

## **4 Formatting objects and properties**

This clause defines formatting objects and properties dealt with or related to this DSSSL Library.

### **4.1 Paper size**

The following paper sizes are dealt with:

- a) A-size: A6, A5, A4
- b) B-size: B6, B5

The choice of "single page" or "facing page" can be specified. In choice of the facing page, double size of those paper sizes a), b) can be specified.

**NOTE 1** In choice of facing page with A4 left and right pages, A3 is specified.

### **4.2 Paper placement**

The choice of "vertical (portrait)" or "horizontal (landscape)" can be specified. Default specification is vertical.

### **4.3 Unit**

The following units are dealt with:

- a) mm
- b) point (1point = 0.3514mm)
- c) Q (1Q = 0.25mm)

The relationship between Q and points is clarified in Table 1

**Table 1 — Relationship between Q and points**

Q	points	Q	points
7	5	15	10.5
8	5.5	16	11
9	6	18	12
10	7	20	14
11	7.5	21	15
12	8	24	16
13	9	26	18.5
14	10	28	20

#### 4.4 Basic composition style

Prior to the basic composition styles, there should be specified the following properties:

- a) size of image area
- b) margin

They have the following relationship with a paper size:

$$(\text{paper size}) - \text{margin} = (\text{size of image area})$$

In a layout driven specification, the values of paper size and margin are given first. In a content driven specification, the values of paper size and image area are given first.

**NOTE 2** In Japanese composition, for example, a content driven specification is usually employed.

Basic composition styles are defined by the following formatting properties:

- a) vertical composition or horizontal composition
- b) size of character
- c) number of characters on a line
- d) number of lines in a column
- e) interline space
- f) column space

- g) alignment (left, right and center alignments, and justification. Default specification is a left alignment.)

The basic composition styles are specified by one of the following manners:

- a) to specify all the values of required formatting properties for the specified image area
- b) to specify a model of basic component style, i.e., a set of the property values (see 4.5)

## 4.5 Model of basic composition style

Typical sets of the property values for book compositions are defined.

### 4.5.1 Position of image area on a paper

A position of image area on a paper is defined by the following manners:

- a) An image area is positioned at the center of the rectangle surrounded by the margins of top edge, bottom edge, front edge and gutter. It is the default positioning of image area.
- b) An image area is positioned in accordance with the ratio of top edge, bottom edge, front edge and gutter.
- c) An image area is positioned in accordance with each value of top edge, bottom edge, front edge and gutter.

### 4.5.2 Models of basic composition styles

Typical sets of the property values for book compositions are provided as models of basic composition styles for some combinations of (paper size, paper placement, unit). Seven models are shown in Table 2 through Table 8, where the table captions indicate the values of (paper size, paper placement, unit).

**Table 2 — B6, Vertical, Point**

Vertical/Horizontal composition	Size of character (points)	Number of characters on a line	Number of lines in a column	Line leading (points)	Number of columns	Column space (characters)
vertical	9	43	14	18	1	none
vertical	9	43	15	18	1	none
vertical	9	43	16	17	1	none
vertical	9	44	17	16	1	none
vertical	8	50	18	15	1	none
vertical	8	50	19	14	1	none
vertical	8	25	20	14	2	2
vertical	8	26	20	14	2	2
vertical	9	30	23	17	1	none
vertical	9	33	25	16	1	none
vertical	8	33	27	15	1	none
vertical	8	34	27	15	1	none

**Table 3 — B5, Vertical, Point**

Vertical/Horizontal composition	Size of character (points)	Number of characters on a line	Number of lines in a column	Line leading (points)	Number of columns	Column space (characters)
vertical	8	24	31	13	1	none
horizontal	9	43	32	18	1	none
horizontal	9	23	44	14	2	2
horizontal	9	22	41	15	2	2
horizontal	8	25	51	12	2	2



**Table 4 — B5, Vertical, Q**

Vertical/Horizontal composition	Size of character (Q)	Number of characters on a line	Number of lines in a column	Line leading (Q)	Number of columns	Column space (characters)
horizontal	13	42	31	26	1	none
horizontal	13	22	43	20	2	2
horizontal	13	21	39	22	2	2
horizontal	12	23	48	18	2	2

**Table 5 — A6, Vertical, Point**

Vertical/Horizontal composition	Size of character (points)	Number of characters on a line	Number of lines in a column	Line leading (points)	Number of columns	Column space (characters)
vertical	8	41	13	17	1	none
vertical	8	41	14	16	1	none
vertical	8	42	15	15	1	none
vertical	8	42	13	16	1	none
vertical	8	42	14	16	1	none
vertical	8	43	15	15	1	none
vertical	8	43	15	15	1	none
vertical	8	43	16	14	1	none
vertical	8	43	18	13	1	none
vertical	8	43	19	13	1	none

**Table 6 — A5, Vertical, Point**

Vertical/Horizontal composition	Size of character (points)	Number of characters on a line	Number of lines in a column	Line leading (points)	Number of columns	Column space (characters)
vertical	9	51	16	18	1	none
vertical	9	52	16	18	1	none
vertical	9	52	17	18	1	none
vertical	9	52	18	17	1	none
vertical	9	52	19	17	1	none
vertical	9	25	20	15	2	2
vertical	8	30	24	13	2	2
vertical	8	29	23	14	2	2
horizontal	9	35	26	18	1	none
horizontal	9	35	28	17	1	none
horizontal	9	35	30	16	1	none
horizontal	8	40	30	16	1	none
horizontal	8	38	33	14	1	none

