



SLOVENSKI STANDARD

SIST EN 50320:2001

01-september-2001

Digital audio broadcasting system - Specification of the DAB command set for receivers (DCSR)

Digital audio broadcasting system - Specification of the DAB command set for receivers (DCSR)

Digitales Tonrundfunksystem - Spezifikation des DAB-Befehlssatzes für Empfänger (DCSR)

Système de radiodiffusion sonore numérique - Spécifications du jeu de commande DAB pour le récepteur (DCSR)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 50320:2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

[https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

[9b9e71339a33/sist-en-50320-2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

Ta slovenski standard je istoveten z: EN 50320:2000

ICS:

33.160.20 Radijski sprejemniki Radio receivers

SIST EN 50320:2001 **en**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 50320:2001

<https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001>

EUROPEAN STANDARD

EN 50320

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2000

ICS 33.160.20

English version

**Digital audio broadcasting system
Specification of the DAB command set for receivers (DCSR)**

Système de radiodiffusion sonore
numérique - Spécifications du jeu de
commande DAB pour le récepteur (DCSR)

Digitales Tonrundfunksystem -
Spezifikation des DAB-Befehlssatzes
für Empfänger (DCSR)

iTeh STANDARD PREVIEW

This European Standard was approved by CENELEC on 2000-01-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 206, Consumer equipment for entertainment and information and related sub-systems.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50320 on 2000-01-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2001-05-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2003-01-01

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 50320:2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

<https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001>

Contents

1	General.....	5
1.1	Scope	5
1.2	Structure of DCSR.....	5
2	Reference table	7
3	Responses	8
3.1	accepted.....	8
3.2	rejected.....	8
3.3	interim.....	9
3.4	command_not_implemented	9
3.5	busy.....	10
3.6	syntax_error.....	10
4	Commands and notifications.....	11
4.1	get_receiver_capability.....	11
4.2	notify_receiver_capability.....	12
4.3	tune.....	24
4.4	get_tii.....	25
4.5	notify_tii	27
4.6	select_tii.....	30
4.7	get_pad.....	32
4.8	notify_pad	33
4.9	select_pad	34
4.10	get_figs	36
4.11	notify_fig	42
4.12	select_figs.....	43
4.13	get_channel	44
4.14	notify_channel	46
4.15	select_channel.....	48
4.16	get_selection_status.....	51
4.17	notify_selection_status	52

iTeh STANDARD PREVIEW

(standards.iteh.ai)

[SIST EN 50320:2001](#)

<https://standards.iteh.ai/catalog/standards/sist/8625908f-dh88-4e24-a19e-9b9e71339a33/sist-en-50320-2001>

4.18	search_for_ensemble	54
4.19	notify_search_for_ensemble	59
4.20	set_drc	60
4.21	get_audio_info	62
4.22	notify_audio_info	63
4.23	get_dab_status	64
4.24	notify_dab_status	64
4.25	set_dab_status_auto_notification	68
4.26	get_active_info	71
4.27	notify_active_info	72
4.28	notify_service_following	72
4.29	manufacturer_specific_command	73
4.30	manufacturer_specific_notification	74
4.31	notify_error_message	75
5	Example of DCSR coding	77
6	Guidelines for data fields, reserved for future use (Rfu's) or addition (Rfa's) and table entries, reserved for future definition (Rfd's)	83
7	Glossary	84
8	References	84

ITh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 50320:2001](https://standards.iteh.ai/catalog/standards/sist/en-50320-2001/en-50320-2001)

<https://standards.iteh.ai/catalog/standards/sist/en-50320-2001/en-50320-2001>

1 General

1.1 Scope

This standard describes a command set which should be used to control DAB receivers. The coding of these commands is also described. This command set is intended to be used on different physical bus systems. The coding should be mapped transparently on different physical interfaces.

Selection conflict management, dynamic bandwidth problems and the device addressing are not within the scope of this document.

