

**PCARS N4EN Memorial Club Shack**

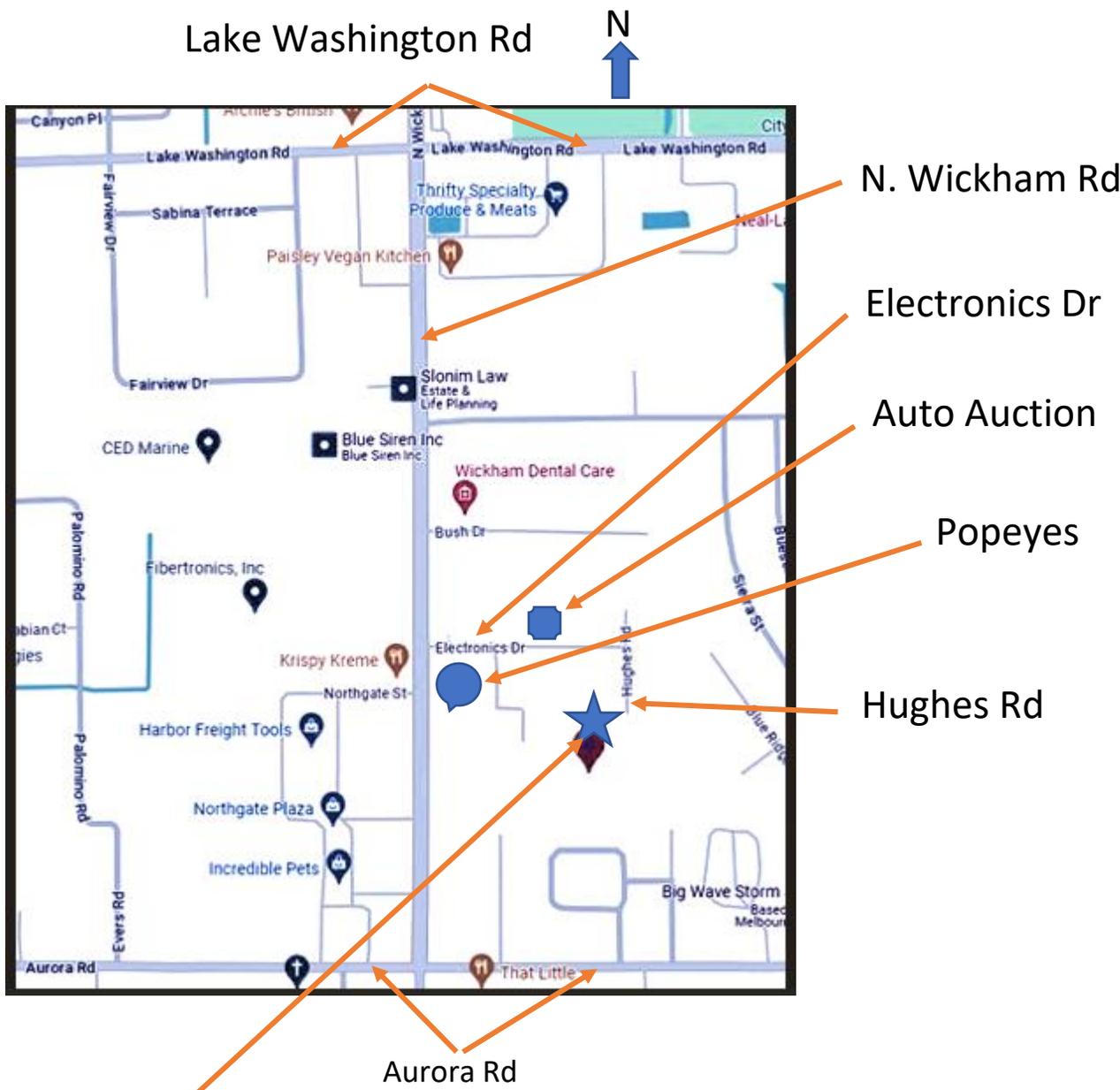
**Equipment Operating Guide**

**ver. 3.0 06-30-2025**



**PCARS Club Shack**

**1980 Hughes Rd Melbourne Florida**



★ PCARS Club Shack Location  
1980 Hughes Rd Melbourne FL  
Melbourne Fire Training Center

## **A. Overview**

This document provides an operational guide for use of the PCARS Club shack and equipment. This document includes:

- A. Club Station Overview**
- B. Club Shack Equipment overview**
- C. Club Shack Entry Guide and Power Up Procedure**
- D. General Rules**
- E. Equipment Locations**
- F. Powering Up Club Station(s) and computers**
- G. Using the ICOM IC-7300**
- H. Using the SPE Expert 1.3K Linear Amplifier**
- I. Station Status Monitor (Band Display)**
- J. Using the Antenna System Switching**
- K. Using the Field Antenna - Tower on the Trailer.**
- L. Using the Antenna Rotor Controls**
- M. Using the 6-meter Band on Stations #1, #2, and #3**
- N. Loading the IC-7300 Profiles**
- O. Shutting Down the IC-7300 Station**
- P. Exiting the Club Shack**
- Q. Club Shack Service Room**
- R. Emergency Generator**
- S. Generator Transfer Switch**

## **B. Club Shack and Equipment Overview**

The PCARS Club Shack is a resource for all club members that have completed the equipment certification process. Once certified the operator has 24 hour/7 day a week access to the club shack and equipment. This is a great resource and it would be beneficial for all club members to be certified. This is especially important for those that are restricted in the ability to construct a personal station at their QTH due to HOA or space restrictions.

The equipment complement of the PCARs club station is:

1. 3 operating HF stations (ICOM IC-7300) with associated computers. Operator position #1 and #2 have a 1.3-Kilowatt amplifier that is used up to a maximum of 1000-watt level. Station #3 does not have an amplifier. The computers are used for various purposes such as logging QSOs and operating in different modes like FT8, RTTY, and etc.
2. 2 repeater control stations. One station for VHF (2 meter) and 1 UHF (70cm).
3. WIFI access. The gateway ID and password is located on the T-Mobile gateway
4. Storage room. Houses stored equipment, office supplies, antenna relay box, and etc.
5. Service/equipment room – Useable by any certified club member for non-commercial purposes

The club station can be used by equipment certified individuals and groups for normal operation, not business-related tasks, or during contests.

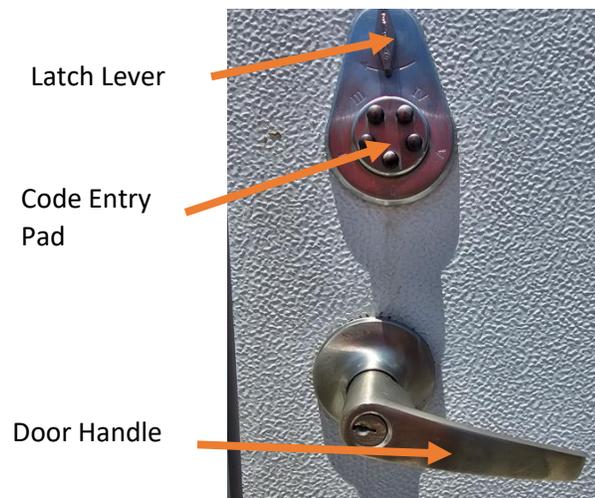
The club station is also used for training new licensees as well as tenured members to improve their knowledge of Amateur Radio technology, skill, and purpose. This is accomplished through club Elmer's that impart their knowledge to new and existing members.

The PCARS club station is located at 1980 Hughes Rd. This is next to the City of Melbourne Fire Training Center. Access to this facility is off N. Wickham Rd. Exit off N. Wickham Rd turning east onto Electronics Drive. Electronics Drive is on the east side of N. Wickham Rd. There is a Popeyes restaurant at this intersection. Travel to the end of Electronics Dr and turn right onto Hughes Rd. The club station will be seen on the right.

### **C. Club Shack Entry Guide**

Entry to the club station is available to those that have completed the equipment certification.

1. Fire Training Center grounds gate. The gate is normally open but the City of Melbourne may request the gate to be closed in the future. Once a person has been trained, they will be given the gate code.
2. There is a 4-digit door code to gain access to the club station. Once a person is certified they will receive the door code.
3. Enter the door code on the 5-button lock. Turn the latch lever in a clockwise direction. While holding the latch lever turn the door handle clockwise and pull the door open.



4. If a wrong access code is entered turn the lock latch counter clockwise to reset.
5. There are two light switches to the left of the entry door for the central ceiling lights.

6. There are two more light switches just beyond the bookshelf on the right of the door for the north ceiling lights.
7. There is an Entry/Exit log book on the wall to the right of the entry door. Please leg into this Entry/Exit log each time you enter the building and please note the purpose of your visit. Be detailed.

See the Entry/Exit log book instructions below

PCARS Club Station Entry/Exit Log Sheet					Exit Check List					
Name	Call Sign	Date	Time In	Time Out	Loaded SSB Profile Into Each Used IC7300	Computers Off	Circuit Breakers Off	Lights Off	Thermostat @ 80 and Cool	Door Locked
Name:										

NAME – Enter your name

CALL SIGN – Enter your call sign

DATE – Entry the date

TIME IN – Enter the time you entered the shack

TIME OUT – Enter the time you leave the shack

PURPOSE – Enter the purpose of your visit to the club shack, please be detailed.

The following are the exit check boxes

LOADED THE SSB PROFILES

COMPUTERS ARE OFF (Properly)

EQUIPMENT CIRCUIT BREAKERS ARE OFF

LIGHTS OFF

THERMOSTAT TO 80 DEGREES OR HIGHER

DOOR LOCKED

When leaving the shack place a check mark is each of the exit check boxes as each item is verified for proper status.

8. Turn on the circuit breakers. There are two circuit breakers that power the club stations, computers, and amplifiers. They are located on the lower right of the circuit breaker panel.

These are the two ganged breakers on the lower right of the circuit breaker panel.



120 VAC Circuit Breaker  
For stations and  
accessories

240 VAC Circuit Breaker  
For Amplifiers

**Leave all other circuit breakers turned on.**

9. Adjust the thermostat to the desired temperature. This should have been placed at about 80 degrees when the last person left. The thermostat is on the far-right wall (North End) of the club station.

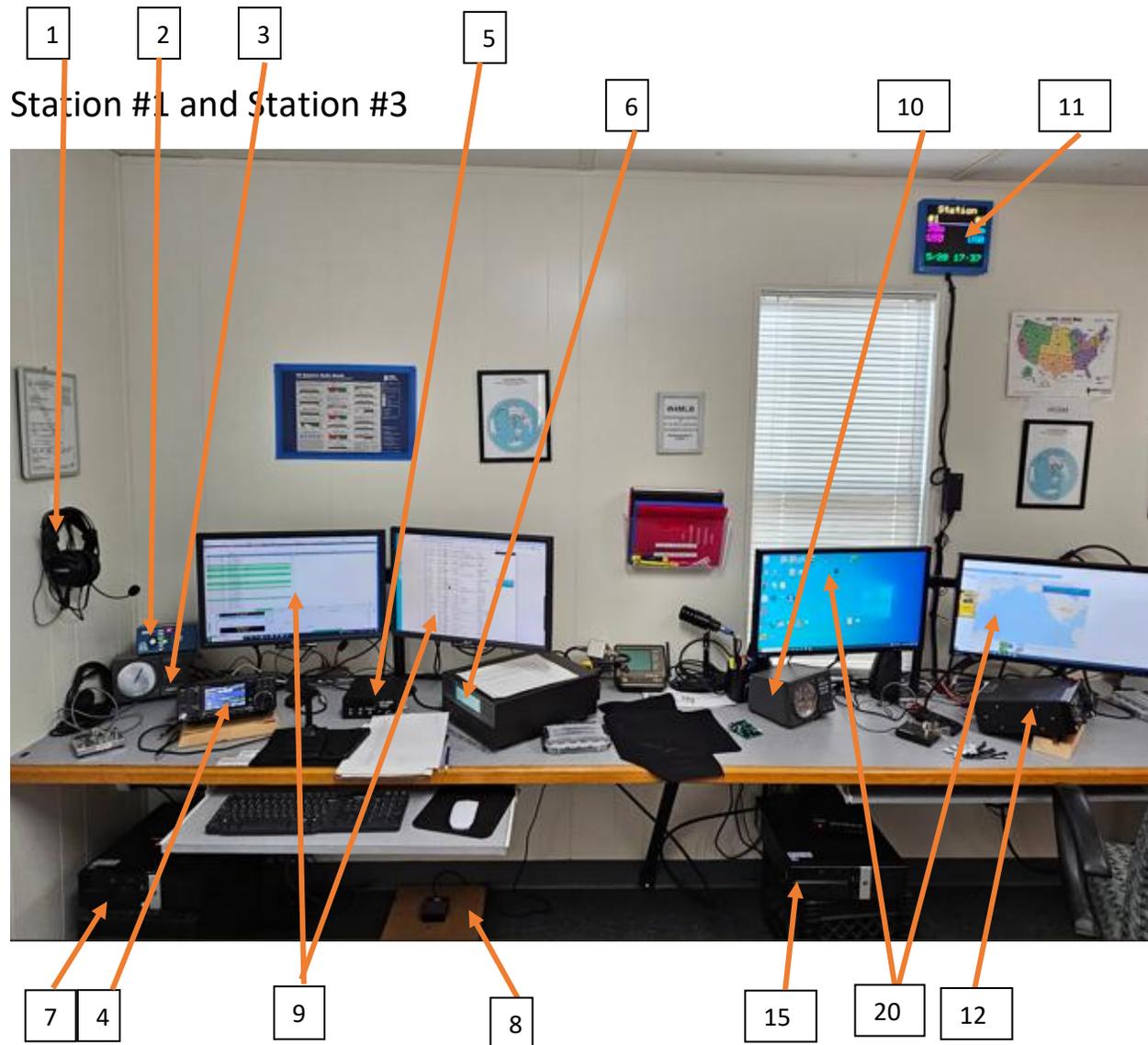


#### **D. General Rules**

1. No food is to be placed or consumed in or around the station equipment.
2. If food is dropped anywhere in the club station, including crumbs, it must be immediately cleaned. There is a vacuum in the storage room.
3. No open containers of liquid are to be placed around or near the station equipment. **Fast food cups, even with a lid, are considered open containers.** A closed container will not allow spillage if knocked over.
4. Do not put food wrappers in the inside trash can(s).
5. Do not leave food wrappers or containers anywhere in the shack.
6. Do not put empty soft drink containers in the inside trash can(s).
7. There is an outside trash container for all trash that cannot be left inside the shack.
8. Do not leave personal items in the club shack. This is long-term leaving of tools and etc. If they are personal items take them with you. This includes equipment that is being repaired and left for an extended time frame.
9. If you track in dirt and mud, please clean it up. There is a vacuum cleaner in the storage room.
10. Clean any work area of residual material once completed with your work.
11. No smoking in the club shack.

