ERICSSON

Corporate Style Manual

For Writers of Customer Product Information

Working Instructions

3/000 21-FCK 101 05 Uen AT

Contents

1 Introduction

The Corporate Style Manual (CSM) is the primary manual for writers of Customer Product Information (CPI). CPI is defined as "the technical information needed to handle Ericsson products throughout the product life cycle".

This manual replaces all other manuals regarding the written style for Ericsson CPI.

The Bibliography contains other useful resources. These resources complement the information in the CSM. If the information in these resources is inconsistent with the information in the CSM, follow the CSM.

If you have any comments or questions, send an Email to the CPI Help Desk, cpi.helpdesk@ericsson.com.

2 Language

2.1 Plagiarism

It is strictly forbidden to use material from or quote another source in Ericsson documentation without making the proper references to the source. Plagiarism can have legal and financial implications.

Follow these guidelines when using and referencing other sources in Ericsson documentation:

- Always acknowledge and reference any sources you use when writing for Ericsson.
- Enclose text in quotation marks when quoting another source.
- Use your own words when paraphrasing or summarizing another source.
- Make sure when paraphrasing or summarizing that the meaning in your text is the same as the original author's text.
- When paraphrasing or summarizing another source, that source still has to be acknowledged.

For more information about how to reference a source, see Reference List on page 17.

2.2 Ericsson Corporate Language

The Ericsson corporate language is American English. The following list includes exceptions to this rule:

- When updating a document, do not change the original language.
- When a document is written for a specific market area, use the local language.
- Follow ISO rules for units of measurement including time.

Note: The language code used with all English documents is Uen. The language code Uae is no longer used.

2.3 Language Style

Ericsson Style

Ericsson language style is the best way to transmit the Ericsson message and identity to the reader. The Ericsson Style defines the following:

- The elements to use in CPI
- The way these elements are used
- The language to use and the rules that define how to use it
- What is allowed
- What is not allowed

Your goal is to transmit the information to the reader effectively.

2.4 Dictionaries

Use a dictionary to find the following information about a word:

- The precise meaning
- Spelling. Use the first spelling if more than one is given.
- The part of speech
- Examples of the word in context

The recommended online dictionary is Merriam-Webster Online.

3 Information Structure

A well-structured document helps the reader to find the relevant information. For more information, see Usability in CPI, which contains information and suggestions on how to make CPI more usable by creating a well-structured document.

3.1 Principles of Usability

To select content for usable CPI:

- Use user profiles to identify the knowledge, experience, goals, and needs of different user types.
  - If your team already has user profiles, use them. If necessary and possible, try to improve them.
  - If your team does not have the required user profiles, take part in creating them.
- Do not include tasks, steps, or concepts that are obvious to the user.
- Write CPI, including titles and headings, from the perspective of the user.
  - The purpose of CPI is to help the user, not to document the product.
  - Focus on the goals of the user, not the features, functions, or terminology of the product.
  - Use terms that the users use themselves and are likely to search for.
- Include user interface descriptions as appropriate in the steps instead of in a preceding description.
  - When referring to GUI elements, use the same spelling and capitalization as in the GUI.
  - If the name of a GUI element breaks CSM rules, inform the developers if possible.
- Only include descriptive information (background and reference information) that is necessary to achieve the goals of the user.
- Do not include background information about product history and design choices.

Example of Writing from the Perspective of the User

Many users are interested in changing the behavior of a product, but very few users are interested in changing the settings of a product. So, we focus on the behavior not the settings when we perform the following CPI tasks:

— Selecting the descriptive and instructional information to include.

— Choosing how to present this information in descriptive and instructional documents.

The user actions might be the same, but the perspective is different.

To Write Usable CPI

— Use lists and tables when possible.

— Use figures when they present the information clearer than only text does.

— Avoid using more than four section levels.

  Readers can get lost if the structure is too deep.

— Ensure that cross-references or links lead to relevant information.

To Write Usable Instructions

— Only include descriptive information (background and reference information) that is necessary to perform the task.

  Such information might include explanations of an overall process or how individual tasks relate to each other.

— Include user interface descriptions as appropriate in the steps instead of in a preceding description.

— Make sure the user immediately sees if a step is mandatory or optional. Unless noted, all steps are mandatory.

  — Begin all mandatory steps with a command that tells the reader what action to perform. Exceptions are given in the example in this section.

  — Begin non-mandatory steps with the word "(Optional)" and a description of the cases where the user might need to or want to perform the step.

— Provide action results or system feedback when this is helpful for the user.

  Include such information as separate sentences in the step with the action that triggers the result or system feedback.

— Unless it is obvious from the user interface, explain how to do or undo actions.

— Provide troubleshooting information in the task if a problem is likely to occur.

— If necessary, include a separate troubleshooting section.

Exceptions for Where and When to Perform an Action

Sometimes a procedure includes both software and hardware, or the user has to wait for a system response. In these cases, it is allowed to use the following constructions:

— On the modem, press the ON button.

— When the LED turns yellow, press the Start button.

3.2 Sentence Structure and Sentence Length

Table 1 Sentence Guidelines

Guideline	Information and Examples
Avoid writing sentences that are more than 26 words. — Break apart long sentences, particularly those longer than 20 words. — Use logical transitional phrases to link ideas. — Save the most powerful and crucial content for concise phrases to ensure the key message being conveyed is not lost.	Readers find long sentences harder to read.
Avoid lengthy noun phrases.	See Long Noun Phrases on page 66.
Do not start a sentence with “and”.	Starting a sentence with “And” weakens a sentence.
Do not include more than one topic or one instruction in a sentence unless the user must perform two tasks at the same time.	Example of two tasks in a sentence: Click File and select Save As.
Use active voice and imperative mood for commands, directions, or instructions in procedures.	See Active and Passive Voice on page 63 and Effective Use of the Imperative Mood on page 54.
Use adjectives and adverbs close to the words they modify.	Pay particular attention to the placement of the word “only”.

Guideline	Information and Examples
Use the articles, “the”, "an", and "a" when needed.	Articles help mark nouns in a sentence.
Use punctuation in the correct places. Use commas after an introductory phrase and after the last item in a series (serial commas).	See Punctuation on page 40.
Use standard language that can be understood by readers globally.	Avoid idioms, colloquialisms, culture-specific references, and Latin expressions. These are confusing and weaken text.
Use pronouns, such as “that” and “which”.	Pronouns make sentences clearer, less awkward, and easier to read. See That and Which on page 67.
Use conjunctions to connect two words, phrases, or clauses in a single sentence.	Examples of acceptable connecting words are: also, and, but, now, then, therefore, so.
Use lists and tables instead of complicated sentence structure.	List and tables help simplify and organize information.

Example 1 An Incorrect Long Sentence

Service Access Control decisions are based on policies (which contain conditions), which can take into account the subscriber profile time of day and network information received in the message and these policies can take into account usage information such as if the subscriber has surpassed the provisioned usage limit, and the user can see more information about policy management in *Subscription and Policy Management*, Reference [5]. (65 words)

Example 2 Improved Suggestion 1

Service Access Control decisions are based on policies that contain conditions. The conditions are subscriber profiles, time of day, network information received in the messages, and usage information. Usage information is, for example, when a subscriber exceeds the provisioned usage limit. For more information on policy management, see *Subscription and Policy Management*. **(Shorter sentences, fewer parentheses, direct, punctuation) (52 words in four different sentences.)**

Example 3 Improved Suggestion 2

Service Access Control decisions are based on policies that contain the following conditions:

— Subscriber profiles

— Time of day

— Network information received in messages

— Usage information - For example, when a subscriber exceeds the provisioned usage limit.

For more information on policy management, see *Subscription and Policy Management*. **(Shorter sentences, fewer parentheses, direct, punctuation, list for clarity) (45 words)**

4 Document Elements in CPI

4.1 Admonitions

Admonitions, for example Danger, Warning, and Caution notices, direct the reader to potentially hazardous situations. Do not overuse admonitions, as this reduces their impact. For more information, see Safety Information in CPI.

Admonitions are placed immediately before the text to which they relate.

4.2 Figures (Illustrations)

Figures can convey information more effectively than text.

Apply the following rules when using figures in CPI:

— Make the figure caption concise and relevant.

— Write figure captions in title capitalization.

— When a figure relates to an entire procedure, place the figure at the beginning of the procedure.

— When a figure relates to a particular step in a procedure, place the figure to the right of the step or immediately below it.

  For instructions that depend on figures, place the figure to the left of the supporting text.

— Do not expand acronyms in figures. Expand any acronyms in a figure in the Glossary.

For more information about how to use figures in CPI, see the Illustration Style Manual (ISM).

Referring to Figures

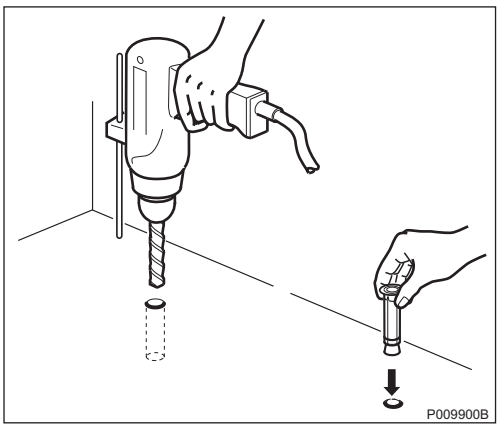
The following are the rules for referring to figures:

— Refer to the figure in the preceding text unless the figure is part of a procedure.

— A figure included in a procedure needs no reference to it from the text.

Example: A Graphic Without a Reference

1. Drill the mounting holes in the floor and insert plugs or expander bolts into each hole.



References to figures form a logical part of the flow of the text and reflect that the figure to which the reference is made is a part of CPI. Avoid simple "see" reference constructions. Instead, incorporate the reference into the meaning of the sentence.

Example: Simple Figure Reference

WCDMA RAN has internal interfaces between the system nodes; see Figure 1.

Example: Recommended Figure Reference

Figure 1 shows the WCDMA RAN internal interfaces between the system nodes.

4.3 Glossary

A glossary, where one is included in a document, is included at the end of a document before the index. The glossary contains words, phrases, and terms from the document text that require clarification; these include technical terms, expanded acronyms, and so on.

Glossary Rules and Contents

Use the following rules to produce a glossary:

— Arrange the glossary as follows:

1. Numerical entries in order
2. Alphabetical entries in order

— All terms in the glossary must appear exactly as they appear in text.

— Include an expansion of any acronym added to the glossary.

— Include a definition of any term added to the glossary.

Glossary Examples

CLI	Command-line interface
HLR	Home Location Register
TCP	Transmission Control Protocol

4.4 Headings and Titles

Information in a document is divided into logically independent sections, identified and defined by headings.

Note: The word **chapter** is not used in CPI.

For further information on document titles, see Document Titles in CPI.

4.4.1 Heading Guidelines

Use the following guidelines for headings:

Table 2 Heading Guidelines

Guideline	Information and Examples
Do not use ampersands in headings unless they are part of a product or service name, or document title.	O&M
Do not follow a heading with text that refers to the heading content in the form of a pronoun.	For more information, see Pronoun Reference on page 12.
Do not begin a heading with an article.	Correct: Network Interface Incorrect: The Network Interface
Include text after headings only if there is additional and useful information to add about the heading and the topic that it introduces.	For more information, see Text after Headings on page 12.
Use a maximum of eight words in a heading or title.	It is allowed to use more than eight words or one line for stand alone, unique, and recognizable titles, such as in Alarm OPIs.
Use a noun or noun phrase for all headings except procedure headings.	For more information, see Noun Phrases in Headings on page 12.
Use title capitalization.	For more information, see Title Capitalization on page 27.
Use a verb phrase for procedure headings.	For more information, see Verb Phrases in Headings on page 12.

