



Ultra Wide-band Coverage SDR Receiver MK4

- Full coverage reception form 100KHz to 2GHz SDR
- Direct Sample Mode *
- Very High performance Pre-amplifier +33dBm IP3*
- Font-end input antennas protection*
- Shielded Aluminum box*

- Independent antenna inputs for Shortwave and VHF&Up
- USB computer connection (micro-usb)
- Accurate and efficient band filters
- Very clean audio reception
- SMA golden antenna connectors
- LED power indication
- Small size
- Freeware software Windows, Linux, Android, IOS.
- Up to 3.2 M Sample rate.

*New

What can we listen with DXpatrol?

The Dxpatrol can be used as a wide band radio scanner. Applications include:

•Listening to unencrypted Police/Ambulance/Fire/EMS conversations.

- •Listening to aircraft traffic control conversations.
- •Tracking aircraft positions like a radar with ADSB decoding.
- •Decoding aircraft ACARS short messages.

•Scanning trunking radio conversations.

•Decoding unencrypted digital voice transmissions.

•Tracking maritime boat positions like a radar with AIS decoding.

•Decoding POCSAG/FLEX pager traffic.

- •Scanning for cordless phones and baby monitors.
- •Tracking and receiving meteorological agency launched weather balloon data.
- •Tracking your own self launched high altitude balloon for payload recovery.
- •Receiving wireless temperature sensors and wireless power meter sensors.

•Listening to VHF amateur radio.

•Decoding ham radio APRS packets.

•Watching analogue broadcast TV.

•<u>Sniffing GSM</u> signals.

•Use on your Android device as a portable radio scanner.

•Receiving GPS signals and decoding them.

•Use as a <u>spectrum analyzer</u>.

•Receiving NOAA weather satellite images.

•Listening to satellites and the ISS.

Radio astronomy.

•Monitoring meteor scatter.

•Listening to FM radio, and decoding RDS information.

•Listening to DAB broadcast radio.

•Use as a panadapter for your traditional hardware radio.

•Decoding taxi mobile data terminal signals.

•Use as a high quality entropy source for random number generation.

•Use as a noise figure indicator.

•Reverse engineering <u>unknown protocols</u>.

•Triangulating the source of a signal.

•Searching for RF noise sources.

•Characterizing RF filters and measuring antenna SWR.



Technical data DX-Patrol

@ :	14MHz, CW, 500Hz, SDR#				
Noise Floor:	-117dBm				
AGC Threshold:	22 μV (wideband 2MHz w/ max RF gain -45dBm total)				
100 kHz Blocking Range:	77dB (useful range, top-bottom = 77 dB)				
Reciprocal Mixing Dyn. Range:	76dB				
Narrow spacing dyn. range IMD3:	66dB				
	@ 50MHz				
Narrow spacing dyn. range IMD3:	73dB				
@ 144MHz					
Narrow spacing dyn. range IMD3:	63dB				

New MK4 SDR

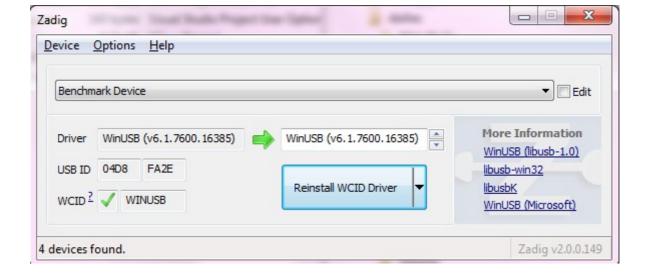
It offers a better connection via micro-USB cable into a PC or a Android Smartphone and Tablets





The blue LED light color will indicate. USB is Cable connection to PC and Cable OTG Male-Male to use in any Tablet/Smartphone

Drivers Installation for Windows



First of all run the Zadig. Download here: <u>http://zadig.akeo.ie/</u> Connect the DX-patrol to the PC with USB standard cable and run Zadig.

- If "device not found" please look on > options
- Off click the second line > Ignore Hubs or Composi...

