

Source WP4

RECOMMENDATION: GSM 03.41

TITLE: Technical Realisation of the Short Message Service
- Cell Broadcast

DATE: 30th September 1988

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Annex: IA5 Characters

Original language: English

Number of pages: 5

Note:

(i) This version (1.1.1) is identical to version 1.0.0, which was approved by WP4, except that information on timing has been deleted, and incorporated in GSM Rec 05.02 by WP2, as requested by WP4. The channel used is now referred to as the CBCH, as proposed by WP2.

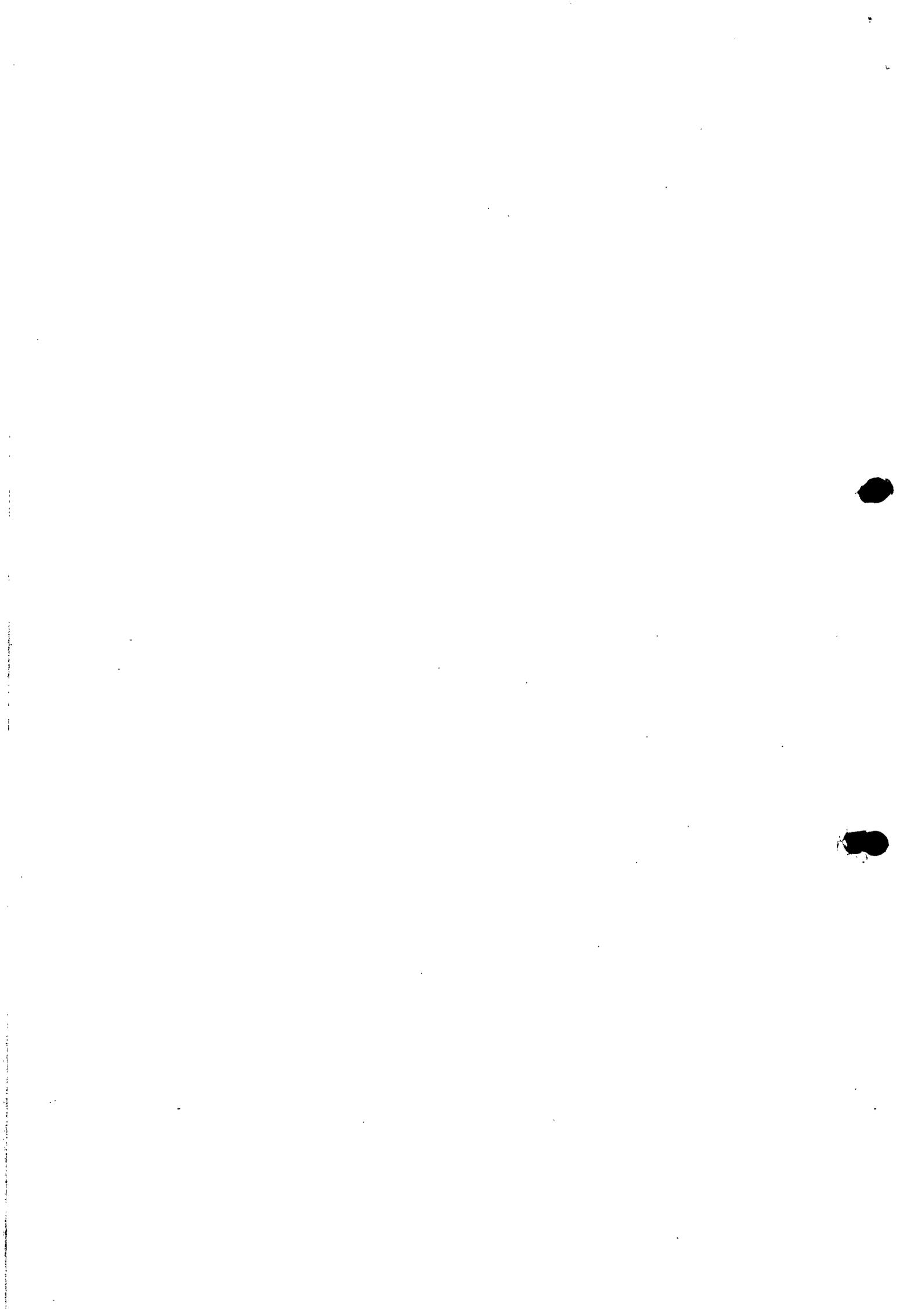
(ii) The following are outside the scope of this Recommendation:

(a) How the messages are generated, sorted and assembled in the PLMN for transmission to the BSS. (This is for the PLMN operator to define).

(b) The Human Machine Interface (HMI) at the MS. (This is for the MS manufacturer to define.)

(c) How, if at all, the service is charged for.

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1. Scope

This recommendation describes the Short Message Service - Cell Broadcast (SMSCB). It defines the message formats over the BSS-MS interface for the Teleservice 23 as specified in GSM Rec 02.03.

2. General Description

SMSCB is a service in which short messages may be broadcast from a PLMN to MS's. SMSCB messages come from different sources (e.g. traffic reports, weather reports). The source and subject of the message is identified by a 3 octet message identifier in the SMSCB header. A sequence number in the SMSCB header enables the MS to determine when a new message of a given source is available. An MS can read the header and then decide whether or not to read the rest of the message.

SMSCB messages of up to 75 characters are sent in plain text (not enciphered), and are not acknowledged by the MS. Reception of SMSCB by the MS is only possible in idle mode, and the service is designed so as to minimise the adverse impact on the operation of DRX in the MS. The geographical area over which each SMSCB message is transmitted is selected by the PLMN operator, by agreement with the provider of the information.

