

GENERAL INFORMATION

The general information contained on the following pages is provided for use as 'quick reference'. It has been compiled from a variety of sources. Additional information can be found elsewhere in the Radio Aids section.

FREQUENCY BANDS

Radio frequencies lie within a relatively narrow range of the electro-magnetic spectrum between approximately 10 kHz and 300 GHz. This range is divided into bands, more or less in accordance with the propagation characteristics of the frequencies. These bands are:

VLF	Very Low Frequency	0 - 30 kHz
LF	Low Frequency	30 kHz - 300 kHz
MF	Medium Frequency	300 kHz - 3 MHz
HF	High Frequency	3 MHz - 30 MHz
VHF	Very High Frequency	30 MHz - 300 MHz*
UHF	Ultra High Frequency	300 MHz - 3 GHz*
SHF	Super High Frequency	3 GHz - 30 GHz
EHF	Extremely High Frequency	30 GHz - 300 GHz

*200 MHz - 3 GHz is considered UHF in Aviation.

All VHF markers (FAN TYPE, OUTER, INNER and ZONE) operate on 75 MHz (75,000 KHz), and are tone modulated as follows:

FM	Fan Marker (100 Watts)	3000 Hz
LFM	Low-Powered Fan Marker (5 Watts)	3000 Hz
MM	Middle Marker	1300 Hz
OM	Outer Marker	400 Hz
Z	Station Location Marker	3000 Hz

FREQUENCY ALLOCATION

Frequency allocation is established to provide a clear channeling between the various functions performed by aeronautical nav aids and communications facilities. Although a general allocation plan is recognized on a world-wide basis, variations may occur within certain ranges. The listing below is intended to provide that allocation most generally used by civil operators.

NAVIGATION AIDS

- 190 - 535 kHz Nondirectional Radio Beacon (low power) and Radio Range (low power).
- 190 - 1750 kHz Non-directional Beacon (standard).
- Non-directional Beacon (standard). Marker Beacon.
- 108.0 - 117.975 MHz VOR test facility (VOT).

- 108.0 - 111.975 MHz ILS localizer (on odd-tenths plus twentieth frequencies, 108.1, 108.3 etc.)
- 108.0 - 111.975 MHz VOR (even tenths or even tenths plus a twentieth of MHz).
- 111.975 - 117.975 MHz VOR (even and odd tenths of MHz).
- 328.6 - 335.4 MHz ILS glide slope.
- 960.0 - 1215.0 MHz DME and TACAN.
- 1563.42 - 1587.42 MHz GPS

AIRBORNE STATIONS

- 410 kHz International DF (outside continental USA).
- 475 kHz Working frequency exclusively for aircraft on sea flights desiring an intermediate frequency.
- 500 kHz International frequency for aircraft and ships over the seas. Transmission on this frequency (except for urgent and safety messages and signals) must cease twice each hour, for three minute periods beginning at 15 and 45 minutes past each hour.
- 3281 kHz Lighter-than-aircraft.