**Table 7 — A5, Vertical, Q**

Vertical/Horizontal composition	Size of character (Q)	Number of characters on a line	Number of lines in a column	Line leading (Q)	Number of columns	Column space (characters)
horizontal	13	34	27	25	1	none
horizontal	13	34	29	23	1	none
horizontal	12	37	28	24	1	none
horizontal	12	36	31	21	1	none

Table 8 — A4, Vertical, Q

Vertical/Horizontal composition	Size of character (Q)	Number of characters on a line	Number of lines in a column	Line leading (Q)	Number of columns	Column space (characters)
horizontal	13	51	41	24	1	none
horizontal	14	48	39	25	1	none
horizontal	14	24	42	23	2	2
horizontal	14	16	42	23	3	2

## 4.6 Font

Fonts should be specified by their font family names and weights.

**NOTE 3** Such variations as "horizontal condensed", "vertical condensed" or "slant" are not dealt with.

## 4.7 Unit of character size

Character sizes should be specified by using a unit of point or Q.

## 4.8 Headline

### 4.8.1 Number of headlines

As the number of headlines, no or one should be specified.

### 4.8.2 Position of headline

The following positions of headlines are dealt with:

- a) at the front side on the top edge of odd page
- b) at the front side on the top edges of odd and even pages
- c) at the front side on the bottom edge of odd page
- d) at the front side on the bottom edges of odd and even pages
- e) at the center on the top edge (for horizontal composition)

The writing direction of headlines is horizontal. If a headline and page number are located on the same edge, the headline should be located inside and apart from the page number by a space of 1 em or 1.5 em.

A division of words in a headline should follow the rule in 4.15.

### 4.8.3 Contents of headline

When the contents of headlines on odd and even pages are different from each other, the headlines should be positioned in accordance with 4.8.2 b), d) or e).

If a headline shows a clause title (or a node of logical structure of the text), the headline should be located on a page opposite to the page where the clause begins. On the page where a clause begins, there should be no headline.

4.9 Page Number

The following positions and styles of page numbers are dealt with:

- a) at the front side on the top edge, using Arabic numerals
- b) at the front side on the bottom edge, using Arabic numerals

Characters for a page number should have the same size as characters for texts on the page or one size smaller than those. A page number should be located apart from the image area having a space of the same size as the characters for texts or one size larger than those.

4.10 Note

4.10.1 Type of note

The following five types of notes are dealt with:

4.10.1.1 Interlinenote

A interlinenote is composed within a line space and at the side (upper side in horizontal composition, or right side in vertical composition) of words or phrases to be noted. Character locations in a line and interlinenote in horizontal composition are illustrated in Figure 4.1.

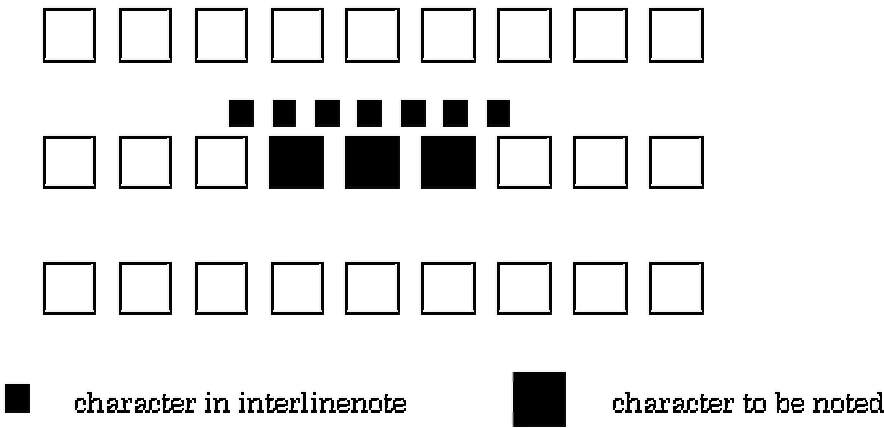


Figure 4.1 — Interlinenote in horizontal composition

4.10.1.2 Sidenote

A sidenote is used in horizontal composition and located on a note area which is reserved at the front side of a page as shown in Figure 4.2.

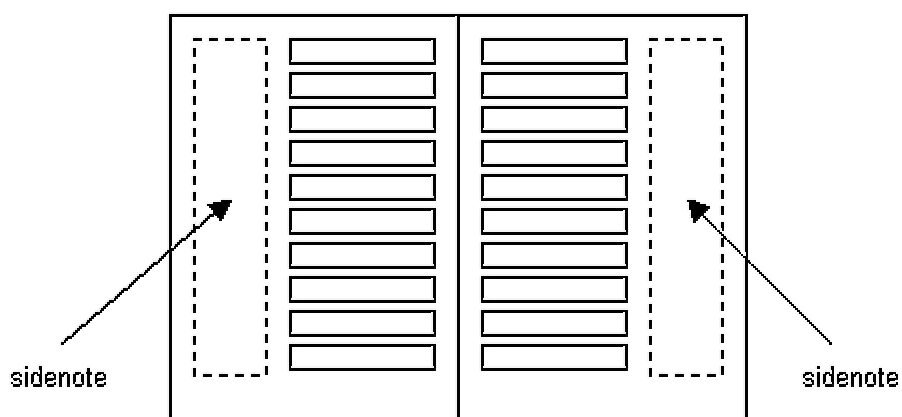


Figure 4.2 — Sidenote

#### 4.10.1.3 Headnote

A headnote is used in vertical composition and located on a note area which is reserved at the top side of a page as shown in Figure 4.3.

