Searching on PatSeer Training Manual

This guide will help you learn how to use PatSeer for your patent research. This guide focuses on all aspects related to searching on PatSeer, reviewing results and finally exporting the filtered result set.

Table of Contents

CHAPTER 1 MOST COMMON SYNTAX MISTAKES AND THEIR CORRECTION 4

CHAPTER 2 PATSEER BASIC CONCEPTS 5

CHAPTER 3 PATSEER SYNTAX BASICS 9

CHAPTER 4 OPERATORS ALLOWED IN PATSEER 10

4.1 TRUNCATION 10
4.2 PROXIMITY SEARCH 10
4.3 USING BOOLEAN WITH PROXIMITY 12

CHAPTER 5 DATE RANGE SEARCHING 13

CHAPTER 6 PLURAL MATCHING 14

CHAPTER 7 SEARCHING CASE-CHANGE WORDS 15

CHAPTER 8 CHEMICAL NAME SEARCHING 16

CHAPTER 9 MULTILINGUAL SEARCH 17

CHAPTER 10 SEARCH SCRIPTING AND SAVED SEARCH 18

10.1 Search scripting 18
10.2 Working with Saved Searches 20

CHAPTER 11 CURRENT SEARCH 21

CHAPTER 12 SPECIAL SEARCHING TYPES 22

12.1 MINIMUM MUST MATCH QUERY 22
12.2 HIT CUTOFF QUERY 22
12.3 TERM BOOSTING 22
12.4 QUERY MODIFIERS 23

CHAPTER 13 MOST POPULAR FIELD CODES 24

13.1 Search Fields 24

CHAPTER 14 PATSEER SEARCH FORMS 25

14.1 Search Forms 25

CHAPTER 15 SEARCH AIDS AND TOOLS 31

15.1 SEMANTIC SEARCH SUGGESTER 31
15.2 FIND MATCHING ASSIGNEE / INVENTOR 31
15.3 CORPORATE TREE 31
15.4 TERM TRANSLATOR 32
15.5 TERM INDEX LOOKUP 32
15.6 SEARCH CLASS DEFINITIONS 33
15.7 SEARCH QUERY MIGRATOR 33
15.8 CHEM LOOKUP 33
15.9 GET RELATED CLASSIFICATIONS 35
15.10 RESIZABLE ELEMENTS IN QUICK/SIMPLE/FIELD SEARCH 35
15.11 SYNONYM / RELATED TERMS LOOKUP – F9 KEY 35
15.12 SPECIAL CHARACTERS KEYBOARD 35
15.13 NUMBER SEARCH ORDER RETENTION 35
15.14 SEARCH QUERY HIGHTLIGHTER 36
15.15 SEARCH QUERY ANALYZER 36

