

Remote control of the IC-7300 with "wfview



The new, free remote control software "wfview" (1) enjoys growing popularity. In CQ DL 3-2022 I had already described the installation of the software on an IC-705 (2). Now one could think that this would be as easy to do with the IC-7300 (IC-7200, IC-7100, IC-7610), but unfortunately this is not so. In contrast to the IC-705, which has a WLAN interface and a server, the IC-7300 only has a USB interface. LAN/WLAN and a server are completely missing in the IC-7300. Therefore, it needs an additional "server PC" to connect to the home network, which unfortunately makes the installation of the software a bit more complicated. Who has managed to operate the IC-7300 with the ICOM software RS-BA1 via the home network and Internet, knows what I mean (3).

Almost any PC can be used as a server. A discarded PC or single board computer (\notin 250,-) is already sufficient. Some software vendors also use a Raspberry Pi2/3 (\notin 40,-) as server, like RigPi, RemoteTX, or ExpertSDR2. Only the **FT-DX10**, which is also only has a USB interface **(4)**, requires an additional, external "YAESU SCU-LAN 10 Interface" (\notin 339,-) for remote control.



Figure 1 and 2 shows the different wiring for remote control of an IC-7300 and IC-705.

Figure 1: IC-7300 requires a server PC for remote control





1.) Basic settings on the IC-7300

Menu -> Set -> Connectors -> CI-V -> Set CI-V USB Port to "Unlink from REMOTE" and CV-I USB Baud Rate to "115200" (Figure 3).

CI-V	2/2
CI-V Output (for ANT)	
OFF	
CI-V USB Port	
Unlink from [REMOTE]	
CI-V USB Baud Rate	-
115200	
CI-V USB Echo Back	
OFF	5

Figure 3: Settings on the IC7300 USB

driver

At https://www.icom.co.jp/world/support/download/firm/IC-7600/usb1_30/ download the USB driver and install it on the **server PC.** There are drivers for x68 (32bit) and x64 (64bit) PCs. Only after the driver has been installed (not before!) connect the IC-7300 to the PC via a USB cable. The IC-7300 does not have to be switched on, because the USB interface in the IC-7300 also works when it is switched off. The driver will only now be completely installed on the PC, which takes a few seconds. To check the successful installation, open the device manager of the PC (**Figure 4**). Under "Ports (COM LPT)" it says "Silicon Labs CP210x USB to UART Bridge (COM3)". In the example the virtual interface was created under **COM3** (note!).



Figure 4: COM3 for audio transmission

2.) Settings on the server PC

Download the software "wfview.exe" for Windows (x86) from https://wfview.org/download, install it on the **server PC** and start it. I use the software **Windows (x86) release v1.2d**. Go to *Settings* **(Figure 5)** and enter the following data (red bordered field):

- Connect over USB Serial Device: COM3 (see under USB-Driver)
- Baud: 115200 (at lower baud rate the FFT spectrum is not transmitted)
- CI-V Address: 94 (default for the IC-7300)
- Use as Model too: ON

W IC-7300 - wfview			×
View Band Franking Setting			
Craw Peaks When tuning, set lower digits to zero Use System Theme Waterfall Dark Theme Anti-Alas Waterfall Interpolate Waterfall Server setup PTT On PTT Off Enable PTT Controls Secondary Meter Selection: None None Server Setup Manual Radio CL-V Address: 94	Use as Model too		
Connect over LAN Disconnect Enable RigCtid Port 4533	Virtual Serial Port	ОМЗ	
Radio IP Address wsg.csm2.spdms.org Radio Control Port 50001			
Username Password Password			
RX Latency (ms)	h 16bit 🔻 TX Codec 🛛		
Sample Rate 👘 Audio Output Lautsprecher (2- USB Audio CODEC) * Audio Input Mikrofon (2- USB Audio CODEC) *			
Poling	About Save Settings	Exit Progra	m
Please note: Changing the built-in network server requires pressing "Save Settings", dosing wfview, and re-opening. Please see the liver kinnes for more information.			
Server connections: Control	:1 CI-V:1 Audio:1 🤇) 🔵 IC	-7300

Figure 5: Settings server PC

Then set up the "Server Setup" (Figure 6):

- Control Port: 50001, CIV Port: 50002, Audio Port: 50003
- Username: user1 (freely selectable)
- Password: user001 (freely
- selectable) Finish with "Enable" and

"OK"!

Note: If ports 50001-50003 are already used by another program, like e.g. from RS-BA1, you have to enter other port numbers here, e.g. 50015, 50016 and 50017.

W Server Setup - wfview						? ×	
Enable	Server Setup						
Contol Port	50001		Civ Port	50002	Audio Port	50003	
Userna	Username Password			Admin			
user 1	user1 ••••••		Full User			-	
				Full User			
Note: This allows other computers to connect to this computer's radio							
	c	Ж			Cancel		

Figure 6: Server setup

Finally, save all settings with "Save Settings" and "Exit Program"!

