

**ANNEX P**  
**(normative)**

## Coding of RadioText Plus information (RT+)

### P.1 Introduction

RT+ is designed to let the listener (or user) take additional benefit from the RadioText service RT/eRT (see 6.1.5.3 and annex Q), by enabling receivers to offer direct access to specific elements of RadioText messages (e.g. to the title of the currently broadcast song, to news, to telephone numbers such as those used for voting, to web addresses for browsing web content offered by the radio programme provider etc.).

These RT+ messages carried in the RadioText (RT/eRT) messages, are identified by their location within the message and by the class code of their 'RT/eRT content type' (see table P.2). Thus a receiver is able to store the different RT+ messages, and the listener may then select and request a specific content type from the storage at any instant in time that fits the user's needs. The advantage of this method is that a user is no longer forced to watch a lot of information passing by. The listener rather gets the opportunity to select specifically any favourite information to be shown on a static display.

Moreover RT+ gives the possibility to present selected RT/eRT message elements to car drivers on a quasi static display without any major risk of distracting the attention of the driver. Furthermore RT+ is well suited for mobile phones with built-in RDS FM receivers: telephone numbers may be routed directly from the RadioText to the dialer.

RT+ is based on RT/eRT messages and is completely backwards compatible. All additional information, necessary for implementing the RT+ service, is carried as an Open Data Application (see 6.1.4 and 6.1.5.4) in group type 3A and in an associated ODA application group (see table P.1).

The Application Identification (AID) assigned to RT+ is 0x4BD7.

**Table P.1 - RT+ information elements**

RT+ information elements		
RT or eRT message	RT+ identification	RT+ tags
Group type 2A/B or ODA for eRT	Group type 3A	ODA group type A

### P.2 Definitions

**Category:** The 'RT/eRT content types' listed in Table P.2 are grouped in categories: Item (information on programme element), Info (general information services), Programme (information on the programme), Interactivity (related information), Descriptors (places and addresses, date, time, etc.) and Private classes (to be defined by individual broadcasters) and reserved codes for future amendments.

**Descriptor:** A category of 'RT/eRT content types used for describing places and addresses, date and time, specific identifiers, etc.

**Length marker:** Part of the RT+ information element which describes the additional length of the tagged RadioText message (RT or eRT).

**Programme item:** Time-slice of a programme, e.g. a piece of music or a documentary report.

**RT+:** An extension of the RT and eRT RadioText features, which allows storing and filtering of parts of the RadioText messages in the receiver terminal as RT+ objects that then can be displayed, selected and accessed by the listener, also independently from the currently transmitted RadioText messages.

**'RT/eRT content type':** The content of an RT+ message is characterised by an RT+ class code, listed in table P.2. 64 different codes exist in this Table.

**RT+ information elements:** These are all RT+ elements for any given RT+ message, i.e. the RT+ element defined for group 3A, the RT+ ODA application group elements and the corresponding tagged RadioText elements (RT or eRT).

**RT+ message:** The basic information entity that is sent by the broadcaster to the listener. The listener can select the RT+ messages by their content type.

**RT+ content:** The RT+ content consists of one or two tagged RadioText elements (RT in group type 2A/B or eRT as an ODA).

**RadioText:** Feature of RDS for providing a programme with text messages. Two RadioText options exist, RT - using the basic character set and group type 2A/B and eRT – using the extended character set and an ODA defined in annex Q.

**RadioText message:** Text messages that are associated with a programme. One single RT message should be sufficient for complete comprehension by the user.

**Start marker:** Part of the RT+ information element which describes the start position (number found by counting the text character positions within a text string) of the respective tagged RadioText message element (RT or eRT).

### P.3 RT+ tag

When a RadioText message like ‘You are listening to ‘House of the rising sun’ by Eric Burdon’ is sent out, the RT+ information elements ‘Title’ and ‘Artist’ are marked by two RT+ tags.

A RT+ tag consists of three elements:

- a) ‘RT/eRT content type’
- b) Start Marker pointing to the position (inside the RT or eRT message) of the first character of that RT+ message
- c) Length Marker indicating the additional length (in addition to the character at the start position) of that RT+ message

The ‘RT/eRT content type’ is taken from a list with 64 entries (see table P.2).

