

# European Aviation Safety Agency

## European Technical Standard Order (ETSO)

SUBJECT: AIRCRAFT COCKPIT IMAGE RECORDER SYSTEMS

### 1 – Applicability

This ETSO gives the requirements that new models of aircraft cockpit image recorder systems that are manufactured on or after the date of this ETSO must meet in order to be identified with the applicable ETSO marking.

### 2 - Procedures

#### 2.1. - General

Applicable procedures are detailed in CS-ETSO Subpart A.

#### 2.2 - Specific

None

### 3 - Technical Conditions

#### 3.1 - Basic

##### 3.1.1 - Minimum Performance Standard

Standards set forth in the applicable sections of EUROCAE document ED-112, Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems, dated March 2003 including amendment 1 dated 25 July 2003 and amendment 2 dated 22 September 2003 that pertain to the Cockpit Image Recorder (CIR) type, except that compliance with ED-112 chapters 2-5, 3-4, 5-6, and all ED-112 requirements for installation, flight testing, aircraft maintenance, and others that do not pertain to MPS specific criteria are not required for this ETSO.

The table below lists recorder types and the ED-112 section or part with the MPS for each:

Recorder MPS Requirements	
Recorder Type	ED-112 Reference
Single CIR	Section 2 and Part III
CIR function in deployable recorder	Section 2, Part III, and Section 3
CIR function in combined recorder	Section 2, Part III, and Section 4

##### 3.1.2 - Environmental Standard

See CS-ETSO Subpart A paragraph 2.1

##### 3.1.3 - Computer Software

See CS-ETSO Subpart A paragraph 2.2

##### 3.1.4 Electronic Hardware Qualification.

See CS-ETSO Subpart A paragraph 2.3

### 3.2 - Specific

#### 3.2.1 Failure Condition Classification

Failure of the function defined in paragraph 3.1.1 of this ETSO depends on the aircraft installation. The applicant must develop the system to at least the design assurance level commensurate with the failure condition classification in the table below:

<b>Classifications of Failure Conditions for Recorders</b>	
<b>Recorder type</b>	<b>Failure Classification</b>
Single CIR	Minor
CIR function in deployable recorder	Major
CIR function in combined recorder function: <ul style="list-style-type: none"><li>• Aeroplane or rotorcraft with two recorders</li><li>• Rotorcraft with one combined recorder</li></ul>	Minor Major

Note: The failure classification is driven by the accident investigation need.

## 4 - Marking

### 4.1 - General

Marking is detailed in CS-ETSO Subpart A paragraph 1.2

### 4.2 – Specific

#### 4.2.1 - Lettering

ED112-Chapter 2-1 paragraph 2-1.16.3 requires the lettering on the recorder be at least 25 mm in height. Where it is considered impractical to incorporate lettering of this height due to the size of the recorder case, the applicant may propose an alternative height provided that the size is adequate in relation to the size of the unit and allows easy readability.

#### 4.2.2 - Marking recommendation

Marking in French: "ENREGISTREUR DE VOL NE PAS OUVRIR" is optional.

## 5 - Availability of Referenced Document

See CS-ETSO Subpart A paragraph 3