

Title (en)
ENCLOSURE FOR AN AIRCRAFT INERTIAL REFERENCE UNIT.

Title (de)
EINSCHLIESSUNG FÜR FLUGZEUG-TRÄGHEITSREFERENZEINHEIT.

Title (fr)
ENCEINTE POUR UNITE DE REFERENCE INERTIELLE POUR AERONEF.

Publication
EP 0181370 A4 19860915 (EN)

Application
EP 85902302 A 19850418

Priority
US 60242184 A 19840420

Abstract (en)
[origin: WO8504847A1] An enclosure for an aircraft inertial unit (IRU) includes a dip-brazed chassis (10) having an inertial sensor assembly (ISA) compartment (40) and an electronics module compartment (36). The ISA compartment (40) is rigid with the ISA (42) being mounted therein via diagonally opposed shock isolation mounts (330, 332). The centers of elasticity of the shock isolation mounts (330, 332) are aligned with the center of gravity of the ISA. A caging system (340, 342) prevents excessive movement of the ISA (42) with respect to the ISA compartment (40). The electronics module compartment (36) includes a thermal mass (62, 64) for heat sinking the electronics module (60) by conduction. The surfaces of the walls in the electronics module (60) are heat reflective to prevent heat in the enclosure from being radiated to the electronics module (60). The remaining surfaces of the enclosure are black to promote heat radiation. The IRU enclosure is mounted to the aircraft by means of a mounting tray (12). The tray (12) has diagonally positioned alignment pins (150, 152) that mate with alignment holes in the IRU enclosure (10) to assure proper IRU alignment. Pliant, heat conductive fingers (136) affixed to the tray (12) contact the thermal mass (62, 64) to promote heatflow from the enclosure (10) to the tray. Thermally conductive feet (140, 142) on the tray provide a path for heat flow to the aircraft.

IPC 1-7
B64D 43/00

IPC 8 full level
B64D 43/00 (2006.01); **G01C 21/16** (2006.01); **G01D 11/24** (2006.01)

CPC (source: EP)
B64D 43/00 (2013.01)

Citation (search report)

- [A] GB 2021264 A 19791128 - SPERRY RAND CORP
- [E] US 4562978 A 19860107 - DURBIN LARRY L [US], et al
- [X] PROCEEDINGS OF THE IEEE 1980 NATIONAL AEROSPACE AND ELECTRONICS CONFERENCE, 20th-22nd May 1980, Dayton Convention Center, vol. 1, pages 330-337, IEEE, US; P.D. ENGELDER: "Drims - a redundant strapdown IMU for booster guidance and control"
- [A] JOURNAL OF GUIDANCE AND CONTROL, vol. 3, no. 1, January/February 1980, pages 3-10, New York, US; J.P. GILMORE: "Modular strapdown guidance unit with embedded microprocessors"
- See also references of WO 8504847A1

Designated contracting state (EPC)
BE CH DE FR GB IT LI NL SE

DOCDB simple family (publication)
WO 8504847 A1 19851107; AU 4355785 A 19851115; BR 8506687 A 19860415; EP 0181370 A1 19860521; EP 0181370 A4 19860915; IT 1215614 B 19900222; IT 8547979 A0 19850419; JP S61501944 A 19860904

DOCDB simple family (application)
US 8500688 W 19850418; AU 4355785 A 19850418; BR 8506687 A 19850418; EP 85902302 A 19850418; IT 4797985 A 19850419; JP 50209185 A 19850418