Guideline	Information and Examples
Write headings that are informative, specific, and concise.	Readers can easily find information.

4.4.2 Noun Phrases in Headings

Nouns and noun phrases are used in all headings except those that introduce a procedure.

Example: Noun Phrases in a Heading

Power System
Hardware Upgrade

4.4.3 Verb Phrases in Headings

Verb phrases are used in headings that introduce procedures using the imperative form of the verb.

Examples: Verb Phrases in a Heading

Install the Base Frame
Format the Disk
Replace the Board

4.4.4 Text after Headings

Including text after a heading and before the next level of heading is not mandatory. If you do include introductory text, ensure that the text is brief and is relevant to the section it introduces. Do not duplicate or paraphrase the heading or title in a sentence or a short text in the introductory text.

The same applies when writing a short description. For more details, see the methods for DITA CMS.

4.4.5 Pronoun Reference

Do not follow a heading with text that refers to the heading content in the form of a pronoun. The paragraph following a title must refer directly to the title as shown in the following example.

Example: Pronoun References in Headings

Correct	*Incorrect*
7.1 Evaluate the Project	**7.1 Evaluate the Project**
To evaluate the project, its outcome, and the results...	This is a valuable task.

4.5 Paragraphs

A paragraph is a group of sentences. The first sentence, the topic sentence, is a general sentence that introduces the topic of the paragraph. The following sentences develop the topic logically and coherently.

The following guidelines can help you write effective paragraphs:

— Each paragraph must have one topic that is expanded to provide readers with a clear understanding of how the information provided is related to the topic. Avoid adding unrelated pieces of information into the same paragraph. If one paragraph is not sufficient for all the necessary information divide the subject matter, and deal with each separate aspect in its own paragraph.

— Always start the paragraph with a topic sentence so that, by reading only the topic sentences, the reader understands the broad outline of the text. A reader looking for specific information can decide if the paragraph is relevant by reading the topic sentence.

— The first paragraph following a heading must relate directly to the heading it follows. The content of the heading must be clearly stated and not merely implied by the use of a pronoun reference.

Examples: First Paragraph Following Heading

Correct	*Incorrect*
Paragraphs	**Paragraphs**
A paragraph is a group of sentences ...	Are a group of sentences ...
NPU	**NPU**
An NPU is the main plug-in unit in the subrack.	It is the main plug-in unit in the subrack.

See also Pronoun Reference on page 12.

— Use connecting words to make the relationship between sentences and paragraphs clear.

— When possible, the maximum length of a paragraph is six sentences.

— Do not use one-sentence paragraphs more than once in every 10 paragraphs.

4.6 Index

An index is "a systematic arrangement of entries designed to enable users to locate information in a document" according to the British indexing standard (BS3700:1988). See Writing Indexes for further details.

Indexes are not a mandatory part of a CPI document and it is the decision of each product to decide if an index is needed. The following points are useful when deciding whether to include an index:

— Indexes are useful in long printed documents.

— Indexes are less useful when documents are to be viewed online.

— Preparing an index involves much time and effort and requires a certain amount of expertise.

4.7 Legal Notices

All CPI must contain a copyright statement, a disclaimer statement, and, where applicable, trademark information. For a full description of the correct methods and texts, see Copyright, Disclaimer, and Trademarks in CPI.

Copyright and Disclaimer Statements

The copyright and disclaimer statements used in CPI are issued by the Ericsson legal department in cooperation with the Product Information Discipline. Copy these statements from Copyright, Disclaimer, and Trademarks in CPI. Do not modify the statements except to specify the correct years and company name in the copyright statement.

Trademark Statements

Include trademark statements where applicable following the rules set out in Copyright, Disclaimer, and Trademarks in CPI.

4.8 Lists

Lists are useful for organizing information that is difficult to display in another format and makes the information more accessible. A list consists of a series of words, phrases, or short sentences.

The following types of list are used in CPI:

— Procedure list

— Unordered list

— Definition list

— Ordered list

Procedure List

Procedure lists are used to describe procedures, that is, a series of steps that the reader must follow to perform an operation. Each step must be preceded by a number followed by a full stop (period).

For more information about the correct way to write procedures in Ericsson CPI, see Writing Instructions .

Unordered List

Unordered lists, or bullet lists, are used for information that needs no particular sequence, where the sequence is obvious, or where the sequence is unimportant.

Definition List

A definition list presents the reader with a term and, as is implied by the name, a definition. This list type has a limited use and is *not* to be used as a substitute for the glossary

The following example shows how a definition list can be used.

Example: Using a Definition List

Use the following file formats for bitmap graphics:

GIF	The results are of a good quality and the file size is small.
JPEG	Use for digital photographs.
PNG	Similar results as for GIF
TIFF	Use only if the output of the GIF file is unacceptable. Save with LZW compression to reduce the file size by as much as 80–90%.

Ordered List

An ordered list is used to show information in which the order has importance. There are two kinds of ordered list:

— Alphabetic list where each item is preceded by a letter of the alphabet.

— Numeric list where each item is preceded by a number. This list is useful when presenting a workflow sequence.

Note: The numeric list is not the same as a step list that contains instructions in a required sequence. For more information on the step list for procedures, see Platform Statement for Procedures on page 54.

4.8.1 Rules for Lists

The following sections provide guidelines for using lists in CPI.

Platform Statement

Lists are introduced using a platform statement, which is an independent clause that includes the words "the following" and ends with a colon (:). The colon must not be preceded immediately by a verb.

Example: Platform Statement

Correct	*Incorrect*
The package contains the following equipment:	The equipment in the package is:

Note: The use of phrases containing words such as "the following" is not necessary in a platform statement that introduces a procedure list as described in Platform Statement for Procedures on page 54.

Parallel Structure

Associated concepts or items in a list should be expressed with matching grammatical structures. This means that if an item is presented using a full sentence, every other item should be presented as a sentence; if an item is presented as a few words, then each other item should be a few words, and so on.

Examples: Parallel Structure

Correct	*Incorrect*
This document contains the following information:	This document contains the following information:
— Product Description	— Product Description
— Hardware Overview	— Hardware Overview
— Software Overview	— Software Overview
— Installation Instructions	— How to install the product on your computer.

List Punctuation

All items in a list begin with a capital letter. Complete sentences in a list must be treated as such, beginning with a capital letter and ending with a full stop (period). List items that are not complete sentences, do not end with a full stop (period).

Examples: Sentences in a List

The following advantages must be considered:

— The readers have better access to the information than before.

— Document management is easier to control.

— All documents have a consistent layout.

4.9 Notes

Notes are short, concise statements, consisting of one or two sentences. Notes make the reader aware of information that the reader might otherwise overlook.

Use the following guidelines when writing notes:

— Do not place two or more notes together.

  If two points need emphasizing in the same note, format the two points as separate paragraphs or unordered bullet points.

  Do not include more than two points in a note.

— Do not use a note to provide information that belongs in an admonition (Danger, Caution, or Warning).

— Do not use a note to provide information that belongs in a procedural step.

— Make notes brief.

— Use a note to emphasize information that does not have a special heading.

— Use notes with discretion.

  If notes are overused, they lose their significance.

  The overuse of notes can also indicate that the document is poorly organized.

4.10 Reference List

The reference list is placed at the end of the document. It contains a list of documents that are referenced in the document. The reference list can also include articles, blogs, URLs, and so on. The reference list is mainly used in printed documents where hypertext linking is unavailable. A reference list is also valuable when referring to documents that are not contained in the library.

In the text, the reference to the document is displayed as shown in the following example:

Example: Making a Reference to the Reference List

For a full description of the correct methods and texts, see *Copyright, Disclaimer, and Trademarks in CPI*, Reference [1].

Note: When referencing links within a document, links to other documents, and URLs, use "see" instead of "refer to". For example:

Correct

For information about CPI, see CPI Methods.

Incorrect

For information about CPI, refer to CPI Methods.

The entry in the reference list is displayed as shown in the following example:

Example: Entry in the Reference List

[1] *Copyright, Disclaimer, and Trademarks in CPI*, 2/000 21-FCK 101 05

When referencing a URL use the following format:

— For in-text citations - (Author surname, year)

  Example : (Waddle, 2017) [corresponding number in reference list]

— The reference list - (Author surname, and Initial. Year, name of article, date viewed,<URL>)

  Example : [corresponding number in reference list] (Waddle, C. 2017, *Fine Wines of Tuscany,* viewed 19 May 2017,<http://www.bbc.co.uk/travel/finewinesoftuscany/>)

When referencing a book use the following format:

— For in-text citations - (Author surname, year)

  Example : (Arteta, 2019) [corresponding number in reference list]

— The reference list - (Author surname and Initial, year, Title of work. Publisher City, Publisher.)

  Example : [corresponding number in reference list] (Arteta, M. 2019, *Managing a Good Team,* London, Finsbury House)

The document names in the reference list are entered in alphabetical order.

4.11 Tables

A table is used to show some related facts or statistics in a small space. Using a table enables data to be presented more concisely than in running text. A table also facilitates the analysis of data.

4.11.1 Table Rules

The following rules are used for creating and using tables in CPI:

Table 3 Table Creation Rules

Guideline	Information and Examples
Give each table a table number and caption.	
Give each column in a table a heading.	
Make the width of a table no larger than the width of the page.	
Make similar consecutive tables consistent regarding structure, layout, and table widths.	
Place any units in column headers in parentheses.	For example, "Sound Pressure Label (dBa).
Place tables where they are of most use to the reader.	
Use sentence capitalization when writing full sentences in a table.	For more information, seeSentence Capitalization on page 29.
Use title capitalization when naming column headings.	For more information, seeTitle Capitalization on page 27.
Use different conventions for numeric tables (tables containing all numerals).	— Align whole numbers to the right-hand digit. — Align fractional numbers to the decimal point. — Use a constant number of decimal places within a column. — Use a zero before the decimal point for decimal values less than one but greater than zero to avoid confusion, for example, 0.57.
If there is enough space in the table cell, acronyms are expanded if they are used for the first time in a table.	If there is not enough space, use the Table note for the expansion.

4.11.2 Cross-References to Tables

If you make cross-references to tables, follow these conventions:

— Refer to a table before it is shown in the document.

— Refer to each table by number, or use the words “the following table” if the table immediately follows the text.

— Whenever possible, refer to tables consecutively in the document. For example, refer to Table 1 before referring to Table 2.

4.11.3 Table Captions

Use the following conventions for table captions:

— Number all tables sequentially.

— Use noun phrases.

— Avoid long descriptions in table captions.

— Indicate the contents or purpose of the table in the caption.

— Use title capitalization for table captions.

— Align the table caption to the left side of the table.

Note: Table numbering and caption alignment are handled automatically by the documentation software.

4.11.4 Table Column Headings

Use the following conventions for column headings:

— Use parallel structure, such as all nouns or noun phrases.

— Ensure that column headings clearly and concisely describe the information contained in the columns.

— Use title capitalization.

5 Rules for Writing

5.1 Abbreviations

Abbreviations include the following:

measurement The units of measurement to be used in CPI are listed in Abbreviations of Measurement on page 21.

acronym Technically an acronym is a pronounceable word, for instance, NATO. An initialism is an abbreviation formed from the initial letters of words in a phrase, pronounced as individual letters, for example, SDK.