1.2 Structure of DCSR

The DCSR paper describes the Instruction Set, which consists of three types of messages as follows:

The "Command" is used by a controlling device in order to tell the DAB receiver to perform a certain action, to deliver certain information or to move into a certain state.

The "Response" contains only a quick reaction ($t_1 < 100$ ms, bus transfer time not included) to the "Command", e.g. accepted, rejected, busy. If the final response cannot be provided within 100 ms an interim response shall be sent within 100 ms. t_{1x} shall be zero if no interim response is sent. This response is mandatory and returned to the sender of the command.

The "Notification" contains the entire answer to the "Command". The commands are considered from the DAB receiver point of view. The notifications are sent to the controller or to the specified output.

A new command shall not be sent before the final response of the previous command was received ($t_2 \geq 0$)

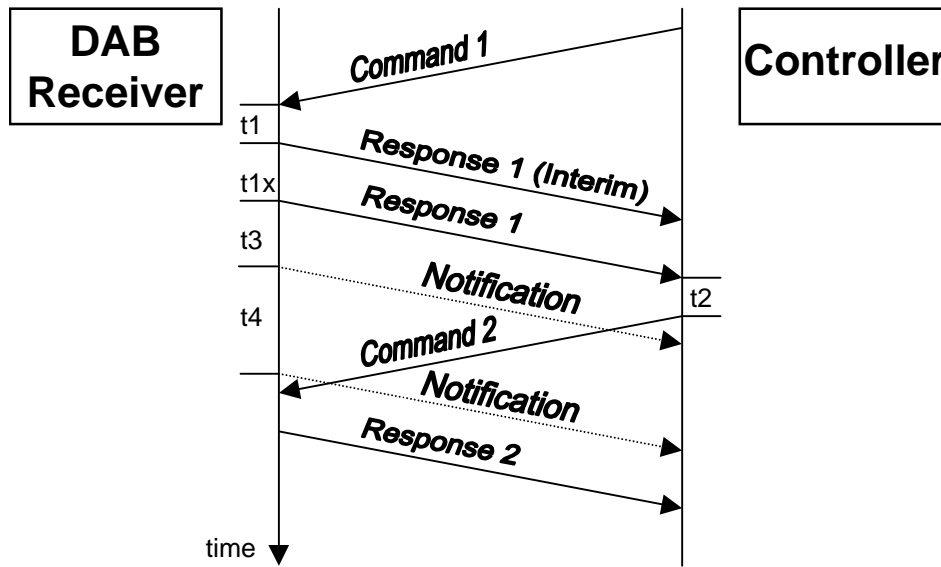


Figure 1 - General command response structure

iTeh STANDARD PREVIEW
(standards.iteh.ai)

NOTE All parameter fields are always present unless otherwise stated.

The DCSR structure is coded as follows:
[SIST EN 50320:2001
 https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

2 bits	6 bits	α bytes
b ₁ b ₀	b ₅ b ₀	b _{α-8-1} b ₀
category_code	reference_code	parameters

2 Reference table

	category code	reference code
get_receiver_capability	0x1	0x01
tune	0x1	0x02
get_tii	0x1	0x03
select_tii	0x1	0x04
get_pad	0x1	0x05
select_pad	0x1	0x06
get_figs	0x1	0x07
select_figs	0x1	0x08
get_channel	0x1	0x09
select_channel	0x1	0x0A
get_selection_status	0x1	0x0B
search_for_ensemble	0x1	0x0C
set_drc	0x1	0x0D
get_audio_info	0x1	0x0E
get_dab_status	0x1	0x0F
set_dab_status_auto_notification	0x1	0x10
get_active_info	0x1	0x11
manufacturer_specific_command	0x1	0x20
accepted	0x2	0x01
rejected	0x2	0x02
interim	0x2	0x03
command_not_implemented	0x2	0x04
busy	0x2	0x05
syntax_error	0x2	0x06
notify_receiver_capability	0x3	0x01
notify_tii	0x3	0x03
notify_pad	0x3	0x05
notify_fig	0x3	0x07
notify_channel	0x3	0x09
notify_selection_status	0x3	0x0B
notify_search_for_ensemble	0x3	0x0C
notify_audio_info	0x3	0x0E
notify_dab_status	0x3	0x0F
notify_active_info	0x3	0x11
notify_service_following	0x3	0x12
manufacturer_specific_notification	0x3	0x20
notify_error_message	0x3	0x30

