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(IPC UNION)

IPC Scheme Master Files Specification

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| --- | --- | --- | --- | --- |
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# Introduction

The purpose of this document is to provide complementary details to the “IPC Master File specification”, used as reference document and to its related XML Schemas:

* ipc\_scheme\_3-1.xsd
  + inc-scheme\_3-1.xsd
    - inc-types\_3-1.xsd

It describes the structure and content of the International Patent Classification (IPC) scheme file and documents information found in the corresponding XML schema or DTD.

# Background

In 2005 along with the IPC Reform, the IPC master files essentially in XML format were redefined as the complementary set of files necessary to create each IPC publication. Complementary should be understood as limiting to the maximum possible extent the presence of redundant information (e.g. deletions which are a special type of modifications are found in the file compiling all modifications (“compilation”).

The IPC Scheme Master file is one of those.

It should be noted that in their current situation this file reflects:

* Requirements from the IPC reform,
* later amendments, in particular IPC CE 41 decisions and the wish expressed by IPC Member States to introduce the smallest possible amount of modification at this opportunity

For the above reasons some of the objects or object names in this file do not necessarily match any longer what the current IPC requirements are as from IPC 2011.01. In particular:

1. The notions of “Core level” respectively “Advanced level” are discontinued but stay in the scheme file for backward compatibility reasons. As form IPC 2011.01, the meaning of “Core level” respectively “Advanced level” in this file should be understood as “maingroup” respectively “full IPC”.

(ii) The notion of “Core predecessor” is discontinued but for backward compatibility reasons, is kept in the file and filled in with “maingroup”).

* The scheme file is intended for upload into IT systems each time a new version of the IPC becomes available.
* A single reference file is produced for the IPC From this reference file different forms of the same file or of a subset of this file can be easily produced. In the following, “scheme file” refers to the reference scheme file.

The format of this file is XML i.e. primarily an exchange format aiming at easy interface between IT systems of different types and infrastructure independent.

This specification precisely describes the information exchanged while limiting the presence of redundant information among IPC master files. It attempts to use, wherever possible, reference to International Standards, in particular WIPO ST.8 and WIPO ST.36.

The attempt to have in this XML file only items describing IPC information independently of a particular rendition partially failed for historical reasons. Therefore, several items dealing with particular IPC layout are still present in this file.

# Content of the file

In term of information, this is the complete picture of the live part of the IPC scheme for the current version of the IPC.

It should be noted that the current version of the IPC XML scheme does not implement MathMl or ChemMl and that the text of the scheme files refers to image files included as needed in specific technical domains like chemistry or mathematics.

**IPC scheme object**

The file contains a list of compound IPC scheme objects, each including

* One IPC entry (ipcEntry)
* Properties of the IPC entry (symbol, type …)
* Descriptive part of the IPC entry (title, note …)
* A list of children IPC entries.

## Information hierarchy

The structure is designed for one or more set of IPC entries and **one** language.

The different hierarchy levels of IPC entries, from top to down, are: section, class, sub-class, main group and 11 levels of groups (one to eleven dots).

**Non-structured entries**

These kinds of entry do not contain child entry:

* Sub-section title: classes may be divided by sub-section titles within a section.
* Guidance headings: main groups may be divided by guidance headings within a sub-class.
* Note: may apply to a single entry or a range of entries.
* Sub-class index: may apply to a single entry or a range of entries.

## Root element

In the case of IPC scheme, the root element name is IPCScheme.

#### IPC Scheme element properties

##### **Version**

The IPC Version associated to this file, indicates the date of entry into force of the corresponding IPC version.

Name: edition

Value: see description of “IPC Version” in “IPC Master File Specification”.

##### **Lang**

Name: lang

Value: see description of “IPC data language code” in “IPC Master File Specification”.

## IPC entry properties

### Kind

Name: kind

Value:

* s = section
* t = sub-section title
* c = class
* i = sub-class index
* u = sub-class
* g = guidance heading
* m = main group
* 1 to B = 11 levels of group (hexadecimal notation)
* n = note

### Symbol

Name: symbol

Value: An IPC Symbol, see description of “IPC Symbol” in “IPC Master File Specification”.

