NATIONAL RADIO SYSTEMS COMMITTEE

NRSC-G200-A
Harmonization of RDS and IBOC Program Service Data (PSD) Guideline
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FOREWORD

The NRSC-5-A Standard is based upon the in-band/on-channel (IBOC) digital radio technology developed by iBiquity Digital Corporation and marketed under the trade name "HD Radio." The system described by NRSC-5-A is capable of transmitting various services including audio services and data services. Data transmitted in the Main Program Service (MPS) and Supplemental Program Service (SPS) portions of the signal are typically items associated with the corresponding audio program material, including such information as artist name, song title and station information (aka "Program Specific Data or PSD," or "Program Associated Data or PAD").

The NRSC-4-A Standard (aka "the RBDS Standard") is based upon the European RDS Standard and defines a method for text and data transmission over the RDS FM data subcarrier. Like IBOC, RDS information includes items such as artist name, song title, and station information.

The RadioText Plus (RT+) Standard V2.1 is a product of the RDS Forum (www.rds.org.uk), with input from U.S. broadcasters to accommodate North American requirements. RDS RT+ adds a facility for RT text buffer field extraction. For example, a short RT+ message can identify the start and end of the artist and title information in the RT buffer. This mirrors a similar capability supported in NRSC-4-A (see Annex U). However, RT+ is recommended over Annex U as a more universal solution (supported both in Europe and North America).

When a broadcaster uses both IBOC and RDS text transmission methods, and when an IBOC receiver then decodes both IBOC and RDS text messages, the issue of consistency between these messages (which are related to the same audio material) must be considered. A common situation is that of the IBOC mobile receiver moving from the digital coverage area to the analog coverage area; the mobile device stops receiving IBOC text and typically switches to displaying RDS text which it continues to receive while in the analog coverage area of the signal.

Ideally, the listener will not notice that text from two different data systems (i.e. IBOC and RDS) is being displayed, but rather will perceive one seamlessly integrated information service regardless of whether the current text message is derived from RDS or IBOC.

This document discusses specific text message features of the IBOC and RDS Standards, and defines an intended usage that will allow the broadcaster to send, and the receiver manufacturer to display, common information independent whether the data signal is being received from IBOC or RDS. This is a "Guideline" document, and as such is not required for compliance to any standard. However, it is hoped that broadcasters, automation software vendors, transmission equipment manufacturers, and consumer electronics manufacturers will find the clarifications in this document useful.

The information contained in this NRSC Guideline is the work of the DRB Subcommittee of the NRSC, co-chaired by Mike Bergman, Kenwood, Americas Corporation, and Andy Laird, Journal Broadcast Group. The NRSC chairman at the time of adoption of NRSC-G200 was Milford Smith, Greater Media, Inc.

The NRSC is jointly sponsored by the Consumer Electronics Association and the National Association of Broadcasters. It serves as an industry-wide standards-setting body for technical aspects of terrestrial over-the-air radio broadcasting systems in the United States.

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HARMONIZATION OF RDS AND IBOC PROGRAM SERVICE DATA (PSD) GUIDELINE

1   SCOPE

This is an informative Guideline document which sets forth the recommendations for harmonization between RDS data (described by NRSC-4-A and the RT+ Specification V2.1) and IBOC Program Service Data (PSD) using MPS, SPS and SIS data (described by NRSC-5-A). This document does not cover text sent via NRSC-5-A Advanced Application Services (AAS).

2   REFERENCES

2.1   Normative References

This is an informative specification. There are no normative references.

2.2   Informative References

The following references contain information that may be useful to those implementing this Guideline document. At the time of publication the edition indicated was valid. All standards are subject to revision, and users of this Guideline document are encouraged to investigate the possibility of applying the most recent editions of the standards listed below.

