

Remote Amateur Radio

A Beginner's Guide to Remote Amateur Radio
From a Beginner

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Why Use Remote Amateur Radio?

- If you travel it is nice to bring radio with you, without having to bring the radio.
- You can make QSOs almost anywhere there is a good internet connection.
- You can run your rig from any room in the house or outside if you have a good home network.
- Hotels won't put you and your Yagi up for the night.

Remote VS Local

- For our discussion it will be understood that LOCAL is the computer you are using while at the mall or the hotel.
- REMOTE will be the computer located at your home connected to the radio.
- Feel free to remind me of this when I mix it up.

What Will You Need?

- Two computers
- A fairly high speed internet connection
- A transceiver that can be controlled by a computer
- An audio interface like a Rigblaster
- Skype
- Logmein Hamachi Software
- Ham Radio Deluxe

Step one: Getting the Software

Yes, it is all FREE

- You will need to install Skype on both computers.
- Go to Logmein.com, download and install Hamachi to both computers
- Download and install Ham Radio Deluxe on both Computers

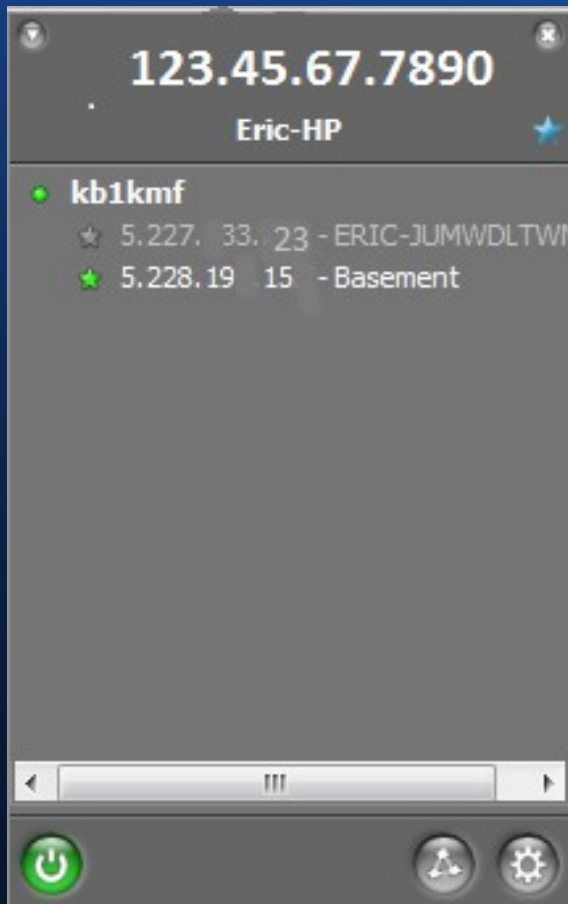
Step Two: Skype

- Skype will be your source of audio for remote operation
- You will need an account for each computer. Make one your call sign, and if you don't have an account already, name the other whatever you like.
- Add each other as contacts on both accounts.
- On the REMOTE computer (connected to the rig) you will allow only people in your contact list to call you.
- Also allow the Auto Answer function on the REMOTE computer.
- That is basically it for the audio. Very simple and free!

Step Three: Logmein Hamachi

- You will need Hamachi Mainly on the REMOTE computer to create a Virtual Network Connection.
- This means your computer will have its own IP address that you can access from anywhere there is internet access outside of your home network.
- I have it on both systems so I can tell if the REMOTE computer is online from the LOCAL computer.