CHAPTER 16 WORKING WITH SEARCH RESULTS AND EXPORT 37

16.1 VIEWING RESULTS 37
16.2 SEARCH RESULT FILTERS 37
16.3 EXPORT OPTIONS 38

CHAPTER 17 PATSEER PROJECTS 40

17.1 ADDING RECORDS TO PROJECT 40

CHAPTER 18 EXAMPLE SEARCHING CASE STUDY 41

CASE STUDY I 41
CASE STUDY II 42

APPENDIX– COMPLETE FIELD CODE LIST 44

CHAPTER 1 MOST COMMON SYNTAX MISTAKES AND THEIR CORRECTION

WRONG USAGE	**CORRECT USAGE**
Not using parentheses properly across operators E.g. TAC:(mobile OR cellphone AND network)	A query like A OR B AND C is ambiguous. With varying operators each query portion must be enclosed in brackets. E.g TAC:((mobile OR cellphone) AND network) E.g TAC:(mobile OR (cellphone AND network))
Using $ or ! for truncation	You should use ***** for truncation and **?** as a single character wildcard.
Using **w/2**, **w~2, 2d or 2w** for Proximity	You should use **w2** for unordered proximity and **wd2** for left->right ordered proximity
Using **ADJ** or **NEAR** operators for proximity	You should use **w1** and **wd1** for unordered and left->right ordered proximity. Here '1'is the number of words to span across. For example **w2**, **w5**, **wd50** etc.
Using **SAME** operator for same paragraph search	You should use **wp** for same paragraph search. If you want to search within same sentence you can also use the **ws** operator. Optionally a number can also be given to restrict the number of words to span across. For example **wp30** will mean within the same paragraph and within 30 words.
Entering a portion of the IPC or CPC class without a wildcard E.g IC:A61K	Use the wildcard * at the end of the class if you are giving only a portion of the full class. Do **not** use wildcard within double-quotes. E.g IC:A61K* UC:235* E.g IC:A61K05* E.g. IC: A61K05/21
Using & in company name. E.g ASN:(AT&T)	In case you want to use & then the term must be enclosed in Double quotes. So the correct query will be **ASN: "AT&T"** This is true for text field too. So if you are searching for space & aviation in text, then it should be enclosed in double quotes. & is not searchable outside double quotes.
Using semi-colon or comma to separate OR'ed terms E.g. TAC:mobile,cellphone,pda	Please use OR between the terms. E.g. TAC:(mobile or cellphone or pda)
Searching inventor name by first-name surname. E.g. INV:(John Smith)	Most inventor names can be surname first. Also some may have an initial. So you will miss out on "Smith John" or "Smith John R" or "John R Smith". The best way to search is using bidirectional proximity with scope for accommodating 1 more initial/middle name in between. E.g. INV:(John w1 smith)

CHAPTER 2 PATSEER BASIC CONCEPTS

- In PatSeer records are not grouped by families by default. So you can search individual records and choose to collapse them by one member per Family or de-duplicate results by Application Number (i.e., by Patents and Applications). The latter de-duplication is particularly useful for US records when you would like to keep only the grant and not its corresponding application in the result. When deduplicating results by family, you can deduplicate by both Simple Family (SFAM) and Extended Family (EFAM).

- When no de-dup option is selected, the results that you see are deduped by the publication number (without kind code). So even if a record has been published with 3-4 different kind codes during its life, it will show up as a single result. This is not applicable for Number search however. If you search for a number in Number Search it will show you all the matching kind codes as separate results.

- The Preferred record option allows you to decide which record should be chosen while deduplicating results. For example when deduplicating results by Application Number, if you select Latest Publication Date as the preferred record, you will get the Patents in place of applications in your results. When Deduplicating by Family you can also specify a country preference along with kind code. The kind code is optional however. E.g. you can give *US, EP, WO* or with kind code *USB*, USA, EPB*, WO, JPC*.

- Multiple terms and phrases can be combined together with Boolean operators to form a more complex query. If all words are required an **AND** should be inserted between them or if Any Word is required then an OR should be inserted. To exclude a word use a **NOT** before it.

  The standard Boolean Operators used in patent searches i.e. AND, OR, and NOT derive their roots from Logic Gates where each of the operators perform a particular action on the two or more input terms and provide an output based on the Boolean Operator's Logic

- AND - All the terms are searched in combination to return a document which has the presence of All the search terms coupled with AND

- OR - Any document containing the presence of at least one of the terms coupled with OR shall be returned

- NOT - The term that is coupled with a NOT if present in any of the documents then such documents shall be eliminated from the search result. This is typically useful to eliminate duplicate results or to remove generic terms to avoid junk results.

  For Example:
  T: ((Heat OR light) AND (Sun OR Moon)) as a search string will lead to returning the following results*

Patent Document No.	***Title of the Patent Document***	***Stemming Status for the search***
JP 2000018732	*Compound **heating** Boiler Of **sun light***	*Stemming is ON and thus heating is also covered*
US 8296994	*Film Sheet For Area Focusing Of **sun light** And Greenhouse Provided With The Same*	*Stemming is OFF*
RU 2446516	*Method For Obtaining Reserve Electric Energy From Solar **heat** On **moon** Surface*	*Stemming is OFF*

Now if we change the search string to include a NOT operator to provide the below Search String:
T: (((Heat OR light) AND (Sun OR Moon)) NOT electric)*
then the above result 3 i.e., RU 2446516 will not be returned in the results of this search string and all patent documents which have the term electric in their title will be eliminated from the set of results returned.

