

Rich Text Format (RTF) Specification

Version 1.9.1

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Rich Text Format (RTF) Specification

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Microsoft Corporation

19 March 2008

**Applies to:** 2007 Microsoft Office Suites, Microsoft Office Word 2007, and programs that read/write RTF in general

|  |  |  |
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# Introduction

The Rich Text Format (RTF) is a method of encoding formatted text and graphics for use within applications and for transfer between applications. Users often depend on special translation software to move word-processing documents between various applications developed by different companies. RTF serves as both a standard of data transfer between word processing software, document formatting, and a means of migrating content from one operating system to another. RTF allows documents to migrate forward and backward in time: old readers can read the most recent RTF and new readers can read old RTF. The only other widely used rich-text format that has this flexibility is HTML, which is not nearly as rich.

This document specifies the format used by RTF for text and graphics interchange. RTF usually uses ASCII (lower byte range – 7 bits) to represent rich text, with runs of text that include nonASCII characters requiring conversion to appropriate code values. This version of the RTF Specification includes all control words introduced by Microsoft Office Word up through Word 2007. For Microsoft Word for Windows® 95 on, the [Index of RTF Control Words in Appendix B](#APPENDIX_B_INDEX_OF_RTF_CONTROL_WORDS) reveals the version of Word that added the control words. It also reveals the control words defined in the [1987 Microsoft Systems Journal RTF article](#RTF_Spec_1987). Files created with an earlier version of Word using RTF should be read without problem by newer versions of Word. Older versions of Word ignore control words and groups they don’t understand.

Software that can convert rich text to RTF is called an RTF writer. An RTF writer separates the application’s control information from the actual text and writes a file containing the text and the RTF command groups associated with that text. Software that reads an RTF file and is capable of interpreting or discarding the formatting commands is called an RTF reader.

A sample RTF parsing reader program is given in [Appendix A: Sample RTF Reader Application](#APPENDIX_A_SAMPLE_RTF_READER). This sample RTF reader is designed for use in conjunction with this document to assist those interested in developing their own RTF readers. The sample RTF reader is not a for-sale product, and Microsoft does not provide technical support or any other kind of support for the sample RTF parsing reader code or this document.

## Basic Entities

RTF files are usually 7-bit ASCII plain text, consisting of control words, control symbols, and groups. RTF files are easily transmitted between most PC based operating systems because of their 7-bit ASCII characters. However, converters that communicate with Microsoft Word for Windows or Microsoft Word for the Macintosh should expect data transfer as 8-bit characters and binary data (see **\bin*N***) can contain any 8-bit values. Unlike most clear text files, an RTF file does not have to contain any carriage return/line feed pairs (CRLFs) and CRLFs should be ignored by RTF readers except that they can act as control word delimiters. RTF files are more readable when CRLFs occur at major group boundaries.

### Control Word

An RTF *control word* is a specially formatted command used to mark characters for display on a monitor or characters destined for a printer. A control word’s name cannot be longer than 32 letters.

A control word is defined by:

\<ASCII Letter Sequence>*<*Delimiter*>*

where <Delimiter> marks the end of the control word’s name. For example:

\par

A backslash begins each control word and the control word is case sensitive.

The <ASCII Letter Sequence>is made up of ASCII alphabetical characters (a through z and A through Z). Control words (also known as keywords) originally did not contain any uppercase characters, however in recent years uppercase characters appear in some newer control words.

The <Delimiter> can be one of the following:

* A space. This serves only to delimit a control word and is ignored in subsequent processing.
* A numeric digit or an ASCII minus sign (-), which indicates that a numeric parameter is associated with the control word. The subsequent digital sequence is then delimited by any character other than an ASCII digit (commonly another control word that begins with a backslash). The parameter can be a positive or negative decimal number. The range of the values for the number is nominally –32768 through 32767, i.e., a signed 16-bit integer. A small number of control words take values in the range‌ −2,147,483,648 to 2,147,483,647 (32-bit signed integer). These control words include **\bin*N***, **\revdttm*N***, **\rsid*N*** related control words and some picture properties like **\bliptag*N***. Here ***N*** stands for the numeric parameter. An RTF parser must allow for up to 10 digits optionally preceded by a minus sign. If the delimiter is a space, it is discarded, that is, it’s not included in subsequent processing.
* Any character other than a letter or a digit. In this case, the delimiting character terminates the control word and is not part of the control word. Such as a backslash “\”, which means a new control word or a control symbol follows.

If a single space delimits the control word, the space does not appear in the document (it’s ignored). Any characters following the single space delimiter, including any subsequent spaces, will appear as text or spaces in the document. For this reason, you should use spaces only where necessary. It is recommended to avoid spaces as a means of breaking up RTF syntax to make it easier to read. You can use paragraph marks (CR, LF, or CRLF) to break up lines without changing the meaning except in destinations that contain **\bin*N****.*

In this document, a control word that takes a numeric parameter ***N*** is written with the ***N***, as shown here for **\bin*N***, unless the control word appears with an explicit value. The only exceptions to this are “toggle” control words like **\b** (bold toggle), which have only two states. When such a control word has no parameter or has a nonzero parameter, the control word turns the property on. When such a control word has a parameter of 0, the control word turns the property off. For example, **\b** turns on bold and **\b0** turns off bold. In the definitions of these toggle control words, the control word names are followed by an asterisk.

### Units

Theparameter ***N*** often specifies a dimension. The units used for dimensions in RTF may be points (pts), half pts, twips, Word device-independent units, EMUs, or pixels, depending on the control word. These units are summarized in the table

|  |  |
| --- | --- |
| **Units** | **Conversions** |
| Points (pts) | 72/inch |
| Half points | 144/inch |
| Twips | 1440/inch, 20/pt |
| Device-independent | 294912/inch, 4096/pt |
| EMUs | 914400/inch, 36000/mm, 12700/pt, 635/twip |
| Pixels | typically 96/inch |

EMUs (English-Metric Units) are used for some drawing parameter dimensions (see **\shp**) and pixels are used for some bitmap and metafile dimensions. EMUs are accurate for inches, millimeters, points, and twips. The most commonly used units in RTF are twips.

### Control Symbol

A *control symbol*consists of a backslash followed by a single, non-alphabetical character. For example, **\~** (backslash tilde) represents a non-breaking space. Control symbols do not have delimiters, i.e., a space following a control symbol is treated as text, not a delimiter.

### Group

A *group* can consist of text, control words, or control symbols enclosed in braces (**{ }**). The opening brace (**{** ) indicates the start of the group and the closing brace ( **}**) indicates the end of the group. Each group specifies the text affected by the group and the different attributes of that text. The RTF file can also include groups for fonts, styles, screen color, pictures, footnotes, comments (annotations), headers and footers, summary information, fields, bookmarks, document-, section-, paragraph- and character-formatting properties, mathematics, images, and objects. If the font, file, style, color, revision mark, and summary-information groups and document-formatting properties are included in the file, they must appear in the RTF header, which precedes the RTF body. If the content of any group is not used, the group can be omitted. The groups are discussed in the following sections. Any group that uses the properties defined in another group must appear after the group that defines those properties. For example, color and font properties must precede the style group.

### Destinations

Certain control words, referred to as *destinations*, mark the beginning of a collection of related text that could appear at another position, or destination, within the document. Destinations may also include text that is used but does not appear within the document at all. An example of a destination is the **\footnote** group, where the footnote text follows the control word. Page breaks cannot occur in destination text. A destination control word and its associated text must be enclosed in braces.

Destinations added after the [1987 RTF Specification](#RTF_Spec_1987) may be preceded by the control symbol **\\*** (backslash asterisk). This control symbol identifies destinations whose related text should be ignored if the RTF reader does not recognize the destination control word. RTF writers should follow the convention of using this control symbol when adding new destinations or groups. Destinations whose related text should be inserted into the document even if the RTF reader does not recognize the destination should not use **\\***.

Most formatting specified within a group affects only the text within that group (including nested groups within that group). Generally, text within a group inherits the formatting of the text in the outer group. However, Microsoft implementations of RTF assume that the footnote, annotation, header, and footer groups (described later in this specification) do not inherit the formatting of the outer group. Therefore, to ensure that these groups are formatted correctly, you should set the formatting within these groups to the appropriate default with the **\sectd, \pard,** and **\plain** control words, and then add any desired formatting.

The control words, control symbols, and braces constitute control information. All other characters in the file are plain text or data. Here is an example containing plain text that does not exist within an inside group:

{\rtf1\ansi\deff0{\**fonttbl**{\f0\froman Tms Rmn;}{\f1\fdecor Symbol;}{\f2\fswiss Helv;}}

{\**colortbl**;\red0\green0\blue0;\red0\green0\blue255;\red0\green255\blue255;\red0\green255\blue0;\red255\green0\blue255;\red255\green0\blue0;\red255\green255\blue0;\red255\green255\blue255;}

{\**stylesheet**{\fs20 \snext0 Normal;}}{\**info**{\author John Doe}{\creatim\yr1990\mo7\dy30\hr10\min48}  
{\version1}{\edmins0}{\nofpages1}{\nofwords0}{\nofchars0}{\vern8351}}

\widoctrl\ftnbj \sectd\linex0\endnhere \**pard**\plain \fs20 **This is plain text.**\par}

Even though “This is plain text.” is not part of an inside group, it is part of the encompassing **{\rtf1**...**}** group and hence is part of the body of the RTF file. It is subject to the formatting specified by and after the **\pard** command. Specifically, the **\pard** resets any previous paragraph formatting, **\plain** resets any previous character formatting, and **\fs20** sets the font size to 20 half points, i.e., 10 points.

As previously mentioned, the backslash (\) and braces ({ }) have special meaning in RTF. To use these characters as text, precede them with a backslash, as in the control symbols **\\**, **\{**, and **\}**.

## Conventions of an RTF Reader

The reader of an RTF stream is concerned with the following:

* Separating control information from plain text.
* Acting on control information.
* Collecting and properly inserting text into the document, as directed by the current group state.

Acting on control information is designed to be a relatively simple process. Some control information adds special characters to the plain text stream. Other information serves to change the *program state*, which includes properties of the document as a whole, or to change any of a collection of *group states*, which apply to parts of the document.

A group state can specify the following:

* The *destination*, or part of the document that the plain text is constructing.
* Character-formatting properties, such as bold or italic.
* Paragraph-formatting properties, such as justified or centered.
* Section-formatting properties, such as the number of columns.
* Table-formatting properties, which define the number of cells and dimensions of a table row.

In practice, an RTF reader will evaluate each character it reads in sequence as follows:

* If the character is an opening brace ({), the reader stores its current state on the stack. If the character is a closing brace (}), the reader retrieves the current state from the stack.
* If the character is a backslash (\), the reader collects the control word or control symbol and its parameter, if any, and looks up the control word or control symbol in a table that maps control words to actions. It then carries out the action prescribed in the lookup table. (The possible actions are discussed in the following table.) The read pointer is left before or after a control-word delimiter, as appropriate.
* If the character is anything other than an opening brace ({), closing brace (}), backslash (\), or a CRLF (carriage return/line feed), the reader assumes that the character is plain text and writes the character to the current destination using the current formatting properties.

If the RTF reader cannot find a particular control word or control symbol in the lookup table described in the preceding list, the control word or control symbol should be ignored. If the control word or control symbol is preceded by an opening brace ({), it is part of a group. The current state should be saved on the stack, but no state change should occur. When a closing brace (}) is encountered, the current state should be retrieved from the stack, thereby resetting the current state. If an unknown control word is preceded by '{\\*', then it starts an ignorable destination group. The RTF reader should discard all text up to and including the closing brace (}) that closes this group. All RTF readers must recognize all destinations defined in the [1987 RTF Specification](#RTF_Spec_1987). The reader may skip past the whole ignorable destination group, but it is not allowed to discard the leading control word alone. Ignorable destinations defined since the [1987 RTF Specification](#RTF_Spec_1987) are marked with the **\\*** control symbol, unless they always appear within groups so marked.

**Note:** All RTF readers must implement the **\\*** control symbol so that they can read RTF files written by newer RTF writers.

For control words or control symbols that the RTF reader can find in the lookup table, the possible actions are as follows.

| Action | Description |
| --- | --- |
| Change Destination | The RTF reader changes the destination to the destination described in the table entry. Destination changes are legal only immediately after an opening brace ({). (Other restrictions may also apply; for example, footnotes cannot be nested.) Many destination changes imply that the current property settings will be reset to their default settings. Examples of control words that change destination are **\footnote**, **\header**, **\footer**, **\pict**, **\info**, **\fonttbl**, **\stylesheet**, and **\colortbl**. This specification identifies all destination control words where they appear in control-word tables. |
| Change Formatting Property | The RTF reader changes the property as described in a table entry. If a parameter is required, an *N* appears at the end of the control word name. [Appendix B: Index of RTF Control Words](#APPENDIX_B_INDEX_OF_RTF_CONTROL_WORDS) at the end of this Specification also specifies which control words require parameters. If a parameter is needed and not specified, then a default value is used. The default value used depends on the control word. If the control word does not specify a default, then RTF readers should assume a default of 0 except for the toggle control words (like **\b**), which have a default of 1. |
| Insert Special Character | The reader inserts into the document the character code or codes described in the table entry. |
| Insert Special Character and Perform Action | The reader inserts into the document the character code or codes described in the table entry. Then the reader performs the action the entry specifies. For example, when Microsoft Word interprets **\par**, a paragraph mark is inserted in the document and special code is run to record the paragraph properties belonging to that paragraph mark. |

## Formal Syntax

RTF uses the following syntax, based on Backus-Naur Form.

| Syntax | Meaning |
| --- | --- |
| #PCDATA | Text (without control words) |
| #SDATA | Hexadecimal data |
| #BDATA | Binary data |
| 'c' | A literal, where c is one or more ASCII characters |
| A? | Item A is optional |
| A+ | One or more repetitions of item A |
| A\* | Zero or more repetitions of item A |
| A B | Item A followed by item B |
| A | B | Item A or item B |
| A & B | Item A or item B, in any order |
| <letter> | a..z | A..Z |
| <control name> | <letter>+ |
| <digit> | 0..9 |
| <parameter> | '-'? <digit>+ |
| <control word entity> | '\' <control name><parameter>? |

For the sake of readability, when a <control word entity> appears in a definition, it is displayed in boldface without enclosing apostrophes.

# Contents of an RTF File

An RTF file has the following syntax:

|  |  |
| --- | --- |
| <File> | '{' <header> <document> '}' |

This syntax is the standard RTF syntax; any RTF reader must be able to interpret RTF written to this syntax correctly. It is worth mentioning again that RTF readers are not required to interpret all control words, but they must be able to harmlessly ignore unknown (or unused) control words, and they must be able to skip over destinations marked with the **\\*** control symbol. There may be RTF writers that generate RTF that does not conform to this syntax, and as such, RTF readers should be robust enough to handle some minor variations. Nonetheless, if an RTF writer generates RTF conforming to this specification, then any correct RTF reader should be able to interpret it.

**Note:** RTF readers can reject input if strongly illegal data is encountered that is most probably created maliciously. For example, if the table cell width control word **\cellx*N*** is encountered outside of a table, the RTF reader should probably reject the file.

## Header

The header has the following syntax:

|  |  |
| --- | --- |
| <header> | ***\*rtf1** **\fbidis**? <character set> <from>? <deffont> <deflang> <fonttbl>? <filetbl>? <colortbl>? <stylesheet>? <stylerestrictions>? <listtables>? <revtbl>? <rsidtable>? <mathprops>? <generator>? |

Each of the various header tables should appear, if they exist, in this order. Document properties can occur before and between the header tables. A property must be defined before being referenced. Specifically,

* The style sheet must occur before any style usage.
* The font table must precede any reference to a font (except those in <deffont>).
* The default font keyword(s) must precede any text not explicitly formatted by a font, because they specify the fonts to use in such cases.

### RTF Version

An entire RTF file is considered a group and must be enclosed in braces. The **\rtf*N*** control word must follow the opening brace. The numeric parameter ***N*** identifies the major version of the RTF Specification used. The RTF standard described in this specification, although titled as version 1.9.1, continues to correspond syntactically to RTF Specification version 1. Therefore, the numeric parameter ***N*** for the **\rtf*N*** control word should still be emitted as 1.

### Character Set

After specifying the RTF version, you must declare the default character set used in the document unless it is **\ansi** (the default). The control word for the character set must precede any plain text or any table control words. The RTF Specification supports the following document character sets <character set>

|  |  |
| --- | --- |
| <character set> | (**\ansi** | **\mac** | **\pc** | **\pca**)? **\ansicpg*N***? |

where the control words are defined by

| Control word | Character set |
| --- | --- |
| \ansi | ANSI (the default) |
| \mac | Apple Macintosh |
| \pc | IBM PC code page 437 |
| \pca | IBM PC code page 850, used by IBM Personal System/2 (not implemented in version 1 of Microsoft Word for OS/2) |
| \ansicpg*N* | This keyword represents the default ANSI code page used to perform the Unicode to ANSI conversion when writing RTF text. ***N*** represents the code page in decimal. This is typically set to the default ANSI code page of the run-time environment (for example, **\ansicpg1252** for U.S. Windows). The reader can use the same ANSI code page to convert ANSI text back to Unicode. If it appears, this keyword should be emitted in the RTF header section right after the **\ansi**, **\mac**, **\pc** or **\pca** keyword. Possible values include those in the following table. |
| \fbidis | Flag written by RichEdit to indicate a single font is active instead of a set of [associated fonts](#_Associated_Character_Properties). |

|  |  |
| --- | --- |
| **Code page** | **Name** |
| 437 | United States IBM |
| 708 | Arabic (ASMO 708) |
| 709 | Arabic (ASMO 449+, BCON V4) |
| 710 | Arabic (transparent Arabic) |
| 711 | Arabic (Nafitha Enhanced) |
| 720 | Arabic (transparent ASMO) |
| 819 | Windows 3.1 (United States and Western Europe) |
| 850 | IBM multilingual |
| 852 | Eastern European |
| 860 | Portuguese |
| 862 | Hebrew |
| 863 | French Canadian |
| 864 | Arabic |
| 865 | Norwegian |
| 866 | Soviet Union |
| 874 | Thai |
| 932 | Japanese |
| 936 | Simplified Chinese |
| 949 | Korean |
| 950 | Traditional Chinese |
| 1250 | Eastern European |
| 1251 | Cyrillic |
| 1252 | Western European |
| 1253 | Greek |
| 1254 | Turkish |
| 1255 | Hebrew |
| 1256 | Arabic |
| 1257 | Baltic |
| 1258 | Vietnamese |
| 1361 | Johab |
| 10000 | MAC Roman |
| 10001 | MAC Japan |
| 10004 | MAC Arabic |
| 10005 | MAC Hebrew |
| 10006 | MAC Greek |
| 10007 | MAC Cyrillic |
| 10029 | MAC Latin2 |
| 10081 | MAC Turkish |
| 57002 | Devanagari |
| 57003 | Bengali |
| 57004 | Tamil |
| 57005 | Telugu |
| 57006 | Assamese |
| 57007 | Oriya |
| 57008 | Kannada |
| 57009 | Malayalam |
| 57010 | Gujarati |
| 57011 | Punjabi |

Note that runs of text marked with a particular font index (see **\f*N*** in the [Font Table](#Font_Table) section) use the codepage for that font as given by **\cpg*N*** or implied by **\fcharset*N***, unless they use Unicode RTF described in the following section.

### Unicode RTF

From Word 97 onward, Word is based on [Unicode](#Unicode). Text characters can be handled using the 16-bit Unicode character-encoding scheme defined in this section. Expressing this text in RTF required a new mechanism, because until Word 97, RTF handled only 7-bit characters directly and 8-bit characters encoded as hexadecimal using \'xx. The Unicode mechanism described here can be applied to any RTF destination or body text.

| Control word | Meaning |
| --- | --- |
| \uc*N* | This keyword represents the number (count) of bytes that follow a **\u*N*** Unicode character to give the codepage code that best corresponds to the Unicode character. This keyword may be used at any time, and values are scoped like character properties. That is, a **\uc*N*** keyword applies only to text following the keyword, and within the same (or deeper) nested braces. On exiting the group, the previous **\uc*N*** value is restored. The reader must keep a stack of counts seen and use the most recent one to skip the appropriate number of characters when it encounters a **\u*N*** keyword. When leaving an RTF group that specified a **\uc*N*** value, the reader must revert to the previous value. A default of 1 should be assumed if no **\uc*N*** keyword has been seen in the current or outer scopes.  A common practice is to emit no ANSI representation for Unicode characters within a Unicode destination context (that is, inside a **\ud** destination). Typically, the destination will contain a **\uc0** control sequence. There is no need to reset the count on leaving the **\ud** destination, because the scoping rules will ensure the previous value is restored. |
| \u*N* | This keyword represents a single Unicode character that has no equivalent ANSI representation based on the current ANSI code page. ***N*** represents the Unicode character value expressed as a decimal number.  This keyword is followed immediately by equivalent character(s) in ANSI representation. In this way, old readers will ignore the **\u*N*** keyword and pick up the ANSI representation properly. When this keyword is encountered, the reader should ignore the next ***N'*** characters, where ***N'*** corresponds to the last **\uc*N'*** value encountered.  As with all RTF keywords, a keyword-terminating space may be present (before the ANSI characters) that is not counted in the characters to skip. While this is not likely to occur (or recommended), a **\bin*N*** keyword, its argument, and the binary data that follows are considered one character for skipping purposes. If an RTF scope delimiter character (that is, an opening or closing brace) is encountered while scanning skippable data, the skippable data is considered to end before the delimiter. This makes it possible for a reader to perform some rudimentary error recovery. To include an RTF delimiter in skippable data, it must be represented using the appropriate control symbol (that is, escaped with a backslash,) as in plain text. Any RTF control word or symbol is considered a single character for the purposes of counting skippable characters.  An RTF writer, when it encounters a Unicode character with no corresponding ANSI character, should output **\u*N*** followed by the best ANSI representation it can manage. Often a question mark is used if no reasonable ANSI character exists. In addition, if the Unicode character translates into an ANSI character stream with a count of bytes differing from the current Unicode Character Byte Count, it should emit the appropriate **\uc*N*** keyword prior to the **\u*N*** keywordto notify the reader of the change.  Most RTF control words accept signed 16-bit numbers as arguments. For these control words, Unicode values greater than 32767 are expressed as negative numbers. For example, the character code U+F020 is given by \u-4064. To get -4064, convert F02016 to decimal (61472) and subtract 65536.  Occasionally Word writes SYMBOL\_CHARSET (nonUnicode) characters in the range U+F020..U+F0FF instead of U+0020..U+00FF. Internally Word uses the values U+F020..U+F0FF for these characters so that plain-text searches don’t mistakenly match SYMBOL\_CHARSET characters when searching for Unicode characters in the range U+0020..U+00FF. To find out the correct symbol font to use, e.g., Wingdings, Symbol, etc., find the last SYMBOL\_CHARSET font control word **\f*N*** used, look up font ***N*** in the font table and find the face name. The charset is specified by the **\fcharset*N*** control word and SYMBOL\_CHARSET is for ***N*** = 2. This corresponds to codepage 42. |
| \upr | This keyword represents a destination with two embedded destinations, one represented using Unicode and the other using ANSI. This keyword operates in conjunction with the **\ud** keyword to provide backward compatibility. The general syntax is as follows:  '{' **\upr** '{' keyword ansi\_text '}{\\*' **\ud** '{' keyword Unicode\_text '}}}'  Notice that the **\upr** keyword destination does not use the **\\*** keyword; this forces the old RTF readers to pick up the ANSI representation and discard the Unicode one. |
| \ud | This destination is represented in Unicode. The text is represented using a mixture of ANSI translation and **\u*N*** keywords to represent characters that do not have exact ANSI equivalents. |

#### Document Text

Document text should be emitted as ANSI characters. If there are Unicode characters that do not have corresponding ANSI characters, they should be output using the **\uc*N*** and **\u*N*** keywords.

