YARA Appendix – Radios, Laptops and Software

Note: This checklist is for operators who have had familiarization training with the radio/software or who have read or watched the reference materials.

Checklist

- 1. Using a transceiver without digital programs or panadapter
 - $\hfill\square$ The antenna outside is connected to outside coax port
 - □ Coax jumper cable is connected between the inside coax port and the radio
 - □ On TS-590S, jumper cable is connected to antenna 1
 - □ Radio power cable is connected to Anderson power distribution box
 - □ The radio is turned on and appropriate settings are selected: Mode (CW, SSB, et)
 - □ The appropriate power setting for mode is selected
 - □ Other settings are made as required (filters, noise blanker, AGC, etc.) see the manuals in the references on the website
- 2. Using a digital program (Winlink or WSJT-X.)
 - $\hfill\square$ The CAT/USB cable is connected between the transceiver and the laptop
 - □ For the ft-890, the audio cable is connected between the transceiver and the laptop. The ts-590S does not require an audio cable.
 - □ The laptop and radio power are turned on
 - □ The device manager on the laptop is selected to determine which com port the laptop is using with the radio.
 - □ Only one digital program is booted up (only one digital program can be used at a time).
 - □ The program settings dialog box is opened, and the correct settings are made for the radio (com port, speed, etc.) see sample screenshots
 - □ The audio settings dialog box is opened, and the correct audio source is selected e.g. CODEC # see sample screen shots
 - □ The TS-590S menu #63 (audio input line) is set to "USB", not "ACC2"
 - □ The frequency on the radio and program will be the same and move in unison when changed by the radio or software.
 - □ The correct power setting is selected (digital modes generally use a lower setting than CW and SSB check the references and manuals)
- 3. Using a digital program (one of the fldigi modes CW, RTTY, PSK)
 - $\hfill\square$ The CAT/USB cable is connected between the transceiver and the laptop
 - □ For the ft-890, the audio cable is connected between the transceiver and the laptop. The ts-590S does not require an audio cable.
 - □ The laptop and radio power are turned on
 - □ The device manager on the laptop is selected to determine which com port and the correct audio source (CODEC #) the laptop is using with the radio.
 - □ The TS-590S menu #63 (audio input line) is set to "USB", not "ACC2"
 - □ Flrig is booted up (interface between the transceiver and Fldigi)

- □ The radio configuration window is opened and correct settings for the radio and the audio source are selected
- □ Flrig is initialized
- □ The frequency and controls on the radio and software will work in unison when changed by the radio or flrig
- □ Fldigi is booted up and one of the modes is selected (CW, RTTY, PSK, etc.)
- Other settings in fldigi are selected as required (macros, levels, and other features) study the help manual for familiarization
- □ The correct power setting is selected (digital modes generally use a lower setting than CW and SSB checked the references and manuals)
- 4. SDR Console (padapater/waterfall) A RTL-SDR dongle is provided, but other SDR receivers can be used
 - □ The SDR Console with work with CW, SSB, AM, and FM broadcast modes, but not with other digital programs. However, the other programs don't require a panadapter because they each have their own visual interface for the transceiver.
 - □ If the operator has not set up the SDR panadapter before, it is recommended that they watch the video showing how to set one up.
 - □ The CAT/USB cable is connected between the transceiver and the laptop, using a USB hub (if the laptop does not have enough spare USB ports)
 - □ For the ft-890, the audio cable is connected between the transceiver and the laptop. The ts-590S does not require an audio cable.
 - □ The antenna jumper coax is connected to the MFJ 1708 SDR switch
 - □ One short coax jumper cable is connected between the transceiver and the MFJ 1708 SDR switch.
 - □ The other short coax jumper cable is connected SDR receiver and the MFJ 1708 SDR switch. The coax cable is connected to the SDR receiver through SMA adapter or SMA cable.
 - □ SDR switch control cable is connected between the SDR switch and appropriate port on the radio check the radio operating manual.
 - □ The accessory power cable is connected between the SDR switch and power distribution box. A red light should go on.
 - □ The SDR receiver (dongle) is connected to the to the laptop USB port or through the USB hub.
 - □ The device manager on the laptop is selected to determine which com port and the correct audio source (CODEC #) the laptop is using with the radio.
 - □ OmniRig is booted up and the correct settings made. See screen shot example. The frequency displayed in OmniRig will be the same as shown on the transceiver.
 - □ SDR Console is booted up and the correct SDR receiver selected on start-up (RTL-SDR)
 - □ The various settings on SDR Console are available in the menu bar at the top of the program viewing area. The operator should become familiar with these options and select the correct ones to make the SDR Console work optimally with the transceiver. see resources and videos
 - □ The SDR Console program and transceiver will be synchronized and work in unison when the controls on the radio or the program are used.
 - □ When adjusted properly, the waterfall will display all the RF activity and other information on the screen.

