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 (€ 250,-) is already sufficient. Some software vendors also use a Raspberry Pi2/3 (€ 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" (€ 339,-) for remote control.

Figure 1 and 2 shows the different wiring for remote control of an IC-7300 and IC-705.
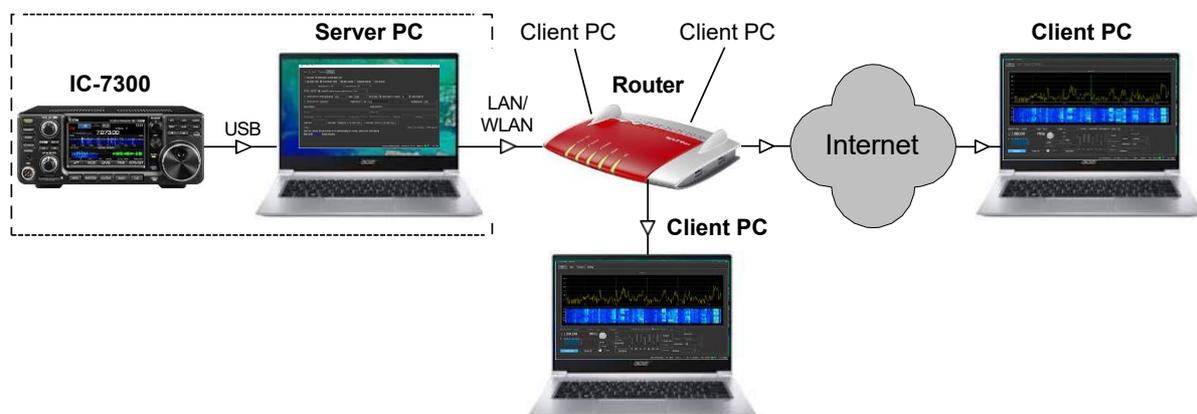
Figure 1: IC-7300 requires a server PC for remote control
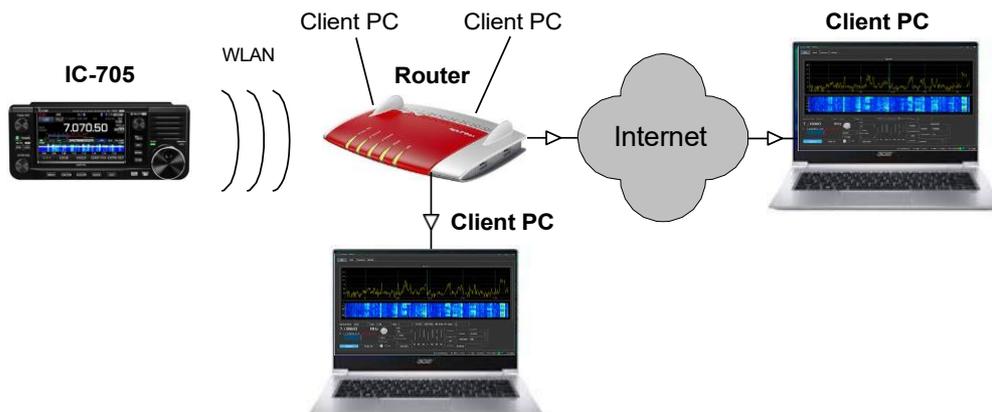
Figure 2: IC-705 does not need a server PC because WLAN and server are already integrated

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).**
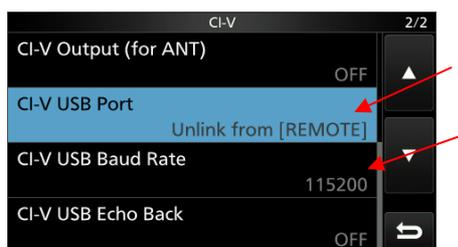
Figure 3: Settings on the IC7300 USB