For example, the text “LabGValue” (Unicode characters 0x004c, 0x0061, 0x0062, 0x0393, 0x0056, 0x0061, 0x006c, 0x0075, 0x0065) should be represented as follows (assuming a previous **\uc1**):

Lab\u915GValue

#### Destination Text

Destination text is defined as any text represented in an RTF destination. A good example is the bookmark name in the **\bkmkstart** destination.

Any destination containing Unicode characters can be written as a pair of destinations, one within a **\upr** group that ensures old readers can read it properly and the other within a **\ud** group that ensures no Unicode character encoding is lost when read with a new reader.

For example, a bookmark name “LabGValue” (Unicode characters 0x004c, 0x0061, 0x0062, 0x0393, 0x0056, 0x0061, 0x006c, 0x0075, 0x0065) should be represented as follows (assuming an active **\uc1**):

{\upr{\\*\bkmkstart LabGValue}{\\*\ud{\\*\bkmkstart Lab\u915GValue}}}

The first sub destination contains only ANSI characters and is the representation that old readers will see. The second sub destination is a **\\*\ud** destination that contains a second copy of the **\bkmkstart** destination. This copy can contain Unicode characters and is the representation that Unicode-aware readers must pay attention to, ignoring the ANSI-only version.

**Note**: this example could also be expressed as (assuming an active **\uc1**)

{\\*\bkmkstart Lab\u915GValue}

### Default Fonts and Languages

Default font settings can be used to tell the program what regional settings are appropriate as defaults. For example, having a Japanese font set in **\stshfdbch*N*** would tell Word to enable Japanese formatting options. Here ***N*** refers to an entry in the font table. The syntax for <from>, <deffont> and <deflang> appearing in the RTF Header is

|  |  |
| --- | --- |
| <from> | \fromtext | \fromhtml |
| <deffont> | *\*deff*N*? \adeff*N*?(\stshfdbch*N* \stshfloch*N* \stshfhich*N* \stshfbi*N*)? |
| <deflang> | \deflang*N*? \deflangfe*N*?\adeflang*N*? |

|  |  |
| --- | --- |
| Control word | Meaning |
| \fromtext | | Indicates document was originally plain text email. |
| \fromhtml*N* | Indicates document was originally HTML email and may contain encapsulated HTML tags. This keyword may be followed by a version number (currently 1). |
| \deff*N* | Defines default font to be \f*N* in case text is encountered before any \f*N* control word is active. |
| \adeff*N* | Defines default BiDi font to be \f*N* in case BiDi text is encountered before any \f*N* control word is active. |
| \stshfdbch*N* | Defines default East Asian font for style sheets. |
| \stshfloch*N* | Defines default ASCII font for style sheets. |
| \stshfhich*N* | Defines default High-ANSI font for style sheets. |
| \stshfbi*N* | Defines default Complex Script (BiDi) font for style sheets. |
| \deflang*N* | Defines default language to be used when the \plain control word is encountered. See the [standard language table](#Standard_Language_Table) for a list of possible values for *N*. |
| \deflangfe*N* | Default language ID for East Asian text in Word. |
| \adeflang*N* | Default language ID for South Asian/Middle Eastern text in Word. The default languages are determined by the current primary editing language and the enabled editing languages (can be changed via Microsoft Office Language Settings applet). |

Default font settings can be used to tell the program what regional settings are appropriate as defaults. For example, having a Japanese font set in **\stshfdbch*N*** would tell Word to enable Japanese formatting options. ***N*** refers to an entry in the font table.

### Theme Data

A document’s Theme Data contains a hex-encoded representation of a set of styling that can be applied to objects within a document and which affects the look of the document and the information and objects it contains. For example, in a Word 2007 document, shapes can have a certain look, text can have certain properties, and headings may be styled, by a single Theme. When a Theme is changed, not only may the font and colors change, but also the effects applied to the shapes and tables within the document.

Theme Data has the following syntax:

|  |  |
| --- | --- |
| <themedata> | '{\\*' **\themedata** #SDATA '}' |

The following control word can be used in this destination:

| Control word | Meaning |
| --- | --- |
| \\*\themedata | Starts destination containing a hexadecimal representation of the document theme. |

### Color Scheme Mapping

Color Scheme Mapping enables multiple Theme colors to be chained together. Color Scheme Mapping has the following syntax:

|  |  |
| --- | --- |
| <colorschememapping> | '{\\*' **\colorschememapping** #SDATA '}' |

The following control word can be used in this destination:

| Control word | Meaning |
| --- | --- |
| \\*\colorschememapping | Starts destination containing a hexadecimal representation of the document Color Scheme Mapping. |

For example, the sample RTF representing a hex-encoded color scheme mapping:

{\\*\colorschememapping 3c3f786d6c2076657273696f6e3d22312e302220656e636f64696e673d225554462d3822207374616e64616c6f6e653d22796573223f3e0d0a3c613a636c724d

617020786d6c6e733a613d22687474703a2f2f736368656d61732e6f70656e786d6c666f726d6174732e6f72672f64726177696e676d6c2f323030362f6d6169

6e22206267313d226c743122207478313d22646b3122206267323d226c743222207478323d22646b322220616363656e74313d22616363656e74312220616363

656e74323d22616363656e74322220616363656e74333d22616363656e74332220616363656e74343d22616363656e74342220616363656e74353d22616363656e74352220616363656e74363d22616363656e74362220686c696e6b3d22686c696e6b2220666f6c486c696e6b3d22666f6c486c696e6b222f3e}

For additional information on color scheme mapping, please reference the [Office Open XML](#OfficeOpenXML) specification section on the element “clrSchemeMapping”.

### Font Table

The **\fonttbl** control word introduces the font table group. Unique **\f*N*** control words define each font available in the document. These control words refer to that font throughout the document. The font table group has the following syntax.

|  |  |
| --- | --- |
| <fonttbl> | '{' **\fonttbl** (<fontinfo> | ('{' <fontinfo> '}'))+ '}' |
| <fontinfo> | <themefont>? ***\*f*N*** <fontfamily> **\fcharset*N***? **\fprq**? <panose>? <nontaggedname>? <fontemb>? **\cpg*N***? <fontname> <fontaltname>? ';' |
| <themefont> | **\flomajor** | **\fhimajor** | **\fdbmajor** | **\fbimajor** | **\flominor** | **\fhiminor** | **\fdbminor** | **\fbiminor** |
| <fontfamily> | **\fnil** | **\froman** | **\fswiss** | **\fmodern** | **\fscript** | **\fdecor** | **\ftech** | **\fbidi** |
| <panose> | '{\\*' **\panose** <data> '}' |
| <nontaggedname> | '{\\*' **\fname** #PCDATA ';}' |
| <fontname> | #PCDATA |
| <fontaltname> | '{\\*' **\falt** #PCDATA '}' |
| <fontemb> | '{\\*' **\fontemb** <fonttype> <fontfname>? <data>? '}' |
| <fonttype> | **\ftnil** | **\fttruetype** |
| <fontfname> | '{\\*' **\fontfile** **\cpg*N***? #PCDATA '}' |

**Note:** For <fontemb>, either <fontfname> or [<data>](#Character_Text) must be present, although both may be present.

**Note:** When <themefont> is present, related font information such as the font name, PANOSE information is still provided so that theme-unaware applications can read what the given font evaluates to while safely ignoring the theme control words new to Word 2007. Only **\fcharset*N*** and **\cpg*N*** provide any additional information to the entry that is not already contained in <themefont>.

All fonts available to the RTF writer can be included in the font table, even if the document does not use all the fonts.

RTF also supports font families so that applications can attempt to intelligently choose fonts if the exact font is not present on the reading system. RTF uses the following control words to describe the various font families.

| Control word | Font family | Examples |
| --- | --- | --- |
| \fnil | Unknown or default fonts (the default) | Not applicable |
| \froman | Roman, proportionally spaced serif fonts | Times New Roman, Palatino |
| \fswiss | Swiss, proportionally spaced sans serif fonts | Arial |
| \fmodern | Fixed-pitch serif and sans serif fonts | Courier New, Pica |
| \fscript | Script fonts | Cursive |
| \fdecor | Decorative fonts | Old English, ITC Zapf Chancery |
| \ftech | Non Unicode, technical and symbol fonts | Symbol, Wingdings |
| \fbidi | Arabic, Hebrew, or other bidirectional font | Miriam |

If an RTF file uses a default font, the default font number is specified with the **\deff*N*** control word, which must precede the font-table group. The RTF writer supplies the default font number used in the creation of the document as the numeric argument ***N***. The RTF reader then translates this number through the font table into the most similar font available from the reader’s operating system.

The following control words specify the font character set, alternative font name, pitch of a font in the font table, and non-tagged font name.

| Control word | Meaning |
| --- | --- |
| \falt | Indicates alternate font name to use if the font specified in the font table is not available. '{\\*' **\falt** <Alternate Font Name>'}' |
| \fprq*N* | Specifies the pitch of a font in the font table.   | Pitch | *N* | | --- | --- | | Default pitch | 0 | | Fixed pitch | 1 | | Variable pitch | 2 | |
| \\*\panose | Destination keyword. This destination contains a 10-byte Panose 1 number. Each byte represents a single font property as described by the Panose 1 standard specification. |
| \\*\fname | Optional font-table control word that defines the nontagged font name, that is, the name without the tag that identifies the character set being used. For example, Arial is a nontagged font name, and Arial (Cyrillic) is a tagged font name. This control word is used by WordPad. Word ignores this control word (and never creates it). |
| \fbias*N* | Used to arbitrate between two fonts when a particular character can exist in either a non-East Asian or an East Asian font. Word 97 through Word 2007 emit the **\fbias*N*** keyword only in the context of bullets or list information (that is, a **\listlevel** destination). The default value of 0 for ***N*** indicates a non-East Asian font. A value of 1 indicates an East Asian font. Additional values may be defined in future releases. |
| \fcharset*N* | Specifies the character set of a font in the font table. If this appears, it implies that bytes in runs tagged with the associated **\f*N*** are character codes in the codepage corresponding to the charset ***N***. Use this codepage to convert the codes to Unicode using a function like the Windows MultiByteToWideChar(). See also the **\cpg*N*** control word, which, if it appears, supersedes the codepage given by **\fcharset*N***. Values for ***N*** are defined, for example, in the Windows header file wingdi.h (e.g., see ANSI\_CHARSET) and are repeated here together with the corresponding Windows or Mac codepages for convenience:   |  |  |  | | --- | --- | --- | | **charset** | **codepage** | **Windows/Mac name** | | 0 | 1252 | ANSI | | 1 | 0 | Default | | 2 | 42 | Symbol | | 77 | 10000 | Mac Roman | | 78 | 10001 | Mac Shift Jis | | 79 | 10003 | Mac Hangul | | 80 | 10008 | Mac GB2312 | | 81 | 10002 | Mac Big5 | | 82 |  | Mac Johab (old) | | 83 | 10005 | Mac Hebrew | | 84 | 10004 | Mac Arabic | | 85 | 10006 | Mac Greek | | 86 | 10081 | Mac Turkish | | 87 | 10021 | Mac Thai | | 88 | 10029 | Mac East Europe | | 89 | 10007 | Mac Russian | | 128 | 932 | Shift JIS | | 129 | 949 | Hangul | | 130 | 1361 | Johab | | 134 | 936 | GB2312 | | 136 | 950 | Big5 | | 161 | 1253 | Greek | | 162 | 1254 | Turkish | | 163 | 1258 | Vietnamese | | 177 | 1255 | Hebrew | | 178 | 1256 | Arabic | | 179 |  | Arabic Traditional (old) | | 180 |  | Arabic user (old) | | 181 |  | Hebrew user (old) | | 186 | 1257 | Baltic | | 204 | 1251 | Russian | | 222 | 874 | Thai | | 238 | 1250 | Eastern European | | 254 | 437 | PC 437 | | 255 | 850 | OEM | |

#### Font Embedding

RTF supports embedded fonts with the **\fontemb** group located inside a font definition. An embedded font can be specified by a file name, or the actual font data may be located inside the group. If a file name is specified, it is contained in the **\fontfile** group. The **\cpg*N*** control word can be used to specify the character set for the file name.

RTF supports TrueTypeÒ and other embedded fonts. The type of the embedded font is described by the following control words.

| Control word | Embedded font type |
| --- | --- |
| \ftnil | Unknown or default font type (the default) |
| \fttruetype | TrueType font |

#### Code Page Support

A font may have a different character set from the character set of the document. For example, the Symbol font has the same characters in the same code positions both on the Macintosh and in Windows. Typically, RTF fonts use the code page corresponding to the **\fcharset*N*** control word in their **\fonttbl** description. If the charset doesn’t exist, the codepage may be given by the **\cpg*N*** control word, for which the code page is ***N***. If the **\cpg*N*** does appear, it supersedes the code page corresponding to the **\fcharset*N****.*For such cases, codepage conversions can be avoided altogether by using the Unicode **\u*N*** notation for characters. In addition, file names (used in field instructions and in embedded fonts) may not necessarily be the same as the character set of the document; the **\cpg*N*** control word can change the character set for these file names as well. However, all RTF documents must still declare a character set (that is, **\ansi**, **\mac**, **\pc**, or **\pca**) to maintain backward compatibility with earlier RTF readers.

The valid values for **\cpg*N*** are given in the **\ansicpg*N*** [table](#CodePage).

#### Theme Font Information

The following control words may be emitted along with a particular font entry in the RTF font table and specify the entry’s relation to the document’s theme.

**Note:** When one of these control words is present, related font information such as the font name, PANOSE information is still provided so that theme-unaware applications can read what the given font evaluates to while safely ignoring the theme control words new to Microsoft Office Word 2007.

| Control word | Meaning |
| --- | --- |
| \flomajor | Specifies font entry uses ASCII variation of the “Headings” theme font. |
| \fhimajor | Specifies font entry uses default (non East Asian, non-ASCII) variation of “Headings” theme font. |
| \fdbmajor | Specifies font entry uses East Asian variation of the “Headings” theme font. |
| \fbimajor | Specifies font entry uses complex scripts variation of the “Headings” theme font. |
| \flominor | Specifies font entry uses ASCII variation of the “Body” theme font. |
| \fhiminor | Specifies font entry uses default (non East Asian, non-ASCII) variation of the “Body” theme font. |
| \fdbminor | Specifies font entry uses East Asian variation of the “Body” theme font. |
| \fbiminor | Specifies font entry uses complex scripts variation of the “Body” theme font. |

### File Table

The **\filetbl** control word introduces the file table destination. The only time a file table is created in RTF is when the document contains subdocuments. The file table group defines the files referenced in the document and has the following syntax:

|  |  |
| --- | --- |
| <filetbl> | '{\\*' **\filetbl** ('{' <fileinfo> '}')+ '}' |
| <fileinfo> | \**file** ***\*fid*N*** **\frelative*N***? **\fosnum*N***? <filesource>+ <file name> |
| <filesource> | **\fvalidmac** | **\fvaliddos** | **\fvalidntfs** | **\fvalidhpfs** | **\fnetwork** | **\fnonfilesys** |
| <file name> | #PCDATA |

**Note:** The file name can be any valid alphanumeric string for the named file system, indicating the complete path and file name.

| Control word | Meaning |
| --- | --- |
| \filetbl | A list of documents referenced by the current document. The file table has a structure analogous to the style or font table. This is a destination control word that is output as part of the document header. |
| \file | Marks the beginning of a file group, which lists relevant information about the referenced file. This is a destination control word. |
| \fid*N* | File ID number. Files are referenced later in the document using this number. |
| \frelative*N* | The character position within the path (starting at 0) where the referenced file's path starts to be relative to the path of the owning document. For example, if a document is saved to the path C:\Private\Resume\File1.doc and its file table contains the path C:\Private\Resume\Edu\File2.doc, then that entry in the file table will be **\frelative18**, to point at the character "E" in "Edu". This allows preservation of relative paths. |
| \fosnum*N* | Currently only filled in for paths from the Macintosh file system. It is an operating system–specific number for identifying the file, which may be used to speed up access to the file or find the file if it was moved to another folder or disk. The Macintosh operating system name for this number is the "file id." Additional meanings of the **\fosnum*N***control word may be defined for other file systems in the future. |
| \fvalidmac | Macintosh file system. |
| \fvaliddos | MS-DOS file system. |
| \fvalidntfs | NTFS file system. |
| \fvalidhpfs | HPFS file system. |
| \fnetwork | Network file system. This control word may be used in conjunction with any of the previous file source control words. |
| \fnonfilesys | Indicates http/odma. |

### Color Table

The **\colortbl** control word introduces the color table group, which defines screen colors, character colors, and other color information. The color table group has the following syntax:

|  |  |
| --- | --- |
| <colortbl> | '{' **\colortbl** <colordef>+ '}' |
| <colordef> | <themecolor>? & **\ctint*N***? & **\cshade*N***? ***\*red*N***? & ***\*green*N***? & ***\*blue*N***? ';' |
| <themecolor> | **\cmaindarkone** | **\cmainlightone** | **\cmaindarktwo** | **\cmainlighttwo** | **\caccentone** | **\caccenttwo** | **\caccentthree** | **\caccentfour** | **\caccentfive** | **\caccentsix** | **\chyperlink** | **\cfollowedhyperlink** | **\cbackgroundone** |  **\ctextone** | **\cbackgroundtwo** | **\ctexttwo** |

**Note:** When <themecolor> is used, the red/green/blue values are still provided so that theme-unaware applications can read what the given color evaluates to while safely ignoring the theme control words introduced by Word 2007.

For example, consider the following sample RTF code of a color table group:

{\colortbl;\red0\green0\blue0;\red0\green0\blue255;\red0\green255\blue255;\red0\green255\blue0;

\red255\green0\blue255;\red255\green0\blue0;\red255\green255\blue0;\red255\green255\blue255;

\red0\green0\blue128;\red0\green128\blue128;\red0\green128\blue0;\red128\green0\blue128;

\red128\green0\blue0;\red128\green128\blue0;\red128\green128\blue128;\red192\green192\blue192;

\caccentone\ctint255\cshade191\red174\green150\blue56;}

The following are valid control words for this group. For the <themecolor> control words, a **\ctint*N*** and **\cshade*N*** can be specified if the color entry describes a tint or a shade of the theme color.

| Control word | Meaning |
| --- | --- |
| \colortbl | Destination for color table definitions |
| \red*N* | Red intensity, such that 0 ≤ ***N*** ≤ 255, i.e., 8 bits per RGB color component |
| \green*N* | Green intensity, such that 0 ≤ ***N*** ≤ 255. |
| \blue*N* | Blue intensity, such that 0 ≤ ***N*** ≤ 255. |
| \ctint*N* | Specifies the tint of the given theme when specifying a theme color. If the entry references a theme color, **\ctint*N*** specifies its shade. If not, **\ctint*N*** is ignored.  Here 0 ≤ ***N*** ≤ 255, where 255 means no tint, and 0 means full tint (resulting in white color). If this control word is not specified, a value of 255 is implied.  **Note:** If the parameter of this control word is less than 255, the parameter of the \cshade control word must be equal to 255. A tint or a shade may be specified, but not both. |
| \cshade*N* | Specifies the shade of the given theme when specifying a theme color. If the entry references a theme color, **\cshade*N*** specifies its shade. If not, **\cshade*N*** is ignored.  Here 0 ≤ ***N*** ≤ 255, where 255 means no shade, and 0 means full shade (resulting in black color). If this control word is not specified, a value of 255 is implied.  **Note:** If the parameter of this control word is less than 255, the parameter of the **\ctint*N*** control word must be equal to 255. A tint or a shade may be specified, but not both. |
| \cmaindarkone | Color entry references “Main Dark 1” theme color. |
| \cmainlightone | Color entry references “Main Light 1” theme color. |
| \cmaindarktwo | Color entry references “Main Dark 2” theme color |
| \cmainlighttwo | Color entry references “Main Light 2” theme color. |
| \caccentone | Color entry references “Accent 1” theme color. |
| \caccenttwo | Color entry references “Accent 2” theme color |
| \caccentthree | Color entry references “Accent 3” theme color. |
| \caccentfour | Color entry references “Accent 4” theme color. |
| \caccentfive | Color entry references “Accent 5” theme color. |
| \caccentsix | Color entry references “Accent 6” theme color |
| \chyperlink | Color entry references “Hyperlink” theme color |
| \cfollowedhyperlink | Color entry references “Followed Hyperlink” theme color. |
| \cbackgroundone | Color entry references “Background 1” theme color. |
| \ctextone | Color entry references “Text 1” theme color. |
| \cbackgroundtwo | Color entry references “Background 2” theme color. |
| \ctexttwo | Color entry references “Text 2” theme color. |

Each definition must be delimited by a semicolon, even if the definition is omitted. If a color definition is omitted, the RTF reader uses its default color. The following example defines the default color table used by Word. The first color is omitted, as shown by the semicolon following the **\colortbl** control word. The missing definition indicates that color 0 is the “auto” color.

{\colortbl;\red0\green0\blue0;\red0\green0\blue255;\red0\green255\blue255;\red0\green255\blue0;

\red255\green0\blue255;\red255\green0\blue0;\red255\green255\blue0;\red255\green255\blue255;

\red0\green0\blue128;\red0\green128\blue128;\red0\green128\blue0;\red128\green0\blue128;

\red128\green0\blue0;\red128\green128\blue0;\red128\green128\blue128;\red192\green192\blue192;}

The foreground and background colors use indexes into the color table to define a color. The following example defines a block of text in color (where supported). Note that the **\cf*N*** or **\cb*N*** index (color foreground or color background) is the index of an entry in the color table, which represents a red/green/blue (RGB) color combination.

{\f1\cb1\cf2 This is colored text. The background is color 1 and the foreground is color 2.}

If the file is read by software that does not display color, the reader should ignore the color table group.

**Note:** Windows versions of Word have never supported **\cb*N***, but it can be emulated by the control word sequence **\chshdng0\chcbpat*N***.

