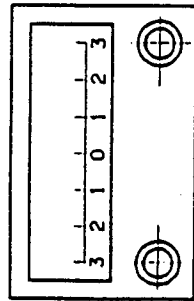




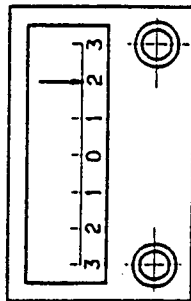
CHRONOGRAPHE BREITLING EMERGENCY SUR SITE.



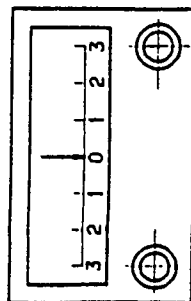
* EQUIPEMENT DRAGON 69 * CONFIGURATION ADRASEC 69 * 2 HOMINGS *



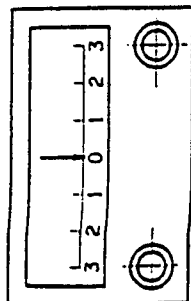
Homing Hélico.



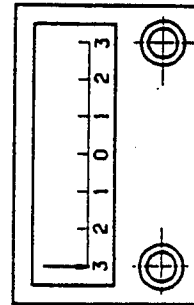
Homing Hélico.



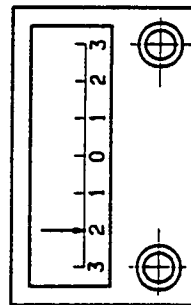
Homing Hélico.



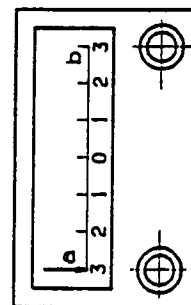
Homing Hélico.



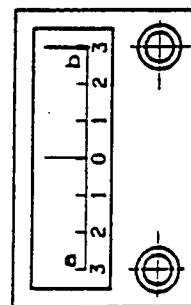
Homing ADRASEC



Homing ADRASEC



Homing ADRASEC



Homing ADRASEC

DEBUT PHASE RECHERCHE

Ecoute de signal balise

Homing ADRASEC en position "directif"

Signal entendu en "directif" : Orientation recherche

PHASE RECHERCHE n°1

Signal entendu sur les 2 Homings

Homing Hélico. + ADRASEC en position "Homing"

PHASE RECHERCHE n°2

Signal entendu sur les 2 Homings

Caler le Homing Hélico. au point 0

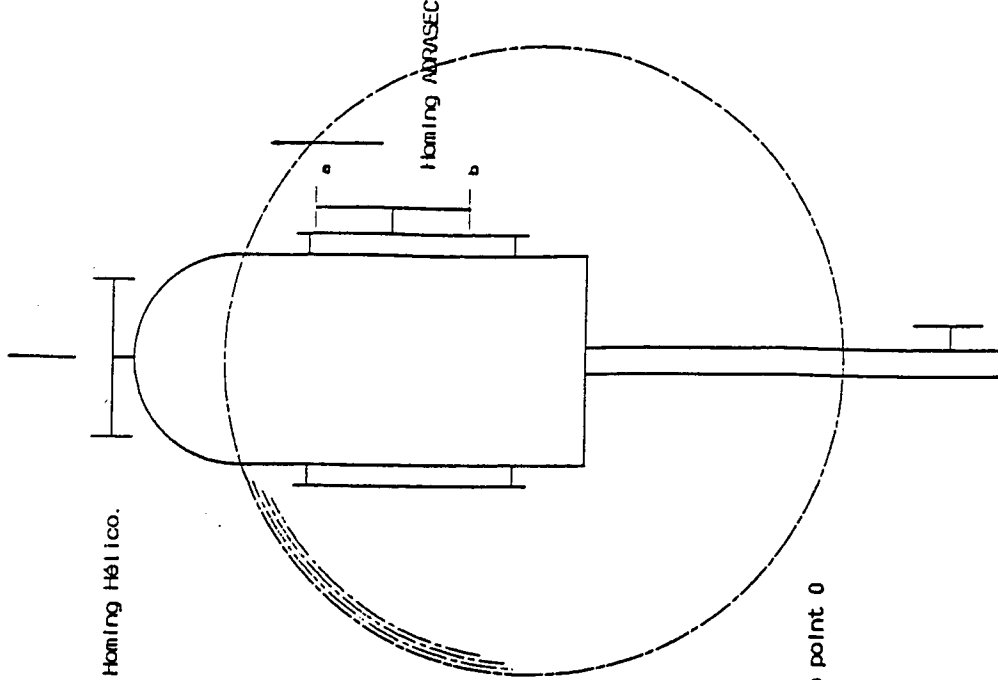
Utiliser le Homing ADRASEC sans essayer d'effectuer le point 0

