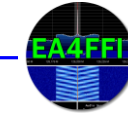
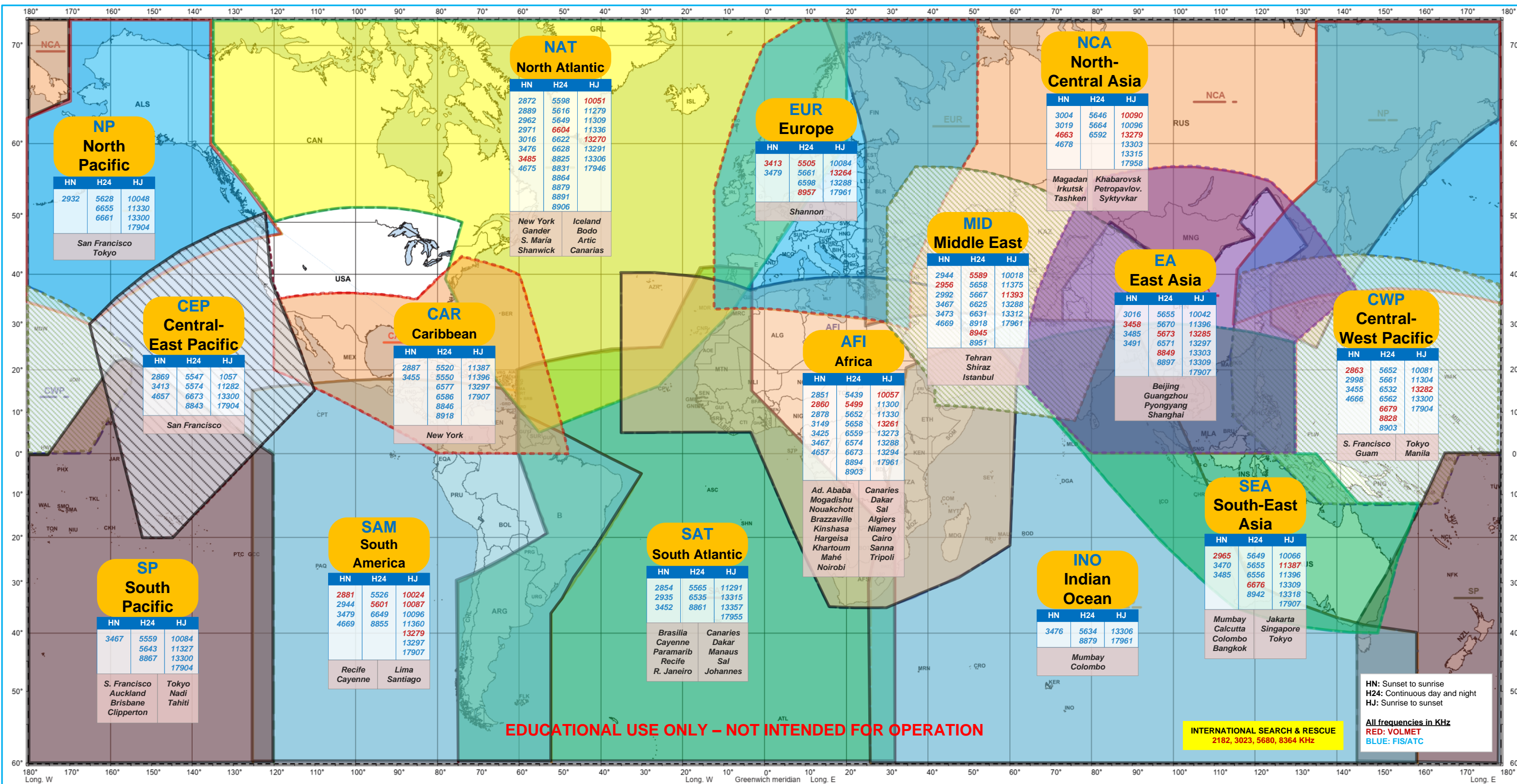