- The default operator assumed between multiple words is **Exact Match.** If you enter multiple words without any quotes then an exact match is assumed between them by default. (So if you want to combine words using **AND** operator, you will need to specifically mention it in your query. Further you should also specify **AND** between different fields when using Command line syntax.)
  So for example: *TAC:(carbon nanotube) IC:A61K**
  is incorrect and will not work. The correct query is: *TAC:(carbon nanotube) **AND** IC:A61K**

  So a query like *Solar Cooking* which has no operator in between, will search exactly *"Solar Cooking"* and not *Solar AND Cooking*, which means:
  US 20130022727 with title *'Solar Cooking Apparatus'* will return in the search

  BUT NOT

  EP 0099423 with title *'Heating And/or Cooking Apparatus With A Solar Collector'*
  since the exact term *"Solar Cooking"* is not present in the title in exact order and arrangement.

  Most databases use double inverted commas to specify exact terms for search i.e. as mentioned above “Solar Cooking” will return results with the exact term Solar Cooking in the exact order and arrangement.

- Matching a phrase should be done by placing it in double quotes such as *“metal gate electrode”* or you can use proximity operator **wd0** say *(metal wd0 gate wd0 electrode)*. You can also use wildcard operators within a phrase search. For example "optic* fiber".

- PatSeer Search system has no stopwords. Even the Boolean operators and other syntax related words are searchable if you include them in double quotes.

  For example: *T:"system and method*"
  INV:"john w"

  Using these words outside double-quote will make the system treat them as operators and not search terms.

- Use parentheses to precisely indicate in case more than one connector is present and avoid any confusion in case of complex queries. In command line search, make sure each field's search terms are enclosed in a bracket. A common mistake is have a query like **A OR B AND C**. This is an ambiguous query and could lead in different results depending upon the sub-queries/field present in A, B, C. The correct way is one of the two: **(A OR B) AND C** ; **A OR (B AND C)**

  Further, following examples illustrate the correct use of parentheses.

  Example 1:
  Wrong format without brackets:
  AEROPLANE OR AIRPLANE OR AIRCRAFT AND WINDOW NOT ENGINE

  Correct format using proper brackets:
  ((AEROPLANE OR AIRPLANE OR AIRCRAFT) AND (WINDOW)) NOT ENGINE

  Example 2:
  Wrong format without brackets:
  gas OR liquid AND tube OR pipe

  Correct format using proper brackets:
  (gas OR liquid) AND (tube OR pipe)

  Thus, a search string (gas OR liquid) AND (tube OR pipe) will first search for a result which contains either the terms gas or liquid and then check whether the same result contains either the term **'tube'** or **'pipe'**, and then return the result which satisfies the condition. Here, it may be noted that the brackets perform the role of separation as well as combination. The concept of 'gas OR liquid' is separated from the concept of 'tube OR pipe' and each of the terms are also combined with each other owing to the arrangement of the brackets. Typically, maximum careless mistakes occur in placements of brackets by searchers and this must be treated with extra care when search strings are being created.

- All three (left, right and middle) truncation is supported. Use '?' for single character wildcard and '*' for 0 to any number of characters. For performance reasons a right truncation can only be used after

a minimum of 2 characters. Also a single query can have a maximum of two words/phrases with left truncation.

- Limited truncation is also supported and for this you need to specify a number after * . For example : *mix*2* will match *mixer* and *mixed* but not mixing. Similarly *colo*1r* will match *color* and *colour* both. Limited truncation is supported for right and middle truncations only.

- The date syntax to use when searching is YYYY-MM-DD. You can also specify only the year and month as YYYY-MM or just the year YYYY.

- **Field Searching** - You can search within any field by typing the field code followed by a colon ":" and then the term you are looking for. In command-line search if you do not specify any field then it by default searches the full text with Assignee and Inventor. Field codes are given at the end of this document.

