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## **Digital Audio Broadcasting (DAB); Distribution interfaces; Service Transport Interface (STI)**

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# Foreword

This draft European Standard (EN) has been produced by Joint Technical Committee (JTC) Broadcast of the European Broadcasting Union (EBU), Comité Européen de Normalisation ELECtrotechnique (CENELEC) and the European Telecommunications Standards Institute (ETSI), and is now submitted for the combined Public Enquiry and Vote phase of the ETSI standards EN Approval Procedure.

NOTE 1: The EBU/ETSI JTC Broadcast was established in 1990 to co-ordinate the drafting of standards in the specific field of broadcasting and related fields. Since 1995 the JTC Broadcast became a tripartite body by including in the Memorandum of Understanding also CENELEC, which is responsible for the standardization of radio and television receivers. The EBU is a professional association of broadcasting organizations whose work includes the co-ordination of its members' activities in the technical, legal, programme-making and programme-exchange domains. The EBU has active members in about 60 countries in the European broadcasting area; its headquarters is in Geneva.

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The Eureka Project 147 was established in 1987, with funding from the European Commission, to develop a system for the broadcasting of audio and data to fixed, portable or mobile receivers. Their work resulted in the publication of European Standard, ETSI EN 300 401 [1], for DAB (see note 2) which now has worldwide acceptance.

NOTE 2: DAB is a registered trademark owned by one of the Eureka Project 147 partners.

The DAB family of standards is supported by World DAB, an organization with members drawn from broadcasting organizations and telecommunication providers together with companies from the professional and consumer electronics industry.

<b>Proposed national transposition dates</b>	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

## Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"must" and "must not" are NOT allowed in ETSI deliverables except when used in direct citation.

## Introduction

The present document is one of a set associated with DAB. ETSI EN 300 401 [1] describes the transmitted signal; the interface between the broadcaster's transmitters and the listener's receiver. The associated documents, ETSI EN 300 798 [2] and ETSI ETS 300 799 [3] describe additional interfaces which can be used by broadcasters or network providers to build DAB networks.

Figure 1 shows a DAB network in outline. For convenience, the Network is split into a number of different parts, each managed by a different entity. The different entities are; the Programme/Data provider, the Service Component provider, the Ensemble provider and the Transmission Network provider.

**NOTE:** A Service Component provider may be generating a full DAB service or a component of a DAB service. For the purposes of the present document, the terms Service provider and Service Component provider are interchangeable.

### Programme/Data provider

The Programme/Data provider is the originator of the audio programme or the data being carried within the DAB Service Component. The format for the output of the Programme/Data provider may take many different forms and should be agreed between the Programme/Data provider and the Service Component provider.

### Service Component provider

The Service Component provider is producing one or more complete service components which may form the complete DAB Service, but may not. Data from the Service Component provider will comprise three different parts:

- Service Component data which is to be inserted into the DAB Main Service Channel (MSC).
- Service Information related to the Service Component data which is to be inserted into the Fast Information Channel (FIC).
- Other data, not intended for transmission, including status monitoring or control.

The interface between the Service Component provider and the Ensemble provider is known as the Service Transport Interface (STI) and is the subject of the present document.

### Ensemble provider

The Ensemble provider receives a set of service components from one or more Service Component providers. He then formats the FIC, and generates an unambiguous description of the full DAB ensemble.

The ensemble description is passed to the Transmission Network provider via an interface called the Ensemble Transport Interface (ETI) which is defined in ETSI ETS 300 799 [3].

## Transmission Network provider

The Transmission Network provider generates the DAB Ensemble and transmits it to the receiver. The output of the Transmission Network provider is defined by ETSI EN 300 401 [1]. The Transmission Network provider is usually the final recipient of the ETI and is responsible for turning it into the DAB transmission signal using an OFDM generator.

In some cases, as an intermediate step, the Transmission Network provider may find it convenient to generate a baseband representation of the signal to be transmitted. The baseband representation, known as the Digital baseband I/Q Interface (DIQ), is a set of digital samples defining the In-phase (I) and Quadrature (Q) components of the final carrier. This interface is defined in ETSI EN 300 798 [2], and provides a convenient interface between digital processing equipment and radio-frequency modulating equipment.

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