Electronic Information Products Division

U.S. Patent Grant Data / XML v4.3 (a.k.a. Red Book)
Documentation identifying AIA and CPC XML Changes

XML Tag and Descriptions December 4, 2012

<classifications-cpc>: The <classifications-cpc> element is optional and will occur one time within the <us-bibliographic-data-grant> and <us-bibliographic-data-application> element and contain the main-cpc (classification-cpc), a further-cpc element with one or more classification-cpc element and a combination-set with one or more classification-cpc element and terminated by the </classifications-cpc> end tag.

{- - <!ELEMENT classifcations-cpc (main-cpc, further-cpc?)> <!ATTLIST classifications-cpc id ID #IMPLIED> - - }

<main-cpc>: The <main-cpc> element is mandatory and will occur one time within the <classifications-cpc> element and contain the Main CPC Classification and be terminated by the </main-cpc> end tag. { - - <!ELEMENT main-cpc (classification-cpc)> <!ATTLIST main-cpc id ID #IMPLIED> - - }

<classification-cpc>: {- - <!ELEMENT classification-cpc (cpc-version-indicator, section, class, subclass, main-group, subgroup, symbol-position, classification-value, action-date, generating-office, classification-status?, classification-data-source?, scheme-origination-code?)> <!ATTLIST classification-cpc id ID #IMPLIED sequence CDATA #IMPLIED> - - }

<cpc-version-indicator>: The <cpc-version-indicator> element will occur one time within the <main-cpc> element and contain an 8-position numeric date in the format YYYYMMDD identifying the classification publication date and be terminated by a </cpc-version-indicator> end tag.

Example: <cpc-version-indicator><date>YYYYMMDD</date></cpc-version-indicator>

<date></date></cpc-version-indicator>

<section>: The <section> element will occur one time within the <main-cpc> element and contain a 1-position alphabetic (uppercase) – possible value can be “A through H” and terminated by a </section> end tag. The section is the highest hierarchical level within the classification scheme and as such it represents the whole body of knowledge which may be regarded as proper to the field of Classification.</section>

<class>: The <class> element will occur one time within the <main-cpc> element and contain a 2-position numeric class-type attribute and be terminated by a </class> end tag. The code denotes the second level subdivision of the classification scheme and as such it is a further breakdown of the section’s broad technical fields into high level subject matter.</class>

<subclass>: The <subclass> element will occur one time within <main-cpc> element and contain a 1-position alphabetic (uppercase) – possible value can be “A through Z” and be terminated by a </subclass> end tag. The code denotes the third level subdivision of the

classification scheme and as such it is a further breakdown of subject matter into more novel subject matter.</subclass>

<main-group>: The <main-group> element will occur one time within the <main-cpc> element and contain a 1 to 4 positions numeric and terminated by a </main-group> end tag. The code denotes the fourth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. </main-group>

<subgroup>: The <subgroup> element will occur one time within the <main-cpc> element and contain a 2 to 6 positions numeric and terminated by a </subgroup> end tag. The code denotes the fifth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter.</subgroup>

<symbol-position>: The <symbol-position> element will occur one time within the <main-cpc> element and contain 1-position alphabetic (uppercase) – “F” defining “first” for the sole or first “invention information” CPC, or “L” defining “later” for any second and succeeding “invention information” CPC and for any “non-invention information” CPC. And, terminated by a </symbol-position> end tag. The code that specifies the position of the classification symbol. </symbol-position>

<classification-value>: The <classification-value> element will occur one time within the <main-cpc> element and contain a 1-position alphabetic (uppercase) – “I” defining “invention information” or “N” defining “non-invention information”. And, terminated by a </classification-value> end tag. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. </classification-value>

<action-date>: The <action-date> element will occur one time within the <main-cpc> element and contain an 8-position numeric date in the format YYYYMMDD. This date will be issue date of the patent document. And, terminated by a </action-date> end tag. Example: <action-date><date>YYYYMMDD</date></action-date><date></date></action-date>

<generating-office>: The <generating-office> element will occur one time within the <main-cpc> element and contain a 2-position alphabetic (uppercase) country code identifying the generating Intellectual Property Office and terminated by a </generating-office> end tag.

<country>: <country>US</country> identifying United States as the generating Intellectual Property Office of this patent document being issued </country></generating-office>

<classification-status>: The <classification-status> element will occur one time within the <main-cpc> element and contain a 1-position alphabetic (uppercase) – “B” defining “Basic or Original” and terminated by a </classification-status> end tag. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. </classification-status>

<classification-data-source>: The <classification-data-source> element will occur one time within the <main-cpc> element and contain a 1-position alphabetic (uppercase) – “H” defining “Human-Generated”, a future source can be “M” defining “Machine-Generated” and “G” defining “Generated via Software”. And, terminated by a </classification-data-source> end tag. The code that describes the source of the allocation of the symbol to the patent document. </classification-data-source>

<scheme-organization-code>: The <scheme-organization-code> element will occur one time within the <main-cpc> element and contain a 1-position alphabetic code denoting which patent classification scheme the symbol orginates from. And, terminated by a </scheme-organization-code> end tag. </scheme-organization-code></classification-cpc></main-cpc>

<further-cpc>: The <further-cpc> element is optional and will occur one or more classification-cpc element and an optional combination-set with one or more classification-cpc element. And terminated by the </further-cpc> end tag. {- - <!ELEMENT further-cpc(classification-cpc*, combination-set*)> <!ATTLIST further-cpc id ID #IMPLIED>- - }

