SLOVENSKI STANDARD
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Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Digital Enhanced Cordless Telecommunications (DECT).

The present document is part 6 of a multi-part EN covering the Common Interface (CI) for the Digital Enhanced Cordless Telecommunications (DECT), as identified below:

Part 1:   "Overview";

Part 2:   "Physical layer (PHL)";

Part 3:   "Medium Access Control (MAC) layer";

Part 4:   "Data Link Control (DLC) layer";

Part 5:   "Network (NWK) layer";

Part 6:   "Identities and addressing";

Part 7:   "Security features";

Part 8:   "Speech coding and transmission".

Further details of the DECT system may be found in TR 101 178 [11] and ETR 043 [12].

National transposition dates	
Date of adoption of this EN:	16 February 2001
Date of latest announcement of this EN (doa):	31 May 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 November 2001
Date of withdrawal of any conflicting National Standard (dow):	30 November 2001

1 Scope

The present document gives an introduction and overview of the complete Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI).

This part of the DECT CI specifies the identities and addressing structure of the Digital Enhanced Cordless Telecommunications (DECT) Common Interface.

There are four categories of identities to be used for identification and addressing in a general DECT environment. These four categories are:

- Fixed Part (FP) identities;

- Portable Part (PP) identities;

- connection-related identities;

- equipment-related identities.

Fixed part identities and portable part identities are used for:

- access information from fixed parts to portable parts;

- access requests from portable parts;

- identification of portable parts;

- identification of fixed parts and radio fixed parts;

- paging;

- billing.

These identities support:

- different environments, such as residential, public or private;

- supply to manufacturers, installers, and operators of globally unique identity elements with a minimum of central administration;

- multiple access rights for the same portable;

- large freedom for manufacturers, installers, and operators to structure the fixed part identities, e.g. to facilitate provision of access rights to groups of DECT systems;

- roaming agreements between DECT networks run by the same or different owners/operators;

- indication of handover domains;

- indication of location areas, i.e. paging area;

- indication of subscription areas of a public service.

The present document also provides for length indicators and other messages that can override the default location and/or paging area and domain indications given by the structure of the identities.

Connection related identities are used to identify the protocol instances associated with a call and are used for peer-to-peer communication.

Equipment related identities are used to identify a stolen PP and to derive a default identity coding for PP emergency call set-up.

Coding of identity information elements for higher layer messages is found in EN 300 175-5 [5], clause 7.7.

User authentication and ciphering need additional key information and is outside the scope of the present document, but is covered in other parts of EN 300 175 parts 1 to 8 [1] to [7], e.g. part 7.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   ETSI EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2]   ETSI EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical Layer (PHL)".

[3]   ETSI EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[4]   ETSI EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[5]   ETSI EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

[6]   ETSI EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

[7]   ETSI EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".

[8]   ITU-T Recommendation E.164 (1988): "The international public telecommunication numbering plan".

[9]   ETSI EN 300 523: "Digital cellular telecommunications system (Phase 2); Numbering, addressing and identification (GSM 03.03 version 4.11.1)".

[10]   ITU-T Recommendation E.212 (1993): "The international identification plan for mobile terminals and mobile users".

[11]   ETSI TR 101 178: "Digital Enhanced Cordless Telecommunications (DECT); A High Level Guide to the DECT Standardization".

[12]   ETSI ETR 043: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Services and facilities requirements specification".

3 Definitions and abbreviations

3.1 Definitions

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

Access Rights Class (ARC): see EN 300 175-1 [1]

Access Rights Details (ARD): see EN 300 175-1 [1]

Access Rights Identity (ARI): see EN 300 175-1 [1]

attach: see EN 300 175-1 [1]

authentication (of a subscriber): see EN 300 175-1 [1]

bearer: see EN 300 175-1 [1]

bearer handover: see EN 300 175-1 [1]

cell: see EN 300 175-1 [1]

Central Control Fixed Part (CCFP): see EN 300 175-1 [1]

cluster: see EN 300 175-1 [1]

connection: see EN 300 175-1 [1]

connection handover: see EN 300 175-1 [1]

Cordless Radio Fixed Part (CRFP): see EN 300 175-1 [1]

coverage area: see EN 300 175-1 [1]

DECT Network (DNW): see EN 300 175-1 [1]

Data Link Control (DLC): see EN 300 175-1 [1]

external handover: see EN 300 175-1 [1]

Fixed Part (DECT Fixed Part) (FP): see EN 300 175-1 [1]

Fixed Radio Termination (FT): see EN 300 175-1 [1]

frame: see EN 300 175-1 [1]

Generic Access Profile (GAP): see EN 300 175-1 [1]

geographically unique: see EN 300 175-1 [1]

