

## RCForb Server Setup

### Overview

The RcForb Server allows you to setup your own remote station on Remote Hams. Three connections to your transceiver are required, and an Internet connection.

The first required connection to your transceiver is a CAT/CIV control. This is normally through a Serial Port connection. This connection operates the transceivers controls, frequency control, mode selection, filters, etc.

The next two connections are the audio connections to and from the transceiver and the computers sound card. You need to get the receivers audio to a Windows Record device (Line In or Microphone In) and a Windows Playback device to the radios Microphone Input. Some kind of audio isolation transformer needs to be in line with the latter. Most sound card interfaces on the market have this isolation transformer built in.

Some later model radios such as the Kenwood 590, Icom 7410,7600,7200, 9100, and Yaesu FTDX-3000 have all three connections through a USB interface to the radio, but they will be presented in the computer as three separate connections. One Serial Port connection and the other two as audio devices.

If you're interfacing the audio connections with an accessory port on your radio, depending on the radio model and radio driver, you may need to have the Remote User use a button labeled "TXd." to place the radio into transmit and have the radio configured to utilize the accessory port for audio. Examples are the Kenwood 590, Icom 7200,7600,9100, and 7410, and Yaesu FTDX-3000.

Some radios when using a "data" port for TX audio, the radio must also be keyed at the "data port" in order for the audio to be passed correctly.

Most radio drivers will also have a "Test" button. When this button is active, the radio will not be keyed up, but the VoIP will be rerouted so users may converse without keying the transmitter. If External VOX Device (Signalink) is selected for PTT interface in Radio Configuration, the Test button will not work.

Another common button in most radio drivers is "M-Tune". This button will configure the radio to send out a steady carrier at reduced power (time limited) in order for a automatic antenna tuner to tune. (Kenwood radios the button is named TXt).

Three ports (4524,4525,843) will need to be forwarded on your router. Port 843 only needs to be opened and forwarded for older Version 7 Clients to connect. When starting the server, the server will look to see if your router ports can be automatically opened, and if so, will open the required ports.

If your router ports can't be opened automatically, you will need to manually open them. Consult your routers documentation or go to <http://portforward.com/> for information.

Typically a routers port forwarding will be found under Port Forwarding or Gaming and Applications. There are basically three components of forwarding a port. First the "outside" port to listen to. Secondly the local port the internet traffic will be sent to. These two ports will normally be the same. Third the type of traffic (TCP/UDP). Forth the local computer the traffic is to be sent to. The computer,

the traffic is to be sent to, will be specified as a local IP, or computer name, or MAC address.

On the publishing tab of the Server there is a button to check if the ports are opened properly.

When using the Client Software to test your server installation, there may be instances where you can not connect to your own server through the Client List. This is due to network and router configurations. If this is the case, use the “File->New Connection” in the Client and in the “Host/IP” box, type the local IP address (i.e. 192.168.xxx.xxx) of server computer, or if using the same computer use localhost for the Host/IP.

Another caveat when testing your server installation and using a Client on the same computer, you **can not use the same sound devices**.

Changes to the Server or Radio configurations normally require a restart of the server software. Configuration pages have a “Save and Restart” button.

Check the Remote Hams forums for other help <http://forums.remotehams.com/>

## Audio Setup

Global Server Configuration Wizard (Settings/server.xml)

Audio Settings | Server Settings | Publishing

VoIP Server

VOIP Port: 4524  Wait TX Audio Delay To Unkey

Microphone (RX Audio from Radio): Monitor (M-Audio Delta 44) Device Mode: DirectSound (Low Latency)

Speakers (TX Audio to Radio): Line 1/2 (M-Audio Delta 44) VoIP Codec (Compression): Speex

Mic Level (RX Audio Input)

Volume (TX Audio Output)

3rd Party Audio Solutions (Unreal Media Server, Skype, Icecast, etc.)