CHAPTER 3 PATSEER SYNTAX BASICS

3.1 PATSEER SYMBOLS

Following are most popular search symbols to be used in PatSeer

Symbols	Results
?	matches a single character
*	matches zero or more characters
*#	# is any number. Will match zero to N characters.
wd#	left to right ordered proximity search
w#	unordered proximity search
ws#	unordered same sentence proximity search
wp#	unordered same paragraph proximity search
[_ TO _]	numeric range
[TO NOW]	Only for Date fields. To search from certain date to present

SEARCH EXAMPLES

led light : searches for led and light
"led light" : searches for an exact match of the phrase “led light”
led or "Light Emitting Diode" : searches for led or “Light Emitting Diode”
led and "Light Emitting Diode" : both led and “Light Emitting Diode” must be present
led not infrared : only led must occur without occurrence of infrared
(led wd5 infrared) : led must occur within 5 words of infrared and before infrared
(led w5 infrared) : led or infrared must occur within 5 words of each other in any order
(ledwd10 tvwd10 remote wd10 infrared) : All 4 words: led, tv, remote, infrared must occur within 10 words of each other in the same order.
optic* : matches optic, optics, optical
optic? : matches optics and not optic or optical
car*t : matches cart, carrot, carrrot, carkit
colo*1r : matched color and colour
mix*2 : matches mixer and mixed but not mixing.
G08B1* : matches G08B1, G08B15, G08B11 and not G08B0
brain~ : matches brain, brake, crain, drain (Fuzzy matching)
"claim [4 TO 8]"~0 : Matches claim 4, claim 5, claim 6, claim 7, claim 8

CHAPTER 4 OPERATORS ALLOWED IN PATSEER

PatSeer allows fully featured proximity support without any compromise.

4.1 TRUNCATION

Truncation/wildcard operators allow fixing of certain portions of the search term and allowing variable characters in the truncated portion. This operator has a similar effect as that of stemming but is more definite and can be controlled by the searcher. PatSeer supports all three (left, right and middle) truncations *(For example: Analy?e allows both Analyse and Analyze to be searched where "?" acts as the single truncation operator.)*

Similarly,

mix*2 will match mixer and mixed but not mixing.

colo*1r will match color and colour both.

IMPORTANT:

Sometimes truncation leads to unwanted term extensions which leads to junk patent results and thus needs to be carefully used.

For example if one uses air to search for terms airplane, aircraft, airship, airliner, aircab the searcher may not realize that the search will also return results with terms such as air, airfoil, airbag, airflow, airconditioning, airtight etc. which are not related in any manner to airplane and its variants and shall thus result into a large pool of non-relevant results.*

4.2 PROXIMITY SEARCH

Proximity operators are one of the key search optimization tools which is extensively used by expert searchers. To search two terms by specifying the distance between them (word based proximity), a proximity operator comes in handy. Thus, if one wants to search certain terms together in a range of five to ten words or within the same line or same paragraph a proximity operator is employed defining such range or distance.

PatSeer allows bidirectional proximity search by using operator **w** and **wd** for left-right ordered proximity. Proximity operators' **ws#** and **wp#** allow to perform an unordered proximity search within the same sentence and same paragraph, where # is the range of occurrence.

For example,

1. TAC: (mobile ws network) searches for mobile and network within the same sentence. The search will span across the length of the sentence.
2. TAC: (mobile ws3 network) searches within 3 words and within the same sentence. The span across 3 words is unordered.
3. TAC: (fiber wp optic*) searches for fiber and optic* within the same paragraph. The search will span across the length of the paragraph.

4. TAC: (fiber wp3 optic*) will search within 3 words and within the same paragraph. The span across 3 words is unordered.

Operator **w** is same as w0 meaning within 0 words), **w5** (within zero to five words), **w2-4** (within two to four words), **w4-4** (within exactly 4 words). Similarly **wd, wd5, wd2-4, wd4-4** can be used for left-to-right ordered proximity.
For example

While searching in Title, Abstract, and Claims
TAC: ((optic w2 (fiber or fibre)) wd5 (transmission amplifier))*

Optic uses * as an unlimited forward truncation to cover words like optic, optics, optical, optically, optico, optician, opticalcommunication (where terms such as opticalcommunication is not a regular used word but is typically a spelling error or deliberately written word to avoid searches)*