<classification-cpc>: {- - <!ELEMENT classification-cpc (cpc-version-indicator, section, class, subclass, main-grou, subgroup, symbol-position, classification-value, action-date, generating-office, classification-status?,classification-data-source?, scheme-origination-code?)> <!ATTLIST classification-cpc id ID #IMPLIED sequence CDATA #IMPLIED >- - }

<cpc-version-indicator>: The <cpc-version-indicator> element will occur one time within each <furterh-cpc> element and contain an 8-position numeric date in the format YYYYMMDD and terminated by a </cpc-version-indicator> end tag. Example: <cpc-version-indicator><date>YYYYMMDD</date></cpc-version-indicator><date></date></cpc-version-indicator>

<section>: The <section> element will occur one time within each <furterh-cpc> element and contain a 1-position alphabetic (uppercase) – possible value can be “A through H” and terminated by a </section> end tag. The section is the highest hierarchical level within the classification scheme and as such it represents the whole body of knowledge which may be regarded as proper to the field of Classification. </section>

<class>: The <class> element will occur one time within each <further-cpc> element and contain a 2-position numeric class-type attribute and terminated by a </class> end tag. The code denotes the second level subdivision of the classification scheme and as such it is a further breakdown of the section’s broad technical fields into high level subject matter. </class>

<subclass>: The <subclass> element will occur one time within each <further-cpc> element and contain a 1-position alphabetic (uppercase) – possible value can be “A through Z” and terminated by a </subclass> end tag. The code denotes the third level subdivision of the classification scheme and as such it is a further breakdown of subject matter into more novel subject matter. </subclass>

<main-group>: The <main-group> element will occur one time within each <further-cpc> element and contain a 1 to 4 positions numeric and terminated by a </main-group> end tag. The code denotes the fourth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. </main-group>

<subgroup>: The <subgroup> element will occur one time within each <further-cpc> element and contain a 2 to 6 positions numeric and terminated by a </subgroup> end tag. The code denotes the fifth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. </subgroup>

<symbol-position>: The <symbol-position> element will occur one time within each <further-cpc> element and contain 1-position alphabetic (uppercase) – “F” defining “first” for the sole or first “invention information” CPC, or “L” defining “later” for any second and succeeding “invention information” CPC and for any “non-invention information” CPC. And, terminated by a </symbol-position> end tag. The code that specifies the position of the classification symbol. </symbol-position>

<classification-value>: The <classification-value> element will occur one time within each <further-cpc> element and contain a 1-position alphabetic (uppercase) – “I” defining “invention information” or “N” defining “non-invention information”. And, terminated by a </classification-value> end tag. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. </classification-value>

<action-date>: The <action-date> element will occur one time within each <further-cpc> element and contain an 8-position numeric date in the format YYYYMMDD. This date will be the issue date of the patent document. And, terminated by a </action-date> end tag. Example: <action-date><date>YYYYMMDD</date></action-date><date></date></action-date>

<generating-office>: The <generating-office> element will occur one time within each <further-cpc> element and contain a 2-position alphabetic (uppercase) country code identifying the generating Intellectual Property Office and terminated by a </generating-office> end tag.

<country>:<country>US</country> identifying United States as the generating Intellectual Property Office of this patent document being issued. </country></generating-office>

<classification-status>: The <classification-status> element will occur one time within each <further-cpc> element and contain a 1-position alphabetic (uppercase) – “B” defining “Basic or Original” and terminated by a </classification-status> end tag. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. </classification-status>

<classification-data source>: The <classification-data source> element will occur one time within each <further-cpc> element and contain a 1-position alphabetic (uppercase) – “H” defining

“Human-Generated”, a future source can be “M” defining “Machine-Generated” and “G” defining “Generated via Software”. And, terminated by a </classification-data source> end tag. The code that describes the source of the allocation of the symbol to the patent document. </classification-data source>

<scheme-organization-code>: The <scheme-organization-code> element will occur one time within the <further-cpc> element and contain a 1-positioin alphabetic code denoting which patent classification scheme the symbol originates from. And, terminated by a </scheme-organization-code> end tag. </scheme-organization-code></classification-cpc>

<combination-set>: {- - <!ELEMENT combination-set(group-number, combination-rank+)> <!ATTLIST combination-set id ID #IMPLIED> <!ELEMENT combination-rank(rank-number,classification-cpc)><!ATTLIST combination-rank id ID #IMPLIED><!—The sequential number that is used to identify the rank of a Symbol in a grouping of Combination Symbols allocated to a Family. --><!ELEMENT rank-number(#PCDATA)> - - }. A combination set is a group of CPC symbols that have one base class and one or more subsequent ranked symbols that are linked together to convey special classification information.

<group-number>: The <group-number> element will occur one time within each <combination-set> element and contain a sequential number that is used to identify the rank of a symbol within a combination set. (Order of the symbols is important). And, terminated by a </combination-rank> end tag.

