SLOVENSKI STANDARD
SIST ETS 300 133-2:1999

01-september-1999

Elektromagnetna združljivost (EMC) in zadeve v zvezi z radijskim spektrom (ERM) - Izboljšani sistem za radijsko sporočanje (ERMES) - 2. del: Storitveni vidiki

ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Enhanced Radio MEssage System (ERMES); Part 2: Service aspects

Ta slovenski standard je istoveten z: **ETS 300 133-2 Edition 2**

ICS:

33.070.20 Sistem za osebni klic Paging systems

SIST ETS 300 133-2:1999 **en**

EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 133-2

November 1997

Second Edition

Source: ERM

Reference: RE/ERM-RP-04-007-2

ICS: 33.020

Key words: ERMES, paging, system, service

Electromagnetic compatibility and Radio spectrum Matters (ERM); Enhanced Radio MEssage System (ERMES); Part 2: Service aspects

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

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

Contents

Blank page

Foreword

This second edition European Telecommunication Standard (ETS) has been produced by the Electromagnetic compatibility and Radio spectrum Matters (ERM) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS comprises seven parts with the generic title "Electromagnetic compatibility and Radio spectrum Matters (ERM)"; Enhanced Radio MEssage System (ERMES)". The title of each part is listed below:

Part 1: "General aspects";

Part 2: "Service aspects";

Part 3: "Network aspects";

Part 4: "Air interface specification";

Part 5: "Receiver conformance specification";

Part 6: "Base station specification";

Part 7: "Operation and maintenance aspects".

This part, ETS 300 133-2, specifies the services and facilities of the Enhanced Radio MEssage System (ERMES). This part also defines the quality of service aspects and describes the receiver features.

Transposition dates	
Date of adoption:	7 November 1997
Date of latest announcement of this ETS (doa):	28 February 1998
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 August 1998
Date of withdrawal of any conflicting National Standard (dow):	31 August 1998

Intellectual Property Rights

IPRs essential or potentially essential to this ETS 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 ETR 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available **free of charge** from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://www.etsi.fr/ipr).

Pursuant to the ETSI Interim 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 ETR 314 (or the updates on http://www.etsi.fr/ipr) which are, or may be, or may become, essential to this ETS.

Blank page

1 Scope

This European Telecommunication Standard (ETS), describes the service aspects of the Enhanced Radio MEssage System (ERMES). In particular, a recommended set of basic and supplementary services is defined and described. The features that should be considered for implementation in the paging receivers are also described. Finally, the quality of service that is offered to the users of the system is defined.

2 Normative references

This ETS incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references subsequent amendments to, or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ETS 300 133-1 (1997): "Radio Equipment and Systems (RES); Enhanced Radio MEssage System (ERMES); Part 1: General aspects".

[2] ETS 300 133-3 (1997): "Radio Equipment and Systems (RES); Enhanced Radio MEssage System (ERMES); Part 3: Network aspects".

[3] ETS 300 133-5 (1997): "Radio Equipment and Systems (RES); Enhanced Radio MEssage System (ERMES); Part 5: Receiver conformance specification".

[4] ISO 10646 (1993): "Information technology - Universal Multiple-Octet Coded Character Set (UCS) - Part 1: Architecture and Basic Multilingual Plane".

[5] ITU-T Recommendation T.52 (1993): "Non-Latin coded character sets for telematic services".

[6] Chinese National Standard CNS 11643, X5012: "Chinese Standard Interchange Code".

[7] ISO 1073: "Alphanumeric character sets for optical recognition".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this part of this ETS, the following definitions apply:

essential service or facility: A service or facility which is implemented and provided in all operator networks in the system.

optional service or facility: An optional service or facility which is provided at the discretion of the network operators. If implemented it conforms with this ETS.

essential receiver feature: A receiver feature which is implemented in all receivers (if it is relevant to the paging category of a specific receiver).

optional receiver feature: A receiver feature which may be implemented at the manufacturers' discretion. If implemented it conforms with this ETS.

For the definitions of the other terms used in this standard see ETS 300 133-1 [1], clause 3, "Vocabulary".

3.2 Abbreviations

For the purposes of this part of this ETS, the following abbreviations apply:

AdC	Address Code
ACK/NACK	Positive/Negative acknowledgement
BVR	Basic Version Receiver
CUG	Closed User Group
RIC	Radio Identity Code
DTMF	Dual Tone Multi-Frequency
EOM	End Of Message
GAdC	Group Address Code
PNC	Paging Network Controller
PNC-H	Home PNC
PNC-I	Input PNC
PNC-T	Transmitting PNC
PSTN	Public Switched Telephone Network

4 Services and facilities

4.1 General

4.1.1 Introduction

In this clause the set of basic and supplementary services that may be supported by an ERMES network is defined and described. Some services are specified as essential to enable operation of an international paging system. A number of optional services are also described, which operators may include in their systems.

The security aspects of the system are also included in this clause.

4.1.2 Framework for describing the services

The text associated with each service is structured in the following way:

Definition

This paragraph provides a general definition and description of the service as it is seen by the user.

Procedures

- provision:
  - This paragraph indicates if the service should be essential or optional for the network operators of the ERMES system.
- normal procedures:
  - This paragraph gives an indication of who (calling party, fixed or mobile subscriber) is supposed to activate the service and on what conditions it is made available to the users (e.g. per call basis or by registration).

Network capabilities for charging

This paragraph gives an indication of what charging arrangements the system shall be able to support.