For the example given above the two tags are as follows:

‘RT/eRT content type’	ITEM.TITLE
Start Marker	22
Length Marker	22

‘RT/eRT content type’	ITEM.ARTIST
Start Marker	50
Length Marker	10

Start Marker and Length Marker can be derived from the following scheme below:

```
You are listening to ‘House of the rising sun’ by Eric Burdon
0----0----1----1----2----2----3----3----4----4----5----5----6---
0----5----0----5----0----5----0----5----0----5----0----5----0---
```

Notes:

1. The addresses of the RadioText characters range from 0 to 63, so the start marker can take the same values.
2. The length marker is ranging from 0 to 63 and from 0 to 31 respectively (see P.5.2).
3. If two RT+ messages are contained in the Radiotext, they shall not overlap.
4. The tag information sent out shall not change during the lifetime of the associated RadioText.

#### P.4 RT+ information elements and data model

The content of RT+ messages is carried in the RadioText (RT/eRT) messages. Their content is described by 'RT/eRT content type' code (see Table P.1) in each RT+ tag.

##### P.4.1 List of 'RT/eRT content types'

The list of defined 'RT/eRT content type' codes is given in Table P.1. There are 64 'RT+ classes' of content type available, which a programme service provider can offer and the listener can select from, each with a specific 'RT+ class'. The classes can be grouped into the following categories:

- a) Item  
The programme is made up of a sequence of programme items<sup>16</sup>), corresponding to an entry in a programme schedule. A programme item may consist again of several programme elements. For all programme elements which can be designated by RT+ classes of the category 'Item' in Table P.1 this specification uses the term 'Item'. In popular music programmes an 'Item' is a song, in a programme with classical music it may be a complete symphony. A speech based programme item may also be assembled from different 'Items'.<sup>17</sup>) Programme elements like 'News' and 'Talk' as shown in 4.3 (example 2 and example 3) are not 'Items', as there do not exist any appropriate RT+ classes of the category 'Item' in Table P.1. An 'Item' can be described by one, several or even all classes of this category, but for the duration of the 'Item', the associated RT+ message of each class can only have a single value, e.g. the RT+ message classified as 'Title' will remain fixed to 'House of the rising sun' until the start of the next song.
- b) Info  
RT+ message of this category carry textual service information that is more or less unrelated to the audio service, but is offering important additional information to the listener, including info about alarms, advertisements and events.
- c) Programme  
'RT/eRT content types' of this category are describing the programme service.
- d) Interactivity  
Telephone numbers, short message text within GSM used for services addressed with SMS numbers, e-mail addresses or web addresses (URLs) are given. The listener may send contributions for chat conversations to a chat centre. These contributions may be broadcast by the radio station. Questions for voting may be sent as RT+ content. The listener may send a response back to the vote centre.
- e) 'Private classes'  
While all other RT+ classes describe precisely the 'RT/eRT content type', also to permit their interpretation by automatic routines within the receiver terminal or by a human user, the 'Private classes' can be freely defined just as required for a specific programme service provider. The interpretation is then dependent on the programme service and does require a template on the receiver terminal. Alternatively, a program provider may supply his customers with special receivers, where the facilities to interpret own 'Private classes' are already built-in. In this particular case no template is required.
- f) Descriptors  
An RT+ message belonging to one of the categories above, can be complemented by an information element of the category 'Descriptor'. Both, shall always be transmitted in the same RadioText just as the corresponding tags in the same application group. As an example: the 'Descriptor' GET\_DATA contains the url-address or the SMS number for retrieving more data describing the RT+ message, the 'Descriptor' is referring to. The listener can then get access to more information for the music item, special news, events etc.

<sup>16</sup> RDS uses the PIN feature to identify programme items

<sup>17</sup> A programme item may consist of only one element (e.g. radio drama) and can also be designated by RT+ classes of the category Item in Table P.2

#### P.4.2 Structures of RT+ messages

For some classes, RT+ messages may be structured by the programme service provider following a general pattern: e.g. results of football matches may be given as 'RT/eRT content type' INFO.SPORT with two parts, one indicating the match and the other the result.