### End symbol

OPTIONAL

Name: endSymbol

Value: same as *symbol* (see above).

**Note**: endSymbol property may be specified when a sub-section title, a sub-class index, a note or a guidance heading kind of entry applies to a range of symbols.   
In such case, symbol property value stand for the first symbol of the range and endSymbol property value for the last one.

The value of endSymbol property must be a symbol with the same kind property value as the one specified for symbol property value (i.e. a sibling symbol).

If endSymbol property value equals symbol property one then the range is limited to the specified symbol.

If endSymbol property is not specified then the range ends with the last sibling of the symbol specified for symbol property value (i.e. the range ends with the last child of the parent symbol).

### Entry type

Name: entryType

Value:

* K = classification symbol (default, i.e. for classification purpose only)
* I = Indexing symbol (i.e. for indexing purpose only)
* D = Double purpose classification symbol (i.e. for both classification and indexing purpose) – existed only prior to the IPC reform
* Z = problematic entry (i.e. structure and/or contents have been partially converted from CPC or FI)

### Classification Scheme of origin

Name: scheme

Value:

* ipc (default)
* cpc = CPC entry converted to IPC-like structure
* fi = FI entry converted to IPC-like structure

### Version indicators

Name: edition

Value: comma separated list of IPC Version(s), see description of “IPC Version” in “IPC Master File Specification”.

## Descriptive part of the IPC entry

Every IPC entry starts with a text body (textBody).

Depending on the kind of entry, the text body includes one of these elements:

* note: kind=n
* index: kind=i
* title: any other value

### NOTE

A note is made of one or more paragraphs (noteParagraph) which may also contain a sub-note (subnote).

#### Properties

##### **Prefix style**

Name: type

Value: none (default), number, Roman, roman, Alpha or alpha

Purpose: the text, starting all paragraphs within the note, is prefixed by a number.  
Numbering is in either Arabic, Roman or Alphabetic form, each in uppercase or lowercase.

##### **Indentation**

Name: indent

Value: 0 or n

Purpose: all paragraphs are displayed as an indented (level n) or a flat (0) list.

### Note: paragraph

There are two alternative models of content for a note paragraph:

* a descriptive paragraph starting with a text *(see common element: text)*, to which note properties apply *(see 0)*, followed by a sub-note (subnote) and/or a non-numbered paragraph (orphan),
* or a reference paragraph which a list of entry references *(see common element: references)* followed by a text *(see common element: text).*

### Note: non-numbered paragraph

A non-numbered paragraph (orphan) is like a note paragraph to which the prefix property of its note ancestor does not apply.

#### Properties

##### **Indentation**

Name: indent

Value: 0 or 1

Purpose: all paragraphs are displayed as an indented (1) or a flat (0) list.

### Note: sub-note

A sub-note (subnote) element has the same content model and properties as a root note *(see 3.4.1)*.

### INDEX

An index is a nested list of index entries (indexEntry).

### Index: entry

An index entry (indexEntry) starts with one text *(see common element: text)* followed by an optional list of entry references *(see common element: references)* and some index sub-entries (indexEntry).

An index entry which text is not followed by a list of references stands for the title of the embedded sub-entries.

Thus an index entry should never contain text alone.

### TITLE

A title is a list of title parts (titlePart).

### Title: part

A title part (titlePart) starts with one text *(see common element: text)* followed by an optional sequence of entry reference (entryReference) elements.

### Title: entry reference

The content model of an entry reference (entryReference) element is the same as a text element *(see common element: text)*.

Entry references *(see common element: sref, mref)* are usually grouped at the end of each entry reference element and are separated by a comma and a space.

## COMMON ELEMENTS

These elements are the one used within note, index and title elements described above.

### text

This element content model is a mixed list of optional:

* UTF-8 encoded Unicode characters,
* entry reference elements: sref, mref,
* rich text elements: (u)nderline (sub)scripts, (sup)erscript,
* external image references: img,

### references

This element content model is a mixed list of elements which are references to a symbol (sref) or to a range of symbols (mref).