Interworking requirements

This paragraph describes the interworking requirements between the different ERMES networks in order to implement a service.

Interaction with other services

This paragraph describes the interactions with other ERMES services when the service being described is activated.

4.1.3 Essential and optional services

Each service shall be considered as essential or optional for the network operator. In table A.1, the essential and optional supplementary services and facilities for each paging category is given.

4.2 Basic services

The system shall offer mobile subscribers levels of basic paging services according to the receiver capabilities. The system shall check that paging calls are not accepted to higher levels than the one corresponding to the subscription. This check shall also take place on activation of a supplementary service, e.g. diversion of traffic.

The ERMES system provides two kinds of call in each basic service:

- individual calls that are initiated by using one Address Code (AdC) and are intended for only one mobile subscriber;

- group calls that are initiated by using one Group Address Code (GAdC) and are intended for two or more mobile subscribers.

4.2.1 Tone-only paging

Definition

Tone-only paging is the first basic service level and simplest kind of paging service, corresponding to the traditional type of radio paging. The tone-only service means that paging signals to a particular receiver shall cause the receiver to generate a simple alert signal. The system shall support up to 8 different alert signals per Radio Identity Code (RIC). The system shall transmit the message within a message delivery time depending on the level of priority (see subclause 6.2).

Procedures

- provision:

  - This essential service shall be provided by all network operators. It shall be implemented in the Paging Network Controller (PNC) and all types of receivers, except transparent data receivers. The service may be implemented in the transparent data receiver.

- normal procedures:

  - Tone-only paging can be activated by the calling party by any Public Switched Telephone Network (PSTN) telephone on a per call basis to a mobile subscriber in the system. It may also be activated by other terminal equipment.

Network capabilities for charging

The service should be charged on subscription and/or on a per call basis according to the network operator's policy.

Interworking requirements

None.

Interaction with other services

A number of supplementary services can not be activated when tone-only calls are sent (see table A.1).

4.2.2 Numeric paging

Definition

Numeric paging is the second service level. It allows transmission of up to at least 20 numeric or special characters. This service is intended for mobile subscribers using pagers with the capability to receive, store and display numeric information in addition to tone-only paging. The character set is included in table B.1. The system shall transmit the message within a message delivery time depending on the level of priority (see subclause 6.2). The maximum message length that the ERMES system can support is 16 000 numeric characters. The network operators shall provide for a maximum message length between 20 and 16 000 numeric characters. Messages longer than the maximum message length that a specific receiver can accept shall not be delivered. The calling party shall be informed that the message is too long (see also subclause 4.2.4 for very long messages).

Procedures

- provision:
  - This essential service shall be provided by all network operators. It shall be implemented in the PNC as well as in numeric and alphanumeric receivers. The service may be implemented in the transparent data receiver.
- normal procedures:
  - The service can be activated by the calling party on a per call basis to a mobile subscriber in the system.

Network capabilities for charging

The service should be charged on subscription and/or on a per call basis according to the network operator's policy.

Interworking requirements

None.

Interaction with other services

None.

4.2.3 Alphanumeric paging

Definition

Alphanumeric paging is the third service level. It allows transmission of text information with up to at least 400 alphanumeric characters. This service is for mobile subscribers using receivers with the capability to receive, store and display text information in addition to tone-only and numeric paging. The basic character set is defined in table B.3. The system shall transmit the message within a message delivery time depending on the level of priority (see subclause 6.2). The maximum message length that the ERMES system can support is 9 000 alphanumeric characters. The network operators shall provide for a maximum message length between 400 and 9 000 alphanumeric characters. Messages longer than the maximum message length that a specific receiver can accept shall not be delivered. The calling party shall be informed that the message is too long (see also subclause 4.2.4 for very long messages).

Procedures

- provision:
  - This essential service shall be provided by all network operators. It shall be implemented in the PNC and in alphanumeric receivers. The service may be implemented in the transparent data receiver.

- normal procedures:

  - The service can be activated by the calling party on a per call basis to a mobile subscriber in the system.

Network capabilities for charging

The service should be charged on subscription and/or on a per call basis according to the network operator's policy.

Interworking requirements

None.

Interaction with other services

None.

4.2.4 Transparent data paging

Definition

Transparent data paging is a service allowing transmission of an arbitrary data stream to the receiver. The system shall transmit the message within a message delivery time depending on the level of priority (see subclause 6.2). The use of the data stream is determined by the application chosen by the subscriber. Only the part of the radio channel dedicated to the message allows a full bit transparency. The maximum message length that the ERMES system can support is 64 kbits. The network operators may provide for a maximum message length of less than 64 kbits. Messages longer than the maximum message length that a specific receiver can accept shall not be delivered. The calling party shall be informed that the message is too long.

Very long messages (longer than the defined maximum) can be sent through the ERMES system only if they are split into messages shorter than the maximum length. Users who wish to send such messages, may define a method of linking the parts of the messages together, between calling party and receiver. This method shall be transparent to the ERMES system, i.e. the parts shall be transmitted as separate messages.

Procedures

- provision:

  - Provision of this service shall be optional for the network operators. Restrictions on the message length can be imposed by the network operator according to his policy. It shall be implemented in the PNC as well as in the receiver. Lower categories may be implemented in the transparent data receiver.

- normal procedures:

  - The service can be activated by the calling party on a per call basis to a mobile subscriber in the system.

Network capabilities for charging

The service should be charged on subscription and/or on a per call basis according to the network operator's policy.

Interworking requirements

None.