This query will search for optic within 2 words of fiber or fibre and occur within 5 words of the phrase transmission amplifier due to the proximity operator w and wd.*

TAC: (airbag and vehicle) AND ((frontal* or (Side w5 impact) or external*)) WD5 airbag*)*

This query will search for the side within 5 words of impact (bidirectional search) and within 5 words of airbag (left to right)

IMPORTANT:

- **Only for users using the older double-quote syntax for proximity:** The disadvantage of using double-quotes for proximity is that you cannot use wild-card within the double-quote as it will be ignored. So if you are searching for optic* then the query TAC:(fiber optic*) will work and TAC: “fiber optic*” will only search for fiber optic.

- To do an unordered proximity search use **w** or double-quotes and % operator. So*(optics w1 fiber)*will match both *fiber optics* and *optics fiber*

- You can also enter a number range defining limits to number of words to search around. So *(optic w3-10 fiber)*will match only those records in which optic and fiber come within 3 to 10 words of each other.

- You can order search within the same sentence and same paragraph using the ws and wp inline proximity operators.

Common mistake: Keep in mind that (mobile **ws** network) is **NOT** the same as (mobile **ws0** network). (mobilews network) will span across the length of the sentence and (mobile ws0 network) will look for an exact match within the same sentence. In that sense (mobile ws0 network) and (mobile w0 network) is the same since in PatSeer an exact match query anyhow dosent span across sentence boundaries. However (mobile **w** network) is the same as (mobile **w0** network).

4.3 USING BOOLEAN WITH PROXIMITY

Using parentheses within proximity search you can increase the combinations of proximity search to be conducted. For example:

Using Inline Proximity	Explanation
(optical wd1 (fiber or fibre))	Searches for optical within 1 word of fiber or fibre
(mobile* OR cellular* OR handheld) wd5 (display OR LCD OR screen*)	searches for mobile* within 5 words of display/LCD/screen* or cellular* within 5 words of display/LCD/screen* or handheld within 5 words of display/LCD/screen*

CHAPTER 5 DATE RANGE SEARCHING

In Field Search, there is a *From - To* date Range option for Application and Publication dates. You can enter only a year or year with month and date.

- In the “From” field *2011* converts to *2011-01-01* and *2011-09* converts to *2011-09-01*. So the first day in the year or the first day in the month is automatically assumed.

- In the “To” field *2011* converts to *2011-12-31* and *2011-09* converts to *2011-09-30*. So the last day in the year or the month is automatically assumed

To search for an exact date, enter the same values in both From and To fields.

In Command line search you must specify the exact dates yourself to avoid any ambiguity. If you only enter year or year-month then the following is taken:

APD:[2009 TO 2012] : matches application dates 1st Jan 2009 to **1st Jan** 2012

APD:[2009-06 TO 2009-10] : matches applications dates 1st June 2009 to **1st Oct**2009

Using NOW in date range

You can use NOW in a range query as shown in the example below:

APD:[2009-06-01 TO NOW] - matches all dates from June 1, 2009 to current date.

Using the Year fields

Each date field also has a corresponding year field. So Application Date APD has APY, Publication Date PBD has PBY. So you can use these fields if you want to search for a year range. Its simpler and avoid any confusion. So:

APY:[2005 TO 2012] : matches all application dates in years 2005 to 2012 (both years included)

CHAPTER 6 PLURAL MATCHING

Simpler forms of plurals are automatically applied to the search terms. This is applicable only for the text search fields such as T,A,C,D and not any other field. This would make words like 'vehicles' also match if only 'vehicle' is used in the search query. It applies to words which have an s-only and ies-only (for words ending in a 'y') plural form. The following are examples of plurals that will and will not match:

WILL MATCH ITS PLURAL
==========

- paper -> paper or papers
- grid -> grid or grids
- automobiles -> automobile or automobiles
- strategy -> strategy or strategies
- baby -> baby or babies
- galley -> galley or galleys (As 'y' is not preceded by consonant it matches the s-type plural form)