PHASE RECHERCHE n°3

Homing Hélico. au point 0

Le Homing ADRASEC bascule de l'autre côté

Au passage point 0 : la balise est à la verticale parfaite



Monsieur DESJEU, Messieurs,

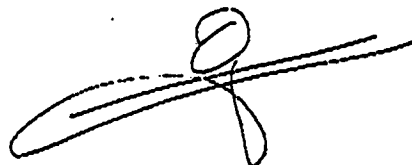
- Comme convenu, veuillez trouver ci-joints les relevés obtenus lors du test fréquence 121.5 Mhz. du samedi 29 novembre.

- 3 réceptions de signaux par aéronefs en vol ont été signalées:
 - . 1 avion à 2000 pieds au point N de SATOLAS
 - . 1 avion en longue finale piste 16 à SATOLAS
 - . 1 avion IL 350 dans le 240 pour 26 Nm de la balise LSA.

- Je vous confirme le besoin d'un fascicule inhérent à la montre Emergency, car, suite aux résultats obtenus, votre produit suscite l'intérêt de l'ensemble de mon personnel.

Restant disponible pour tout exercice lié à la mission SAR ou pouvant contribuer au sauvetage de vies humaines, veuillez agréer, messieurs, mes sincères salutations.

GADZINSKI D.

A handwritten signature in black ink, consisting of a stylized 'G' followed by a horizontal line and a loop.

1. DISTRESS COSPAS-SARSAT ALERT 506
2. MSG NO 79440 /NEW REF NO 39917
3. DETECTION TIME 29 NOV 97 1250 UTC
4. DETECTION FREQUENCY 121.501 MHZ
5. COUNTRY NIL
6. NIL
7. EMERGENCY CODE NIL
8. LOCATIONS A LAT 45 41.8N/LONG 004 49.1E PROB 49
B LAT 45 41.8N/LONG 004 49.1E PROB 49
9. NEXT INFO A 1412 UTC
B 1412 UTC
10. REMARKS

A. AUDIO: Y MORSE CODE: NO
TQ GOOD
B. NIL
C. NIL
D.

1. DISTRESS COSPAS-SARSAT ALERT 004
2. MSG NO 79448 /NEW REF NO 39917
3. DETECTION TIME 29 NOV 97 1341 UTC
4. DETECTION FREQUENCY 121.500 MHZ
5. COUNTRY NIL
6. NIL
7. EMERGENCY CODE NIL
8. LOCATIONS A LAT 45 47.9N/LONG 003 44.1E PROB 50
B LAT 45 47.9N/LONG 003 44.1E PROB 50
9. NEXT INFO A 1455 UTC
B 1455 UTC
10. REMARKS