Streaming Audio (RX Only): Type: Disabled

Skype for Audio (RX/TX)

Skype Name: \_\_\_\_\_

Custom Stream URL: \_\_\_\_\_

Title of URL: \_\_\_\_\_

URL: \_\_\_\_\_

Close Restart Save and Close Save and Restart

**VoIP Port** : Leave Port, and wait to UnKey at defaults (Checked).

**Microphone**: Windows sound device that is connected to your receiver audio,

**Speakers** : Windows sound device that is connected to your transmitters Microphone Input.

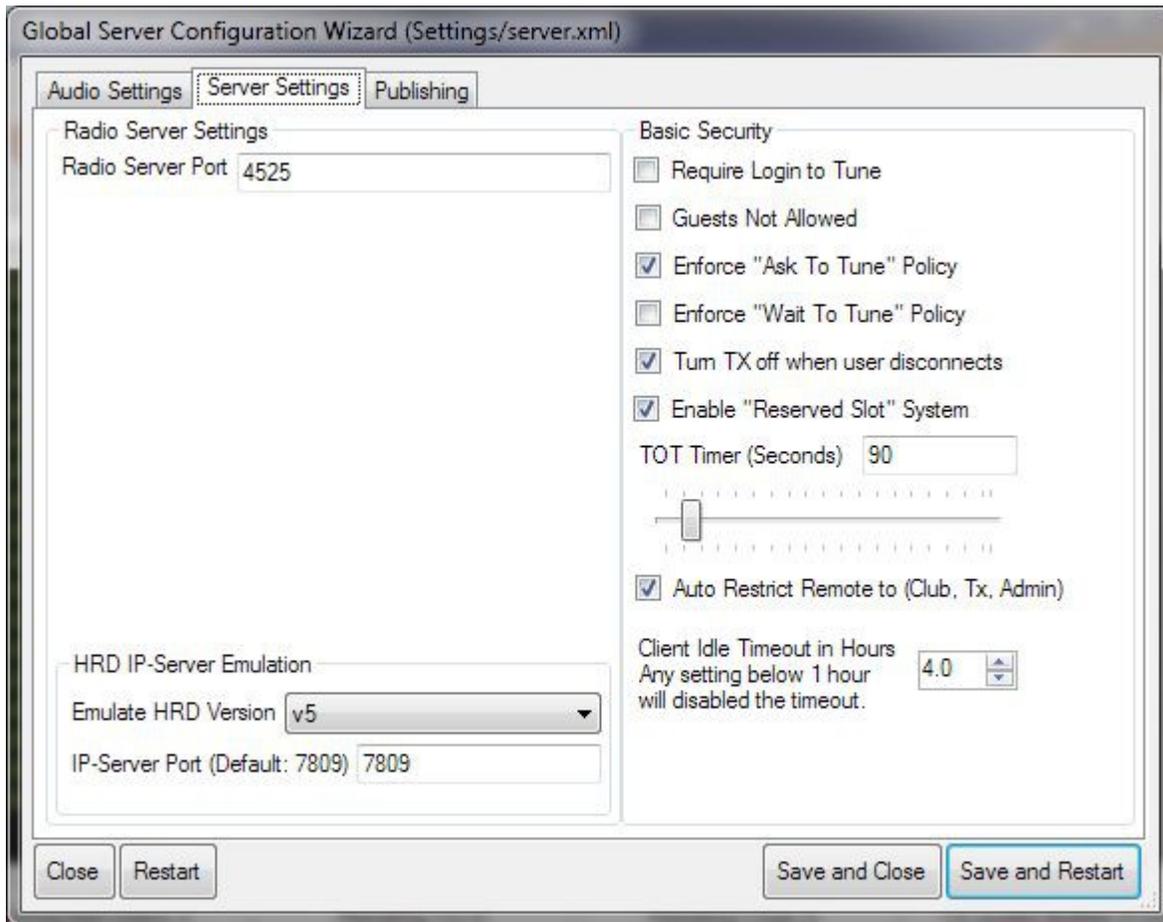
**Device Mode** : Selects which Windows sound interface. Direct Sound offers a lower latency.

**Mic Level** : Sets the audio level for the record device (RX Audio)

**Volume (TX Audio Output)** : Sets the audio level for the record device (RX Audio)

**3<sup>rd</sup> Party Audio Solutions.** : Used to setup an audio solution other than the built in VoIP.

## Server Settings



**Radio Server Port :** Leave as default.

### Basic Security

Use these options to control who can log in and operate the radio. Transmit privileges are controlled through the TX Manager and/or the Club Manager (Under the Options Menu)

### HRD IP-Server Emulation.

Enable this option if you wish to use DM-780 or the HRD logbook through the server. DM-780 or the HRD Logbook will use the Remote Hams server to control your radio and/or retrieve information about your radio.