### Default Properties

The following control words correspond to the default properties for the given RTF document.

| Control word | Meaning |
| --- | --- |
| \\*\defchp | Specifies default character level properties (see [Font (Character) Formatting Properties](#_Font_(Character)_Formatting)). |
| \\*\defpap | Specifies default paragraph level properties (see [Paragraph Formatting Properties](#_Paragraph_Formatting_Properties)). |

For example, the following RTF fragment specifyies the default paragraph level properties for a given RTF file:

{\\*\defpap\ql\li0\ri0\widctlpar\wrapdefault\aspalpha\aspnum\faauto\adjustright\rin0\lin0\itap0}

### Style Sheet

The **\stylesheet** control word introduces the style sheet group, which contains definitions and descriptions of the various styles used in the document. All styles in the document's style sheet can be included, even if not all the styles are used. In RTF, a style is a form of shorthand used to specify a set of character, paragraph, or section formatting.

The style sheet group has the following syntax:

|  |  |
| --- | --- |
| <stylesheet> | '{' **\stylesheet** <style>+ '}' |
| <style> | '{' <styledef>? <keycode>? <formatting> **\additive**? **\sbasedon*N***? **\snext*N***? **\sautoupd**? **\slink*N***? **\sqformat**? **\spriority*N***? **\sunhideused*N***? **\slocked**? **\shidden**? **\ssemihidden*N***? **\spersonal**? **\scompose**? **\sreply**? **\styrsid*N***? <stylename>? ';}' |
| <styledef> | **\s*N*** | **\**\***\cs*N*** | **\\*\ds*N*** | ***\\**\ts*N* \tsrowd** |
| <keycode> | '{' **\keycode** <keys> '}' |
| <keys> | (**\shift**? & **\ctrl**? & **\alt**?) <key> |
| <key> | **\fn*N*** | #PCDATA |
| <formatting> | (<brdrdef> | <parfmt> | <apoctl> | <tabdef> | <shading> | <chrfmt>)+ |
| <stylename> | #PCDATA |

For <style>, both <styledef> and <stylename> are optional; the default is paragraph style 0. Note for <stylename> Microsoft Word for the Macintosh interprets commas in #PCDATA as separating style synonyms. In addition, for <key>, the data must be exactly one character.

| Control word | Meaning |
| --- | --- |
| \s*N* | Designates paragraph style with the style handle ***N***, which can be any 16-bit integer. |
| \\*\cs*N* | Designates character style with a style handle ***N***. Like **\s*N***, **\cs*N*** is not a destination control word. However, it is important to treat it like one inside the style sheet; that is, **\cs*N*** must be prefixed with \\* and must appear as the first item inside a group. Doing so ensures that readers that do not understand character styles will skip the character style information correctly. When used in body text to indicate that a character style was applied, do not include the **\\*** prefix. |
| \\*\ds*N* | Designates section style with style handle ***N***. |
| \\*\ts*N* | Designates table style, in the same style as **\cs*N*** for placement and prefixes. |
| \tsrowd | Like **\trowd** but for table style definitions. |
| \additive | Used in a character style definition ('{\\*' **\cs*N***…'}'). Indicates that character style attributes are to be added to the current paragraph style attributes, rather than setting the paragraph attributes to only those defined in the character style definition. |
| \sbasedon*N* | Defines the style handle of the style the current style is based on (default is 222—no style). |
| \snext*N* | Defines the style to be used in the next paragraph after the paragraph marked by this style. If it is omitted, the next style is the current style. |
| \sautoupd | Automatically update styles. |
| \shidden | Style does not appear in the Styles drop-down list in the Style dialog box[[1]](#footnote-1) (on the Format menu, click Styles). |
| \slink*N* | The style is linked to the style whose style sheet index is denoted by ***N***. A paragraph style is linked to a character style when they share the same font properties and the character style is updated when the paragraph style changes. Normally Word will suppress the display of the linked character style in most style lists. |
| \slocked | The style is locked. It cannot be used in the current document if protection is on. |
| \spersonal | Style is a personal e-mail style. |
| \scompose | Style is the e-mail compose style. |
| \sreply | Style is the e-mail reply style. |
| \styrsid*N* | Tied to the rsid table, ***N***is the rsid of the author who implemented the style. |
| \ssemihidden*N* | ***N*** nonzero or ***N*** missing: style does not appear in drop-down menus. If control word is missing or ***N*** = 0, style may appear in drop-down menus. |
| \keycode | This group is specified within the description of a style in the style sheet in the RTF header. The syntax for this group is '{\\*' **\keycode** <keys>'}' where *<*keys*>* are the characters used in the key code. For example, a style, Normal, may be defined {\s0 {\\*\keycode \shift\ctrl n}Normal;} within the RTF style sheet. See the [Special Character](#_Special_Characters_and_A–B) control words for the characters outside the alphanumeric range that may be used. |
| \alt | The alt modifier key. Used to describe shortcut key codes for styles. |
| \shift | The shift modifier key. Used to describe shortcut key codes for styles. |
| \ctrl | The ctrl modifier key. Used to describe shortcut key codes for styles. |
| \fn*N* | Specifies a function key where ***N*** is the function key number. Used to describe shortcut-key codes for styles. |
| \sqformat | This control word specifies whether this style shall be treated as a primary style when this document is loaded by an application. If this control word is present, then this style has been designated as being particularly important for the current document, and this information may be used by an application in any means desired.  **Note:** This setting does not imply any behavior for the style, only that the style is of particular significance for this document.  If this element is omitted, then the style shall not be considered a primary style for this document. |
| \spriority*N* | This control word specifies a number that may be used to sort the set of style definitions in a user interface when this document is loaded by an application and the recommended setting is specified in the **\stylesortmethod*N*** control word.  If ***N*** = 1, then this priority shall be used to sort all available styles in ascending value order.  If this control word is omitted, then the style shall not have an associated priority value and shall be sorted to the end of the list of style definitions (equivalent to a priority value of infinity) when the recommended sort order setting is specified. |
| \sunhideused*N* | This control word specifies whether this style shall be hidden from the main user interface until it is used.  If ***N*** = 1, then this style may be used to format content (that is any content which references this style shall have its properties as normal), but the style shall be hidden from the main user interface associated with that application.  **Note:** The interpretation of a "main" user interface shall not be dictated by this spec, and may be defined by an application as appropriate. This setting is intended to define a style property that allows styles to be seen and modified in an advanced user interface, without exposing the style in a less advanced setting. For example, the style that is used to format the contents of a comment should typically not be shown in a simple user interface, as it is uncommon to want to modify it.  If this control word is omitted or ***N*** = 0, then the style shall not be required to be hidden from the main user interface. |

The following is an example of an RTF style sheet:

{\stylesheet{\ql \li0\ri0\widctlpar\aspalpha\aspnum\faauto\adjustright\rin0\lin0\itap0 \fs24\lang1033\langfe1033\cgrid\langnp1033\langfenp1033 \snext0 Normal;}

{\\*\**cs**10 \additive Default Paragraph Font;}{\\*\**cs**15 \additive \b\ul\cf6 \sbasedon10 UNDERLINE;} {\\*\ts11\tsrowd\trftsWidthB3\trpaddl108\trpaddr108\trpaddfl3 \trpaddft3\trpaddfb3\trpaddfr3\tscellwidthfts0\tsvertalt\tsbrdrt\tsbrdrl\tsbrdrb\tsbrdrr\tsbrdrdgl\tsbrdrdgr\tsbrdrh\tsbrdrv \ql \li0\ri0\widctlpar\aspalpha\aspnum\faauto\adjustright\rin0 \lin0\itap0 \fs20\lang1024\langfe1024\cgrid\langnp1024 \langfenp1024 \snext11 \ssemihidden Normal Table; }{\**s**16\qc \li0\ri0\widctlpar\aspalpha\aspnum\faauto\adjustright\rin0\lin0\itap0 \b\fs24\cf2\lang1033\langfe1033\cgrid\langnp1033\langfenp1033 \sbasedon0 \snext16 \sautoupd CENTER;}}

An example of the usage of these styles in an RTF paragraph:

\pard\plain \ql \li0\ri0\widctlpar\aspalpha\aspnum\faauto\outlinelevel0\adjustright\rin0\lin0\itap0 \fs24\lang1033\langfe1033\cgrid\langnp1033\langfenp1033 {This is the Normal Style  
\par }\pard \ql \li0\ri0\widctlpar\aspalpha\aspnum\faauto\adjustright\rin0\lin0\itap0 {\par }\pard\plain \**s**16\qc \li0\ri0\widctlpar\aspalpha\aspnum\faauto\outlinelevel0\adjustright  
\rin0\lin0\itap0 \b\fs24\cf2\lang1033\langfe1033\cgrid\langnp1033\langfenp1033   
{This is a centered paragraph with blue, bold font. I call the style CENTER.\par }  
\pard\plain \ql \li0\ri0\widctlpar\aspalpha\aspnum\faauto\adjustright\rin0\lin0\itap0 \fs24\lang1033\langfe1033\cgrid\langnp1033\langfenp1033 {\par The word \'93}{\**cs**15\b\ul\cf6 style}{\'94 is red and underlined. I used a style I called UNDERLINE.\par }

Some of the control words used in this example are discussed in later sections. Note that the properties of the style were emitted following the application of the style. This was done for two reasons: (1) to allow RTF readers that do not support styles to continue to display formatting correctly; and (2) to reveal the additive model for styles, where additional property changes are “added” on top of the defined style. Some RTF readers may not “apply” a style when only the style number is used, unless the accompanying formatting information is provided as well.

#### Quick Styles

Quick Styles are a set of styles that should be readily available for a user via the hosting application’s user interface. The **\noqfpromote** control word specifies that a hosting application should not automatically display the following styles as Quick Styles.

|  |  |  |  |
| --- | --- | --- | --- |
| Book Title | Caption | Emphasis | Heading1 |
| Heading2 | Heading3 | Heading4 | Heading5 |
| Heading6 | Heading7 | Heading8 | Heading9 |
| Intense Emphasis | Intense Quote | Intense Reference | List Paragraph |
| No Spacing | Normal | Quote | Strong |
| Subtitle | Subtle Emphasis | Subtle Reference | Table of Contents Heading |
| Title |  |  |  |

**Note:** This control word is usually used in conjunction with **\sqformat** to customize the list of Quick Styles displayed by a hosting application when it loads an RTF file.

#### Table Styles

Word 2002 introduced table styles. Table styles are like other styles in that they contain properties to be shared by many tables. Unlike the other styles though, table styles allow for conditional formatting, such as specifically coloring the first row.

To address the issue of older readers opening newer RTF files, raw properties were implemented. Older readers can still see the regular properties and edit them, but newer readers should be able to read the RTF back in and not lose any style functionality. This leaves two types of properties: those applied by older writers that are readable by older readers, and those the user applied directly to override aspects of the style. The user-applied changes are referred to as “raw” and have a higher priority than their non-raw counterparts have.

The following table describes keywords available for style definitions. Any older table formatting properties may be used as well.

| Control word | Meaning |
| --- | --- |
| \tscellwidth*N* | Currently emitted but has no effect. |
| \tscellwidthfts*N* | Currently emitted but has no effect. |
| \tscellpaddt*N* | Top padding value. |
| \tscellpaddl*N* | Left padding value. |
| \tscellpaddr*N* | Right padding value |
| \tscellpaddb*N* | Bottom padding value |
| \tscellpaddft*N* | Units for **\tscellpaddt*N***  0 Auto  3 Twips |
| \tscellpaddfl*N* | Units for **\tscellpaddl*N***  0 Auto  3 Twips |
| \tscellpaddfr*N* | Units for **\tscellpaddr*N***  0 Auto  3 Twips |
| \tscellpaddfb*N* | Units for **\tscellpaddb*N***  0 Auto  3 Twips |
| \tsvertalt | Top vertical alignment of cell |
| \tsvertalc | Center vertical alignment of cell |
| \tsvertalb | Bottom vertical alignment of cell |
| \tsnowrap | No cell wrapping |
| \tscellcfpat*N* | Foreground cell shading color |
| \tscellcbpat*N* | Background cell shading color |
| \tscellpct*N* | Cell shading percentage – *N* is the shading of a table cell in hundredths of a percent |
| \tsbgbdiag | Cell shading pattern – backward diagonal (////) |
| \tsbgfdiag | Cell shading pattern – forward diagonal (\\\\) |
| \tsbgdkbdiag | Cell shading pattern – dark backward diagonal (////) |
| \tsbgdkfdiag | Cell shading pattern – dark forward diagonal (\\\\) |
| \tsbgcross | Cell shading pattern – cross |
| \tsbgdcross | Cell shading pattern – diagonal cross |
| \tsbgdkcross | Cell shading pattern – dark cross |
| \tsbgdkdcross | Cell shading pattern – dark diagonal cross |
| \tsbghoriz | Cell shading pattern – horizontal |
| \tsbgvert | Cell shading pattern – vertical |
| \tsbgdkhor | Cell shading pattern – dark horizontal |
| \tsbgdkvert | Cell shading pattern – dark vertical |
| \tsbrdrt | Top border for cell |
| \tsbrdrb | Bottom border for cell |
| \tsbrdrl | Left border for cell |
| \tsbrdrr | Right border for cell |
| \tsbrdrh | Horizontal (inside) border for cell |
| \tsbrdrv | Vertical (inside) border for cell |
| \tsbrdrdgl | Diagonal (upper left to lower right) border for cell |
| \tsbrdrdgr | Diagonal (lower left to upper right) border for cell |
| \tscbandsh*N* | Count of rows in a row band |
| \tscbandsv*N* | Count of cells in a cell band |

#### Style and Formatting Restrictions

The style restrictions group has the following syntax:

|  |  |
| --- | --- |
| <stylerestrictions> | '{\\*' **\latentstyles** **\lsdstimax*N*** **\lsdlockeddef*N*** **\lsdsemihiddendef*N*** **\lsdunhideuseddef*N*** **\lsdqformatdef*N*** **\lsdprioritydef*N*** <exceptions>? '}' |
| <exceptions> | '{' **\lsdlockedexcept** <stylenames>+ '}' |
| <stylenames> | <stylename> ';' |
| <stylename> | **\lsdpriority*N*** ?**\lsdunhideused*N*** *?* **\lsdsemihidden*N*** ? **\lsdqformat*N*** ? **\lsdlocked*N*** ? #PCDATA |

where the control words are defined by

| Control word | Meaning |
| --- | --- |
| \latentstyles | Indicates that there are style and formatting usage restrictions in the document. |
| \lsdstimax*N* | Indicates how many styles will get the default value specified by \lsdlockeddef*N.* The number will be the same for all files emitted by a given Word version. |
| \lsdlockeddef*N* | Indicates that no direct formatting can be applied to the document and styles are allowed or disallowed according to *N*:  0 Assume all styles are allowed except for those specified by \lsdlockedexcept.  1 Assume all styles are disallowed except those specified by \lsdlockedexcept.  Note that the \autofmtoverride document property can allow AutoFormat to apply direct formatting. |
| \lsdlockedexcept | Exceptions to the lockdown mode specified by \lsdlockeddef*N*. It is followed by a semicolon-separated list of allowed styles (by name) that are not covered by the protection. |
| \lsdsemihiddendef*N* | Specifies the default setting for the **\ssemihidden*N*** control word that shall be applied to any style made available by the hosting application that is not explicitly defined in the current document. This setting shall be overridden for every style for which a latent style exception exists (**\lsdsemihidden*N***).  If this element is omitted, the default **\ssemihidden*N*** state for all latent styles in the current document shall be “0”. |
| \lsdunhideuseddef*N* | Specifies the default setting for the **\sunhideused*N*** control word that shall be applied to any style made available by the hosting application that is not explicitly defined in the current document. This setting shall be overridden for every style for which a latent style exception exists (**\lsdunhideusedN**)  If this element is omitted, the default **\sunhideused*N*** state for all latent styles in the current document shall be “0”. |
| \lsdqformatdef*N* | Specifies the default setting for the **\sqformat** control word that shall be applied to any style made available by the hosting application that is not explicitly defined in the current document. This setting shall be overridden for every style for which a latent style exception exists (**\lsdqformat*N***).  If this element is omitted, the default **\sqformat** state for all latent styles in the current document shall be “0”. |
| \lsdprioritydef*N* | Specifies the default setting for the **\spriority*N*** control word that shall be applied to any style made available by the hosting application that is not explicitly defined in the current document. This setting shall be overridden for every style for which a latent style exception exists. (**\lsdpriority*N***)  If this element is omitted, the default **\spriority*N*** state for all latent styles in the current document shall be “99”. |
| \lsdpriority*N* | Specifies the default setting for the **\spriority*N*** control word that shall be applied to the latent style with the matching style name value.  If this element is omitted, the default **\spriority*N*** state for this latent style shall be determined the **\lsdprioritydef*N***control word. |
| \lsdunhideused*N* | Specifies the default setting for the **\sunhideused*N*** control word that shall be applied to the latent style with the matching style name value.  If this element is omitted, the default **\sunhideused*N*** state for this latent style shall be determined by the **\lsdunhideuseddef*N*** control word. |
| \lsdsemihidden*N* | Specifies the default setting for the **\ssemihidden*N*** control word that shall be applied to the latent style with the matching style name value.  If this element is omitted, the default **\ssemihidden*N*** state for this latent style shall be determined by the **\lsdsemihiddendef*N*** control word. |
| \lsdqformat*N* | Specifies the default setting for the **\sqformat** control word that shall be applied to the latent style with the matching style name value.  If this control word is omitted, the default **\sqformat** state for this latent style shall be determined by the **\lsdqformatdef*N*** control word. |
| \lsdlocked*N* | Specifies the default setting for the **\slocked** control word that shall be applied to the latent style with the matching style name value.  If this element is omitted, the default **\slocked** state for this latent style shall be determined by the **\lsdlockeddef*N***control word |

The following is an example illustrating the style restrictions that disallow all styles except Normal, Heading 1, heading 2, heading 3, Default Paragraph Font, HTML Top of Form, HTML Bottom of Form, Normal Table, and No List:

{\\*\latentstyles\lsdstimax156\lsdlockeddef1{\lsdlockedexcept Normal;heading 1;heading 2;heading 3;Default Paragraph Font;HTML Top of Form;HTML Bottom of Form;Normal Table;No List;}}

**Note:** \annotprot is emitted when locking styles for backward compatibility purposes, but it is ignored by Word 2003 and Word 2007 when reading in documents with style protection.

### List Tables

Word 97, Word 2000, Word 2002, Word 2003, and Word 2007 store bullets and numbering information very differently from earlier versions of Word. In Word 6.0, for example, number-formatting data is stored individually with each paragraph. In Word 97 and later versions, however, all of the formatting information is stored in a pair of document-wide list tables that act as a style sheet, and each individual paragraph stores only an index to one of the tables, like a style index.

There are two list tables in Word: the List table (destination **\listtable**), and the List Override table (destination **\listoverridetable).**

#### List Table

The first table Word stores is the List table. A List table is a list of lists (destination **\list**). Each list contains a number of list properties that pertain to the entire list, and a list of levels (destination **\listlevel)**, each of which contains properties that pertain only to that level. The **\listpicture** destination contains all the picture bullets used in the document, with a **\shppict** headed list of **\pict** entries. These are referenced within the list by the **\levelpicture*N*** keyword, with ***N*** referring to an element in the list, starting at 0.

The syntax for the List table is as follows:

|  |  |
| --- | --- |
| <listtable> | '{\\*' **\listtable** <listpicture>? <list>+ '}' |
| <listpicture> | '{\\*' **\listpicture** <shppictlist> '}' |
| <list> | \**list** \**listemplateid** & (**\listsimple** | **\listhybrid**)? & <listlevel>+ & **\listrestarthdn** & **\listid*N*** & (\**listname** #PCDATA ';') **\liststyleid*N***? **\liststylename**? |
| <listlevel> | '{' **\listlevel** <number> <justification> & \levelfollow*N* & **\levelstartat*N*** & **\lvltentative**? (\levelold*N* & \levelprev*N*? & \levelprevspace*N*? &\levelspace*N*? & \levelindent*N*?)?& <leveltext> & <levelnumbers> & \levellegal*N*? & \leve**lnorestart*N***? & <chrfmt>? & \levelpicture*N &* \li*N*? & \fi*N*? & (**\jclisttab** \**tx*N***)? & **\lin*N***? '}' |
| <number> | \levelnfc*N* |\levelnfcn*N* | (\levelnfc*N &* \levelnfcn*N*) |
| <justification> | **\leveljc*N*** | **\leveljcn*N*** | (\**leveljc*N*** & **\leveljcn*N***) |
| <leveltext> | '{' \leveltext **\leveltemplateid**? #SDATA ';}' |
| <levelnumbers> | '{' \levelnumbers #SDATA ';}' |

##### Top-Level List Properties

| Control word | Meaning |
| --- | --- |
| \listid*N* | Each list must have a unique list ID that should be randomly generated. ***N*** is a long integer. The list ID cannot be between –1 and –5. |
| \listtemplateid*N* | Each list should have a unique template ID as well, which also should be randomly generated. The template ID –1 means the template ID is undefined. ***N*** is a long integer. |
| \listsimple*N* | 1 if the list has one level; 0 (default) if the list has nine levels. |
| \listhybrid | Present if the list has 9 levels, each of which is the equivalent of a simple list. Only one of **\listsimple*N*** and **\listhybrid** should be present. Word 2000 and newer versions will write lists with the **\listhybrid** property. |
| \listrestarthdn*N* | 1 if the list restarts at each section; 0 if not. Used for Word 95 compatibility only. |
| \listname | The argument for **\listname** is a string that is the name of this list. Names allow ListNum fields to specify the list to which they belong. This is a destination control word. |
| \liststyleid*N* | This identifies the style of this list from the list style definition that has this ID as its **\listid*N***. There can be more than one list style reference to a list style definition. This keyword follows the same numbering convention as **\listid*N***.  **\liststyleid*N*** and **\liststylename** are exclusive; either zero or one of each can exist per **\list** definition, but never both. |
| \liststylename | Identifies this list as a list style definition. This creates a new list style with the given name and the properties of the current list.  **\liststyleid*N*** and **\liststylename** are exclusive; either zero or one of each can exist per **\list** definition, but never both. |

While Word 97 emitted simple or multilevel (not simple) lists, Word 2000, Word 2002, Word 2003, and Word 2007 emit hybrid lists, which are essentially collections of simple lists. The main difference between Word 2000, Word 2002, Word 2003, and Word 2007 hybrid lists and Word 97 multilevel lists is that each level of a hybrid list has a unique identifier.