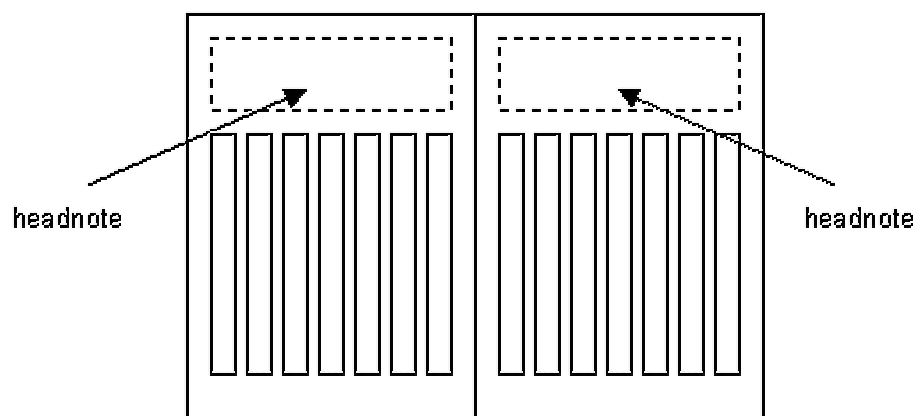


Figure 4.3 — Headnote

#### 4.10.1.4 Footnote

A footnote is used in horizontal and vertical compositions and located on a note area which is reserved at the bottom side of a page as shown in Figure 4.4.

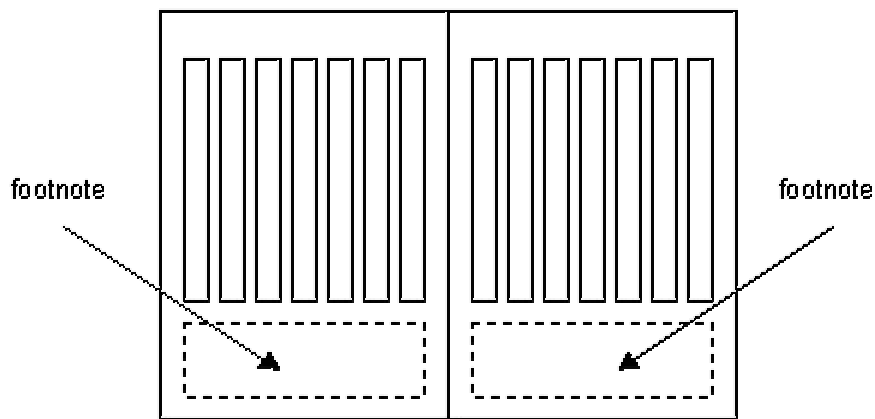


Figure 4.4 — Footnote in vertical composition

4.10.1.5 Endnote

A endnote is composed at the end of a paragraph, section, chapter or volume, or at the end of a book.

4.10.2 Reference Mark

A reference mark indicates the correspondence between a note and the text to be noted.

4.10.2.1 Character and style

For a reference mark, characters "\*", "†"(dagger), "‡"(double dagger), "§"(section mark), "¨"(double bar), "#", Arabic numerals, Kanji numerals and Latin alphabet are employed. Some examples of reference marks using those characters are shown below:

Example 1	*	**	***
Example 2	*1	*2	*3
Example 3	1)	2)	3)
Example 4	(a)	(b)	(c)

Default reference marks are "1), 2), ...".

4.10.2.2 Position

A reference mark within texts should be allocated to the following positions:

- a) at the beginning of the words or phrases to be noted, with an offset to interline
- b) at the end of the words and phrases to be noted, with/without an offset to interline.

4.10.2.3 Character size

A character size of reference marks should be one size smaller than the texts to be noted.

4.11 Inlinenote

An inlinenote consists of parenthesized two-line texts within a line as shown in Figure 4.5.

The composition of a inlinenote is based on that of inline (see 4.24). The parentheses have the same size as characters of the text outside the inlinenote. The default character size for inlinenote texts is a half of the character size for the texts outside the inlinenote. The default line space for inlinenote is 0.

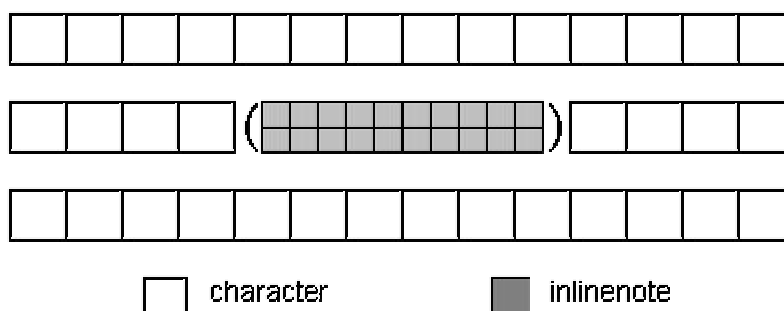


Figure 4.5 — Inlinenote

#### 4.12 Emphasizing mark

An emphasizing mark is located at the side (right side in vertical composition or top side in horizontal composition) of a character to be emphasized. Some marking details called “mark style” should be specified for each character or a group of characters. The default mark style is “for each character”.