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!).
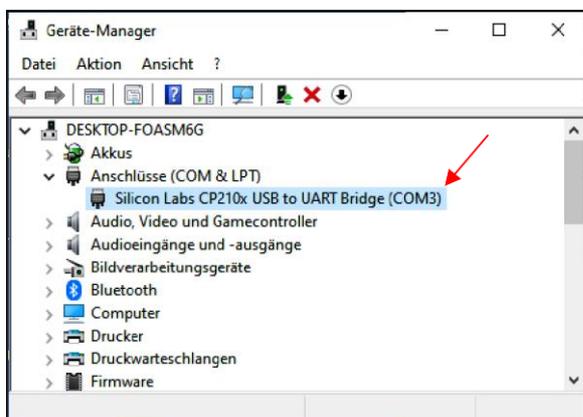
Figure 4: COM3 for audio transmission

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
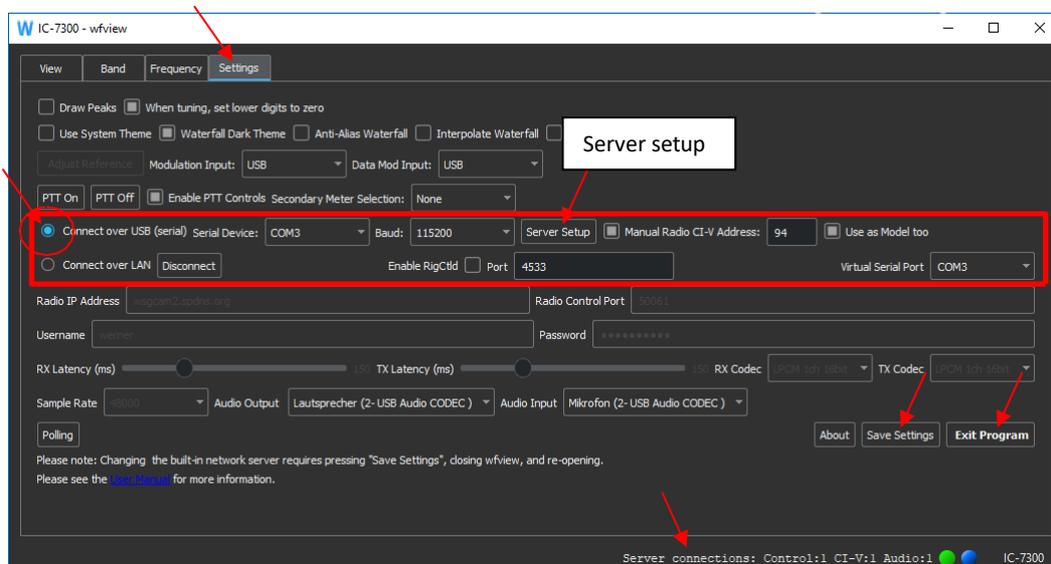
Figure 5: Settings server PC

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.
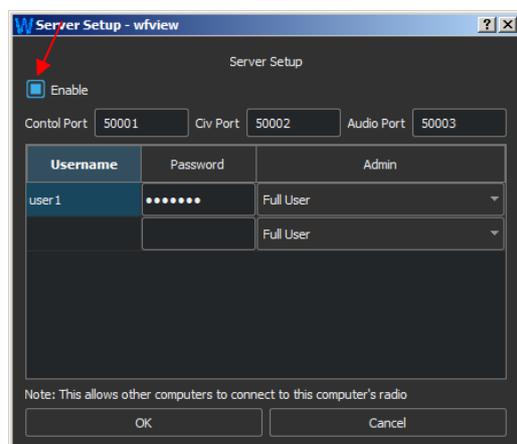
Figure 6: Server setup

