

Remote Control for the Ham Radio Station

Operate your station from anywhere

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Why Remote?

- **Outdoor antennae not allowed in your neighborhood**
- **Change of residence...condo or apartment**
- **Small residential lot..limited antenna size**
- **High noise levels..power lines, plazma tv etc.**
- **Dual residency / Vacation home**
- **Travel without cumbersome amateur equipment**
- **Get equipment out of the house**
- **iPhone/iPad connects to newer automobile sound system using BlueToothall hands free!**

My Motivation

- **Provide an HF service to Snow Bird Seniors**
- **Check in from anywhere to the ONTARS network.**
- **Connect my Hamilton HF station while away.**
- **Keep the operation simple.**
- **No expensive remote software**
- **Integrate the automatic technology of my base station to switch power and antennae.**
- **Provide a solution when I move away from the residence to an apartment.**

Objectives

- **Use the free WiFi of most hotels and food establishments to connect with the internet for control and connectivity.**
- **Have full control of the transceiver and server.**
- **Be able to monitor important parameters of the station.**
- **Keep the initial cost to a minimum.**

Base Station requirements

- **A transceiver connected as a base station.**
- **A simple computer setup as a HRD/Skype server.**
- **Signalink USB sound interface.**
- **All necessary antennae switchable by the transceiver.**
- **Back-Up UPS for the server.**
- **Reliable Internet connection.**
- **Auto tuner to track your frequency / band changes**

Remote Laptop/mobile device

- **Portable lightweight laptop**
- **USB headset/boom mike**
- **Android or iPhone mobile device**
- **Skype VoIP free service**

Amateur qualifications

- ADVANCED License can operate remote HF
- Industry Canada states in IC-3
- Information on the Amateur Radio Service.
- “Only Advanced operators may:
- Remotely control fixed stations
- Including the use of radio links.”
- A Basic/Basic Plus license does not apply

Design Requirements

- **Basic parameters**
 - Ability to reset computer via Remote desktop application (AnyDesk or TeamViewer)
 - Transceiver capable of computer control (CAT)
 - PC to control the transceiver
 - Ability to operate the PC remotely
 - Audio connection to/from the transceiver
- **Future design considerations**
 - Ability to turn the PC on and off
 - Time out timer for Icom Transceiver “just in case”
 - Ability to rotate the beam antenna

Design Considerations

- Construction easy enough for most amateurs.
- The sound card should provide VOX transmit.
- Skype should support a video camera.
- System should support Android/iPhone devices
- Operation from remote site easy for any age

System block diagram

HOST

Complete Station

Software:
Skype
Transceiver
Rig control
Remote
desktop



Audio
Control

Power

Antennas

Internet

Data

CLIENT

PC or iPhone

Software:
Skype



Audio from
anywhere



Host Station Hardware

- Any transceiver with rear apron audio rx/tx
- Kenwood, Icom or Yaesu
- Antenna...10/15/20 meter beam.....80/40 dipole
- Power Supply
- PC (desktop or laptop)
- Signalink USB interface
- UPS (optional)
- Monitor, keyboard and mouse for PC
- Suitable lightning protection for unattended stations.

Host (Station) Software

- **Windows 11/10/7 preferred**
- **PC Control**
 - Your transceiver CAT control program.
- **Transceiver Control**
 - Ham Radio Deluxe...Paid version
 - VA2FSQ supports Icom Yaesu and Elecraft
- **Audio**
 - SkypeFREE..computer to computer
 - Get it for your tablet or cell phone
- **Station Monitoring**
 - AnyDesk or TeamViewer....FREE..log into the station via remote desktop. On your PC/Android or iPhone!
 - Change frequency using these desktop remote apps.

PC/Radio Audio

The Signalink USB provides superior audio isolation and no annoying ground loops. Order connection cables for specific transceiver..plug and play! Using the “conference mode” you can allow a group of amateurs to share the connection.