Z		Zadig		- 🗆 🗙
Device	Opti	ions Help	_	
	~	List All Devices	1	
USB		nore Hubs or Composite Parents		Y 🗌 Edit
Driver	> >	Create a Catalog File Sign Catalog & Install Autogenerated Certificate		More Information WinUSB (libusb)
USB II WCID		Advanced Mode Log Verbosity		libusb-win32 libusbK WinUSB (Microsoft)
11 device	es fou	nd.		Zadig 2.1.0.658

RTL2832U (or similar) found

Zadig	
Device Options Help	
RTL2832U	▼ Edit
Driver (NONE)	More Information WinUSB (libusbx)
USB ID OBDA 2832 WCID ²	libusb-win32 libusbK
3 devices found.	WinUSB (Microsoft) Zadig v2.0.1.16

Install Driver

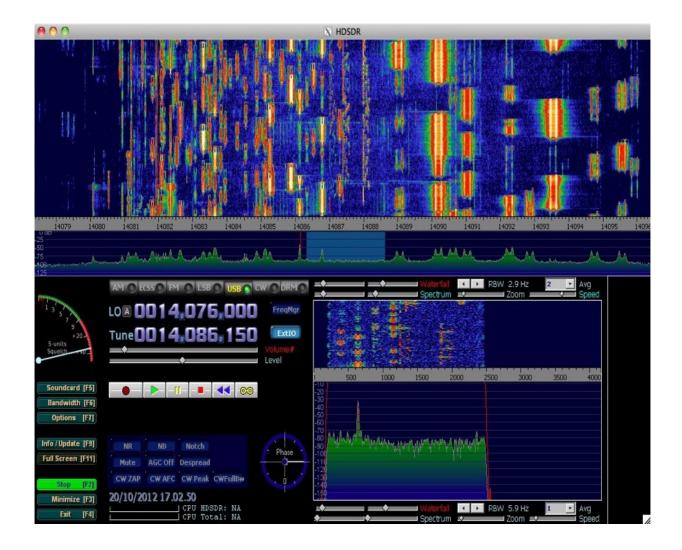
Driver Installation					
1	The driver was installed successfully.				
	Close				

Great! Time to have fun.

There are a lot of good free software you can now download and play

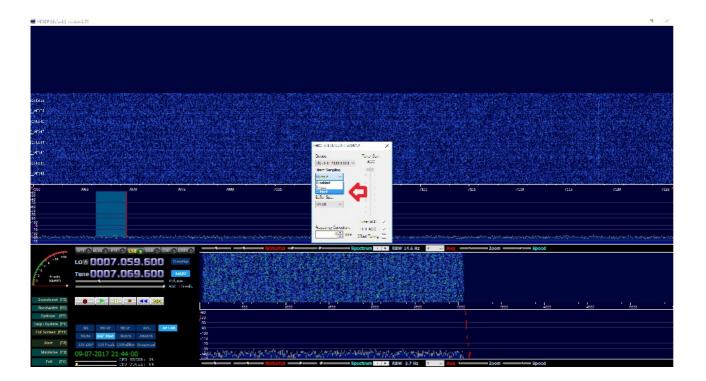
Here some suggestions

HDSDR get here: <u>http://www.hdsdr.de/</u> And also this DLL here how to: <u>http://hdsdr.de/RTLSDR_with_HDSDR.pdf</u>



To Listen HF with HDSDR:

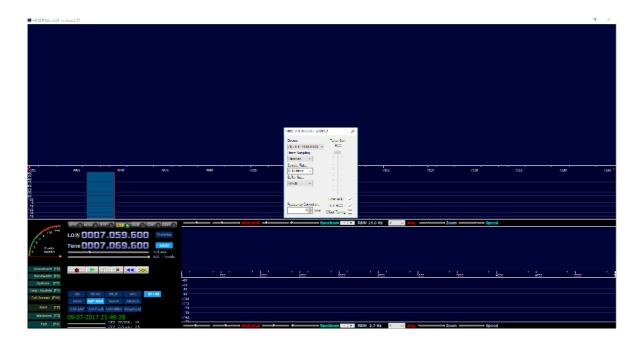
Just click ExtIO (before start) and choose **Q- Input** The HF antenna will be automatic selected by SDR



To Listen VHF and UP with HDSDR

Just click on ExtIO and select Disabled

VHF and UP antenna will be automatic selected by SDR



<u>Use the Same procedure on every Software you using</u> : SDRSharp, HDSDR, SDR-RADIO, CubicSDR, SDRTouch etc Note: there is no Up-conversion on MK4. Tuning is direct on display.