WILL NOT MATCH ITS PLURAL
==========

- process -> process (processes is an es-form of plural and so dosent get matched with process.
- wildcard should be used for this if both words are needed)
- gas -> gas (same as above 'gases' will not get matched)
- potato -> potato (same as above 'potatoes' wont get matched)
- child -> child (special types wont be matched and so 'children' wont be matched)
- fungus -> fungus (latin type plurals will not get matched and so 'fungi' wont be matched)
- phenomenon -> phenomenon ('phenomena' wont be matched)
- life -> life ('lives' wont be matched)
- knife -> knife ('knives' wont be matched)

CHAPTER 7 SEARCHING CASE-CHANGE WORDS

You can specify the case-change in your search term itself and depending upon whether you enclose it in double-quotes or not the words matched will differ.

For example: **T:mRNA** – Will match *mrna, mRNA, m RNA, m rna*

T: "**mRNA**" – Will match *mRNA, m RNA, m rna* (will not match mrna)

Similarly, search for the text **superAlloy** will match *superAlloy*, *superalloy* and *super alloy*, however searching for the text **superalloy** will only match *superalloy* and searching for the text **"superAlloy"** will match *superAlloy* and *super alloy* only.

NOTE: Wildcard (? or *) is not supported with any search term having a case change and will lead to ambiguous results. For e.g., searching for GaN* is not allowed.

CHAPTER 8 CHEMICAL NAME SEARCHING

Chemistry based keyword searches are often a challenging task by even the best of the searchers, where the brackets and hyphens in the chemical names intersect with the search engine's logic and algorithm. Although structure based searches can be carried out while searching chemical based inventions, they are not always exhaustive and for inventions where generic or common chemicals are used merely as one of the aspects of the invention, a structure search may turn out to be futile. In such cases keyword searches have to be carried out and one must find out whether the patent database provides any feature to facilitate chemical searches.

For example, PatSeer provides a feature enabling keyword searches for chemical names, which can be used to create a proper search string by the searcher.

In PatSeer characters such as hyphen - , parentheses ({ [ ) }], apostrophe/quotes ‘ ”, and comma , are indexed as space and consecutive spaces are reduced to a single space. This is mighty useful in searching complex chemical names with multiple brackets, commas, hyphens, etc.
Lets take a couple of examples of to understand this.

Chemical name to search	**Search syntax for exact match**	**Search syntax to match variations**
(2,3-TRANS)-TETRAHYDRO-2-PHENYL-5- HYDROXY-3-HYDROXYMETHYLFURAN	TAC: (2 3 TRANS TETRAHYDRO 2 PHENYL 5 HYDROXY 3 HYDROXYMETHYLFURAN)	TAC:(2 3 trans tetrahydro* 2 phenyl 5 hydroxy 3 hydroxymethyl*)
6(R)-[2-[8(S)(2,2 dimethylbutyryloxy)-2(S)	TAC: (6 R 2 8 S 2 2 dimethylbutyryloxy 2 S)	TAC: (6 r 2 8 s 2 2 dimethylbut* 2 s)
3,4,6-TRIDEOXY-3-(DIMETHYLAMINO-ß-D-XYLO-HEXOPYRANOSYL	TAC: (3 4 6 TRIDEOXY 3 DIMETHYLAMINO ß D XYLO HEXOPYRANOSYL)	TAC: (3 4 6 trideoxy 3 dimethylamino* ß d xylo hexopyr*)

In order to match all name variations from a portion simply use a wildcard to truncate it as shown above in the last column. For example TAC:(6 R 2 8 S 2 2 dimethylbut* 2 S) will also match 6(R)-(2-(8(S)(2,2-DIMETHYLBUTRYLOXY)-2(S) in addition to 6(R)-[2-[8(S)(2,2-dimethylbutyryloxy)-2(S).

CHAPTER 9 MULTILINGUAL SEARCH

In PatSeer, multilingual terms for any keyword can be searched by adding a $ in front of searchable fields.

For instance, searching for TAC$: (générateur OR generador OR 发电机组 OR ジェネレーター) will search for results relating to Generator across French, Spanish, Chinese (simplified), and Japanese records.