Hamachi Screen

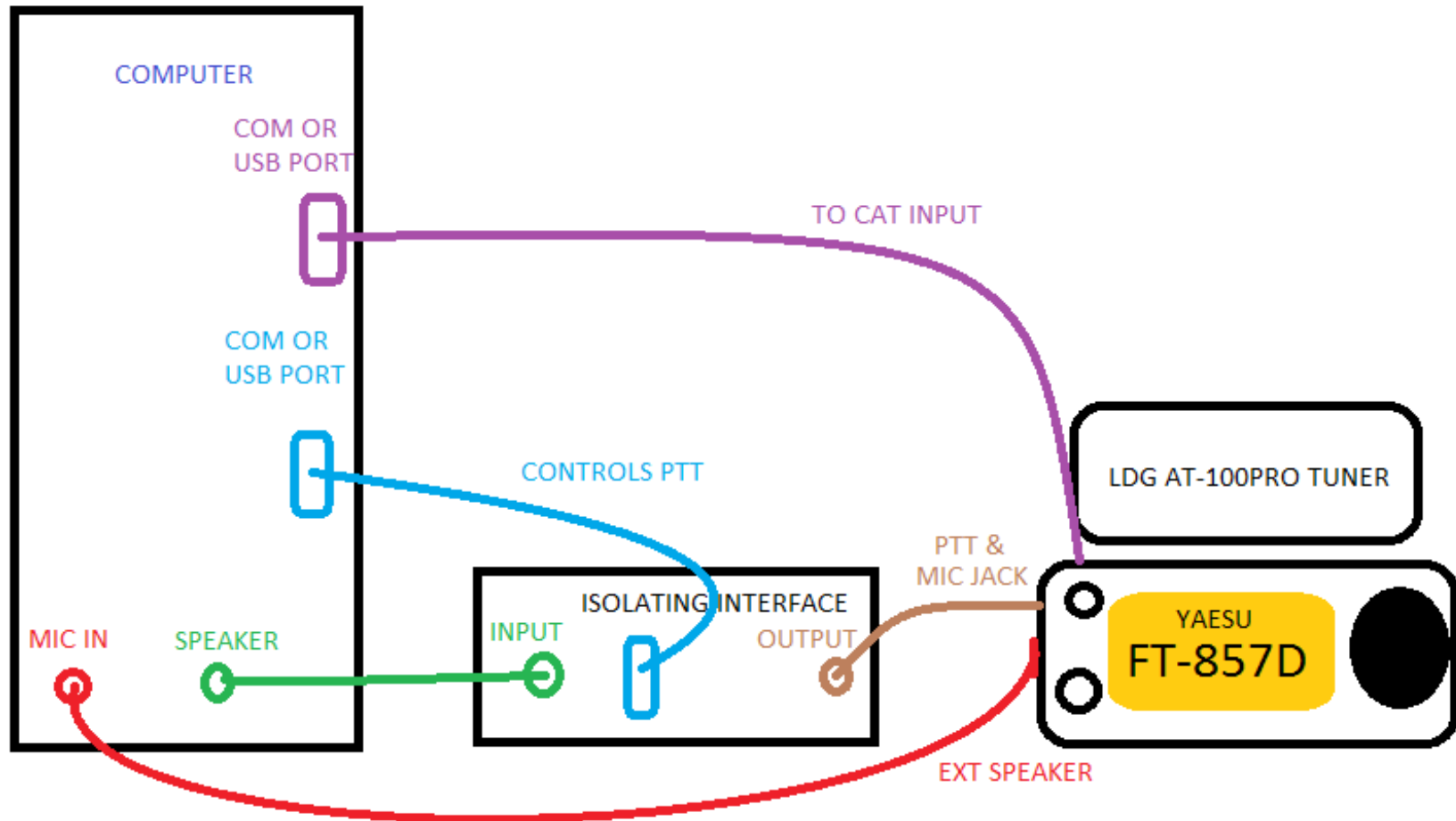


- This is an older version of Hamachi but has worked well for me.
- It shows my IP address at the top, and a list of computers on my network.
- Once installed on both computers, and you have both computers networked, you are done this step.

Step 4: Ham Radio Deluxe

- Now get Ham Radio Deluxe working with your Radio.
- Install the program and follow the steps to control your radio.
- Use your Rigblaster or equivalent interface to allow TX and RX audio and PTT on REMOTE computer.
- It is most important to have the Rig and computer working in harmony on the REMOTE computer BEFORE you try running it from miles away from home.
- Your setup will be similar to this:

Simple Block Diagram



Ham Radio Deluxe Connected to Transceiver

The screenshot displays the HamRadioDeluxe software interface for an FT-857 transceiver. The main window title is "HamRadioDeluxe - [FT-857]". The menu bar includes File, Edit, View, Bands, Favourites, Quick Save, Macros, Logbook, Scanning, Tuning, Tools, Voice, Window, Help, and a Donate button. The toolbar contains icons for Connect, Selection, Favourite, Quick Save, Full Screen, Logbook, Satellites, SW Data, Sliders, Customise, Options, Forums, Add, DM780, Synch, Remote, Serial, and Programs.