In the CSM, the term "acronym" is used when referring to both acronyms and initialisms. This decision is made to avoid confusion and is in line with the decision of other style manuals.

5.1.1 Latin Abbreviations

The use of Latin abbreviations is forbidden in CPI. Instead use the English translation written in full, as shown in the following table.

Table 4 Latin Abbreviations and Their English Equivalents

Abbreviation	Latin Phrase	English Equivalent(1)
e.g.	*exempli gratia*	for example
et al.	*et alii, et alia*	and the others
etc.	*etcetera*	and so on
i.e.	*id est*	that is
viz.	*videlicet*	namely

(1) Comma on page 43 describes the punctuation of these phrases.

5.1.2 Abbreviations of Measurement

The following table shows commonly used units of measurement and examples of how they are used.

Note: If possible, place a non-breaking space between the value and the unit to prevent awkward line breaks.

Table 5 Abbreviations of Units of Measurement

Term	Abbreviation	Example	Notes
ampere	A	5.1 A	
bit		7 bits	Do not abbreviate.
kilobit		17 kilobits	17 × 1,000 bits Do not abbreviate.
megabit		115 megabits	115 × 1,000,000 bits Do not abbreviate.
bits per second	bps	2.4 bps	
kilobits per second	kbps	16 kbps	16 × 1,000 bps
Megabits per second	Mbps	56 Mbps	56 × 1,000 kbps
Gigabits per second	Gbps	10 Gbps	10 × 1,000 Mbps
For information about binary and decimal byte values, see Binary and Decimal Values for Bytes on page 23.			
decibel	dB	+3 dB	
degrees Celsius	°C	22°C	Do not insert a space between the value and degree sign (°). Use character entity `&deg;`.
erlang		12.6 erlang	Unit of traffic use that specifies the total capacity or average use of a telephone system.
gram	g	250 g	
kilogram	kg	15 kg	
hertz	Hz	128 Hz	
kilohertz	kHz	1.2 kHz	1.2 × 1,000 Hz
megahertz	MHz	1.2 MHz	1.2 × 1,000,000 Hz
gigahertz	GHz	5 GHz	5 × 1,000,000,000 Hz
joule	J	1 J	
meter	m	800 m	
kilometer	km	15 km	
microsecond	µs	25 µs	
minute (time)	min	45 min	
millimeter	mm	9 mm	

Term	Abbreviation	Example	Notes
millisecond	ms	20 ms	
newton (force)	N	15 N	
pascal (pressure)	Pa	16 Pa	
parts per million	ppm	30 ppm	
second (time)	s	20 s	
volt	V		The use of the space between V and AC or DC follows ISO standards. See also Voltage and Polarity on page 35.
Alternating Current	AC	±5 V AC	
Direct Current	DC	−12 V DC	
watt	W	1 W	
kilowatt	kW	5 kW	1,000 watts
word (data processing)		32 Mword	

Binary and Decimal Values for Bytes

Table 6 shows units for expression of memory size that apply to decimal-based and binary-based prefixes as standardized by ISO/IEC 80000:13.

Table 6 Binary and Decimal Values for Bytes

Term	Abbr	Ex	Notes
byte, decimal prefixes			
kilobyte	kB	156 kB	156 × 1,000 B $(10^3)^1$
megabyte	MB	150 MB	150 × 1,000,000 B $(10^3)^2$
gigabyte	GB	255 GB	255 × 1,000,000,000 B $(10^3)^3$
terabyte	TB	123 TB	123 × 1,000,000,000,000 B $(10^3)^4$
petabyte	PB	5 PB	5 × 1,000,000,000,000,000 B $(10^3)^5$
byte, binary prefixes			
kibibyte	KiB	156 KiB	156 × 1,024 B $(2^{10})^1$

Term	Abbr	Ex	Notes
mebibyte	MiB	100 MiB	100 × 1,048,576 B $(2^{10})^2$
gibibyte	GiB	250 GiB	250 × 1,073,741,824 B $(2^{10})^3$
tebibyte	TiB	180 TiB	180 × 1,099,511,627,776 B $(2^{10})^4$
pebibyte	PiB	10 PiB	10 × 1,125,899,906,842,624 B $(2^{10})^5$

Many vendors, including Ericsson in legacy documentation, apply prefixes the following way, using the ordinary SI prefixes (kilo, mega, giga, and so on) when specifying memory or data size:

1 KB = 1,024 bytes (Upper case “K” only used with B, bytes)

1 MB = 1,048,576 bytes

1 GB = 1,073,741,824 bytes

The kibibyte was designed to replace the kilobyte in those computer science contexts in which the term kilobyte is used to mean 1024 bytes. The interpretation of kilobyte to denote 1024 bytes, conflicting with the SI definition of the prefix kilo (1000), is common.

While the use of capital “K” prevents ambiguities, the other prefixes are used with a different meaning than specified by ISO/IEC and can therefore be interpreted differently. The problem is also that not all readers are familiar with the ISO/IEC binary prefixes.

Because of software orchestrated and defined storage, it becomes increasingly difficult for the reader to understand which convention the author of a specification has applied, unless ISO is strictly followed, or usage of prefixes is explicitly clarified.

Industry practice is to express memory size (RAM) with binary-based values (following either SI or ISO/IEC standards) and express storage size (hard disk) with decimal-based values.

In CPI, be consistent and follow the same standard used in the product itself, for example, in the user interface and the design specifications.

To avoid misinterpretation when specifying memory, storage, or data size in general, the applied prefix usage must be explained in the CPI library for both binary and decimal prefixes.

5.1.3 Acronyms

An acronym is formed from the first letter of the words in the phrase, for example, **H**ome **L**ocation **R**egister (HLR). Sometimes the acronym is taken from other letters of the keywords, as in the case of E**x**tensible **M**arkup **L**anguage (XML).

Acronyms are always written using full capitalization and are expanded when they first appear in the text unless the first appearance is in a heading. Exceptions to this rule are acronyms containing prepositions and products with 'virtual' in the name. When an acronym is first used in a heading, title, caption, or figure, expand it as soon as possible in the following text.

Prepositions in Acronyms

Example: Prepositions in Acronyms

Correct	*Incorrect*
Quality of Service (QoS)	Quality of Service (QOS)
Change of Authorization (CoA)	Change of Authorization (COA)
IP over Ethernet (IPoE)	IP over Ethernet (IPOE)
Voice over IP (VoIP)	Voice over IP (VOIP)

Note: An exception to this rule applies to acronyms such as In-Service Software Upgrade (ISSU) where the preposition is the first word.

Whenever in doubt, check whether your acronym is approved.

Virtual Terminology Guidelines

Virtual Product Naming Convention

When writing the full form for a virtual product name, use Virtual<product name full form>.

Example: Full Form for a Virtual Product Name

Correct	*Incorrect*
Virtual Evolved Packet Gateway	Virtualized Evolved Packet Gateway virtual Evolved Packet Gateway Evolved Packet Gateway Virtualization

When writing the acronym for a virtual product name, use v<product name acronym>.

Example: Acronym for a Virtual Product Name

Correct	*Incorrect*
vEPG	VEPG virtual EPG Virtualized EPG

Virtual Terms Naming Convention

When writing the full form for a standard term, use Virtual <term name full form>.

Example: Full Form for a Virtual Term Name

Correct	*Incorrect*
Virtual Network Interface Controller	virtual Network Interface Controller Virtualized Network Interface Controller

When writing the acronym for a standard term, use V<term name acronym>.

Example: Acronym for a Virtual Term Name

Correct	*Incorrect*
VNIC	vNIC

Expanding Acronyms

Acronyms are introduced by writing out the full phrase followed by the acronym set in parentheses.

Example: Expanding Acronyms

Correct	*Incorrect*
Customer Product Information (CPI) is defined as "the technical information needed to handle Ericsson products throughout the product life cycle".	CPI (Customer Product Information) is defined as "the technical information needed to handle Ericsson products throughout the product life cycle".

Expanding Acronyms in the Plural

If an acronym is first used in the plural, expand it in the plural but then use it as singular or plural as necessary.

The plural of an acronym ends in "s"; do not use any punctuation or other letter to indicate a plural acronym.

Example: Expanding a Plural Acronym

Correct	*Incorrect*
This manual does not deal with the configuration of Central Processing Units (CPUs).	This manual does not deal with the configuration of Central Processing Units (CPU:s). This manual does not deal with the configuration of Central Processing Units (CPUes). This manual does not deal with the configuration of Central Processing Units (CPU's).

Note: Do not invent new acronyms.

When Not to Expand an Acronym

Some acronyms are so familiar and so commonly used that expanding them is not necessary. Each product must decide which acronyms are to be expanded and which are not. This decision must be taken by considering the knowledge of the intended readership.

Examples: Acronyms That Do Not Require Expansion

- GSM
- TCP/IP (see also Stroke on page 48)
- WCDMA
- RBS

Note: All acronyms, even those not expanded in the text, must be listed in the Glossary.

Acronyms Are Not Verbs

Do not use any acronym as a verb.

Example: Avoiding the Use of Acronyms as Verbs

Correct	*Incorrect*
Send me the file using FTP.	FTP the file to me.

5.2 Capitalization

Capitalization refers to the use of uppercase letters. The conventions for capitalization in CPI are divided into three categories:

- Title capitalization
- Sentence capitalization
- Full capitalization

5.2.1 Title Capitalization

Title capitalization is used for the following:

- Document titles
- Document types, for example, Operating Instructions

— Trade names

— Section headings

— Captions for examples, figures, and tables

— Table column headings

— Expanded forms of acronyms

Capitalized Words

Prepositions and articles are not capitalized unless they are the first or last word of a title. When using title capitalization, the following words take an initial capital (upper case) letter:

— The first word

— The last word

— Nouns - Node, System, Data

— Pronouns - He, She, It

— Adjectives - Quick, Fast, Brown

— Verbs - Send, Receive, Download

— Adverbs - Not, Instantly, Slowly

— Words in a hyphenated compound except articles, prepositions, or coordinating conjunctions

Words Not Capitalized

When using title capitalization, the following words do not take an initial capital (upper case) letter:

— Articles

— Prepositions

— Coordinating conjunctions

— The word "to" in an infinitive. Use the initial capital for the verb, for example, "to Connect".

5.2.2 Sentence Capitalization

Sentence capitalization is used for complete sentences in running text and also in complete sentences when included in lists and tables. Use sentence capitalization also for fragments used in lists and tables.

5.2.3 Full Capitalization

Full capitalization is used for proper names of blocks, AXE commands, subsystems, and acronyms.

5.3 Grammar

5.3.1 Articles

Articles help the reader to understand text in three different ways:

- Articles make it clear if a noun is one, many, or everything.
- Articles separate general and specific information about nouns.
- Articles help the flow and comprehension of a sentence by avoiding the telegraphic style.

For consistency, always use an article for Ericsson products, components, and modules.

Indefinite Articles

The use of the indefinite articles ("a" and "an") can be confusing. Use "a" before a word that starts with a consonant sound and "an" when the word starts with a vowel sound. The form of the indefinite article to use ("a" or "an") depends on the initial sound and not the name of the letter.

Examples: When to Use "A" or "An"

A	An
A section	An installation
A hardware upgrade	An hourly upgrade
A radio base station	An RBS
A uniform	An upgrade
A European	An FSB

Use an indefinite article when introducing a countable noun for the first time or when writing about a noun that is not specific or unique.