##### List Levels

Each list consists of either one or nine list levels depending upon whether the **\listsimple** flag is set. Each list level contains a number of properties that specify the formatting for that level, such as the start-at value, the text string surrounding the number, its justification and indents.

| Control word | Meaning |
| --- | --- |
| \levelstartat*N* | ***N*** specifies the start-at value for the level. |
| \lvltentative | Specifies that a given numbering level was been saved by a producer but was not used in the parent document. This means that this numbering level may be redefined by a future consumer without changing the actual content of the document.  If this control word is present, the RTF for a given document will contain the numbering level information associated with this numbering level, but the 'tentative' numbering level(s) shall not be represented in any of the hosting application's user interface pertaining to numbering levels. |
| \levelnfc*N* | Specifies the number type for the level  0 Arabic (1, 2, 3)  1 Uppercase Roman numeral (I, II, III)  2 Lowercase Roman numeral (i, ii, iii)  3 Uppercase letter (A, B, C)  4 Lowercase letter (a, b, c)  5 Ordinal number (1st, 2nd, 3rd)  6 Cardinal text number (One, Two Three)  7 Ordinal text number (First, Second, Third)  10 Kanji numbering without the digit character (DBNUM1)  11 Kanji numbering with the digit character (DBNUM2)  12 46 phonetic katakana characters in "aiueo" order (AIUEO) (newer form – "あいうえお。。。” based on phonem matrix)  13 46 phonetic katakana characters in "iroha" order (IROHA) (old form – “いろはにほへとちりぬるお。。。” based on haiku from long ago)  14 Double-byte character  15 Single-byte character  16 Kanji numbering 3 (DBNUM3)  17 Kanji numbering 4 (DBNUM4)  18 Circle numbering (CIRCLENUM)  19 Double-byte Arabic numbering  20 46 phonetic double-byte katakana characters (AIUEO DBCHAR)  21 46 phonetic double-byte katakana characters (IROHA DBCHAR)  22 Arabic with leading zero (01, 02, 03, ..., 10, 11)  23 Bullet (no number at all)  24 Korean numbering 2 (GANADA)  25 Korean numbering 1 (CHOSUNG)  26 Chinese numbering 1 (GB1)  27 Chinese numbering 2 (GB2)  28 Chinese numbering 3 (GB3)  29 Chinese numbering 4 (GB4)  30 Chinese Zodiac numbering 1 (ZODIAC1)  31 Chinese Zodiac numbering 2 (ZODIAC2)  32 Chinese Zodiac numbering 3 (ZODIAC3)  33 Taiwanese double-byte numbering 1  34 Taiwanese double-byte numbering 2  35 Taiwanese double-byte numbering 3  36 Taiwanese double-byte numbering 4  37 Chinese double-byte numbering 1  38 Chinese double-byte numbering 2  39 Chinese double-byte numbering 3  40 Chinese double-byte numbering 4  41 Korean double-byte numbering 1  42 Korean double-byte numbering 2  43 Korean double-byte numbering 3  44 Korean double-byte numbering 4  45 Hebrew non-standard decimal  46 Arabic Alif Ba Tah  47 Hebrew Biblical standard  48 Arabic Abjad style  49 Hindi vowels  50 Hindi consonants  51 Hindi numbers  52 Hindi descriptive (cardinals)  53 Thai letters  54 Thai numbers  55 Thai descriptive (cardinals)  56 Vietnamese descriptive (cardinals)  57 Page number format - # -  58 Lower case Russian alphabet  59 Upper case Russian alphabet  60 Lower case Greek numerals (alphabet based)  61 Upper case Greek numerals (alphabet based)  62 2 leading zeros: 001, 002, ..., 100, ...  63 3 leading zeros: 0001, 0002, ..., 1000, ...  64 4 leading zeros: 00001, 00002, ..., 10000, ...  65 Lower case Turkish alphabet  66 Upper case Turkish alphabet  67 Lower case Bulgarian alphabet  68 Upper case Bulgarian alphabet  255 No number |
| \leveljc*N* | 0 Left justified  1 Center justified  2 Right justified |
| \levelnfcn*N* | Same arguments as **\levelnfc*N***. Takes priority over **\levelnfc*N*** if both are present. In Word 97 ***\*levelnfc*N*** was interpreted differently by the Hebrew/Arabic versions. *\*levelnfcn*N* in Word 2000, Word 2002, Word 2003, and Word 2007 eliminates dual interpretation, while \levelnfc*N* is still needed for backward compatibility. |
| \leveljcn*N* | 0 Left justified for left-to-right paragraphs and right justified for right-to-left paragraphs  1 Center justified  2 Right justified for left-to-right paragraphs and left justified for right-to-left paragraphs  Word 2000, Word 2002, Word 2003, and Word 2007 prefer **\leveljcn*N*** to **\leveljc*N*** if both are present, but it will be written for backward compatibility with older readers. |
| \levelold*N* | 1 if this level was converted from Word 6.0 or Word 95; 0 if it is a native Word 97 through Word 2007 level. |
| \levelprev*N* | 1 if this level includes the text from the previous level (used for Word 95 compatibility only); otherwise, the value is 0. This keyword will only be valid if the **\levelold*N*** keyword is emitted. |
| \levelprevspace*N* | 1 if this level includes the indentation from the previous level (used for Word 95 compatibility only); otherwise, the value is 0. This keyword will only be valid if the **\levelold*N*** keyword is emitted. |
| \levelindent*N* | Minimum distance from the left indent to the start of the paragraph text (used for Word 95 compatibility only). This keyword will only be valid if the **\levelold*N*** keyword is emitted. |
| \levelspace*N* | Minimum distance from the right edge of the number to the start of the paragraph text (used for Word 95 compatibility only). This keyword will only be valid if the **\levelold*N*** keyword is emitted. |
| \leveltext | If the list is hybrid, as indicated by **\listhybrid**, the **\leveltemplateid*N*** keyword will be included, whose argument is a unique level ID that should be randomly generated. The value ***N*** is a long integer. The level ID cannot be between (–1) and (–5).  The second argument for this destination should be the number format string for this level. The first character is the length of the string, and any numbers within the level should be replaced by the index of the level they represent. For example, a level three number such as “1.1.1.” would generate the following RTF: “{\leveltext **\leveltemplateid*N*** \'06\'00.\'01.\'02.}” where the ’06 is the string length, the \'00, \'01, and \'02 are the level placeholders, and the periods are the surrounding text. This is a destination control word. |
| \levelnumbers | The argument for this destination should be a string that gives the offsets into the **\leveltext** of the level placeholders. In the preceding example, “1.1.1.”, the **\levelnumbers** RTF should be  {\levelnumbers \'01\'03\'05}  because the level placeholders have indices 1, 3, and 5. This is a destination control word. |
| \levelfollow*N* | Specifies which character follows the level text:  0 Tab  1 Space  2 Nothing |
| \levellegal*N* | 1 if any list numbers from previous levels should be converted to Arabic numbers;  0 if they should be left with the format specified by their own level’s definition. |
| \levelnorestart*N* | 1 if this level does not restart its count each time a super ordinate level is incremented; 0 if this level does restart its count each time a super ordinate level is incremented. |
| \levelpicture*N* | Determines which picture bullet from the **\listpicture** destination should be applied. |
| \levelpicturenosize | If present, do not resize the picture bullet if the size of the **\par** marker is changed. |

In addition to all of these properties, each list level can contain any character properties (all of which affect all text for that level) and any combination of three paragraph properties: left indents, first line left indents, and tabs—each of which must be of a special type: **\**jclisttab. These paragraph properties will be automatically applied to any paragraph in the list.

#### List Override Table

The List Override table is a list of list overrides (destination **\**listoverride). Each list override contains the **\**listid*N* of one of the lists in the List table, and a list of any properties it chooses to override. Each paragraph will contain a list override index (keyword **\**ls*N*), which is a 1-based index into this table. Most list overrides do not override any properties—instead, they provide a level of indirection to a list. There are generally two types of list overrides:

(1) Formatting overrides. Allows a paragraph to be part of a list and to be numbered along with the other members of the list, but have different formatting properties

(2) Start-at overrides. Allows a paragraph to share the formatting properties of a list, but have different start-at values. The first element in the document with each list override index takes the start-at value that the list override specifies as its value, while each subsequent element is assigned the number succeeding the previous element of the list.

List overrides have a few top-level keywords, including a **\**listoverridecount*N*, which contains a count of the number of levels whose format is overridden. This **\**listoverridecount*N* should always be either 0, 1 or 9, depending upon whether the list to be overridden is simple (0 or 1) or hybrid/multilevel (9). All of the actual override information is stored within a list of list override levels (destination **\**lfolevel).

The syntax for the List Override table is as follows:

|  |  |
| --- | --- |
| <listoverridetable> | '{\\*' **\listoverridetable** <listoverride>+ '}' |
| <listoverride> | '{' **\listoverride** & **\listid*N*** & **\listoverridecount*N*** & **\ls*N*** <lfolevel>? '}' |
| <lfolevel> | '{' **\lfolevel \listoverrideformat*N***? **\listoverridestartat**? <listlevel> '}' |

where the control words are defined by

| Control word | Meaning |
| --- | --- |
| \listid*N* | Should exactly match the \listid of one of the lists in the List table. The value ***N*** is a long integer. |
| \listoverridecount*N* | Number of list override levels within this list override (0, 1 or 9). |
| \ls*N* | The (1-based) index of this \listoverride in the \listoverride table. This value should never be zero inside a \listoverride and must be unique for all \listoverride’s within a document. The valid values are from 1 to 2000. The value 0 means no list. |
| \listoverridestartat | Indicates an override of the start-at value. |
| \listoverrideformat*N* | Number of list format override levels within this list override (should be either 1, 9, or missing, which means 0). |

Each list override level contains flags to specify whether the formatting or start-at values are being overridden for each level. If the format flag (**\**listoverrideformat*N*) is given, the **\**lfolevel should also contain a list level (<listlevel>). If the start-at flag (**\**listoverridestartat) is given, a start-at value must be provided. If the start-at is overridden but the format is not, then a **\**levelstartat*N* should be provided in the <lfolevel> itself. If both the start-at and the format are overridden, put the **\**levelstartat*N* inside the <listlevel> contained in the <lfolevel>.

### Paragraph Group Properties

Word 2002 introduced paragraph group properties, similar to style sheets. A document using paragraph group properties places a **\pgptbl** entry in the header. Elements in the Paragraph Group Properties (PGP) table are entered as they are created in the document and are identified with an **\ipgp*N*** value. The formatting options are taken from the regular paragraph formatting options. PGP table entries may exist with different **\ipgp*N*** values but with the same properties. Any paragraph that references an entry in the PGP table does so by emitting **\ipgp*N***, which sets paragraph formatting options according to the entry in the PGP table. Additional formatting options may also be employed.

The PGP syntax is as follows:

|  |  |
| --- | --- |
| <pgptbl> | '{\\***' \pgptbl** <entry>+'}' |
| <entry> | '{' **\pgp** <value> '}' |
| <value> | **\ipgp*N*** <parfmt>+ |

The following is a sample PGP table with two entries:

{\\*\pgptbl {\pgp\ipgp13\itap0\li0\ri0\sb0\sa0}{\pgp\ipgp80\itap0\li720\ri0\sb100\sa100}}

### Revision Marks

This table allows tracking of multiple authors and reviewers of a document, and is used in conjunction with the character properties for tracking changes (using revision marks).

| Control word | Meaning |
| --- | --- |
| \\*\revtbl | This group consists of subgroups that each identify the author of a revision in the document, as in {Author1;}. This is a destination control word.  Revision conflicts, such as those that result when one author deletes another's additions, are stored as one group, in the following form:  CurrentAuthor\'00\'<length of previous author's name>PreviousAuthor\'00 PreviousRevisionTime  The 4 bytes of the Date/Time (DTTM) structure are emitted as ASCII characters, so values greater than 127 should be emitted as quoted hexadecimal values. |

All time references for revision marks use the following bit field structure, DTTM.

| Bit numbers | Information | Range |
| --- | --- | --- |
| 0–5 | Minute | 0–59 |
| 6–10 | Hour | 0–23 |
| 11–15 | Day of month | 1–31 |
| 16–19 | Month | 1–12 |
| 20–28 | Year | = Year – 1900 |
| 29–31 | Day of week | 0 (Sun)–6 (Sat) |

#### RSID

In Word 2002, a new style of revision tracking was established. RSIDs (Revision Save IDs) indicate when text or a property was changed. Whenever text is added or deleted or properties are changed, that text or property is tagged with the current "Save ID," which is a random number that changes each time the document is saved. They are primarily used when merging or comparing two documents with a common history but no revision marks. By reviewing the RSID we can tell which of the two authors made the change. Without the RSID we can only tell that there is a difference, but we do not know if (for example) it was an addition by author A or a deletion by author B. An RSID table is placed after all other style definitions and before the <generator> and <info> groups. Changed text and properties is contained in groups with an appropriate control word (like **\insrsid*N*** for insertions) that identifies the editing session.

The syntax for an RSID table is as follows:

|  |  |
| --- | --- |
| <rsidtable> | '{\\*' **\rsidtbl** **\rsid*N***+ '}' |

|  |  |
| --- | --- |
| Control word | Meaning |
| \\*\rsidtbl | Destination for the revision save ID table. |
| \rsid*N* | Each time a document is saved a new entry is added to this table, with ***N*** being the random long integer number assigned to represent the unique session. |
| \insrsid*N* | An RSID is inserted where an insertion is made to denote the session in which particular text was inserted. Example: if "This is text." is inserted, it will be written in RTF as  {\insrsid8282541 This is text.}  For use in lists:  {\insrsid8282541 Item in List \par{\listtext\pard\plain\f3\insrsid8282541 \loch\af3\dbch\af0 \hich\f3 \'b7\tab}} |
| \rsidroot*N* | Designates the start of the document’s history (first save). |
| \delrsid*N* | RSID value identifying when text was marked as deleted. |
| \charrsid*N* | RSID value identifying when character formatting was changed. |
| \sectrsid*N* | RSID identifying when section formatting was changed. |
| \pararsid*N* | RSID identifying when paragraph formatting was changed. |
| \tblrsid*N* | RSID identifying when table formatting was changed. |

##### Old Properties

With tracking enabled, you can document changes to formatting. To keep track of the property before the changes were made, Old Properties were created. This tracking uses the following syntax:

|  |  |  |
| --- | --- | --- |
| <oldprop> | '{\\*' <oldproptype> <oldproperties>+ <trackinginfo> ';}' | |
| <oldproptype> | \oldcprops | \oldpprops | \oldtprops | \oldsprops |
| <oldproperties> | This section includes any of the relevant format tags that would have to be put in place to revert the document to its pre-edit form. For example, this would be **\b0** if the user had chosen to make the selection bold. |
| <trackinginfo> | This can be any tag used to track the author, revision ID, and date. |

|  |  |  |
| --- | --- | --- |
| Control word | Meaning | |
| \oldcprops | Old character formatting properties. |
| \oldpprops | Old paragraph formatting properties. |
| \oldtprops | Old table formatting properties. |
| \oldsprops | Old section formatting properties. |

The following is an example of the correct use of the Old Properties when bold and italic are applied to a section of existing text. If the original text “This is a test.” is changed to “This ***is a*** test.”, the following code example will be formed, which would tell an RTF reader that to undo the change to the character property bold and italic would have to be disabled:

{\rtlch\fcs1 \af0 \ltrch\fcs0 \insrsid2778197 \hich\af0\dbch\af13\loch\f0 This }{\rtlch\fcs1 \ab\af0 \ltrch\fcs0 \b\i\crauth1\crdate1717000906\insrsid2778197\charrsid2778197 {\\*\oldcprops \b0\i0\crauth1\crdate1717000906\insrsid2778197\charrsid2778197 }\hich\af0\dbch\af13\loch\f0 is a}{\rtlch\fcs1 \af0 \ltrch\fcs0 \insrsid2778197 \hich\af0\dbch\af13\loch\f0 test.}{\rtlch\fcs1 \af0 \ltrch\fcs0 \insrsid15803535

### User Protection Information

The following is the syntax for the user protection information group, which lists the specific users granted exceptions to the document protection.

|  |  |
| --- | --- |
| <userprotection> | '{\\*' **\protusertbl** <user>+ '}' |
| <user> | '{' #PCDATA '}'  A user name is enclosed by braces. |

| Control word | Meaning |
| --- | --- |
| \protusertbl | Table of users referenced during document protection. |

Example of user protection information:

{\\*\protusertbl{DOMAIN\'5cuserone}{DOMAIN\'5cusertwo}{DOMAIN\'5cuserthree}}

### Generator

Word 2002, Word 2003, and Word 2007 allow the RTF emitter application to stamp the document with its name, version, and build number. The generator area has the following syntax:

|  |  |
| --- | --- |
| <generator> | '{\\*' **\generator** <name> ';}' |
| <name> | #PCDATA, the name of the program, the version, the build, and any other information about the emitting program can be listed here. Word 2002 lists {\\*\generator Microsoft Word 10.0.XXXX} – Word 2003 lists {\\*\generator Microsoft Word 11.0.XXXX} – Word 2007 lists {\\*\generator Microsoft Word 12.0.XXXX} in which XXXX is replaced by the build number. Only ASCII text is allowed in this field. |

## Document Area

Once the RTF header is defined, the RTF reader has enough information to correctly read the actual document text. The <document> contains document information followed by one or more sections. It has the following syntax:

|  |  |
| --- | --- |
| <document> | <info>? <xmlnstbl>? <docfmt>\* <section>+ |

### Information Group

The **\info** control word introduces the information group, which contains information about the document. This can include the title, author, keywords, comments, and other information specific to the file. This information is for use by a document-management tool, if available.

The information group has the following syntax:

|  |  |
| --- | --- |
| <info> | '{' **\info** <title>? & <subject>? & <author>? & <manager>? & <company>? <operator>? & <category>? & <keywords>? & <comment>? & ***\*version*N***? & <doccomm>? & ***\*vern*N***? & <creatim>? & <revtim>? & <printim>? & <buptim>? & ***\*edmins*N***? & ***\*nofpages*N***? & ***\*nofwords*N***? ***\*nofchars*N***? & ***\*id*N***? '}' |
| <title> | '{' **\title** #PCDATA '}' |
| <subject> | '{' **\subject** #PCDATA '}' |
| <author> | '{' **\author** #PCDATA '}' |
| <manager> | '{' **\manager** #PCDATA '}' |
| <company> | '{' **\company** #PCDATA '}' |
| <operator> | '{' **\operator** #PCDATA '}' |
| <category> | '{' **\category** #PCDATA '}' |
| <keywords> | '{' **\keywords** #PCDATA '}' |
| <comment> | '{' **\comment** #PCDATA '}' |
| <doccomm> | '{' **\doccomm** #PCDATA '}' |
| <hlinkbase> | '{' **\hlinkbase** #PCDATA '}' |
| <creatim> | '{' **\creatim** <time> '}' |
| <revtim> | '{' **\revtim** <time> '}' |
| <printim> | '{' **\printim** <time> '}' |
| <buptim> | '{' **\buptim** <time> '}' |
| <time> | **\yr*N***? **\mo*N***? **\dy*N***? **\hr*N***? **\min*N***? **\sec*N***? |

Some applications, such as Word, ask the user to type this information when saving the document in its native format. If the document is then saved as an RTF file or translated into RTF, the RTF writer specifies this information using control words in the following table. These control words are destinations, and both the control words and the text should be enclosed in braces ({ }).

| Control word | Meaning | |
| --- | --- | --- |
| \info | Destination for document information group. | |
| \title | Title of the document. This is a destination control word. | |
| \subject | Subject of the document. This is a destination control word. | |
| \author | Author of the document. This is a destination control word. | |
| \manager | Manager of the author. This is a destination control word. | |
| \company | Company of the author. This is a destination control word. | |
| \operator | Person who last made changes to the document. This is a destination control word. | |
| \category | Category of the document. This is a destination control word. | |
| \keywords | Selected keywords for the document. This is a destination control word. | |
| \comment | Comments; text is ignored. This is a destination control word. | |
| \version*N* | Version number of the document. | |
| \doccomm | Comments displayed in the **Summary Info** or **Properties** dialog box in Word. This is a destination control word. | |
| \hlinkbase | The base address that is used for the path of all relative hyperlinks inserted in the document. This can be a path or an Internet address (URL). This is a destination control word. |

The **\userprops** control word introduces the user-defined document properties. Unique **\propname** control words define each user-defined property in the document. This group has the following syntax:

|  |  |
| --- | --- |
| <userprops> | '{\\*' **\userprops** <propinfo>\* '}' |
| <propinfo> | '{' <propname> **\proptype*N*** <staticval> <linkval>? '}' |
| <propname> | '{' **\propname** #PCDATA '}' |
| <staticval> | '{' **\staticval** #PCDATA '}' |
| <linkval> | '{' **\linkval** #PCDATA '}' |

|  |  |
| --- | --- |
| Control word | Meaning |
| \userprops | Destination for user-defined properties. |
| \propname | Name of a user-defined property. |
| \staticval | Destination for property value. |
| \linkval | Name of bookmark that contains text to display as the value of the property. |
| \proptype*N* | Specifies property type:  3 Integer  5 Real number  64 Date  11 Boolean  30 Text |

The RTF writer may automatically enter other control words, including those in the following table.

| Control word | Meaning |
| --- | --- |
| \vern*N* | Internal version number |
| \creatim | Creation time |
| \revtim | Revision time |
| \printim | Last print time |
| \buptim | Backup time |
| \edmins*N* | Total editing time (in minutes) |
| \yr*N* | Year |
| \mo*N* | Month |
| \dy*N* | Day |
| \hr*N* | Hour |
| \min*N* | Minute |
| \sec*N* | Seconds |
| \nofpages*N* | Number of pages |
| \nofwords*N* | Number of words |
| \nofchars*N* | Number of characters including spaces |
| \nofcharsws*N* | Number of characters not including spaces |
| \id*N* | Internal ID number |

Any control word described in the previous table that does not have a numeric parameter specifies a date; all dates are specified with the **\yr*N* \mo*N* \dy*N* \hr*N* \min*N* \sec*N*** control words. An example of an information group follows:

{\info{\title Template}{\author John Doe}{\operator JOHN DOE}{\creatim\yr1999\mo4\dy27\min1}{\revtim\yr1999\mo4\dy27\min1}{\printim\yr1999\mo3\dy17\hr23\min5}{\version2}{\edmins2}{\nofpages183}{\nofwords53170}{\nofchars303071}{\\*\company Microsoft}{\nofcharsws372192}{\vern8247}}

### Read-Only Password Protection

This control word contains hex-encoded encrypted data representing the password needed to edit the given RTF document. For more information on the encryption algorithm used, please see the WordprocessingML element documentProtection discussed in [Office Open XML](#OfficeOpenXML).

Read-Only Password Protection consists of a single control word with the following syntax:

|  |  |
| --- | --- |
| <passwordhash> | '{\\*' **\passwordhash** #SDATA '}' |

For example:

{\\*\passwordhash 010000004c000000010000000480000050c300001400000010000000f89c360d0c9d360d000000008bc29e2f78a2144122ed68a1701e2ea50bbbbeaf7333c40dfe048ccf55f709b8cc7e8b49}

**Note:** the control word **\password** was supported by Word 2003, but has been deprecated because it is not as secure (uses weak encryption).