#### 4.13 Superscript / Subscript (Superior / Inferior )

Superscript or subscript character is located at the side (right-top or right-bottom respectively) of an object character. In vertical composition, right-top or right-bottom is read as right-bottom or left-bottom respectively.

A size of superscript or subscript character is a half of the object character size. Both superscript and subscript characters may be located aside the same object character. Even when superscript or subscript character is located outside the virtual body of object character, the composition is based on that of inline (see 4.24).

#### 4.14 Word-length adjustment

A word-length adjustment is employed, for example, to list several words consisting of the different number of characters. Word-lengths of all the listed words are adjusted to the same by controlling character spaces of the words as shown in Figure 4.6.

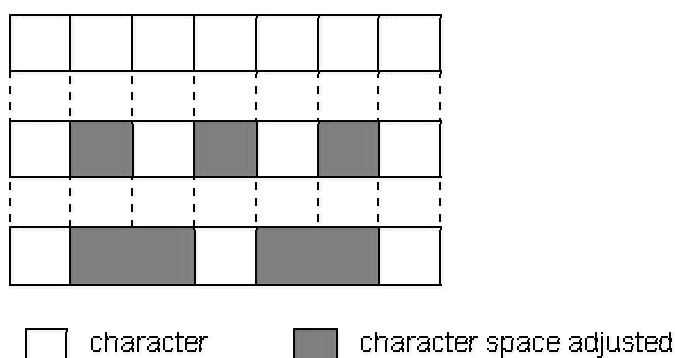


Figure 4.6 — Listed words with word-length adjustment

The total length for a word-length adjustment is specified by the product of the character size and the number of characters. A character space in each word to be adjusted is described by the expression:

character space  
= [(total length specified) - (character size)(number of characters in a word)]  
/ [(number of characters in a word) - 1]

4.15 Character space adjustment

In a composition of heading (see 4.19) or headline (see 3.13 and 4.8) where a line consists of comparatively small number of characters, character spaces are adjusted for readability as shown in Figure 4.7.

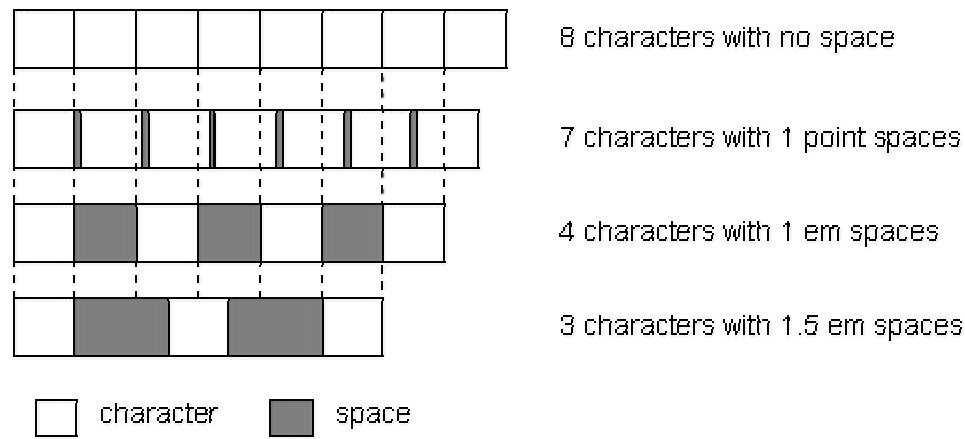


Figure 4.7 — Examples of character space adjustment

Typical character space adjustments for horizontal and vertical compositions are shown in Table 9.

Table 9 — Character spaces of typical character adjustments

Horizontal composition		Vertical composition	
Number of characters	Character space	Number of characters	Character space
2	3 em	2	2 em
3	1.5 em	3	1.25 em
4	1 em	4	3/4 em
5	1/2 em	5	1/3 em
6	1/4 em	6	1 point
7	1 point	7 or more than 7	none
8 or more than 8	none		

4.16 Clause



Clauses (including chapters and sections) are composed as:

- a) ordered clause
- b) unordered clause

#### 4.16.1 Ordered clause

An ordered clause begins with:

- a) Ordering character:  
Latin alphabet, Kanji numerals, Arabic numerals, Roman numerals, clock numerals, etc. are used as ordered characters (see 3.20).
- b) Pre/post-marking of ordering character(s):
  - 1) pre-marking
  - 2) pre- and post-marking
  - 3) post-marking
- c) Graphics marking

#### 4.16.2 Unordered clause

An unordered clauses begins with:

- a) No marking
- b) Unordered character
- c) Graphics marking

Figure 4.8 shows a beginning of an unordered clause with graphics.



Figure 4.8 — Unordered clause with graphics marking

#### 4.16.3 Indentation of clause

For an indentation, see 4.19.