## Publishing

Global Server Configuration Wizard (Settings/server.xml)

Audio Settings | Server Settings | **Publishing**

**Visible on RemoteHams.com**

Name of Remote: W8RJ South Lyon, Mi  TX Allowed  Club Mode (Allow Club Members Only)

City: South Lyon State or County: Mi

Country: United States Grid Square: en82dl

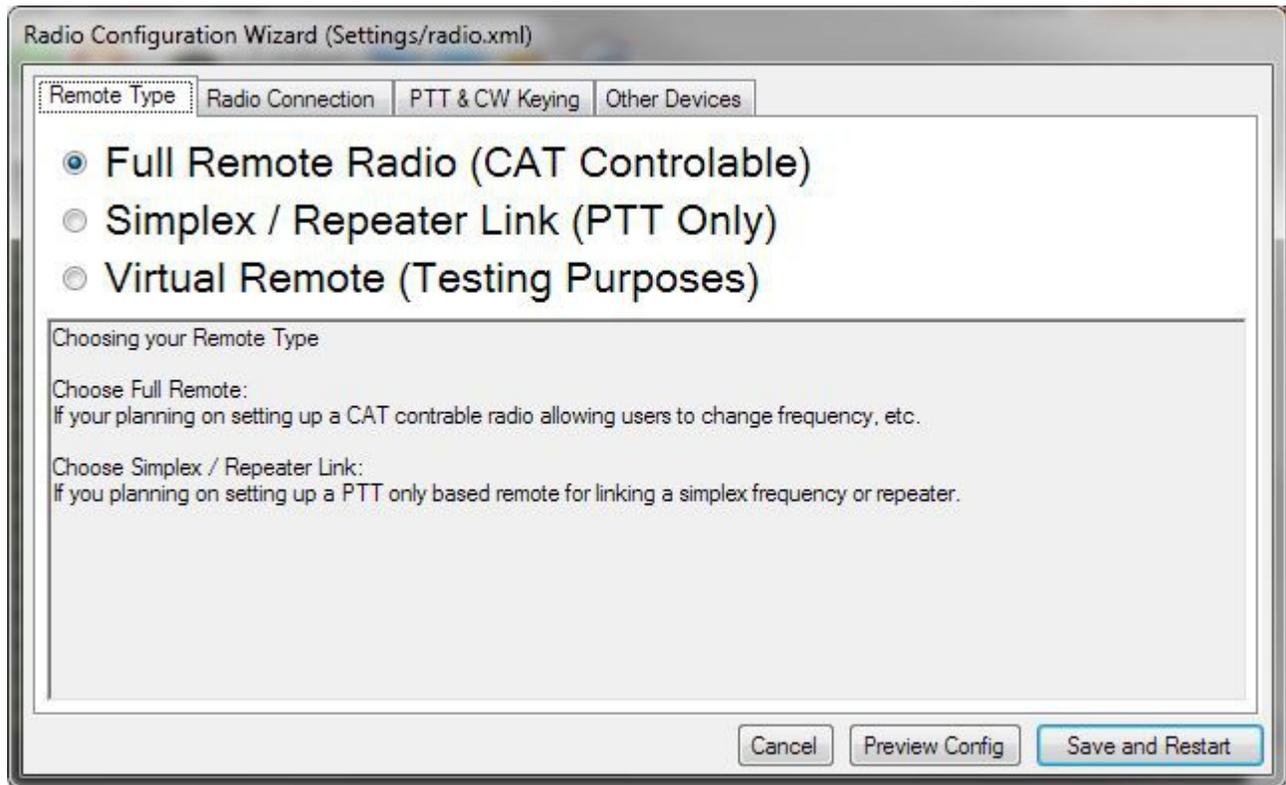
Domain (Optional): w8jrremote.dlinkdd Custom ORB Page URL:

Description:

Welcome the the W8RJ remote. Please download client software to transmit and receive. TX frequencies 3.7 to 4.0 Mhz and 14.150 Mhz to 14.300 Mhz only. I lost some information on users that were given TX privilgedes after Jan 6, please request TX again.

This is information about your remote, that will be shown in the RcForb Clients list of remotes. Leave the Domain entry blank, unless you have a domain name registered that resolves to your IP address.

## Radio Configuration



Select the appropriate type of remote you're setting up.

