
Reference

RTS/JTC-DAB-92

Keywords

audio, broadcasting, coding, DAB, digital

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2018.

© European Broadcasting Union 2018.

All rights reserved.

DECT™, PLUGTESTS™, UMTS™ and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.

3GPP™ and LTE™ are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

oneM2M logo is protected for the benefit of its Members.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	10
Foreword.....	10
Modal verbs terminology.....	10
1 Scope	11
2 References	11
2.1 Normative references	11
2.2 Informative references.....	11
3 Definitions and abbreviations.....	12
3.1 Definitions.....	12
3.2 Abbreviations	12
4 Overview	13
5 Service following	14
5.1 Introduction	14
5.1.0 General.....	14
5.1.1 Service linking information	15
5.1.2 OE Services	16
5.1.3 Frequency information.....	16
5.2 Service linking.....	16
5.2.0 General.....	16
5.2.1 Short form - Activation state and change event indication	16
5.2.2 Long form - Database definition.....	17
5.2.3 Linkage sets	17
5.2.4 Signalling a link	18
5.2.4.0 General	18
5.2.4.1 Defining a linkage set.....	18
5.2.4.2 Changing the linkage set	19
5.2.4.3 Signalling the activation state of linkage sets.....	19
5.2.5 Receiver behaviour for a link.....	20
5.2.5.0 General	20
5.2.5.1 Reaction to CEI.....	20
5.2.5.2 Reaction to definition.....	20
5.2.5.3 Reaction to activation and deactivation.....	20
5.3 OE Services	20
5.3.0 General.....	20
5.3.1 Short form - Change event indication	21
5.3.2 Long form - Database definition.....	21
5.3.3 OE Services fields.....	21
5.3.4 Signalling.....	21
5.3.4.0 General	21
5.3.4.1 Defining the database	21
5.3.4.2 Changing the database.....	21
5.3.5 Receiver behaviour	22
5.3.5.0 General	22
5.3.5.1 Reaction to CEI.....	22
5.3.5.2 Reaction to definition.....	22
5.4 Frequency information	22
5.4.0 General.....	22
5.4.1 Short form - Change event indication	22
5.4.2 Long form - Database definition.....	22
5.4.3 Frequency information fields.....	23
5.4.4 Signalling.....	23
5.4.4.0 General	23
5.4.4.1 Defining the database	23
5.4.4.2 Changing the database.....	23

5.4.5	Receiver behaviour	23
5.4.5.0	General	23
5.4.5.1	Reaction to CEI	24
5.4.5.2	Reaction to definition	24
5.5	Transmission network examples	24
5.5.1	DAB / DAB service following	24
5.5.2	DAB / FM-RDS service following	25
5.5.3	DAB / DRM service following	25
5.6	Receiver reference model	25
5.6.0	General	25
5.6.1	Reception monitoring	26
5.6.2	Information base	26
5.6.3	Service following procedure	26
5.6.3.1	Overview	26
5.6.3.2	Stage 1: Find same service	27
5.6.3.3	Stage 2: Follow hard links	27
5.6.3.4	Stage 3: Follow soft links	28
5.6.3.5	Handling of bearer system transitions	28
5.6.4	Selection procedure	29
5.6.5	Linkage sets	29
5.6.6	Linkage set management	30
6	Service lists	32
6.1	Introduction	32
6.2	Managing ensemble changes	32
6.2.1	Describing an ensemble	32
6.2.2	What is the service list	32
6.2.3	Establishment of the service list	33
6.2.4	Maintenance of the service list	34
6.2.5	Signalling conventions	35
6.3	Adding service elements to an ensemble	35
6.3.1	Introduction	35
6.3.2	Signalling	36
6.3.2.1	Preparation phase	36
6.3.2.2	Reconfiguration phase	36
6.3.2.3	Consolidation phase	36
6.3.3	Receiver behaviour	37
6.3.3.1	General	37
6.3.3.2	Response to signalling	37
6.4	Removing service elements from an ensemble	37
6.4.1	Introduction	37
6.4.2	Signalling	38
6.4.2.1	Preparation phase	38
6.4.2.2	Reconfiguration phase	39
6.4.2.3	Consolidation phase	39
6.4.3	Receiver behaviour	40
6.4.3.1	General	40
6.4.3.2	Response to signalling	40
6.5	Changing the identity or source of a service	41
6.5.1	Introduction	41
6.5.2	Signalling	41
6.5.2.1	Preparation phase	41
6.5.2.2	Reconfiguration phase	42
6.5.2.3	Consolidation phase	42
6.5.3	Receiver behaviour	42
6.5.3.1	General	42
6.5.3.2	Response to signalling	43
6.6	Changing the label of a service element	44
6.6.1	Introduction	44
6.6.2	Signalling	44
6.6.3	Receiver behaviour	44