### 4.17 List

Lists are composed as:

- a) ordered list
- b) unordered list

#### 4.17.1 Ordered list

An ordered list item begins with:

a) Ordering character:  
Latin alphabet, Kanji numerals, Arabic numerals, Roman numerals, clock numerals, etc. are used as ordered characters (see 3.20).

b) Pre/post-marking of ordering character(s):

- 1) pre-marking
- 2) pre- and post-marking
- 3) post-marking

c) Graphics marking

#### **4.17.2 Unordered list**

An unordered list begins with:

- a) No marking
- b) Unordered character
- c) Graphics marking

#### **4.17.3 Indentation of list**

a) indentation space on a first line of list:  
One or two character indentation is employed.

b) indentation space on a second line of list:  
No indentation or 1, 2, or 3 character indentation is employed.

### **4.18 Table**

#### **4.18.1 Character size**

- a) When a font family Gothic is used, texts within table and a table caption are described with the same character size.
- b) When a font family Mincho is used, texts within table are described with the character size 1 point or 1 Q smaller than that of a table caption.

#### **4.18.2 Position**

- a) A space between a table and image area is 1mm.
- b) A space between a table and texts outside the table is 1.5 times character size of the texts.

### **4.19 Heading**

In this composition, 2 specify models are offered following 4.19.1 and 4.19.2.

#### **4.19.1 Character size**

- a) A large heading employs character sizes of 24 through 32 Q or 16 through 22 points.

b) A middle heading employs character sizes of 18 through 20 Q or 12 through 14 points.

c) A small heading employs character sizes of 14 through 16Q or 10 through 11 points.

**NOTE 4** Those heading character sizes can be applied, when character sizes of texts are 8 through 9 points (12 through 13 Q).

#### 4.19.2 Heading composition

Character sizes should be specified by using a unit of point. When using a unit of Q, see Table 1.

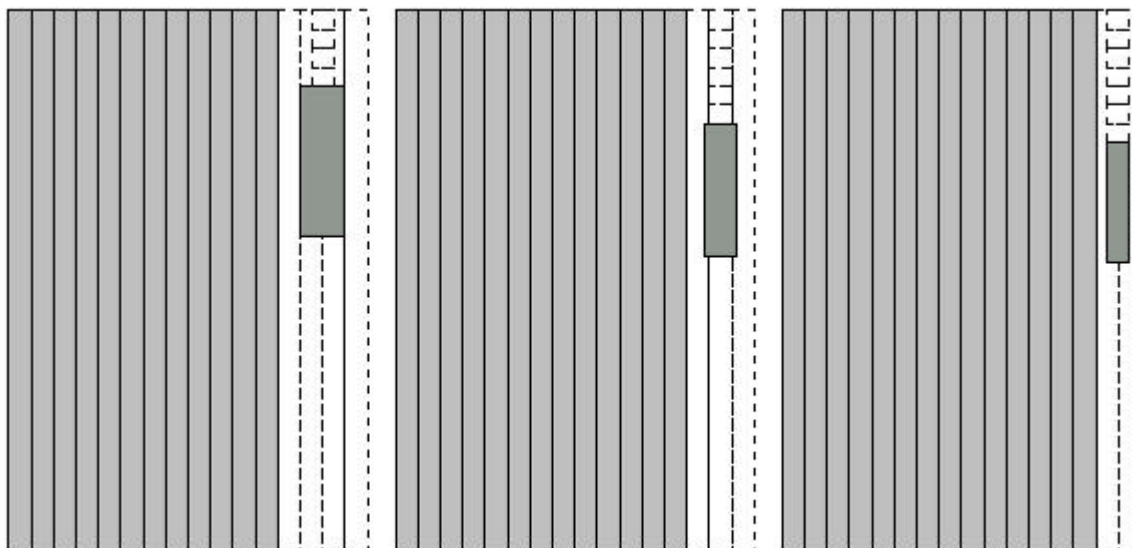
Some typical examples of heading compositions are shown below regarding

- Paper size A5, vertical composition, text character size 9 points and
- Paper size A5 or B5, horizontal composition, text character size 9 or 8 points.

a) Paper size A5, vertical composition, text character size 9 points

1) one heading

Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	text character size 9 points×4	center of 4 lines	Figure 4.9 Left
middle heading (12 points)	text character size 9 points×6	center of 3 lines	Figure 4.9 Center
small heading (10 points)	text character size 9 points×7	center of 2 lines	Figure 4.9 Right



**Figure 4.9 — Paper size A5, vertical composition, text character size 9 points, with one heading**

2) 3 headings; large, middle, small

Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	text character size 9 points×4	center of 3 lines	Figure 4.10
middle heading (12 points)	text character size 9 points×6	center of 2 lines	
small heading (10 points)	text character size 9 points×7	center of 2 lines	

8 lines space in total, including the first 1-line space.