<rank-number>: The <rank-number> element will occur one time within each <combination-rank> element and contain a numeric value and terminated by a </rank-number> end tag. </rank-number>

<classification-cpc>: {- - <!ELEMENT classification-cpc(cpc-version-indicator, section, class, subclass, main-group, subgroup, symbol-position, classification-value, action-date, generating-office, classification-status?, classification-data-source?, scheme-origination-code?)><!ATTLIST classification-cpc id ID #IMPLIED sequence CDATA #IMPLIED> - - }

<cpc-version-indicator>: The <cpc-version-indicator> element will occur one time within each <combination-rank> element and contain an 8-position numeric date in the format YYYYMMDD and terminated by a </cpc-version-indicator> end tag. Example: <cpc-version-indicator><date>YYYYMMDD</date></cpc-version-indicator><date></date></cpc-version-indicator>

<section>: The <section> element will occur one time within each <combination-rank> element and contain a 1-position alphabetic (uppercase) – possible value can be “A through H” and terminated by a </section> end tag. The section is the highest hierarchical level within the classification scheme and as such it represents the whole body of knowledge which may be regarded as proper to the field of Classificiation. </section>

<class>: The <class> element will occur one time within each <combination-rank> element and contain a 2-position numeric class-type attribute and terminated by a </class> end tag. The code denotes the second level subdivision of the classification scheme and as such it is a further breakdown of the section's broad technical fields into high level subject matter.

<subclass>: The <subclass> element will occur one time within each <combination-rank> element and contain a 1-position alphabetic (uppercase)- possible value can be "A through Z" and terminated by a </subclass> end tag. The code denotes the third level subdivision of the classification scheme and as such it is a further breakdown of subject matter into more novel subject matter. </subclass>

<main-group>: The <main-group> element will occur one time within each <combination-rank> element and contain a 1 to 4 positions numeric and terminated by a </main-group> end tag. The code denotes the fourth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. </main-group>

<subgroup>: The <subgroup> element will occur one time within each <combination-rank> element and contain a 2 to 6 positions numeric and terminated by a </subgroup> end tag. The code denotes the fifth level subdivision of the classification scheme and as such it is a further breakdown of the novel subject matter. </subgroup>

<symbol-position>: The <symbol-position> element will occur one time within each <combination-rank> element and contain a 1-position alphabetic (uppercase) – "F" defining "first" for the sole or first "invention information" CPC, or "L" defining "later" for any second and succeeding "invention information" CPC and for any "non-invention information" CPC. And, terminated by a </symbol-position> end tag. The code that specifies the position of the classification symbol. </symbol-position>

<classification-value>: The <classification-value> element will occur one time within each <combination-rank> element and contain a 1-position alphabetic (uppercase) – "I" defining "invention information" or "N" defining "non-invention information". And, terminated by a </classification-value> end tag. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. </classification-value>

<action-date>: The <action-date> element will occur one time within each <combination-rank> element and contain a 8-position numeric date in the format YYYYMMDD. This date will be the issue date of the patent document. And, terminated by a </action-date> end tag. Example: <action-date><date>YYYYMMDD</date></action-date><date></date></action-date>

<generating-office>: The <generating-office> element will occur one time within each <combination-rank> element and contain a 2-position alphabetic (uppercase) country code identifying the generating Intellectual Property Office and terminated by a </generating-office> end tag.

<country>: <country>US</country> identifying United States as the generating Intellectual Property Office of this patent document being issued. </country></generating-office>

<classification-status>: The <classification-status> element will occur one time within each <combination-rank> element and contain a 1-position alphabetic (uppercase) – “B” defining “Basic or Original” and terminated by a </classification-status> end tag. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. </classification-status>

<classification-data-source>: The <classification-data-source> element will occur one time within each <combination-rank> element and contain a 1-position alphabetic (uppercase) – “H” defining “Human-Generated”, a future source can be “M” defining “Machine-Generated” and “G” defining “Generated via Software”. And, terminated by a </classification-data-source> end tag. The code that describes the source of the allocation of the symbol to the patent document. </classification-data-source>

<scheme-organization-code: The <scheme-organization-code> element will occur one time within each <combination-rank> element and contain a 1-position alphabetic code denoting which patent classification scheme the symbol originates from. And, terminated by a </scheme-organization-code> end tag. </scheme-organization-code></classification-cpc><combination-rank></combination-set>

<us-references-cited>: This <us-references-cited> element is mandatory and will occur one time within the <us-bibliographic-data-grant> element and terminated by the </reference-cited> end tag. The sequence of References Cited will be as follows: U.S. Patent Documents (required); Note: References cited will not be present for a US Plant Patent. Foreign Patent Documents (optional) Other Publications (optional). {- - <!ELEMENT us-references-cited (text | (us-citation+, date-search-completed? , date-search-report-mailed? , place-of-search? , search-report-publication?, searcher?))> - - }

<us-citation>: The <us-citation> element is mandatory and will occur one or more times, within the <us-references-cited> element and terminated by the </us-citation> end tag. Each <us-citation> element identifies a reference that is cited by the patent grant. A citation can be a US or foreign patent citation (patcit) or a non-patent literature citation (nplcit). {- - <!ELEMENT us-citation ((patcit | nplcit) , corresponding-docs* , rel-passage* , category* , rel-claims* , classification-ipc? , classifications-ipcr? , classifications-cpc?, classification-national?)> - - }

<patcit>: The <patcit> element is optional and, when present, will occur one time within a <us-citation> element identifying the citation sequence. The <patcit> is mandatory when the citation for a reference cited is a U.S. Patent Document or a Foreign Patent Document. The <patcit> will not be present when Other Publications are cited. {- - <!ELEMENT patcit(text| (document-id , rel-passage*))> - - } {- - <!ATTLIST patcit id ID #IMPLIED num CDATA #IMPLIED dnum CDATA #IMPLIED dnum-type CDATA #IMPLIED file CDATA #IMPLIED url CDATA #IMPLIED >

- - }. Note: The appearance will be <patcit num="nnnnn"> where "nnnnn" will contain a numeric value (sequence number), right justified with leading zeros. Example: <patcit num="00001">

<document-id>: This <document-id> element is optional and, when present, will occur one time within a <us-citation> element. This <document-id> is mandatory when the citation for a reference cited is a U.S. Patent Document or a Foreign Patent Document. This <document-id> will not be present when Other Publications are cited. When present, this <document-id> element will occur one time within each <us-citation> of <us-references-cited>. The contents of this <document-id> element will be a <country>, a <doc-number>, a <kind>, a <name>, a <date>, and terminated by the </document-id> end tag.

