

# European Aviation Safety Agency

## European Technical Standard Order

**Subject:** Cockpit Voice Recorder Systems

### 1 – Applicability

This ETSO provides the requirements that cockpit voice recorder (CVR) systems that are designed and 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 EUROCAE document ED-112A, MOPS for Crash Protected Airborne Recorder Systems, dated September 2013, that pertain to the CVR type, except Chapters I-1 and I-6, and Sections 2-1.1 , 2-1.5 , 2-1.6 , 2-1.11 , 2-1.12 , 2-3.1 , 2-5 , 3-1.1, 3-1.2, 3-1.3, 3-1.4, 3-1.5 , 3-1.7, Annex I-A, Annex I-C, and other ED-112A requirements related to installation, flight testing, aircraft maintenance

Table 1 lists CVR types and the ED-112A section and part containing the MPS for each type:

**Table 1. CVR MPS Requirements**

CVR Type	ED-112A Reference
Single function CVR	Section 2 and Part I
CVR function in a <u>deployable</u> recorder	Section 2, Section 3 and Part I
CVR function in a <u>combined</u> recorder	Section 2, Section 4, and Part I

Note: a CVR article may cover multiple types. A CVR may be a combined CVR and may also be deployable, in which case the applicable MOPS are Sections 2, 3, 4 and Part I, following the table above.

##### 3.1.2 - Environmental Standard

See CS-ETSO, Subpart A, paragraph 2.1

##### 3.1.3 - Software

See CS-ETSO, Subpart A, paragraph 2.2

#### **3.1.4 - Airborne Electronic Hardware**

See CS-ETSO, Subpart A, paragraph 2.3.

#### **3.2 - Specific**

##### **3.2.1 - Failure Condition Classification**

See CS-ETSO, Subpart A, paragraph 2.4.

Failure of the function defined in paragraph 3.1.1 of this ETSO is a minor failure condition.

Loss of the function defined in paragraph 3.1.1 of this ETSO is a minor failure condition.

The applicant must develop the system to at least the development assurance level commensurate with these failure conditions.

Note: The failure classification requirement is driven by the use of CVRs in accident investigations.

#### **4 - Marking**

##### **4.1 - General**

Marking is detailed in CS-ETSO, Subpart A, paragraph 1.2

##### **4.2 - Specific**

###### **4.2.1 - Lettering identification**

The equipment shall comply with the identification requirement in EUROCAE ED-112A, Section 2-1, paragraph 2-1.16.3.

#### **5 - Availability of Referenced Document**

See CS-ETSO, Subpart A, paragraph 3.