Example

Back up and restore a node.

However, if the context makes the user take something for granted, use the definite article the first time.

Example

This is a printer. Press **the** power button.

Definite Article

The definite article is the word "the".

Use the definite article before an abbreviation, acronym, or mnemonic if the definite article can be used with the fully expanded form.

Use a definite article when introducing a mass noun for the first time.

Example

Download the data from the hard disk.

Do not omit the definite article "the" to shorten a sentence.

Do not use the definite article with names of objects that are described by a number or a verb.

Using the Definite Article

Correct	*Incorrect*
Locate test point B28.	Locate *the* test point B28.
Locate *the* B28 test point.	

5.3.2 Phrasal Verbs

Many verbs in English consist of a verb followed by a preposition or adverb. A two-word verb is called a phrasal verb. It often expresses an idiomatic meaning that cannot be understood literally. Certain translation software packages are unable to identify phrasal verbs properly so try to avoid the overuse of phrasal verbs.

Follow these guidelines for phrasal verbs:

— Do not split the verb and preposition by inserting other words in between.

Example: Use of Phrasal Verb "Switch Off"

Correct	*Incorrect*
Switch off the power at the AC power switch.	*Switch* the power *off* at the AC power switch.

— Use well-established phrasal verbs.

Example: Phrasal Verbs

cut off	hand over	go through
make up	put up with	take over
write up	switch off	switch on

5.3.3 Prepositions

A preposition is a word that connects a noun or pronoun to another word in a sentence to indicate a relationship.

Example: Preposition in Use

Unused cables are strapped *to* the appropriate cable run.

A preposition must have an object; the object can be modified (described more fully) by additional words.

The sentence in the example can, therefore, be analyzed as follows:

— "to" is the preposition.

— "to the appropriate cable run" is a prepositional phrase.

— "the cable run" is the object of the preposition "to".

— "appropriate" is the modifier of (giving more information about) "cable run".

Do not use a preposition to end a sentence (an exception to this rule exists when a phrasal verb is used).

Example: Avoiding Ending a Sentence with a Preposition

Correct	*Incorrect*
This document contains all the information to install the processor and the equipment to which it is connected.	This document contains all the information to install the processor and the equipment it is connected to.

5.3.4 Subject Verb Agreements

The verb in a sentence must agree with the subject of the sentence. Problems arise when the subject of the sentence is not obvious.

Example: One of the base stations *is* out of order.

In the example, the subject of the sentence is "**one** of the base stations", not the plural "base stations" and, therefore, the verb is the singular "is".

Table 7 shows some collective nouns that take a singular verb.

Table 7 Collective Nouns That Take Singular Verbs

Noun	Example
Ericsson	Ericsson has shown good results for the third quarter.
News	The news is good for us at the moment.
Committee(1)	The committee has decided that all orders are fulfilled.

(1) This also applies to other groups such as the board, the government, the team.

Note: The word data can be considered both singular and plural, based on context; however common usage uses the singular. Example: *The data in that file is important to the project*. The word datum (the correct singular form) is rarely used.

Tips for Dealing with Verb Noun Agreements

The following list contains tips on how to make the correct verb noun agreements:

— When the subject of a sentence is composed of two or more nouns or pronouns connected by "and", use a plural verb.

  Example: The dog and the cat are in the garden.

— When two or more singular nouns or pronouns are connected by "or" or "nor", use a singular verb.

  Example: Either the dog or the cat is in the garden.

— When a compound subject contains both a singular and a plural noun or pronoun joined by "or" or "nor", the verb agrees with the part of the subject that is closest to the verb.

  Examples:

  - Neither the dogs or the cat is in the garden.
  - Neither the dog or the cats are in the garden.

  Note: The use of "neither" and "nor" are not encouraged in technical writing.

— The following expressions, "each", "each one", "either", "neither", "everyone", "everybody", "anybody", "anyone", "nobody", "somebody", "someone", and "no one" are singular and require a singular verb.

  Examples:

  - Anyone is permitted to open this file.
  - Someone has made a mistake.

Note: Replace the construction "each of the" with "each".

— In sentences beginning with "there is" or "there are", the subject follows the verb. Since "there" is not the subject, the verb agrees with what follows.

Note: Such expressions are not allowed in CPI; see False Subjects on page 65.

— Expressions such as "with", "together with", "including", "accompanied by", "in addition to", or "as well" do not change the number of the subject. If the subject is singular, so is the verb.

Example: Hans accompanied by 20 colleagues is coming tomorrow.

5.3.5 Parenthetical Plurals

Do not use the parenthetical plural "(s)" in CPI to indicate that a noun might be both singular and plural. Instead, use the plural form or the expression "one or more".

As subjects and verbs must agree in English, this practice also affects verbs. Including an "(s)" makes the text look cluttered and can make reading or translating the text more difficult.

Table 8 Example: Parenthetical Plurals

Correct	Incorrect
The server sends keep-alive signals to the clients. The server sends one or more keep-alive signals to the clients.	The server sends keep-alive signal(s) to the clients.
The operators configure the types of files, their formats, and the devices that receive the files.	The operator(s) configure(s) the type(s) of file(s), their format(s), and the device(s) that receive(s) the file(s).

5.4 Numbers, Formulas, and Equations

5.4.1 Numbers Zero to Nine

The general rule is to spell out numbers zero to nine.

Example: Numbers Zero to Nine

At the meeting, nine people spoke against the proposal.

There are some exceptions to the "zero-to-nine" rule and these are shown in Table 9.

Table 9 When to Use Numerals for Numbers Zero to Nine

When to Use Numerals	Examples
To describe units of measurement.	The clearance is 6 mm. A byte contains 8 bits
To identify a particular item or unit.	Mount the reel on tape unit 6.
To represent a specific value.	The value in byte 1 is 2, 3, or 8.
To create a compound adjective.	An 8-inch rack.
To write a series of numbers, any one of which is 10 or above.	The system requires 3 fans, 5 ducts, and 15 pumps.
To write mixed numbers.	The section has 6½ pages. The engineer worked 7.5 hours.
To write a number with a symbol.	More than 4%.

5.4.2 Numbers 10 and Above

The general rule is to use numerals for numbers 10 and above.

Example: Numbers 10 and Above
At the meeting, 10 people spoke for the proposal.

There are some exceptions to the 10-and-above rule as shown in Table 10.

Table 10 When to Spell Out Numbers 10 and Above

Spell Out Number	Examples
When the number is the first word of a sentence.	Twenty messages were transmitted.(1)
When the number appears side by side with a numeral and must be spelled out for clarity; see also Adjacent Numbers on page 36.	The carton contained ten 6 ohm resistors.(2)

(1) See also Numbers at the Beginning of a Sentence on page 36.
(2) The general rule is to spell out the quantity when both numbers are normally numerals or both numbers normally are spelled out.

5.4.3 Units of Measurement and Units of Size

Always use numerals with units of measurement and units of size; Table 11 contains examples.

Table 11 Units of Measurement and Units of Size

General Category	Sample Units
Area	square millimeter
Distance	kilometers
Electricity	amperes, ohms, volts, watts
Energy and force	calories, joules, newtons
Length	millimeters
Pressure	pascals, atmospheres
Printing	ens, ems, picas
Temperature	degrees Celsius
Time	microseconds, minutes, hours, years
Volume	cubic centimeters, liters
Weight	kilograms
Real and virtual computer storage divisions	bits, bytes, characters, words, pages, segments
Auxiliary computer storage divisions	bins, cylinders, data cells, sectors, tracks

See also Table 5.

5.4.4 Voltage and Polarity

The rules for showing voltage and polarity in a document are as follows:

— Always capitalize the abbreviation "V" for volts.

— Always put a space between the numerical value and the letter "V".

— Put a space between the letter "V" and the abbreviation "AC" or "DC".

— If the voltage is DC, always put a plus or minus or a plus and minus (±) sign before the numerical value to express polarity unless the voltage is zero.

Examples: Voltage
−5 V DC
0 V DC
+5 V DC

Note: In text, express voltage as V DC or V AC, not V.

5.4.5 Fractions

Where possible, do not use vulgar fractions, such as 3/4, in text. Convert fractions to their decimal equivalents.

When writing a decimal value less than one but greater than zero, always put a zero before the decimal point to avoid confusion, in this case 0.75.

Always use numerals to express decimal values.

5.4.6 Compound Numbers

When spelling out a compound number, hyphenate the number.

Example: Compound Numbers
forty-one
fifty-three
eighty-seven

5.4.7 Adjacent Numbers

When one number immediately precedes another, spell out one of the numbers for clarity.

Example: Numbers in Compound Adjectives
ten 3 cm nails
twenty 16 meter poles
twelve 32 channel PCM lines

The general rule is to spell out the number with fewer letters when both normally are spelled out or both are expressed as numerals. If the letter count for both numbers is the same, spell out the number that denotes the quantity.

5.4.8 Numbers at the Beginning of a Sentence

Numbers that begin a sentence or list item are always spelled out.

Example: Numbers at the Beginning of a Sentence
Twenty-three customers responded to the questionnaire.

5.4.9 Numbers in Headings

When writing numbers in book titles and section headings, follow the style rules used in text. If a product name includes numerals, retain the accurate product name (with numerals) in the heading.

Example: Numbers in Titles

MD110 Configuration

RBS 2000 Installation Manual

5.4.10 Numbers in a Series

If a sentence contains a series of related numbers, some less than and some greater than 10, use numerals for all.

Example: Numbers in a Series

The technician counted 1 rabbit, 5 dogs, and 11 cats.

5.4.11 Hexadecimal Numbers

Do not abbreviate the word “hexadecimal” as “hex.” Instead use “h” or “0x” when writing hexadecimal numbers.

Example: Hexadecimal Numbers

21 h

0xFFFE

5.4.12 Percentages

The following rules apply when writing percentages:

— Use the percent symbol (%) and not the word "percent".

— Always use numerals with the percent symbol (%).

— Use the percent symbol (%) immediately after the relevant number with no space between the number and the symbol.

Example: Percentage

50%

5.4.13 Numbers and Commas

To insert commas into numbers greater than 999, count from right to left and insert commas between groups of three digits. This rule applies only to digits to the left of a decimal point. See Table 12 for examples.

Table 12 Using Commas with Numbers

Type of Number	Rule	Example
address	Do not use commas in addresses.	91 Station Road

Type of Number	Rule	Example
baud	Use a comma only when the number has five or more digits.(1)	9600 baud 14,300 baud
binary	Do not use commas in binary numbers.	110010
bytes	Use commas in numbers that have four or more digits.	1,024 bytes
decimal fractions	Use decimal point, not comma in decimal numbers.	1.0485 units
command entry or computer input	Do not use commas in numbers used in command entry or computer input unless the commas are part of the command syntax.	53533
page	Do not use commas in page number references.	"See page 1091"(2) but, "the book contains 1,091 pages".
large numbers	Use a comma only when the number has four or more digits	18,600,000 capacity licenses
units of measurement	Use a comma only when the number has four or more digits	1,000 Hz
years	Use a comma only when the number has five or more digits.(1)	10,000 B.C.

(1) This rule applies to five figure values for baud and years only.

(2) The word "page" in such references does not have an initial capital letter unless it appears at the beginning of a sentence.

5.4.14 Dates

In CPI, dates are written as follows:

— In flowing text always put the day before the month, for example, 21 April 1907 or 7 March.