The central display area shows the frequency "14.070.000" in a large digital font, with "USB" mode selected. To the left, there are status indicators for ALC, MOD, PWR, CTCSS/DCS Match, Discriminator Center, High SWR, Squelch, and TX. To the right, there is a control panel with buttons for A/B, DBF, Lock, Proc, VOX, Mode: USB, AGC, DNF, MOD, SWR, Tone, ALC, DNR, MPH, Scan, Repeater, Autom, DW, NB, Slow, Clarifier, BK, Fast, PRI, Split, CTCSS, Keyer, PWR, and TX.

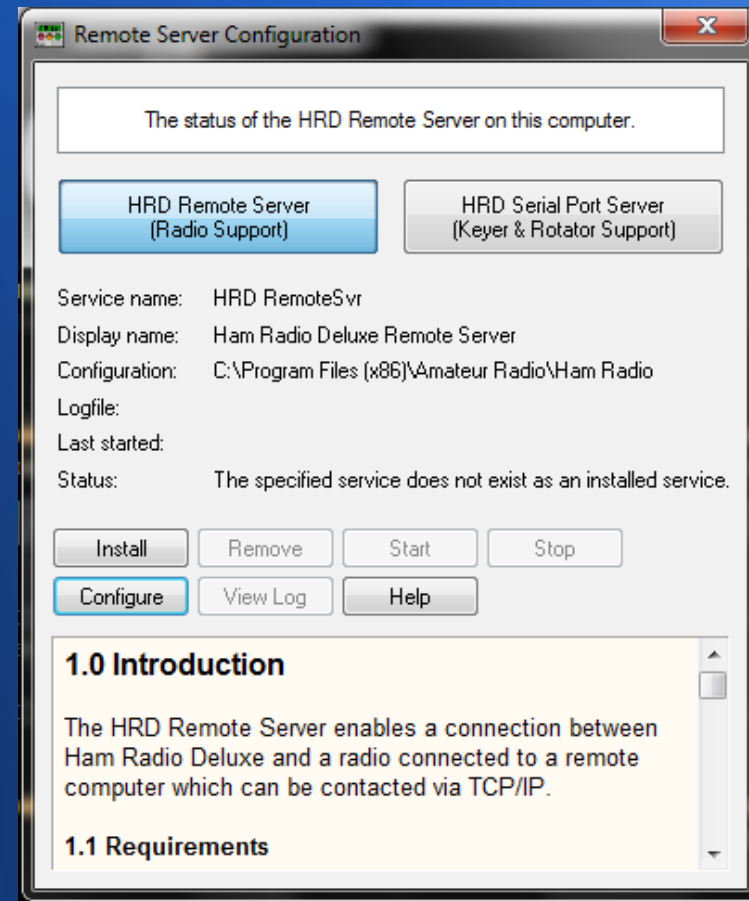
Below the frequency display, there is a frequency scale for "Wednesday, May 04, 2011" on the "160m - 10m (Region 1)" band, showing the current time as "18:21:29". The scale ranges from 14.068.8 to 14.071.2 MHz. Below the scale are buttons for various bands: BSP, 160m, 80m, 60m, 40m, 30m, 20m, 17m, 15m, 12m, and 10m.

