



**SLOVENSKI STANDARD**  
**SIST EN 300 943 V7.0.1:2003**  
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Digital cellular telecommunications system (Phase 2+) (GSM); Short Message Service Cell Broadcast (SMSCB) support on the mobile radio interface (GSM 04.12 version 7.0.1 Release 1998)

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# ETSI EN 300 943 V7.0.1 (2000-01)

*European Standard (Telecommunications series)*

**Digital cellular telecommunications system (Phase 2+);  
Short Message Service Cell Broadcast (SMSCB)  
support on the mobile radio interface  
(GSM 04.12 version 7.0.1 Release 1998)**

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## Foreword

This European Standard (Telecommunications series) has been produced by the Special Mobile Group (SMG).

The present document describes how the Short Message Service Cell Broadcast (SMSCB) is supported over the mobile radio interface within the digital cellular telecommunications system (Phase 2+).

The contents of the present document is 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 re-released with an identifying change of release date and an increase in version number as follows:

Version 7.x.y

where:

- 7 indicates Release 1998 of GSM Phase 2+.
- x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- y the third digit is incremented when editorial only changes have been incorporated in the specification.

The specification from which the present document has been derived was originally based on CEPT documentation, hence the presentation of the present document may not be entirely in accordance with the ETSI drafting rules.

### National transposition dates

Date of adoption of this EN:	31 December 1999
Date of latest announcement of this EN (doa):	31 March 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2000
Date of withdrawal of any conflicting National Standard (dow):	30 September 2000

# 1 Scope

The present document describes how the Short Message Service Cell Broadcast (SMSCB) (Teleservice 23 as specified in GSM 02.03) is supported over the mobile radio interface.

## 1.1 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.
- For this Release 1998 document, references to GSM documents are for Release 1998 versions (version 7.x.y).

- [1] GSM 01.04: "Digital cellular telecommunication system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 02.03: "Digital cellular telecommunication system (Phase 2+); Teleservices supported by a GSM Public Land Mobile Network (PLMN)".
- [3] GSM 03.41: "Digital cellular telecommunication system (Phase 2+); Technical realization of Short Message Service Cell Broadcast (SMSCB)".
- [4] GSM 04.04: "Digital cellular telecommunication system; layer 1 General requirements".
- [5] GSM 04.06: "Digital cellular telecommunication system; Mobile Station - Base Station System (MS - BSS) interface Data Link (DL) layer specification".
- [6] GSM 05.02: "Digital cellular telecommunication system (Phase 2+); Multiplexing and multiple access on the radio path".

## 1.2 Abbreviations

Abbreviations used in the present document are listed in GSM 01.04.

# 2 General description

SMSCB is a service in which short messages may be broadcast from a PLMN to Mobile Stations (MS)s. SMSCB messages come from different sources (e.g. traffic reports, weather reports). The source and subject of the SMSCB message is identified by a message identifier in the SMSCB message header. A sequence number in the SMSCB message header enables the MS to determine when a new message from a given source is available.

SMSCB messages are not acknowledged by the MS. Reception of SMSCB messages by the MS is only possible in idle mode. The geographical area over which each SMSCB message is transmitted is selected by the PLMN operator, by agreement with the provider of the information.

A SMSCB message is an end-to-end message that is formatted by/for the SMSCB application, and which is intended for customer viewing. Its format is described in detail in GSM 03.41. A CB message is any message sent on the basic or extended CBCH (see GSM 05.02). It can be an occurrence of a SMSCB message, or a schedule message.

The SMS Cell Broadcast service is designed to minimize the battery usage requirements for a MS. A MS can read the first part of a CB message and then decide whether or not to read the rest of the message. In addition, the network may broadcast Schedule Messages, providing information in advance about the CB messages that will be sent immediately afterwards. The MS may use this scheduling information to restrict reception to those messages the customer is interested in receiving. This SMSCB DRX feature is optional in the network and the MS.

## 2.1 Scheduling Information

The network supporting the SMSCB DRX feature transmits Schedule Messages. A Schedule Message includes information about a number of immediately following consecutive CB messages, planned for that cell. The length of time covered by the CB messages referred to in a Schedule Message is called the Schedule Period of that message. For optimum DRX, a new Schedule Message should follow the last message of a Schedule Period. When no information is known about a CB message, e.g., because no Schedule Message has been received referring to that CB message, a MS shall read (at least) the first part of the CB message. Schedule Messages shall be sent on the basic and extended CBCH independently.

The network may override the published schedule to transmit new high-priority SMSCB messages. However, after any schedule deviation, the network shall resume the schedule, by transmitting the scheduled CB messages at the scheduled times listed in the Schedule Message.