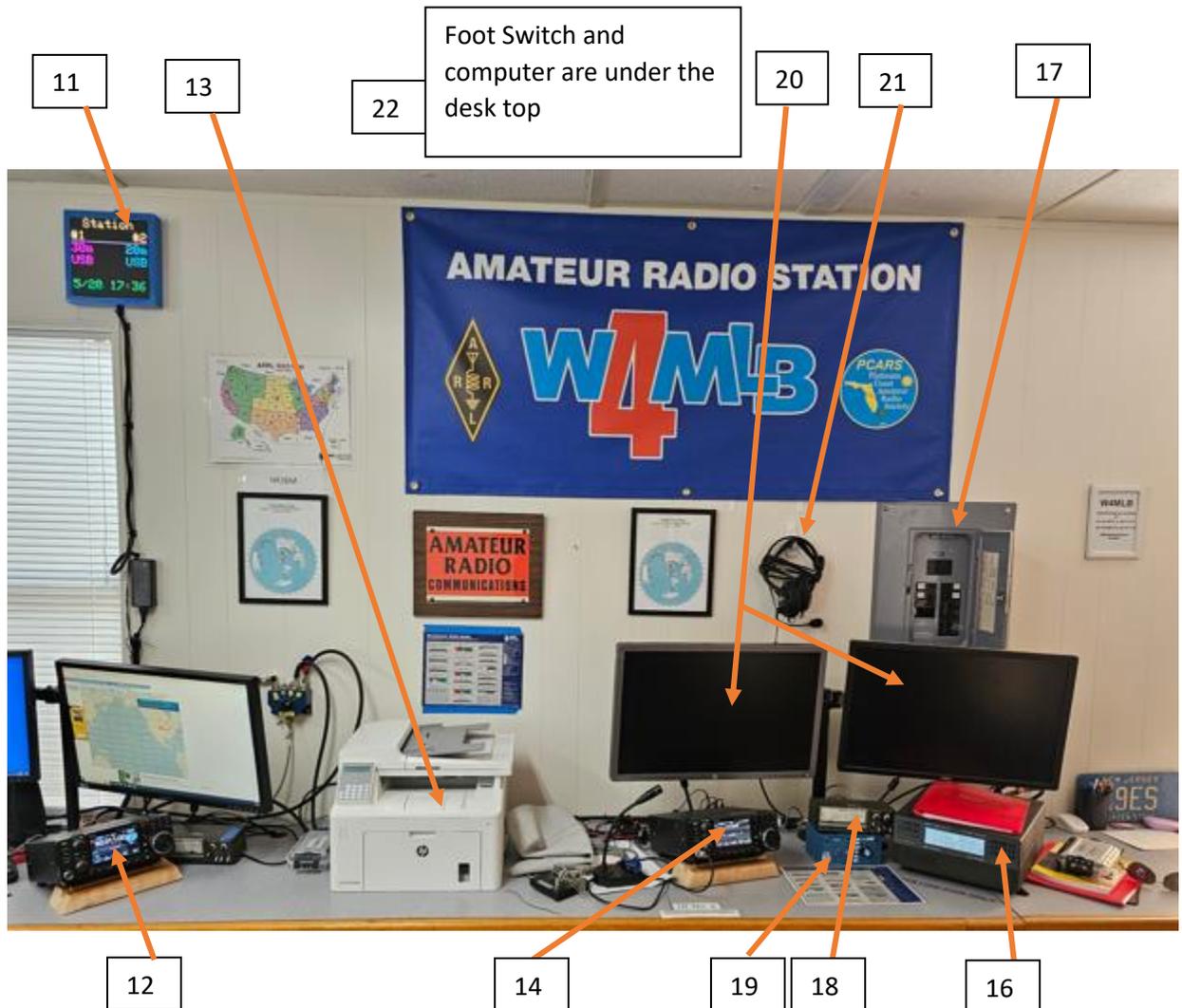
## E. Equipment Locations

See the following pictures for equipment locations

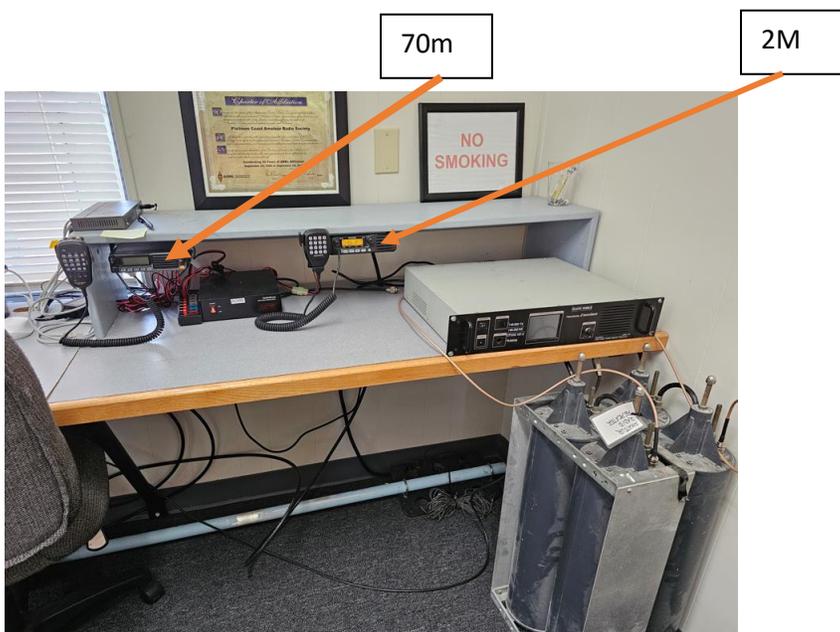


1. Hanging on left wall is the station #1 headset
2. The blue box is station #1 antenna switch control
3. Below the blue box is the PRO67B antenna rotor control

4. Right of the rotor control is station #1 (IC-7300)
5. To the right of station #1 is the station #1 VSWR meter
6. Next right is the Station #1 linear amplifier (SPE Expert 1.3K)
7. The station #1 computer is located on the crate on the floor next to the left wall
8. On the floor, mounted on the plywood, is the foot PTT switch
9. Above the station #1 and amplifier#1 are the two computer displays
10. To the right of station #1 is station #3 with computer and displays, 6M/2M rotor control, and station #3 IC7300
11. Station Status Monitor.



12. Left is Station #3, picture above.
13. Next right is the printer
14. Next right is station #2 (IC-7300)
15. Under table top at station #3 is the station #3 computer and foot switch
16. The station #2 amplifier (SPE Expert 1.3K)
17. Above station #2 computer displays is the shack circuit breaker panel
18. VSWR Meter
19. Antenna switch box (blue)
20. Station #2 computer displays
21. Station #2 Headset
22. Station #2 computer is located under the desk at station #2



Far right of the equipment bench

This is the location of the 70cm and 2M radio stations. The 70cm radio is on the left and the 2M radio is on the right.

Also, in this view is the temporarily installed 146.850 MHz repeater. This will be moved to a permanent site at a later date.

## **F. Powering up IC-7300 Stations #1 and #2 and Computers**

This section of this document describes the process to power up stations #1 and #2 and associated equipment. Be aware of the fact that the SPE Expert 1.3K amplifier's A-C power switching is linked to the IC-7300 radio. When the IC-7300 is powered up the Expert amplifier follows. When the IC-7300 is powered down the Expert 1.3K amplifier will automatically power down. Press and hold the POWER button on the top left of the IC-7300 until the unit powers up.

To power up the Club computers use the computer power switch located as shown in the following picture. Press the power button to turn the computer on.



Use the Windows power down method to turn the computer off.

## **G. Using the IC-7300**

Prior to using the IC-7300 it would be best if the operator views and understands the videos at this link.

<https://www.youtube.com/playlist?list=PL48JZWhCJoH3bGOyfmZVxgRHFqs2VUG8P>

There are 50 different videos covering all aspects of operation. Review and study at least the basic operations of the IC-7300 to understand how to operate this radio prior to certification.

This section of this document will cover the basic operation of the IC-7300 in relation to the club operation and what is needed to successfully operate the club stations. If further understanding of the IC-7300 is desired please continue to view and study each of the videos in the link above.

The IC-7300 uses touch screen functions to change operating modes, bands, frequencies, and etc.

There is an IC-7300 user book at station #1 and station #2 for further operating detail of the IC-7300. Refer to this book for any questions regarding the operation of the IC-7300.

**Turn the IC-7300 power off first when disconnecting and connecting any cable or connector on the IC-7300**

## G.1 Changing the Operating Band and Frequency

1. Touch the MHz area to select the operating band. When the MHz area is touched a selection of operating bands will appear on the screen. Touch the desired band to select.
2. Touch the KiloHertz area to adjust the frequency in 1 KHz steps.
3. Touch the 100 Hz area to change the frequency in 100 Hz steps.
4. Use the rotary knob to adjust the frequency.
5. The IC-7300 has an internal antenna tuner. This is to be left in the off/disabled condition. The club stations use the Expert 1.3K amplifier automatic tuner in normal operation except for station #3 that does not have an amplifier. Use the IC-7300 internal tuner on station #3.

See image below.



