by SA7SKY 2018-03-27 16:30z

PC Preparations

Download and install USB driver from ICOM Japan

https://www.icom.co.jp/world/support/download/firm/IC-7600/usb1_20/ Latest Update 2017-10-05 Ver 1.20 Installation as *administrator Do not connect IC-7300* with USB before the end of the drivers installation !

Connect the IC-7300 to the PC via USB cable.

The driver will be automatically installed.



If you click on the USB icon, you will see the progress for the USB Audio CODEC.

Notice: The radio itself has a USB hub on which a USB↔COM port and a USB Generic audio board are connected. When you connect the radio to the PC, the drivers will be installed.

The COM port driver is delivered by the ICOM and the Audio board driver is contained in a Windows update.

It will take some time to install the generic USB Audio driver but be patience.

Also, a driver for the USB Hub will be automatically installed.

Ready to use Searching Windows Update.
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Download and install the RMS Client Software

https://www.winlink.org/ClientSoftware

Follow the instructions for RMS setup.

Explanation of Winlink system under: https://www.winlink.org/sites/default/files/wl2k_faq_20150314.pdf Explanation of TELNET RMS Express setup under: http://www.la3f.no/faste/digi/winlink/ExpressTutorial1130a.pdf

Check DEVICE MANAGER for the COM port and the USB Audio board



On the PC, the USB⇔COM is identified as *COM9*, essential for setting the Winlink. Check the USB Audio board.

IC-7300 Settings

RF Power	50	(50% of maximum possible for PA protection)
DATA MOD	USB	in settings / USB-D selection in the display
ACC MOD	50%	level: 50% (default)
DATA MOD	50%	level: 50% (default)
USB MOD	50%	level: 50% (default)
USB Serial Function	CI-V	
CIV Baud Rate	Auto	
CIV Address	94h	do not change yours
RF/SQL Control	RF+SQL	open squelch
AGC	Fast	

Optional settings if Channel enabled filter control is desired (recommended)

See Radio Configuration and Channel Configuration

Set the mode to USB-D and set filter 2 to a width of 2400 Hz centred on 1500 Hz. The Middle filter will be auto selected for Wide channels.

From the USB-D mode set filter 3 on the radio to 600 Hz or wider centred on 1500 Hz. This will be used for 500 and 200 Hz modes and provides some room for frequency offsets yet minimizes adjacent channel interference.

Most other settings can be left as default or adjusted if desired.

USB Recording Level Setup

The input level to the ARDOP Win TNC must be set properly to keep the sound card values from exceeding the dynamic range. This can be done in the *Windows mixer* for the *sound card microphone* that represents the audio out of the above radios. In Windows 7 the procedure is this: Click the Windows Drop down control menu and select Control Panel. On the Control panel select Sound and select the Recording Tab and highlight the USB Audio Device representing the 7200's USB sound card.

Click Properties on the Recording menu to bring up the Microphone Properties to the right below. On the Levels tab adjust the slider value to insure the input to the ARDOP Win Sound card (receive level bar graph) stays in the green. Above half scale is preferred. In the test setup this was about 10 on the microphone level. Click OK on both forms to save the values. Note it is possible the names reported for the sound device may vary from those below.

Other Windows versions will be somewhat different but the same basic approach should work. If a sudden change in levels is observed check this level setting as sometimes updates of the OS can reset the levels.



USB Playback Level Setup

The built-in sound card will also usually show up in the Playback devices level settings. Sometime (usually after an OS update) the OS resets these levels to 50% and this can cause problems. It has also been reported that OS emulator programs like Parallels for the Mac may reset the level to 50% on initialization. The level can be viewed/changed in Windows. The Win 7 procedure is: On the Control Panel select Sound. Select the Playback tab and highlight the USB audio device representing the Radios built in USB sound card. Click properties and on the Playback menu tab and select Level tab. Normally set the level to 100%. There are essentially three level controls "in series" that set the transmit drive level: The ARDOP Win TNC drive level, the Windows mixer volume level as set in the OS and the USB LVL as set from the radio's menu.

Setup ARDOP & VARA within Winlink

Winlink Express Properties: Check lower righthand Box for beta versions.