7	Announcements	44
7.1	Introduction	44
7.1.1	What is an announcement?	44
7.1.2	What is an alarm?	45
7.2	Signalling conventions	45
7.2.1	What is a cluster?	45
7.2.2	Management of Cluster Ids and OE Cluster Ids	45
7.2.3	Signalling announcement support	45
7.2.4	Enabling alarms	46
7.2.5	Signalling announcement switching	46
7.2.6	Announcement concurrency	46
7.2.7	Synchronization requirements	47
7.2.7.1	General	47
7.2.7.2	User requirements	47
7.2.7.3	Timing issues	47
7.2.8	New flag	47
7.3	Receiver response	48
7.3.1	Announcement mode	48
7.3.2	Support for alarms	48
7.3.3	Monitoring the signalling	48
7.3.4	Filtering of announcements	48
7.3.5	Prioritization of announcements	49
7.3.6	Target selection process	49
7.3.6.1	General	49
7.3.6.2	Tuned ensemble announcements and alarms	50
7.3.6.3	Other ensemble announcements	50
7.3.6.4	Other ensemble alarms	50
7.3.7	Terminating an announcement	50
7.3.8	Performance aspects	51
7.3.9	Audio codec and user application handling	51
7.3.10	Interpretation of the 'New Flag'	51
7.4	Tuned ensemble regular announcements	51
7.4.1	Introduction	51
7.4.2	Announcement support	51
7.4.2.1	Signalling	51
7.4.2.2	Receiver response	52
7.4.3	Announcement switching	52
7.4.3.1	Signalling	52
7.4.3.2	Receiver response	52
7.5	Other ensemble regular announcements	53
7.5.1	Introduction	53
7.5.2	Announcement support	53
7.5.2.1	Signalling	53
7.5.2.2	Receiver response	53
7.5.3	Announcement switching	54
7.5.3.1	Signalling	54
7.5.3.2	Receiver response	54
7.6	Tuned ensemble alarm announcements	55
7.6.1	Introduction	55
7.6.2	Announcement support	55
7.6.2.1	Signalling of the Alarm flag	55
7.6.2.2	Receiver response	55
7.6.3	Announcement switching	55
7.6.3.1	Signalling	55
7.6.3.2	Receiver response	56
7.7	Other ensemble alarm announcements	56
7.7.1	Introduction	56
7.7.2	Announcement support	57
7.7.2.1	Signalling of the Alarm flag	57
7.7.2.2	Receiver response	57
7.7.3	Announcement switching	57
7.7.3.1	Signalling	57

7.7.3.2	Receiver response	57
8	Text labels	58
8.1	Introduction	58
8.2	Unicode	59
8.3	Text control field	60
8.3.1	Introduction.....	60
8.3.2	Encoding of the text control field	60
8.3.3	Transport of the text control field	61
8.3.3.1	FIG type 2 labels	61
8.3.3.2	Dynamic labels.....	62
8.4	Decoding and presenting text labels	62
8.5	Display of RTL and bi-directional labels	63
8.5.1	Introduction.....	63
8.5.2	Minimum RTL implementation	64
Annex A (informative): Service following - use case examples.....		65
A.1	DAB to DAB in Multi-Frequency Networks	65
A.1.1	Problem Description.....	65
A.1.2	Concept	65
A.1.3	Signalling	65
A.1.3.1	FIG 0/6 Service linking information	65
A.1.3.2	FIG 0/24 OE Services.....	65
A.1.3.3	FIG 0/21 Frequency Information	65
A.1.4	Receiver Behaviour	66
A.1.4.1	Single tuner device.....	66
A.1.4.2	Multiple tuner device	66
A.2	Same service on different ensembles	66
A.2.1	Problem Description.....	66
A.2.2	Concept	67
A.2.3	Signalling	67
A.2.3.1	FIG 0/6 Service linking information	67
A.2.3.2	FIG 0/24 OE Services.....	67
A.2.3.3	FIG 0/21 Frequency Information	68
A.2.4	Receiver Behaviour	68
A.3	Linking regional variations of a service on different ensembles.....	68
A.3.1	Problem Description.....	68
A.3.2	Concept	69
A.3.3	Signalling	69
A.3.3.1	FIG 0/6 Service linking information	69
A.3.3.2	FIG 0/24 OE Services.....	72
A.3.3.3	FIG 0/21 Frequency Information	73
A.3.4	Receiver Behaviour	73
A.4	Linking technology variations of a service on different ensembles	74
A.4.1	Problem Description.....	74
A.4.2	Concept	75
A.4.3	Signalling	75
A.4.3.1	FIG 0/6 Service linking information	75
A.4.3.2	FIG 0/24 OE Services.....	75
A.4.3.3	FIG 0/21 Frequency Information	76
A.4.4	Receiver Behaviour	76
A.5	Soft linking of services.....	77
A.5.1	Problem Description.....	77
A.5.2	Concept	78
A.5.3	Signalling	78
A.5.3.1	FIG 0/6 Service linking information	78
A.5.3.2	FIG 0/24 OE Services.....	79
A.5.3.3	FIG 0/21 Frequency Information	79
A.5.4	Receiver Behaviour	79