5

Press and hold the POWER button until the IC-7300 powers up

1

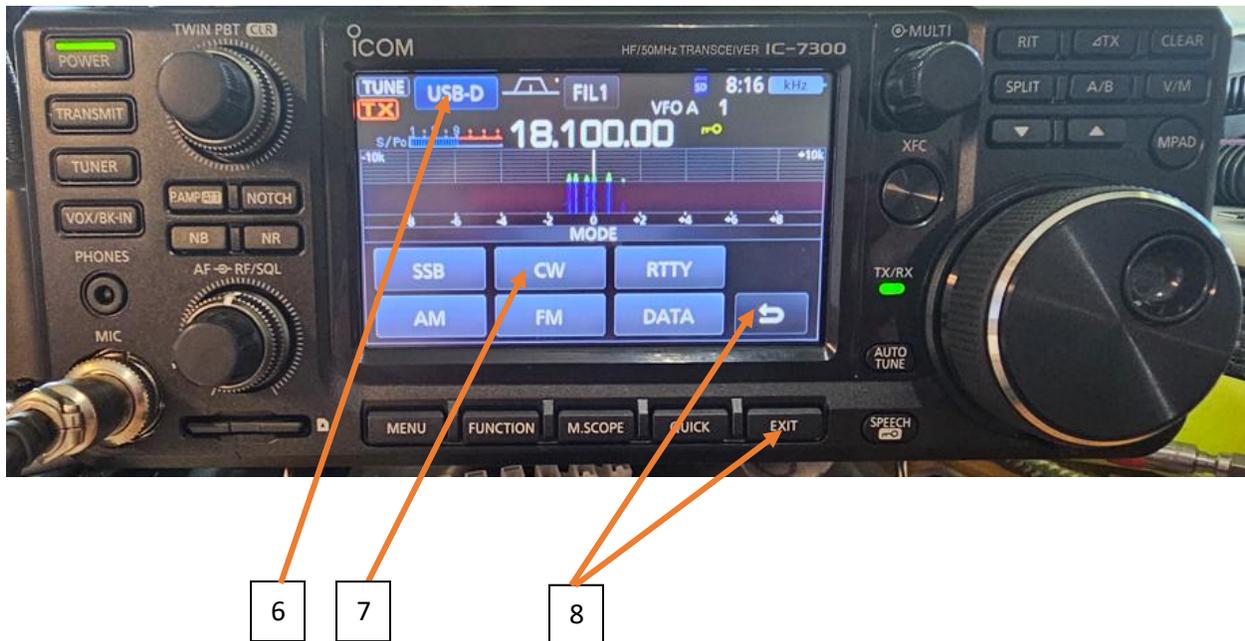
2

3

4

## G.2 Changing Operational Modes

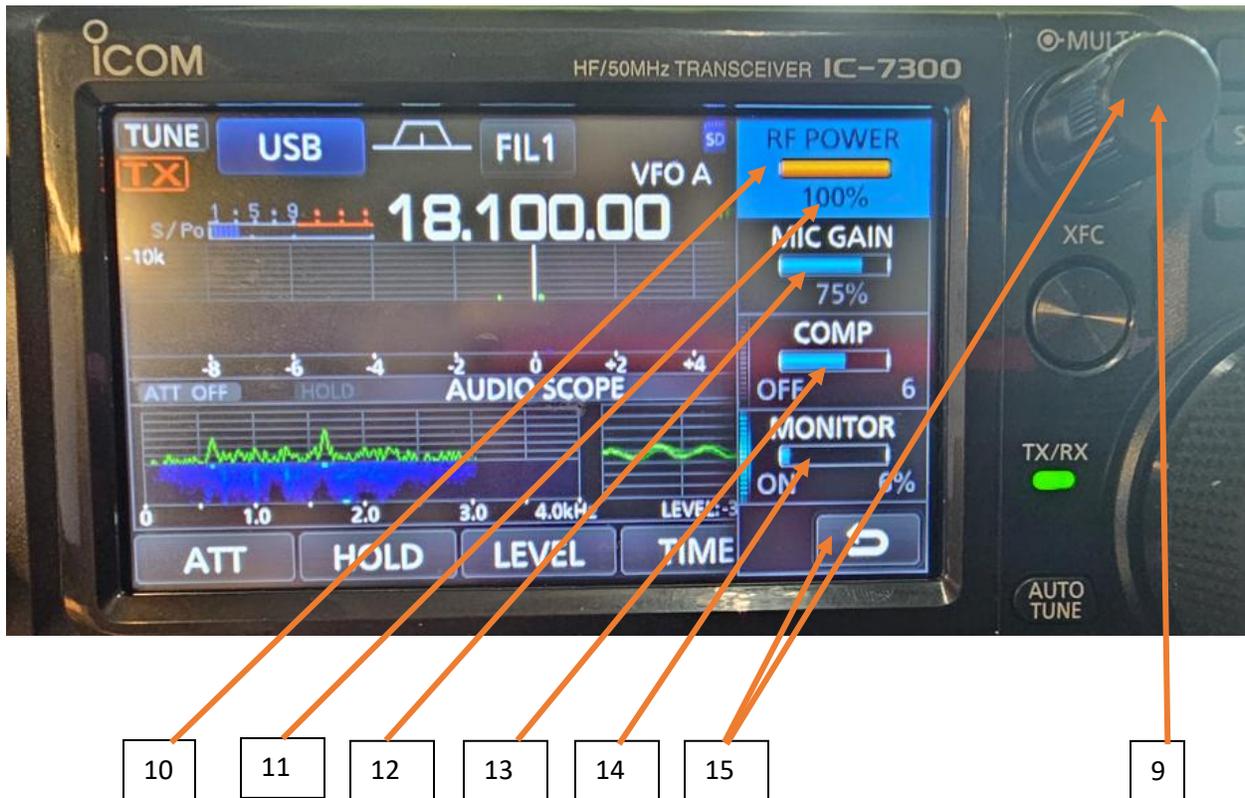
6. Touch the blue mode area to show the possible operational modes.
7. Touch the desired operational mode.
8. Press the return symbol or the exit button to return to the normal screen.



The preprogrammed operational modes should be changed using the “Loading IC-7300 Parameters” covered later.

### G.3 Using the Multi-Function Knob

The multi-function knob uses a context sensitive operation. The menu list will vary depending upon the operational mode being used. The menu values are changed by rotating the multi-function knob.



9. Press the multi-function knob to display the menu list.
10. Touch each of the menu items to change the value.
11. Leave the RF power at 100%. There is an automatic level control function (ALC) from the Expert amplifier that controls the IC-7300 transmit power level.
12. Mic gain should be 75%. This is optimized for the desk mic
13. COMP should be 5-7
14. Monitor should be 5-6%
15. Press the return symbol, multi-function knob, or EXIT button to return the normal operating screen.

## G.4 Operating the IC-7300 in SSB Mode

Operating the IC-7300 in the SSB mode involves placing the IC-7300 in the SSB mode and using the desk microphone or the headset and foot switch.

Follow in instructions in section G.2 above or load the SSB saved parameter to set operation to SSB.

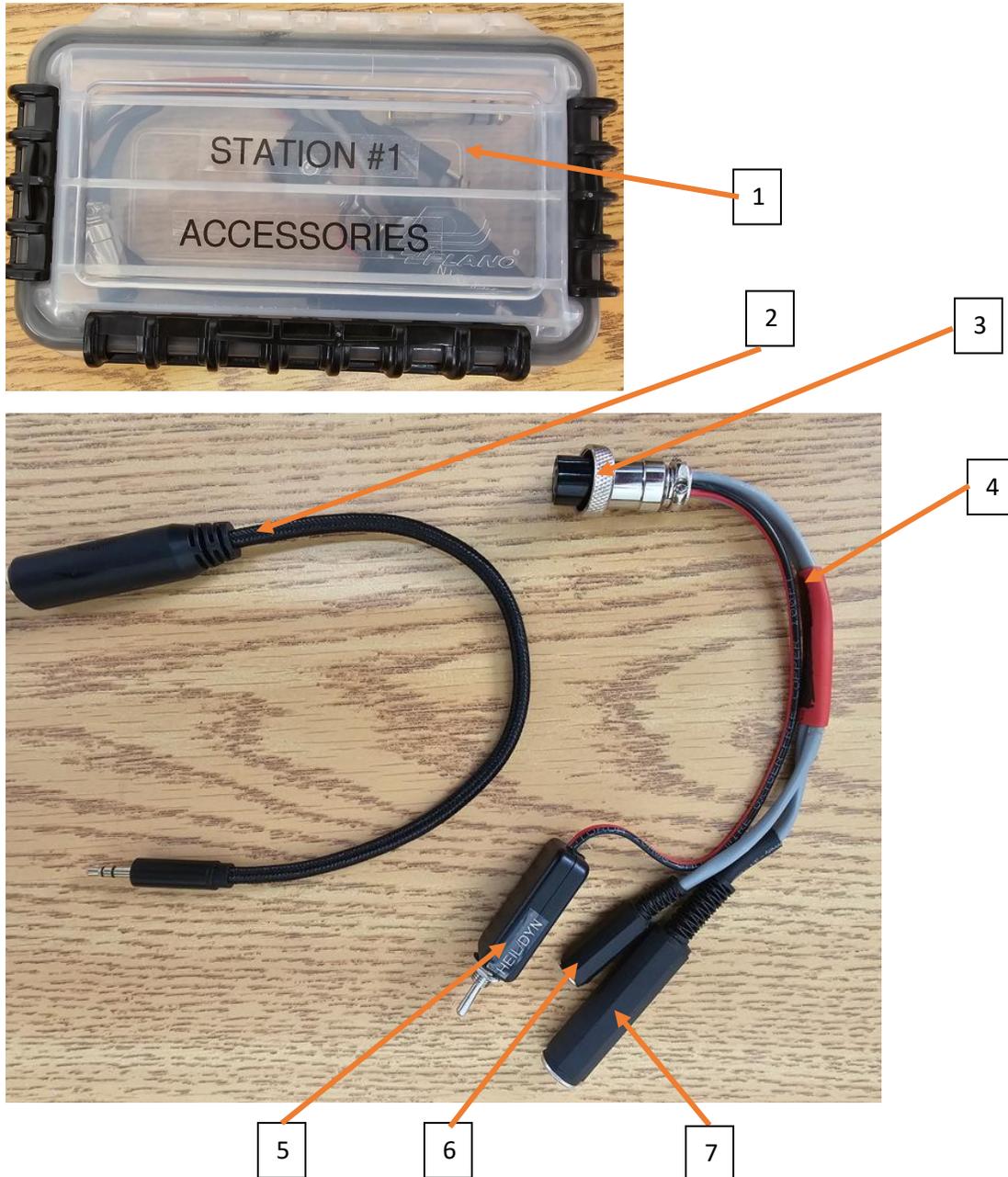
There are two voice operating scenarios. The first is using the supplied desk microphone. Press the microphone PTT switch to transmit. The mouth of the user should be held about 3 to 6 inches from the microphone head.

The second method is to use a headset. This will require the use of the headset adaptor that is stored in the clear plastic box to the right of the Expert amplifier.

After the IC-7300 is tuned off connect the microphone connector of the adaptor to the microphone connector of the IC-7300, connect the foot switch plug (1/4-inch phono) to the ¼ inch jack on the adaptor, connect the headset microphone plug to the 1/8-inch jack on the adaptor, and finally connect the headset receive audio plug to the 1/8-inch jack on the IC-7300. If the headset has a ¼ inch plug for receive audio then there is a ¼ inch jack to 1/8-inch plug adaptor cable to connect the ear piece audio to the radio. **Do not use a hard fixed adaptor as this will put excessive load on the IC-7300 audio jack.**

Use the foot switch on the floor below the station to activate the IC-7300 transmitter when using the headset.

## IC-7300 adaptor cable



1. Each station has an accessory box labeled for that station.
2. ¼ inch jack to 1/8-inch plug audio adaptor cable.
3. Plug connects to microphone jack of IC-7300.

4. Headset adaptor cable.
5. Dynamic (Heil) / Electret headset microphone switch. Place the switch in the position corresponding to the headset in use.
6. Plug headset microphone into this jack.
7. Plug the ¼ inch foot switch plug into this jack

Item 2 is used to connect a ¼ inch phono headset plug into the 1/8 inch IC-7300 audio jack. **DO NOT USE A HARD ADAPTOR AS IT WILL CAUSE EXCESSIVE STRAIN ON THE IC-7300 AUDIO JACK.**

Item 5 above is used to switch between a dynamic headset microphone and an electret microphone.



Foot switch is under the equipment bench below the station.

## G.5 Operating the IC-7300 in the CW Mode

The IC-7300 can be operated in the CW mode in one of two ways. The basic way, as described here, and using computer control. Using computer control will be discussed in a separate document.

To set the IC-7300 to the CW mode use the following steps.



2

1. Follow the instructions in section G.2 above and choose the CW mode of operation.
2. Make sure the BKIN function is active by pressing the VOX/BKIN button until BKIN is displayed on the screen.
3. Use the supplied CW paddle or your own supplied straight key to transmit. The Paddle or key plugs into the back of the station using a ¼ inch mono plug.



Supplied CD Iambic paddle

4. Use the multi-function button to set the CW speed for the paddle operation. In the CW mode press the multi-function knob to display the context sensitive menu.
5. Touch the KEY SPEED menu item
6. Use the multi-function knob to adjust the CW speed by rotating the knob.
7. Either press the multi-function knob or press the EXIT button to return to the normal screen.



5

6

7

4

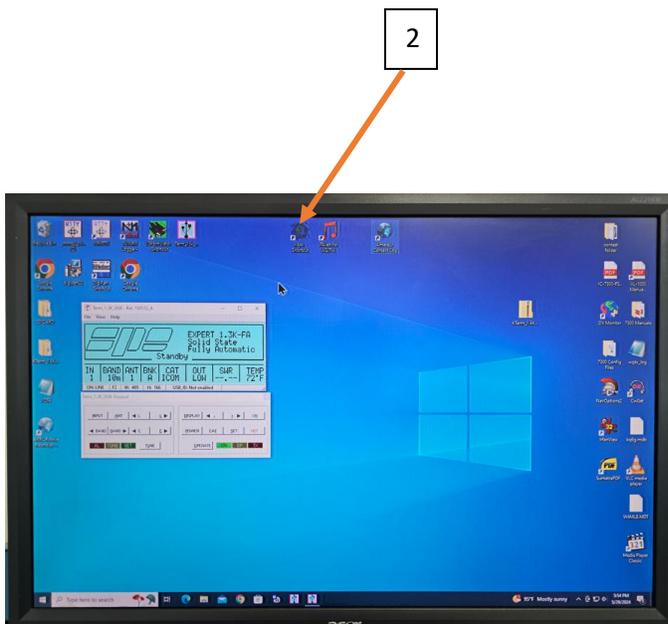
## G.6 Using the IC-7300 in the FT-8 Mode

The IC-7300 can be used in the FT-8 mode or other digital modes. This requires a software program, WSJT-X, on the computer. The computer and the IC-7300 are linked by a USB connection. It is typically not necessary to use the amplifier in the FT-8 mode. Keep the amplifier in the stand-by mode. If by extraordinary circumstance you need additional power, only use the LOW gain setting of the amplifier.

1. Use section G.2 above and set the IC-7300 to the FT-8 mode.
2. Start the WSJT-X program on the computer.
3. Refer to the WSJT-X operators manual at

[WSJT.sourceforge.io/WSJT-DOC/WSJT-Main-2.61.html](http://WSJT.sourceforge.io/WSJT-DOC/WSJT-Main-2.61.html)

for instructions using WSJT-X.