[1]   NRSC-4-A   United States RBDS Standard

[2]   NRSC-5-A   In-band/on-channel Digital Radio Broadcasting Standard, September 2005

[3]   SY_IDD_1017s rev. E   HD Radio™ Air Interface Design Description – Audio Transport, iBiquity Digital Corporation, 3/31/05

[4]   SY_IDD_1020s rev. E   HD Radio™ Air Interface Design Description – Station Information Service Protocol, iBiquity Digital Corporation, 2/18/05

[5]   SY_IDD_1028s rev. C   HD Radio™ Air Interface Design Description – Main Program Service Data, iBiquity Digital Corporation, 3/31/05

[6]   ISO 646:1991   Information Processing -- 7-bit Coded Character Set for Information Interchange. Geneva: International Organization for Standardization, 1991

[7]   ISO 8859-1   Information Technology – 8-bit Single-Byte coded Graphic Character Sets – Part 1: Latin Alphabet No. 1

[8]   IEC 62106   Specification of the radio data system (RDS) for VHF/FM sound broadcasting in the frequency range from 87,5 to 108,0 MHz

[9]   R06/040_1   RadioText Plus (RT+) Specification V2.1

[10]   ID3V2.4.0   Martin Nilsson, "ID3V2.4.0 Native Frames", www.id3.org

2.3   Informative Reference Acquisition

Documents [1]-[5] are distributed free of charge via the NRSC website at: www.nrscstandards.org.

Documents [6]-[8] are international standards and may be obtained for a fee at http://global.ihs.com.

Document [9] is available from the RDS Forum; they may be contacted at www.rds.org.uk.

Document [10] is available as a free download at www.id3.org.

2.4   Symbols and Abbreviations

In this Guideline the following abbreviations are used:

Character Set	The displayable images corresponding to the 256 possible values of a one byte character
FCC	Federal Communications Commission (U.S.)
FM	Frequency Modulation
IBOC	In-Band/On-Channel
MPS	Main Program Service
MPSD	Main Program Service Data
N/A	Not Applicable
NRSC	National Radio Systems Committee
PIDS	Primary IBOC Data Service Logical Channel
PSD	Program Service Data
RBDS	Radio Broadcast Data System
RDS	Radio Data System
RF	Radio Frequency
RT	RadioText
RT+	RadioText Plus
SIDS	Secondary IBOC Data Service Logical Channel
SIS	Station Information Service
SPS	Supplemental Program Service
SPSD	Supplemental Program Service Data
TBD	To Be Determined

2.5   Definitions

In this Guideline the following definitions are used:

HD Radio™	Trademark (of iBiquity Digital Corporation) for the digital AM and digital FM transmission technology authorized by the FCC. Note that the use of the term "HD Radio" in the NRSC-5-A Standard and its normative references shall be interpreted as the generic term "IBOC" for the NRSC-5 compliant system and shall not be construed as a requirement to adhere to undisclosed private specifications that are required to license the HD Radio name from its owner.

Program Service (PS)   As defined by the RBDS Standard, the PS data field comprises eight characters. It is the primary aid (under RDS) to listeners in program service identification and selection.

RadioText (RT)   As defined by the RBDS Standard, RT is a message type to be used for transmitting up to a 64 character text message.

RadioText Plus (RT+)   As defined by R06/040_1 [9], a facility to extract certain fields from the RT buffer.

RDS   Radio Data System is an industry-standard method for transmitting low bit-rate data (~1187 bps) over an FM subcarrier.

3   GENERAL TEXT HANDLING INFORMATION

Text in IBOC is transmitted in several ways, as explained in NRSC-5-A. It can be sent via SIS, via the audio service's Program Service Data (PSD) service (i.e. through MPS or SPS), or through the generalized Advanced Application Services (AAS) data service.

Likewise, text in RDS is sent through more than one path. It can be sent as various fields including PS and RT, or a reference to a look-up table may be involved, as in the case of PTY.

Since a number of text items are common to both systems, a station which transmits both RDS data and IBOC PSD/SIS data should use a common format for common items. The following sections list these items and the recommended handling.