— When written as data (such as in metadata), then as follows:

yyyy-mm-dd
where:
yyyy = year
mm = month
dd = day
The three groups are separated by hyphens (-).
Example

2004-04-21

5.4.15 Time of Day

Use 24-hour time in CPI as follows:

hh:mm:ss
where
hh = hours
mm = minutes
ss = seconds
The three groups are separated by colons (:).
Examples:
17:56:21
10:05:20
00:00:00 is midnight

5.4.16 Ordinal Numbers

Ordinal numbers follow the same rules as cardinal numbers. Spell out first to ninth, and use figures for 10th and above.

Example: Ordinal Numbers

first	second	third	fourth
21st	22nd	23rd	24th

5.4.17 Equations

Including equations in text can cause problems from a technical point of view. This section gives the rules for the layout of equations. Simple equations can be inserted just as any other text. Complicated equations must be included using an equation tool. The CSM cannot give advice on the tools to use nor on their use. For more information, see Equations in Tagtool.

Example: Simple Equations

a + b = 15	
a − b = 9	Use the minus sign, not a hyphen (character entity −).
a × b = 36	Use the multiplication sign, not the letter x (character entity ×).
a ÷ b = 4	
a/b + b = 7	A forward slash is used to show fractions (separating the numerator and denominator) in text.
ab + b = 39	

Leave a space between the elements of an equation.

5.4.18 Boolean Operators

Boolean—or logical—operators, the most common being **AND**, **OR**, **XOR** (exclusive **OR**), and **NOT**, are written in bold full capitalization.

They are not verbs so do not use them as such, and do not use their symbols in text.

Example: Using Boolean Operators

Correct	*Incorrect*
Using **AND** to find x and y produces **TRUE** only if both are true.	**AND**ing x and y produces **TRUE** only if both are true.
	Using **&** to find x and y produces **TRUE** only if both are true.

5.5 Punctuation

Punctuation is important and essential to good, clear, and comprehensible writing.

5.5.1 Apostrophe

Apostrophes (') are used to show possession, for example, the dog's food. In CPI, however, inanimate objects are said to be unable to possess objects or qualities and, therefore, do not use an apostrophe "s" with such objects.

Examples:

Correct	*Incorrect*
Replace the computer screen.	Replace the computer's screen.
The main software interface is through the GUI.	The software's main interface is through the GUI.

Another use of the apostrophe in English is to form contractions such as: can't, won't, don't, or mustn't. Contractions are not used in CPI.

Note: Remember that "cannot" is always written as a single word.

5.5.2 Brackets

In CPI, the following three types of brackets are used:

— Parentheses ( )

— Square brackets [ ]

— Curved brackets (braces) { }

Note: A fourth type of bracket, the angle bracket (< >), is used only to enclose variables in command-line descriptions as described in Typographic Conventions on page 70.

Brackets and Punctuation

If a bracketed expression is included at the end of a phrase that takes any punctuation mark, the punctuation follows the closing bracket.

Example: Placing Punctuation with Brackets

Correct	*Incorrect*
The library consists of various sections (Description, Installation, Verification, Operation and Maintenance, and so on), which enables the reader to find information easily.	The library consists of various sections (Description, Installation, Verification, Operation and Maintenance, and so on) which enables the reader to find information easily.

Example: Punctuation inside Brackets

The default parameter values are set for maximum filtering. (The values cannot be changed through the GUI.)

Each type of bracket has its own use but all three follow the same rules for punctuation.

Parentheses ( )

Parentheses are the most used bracket in CPI and have the following uses:

— To define acronyms when applicable. For more information, see Acronyms on page 25.

Example:

The Serving GPRS Support Node (SGSN) and the Gateway GPRS Support Node (GGSN) are the main network elements in the GPRS part of the core network.

— To set off words or phrases not necessary to the meaning of the sentence but too important to omit.

Example:

Intracell handover is the procedure that takes place when an MS connection is moved to another channel within the same subcell (or under certain conditions, to another subcell).

— To include further explanation.

Example:

In these cases, a backslash character (“\” for output and “\” for input) is placed at the end of every line.

Note: Use brackets sparingly. Brackets must not enclose important or essential information.

Square Bracket [ ]

Straight (or square) brackets are used in text to enclose material that is already in parentheses. This awkward construction must not be used in CPI.

Straight brackets are used in commands to show that the enclosed parameters are optional.

Example: Square Brackets in a Command

```
MCDVI: IO=io, DEVADDR=devaddr [, NTN=ntn];
```

Curved Bracket { }

Curved brackets (or braces) are used in command lines and equations to indicate that one of the enclosed options must be used, as shown in Figure 1.

$$IOAFP : IO1 = \left\{ \begin{matrix} ALL \\ io \end{matrix} \right\}, [IO2 = io];$$

Figure 1 Curved Brackets in Equations

5.5.3 Colon

The main use of the colon is to introduce a list preceded with the phrase "as follows", "the following", or any suitable noun.

Do not use a colon to separate a verb from its complement or a preposition from its object.

Examples: Using a Colon to Introduce Lists

Correct	*Incorrect*
Continue as follows: *List follows ...*	To continue do: *List follows ...*
The contents are as follows: *List follows ...*	The contents are: *List follows ...*
Use the following steps to activate the feature: *List follows ...*	This feature can be activated by the: *List follows ...*

A colon is also used to separate an independent clause from a dependent clause. (A dependent clause is one that cannot stand alone as a sentence.)

Example:

The program contains two tables for block interaction: the table for incoming signals is the primary table and the table for outgoing signals is secondary.

The colon is not used to form the plural of acronyms, for example, the plural form of CPU is CPUs *not* CPU:s.

5.5.4 Comma

Commas are used to separate three or more items in a series.

Example: Comma as a Separator

The central processor has a program store, a data store, and a reference store.

A comma is also used following an introductory word or phrase.

Examples: Comma Following Introductory Statement

In this section, the uses of the comma are described.

Finally, check the document before printing.

Commas are used to contain inessential or explanatory material.

Examples: Comma Containing Inessential Information

The binder label files, which are produced separately, are stored with the document files.

XML, a subset of the more powerful SGML, might supersede HTML as a medium for online documentation.

Commas also enclose the following and similar phrases:

— and so forth

— for example

— namely

— that is

5.5.5 Dash

Two types of dash are used in CPI: the em dash (—) and the en dash (–).

Note: The use of dashes must not be confused with the use of the hyphen (-) described in Hyphen on page 45.

Em Dash

Em dashes are used to mark an abrupt change or break in the continuity of a sentence. They are more emphatic than commas or parentheses and, therefore, must be used sparingly so as not to lose their impact.

Example: Em Dash Used to Contain Parenthetical Information

The main switches—on the right-upper corner of the panel—must all be in the off position before starting the reinstallation.

Do not add spaces either side of the em dash.

En Dash

An en dash is used to indicate number ranges without a space either preceding or following it.

Example: En Dash in Number Ranges

102–110
2000–2003
MTN-1–MTN-16

Use an en dash (–), not a hyphen to join multiple components of a compound phrase.

Example: En Dash Linking Compound Terms Used as Adjectives

The receiver picks up UHF–VHF signals.

Do not add spaces either side of an en dash.

5.5.6 Ellipsis

Ellipses are used to show an omission in a list or a sequence.

Note: "Ellipses" is the plural form, "ellipsis" the singular.

In general, the use of an ellipsis in CPI is confined to command-line descriptions to show where parameters have been omitted.

Example: Ellipsis in a Command Line

```
EXEMI:EQM=eqm…,RP=rp[,RPT=rpt],EM=em,PP=pp;
```

An ellipsis can also be used to show that text has been omitted in a code example.

Example: Ellipses in a Code Example

```
… if (CORBA::is_nil(obj)) { Dicos_debugInfo("Nil reference to
%s.%s", LMFeatureHandler_mod::LM_NCONTEXT_ID,
LMFeatureHandler_mod::LM_NBINDING_ID); CORBA::release(orbRef);
… /* Handle the error here. */ return; } …
```

5.5.7 Exclamation Mark

Exclamation marks are not used in running text in CPI. They are used in code examples and labels of admonitions. See Figure 2.

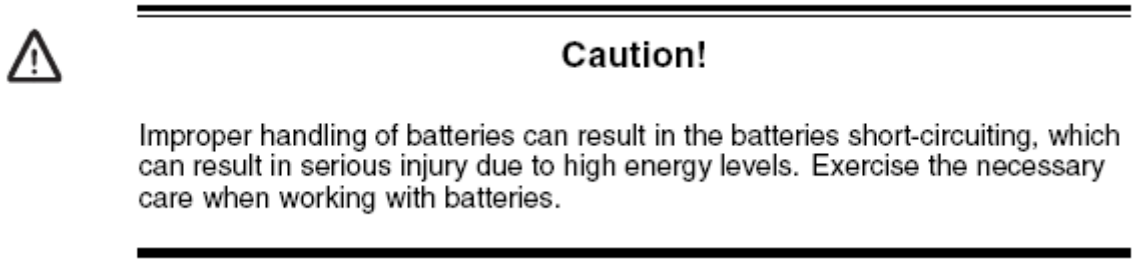


Figure 2 Exclamation Mark Used in Admonitions

5.5.8 Full Stop

Use a full stop (period) to end a complete sentence. A complete sentence must contain at the least a subject and a verb and express a complete thought. Besides a subject and verb, most sentences also contain articles, prepositions, adjectives, and adverbs.

Do not use a full stop at the end of a sentence fragment, such as an item in a list that is not a complete sentence, or in a heading title.

5.5.9 Hyphen

In appearance, a hyphen (-) is shorter than both the em dash and the en dash.

Many common prefixes, such as "co", "de", "pre", "pro", "re", and "sub" do not take a hyphen in most cases. However hyphens are used in the following situations:

— If the word following a prefix is capitalized or is a proper noun as follows:

Examples:

- pro-Cuban forces
- pre-Cambrian era

— For words beginning with "all-", "ex-" (meaning "former"), "half-", "quasi-" (in adjective constructions), and "self-", as follows:

Examples:

- all-around
- ex-governor
- half-life
- quasi-independent
- self-control

— If homophones (words that are spelled differently but sound alike) require a hyphen to prevent mistakes in pronunciation and meaning.

  - recreation (enjoyment), re-creation (new creation)
  - reform (to improve), re-form (to form again)

Compound Adjectives

A compound adjective is an adjective that contains two or more words. A hyphen is used to indicate that the words form the same adjective.

Use a hyphen if the compound adjective comes before the noun the compound adjective modifies.

Do not use a hyphen if the compound adjective comes after the noun.

Do not use a hyphen if you can use the word “and” between the two adjectives or words.

Compound adjectives have the following combinations:

Adjective or Noun + Past or Present Participle

The past participle is the form of the verb ending in –ed. The present participle is the form of the verb ending in –ing.

Examples

Solar-powered	adjective + past participle
Free-standing	adjective + present participle
Wind-powered	noun + past participle
Time-consuming	noun + present participle

Adverb + Past Participle

Use a hyphen for compound adjectives formed of an adverb and the past participle that appear before the noun.

Example

Well-known

Do not hyphenate compounds where the first part is an adverb ending in **–ly**.

Example

Widely used

This compound is never hyphenated, even if it appears before the noun.

Noun + Adjective

Use a hyphen to join words in an expression to form a compound adjective. The same expression is not hyphenated when used as a noun.

Example: Compound Adjectives and Nouns

This process involves a 24-hour wait.

Wait 24 hours before continuing the process.

