I am SWL 14368 Frank also FØDUW near Paris FRANCE. This blog if for my listening of AM radio on SW and MW, amateur radio bands in SSB. I I write few articles for SWL of AM radios, SWL of HAM radio and amateur radio operators. This is my blog number 3. The SSB SWL contest 2025 start the 01 March and finish in October 2025. It is open to SWL and amateur radio operators. Thank you. 73 and good DX

samedi 12 avril 2025

How to easily listen to radio amateurs bands ?

Hello, I've been Frank SWL since the 1980s, and I've also been FØDUW, which is my amateur radio call sign.

I translate in English this article who was write first in French by me.

https://icomjapan.blogspot.com/2025/02/comment-ecouter-facilement-les.html

One day in the 1990s, I also decided to listen to the amateur radio bands between 10 meters and 160 meters (1.8 MHz to 28 MHz).

At that time, I had a good KENWOOD R5000 receiver and a 20-meter cable on the roof of my apartment, which was 30 meters above the ground!

Me in 1997

To identify amateur radio operators' callsigns, I had a book-style guide with a list of all amateur radio countries. For amateur radio operators, these are DXCC entities, of which there are nearly 340.

In 2025, with a computer, a tablet, and the internet, or a smartphone, you can find free information to identify amateur radio operators' callsigns and find out which country they are broadcasting from.

Since I had practiced DX on 27 MHz (11 meters) and listened to AM radios on medium and shortwave, I already had some experience. I also spoke a little English, which I had learned at school and later perfected as I traveled extensively.

In fact, radio amateurs use a universal language called Q code (like Quebec) and use the international alphabet, such as A = Alpha.

https://en.wikipedia.org/wiki/NATO_phonetic_alphabet

If you listen to contests, the QSOs (contacts between radio amateurs) are very short, as are expeditions in rare DXCCs (DX expeditions).

List of DXCC entities

https://www.ng3k.com/Dxcc/dxcc.html

This is often limited to an exchange of R/S, for example, 5/9 five nine.

https://en.wikipedia.org/wiki/R-S-T_system#:~:text=The%20R%2DS%2DT%20system%20is%20used,readability%2C%20strength%2C%20and%20tone.

The RST code is used by radio amateurs, radio listeners, and radio enthusiasts to express the quality of a received radio signal. The code is a three-digit number. They respectively assess the readability, strength, and tone of the signals.

R/S stands for telephony, meaning that radio amateurs communicate with each other using their voices. RST is used for telegraphy; it's the famous Morse code, also known as CW.

There are many transmission modes used by radio amateurs, but voice and telegraphy are the most widely used.

So, you'll be listening using voice, as Morse code requires a lot of effort to learn.

I suggest listening to the bands between 10 meters and 160 meters, i.e., the HF or HF bands.

https://icomjapan.blogspot.com/2023/07/the-most-simple-way-to-know-if-there-is.html

https://www.hamqsl.com/solar.html

Listening well depends on your receiver and antenna, but also on propagation.

We're lucky because in 2025, radio wave propagation is very good. This depends on the solar cycle, which lasts 11 years. When solar activity is strong, propagation is very good, but even at the lowest solar activity, there is still good DX to listen for (DX = long distance). Even in Europe, there are rare DXCCs to listen for, for example, on the 40-meter band.

Each band has its own particularities. When solar activity is strong, it is easy to hear distant countries between 10 and 20 meters.