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.
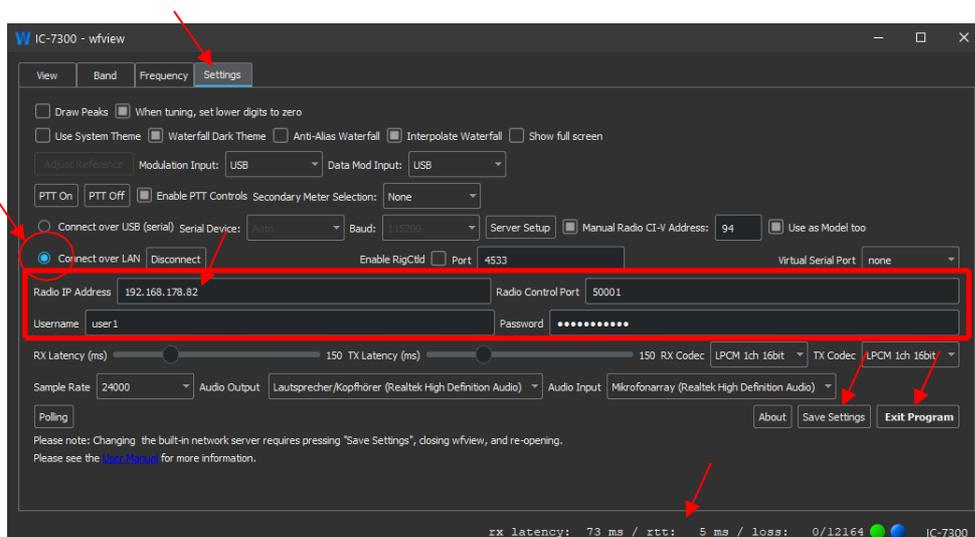
Figure 7: Settings client PC

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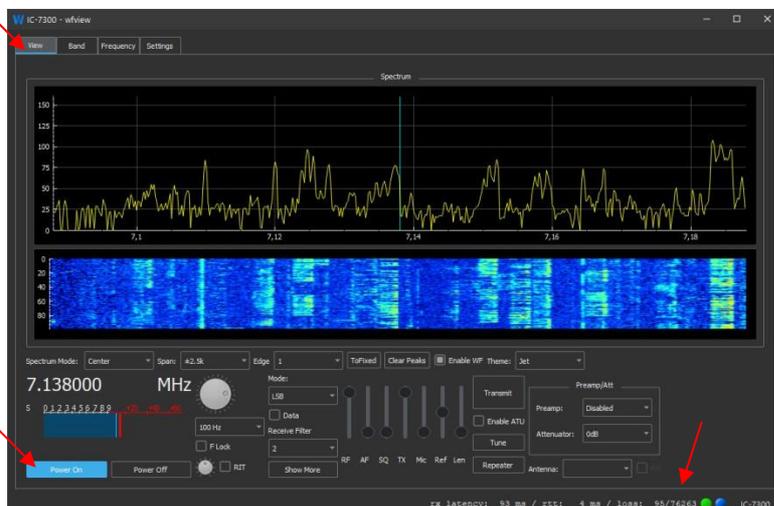
Figure 8: Wfview, started on a PC in the home network

