

Getting Started by W2HUV

Welcome to the Remote HF Station in the GCARC clubhouse. The station consists of a Kenwood TS-480 transceiver, KPA1500 Solid State Amplifier, 72' crank-up tower with a 10/15/20 meter beam, a 40 meter beam, a common rotator and a 160M wire loop for 160, 80, 30, 17, 12 and 6M. The correct antenna is automatically selected and pretuned.

Remote Control Software

A software solution was selected instead of a hardware solution because outstanding free software is available from RemoteHams.com that is immensely popular. The RCForb Server is used at the Remote station W2MMD-HF and the RCForb Client is used at the Control station (your Windows laptop or PC). The server provides the interfaces needed for virtually any radio, amplifier, relay board or antenna rotator controller desired as well as Ham Radio Deluxe, selected logging programs and custom software.

Installing RCForb Client

1) Go to <http://www.remotehams.com/>, read the Welcome paragraph and complete steps 1, 2* & 3.

* **Don't press the Step 2 "Download" button!** Use the following link to install the latest version of the **RCForb Client v0.9 Public Alpha** instead:
http://download.remotehams.com/download.php?dir=orb&file=RCForbClientSetup_v0.9.309.exe. Be sure to check the "Virtual Serial Port Support" option when it appears.

2) Go to the top of the page and read and/or save the "Getting Started Guide" under "Documentation".

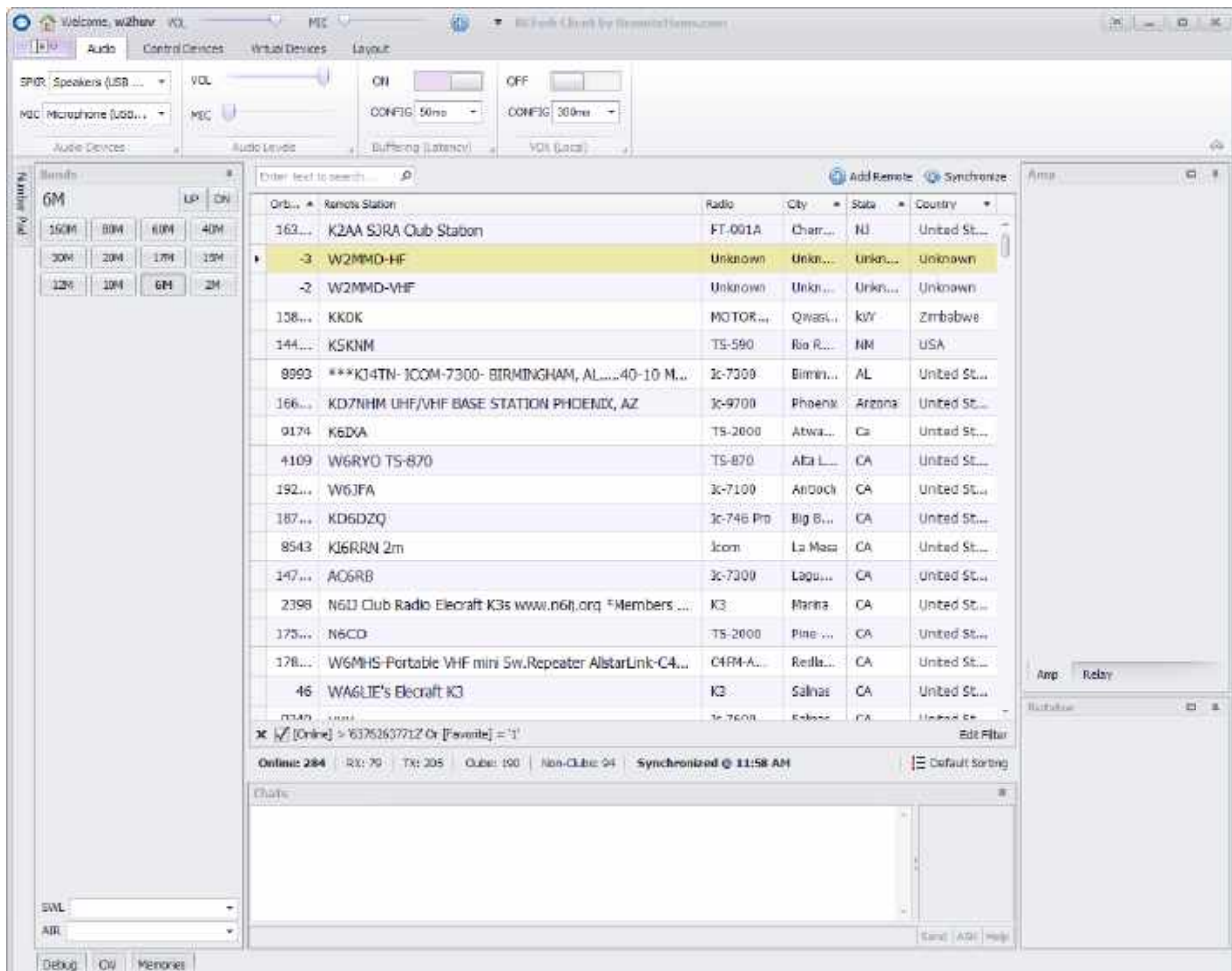
3) Open the RCForb Client. You will be asked to register. Make your "User ID" your callsign in lower case. You do not need to upload a copy of your license unless you desire to operate other stations.