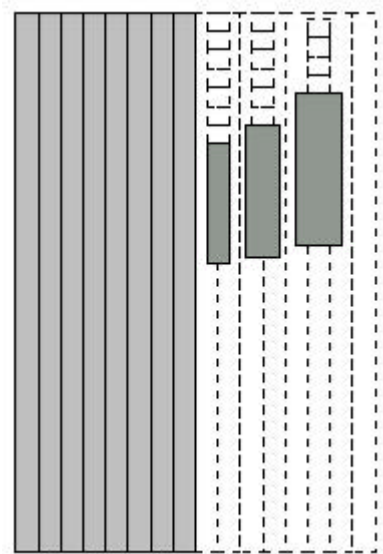
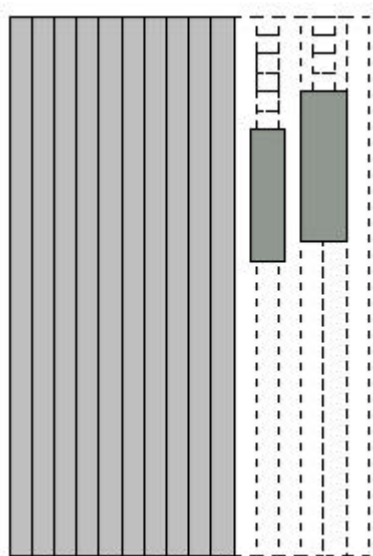


Figure 4.10 — Paper size A5, vertical composition, text character size 9 points, with 3 headings

3) 2 headings; large, middle

Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	text character size 9 points×4	center of 2 lines	Figure 4.11
middle heading (12 points)	text character size 9 points×6	center of 3 lines	

6 lines space in total, including the first 1-line space.

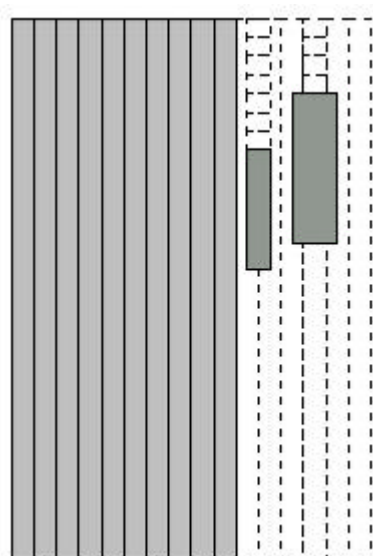


**Figure 4.11 — Paper size A5, vertical composition, text character size 9 points, with 2 headings; large, middle**

4) 2 headings; large, small

Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	text character size 9 points×4	center of 3 lines	Figure 4.12
small heading (10 points)	text character size 9 points×7	center of 2 lines	

6 lines space in total, including the first 1-line space.



**Figure 4.12 — Paper size A5, vertical composition, text character size 9 points, with 2 headings; large, small**

5) 2 headings; middle, small

Type of heading	Indentation	Alignment	Illustration
middle heading (12 points)	text character size 9 points×6	center of 2 line	Figure 4.13
small heading (10 points)	text character size 9 points×7	center of 2 lines	

5 lines space in total, including the first 1-line space.

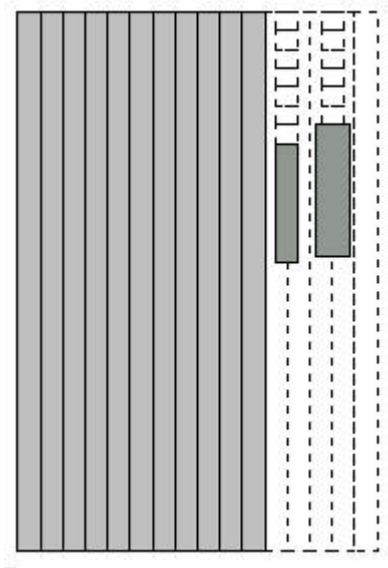


Figure 4.13 — Paper size A5, vertical composition, text character size 9 points, with 2 headings; middle, small

6) no heading with 2 lines space at the first

An illustration is shown in Figure 4.14.

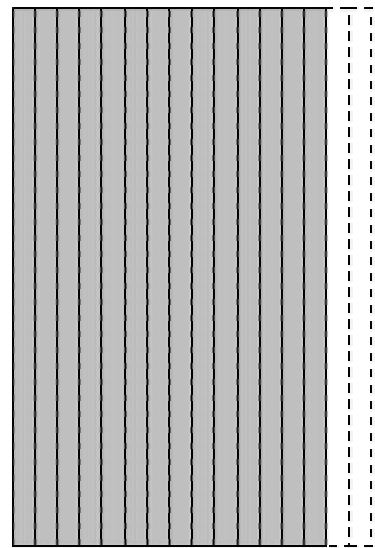
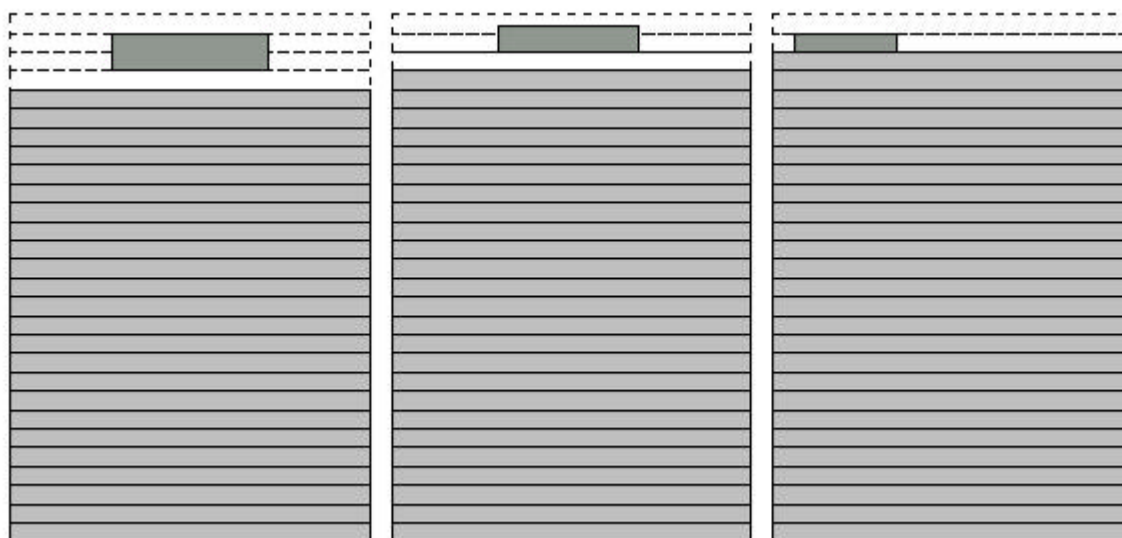