A. AUDIO: N MORSE CODE: NO
TQ GOOD
B. NIL
C. NIL
D.

1. DISTRESS COSPAS-SARSAT ALERT 006
2. MSG NO 79447 /NEW REF NO 39917
3. DETECTION TIME 29 NOV 97 1348 UTC
4. DETECTION FREQUENCY 121.500 MHZ
5. COUNTRY NIL
6. NIL
7. EMERGENCY CODE NIL
8. LOCATIONS A LAT 45 40.6N/LONG 004 01.0E PROB 32
B LAT 45 40.6N/LONG 004 01.0E PROB 32
9. NEXT INFO A UNKNOWN
B UNKNOWN
10. REMARKS

A. AUDIO: N MORSE CODE: NO
TQ GOOD
B. NIL
C. NIL
D.

291551 LFIAZSZX
/79469 00000/2270/97 333 1551
/915/9999

/FMCC REF NO 39917

REF 121 MHZ BEACON IN POSITION LAT:45 50.0N, LONG:004 40.0E
FROM FMCC COSPAS/SARSAT

PAS DE LOCALISATION SUR DERNIER PASSAGE SATELLITE.

AVEZ VOUS OBTENU DES INFORMATIONS CONCERNANT CETTE EMISSION?

MERCI POUR COOPERATION.

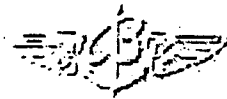
FMCC

K

FEDERAL OFFICE FOR CIVIL AVIATION / BREITLING

„BREITLING-EMERGENCY“

TEST ON 9 AND 15 JULY 1998



Breitling SA and the Federal Office for Civil Aviation (FOCA) agreed to conduct a series of tests involving the „Breitling Emergency“ watch. The tests were conducted on 9 and 15 July 1998 in Switzerland under the supervision of the FOCA/RCC Berne.

The aim of the test for the FOCA was:

- Locating the „Breitling Emergency“ using the homing equipment installed in the SAR – helicopters of the FOCA/RCC Berne
- Testing the capability of the Cospas-Sarsat System locating the „Breitling Emergency“ signals
- Getting first hand experience/know-how about the „Breitling Emergency“ – Device

The test results are not to be used for official documentation or to be published. The results of the tests depended on the equipment used, the topography of the different test areas and the interpretation of the pilots and observers collecting the test results.

Distribution:

- Breitling SA, Monsieur E. Schneider; Monsieur S. Albinati
- FMCC (for information)
- FOCA: SAR-Pilots
- GRD; B. Lüthy
- BABLW Meiringen; E. Kohler

The „Breitling Emergency“ watch is not an approved ELT; in Switzerland it is considered as a supplementary survival aid and declared as a not assembled transmitting device (and therefore not requiring a radio licence).



EMERGENCY



The Breitling Emergency "aviation" model is a quartz movement, multifunctional, Breitling wristwatch, equipped with a DASSAULT A.T. transmitter which operates on the 121,5 MHz emergency frequency, as well as an antenna.

The beacon transmits a signal on the 121,5 MHz frequency in amplitude modulation during 0.75 sec. every 2.25 sec. A Morse code signal indicating the letter B (- . . .) for BREITLING is transmitted every 60 seconds.

Test conditions 9 July

<u>Participants:</u>	FOCA/RCC Berne	J. Thurnheer / Chief SAR RCC Berne B. Senn / M. Burkhard / C. Vuichard / J. Wiesmann / SAR - Pilots J.J. Gander / Observer
	Breitling SA	Monsieur E. Schneider Monsieur S. Albinati Breitling Staff (Pilots and Technicians)
<u>Equipment:</u>	FOCA	HB-XVA / AS350N2 / Becker-Homer HB-XDE / A III / Becker-Homer Tracker handheld homing device
	Breitling	F-GLNG / AS350BA / Shelton-Homer
	Cospas-Sarsat	Satellite System

Test conditions 15 July

<u>Participants:</u>	FOCA/RCC Berne	J. Thurnheer / Chief SAR RCC Berne B. Senn / C. Vuichard / J. Wiesmann / U. Schneider / SAR - Pilots
	Breitling SA	Monsieur Girardin Monsieur S. Albinati
<u>Equipment:</u>	FOCA	HB-XQE / A109E / Shelton-Homer HB-GDL / BE20 / Becker-Homer Rhodata handheld homing device (BABLW Meiringen)
	Cospas-Sarsat	Satellite System