4) The screen shot on the next page should appear less W2MMD-HF and W2MMD-VHF in the "lobby". The W2MMD-HF entry will not appear until you add it locally because it is not published (outsiders will not see it).

5) Let us go over the settings.

Settings

Audio: The audio settings are shown in the screen shot on the next page. Select the “Audio Devices” that you will be using. Make sure that “Buffering (Latency)” is on. Click the down arrow in the CONFIG box and turn on “Extra Low Latency”. Don’t worry about the “VOX (Local)” settings now.



Control Devices: Select the “Control Devices” tab. The following settings will appear:



- **Elecraft K3-Remote:** This option allows you to use an Elecraft K3/0 Mini for tuning, its sound card for audio inputs and outputs and its PTT and CW inputs. This eliminates the need to build an “External PTT / Paddle inputs” dongle. See the **Dongles** topic for details. **Turn off for now.**

- ORB Control Device: This option allows you to use the ORB Control Device sound card for audio inputs and outputs and its PTT and CW inputs. This also eliminates the need to build an “External PTT / Paddle inputs” dongle. The ORB Control Device is no longer available at RemoteHams.com. **Leave off.**
- External PTT: Allows you to configure the PTT port to be used. Click the down arrow, select the port and set PTT Pin to CTS. Check “Use RTS as Power” if you are connecting a dongle. **Turn on when you are ready.**
- External CW: Allows you to configure the CW port to be used. Click the down arrow, select the port, set DIT to DCD, DAH to DSR and KEY to CTS. Check “Use RTS as Power” if you are connecting a dongle. Note that the PTT input is used for the KEY input. The RCForb Server/Client determines what to do with the input based on the mode. **Turn on when you are ready.**
- External CAT: Allows you to connect a CAT input from an external device. This is not the input used by internal software such as the N1MM Logger+.

Virtual Devices: Select the “Virtual Devices” tab. The following settings will appear:



- Virtual HRD: Allows you to connect to your HRD software. You need to select the correct version.
- Virtual K3: Allows software, such as the N1MM Logger+ to connect to a Virtual K3 for CAT control, regardless of the rig in use. It is recommended that you use COM20, since it is out of the way. **Turn on when you are ready.**
- Virtual Rotator: Not presently included.
- Virtual Winkey: Not presently included.

Layout: Select the “Layout” tab. The following settings will appear:



You may explore the Layout settings on your own.

Note: You must restart the RCForb client to apply new settings.

Connecting to Other Remote Stations

You are encouraged to connect to some of the Remote Stations listed and check them out. There are quite a few IC-7300 stations, so I would check them out first. Whatever you do, if you see that someone is already signed on, do not touch the controls! Wait for the person to sign off or use the ASK button in the lower right corner of the "Chats" window to request permission to tune. You may be temporarily BANNED from the station if fail to do so.

Connecting to W2MMD-HF for the First Time

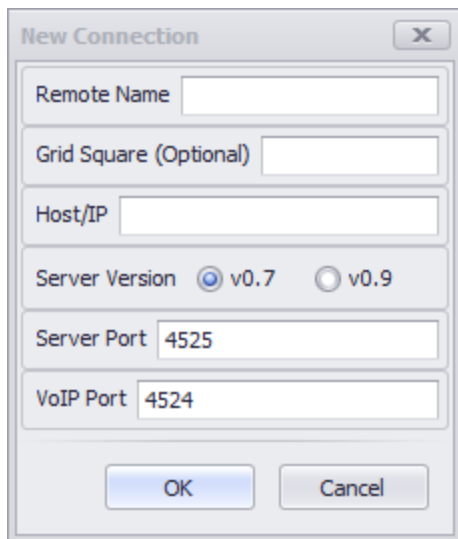
1) You must be on the Authorized User's list and obtain the Host/IP address before you may proceed. Send an email message to w2huv@arrl.net to request addition to the list and the Host/IP address.

Note: The Host/IP address is **confidential** to members in good standing of the GCARC that have been added to the Authorized User's list.