*'Bayern München:AC Milano 5:5'*

This specification generalises the scheme given above as follows:

The two different parts are separated by two or more consecutive space characters<sup>18</sup> – i.e. redundant spaces. The redundant spaces serve as a delimiter between these two parts. The first part is called the 'Key Word' and will be used primarily for explanation of the text which follows.

The key word carries an explanation for the user, whereas the second part may also carry a phone number, the SMS- or MMS-number or the email address to be contacted.

This scheme permits an advanced receiver to accumulate all information (carried in the sequence of RT+ messages of the same 'RT/eRT content type') and then to build one table for presentation to the user. This scheme may be used for the categories 'Info', 'Programme' and 'Interactivity', and shall not be used for the categories 'Item' and 'Descriptor' (see Table P.1 for the specific RT+ classes, identified with note 4).

For explanation, the following examples are given for different classes, first lines indicating the structure, and then a line giving a specific example:

- INFO.STOCKMARKET  
[Name\_\_Latest value in €] or more extended:  
[Name\_\_Latest value in €\_\_Change\_\_High\_\_Low\_\_Volume] e.g.  
*'Nokia\_\_12.27\_\_0.41\_\_12.31\_\_12.15\_\_23,332,238'*
- INFO.SPORT  
[Match\_\_Result] or more extended:  
[Kind of Sport\_\_Match\_\_Result] e.g.  
*'Football\_\_Bayern München:AC Milano\_\_5:5'*
- INFO.WEATHER  
[Description\_\_Temperature] e.g.  
*'Raining\_\_16 Grad C'* or  
*'Munich\_\_23 Grad C'*
- Interactivity  
PHONE.OTHER  
[Description\_\_Phone Number] e.g.  
*'Deutsches Museum\_\_089323990'*

If it makes sense that elements may be omitted from the right in a given structure (e.g. INFO.STOCKMARKET: *'Nokia\_\_12.27\_\_0.41\_\_12.31\_\_12.15'*)

---

<sup>18</sup> In the examples given in this text a space character is represented by the symbol '\_\_\_'.

Alternatively the description of the classes PHONE.OTHER, SMS.OTHER, EMAIL.OTHER and MMS.OTHER may be put into tag 1 and the second part, i.e. the phone number or the address, will be put into tag 2. This gives then the text editor more freedom to introduce some additional glue words in the RadioText message.

Example: *'The match Bayern München:AC Milano ended 5:5'*

Note:

*RadioText messages may contain several space characters for optimizing the layout in static displays. However, if the RT messages are used in context with a RT+ service, redundant spaces in parts marked by RT+, are only allowed for the purpose of delimiting two or more parts of the RT+ content.*

### P.4.3 Receiver data model

The RT+ feature is designed to allow a broad range of receiver models with different display capabilities and memory complexity to be used. The broadcaster may provide special radio skins (templates) for presenting RT+ information on the receiver display. Each programme provider may deposit various templates for different programme types on a web server<sup>19</sup>. This web server can be addressed by the receiver for downloading a particular template (see also P.5.1). This requires the receiver to be able to download actively external data (pull information by unicast, e.g. using a telephone connection).

A simple receiver will store a small selection of 'RT+ classes' only. The storage will contain only the current content of the 'RT+ classes'. The storage of a given class will be overwritten by a new version of that same class. The receiver may offer a choice to the listener to enable a selection of any particular 'RT+ class' to be presented on the display. For example a listener may want to see one or several 'RT+ classes' of the category 'Item' simultaneously, i.e. 'Title' and 'Artist' of the currently received 'Item'.

More complex receivers will store not only the current content of several classes, but will use a memory to keep the information collected during the past. For reviewing then the list of earlier received 'Items', it is essential for the receiver that it can combine the different RT+ information elements (received at different times) correctly, so that elements of different 'Items' are not mixed. For that purpose an 'Item toggle bit' changes every time a new 'Item' starts and the 'Item running bit' indicates whether the 'Item' is still running. Both bits are sent continuously together with every pair of the RT+ tags.

The following examples show the setting of the 'Item toggle bit' and the 'Item running bit' for different audio sequences.