- 1) CAT controllable** is for radios that have a CAT/CIV interface to control frequency, mode, filters, etc.
- 2) Simplex / Repeater Link** is for remotes that will have a fixed a frequency and just a interface to to control PTT on the radios through a Serial Port signal line (RTS or DTR).
- 3) Virtual Remote.** Uses a dummy radio. Useful for testing whether you have your router and internet connections setup correctly.

## Radio Connection

Radio Configuration Wizard (Settings/radio.xml)

Remote Type **Radio Connection** PTT & CW Keying Other Devices

Radio Connection Method  
 via Serial (COM) Port  via Ham Radio Deluxe  via Shortwave Log

Serial (COM) Port Configuration

Serial (COM) Port: COM51  
Serial Rate: 19200  
CI-V Address (Icom Only): 6E

DTR  
 RTS

Radio Driver Selection

Brand: Icom  
Model: 756\_ProIII

Show Unstable Drivers

Use RTS Pin for Power On  Power On Pin Reversed?

Connection via Ham Radio Deluxe / Shortwave Log

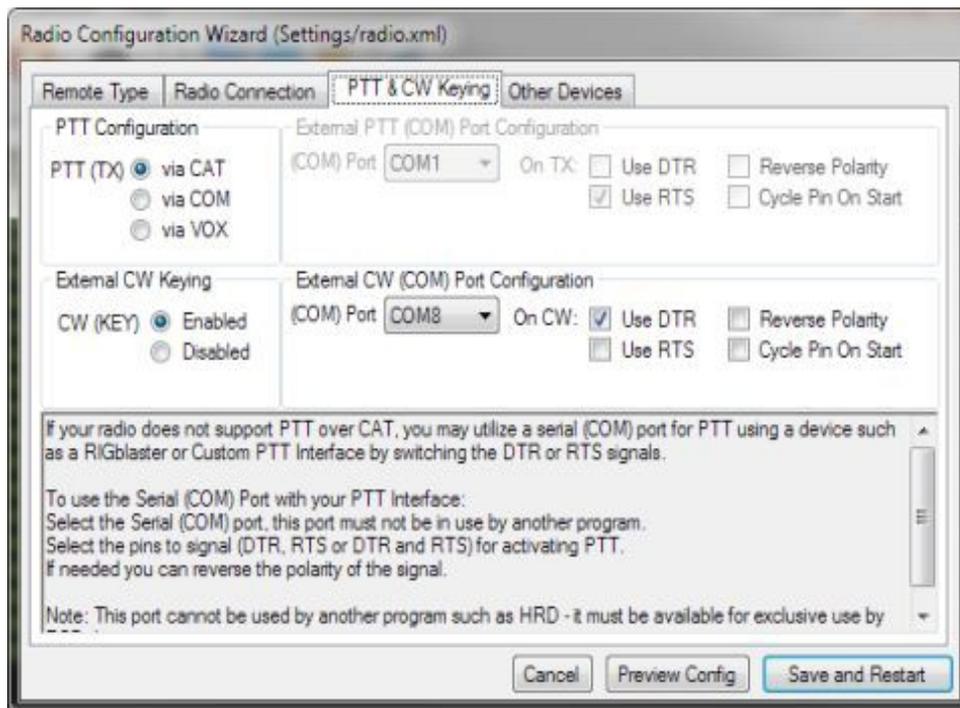
Domain/Host: localhost  
Port: 7809

Cancel Preview Config Save and Restart

**Via Serial Port :** Select this option if your radio is CAT/CIV controllable, then select the Brand and Model of radio. Also select the proper Serial Port and baud rate. For Icom radios select CI-V for model and select the proper CIV address or type the CIV address in.

**Via Ham Radio Deluxe:** If RcForb doesn't have a driver for your radio and Ham Radio Deluxe supports your radio, select this option. Ham Radio Deluxe needs to be running and connected to your radio. Make sure HRD's IP server is enabled. (Tools->IP Server?)

