

Hamvention 2017 Forums:
Remote Access to your Amateur Radio Station
Moderator: Mark Aaker, K6UFO
Speaker: Stu Phillips, K6TU



Copy of slides available on k6ufo.com or via my QRZ.com

Our Agenda – we only have one hour!

9:15 AM Mark, K6UFO Basic information on what works for Remote Access, with News and Updates from the past year.

9:30 AM Stu, K6TU We hear from an Expert! His background, past and current remote projects, his thoughts about the future.

10:00 AM – Questions & Answers

10:15 AM – Clear out before next Forum starting at 10:30

First - Follow the Rules! All operating must follow your license rules and regulations (FCC, ITU, CEPT, each country), and follow any Award or Contest rules. (DXCC, WAS, ARRL, CQ WW, IOTA, ...)

Four Basic Needs for Remote Operation

1. **Audio In/Out:** Access to MIC/SPKR, Line In/Line Out, or audio over USB. Just like for digital modes (PSK, AFSK, JT65).



2. **Radio Control:** To read and set radio Freq., Mode, PTT, CW... You need a radio with a serial port, CAT, CI-V, or USB control.



3. **Station Control:** AC power outlets, antenna switching, rotators, tuners, amplifiers, ... “Computer-controlled” or “Automatic.”



4. **“Good” internet service:** Low delay under 100ms, low packet loss, speeds over 1 Mbps, a public-visible IP address for radio.



...and your patience and willingness to solve problems.

Four Proven Ways to Implement

1. **Web Browser access:** RemoteHamRadio.com
 2. **Software Programs:** a shack PC + software both ends.
 3. **Remote Desktop (VNC):** a shack PC + software both ends.
 4. **Remote Front Panels:** RemoteRig.com or FlexRadio Maestro.
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1. **Web Browser access:** RemoteHamRadio.com Ten good stations via Chrome web browser, smartphone/tablet Android or iOS, a HW interface box, or K3/0-Mini front panel. See review QST, May 2013. Free 30 minute trial. \$99 per year plus 9 to 49 cents per minute.

Hamvention Special - New Members sign up \$49

See remotehamradio.com/hamvention/

Great for Dxing. Too expensive for “rag-chewing.”

Stations in Puerto Rico and Haiti. Good “backup” if your station is down. Premium stations available at higher cost.

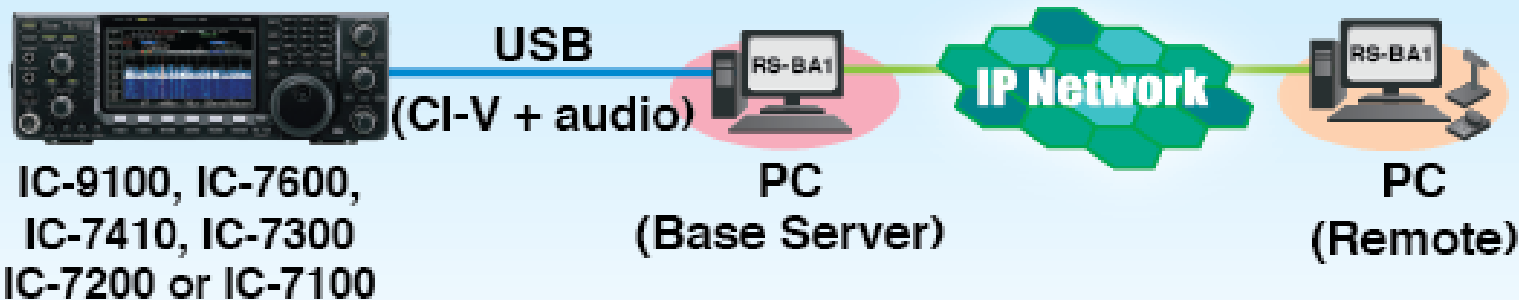


Software Programs: Shack PC + software both ends.



RemoteHams.com Free to sign up. Some public stations charge “membership”. You must use their RCForb Client SW. You can also use their server SW to set up your own station as a remote. See QST, April 2017, p.30 “DIY Remote Radio Now”