A.6	Linkage of DAB and FM-RDS services.....	80
A.6.1	Problem Description.....	80
A.6.2	Concept	80
A.6.3	Signalling	81
A.6.3.1	FIG 0/6 Service linking information.....	81
A.6.3.2	FIG 0/24 OE Services.....	81
A.6.3.3	FIG 0/21 Frequency Information	81
A.6.4	Receiver Behaviour	81
A.7	Linking regional variations using explicit and implicit linking	82
A.7.1	Problem Description.....	82
A.7.2	Concept	82
A.7.3	Signalling	82
A.7.3.1	FIG 0/6 Service linking information.....	82
A.7.4	Receiver Behaviour	84
A.8	Preventing implicit linkage to FM-RDS	84
A.8.1	Problem Description.....	84
A.8.2	Concept	84
A.8.3	Signalling	84
A.8.3.1	FIG 0/6 Service linking information.....	84
A.8.3.2	FIG 0/24 OE Services.....	84
A.8.3.3	FIG 0/21 Frequency Information	85
A.8.4	Receiver Behaviour	85
A.9	Linking to another DAB service, but preventing implicit linkage to FM-RDS	85
A.9.1	Problem Description.....	85
A.9.2	Concept	85
A.9.3	Signalling	85
A.9.3.1	FIG 0/6 Service linking information.....	85
A.9.3.2	FIG 0/24 OE Services.....	86
A.9.3.3	FIG 0/21 Frequency Information	86
A.9.4	Receiver Behaviour	86
A.10	Linkage of DAB and DRM data services.....	86
A.10.1	Problem Description.....	86
A.10.2	Concept	86
A.10.3	Signalling	87
A.10.3.1	FIG 0/6 Service linking information.....	87
A.10.3.2	FIG 0/24 OE Services.....	87
A.10.3.3	FIG 0/21 Frequency Information	87
A.10.4	Receiver Behaviour	87
A.11	International links.....	87
A.11.1	Problem Description.....	87
A.11.2	Concept	88
A.11.3	Signalling	88
A.11.3.1	FIG 0/6 Service linking information.....	88
A.11.3.2	FIG 0/24 OE Services.....	89
A.11.3.3	FIG 0/21 Frequency Information	89
A.11.4	Receiver Behaviour	89
Annex B (informative):	Service following - Transition from existing implementations	90
Annex C (informative):	Service lists - use case examples.....	91
C.1	New service on air.....	91
C.1.1	Use case description	91
C.1.2	Concept	91
C.1.3	Signalling	91
C.1.3.1	Preparation phase.....	91
C.1.3.2	Reconfiguration phase	91
C.1.3.3	Consolidation phase.....	92
C.1.4	Receiver behaviour.....	92

