the right, a 'Dest. list' section contains a list box with the email address 'sxbluegps@mail.com'. An 'Ok' button is at the bottom right.

By clicking on the Mail Cfg button this box allows to complete the Destination list of every user. Normally for the SMTP standard Port is 25 for but there is some exception per example AOL uses 587. There is more information about every SMTP port on this link: <http://www.arobase.org/adresses/serveurs.htm>. The configuration DIRECT IP channels can only be done if the port channel is associated series opened. The "Listen on" Port field is the port that will connect the customers. It is preferable to use dedicated port 2101 GPS but in some cases may 8080 be used. The maximum number of users is set depending on the bandwidth of the connection. It represents the maximum number of concurrent users of the channel. If you open port 80 on your modem router or PDA. You can access from anywhere to information about your server and reset if necessary. The web page displayed in your browser is refreshed every 20s.



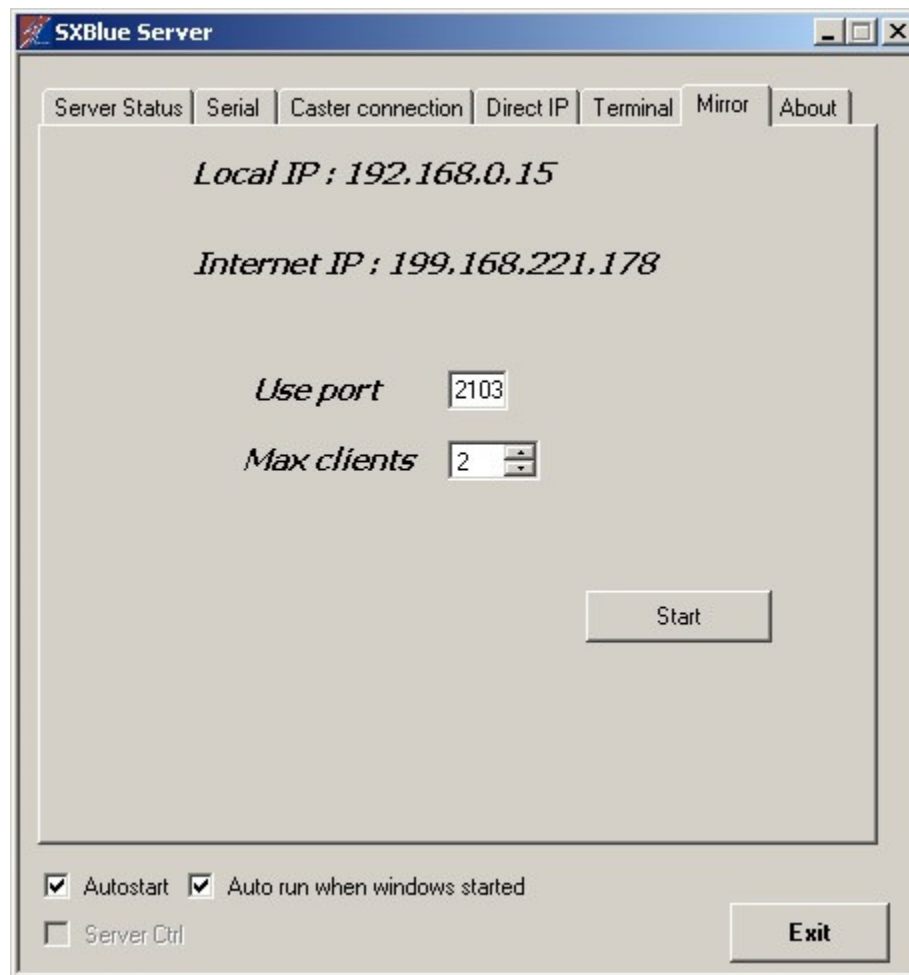
The 'UtlSrvr MyServer' status page is displayed in a Windows Internet Explorer browser window. The page has a light blue background and shows the following information: 'Server running since : 0 Day 0 Hours 7 M 17 s'. Under 'Channels Status', it lists 'Dip channel 1 : Closed', 'Dip channel 2 : Closed', and 'Mirror : Closed'. Under 'Connected clients', it lists 'Dip channel 1 : 0/5', 'Dip channel 2 : 0/5', and 'Mirror : 0/2'. At the bottom, there is a 'Reset server' section with 'User:' and 'Password:' input fields and a 'Submit' button.

4.5 Terminal



This tab allow to view the NMEA Message coming out from both channel 1 & 2 or to send configuration commands to the receiver. The "CLR" button to clear the terminal view. The "Send Script" button to send a configuration script to the SXBlue receiver.

4.7 Mirror



This feature allow an SXBlue base station to be installed in the field and use the Mirror mode of the SXBlue Server to allow a DIP connection from an SXBlue rover. An important fact is that we can't make a connection between two mobile as one a Rover and the other as a base station. This mode provide the tool to overcome this issue. The distance between the station and the server is irrelevant, as the distance between the mobile and the server. Only the distance between the mobile station are important and must be less than the maximum eligible base line of your system. You have the possibility to a 100 maximum client connected to the use port.

4.8 About



This last tab is the summary of the software including the version, the username, the registry identification and the passkey version download. In our website, we offer the demo version of SXBlue Server. It is only a free trial and it's limited to use in 1 hour continuously. To buy a full version, you may contact us by visiting our website at <http://sxbluegps.com/contact/>.