#### Example 1:

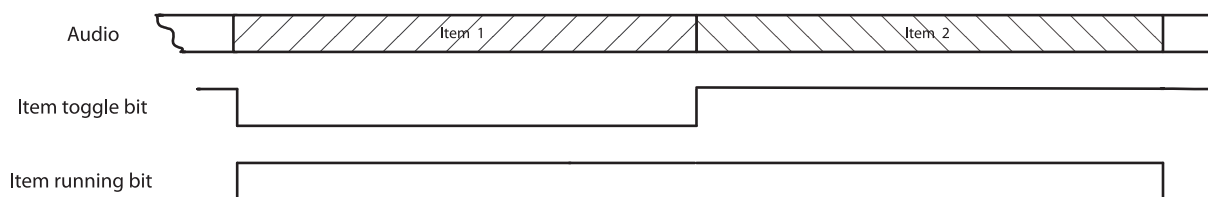
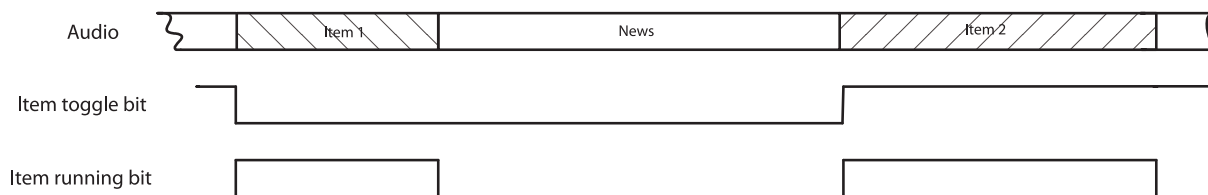
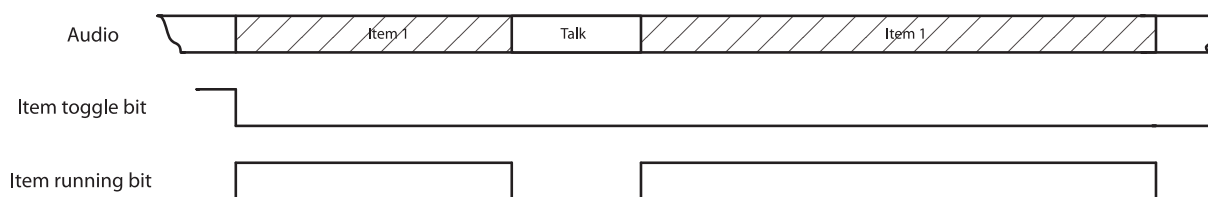


Figure P.1 - RT+ information of the category 'Item' (see Table P.2) will be attached to the programme elements Item 1 and Item 2

<sup>19</sup> To be defined

Example 2:

*Figure P.2 - RT+ information of the category 'Item' will be attached to the programme elements Item 1 and Item 2, but not to the programme element News*

Example 3:

*Figure P.3 - RT+ information of the category 'Item' will be attached only to the programme element Item 1, but not to the programme element Talk*

Receivers can provide more convenience by assembling an ordered cumulative list of all RT+ content of a specific class, e.g. the class INFO.SPORT may be displayed as a list of the football match results. This is easy to implement for those classes of the category 'Info', that use redundant space characters as a delimiter between several parts of the text. The first part, the keyword, can be then used to establish a table which is ordered according to the keywords. Updating is also possible, if the keyword is not changed.

Note:

1. The broadcaster may set the 'Item toggle bit' and the 'Item running bit' as required.
2. The default setting for both, the 'Item toggle bit' and the 'Item running bit', is '0'. However, in such a case no specific RT+ information can be attached to any of the 'Items' by the receiver.

**P.5 Coding RT+ in ODA groups**

To transmit the RT+ tags, the ODA feature (see 6.1.4 and 6.1.5.4) is used and the necessary details are being defined by this particular section.

The message bits of group type 3A carry control data for the application. The tag information, to identify the RT+ messages within the RadioText, is carried by the RT+ ODA application group. Only type A groups can be used.

**P.5.1 RT+ identification (Group type 3A)**

The coding of the message bits in group type 3A and the Application Identification (AID) for the ODA RT+ is shown in figure P.4.