Propagation is good in 2025 except when they are solar flares. For the SSB SWL contest 2025 bands 10 to 20 meter are very good during the day for DX. At night on 40 meter you can listen many stations but except if you have a very good antenna not many DX (outside your continent =. In Europe we are lucky because around 40 DXCC entities not far from us.
Propagation on 40 meter LSB (7 MHz)
The absorption of the D layer is much weaker than that of the lower bands, which results in a near-permanent aperture depending on the propagation mode. During the day, the use of the E layer allows communications with a range of approximately 800 km in very stable conditions. At night, as soon as ionization begins to decrease, the F2 layer allows for very reliable global contacts. Atmospheric noise is minimal, and static levels, even in summer, are generally lower than signal levels
Propagation on 20 meter (14 MHz): This band is one of the best because propagation is good for DX during the day and sometime at night.
This is the preferred band for global communications for most OMs. Depending on the solar cycle, this band is always open for at least a few hours a day for DX traffic via the F2 layer. Occasionally, it is also possible to establish short-distance contacts via the E layer. During solar cycle maxima, the band can even remain open 24/7. In winter, the band closes relatively early.
Propagation for 17 meter (18 MHz)
This band behaves like the 20-meter band, but is more sensitive to variations in the solar cycle (11 years). During periods of low solar activity, the 17-meter band is only open to DX during the day on a north/south axis and at latitudes below 50 degrees. During periods of maximum solar activity, the band is open to long-distance communications all day, early evening, and even late into the night.
Propagation on 15 meter (21 MHZ)
This band behaves much like the 17 meter band. In 2025 is a very good band for DX.
Propagation on 12 meter (24 MHz)
This band benefits from the advantages of the 15 and 10 meters. It is primarily a daytime band during periods of low or moderate solar activity. During periods of high solar activity, the 12 meters can remain open even at night. During periods of low solar activity, the 12 meters are only open to DX during the day on a north/south axis and at latitudes below 50 degrees; however, during these same periods, the band can remain closed all day.
From 12 meters, ES contacts begin to become possible. ES openings are sometimes observed in winter, but their peak occurs between late spring and summer.
Propagation on 10 meter (28 MHz)
In 2025 its a wonderful band for DX because of big solar activity.
Remember only a 5-meter-long wire antenna is a half-wave ! In fact if you have a small radio try to have a 10-meter-long wire and your wire will listen all bands from 10 to 20 meter !!!
This band benefits from a large number of propagation modes. During periods of high solar activity, the band opens at sunrise and closes a few hours after sunset. During these periods, a power of a few watts allows contacts to be established over several thousand kilometers.

ES(E sporadic propagation) begins to be significant at 10 meters. It allows contacts over a distance of approximately 5,000 kilometers. It reaches its maximum between May and August.

So listen a lot to 10 meter, you will be surprised to listen of very far DXCC .
Try to have the best antenna as possible, even you add only some meters of wire to your telescopique antenna of your small SW radio receiver.
Try to put your antenna outdoor.

For those who don't have a radio receiver that picks up the single sideband used by radio amateurs to make voice contacts (LSB and LSB lower sideband and upper sideband) in English (SSB Single Sideband USB and LSB).

The LSB is used from 1.6 to 40 meters. The USB is used from 30 meters to 10 meters.

From 1800 kHz to 10150 kHz, DX is best after dark.

From 14000 kHz to 29700 kHz, DX is best during the day.

The HF Ham bands

You can use WEB SDR or KIWI SDR from your computer and the internet.

What is SDR?

A Web SDR is a software-defined radio receiver connected to the internet, allowing multiple listeners to listen and tune to it simultaneously. SDR technology allows all listeners to tune independently and therefore listen to different signals; this contrasts with the many conventional receivers already available on the internet. There are several on every continent, including several in France.

My Favorite SDRs

http://rigi.dyndns-remote.com:8091/

http://websdr.ewi.utwente.nl:8901/

In Europe alone, there are 1,000 Kiwi or WEB SDRs.

https://rx-tx.info/table-sdr-points

I wrote an article, so here's the link:

https://icomjapan.blogspot.com/2023/05/videos-en-francais-comment-utiliser-un.html

Of course, you choose USB or LSB mode depending on the band you're listening to.

I also wrote several articles in English:

https://icomjapan.blogspot.com/2023/12/listen-world-for-free-on-your-computer.html

If you prefer to buy a receiver with SSB and shortwave, it's easy to find new or used ones.