Test report:

- see attached reporting tables and copies of the Cospas-Sarsat location messages

Overall assessment:

The Breitling Emergency watch is not an ELT and not to be used instead of an approved aviation ELT. It is a supplementary device to locate an emergency (not to activate a search). **During the test, the Breitling Emergency proved to be a valuable and functioning survival aid**, which was easily detected by the normal homing equipment installed in most SAR-helicopters in use. The watch is a high quality and safe to operate device with no possibility to cause false alarms. Detection by the Cospas-Sarsat system was possible when the Breitling Emergency was operated under ideal conditions (both antennas operational and transmitter placed at approx. 1m above ground). Location accuracy was very good.

Suggestions:

- Antenna to be isolated at last 2-4 cm of pulled out antenna to prohibit inadvertent contact with the main body (= no signal being transmitted)
- possibility to activate continuous signal during final phase of homing operation to be studied (= easier to locate)
- power output sufficient for helicopter based homing devices as well as Cospas-Sarsat detection under ideal conditions (= both antennas deployed)
- possibility to stop signal being transmitted by putting the antenna around the body of the watch to be clearly advised to the users of the watch
- transport of transmitting Emergency (even with antenna wrapped around body of the watch) on board a search helicopter will disturb homing equipment if needed for another search

ARMADA DE CHILE
Dirección General del Territorio Marítimo
Gobernación Marítima Hanga Roa

Fax No. : 56/32.208020
Isla de Pascua
Chile

9 de Junio de 1997

From : Comandante Ricardo Menzel
To : Mr. Kitín Muñoz

According to your request, I am confirming you here below the information concerning the activation of the EMERGENCY radio beacon belonging to the "MATA-RANGI" expedition, frequency 121.5 Mhz :

- May 23rd, 1997, 20.16 hrs. Z+6, activation of the EMERGENCY radio beacon, position lat. : 24 degr. 53' 42" south; long. : 110 degr. 56' 06" west.

- May 24th, 1997, 04.11 hrs. Z+6, position lat. : 25 degr. 00'30" south; long. : 110 degr. 57' 42" west.

- May 24th, 1997, 06.27 hrs. Z+6, position lat. : 24 degr. 58'24" south; long. : 110 degr. 57'18" west.

The activation of the EMERGENCY radio beacon has been detected in perfect conditions by the Chilean Telecommunication Center. This activation has been essential for the rescue and localization of the "MATA-RANGI" expedition.

With my best regards,

Ricardo Menzel Zanzi
Vessel Captain
Maritime Governor from Hanga Roa

ARMADA DE CHILE
DIRECCION GENERAL DEL
TERRITORIO MARITIMO Y DE M.M.
GOBERNACION MARITIMA HANGA RC.

330692 ANGEL CK
340692 CHMCC CK

TO VTR1 33060/END
/03489 00000/7250/97 144 0215
/15617253

/ 121-243 MHZ ALERT / SIT 156/ FOR CHRCC1
MCC TRANSMIT TIME 24 02 04 MAY 97 SITE ID : 1A82521
DATA FROM SAT / ORBIT : 54/44.639
DATA SOURCE CHL

COMPOSITE SOLUTION

LATITUDE	LONGITUDE SW	FREQ	DURATION	PASSES	SRR
24 53.75	110 56.1W	121.501	000.8 HRS	002	CHRCC1

ELEMENTAL SOLUTIONS

LATITUDE	LONGITUDE SW	FREQ	SAT	ORBIT	TCA	SRCE
24 48.48	110 56.5W	-	121.501	S4	44659	24 0159 CHL
25 00.28	110 55.0W	-	121.501	C7	14365	24 0111 CHL