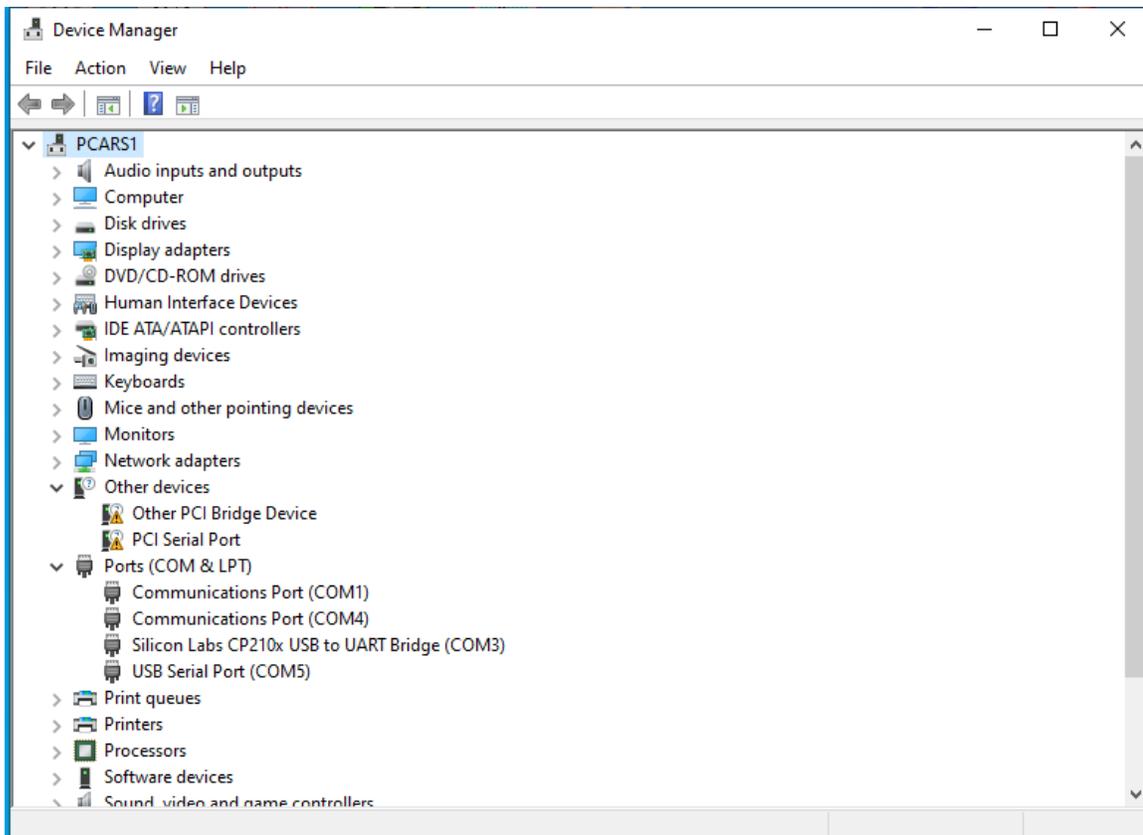
## G.7 Using the IC-7300 in the RTTY Mode.

In running RTTY from the club station, 2 COM ports must be used.

Since the IC-7300s at the club station only use a single USB cable, a virtual port must be used, to obtain the 2<sup>nd</sup> COM port.

### Virtual Serial Port Emulator setup

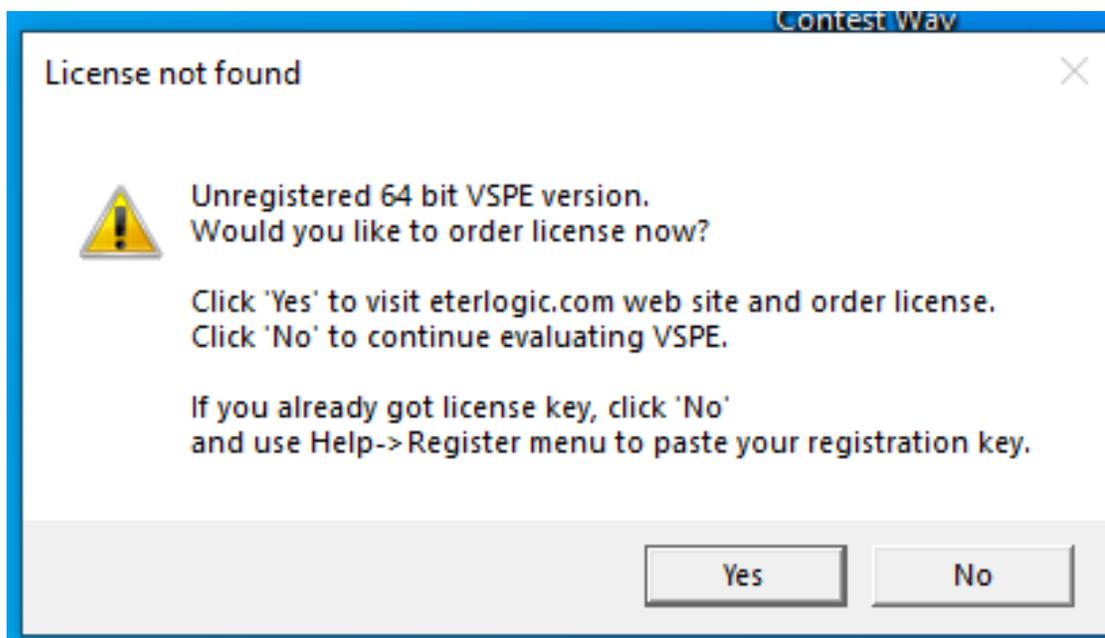
- Once the PC powered up, open Device Manager. Navigate to the Port (COM & LPT) section.
- Hit the down drop-down arrow & look at the COM ports. One of them should be labeled Silicon Labs CP21x UBS to UART Bridge (COM x). This is the COM port number of the interface to the 7300. Make a note of the COM port number.



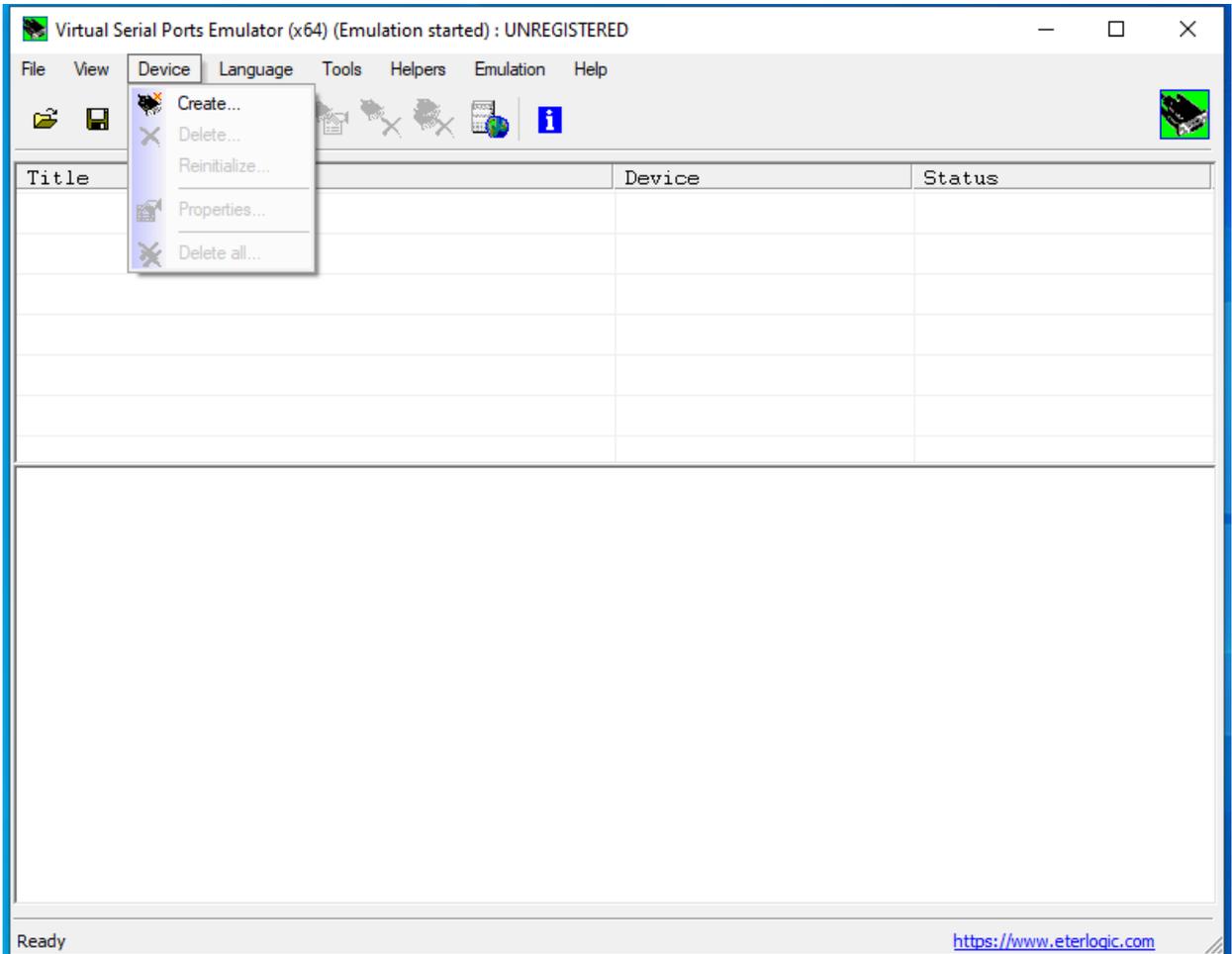
- Locate the VSPE icon on the desktop. Click it to open.



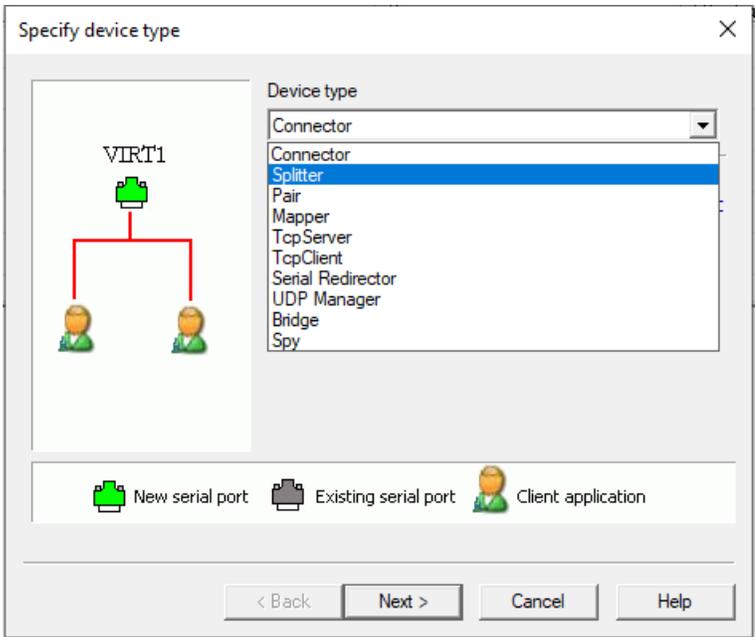
- A window will pop up, asking if you wish to purchase a license, it will say press yes, or to keep evaluating, press no. **PRESS NO**, do not select Yes.



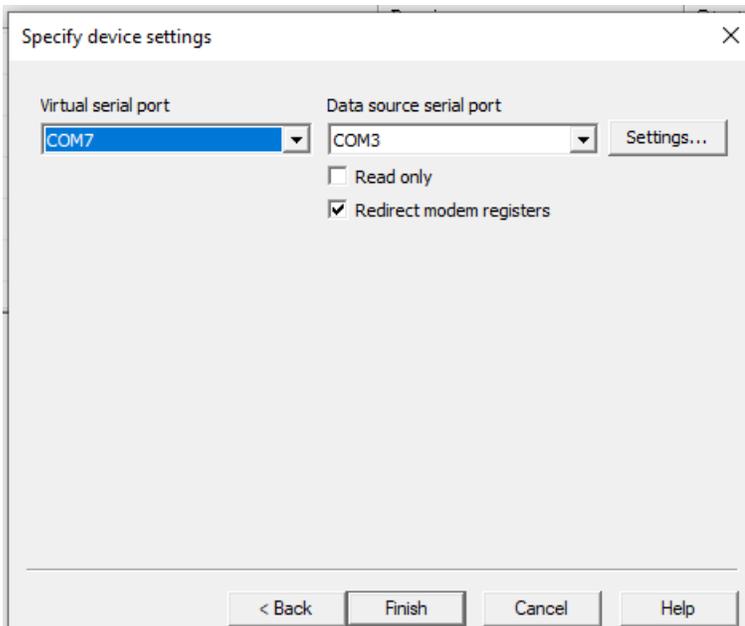
- The virtual serial port emulator will pop up. This will allow you to program the virtual port.
- On the taskbar across the top, select Device, then Create.



