TYPE APPROVAL CERTIFICATE

For a 406 Megahertz Distress Beacon for use with the Cospas-Sarsat Satellite System

Certificate Number: 242
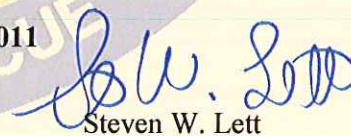
Manufacturer:	ACR Electronics, USA
Beacon Types:	ELT (auto) [1, 5] and ELT (auto portable) [2]
Beacon Models:	ME406, ME406 HM, ME406P and ME406-U
Test Laboratory:	BABT/TÜV Product Service Ltd.
Date of Test:	April - August 2005

Details of the beacon features and battery type are provided overleaf.

The Cospas-Sarsat Council hereby certifies that the 406 MHz Distress Beacon Model identified above is compatible with the Cospas-Sarsat System as defined in documents:

C/S T.001   Specification for Cospas-Sarsat 406 MHz Distress Beacon
Issue 3 – Rev. 6, October 2004

C/S T.007   Cospas-Sarsat 406 MHz Distress Beacon Type Approval Standard
Issue 3 – Rev. 11, October 2004

Original TAC 152 issued to Artex Aircraft Supplies Inc.: **1 August 2005**
First extension TAC 188 issued to Artex Aircraft Supplies Inc.: **14 July 2008**
Second extension TAC 197 issued to Artex Aircraft Supplies Inc.: **30 April 2009**
TAC 197 re-issued in the name of Wulfsberg Electronics: **1 June 2010**
TAC 197 re-issued in the name of ACR Electronics Inc.: **31 December 2011**
Third extension TAC 242 issued to ACR Electronics Inc.: **31 May 2013**

Steven W. Lett
Head of Cospas-Sarsat Secretariat

NOTE, HOWEVER:

1. This certificate does not authorize the operation or sale of any 406 MHz distress beacon. Such authorization may require type acceptance by national administrations in countries where the beacon will be distributed, and may also be subject to national licensing requirements.

2. This certificate is intended only as a formal notification to the above identified manufacturer that the Cospas-Sarsat Council has determined, on the basis of test data of a beacon submitted by the manufacturer, that 406 MHz distress beacons of the type identified herein meet the standards for use with the Cospas-Sarsat System.

3. Although the manufacturer has formally stated that all beacons identified with the above model name(s) will meet the Cospas-Sarsat specification referenced above, this certificate is not a warranty and Cospas-Sarsat hereby expressly disclaims any and all liability arising out of or in connection with the issuance, use or misuse of the certificate.

4. This certificate is subject to revocation by the Cospas-Sarsat Council should the beacon type for which it is issued cease to meet the Cospas-Sarsat specification. A new certificate may be issued after satisfactory corrective action has been taken and correct performance demonstrated in accordance with the Cospas-Sarsat Type Approval Standard.

5. Cospas-Sarsat type approval testing requirements only address the electrical performance of the beacon at 406 MHz. Conformance of the beacon to operational and environmental requirements is the responsibility of national administrations.

Beacon Model(s):	ME406, ME406HM, ME406P, ME 406-U
Operating temperature range:	-20°C to +55°C (Class-2)
Battery Details:	Lithium Sulphur Dioxide, SAFT LO26SX, 2xD-cells;
	Lithium Manganese Dioxide, UltralifeU10013/U10014/U10015/U10016,
	2xD-cells, battery pack P/N 452-6499
Operating Lifetime:	24 hours
Transmit Frequency:	406.028 MHz [1,2] and 406.037 MHz [1,2,5]
External antennas:	P/N 110-338 (rod) [1,2,5], P/N 110-773 (whip) [1,2,5], P/N 110-773 rev. B (whip)
Detachable antenna:	P/N 110-775 (whip antenna for portable operation) [2]

Beacon Model Features:

- 121.5 MHz auxiliary radio locating device (100 mW, duty cycle - continuous);
- Interface to external GPS device via ARINC 429 [1,2];
- Self-test mode, one burst of 520 ms [1,2], or 440 ms, depending on message coding;
- Manual and automatic activation via a single-axis 'G-switch' [3];
- Manual and automatic activation via a single-axis 'G-switch' and an additional 5-axis G-switch' [4];
- Additional G-switch enabler/disabler circuit [5];
- Beacon was tested in ELT configuration (with external antennas fixed to ground plane); and
- Beacon was tested in PLB configuration ("on dry ground" and "above ground") [2].

Approved Beacon Message Protocols: Beacon is approved for encoding with the message protocols indicated with "Yes" and black text below:

USER PROTOCOLS [1,2,5]		USER-LOCATION PROTOCOLS		LOCATION PROTOCOLS [1,2]	
No	Maritime with MMSI	No	Maritime with MMSI	No	Standard Location: EPIRB with MMSI
No	Maritime with Radio Call Sign	No	Maritime with Radio Call Sign	No	Standard Location: EPIRB with Serial Number
No	EPIRB Float Free with Serial Number	No	EPIRB Float Free with Serial Number	No	Standard Location: ELT with 24-bit Address
No	EPIRB Non Float Free with Serial Number	No	EPIRB Non Float Free with Serial Number	No	Standard Location: ELT with Aircraft Operator Designator
No	Radio Call Sign	No	Radio Call Sign	Yes	Standard Location: ELT with Serial Number
Yes	Aviation	No	Aviation	No	Standard Location: PLB with Serial Number
Yes	ELT with Serial Number	No	ELT with Serial Number	No	National Location: EPIRB
No	ELT with Aircraft Operator and Serial Number	No	ELT with Aircraft Operator and Serial Number	Yes	National Location: ELT
Yes	ELT with Aircraft 24-bit Address	No	ELT with Aircraft 24-bit Address	No	National Location: PLB
No	PLB with Serial Number	No	PLB with Serial Number		
No	National (Short Format Message)				
No	National (Long Format Message)				

NOTES:

[1] – applicable to ME406 and ME406 HM;

[2] – applicable to ME406P;

[3] – applicable to ME406;

[4] – applicable to ME406HM and ME406P.

[5] – applicable to ME406-U.