### XML Namespace Table

XML Namespace tables contain the namespaces for XML and SmartTags that are used in an RTF-formatted document.   
  
SmartTags and custom XML markup each provide a facility for embedding customer-defined semantics into the document as follows:

|  |  |
| --- | --- |
| • | SmartTags use the ability to provide a basic namespace or name for a run or set of runs in a document (see Custom XML Tags). |
| • | Custom XML markup uses the ability to tag the document that uses XML elements and attributes that are specified by any valid XML Schema file. |

The XML Namespace table has the following syntax:

|  |  |
| --- | --- |
| <xmlnstbl> | '{\\*' \**xmlnstbl** <xmlnsdecl>\* '}' |
| <xmlnsdecl> | '{' **\xmlns*N*** #PCDATA '}' |

For example:

{\\*\xmlnstbl{\xmlns1 **{**HYPERLINK "http://exampleuri.org"**}**}}

The following table lists the Namespace Table control words:

| Control word | Meaning |
| --- | --- |
| \\*\xmlnstbl | XML namespace table |
| \xmlns*N* | XML namespace table entry. This control word is also used in the body text to identify data belonging to the corresponding namespace (see Custom XML Tags). |

### Document Formatting Properties

After the information group and XML namespace table (if they are present), there may be some document formatting control words (referred to as <docfmt> in the document area syntax description). These control words are listed in the following table and specify document attributes, such as margins and footnote placement. These attributes must precede the first plain-text character in the document. Measurements are in twips, one-twentieth of a point. For omitted control words, RTF uses the default values.

Note that three of the document-protection control words (**\formprot**, **\revprot**, and **\annotprot**) are mutually exclusive; only one of the three can apply to any given document. On the other hand, **\readprot** indicates that the document is set to Read-Only protection, but allows exceptions, and can appear with **\annotprot** control words for backward compatibility.