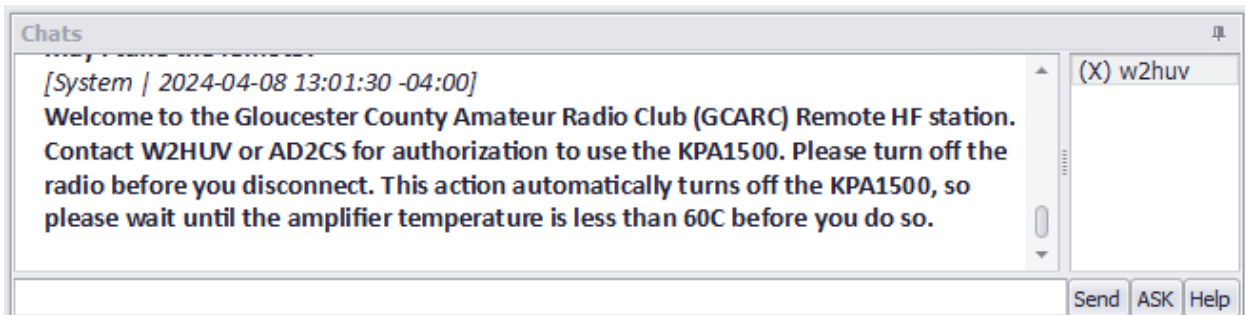
2) Go to the "Clubhouse Calendar" on the GCARC web page and look for dark blue "Remote Operating" calendar entries. Book yourself for an empty time slot. As a courtesy, please do not operate the station if it is booked by someone else.



3) Open the RCForb Client. Click the blue button at the top of the screen shot above to add a station. The following screen will appear:



- 4) Enter "W2MMD-HF" for the Remote Name, FM29jr for the Grid Square, the Host/IP address and click "OK". You should be connected.
- 5) An information screen should appear. Read and acknowledge by pressing OK.
- 6) Read the contents of the "Chats" window at the bottom of the screen. Do not touch anything if a callsign is listed above yours. That person is operating the station. Use the ASK button in the lower right corner of the "Chats" window to request permission to tune. Come back later if there is a negative or no response.



- 7) See the screen shot on the next page.
 - Note that the blue button has been replaced with a red X. Use this button to disconnect.
 - The innermost symbol in the upper right corner may be used to hide the settings.
 - Note the KPA1500 (amplifier) and DCU-1 (rotator) controls indication in the right column.

- You may use the “Bands” buttons in the left column to change the band or the “Number Pad” to directly enter the desired frequency.
- Note the Memory, Debug and CW tabs in the lower left corner. The Memory tab allows you to name, store and recall desired frequencies. The CW tab allows you to enter keyboard CW and save desired macros.



8) A few more comments are in order:

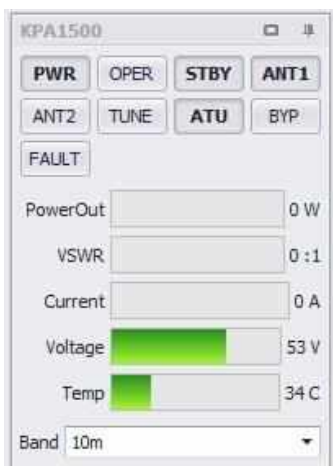
- Left to right there are three types of controls other than to the frequency knobs: selectors, sliders and pushbuttons. Take some time to familiarize yourself with the controls.
- Antenna selection and tuning is automatic. The RCForb server is configured to allow you to only listen to and transmit on bands with antennas, currently: 160, 80, 40, 30, 20, 17, 12, 10 and 6M.
- The RCForb server is configured to restrict transmit frequency privileges in accordance with the License_Class indicated in the Club Roster List.

9) The next time that you open the RCForb Client, the station that you added should appear at the top of the lobby list.

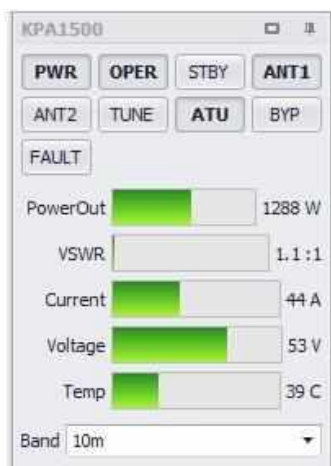
KPA1500 Amplifier Operation

The controls and indication needed to control the KPA1500 are provided on the KPA1500 display. The power is turned on when the rig is turned on to enable ATU operation.