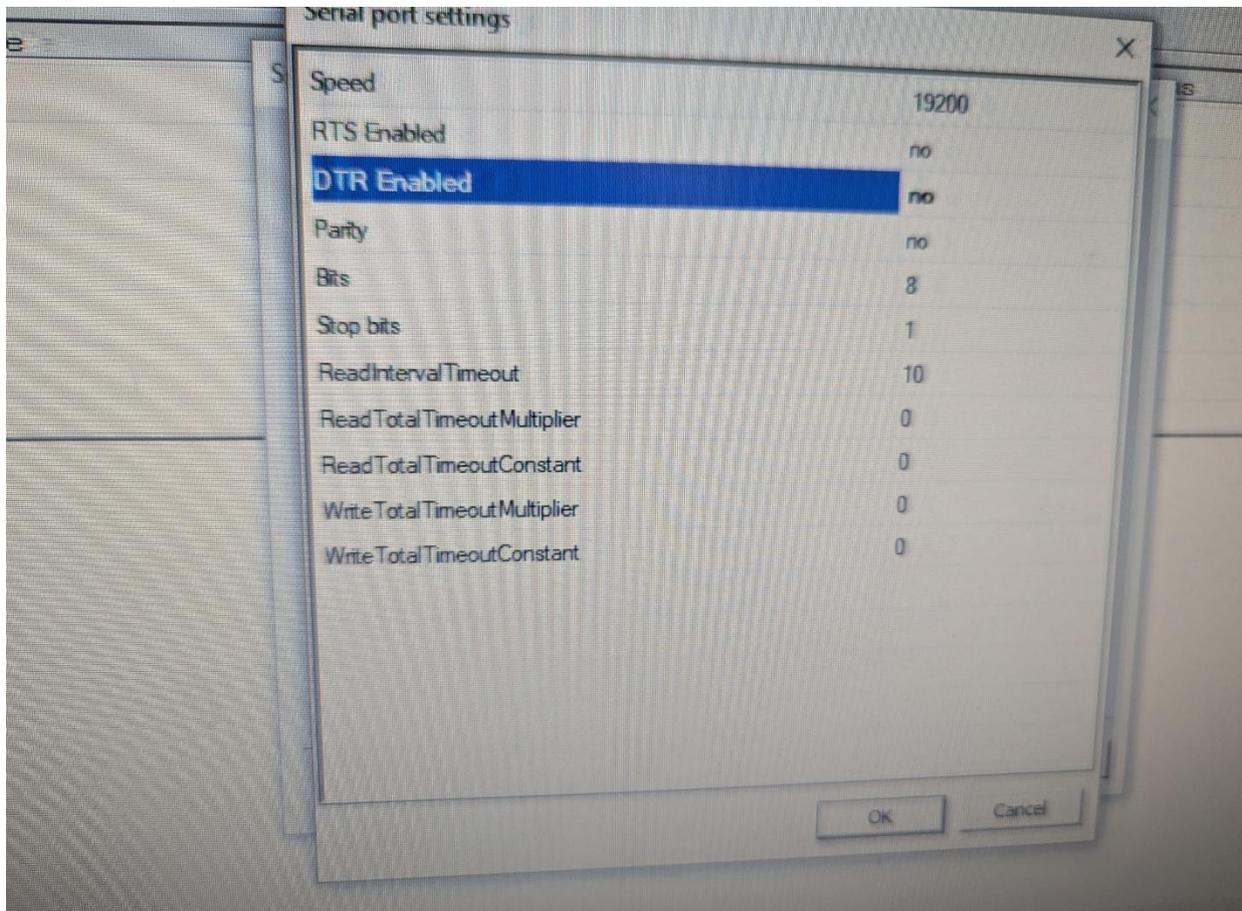
- Under Specify device type, select Splitter from the drop-down menu. Click Next.



- Under Specify device settings, click the drop-down menu for Data source serial port. Find the serial port you found with Device Manger & select it here.
- Under the Virtual serial port drop down menu, select the new COM port you wish to create (COM 7).



- Click Settings on the same page.
- The speed will read 115200, change it to 19200. Set the RTS Enabled & DTR Enabled both to NO. Click OK.



- Click Finish on the Specify device settings.
- On the screen, the line Splitter COM X == COM 7 should appear in green.

```
{May 26 2025, 14:00:19} [Splitter: COM3 => COM7] Initialization...OK (1, 0)
```

- Next, **MINIMIZE** the Virtual Serial Port Emulator window, **DO NOT CLOSE**.

## N1MM Setup

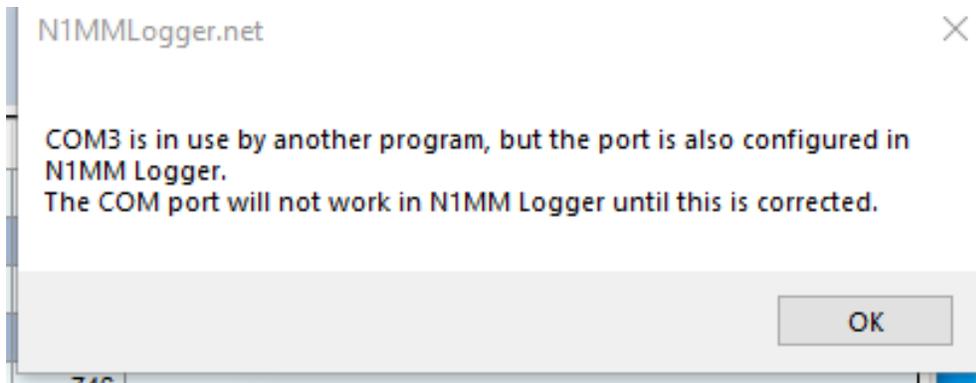
N1MM is typically set up for SSB contests & the single COM port takes care of the rig control interface for those contests.

However, since RTTY requires 2 COM ports, we must make changes to the N1MM Config, to see the virtual port.

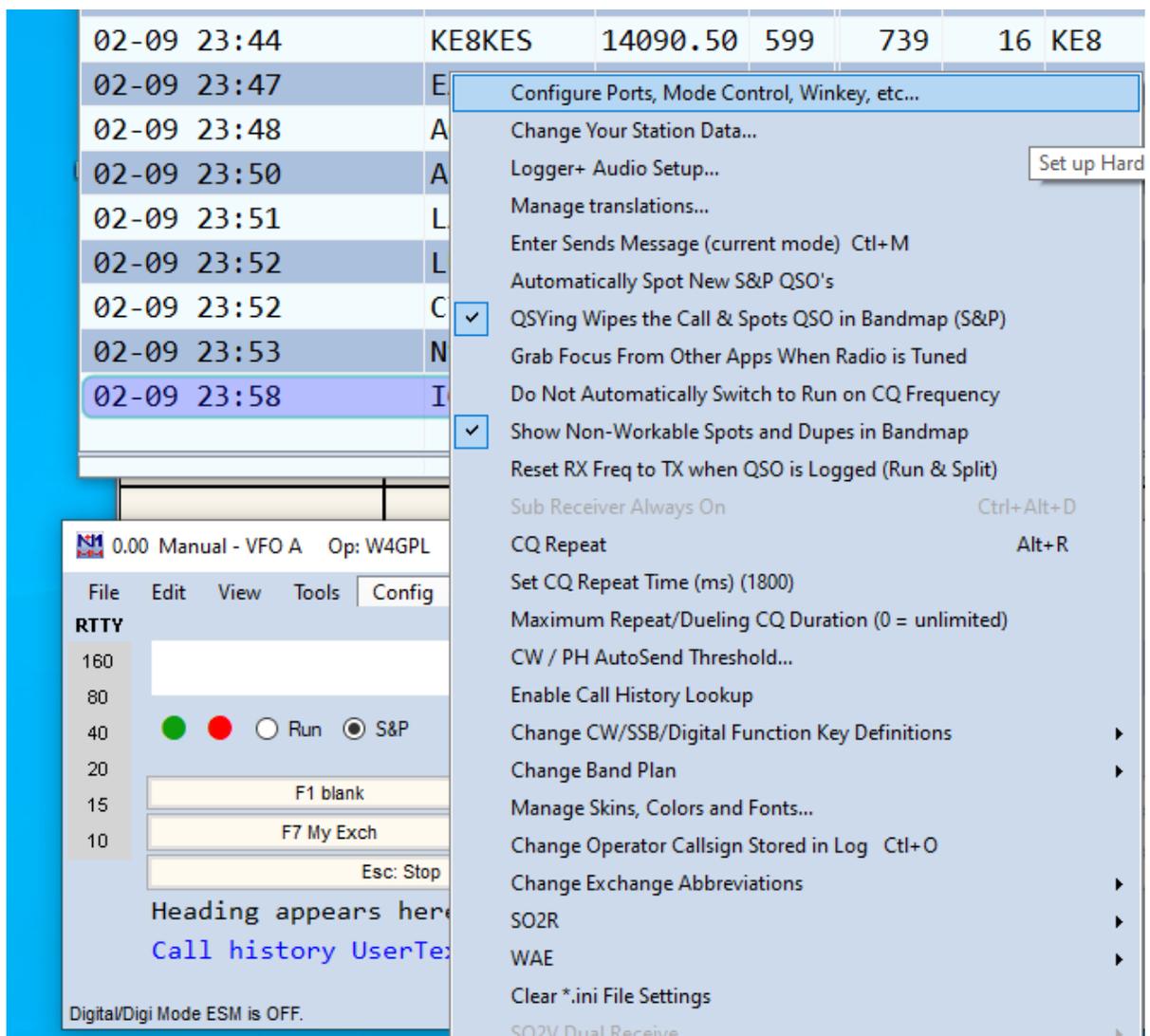
- Power up the radio.
- Under Menu/Settings, select the RTTY profile.



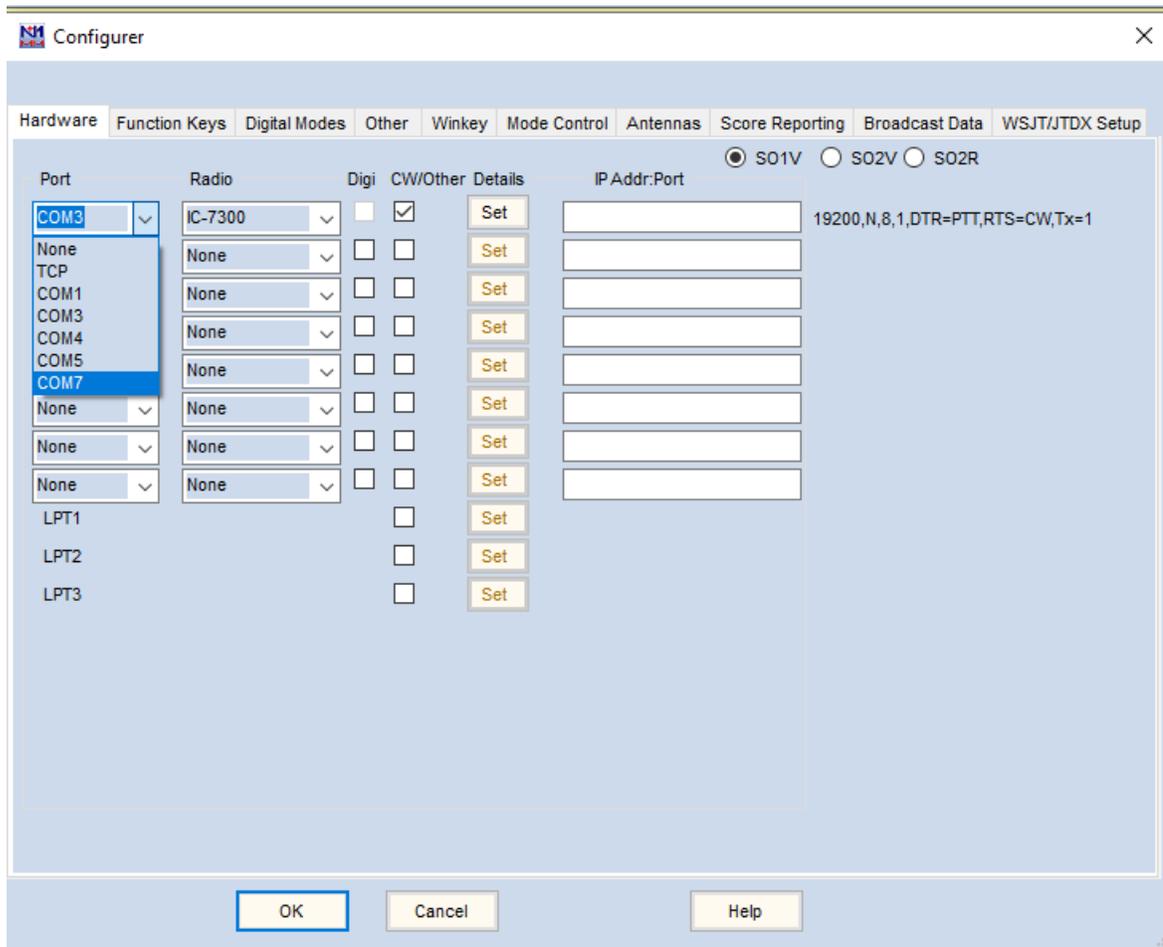
- Reset radio.
- Open N1MM.
- An error with COM ports will pop up right away, as the default configuration is normally set up for SSB. This is normal & will be around for a bit, until the COM port is properly configured.