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.
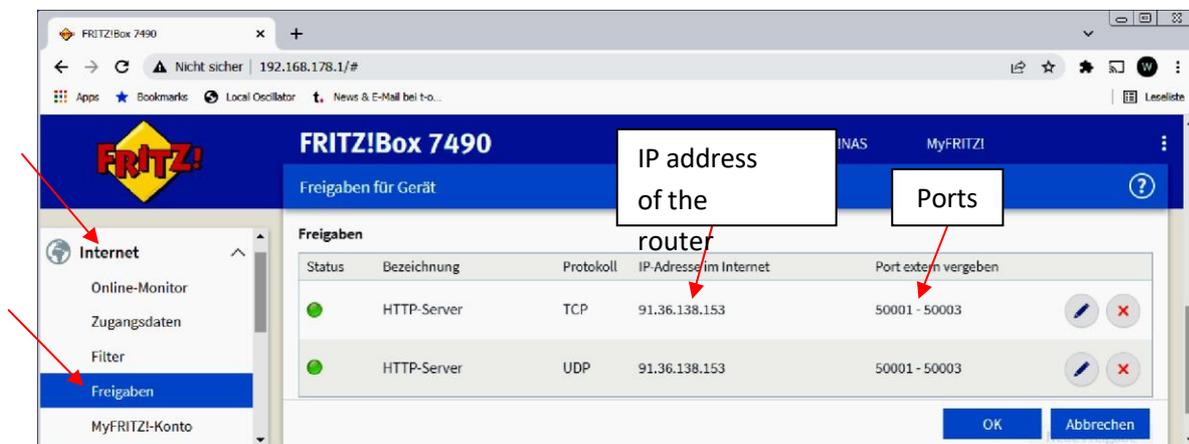
Figure 9: Forwarding of ports 50015 to 50017 in the router (Fritz!Box)
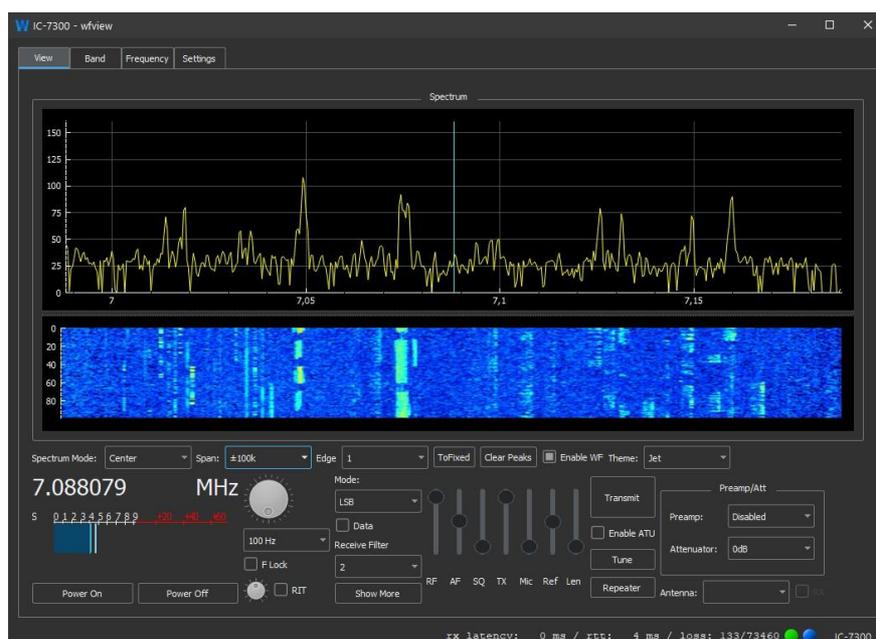
Figure 10: Wfview started on a remote PC over the Internet Summary

- 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".
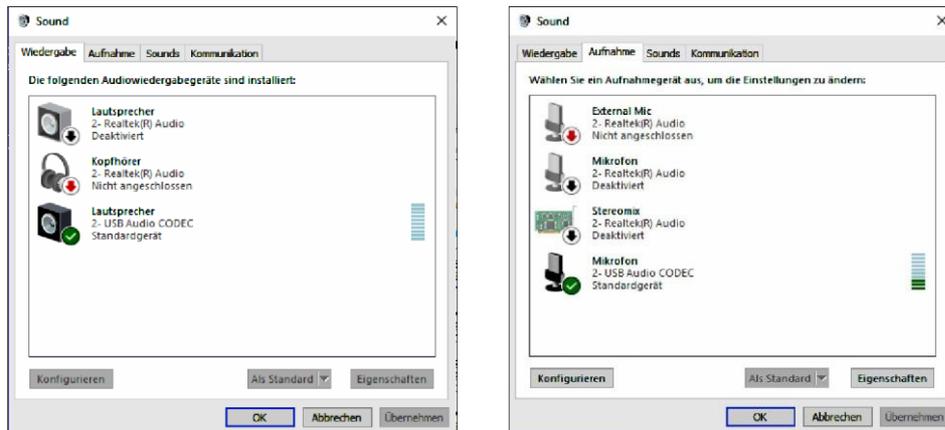
Figure 11: Sound settings in the server PC

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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21.02.2022

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