| Control word | | Meaning |
| --- | --- | --- |
| \deftab*N* | | Default tab width in twips (default is 720, i.e., 0.5"). |
| \hyphhotz*N* | | Hyphenation hot zone in twips (amount of space at right margin in which words are hyphenated). |
| \hyphconsec*N* | | ***N*** is maximum number of consecutive lines that are allowed to end in a hyphen. 0 means no limit. |
| \hyphcaps\* | | Switches hyphenation of capitalized words (default is on). Append 1 or leave control word by itself to toggle property on; append 0 to turn it off. |
| \hyphauto\* | | Switches automatic hyphenation (default is off). Append 1 or leave control word by itself to toggle property on; append 0 to turn it off. |
| \linestart*N* | | Beginning line number (default is 1). |
| \fracwidth | | Uses fractional character widths when printing (QuickDraw only). |
| \\*\nextfile | | The argument is the name of the next file to print or index; it must be enclosed in braces. This is a destination control word. |
| \\*\template | | The argument is the name of a related template file; it must be enclosed in braces. This is a destination control word. |
| \makebackup | | Backup copy is made automatically when the document is saved. |
| \muser | | Flag written if Word 97 compatibility mode is active; ignored when read. |
| \defformat | | Tells the RTF reader that the document should be saved in RTF format. |
| \psover | | Prints PostScript over the text. |
| \doctemp | | Document is a boiler plate document. For Word for Windows, this is a template; for Word for the Macintosh, this is a stationery file. |
| \windowcaption | Sets the caption text for the document window. This is a string value. | |
| \doctype*N* | An integer (0–2) that describes the document type for AutoFormat.  0 General document (for formatting most documents, the default)  1 Letter (for formatting letters, and used by Letter Wizard)  2 E-mail (for formatting e-mail, and used by WordMail) | |
| \ilfomacatclnup*N* | If ***N*** = 1, this control word specifies that the last attempt made by the application to remove unused abstract numbering definitions from the document was incomplete. If a legacy document is opened by a consumer, it may choose to remove abstract numbering definitions that are 'orphaned' (have no associated numbering definition instances). This control word is used by those consumers to indicate their progress (if incomplete) in reviewing existing abstract numbering definitions.  **Note:** Removing unused abstract numbering definition from a document will reduce the file size, but is not required.  If omitted or ***N*** = 0, then all abstract numbering definitions shall be considered reviewed. | |
| \horzdoc | Horizontal rendering. | |
| \vertdoc | Vertical rendering. | |
| \jcompress | Compressing justification (default). | |
| \jexpand | Expanding justification. | |
| \lnongrid | Define line based on the grid. | |
| \grfdocevents*N* | Event bit mask for the Word object model Document event methods used to ensure the instantiation of a Visual Basic project that depends on the events corresponding to nonzero bits of ***N***. With no nonzero bits, Word doesn’t instantiate VB projects until the user manually looks at them or at the macro list.   |  |  | | --- | --- | | **Bit** | **Object model Document event method** | | 0 | New | | 1 | Open | | 2 | Close | | 3 | Sync | | 4 | XMLAfterInsert | | 5 | XMLBeforeDelete | | 6 | (reserved for internal use) | | 7 | (reserved for internal use) | | 8 | ContentControlAfterAdd | | 9 | ContentControlBeforeDelete | | 10 | ContentControlOnExit | | 11 | ContentControlOnEnter | | 12 | ContentControlBeforeStoreUpdate | | 13 | ContentControlBeforeContentUpdate | | 14 | BuildingBlockInsert | | |
| \themelang*N* | Specifies the language (via the language IDs defined in the [standard language table](#Standard_Language_Table)) that the given document’s Theme is using for font resolution. | |
| \themelangfe*N* | Specifies the language (via language IDs) that the given document’s Theme is using for font resolution of the FE font variation | |
| \themelangcs*N* | Specifies the language (via language IDs) that the given document’s Theme is using for font resolution of the complex scripts font variation. | |
| \relyonvml*N* | If ***N*** = 1, applications may utilize the Vector Mark-up Language (VML) when saving the content of this RTF document as a Web page, when graphical elements that can use this format are present in the document.  If this control word is omitted or ***N*** = 0, then a graphic image format should be used either in place of or in concert with the VML output to specify the formatting and positioning for objects that are part of the resulting Web page.  **Note:** This setting is intended for applications to save Web pages that can be supported by legacy Web browsers that do not support VML when attempting to read and display the resulting Web page. | |
| \validatexml*N* | If ***N*** = 1, applications should validate the custom XML markup in this document against the applicable custom XML schema(s), when those schemas are available. If ***N*** = 0, the application should silently behave as if it was unable to provide this functionality.  If this control word is omitted, then applications that support this functionality should attempt to validate the custom XML contents against any available related custom XML schema(s). | |
| \\*\xform | This destination control word specifies the location of a custom XSL transform that shall be used when this document is saved as a single XML file.  **Note:** Because this setting specifies behavior when saving to an alternative file format not defined by [Office Open XML](#OfficeOpenXML), this behavior is optional.  If this element is omitted, then no custom XSL transform shall be used when saving this file as a single XML file. If the \**usexform** control word is omitted, then this transform shall not be applied when the document is saved as a single XML file.  For example, consider the RTF specifying to save through the XSL transform located at c:\temp\myxslt.xsl:  {\\*\xform c:\\temp\\myxslt.xsl} | |
| \donotembedsysfont*N* | If ***N*** = 0, applications should embed common system fonts when they are in use and font embedding is enabled for this document. *Common system fonts* refer to a set of fonts that are typically always present on a computer, and are not defined by this spec.  If this control word is omitted or ***N*** = 1, then the set of fonts defined as common system fonts should not be embedded in the current document when font embedding is turned on. | |
| \donotembedlingdata*N* | Speech, handwriting and controls text service data received from devices connected to Microsoft Office using the Windows Text Service Framework Application Programming Interface should (***N*** = 0) or should not (***N*** = 1) be embedded in the given RTF document. | |
| \showplaceholdtext*N* | If ***N*** = 1, each custom XML control word within this document should always show some form of in-document placeholder text representation when it contains no run content. If placeholder text is not specified, then the application shall use the name of the control word to generate default placeholder text in its place.  If this control word is omitted or ***N*** = 0, then custom XML markup that does not have placeholder text specified within its properties should not display any placeholder text. | |
| \trackmoves*N* | If ***N*** = 1, applications should track moves when the **\revisions** control word is present. If move tracking is not enabled (**\revisions** control word is not present, or is inactive) what would otherwise be considered moves are tracked as deletions (**\deleted**) and insertions (**\revised**). If ***N*** = 0, moves should not be tracked. | |
| \trackformatting*N* | If ***N*** = 1, applications should track revisions made to the formatting of this RTF document when the **\revisions** control word is present. If ***N*** = 0, formatting should not be tracked. | |
| \ignoremixedcontent*N* | If ***N*** = 1, applications should ignore all text content that is not contained within a leaf custom XML markup control word when validating the contents of the custom XML markup in this document against one or more attached custom XML schema(s).  A *leaf control word* is a custom XML control word that has no child custom XML control words (it is a leaf in the custom XML tree).  If this control word is omitted or ***N*** = 0, then text content in leaf control words should not be ignored when validating the custom XML markup against one or more custom XML schema(s). | |
| \saveinvalidxml*N* | If ***N*** = 1, this document should be capable of being saved into a format consisting of a single XML file when its contents are not valid based on the custom XML markup contained in the document. This setting has no effect on documents that do not contain custom XML markup, or that do contain custom XML markup but do not have a schema attached.  **Note:** Because this setting specifies behavior when saving to an alternative file format not defined by this spec, this behavior is optional.  If this control word is omitted or ***N*** = 0, then applications should not allow this document to be saved into a single XML file when its contents are not valid based on the custom XML markup contained in the document.  If the **\validatexml*N*** control word is present, then the XML is never invalid and this property is ignored. | |
| \showxmlerrors*N* | If ***N*** = 1, a visual cue should be displayed on content contained in custom XML markup in an RTF document that is considered to be invalid based on the associated XML schema(s).  If this control word is not present in an RTF document or ***N*** = 0, visual cues should be not displayed. | |
| \stylelocktheme | This control word specifies whether applications shall prevent the modification of the document's theme information when editing this document. This setting should not preclude the use of the theme information; instead, it should only prevent the modification of the theme part in a single operation (either through a user interface or a programmatic operation).  If this control word is omitted, then applications may allow the replacement or modification of the theme part in this document. | |
| \stylelockqfset | This control word specifies whether applications shall prevent the replacement of the complete set of styles when editing this document. This setting should not preclude the editing or removal of individual styles; instead, it should only prevent the removal and replacement of the entire styles part in a single operation (either through a user interface or a programmatic operation).  If this control word is omitted, then applications may allow the replacement of the entire styles part in this document. | |
| \usenormstyforlist | This control word specifies whether applications shall automatically apply their list paragraph style when numbering is applied to a paragraph currently formatted using the default paragraph style.  Typically, when a paragraph is formatted using the default paragraph style, and numbering is subsequently applied, the list paragraph style is applied to ensure that paragraph properties are appropriate for a numbered paragraph.  This control word specifies that no alternate paragraph style shall ever be applied. | |
| \\*\wgrffmtfilter | This control word is followed by a four-digit hexadecimal string that specifies a set of suggested filters that should be applied to the list of document styles in the application if the styles are displayed in a user interface. The is any combination of the following filtering hexadecimal values OR'd together:   |  |  | | --- | --- | | **Value** | **Description** | | 0001 | Specifies that all styles present should be displayed in the list of document styles. | | 0002 | Specifies that only custom styles should be displayed in the list of document styles. | | 0004 | Specifies that all latent styles should be displayed in the list of document styles. | | 0008 | Specifies that only styles used in the document should be displayed in the list of document styles. | | 0010 | Undefined. Shall not be used. | | 0020 | Specifies that heading styles should be displayed in the list of document styles when the previous style is used in the document or is present in the styles part. | | 0040 | Specifies that numbering styles should be displayed in the list of document styles. | | 0080 | Specifies that table styles should be displayed in the list of document styles. | | 0100 | Specifies that all unique forms of run-level direct formatting should be displayed in the list of document styles as though they were each a unique style. | | 0200 | Specifies that all unique forms of paragraph-level direct formatting should be displayed in the list of document styles as though they were each a unique style. | | 0400 | Specifies that all unique forms of direct formatting of numbering data should be displayed in the list of document styles as though they were each a unique style. | | 0800 | Specifies that all unique forms of direct formatting of tables should be displayed in the list of document styles as though they were each a unique style. | | 1000 | Specifies that a style should be present that removes all formatting and styles from text. | | 2000 | Specifies that the first three heading styles should always be displayed in the list of document styles. | | 4000 | Specifies that styles should only be shown if the **\ssemihidden*N*** control word is 0 and the **\shidden** control word isn't present. | | 8000 | Specifies that primary names for styles should not be shown if an alternate name using the name control word exists. | | Any other value | Undefined. Shall not be used. |   If this control word is omitted, then all settings defined by this control word are turned off.  Example: Consider an RTF document containing the following:  {\\*\wgrffmtfilter 2002}  This specifies two suggested filter options for the list of document styles:   1. Only custom styles should be shown (0002) 2. Heading styles with a style ID of Heading1 to Heading3 should always be displayed in the list (2000) | |
| \readonlyrecommended | Specifies that this document is recommended to be read-only. | |
| \stylesortmethod*N* | This control word specifies a suggested sorting that should be applied to the list of document styles in this application if the styles are displayed in a user interface.  If this control word is omitted styles should be sorted as if this control word was present with ***N*** = 1.   |  |  | | --- | --- | | **Value** | **Description** | | 0 | Specifies that visible styles should be sorted by their names. | | 1 | Specifies that visible styles should be sorted by the default sorting of the host application.  **Note:** In Microsoft Office Word 2007 the default sorting order is specified by the **\spriority*N*** control word. | | 2 | Specifies that visible styles should be sorted by the font for which they apply. | | 3 | Specifies that visible styles should be sorted by the style on which they are based. | | 4 | Specifies that visible styles should be sorted by their style types (e.g., character, linked, paragraph). | | Any other value | Undefined. Shall not be used. | | |
| \\*\writereservhash | This control word contains hex-encoded encrypted data representing the password needed to edit the given RTF document. For more information on the encryption algorithm used please see the WordprocessingML element documentProtection discussed in [Office Open XML](#OfficeOpenXML). This is a destination control word. | |
| \\*\writereservation | This destination control word was used in Word 2003 but has been deprecated in favor of **\writereservhash** since **\writereservation** uses weak encryption. | |
| \saveprevpict | This control word specifies if a document’s thumbnail should be generated for the contents of the first page of this document when saved by an application that supports document thumbnail generation.  If this control word is omitted, then applications may choose to save a thumbnail; however, that behavior is not required. If this control word is specified, a thumbnail must be produced if that functionality is supported. | |
| Document Views and Zoom Level | | |
| \viewkind*N* | An integer (0 through 5) that represents the view mode of the document.  0 None  1 Page Layout view  2 Outline view  3 Master Document view  4 Draft view  5 Online Layout view | |
| \viewscale*N* | Zoom level of the document; the ***N*** argument is a value representing a percentage (default is 100). | |
| \viewzk*N* | An integer (0 through 3) that represents the zoom kind of the document.  0 None  1 Full page  2 Best fit  3 Text width | |
| \viewbksp*N* | Boolean:  0 Background shapes will not show in Page Layout View (default if omitted).  1 Background shapes will show in Page Layout View. | |
| \private | Obsolete destination. It has no leading \\*. It should be skipped. | |
| Footnotes and Endnotes | | |
| \fet*N* | | Footnote/endnote type. This indicates the types of notes that are present in the document.  0 Footnotes only or nothing at all (the default)  1 Endnotes only  2 Both footnotes and endnotes  For backward compatibility, if **\fet1** is emitted, **\endnotes** or **\enddoc** will be emitted along with **\aendnotes** or **\aenddoc**.RTF readers that understand **\fet** will need to ignore the footnote-positioning control words and use the endnote control words instead. |
| \ftnsep | | Text argument separates footnotes from the document. This is a destination control word. |
| \ftnsepc | | Text argument separates continued footnotes from the document. This is a destination control word. |
| \ftncn | | Text argument is a notice for continued footnotes. This is a destination control word. |
| \aftnsep | | Text argument separates endnotes from the document. This is a destination control word. |
| \aftnsepc | | Text argument separates continued endnotes from the document. This is a destination control word. |
| \aftncn | | Text argument is a notice for continued endnotes. This is a destination control word. |
| \endnotes | | Footnotes at the end of the section (the default). |
| \enddoc | | Footnotes at the end of the document. |
| \ftntj | | Footnotes beneath text (top justified). |
| \ftnbj | | Footnotes at the bottom of the page (bottom justified). |
| \aendnotes | | Endnotes at end of section (the default). |
| \aenddoc | | Endnotes at end of document. |
| \aftnbj | | Endnotes at bottom of page (bottom justified). |
| \aftntj | | Endnotes beneath text (top justified). |
| \ftnstart*N* | | Beginning footnote number (default is 1). |
| \aftnstart*N* | | Beginning endnote number (default is 1). |
| \ftnrstpg | | Restart footnote numbering each page. |
| \ftnrestart | | Footnote numbers restart at each section. Microsoft Word for the Macintosh uses this control to restart footnote numbering at each page. |
| \ftnrstcont | | Continuous footnote numbering (the default). |
| \aftnrestart | | Restart endnote numbering each section. |
| \aftnrstcont | | Continuous endnote numbering (the default). |
| \ftnnar | | Footnote numbering—Arabic numbering (1, 2, 3, …). |
| \ftnnalc | | Footnote numbering—Alphabetical lowercase (a, b, c, …). |
| \ftnnauc | | Footnote numbering—Alphabetical uppercase (A, B, C, …). |
| \ftnnrlc | | Footnote numbering—Roman lowercase (i, ii, iii, …). |
| \ftnnruc | | Footnote numbering—Roman uppercase (I, II, III, …). |
| \ftnnchi | | Footnote numbering—Chicago Manual of Style (\*, †, ‡, §). |
| \ftnnchosung | | Footnote Korean numbering 1 (CHOSUNG). |
| \ftnncnum | | Footnote Circle numbering (CIRCLENUM). |
| \ftnndbnum | | Footnote kanji numbering without the digit character (DBNUM1). |
| \ftnndbnumd | | Footnote kanji numbering with the digit character (DBNUM2). |
| \ftnndbnumt | | Footnote kanji numbering 3 (DBNUM3). |
| \ftnndbnumk | | Footnote kanji numbering 4 (DBNUM4). |
| \ftnndbar | | Footnote double-byte numbering (DBCHAR). |
| \ftnnganada | | Footnote Korean numbering 2 (GANADA). |
| \ftnngbnum | | Footnote Chinese numbering 1 (GB1). |
| \ftnngbnumd | | Footnote Chinese numbering 2 (GB2). |
| \ftnngbnuml | | Footnote Chinese numbering 3 (GB3). |
| \ftnngbnumk | | Footnote Chinese numbering 4 (GB4). |
| \ftnnzodiac | | Footnote numbering—Chinese Zodiac numbering 1 (ZODIAC1). |
| \ftnnzodiacd | | Footnote numbering—Chinese Zodiac numbering 2 (ZODIAC2). |
| \ftnnzodiacl | | Footnote numbering—Chinese Zodiac numbering 3 (ZODIAC3). |
| \aftnnar | | Endnote numbering—Arabic numbering (1, 2, 3, …). |
| \aftnnalc | | Endnote numbering—Alphabetical lowercase (a, b, c, …). |
| \aftnnauc | | Endnote numbering—Alphabetical uppercase (A, B, C, …). |
| \aftnnrlc | | Endnote numbering—Roman lowercase (i, ii, iii, …). |
| \aftnnruc | | Endnote numbering—Roman uppercase (I, II, III, …). |
| \aftnnchi | | Endnote numbering—Chicago Manual of Style (\*, †, ‡, §). |
| \aftnnchosung | | Endnote Korean numbering 1 (CHOSUNG). |
| \aftnncnum | | Endnote Circle numbering (CIRCLENUM). |
| \aftnndbnum | | Endnote kanji numbering without the digit character (DBNUM1). |
| \aftnndbnumd | | Endnote kanji numbering with the digit character (DBNUM2). |
| \aftnndbnumt | | Endnote kanji numbering 3 (DBNUM3). |
| \aftnndbnumk | | Endnote kanji numbering 4 (DBNUM4). |
| \aftnndbar | | Endnote double-byte numbering (DBCHAR). |
| \aftnnganada | | Endnote Korean numbering 2 (GANADA). |
| \aftnngbnum | | Endnote Chinese numbering 1 (GB1). |
| \aftnngbnumd | | Endnote Chinese numbering 2 (GB2). |
| \aftnngbnuml | | Endnote Chinese numbering 3 (GB3). |
| \aftnngbnumk | | Endnote Chinese numbering 4 (GB4). |
| \aftnnzodiac | | Endnote numbering—Chinese Zodiac numbering 1 (ZODIAC1). |
| \aftnnzodiacd | | Endnote numbering—Chinese Zodiac numbering 2 (ZODIAC2). |
| \aftnnzodiacl | | Endnote numbering—Chinese Zodiac numbering 3 (ZODIAC3). |
| Page Information | | |
| \paperw*N* | | Paper width in twips (default is 12,240). |
| \paperh*N* | | Paper height in twips (default is 15,840). |
| \psz*N* | | Used to differentiate between paper sizes with identical dimensions in Microsoft Windows. Values 1 through 41 correspond to paper sizes defined in DRIVINI.H in the Windows SDK (DMPAPER\_ values). Values greater than or equal to 42 correspond to user-defined forms in Windows. |
| \margl*N* | | Left margin in twips (default is 1800). |
| \margr*N* | | Right margin in twips (default is 1800). |
| \margt*N* | | Top margin in twips (default is 1440). |
| \margb*N* | | Bottom margin in twips (default is 1440). |
| \facingp | | Facing pages (activates odd/even headers and gutters). |
| \gutter*N* | | Gutter width in twips (default is 0). |
| \ogutter*N* | | Outside gutter width (default is 0; not used by Word, but in [1987 RTF Spec](#RTF_Spec_1987)) |
| \rtlgutter | | Gutter is positioned on the right. |
| \gutterprl | | Parallel gutter. |
| \margmirror | | Switches margin definitions on left and right pages.Used in conjunction with **\facingp**. |
| \landscape | | Landscape format. |
| \pgnstart*N* | | Beginning page number (default is 1). |
| \widowctrl | | Enable widow and orphan control. |
| \twoonone | | Print two logical pages on one physical page. |
| \bookfold | | Book fold printing. Allows for printing documents that can easily be made into pamphlets. This will print two pages side by side in landscape mode, and will print to the back of the sheet if the printer supports duplex printing. |
| \bookfoldrev | | Reverse book fold printing for bidirectional languages. |
| \bookfoldsheets*N* | | Sheets per booklet; this should be a multiple of four. |
| Linked Styles | | |
| \linkstyles | | Update document styles automatically based on template. |
| Compatibility Options | | |
| \notabind | | Do not add automatic tab stop for hanging indent. |
| \wraptrsp | | Wrap trailing spaces onto the next line. |
| \prcolbl | | Print all colors as black. |
| \noextrasprl | | Do not add extra space to line height for showing raised/lowered characters. |
| \nocolbal | | Do not balance columns. |
| \cvmme | | Treat old-style escaped quotation marks (\") as current style ("") in mail merge data documents. |
| \sprstsp | | Suppress extra line spacing at top of page. Basically, this means to ignore any line spacing larger than Auto at the top of a page. |
| \sprsspbf | | Suppress space before paragraph property after hard page or column break. |
| \otblrul | | Combine table borders as done in Word 5.*x* for the Macintosh. Contradictory table border information is resolved in favor of the first cell. |
| \transmf | | Metafiles are considered transparent; do not blank the area behind metafiles. |
| \swpbdr | | If a paragraph has a left border (not a box) and the **\facingp** is active (different odd and even page headings/footings) or **\margmirror** is active, Word will print the border on the right for odd-numbered pages. |
| \brkfrm | | Show hard (manual) page breaks and column breaks in frames. |
| \sprslnsp | | Suppress extra line spacing like WordPerfect version 5.*x*. |
| \subfontbysize | | Substitute fonts based on size first. |
| \truncatefontheight | | Round down to the nearest font size instead of rounding up. |
| \truncex | | Do not add leading (extra space) between rows of text. |
| \bdbfhdr | | Print body before header/footer. Option for compatibility with Word 5.*x* for the Macintosh. |
| \dntblnsbdb | | Do not balance SBCS/DBCS characters. Option for compatibility with Word 6.0 (Japanese). |
| \expshrtn | | Expand character spaces on line-ending with shift+return. Option for compatibility with Word 6.0 (Japanese). |
| \lytexcttp | | Do not center exact line height lines. |
| \lytprtmet | | Use printer metrics to lay out document. |
| \msmcap | | Small caps like Word 5.*x* for the Macintosh. |
| \nolead | | No external leading. Option for compatibility with Word 5.*x* for the Macintosh. |
| \nospaceforul | | Do not add space for underline. Option for compatibility with Word 6.0 (Japanese). |
| \noultrlspc | | Do not underline trailing spaces. Option for compatibility with Word 6.0 (Japanese). |
| \noxlattoyen | | Do not translate backslash to Yen sign. Option for compatibility with Word 6.0 (Japanese). |
| \oldlinewrap | | Lines wrap like Word 6.0. |
| \sprsbsp | | Suppress extra line spacing at bottom of page. |
| \sprstsm | | Does nothing. This keyword should be ignored. |
| \wpjst | | Do full justification like WordPerfect 6.*x* for Windows. |
| \wpsp | | Set the width of a space like WordPerfect 5.*x*. |
| \wptab | | Advance to next tab stop like WordPerfect 6.*x*. |
| \splytwnine | | Do not lay out AutoShapes like Word 97. |
| \ftnlytwnine | | Do not lay out footnotes like Word 6.0, Word 95, and Word 97. |
| \htmautsp | | Use HTML paragraph auto spacing. |
| \useltbaln | | Do not forget last tab alignment. |
| \alntblind | | Do not align table rows independently. |
| \lytcalctblwd | | Do not lay out tables with raw width. |
| \lyttblrtgr | | Do not allow table rows to lay out apart. |
| \oldas | | Use Word 95 Auto spacing. |
| \lnbrkrule | | Do not use Word 97 line breaking rules for Asian text. |
| \bdrrlswsix | | Use Word 6.0/Word 95 borders rules. |
| \nolnhtadjtbl | | Do not adjust line height in table. |
| \ApplyBrkRules | | Use line breaking rules compatible with Thai text. |
| \rempersonalinfo | | Instructs emitting program to remove personal information such as the author’s name as a document property or in a comment. |
| \remdttm | | Instructs emitting program to remove date/time as a document property or in a comment. |
| \snaptogridincell | | Snap text to grid inside table with inline objects. |
| \wrppunct | | Allow hanging punctuation in character grid. |
| \asianbrkrule | | Use Asian rules for line breaks with character grid. |
| \nobrkwrptbl | | Do not break wrapped tables across pages. |
| \toplinepunct | | Enables punctuation at the start of a line to compress. |
| \viewnobound | | Hide white space between pages. |
| \donotshowmarkup | | Do not show markup while reviewing. |
| \donotshowcomments | | Do not show comments while reviewing. |
| \donotshowinsdel | | Do not show insertions and deletions while reviewing. |
| \donotshowprops | | Do not show formatting while reviewing. |
| \allowfieldendsel | | Enables selecting the entire field with the first or last character. |
| \nocompatoptions | | Specifies that all compatibility options should be set to default. |
| \nogrowautofit | | Do not allow tables set to “autofit to contents” to extend into the margins when in Print Layout. This is the default behavior for Word 2003, which keeps tables within the margins. |
| \newtblstyruls | | Use the table style rules new to Word 2003. Applies the top border of a column in a more intuitive place when there is a header row in the table. Word 2002 places the top border of a column under the heading row, rather than above it as Word 2003 does. |
| \\*\background | | Destination specifying the document background. This is a destination control word. It contains the **\shp** [keyword](#_Word_97_Through) and relevant shape properties. |
| \nouicompat | | Equivalent to **\nofeaturethrottle1**. If both this control word and **\nofeaturethrottle*N*** are present, the last one read determines the result. |
| \nofeaturethrottle*N* | | If ***N*** = 1, UI functionality that is not compatible with Word 97-2003 shall not be disabled when the given RTF file is opened. In addition, at the time of Microsoft Office Word 2007 release, this control word specifies that all compatibility options in the document that maintain compatibility with previous word processing applications shall be removed from the file or set to “0” with the exception of:   * **\nospaceforul** * **\lnbrkrule** * **\noxlattoyen** * **\expshrtn** * **\dntultrlspc** * **\dntblnsbdbwid** * **\dontadjustlineheightintable**   If both **\nouicompat** and **\nofeaturethrottle*N*** are missing or ***N*** = 0, UI functionality that is not compatible with Word 97-2003 shall be disabled when the given RTF file is opened, and existing compatibility options shall be unaffected.  If both this control word and \**nouicompat** are present, the last one read determines the result. |
| \forceupgrade | | This control word specifies that the contents of the document may be upgraded and that the resulting document shall not have its functionality limited to only those functions compatible with earlier word processing applications. The only action required as part of upgrading the document is the instantiation of the **\nofeaturethrottle1** and/or **\nouicompat** control words.  **Note:** At the time of Microsoft Office Word 2007 release, respecting this control word means that all compatibility options in the document that maintain compatibility with previous word processing applications shall be removed from the file or set to “0” with the exception of:   * **\nospaceforul** * **\lnbrkrule** * **\noxlattoyen** * **\expshrtn** * **\dntultrlspc** * **\dntblnsbdbwid** * **\dontadjustlineheightintable**   If an application does not know how to upgrade a document, this control word and the **\nofeaturethrottle*N*** and **\nouicompat** control words should be ignored and persisted.  **Note:** The remaining operations that shall be performed as part of upgrading the document are application-defined and outside the scope of this specification. |
| \noafcnsttbl | | This control word specifies whether applications shall allow tables to be resized to the remaining available line width when they are using the AutoFit algorithm, and part of that line is filled by a shape with a wrapping type of square or tight.  Typically, a table that is AutoFit and has a preferred width shall have its width reduced to allow a floating shape to wrap around its contents within the document, as that shape reduces the width of the line and the AutoFit algorithm applies to the remaining line width.  This control word specifies that tables shall never have any preferred width overridden to allow them to wrap around that floating object, and shall instead be pushed to the next full width line in the document to be displayed.  Example: Consider an RTF document with a floating shape centered in the document, followed by a table with preferred cell widths of 2.22", as follows:  The default presentation of this document overrides the preferred cell widths to force the table to fit on the line next to the floating shape with tight wrapping.  However, if this compatibility setting’s parameter is “1” then that table is not resized, so it cannot fit and must be pushed to the next full width line, resulting in the following output: |
| \noindnmbrts | | Use hanging indent (if any) as tab stop for bullets and numbering. |
| \felnbrelev | | This control word specifies an alternate set of characters that may be used to determine that characters can begin or end a line when kinsoku line breaking rules are enabled.  Specifically, the following settings shall be used instead (for brevity, only those settings that are different than the default behavior of Microsoft Office Word 2007 are listed below):  Chinese (Simplified)  Cannot start a line: !),.:;?]}¨·ˇˉ―‖’”…∶、。〃々〉》」』】〕〗！＂＇），．：；？］｀｜｝～￠  Cannot end a line: ([{·‘“〈《「『【〔〖（．［｛￡￥  Chinese (Traditional)  Cannot start a line: !),.:;?]}¢·–—’”•‥…‧′╴、。〉》」』】〕〞︰︱︳︴︶︸︺︼︾﹀﹂﹄﹏﹐﹑﹒﹔﹕﹖﹗﹚﹜﹞！），．：；？｜｝､  Korean  Cannot end a line: ([\{£¥‘“〈《「『【〔＄（［｛￦  Example: Consider a line of text in a WordprocessingML document within a paragraph marked as Chinese (Simplified) that begins with a % symbol, as follows:  %...  Typically, the kinsoku settings for Chinese (Simplified) do not allow this character to begin a line, so the character before that symbol would be moved down onto this line:  〖%...  However, if this compatibility setting is present, then the alternate kinsoku rules are in place, which do not prevent the % character from beginning the new line, resulting in the following output:  %...  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003 |
| \indrlsweleven | | This control word specifies whether applications should ignore the presence of floating objects when calculating the starting position of paragraphs that are wrapped around floating objects defined using the Vector Mark-up Language (VML) syntax.  Typically a floating object on the same line or lines as a paragraph only affects the text when the floating object occurs where that text would normally be presented.  Example: Text at a 1" indentation would only be displaced by a floating object that appears at that position and not one that appears from 0" to 0.5" on the same line.  This control word specifies that floating objects shall always impact paragraphs on the same line in two ways:   1. If the paragraph is not numbered, then it shall tightly wrap any floating object that precedes it on the same line, ignoring its own indentation settings.   Example: A paragraph with a 1" left indent shall tightly wrap a floating object that appears at only 0.25" on the same line.   1. If the paragraph is numbered, then it shall calculate and use its full indent relative to the edge of the floating object, not relative to the edge of the page.   Example: A numbered paragraph with a 1" left indent shall appear 1.5" into the page if it is preceded by a floating object that appears at 0.5" on the same line.  Example: Consider an RTF document with a narrow floating object at 0.5" on the page, surrounded by both numbered and unnumbered paragraphs. The default presentation would have no impact on the paragraphs based on that floating object, since the two do not intersect:  However if this control word is present, the two alternate rules defined above apply, resulting in the following output:    **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \nocxsptable | | This control word specifies whether the suppression of additional space (contextual spacing) shall be applied to paragraphs contained within tables.  Typically, the rules for the removal of additional paragraph spacing are applied to all paragraphs in an RTF document. This control word specifies that this setting shall always be ignored for paragraphs in table cells (and additional spacing shall be allowed).  Example: Consider an RTF document with a default paragraph style with additional spacing after and contextual spacing set:  The default presentation would have the spacing suppressed between all paragraphs, since they are all of the default paragraph style:  However, if this control word was present, then the paragraphs in the table will never have their spacing suppressed, resulting in the following output:  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \notcvasp | | This control word specifies whether applications shall vertically align the contents of a table cell, even when the contents of that table cell include one or more floating objects defined using the Vector Mark-up Language syntax. Note that the floating object must be part of the cell, and not displayed over the cell due to its anchoring relative to another part of the document.  Typically, if the alignment of a table cell in an RTF document is specified, then the entire contents of that cell are aligned as specified [*Example*: The entire contents of the cell are centered vertically and moved right-aligned horizontally at that point. *End example*].  This control word specifies that whenever a floating object defined using VML is present in a table cell that no vertical alignment shall be applied to the contents of that cell, and the contents of the cell shall instead always be top aligned to the cell's contents.  Example: Consider an RTF table with two cells, each containing some text and a single shape defined using the Vector Mark-up Language syntax. The first cell is vertically aligned to the bottom of the cell, and the second cell is vertically aligned to the center of the cell.  The default presentation of this document results in each cell (including the extents of the floating objects) being vertically aligned as specified, as follows:  However, if this control word is present, then the presence of a floating object in each cell shall result in the vertical alignment setting being ignored (each vertical alignment shall be top-aligned relative to the cell), resulting in the following output:  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \notvatxbx | | This control word specifies that vertical alignment within textboxes shall be ignored and instead the contents of the textbox shall always be top-aligned.  Example: Consider an RTF document with a single center-aligned text box:  If this control word is present, then the text shall always be top aligned, resulting in the following output:  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \spltpgpar | | This control word specifies whether a page break shall automatically complete the line on which it appears, moving the end of the paragraph to a new line on the next page, or if it shall behave as true run-level content within its current paragraph.  Typically, a page break is treated as run-level content, which means that although it delimits the end of the page, if there is no content after it within the current paragraph that the paragraph shall also end on that page.  This control word specifies that a page break shall always immediately end the current page, moving the paragraph mark that delimits the end of its parent paragraph to a new line on the next page.  Note that this setting only affects the case where there is no run-level content after the page break within the paragraph – if any further run content appears in the paragraph it shall appear on subsequent lines on the next page.  Example: Consider an RTF document with two paragraphs of content – the first ending with a page break as rendered by Microsoft Office Word 2007.  If this control word is present, then even though it is followed by no additional content, the page break shall immediately end the first page, pushing the end of the first paragraph onto the first line of the second page, resulting in the following output:  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \hwelev | | This control word specifies whether applications should assume that all characters in the Hangul Syllables Unicode sub range (character values between 0xAC00 and 0xD7FF) are of a single fixed width or shall use the characters’ widths defined by the font in use (typical for a proportional width font).  Typically, applications shall retrieve the character width for any character in a document from the associated font, allowing each character to be of its own width (a proportional width character).  This control word specifies that applications shall instead assume a single fixed width for all characters in the Hangul Syllables sub range, by reading the width of Unicode character 0x4E00 from the associated font and using that width for all Hangul characters (or, if that character is not present, the next available character in the font).  Example: Consider an RTF document with three Hangul characters:  The default presentation would have each of those characters using the widths defined by the font (the highlighting indicates that each character has its own width):  However, if this control word is present, then all three characters are forced to the fixed width of character 0x4E00 from the font (or, in this case, the next available character), resulting in the characters in the font being forced to that fixed width, which results in the following output:  Notice from the highlighting that the characters have been compressed to the width of the single character and displayed at that fixed width.  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \afelev | | This control word specifies that when performing an AutoFit on a table in an RTF document to display it, applications shall alter that logic slightly to mimic the behavior of a previous word processing application. Specifically, if the width of a grid column in a table has been set by a preferred table cell width, then that column's width may be enlarged by the content of cells which themselves do not have a preferred width (in contrast, the normal logic never allows the content of cells to override a preferred width on a grid column). |
| \cachedcolbal | | This control word specifies that cached paragraph information shall be used for column balancing. Specifically, this control word specifies that when a paragraph's lines have differing heights, an application shall treat this paragraph as though it had only one line equaling the full paragraph height, regardless of the actual number of lines in the paragraph.  **Note:** It is recommended that applications not intentionally replicate this behavior as it was deprecated due to issues with its output and is maintained only for compatibility with existing documents from a legacy application.  Typically, lines are correctly measured for their height when balancing columns as part of an RTF document. This control word specifies that applications shall perform the incorrect calculation in the conditions described above.  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \utinl | | This control word specifies whether applications shall underline the character following the numbering defined when both the numbering itself and the first letter of the corresponding numbered paragraph are underlined.  Typically, the tab or space character generated between numbering and the corresponding paragraph of text is never formatted, since it is automatically generated. This control word specifies that the tab or space shall be underlined the same way as the numbering symbol itself in the following conditions:  The numbering is underlined  The first character of the paragraph is underlined  Example: Consider an RTF document with two numbered paragraphs: one with underlined text and the other without. The default presentation would have the tab characters free of underlining in both cases:  However, if this control word is present, then the second paragraph meets the criteria defined above for having the suffix character underlined, resulting in the following output:  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \notbrkcnstfrctbl | | This control word specifies whether applications shall allow a table row to be split in two when its contents are displayed under the following circumstances:  The table row exceeds one page in height (it must be split across two pages)  The table row would need to be split to accommodate a floating table also on the page  This control word, when present, specifies that table rows that exceed one page in height shall never be split around floating tables in the document, and shall instead be displayed on the first page below the floating table, even if that means that part of the table row is clipped by the edge of the page.  Example: Consider an RTF document with a long single table row that must be split across two separate pages in the document, to accommodate a floating table anchored in the footer, as follows:  The default presentation of this document forces that row to be split as needed around that floating table.  However, if this control word is present, then that table row is never split around the floating table, so it is always placed below that floating table on the page, and allowed to flow off the page as needed, resulting in the following output:  This example, while extreme, shows how the row is placed below the floating table, rather than breaking around it.  **Note:** This control word is used to maintain compatibility with documents created by Microsoft Office Word 2003. |
| \krnprsnet | | This control word specifies whether applications shall use the ANSI or Unicode kerning pair information from fonts stored in the document when displaying those characters within the document's contents.  Typically, applications shall use the Unicode kerning pair information to determine all possible kerning pairs in the fonts in use. This control word, when present specifies that the ANSI kerning information shall be used instead. |
| \usexform | | This control word specifies that this document should be saved through the custom XSLT transform defined by the **\xform** control word in this document when it is saved as a single XML file (not defined by this specification).  **Note:** Because this setting specifies behavior when saving to an alternative file format not defined by this spec, this behavior is optional.  If this element is omitted, then this document should not be saved through a custom XSL transform when it is saved as a single XML file. |
| Forms | | |
| \formprot | | This document is protected for forms. |
| \allprot | | This document has no unprotected areas. |
| \formshade | | This document has form field shading on. |
| \formdisp | | This document currently has a forms drop-down box or check box selected. |
| \printdata | | This document has print form data only on. |
| Revision Marks | | |
| \revprot | | This document is protected for revisions. The user can edit the document, but revision marking cannot be disabled. |
| \revisions | | Turns on revision marking. |
| \revprop*N* | | Argument indicates how revised text will be displayed:  0 No properties shown  1 Bold  2 Italic  3 Underline (default)  4 Double underline |
| \revbar*N* | | Vertical lines mark altered text, based on the argument:  0 No marking  1 Left margin  2 Right margin  3 Outside (the default: left on left pages, right on right pages) |
| Write Protection (Document is Read-only) | | |
| \readprot | | This document is protected for editing, except in areas marked as exceptions by **\protstart** and **\protend**. This was introduced in Word 2003 and **\annotprot** is emitted with it for backward compatibility. |
| Comment Protection (Only Annotations are Editable) | | |
| \annotprot | | This document is protected for comments (annotations). The user cannot edit the document but can insert comments (annotations). |
| Style and Formatting Protection | | |
| \stylelock | | The document contains styles and formatting restrictions. |
| \stylelockenforced | | The styles and formatting restrictions are being enforced. |
| \stylelockbackcomp | | Style lockdown backward compatibility flag, indicating we emitted protection keywords to get documents with styles and formatting restrictions to behave in a reasonable way when opened by older versions. |
| \autofmtoverride | | Allow AutoFormat to override styles and formatting restrictions. When style protection is on, the user cannot add direct formatting. This setting allows AutoFormat actions to apply direct formatting when needed. |
| Style and Formatting Protection | | |
| \enforceprot*N* | | Enforce protection. Assumes that a protection was specified (**\annotprot**, **\readprot**, **\formprot**, **\revprot**) |
| \protlevel*N* | | Level of protection  0 Track Changes (**\revprot** is also emitted)  1 Comments (**\annotprot** also emitted)  2 Forms (**\formprot** also emitted)  3 Read-only (**\readprot** also emitted) |
| Tables | | |
| \tsd*N* | | Sets the default table style for this document. ***N*** references an entry in the table styles list. |
| Bidirectional Controls | | |
| \rtldoc | | This document will be formatted to have Arabic-style pagination. |
| \ltrdoc | | This document will have English-style pagination (the default). |
| Click-and-Type | | |
| \cts*N* | | Index to the style to be used for Click-and-Type (0 is the default). |
| Kinsoku Characters (Asia) | | |
| \jsksu | | Indicates that the strict Kinsoku set must be used for Japanese; **\jsksu** should not be present if **\ksulang*N*** is present *and* the language ***N*** is Japanese. |
| \ksulang*N* | | ***N* i**ndicates the languagethe customized Kinsoku characters defined in the **\fchars** and **\lchars** destinations belong to. |
| \\*\fchars | | List of following Kinsoku characters. This is a destination control word. |
| \\*\lchars | | List of leading Kinsoku characters. This is a destination control word. |
| \nojkernpunct | | Kerning for Latin text only, as opposed to Latin text and punctuation (Asian Typography option). |
| Drawing Grid | | |
| \dghspace*N* | | Drawing grid horizontal spacing in twips (default is 120). |
| \dgvspace*N* | | Drawing grid vertical spacing in twips (default is 120). |
| \dghorigin*N* | | Drawing grid horizontal origin in twips (default is 1701). |
| \dgvorigin*N* | | Drawing grid vertical origin in twips (default is 1984). |
| \dghshow*N* | | Show ***N***th horizontal gridline (default is 3). |
| \dgvshow*N* | | Show ***N***th vertical gridline (default is 0). |
| \dgsnap | | Snap to drawing grid. |
| \dgmargin | | Drawing grid to follow margins. |

|  |  |
| --- | --- |
| Page Borders | |
| \pgbrdrhead | Page border surrounds header. |
| \pgbrdrfoot | Page border surrounds footer. |
| \pgbrdrt | Page border top. |
| \pgbrdrb | Page border bottom. |
| \pgbrdrl | Page border left. |
| \pgbrdrr | Page border right. |
| \brdrart*N* | Page border art; the ***N*** argument is a value from 1 to 165 representing the number of the border. |
| \pgbrdropt*N* | ***N*** has the bit fields:  bits 0-2 Apply to all pages in section (0), first page in section (1), all but first page in section (2), whole document (3).  bit 3 Display in front (0), in back (1)  bit 5 Offset from text (0), from edge of page (1).  Examples:  8 Page border for all pages in section measures from text. **Always display in front** option is set to **off**.  32 Page border for all pages in section measures from edge of page. **Always display in front** option is set to **on**.  40 Page border for all pages in section measures from edge of page. **Always display in front** option is set to **off**. |
| \pgbrdrsnap | Align paragraph borders and table edges with page border. |

The color, width, border style, and border spacing keywords for page borders are the same as the keywords defined for paragraph borders.

### Mail Merge

Mail merge refers to an operation by which RTF documents work together with data from an external data source, importing the data into a document according to a set of codes that are contained in RTF tags that are also known as fields (\field).   
  