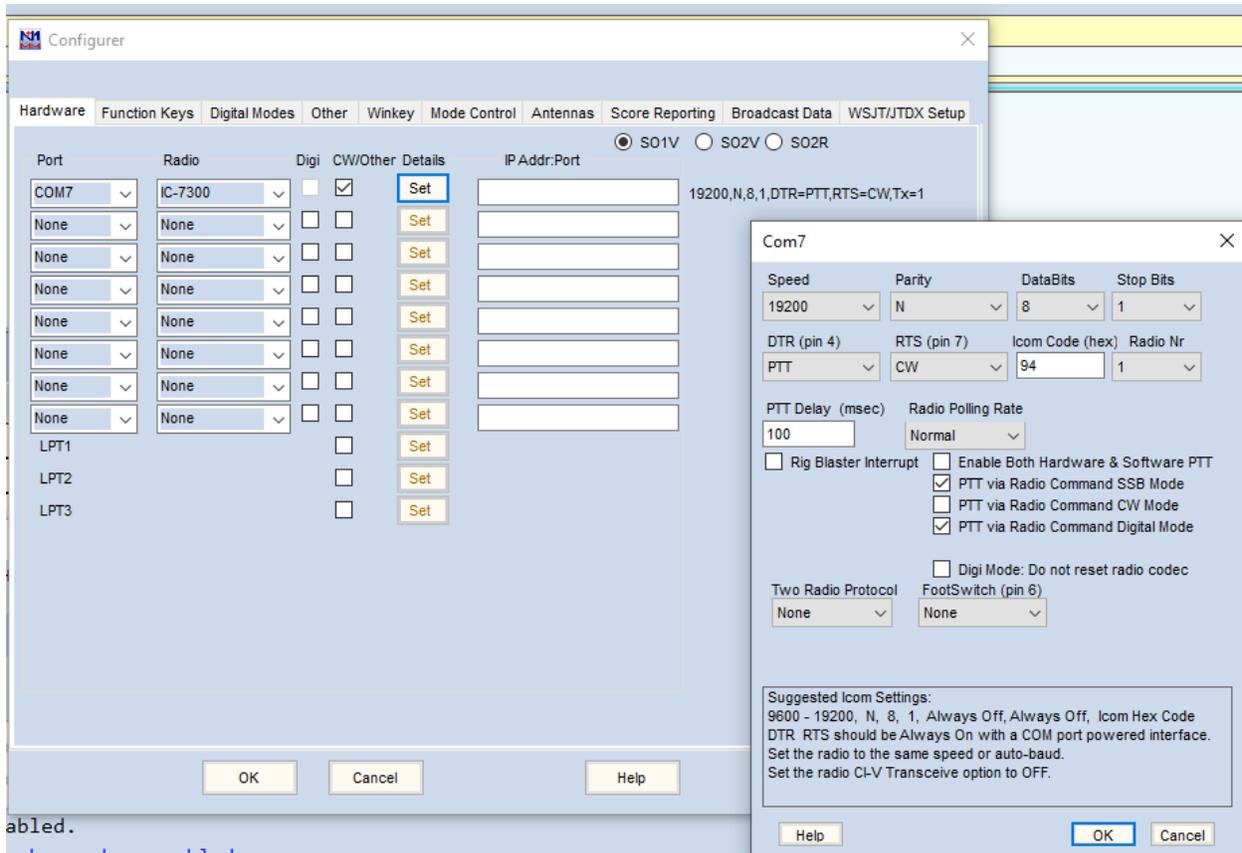
- From the N1MM taskbar, select Configure Ports, Mode Control, Winkey, etc.



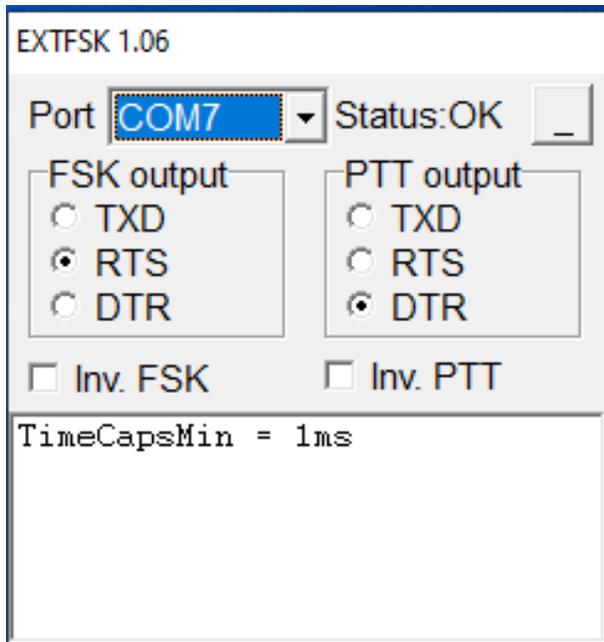
- Under the Hardware Tab, you will see Port & Radio. Under Port, Select the new Virtual Port created (COM 7). Click Set.



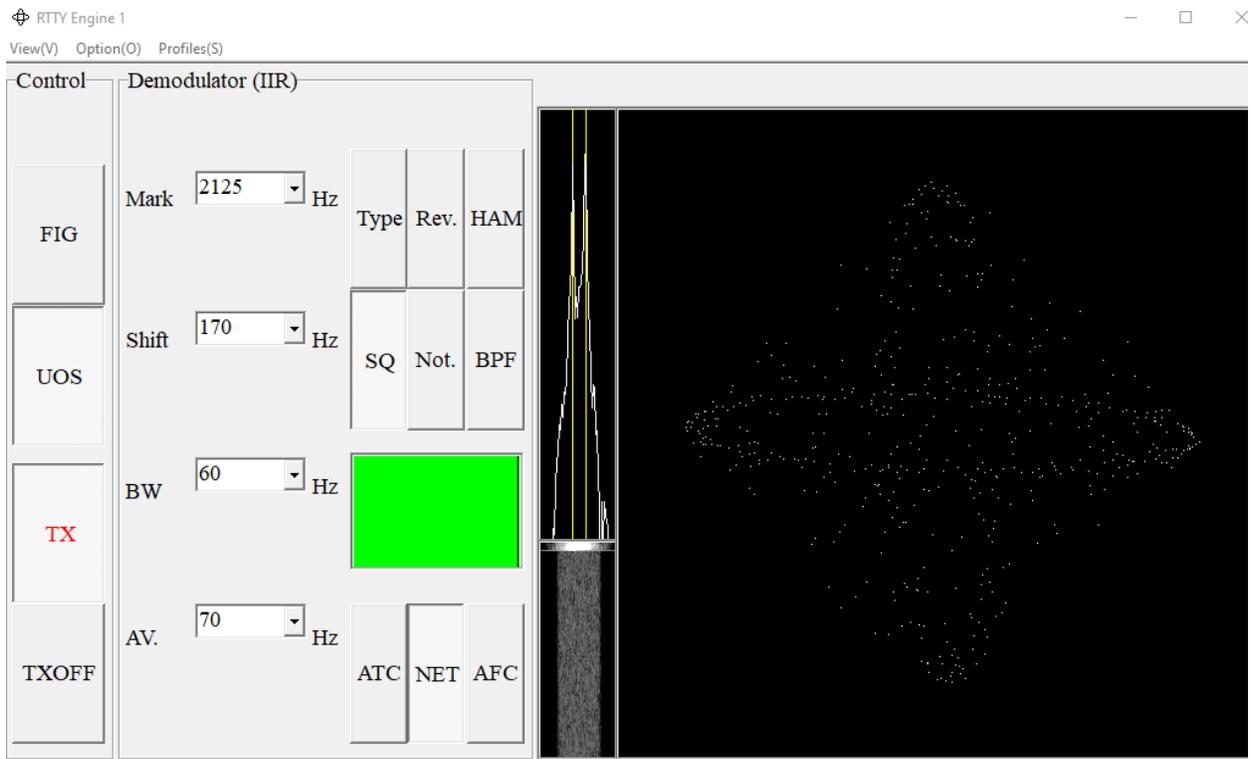
- The tab across Settings should read Com7 & also display the settings. Click OK.



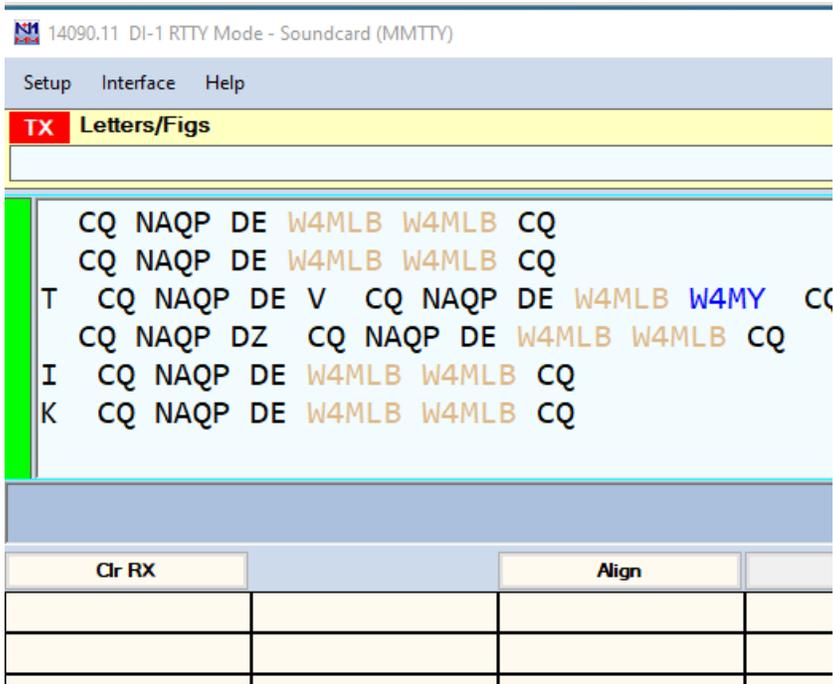
- On the Configurer screen, click OK.
- Once this is done, select the RTTY contest you are operating in, from the File Menu.
- Close N1MM & reopen.
- To ensure the RTTY mode is correctly selected, type RTTY into the entry window, press Enter.
- Another window will pop up, outside of N1MM, called EXTFSK & the virtual serial port selected in N1MM should be selected here, if it is not so already. The Status should read OK. This window should not be closed. You can move it somewhere else on the screen if needed.



- At this time, in N1MM, the control screen for RTTY, labeled RTTY Engine 1, will display the RTTY pattern.



- Also, the Terminal Screen, labeled with the current frequency, DI-1 RTTY Mode -Soundcard (MMTTY), will appear.



- Test the setup; by making sure the program is transmitting the correct dual tones (dittle)
- Position the N1MM windows to your preferred viewing.

### Resetting N1MM back for normal SSB operating

When a RTTY contest is complete, before leaving, N1MM should be set back to its original SSB confirmation. Also, the VSPE program can be closed at this time. This will free up the virtual serial port.

- Before exiting N1MM, select the select Configure Ports, Mode Control, Winkey, etc. button.
- Under the Hardware Tab, select Port & select the original COM port found in the Device Manager earlier (COM 4). Click OK.
- Exit N1MM.

## G.8 Using the Twin Passband Controls

The IC-7300 has Twin Passband controls. These controls are just left of the display. This is a concentric knob operation. There is a center rotary control and a concentric control. When either of the controls are rotated a passband display is presented on the screen. As either of the controls are adjusted the passband associated with that control moves back and forth. Using the twin passband control the operator can adjust the receiver passband to the desired bandwidth. The overlap between the two separate passbands is the actual receiver passband.



Pressing the Twin passband control sets both passbands to center.

## G.9 Volume and RF Gain Control

Use the center knob of the Volume/RF Gain concentric control to adjust the listening level of the IC-7300. Use the concentric knob of the volume/RF Gain knobs to adjust the station RF gain. When this concentric knob is rotated counter clockwise the gain of the receiver is reduced thus reducing the inbound signals. When the knob is rotated clockwise it increases the gain. If this control rotation is continued it will squelch the receiver until a stronger RF signal is presented to the radio. Typically, this RF gain adjustment is kept at the center, upward, position which gives the maximum gain without squelching.



Volume Control (Center) - RF Gain Control (Concentric)

## H. Using the SPE Expert 1.3K Linear Amplifier

The SPE Expert 1.3K amplifier is a 1400-watt amplifier that the club operates at a maximum of 1000 watts. This amplifier provides an ALC (automatic level control) control back to the IC-7300 to adjust the amount of RF power the IC-7300 provides to the amplifier. Also, there is a red binder at each location illustrating the operation of the Expert 1.3K amplifier.



When the amplifier is first powered on it will be in the Stand-By mode. The amplifier can only be tuned in the Stand-By mode.

The controls used during operation of the amplifier are:

1. TUNE – used to tune the amplifier
2. PWR – used to set the 3 gain levels for the amplifier. LOW MID MAX. **Do not use the MAX setting at any time.** When operating in FT8 or RTTY modes use the LOW setting only. The LOW will provide about 500 watts output. The MID selection will provide about 1000 watts output

3. OP – to set the amplifier in the operational mode to provide the higher transmit power as needed
4. TUNE LED – This indicator illuminates when the amplifier is in the tune mode and extinguishes when tuning is complete

All other buttons are not used in normal operation.

The bottom of the display shows the normal settings of the amplifier. The settings should be as follows.

#### **IN 1**

**BAND** – depends on operational band. When the amplifier is tuned on a specific band and antenna the BAND indication will follow that of the IC-7300.