Symbol reference elements may be separated by some characters (usually a comma followed by a space).

### sref

This element is used to reference a single IPC entry.

#### Properties

##### **Target entry symbol**

Name: ref

Value: An IPC Symbol, see description of “IPC Symbol” in “IPC Master File Specification”.

### mref

This element is used to reference a range of IPC entries.

#### Properties

##### **Target range first symbol**

Name: ref

Value: An IPC Symbol, see description of “IPC Symbol” in “IPC Master File Specification”.

##### **Target entry last symbol**

Name: endRef

Value: An IPC Symbol, see description of “IPC Symbol” in “IPC Master File Specification”.

### u

This element is used to indicate the rendition process that embedded elements contents are to be displayed underlined.

This element content model is a mixed list of optional:

* UTF-8 encoded Unicode characters,
* entry reference elements: sref, mref,

### sub

This element is used to indicate the rendition process that embedded characters are to be displayed subscripted.

This element contents are UTF-8 encoded Unicode characters.

### sup

This element is used to indicate the rendition process that embedded characters are to be displayed superscripted.

This element contents are UTF-8 encoded Unicode characters.

### img

This element is used to reference an external image file.

The rendition process should replace this reference by an image view of the referenced file content.

#### Properties

##### **Image file name**

Name: src

Value: a filename with extension (not a path)

# Samples: extracts of IPC Scheme file for IPC Version 2016.01

## Example of IPC Scheme XML Master File showing top level elements

<?xml version="1.0" encoding="UTF-8"?>

<IPCScheme edition="20160101" lang="EN" xmlns="http://www.wipo.int/classifications/ipc/masterfiles" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.wipo.int/classifications/ipc/masterfiles ipc\_scheme\_1-05.xsd">

<ipcEntry kind="s" symbol="A" entryType="K">

<textBody>

<title>

<titlePart>

<text>HUMAN NECESSITIES</text>

</titlePart>

</title>

</textBody>

…

</ipcEntry>

…

</ipcEntry>

</ipcEdition>

## Section A and its sub-section titles

…

<**ipcEntry** **kind="s" symbol="A"** entryType="K" >

<textBody>

<title>

<titlePart>

<text> HUMAN NECESSITIES</text>

</titlePart>

</title>

</textBody>

<**ipcEntry kind="t"** symbol="A01" entryType="K">

<textBody>

<title>

<titlePart>

<text>AGRICULTURE</text>

</titlePart>

</title>

</textBody>

</**ipcEntry**>

<ipcEntry kind="c" symbol="A01" entryType="K">…</ipcEntry>

…

**<ipcEntry kind="t"** symbol="A21" endSymbol="A24" entryType="K">

<textBody>

<title>

<titlePart>

<text>FOODSTUFFS</text>

</titlePart>

<titlePart>

<text>TOBACCO</text>

</titlePart>

</title>

</textBody>

**</ipcEntry>**

<ipcEntry kind="c" symbol="A21" edition="19680901,20060101" entryType="K">…</ipcentry>

…

</**ipcEntry**>

…

## Section B with note and sub-class index

…

**<ipcEntry kind="s" symbol="B"** entryType="K>

<textBody>…</textBody>

<ipcEntry kind="t" symbol="B01" endSymbol="B09" entryType="K"  
 >…</ipcEntry>

**<ipcEntry kind="n"** symbol="B01" endSymbol="B07" entryType="K"   
 >

<textBody>

<note type="none">

<noteParagraph>

<text>The following notes are meant to assist in the use of this part of   
 the classification scheme; they must not be read as modifying in   
 any way the elaborations.</text>

<subnote type="number" indent="1">

<noteParagraph>

<text>In this sub-section, the separation of different materials, e.g.   
 of different matter, size, or state, is predominantly found in   
 the following subclasses: </text>