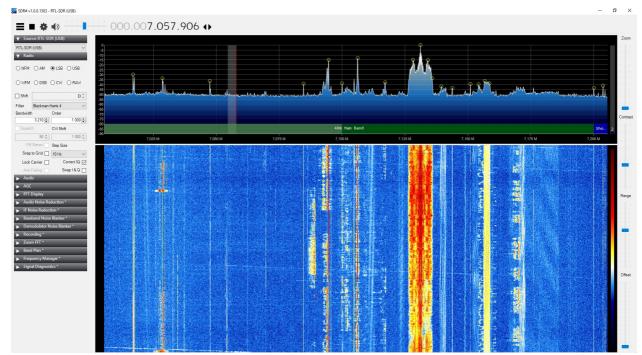
Q-Input is HF - Reception from 100Khz to 30Mhz Disabled . Is VHF and UP Reception from 30Mhz to 2000Mhz

ExtIO_RTL2832.DLL v20	14.2 X
Device:	Tuner Gain
(1) - RTL2838UHIDI N Direct Sampling:	
Q input ∨ Disabled	
l input Q input	
Buffer Size:	
64 kB 🗸 🗸	
	I I
	Tuner AGC 🗹
Frequency Correction:	RTL AGC 🗹
v Ţ ppm	Offset Tuning

ExtIO_RTL2832.DLL v2014	1.2 ×	<
Device: (1) - RTL2838UHIDI V	Tuner Gain AGC	
Direct Sampling:		
Disabled Sample Rate:		
0.96 Msps V		
Buffer Size: 64 kB ~		
	Ē	
	Tuner AGC 🗹	
Frequency Correction:	RTL AGC 🗹 Offset Tuning 🗌	

More Software installation:

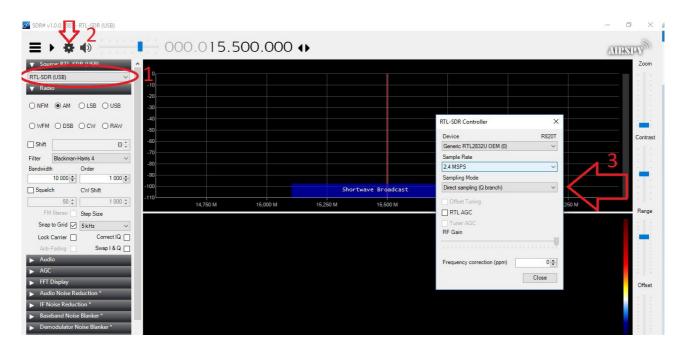
SDR SHARP After download and install in a folder sdr#



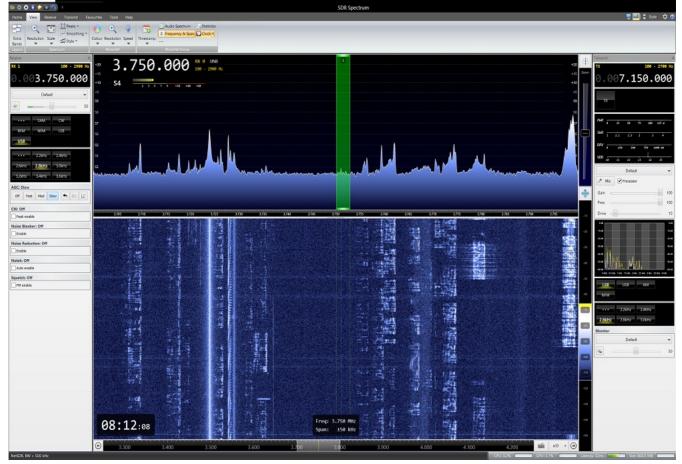
Open Folder and look for link "install-rtlsdr" click on it a black box will open and install all necessary drivers. Also run the Zadig included on folder.