For example, new and inexpensive with SSB mode

https://www.amazon.fr/XHDATA-num%C3%A9rique-haut-parleur-affichage-rechargeable/dp/B077Z2P28F?th=1

Small radios, however, can't have very large antennas.

For around 200 US Dollars, you can find a very good used Japanese receiver like this YAESU.

https://www.rigpix.com/yaesu/frg100.htm

The antenna is one of the most important elements for listening.

With this type of receiver, you can use a "long wire," for example, 20 meters long or longer, which will be ideal if you're listening to 3.5 MHz, the 80-meter band. To listen at 10 to 20 meters, a vertical half-wave antenna for Citizen Band (CB or Cibi 27 MHz) measuring 5.50 meters will be ideal.

A half-wave antenna, for example, for 20 meters, measures 10 meters long, 40 meters for the 80 band, etc.

There are also amplified loop antennas that are inexpensive and can be used indoors or outdoors.

https://chinaradiosswl.blogspot.com/2023/06/loop-shortwave-antennas-for-swl-not-to.html?spref=bl

The dipole or inverted V antenna is very simple to make for a receiver. For a few euros, it's an ideal antenna for listening to amateur radio bands if you have the space to install it.

For example, 10 meters of electrician's wire on each end will allow you to listen from 10 to 40 meters.

Since the SWL doesn't emit, it's easier to build (no SWR or TOS). No balun is needed; just add isolators and a 50-ohm coaxial cable to connect the antenna to the RX.

https://chinaradiosswl.blogspot.com/2024/08/swl-inverted-v-antenna-popular-dipole.html

Propagation by Sporadic E

As its name suggests, sporadic E activity is an unpredictable event that can occur at almost any time; however, it exhibits significant seasonal and diurnal variations. Sporadic E activity peaks predictably near the solstices in both hemispheres. In the mid-latitudes of the Northern Hemisphere, activity typically begins in mid-May, with the peak occurring most markedly in early June. It begins to taper off after mid-July and becomes much less reliable by early August. A much weaker sporadic E peak occurs at the winter solstice. In the mid-latitudes of the Southern Hemisphere, the periods are reversed; maximum activity occurs at the summer solstice.[2]

Communication distances of 800 to 2,200 km (500 to 1,400 miles) can be achieved with a single Es cloud. This variability in distance depends on several factors, including cloud height and density. The maximum usable frequency (MUF) also varies considerably but is most commonly in the 25 to 150 MHz range, which includes FM broadcasting Band II (87.5 to 108 MHz), VHF television Band I (U.S. channels A2 to A6, Russian channels R1 to R5, and European channels E2 to E4, now discontinued in Western Europe), CB radio (27 MHz), and the 2, 4, 6, and 10 m amateur radio bands. On very rare occasions, an MUF of 225 MHz can be achieved.[2]

No conclusive theory has yet been formulated regarding the origin of sporadic Es. Attempts to link the incidence of sporadic E to the eleven-year sunspot cycle have provided tentative correlations. There appears to be a positive correlation between sunspot maximum and Es activity over Europe. Conversely, there appears to be a negative correlation between sunspot maximum and Es activity over Australasia. Harrison [3] suggests a correlation between the formation of sporadic E and the ablation of iron and magnesium micrometeoroids in the ablation zone, between 100 and 140 km above the Earth's surface. Maruyama examines this possibility in more detail.[4]

In 2025, something very important is clusters.

In the 1990s, it took me five years to confirm 250 DXCC entities with paper QSL cards. At that time, you had to search for DX! Unfortunately, following a move, QRM made me stop listening... I resumed listening on WEB SDR a few years ago, without QRM!

Clusters are the easy solution for quickly listening to many DXCC entities.

My favorite cluster is this one: http://www.dxsummit.fi/#/

On this cluster, clicking on the DX callsign takes you to QRZ.COM, which provides information about that station.

https://www.qrz.com/

My callsign, FØDUW, for example, is https://www.qrz.com/db/F0DUW.

The best thing to do is to give it a try, try listening to amateur radio bands and see if you can understand how QSOs are made between radio amateurs.