<country>: This <country> element is optional and, when present, will occur one time within a <us-citation> element. This <country> is mandatory when the citation for a reference cited is a U.S. Patent Document or a Foreign Patent Document. This <country> will not be present when Other Publications are cited. When present, the <country> element will occur one time within this <document-id> element and contain the 2-position country code of the country publishing the document and terminated by the </country> end tag. Reference STANDARD ST. 3 – Recommended Standard on Two-Letter Codes for the Representation of States, Other Entities and Intergovernmental Organizations: http://www.wipo.int/standards/en/pdf/03-03-01.pdf </country>

<doc-number>: This < doc-number > element is optional and, when present, will occur one time within a <us-citation> element. This <doc-number> is mandatory when the citation for a reference cited is a U.S. Patent Document or a Foreign Patent Document. This <doc-number> will not be present when Other Publications are cited. Note: The content of the <doc-number>, for US documents, will appear as an alphanumeric field without punctuation, slashes "/" or spaces. The content of the <doc-number>, for foreign documents, will appear as they appear in the printed published document. </doc-number>

<kind>: This <kind> element is optional and, when present, will occur one time within the <document-id> element and terminated by the </kind> end-tag. This <kind> is mandatory when the reference cited is a U.S. Patent Document. This <kind> will not be present when Foreign Patent Documents or Other Publications are cited.

Reference Table 3A – U.S. Patent Grants and Patent Published Applications-Kind Codes (2-position) when the reference cited US Patent Grant was issued on or after January 2, 2001.

Reference Table 3B – U.S. Patent Grants and Patent Published Applications-Kind Codes (1-position) when the reference cited US Patent Grant was issued on or prior to December 26, 2000. </kind>

<name>: This <name> element is optional and, when present, will occur one time within the <document-id> element and terminated by the </name> end-tag. This <name> is mandatory when the reference cited is a U.S. Patent Document. This <name> will not be present when

Foreign Patent Documents or Other Publications are cited. When present, the <name> element will contain the surname of the inventor or when multiple inventors are present it will contain the surname of the first inventor followed by “et al.” </name>

<date>: This < date > element is optional and, when present, will occur one time within the <document-id> element and terminated by the </date > end-tag. This <date> is mandatory when the reference cited is a U.S. Patent Document. This <date> will not be present when Foreign Patent Documents or Other Publications are cited. When present, the <date> element will contain the 8-position (YYYYMMDD) publication date of the document. Note: The 2-position DD of this reference cited <date>, for U.S. Patent Documents and Foreign Patent Documents, will be contain zeros. </date></document-id></patcit>

<nplcit>: The <nplcit> element is optional and, when present, will occur one time within a <us-citation> element identifying the citation sequence. This <nplcit> is mandatory when the citation for a reference cited is “non-patent literature” appearing as Other Publications. This <nplcit> will not be present when U.S. Patent Documents or a Foreign Patent Documents are cited.

{- - <!ELEMENT nplcit (text | article | book | online | othercit)> - - } {- - <!ATTLIST nplcit id ID #IMPLIED num CDATA #IMPLIED lang CDATA #IMPLIED file CDATA #IMPLIED npl-type CDATA #IMPLIED medium CDATA #IMPLIED url CDATA #IMPLIED - - }

Note: The appearance will be <nplcit num=”nnnnn”> where “nnnnn” will contain a numeric value (sequence number), right justified with leading zeros. Example: <nplcit num=”00001”>

<othercit>: The <othercit> element is optional and, when present, will occur one time within a <us-citation> element. This <othercit> is mandatory when the citation for a reference cited is “non-patent literature” appearing as Other Publications and contain free form text of “non-patent literature” being cited. The <othercit> will not be used for citing U.S. Patent Documents or Foreign Patent Documents. The <othercit> element is terminated by the </othercit> end tag. {- - ELEMENT othercit (#PCDATA | b | i | o | u | sup | sub)*> - - } </othercit></nplcit>

<category>: The <category> element is mandatory and will occur one time within each <us-citation> element and terminated by the </category> end tag. Each <category> element will contain one of the following 2 phases: “cited by examiner”, “cited by applicant”, or “cited by third party”. </category>

<classification-cpc-text>: This <classification-cpc-text> element is mandatory for a US citation and will occur one time within the <us-citation>, <patcit> element, identifying the Classification CPC referenced. Each <classification-cpc-text> element is terminated by the </classification-cpc-text> end tag. {- - <!—Unstructured classification cpc data--> <!ELEMENT classification-cpc-text(#PCDATA)><!ATTLIST classification-cpc-text id ID #IMPLIED - - }

Reference Table 6 – Cooperative Patent Classification (CPC) for the content of a <classification-cpc-text>. An example of a <classification-cpc-text> within one patent document. <classification-cpc-text>E01H 1/04</classification-cpc-text> </classification-cpc-text>

<classification-national>: This <classification-national> element is optional for a US citation and will occur one time within the <us-citation>, <patcit> element, identifying the US classification referenced. Each <classification-national> element is terminated by the </classification-national> end tag.