Number + Noun

Use a hyphen when numbers are used as the first part of a compound adjective. The reader can then see that both words modify another noun. This rule applies for numbers written in words or in digits.

Examples

A 25-minute interval

A 300-page manual

A six-figure price

In the following examples, the hyphen indicates a common second element in lists.

Example: Using Hyphens with a Common Second Element

A 10- to 11-digit number

A six- or seven-hour delay

A two-, three-, or even fourfold increase.

5.5.10 Quotation Marks

Do not use quotation marks as emphasis in CPI. The closing quotation mark comes after any punctuation that is a part of the quotation but before any mark that is not.

Example: Using Quotation Marks

Remove the label marked "Warning!".

The instruction states, "Do not remove the cover before disconnecting the power".

Do not use quotation marks to mark such things as computer input or output, software elements, or GUI elements. Typographic Conventions on page 70 describes the way such elements are shown in CPI.

5.5.11 Semicolon

The semicolon has the following uses:

— To unite sentences that are closely associated

Example: Joining Associated Sentences

The people on the fourth floor work with product development; those on the fifth work with deployment.

— To create a stronger division in a sentence that already includes divisions using commas

Example: Creating a Stronger Division in a Sentence

The people on the fourth floor, who work with product development, are to continue with the project until Friday; but the following Monday, when their equipment has been moved, they resume work on the sixth floor.

— To create stronger divisions in a list

Example: Creating a Stronger Division in a List

The visitors are to be received by the managing director, Daphne Jones; the head of security, Fred Smith; and the union representative, Howard Brown.

Note: In technical writing, this sentence would be better formatted as a list.

5.5.12 Stroke

Do not use the stroke or slash as an alternative to the word "or." The "and/or" type of construction (for instance, insertion/removal, blocking/deblocking) is not allowed.

Most "and/or" sentences are correct if either "and" or "or" are used. If that is not possible, the sentence must be rewritten.

Example: Avoiding Use of Stroke

Correct	*Incorrect*
Load the software units from a separate loading medium, a common loading medium, or both.	Load the software units from a separate and/or common loading medium.

The stroke in a term is acceptable if the term is an industry standard.

Example: Acceptable Use of the Stroke
input/output devices
on/off switch
TCP/IP

5.6 Unacceptable Words and Expressions

This section contains words and phrases that are unacceptable in CPI. For more information on the use of words in CPI, see the CPI Word List.

5.6.1 Unacceptable Words

Certain words are not suitable for technical documentation even though they are commonly used in speech and informal communications. Table 13 contains a list of these words with acceptable replacements.

Table 13 Unacceptable Words

Unacceptable Word	Acceptable Replacement
adaption (misspelling)	adaptation
administrate	administer
... and/or ...	... or ..., or both
carry out	do
commence	begin, start
denominate	describe
diskette	disk
FAX	fax
gotten	received
impact (verb) (1)	affect (*verb*)
interface (verb)	interact or communicate
master	primary
orientate	orient
passivate	deactivate
print out (*verb*)	print (*verb*)
reoccurrence	recurrence
shall(2) See Auxiliary Verbs on page 51 for a fuller explanation.	is
slave	secondary

Unacceptable Word	Acceptable Replacement
tar (*verb*)	compress (*verb*)
telco	telephone company
untar (*verb*)	extract (*verb*)
unzip (*verb*)	extract (*verb*)
usage	use
utilisation; utilization	use
via	by through
vice versa	and the opposite is also true
zip (*verb*)	compress (*verb*)

(1) Dictionaries define impact as "to fix firmly," "to strike forcefully," or "to have a direct effect or impact on." Affect as a verb can be defined as "to produce an effect upon." If the writer can put an article such as "an" or "the" in front of "impact," then use "impact" as a noun.

It is acknowledged that Merriam Webster defines impact as a verb as well as a noun. For the reasons stated in this footnote, it is recommended to use affect as a verb and impact as a noun for the sake of consistency and accuracy.

(2) "should" is never used in CPI.

5.6.2 Unacceptable Expressions

The words, and expressions derived from them, listed in Table 14 are unacceptable in CPI.

Table 14 Unacceptable Expressions

Word	Unacceptable Expression	Acceptable Replacements
abort(1)	Abort the program.	End the program.
actual	The clock gives the actual time.	The clock gives the current time.
concerned	The concerned RP pair is deblocked.	Deblock the appropriate RP pair. The appropriate RP pair is deblocked.
control	Control the equipment for faults.	Inspect the equipment for faults.
eventual	The tester finds eventual faults in the exchange.	The tester finds faults in the exchange.
exchange journal	Facts about the exchange are kept in the exchange journal	Facts about the exchange are kept in the exchange log.
faultless	The board is faultless.	The board is free of faults.

Word	Unacceptable Expression	Acceptable Replacements
faulty[2]	Test the faulty board that is indicated in the printout.	Test the board that is suspected of being faulty. See printout . . . for a list of boards that are suspected of being faulty.
functionality	This functionality is system-dependent.	This function depends on the system.
interwork	The systems interwork with one another.	The systems interact with one another. The networks cooperate with one another.
invoke	Invoke the test program.	Start the test program.
kill[1]	Kill the connection.	Close the connection.
lit	The indicator is lit.	The indicator is illuminated. The indicator is ON. The indicator is red.
protocol	Write the protocol after the meeting.	Write the minutes after the meeting.
remove	Remove the data.	Delete the data. *but* Remove the faulty board.
stated	The diagram is stated in Figure 2 on page 6.	The diagram is shown in Figure 2 on page 6.
station	The AXE is a telephone station.	The AXE is a telephone exchange.
terminate	Terminate the supervision function.	End the supervision function. *but* The call terminates at the B-subscriber.
toward	The signal is sent toward the RP pair.	The signal is sent to the RP pair.
utilize	Utilize the board extractor.	Use the board extractor.

(1) The words “abort” or “kill” are tolerated if they are command parameters.

(2) Use the word “faulty” when a board is proved to be faulty—not suspected.

5.7 Auxiliary Verbs

An auxiliary verb, also known as a helping verb, is a verb that modifies the main verb in a sentence to express, for example, tense or modality. English tenses include past, present, and future. Modality includes ability, obligation, possibility, and permission.

Ericsson CPI uses modal auxiliary verbs to express ability, obligation, and possibility.

Examples (auxiliary verb in bold and main verb in italics):
The server **will** *start* after 5 minutes. (future tense)
The operator **can** *restart* the server. (ability)

Table 15 Auxiliary Verbs and Their Uses

Auxiliary Verb	Function	Comment
Can	Ability	Use “can” to express ability in the present or future tense. Example: The device **can** receive messages when it is not in idle mode.
Could (past tense of can)	Ability, polite form of can, possibility	Use “could” only when necessary to express ability in the past tense. Do not use in CPI as polite form of can or for possibility Example: Credit control can now be enabled per control rule. Before this change, credit control **could** only be enabled at the system level.
May	Ability, possibility, permission	Do not use “may” in CPI because the user cannot be sure if it expresses ability, possibility, or permission.
Might	Possibility	Use “might” to express what is hypothetical or possible, or where the outcome is not guaranteed. Example: Cutting the wrong cable **might** cause a loss of power.
Must	Obligation	Use “must” to talk about obligations, rules, and regulations. Using words such as “ought to” and “should” can give the impression that the user has a choice and can ignore the instruction.

Auxiliary Verb	Function	Comment
		Example: The user **must** download and install the latest software before upgrading the system.
Shall	Condition, obligation, future tense, probability, polite marker	Do not use “shall” in CPI because of its many possible functions. "Shall" and "should" are often used in design documents such as use case documents to describe the expected behavior for a feature or function that is being developed. In CPI, the present tense is used to show the behavior that can be expected each time.
Should (past tense of shall)	Obligation	Do not use "should" in CPI because it is vague and can express that something is optional or mandatory. Also see **shall**.
Will	Future tense	Avoid using “will” in CPI as the simple present tense is clearer. Example: The server **will** start after 5 minutes. Preferred: The server **starts** after 5 minutes.

6 Effective Language

This section describes how to make your language more effective and, therefore, transmit your message to the reader more efficiently.

6.1 Writing Instructions

This section describes how to write instructions, leaving your readers in no doubt about how to perform the procedure you describe.

6.1.1 Platform Statement for Procedures

The platform statement for a procedure must be an infinitive phrase that clearly describes the purpose of the procedure and that leads the reader into it. Like all other platform statements, it must end with a colon. See the following example.

Note: Phrases such as "the following" or "the following steps" are not used in the platform statement.

Example: Procedure Platform Statement

To apply more than one profile to an element:

1. Place the cursor within the chosen tag.
2. Select **Edit** > **Profiles** > **Apply Profiles**.
3. Select the appropriate profiles using the left mouse button and the **Ctrl** key.
4. Click **Insert**.

   The profile names are displayed in the attribute tag.

6.1.2 Effective Use of the Imperative Mood

In CPI, instructions are written using the imperative. The imperative (or imperative mood) is the grammatical term for the way of expressing an order or command. The following example is the basis for writing instructions in CPI.

Example: Simple Imperative Use

Create a file.

Most instructions, however, need to contain more information so that the person receiving the instruction knows what to do and how to do it. The danger, when adding extra information, is that the instruction can cease to be an instruction. Try to keep instructions as direct and concise as possible.

Examples: Imperative Use Containing Extra Information

Correct	*Incorrect*
Create a file by pressing **Ctrl+N**.	For creating a new file, use the **Ctrl+N** keys.
Press **Ctrl+N** to create a file.	To create a new file, press **Ctrl+N**.

6.1.3 Describing GUI Interactions

This section describes how to write instructions for GUI interactions. The examples use the Internet Explorer menus, but the conventions relate to all software.

The figure below shows how to open a new window in Internet Explorer.

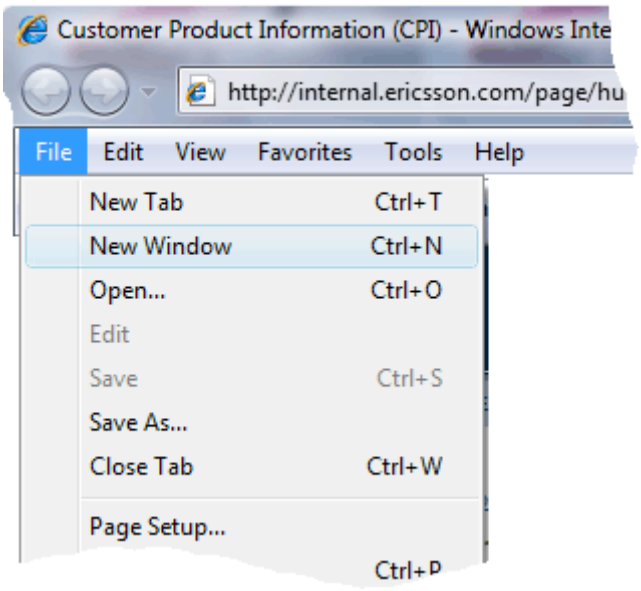


Figure 3 Open New Window in Internet Explorer

The following example shows how to describe this action using the "greater than" sign:

Examples: Describing GUI Interactions

Correct	*Incorrect*
Click **File** > **New Window**.	Click **File** -> **New Window**.

Note: The combination of dash (or hyphen) and the "greater than" sign is not used in CPI.

6.2 Clichés

A cliché is an overused phrase that is often used to hide unclear or imprecise thinking. Using a cliché also indicates a lack of imagination. Clichés often employ

metaphors and similes, which are not used in technical writing, and is, therefore, another reason for not using clichés; see also Table 17.

