# How to use DVB-T/DAB RTL2832 based USB receiver with HDSDR

#### Hardware requirements:

- DVB-T/DAB USB dongle with Realtek RTL2832 chipset (sometimes badly named as RTL2838)
- PC with Dual Core CPU, Soundcard, one free USB port (USB2 and up required!)

### Software requirements:

- Microsoft Windows XP or newer, **latest Service Pack required!!!** (XP=SP3, Vista=SP2, Win7=SP1) Windows 10 or newer recommended!
- HDSDR 2.70 or newer (SDR Software application)
- ExtIO\_RTL.dll (hardware specific DLL)
- Zadig (device driver installer)

## Installation:

- 1. Don't install any DVB-T/DAB software delivered with the USB dongle. If already done, uninstall this software.
- Plug in the USB receiver and complete the driver installation by click Next/Finish (if demanded). In many cases, Windows install drivers automatically. These will not work for any SDR application! The correct driver will be installed later on.
- Download latest Zadig from <a href="http://zadig.akeo.ie/">http://zadig.akeo.ie/</a>downloads/zadig\_xp\_2.2.exe
- 4. Start Zadig and press "Install Driver" to install the WinUSB drivers after selecting the right device(s). The device name is often "Bulk-In, Interface (Interface 0)" or "RTL2838UHIDIR". Is there only an empty list, the device is not properly connected or a driver is already installed. Click Options and enable "List All Devices", then choose the RTL-device and press "Replace Driver". Close Zadig.

Zadig			
Device (	<u>O</u> ptions <u>H</u> elp		
Bulk-In,	Interface (Interface 0)		💌 🕅 Edit
Driver	(NONE)	WinUSB (v6.1.7600.16385)	More Information WinUSB (libusbx)
USB ID	0BDA 2838 00		libusb-win32
WCID ?	×	Install Driver	<u>libusbK</u> <u>WinUSB (Microsoft)</u>
2 devices fo	ound.		Zadig v2.0.1.160

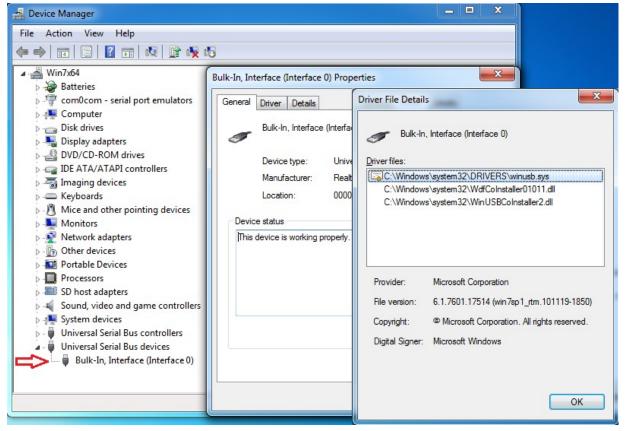
- 5. Download and install HDSDR https://hdsdr.de/download/HDSDR\_install.exe , but don't start HDSDR immediately
- 6. Visit https://github.com/hayguen/ExtIO\_RTL/releases and download ExtIO\_RTL\_x32\_\*.zip
- 7. Extract ExtIO\_RTL\_x32\_\*.zip to any directory
- 8. Copy ExtIO\_RTL.DLL into your HDSDR installation directory (default=C:\Program Files (x86)\HDSDR)
- 9. (re)start HDSDR (select ExtIO\_RTL.DLL and preferred output soundcard if demanded)
- 10. You are ready to run HDSDR!

### Troubleshooting:

- check the device compatibility (ask Google)
- avoid USB extension cables and hubs
- try different USB ports, old USB 1.x ports don't work!!!

- If your devices don't work after installing a Windows 10/11 "feature update" or upgrade from earlier Windows versions, you need to reinstall the Driver using Zadig (see point 4)

- check Windows Device Manager for a correct installed RTL2832 device



-press Button "SDR-Device" in HDSDR and change all ExtIO-DLL settings to default values.

ExtIO_RTL-SDR.DLL v2023.2			X
Device (Vendor / Product / Serial):			
Realtek / RTLSDRV3 / RTLSDRR820T2 (*)		Tuner RF Gain AGC	Tuner IF Gain
A/D Sample Rate:			AGC
2.4 Msps	$\sim$		I   I
Sampling mode:			
I/Q - sampling of tuner output			
Tuner Bandwidth:			E E
Automatic	$\sim$		
Tuner Band Center:			
DC / Center: 0	$\sim$		
Buffer Size:		Tuner AGC 🗹	IF AGC 🔽
64 kB	$\sim$	E4000 Offset	Tune USB 🗌
Frequency Correction:		rtl Dig Agc 🗹	4.5V BIAS TEE
ppm		GPIO1 / PIN32	GPIO2 / PIN31
Tuner: R860 or R820T/2		GPIO4 / PIN30 🗌	GPIO5 / PIN29