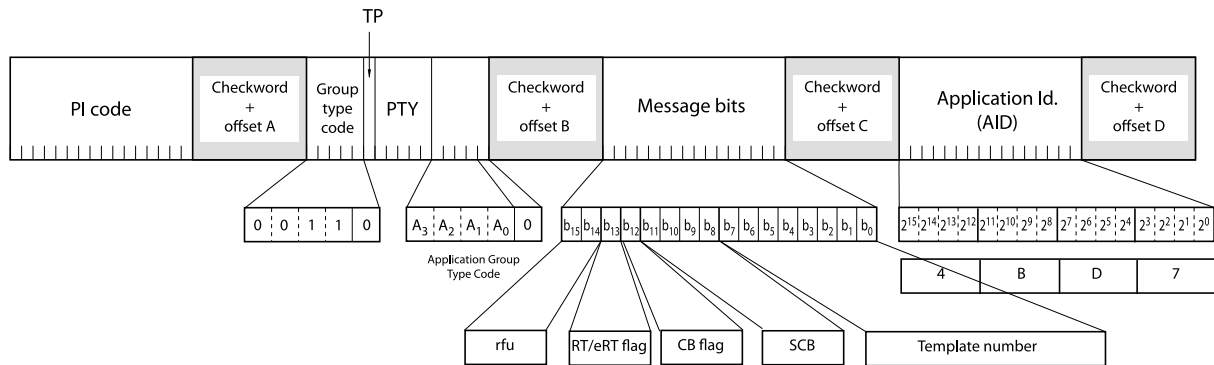


Figure P.4 - Bit allocation for group 3A (message bits and AID)

#### Application group type code:

The group type for transmitting the RT+ application data can be chosen from section 3.1.4.1, table 6. The group type code is signaled in block 2 of the 3A group.

The meaning of the message bits of group type 3A is as follows:

- a) rfu  
Reserved for future use, and not affecting any of the functions of the other bits. The rfu bits shall be set to zero until they are defined.
- b) RT/eRT flag  
If this bit is set to '0', then the RT+ information applies to RT in group type 2A/B (see 6.1.5.3) and if set to '1', it applies to eRT, using the ODA feature specified in annex Q.
- c) CB flag  
The CB flag gives the information, if there is a template available for the ongoing programme. The template may already be present in the receiver (downloaded previously) or can be downloaded currently, if the user wants it. The identification of the desired template is accomplished by sending back from the receiver terminal to the web server the PI code (and if possibly also the extended country code), the 'Server Control Bits' and the 'Template number'.  
If the CB flag is set to '0', no special radio skin (template) is available and 'Server Control Bits' and 'Template number' bits are reserved for future use.  
If the CB flag is set to '1', a special radio skin (template) is available for the ongoing transmission.
- d) Server Control Bits (SCB)  
It may occur, that the same PI code is used repeatedly within a national area (e.g. for local programme stations far away from each other). In these cases the Server Control Bits are used to distinguish between programmes using the same PI code.

#### Note:

The Server Control Bits are allocated by the operator of the web server.

- e) Template number  
The Template number gives the number of a specific template, out of a choice of templates provided by the broadcaster. Up to 256 templates per programme service can be addressed.

**P.5.2 Coding of the RT+ tag**

In the message bits of the RT+ application group two RT+ tags are conveyed. All ‘RT+ classes’ or ‘RT/eRT content types’ can be put into the one or the other tag of the application group. If an RT+ message contains more than 32 characters, the associated tag information shall be coded in tag 1. Content types of the category ‘Descriptor’ are always referring to the content type in the other tag (in the same application group) and this gives then additional information.

The start addresses in the tags may be chosen according to the needs during the RT generation. Therefore the sequence of the tags in the application group does not determine the sequence of the information elements in the RT.

