

## Automatic In-Flight Data Acquisition System

## AIDA-RECORDER

### Features

- Acoustic warning signal for main rotor overspeed
- Acoustic warning signal for radar altimeter low heights
- Exact measurement of rotor start / stop-cycles
- Estimation of turbine life time consumption
- Drives a dedicated lamp in the CWP
- Built-in self monitoring features
- Time history recording of more than 10 signals
- Internal storage lasts for more than 100 flight hours
- Fast data read-out via SRAM-Cards



### Recorded Signals

- Main Rotor Speed
- High and Low Pressure Turbine Rotational Speed
- Engine Torque
- Bank Angle
- Indicated Air Speed
- Strain of the Sponsons
- Weight on Wheel Switch
- Radar Altimeter Low Warning

### Proven Benefits

- Improved safety in flight
- Detection of all critical auto-rotation events
- Lengthening of maintenance intervals
- Extension of the air frame life time

- Prolongation of the engine exchange interval
- Decreased maintenance costs
- Eased load assumptions for fatigue life estimations

- Enables the creation of a substantial data base of the actual loads and usage spectrum
- Used fleet-wide by the Dutch, German and Brazilian Navies.



### Data recording according to SWIFT's SQTMS-Algorithm

The turning points of the master channels are time stamped and recorded. In addition, the values of slave channels which are assigned simultaneous to the master channel are stored. This significantly reduces the amount of data and allows all fatigue relevant information to be stored for up to 100 flight hours.

### Recorded Signals

- Main rotor rotational speed (Nr)
- High pressure compressor rotational speed (Nh1, Nh2)
- Free power turbine rotational speed (Nf1, Nf2)
- Engine torque (Q1, Q2)
- Bank angle (AOB)
- Indicated air speed (IAS)
- Sponsons (elhmx, elhmy, erhmx, erhmy)
- Spare channels for two additional strain gauges (SP1, Sp2)
- Radar altimeter low warning (Radal)
- Weight on Wheel switch (WoW)

### Acoustic Warning Signals

- 3 different, easy distinguishable audio signals
  - Critical rotor speed
  - Rotor over speed
  - Undershooting of the radar altimeter decision height
- User defined volume level
- Direct connection to the intercom system

### Automatic Report

- Nr channel fail
- WoW fail
- Engine #1/#2 signal fail
- Memory 90% full
- Build in test fail
- Nr over speed events

### Maintenance Cost Reduction

- AIDA monitoring instead of tie bar inspection
- Estimation of the actual turbine life time consumption

### Usage Spectrum

- Start and landing weight
- True airborne hours
- Landing impact
- Detection of special manoeuvres
- Investigation of incidents

### Approvals

- Environmental qualification MIL-STD-810E
- Electromagnetic compatibility MIL-STD-416D
- Power supply MIL-STD-704E

### AIDA-Recorder

- Weight 3,5kg
- Size in mm (W x H x D) 110 x 170 x 200
- Connectors 851 Series

Subject to technical alterations  
(Rev. 1.0\_080605)

**SWIFT GmbH is certified  
for aviation systems**



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