Figure 4.14 — Paper size A5, vertical composition, text character size 9 points, without heading

b) Paper size A5 or B5, horizontal composition, text character size 9 or 8 points

## 1) one heading

Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	center of text line width	center of 4 lines	Figure 4.15 Left
middle heading (12 points)	center of text line width	center of 3 lines	Figure 4.15 Center
small heading (10 points)	text character size 9 points×1 or center of text line width	center of 2 lines	Figure 4.15 Right



**Figure 4.15 — Paper size A5 or B5, horizontal composition, text character size 9 or 8 points, with one heading**

## 2) 3 headings; large, middle, small

Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	center of text line width	center of 3 lines	Figure 4.16
middle heading (12 points)	center of text line width	center of 2 lines	
small heading (10 points)	text character size 9 points×1 or center of text line width	center of 2 lines	

8 lines space in total, including the first 1-line space.

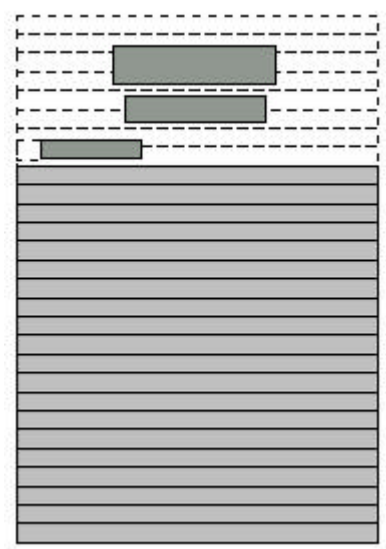


Figure 4.16 — Paper size A5 or B5, horizontal composition, text character size 9 or 8 points, with 3 headings; large, middle, small

3) 2 headings; large, middle

Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	center of text line width	center of 2 lines	Figure 4.17
middle heading (12 points)	center of text line width	center of 3 lines	

6 lines space in total, including the first 1-line space.

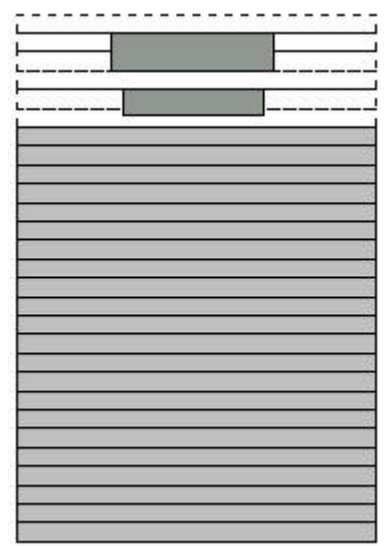


Figure 4.17 — Paper size A5 or B5, horizontal composition, text character size 9 or 8 points, with 2 headings; large, middle

4) 2 headings; large, small



Type of heading	Indentation	Alignment	Illustration
large heading (14 points)	center of text line width	center of 3 lines	Figure 4.18
small heading (10 points)	text character size 9 points×1 or center of text line width	center of 2 lines	

6 lines space in total, including the first 1-line space.

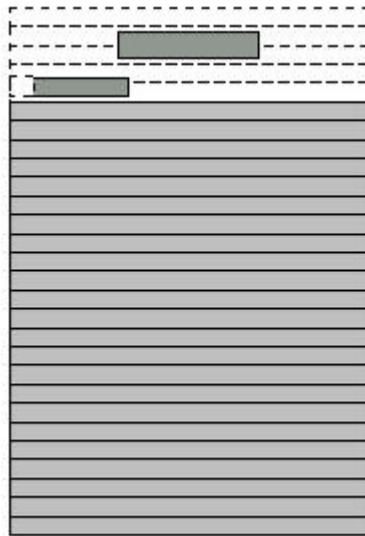


**Figure 4.18 — Paper size A5 or B5, horizontal composition, text character size 9 or 8 points, with 2 headings; large, small**

5) 2 headings; middle, small

Type of heading	Indentation	Alignment	Illustration
middle heading (12 points)	center of text line width	center of 2 lines	Figure 4.19
small heading (10 points)	text character size 9 points×1 or center of text line width	center of 2 lines	

5 lines space in total, including the first 1-line space.