C.2	Continuous service is removed (with transfer).....	92
C.2.1	Use case description	92
C.2.2	Concept	92
C.2.3	Signalling	92
C.2.3.1	Preparation phase	92
C.2.3.2	Reconfiguration phase	93
C.2.3.3	Consolidation phase	93
C.2.4	Receiver behaviour	94
C.3	New Part-time service on air	94
C.3.1	Use case description	94
C.3.2	Concept	94
C.3.3	Signalling	94
C.3.3.1	Preparation phase	94
C.3.3.2	Reconfiguration phase	95
C.3.3.3	Consolidation phase	95
C.3.4	Receiver behaviour	95
C.4	Part-time service is on-air.....	95
C.4.1	Use case description	95
C.4.2	Concept	95
C.4.3	Signalling	95
C.4.3.1	Preparation phase	95
C.4.3.2	Reconfiguration phase	96
C.4.3.3	Consolidation phase	96
C.4.4	Receiver behaviour	96
C.5	Part-time service is off-air.....	96
C.5.1	Use case description	96
C.5.2	Concept	96
C.5.3	Signalling	97
C.5.3.1	Preparation phase	97
C.5.3.2	Reconfiguration phase	97
C.5.3.3	Consolidation phase	97
C.5.4	Receiver behaviour	97
C.6	SIId change within an ensemble	97
C.6.1	Use case description	97
C.6.2	Concept	98
C.6.3	Signalling	98
C.6.3.1	Preparation phase	98
C.6.3.2	Reconfiguration phase	98
C.6.3.3	Consolidation phase	98
C.6.4	Receiver behaviour	99
C.7	Service moves to a new ensemble with SIId change.....	99
C.7.1	Use case description	99
C.7.2	Concept	99
C.7.3	Signalling	100
C.7.3.1	Preparation phase	100
C.7.3.2	Reconfiguration phase	101
C.7.3.3	Consolidation phase	101
C.7.4	Receiver behaviour	102
Annex D (informative): Service lists - presentation.....		103
D.1	Entries in the service list	103
D.2	Handling of part-time service components.....	103
D.3	Automatic updates to the service list.....	103
D.4	Character sets in the service list	104
D.5	Sorting of the service list.....	104

D.6	Presentation of secondary service components	105
D.7	Updating an ensemble from one frequency to another	105
D.8	Handling of unavailable service elements	105
D.9	Combined service list from multiple bearer systems	106
Annex E (informative): Service lists - expected receiver behaviour		107
E.1	Domestic receiver implementations	107
E.1.1	Introduction	107
E.1.2	Addition of service elements	107
E.1.3	Removal of service elements	108
E.1.4	Changed identity or ensemble	109
E.1.5	Multi-tuner domestic receiver	109
Annex F (informative): Example of coding of the FIC		110
Annex G (normative): Alarm announcements test mode		111
Annex H (informative): Alarm announcement use cases		112
H.1	General	112
H.2	Signalling	112
H.3	Receiver behaviour	113
Annex I (normative): Text labels - Regional profiles		114
I.1	Introduction	114
I.2	EBU Latin profile	114
I.2.1	Introduction	114
I.2.2	Transmission system	114
I.2.3	Receivers	115
I.3	All Europe profile	115
I.3.1	Introduction	115
I.3.2	Transmission system	115
I.3.3	Receivers	115
I.4	Arab States Broadcasting Union profile	116
I.4.1	Introduction	116
I.4.2	Transmission system	116
I.4.3	Receivers	117
History		118

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Technical Specification (TS) 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).

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.

European Broadcasting Union
CH-1218 GRAND SACONNEX (Geneva)
Switzerland
Tel: +41 22 717 21 11
Fax: +41 22 717 24 81

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) 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.

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.

1 Scope

The present document defines rules of implementation for certain service information features. These rules have been developed to provide a reliable and consistent experience for digital radio listeners; they provide implementation details for how the Fast Information Channel (FIC) signalling is used and how receivers will interpret and behave in response to receiving the FIC signalling.

The present document has an additional clause 8 to define the necessary behaviour for text handling, especially when using non-Latin scripts.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference/>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] ETSI EN 300 401 (V2.1.1): "Radio Broadcasting Systems; Digital Audio Broadcasting (DAB) to mobile, portable and fixed receivers".
- [2] ETSI TS 101 756: "Digital Audio Broadcasting (DAB); Registered Tables".
- [3] Unicode standard.

NOTE: Available at <https://www.unicode.org/versions/latest>.

- [4] Unicode bidirectional algorithm, UAX#9.

NOTE: Available at <http://www.unicode.org/reports/tr9/>.