At the bottom, there are several control panels for various parameters:

- AM Mic Gain: 50
- Digital Gain: 50
- FM Mic Gain: 33
- SSB Mic Gain: 44
- Speech Proc: 15
- NB Level: 80
- NR Level: 8
- CW Speed: 12 wpm
- DSP Low Cutoff: 280 Hz
- DSP High Cutoff: 4290 Hz
- VOX Gain: 21
- VOX Delay: 500 ms
- HF Power: 100 W
- 6m Power: 23 W
- 2m Power: 22 W
- 70cm Power: 20 W

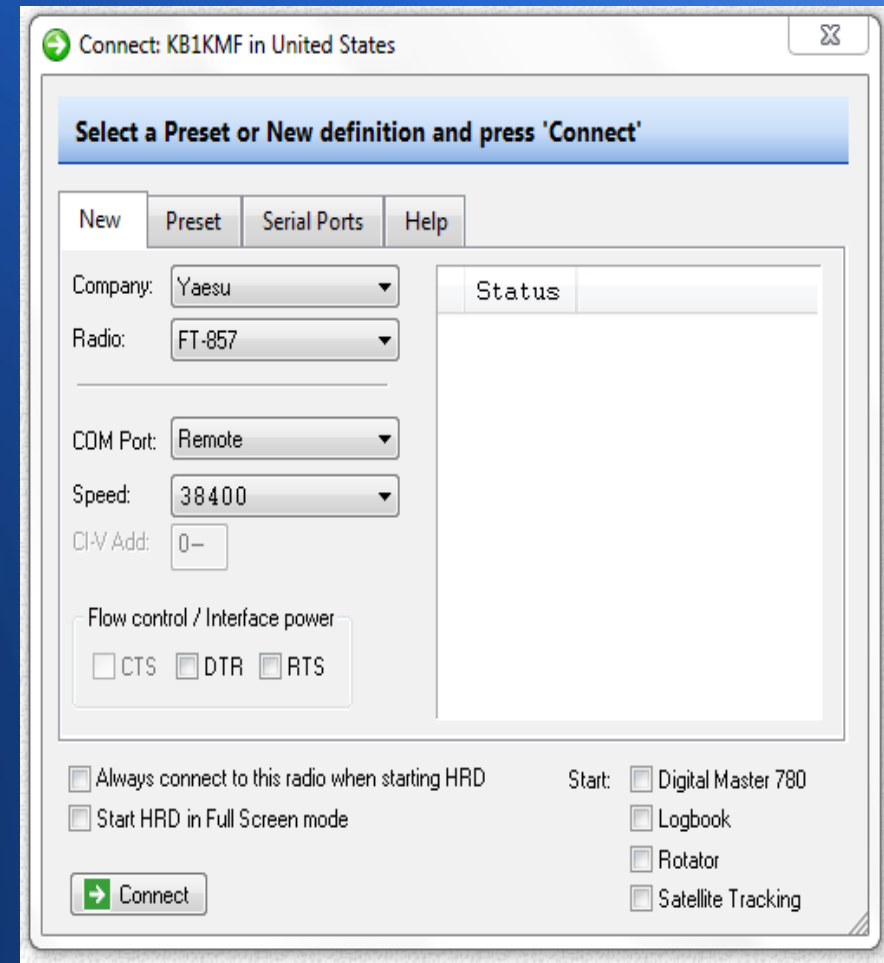
Ham Radio Deluxe Remote Setup

- You now need to activate the remote capabilities on the REMOTE computer.
- You will find this in the Tools, Programs, Remote Server menu.
- Read through the intro. It will help you through this step.
- Now we make it all work together.