Category code 0x1: Command
 0x2: Response
 0x3: Notification

3 Responses

3.1 *accepted*

Category:

Response (mandatory)

Purpose:

The receiver indicates to the controller that it is able to start the execution of the command. No `notify_error_message` is allowed to follow, but other notifications may follow.

Syntax:

`accepted ()`

Parameter:

none

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3.2 *rejected*

Category: [SIST EN 50320:2001
https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)
Response (mandatory)

Purpose:

The receiver indicates to the controller that it can not process the command (e.g. parameter out of range).

A `notify_error_message` will follow or in case of a `manufacturer_specific_command` a `manufacturer_specific_notification` (containing the error message) will follow.

Syntax:

`rejected ()`

Parameter:

none

3.3 *interim*

Category:

Response (mandatory)

Purpose:

The receiver indicates to the controller that it can not start executing the command within 100 ms. Subsequent to an initial response of INTERIM, the receiver shall not send any additional INTERIM responses for this command. The receiver shall send a final response when the command execution is started. No further command is allowed before the final response is received.

Syntax:

`interim ()`

Parameter:

none

3.4 *command_not_implemented*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Category:

Response (~~mandatory~~) [SIST EN 50320:2001
s.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

Purpose:

The receiver indicates to the controller that it can not process the command, because this command is not implemented in the receiver.

No notification will follow.

Syntax:

`command_not_implemented ()`

Parameter:

none

3.5 *busy*

Category:

Response (mandatory)

Purpose:

The receiver indicates to the controller that it can not process the command at this time, because the receiver is busy. The controller should send this command again later.

No notification will follow.

Syntax:

busy ()

Parameter:

none

3.6 *syntax_error* iTeh STANDARD PREVIEW (standards.iteh.ai)

Category:

Response (mandatory) [SIST EN 50320:2001
https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

Purpose:

The receiver indicates to the controller that he can not process the command, because there is a syntactical error in the received command (e.g. wrong number of parameters).

No notification will follow.

Syntax:

syntax_error ()

Parameter:

none

4 Commands and notifications

All meaningless command parameters are to be ignored (handled as 'don't care') by the receiver.

4.1 *get_receiver_capability*

Category:

Command (mandatory)

Purpose:

The controller asks the DAB receiver for its capabilities.

Syntax:

`get_receiver_capability ()`

Parameter:

none

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Reaction:

`response(accepted)` [SIST EN 50320:2001
standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)
`notify_receiver_capability(...)`

The receiver provides the receiver capabilities.

`response(rejected)`

`notify_error_message(...)`

`response(interim)`

`response(busy)`

`response(syntax_error)`

4.2 *notify_receiver_capability*

Category:

Notification (mandatory)

Purpose:

The DAB receiver provides its capabilities to the controller.