6.3 Concise Language

Technical writing is concise and avoids wordiness (verboseness) and redundancy.

Redundant words add nothing to CPI and cause confusion, irritation, and a loss of interest. Avoid the following types of redundancy:

— Repeated words and phrases

— Redundant pairs

— Redundant categories

— Redundant modifiers

— Obvious implications

6.3.1 Wordiness

Wordy phrases rely on many words where fewer words would do; see Table 16 for some examples.

Table 16 Wordy Phrases

Wordy Phrase	Single-Word Replacement
In the neighborhood of	About, near
Despite the fact that	Although, though
In spite of the fact that	
Notwithstanding the fact that	
Regardless of the fact that	
At all times	Always
Because of the fact that	Because, for, why
By virtue of the fact that	
Due to the fact that	
For the reason that	
Inasmuch as	
In light of the fact that	
In view of the fact that	
The reason for	

Wordy Phrase	Single-Word Replacement
The reason that	
By means of	By
As regards	Concerning, about, regarding
In reference to	
Concerning the matter of	
Where *something* is concerned	
With respect to	
During the course of	During
In the event that	If, when
In the final analysis	Finally
The way in which	How
The extent to which	How much
With the knowledge that	Knowing
At a later date	Later
In the nature of	Like
Along the lines of	
In close proximity to	Near
At the present time	Now, currently
At this point in time	
At this time	
Without further delay	Now
On the subject of	On, about
In the not-too-distant future	Soon
At an early date	
To the effect that	That
In order to	To
For the purpose of	
Until such time as	Until

6.3.2 Redundant Pairs

Redundant pairs are words that are commonly used in speech but which add little meaning to the sense of the message. Table 17 contains examples of redundant pairs. See also Clichés on page 55.

Table 17 Redundant Pairs

Redundant Pair	Substitution
any and all	any
each and every	each
first and foremost	first (do not use firstly)
one and the same	the same
whether or not	whether

6.3.3 Redundant Categories

Words that describe categories are often used redundantly as shown in Table 18.

Table 18 Redundant Categories

Category	Redundancy	Substitution
area	the area of telecommunications	telecommunications
color	red in color	red
size	large-sized	large
degree	to an extreme degree	extremely
manner	in a hasty manner	hastily
state	a helpless state in a helpless state	helplessness helpless
type and situation	a crisis-type situation	crisis

6.3.4 Redundant Modifiers

Redundant modifiers add unnecessary description to nouns, some examples are listed in Table 19.

Table 19 Redundant Modifiers

Redundant Modifier	Substitution
advance planning	planning
basic fundamentals	fundamentals
end result	result
future plans	plans
future prospects	prospects
final outcome	outcome

Redundant Modifier	Substitution
important essentials	essentials
mix together	mix
new innovations	innovations
past history	history
required prerequisites	prerequisites
serious crisis	crisis
true facts	facts

6.3.5 Obvious Implications

Obvious implications are expressions that say the same thing twice, as shown in Table 20:

Table 20 Obvious Implications

Obvious Implication	Substitute
return back	return
bisect in half	bisect

6.3.6 Intensifiers

Intensifiers are words that strengthen statements. The following is a list of common intensifiers:

— Very

— Really

— Clearly

— Just

— Only

Where possible, replace intensifiers with specific facts.

Some words cannot be combined with intensifiers because the words that they modify are already as strong as possible.

Example: Incorrect Use of Intensifiers

This feature is very unique.

The word "unique" *cannot* be modified. Something is unique or it is not.

6.3.7 Hedges

Hedges are words that qualify statements and allow exceptions. Some common hedges are as follows:

— Apparently

— Frequently

— Generally

— Sometimes

— Usually

Avoid using hedges in technical writing.

Example: Hedge

Omnidirectional antennas are usually ceiling-mounted.

Hedges can indicate that all the facts are not being given or, to an unsympathetic audience, that all the facts are not known. In the preceding example, the word "usually" causes the reader to ask the following questions:

— Why are omnidirectional antennas usually ceiling-mounted?

— How are omnidirectional antennas mounted when they are not ceiling-mounted?

Technical writing must leave no questions unanswered.

6.4 Dangling Modifiers

A dangling modifier is an introductory phrase that suggests but does not name the performer of the action.

Example: Dangling Present Participial Phrase

Bowing to the crowd, the bull caught the matador by surprise.

In the example, the phrase "bowing to the crowd" seems to refer to the bull not the matador: an amusing but illogical connection. The following sentence represents more clearly exactly who is "bowing":

As the matador bowed to the crowd, the bull caught him unaware.

To correct a dangling modifier, restructure the sentence in one of the following ways:

— Change the subject of the sentence so that it names the performer of the action implied by the introductory modifier.

— Turn the modifier into a word group that names the performer of the action.

Example: Dangling Infinitive Phrase

To restart the system, the terminal must be reconnected.

In the preceding example, the phrase “To restart the system” is dangling because the subject of the sentence “terminal” cannot restart anything. The sentence is more accurate when written as follows:

To restart the system, reconnect the terminal.

or

Reconnect the terminal to restart the system.

Example: Dangling Elliptical Clause

Although only four months old, the supervisor insisted the printer be replaced.

In the preceding example, the printer, not the supervisor, is “only four months old.” The sentence is more accurate when written as follows:

Although the printer was only four months old, the supervisor insisted it be replaced.

6.5 Gender-Specific Language

Do not use gender-specific language in CPI, that is, do not use the pronouns "he", "she", "his" or "hers". Instead rewrite the sentence using inclusive words and phrases.

Example: Avoiding Gender-Specific Language

Inclusive	*Gender-Specific*
The technician must check the terminal for errors every hour. *As this is an instruction, however, it would be better to write:* Check the terminal for errors every hour.	The technician must check his terminal for errors every hour.

See also the section Third-Person Point of View.

6.6 Metaphor and Simile

Do not use metaphors and similes in CPI.

Metaphor

A metaphor is formed when a descriptive, and often unrelated, term or phrase is applied to an object or action.

Examples: Metaphors

a glaring error
a lightning action
an astronomical performance

Simile

A simile is formed when an object or action is compared with another thing of a different kind using the word "like" or "as."

Examples: Similes

"O, my luve is like a red, red rose" *(Robert Burns, 1759 - 1796)*
Our goalkeeper is as useless as a chocolate teapot.

6.7 Point of View

Point of view is the perspective from which a document is written. The three points of view are as follows:

— First-person point of view (not used in CPI)

— Second-person point of view (used for procedure descriptions and instructions)

— Third-person point of view (used for descriptions)

First-Person Point of View

The first-person point of view puts the writer in the foreground and is appropriate for narratives. Writing in the first person uses the pronouns I, we, me, us, mine, and our. CPI *never* uses the first-person point of view.

Second-Person Point of View

The second person "you" is most appropriate for informal communication. The second-person point of view or active voice, however, is also acceptable in CPI to avoid confusing the reader with awkward wording using the third person or the passive voice.

When writing instructions, write the sentence in the imperative form so that "you" is implied but not stated.

Examples: Instruction with Implied "You"

1. Click **Start**.

Recycle the packaging in accordance with local regulations.

Note: Use the word "you" if it is necessary to make your text more comprehensible, but avoid its overuse.

Third-Person Point of View

The third-person point of view puts the subject in the foreground and is appropriate for descriptive technical writing. When referring to people, places, or objects, use third-person pronouns and the third-person point of view.

Note: The third-person pronouns indicating gender (for instance, he, she, his, or hers) are never used in CPI. See also Gender-Specific Language on page 61.

Example: Third-Person Point of View

A single cabinet contains a subrack with a wiring unit and a card cage. The cabinet can be fully or partly equipped with Printed Board Assemblies (PBAs).

Shifts in Person and Point of View

Avoid illogical shifts in person and point of view.

Example: Illogical Shift in Person and Point of View

The technician should disconnect the terminal and then you can then remove the cover.

Correcting the Illogical Shift in Person and Point of View

Disconnect the terminal before removing the cover.

6.8 Readability

This section contains descriptions of what to do and what not to do to improve the readability of your information.

6.8.1 Active and Passive Voice

Voice is the form a transitive verb takes to indicate whether the subject does the action or receives the action. A transitive verb requires a direct object.

Active Voice

Whenever possible, use the active voice in technical writing. A verb is in the active voice when the subject of the sentence does the action. The active voice is more direct, vigorous, and concise than passive voice.

Example: Active Voice

The software performs the checking procedure.

Passive Voice

Avoid using the passive voice in technical writing. The passive voice makes the subject of the sentence the receiver of the action.

Example: Passive Voice

The checking procedure is performed by the software.

The passive voice is used instead of the active voice when who or what does the action of the verb is unknown, unimportant, or unnecessary.

Example: Unspecified Performer

Status reports are produced daily.

6.8.2 Verb Tense

Tense is the form a verb takes to indicate the time, and the continuance or the completeness, of the action or state of being.

The present tense is used for writing descriptions and procedures.

Example: Present Tense

The CNCS is available in various configurations.

Do not use "can" or "will" to present facts.

Example: Avoiding the Use of "Can" and "Will"

Correct	*Incorrect*
The system is initialized.	The system will be initialized.
Turn off the terminal.	The technician can now turn off the terminal.

The past tense is reserved for documents such as reports that describe work or actions that have already occurred.

6.8.3 Consistency

When you are inconsistent in the use of words and terms, you reduce the readability of your message and confuse the reader. Some common places where inconsistencies occur are as follows:

Abbreviations and Symbols

Do not use symbols and abbreviations inconsistently. Follow the rules described in Abbreviations on page 21.

Acronyms Do not expand acronyms inconsistently.

Capitalization Do not capitalize words and terms inconsistently.

Hyphenated Words and Terms
Do not write or spell words and terms inconsistently.

Numbers Do not be inconsistent in the use of numbers.

As a rule, spell out numbers zero to nine. See also Numbers, Formulas, and Equations on page 33 for more information.

Spelling Do not spell words inconsistently. The first spelling listed in a dictionary is the preferred way to spell a word.

6.8.4 False Subjects

Avoid using the pronouns “there” and “it” when they do not refer to anything real. Such pronouns are called false subjects, and they make writing less clear and less concise. False subjects often occur at the beginning of a sentence, displacing the true subject.

Example: “There” as a False Subject
There are three types of function blocks.

This sentence is more effective written as follows:

Three types of function blocks are available.

Example: “It” as a False Subject
It is not necessary to restart the system.

This sentence is more effective written as follows:

The system does not need restarting.

Example: Using “There” As a False Subject within a Sentence
The manager said that there is enough work space for every employee.

This sentence is more effective written as follows:

The manager said that every employee has enough work space.

In the preceding example, the false subject “there” weakens the sentence. Removing the word “there” makes a stronger, shorter sentence. Sometimes, false

subjects are necessary. For example, “It is raining” and “It is noon” are common expressions. However, the need for such phrases is not too common in CPI.

6.8.5 Long Noun Phrases

Avoid long noun phrases with multiple modifiers. If possible, limit the length of a noun phrase to two modifiers. Use clauses and prepositional phrases that follow the noun to indicate the relationships among the nouns and modifiers, if necessary.

Example: Long Noun String

The department provided new computer spreadsheet application information. ("information" is the noun.)

Example: Avoid Long Noun String

The department provided new information about the spreadsheet applications.

6.8.6 Order in a Sentence

This section contains some simple ways to inject order into disordered sentences. Order makes sentences easier for the reader to understand, as follows:

Compound Elements in a Series

Place compound elements in a series last.