C ADSBSpy	17-07-2016 13:04 Aplicação 87 KB		
🚳 airspy.dll	20-11-2015 11:45 Extensão da aplica 239 KB		
🔊 AirspyCalibrate	20-07-2017 00 <mark>:45 Ablicação 122 KB</mark>		
AirspyCalibrate.exe.config	13-05-2017 20 🔤 C:\WINDOWS\system32\cmd.exe	_	\times
airspyhf.dll	09-07-20171(inflating: tmp/rtl-sdr-release/COPYING.pthreads-win32		
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AstroSpy.exe.config	28-03-2016 1. inflating: tmp/rtl-sdr-release/rtl-sdr.h inflating: tmp/rtl-sdr-release/rtl-sdr export.h		
💼 BandPlan	13-08-2016 0(creating: tmp/rtl-sdr-release/x32/ inflating: tmp/rtl-sdr-release/x32/convenience static.)	lib	
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ExtIO_RTL_TCP.dll	inflating: tmp/rtl-sdr-release/x32/pthreadVC2-w32.dll 02-11-2016 19 inflating: tmp/rtl-sdr-release/x32/rtlsdr.dll		
\min FrontEnds	31-10-201514 inflating: tmp/rtl-sdr-release/x32/rtlsdr.lib inflating: tmp/rtl-sdr-release/x32/rtlsdr static.lib		
🚳 hackıf.dll	21-09-2015 0 inflating: tmp/rtl-sdr-release/x32/rtl_adsb.exe inflating: tmp/rtl-sdr-release/x32/rtl_edprom.exe		
■ httpget	21-09-2015 0 inflating: tmp/rtl-sdr-release/x32/rtl_fm.exe		
💿 install-rtlsdr 🕥	inflating: tmp/rtl-sdr-release/x32/rtl_power.exe 07-02-2017 0{ inflating: tmp/rtl-sdr-release/x32/rtl_sdr.exe		
🕙 lībusb-1.0.dll	14-09-2015 0; inflating: tmp/rtl-sdr-release/x32/rtl_tcp.exe inflating: tmp/rtl-sdr-release/x32/rtl_test.exe		
	19-09-2015 1: creating: tmp/rtl-sdr-release/x64/ inflating: tmp/rtl-sdr-release/x64/convenience static.	126	
modesparser.dll	11-03-2016 2(inflating: tmp/rtl-sdr-release/x64/libusb-1.0.dll		
svcr100.dll	inflating: tmp/rtl-sdr-release/x64/pthreadVC2-w64.dll 13-09-2015 22 inflating: tmp/rtl-sdr-release/x64/rtlsdr.dll		
Plugins	19-07-2017 13-20 Documento Avil		
PortAudio.dll	09-08-2016 16:59 Extensão da aplica 80 KB		
sthreadVCE2.dll	21-09-2015 09:43 Extensão da aplica 61 KB		
stisdr.dll	24-01-2014 17:32 Extensão da aplica 43 KB		

Run program normaly.



Download from here: SDR-RADIO

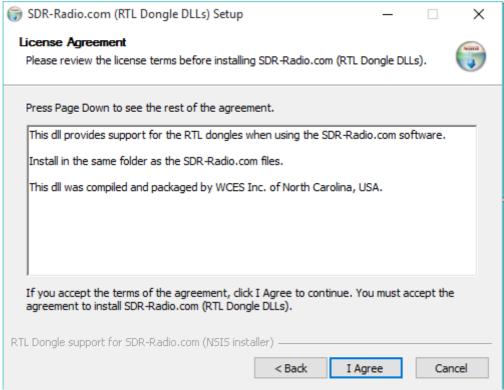


http://sdr-radio.com/Software/Download/Download-Kits

Download and install the latest version os SDR-Radio SDR software

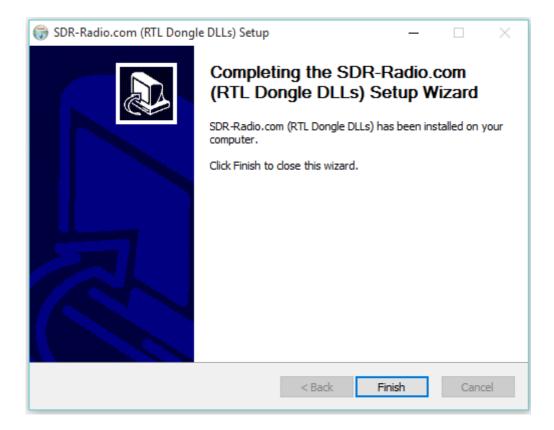
Also download the USB drivers here: https://meocloud.pt/link/a894d7f9-1fcf-4412-a5fe-eced48adddd0/-SDR-RADIO-Pro_RTLDongleSupport.exe/