Global Network (GNW): see EN 300 175-1 [1]

globally unique identity: see EN 300 175-1 [1]

handover: see EN 300 175-1 [1]

intercell handover: see EN 300 175-1 [1]

internal handover: see EN 300 175-1 [1]

International Portable User Identity (IPUI): see EN 300 175-1 [1]

interoperability: see EN 300 175-1 [1]

interoperator roaming: see EN 300 175-1 [1]

intracell handover: see EN 300 175-1 [1]

intraoperator roaming: see EN 300 175-1 [1]

Local Network (LNW): see EN 300 175-1 [1]

locally unique identity: see EN 300 175-1 [1]

location area: see EN 300 175-1 [1]

location registration: see EN 300 175-1 [1]

Medium Access Control (MAC): see EN 300 175-1 [1]

multiframe: see EN 300 175-1 [1]

network (telecommunication network): see EN 300 175-1 [1]

operator (DECT operator): see EN 300 175-1 [1]

paging: see EN 300 175-1 [1]

paging area: see EN 300 175-1 [1]

PARK Length Indicator (PLI): see EN 300 175-1 [1]

Physical (PHL): see EN 300 175-1 [1]

Primary Access Rights Identity (PARI): see EN 300 175-1 [1]

Portable Access Rights Key (PARK): see EN 300 175-1 [1]

Portable Handset (PHS): see EN 300 175-1 [1]

Portable Part (DECT Portable Part) (PP): see EN 300 175-1 [1]

Portable radio Termination (PT): see EN 300 175-1 [1]

Portable User Number (PUN): see EN 300 175-1 [1]

Portable User Type (PUT): see EN 300 175-1 [1]

private: see EN 300 175-1 [1]

public: see EN 300 175-1 [1]

public access service: see EN 300 175-1 [1]

radio end point: see EN 300 175-1 [1]

Radio Fixed Part (RFP): see EN 300 175-1 [1]

Radio Fixed Part Identity (RFPI): see EN 300 175-1 [1]

registration: see EN 300 175-1 [1]

Repeater Part (REP): see EN 300 175-1 [1]

roaming: see EN 300 175-1 [1]

roaming service: see EN 300 175-1 [1]

Secondary Access Rights Identity (SARI): see EN 300 175-1 [1]

service provider (telecommunications service provider): see EN 300 175-1 [1]

Single Radio Fixed Part (SRFP): see EN 300 175-1 [1]

subscriber (customer): see EN 300 175-1 [1]

subscription registration: see EN 300 175-1 [1]

Tertiary Access Rights Identity (TARI): see EN 300 175-1 [1]

TDMA frame: see EN 300 175-1 [1]

TPUI domain: see EN 300 175-1 [1]

user (of a telecommunication network): see EN 300 175-1 [1]

Wireless Relay Station (WRS): see EN 300 175-1 [1]

3.2 Abbreviations

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

|	
ARC	Access Rights Class
ARD	Access Rights Details
ARI	Access Rights Identity
BCD	Binary Coded Decimal
CCFP	Central Control Fixed Part
CBI	Collective Broadcast Identifier
CI	Common Interface
CRFP	Cordless Radio Fixed Part
DECT	Digital Enhanced Cordless Telecommunications
DLC	Data Link Control
DNW	DECT Network
FMID	Fixed Part MAC Identity
FP	Fixed Part
FT	Fixed radio Termination
GNW	Global Network
IPEI	International Portable Equipment Identity
IPUI	International Portable User Identity
ISDN	Integrated Services Digital Network
LAL	Location Area Level
LNW	Local Network
MAC	Medium Access Control.
NWK	Network
PABX	Private Automatic Branch Exchange
PARI	Primary Access Rights Identity
PARK	Portable Access Rights Key
PARK{y}	PARK with value y for its park length indicator
PBX	Private Branch Exchange
PHL	Physical Layer
PHS	Portable Handset
PLI	Park Length Indicator
PMID	Portable Part MAC Identity
PP	Portable Part
PSTN	Public Switched Telephone Network
PT	Portable radio Termination
PUN	Portable User Number
PUT	Portable User Type
REP	Repeater Part
RFP	Radio Fixed Part
RFPI	Radio Fixed Part Identity
RPN	Radio fixed Part Number
SARI	Secondary Access Rights Identity
TARI	Tertiary Access Rights Identity
TDMA	Time Division Multiple Access
TPUI	Temporary Portable User Identity

4 General description of FP and PP identities

Every radio FP broadcasts for its purpose a unique identity which contains a globally unique (to a service provider) Access Rights Identity (ARI). Every PP has both a Portable Access Rights Key (PARK) and an International Portable User Identity (IPUI). These operate as a pair. A PP is allowed to access any radio FP which broadcasts an ARI that can be identified by any of the portable access rights keys of that PP.