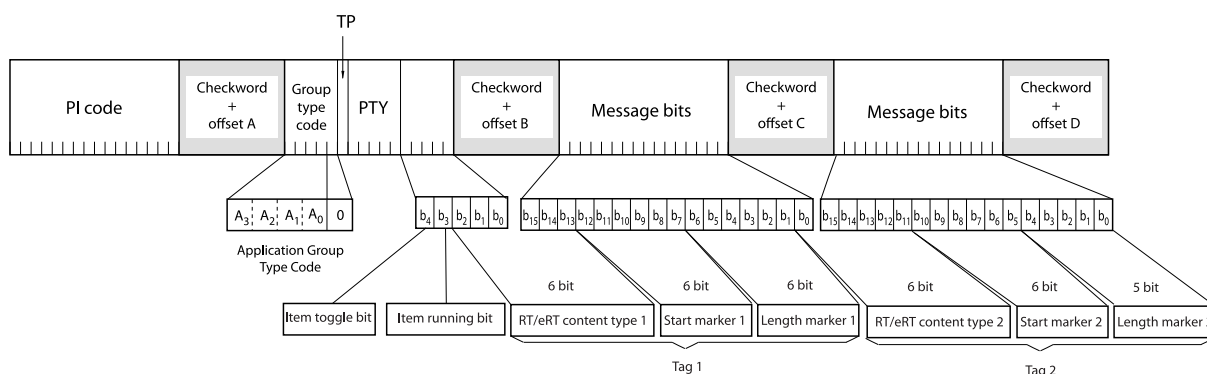


Figure P.5 - Coding of the message bits of the application group

The meaning of the message bits is as follows:

- a) ‘Item toggle bit’  
This bit shall be toggled when a new ‘Item’<sup>20</sup> starts.
- b) ‘Item running bit’  
This bit shall be set to 1 if an ‘Item’ is running. Otherwise it shall be set to 0.

Notes:

1. The ‘Item toggle bit’ and the ‘Item running bit’ will be set or reset independently from the tag information sent out currently.
  2. In the receiver these two bits may be used to group all ‘RT/eRT content types’ of the category ‘Item’ sent for one item and store them in memory (subsequently for several items) or, when storing and presenting information for only one item, to delete all information belonging to the elapsed item before starting to gather information for the new one.
  3. Even though not intended by this specification, these bits may be used for recording purposes.
- c) ‘RT/eRT content type’  
This 6 bit value specifies the tags by assigning to them a content type according to the ‘RT+ class’ codes given in table P.2. If only one RT+ information element (tag) is used, then the content type in the second tag shall be set to ‘Dummy’. If no RT+ information element is existing the content type in both tags shall be set to ‘Dummy’. In both cases, the bits in the start and length markers are then undefined.
  - d) Start marker  
This 6 bit value indicates the position of the first character of the RT+ message within the RadioText. (Start marker 0: means the first character in the RadioText)

<sup>20</sup> Item means a specific programme element (see also P.3.1 and table P.2)

## e) Length marker

This 6 bit (or 5 bit for length marker in tag 2) value gives the additional length (number of characters following the first character at the start position) of the RT+ message.

*Note:*

*As it is not permitted that RT+ messages overlap, only one element can comprise more than 32 characters and 5 bits are then sufficient for coding the length marker in tag 2.*

**P.5.3 Clearing of RT+ messages**

There is no specific clear command. Clearing will be done by overwriting the content of a ‘RT+ class’ with one or more space(s) taken as RT+ messages out of the current RadioText. This assumes, that the current RadioText contains at least one space character and at least one tag is unused and available to address the class to be cleared.

Example:

Hotline: 0123456677

0----0----1----1----2----2----3----3----4----4----5----5----6----  
0----5----0----5----0----5----0----5----0----5----0----5----0----

‘RT/eRT content type’	PHONE.HOTLINE
Start Marker	9
Length Marker	9

‘RT/eRT content type’	INFO.NEWS
Start Marker	8
Length Marker	0

The second tag information (transmitted simultaneously with the RadioText ‘Hotline: 0123456677’) will cause to delete the previously sent message of the class INFO.NEWS

*Note:*

*If a class of the category ‘Item’ is cleared, all classes of category ‘Item’ shall be cleared.*

**P.6 Broadcasting conventions**

When RT+ information is generally available, 3A type groups shall be transmitted at least every 10 seconds. During the lifetime of a RadioText RT/eRT containing RT+ messages application groups carrying the tags, shall be sent with a minimum frequency of 0.5 groups per second. The tag information sent out shall not change during the period of the associated RadioText (‘Item toggle bit’ and ‘Item running bit’ may change).

The RT A/B flag (for RT only and not used for eRT) shall be toggled when the RadioText changes. The RT+ tag information for the application group shall be sent to the RDS encoder immediately after the new RadioText.