3.) Settings on the client PC

Install "wfview.exe" on a **client PC** and start it. Go to *Settings* and enter the following data (field outlined in red):

- Radio IP Address: 192.168.178.82 (enter the IP address of the server PC, the address can be found in the router under "Network")
- Radio Control: Port 50001 (as in the server PC)
- Username: user1 (as in the server PC),
- Password: user001 (as in the server PC)

Additionally switch on the item "Connect over LAN

Note: No settings may be made under "Server Setup" and the server may also not be activated (enabled)! This task is taken over by the server PC.

WIC-7300 - wfview			
Vew Band Frequency Settings			
Draw Peaks III When tuning, set lower digits to zero			
📃 Use System Theme 🔳 Waterfall Dark Theme 🔄 Anti-Alias Waterfall 🔳 Interpolate Waterfall 🔄 Show full screen			
Adjust Reference Modulation Input: USB			
PTT On PTT Off Enable PTT Controls Secondary Meter Selection: None 💌			
🗘 Connect over USB (serial) Serial Device: 🛵 👘 🔻 Baud: 💷 Server Setup 🔳 Manual Radio CI-V Address: 94 🔳 Use as Model too			
Cornect over LAN Disconnect Enable RigCtid Port 4533 Virtual Serial Port	none		
Radio IP Address 192.168, 178.82 Radio Control Port 50001			
Username user1 Password			
RX Latency (ms) 150 RX Codec PCM 1ch 16bit V TX Codec	LPCM 1ch	16bit	
Sample Rate 24000 🔹 Audio Output Lautsprecher/Kopfhörer (Realtek High Definition Audio) 👻 Audio Input Mikrofonarray (Realtek High Definition Audio) 👻			
Poling About Save Settings	Exit	rogran	n
Please note: Changing the built-in network server requires pressing "Save Settings", dosing wfview, and re-opening.			
Please see the User Monuse for more information.			
rx latency: 73 ms / rtt: 5 ms / loss: 0/12164	••		300

Figure 7: Settings client PC

Finally, save all entries with "Save Settings" and "Exit Program"!

This "setting" can be done on any number of PCs on the home network, so that the IC- 7300 can be controlled remotely from various PCs/notebooks at home if needed. From the Radio Shack, living room, garden,.....

After clicking on "View" and "Power On" the program opens (Figure 8), with audio playback and spectrum and waterfall display. The IC-7300 is now remote controllable via "wfview".



Figure 8: Wfview, started on a PC in the home network

4.) Remote control of the IC-7300 via the Internet

The ports must be released so that the data can be forwarded to the Internet. To do this, open the router and release (forward) ports 50001 to 50003 under TCP and UDP under the IP address of the server PC (**Figure 9**). Afterwards the IC-7300 can be remote controlled worldwide via the Internet, just like from the home network. Under "Radio IP Address" in **Figure 7** you now enter the public IPv4 address of the router instead of the IP address of the server, e.g. 91.36.138.153, that's all. The IPv4 address of the router can be found under its settings.



Figure 9: Forwarding of ports 50015 to 50017 in the router (Fritz!Box)



Figure 10: Wfview started on a remote PC over the Internet Summary

- Enter the required data under *wfview -> Settings* on the server PC and on the client PC.
- To run the software on the client PC, the server PC (see Fig. 5) must be started first!
- For remote control via the Internet, the router requires port forwarding.
- Different addresses can be used under "Radio IP Address" in the client PC in: In the home network the IP address of the server PC and in the Internet the public IPv4 address of the router or a DynDNS address.

If the sound is not transmitted, it may be due to the sound setting of the server PC. Speaker and microphone must both be set to "USB Audio CODEC".

🐲 Sound	×	Sound	×
Wiedergabe Aufnahme Sounds Kommunikation		Wiedergabe Aufnahme Sounds Kommunikation	
Die folgenden Audiowiedergabegeräte sind installiert:		Wählen Sie ein Aufnahmegerät aus, um die Einstellungen zu ä	ndern:
Lautsprecher 2-Realfiel(R) Audio Deaktiviert 2-Realfiel(R) Audio Miktit angeschlossen Note: 2-USB Audio CODEC standardgerät		External Mic 2. Realtek/R) Audio Nicrt angeschlossen Mich angeschlossen 2. Realtek/R) Audio Deaktiviert 2. Realtek/R) Audio Deaktiviert	
Konfigurieren Als Standard 🔊 8 OK Abbrechen	Eigenschaften	Konfigurieren Als Standard V CK Abbr	Eigenschaften echen Übernehmen

Figure 11: Sound settings in the server PC

summary

The **wfview** software works very well. The advantages over the Icom RS-BA1 are the large display, the simple operation and the quick installation. Who has an **ICOM transceiver** should test the software, especially since it does not cost anything. The software is constantly being developed further and in some time there will probably (hopefully) also be an RPi3 as a server PC. One may be curious!

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Literature:

- (1) Wfview Homepage https://wfview.org/
- (2) Remote control Icom transceiver CQ DL 03-2022, DC4KU
- (3) Installation of the Icom remote control software RS-BA1 RADIO AMATEUR 02-2020, DC4KU
- (4) FT-DX10 Remote Control RADIO AMATEUR 07-2021, DC4KU