<country>: The <country> element is mandatory and will occur one time within each <classification-national> element of a citation and contain the ST. 3 2-position country code “US” identifying United States as the publishing country of the document being cited and terminated by the </country> end tag. </country>

<main-classification>: This <main-classification> element, identifying a US classification(s) referenced within the citation, is mandatory and will occur one time and terminated by the </main-classification> end tag.

Reference Table 5- U.S. Patent Classifications for the appearance of a <main-classification>

</main-classification></classification-national></us-citation></us-references-cited>

<us-field-of-classification-search>: The <us-field-of-classification-search> element is mandatory and will occur one time within the <us-bibliographic-data-grant> element and terminated by the </us-field-of-classification-search> end tag. The content of this <us-field-of-classification-search> element can be classification-national references within the field of search and/or classifications-ipcr references within the field of search. {- - <!ELEMENT us-field-of-classification-search(us-classifications-ipcr | classification-national|classifications-cpc)+>- - }

<classification-cpc-text>: The < classification-cpc-text > element is mandatory and will occur one or more times within the <us-field-of-classification-search>. Each <classification-cpc-text> element is terminated by the </classification-cpc-text> end tag.

Reference Table 6 – Cooperative Patent Classification (CPC) for the content of a <classification-cpc-text>. An example of a <classification-cpc-text> within one patent document. <classification-cpc-text>E01H 1/04</classification-cpc-text></classification-cpc-text>

<classification-national>: This <classification-national> element is optional and will occur one or more times within the <us-field-of-classification-search> element, identifying the US classification(s) referenced within the <us-field-of-classification-search>. Each <classification-national> element is terminated by the </classification-national> end tag.

<country>: This <country> element is mandatory and will occur one time within each <classification-national> element and contain the 2-position country code “US” identifying the

country publishing the document being referenced and terminated by the </country> end tag. </country>

<main-classification>: This <main-classification> element, identifying a US classification(s) referenced within the <us-field-of-classification-search> element, is mandatory and will occur one time and terminated by the </main-classification> end tag.

Reference Table 5 – U.S. Patent Classifications for the appearance of a <main-classification></main-classification>

<additional-info>: The <additional-info> element, is optional and can occur one time identifying an unstructured US classification referenced within the <us-field-of-classification-search> element, and terminated by the </additional-info> end tag. An unstructured US classification would identify a sub-class as a range as defined in the following example: <main-classification> 2247-250</main-classification><additional-info>unstructured</additional-info>

Reference Table 5 - U.S. Patent Classifications for the appearance of a <main-classification></additional-info></classification-national>

<us-classifications-ipcr>: This <us-classifications-ipcr> element is optional and may occur one or more times within the <us-field-of-classification-search> element and contain International Patent Classification Reform Information. Each <us-classifications-ipcr> is terminated by the </classifications-ipcr> end tag. An example of multiple <us-classifications-ipcr> within one patent document. <us-classifications-ipcr>E01H 1/04 </ us-classifications-ipcr>< us-classifications-ipcr>E01H 1/08 </ us-classifications-ipcr>

<ipc-version-indicator>: The <ipc-version-indicator> element will occur one time within each <classification-ipcr> element and contain an 8-position numeric date in the format YYYYMMDD and terminated by a <ipc-version-indicator> end tag. Example: <ipc-version-indicator><date>YYYYMMDD</date></ipc-version-indicator><date></date></ipc-version-indicator>

<classification-level>: The <classification-level> element will occur one time within each <classification-ipcr> element and contain a 1-position alphabetic (uppercase) constant “A” defining “advanced level” and terminated by a <ipc-version-indicator> end tag. </classification-level>

<section>: The <section> element will occur one time within each <classification-ipcr> element and contain a 1-position alphabetic (uppercase) – possible value can be “A through H” and terminated by a </section> end tag. </section>

<class>: The <class> element will occur one time within each <classification-ipcr> element and contain a 2-position numeric class-type attribute and terminated by a </class> end tag. </class>

<subclass>: The <subclass> element will occur one time within each <classification-ipcr> element and contain a 1-position alphabetic (uppercase) – possible value can be “A through Z” and terminated by a </subclass> end tag. </subclass>

<main-group>: The <main-group> element will occur one time within each <classification-ipcr> element and contain a 1 to 4 positions numeric and terminated by a </main-group> end tag. </main-group>

<subgroup>: The <subgroup> element will occur one time within each <classification-ipcr> element and contain a 2 to 6 positions numeric and terminated by a </subgroup> end tag. </subgroup>

<symbol-position>: The <symbol-position> element will occur one time within each <classification-ipcr> element and contain a 1-position alphabetic (uppercase) – “F” defining “first” for the sole or first “invention information” IPC, or “L” defining “later” for any second and succeeding “invention information” IPC and for any “non-invention information” IPC. And, terminated by a </symbol-position> end tag. </symbol-position>

<classification-value>: The <classification-value> element will occur one time within each <classification-ipcr> element and contain a 1-position alphabetic (uppercase) – “I” defining “invention information” or “N” defining “non-invention information”. And, terminated by a </classification-value> end tag. </classification-value>

<action-date>: The <action-date> element will occur one time within each <classification-ipcr> element and contain the date of publication for patent published applications and the issue date for patent grants. And, terminated by a </action-date> end tag.

