Listen to the world!

The radio spectrum from 100 kHz to 30 MHz

A typical tuning range on most HF Communication Receivers sold today is from about 100 kHz to 30 MHz.

By international agreement, the radio spectrum has been divided up among various users. While there are some exceptions, most nations and the stations they authorize do follow the allocations described below:

150 kHz and below:

Signals on these frequencies cannot propagate well via the ionosphere, but are able to penetrate ocean water well. As a result, several military stations used for submarine communications are found here. Most transmissions are in CW and RTTY. You need a really large antenna to hear much here, and in most locations electrical noise and static will be too high.

135,7 to 137,8 kHz:

This is the European Long wave Amateur radio band. Most used modes in this band are Hellscreiber, PSK31 and CW and slow CW (QRSS).

153 to 279 kHz:

This is the European Long wave Broadcast band. The channel separation is 9kHz.You can hear local stations during daytime and during night you can hear stations as far away as 1500 km or more.

279 to 531 kHz:

Most stations heard in this range are navigation beacons that continuously repeat their call signs in Morse code. Some RTTY signals are found in the upper end of this band. Marine weather and safety broadcasts, known as NAVTEX, are transmitted on 518 kHz. Your best reception here will be at night, especially during the fall and winter months.

531 to 1602 kHz:

This is the Medium wave Broadcast band. The channel separation is 9kHz in Europe, Africa and Asia, and 10 kHz in America.

1610 to 1700 kHz:

In USA the Medium wave Broadcast band band now ends at 1700 kHz, with 1610 to 1700 kHz being the new "X" or "extended" band. New stations began appearing here in late 1997, and this new "X band" is providing excellent DX listening opportunities. In Europe you can hear medium wave pirate radio stations in this band.

1700 to 1800 kHz:

This is a "grab bag" of miscellaneous radio communications, mainly beacons and navigation aids. You may hear several transmitters that sound like chirping crickets; this is floating beacons used to mark fishing and offshore oil exploration locations. In Europe you can hear Coastal Radio stations in this band.

1800 to 2000 kHz:

This is the 160-meter ham radio band. Most voice communications will be in LSB, with best reception at night during the fall and winter months.

2000 to 2300 kHz:

This range is used maritime communications, with 2182 kHz reserved for distress messages and calling. There are also several regularly scheduled maritime weather broadcasts buy Coastal Radio stations. Most activity will be in USB, and best reception is at night.

2300 to 2495 kHz:

This is the 120-meter broadcasting band, mainly used by stations located in the tropics.

2498 to 2850 kHz:

More maritime stations are found here, as well as standard time and frequency stations WWV and WWVH on 2500 kHz.

2850 to 3155 kHz:

Mainly aeronautical stations in USB use this band. Several stations broadcasts aeronautical weather bulletins, and you can also hear traffic between airports and aero planes aloft.

(2850 - 3025 kHz Civil; 3025 - 3155 kHz Military)

3150 to 3200 kHz:

This range is allocated to fixed stations, with most communications in RTTY.

3200 to 3400 kHz:

This is a very interesting segment. This is the 90-meter broadcasting band, used mainly by stations in the tropics. Canadian standard time and frequency station CHU can be heard on 3330 kHz. Several fixed stations also use this range, including several associated with various agencies of the U.S. government. Best reception will be at night.

3400 to 3500 kHz:

This range is used for civil aeronautical communications in USB.

3500 to 3800 kHz:

This is the 80-meter ham radio band. The 3500 to 3600 kHz range is used for CW and RTTY communications, and the rest of the band is used for LSB voice.

3800 to 3950 kHz:

This range is used for civil aeronautical communications in USB. In North America this is a radio amateur band. Best reception is at night.

3950 to 4000 kHz:

This is the 75 m broadcasting band in Europe and Africa. In North America this is a radio amateur band. Best reception is at night.

4000 to 4063 kHz:

This is a fixed station band, mainly used by military forces for SSB traffic.

4063 to 4438 kHz:

This is a band used for maritime communications in USB, with 4125 kHz being used as a calling frequency.

4438 to 4650 kHz:

This range is mainly used for fixed and mobile stations in USB.

4650 to 4750 kHz:

This range is used for aeronautical communications in USB.

(4650 - 4700 kHz Civil; 4700 - 4750 kHz Military)

4750 to 5060 kHz:

This is the 60-meter broadcasting band, used mainly by stations in the tropics. Best reception is in the evening and night hours during the fall and winter. In winter, stations to the east of you begin to fade in an hour or two before your local sunset, and stations to the west of you don't start to fade out until an hour or so after your local sunrise. The frequency 5000 kHz is allocated internationally to standard time and frequency stations. In North America, you'll mainly hear WWV and WWVH on 5000 kHz.