3.1   Transmitted Character Sets and Receiver Display Character Sets

RDS and IBOC transmit 8-bit bytes to represent characters. The character bytes are translated according to one of several "character set" translation specifications. The character set is the set of 255 images corresponding to all possible values of a byte. This is distinguished from a "font set" in that a font set is a specific design of a character set. Many font sets could map to one character set, but only one character set can map to a specific font set. Typically a receiver supports one or more character sets for display purposes. For example, HD Radio supports both the ISO 646 and the ISO 8859-1 character sets.

The three relevant documents which describe character sets are ISO 646:1991 [6], also known as ASCII; ISO 8859-1 [7], the most common character set in use for U.S. PC applications; and, the RBDS standard Annex E [1].

When a byte is transmitted via IBOC or RDS, the receiver needs to use the correct character set (typically implemented in hardware as a look-up table) based on the transport used (RDS, IBOC SIS, IBOC MPSD, or IBOC SPSD) and the byte value itself. Table 1 shows the preferred transport and character set choices.

Table 1. Preferred transport and character sets for RDS and IBOC

If it comes from:	*Use this character set for 7-bit chars*	*Use this character set for 8-bit chars*
RDS	ISO 646 (English or Common)	RBDS E.1 (same as RDS)
IBOC SIS	As specified in [4]	As specified in [4]
IBOC MPSD	ISO 8859-1	ISO 8859-1
IBOC SPSD		

Note that there are differences in the character set between NRSC-4-A Annex E [1] and European RDS Annex E [8]. In particular, character 0x24 is a currency symbol, and should be represented as "$" (dollar sign) in North American implementations.

Note also that RDS/RT+ supports tags up to 64 characters in length (see [9], section 3). NRSC-5-A IBOC supports strings up to 128 characters and longer in some cases. However, many receivers limit string lengths to 64 characters—even 32 in some cases—and the broadcaster is advised to consider the effect of text truncation in the receiver. If truncation is not a severe concern, a reasonable compromise would be 64. As consumers adopt increasing numbers of IBOC receivers, this becomes less of a concern.

3.2 Extracting Text Strings from Transports

On receipt, the receiver must extract the appropriate string from the transport. Each transport specification has details on this process. For example, the *Comment* field can be sent by IBOC MPSD, IBOC SPSD, or RDS. In the two IBOC cases, the ID3 structure is defined [10] as follows:

```
<Header for 'Comment', ID: "COMM">
Text encoding           $xx
Language                $xx xx xx
Short content descrip.  <text string according to encoding> $00 (00)
The actual text         <full text string according to encoding>
```

Details of the transport and such structures are left to the referenced specifications in this document. The harmonization between the various transports in the next sections are only considered after all transport-specific details have been removed, and the actual payload text is considered. Therefore, in the above example, the portion under consideration here is the actual text (i.e., the final line in the above example).

Note that IBOC supports MPSD/SPSD fields as listed below using ID3 V2.3 format tags. However, the format does not use the "unsynchronisation (sic) scheme" (also sometimes referred to as "sync-safe"; see [10], Section 5, "The 'unsynchronisation scheme'). This detail is important to the receiver in unpacking ID3 tag text from the full ID3 tag structure in that the receiver, on encountering a false sync field in the MPSD/SPSD fields, will not find the 00000000 pattern described in [10] Section 5. The comments in this paragraph do not apply to IBOC SIS fields or to RDS/RT+ fields.

4   TEXT HANDLING FOR SPECIFIC FIELDS

This section defines text handling recommended guidelines for specific fields. Note that recommended guidelines for IBOC MPSD and IBOC SPSD are identical. Some of these fields are supported by Annex U of NRSC-4-A but details are not provided within this document since RT+ is the preferred approach for harmonization of IBOC and RDS. Table 2 gives a summary of harmonization between RDS and IBOC text.