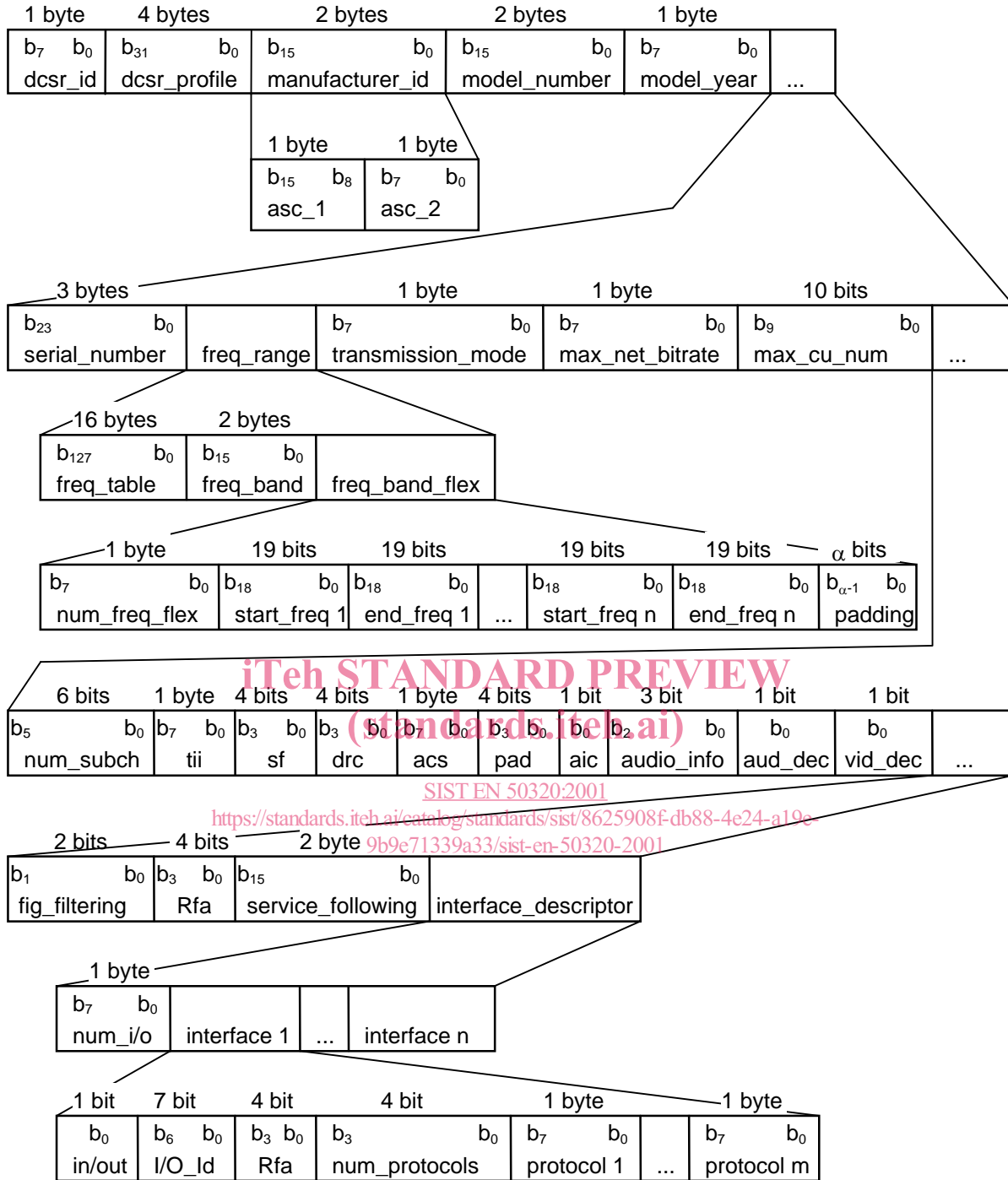
Syntax:

`notify_receiver_capability` (`dcsr_id`, `dcsr_profile`, `manufacturer_id`, `model_number`,
`model_year`, `serial_number`, `freq_range`, `transmission_mode`, `max_net_bitrate`,
`max_cu_num`, `num_subch`, `tii`, `sf`, `drc`, `acs`, `pad`, `aic`, `audio_info`, `aud_dec`,
`vid_dec`, `fig_filtering`, `Rfa`, `service_following`, `interface_descriptor`)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 50320:2001](https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001)

<https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001>



STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 50320:2001

<https://standards.iteh.ai/catalog/standards/sist/8625908f-db88-4e24-a19e-9b9e71339a33/sist-en-50320-2001>