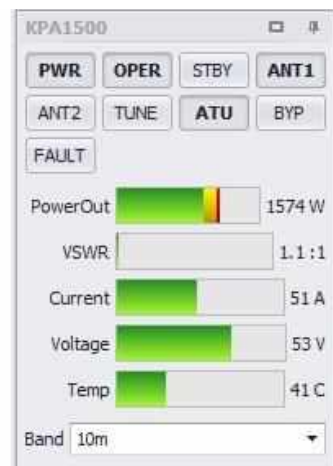
Here are several shots of the display in different situations:



PWR on in **STBY**



PWR on in **OPER**
transmitting 38% drive



PWR on in **OPER**
transmitting 50% drive

Drive is controlled by adjusting the TS-480 RF Power slider. It is recommended that you not exceed 38%. Always check the drive before selecting **OPER**.

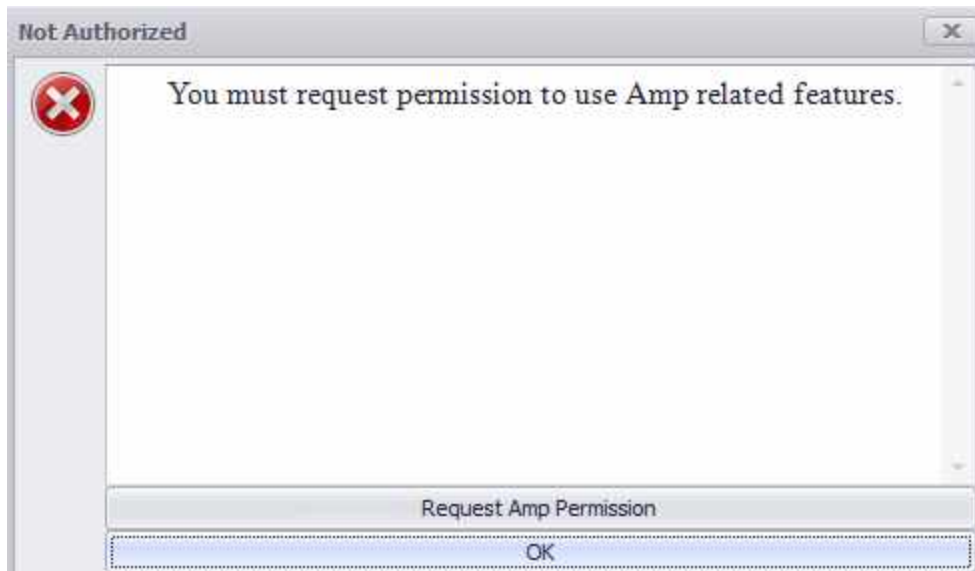
Button text is **bold** if it is selected. Please do not use buttons other than **PWR**, **OPER** and **STBY**. The ATU has been trained the inductance and capacitance values needed for our antennas. They are selected automatically as you tune the TS-480. **Call W2HUV at the number listed in the Club Roster List if you are alerted to a high SWR fault by the TS-480 or KPA1500.**

Do **NOT** use the Band dropdown list to change the band as band change is automatic.

The **FAULT** button provides indication only. The amplifier automatically goes to **STBY** on a **FAULT**. Correct the condition and return to **OPER** to clear a **FAULT**.

Only the **PWR** button is active if the power is off. Do not use the TS-480 if the power is off as this will prevent ATU operation. Only use the TS-480 if the amplifier is on and in standby (first example above) or operate (2nd and third examples).

You will receive the following message if you are not authorized to use the amp. **Call W2HUV or AD2CS at the number listed in the Club Roster List to receive authorization.**



Phone Operation

- 1) Connect the microphone or headset that you plan to use to your PC. You will need a USB sound card for a standard headset/microphone. See the **Dongles** topic for a recommendation.
- 2) Start the RCForb client, select the devices in the SPKR and MIC boxes on the "Audio" tab and restart the RCForb client to apply the settings.
- 3) Connect to the remote, turn on the radio and select the desired band/frequency.
- 4) Set controls as follows: Mode, USB or LSB as appropriate; AGC, Slow; Pre, Off; ATT, Off; RF Gain, 80-100 %; RF Power, 100 %*.

*Set the RF Power at 38% or less if you plan on placing the amplifier in **OPER**. **Failure to do so may result in a FAULT.**

- 5) Click TXd to transmit, talk into your microphone and use the client "MIC" control to set the ALC level in the range 30-50%. Click TXd again to stop transmitting. You may use the space bar for PTT after you click TXd the first time.
- 6) Prior to disconnecting, return the amplifier to **STBY** and wait until the temperature is less than 60C.
- 7) Click the red X to disconnect and close the RCForb Client.

Please address all questions, comments, and issues to w2huv@arrl.net.

Look up the phone number for W2HUV in the Club Roster List and call in an emergency.