ICOM’s RS-BA1 software. \$99. Search for it on Icomamerica.com



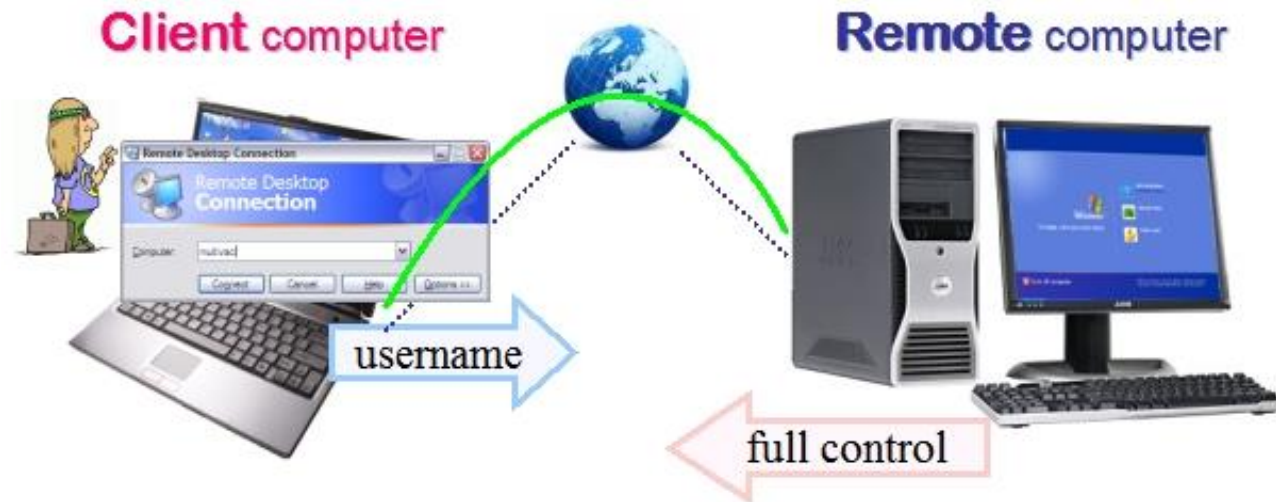
See also: Ham Radio Deluxe “Remote Server,” Kenwood Radio Control Program, TRX-Manager, DF3CB software, N4PY Software, ...

The software solves many common problems. Some vendor and user group support. Rest of shack needs to be computer-controlled or automatic.

3. Remote Desktop (VNC): Shack PC + SW both ends.

Set up the shack PC to control everything in the station. Use your favorite programs - even if they don't have any "remote" ability: N1MM+, DXLabs, WSJT, ... Then use "remote desktop" software on the shack PC, and on your laptop/tablet/smartphone, to "connect-in" to the shack and see and control the shack desktop.

Needs "very good" internet service to avoid delays as the entire desktop view is transferred and displayed.



There are many "remote desktop" programs, best if they include two-way audio: TeamViewer, Chrome Remote Desktop, SplashTop, Microsoft Remote Desktop, ... If an audio add-on is needed, try: Skype, RemAud, IP-Sound, Mumble, TeamSpeak, ... "voip chat," "game chat."

4. Remote Front Panels: RemoteRig.com or FlexRadio Maestro.

RemoteRig.com : A detachable front panel, or a 2nd radio in “twin” mode, is used to control the remote radio. RemoteRig "modems" extend the rig control, audio and keying across the internet.



FlexRadio “Maestro” works wired or wireless to a local FlexRadio. Across internet with a VPN, without VPN in SmartSDR 2.0 released today?



Provides knobs & buttons. Expensive. Difficult initial setup, then very reliable. Support by vendors. Rest of shack needs to be computer-controlled or automatic.

Station Control: Rest of station needs to be computer-controlled or automatic.



AC Power: Digital Loggers Inc. Web Power Switch \$170 or Belkin WeMo Switch \$30.



Antenna Switching: Radio has a button for Ant1/Ant2, or use a Band Decoder and a “remote” Antenna Switch.



Rotator control: use software like Green Heron Everywhere, PstRotatorAz, or your logging sw.



Manual antenna tuners and manual tune amplifiers will be limited to one band, but can switch in/out with the antenna switch. Automatic antenna tuners and auto-tune amplifiers provide multi-band operation. 7

Remote Operating News of the Year

- RemoteHamRadio.com adds new Premium station in Eastport, Maine. Station used remotely to win major DX contests.
- RemoteHams.com software used in article in QST Magazine April 2017, p30: “DIY Remote Radio Now”.
- Digital Loggers Inc. Web Power Switch now has WiFi or wired internet.
- FlexRadio SmartSDR 2.0 will work across internet (not just LAN).
- 4O3A “Genius” products for remote control of antennas, rotators, and amplifier.
- New remote-ready, 1500 watt, solid state amplifiers from Elecraft, Expert and FlexRadio.
- W5FCX.net provides detailed design info: “A Software-Defined Radio Remote Station Design”
- AB1OC/AB1QB blog provides further info: “Software Defined Radio/Remote Operating Gateway Part 3 – On The Air Remote!”

Thank You!