NEXT PASSES

START	STOP	SAT	ORBIT	TCA	SRCE
0357	0412	S2	64180	24 0403	CHL
0419	0433	C4	39550	24 0427	CHL

QQQQ
/LASSIT
/TNOMSG
NNNN

340692 CK

FROM : MATA RANGI

PHONE NO. : 341 5944891

ARMADA DE CHILE
DIRECCION GENERAL DEL
TERITORIO MARITIMO Y DE M.
ORNACION MARITIMA HANGA ROA

FONOS/FAX: 56 (32) 208020
ISLA DE PASCUA
CHILE

FAX

DÍA	MES	AÑO	NUMERO DE FAX:	NUMERO DE PAGINAS INCLUYENDO ESTA:
09	JUNIO	1997	341-5940917	UNA
DE: COMANDANTE RICARDO MENZEL A: SR. KITÍN MUÑOZ V.				OBSERVACIONES: <u>URGENTE</u>

TEXTO:

DE ACUERDO A LO SOLICITADO, REITERO A UD. LA INFORMACIÓN RELACIONADA CON ACTIVACIÓN DE RADIOBALIZA DE EMERGENCIA DE LA EXPEDICIÓN "MATARANGI" EN 121.5 MHZ:

- 23 DE MAYO, 20:16 HORAS Z+6 SE ACTIVA RADIOBALIZA EN POSICIÓN LAT: 24° 53' 42" SUR; LONG: 110° 56' 06" WESTE.
- 24 DE MAYO, 04:11 HORAS Z+6 EN POSICIÓN LAT: 25° 00' 30" SUR; LONG: 110° 57' 42" WESTE.
- 24 DE MAYO, 06:27 HORAS Z+6 EN POSICIÓN LAT: 24° 58' 24" SUR; LONG: 110° 57' 18" WESTE.
- LA ACTIVACIÓN DE LA RADIOBALIZA SE DETECTÓ EN PERFECTAS CONDICIONES EN EL CENTRO CHILENO Y OTROS DEL EXTRANJERO. SU OPERACIÓN FUE FUNDAMENTAL Y COMPLEMENTÓ EN EXCELENTE FORMA LA MANIOBRA DE LOCALIZACIÓN Y POSTERIOR RESCATE DE LA Balsa "MATARANGI".

LE SALUDA ATENTAMENTE,



RICARDO MENZEL ZANZI
CAPITAN DE NAVIO
GOBERNADOR MARÍTIMO DE HANGA ROA

ARMADA DE CHILE
DIRECCION GENERAL DEL
TERRITORIO MARITIMO Y DE M.M.
GOBERNACION MARITIMA HANGA RO.

330692 ANGEL CK
340692 CHMCC CK

TO VTR1 33060/END
/03489 00000/7250/97 144 0215
/15617253
/ 121-243 MHZ ALERT / SIT 156/ FOR CHRCCI
MCC TRANSMIT TIME 24 02 04 MAY 97 SITE ID : 1A82521
DATA FROM SAT / ORBIT : 54/44.659
DATA SOURCE CHL

COMPOSITE SOLUTION

LATITUDE	LONGITUDE SW	FREQ	DURATION	PASSES	SRR
24 53.75	110 56.1W	121.501	000.8 HRS	002	CHRCCI

ELEMENTAL SOLUTIONS

LATITUDE	LONGITUDE SW	FREQ	SAT	ORBIT	TCA	SRCE
24 48.48	110 56.5W	-	121.501	S4	44659	24 0159 CHL
25 00.28	110 55.0W	-	121.501	C7	14365	24 0111 CHL

NEXT PASSES

START	STOP	SAT	ORBIT	TCA	SRCE
0357	0412	S2	64180	24 0403	CHL
0419	0433	C4	39550	24 0427	CHL

QQQQ
/LASSIT
/TNOMSG
NNNN

340692 CK