The Schedule Message contains a Message Description for each CB message to be broadcast during the scheduling period, in order of transmission. The position of a CB message is called the "message slot number" of the CB message, and it indicates the position of the CB message within the schedule period. Each Message Description includes various information, including for SMSCB messages directly or indirectly all or part of their message identifier, and whether an occurrence is a repetition or not.

Each Schedule Message includes a Begin Slot Number field and an End Slot Number field. The End Slot Number field indicates the length of the schedule period (i.e., specifically the number of CB message slots about which information is provided). In the case where the network uses Schedule Messages to describe all message slots in advance, the first Schedule Message of the next schedule period will be transmitted in the message slot pointed by End Slot Number plus 1. The Begin Slot Number is defined to allow the network to broadcast several Schedule Messages referring to the same schedule period. The Begin Slot Number field indicates the message slot number of the CB message following the received Schedule Message.

The networks may send unscheduled Schedule Messages during empty message slots. The network need only update the Begin Slot Number in an unscheduled Schedule Message to reflect the current offset within the Schedule Message of the next message to be transmitted.

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## 3 Message format on BTS-MS Interface

### 3.1 General

A CB message consists of a 88 octets of information. The 88 octet block is segmented into four 22 octet blocks. A 1 octet Block type is added as a header to each 22 octet block. The overall blocks are thus 23 octets in length.

The message blocks are sent on the channel allocated as CBCH by GSM 05.02. The timing of the messages is defined in GSM 05.02. If the network has no cell broadcast information to transmit, then it may choose to transmit a null message.



## 3.2 Format convention

### 3.2.1 Numbering convention

The basic convention used in this technical specification is illustrated in figure 1. The bits are grouped into octets. The bits of an octet are shown horizontally and are numbered from 1 to 8. Multiple octets are shown vertically and are numbered from 1 to 23.

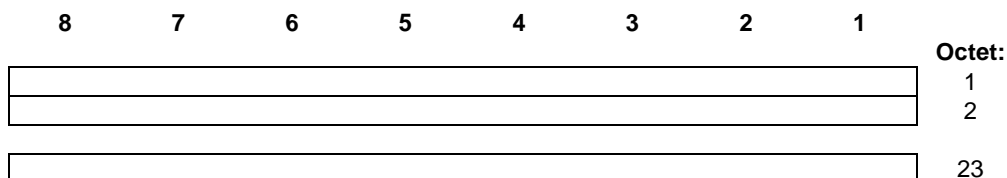


Figure 1/GSM 04.12: Format convention

### 3.2.2 Order of bit transmission

The message blocks are sent on the CBCH as defined in GSM 05.02 using the coding defined for that channel.

The order of bit transmission is defined in GSM 04.04.

## 3.3 Block content

The 23 octet blocks are coded as follows:

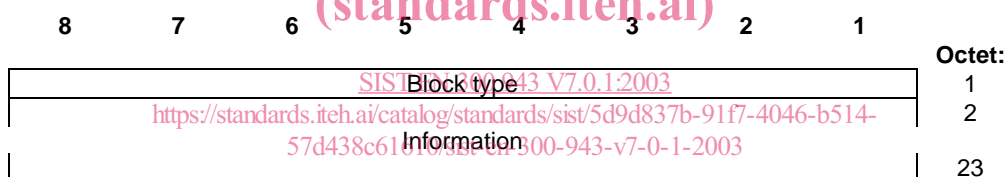


Figure 2/GSM 04.12: Block content

### 3.3.1 Block Type

The purpose of the Block Type is to identify the function of the block and message being sent. The block type is coded as shown in figure 3/GSM 04.12.

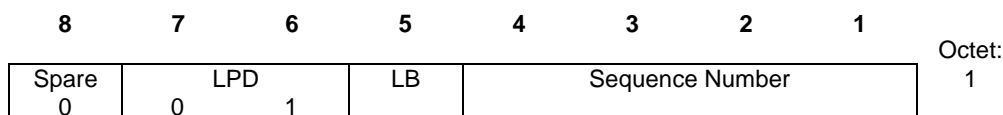


Figure 3/GSM 04.12: Block type content

Bits 8 is spare and set to zero by the sender. In order to allow compatibility with future modifications to this protocol, bits 8 shall be ignored by the receiver and messages shall not be rejected because it is set to one.

The Link Protocol Discriminator (LPD) takes the value "0 1". Other values of LPD indicate other protocols which are outside the scope of GSM 04.12, and shall cause the message to be ignored when the Cell Broadcast LPD is expected instead.

NOTE: LPD = "0 0" corresponds to the data link protocol used by LAPDm (see GSM 04.06).

In an SMSCB message the last block containing SMSCB information is signalled by the Last Block (LB) bit. When the LB bit is set to "0", the next block may contain SMSCB information. When the LB bit is set to "1", the remaining block(s) do(es) not contain SMSCB information.