**P.7 Receiving conventions**

When the receiver detects a change in the RadioText A/B flag (indicating a new message) RadioText decoding and decoding of RT+ tags may start simultaneously and RT+ information elements may be displayed or stored, once the corresponding part of the RT RadioText is received completely error-free.

The different ‘RT+ classes’ may be stored and then be displayed automatically or when the user retrieves a certain ‘RT/eRT content type’. For certain content types it may make sense to save more than the current or the last information in the memory ( e.g. a list of the ‘Titles’ belonging to the last 10 ‘Items’).

Depending on the reception conditions, it may be necessary to evaluate the tag information of a few application groups before decoding RT+ information.

**P.8 Marking**

Equipment implementing RadioText Plus should be marked with the designation 'RT+'.

**Table P.2 – Code list and ‘RT+ class’ description of ‘RT/eRT content types’**

Category	Code <sup>1</sup>	RT+ class	Description
<b>Dummy</b>	0	DUMMY_CLASS	To assign a class if the RadioText contains no RT+ information
<b>Item</b>	1	ITEM.TITLE <sup>2</sup>	Title of item, e.g. track title of an album
	2	ITEM.ALBUM <sup>2</sup>	The collection name to which this track belongs
	3	ITEM.TRACKNUMBER <sup>2</sup>	The track number of the item on the album on which it was originally released
	4	ITEM.ARTIST <sup>2</sup>	A person or band/collective generally considered responsible for the work
	5	ITEM.COMPOSITION <sup>2</sup>	A complete composition (Classical Music broadcasters should use this item to identify the composition)
	6	ITEM.MOVEMENT <sup>2</sup>	A movement is a large division of a composition or musical form (Classical Music broadcasters should use this item to identify the movement)
	7	ITEM.CONDUCTOR <sup>2</sup>	The artist(s) who performed the work. In classical music this would be the conductor
	8	ITEM.COMPOSER <sup>2</sup>	Name of the original composer/author
	9	ITEM.BAND <sup>2</sup>	Band/orchestra/accompaniment/musician
	10	ITEM.COMMENT <sup>2</sup>	Any comment related to the content
	11	ITEM.GENRE <sup>2</sup>	The main genre of the audio, e.g. ‘classical’, ‘hip-hop’, ‘jazz’, ‘oldies’, ‘drama’, etc.
<b>Info</b>	12	INFO.NEWS	Message / headline
	13	INFO.NEWS.LOCAL	Local news
	14	INFO.STOCKMARKET <sup>4</sup>	Quote information; either as one part or as several distinct parts: ‘name latest value __change high __low __volume’ <sup>3</sup>
	15	INFO.SPORT <sup>4</sup>	Result of a game; either as one part or as several distinct parts: ‘match __result’, e.g. ‘Bayern München : Borussia __5:5’
	16	INFO.LOTTERY <sup>4</sup>	Raffle / lottery: ‘key word __values’
	17	INFO.HOROSCOPE <sup>4</sup>	Horoscope; either as one part or as two distinct parts: ‘key word __text’, e.g. ‘sign of the zodiac __blablabla’
	18	INFO.DAILY_DIVERSION	Daily tip / diversion / joke ...
	19	INFO.HEALTH <sup>4</sup>	Information about health: ‘key word __info’
	20	INFO.EVENT	Info about an event
	21	INFO.SCENE	Information about scene (hot locations to be, ...)
	22	INFO.CINEMA	Information about movies in cinema
	23	INFO.TV	Information about TV-movies
	24	INFO.DATE_TIME	Information about date and time (receiver to choose between date and time). Not CT (Clock Time); shall not be used to set the internal clock of a device
	25	INFO.WEATHER <sup>4</sup>	Information about weather; either as one part or as two distinct parts: ‘key word __info’, e.g. ‘Rain __17C’
	26	INFO.TRAFFIC	Information about traffic. This shall not replace TMC but rather alert users in case of exceptional traffic news
	27	INFO.ALARM	Alarm information
	28	INFO.ADVVERTISEMENT	Info about an advertisement. May be in parallel to an audio advertisement
	29	INFO.URL <sup>4</sup>	Link to url; either as one part or as two distinct parts: ‘key word __url’
	30	INFO.OTHER <sup>4</sup>	Other information, not especially specified: ‘key word __info’