4.1   Title Field

The *Title* field is generally used for the title of the current audio piece, *e.g.*, song title. For non-music content (*e.g.*, News/Talk programming) program providers may typically insert suitable "topic," "program name," or other information descriptive of the current subject matter of the spoken content.

Description: *Title* is a one-line title name.
Comment: *Title* was inherited from TIT2 in ID3V2.3.0.
Format: *Title* is human-readable text in 8-bit character format. Null characters should not be transmitted.
RDS: *Title* should be sent as ITEM.TITLE as defined in [9].
IBOC SIS: Not supported
IBOC MPSD: *Title* is sent via attribute Title (ID3 tag TIT2).
IBOC SPSD: (same as IBOC MPSD)
On receipt: The receiver selects the appropriate character set as shown in Table 1.

4.2   Artist Field

The *Artist* field is generally used for the Artist of the current audio piece, *e.g.*, song artist. For non-music content (*e.g.*, News-Talk programming) program providers may typically insert information related to the "host, source or creator" of the content (*e.g.*, program show, network, host, etc.).

Description: *Artist* is a one-line Artist name.
Comment: *Artist* was inherited from TPE1 in ID3V2.3.0.
Format: *Artist* is human-readable text in 8-bit character format. Null characters should not be transmitted.
RDS: *Artist* should be sent as ITEM.ARTIST as defined in [9].
IBOC SIS: Not supported
IBOC MPSD: *Artist* is sent via attribute Artist (ID3 tag TPE1).
IBOC SPSD: (same as IBOC MPSD)
On receipt: The receiver selects the appropriate character set as shown in Table 1.

4.3   Album Field

The *Album* field is generally used for the Album of the current audio piece.

Description: *Album* is a one-line album name; i.e., it is the name of the album from which the current audio program was taken.
Comment: *Album* was inherited from TALB in ID3V2.3.0.
Format: *Album* is human-readable text in 8-bit character format. Null characters should not be transmitted.
RDS: *Album* should be sent as ITEM.ALBUM as defined in [9].
IBOC SIS: Not supported
IBOC MPSD: *Album* is sent via attribute Album (ID3 tag TALB).
IBOC SPSD: (same as IBOC MPSD)

On receipt:	The receiver selects the appropriate character set as shown in Table 1.

## 4.4		Program Type Field

The *Program Type* field is used for the overall format of broadcast station, e.g., News, Rock, etc. The difference between *Genre* and *Program Type* is that *Genre* applies to a single piece of content (e.g. a Classic Rock song), but *Program Type* applies to the overall programming of the channel (e.g., a Classic Rock station).

Description:	*Program Type* is a short name of the category type (format) of station broadcasting the content (i.e., whether a station is News, or Rock, etc.). *Program Type* is a predefined enumerated type. The enumeration tables are identical between IBOC and RDS.
Comment:	*Program Type* was created as PTY in RDS, and brought into RBDS and IBOC essentially unchanged.
Format:	*Program Type* is sent as a numeric value in IBOC in the MPS PDU Header Expansion field (see [3] section 5.2.1.6.2, Program Type). *Program Type* is sent as a numeric value in RDS in the PTY field (see [1] Annex F).
RDS:	*Program Type* should be sent as PTY as defined in [1].
IBOC SIS:	Not Supported
IBOC MPSD:	*Program Type* should be sent as Header Expansion ID 010 as defined in [3] Table 5-7 and section 5.2.1.6.2.
IBOC SPSD:	(same as IBOC MPSD)
On receipt:	The receiver needs only one table for both IBOC and RDS. On receipt of a numeric value from either of these transports, the receiver looks up the string in the table and selects the appropriate character set as shown in Table 1.

## 4.5		Genre Field

The *Genre* field is used for the genre or format of the current audio piece, e.g., into which genre does the current song or audio piece fall. The difference between *Genre* and *Program Type* is that *Genre* applies to a single piece of content (e.g. a Classic Rock song), but *Program Type* applies to the overall programming of the channel (e.g., a Classic Rock station).