2024 Challenges

- **Ham Radio Deluxe is no longer free**
 - Paid version integrates nicely
- **TeamViewer remote desktop limited to 1 desk**
- **AnyDesk remote desktop currently preferred**
- **VA2FSQ rig control is preferred for remote setting**
- **Windows 10/11 ver 2024 now very stable**

The HOST transceiver..any brand



Host Transceiver - Signalink



- | | |
|-----------------------------------|---|
| A 13.8V DC Power Socket | J 10 MHz Reference Frequency Input |
| B Tuner Control Socket | K Receive Antenna Connectors |
| C CI-V Remote Control Jack | L Transverter Connector |
| D Ground Terminal | M LAN (Ethernet) Connector |
| E S-meter Output Jack | N External Display Connector |
| F External Keypad Jack | O USB Connectors |
| G Key Jack | P ALC Input Jack |
| H Accessory Sockets | Q External Speaker Jacks |
| I Antenna Connectors | R SEND Control Jack |

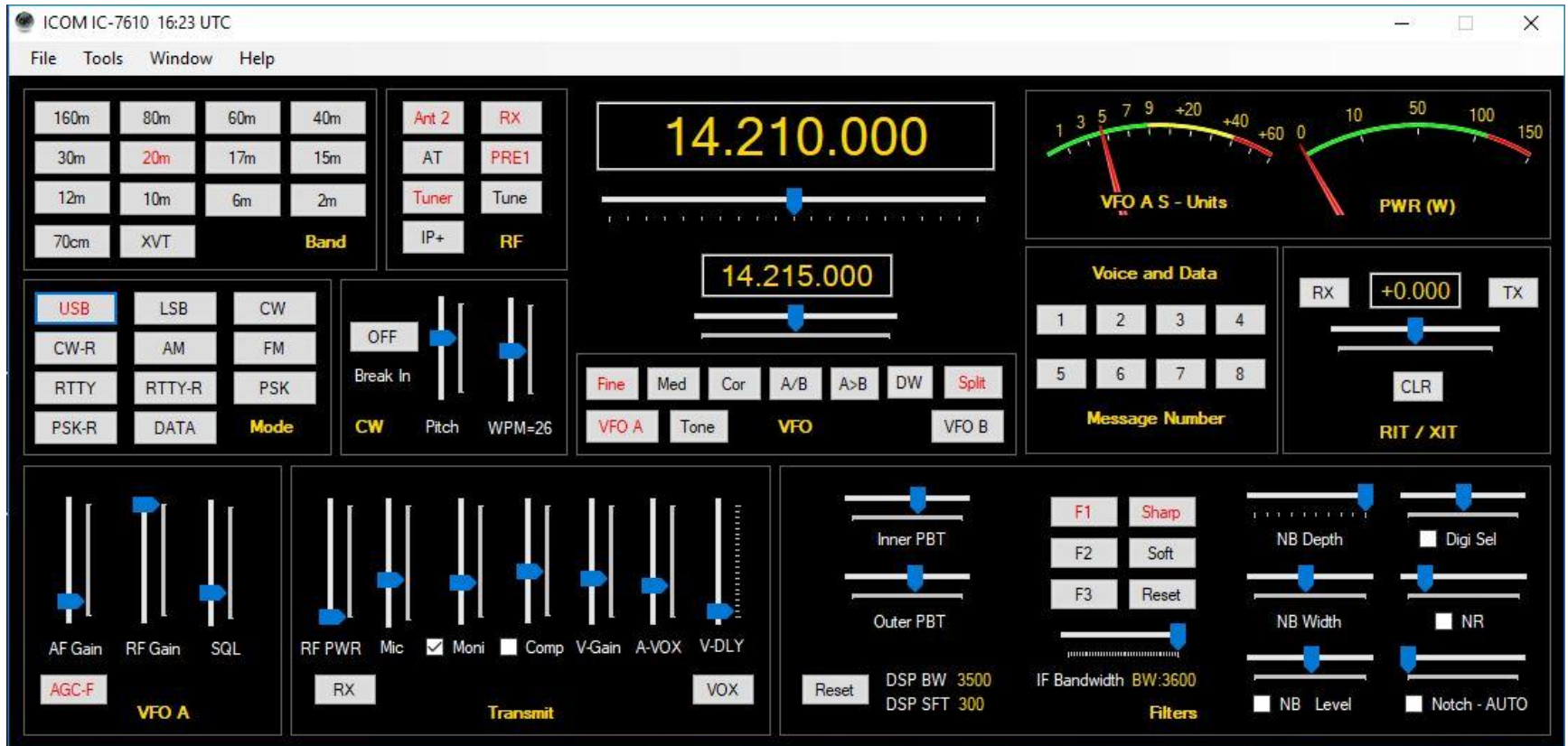
Connect Signalink to Accessory Port

The iPhone Control Experience



Your hand held device will need FREE Skype application

VA2FSQ control software



What displays on transceiver Rig Control server