**Notes:**

<sup>1</sup> This is the code to be used for ‘RT/eRT content type’ (see P.5.2); the decimal code must be converted to the corresponding binary code

<sup>2</sup> For this RT+ class a corresponding MP3 ID3v2 tag exists

<sup>3</sup> \_ = space; two or more consecutive spaces act as a separator between several parts of the RT+ message (see P.4.2)

<sup>4</sup> For this RT+ class, the RT+ message may be structured as described in P.4.2

Table P.2 is continued on the next page

Table P.2 continued from the previous page

Category	Code <sup>1</sup>	RT+ Class	Description
<b>Pro-gramme</b>	31	STATIONNAME.SHORT	Name describing the radio station (call letters)
	32	STATIONNAME.LONG	Name describing the radio station
	33	PROGRAMME.NOW	EPG info programme now
	34	PROGRAMME.NEXT	EPG info programme next
	35	PROGRAMME.PART	Part of the current radio show; e.g. one or more part of the PROGRAMME.NOW
	36	PROGRAMME.HOST	Name of the host of the radio show
	37	PROGRAMME.EDITORIAL_ STAFF	Name of the editorial staff; e.g. name of editorial journalist
	38	PROGRAMME.FREQUENCY <sup>4</sup>	Information about radio shows. A link towards another frequency with other content (not AF list). May be one part or two distinct parts: 'key word <u>   </u> frequency'
	39	PROGRAMME.HOMEPAGE <sup>2</sup>	Link to radio station homepage
	40	PROGRAMME.SUBCHANNEL <sup>4</sup>	For so-called multicasting applications; may be one part or two distinct parts: 'key word <u>   </u> sub-channel'
<b>Inter-activity</b>	41	PHONE.HOTLINE	The telephone number of the radio station's hotline
	42	PHONE.STUDIO	The telephone number of the radio station's studio
	43	PHONE.OTHER <sup>4</sup>	Name and telephone number; either as one part or as two distinct parts: 'key word <u>   </u> phone number'
	44	SMS.STUDIO	The sms number of the radio station's studio (to send directly a sms to the studio)
	45	SMS.OTHER <sup>4</sup>	Name and sms number; either as one part or as two distinct parts: 'key word <u>   </u> sms number'
	46	EMAIL.HOTLINE	The email address of the radio station's hotline
	47	EMAIL.STUDIO	The email address of the radio station's studio
	48	EMAIL.OTHER <sup>4</sup>	Name and email address; either as one part or as two distinct parts: 'key word <u>   </u> email address'
	49	MMS.OTHER <sup>4</sup>	Name and mms number; either as one part or as two distinct parts: 'key word <u>   </u> mms number"
	50	CHAT	chat content: sent by users to a specific address and broadcast by the radio station
	51	CHAT.CENTRE	Address, where replies to the chat shall be sent (may be url or sms)
	52	VOTE.QUESTION	A question (typically binary) which can be answered by 'yes' or 'no' or '1' or '2'
	53	VOTE.CENTRE	url or sms number to send the answer to
<b>rfu</b>	54		Class reserved for future use
	55		Class reserved for future use
<b>Private classes <sup>5</sup></b>	56		
	57		
	58		
<b>De-criptor <sup>6</sup></b>	59	PLACE	Adds info about a location
	60	APPOINTMENT	Adds info about date and time
	61	IDENTIFIER <sup>2</sup>	For music it is the International Standard Recording Code ( <a href="http://www.ifpi.org/isrc/">http://www.ifpi.org/isrc/</a> )
	62	PURCHASE <sup>2</sup>	Address where item can be purchased, can be an url or a sms-number
	63	GET_DATA	Retrieves either via an sms or url-link more data about the other RT+ message of the same RadioText message. (Info request via point to point - unicast)

**Notes:**<sup>1</sup> This is the code to be used for 'RT/eRT content type' (see P.5.2); the decimal code must be converted to the corresponding binary code<sup>2</sup> For this RT+ class exists a corresponding MP3 ID3v2 tag<sup>4</sup> For this RT+ class the RT+ message may be structured as described in P.4.2<sup>5</sup> 'Private classes' may be defined by the service provider (see P.4.1)<sup>6</sup> Descriptor will always define the other RT+ message of the same RadioText message