

# ETSI TS 101 220 V3.0.0 (2000-05)

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*Technical Specification*

**Integrated Circuits Cards (ICC);  
ETSI numbering system for telecommunication;  
Application providers (AID)**

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**GSM**®

GLOBAL SYSTEM FOR  
MOBILE COMMUNICATIONS



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**Reference**

RTS/SMG-09003

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**Keywords**

Digital cellular telecommunications system,  
Global System for Mobile communications  
(GSM), Card, ID

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## Foreword

This Technical Specification (TS) has been produced by the Special Mobile Group (SMG).

The contents of the present document are subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of the present document, it will be republished by ETSI with an identifying change of release date and an increase in version number.

NOTE: The present document has been prepared not only by the former ETSI TC ICC, but by ETSI STC TE9 in co-operation with ETSI STC SMG9, ETSI STC RES3/DAM and ETSI STC NA6/UCG.

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# 1 Scope

The present document describes the numbering system for Application IDentifiers (AID) for ETSI telecommunication Integrated Circuits (IC) card applications according to ETSI documents and Application Providers (AP).

The numbering system described in the present document provides a means for an application and related services offered by a provider to identify if a given card contains the elements required by its application and related services.

An AID is used to address an application in the card. It consists of a Registered application provider IDentifier (RID) and a Proprietary application Identifier eXtension (PIX).

The present document describes the coding of the PIX.

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# 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.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts - Part 5: Numbering system and registration procedure for application identifiers".
- [2] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".
- [3] ISO/IEC 7816-4 (1995): "Information technology - Identification cards - Integrated circuit(s) cards with contacts - Part 4: Interindustry commands for interchange".
- [4] ITU-T Recommendation E.118: "The international telecommunication charge card".
- [5] GSM 03.48: "Digital cellular telecommunications system (Phase 2+); Security mechanisms for the SIM application toolkit; Stage 2".
- [6] GSM 11.11: "Digital cellular telecommunications system (Phase 2+); Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".
- [7] GSM 11.14: "Digital cellular telecommunications system (Phase 2+); Specification of the SIM application toolkit for the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".
- [8] GSM 03.19: "Digital cellular telecommunications system (Phase 2+); Subscriber Identify Module Application Programming Interface (SIM API); SIM API for Java Card (TM); Stage 2".
- [9] ETSI ETS 300 812: "Terrestrial Trunked Radio (TETRA); Security aspects; Subscriber Identity Module to Mobile Equipment (SIM - ME) interface".

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply (the first two from ISO/IEC 7816-5 [1]):

**Application Identifier (AID):** data element, which identifies an application in a card. An AID may contain a Registered application provider Identifier (RID). If it contains either a RID or an issuer identification number, then this identification is unambiguous [ISO/IEC 7816-5 [1]].

**Application Provider (AP):** entity, which provides those components of an application on a card, required to perform the respective application [ISO/IEC 7816-5 [1]].

**telecommunication IC card application:** application described by an ETSI document.

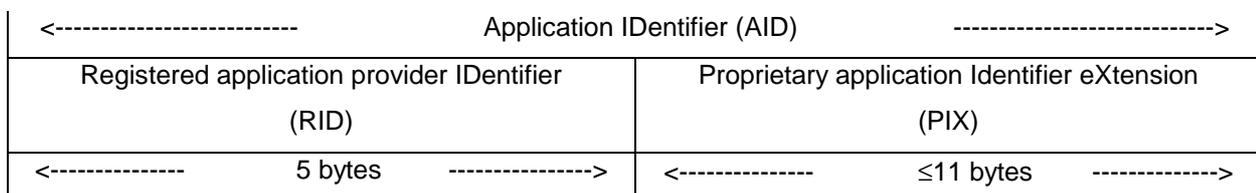
### 3.2 Abbreviations

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

AID	Application Identifier
AP	Application Provider
DECT	Digital Enhanced Cordless Telecommunications
GSM	Global System for Mobile communication
IC	Integrated Circuit(s)
ICC	IC Card
ID	Identifier
PIX	Proprietary application Identifier eXtension
RID	Registered application provider Identifier
STC	Technical Sub-Committee (in ETSI)
TC	Technical Committee (in ETSI)
TETRA	TErrestrial Trunk RAdio
UPT	Universal Personal Telecommunications

## 4 Structure of the Application Identifier (AID)

In accordance with ISO/IEC 7816-5 [1], the AID has the following structure:



The AID consists of a Registered application provider Identifier (RID) of 5 bytes and a Proprietary application Identifier eXtension (PIX) of up to 11 bytes.