<date>: This <date> element is mandatory and will occur one time within the <classification-ipcr> element and contain the 8-position (YYYYMMDD) <action-date> and terminated by the </date> end tag. </date></action-date>

<generating-office>: The <generating-office> element will occur one time within each <classification-ipcr> element and contain a 2-position alphabetic (uppercase) country code identifying the generating Intellectual Property Office and terminated by a </generating-office> end tag.

<country>: This <country> element is mandatory and will occur one time within each <classification-ipcr> element and contain the ST. 3 2-position country code of the country or international organization where the priority is being claimed and terminated by the </country> end tag.

Reference STANDARD ST. 3 – Recommended Standard on Two-Letter Codes for the Representation of States, Other Entities and Intergovernmental Organizations: http://www.wipo.int/standards/en/pdf/03-03-01.pdf </country></generating-office>

<classification-status>: The <classification-status> element will occur one time within each <classification-ipcr> element and contain a 1-position alphabetic (uppercase) – “B” defining “Basic or Original” and terminated by a </classification-status> end tag. </classification-status>

<classification-data-source>: The <classification-data-source> element will occur one time within each <classification-ipcr> element and contain a 1-position alphabetic (uppercase) – “H” defining “Human-Generated”, a future source can be “M” defining “Machine-Generated” and “G” defining “Generated via Software”. And, terminated by a </classification-data-source> end tag. </classification-data-source></us-classifications-ipcr></us-field-of-classification-search>

<us-parties>: The <us-parties> element is mandatory and will occur one time within the <us-bibliographic-data-grant> and the <us-bibliographic-data-application> element and terminated by the </us-parties> end tag. The element uses applicants, inventors and agents elements and refers to parties to the patent document. {- - <ELEMENT us-parties (us-applicants, inventors, agents?)> - - }

<us-applicants>: The <applicants> element is mandatory and will occur one time within the <us-parties> element and terminated by the </us-applicants> end tag. { - - <!ELEMENT us-applicants (us-applicant+)> - - }

<us-applicant>: The <applicant> element is mandatory and will occur one or more times within the <applicants> element and terminated by the </applicant> end tag. {- - <!—(US: applicant is always the inventor. Use “applicant” with applicant type attribute of “applicant-inventor.”)--> <!ELEMENT us-applicant (addressbook+, residence, us-rights*, designated-states? , designated-states-as-inventor?)> <!ATTLIST us-applicant sequence CDATA #REQUIRED app-type (applicant | applicant-inventor) #REQUIRED designation (all | all-except-us | us-only | as-indicated) #REQUIRED applicant-authority-category (inventor | legal-representative | party-of-interest | obligated-assignee | assignee) #IMPLIED - - }

The following are examples of the us-applicant tag from one patent document. <us-applicant sequence=”001” app-type=“applicant-inventor” designation=”us-only” applicant-authority-category=”inventor”> <us-applicant sequence=”002” app-type=“applicant-inventor” designation=”us-only” applicant-authority-category=”legal-representative”> <us-applicant sequence=”003” app-type=“applicant-inventor” designation=”us-only” applicant-authority-category=”party-of-interest”>

<addressbook>: This <addressbook> element is mandatory and will occur one time within the <applicant> element and terminated by the </addressbook> end tag. {- - <!—ADDRESSBOOK GROUP: Holds name and contact information for individuals/organizations. {- - <!ELEMENT addressbook((%name_group; , address , phone* , fax* , email* , url* , ead* , dtext?)|text)> - - } Example of an addressbook used within an app-type=”applicant-inventor”: <last-name></last-name><first-name></first-name><address><city></city><state></state><country></country></address></addressbook>

<residence>: The <residence> element is mandatory and will occur one time within the <applicant> element and terminated by the </residence> end tag. The element contains the country of residence.

<country>: This <country> element is mandatory and will occur one time within the <residence> element and contain the 2-position country code identifying the residence of the applicant and terminated by the </country> end tag.

Reference STANDARD ST. 3 – Recommended Standard on Two-Letter Codes for the Representation of States, Other Entities and Intergovernmental Organizations: http://www.wipo.int/standards/en/pdf/03-03-01.pdf </country></residence>

<us-rights>: The <us-rights> element is optional and may occur one time within the <applicant> element and terminated with the </us-rights> end tag. The element contains the us-rights-to-dead-inventor and kind attributes. The element refers to a person who is the successor to the rights of an inventor who is deceased, insane, or legally incapacitated. <!—This person is successor to the rights of an inventor who is deceased, insane, or legally incapacitated.--> {- - <!ELEMENT us-rights (#PCDATA)> - - } {- - <!ATTLIST us-rights to-dead-inventor CDATA #REQUIRED kind (heir | heiress | executor | executrix | estate | legal-representative | administrator | administratrix | legal-representatives| heirs | executors | legal-heirs) #REQUIRED> - - }. Note: The <us-rights> element will no longer be present effective with the patent grant issue of August 25, 2009. </us-rights></us-applicant></us-applicants>

<inventors>: {- - <!ELEMENT inventor (addressbook+ , designated-states?)> - - } <addressbook></addressbook></inventor></inventors>

Note: The <inventors>, <deceased-inventor> and <us-deceased-inventor> elements will no longer be present effective with the patent grant issue of August 25, 2009.