Description:	*Genre* is a short name of the category type (format) of the current audio content (i.e., whether a song is Rock, or Blues, etc.). *Genre* is a predefined enumerated type. The enumeration tables are identical between IBOC and RDS for the first 32 types. However, NRSC-5-A supports 256 different program types in all. While the first 32 do match exactly, RDS-only receivers will not be able to display the added program types.
Comment:	*Genre* was inherited from TCON in ID3V2.3.0.
Format:	*Genre* is sent as human-readable text in 8-bit character format, but the value is a numeric value in parenthesis; e.g. "(4)". Optionally, enhancement text can be added in RDS, but this is not supported in IBOC.
	The numeric value (e.g., the 4 from "(4)") is used as an index into the *Genre* table. See [5] Appendix A-1 section 8, and [1] Annex U section U.7.
RDS:	*Genre* should be sent as ITEM.GENRE as defined in [9].
IBOC SIS:	Not supported
IBOC MPSD:	*Genre* is sent via attribute Genre (ID3 tag TCON).
IBOC SPSD :	(same as IBOC MPSD)
On receipt:	The receiver looks up the appropriate string in the table and selects the appropriate character set as shown in Table 1.

## 4.6		Comment Field

The *Comment* field is generally used for text not described by other more specific fields. A *Comment* could relate to the current audio program content, or it might be unrelated information that the station chooses to send. For example, a *Comment* might be "This song was recorded live" (related); or a comment might be "WXYZ Fun Zone van at Smith Park on Saturday" (unrelated). In the case of the *Comment* field described here, either related or unrelated is possible.

Description: *Comment* is an optional text field that the broadcaster can send with any kind of human-readable information.
Comment: *Comment* was inherited from COMM in ID3V2.3.0.
Format: *Comment* is human-readable text in 8-bit character format. Null characters should not be transmitted. Within the *Comment* frame there are two supported fields: "Short content description" and "The actual text" (see [5], Appendix A-1).
RDS: *Comment* should be sent as INFO.COMMENT as defined in [9].
IBOC SIS: Not supported
IBOC MPSD: *Comment* is sent via attribute Comment (ID3 tag COMM).
IBOC SPSD: (same as IBOC MPSD)
On receipt: On receipt of this frame, the receiver extracts the two COMM fields (which are separated by a null), and selects the appropriate character set as shown in Table 1 in order to display it.

4.7   Commercial Field

The *Commercial* field is application specific and generally used to facilitate the sale of products and services. As it is not supported in RDS, there are no recommendations for harmonizing between RDS and IBOC.
RDS: Not supported
IBOC SIS: Not supported
IBOC MPSD: *Commercial* is sent via attribute Commercial (ID3 tag xx).
IBOC SPSD: (same as IBOC MPSD)
On receipt: The behavior is application-specific.

4.8   UFID Field

The *UFID* field (also known as Reference Identifier) can be used to transmit an alphanumeric identifier of the current content, or of an advertised product or service. An owner identifier is also included, and either field can optionally be of zero length. In IBOC it has more capability due to the greater length supported by the IBOC MPSD transport.

If harmonization is required, use the following recommendations on the broadcast side. *However, note that the use of this field is application-specific; these recommendations are intended for the application developer.*

Description: *UFID* is an alphanumeric field. It is application-dependent, and is typically used to uniquely identify content, product or services.
Comment: *UFID* was inherited from UFID in ID3V2.3.0.
Format: *UFID* is described in ID3V2.3.0; details beyond that are application-specific.
RDS: *UFID* should be sent as a Private Class as defined by [9].
IBOC SIS: Not supported
IBOC MPSD: *UFID* is sent via attribute UFID (ID3 tag UFID).
IBOC SPSD: (same as IBOC MPSD)
On receipt: The behavior is application-specific.