5060 to 5450 kHz:

This range is a real jumble! Several broadcasting stations are found in the lower part of the segment, and fixed and mobile stations in SSB, RTTY, and CW are found throughout this band. Best reception is during the evening and night hours.

5450 to 5730 kHz:

This range is used for aeronautical communications in USB.

(5450 - 5680 kHz Civil; 5680 - 5730 kHz Military)

5730 to 5950 kHz:

Another jumble of different stations! For years, this band has been used by fixed stations of the U.S. government for communications in USB and RTTY. However, several broadcasters are also showing up here.

5950 to 6295 kHz:

This is the 49-meter broadcasting band, and is loaded with signals from late afternoon to a couple of hours after your local sunrise.

6295 to 6525 kHz:

This is a very busy band for maritime communication in USB and various FSK modes like AMTOR and FEC.

6525 to 6765 kHz:

This is another busy band, this time for aeronautical communications in USB. Best reception is during the evening and night hours.

(6525 - 6685 kHz Civil; 6685 - 6765 kHz Military)

6765 to 7000 kHz:

This segment is allocated to fixed stations, with signals in SSB, CW, FAX modes, and miscellaneous digital modes.

7000 to 7100 kHz:

The 7000 to 7100 kHz range is allocated exclusively to ham radio worldwide, although an occasional broadcaster will show up here. Hams use CW and RTTY from 7000 to7040 kHz, and mainly LSB from 7040 to 7100 kHz. Best reception is from the late afternoon to early morning, although some hams can usually be heard here around the clock.

7100 to 7350 kHz:

The 7100 to 7300 kHz range is allocated exclusively to ham radio in North and South America, but is the 41-meter broadcasting band in the rest of the world. Best reception is from the late afternoon to early morning, although some stations can usually be heard here around the clock. Many European contries is now starting to allocate the 7100 - 7200 kHz frequency spectrum to radio amateurs.

7350 to 8195 kHz:

Fixed stations mainly use this segment, although several broadcasters can be found in the lower reaches. Various FSK and digital modes are used.

8195 to 8815 kHz:

This is a busy maritime band from the late afternoon until early morning, with most traffic in USB and FSK modes.

8815 to 9040 kHz:

This is another aeronautical communications band, with traffic in USB. Several stations broadcast aeronautical weather reports.

(8815 - 8965 kHz Civil; 8965 - 9040 kHz Military)

9040 to 9400 kHz:

This range is used mainly by fixed station in various FSK and digital modes, but several international broadcasters also use it.

9400 to 9900 kHz:

This is the 31-meter international broadcasting band, and is packed with stations from around the world. Best reception is usually from mid-afternoon to around mid-morning, although some stations can be heard here throughout the day, especially in winter.

9900 to 9995 kHz:

Several international broadcasters use this range along with fixed stations using FSK modes.

9995 to 10005 kHz:

This is set aside for standard time and frequency stations, like WWV and WWVH on 10000 kHz.

10005 to 10100 kHz:

This range is used for civil aeronautical communications.

10100 to 10150 kHz:

This is the 30-meter ham radio band. Because it is so narrow, operation here is restricted to CW and RTTY.

10150 to 11175 kHz:

Fixed stations use this segment. In addition to various FSK and digital modes, you may hear several international broadcast stations being relayed in SSB. These "feeder" stations are used to send programming to relay sites not served by satellite downlinks.

11175 to 11400 kHz:

This range is used for aeronautical communications in USB.

(11175 - 11275 kHz Military; 11275 - 11400 kHz Civil)

11400 to 11650 kHz:

Fixed stations in FSK and digital modes mainly use this segment, but some international broadcasters also operate here.

11600 to 12100 kHz:

This is the 25-meter international broadcasting band. You can usually hear several stations here no matter what time of day you listen.

12100 to 12330 kHz:

Fixed stations in FSK and digital modes primarily use this band, although several international broadcasters are found in the lower area.

12330 to 13200 kHz:

This is a busy maritime communications band during the day and evening hours, with traffic in USB and various FSK modes.

13200 to 13360 kHz:

Aeronautical communications in USB are heard here during the day and evening.

(13200 - 13260 kHz Civil; 13260 - 13360 kHz Military)

13360 to 13570 kHz:

Fixed stations, mainly in FSK and digital modes use this range.

13570 to 13870 kHz:

This is the 22-meter international broadcasting band, with best reception generally during the daytime and early evening.

13870 to 14000 kHz:

Fixed stations use this range, with most communications in FSK modes.

14000 to 14350 kHz:

This is the 20-meter ham radio band. The lowest 100 kHz is reserved for CW and RTTY use, with USB popular in the rest of the band. Best reception is during the daytime and early evening.