An RTF document that contains the \\*\mailmerge control word is connected to an external data source. This document is known as a source document. In addition to being connected to an external data source and containing fields, a source document may contain any regular RTF constructs. These include the following:

|  |  |
| --- | --- |
| • | Character text |
| • | Paragraphs |
| • | Images |
| • | Tables |
| • | Lists |

The two key parts of the mail merge data that are stored in an RTF document:

|  |  |
| --- | --- |
| • | The information that connects the document to the external data source |
| • | The information that populates the fields in the document with external data |

Once the fields in a mail merge document have been populated with external data, the mail merge process is complete. The resulting files are known as mail merged documents or merged documents.

The mail merge data contained within an RTF file has the following syntax:

|  |  |
| --- | --- |
| <mailmerge> | '{\\*' **\mailmerge** <mmmaintype> **\mmlinktoquery**? <mmdatatype> **\mmdefaultsql**? (<mmconnectstrdata> | <mmconnectstr>)? <mmquery>? <mmdatasource>? **\mmblanklinks**? <mmheadersource> <mmdest> <mmaddfieldname>? <mmmailsubject>? **\mmattach**? **\mmshowdata**? **\mmreccur*N*** **\mmerrors*N*** <mmodso>\* **\mmodsocoldelim*N*** **\mmjdsotype*N*** **\mmodsofhdr*N*** <mmodsorecipdata>+ '}' |
| <mmmaintype> | **\mmmaintypecatalog** | **\mmmaintypeenvelopes** | **\mmmaintypelabels** | **\mmmaintypeletters** | **\mmmaintypeemail** | **\mmmaintypefax** |
| <mmdatatype> | **\mmdatatypeaccess** | **\mmdatatypeexcel** | **\mmdatatypeqt** | **\mmdatatypeodbc** | **\mmdatatypeodso** | **\mmdatatypefile** |
| <mmconnectstrdata> | '{' **\mmconnectstrdata** #SDATA '}' |
| <mmconnectstr> | '{' **\mmconnectstr** #PCDATA '}' |
| <mmquery> | '{' **\mmquery** #PCDATA '}' |
| <mmdatasource> | '{' **\mmdatasource** #PCDATA '}' |
| <mmheadersource> | '{' **\mmheadersource** #PCDATA '}' |
| <mmdest> | **\mmdestnewdoc** | **\mmdestprinter** | **\mmdestemail** | **\mmdestfax** |
| <mmaddfieldname> | '{' **\mmaddfieldname** #PCDATA '}' |
| <mmmailsubject> | '{' **\mmmailsubject** #PCDATA '}' |
| <mmodso> | '{\\*' **\mmodso** (<mmodsoudldata> | <mmodsoudl>)? <mmodsotable>? <mmodsosrc>? <mmodsofilter>? <mmodsosort>? <fldmpdata>? '}' |
| <mmodsoudl> | '{' **\mmodsoudl** #PCDATA '}' |
| <mmodsoudldata> | '{' **\mmodsoudldata** #SDATA '}' |
| <mmodsotable> | '{' **\mmodsotable** #PCDATA '}' |
| <mmodsosrc> | '{' **\mmodsosrc** #PCDATA '}' |
| <mmodsofilter> | '{' **\mmodsofilter** #SDATA '}' |
| <mmodsosort> | '{' **\mmodsofilter** #SDATA '}' |
| <fldmpdata> | '{\\*' **\mmodsofldmpdata** <mmfttype>? <mmodsoname>? <mmodsomappedname>? **\mmodsofmcolumn*N*** **\mmodsodynaddr*N*** **\mmodsolid*N*** '}' |
| <mmfttype> | \**mmfttypenull** | \**mmfttypedbcolumn** | \**mmfttypeaddress** | \**mmfttypesalutation** | \**mmfttypemapped** | \**mmfttypebarcode** |
| <mmodsoname> | '{' **\mmodsoname** #PCDATA '}' |
| <mmodsomappedname> | '{' **\mmodsomappedname** #PCDATA '}' |
| <mmodsorecipdata> | '{\\*' **\mmodsorecipdata** **\mmodsoactive*N*** <uniqueid> '}' |
| <uniqueid> | '{' **\mmodsohash*N*** | **\mmodsocolumn*N*** & <mmodsouniquetag> '}' |
| <mmodsouniquetag> | '{' **\mmodsouniquetag** #PCDATA ' }' |

For example, consider the mail merge scenario in which an RTF document is connected to an external data source that is named "ExampleExternalDataSource.xls" and that is located on the user's desktop.

{\\*\mailmerge\mmmaintypeletters\mmlinktoquery\mmdatatypeodso{\\*\mmconnectstrdata #SDATA}{\mmquery SELECT \* FROM `Sheet1$`}{\mmdatasource C:\\Documents and Settings\\Desktop\\ExampleExternalDataSource.xls}\mmdestnewdoc\mmreccur1\mmerrors2{\\*\mmodso{\\*\mmodsoudldata #SDATA}{\mmodsotable Sheet1$}{\mmodsosrc C:\\Documents and Settings\\Desktop\\ExampleExternalDataSource.xls}{\\*\mmodsofilter }{\\*\mmodsosort }{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033} {\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Title}{\mmodsomappedname Courtesy Title}\mmodsofmcolumn0\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname First Name}{\mmodsomappedname First Name}\mmodsofmcolumn1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Last Name}{\mmodsomappedname Last Name}\mmodsofmcolumn2\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}

{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Company Name}{\mmodsomappedname Company}\mmodsofmcolumn3\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Address Line 1}{\mmodsomappedname

Address 1}\mmodsofmcolumn4\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Address Line 2}{\mmodsomappedname Address 2}\mmodsofmcolumn5\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname City}{\mmodsomappedname City}

\mmodsofmcolumn6\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname State}{\mmodsomappedname State}\mmodsofmcolumn7\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname ZIP Code}{\mmodsomappedname Postal Code}

\mmodsofmcolumn8\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Country}{\mmodsomappedname Country or Region}\mmodsofmcolumn9\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Work Phone}{\mmodsomappedname Business Phone}

\mmodsofmcolumn11\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname Home Phone}{\mmodsomappedname Home Phone}\mmodsofmcolumn10\mmodsolid1033}

{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmfttypedbcolumn{\mmodsoname E-mail Address}{\mmodsomappedname E-mail Address}\mmodsofmcolumn12\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}

{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}{\\*\mmodsofldmpdata\mmodsofmcolumn-1\mmodsolid1033}\mmodsocoldelim9\mmjdsotype1\mmodsofhdr1}}

These control words are described in the following table.

| Control word | Meaning |
| --- | --- |
| \\*\mailmerge | Specifies all the mail merge information for a document that has been connected to an external data source as part of a mail merge operation. |
| \mmlinktoquery | Specifies that the current RTF document's query string, stored in the <mmquery> control word and used to specify the data to be imported from the external data source, actually contains a reference to an external query file that contains the actual query data to be used against the specified external data source for the mail merge. This query shall mimic a STRUCTURED QUERY LANGUAGE query and be of the following form: SELECT \* FROM <query file path>.  If this element is omitted, the query specified for the data source that is attached to the current document shall be assumed to not be a query that contains a link to an external file. |
| \mmdefaultsql | Specifies if a given merged RTF document shall prompt its conforming hosting application to use the default STRUCTURED QUERY LANGUAGE query string. The default STRUCTURED QUERY LANGUAGE query string for merged RTF documents is "SELECT \* FROM <datasource>". |
| \\*\mmconnectstrdata | Specifies the hexadecimal-encoded connection string used to reconnect to an external data source. |
| \\*\mmconnectstr | Destination taking #PCDATA which has been replaced by **\mmconnectstrdata** because the connect string is very long and may be truncated. |
| \mmquery | Specifies the Structured Query Language string that shall be run against the specified external data source to return the set of records from the external data that shall be imported into merged RTF documents when the mail merge operation is performed. If this control word is omitted, no query shall be associated with the current data source. |
| \mmdatasource | Specifies the location of the external data source to be connected to a given RTF document. |
| \mmheadersource | Specifies the location of a file that contains the column header information that shall be used when connecting to an external data source that does not have column header data specified. Specifically, this control word specifies a file that corresponds with the external data source specified by the <mmdatasource> control word.  **Note:** Column headers are needed to enable a hosting application to associate an external data source's columns to fields via the <mmodsofldmpdata> control word. |
| \mmblanklinks | Specifies how an application performing the mail merge shall handle blank lines in the merged documents resulting from the mail merge. Typically, when a mail merge is performed, any blank lines that result from lines whose sole contents are merge fields with no content are removed from the merged document to prevent extraneous blank lines from appearing in the merged documents. When this control word is present, the merged documents that are generated from the mail merge shall not have any blank lines removed before they are sent to their destination format.  If this control word is omitted, the merged documents that are generated from this mail merge shall have all blank lines suppressed if they consist of only merge fields with values that consist of empty strings. |
| \mmaddfieldname | Specifies the column within a given external data source that contains e-mail addresses. This control word is specified independently of the field mappings specified for a given merged document via the <mmodsofldmpdata> control word.  If this control word is omitted, or if no column exists in the data source with this column name, the source document specifies that no e-mail address data shall be associated with this mail merge.  **Note:** This control word is generally used to allow you to send in e-mail merged documents resulting from populating the fields within a merged document with external data.  This control word is independent of the field mapping that is specified for a given merged document via the <mmodsofldmpdata> control word. This separation enables applications to e-mail the documents resulting from the population of RTF fields with external data regardless of the presence or absence of a field mapped to external data specifying e-mail addresses. |
| \mmmailsubject | Specifies the text that shall appear in the subject line of the e-mail messages or faxes that result after the actions of a mail merge have imported external data into fields within a merged RTF document whose destination is e-mail or fax as specified by the <mmdestemail> or <mmdestfax> control words.  If this control word is omitted, no subject line text shall be associated with each merged document produced via a mail merge using the specified mail merge data. If the <mmdestemail> or <mmdestfax> control words are not used, this control word shall be ignored. |
| \mmattach | Specifies that, after importing external data into fields to generate a series of destination RTF documents as e-mail messages, the resulting documents should be sent in e-mailed as an attachment rather than the body of the actual e-mail message.  If the <mmdestemail> control word is not present, this control word shall be ignored. |
| \mmshowdata | Specifies that a specific merged document shall display the data from the specified external data source where merge fields have been inserted. The <mmreccur> control word is used to specify the record within the external data source that is to have its applicable data displayed where applicable within the RTF merged document.  If the <mmreccur> control word is not present in the RTF for the document leveraging this control word, the hosting application may behave as if the <mmreccur> control word's parameter was equal to 1. |
| \mmreccur*N* | Specifies that the hosting application shall display the given record from the specified external data source in place of the fields to which its data is mapped via the <mmodsofldmpdata> control word in a merged document. When this control word is present, the parameter shall specify the one-based index of the record from that data source that shall be used to populate this document.  If the <mmreccur> control word is omitted with the <mmshowdata> control word present, the hosting application shall behave as if the <mmreccur> control word’s parameter was equal to 1. If the <mmshowdata> control word is omitted, this control word shall be ignored. If the <mmreccur> control word’s parameter is less than 1 or greater than the number of records in the specified external data source, the hosting application shall treat this parameter as if it were equal to 1. |
| \mmerrors*N* | Specifies the type of error reporting that shall be conducted by an application when performing a mail merge against the specified source data.  The type of error reporting implied by this control word shall be defined as follows:   |  |  | | --- | --- | | • | Simulate the population of fields with mapped external data, and report errors in a new document if the parameter is equal to 1. | | • | While populating fields with mapped external data pause to report each error as it occurs if the parameter is equal to 2. | | • | Populate fields with mapped external data, and report errors in a new document if the parameter is equal to 3. | | • | If this control word is omitted, or if its parameter is set to a parameter outside those specified above, its parameter shall be assumed to be 2. | |
| \\*\mmodso | Specifies a group of additional settings for the mail merge information included as part of the current document, the sum total of which is referred to as the Office Data Source Object (ODSO) settings for the mail merge.  If the <mmdatatypeodso> control word is not used, the settings that are specified within this control word may be ignored in favor of their non-ODSO equivalents. |
| \\*\mmodsoudldata | Specifies the Universal Data Link (UDL) connection string used to reconnect to an external data source. The destination specified by this control word shall contain the hexadecimal encoding of the connection string that the hosting application shall pass to a external data source access application to enable the RTF document to be reconnected to the specified external data source.  If this destination is omitted, no UDL connection string shall be associated with the ODSO data for this mail merge.  This connection string is only used under the following conditions:   |  |  | | --- | --- | | • | The <mmdatatypeodso> control word is used in the given RTF file. | | • | The current application is able to use the ODSO information to access the data source. | |
| \\*\mmodsoudl | Destination for #PCDATA replaced by **\mmodsoudldata** because Universal Data Link (UDL) string is very long and suffers truncation |
| \mmodsotable | Specifies the particular set of data that a source or merged RTF document shall be connected to within an external data source that contains multiple data sets. In other words, when connecting an RTF document to an external data source that may have more than one repository of data within it, such as a database that has multiple tables or a spreadsheet that has multiple worksheets, this control word is used to distinguish the specific table or spreadsheet from which data will be imported from within the external data source. |
| \mmodsosrc | Specifies the location of the external data source to be connected to a given RTF document to perform the mail merge.  This control word is used to specify the location of the external data source only under the following conditions:   |  |  | | --- | --- | | • | The <mmdatatypeodso> control word is used in the given RTF file. | | • | The current application is able to use the ODSO information to access the data source. | |
| \\*\mmodsofilter | Specifies the data records within the external data source that are to be included within the mail merge.  If the destination of this control word conflicts with the <mmodsoudldata> control word, the <mmodsoudldata> control word shall take precedence. |
| \\*\mmodsosort | Specifies the order in which the data records within the external data source are to be included within the mail merge.  If the destination of this control word conflicts with the <mmodsoudldata> control word, the <mmodsoudldata> control word shall take precedence. |
| \\*\mmodsofldmpdata | Specifies how a column specified in the external data source that has been connected to an RTF document shall be mapped to the fields (\**field**) within the given merged document's contents. Each instance of an <mmodsofldmpdata> control word contains the information that is needed to map one column in the external data source to a single type of field for the purposes of the mail merge in the current document. |
| \mmodsoname | Specifies the column name within a given external data source for the column whose index is specified via the <mmodsofmcolumn> control word. This data source name provides a column name that shall be used to map a specific field in the document, as specified by the <mmodsofldmpdata> control word. The parameter of this control word specifies the name of this column in the data source when the connection is initially established that is then used permanently to link columns in the database to fields in the document.  If this control word is omitted, no data source name is provided for the current column. |
| \mmodsomappedname | Specifies the predefined RTF field name that shall be mapped to the column number specified by the <mmodsofmcolumn> control word within an instance of the <mmodsofldmpdata>.  If the application does not have a predefined merge field whose name matches the name specified using the destination of this control word, this control word may be ignored. |
| \mmodsofmcolumn*N* | Specifies the zero-based index of the column within a given external data source that shall be mapped to the local name of a specific MERGEFIELD field specified by the parent field mapping data. The parameter specifies this index value, which is used to look up the appropriate column in the data source.  If this control word is omitted, or if its value exceeds the number of columns in the associated data source, the index of the referenced column shall be assumed to be 0. |
| \mmodsodynaddr*N* | Specifies that the contents of the AddressBlock field shall be dynamically ordered based on the country associated with the current record or if the country-invariant version of the address field shall be used in its place.  If this control word is omitted, the form of the address shall be dynamically determined based on the country specified in the current record. |
| \mmodsolid*N* | Specifies the language ID (see [standard language table](#Standard_Language_Table)) for the language that was used to generate the merge field name that was associated with a given column in the data source. This control word specifies that when this field mapping is processed by an application, it shall interpret the merge field name as the name for the specified language.  If this control word is omitted, the mapped field names specified in the current document may be interpreted using any method desired by the consuming application. In other words, no language data is included with the field mapping information. |
| \mmodsocoldelim*N* | Specifies the character that shall be interpreted as the column delimiter used to separate columns within external data sources. The character representing the specific delimiter used for the external data source referenced by a source or merged RTF document is specified via a decimal number representing the decimal number for the Unicode character representation within this control word’s parameter.  If this control word is omitted, no column delimiter shall be specified for the data source in this mail merge. |
| \mmjdsotype*N* | Specifies the type of external data source to be connected to as part of the ODSO connection information for this mail merge. This setting is purely a suggestion of the data source type that is being used for this mail merge. This setting may be ignored in favor of an alternative mechanism if one is present. |
| \mmodsofhdr*N* | Specifies that a hosting application shall treat the first row of data in the specified external data source as a header row containing the names of each column in the data source, rather than data to populate mapped fields in a merged document.  If this control word is omitted, the first row of the data source shall not be considered a header row when a mail merge is performed. |
| \\*\mmodsorecipdata | Specifies all of the inclusion/exclusion data for the contents of the specified mail merge data source. |
| \mmodsoactive*N* | Specifies whether a specific record from the specified external data source shall be imported into a merged RTF document when the mail merge defined for a source document is performed. If this control word’s parameter is set to 0, the record specified by the parent control word shall not be used to create a merged document.  If this control word is omitted for a given record, the data record associated with it shall be imported into a merged RTF document when the mail merge is performed. |
| \mmodsohash*N* | Specifies a unique hash value used to maintain a relationship between a specific record within an external data source and a given source or merged document. |
| \mmodsocolumn*N* | Specifies the column within the specified external data source that contains unique data for the current record within that data source. This control word shall be used in conjunction with the **\mmodsouniquetag** control word to maintain a relationship between a specific record within an external data source and a given source or merged document. The parameter of this control word shall be interpreted as a zero-based index into the columns specified by the data source, specifying the resulting column as the column in which the <mmodsouniquetag> control word shall be looked up.  If this control word specifies a column number that exceeds the number of columns in the specified external data source, its value shall be ignored. |
| \mmodsouniquetag | Destination for unique tag as described in the previous entry. |

#### Mail Merge Field Map Data Type

The control words in the following table specify the data type of the mapped mail merge field.

| Control word | Meaning |
| --- | --- |
| \mmfttypenull | Mail merge field map data type is null. |
| \mmfttypedbcolumn | Mail merge field map data type is database column. |
| \mmfttypeaddress | Mail merge field map data type is address block. |
| \mmfttypesalutation | Mail merge field map data type is salutation. |
| \mmfttypemapped | Mail merge field map data type is mapped. |
| \mmfttypebarcode | Mail merge field map data type is barcode. |

Mail Merge Destination  
This specifies the possible results that may be generated when a mail merge is carried out on a given RTF source document. In other words, this control word is used to specify what is to be done with the merged documents that result from populating the fields in a given merged RTF document with data from the specified external data source.

| Control word | Meaning |
| --- | --- |
| \mmdestnewdoc | Specifies that conforming hosting applications shall generate new documents by populating the fields within a given merged RTF document with data from the specified external data source. |
| \mmdestprinter | Specifies that conforming hosting applications shall print the documents that result from populating the fields within a given merged RTF document with data from the specified external data source. |
| \mmdestemail | Specifies that conforming hosting applications shall generate emails using the documents that result from populating the fields within a given merged RTF document with data from the specified external data source. |
| \mmdestfax | Specifies that conforming hosting applications shall generate faxes using the documents that result from populating the fields within a given merged RTF document with data from the specified external data source. |

Mail Merge Source Document Types  
This specifies the mail merge main document "document type."

| Control word | Meaning |
| --- | --- |
| \mmmaintypecatalog | Specifies mail merge source document is of the catalog type. |
| \mmmaintypeenvelopes | Specifies mail merge source document is of the envelope type. |
| \mmmaintypelabels | Specifies mail merge source document is of the label type. |
| \mmmaintypeletters | Specifies mail merge source document is of the letter type. |
| \mmmaintypeemail | Specifies mail merge source document is of the e-mail message type. |
| \mmmaintypefax | Specifies mail merge source document is of the fax type. |

Mail Merge Data Types  
This specifies the possible values for the types of external data sources to be connected to via the Dynamic Data Exchange (DDE) system (such as a spreadsheet or a database) or the alternative method of data access if the Dynamic Data Exchange system is not used.

| Control word | Meaning |
| --- | --- |
| \mmdatatypeaccess | Specifies that a given merged RTF document has been connected to a database via the Dynamic Data Exchange (DDE) system. |
| \mmdatatypeexcel | Specifies that a given merged RTF document has been connected to a database via the Dynamic Data Exchange (DDE) system. |
| \mmdatatypeqt | Specifies that a given merged RTF document has been connected to an external data source by using an external query tool. |
| \mmdatatypeodbc | Specifies that a given merged RTF document has been connected to an external data source via the Open Database Connectivity interface. |
| \mmdatatypeodso | Specifies that a given merged RTF document has been connected to an external data source via the Office Data Source Object (ODSO) interface. |
| \mmdatatypefile | Specifies that a given merged RTF document has been connected to a text file via the Dynamic Data Exchange (DDE) system. |

### Section Text

Each section in the RTF file has the following syntax:

|  |  |
| --- | --- |
| <section> | <secfmt>\* <hdrftr>? <para>+ (**\sect** <section>)? |

#### Section Formatting Properties

At the beginning of each section, there may be section-formatting control words (described as <secfmt> in the section text syntax description). These control words specify section-formatting properties, which apply to the text *following* the control word, with the exception of the section-break control words (those beginning with **\sbk**). Section-break control words describe the break *preceding* the text. These control words can appear anywhere in the section, not just at the start.

Note that if the **\sectd** control word is not present, the current section inherits all section properties defined in the previous section.