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ISO 10646: "Information technology -- Universal Coded Character Set (UCS)".
- [i.2] ETSI TS 103 461: "Digital Audio Broadcasting (DAB); Domestic and in-vehicle digital radio receivers; Minimum requirements and Test specifications for technologies and products".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

alarm announcement: announcement of type 'alarm' which has elevated priority

announcement: short audio message containing information categorized by an announcement type

Change Event Indication (CEI): set of FIG fields with particular values to indicate a change of database content for certain service information features

database entry: part of the service information addressed by a database key

database key: set of FIG fields that sub-divide a database for certain service information features

implicit linking: linking of DAB service and FM-RDS service with identical identifiers requiring no FIG 0/6 signalling

key service: DAB service carried in the tuned ensemble and placed as the first Id in the list of all services in a linkage set

linkage set: description of a network configuration consisting of lists of identifiers which carry the same (hard link) or related (soft link) content

part-time service element: service element that cycles between an on-air and an off-air status

pre-tuning memory: information stored in a receiver from previous tuning actions providing details of ensembles, tuning frequencies and services

regular announcement: announcement of any type except 'alarm' with normal priority

service element: smallest addressable part of a service; a service component, either primary or secondary

NOTE: In a service that consists of only the primary service component, the term service element refers to the entire service.

service following: process for maintaining the same audio or data content that the user has selected in spite of the varying reception conditions that occur, for example, when travelling by car or train

service list: feature of a radio receiver where a list of service elements is used for service selection

service list entry: one item in a service list that represents a single service element

SI label: text label carried in any extension of FIG type 1 and FIG type 2

user controls: all elements of a user interface of a radio receiver that are used to display service information and provide for user control

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AAC	Advanced Audio Coding
AMSS	Amplitude Modulation Signalling System
ASu	Announcement Support
ASw	Announcement Switching
C/N	Current/Next
CA	Conditional Access
CAId	Conditional Access Identifier
CEI	Change Event Indication
DAB	Digital Audio Broadcasting
DMB	Digital Multimedia Broadcasting

DRM	Digital Radio Mondiale
ECC	Extended Country Code
EId	Ensemble Identifier
F	Frequency
FI	Frequency Information
FIB	Fast Information Block
FIC	Fast Information Channel
FIG	Fast Information Group
FM	Frequency Modulation
Id	Identifier
IdLQ	Identifier List Qualifier
ILS	International Linkage Set
ISO	International Standards Organisation
LA	Linkage Actuator
LSN	Linkage Set Number
MCI	Multiplex Configuration Information
MFN	Multi-Frequency Network
MJD	Modified Julian Date
MPEG	Moving Pictures Expert Group
MSC	Main Service Channel
OE	Other Ensemble
P/D	Programme/Data service flag
PAD	Programme Associated Data
PI	Programme Identification code (RDS)
R&M	Range and Modulation
RDS	Radio Data System
Rfa	Reserved for future addition
S/H	Soft/Hard
SC	Service Component
SCI	Service Component Information
SFN	Single Frequency Network
SI	Service Information
SId	Service Identifier
UCS	Universal Character Set
UTC	Universal Temps Coordindee
UTF	Unicode Transformation Format

Full standard: <https://standards.iteh.ai/catalog/standards/sist/43c07a14-1471-4331-b928-000f55c2c476/etsi-ts-103-176-v2.2.1-2018-10>
 (standards.iteh.ai)

4 Overview

Service information (SI) in DAB is carried in the Fast Information Channel (FIC) as a series of Fast Information Groups (FIGs) carried in Fast Information Blocks (FIBs). Different FIGs are used for different service information, and several different FIGs may be needed to implement a particular service information feature, such as service linking or announcements. The dynamic label is also considered to be a service information feature. The present document provides rules of implementation for service information *features* and so groups the usage of the required FIGs together. Some FIG types are used by a number of different features and the rules are designed so that the FIG is always coded and decoded consistently.

The present document provides normative rules of behaviour for complex service information features:

- service following, using FIG 0/6, FIG 0/21 and FIG 0/24;
- service lists, using FIG 0/20;
- announcements, using FIG 0/18, FIG 0/19, FIG 0/25 and FIG 0/26 (and also FIG 0/21 and FIG 0/24);
- text labels, using FIG 1/x, FIG 2/x and dynamic labels.

The nominal repetition rate for SI FIGs is once per second. This rate applies to FIG 0/5, FIG 0/9, FIG 0/10, FIG 0/17, FIG 0/18, FIG 0/20, FIG 0/25, FIG 1/x and FIG 2/x. However, many of the FIGs used for the complex service information features described in the present document require several repetition rates, depending on the usage. Table 1 provides an overview of the repetition rates for these complex SI FIGs.