MAJOR WORLD AIR ROUTE AREAS HF FREQUENCIES

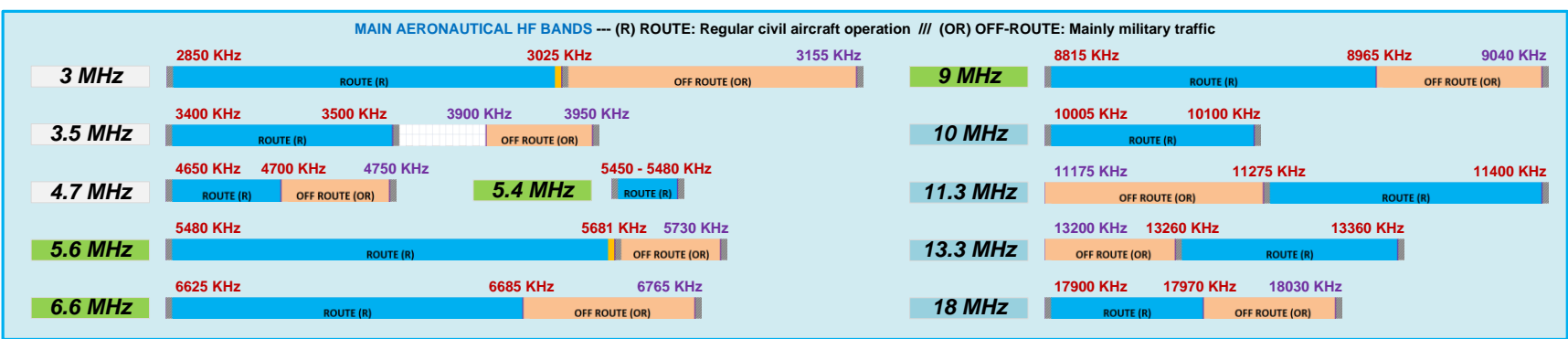


MWARA

V1.1 - 15/11/23 © EA4FFI daniel.ea4ffi@gmail.com



EDUCATIONAL USE ONLY – NOT INTENDED FOR OPERATION



REFERENCE PROPAGATION RANGES (Km from station)

| DAY | NIGHT | USE |
|------|-------|----------|
| 3 | 100 | 500 HN |
| 3.5 | 100 | 800 HN |
| 4.7 | 350 | 1400 HN |
| 5.4 | 450 | 1800 H24 |
| 5.6 | 450 | 1800 H24 |
| 6.6 | 650 | 2200 H24 |
| 9 | 1000 | 3400 H24 |
| 10 | 1250 | - HJ |
| 11.3 | 1500 | - HJ |
| 13.3 | 1900 | - HJ |
| 18 | 2600 | - HJ |
| 22 | 2600+ | - HJ |

NOTES

SIGNALS: Transmissions in USB, 2.8 KHz bandwidth, channel allocation each 3 KHz.

PROPAGATION: Highly dependent on location, time of day, season and solar cycle. Use the chart as a starting point.

STATIONS: There are more stations within the areas, noted the most important/usual ones.

AREAS: Big areas are subdivided into several smaller areas. Frequencies are shared between stations according to a schedule.

OPERATION:

- Most usual communications are: Position reports, MET forecast, Flight Level Clearance and COM info and transfer.
- HF stations are frequently operated by specialized COM personnel, not ATC, but they can relay ATC instructions if needed.
- Primary and secondary frequencies are assigned:
 - Ingoing aircraft → Primary: higher frequencies / Secondary: lower frequencies
 - Outgoing aircraft → Primary: lower frequencies / Secondary: higher frequencies
- Common frequencies should be assigned for aircraft along, or crossing, boundaries between areas.
- Stations within a sub-area should maintain rx on several frequencies, in case an aircraft could not contact the assigned station.

ITU Radio Regulations, chapter VIII Aeronautical services. Appendix 26 and 27.
<https://www.dxfocentre.com/index.html>
<http://monitor-post.blogspot.com/p/this-international-hf-aero-frequency.html>
<https://aeronauticalradio.weebly.com/>

If you find this information useful, please send me an email with your comments and suggestions. Thank you!
 daniel.ea4ffi@gmail.com