



5. IMPORTANT REMARKS

This watch's movement includes a battery end-of-life (EOL) warning system, signalled by the digital readout's flashing mode. The battery should then be replaced during the following days by an authorized BREITLING dealer. Ask that the watch undergo a watertightness check whenever its battery is changed.

This BREITLING chronograph was designed to withstand the pressure level inscribed on the case back.

Please note: The crown should not be actioned while the watch is under water or when it is wet. After exposing the watch to sea water, remember always to rinse its case and metal bracelet in fresh running water. Watches with a leather strap should not be worn under water to prevent its premature deterioration.

Maintenance, replacement or repair work on your BREITLING watch should be entrusted only to an authorized BREITLING servicing and repair center or to an official BREITLING dealer. Should any such work be required during the warranty coverage period, remember to include the original Warranty Certificate duly completed, dated and signed by the official dealer from whom the watch was purchased.



7. SUMMARY RESULTS OF FIELD TRIALS

Experimental observations

- The masking effect of terrain was investigated. It was observed that a topography that limits the range, also facilitates localization.
- Warming the watch increases the range in cold conditions.
- Holding up the watch also improved the range, especially when lying on the ground.
- The optimum length of the complementary, counterpoise antenna is 60 cm.
- The supplementary antenna (counterpoise) more than doubles the range, except if the transmitter is on the ground, where it has no noticeable effect.

Overall assessment

Basic data:

- Static interference increases at night, at lower latitudes, on land and in summer.
- VHF is sensitive to the reflective and blocking effects of terrain.
- VHF radio waves have a line-of-sight range.
- The theoretical maximum horizon range of a VHF signal depends on the relative heights of the transmitter and receiver according to the formula: $R = 1.23(\sqrt{h_t} + \sqrt{h_r})$, where:
R is the approximate distance in nautical miles, h_t is the height of the transmitter in feet,
 h_r is the height (above ground) of the receiver in feet.

**The practical range of the BREITLING EMERGENCY
with the supplementary antenna deployed is :**

$$R = 0.8 (\sqrt{h_t} + \sqrt{h_r})$$

with h_t and h_r in feet

**The maximum range of the BREITLING EMERGENCY is around 1.1 ($\sqrt{h_e} + \sqrt{h_r}$),
which approximates the visual range.**

EMERGENCY

The table compares ranges with the receiver in an aircraft at **H** height above the transmitter :

H		EMERGENCY's practical range with supplementary antenna		Theoretical maximum VHF range		EMERGENCY's maximum range with supplementary antenna	
<i>Feet</i>	<i>Meters</i>	<i>Nm</i>	<i>Km</i>	<i>Nm</i>	<i>Km</i>	<i>Nm</i>	<i>Km</i>
3.3	1	1.4	2.6	2.2	4	2	3.6
10	3	2.5	4.5	3.9	7	3.4	6.2
1,000	300	25	45	39	70	34	62
1,500	450	31	56	48	86	42	75
3,000	1,000	44	79	67	121	62	112
5,000	1,500	56	102	87	156	75	135
6,000	1,800	62	112	95	171	83	150
10,000	3,000	80	144	123	221	110	195
15,000	4,500	98	176	150	271	134	240
20,000	6,000	113	204	174	313	155	280
25,000	7,500	126	228	194	350	170	305
33,000	10,000	145	262	223	402	200	360