Automaticaly install field-test (beta) versions of Winlink Express

SA7SKY - Sett	ngs Message Attach	ments Move To:	Saved Iter	ns 🗸	Delete O	oen Session:	Ardop Winlink	~	Logs	Help
	F 🛛 눈 🔂 🛃 >	- 0					Robust Packet Winlin Winmor Winlink	< ^		
No active session							Ardop Winlink			
System Folders Inbox (0 unread) Read Items (0) Outbox (0) Sent Items (4) Saved Items (0) Deleted Items (9) Drafts (0) Personal Folders	Date/Time	Message ID	Size	Source	Sender	Recipier	Vara Winlink Iridium GO Winlink Packet P2P Pactor P2P Robust Packet P2P Winmor P2P Ardop P2P Vara P2P Telnet P2P			
Global Folders							Pactor Radio-only Winmor Radio-only Telnet Radio-only Telnet Post Office	*		

Select ARDOP Winlink or VARA Winlink and then Open Session

Two more windows will open. One is the *ARDOP Sound Card TNC* and the second one is the *ARDOP Winlink session*

Select ARDOP TNC Setup

🗱 Ar	dop Wi	nlinl	Session - SA7SKY									
Exit	Setting	js	Switch to Peer-to-Peer	Channel S	election F	orecast	Best chan.	Next ch	an. St	art S	itop Ab	ort
S	A	vrdop	TNC Setup	3615,00	0 Dial	Freq. (kł	Hz): 3613,	500 Be	aring:	028 (Quality:	65
Favor Channe	R T C	tadio Trans OSP S	Setup mit Level Test ipeed Test	• Se Disconnec	lect Add	to favo	rites Rem	ove from	favorite	:S		
···· Using ···· Waitir	B	lest o	hannel setup									
*** Ready	to start	calli	ng.	-								
		8	Ardop Setup							×		
				Ident	ify with Mor	se Cod	e 🗹					
			Ardop Captur	e Device:	Microphor	ne (USE	3 Audio CO	DEC)-66		\sim		
			Ardop Playbac	k Device:	Speakers	(USB A	Audio CODE	C)-78		~		
		Vi	irtual TNC host addre	ss/name:	127.0.0.1							
			Virtual TNC Comm	and Port:	8200	* *	Data Port	:	8201			
			Session B	andwidth:	2000	\sim	Drive	e Level:	90	-		
				Update	•	(Cancel					

Search on the combo box for some *USB Codec* and select it for Capture device (*input to PC*) and Playback Device (Output to Radio)

Select Radio Setup

🗱 Ard	op Winlink Session - SA7SKY	
Exit	Settings Switch to Peer-to-Peer	Channel Selection Forecast Best chan. Next chan. Start Stop Abort
S	Ardop TNC Setup	3615,000 Dial Freq. (kHz): 3613,500 Bearing: 028 Quality: 65
Favor	Radio Setup	Select Add to favorites Remove from favorites
Channel	Transmit Level Test	Discounted
Channe	DSP Speed Test	Disconnected
•••• Using	Best channel setup	
*** Ready	to start calling.	

neddy to start calling.

Make the setup just like in the picture below

			tenna Selection	Default
Icom Address 94	USB 🔿	USB Digital	● FM ○	Use Internal Tuner
Radio Control Port Serial Port to Use C(DM9 V Baud	115200 ~	Enable RTS	Enable DTR 🗌 TTL
PTT Port (Optional) Serial Port to Use CI-V	~	Baud 9600	∼ Ena	ble RTS 🗹 Enable DTR 🖉

Select UPDATE, the ARDOP Winlink will restart briefly.

NOTICE: Each ICOM radio has a default CI-V address (ICOM Address). In this particular case, the address is 94 but others might be 80 (The address is in HEX format)