## PTT & CW Keying



### PTT Configuration

**Via Cat** : If you want to use a CAT/CIV command to control your radios PTT.

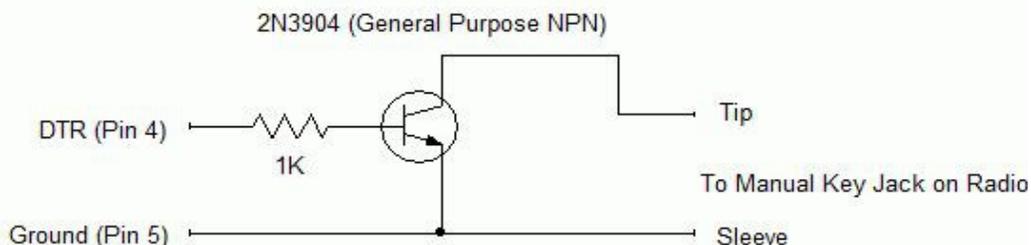
**Via Com Port** if your station setup requires a Serial Port line (RTS/DTR) to control a sound card interface with a signal line. This com port may be the same as the CAT Serial Port if the sound card interface supports this serial port configuration.

**Via VOX** (Signalink or similar). If you have an interface unit that keys the radio, when it senses audio.

### External CW Keying

This selection enables CW operations using a simple interface on a serial port acting as a switch on the DTR pin of the port driving a simple NPN transistor switch to open and close the manual keying circuit on your transceiver. Use a stereo jack, and wire the tip and sleeve, leave ring unconnected.

\* Keying Circuit. Pin numbers for DB-9



## Other Devices

Radio Configuration Wizard (Settings/radio.xml)

Remote Type | Radio Connection | PTT & CW Keying | **Other Devices**

**Amp Support**

Amplifier Enabled

Select Driver

38400 Serial Rate

COM1 Serial (COM) Port

Auto-Track Radio Frequency

**Switch Support (Relay Boards)**

Switch Enabled

ADR2200 Select Driver

9600 Serial Rate

COM1 Serial (COM) Port

Custom Names

\* Comma Separated List \*

**Ex: ANT1,ANT2,ANT3,AMP**

(Leave blank to use default names)

**Rotator Support**

Rotator Enabled

AlphaSpidRAK Select Driver

4800 Serial Rate

COM1 Serial (COM) Port

Offset

Offset must be in range (-180 to 180)  
(Leave blank for default)

Cancel | Preview Config | Save and Restart

Select the proper baud rate and COM port for an Amplifier, Switch or Rotator.

**Custom Names (Switch):** Insert a list of custom names ( Comma separated list) for the switches that will be displayed on the Client software ( V8 of Client required).

i.e ANT1,ANT2,ANT3,ANT4,AMP First four relays name ANT1 ANT2 ANT 3 ANT4 and 5th named AMP.

First 4 switches are mutually exclusive, while switches 5 to 8 are independent. If no switch 1 to 4 is selected, the first switch will be closed.

**Rotator Offset:** Insert any offset needed for your rotator (-180 to 180 )

Permissions for access to these devices may be restricted through the “Device Permissions Manager”, found under the Options menu.

**Simplex / Repeater Info (Available only if Simplex / Repeater Remote Type selected)**

Radio Configuration Wizard (Settings/radio.xml)

Remote Type | Radio Connection | PTT Interface | **Simplex / Repeater Link Info** | Rotator