**ANT 1** – This will change to ANT 2 for 6-meter operation.

**CAT ICOM** Indicates the control mode is for ICOM radios

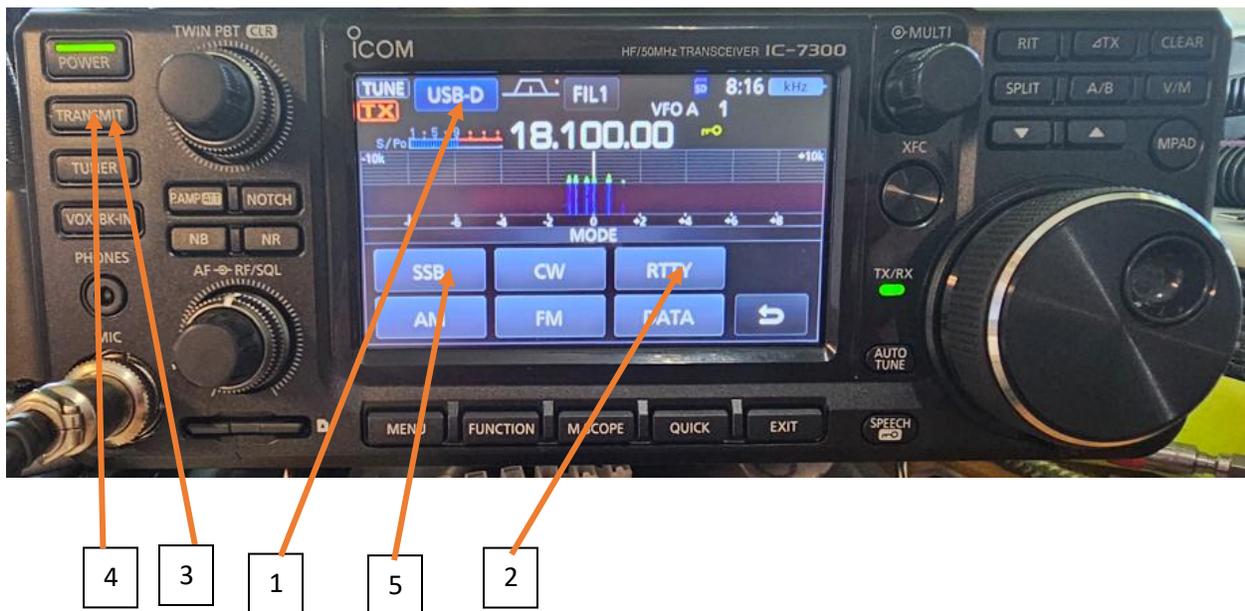
**OUT** – Set by the PWR button. LOW MID MAX. **The MAX setting should never be used.**

**SWR** – measures the tuned SWR for the antenna system.

**TEMP** – The operating temperature of the amplifier in degrees. This will rise as the amplifier is used.

## H.1 Tuning the Expert 1.3K Amplifier

The Expert 1.3K amplifier can only be tuned in the Stand-By mode. Ensure the amplifier is in the Stand-By mode before attempting to tune the amplifier. Tuning the amplifier requires a constant RF source from the IC-7300. Given this the IC-7300 should be set to the RTTY mode of operation before tuning the amplifier. Make ensure the IC-7300 transmit power is set to 100%.



1. Touch the blue mode icon
2. Touch the RTTY mode



3. Press the TUNE Button on the amplifier (The TUNE LED illuminates) and immediately press the TRANSMIT button on the IC-7300.
4. When the TUNE LED extinguishes press the TRANSMIT button on the IC-7300 again to stop the transmission.
5. Change the operational mode of the IC-7300 to the desired mode.

The amplifier is tuned to the antenna and is ready to be used. The amplifier will tune VSWR to up 3:1.

## I. Station Status Monitor (Band Display)

The station Status Monitor provides operating information of station #1 and #2. The Station Status Monitor is located high on the wall above station #3. The provided functions are:

1. Band Selection
2. Operating Mode

Also, provided is an internet synchronized real time clock providing time in ZULU (GMT).



The station status monitor will initiate a warbling tone alert if both stations are set to the same band for more than 3 seconds. To disable the alert, change the band on either station #1 or station #2. If a station is set to a frequency that is out of band the band display will show “???”.

## **J. Using the Blue Antenna Switch Box at Station #1 and Station #2**

Station #1 and station #2 are equipped with an antenna switch box. These switches work on conjunction with each other and control the antenna relay box located in the storage room. There are two rows of LEDs. The green LEDs indicate the selected antenna for the station that is being operated. The red LEDs indicate the selected antenna of the opposite station. EXAMPLE: At station #1 the green LEDs indicate the selected antenna for station #1 and the red LEDs indicate the selected antenna for station #2. When at station #2 the green LEDs indicate the selected antenna for station #2 and the red LEDs indicate the selected antenna for station #1.

The possible antenna selections are:

- A. LOAD/Field Antenna. Normally this is for the RF Dummy load. There is an A-B switch in the storage room that will switch between the load and field antenna. The field antenna is used to connect the crank-up tower, that is normally located in the field south of the PCARS shack.
- B. TA-33 antenna. This is a fixed direction tri-band antenna that covers 20-15-10 meters. This antenna is pointed in a NW direction.
- C. PRO67B antenna. This is the top multi-band antenna. This antenna covers 40-20-17-15-12-10 meters and is rotatable.
- D. 30-meter loop antenna. This is a single band loop antenna for 30 meters.
- E. 80/40-meter dipole. This is a dual band fan dipole that covers the 80 and 40-meter bands. This antenna has a narrow operational bandwidth tuned primarily to the lower end of the band. The VSWR will increase as the frequency increases. The resonant

bandwidth of the 80m dipole can be changed to a higher range by unwrapping the wire extension at each end of the dipole and letting the extension dangle or wrap it over the rope.

- F. 160-meter inverted L antenna. This antenna is for 160-meter operation. It is tuned to the lower end of the band and the VSWR will increase as the frequency is increased.



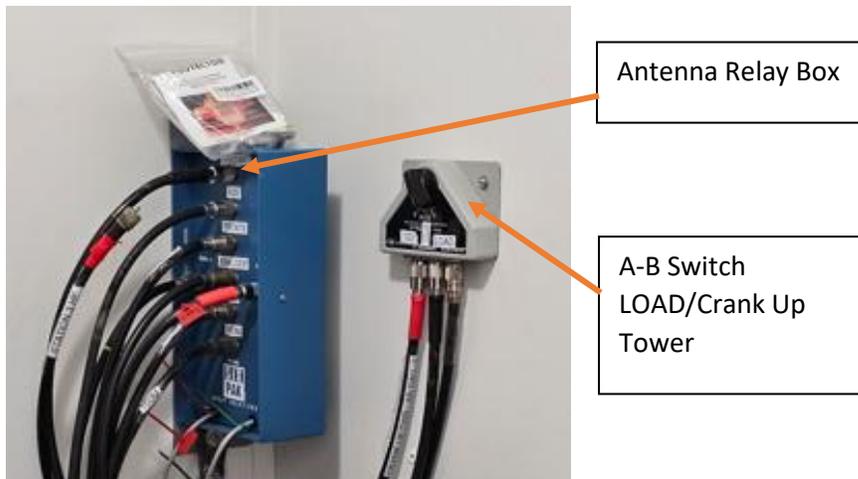
Station #1 antenna switch box

If station #1 is the first to select the PRO67B antenna and then station #2 selects the PRO67B station #2 will not be connected. This protects from having both stations connected to the same antenna. If station #1 now selects another antenna station #2 will automatically be connected to the PRO67B antenna.

The two blue antenna switch boxes control the antenna relay box that is located in the storage room.

### **K. Using the Field Antenna. Crank Up Antenna on the Trailer**

There is a tower on a trailer located in the field south of the shack. This tower is sometimes used for contesting to obtain better isolation between transmitters. To connect to this tower/antenna switch the A-B switch in the storage room from LOAD to Crank Up Tower and set the blue switch box to LOAD. When finished be sure to set the A-B switch back to LOAD. There is a coax rolled up near the gate. This coax will need to be connected to the coax coming from the antenna on the crank-up tower.



Located in Storage Room



### Crank Up Tower on Trailer

The crank up tower has two 12-volt electric winches. One is to raise the tower from the horizontal to the vertical position and the second winch provides the vertical raising and lowering of the tower. Located in the trailer tool box is one control cord that can be used to control either winch. There are 2 remote control FOBs. One for each of the winches. The FOBs are marked for the winch it controls. A 12-volt source will be required using either an independent battery, supplied or not in the stored equipment box. This battery needs to be supplied by the operator or use jumper cables from a vehicle battery. Instructions for use are provided in the trailer tool box.

The keys for the trailer tool box are hanging on the inside of the club station storage room door. Return the keys to this location after use.



Coax for Crank-Up Tower

Orange Coax crush  
protection

The coax for the crank-up tower is secured next to the fence at the gate entry. Place the protected coax across the drive placing the holes in each end over the orange rods driven on the ground on each side of the drive. The rods will hold the coax assembly in place over the drive.

## L. Using the Antenna Rotors

There are currently two separate antenna rotor control boxes installed at the club shack. The first rotor control is to the left of station #1. This rotor control rotates the PRO67B antenna only. The second rotor control is for the 2M/6M antennas. This second rotor control box is just to the left of station #3.



PRO67B and 2M/6M antenna rotor control

While rotating the PRO67B antenna in the left (counter clockwise) direction there is a hard stop at about 265 degrees. The rotation will stop at this point and moves no further. In the right (clockwise) direction the antenna will rotate beyond 270 degrees. At 270 degrees, when rotating in the right direction, the red overlap LED will illuminate. Do not rotate the antenna any more than 290 degrees while rotating in the right (clockwise) direction. If the antenna is to be pointed in the N.W. direction from the hard stop rotate the antenna left (counter clockwise) direction until the desired direction is obtained. Yes, ALL the way around.

The 2M/6M rotor control operates in the same manner as the PRO67B rotor control except the hard stop is approximately at 180 degrees.

To rotate the antenna in the counter clockwise direction press the LEFT button. The antenna only rotates while the button is held. To move the antenna in a clockwise direction, press the RIGHT button.

### **M. Using the 6-meter Antenna on Stations #1, #2, and #3**

The 6-meter antenna can be used by all 3 IC-7300 stations.

This switch switches the 6M antenna between station #1, Station #2 and Station #3. Previously only station #3 could use the 6M antenna. Also, for Station #1 and Station #2 the Expert 1.3K amplifier has to be used for this function. The procedure relies on the Expert Amplifier multiple antenna connection selections. The amplifiers are programmed in such a manner when the 6M band is selected on the ICOM IC-7300 and the amplifier is tuned, the amplifier automatically selects antenna #2 output that connects to the 6M antenna switch.

This switch is mounted on the wall between station #3 and the printer. See below:



Antenna #1 position connects to antenna #2 of amplifier #1 (Station #1). Antenna position #2 connects to antenna #2 of amplifier #2 (Station #2), and antenna position #3 connects to the antenna port of station #3 IC-7300.

If you are operating at station #1 then select STA1 on the 6M antenna switch. If operating from station #2 select STA2 on the switch. If operating from station #3 select STA3. The position #4 is left open.

When complete with operation on 6M be sure to leave the 6M antenna switch in the STA3 position.

All three operating positions can access the 6M antenna.

## **N. Loading IC-7300 Profiles**

The IC-7300 radios are equipped with an SD card that stores operating profiles and other parameters. The primary purpose of the SD cards in this situation is to store four profiles. These profiles are SSB, RTTY, CW, and FT8. These profiles set the operating conditions and properties of the radio. The user can load each of the profiles depending upon need. The SD card is locked so no one can over write the stored profiles.

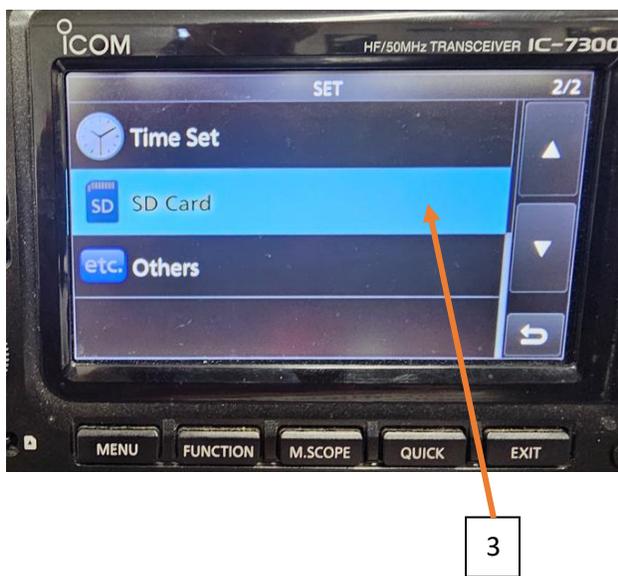
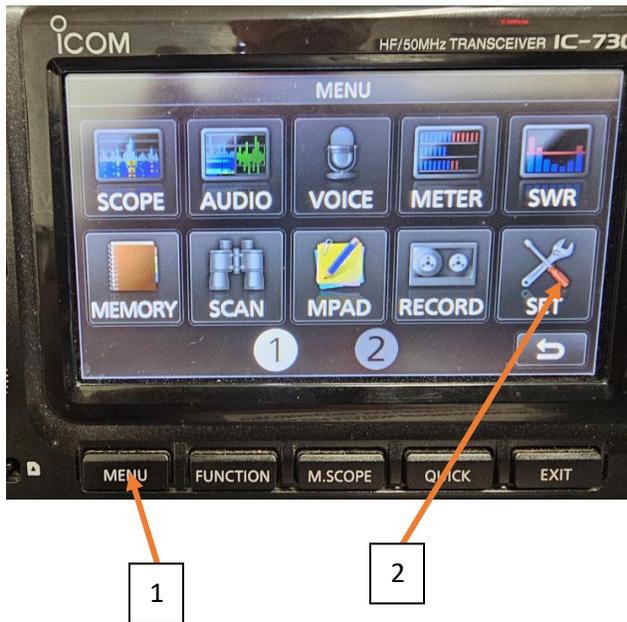
See the profile loading process below:

1. PRESS the MENU button
2. Select SET
3. Select SD card
4. Select LOAD Setting
5. Select the desired profile SSB, CW, RTTY, or FT8.
6. Select ALL
7. Select YES
8. Turn the radio off.
9. Turn the radio back on if continuing operation of the station.  
When the radio is turned off make sure the power LED on the Expert 1.3K amplifier extinguishes before powering the IC-7300 on again.

If the user is finished operating the station perform the following steps to load the SSB profile.