- 5. N1MM Logging Program
 - □ The N1MM Logging Program can be used standalone or interfaced with digital programs like WSJT-X and needs to be set up for this
 - □ The operator can customize the program for Field Day, contests, and just logging contacts.
 - □ If the operator is not familiar with M1MM they can read the reference materials or watch the videos

WSJT-X – Sample setting with TS-590s

Settings	? ×
General Radio Audio Tx Macros	Reporting Frequencies Colors Advanced
Rig: Kenwood TS-590S	✓ Poll Interval: 1 s
CAT Control	PTT Method
Serial Port: COM9	
Serial Port Parameters	● CAT ○ RTS
Baud Rate: 115200 V	Port: COM9
	Transmit Audio Source
Data Bits	Rear/Data Front/Mic
Default O Seven O Eight	Mode
Stop Bits	None USB Data/Pkt
Default One Two	
Handshake	Split Operation
Default None	○ None ○ Rig ● Fake It
○ XON/XOFF ○ Hardware	
Force Control Lines	Test CAT
DTR: High \lor RTS: \lor	Test CAT
	OK Cancel
0	
₩SJT-X - Wide Graph ☑ controls 500 1000 1500	
15:47:15 40m	7 ×
15:47:00 40m General	Radio Audio Tx Macros Reporting Frequencies Colors Advanced
15:40:45: 40m	icrophone (6- USB Audio CODEC)
File Configurations View Mode Ba	peakers (6- USB Audio CODEC) V Mono V
UTC dB DT Freq	ory C:/Users/CFSY/AppData/Local/WSJT-X/save Select
Bins/Pb 154645 -11 -0.6 1567 5plit 2 154645 -15 0.4 2214 Azel Directo	ny
154645 -14 0.3 2903 154645 -11 0.3 2518 154645 -10 0.1 535	://users/CFSY/AppData/Loca//WSJT-X Select
154700 2 0.5 1482 -Remember 154700 6 0.5 272 154700 6 0.6 272	power settings by band
154700 -17 0.3 1994 154700 -18 0.4 2048	
154715 8 0.3 609 154715 -11 0.3 2903 154715 -16 -0.6 1568	~
CQ only Log QSO	Menus
40m S 7.074	low Pvr
80 FT8 VY1MB	×1 ×2
60 -40 FT4 Lookup	X 3 - OK Cancel X 4 -
65 dB JT65 15:47:29	

Winlink – Sample setting for TS-590S with VARA software mode

🗱 Vara HF Winlink Session - VY1MCU	- 🗆 🗙
Exit Settings Switch to Peer-to-Peer Channel Selection Map VE7RBH Center Freq. (kHz): 7064.500 Dial Fr	Forecast Rest chan Next chan Start Ston Abort W Vara HF Winlink Settings X X X X X
Favorites: • Select Ad	Radio Selection
Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected	Select Radio Model Kenwood TS-590S V Antenna Selection Default V
*** Launching VARA TNC *** Successfully connected to VARA TNC. *** Vara signal bandwidth is 2300 Hz. *** Using Kenwood TS-590S, COM9, 115200 baud *** Ready *** This is a registered version of Vara TNC that can operate at full speed.	Icom Address 00 USB () USB USB Digital FM () Use Internal Tuner Codan login and optional password: Radio Control Port Serial Port to Use COM9 V Baud 115200 V Enable RTS Enable DTR TTL
	PTT Port (Optional) Serial Port to Use Kenwood TS-590S V Baud 9600 Charles Enable RTS Finable DTR Update Close
	3:02 a.m.
	~