4.9   RDS PS Field

The *RDS PS* field is the label of the program service consisting of not more than eight alphanumeric characters coded in accordance with [1] Annex E, which is displayed by RDS receivers in order to inform the listener what program service is being broadcast by the station to which the receiver is tuned (see [1] section 3.1.5.1). An example for a name is "Radio 21".

This field is similar to the IBOC SIS "Station Name (Short Format) field. However, SIS only supports 4 characters and a character set that is more limited than that supported by PS. For harmonized station information applications, see "Radio Station Short Name" and "Radio Station Long Name" below (sections 4.10 and 4.11, respectively).

4.10   Station Name (Short Format) Field

The *Station Name (Short Format)* field is used for the alpha call sign of the broadcasting station. In RT+ V2.1, it is referred to as "STATIONNAME.SHORT"; in IBOC it is referred to as "Station name (short format)."

Description: *Station Name (Short Format)* carries the call letters for a station.
Comment: *Station Name (Short Format)* is not from the ID3 specification.
Format: *Station Name (Short Format)* is human-readable text in 8-bit character format.
RDS: *Station Name (Short Format)* should be sent as STATIONNAME.SHORT as defined in [9]. Broadcasters who use the PS field in the manner specified by NRSC-4-A should also send this information in the PS field.
IBOC SIS: *Station Name (Short Format)* is sent via message ID 0001 (see [4], table 4-1).
IBOC MPSD: Not supported
IBOC SPSD: Not supported
On receipt: The receiver selects the appropriate character set as shown in Table 1.

4.11   Station Name (Long Format) Field

The *Station Name (Long Format)* field is available for a longer station identification, such as "WXYZ, Rock of the Bay". In RT+ V2.1, it is referred to as "STATIONNAME.LONG"; in IBOC it is referred to as "Station name (long format)".

Description: *Station Name (Long Format)* is a longer name and slogan for a station. There is only one such field shared among all multicast stations on a frequency.
Comment: *Station Name (Long Format)* is not from the ID3 specification.
Format: *Station Name (Long Format)* is human-readable text in 8-bit character format. Null characters should not be transmitted.
RDS: *Station Name (Long Format)* should be sent as STATIONNAME.LONG as defined in [9].
IBOC SIS: *Station Name (Long Format)* is sent via message ID 0010 (see [4], table 4-1).
IBOC MPSD: Not supported
IBOC SPSD: Not supported
On receipt: The receiver selects the appropriate character set as shown in Table 1.

4.12   RDS RT (Station Message) Field

The *RT* field is a general purpose text string, up to 64 characters, and can be any human-readable text. The Station Message field in IBOC SIS is a general purpose text string up to 124 characters.

Description: *RT* is a multi-line general-purpose string.
Comment: *RT* comes from the original RDS/RBDS specification.
Format: *RT* is human-readable text in 8-bit character format. Null characters may be transmitted to pad out to 64 characters, but this is not necessary and may simply take up extra bandwidth.

RDS: *RT* should be sent as a 2A group as defined in [1]. Note that a 2B group could be used, but the length of the string is then limited to 32 bytes.

IBOC SIS: *RT* should be sent via message ID 0101 (see [4], table 4-1).

IBOC MPSD: Not supported

IBOC SPSD: Not supported

On receipt: The receiver selects the appropriate character set as shown in Table 1.

4.13 Subtitle Field

The *Subtitle* field is generally used for as an enhancement, refinement, or additional information for the song title field *Title* (see section 4.1). It can be a second line for the *Title* field, or a subtitle.

Description: *Subtitle* is a one-line text string which adds information to the *Title* field.

Comment: *Subtitle* was inherited from TIT3 in ID3V2.3.0.

Format: *Subtitle* is human-readable text in 8-bit character format. Null characters should not be transmitted.

RDS: *Subtitle* should be sent as ITEM.MOVEMENT as defined in [9].

IBOC SIS: Not supported

IBOC MPSD: *Subtitle* should be sent via TIT3 as an ID3 tag.