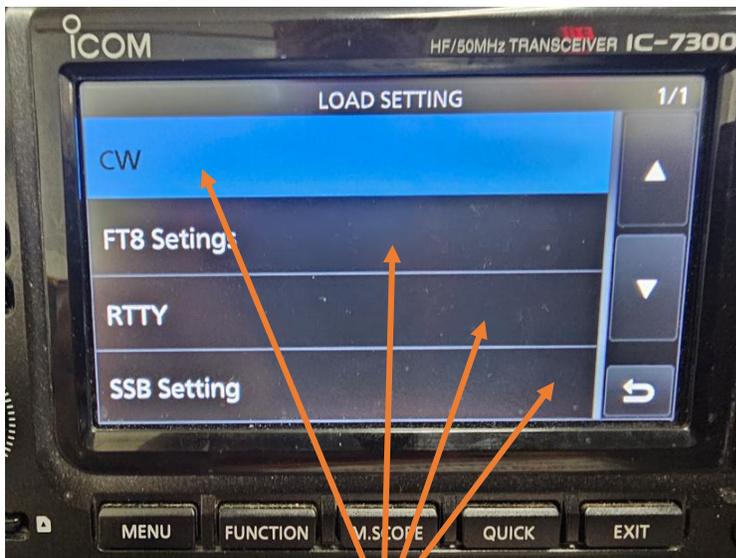
10. Press the MENU button
11. Select SET
12. Select SD card
13. Select LOAD Setting
14. Select the SSB profile.

15. Select ALL
16. Select YES
17. Turn the radio off.





4



5



6



7



If the user is ending the operating session, follow steps 10 through 17 to load the SSB profile and turn the radio off. Also, replace the dust cover on the IC7300.

## **O. Shutting Down the Club Stations**

If the user is finished using the club equipment and is ready to leave the shack follow these steps and procedures to ensure all equipment and etc. are shut down properly.

- A. Properly turn off all computers using WINDOWS POWER SHUTDOWN
- B. After loading the SSB profile turn off the IC-7300 and make sure the Expert 1.3K amplifier turns off.
- C. Place the dust cover on the IC-7300

## P. Exiting the Club Shack

If the user is complete with all operations and is ready to leave the club shack perform the following.

D. Make sure the circuit breakers for the 120VAC and 240VAC are



120 VAC Circuit Breaker

For stations and accessories

240 VAC Circuit Breaker

For Amplifiers

turned off

- E. Set the temperature of the thermostat to 80 degrees or above.
- F. Use the Entry/Exit Log Book to log out. Please be sure to check off all exit check boxes after all actions are complete.
- G. Turn off all lights
- H. Make sure the door latch is set to the latched position, the hasp is extended.
- I. Close the door and make sure it is fully locked and latched.
- J. Make sure the

## **Q. Club Shack Service Room**

This is another resource for club members. The club shack has a service room available for use by club members. This room is for the purpose of working on personal and club equipment, projects, and etc. The room is equipped with a stock of tools that can be used by club members. All tools are not to leave the property. The club tools are not for loan and must be used on-site. Just remember, please clean up after yourself.

The circuit breaker panel 120VAC circuit breaker, bottom right of the panel in the main room, must be turned on for the power strip to be supplied with power.

This room also serves as additional storage for equipment.



**PCARS Club Shack Service Room**

# R. Predator 13000-Watt Generator Operations

## Guide

Ver. 1.0

### Starting the Generator

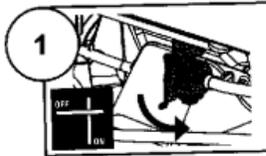
50 AMP Socket –  
42A Circuit Breaker

#### Before Starting the Engine

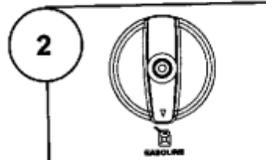


- Inspect the generator and engine.
- Disconnect all electrical loads from the generator.
- Fill the engine with the proper amount and type of both stabilizer-treated unleaded gasoline and oil.

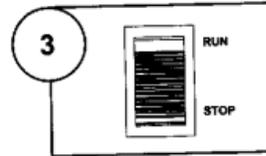
1. Open gasoline Fuel Valve.



2. Turn the Fuel Selector Switch to the GASOLINE setting.

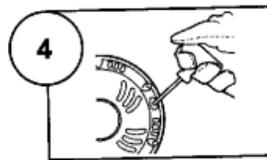


3. Push the Engine/Battery Switch to the RUN position.



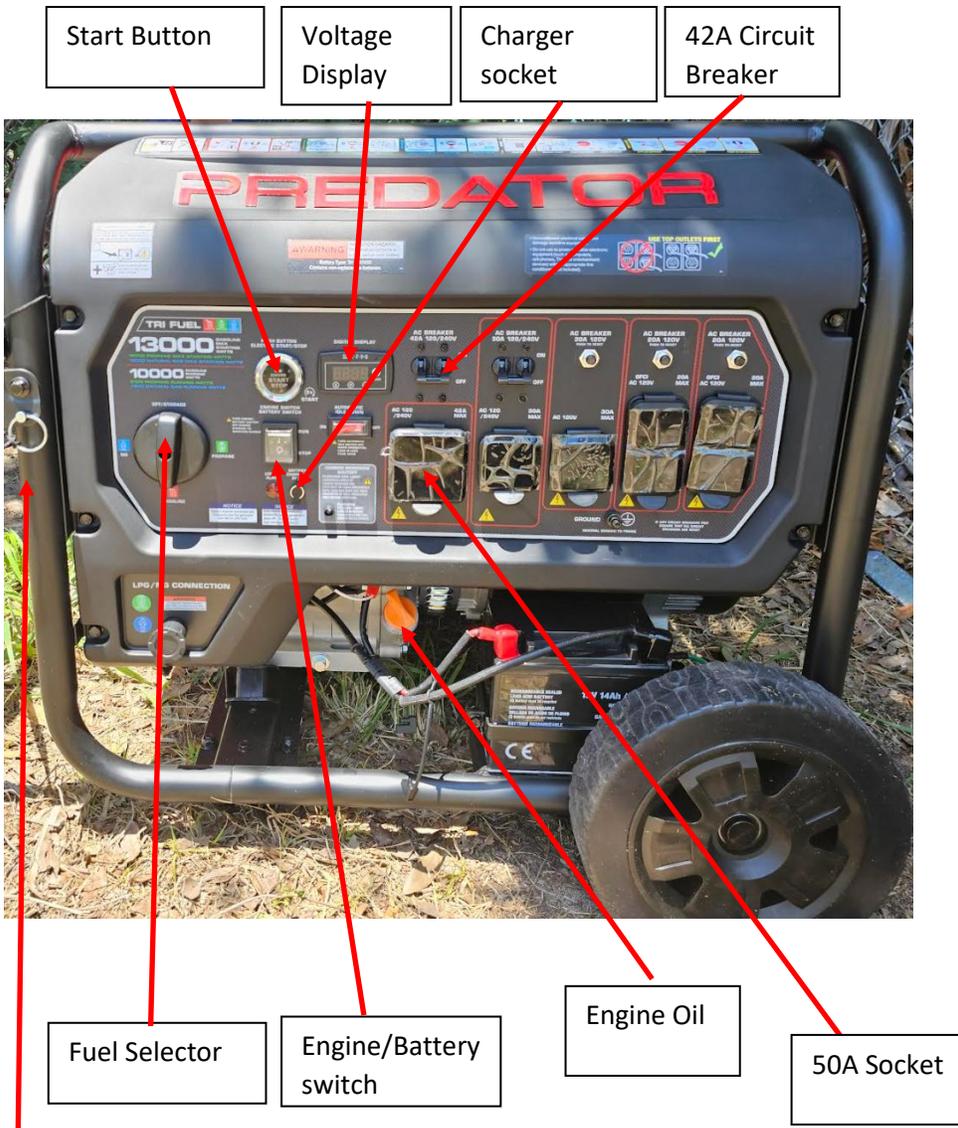
#### Select a starting method:

4. **Manual Start:** Grip the Starter Handle of the Engine loosely and pull it slowly several times to allow gasoline to flow into the Engine's carburetor. Then pull the Starter Handle gently until resistance is felt. Allow Cable to retract fully and then pull it quickly. Repeat until the Engine starts. Do not let the Starter Handle snap back against the housing. Hold it as it recoils so it doesn't hit the housing.
5. **Remote Start:** Slowly press and release the 2x Button on the Stop/Start Remote Control twice.  
**Note:** If a CO shutoff event has occurred the remote start capability will be disabled until the Generator Engine has been restarted by another method.
6. **Electric Start:** Slowly press and release the Engine Start/Stop Switch twice.



**Note:** The Engine is equipped with an auto-choke system which requires the battery to be charged to operate. If battery is dead, use the mechanical choke override located above the carburetor to manually choke and unchoke the Engine and start the Engine manually.

FIGURE 1



Fuel Valve is located on the front of the generator

The generator is stored in the shed behind the Fire Training Center and the shed is locked. The keys for the lock are located inside the storage room door. Return the keys to this location when finished.

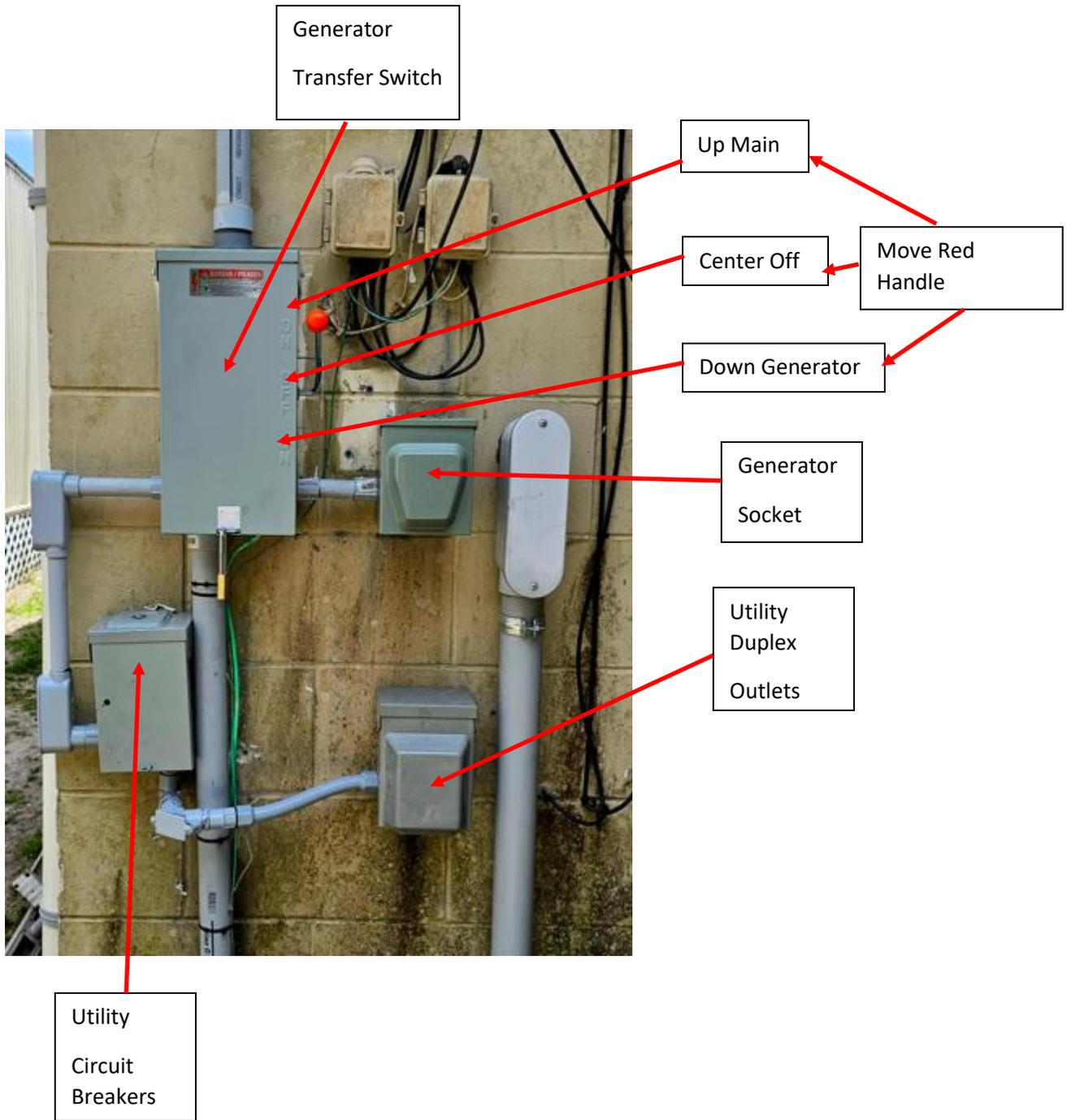
## **S. Generator Transfer Switch Operation**

The generator transfer switch is located on the back wall of the Fire Training Center. This is next to the storage shed where the generator is stored. Follow these steps to switch from MAIN power to the Generator power.

1. Remove the generator from the storage shed. The keys for the shed lock are located in the inside storage closet, hanging on the inside of the door.
2. Connect the generator to the generator receptacle using the provided 50 Amp generator cable.
3. Follow the instructions attached to the generator to start the generator.
4. Turn on the 42A circuit breaker on the generator
5. Pull to transfer switch arm from MAIN to GEN

### Disengaging the generator and return to MAIN power

6. Move the transfer switch arm from GEN to MAIN.
7. Follow the instructions attached to the generator to shut the generator down
8. Store the 50A cable on the shelf above the generator
9. Move the generator back into the shed and lock the shed



**Club Station A-C Power Switching and Sources**

## **Document Change Tracking**

Version 1.6      Released 06-05-2024 1<sup>ST</sup> Publishing

Version 2.0      Released 07-15-2024 2nd edition

Version 3.0      Released 06-30-2025 3<sup>rd</sup> edition