Winlink – Sample setting for VARA with "sound card" e.g. 6-USB Audio CODEC

VARA HF v4.6.4 VY1MCU	J SoundCard X
ettings View Log* Mor	itor Help Device Input
1.0	Microphone (6- USB Audio CODEC
0.8	Device Output
	Spoolkara (6-LISB Audia CODEC)
g 0.6	
0.4	Drive level:
0.2	
0.0	Press Tune and set the Drive Level for ALC=1/3
VU	
Audio Input: -79 dBFS	
	S <u>1 3 5 7 9 +20 +40 +60</u> dB
	Po 0 25 50 100%
RX Disconnected	
SDR-RADIO.com	SwR JE 2 2E TEMP
📥 OneDrive - Person	
🧢 This PC	
3D Objects	Class
Desktop	Close
Documents	

Image: Section Section Content of C	n Map Forecast Best chan. Next chan. Start Stop Abort Dial Freq. (kHz): Bearing: Quality:	
Favorites: • Sele	S Ardop Winlink Settings	
Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected *** ARDOP Winlink session *** Using Kenwood TS-590S, COM9, 115200 baud *** Wating for TNC to initialize *** Ready to start calling.	Radio Selection Select Radio Model Kenwood TS-590S Antenna Selection Default Image: Constraint of the selection Icom Address 00 USB USB Digital FM Use Internal Tuner Icom Address 00 USB USB Digital FM Use Internal Tuner Icom Address 00 USB USB Digital FM Use Internal Tuner Icom Address 00 USB USB Digital FM Use Internal Tuner Icom Address 00 USB USB Digital FM Use Internal Tuner Radio Control Port Serial Port to Use COM9 Baud 115200 Enable RTS Enable DTR TTL PTT Port (Optional) Serial Port to Use Kenwood TS-590S Baud 9600 Enable RTS Enable DTR Imable DTR Update Close Close Imable DTR <	Sc)5 a.r)3 a.r)3 a.r)1 a.r 35 a.r 33 a.r)2 a.r
Giobal Folders		Nov 2 Nov 2 Nov 2

Winlink – Sample setting for TS-590S with ARDOP software mode

Winlink – Sample setting for ARDOP with "sound card" e.g. 6-USB Audio CODEC

ARDOP_Win Virtual	INC Ver: 1.0.2.5	☆ 🛛 💿 🍝 🌽
Ardop Winlink Session - VY1MCU File Graphics	Send Abort Logs Help	- 🗆 X
Exit Settings Switch to Peer-to-Pe	Rcv Level: Offset: DIS	С
Center Freq. (kl-	ARDOP Win TNC Setup	
Favorites:	Host Interface	
Channel Free In: 0/0 Out: 0/0 BPM: 0 Quality: -12	Incese host interface parameters are normally set in the command line when the Host launches the ARDOP Win TNC.	ble Secure Login Password:
*** ARDOP Winlink session *** Uaing Kenwood TS-5905, COM9, 115200 baud *** Waiting for TNC to initialize *** Ready to start calling.	Image: Constraint of the second se	TCPIP Port#: 8200
	C BlueTooth Pairing:	
	TNC Parameters Most of these TNC parameters are normally set by the host program but may be viewed/initialized here for development and testing.	Call Sign: VY1MCU
	Graphics Options Sound Card (apture Device:
	Start TNC Minimized Waterfall Microphone	6- USB Audio CODEC)
	Enable TNC debug logging Spectrum Enable Command Trace C Disable Sound Card F	layback Device:
	Accumulate Stats Speakers (6-	USB Audio CODEC)
	FEC Frame Type: 4PSK.500.100 FEC Repeats: 2	FECId Protocol Mode: ARQ -
Global Folders	ARQ Bandwidth: 2000MAX ARQ Connect Request F	epeats: 5 + ARQ Timeout (sec): 60 +
	Drive Level: (0-100) Squelch(1=10) BusyDet(1=10) Tuning Range 90 + 5 + 5 + 100 +	+/- Hz Leader Length (ms): Trailer Length (ms):
	Enable Optional TNC Radio Control	loading
		Abandon edits/Close Save to ini File