IBOC SPSD: (same as IBOC MPSD)

On receipt: The receiver selects the appropriate character set as shown in Table 1.

4.14 Conductor Field

The *Conductor* field is generally used for an additional performer's name. The obvious usage is for a symphony's conductor. It can also be used for another key artist who contributed to the piece.

Description: *Conductor* is a one-line text string which adds information to the *Artist* field.

Comment: *Conductor* was inherited from TPE3 in ID3V2.3.0.

Format: *Conductor* is human-readable text in 8-bit character format. Null characters should not be transmitted.

RDS: *Conductor* should be sent as ITEM.CONDUCTOR as defined in [9].

IBOC SIS: Not supported

IBOC MPSD: *Conductor* should be sent via TPE3 as an ID3 tag.

IBOC SPSD: (same as IBOC MPSD)

On receipt: The receiver selects the appropriate character set as shown in Table 1.

Table 2. Summary of harmonization between RDS and IBOC text

Reference	Item	RDS/RT+	IBOC MPSD (Main)	IBOC SPSD
4.1	Title	RT+ ITEM.TITLE	TIT2 as MPSD/SPSD Attribute Title	
4.2	Artist	RT+ ITEM.ARTIST	TPE1 as MPSD/SPSD Attribute Artist	
4.3	Album	RT+ ITEM.ALBUM	TCON as MPSD/SPSD Attribute Artist	
4.4	Program Type	RDS PTY	Header Expansion ID 010	
4.5	Genre	RT+ ITEM.GENRE	TCON as MPSD/SPSD Attribute Genre	
4.6	Comment	RT+ INFO.COMMENT	COMM as MPSD/SPSD Attribute Comment	
4.7	Commercial	Not supported	COMR as MPSD/SPSD Attribute Commercial	
4.8	UFID	Use RT+ Private Class	UFID as MPSD/SPSD Attribute UFID	
4.9	Program Service Information	RDS PS Field	Best equivalents are SIS message ID 0001 or SIS message ID 0010 (see text)	
4.10	Call Letters	RT+ STATIONNAME .SHORT	SIS message ID 0001	
4.11	Station Slogan	RT+ STATIONNAME .LONG	SIS message ID 0010	
4.12	Station Text Message	RT Field as per NRSC-4-A	SIS message ID 0101	
4.13	Subtitle / Movement	RT+ ITEM .MOVEMENT	TIT3 as MPSD/SPSD Attribute Subtitle	
4.14	Conductor	RT+ ITEM.CONDUCTOR	TPE3 as MPSD/SPSD Attribute Conductor	

APPENDIX A: GUIDELINES FOR USE OF INDIVIDUAL FIELDS

This Appendix lists some general guidelines or recommendations for individual fields.

A.1   Use of Overloaded Text Fields

A.1.1   <u>Background</u>

When a field, such as Artist, is used for more than the documented (primary) purpose, it is referred to as having been "overloaded." An example would be of using the Artist field for artist name, plus a weather report. In this example, the artist name would be the primary text, and the weather report text would be secondary.

However, some receivers will display such a field with the first 10-16 characters, for a period of time or until a button is pressed. This means that the primary text—artist—is not shown, if the secondary text—weather—is put into the field first.

A.1.2   <u>Recommendation</u>

Always put the documented-purpose text (primary text) first in a text field which is to be overloaded.

NRSC-G200-A

NRSC Document Improvement Proposal

If in the review or use of this document a potential change appears needed for safety, health or technical reasons, please fill in the appropriate information below and email, mail or fax to:

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URGENCY OF CHANGE:	
_____ Immediate	_____ At next revision

PROBLEM AREA (ATTACH ADDITIONAL SHEETS IF NECESSARY):

a. Clause Number and/or Drawing:

b. Recommended Changes:

c. Reason/Rationale for Recommendation:

ADDITIONAL REMARKS:

SIGNATURE:	DATE:

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