<subnote type="none" indent="2">

<noteParagraph>

<text>

<sref ref="B01D"/>

</text>

</noteParagraph>

<noteParagraph>

<text><sref ref="B03B"/>, <sref ref="B03C"/>,   
 <sref ref="B03D"/></text>

</noteParagraph>

<noteParagraph>…</noteParagraph>

</subnote>

</noteParagraph>

…

</subnote>

</noteParagraph>

</note>

</textBody>

**</ipcEntry>**

**<ipcEntry kind="i"** symbol="B01" endSymbol="B07" edition="20060101"   
 entryType="K">

<textBody>

<index>

<indexEntry>

<text>LIQUID/LIQUID, LIQUID/GAS OR GAS/GAS SEPARATION</text>

<indexEntry>

<text>Method</text>

<indexEntry>

<text>General operations</text>

<references>

<sref ref="B01D"/>

</references>

<indexEntry>

<text>by centrifugal force, using centrifuges or free-vortex   
 apparatus</text>

<references>

<sref ref="B01D"/>

</references>

</indexEntry>…</indexEntry>

</indexEntry>

</indexEntry>

…

</indexEntry>

</index>

</textBody>

**</ipcEntry>**

<ipcEntry kind="c" symbol="B01" entryType="K"   
 >…</ipcEntry>

…

**</ipcEntry>**

**…**

## Sub-class A01D and its sub-class index and guidance headings

…

**<ipcEntry kind="u" symbol="A01D"** entryType="K">

<textBody>…</textBody>

<ipcEntry kind="n" symbol="A01D" entryType="K">…</ipcEntry>

**<ipcEntry kind="i"** symbol="A01D" entryType="K">

<textBody>

<index>

<indexEntry>

<text>HAND IMPLEMENTS</text>

<indexEntry>

<text>Cutting implements, rakes, forks, others </text>

<references><sref ref="A01D0001000000"/>,   
 <sref ref="A01D0007000000"/>,   
 <sref ref="A01D0009000000"/>,   
 <sref ref="A01D0011000000"/></references>

</indexEntry>

<indexEntry>…</indexEntry>

</indexEntry>

…

</index>

**</ipcEntry>**

**<ipcEntry kind="g"** symbol="A01D0001000000" endSymbol="A01D0011000000" entryType="K">

<textBody>

<title>

<titlePart>

<text>Hand implements</text>

</titlePart>

</title>

</textBody>

**</ipcEntry>**

<ipcEntry kind="m" symbol="A01D0001000000" entryType="K">…</ipcEntry>

…

**<ipcEntry kind="g"** symbol="A01D0013000000" endSymbol="A01D0033000000" entryType="K" >…**</ipcEntry>**

<ipcEntry kind="m" symbol="A01D0013000000" entryType="K">…</ipcEntry>

…

**</ipcEntry>**

…

## Main group A01D 34/00 and its groups hierarchy

…

**<ipcEntry kind="m" symbol="A01D0034000000"** edition="19850101" entryType="K">

<textBody>

<title>

<titlePart>

<text>Mowers</text>

**<entryReference>**combined with apparatus performing additional operations   
 while mowing   
 **<mref** ref="A01D0037000000" endRef="A01D0041000000"/>,   
 **<sref** ref="A01D0043000000"/></entryReference>

<entryReference>convertible to apparatus for purposes other than mowing   
 or capable of performing operations other than mowing   
 <sref ref="A01D0042000000"/></entryReference>

</titlePart>

<titlePart>

<text>Mowing apparatus of harvesters</text>

</titlePart>

</title>

</textBody>

<ipcEntry kind="n" symbol="A01D0034000000" edition="20060101" entryType="K">…</ipcEntry>

</ipcEntry>

**<ipcEntry kind="1" symbol="A01D0034010000"** edition="20000101" entryType="K">

<textBody>…</textBody>

<**ipcEntry kind="2" symbol="A01D0034020000"**  
 edition="19850101,20000101" entryType="K">

<textBody>…</textBody>

…

**</ipcEntry>**

…

**</ipcEntry>**

…

**</ipcEntry>**

**…**

End of document