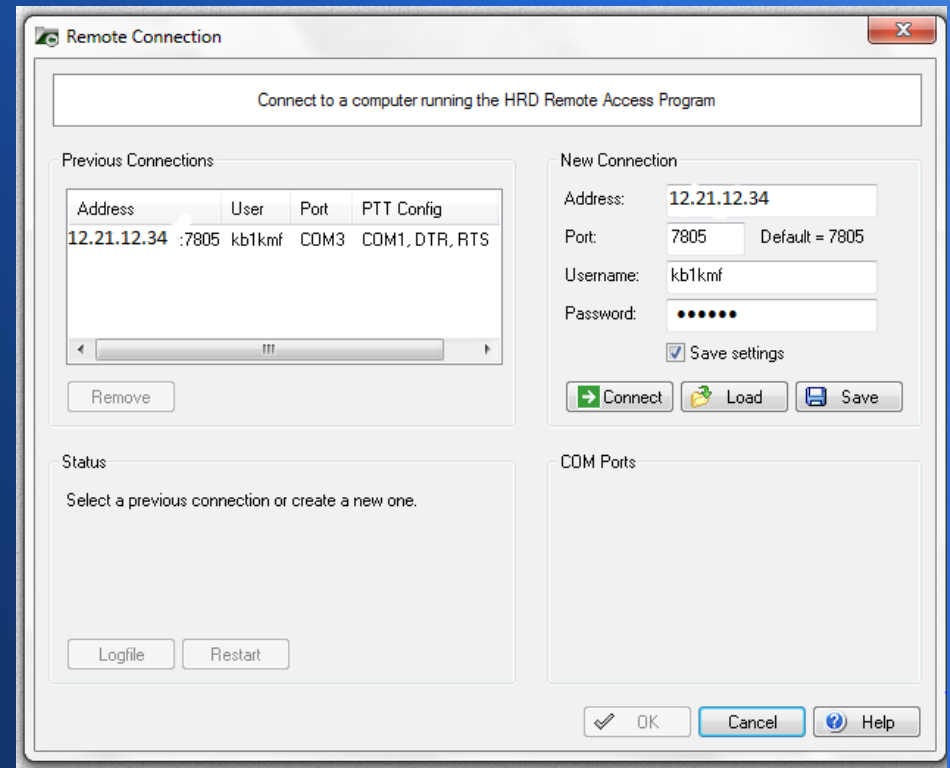
Starting the Remote Station

- Start both computers
- Once running, make a call to the REMOTE computer on Skype.
- Be sure you can hear your rig's audio on the LOCAL computer.
- Start HRD on the LOCAL computer.(It CAN NOT be running on the REMOTE)
- You will come to this screen.
- Input the info you would to control your rig on the REMOTE computer, only selecting remote as the COM port.

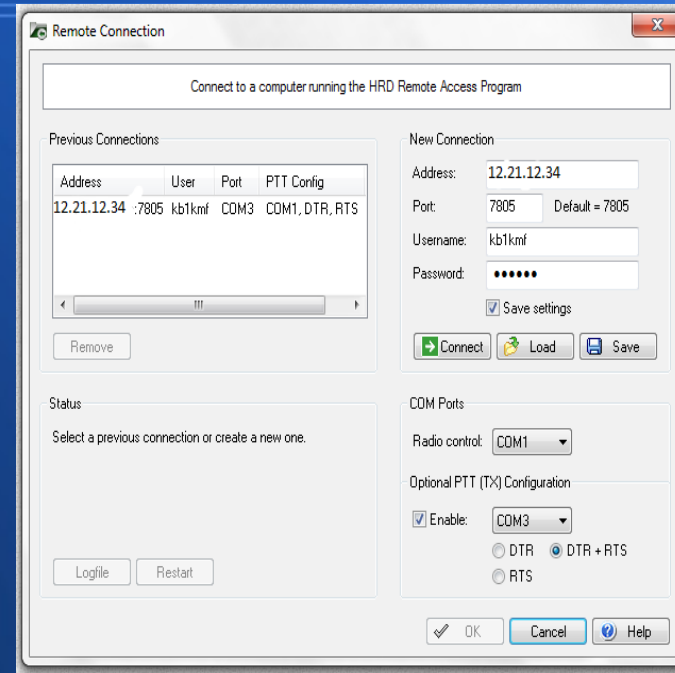
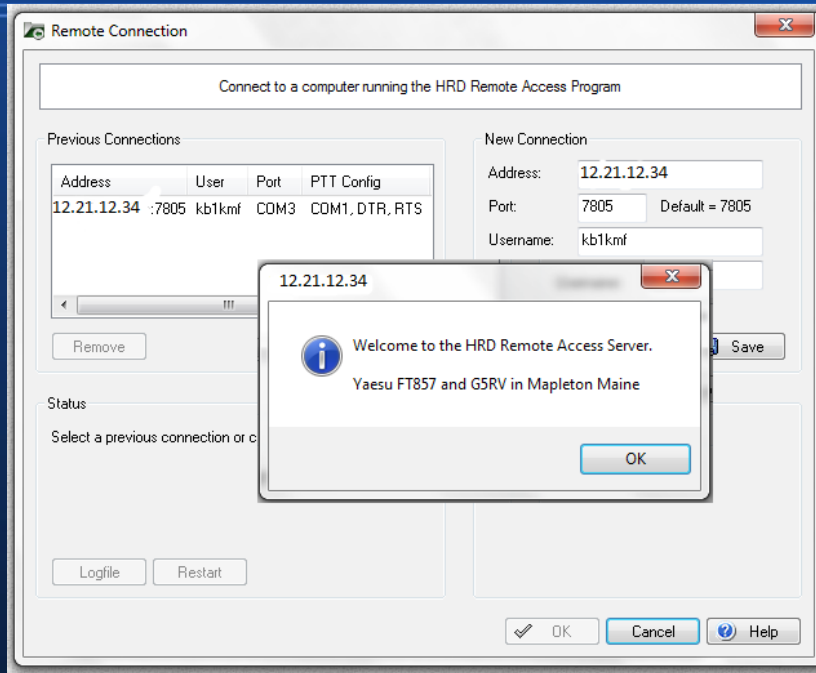