The timing of the messages is defined in GSM Rec 05.02. The specification allows up to about 30 CBSMS messages to be sent every minute.

3. Message Format on BTS-MS Interface

Each SMSCB message is a fixed block of 4 x 23 octets and is sent on the channel allocated as CBCH by GSM 05.02. Each 23 octet block contains 3 octets for layer 2 and layer 3 headers, and 20 octets of SMSCB information. The 4 x 20 octets of SMSCB information consists of a 5 octet header and 75 octets which contain 75 IA5 characters.

3.2 Message Content

The first 23 octet block is coded as follows(using the general coding rules defined in GSM 04 series Recs):

Bit No 8 7 6 5 4 3 2 1

Octet No 1	Length Indicator	
2	Transaction ID	Protocol Discr
3	Message Type	
4-5	Sequence Number	
6-8	Message Identifier	
9-23	Characters 1 to 15 of Message	

The other three 23 octet blocks are coded similarly except that octets 4-23 contain characters N to N+19 of the message where N = 16, 36, 56 for the second, third and fourth blocks respectively.

The fields are used as follows:

- (i) Length Indicator is coded as in GSM Rec 04.06
- (ii) Transaction Identifier is coded in GSM Rec 04.12
- (iii) Protocol Discriminator is coded in GSM Rec 04.08
- (iv) Message Type is coded in GSM 04.12 (4 Blocks)
- (v) Sequence Number is a 16 bit integer which is incremented every time the message with a given message identifier is changed.
- (vi) Message Identifier identifies the source and type of message. Its coding requires Further Study.

The message consists of 75 IA5 characters. The IA5 character set is defined in CCITT recommendation T50 (CCITT Red Book, Volume VII, Fascicle VII.3, October 1984). The International Reference Version (IRV) shall be used. Each IA5 character consists of seven bits b1, b2, b7. A parity bit, b8, shall be added to give overall [even] parity (ie. an [even] number of ones and zeros in the eight bits.). b1 is the least significant bit and b8 the most significant bit.

A table showing the IA5 alphabet is given in the Annex. The precise method of display of messages by an MS is for the operator to specify. However any non printable characters (ie. characters with b6 = b7 = 0, and "DEL") should be replaced by a space in the display.

Further Study is required to identify whether a common alphabet incorporating the accents and special characters used in certain CEPT countries can be created to supersede the International Reference Version for this application.

4. Infrastructure Interfaces

The nature and the detailed specification of the interfaces within the infrastructure require Further Study.

A N N E X

TABLE 11/T.50
International Reference Version (IRV)

					b.	0	0	0	0	1	1	1	1
					b.	0	0	1	1	0	0	1	1
					b.	0	1	0	1	0	1	0	1
						0	1	2	3	4	5	6	7
b.	b.	b.	b.										
0	0	0	0	0	NUL	DLE	SP	0	@	P			p
0	0	0	1	1	SOH	DC1	!	1	A	Q	a		q
0	0	1	0	2	STX	DC2	"	2	B	R	b		r
0	0	1	1	3	ETX	DC3	#	3	C	S	c		s
0	1	0	0	4	EOT	DC4	␣	4	D	T	d		t
0	1	0	1	5	ENQ	NAK	%	5	E	U	e		u
0	1	1	0	6	ACK	SYN	&	6	F	V	f		v
0	1	1	1	7	BEL	ETB	'	7	G	W	g		w
1	0	0	0	8	BS	CAN	(	8	H	X	h		x
1	0	0	1	9	HT	EM	)	9	I	Y	i		y
1	0	1	0	10	LF	SUB	*	:	J	Z	j		z
1	0	1	1	11	VT	ESC	+	;	K	[k		{
1	1	0	0	12	FF	IS4	,	<	L	\	l		
1	1	0	1	13	CR	IS3	-	=	M]	m		}
1	1	1	0	14	SO	IS2	.	>	N	^	n		~
1	1	1	1	15	SI	IS1	/	?	0	_	o		DEL

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A N N E X

TABLE 11/T.50

International Reference Version (IRV)

					b.	0	0	0	0	1	1	1	1
					b.	0	0	1	1	0	0	1	1
					b.	0	1	0	1	0	1	0	1
						0	1	2	3	4	5	6	7
b.	b.	b.	b.										
0	0	0	0	0	NUL	DLE	SP	0	@	P			p
0	0	0	1	1	SOH	DC1	!	1	A	Q	a		q
0	0	1	0	2	STX	DC2	"	2	B	R	b		r
0	0	1	1	3	ETX	DC3	#	3	C	S	c		s
0	1	0	0	4	EOT	DC4	¤	4	D	T	d		t
0	1	0	1	5	ENQ	NAK	%	5	E	U	e		u
0	1	1	0	6	ACK	SYN	&	6	F	V	f		v
0	1	1	1	7	BEL	ETB	'	7	G	W	g		w
1	0	0	0	8	BS	CAN	(	8	H	X	h		x
1	0	0	1	9	HT	EM	)	9	I	Y	i		y
1	0	1	0	10	LF	SUB	*	:	J	Z	j		z
1	0	1	1	11	VT	ESC	+	;	K	[	k		{
1	1	0	0	12	FF	IS4	,	<	L	\	l		|
1	1	0	1	13	CR	IS3	-	=	M	]	m		}
1	1	1	0	14	SO	IS2	.	>	N	^	n		-
1	1	1	1	15	SI	IS1	/	?	O	_	o		DEL

CCITT-T.50