<agents>: The <agents> element is mandatory and will occur one time within the <us-parties> element and terminated by the </agents> end tag. The element contains information regarding Agents or common representatives. { - - <!ELEMENT agents (customer-number | agent+)> - - }

<agent>: The <agent> element is mandatory and will occur one or more times within the <agents> element and terminated by the </agent> end tag. The element contains the sequence and rep-type attributes and uses the addressbook element. {- - <!ELEMENT agent (addressbook+)> - - } {- - <!ATTLIST agent sequence CDATA #REQUIRED rep-type (agent | attorney | common-representative) #REQUIRED><!--Information regarding Agents or common representatives.--> - - } The following is the content of an agent tag: <agent sequence=”01” rep-type=”attorney”>

<addressbook>: This <addressbook> element is mandatory and will occur one time within the <agent> element and terminated by the </addressbook> end tag. Note: rep-type=”attorney” contains the following tags within the <addressbook>. The will be the <orgname> or

<lastname>, (<firstname>. Also if a <country> is not provided “unknown” will be present. <orgname></orgname><last-name></last-name><first-name></first-name><address><country></country></address><orgname></orgname><last-name></last-name><first-name></first-name><address><country></country></address></addressbook></agent></agents></us-parties>

Table 1 – Definition of material used throughout the documentation and the Legend of Near and Fear Designer Symbols appearing in the DTD (Document Type Definition) for United States Patent Document Publications. Note: Information enclosed in {- - and - - } identifies Elements and Attributes from the DTD as identified in WIPO Standard ST. 36-International Common Elements and used/populated in U.S. documents. Element – A logical component of a document which either begins with a start-tag and ends with a matching end-tag, or consists only of an empty-element tag. The characters between the start-tag and end-tag are the element’s content. An element can contain other elements, simple text or a mixture of both. Elements can also have attributes. Attribute – A markup construct consisting of a name/value pair that exists within a start-tag or empty-element tag. An XML attribute may be included with element ATTLIST declarations and must always appear within quotes. Elements and Attributes identified from the DTD that are underlined (Example: patent-family?) are no used/populated in U.S. patent documents.

Legend of Near and Fear Designer Symbols:

Connectors

Ordered connector – Specifies that the attached sibling objects must occur in sequence within a document instance. Selection connector-Specifies that one (and only one) of the attached sibling objects is to appear within a document instance.

Occurrence Indicators

One (occurrence indicator – The object is required; there must be one (and only one) occurrence of the object at this point in a document instance. Zero or one (occurrence indicator – The object is optional, but if present, can appear only once. One or more (occurrence indicator – The object must appear at least once and could appear any number of times). Zero or more (occurrence indicator – The object may be omitted or may occur any number of times at this point in a document instance.

Terminals

Processable Character Data, or PCDATA; No Content, EMPTY; Tilde-indicates that the element has associated attributes; Indicates that the content model is the same as a previous element.

Table 2 – Appearance of U.S. Patent Numbers

a. U.S. Patent Grants
   Design Patents – Position 1 – A constant “D” identifying the granted document as a Design Patent. Positions 2-8 – Seven-position numeric, right justified, with a leading zero.; SIR Patents – Position 1 – A constant “H” identifying the granted document as a Statutory Invention Registration (SIR). Positions 2-8 – Seven-position numeric, right justified, with a leading zero.; Plant Patents – Positions 1-2 – A constant “PP” identifying the granted document as a Plant Patent. Positions 3-8 – Six-position numeric, right justified, with a leading zero.; Reissue Patents – Position 1-2 – A constant “RE” identifying the granted document as a Reissue Patent. Positions 3-8 – Six-position numeric, right justified, with a leading zero.; Utility Patents – Positions 1-8 – Eight-position numeric, right justified, with a leading zero.
b. U.S. Patent Application Publications
   A 2-position country code “US”; A 4-position numeric year of publication; A 7-position numeric sequence number, right justified with leading zeros.

Table 3A – U.S. Patent Grants and Patent Published Applications – Kind Code (2-position)

Note: The following 2-position kind codes will be present in the XML <kind> tags of Patent Grant Data/XML (Red Book). These 2-positions kind codes will also be present on the printed documents with the following exceptions: Reissues will contain a single position “E”, SIR documents will contain a single position “H”, and Designs will contain a single position “S”.

A1 – Utility Patent Grant issued prior to January 2, 2001. A1 – Utility Patent Application published on or after January 2, 2001. A2 – Second or subsequent publication of a Utility Patent Application. A9 – Correction published Utility Patent Application. Bn – Reexamination Certificate issued prior to January 2, 2001. Note: “n” represents a value 1 through 9. B1 – Utility Patent Grant (no published application) issued on or after January 2, 2001. B2 – Utility Patent Grant (with a published application) issued on or after January 2, 2001. Cn – Reexamination Certificate issued on or after January 2, 2001. NOTE: “n” represents a value 1 through 9 denoting the publication level. E1 – Reissue Patent. Fn – Reexamination Certificate of a Reissue published prior to January 12, 2010. NOTE: “n” represents a value 1 through 9 denoting the publication level. H1- Statutory Invention Registration (SIR) Patent Documents. Note: SIR documents began with the December 3, 1985 issue. I1 – “X” Patents issued from July 31, 1790 to July 13, 1836. I2 – “X” Reissue Patents issued from July 31, 1790 to July 13, 1836. I3 – Additional Improvements – Patents issued between 1838 and 1861. I4 – Defensive Publication – Documents issued from November 5, 1968 through May 5, 1987. I5 – Trial Voluntary Protest Program (TVPP) Patent Documents. NP – Non-Patent Literature. P1 – Plant Patent Application published on or after January 2, 2001. P2 – Plant Patent Grant (no published application) issued on or after January 2, 2001. P3 – Plant Patent Grant (with a published application) issued on or after January 2, 2001. P4 – Second or subsequent publication of a Plant Patent Application. P9 – Correction publication of a Plant Patent Application. S1 – Design Patent. Note: 00 – Can be present for a PCT or Regional Filing Data.