Connecting to Remote Server

- You will now be at this screen which you input the Hamachi IP address from the REMOTE computer, your username and password from the remote setup.
- Click Connect



Almost There!



- If everything is set up OK, you will see something like this. Click OK...

- Then you will input the COM port info and click OK

Connected!

The screenshot displays the HamRadioDeluxe software interface for an FT-857 radio. The main display shows the frequency 14.070.000 MHz in a large digital font, with a USB connection indicator above it. The interface includes a menu bar (File, Edit, View, Bands, Favourites, Quick Save, Macros, Logbook, Scanning, Tuning, Tools, Voice, Window, Help, Donate) and a toolbar with various icons for functions like Connect, Selection, Favourite, Quick Save, Full Screen, Logbook, Satellites, SW Data, Sliders, Customise, Options, Forums, Add, DM780, Synch, Remote, Serial, and Programs.

On the left side, there are status indicators for ALC, MOD, PWR, CTCSS/DCS Match, Discriminator Center, High SWR, Split, Squelch, and TX. Below these are several frequency scales for different bands: Fine (14.068.8 to 14.069.2), 16m (21.000 to 21.050), 17m (18.070 to 18.080), and 20m (14.000 to 14.050). A 'Remote Connection' dialog box is open in the center, showing a round trip time of 125 ms, send/receive rates of 0.01/0.02 KB/s, and a refresh interval of 500 ms. It also has checkboxes for Frequency, Dropdowns, Meters, Sliders, Buttons, and Status texts, along with a 'Refresh All' button.

At the bottom, there are several control sliders and buttons for parameters such as AM Mic Gain (50), Digital Gain (50), FM Mic Gain (33), SSB Mic Gain (44), Speech Proc (15), NB Level (80), NR Level (8), CW Speed (12 wpm), DSP Low Cutoff (280 Hz), DSP High Cutoff (4200 Hz), VOX Gain (21), VOX Delay (500 ms), HF Power (100 W), 6m Power (23 W), 2m Power (22 W), and 70cm Power (20 W).

What Now??

- Hook up a mic to the LOCAL computer
- Adjust volumes get optimum TX/RX levels.(This can take a little while sometimes)
- Test communicating with a friend to assure everything sounds good.
- Teach someone how to hook/unhook antennas for you while you are gone in case of storms!
- Use Logmein.com to turn on REMOTE computer while you are away.

Now A Different Way

- Go to Logmein.com
- Log in to your account
- Turn on REMOTE computer from the site.
- Use remote desktop function on Logmein.com to control REMOTE computer.
- Open HRD on REMOTE computer via the remote desktop.
- Make Skype call between LOCAL and REMOTE.
- This will let you control the radio on the REMOTE computer as if your were sitting in front of it, thus only needing a browser and Skype on the LOCAL computer.

Good Luck!

Thanks for checking this presentation out! Feel free to drop me an email with questions or comments camopainter@hotmail.com