### 4.1 Registered application provider Identifier (RID)

The ETSI RID, as registered by ISO according to ISO/IEC 7816-5 [1], is 'A000000009'.

## 4.2 Proprietary application Identifier eXtension (PIX)

The PIX is used at the discretion of ETSI and can contain between 7 and 11 bytes of information. The PIX is coded in hexadecimal. Hexadecimal digit 1 is the most significant digit.

<b>Digit 1-4</b>	<b>ETSI application code</b>
Purpose:	To be used for identification of the standardized ETSI card application (e.g. GSM, DECT, UPT, pre-paid application). Different versions of an application may have individual codings.
Management:	Assigned by ETSI on request from the ETSI technical body responsible for the document in question.
Coding:	Hexadecimal. The coding indicates the ETSI document that specifies the standardized ETSI card application and the ETSI PIX number. The correspondence between digits 1-4 and the ETSI document in question can be seen in a list maintained by the ETSI Secretariat (see annex A). Escape value '0000' is reserved for use by the ETSI Secretariat for proprietary ETSI applications.
 <b>Digits 5-8</b>	 <b>Country code</b>
Purpose:	To indicate the country of the application provider of the ETSI standardized application.
Management:	Assigned by ETSI.
Coding:	According to ITU Recommendation E.164 [2]. The coding is right justified and padded with 'F' on the left.
	 NOTE: List of actual country codes is published by ITU.
 <b>Digits 9-14</b>	 <b>Application provider code</b>
Purpose:	Individual code for the application provider of the ETSI standardized application.
Management:	Assigned by ETSI.
Coding:	Hexadecimal. The coding is right justified and padded with 'F' on the left.
 <b>Digits 15 up to 22</b>	 <b>Application provider field. Optional. Up to 8 digits</b>
Purpose:	The use of this field is entirely up to the application provider. It may, for instance, be used to indicate "local" versions, revisions, etc. of the ETSI standardized application. According to ISO/IEC 7816-5 [1], if the AID is 16 bytes long, then the value 'FF' for the least significant byte (digits 21 and 22) is reserved for future use.
Management:	Application provider.
Coding:	Hexadecimal.

**Digits 1 to 14 are assigned and registered by the ETSI Secretariat.**

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## 5 Use of the Application Identifier (AID)

The use of the AID is specified in ISO/IEC 7816-4 [3] and ISO/IEC 7816-5 [1].

## Annex A (informative): Allocated ETSI PIX numbers

**Table A.1: Allocation of ETSI PIX**

Application	AID			ETSI document (note 2)
	RID (note 1)	ETSI App Code	PIX	
GSM	'A000000009'	'0001'	See annex B for further coding details	GSM 11.11 [6]
GSM SIM toolkit	'A000000009'	'0002'	See annex B for further coding details	GSM 11.14 [7]
GSM SIM API for Java™ Card	'A000000009'	'0003'	See annex C for further coding details	GSM 03.19 [8]
TETRA	'A000000009'	'0004'	See annex C for further coding details	ETS 300 812 [9]
	'A000000009'			

NOTE 1: The ETSI RID, as registered by ISO according to ISO/IEC 7816-5 [1], is 'A000000009'.

NOTE 2: It is the responsibility of the ETSI technical body, in charge of the application standardization, to inform the ETSI Secretariat when the respective ETSI document is withdrawn or renumbered.

AID            Application IDentifier  
PIX            Proprietary application Identifier eXtension  
RID            Registered application provider IDentifier

## Annex B (normative): Coding of the PIX for GSM and TETRA Applications

The following codings apply for the structure of the PIX when the application is either:

- the GSM application (i.e. ETSI application code = '0001' - as shown in annex A); or
- a GSM SIM Toolkit application (i.e. ETSI application code = '0002' as shown in Annex A); or- the TETRA application (i.e. ETSI application code = '0004' as shown in annex A):

### Digit 1-4 ETSI application code

Coding: '0001' or '0002' as specified in clause 4.2 of this document

### Digits 5-8 Country code

Coding: As specified in clause 4.2 of this document

### Digits 9-14 Application provider code

Coding: As defined below.