The IPUI is used to identify the portable in the domain defined by its related ARI. The IPUI can either be locally unique or globally unique.

The following figure illustrates the identity structure.
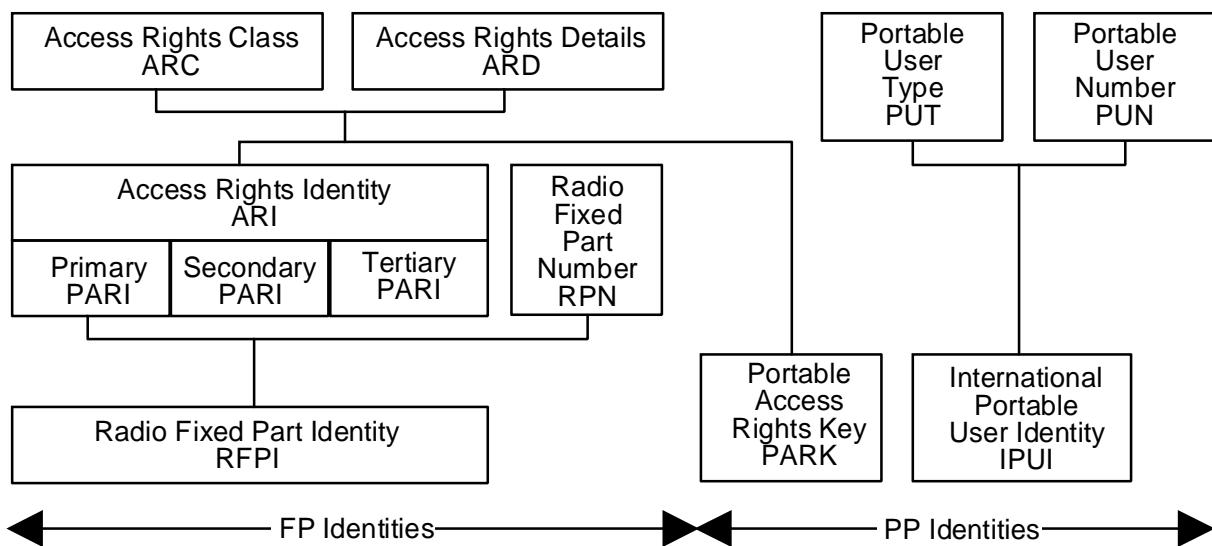
Figure 4.1: General identity structure

The common base for the DECT identity structure is the Access Rights Class (ARC) and Access Rights Details (ARD). These need to be known by both the FP and the PPs. In the FP the ARC and ARD are called Access Rights Identity (ARI), and in the PP they are called Portable Access Rights Key (PARK). The distinction between PARK and ARI is that each PARK can have a group of ARDs allocated, PARK{y}. "y" is the value of the PARK length indicator given in the PP subscription process.

Figure 4.2: Structure of PARK{y}
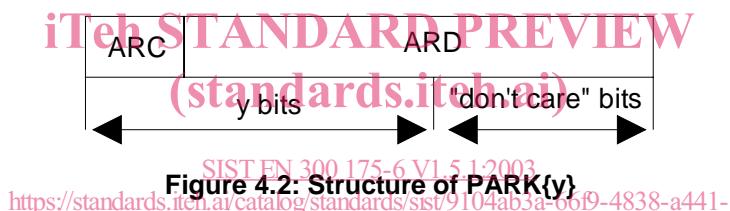
If the ARI is a primary ARI, i.e. PARI, it will form, together with a RFP number, the broadcast identity RFPI. ARIs can also be less frequently broadcast as Secondary Access Rights Identities (SARIs) and may also be available as Tertiary Access Rights Identities (TARIs), which are not broadcast, but are accessible upon request.

The PUT and PUN form the PP user's identity, IPUI. This identity can either be globally unique or locally unique. In addition to IPUIs, shorter temporary identities, TPUIs, may be used for paging.

A PP is identified by its pairs of PARK{y} and IPUI. A PP is only allowed to access a FP if one of its PARKs includes one of the ARIs of the FP, i.e. the PARI, a SARI or a TARI.

4.1   Combinations of ARIs, PARKs and IPUIs

DECT provides a flexible radio access technology for a large variety of private and public networks or systems. This leads to different requirements on e.g. sub-system grouping, distribution and installation of equipment, identity allocations and subscription.

Therefore five access rights classes A - E and a number of IPUIs have been defined to meet the need for a differentiation in the identity structures.

The following table gives an overview of likely combinations of the main identities. As described in clause 6.2 some flexibility is allowed in combinations of the IPUI types, e.g. IPUI type N could be used by a service provider in combination with any ARC.