The section-formatting control words are listed in the following table.

| Control word | Meaning |
| --- | --- |
| \sect | New section. |
| \sectd | Reset to default section properties. |
| \endnhere | Endnotes included in the section. |
| \binfsxn*N* | ***N*** is the printer bin used for the first page of the section. If this control is not defined, then the first page uses the same printer bin as defined by the **\binsxn*N*** control. |
| \binsxn*N* | ***N*** is the printer bin used for the pages of the section. |
| \ds*N* | Designates section style. If a section style is specified, style properties must be specified with the section. |
| \pnseclvl*N* | Used for multilevel lists. This property sets the default numbering style for each corresponding **\pnlvl*N*** control word (bullets and numbering property for paragraphs) within that section. This is a destination control word. |
| \sectunlocked | This section is unlocked for forms. |
| Section Break | |
| \sbknone | No section break. |
| \sbkcol | Section break starts a new column. |
| \sbkpage | Section break starts a new page (the default). |
| \sbkeven | Section break starts at an even page. |
| \sbkodd | Section break starts at an odd page. |
| Columns | |
| \cols*N* | Number of columns for "snaking" (default is 1). |
| \colsx*N* | Space between columns in twips (default is 720). |
| \colno*N* | Column number to be formatted; used to specify formatting for variable-width columns. |
| \colsr*N* | Space to right of column in twips; used to specify formatting for variable-width columns. |
| \colw*N* | Width of column in twips; used to override the default constant width setting for variable-width columns. |
| \linebetcol | Line between columns. |
| Footnotes and Endnotes | |
| \sftntj | Footnotes beneath text (top justified). |
| \sftnbj | Footnotes at the bottom of the page (bottom justified). |
| \sftnstart*N* | Beginning footnote number (default is 1). |
| \saftnstart*N* | Beginning endnote number (default is 1). |
| \sftnrstpg | Restart footnote numbering each page. |
| \sftnrestart | Footnote numbers restart at each section. Microsoft Word for the Macintosh uses this control to restart footnote numbering at each page. |
| \sftnrstcont | Continuous footnote numbering (the default). |
| \saftnrestart | Restart endnote numbering each section. |
| \saftnrstcont | Continuous endnote numbering (the default). |
| \sftnnar | Footnote numbering—Arabic numbering (1, 2, 3, …). |
| \sftnnalc | Footnote numbering—Alphabetical lowercase (a, b, c, …). |
| \sftnnauc | Footnote numbering—Alphabetical uppercase (A, B, C, …). |
| \sftnnrlc | Footnote numbering—Roman lowercase (i, ii, iii, …). |
| \sftnnruc | Footnote numbering—Roman uppercase (I, II, III, …). |
| \sftnnchi | Footnote numbering—Chicago Manual of Style (\*, †, ‡, §). |
| \sftnnchosung | Footnote Korean numbering 1 (CHOSUNG). |
| \sftnncnum | Footnote Circle numbering (CIRCLENUM). |
| \sftnndbnum | Footnote kanji numbering without the digit character (DBNUM1). |
| \sftnndbnumd | Footnote kanji numbering with the digit character (DBNUM2). |
| \sftnndbnumt | Footnote kanji numbering 3 (DBNUM3). |
| \sftnndbnumk | Footnote kanji numbering 4 (DBNUM4). |
| \sftnndbar | Footnote double-byte numbering (DBCHAR). |
| \sftnnganada | Footnote Korean numbering 2 (GANADA). |
| \sftnngbnum | Footnote Chinese numbering 1 (GB1). |
| \sftnngbnumd | Footnote Chinese numbering 2 (GB2). |
| \sftnngbnuml | Footnote Chinese numbering 3 (GB3). |
| \sftnngbnumk | Footnote Chinese numbering 4 (GB4). |
| \sftnnzodiac | Footnote numbering—Chinese Zodiac numbering 1 (ZODIAC1). |
| \sftnnzodiacd | Footnote numbering—Chinese Zodiac numbering 2 (ZODIAC2). |
| \sftnnzodiacl | Footnote numbering—Chinese Zodiac numbering 3 (ZODIAC3). |
| \saftnnar | Endnote numbering—Arabic numbering (1, 2, 3, …). |
| \saftnnalc | Endnote numbering—Alphabetical lowercase (a, b, c, …). |
| \saftnnauc | Endnote numbering—Alphabetical uppercase (A, B, C, …). |
| \saftnnrlc | Endnote numbering—Roman lowercase (i, ii, iii, …). |
| \saftnnruc | Endnote numbering—Roman uppercase (I, II, III, …). |
| \saftnnchi | Endnote numbering—Chicago Manual of Style (\*, †, ‡, §). |
| \saftnnchosung | Endnote Korean numbering 1 (CHOSUNG). |
| \saftnncnum | Endnote Circle numbering (CIRCLENUM). |
| \saftnndbnum | Endnote kanji numbering without the digit character (DBNUM1). |
| \saftnndbnumd | Endnote kanji numbering with the digit character (DBNUM2). |
| \saftnndbnumt | Endnote kanji numbering 3 (DBNUM3). |
| \saftnndbnumk | Endnote kanji numbering 4 (DBNUM4). |
| \saftnndbar | Endnote double-byte numbering (DBCHAR). |
| \saftnnganada | Endnote Korean numbering 2 (GANADA). |
| \saftnngbnum | Endnote Chinese numbering 1 (GB1). |
| \saftnngbnumd | Endnote Chinese numbering 2 (GB2). |
| \saftnngbnuml | Endnote Chinese numbering 3 (GB3). |
| \saftnngbnumk | Endnote Chinese numbering 4 (GB4). |
| \saftnnzodiac | Endnote numbering—Chinese Zodiac numbering 1 (ZODIAC1). |
| \saftnnzodiacd | Endnote numbering—Chinese Zodiac numbering 2 (ZODIAC2). |
| \saftnnzodiacl | Endnote numbering—Chinese Zodiac numbering 3 (ZODIAC3). |
| Line Numbering | |
| \linemod*N* | Line-number modulus amount to increase each line number (default is 1). |
| \linex*N* | Distance from the line number to the left text margin in twips (default is 360).  The automatic distance is 0. |
| \linestarts*N* | Beginning line number (default is 1). |
| \linerestart | Line numbers restart at **\linestarts*N*** value. |
| \lineppage | Line numbers restart on each page. |
| \linecont | Line numbers continue from the preceding section. |
| Page Information | |
| \pgwsxn*N* | ***N*** is the page width in twips. A **\sectd** resets the value to that specified by **\paperw*N*** in the document properties. |
| \pghsxn*N* | ***N*** is the page height in twips. A **\sectd** resets the value to that specified by **\paperh*N*** in the document properties. |
| \marglsxn*N* | ***N*** is the left margin of the page in twips. A **\sectd** resets the value to that specified by **\margl*N*** in the document properties. |
| \margrsxn*N* | ***N*** is the right margin of the page in twips. A **\sectd** resets the value to that specified by **\margr*N*** in the document properties. |
| \margtsxn*N* | ***N*** is the top margin of the page in twips. A **\sectd** resets the value to that specified by **\margt*N*** in the document properties. |
| \margbsxn*N* | ***N*** is the bottom margin of the page in twips. A **\sectd** resets the value to that specified by **\margb*N*** in the document properties. |
| \guttersxn*N* | ***N*** is the width of the gutter margin for the section in twips. A **\sectd** resets the value to that specified by **\gutter*N*** from the document properties. If **Facing Pages** is turned **off,** the gutter is added to the left margin of all pages. If **Facing Pages** is turned **on,** the gutter is added to the left side of odd-numbered pages and the right side of even-numbered pages. |
| \margmirsxn | Switches margin definitions on left and right pages. Used in conjunction with **\facingp**. |
| \lndscpsxn | Page orientation is in landscape format. To mix portrait and landscape sections within a document, the **\landscape** control should not be used so that the default for a section is portrait, which may be overridden by the **\lndscpsxn** control. |
| \titlepg | First page has a special format. |
| \headery*N* | Header is ***N*** twips from the top of the page (default is 720). |
| \footery*N* | Footer is ***N*** twips from the bottom of the page (default is 720). |
| Page Numbers | |
| \pgnstarts*N* | Beginning page number (default is 1). |
| \pgncont | Continuous page numbering (the default). |
| \pgnrestart | Page numbers restart at **\pgnstarts** value. |
| \pgnx*N* | Page number is ***N*** twips from the right margin (default is 720). This control word is understood but not used by current versions (6.0 or later) of Word. |
| \pgny*N* | Page number is ***N*** twips from the top margin (default is 720). This control word is understood but not used by current versions (6.0 or later) of Word. |
| \pgndec | Page-number format is decimal. |
| \pgnucrm | Page-number format is uppercase Roman numeral. |
| \pgnlcrm | Page-number format is lowercase Roman numeral. |
| \pgnucltr | Page-number format is uppercase letter (A, B, C, …) |
| \pgnlcltr | Page-number format is lowercase letter (a, b, c, …) |
| \pgnbidia | Page-number format is Abjad Jawaz if language is Arabic and Biblical Standard if language is Hebrew. |
| \pgnbidib | Page-number format is Alif Ba Tah if language is Arabic and Non-standard Decimal if language is Hebrew. |
| \pgnchosung | Korean numbering 1 (CHOSUNG). |
| \pgncnum | Circle numbering (CIRCLENUM). |
| \pgndbnum | Kanji numbering without the digit character. |
| \pgndbnumd | Kanji numbering with the digit character. |
| \pgndbnumt | Kanji numbering 3 (DBNUM3). |
| \pgndbnumk | Kanji numbering 4 (DBNUM4). |
| \pgndecd | Double-byte decimal numbering. |
| \pgnganada | Korean numbering 2 (GANADA). |
| \pgngbnum | Chinese numbering 1 (GB1). |
| \pgngbnumd | Chinese numbering 2 (GB2). |
| \pgngbnuml | Chinese numbering 3 (GB3). |
| \pgngbnumk | Chinese numbering 4 (GB4). |
| \pgnzodiac | Chinese Zodiac numbering 1 (ZODIAC1). |
| \pgnzodiacd | Chinese Zodiac numbering 2 (ZODIAC2). |
| \pgnzodiacl | Chinese Zodiac numbering 3 (ZODIAC3). |
| \pgnhindia | Hindi vowel numeric format. |
| \pgnhindib | Hindi consonants. |
| \pgnhindic | Hindi digits. |
| \pgnhindid | Hindi descriptive (cardinal) text. |
| \pgnthaia | Thai letters. |
| \pgnthaib | Thai digits. |
| \pgnthaic | Thai descriptive. |
| \pgnvieta | Vietnamese descriptive. |
| \pgnid | Page number in dashes (Korean). |
| \pgnhn*N* | Indicates the heading level that is used to prefix a heading number to the page number.This control word can only be used in conjunction with numbered heading styles.  A 0 (zero) specifies to not show heading level (the default).  Values 1 through 9 correspond to heading levels 1 through 9. |
| \pgnhnsh | Hyphen separator character.This separator and the successive ones appear between the heading level number and the page number. |
| \pgnhnsp | Period separator character. |
| \pgnhnsc | Colon separator character. |
| \pgnhnsm | Em dash (—) separator character. |
| \pgnhnsn | En dash (–) separator character. |
| Vertical Alignment | |
| \vertal | Text is bottom-aligned. (Alias for **\vertalb**) |
| \vertalt | Text is top-aligned (the default). |
| \vertalb | Text is bottom-aligned. Note: Word uses **\vertal**. |
| \vertalc | Text is centered vertically. |
| \vertalj | Text is justified vertically. |
| Revision Tracking | | | |
| \srauth*N* | | With revision tracking enabled, this control word identifies the author of changes to a section’s properties. ***N***refers to a value in the revision table. | |
| \srdate*N* | | With revision tracking enabled, this control word identifies the date of a revision (see Track Changes (Revision Marks) for date/time format of ***N***). | |
| Bidirectional Controls | |
| \rtlsect | This section will snake (newspaper style) columns from right to left. |
| \ltrsect | This section will snake (newspaper style) columns from left to right (the default). |
| Asian Controls | |
| \horzsect | Horizontal rendering. |
| \vertsect | Vertical rendering. |
| Text Flow | |
| \stextflow*N* | Section property for specifying text flow:  0 Text flows left to right and top to bottom  1 Text flows top to bottom and right to left, vertical  2 Text flows left to right and bottom to top  3 Text flows right to left and top to bottom  4 Text flows left to right and top to bottom, vertical  5 Text flows top to bottom and left to right, vertical (for Mongolian) |
| Page Borders | |
| \pgbrdrhead | Page border surrounds header. |
| \pgbrdrfoot | Page border surrounds footer. |
| \pgbrdrt | Page border top. |
| \pgbrdrb | Page border bottom. |
| \pgbrdrl | Page border left. |
| \pgbrdrr | Page border right. |
| \brdrart*N* | Page border art; the ***N*** argument is a value from 1 through 165 representing the number of the border. |
| \pgbrdropt*N* | 8 Page border measure from text. **Always display in front** option is set to **off**.  32 Page border measure from edge of page. **Always display in front** option is set to **on**.  40 Page border measure from edge of page. **Always display in front** option is set to **off**. |
| \pgbrdrsnap | Align paragraph borders and table edges with page border. |
| Line and Character Grid | |
| \sectexpand*N* | Character space basement (character pitch minus font size) ***N*** in device-independent units (a device-independent unit is 1/294912th of an inch). |
| \sectlinegrid*N* | Line grid, where ***N*** is the line pitch in 20ths of a point. |
| \sectdefaultcl | Default state of section. Indicates **\sectspecifycl**and **\sectspecifyl** are not emitted. |
| \sectspecifycl | Specify number of characters per line only. |
| \sectspecifyl | Specify both number of characters per line and number of lines per page. |
| \sectspecifygenN | Indicates that text should snap to the character grid. Note that the N is part of the keyword. |

The color, width, border style, and border spacing keywords for page borders are the same as the keywords defined for paragraph borders.

#### Headers and Footers

Headers and footers are RTF destinations. Each section in the document can have its own set of headers and footers. If no headers or footers are defined for a given section, the headers and footers from the previous section (if any) are used. Headers and footers have the following syntax:

|  |  |
| --- | --- |
| <hdrftr> | '{' <hdrctl> <para>+ '}' <hdrftr>? |
| <hdrctl> | \header | \footer | \headerl | \headerr | \headerf | \footerl | \footerr | \footerf |

**Note:** Each separate <hdrftr> group must have a distinct <hdrctl> introducing it.

| Control word | Meaning |
| --- | --- |
| \header | Header on all pages. This is a destination control word. |
| \footer | Footer on all pages. This is a destination control word. |
| \headerl | Header on left pages only. This is a destination control word. |
| \headerr | Header on right pages only. This is a destination control word. |
| \headerf | Header on first page only. This is a destination control word. |
| \footerl | Footer on left pages only. This is a destination control word. |
| \footerr | Footer on right pages only. This is a destination control word. |
| \footerf | Footer on first page only. This is a destination control word. |

**Note:** Prior to the Microsoft Word 2007, only the **\footer** keyword and/or the **\header** keyword wer written if the "facing pages" (**\facingp**) option was disabled. Additionally, only the **\headerl** and **\headerr** keywords for the left and right headers, respectively, were written if the **\facingp** option was enabled. With the release of the Microsoft Word 2007, the **\headerl** keyword and the **\headerr** keyword are always written. Additionally, the **\headerr** keyword is written as the header on every page if the **\facingp** option is disabled.

The **\headerl**, **\headerr**, **\footerl**, and **\footerr** control words are used in conjunction with the **\facingp** control word, and the **\headerf** and **\footerf** control words are used in conjunction with the **\titlepg** control word. Many RTF readers will not function correctly if the appropriate document properties are not set. In particular, if **\facingp** is not set, then only **\header** and **\footer** can be used, but **\headerr** and **\footerr** should be used if **\header** and **\footer** are missing. If **\facingp** is set, then only **\headerl**, **\headerr**, **\footerl**, and **\footerr** should be used.Combining both **\facingp** and **\titlepg** is allowed. You should not use **\header** to set the headers for both pages when **\facingp** is set. You can use **\headerf** if **\titlepg** is not set, but no header will appear. For more information, see [Document Formatting Properties](#Document_Formatting_Properties) and [Section Formatting Properties](#Section_Formatting_Properties) in this Specification.

If the previous section had a first page header or footer and had **\titlepg** set, and the current section does not, then the previous section’s first page header or footer is not used for the current section. However, it is not destroyed; if subsequent sections have **\titlepg** set, then the first page header or footer is restored.

### Paragraph Text

There are two kinds of paragraphs: *plain* and *table*. A table is a collection of paragraphs. A table row is a contiguous series of paragraphs partitioned into cells. The **\intbl** control word marks the paragraph as being part of a table. Additional keywords related to table styles are documented next, and refer to properties of the cell the paragraph resides within. For more information, see the [Table Definitions](#Table_Definitions) section of this Specification. This control word is inherited by subsequent paragraphs not reset by the **\pard** control word.

|  |  |
| --- | --- |
| <para> | <textpar> | <row> |
| <textpar> | <pn>? <brdrdef>? <parfmt>\* <apoctl>\* <tabdef>? <shading>? (**\v \spv**)?  (**\subdocument*N*** | <char>+) (**\par** <para>)? |
| <row> | (<tbldef> <cell>+ <tbldef> **\row**) | (<tbldef> <cell>+ **\row**) | (<cell>+ <tbldef> **\row**) |
| <cell> | (<nestrow>? <tbldef>?) & <textpar>+ **\cell** |
| <nestrow> | <nestcell>+ '{\\*' **\nesttableprops** <tbldef> **\nestrow** '}' |
| <nestcell> | <textpar>+ **\nestcell** |

#### Paragraph Formatting Properties

These control words (described as <parfmt> in the paragraph-text syntax description) specify generic paragraph formatting properties. These control words can appear anywhere in the body of the paragraph, not just at the beginning.

**Note:** If the **\pard** control word is not present, the current paragraph inherits all paragraph properties from the previous paragraph.

The paragraph-formatting control words are listed in the following table.

| Control word | | Meaning | |
| --- | --- | --- | --- |
| \par | | New paragraph. | |
| \pard | | Resets to default paragraph properties. | |
| \spv | | Style separator feature that causes the paragraph mark to not appear even in ShowAll. Used to nest paragraphs within the document view or outline without generating a new heading. | |
| \hyphpar | | Switches automatic hyphenation for the paragraph.Append 1 or nothing to toggle property on; append 0 to turn it off. | |
| \intbl | | Paragraph is part of a table. | |
| \itap*N* | | Paragraph nesting level, where 0 is the main document, 1 is a table cell, 2 is a nested table cell, 3 is a doubly nested table cell, and so forth (default is 1). | |
| \keep | | Keep paragraph intact (completely on one page if possible). | |
| \keepn | | Keep paragraph with the next paragraph. | |
| \level*N* | | ***N*** is the outline level of the paragraph. | |
| \noline | | No line numbering. | |
| \nowidctlpar | | No widow/orphan control. This is a paragraph-level property and is used to override the document-level **\widowctrl**. | |
| \widctlpar | | Widow/orphan control is used for the current paragraph. This is a paragraph property used to override the absence of the document-level **\widowctrl**. | |
| \outlinelevel*N* | | Outline level of paragraph. The ***N*** argument is a value from 0 to 8 representing the outline level of the paragraph. In the default case, no outline level is specified (same as body text). |
| \pagebb | | Break page before the paragraph. |
| \sbys | | Side-by-side paragraphs. |
| \s*N* | | Designates paragraph style. If a paragraph style is specified, style properties must be specified with the paragraph. ***N*** references an entry in the style sheet. |
| Table Style Specific | | |
| \yts*N* | Designates the table style handle that was applied to the row/cell. | |
| \tscfirstrow | This cell is in the first row. | |
| \tsclastrow | This cell is in the last row. | |
| \tscfirstcol | This cell is in the first column. | |
| \tsclastcol | This cell is in the last column. | |
| \tscbandhorzodd | This cell is in the odd row band. | |
| \tscbandhorzeven | This cell is in the even row band. | |
| \tscbandvertodd | This cell is in the odd column band. | |
| \tscbandverteven | This cell is in the even column band. | |
| \tscnwcell | This is the NW (north west) cell in the table (upper left). | |
| \tscnecell | NE cell. | |
| \tscswcell | SW cell. | |
| \tscsecell | SE cell. | |
| Alignment | | |
| \qc | | Centered. |
| \qj | | Justified. |
| \ql | | Left-aligned (the default). |
| \qr | | Right-aligned. |
| \qd | | Distributed. |
| \qk*N* | | Percentage of line occupied by Kashida justification (0 – low, 10 – medium, 20 – high). |
| \qt | | For Thai distributed justification. |
| Font Alignment | | |
| \faauto | | Font alignment. The default setting for this is "Auto." |
| \fahang | | Font alignment: Hanging. |
| \facenter | | Font alignment: Center. |
| \faroman | | Font alignment: Roman (default). |
| \favar | | Font alignment: Upholding variable. |
| \fafixed | | Font alignment: Upholding fixed. |
| Indentation | | |
| \fi*N* | | First-line indent in twips (default is 0). |
| \cufi*N* | | First-line indent in hundredths of a character unit; overrides **\fi*N***,although they should both be emitted with equivalent values. |
| \li*N* | | Left indent in twips (default is 0). |
| \lin*N* | | Left indent for left-to-right paragraphs; right indent for right-to-left paragraphs (default is 0). **\lin*N*** defines space before the paragraph. |
| \culi*N* | | Left indent (space before) in hundredths of a character unit. Behaves like **\lin*N*** and overrides **\li*N*** and **\lin*N***,although they should all be emitted with equivalent values. |
| \ri*N* | | Right indent in twips (default is 0). |
| \rin*N* | | Right indent for left-to-right paragraphs; left indent for right-to-left paragraphs (default is 0). **\rin*N*** defines space after the paragraph. |
| \curi*N* | | Right indent (space after) in hundredths of a character unit. Behaves like **\rin*N*** and overrides **\ri*N*** and **\rin*N***,although they should all be emitted with equivalent values. |
| \adjustright | | Automatically adjust right indent when document grid is defined. |
| \indmirror | | This control word specifies whether the paragraph indents should be interpreted as mirrored indents. When this control word is present, the left indent shall become the inside indent and the right indent shall become the outside indent.  If this control word is specified for this paragraph, then the inside page edge is the right page edge for odd numbered pages and the left page edge for even numbered pages. Conversely, the outside page edge is the left page edge for odd numbered pages and the right page edge for even numbered pages.  If this control word is omitted on a given paragraph, its value is determined by the setting previously set at any level of the style hierarchy (that is that previous setting remains unchanged). If this setting is never specified in the style hierarchy, then this property shall not be applied. |
| Spacing | | |
| \sb*N* | | Space before in twips (default is 0). |
| \sa*N* | | Space after in twips (default is 0). |
| \sbauto*N* | | Auto spacing before:  0 Space before determined by **\sb*N***  1 Space before is Auto (ignores **\sb*N***)  Default is 0. |
| \saauto*N* | | Auto spacing after:  0 Space after determined by **\sa*N***  1 Space after is Auto (ignores **\sa*N***)  Default is 0. |
| \lisb*N* | | Space before in hundredths of a character unit. Overrides **\sb*N***, although they should both be emitted with equivalent values. |
| \lisa*N* | | Space after in hundredths of a character unit. Overrides **\sa*N***, although they should both be emitted with equivalent values. |
| \sl*N* | | Space between lines. If this control word is missing or if **\sl0** is used, the line spacing is automatically determined by the tallest character in the line. If ***N*** is a positive value, this size is used only if it is taller than the tallest character (otherwise, the tallest character is used); if ***N*** is a negative value, the absolute value of ***N*** is used, even if it is shorter than the tallest character. |
| \slmult*N* | | Line spacing multiple. Indicates that the current line spacing is a multiple of "Single" line spacing. This control word can follow only the **\sl*N*** control word and works in conjunction with it.  0 "At Least" or "Exactly" line spacing  1 Multiple line spacing, relative to "Single" |
| \nosnaplinegrid | | Disable snap line to grid. |

1. The hidden style property can only be accessed using Microsoft® Visual Basic® for Applications. [↑](#footnote-ref-1)