9	10	11	12	13	14

Industry Code '89' for Telecom

Card issuer Code. Coded in BCD and right justified. Unused digits to be padded with 'F' on the left.

Card issuer code and Industry code are coded in line with ITU-T Recommendation E.118 [4] .

### Digits 15 up to 22 Application provider field. 8 digits

Digits 15 to 22 shall be used only if the ETSI application code is '0002' (i.e. GSM SIM toolkit)

Coding: Hexadecimal. If the application is a SIM Toolkit application (as defined in GSM 11.14 [7]), the coding is as defined below.

15	16	17	18	19	20	21	22

Application Provider specific data

Toolkit Application Reference (TAR)

- Toolkit Application Reference as specified in GSM 03.48 [5], is managed by the application provider
- Application Provider specific data: For application administration purposes.

## Annex C (normative): Coding of the PIX for SIM Toolkit API Packages

The following coding apply for the structure of the PIX when the application is a SIM Toolkit API package (i.e. ETSI application code = '0003'- as defined in annex A):

**Digit 1-4**                    **ETSI application code**

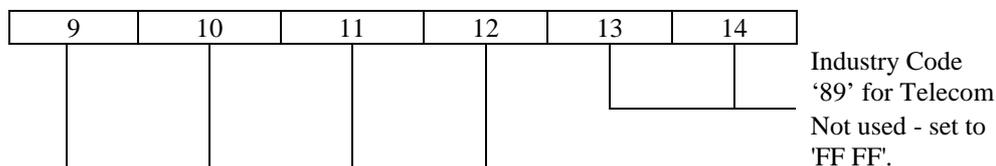
Coding:                    '0003' as specified in clause 4.2 of this document

**Digits 5-8**                    **Not used**

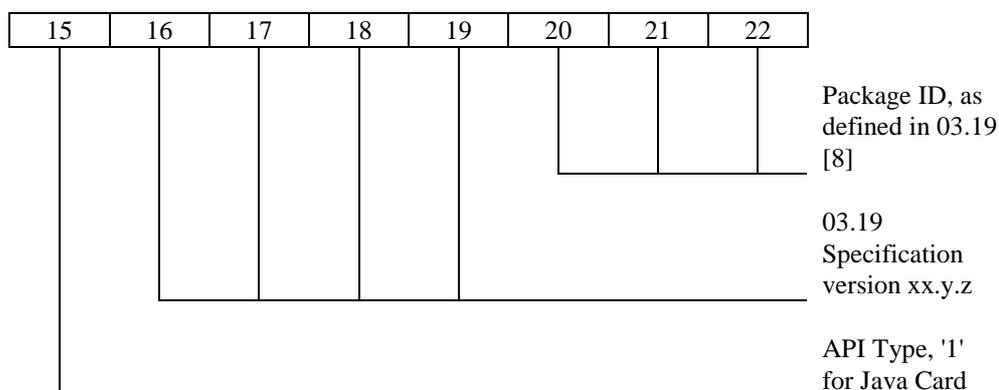
Coding:                    set to 'FF FF'

**Digits 9-14**                    **Industry code**

Coding:                    As defined below.



**Digits 15 up to 22**                    **Application provider field. 8 digits**



## Annex D (informative): Change history

This annex lists all change requests approved for this document since ETSI TC SMG took responsibility of it following the closure of ETSI TC ICC.

SMG#	SMG tdoc	SMG9 tdoc	VER S	CR	RV	PH	CAT	SUBJECT	Resulting Version
s27	98-0673	98p371	1.2.1				B	Addition of Normative Annex C, introducing AID coding for GSM and Toolkit applications	1.3.0
s29	P-99-415	9-99-186	1.3.0				B	Addition of Normative Annex D, introducing AID coding for SIM Toolkit packages	1.4.0
s31	<i>At SMG #31, it was agreed it would be more appropriate for the present document to be classified as an "ETSI Technical Specification" rather than an "ETSI Guide". Further more, to align the specification version numbering system with that of other SMG9 specifications, the version number was changed to 3.0.0 with the inclusion of the two CRs mentioned below.</i>								
	P-00-142	9-00-0180	1.4.0				F	Alignment of the AID allocation procedure	3.0.0
	P-00-142	9-00-0147					B	Definition of an AID for TETRA	

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## History

<b>Document history</b>		
V3.0.0	May 2000	Publication