14350 to 14490 kHz:

Fixed stations, primarily in FSK and digital modes use this segment.

14990 to 15010 kHz:

This sliver is reserved for standard time and frequency stations; with the best-heard being WWV and WWVH on 15000 kHz.

15010 to 15100 kHz:

This range is for military aeronautical communications in USB, although a few international broadcasters do show up here.

15100 to 15800 kHz:

This is the 19-meter international broadcasting band, and it is usually packed with signals during the daytime and early evening.

15800 to 16460 kHz:

Fixed stations in USB, FSK modes, and digital modes use this band.

16460 to 17360 kHz:

This range is shared between maritime and fixed stations using USB, FSK modes, and digital modes. Best reception here is generally during the daytime.

17360 to 17480 kHz:

Aeronautical and fixed stations using USB, FSK modes, and digital modes share the range.

17480 to 17900 kHz:

This is the 16-meter international broadcasting band, and best reception is usually during the daylight hours.

17900 to 18030 kHz:

This band is used for aeronautical communications in USB.

(17900 - 17970 kHz Civil; 17970 - 18030 kHz Military)

18030 to 18068 kHz:

Fixed stations, mainly in FSK and digital modes use this range.

18068 to 18168 kHz:

This is the 17-meter ham radio band, where CW, RTTY, and USB are used.

18168 to 18900 kHz:

Fixed stations, with a few maritime stations also found here use this large band. Most traffic is in FSK and digital modes. Reception in this range will usually be limited to daylight hours.

18900 to 19020 kHz:

This is the 19-meter international broadcast band.

19020 to 19990 kHz

Fixed stations, with a few maritime stations also found here use this large band. Most traffic is in FSK and digital modes. An interesting frequency is 19954 kHz, used for decades as a beacon frequency by Soviet/Russian manned spacecraft. Reception in this range will usually be limited to daylight hours.

19990 to 20010 kHz:

This segment is reserved for standard time and frequency stations like WWV on 20000 kHz. Reception here is usually possible only in daytime.

20010 to 21000 kHz:

Fixed stations and a few aeronautical stations mainly use this range. Most traffic is in FSK and digital modes as well as USB.

21000 to 21450 kHz:

This is the 15-meter amateur band. CW and RTTY is mainly found in the first 200 kHz, and USB is used in the rest of the band. Best reception here is in the daytime hours.

21450 to 21850 kHz:

This is the 13-meter international broadcasting band, with best reception during the daytime.

21850 to 21870 kHz:

Fixed service in FSK and digital modes as well as USB use this band..

21870 to 22000 kHz:

This band is used for civil aeronautical communications in USB.

22000 to 22855 kHz:

This range is reserved for maritime communications in USB and FSK modes. Best reception is in daytime during years of high sunspot activity.

22855 to 23200 kHz:

Fixed stations, mainly in FSK and digital modes use this band.

23200 to 23350 kHz:

This band is used for civil aeronautical communications in USB.

23350 to 24890 kHz:

Fixed stations in FSK and digital modes use this segment.

24890 to 24990 kHz:

This is the 12-meter ham radio band, used for CW, FSK, and USB work. Reception is usually limited to the daytime during years of high sunspot activity.

24990 to 25010 kHz:

This range is for standard time and frequency stations, although none are currently operating here.

25010 to 25550 kHz:

This band is used by fixed, mobile, and maritime stations, many of them low powered units in trucks, taxicabs, small boats, etc. USB and AM are mainly used, along with FM having 5 kHz deviation. Best reception is during daytime in years of high sunspot activity or during a sporadic-E propagation opening.

25550 to 25670 kHz:

This region is reserved for radio astronomy and is usually free of stations.

25670 to 26100 kHz:

This is the 11-meter international broadcasting band. Reception is usually possible only in daytime during years of high sunspot activity.

26100 to 26965 kHz:

This band is used by fixed, mobile, and maritime stations, many of them low powered units in trucks, taxicabs, small boats, etc. USB and AM are mainly used, along with FM having 5 kHz deviation. Best reception is during daytime in years of high sunspot activity or during a sporadic-E propagation opening.

26965 to 27405 kHz:

This is the citizens band, the channel separation is 10 kHz. NFM, AM and USB is used.

27405 to 28000kHz:

Mainly CB pirates in USB, and various fixed and mobile stations in NFM use this band.

28000 to 29700 kHz:

This is the 10-meter ham radio band. Most activity is in USB from 28300 to 28600 kHz, with FM used in the range 29510 - 29700 kHz. It is possible to receive amateur radio satellites between 29300 and 29510 kHz. Best reception is during daytime in years of high sunspot activity or during a sporadic-E propagation opening.

29700 to 30000 kHz:

Low powered fixed and mobile stations, mainly using FM with 5 kHz deviation use this range.