OmniRig – Sample settings for the TS-590 and com port #3

		🖣 🕼 Omni-Rig Client	- 🗆
Device Manager		Dialog VISIBLE Open Dialog	Custom command • Text •
lie Action View Help		Rig type: TS-590	
• 🔿 📧 🛛 🖬 💭		Status: On-line	Reply: Len 0 🜩 End :
 Human Interface Devices 		Parameters	Events
🐺 HID-compliant consumer control device	Omni Rig Cattings		Parameters changed: 00000004
🐺 HID-compliant wireless radio controls	Omni-Rig Settings X	FREQ -	Parameters changed: 00000002
🙀 USB Input Device	RIG 1 RIG 2 About	■ 7051960 🚖 Set	Parameters changed: 00000004
USB Input Device		FREDA	Parameters changed: 00000002
> IDE ATA/ATAPI controllers	Rig type TS-590 -		Parameters changed: 00000004
Keyboards		■ 7051960 - Set	Parameters changed: 00000002
Miss and other pointing devices	Port COM 9 💌	FREQB	Parameters changed: 00000004
Mice and other pointing devices		■ 14000000 ▲ Set	Parameters changed: 00000002
Monitors	Baud rate 115200		Parameters changed: 00000002
> 🚅 Network adapters	Data kita	PITCH	Parameters changed: 00000004
 Version 100 - Version 1000 - Version 100 - Version 100 - Version 100 - Version 100 - Ve	Data bits 0	□ 702 🖹 Set	Parameters changed: 00000002
🙀 Bulk-In, Interface	Parity None 🔻		Parameters changed: 00000004
🕅 PCI Serial Port		RITOFFSET	Parameters changed: 00000002
Unknown device	Stop bits 1	🔳 🛛 🜩 Set	Parameters changed: 00000004
			Parameters changed: 00000002
	RTS High 💌	RITO Set	Parameters changed: 00000004
Silicon Labs CP210X USB to UART Bridge (COM9)	DTR USA		Parameters changed: 00000004
> 🖻 Print queues		VFOAA Set	Parameters changed: 00000002
> D Processors	Pollint.ms 500 🚖	—	Parameters changed: 00000004
If Security devices		VFDAB Set	Parameters changed: 00000002
> 📕 Smart card readers	Timeout, ms 4000 🗢	- vrona	Parameters changed: 00000004
Software components		VFUBA Set	Parameters changed: 00000002
Software devices			Parameters changed: 00000004
Grand wide and another trailing	<u>UK</u> <u>C</u> ancel	VFUBB Set	Parameters changed: 00000002
Sound, video and game controllers	·	D 1/504 Set	Parameters changed: 00000002
> Storage controllers		L VFUA	Parameters changed: 00000004
> 🚛 System devices		VEOB Set	
			4

Console SDR – Showing initial start up and selection of RTL-SDR dongle

	SDR Console v3.2	X
Home View Receive Rec/Playback Favourites Memories Tools Help	la l	🖯 Style 🔹 🔅
Image: Select Radio Said Image: Select Radio Receivers Auto-mute Noise Blanke Radio Said Start Stop Frequency Previous History Aways Child Screenshot On Ip Instance Previous History Child Screenshot On Ip Instance Context Lock Auto-mute Noise Blanke Enable Enable Enable Enable Options Options Options Options Options Options Context Lock Wideband DSP Videband DSP Noise Blanke Lock Videband DSP Definition Lock Videband DSP Lock L	r: PayPal . Donate	
		+35 Auto
RX 1 100 - 2900 H ^ +30 / • L L / • 000 100 - 2900 Hz		+30 +25
0.007.117.000 +15 S = 5.7.9 +20 dB		+20 +15 -10
$\begin{array}{c} +10 \\ +5 \\ +5 \\ +5 \\ +1 \\ +1 \\ +1 \\ +1 \\ +1$		+10 +5
		S9 S8
S7 S6 S0 Name Model	Frequency Serial Address	S7 .30 S6
SS RTL Dongle USB - R820T RTL Dongle USB - R820T RTL Dongle USB - S4	R820T 50 - 2000 MHz 00000001 Realtek::RTL	SS -40
-20 53		S3
52 S1 S1		- S1
-5 dB		-5 dB
-4010 GB		-10 dB
IF Display	> 7.140 7.160 7.180	
External Radio Bandwidth: 2 MHz V		-80
rack Refresh ?		-90
▶ Start	Definitions	-100
Druwer Off		-120
Mode ^		
···· Step ≡ AM 22 Nov		
SAM CW-U BC-FM 07:24:08 2022	Freq: 7.1 mmz Span: ±100 kHz	
N-FM W-FM LSB		-150
USB Wide-U C.950 7.000 7.050	7.100 7.150 7.200 7.250 📾 x2	• ••
Ready	CPU: 4.8% Audio:	: Oms

Console SDR – showing a few settings options on the top menus and side bar: linking to TS-590S, in HF Quadrature mode, and memories – frequencies for FM broadcast stations and popular HF nets.



1 2 3