Install SDR-radio and SDR-Drivers USB-RTL



🌐 SDR-Radio.com (RTL Dongle DLLs) Setup — 🗌 🗙
Choose Users Choose for which users you want to install SDR-Radio.com (RTL Dongle DLLs).
Select whether you want to install SDR-Radio.com (RTL Dongle DLLs) for yourself only or for all users of this computer. Click Next to continue.
Install for anyone using this computer
◯ Install just for me
RTL Dongle support for SDR-Radio,com (NSIS installer)
< Back Next > Cancel
·
🌍 SDR-Radio.com (RTL Dongle DLLs) Setup 🦳 🗌 🗙
Choose Install Location Choose the folder in which to install SDR-Radio.com (RTL Dongle DLLs).
Setup will install SDR-Radio.com (RTL Dongle DLLs) in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder C:\Program Files\SDR-RADIO-PRO.com\ Browse
Cherogram Files (SDK+KAD/O+PRO/Com)
Space required: 2.8MB Space available: 752.9GB
RTL Dongle support for SDR-Radio.com (NSIS installer)
< Back Install Cancel

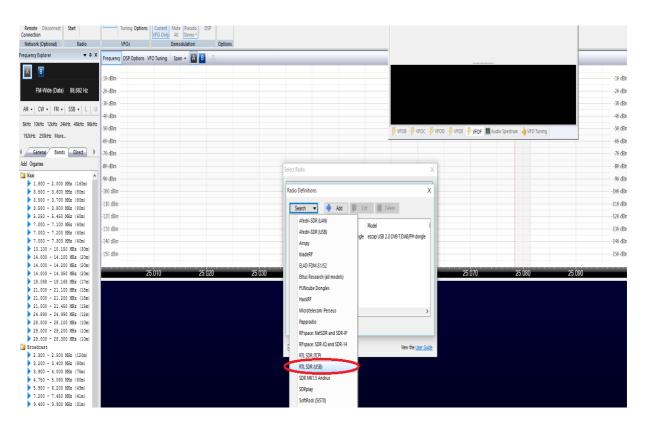
🌍 SDR-Radio.com (RTL Dongle DLLs) Setup		_		\times
Installation Aborted Setup was not completed successfully.				
Can't write: C:\Program Files\SDR-RADIO-PRO.com\rtlsdr.dll				
Show details				
DTI Depaie support for SDD Dadia con (NGIS installer)				
RTL Dongle support for SDR-Radio,com (NSIS installer) ————————————————————————————————————	Next	>	Ca	ncel



Plug the SDR on the USB connector,

You will ear a sound on PC speaker indicating that windows have found the device.

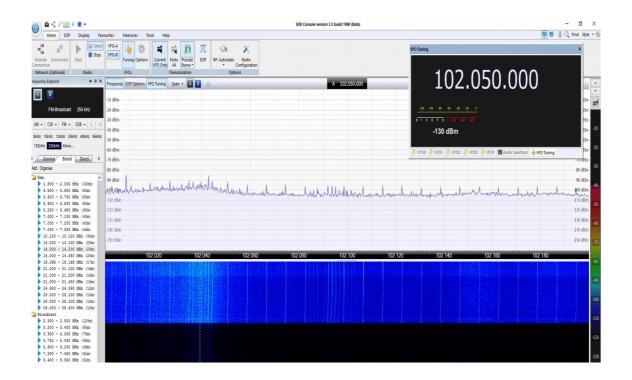
The SDR-Radio program will automatic alert you to choose the device on_ source



Select the RTL SDR USB

The ezcap USB will turns as Green!

The SDR is ready to operate on HF and VHF & UP



The SDR-radio program is very easy to work.