Radio Model: Enter model... Freq Pref: MHz

Static RX Freq: 442.775

Static TX Freq: 447.775

Static Mode: FM

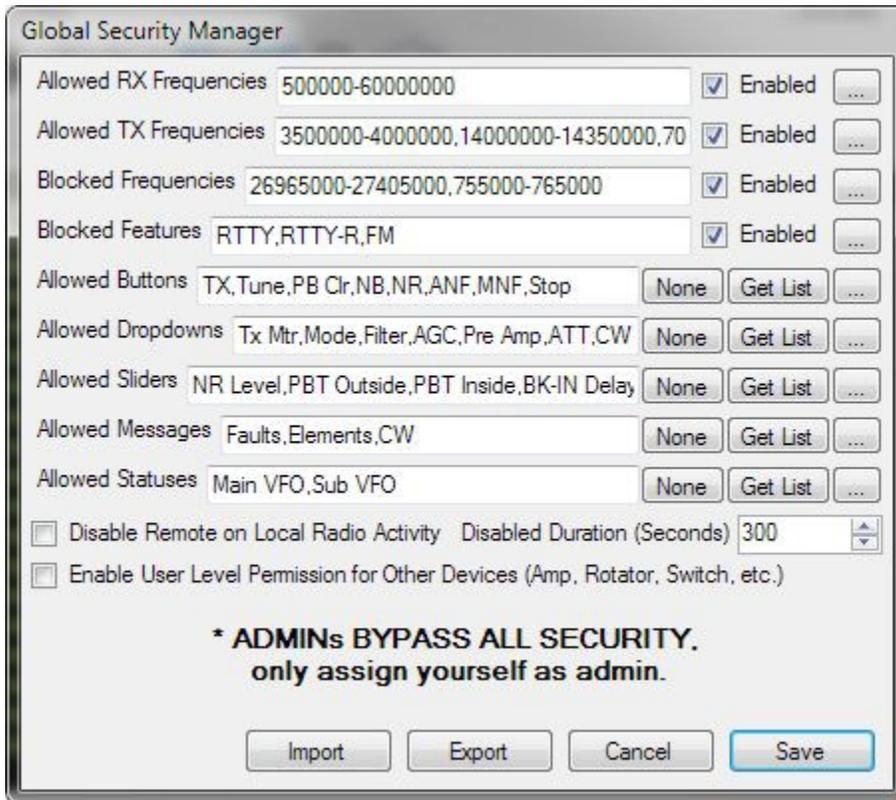
Static PL Tone/DCS: 110.9 Hz

This information is used when settings up a simplex or repeater link.  
You may specify the model of your radio or just the brand name.  
You can specify the parked frequency of your link when in RX and TX, the Mode, and any PL Tone or DCS code used on frequency.

Cancel Save and Restart

If you used the used the Simplex / Repeater Link option, enter the desired information about your radio that will be displayed to a remote user.

## Security Manager (Under Options->Security Manager)



**Allowed and Blocked Frequencies :** Clicking on the small button with 3 dots will open a dialog box where you can input in blocked or allowed frequencies. Be careful to select the proper format of frequencies entered, i.e. Hertz, KHz, or MHz.

**Blocked Features:** You may block certain controls, even an item in a drop down, with this feature

### **Allowed Buttons, Dropdowns, Sliders, Messages and Statuses :**

Click “None” if you wish to not display any controls in the group.

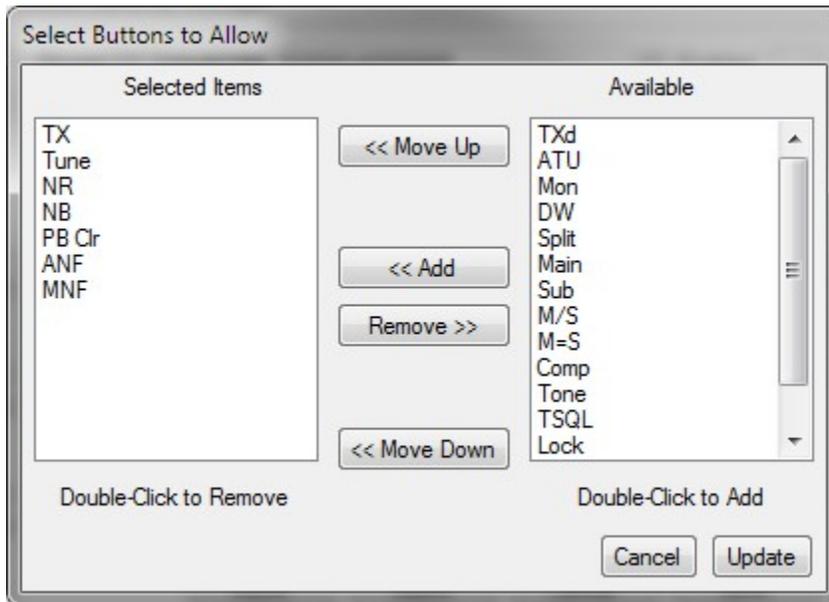
Click “Get List” to populate the respective group of controls. Click the small button with 3 dots to the right of the “Get List” to Add/Remove and order the respective control group.

You must log out and log back in on the client, to see the above changes.

As radio drivers are updated by Remote Hams or changing radio's, you may need to use the “Get List” button, if the radio driver has added a new control.

\*\*\*\*\* **Administrators bypass all security features** \*\*\*\*\*

**Example of Allowed Controls (Controls to be displayed on Client).**



**Move Up / Move Down:** Change the order in which the controls are displayed on the Client.

**Add/Remove:** Add and remove controls from displaying on the Client.

In the example above the controls listed on the left will be displayed in a client in the order they are listed.

Changes will not be displayed in the client, until the client is disconnected and reconnected.