Table 3B – U.S. Patent Grants and Patent Published Applications – Kind Codes (1-position)

Note: The following 1-position Kind codes will be present in the XML <kind> tag within the <us-references-cited> element of Patent Grant Data/XML (Red Book) and Patent Grant Data/TIFF (Single-Page TIFF Images Yellow Book) for first publication of a patent document issued on or prior to December 26, 2000.

A – Utility Patent Grant issued prior to January 2, 2001. B – Reexamination Certificate issued prior to January 2, 2001. E – Reissue Patent. H – Statutory Invention Registration (SIR) Patent Documents. P – Plant Patent Grant issued prior to January 2, 2001. S – Design Patent. T – Defensive Publication.

Table 4 – U.S. Application Series Codes

Code: 02, Filing Dates: Filed prior to January 1, 1948. Code: 03, Filing Dates: January 1, 1948 through December 31, 1959. Code: 04, Filing Dates: January 1, 1960 through December 31, 1969. Code: 05, Filing Dates: January 1, 1970 through December 31, 1978. Code: 06, Filing Dates: January 1, 1979 through December 31, 1986. Code: 07, Filing Dates: January 1, 1987 through January 21, 1993. Code: 08, Filing Dates: January 22, 1993 through January 20, 1998. Code: 09, Filing Dates: January 21, 1998 through October 23, 2001. Code: 10, Filing Dates: October 24, 2001 through November 30, 2004. Code: 11, Filing Dates: December 1, 2004 through December 5, 2007. Code: 12, Filing Dates: December 6, 2007 through December 17, 2010. Code: 13, Filing Dates: December 17, 2010 through Current.

Design Patents Code: 07, Filing Dates: Filed prior to October 1, 1992. Design Patents Code: 29, Filing Dates: Filed after October 1, 1992.

Table 5 – U.S. Patent Classifications

Class – A 3-position alphanumeric field right justified with leading spaces.

Design Patents – The first position will contain a “D”. Positions 2 and 3, right justified, with a leading space when required for a single digit class. Plant Patents-Positions 1-3 will contain a “PLT”. All Other Patents – Three alphanumeric positions, right justified, with leading spaces. Sub-Class – Three alphanumeric positions, right justified with leading spaces, and, if present, one to three positions to the right of the decimal point (assumed decimal in the Red Book XML), left justified. Note: An unstructured US classification would identify a sub-class as a range with the sub-class range being separated by a hyphen “-“. A digest entry as a sub-class would appear as follows: Three positions containing “DIG”, followed by one to three alphanumeric positions, left justified.

Table 6 – Cooperative Patent Classification (CPC)

<main-cpc> - Identifying Main Classification, <further-cpc> - Identifying a Further Classification, or <further-cpc> within the <combination-set>. <classification-cpc><cpc-version-indicator>- 8 – position numeric date in the format YYYYMMDD identifying the classification publication date. Note: The <ipc-version-indicator> date will not be present in a <classification-cpc-text> for <us-

citation> or <us-field-of-classification-search>. <section> - 1-position alphabetic (uppercase) – possible value can be “A through H”. The section is the highest hierarchical level within the classification scheme and as such it represents the whole body of knowledge which may be regarded as proper to the field of Classification. <class> - 2-position numeric. The code denotes the second level subdivision of the classification scheme and as such it is a further breakdown of the section’s broad technical fields into high level subject matter. <subclass> - 1-position alphabetic (uppercase) – possible value can be “A through Z”. The code denotes the third level subdivision of the classification scheme and as such it is a further breakdown of subject matter into more novel subject matter. <main-group> - 2 to 4 positions numeric. The code denotes the fourth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. <subgroup> - 2 to 6 positions numeric. The code denotes the fifth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. <symbol-position> - 1-position alphabetic (uppercase) – will contain “F” defining “first” for the sole or first “invention information” IPC, and will contain “L” defining “later” for any second and succeeding “invention information” IPC and for any “non-invention information” IPC. The code that specifies the position of the classification symbol. <classification-value>- 1-position alphabetic (uppercase) – will contain “I” defining “invention information” or will contain “N” defining “non-invention information”. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. <action-date>- 8-position numeric date in the format YYYYMMDD – This date will be the date of publication for patent applications and the issue date for patent grants. <generating-office>: 2-position alphabetic (uppercase) – United States documents will contain “US”. <classification-status> - 1-position alphabetic (uppercase) – will contain “B” defining “Basic or Original”. The code that distinguishes between invention information (invention) and other information (non-invention/additional), when describing a classification symbol on a document. <classification-data-source> - 1-position alphabetic (uppercase) – will contain “H” defining “Human-Generated”. A future source can be “M” defining “Machine-Generated” and “G” defining “Generated via Software”. The code that describes the source of the allocation of the symbol to the patent document. <scheme-organization-code> - 1-position alphabetic code denoting which patent classification scheme the symbol originates from. And, terminated by a </scheme-organization-code> end tag.

Example of the Cooperative Patent Classification (CPC) in the <us-field-of-classification-search> and <us-citation> for patents granted on or after January 2013: <classification-cpc-text>H04M 2/02 </classification-cpc-text><classification-cpc-text>H04M 2/0202</classification-cpc-text>.