You can even request a paper or electronic QSL card.

When you send your SWL QSL card, you must include the date you listened to it, the UTC time, the frequency, the mode used, the R/S at your QTH, the QRZ or call sign of the DX you are sending your card to, and, above all, indicate with whom this DX was QSOing. Therefore, include the call sign of the station that spoke with the DX.

http://radioclubdenice.org/cartes-qsl-swl/

Amateur radio contest dates: there are some every weekend. The CQ WW SSB in October is the largest contest with 35,000 participants.

https://www.contestcalendar.com/index.php

During DX expeditions, operators work in split mode, meaning the DXer transmits on one frequency and listens on another.

Example: the DX is on 28350 kHz and listens 5 kHz higher on 28355 kHz.

In Simplex, the DX transmits and listens on the same frequency.

CQ and ITU zones

https://www.mapability.com/ei8ic/maps/cqzone.php

https://www.mapability.com/ei8ic/maps/ituzone.php

The world from Europe

https://www.mapability.com/ei8ic/maps/great_circle/capital_cities/berlin_germany_great_circle_map.php

The continents

https://www.mapability.com/ei8ic/maps/continent.php

Grid square locators (mine is JN18dt)

https://www.mapability.com/ei8ic/maps/gridworld.php

SWL website French

https://f10255.fr/

https://f10255.fr/dxcc/dxcc-qsl.htm

With a directional antenna

What is long-path propagation?

Long-path propagation refers to radio signals traveling a longer arc around the Earth to reach their destination. This path is typically about 40,000 km long, the opposite direction to the shorter, more direct route.

Long-path signals can be stronger than those that follow the short path. This is because they encounter fewer obstacles and experience less signal loss.

For DX enthusiasts, the long path opens up exciting possibilities. It allows you to reach distant stations that might otherwise be impossible to contact via the short path due to adverse conditions.

Short path and long path For a circuit > 10,000km, the major arc route (long path) can have fewer losses than the short path. This is especially true for N/S routes that are almost antipodal. Example of a France (Long. 0°) - Adélie Land (Long. 140°) route: • The short route will cross 10 time zones and cross the desert regions of Africa, but will follow the gray line in winter (in France). The connection will therefore be made in the middle of the summer night for Adélie Land, and in the late winter afternoon for France, with short opening times, and for a high Wolf number. • The long route will cross 2 time zones, pass near the North Pole (+180°), then cross 2 time zones. The route is almost entirely oceanic. By having the two gray-lines close to the path, we obtain a better connection budget than for the short path, despite a higher number of reflections. In this case, the connection takes place in the late autumn afternoon (May) for Adélie Land, and in the early spring morning for France

Other links on DX expeditions in rare DXCCs

https://dxnews.com/calendar/

https://www.ng3k.com/misc/adxo.html

https://www.dxmaps.com/dxcalendar.html

https://dxnews.com/calendar/

https://ea1cs.blogspot.com/

https://cdxc.org/

https://www.ng3k.com/misc/adxo.html

https://www.dxmaps.com/dxcalendar.html

https://www.dx-world.net/

https://www.425dxn.org/

A good free book in French and in PDF format to understand DX

https://www.k7ua.com/

I have 3 blogs for SWL

https://icomjapan.blogspot.com/

https://webkiwisdrswl.blogspot.com/

https://chinaradiosswl.blogspot.com/

To contact me by email: swlcontest@gmx.fr

Thank you, 73, and enjoy.

Frank SWL F14368/FØDUW

I organise an SSB SWL contest 2025, we have many nice sponsors !!!

https://chinaradiosswl.blogspot.com/2025/02/ssb-swl-contest-2025-rules.html?spref=bl

You are welcome even you are an amateur radio operator od a beginer SWL, you will receive an award.

Thank you to DX Zone https://www.dxzone.com/dx36317/how-to-easily-listen-to-amateur-radio-bands.html

A big thank you also to https://swling.com/blog/