Example: Simple to Complex

Correct	*Incorrect*
FTP, Telnet, and web browser	web browser, FTP, and Telnet

Unintended Modifiers

Arrange sentence elements to avoid unintended modifiers.

Example: Unintended Modifiers

Correct	*Incorrect*
money-market rates and trade	trade and money-market rates

In the incorrect example, it seems that the whole phrase "trade and money-market" modifies the word "rates".

Short and Long

Count the syllables or the words of sentence elements and arrange the sentence elements from short to long.

Example: Short to Long Order

Correct	*Incorrect*
grapes and raspberries	raspberries and grapes
arts and letters	letters and arts

6.8.7 Overuse of "Be"

The most common verb in the English language is the linking verb "be". Its forms include the following: am, are, is, was, were, being, been.

Avoid overusing the conjugations of the verb "be". This verb is called a linking verb because it acts like an equal sign. So, writing dominated by the "be" verb is static and must be rewritten using action verbs.

Example: Avoiding the Use of "Be"

Strong	*Weak*
Network architecture defines the way a network is constructed.	The architecture of a network is the way a network is constructed.

6.8.8 Telegraphic Style

The telegraphic style condenses writing by omitting articles, pronouns, conjunctions, and transitional expressions. Verbs must never be omitted.

Avoid telegraphic style in CPI. This style can produce ambiguity because the reader is forced to mentally supply the omitted words. The telegraphic style is impossible to apply consistently.

Example: Telegraphic Style

Grasp knob and adjust lever.

The meaning of the telegraphic sentence is not clear. What does "adjust lever" mean? “Adjust” might be an adjective and, therefore, the intention of the instruction is to grasp the knob and the adjust lever. Or is the instruction to grasp the knob and adjust the lever? Without articles, the reader cannot tell whether the word "adjust" is used as an adjective or a verb.

For more information about using articles in titles, see Document Titles in CPI section 2.5.6.

6.9 That and Which

The words "that" and "which" are not interchangeable and are often misused, even by native English speakers.

When to Use “That”

Use "that" to introduce a restrictive clause. A restrictive clause is a part of the sentence that contains exact or essential information about how the noun it

refers to is understood. The restrictive clause restricts or limits the information about the noun. The information is necessary for the intended meaning of the sentence and if you remove the restrictive clause, then the meaning of the sentence changes. A restrictive clause never begins with a comma before the word “that”.

In the following examples, it is assumed that there are 15 switches located in various places on the unit, and 12 individual PIUs located on 12 individual shelves in the rack.

Example: Using “That”

To restart the system, turn on the switch that is located on the top of the unit.

Replace the PIU that is located on the fifth shelf.

In these examples, it is essential to the meaning of the sentence to know the exact location of the switch and the exact location of the PIU. There are 15 switches located all over the unit and it is not obvious to the user which particular switch they have to turn on. Similarly, there are 12 shelves each containing an individual PIU, so the user needs exact information directing them to the particular PIU and shelf.

When to Use “Which”

Use "Which" to introduce a nonrestrictive clause. The nonrestrictive clause is a part of the sentence usually containing additional information about the noun or information not essential to the meaning of the sentence. The additional information can be removed from the sentence without changing the meaning. A nonrestrictive clause always begins with a comma before the word “which”.

In the following examples, it is assumed that there is only one switch located on the unit and one PIU located in the shelf rack.

Example: Using “Which”

To restart the system, turn on the switch, which is located on the top of the unit.

Replace the PIU, which is located on the fifth shelf.

This procedure, which was introduced last December, simplifies the installation.

In the first example, it is not essential to the meaning of the sentence to know the exact location of the switch. There is one switch located at the top of the unit and it is clear to the user where the switch is located.

In the second example, there is only one shelf containing one PIU, so the user can immediately locate the PIU.

In the third example, when the procedure was introduced is informative but not essential to the meaning of the sentence.

7 Writing Conventions

This section outlines the writing conventions to be used in CPI to describe Graphical User Interfaces (GUIs), wizards, software elements, and so on.

When writing text for GUIs and wizards, however, follow the language rules of the CSM.

When incorporating pictures of GUIs into a document, see Illustration Style Manual for the correct formats, line thicknesses, and so on.

7.1 GUI Components

Figure 4 shows the main components of a GUI window.

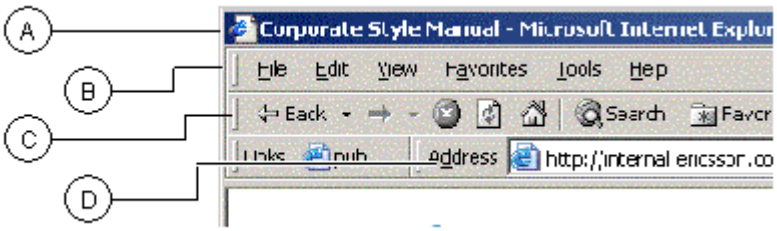


Figure 4 Main Components of a GUI Window

Key

A	Title bar
B	Menu bar
C	Toolbar
D	Address bar

Other GUI and Software Terms

Shortcut Menu	A shortcut menu is displayed when you right-click, for example, a selection, a toolbar, or a taskbar button. It lists commands pertaining only to that screen region or selection.
Pop-up menu	Shortcut menu is preferable in end-user documents. Pop-up menu is not a synonym for dialog box.

7.2 Typographic Conventions

This section gives a brief overview of the typographic conventions used in CPI. For a full description, see Typographic Conventions in CPI.

User Input

A command that must be entered exactly as shown is written using bold mono-spaced font.

Example: User Input

Enter the command **`cd $HOME`**.

Command Variable

Command variables, the values of which must be supplied by the user, are written using bold mono-spaced italic font and enclosed in angle brackets (< >).

Example: Command Variable

Enter the command **`cd <home-directory>`** to return to your own directory.

The use of "hooks", the less than (<) and greater than (>) symbols, to indicate a variable, draws the reader's attention to the fact that a variable is to be used when, in some formats, italic text might not be obvious.

Document Titles

Document titles, referred to from the text, are written in *italic* script.

In print format, when a reference list is included in the document, the title is followed by a comma and the reference number of the document in the reference list; see Reference List on page 17.

Example: Document Title when Printed

See *Illustration Style Manual*, Reference [1].

Example: Document Entry in Reference List

[4] *Illustration Style Manual*, 10/000 21-FCK 101 05 Uen

In HTML online format, a link is made directly to the document and the document title appears as all other links (URLs), that is in blue, underlined text.

Example: Document Title Online

See Illustration Style Manual.

Note: When referencing links within a document, links to other documents, and URLs, use "see" instead of "refer to". For example:

Correct

For information about CPI, see CPI Methods.

Incorrect

For information about CPI, refer to CPI Methods.

GUI Object

To describe GUI objects, including menus, fields, and buttons, use bold font.

Example: GUI Objects

Click **OK** to save the changes.

Key Combination

To describe key combinations use bold.

Example: Key Combinations

Press **Esc F S** to save.

Press **Ctrl+X** to delete the selected value.

System Elements

Command, parameter, program, path, and directory names are written using mono-spaced font.

Example: System Elements

The files are located in `E:\Test`.

URL

Uniform Resource Locators (URLs) are underlined and in blue.

Example: URLs

Further information can be found in the document Typographic Conventions in CPI, http://calstore.internal.ericsson.com/alexserv?ac=searchext&LI=EN/LZN7990031R*&st=docno&pa=9/00021-fck10105uen*.

Output Information

Text that is displayed by the system is written using mono-spaced font.

Example: Output Information

```
Program terminating …
```

Code Example

Examples of code are written using mono-spaced font

Example: Code

```
static char* months[] = { "Jan",\ "Feb" };
```

8 Bibliography

The books in this section are sources of information and good practice for writers of CPI.

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3. KIRKMAN, JOHN (1992) Good Style, *writing for science and technology*, E & FN Spon, ISBN 0-419-17190-8
4. MARSH, DAVID (2013), For Who the Bell Tolls, Guardian Books, ISBN: 978-1783350124
5. Microsoft Manual of Style for Technical Publications (4th Edition), Microsoft Press U.S, ISBN 978-0-4871-5
6. QUIRK, R. and GREENBAUM, S (1973) A University Grammar of English, Longman, ISBN 0-852-55207-9
7. STRUNK, W. jr. and WHITE, E.B. (2000) The Elements of Style (4th Edition), Longman, ISBN 0-205-30902-X

CSM Supplements

- Copyright, Disclaimer, and Trademarks in CPI
- CPI Word List
- Illustration Style Manual
- Typographic Conventions in CPI
- Writing Indexes

9 Glossary

acronym
An initialism that can be pronounced as a word, for example, NATO.

The CSM uses the term "acronym" for both acronyms and initialisms.

adjective
(part of speech)

A word that modifies or describes a noun or pronoun.

adverb
(part of speech)

A word that modifies a verb.

Boolean
The name of a system of algebraic notation to represent logical propositions.

clause
(part of speech)

A part of a sentence that contains a subject and a predicate.

CLI
Command-Line Interface

An interface in which a command line is displayed with a prompt that is waiting to accept instructions from the user. The user types the command, the computer acts on that command and then issues a new prompt for the next instruction from the user.

compound adjective

An adjective made up of more than one word, the words usually being hyphenated.

CPI
Customer Product Information

The technical information needed to handle Ericsson products throughout the product life cycle.

CSM
Corporate Style Manual

This document, containing the rules, guidelines, and references to guidelines to help writers of CPI produce effective information for their intended audience.

GUI
Graphical User Interface

	An interface between the software and the user that takes advantage of the graphical capabilities of the computer.
initialism	An abbreviation formed from the initial letters of a phrase; see acronym.
ISM	Illustration Style Manual A document containing rules and guidelines for producing illustrations and including them in Ericsson CPI.
ISO	International Organization for Standardization A global network of national standard organizations that identifies and promotes international standards.
noun	*(part of speech)* A word or a group of words that identifies a class of persons, places, or things.
part of speech	A class of words distinguished according to its function performed in a sentence, for example, verb.
PDF	Portable Document Format A file format developed by Adobe Systems. PDF captures formatting information from various desktop publishing applications.
phrasal verb	A phrase made up of a verb and a preposition that is used as a single verb, for example, turn over.
predicate	What is said about the subject of a sentence.
preposition	*(part of speech)* A word (usually preceding) a noun that expresses the relationship of the noun to another word or to a phrase.
pronoun	*(part of speech)* A word used instead of and to indicate a noun already mentioned or known to avoid repetition.
sentence	A grammatically complete unit in either writing or speech, marked by a clear beginning and a full stop and usually expressing an independent statement, question, command, or the like.

SGML — Standard Generalized Markup Language

A system for organizing and tagging elements of information. SGML was standardized by the International Organization for Standards (ISO) in 1986. SGML itself does not specify any particular formatting; rather, it specifies the rules for tagging elements. These tags can then be interpreted to format the elements in specific ways.

URL — Uniform Resource Locator

The global address of documents and other resources on the World Wide Web.

verb — *(part of speech)*

A word or phrase that describes an action, condition, or experience. *See also* phrasal verb.

vulgar fraction — A fraction written using numerator and denominator, not decimally.

XML — Extensible Markup Language

A specification developed by the World Wide Web Consortium (W3C). XML is a simpler version of SGML, designed especially for Web documents.

wizard — A Wizard is a GUI designed to help the user complete a potentially complex procedure.