



The Lightest All-In-One Recording Solution

The HENSOLDT Lightweight Crash Recorder (LCR) combined with the high-performance KAPPA FE 320 LCR camera for light aircraft, helicopters and UAVs

kappa 

HENSOLDT
Detect and Protect 



All-in-One



Lightweight



Easy Retrofit Solution



Two brands – One powerful Solution

The HENSOLDT SferiRec® LCR
together with the KAPPA FE 320
LCR camera

- Acquiring and recording of flight data with high-quality cockpit voices and images (4 frames per second, full HD resolution) into the Crash Protected Memory (CPM)
- Consisting of only two Line Replaceable Units (LRUs) and easy to install (forward-fit and retrofit)
- Accessing maintenance data directly after the flight
- Analysing and evaluating of data for debriefing and accident Investigation

SC-VTOL



Smart Maintenance



Training & Debriefing



EU regulations

You are an aircraft manufacturer, an aircraft operator, a flight school or a pilot, your platforms will need to be equipped with in-flight recording if:

- they are **commercially operated** (CAT or SPO)
- it is a turbine-engined aeroplane or helicopter with a Maximum Certified Take-Off Mass (MCTOM) of **2.250 kg or more**
- it is an aeroplane having a Maximum Operational Passenger Seating Configuration (MOPSC) of **more than 9 passengers**
- Meeting ICAO Annex 6, **EASA ED Decision 2019/019/R** and SC-VTOL implementation requirements





Combined Recording

HENSOLDT has 35+ years of experience in designing, producing and delivering crash recorders.

More than 1000 crash recorders of various types have already been produced and delivered for fixed-wing, rotary-wing and UAV platforms.

HENSOLDT holds a number of important patents in this field. In particular, HENSOLDT has developed unique and leading-edge know-how in the miniaturization of certified crash-survivable memory units.

SferiRec® LCR

Lightest recorder on the market weighing 1 kilogram / 2.2 lbs.

- Unites all **acquisition** and **recording** functions in one **single box**: cockpit voice-, cockpit image-, flight-data and Crash Protected Memory (CPM) that were previously spread across different devices
- Contains its own **internal sensors**: area microphone, 3-axis gyroscope and g-sensors, air pressure and temperature sensors, GPS receiver
- Available in two form factors (ARINC 408 cylindrical and 306 rectangular)
- Offering a **Quick Access Recorder (QAR)** via SD card
- **EASA (E)TSO-2C197 certified** (meeting ED-155 / RTCA DO-178, DO-254, DO-160 requirements)



Image Acquisition

KAPPA has 40 years of experience with cameras and vision systems in rugged and certifiable design for anything that drives or flies.

We ensure maximum performance of higher level systems with innovative solutions for day and night operation and lightweight SWaP-C optimized cameras for indoor/outdoor use. Close collaboration with our major aviation clients sets the course for demand-oriented development.

We are not only leaders in technology. Moreover, we meet all safety requirements on design assurance procedures in hard- and software development, qualification and certification (DO-254 and DO-178 through DAL B, DO-160, MIL STD 810/704, and NATO Supplier Code C4792).

KAPPA is one of very few EN/AS 9100-certified camera suppliers with 21G competencies under the supervision of a major OEM.

FE 320 LCR camera

The FE 320 LCR cockpit image data camera provides FullHD 1080p, Ethernet IP and **H.264 compression**, perfectly attuned to the SferiRec® LCR: HDR video quality under extreme light conditions, frame rate adjustments, **distortion-free images** at wide field of view, and uninterrupted, digitally stabilized video streaming even under heavy aircraft vibrations.

- **Modular housing design**, compact and remote (detached)
- Remote distance up to 10 m
- SWAP-C Design
- Full HD video with configurable bandwidth down to 200 Kbit and frame rate (1-60 fps, e.g. 4 fps)
- No additional costs for video compression
- PTP time stamp at frame acquisition
- **Fully certifiable** ED-112, ED-155, DO-178 DAL D, DO-254 DAL D, DO-160 ML

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HENSOLDT
Detect and Protect.

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09/2021

