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Digitalna zvokovna radiodifuzija (DAB) - Vmesniki za razpošiljanje - Vmesnik DIQ

Digital Audio Broadcasting (DAB); Distribution interfaces; Digital baseband In-phase and Quadrature (DIQ) interface

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EN 300 798 V1.1.1 (1998-03)

European Standard (Telecommunications series)

Digital Audio Broadcasting (DAB); Distribution interfaces; Digital baseband In-phase and Quadrature (DIQ) interface

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Contents

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Foreword

This European Standard (Telecommunications series) has been produced by the Joint Technical Committee (JTC) of the European Broadcasting Union (EBU), Comité Européen de Normalization Electrotechnique (CENELEC) and the European Telecommunications Standards Institute (ETSI).

NOTE: The EBU/ETSI JTC was established in 1990 to co-ordinate the drafting of standards in the specific field of broadcasting and related fields. Since 1995 the JTC 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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EUREKA Project 147 (DAB*)

EUREKA Project 147 was established in 1987, with funding from the EC, to develop a system for the broadcasting of audio and data to fixed, portable or mobile receivers. Their work resulted in the publication of a European standard, ETS 300 401 (see bibliography), for DAB which now has world-wide acceptance. The members of the EUREKA 147 Project are drawn from broadcasting organizations and telecommunication providers together with companies from the professional and consumer electronics industry.

* DAB is a registered trademark owned by one of the EUREKA 147 partners.

National transposition dates	
Date of adoption of this EN:	20 February 1998
Date of latest announcement of this EN (doa):	30 June 1998
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 1998
Date of withdrawal of any conflicting National Standard (dow):	31 December 1998

Introduction

The present document is one of a set associated with DAB. ETS 300 401 (see bibliography) describes the transmitted signal; the interface between the broadcaster's transmitters and the listener's receiver. The associated documents, EN 300 797 and ETS 300 799 (see bibliography), 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 defined in EN 300 797 (see bibliography).

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 ETI which is defined in ETS 300 799 (see bibliography).

Transmission Network provider

The Transmission Network provider generates the DAB Ensemble and transmits it to the receiver. The output of the Transmission provider is defined by ETS 300 401 (see bibliography). 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 provider may find it convenient to generate a baseband representation of the signal to be transmitted. The baseband representation, known as the 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 the present document and provides a convenient interface between digital processing equipment and radio-frequency modulating equipment.

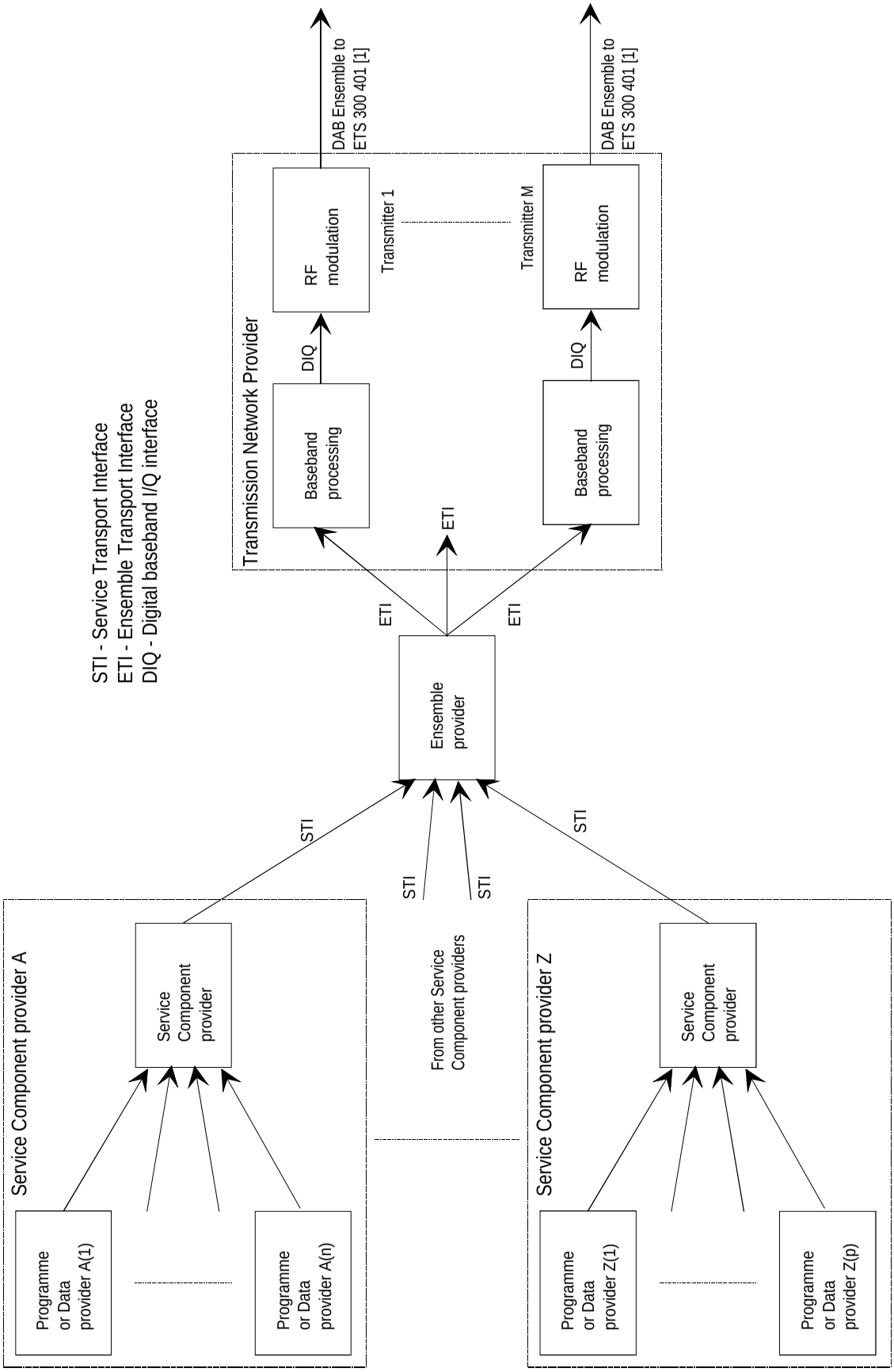

Figure 1: DAB network outline