IC-7300 Settings for Winlink ARDOP or VARA TNC

ARDOP Setting

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ARDOP Win Virtual TNC Ver.1.0.2.5
ARDOP_Win Virtual TNC Ver: 1.0.2.5
File Graphics Send Abort Logs Help
Rcv Level: Offset: 0,9 Hz @ -16dB State: DISC Rcv Frame: Xmt Frame: Xmt Frame: Xmt Frame:
4FSK Quality: 53 -1200 CF: 1.5 KHz +1200 Host: TCPIP on port 8200,8201
ARDOP Win TNC Setup
Host Interface These host interface parameters are normally set in the command line when the Host launches the ARDOP Win TNC. Enable Secure Login Password:
• TCP/IP TCP Address: 127.0.0.1 TCPIP Port#: 8200
C Serial COM Port: Baud: 0 -
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: SA75KY Image: Start TNC Minimized Graphics Options Sound Card Capture Device: Image: Start TNC Minimized Image: Start TNC Minimized Sound Card Capture Device: Image: Start TNC Minimized Image: Start TNC Minimized Sound Card Capture Device: Image: Start TNC Minimized Image: Start TNC Minimized Image: Start TNC Minimized Image: Start TNC Minimized Image: Start TNC Minimized Sound Card Capture Device: Image: Start TNC Minimized Image: Start TNC Minimized Sound Card Playback Device: Image: Enable Command Trace Image: Disable Sound Card Playback Device: Image: Application of trace Image: Disable Sound Card Playback Device: Image: Application of trace Image: Disable Sound Card Playback Device: Image: Application of trace Image: Disable Sound Card Playback Device: Image: Application of trace Image: Disable Image: Disable Sound Card Playback Device: Image: Application of trace Image: Disable Image: Disable Image: Disable Image: Disable Image: Applicatin of
Abandon edits/Close Save to ini File
Radio Settings ×
Radio Selection - Note: Not all radio control features (Filter, Antenna, and Tuner) enabled in this revision ARDOP Bandwidth Hz : Select Radio Model Icom 7300
Icom Address 94 USB C USB Digital C FM C
Antenna Selection 0 Vise Internal Tuner Use Radio's Internal Sound Card
Radio Control Port
Serial Port to Use COM9 Baud 115200 Enable RTS Enable DTR
PTT Control
PTT Mode/ComPort CAT PTT VISING RTS PTT Using DTR
Enable TNC Control of Radio or PTT 🗌 Abandon Edits/Close Save to ini File

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ARDOP Chat Setting

ARDOP	_Win Virtua	I TNC Ver	: 1.0.2.5					
File	Graphics	Send	Abort	Logs	Help			Channel Busy
		Rcv Leve	el:		Offset:		State:	DISC
		S. Call				Rcv Frame:		
						Xmt Frame:		
Quality:	-1	200	CF:	1.5 KH	z +120	0 Host:	TCPIP on	port 8515,8516

ARDOP Win TNC Setup is automatically loaded from ARDOP (general) settings

ARDOP Chat Setup	\times
Call Sign: SA7SKY ID Grid Square: JO66TD Send Kbrd Text to OB Queue On Capture Device: Microphone (USB Audio CODEC) Ctrl + CR CR Playback Device: Speakers (USB Audio CODEC) CR CR	
ARDOP TNC Interface ARQ Timout (seconds): 120 € ● TCPIP TNC TCPIP Pott: 8515 € Leader (ms): 250 € Host address/name: 127.0.0.1 Trailer (ms): 0 € Serial (8N1) COM Port: none Baud: 19200 Auto Tuning Range (Hz): 100 € Blue Tooth Pairing: none Squelch threshold 5 € Enable Secure Login Password: Squelch threshold 5 € Character Encoding: UTF-8 Drive Level: 100 € Note: For initial testing Radio control setup is done using the Radio Setup menu in the ARDOP_Win TNC. Identify with Morse Code reproceed Blocking Enable ARDOP_Win Debug Log	
Reduce CPU Loading Reduce CPU Loading Setup Help Abandon edits and close. Update ARDOP Chat Setup Radio Settings Radio Selection - Note: Not all radio control features (Filter, Antenna, and Tuner) enabled in this revision	×
Hadio Control Port Serial Port to Use COM9 Baud 115200 PTT Control PTT Mode/ComPort CAT PTT PTT Mode/ComPort CAT PTT PTT using RTS PTT using DTR Enable TNC Control of Radio or PTT Abandon Edits/Close Save to ini File	

IC-7300 Settings for Winlink ARDOP or VARA TNC

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VARA Setup



Alpha 2.2 / RMS Simple Terminal / P4config Terminal / PAXON

After usage of the settings above the following PACTOR applications might not operate:

Alpha 2.2 RMS Simple Terminal P4conf Terminal PAXON still operates promptly

It has been observed that the P4dragon's configuration has been changed to minimum values such as Callsign.

To regain functions open *P4conf* tab *Parameters* and *reload the latest proper working configuration* and (re-)write it into the modem.