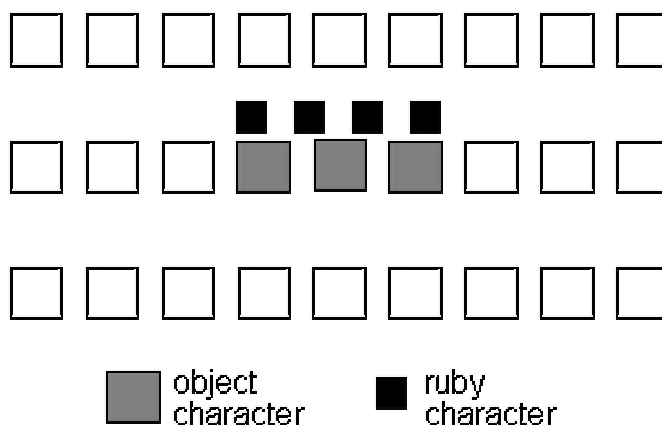


**Figure 4.19 — Paper size A5 or B5, horizontal composition, text character size 9 or 8 points, with 2 headings; middle, small**

## 4.20 Ruby

The following ruby compositions are dealt with:

- a) Two-character ruby (see 3.31)
- b) Ruby characters are located on the ruby line whose center corresponds to the center of object character, in vertical and horizontal composition.
- c) Mono-ruby (see 3.18) and group-ruby (3.11) may be composed.
- d) In mono-ruby composition, ruby characters are aligned symmetrically and with no spaces.
- e) Ruby character sequence cannot be extended over the Kanji located adjacently to the object character.
- f) Ruby character sequence may be extended, by one ruby character size, over the Kana located adjacently to the object character.
- g) When group-ruby character sequence is shorter than the corresponding object character sequence, the spaces between ruby characters are located as shown in Figure 4.20. When group-ruby character sequence is equal to or longer than the corresponding object character sequence, no spaces between ruby characters are located.



**Figure 4.20 — Spacing between ruby character in grouped ruby**

h) At the beginning or end of line, ruby character sequence cannot be extended beyond the object characters.

#### **4.21 Paragraph indentation**

The following paragraph indentations at the beginning of paragraphs are dealt with:

- a) non-indentation
- b) one-character indentation

#### **4.22 Score**

The following score compositions are dealt with:

- a) underline
- b) overline
- c) strike-out

In vertical composition, underline/overline is read as leftline/rightline as shown in Figure 4.21.

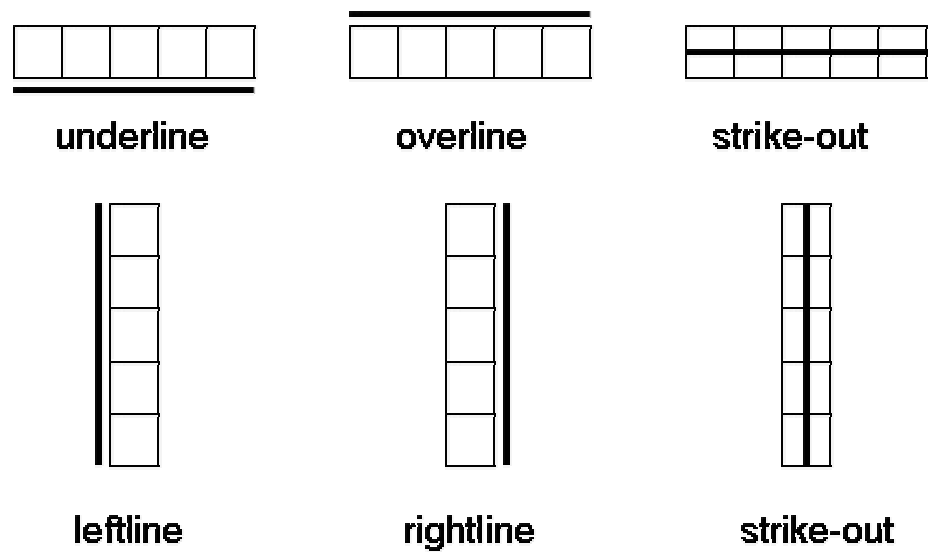


Figure 4.21 — Scores in horizontal composition (top) and vertical composition (bottom)

4.23 Rule

The rules shown in Figure 4.22 are dealt with. patterns must be only those which shown in Figure 4.22. The actual details of the rule dimensions are formatter dependent.

Rule	Rule Pattern
thin rule	<hr/>
medium rule	<hr/>
thick rule	<hr/>
dotted rule	<hr/>
dash rule	<hr/>
one dotted dash rule	<hr/>
two dotted dash rule	<hr/>
parallel rule	<hr/> <hr/>
shaded rule	<hr/> <hr/> <hr/>

Figure 4.22 — Rules and their patterns

4.24 Inline

The following elements are classified into inline elements.

- a) reference mark for note
- b) inlinenote
- c) emphasizing mark

d) superscript and subscript

e) ruby

f) score

Those inline elements should be composed according to 4.24.1 and 4.24.2.

#### **4.24.1 Line width**

A line width should not change by including the inline element.

#### **4.24.2 Line position**

A line position should not change by including the inline element.