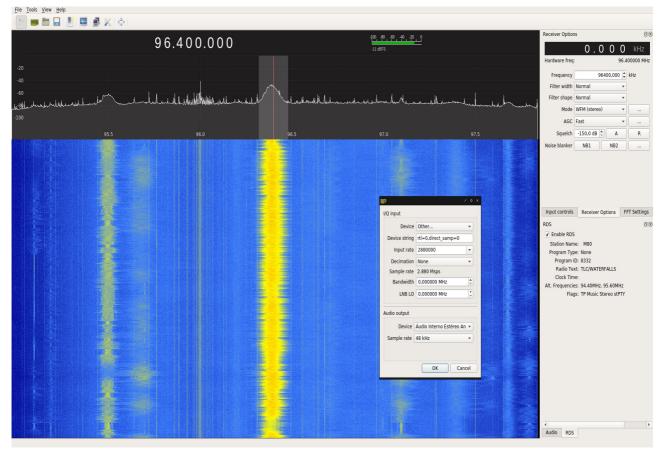
You have all modes for decoding as well lot's of memories broadcast bands, amateur bands etc.

Yahoo Google group: <u>https://groups.yahoo.com/neo/groups/sdr-radio-com/info</u>

When all drivers are OK, you can check on you Device Manager Must be as picture.

4	Gestor de Dispositivos	- 🗆 🗙
Ficheiro Ação Ver Ajuda		
🔶 🕅 🛛 🔽 🖬 🛛 🧶		
 HP-HP Computador Controladores anfitriões IEEE 1394 Controladores de armazenamento Controladores de som, vídeo e jogos Controladores IDE ATA/ATAPI Controladores USB (Universal Serial Bus) Dispositivos de interface humana Dispositivos de software Dispositivos do sistema Filas de impressão Impressoras Ibusb (WinUSB) devices RTL2841UHIDIR Placas gráficas Portas (COM e LPT) Ratos e outros dispositivos apontadores Teclados Unidades de disco Unidades de DVD/CD-ROM 		

Linux with GQRX



To listen HF open input box for IQ on device string : Sample_rate=0 (for VHF and up) Sample_rate=3 (for HF)

more info on <u>https://ct7aez.blogspot.pt/2017/09/dxpatrol-mk4-</u> <u>sdr.html#more</u>

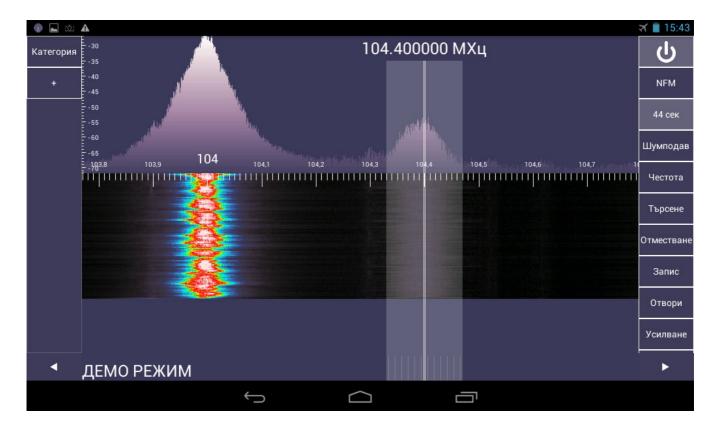
About Android



There are a Lot of software's available in Google Play



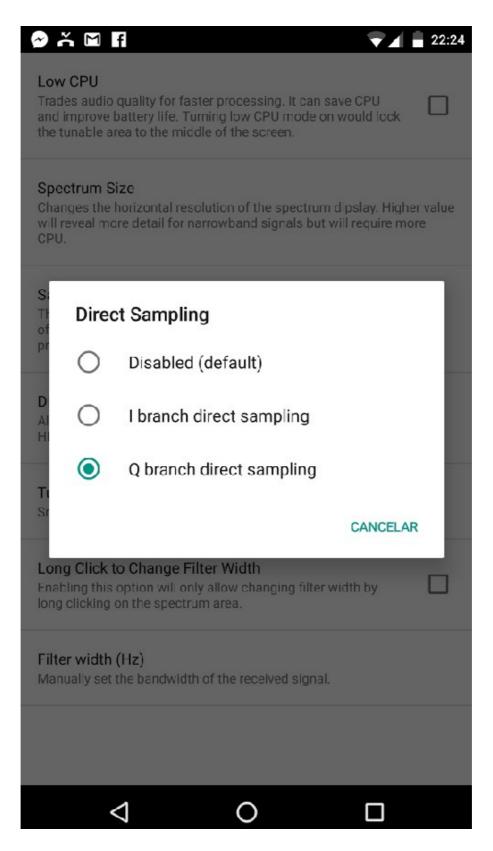
SDRTouch



Note:

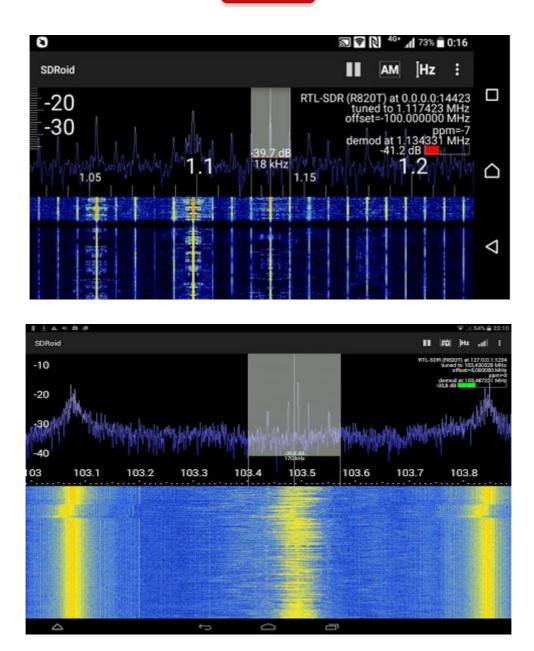
On SDRtouch is same thing, when band select is needed.

Go on PREFS> Direct Sampling > Q Branch (for HF) or Disable (for VHF and UP)



SDRoid





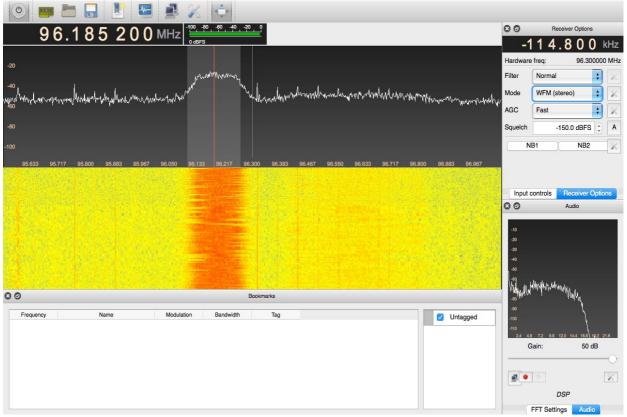
Operation with

Plain Viewer RTL1090

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RTL AGC		OFF			230					
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List		Flight table	Cont	ig 🗌						
ICAO (C/S	ALT. MCP	V/S	GS	TT	SSR	G*456^	SG	MSGS	
45ACC1 S	SAS627	¥308>300				4771		5	372	
440681 1	BER391E	¥390=		452	040	7352	e	5	601	
484F06		F031>030	+ 4	215	209				21	
44CE70 1	BELSMA	F018>040		178	230	7134		5	63	
4492B4 1	BEL54P	F280>310	+ 4	421	220	4746	0	9	209	
<10 <2	0 <40 <80) <120 120+					IDP BS		CP HT	TP
31 ms 3	27/sec T	HR: -80db [7]	Port:3	31001	A)	°:5	R820T-	0000	0014	

GET software here: <u>http://rtl1090.web99.de/</u>

MAC Using Patrolman with GQRX



Here how to install GQRX

https://www.smittix.co.uk/rtlsdr-up-and-running-in-mac-osx-yosemitewith-gqrx-gnuradio/ NOAA Weather satellites RX : <u>http://www.rtl-sdr.com/rtl-sdr-tutorial-</u> receiving-noaa-weather-satellite-images/

There are also many other freeware software's available on internet that you can try.

Gnu radio Linux software: http://rtlsdr.org/softwarelinux



Android: https://play.google.com/store/apps/details? id=marto.rtl_tcp_andro&hl=pt_PT

Enjoy the new World of the radio on a SDR device.

Best 73

Tony

CT1FFU

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