Examples of searchable fields across different languages

Field Code	Field Name
TDE, ADE, CDE, DDE, TADE, TACDE, TACDDE	Search in German
TFR, AFR, CFR, DFR, TAFR, TACFR, TACDFR	Search in French
TKR, AKR, CKR, DKR, TAKR, TACKR, TACDKR	Search in Korean
TJA, AJA, CJA, DJA, TAJA, TACJA, TACDJA	Search in Japanese
TES, AES, CES, DES, TAES, TACES, TACDES	Search in Spanish
TZH, AZH, CZH, DZH, TAZH, TACZH, TACDZH	Search in Chinese
TRU, ARU, CRU, DRU, TARU, TACRU, TACDRU	Search in Russian
TSV, ASV, CSV, DSV, TASV, TACSV, TACDSV	Search in Swedish
TPT, APT, CPT, DPT, TAPT, TACPT, TACDPT	Search in Portuguese
TOH, AOH, COH, DOH, TAOH, TACOH, TACDOH	Search in Other Languages
TTH, ATH, CTH, DTH, TATH, TACTH, TACDTH	Search in Thai
T$, A$, C$, D$, TA$, TAC$, TACD$	Search content in all the above language at the same time

CHAPTER 10 SEARCH SCRIPTING AND SAVED SEARCH

10.1 SEARCH SCRIPTING

Search scripting helps you combine search queries with identifiers assigned to each search query. So you can prepare your final search strategy in steps rather than having to formulate the large search in a single go. Each search added to a script is given an identifier and search identifiers can be combined using AND, OR and NOT in Command Line Search.

The Search Scripts that you create can be seen in the “Script” tab that is present on the right in any of the search form page.

The overall process of search scripting works in the following manner:

1. Enter your Search on either Quick/Simple/Field or Command line Search form
2. Select the appropriate filters to cater your search.
3. Enable/ Disable the Saved Search Script option.
4. You will see the search is added to a search script that is shown in a separate window on the right. You can pin the “Script” window so that it remains on top always.
5. The First search is assigned an identifier “L1”
6. Further searches that you conduct will be given successive identifiers L2, L3 and so on.
7. In command line search form you can now easily use these identifiers to build further queries. For example you can enter queries like (L1 AND L2) NOT L3.
8. Once your final query is run, click on the search icon next to the query in the script in order to jump to the results.

A search script that you start preparing is by default stored under the name “Untitled”. Even if you log out and come back later you will be able to see it under “Untitled”. This is similar to how opening new word document gives it a default name. You can Rename and save the script into an appropriate name.
All saved search scripts can be seen under the “Saved Searches” tab.

Important Notes:

- You can remove an entry from a search script. Such an action will also remove any other entries that dependent on it. For instance if you remove L2 and lets say that L6 = L2 AND L4, then L6 is also going to be deleted.

- A new Search identifier will always be one more than the highest search identifier. Deleted search identifiers are not reused in the same script.

- You cannot combine queries across different search scripts.

- If you have combined identifiers from the same search script, you would be able to view the query formed along with the script name within current search.

- Search query ID cannot be combined with Script ID in command line search.

10.2 WORKING WITH SAVED SEARCHES

You can save a single search or a set of searches done (say on a particular technology) under a separate Saved Search group. A name of the Saved Search can be given for easy lookup later. Searches that you save under Saved Search remain forever under your account. You can edit saved searches so that you can revise the searches according to the project requirement.

CHAPTER 11 CURRENT SEARCH

In the Current Search page, just like in Saved Search, each search query is given a unique ID which can be combined using AND/OR/NOT. This allows you to combine searches in more complex ways. You can comment and also tag (with one or more categories) each search query.

To add a **comment** or **tag**, click on the cell and enter the comment. Multiple tags on the same query must be separated with a comma. A filter by tag option on the top right allows you to quickly filter and view just the queries containing the tag searched. Export options allow you to also export the comments and tags with each search query. Furthermore, if you save a set of search queries to a Saved Search Script, then the comments and tags are automatically copied into the Saved Searches.

Important Note:

1. If you have combined identifiers from the same search script, you would be able to view the query formed along with the script name within current search.

2. Search query ID from command line cannot be combined with Script ID.

3. Multiple Search script ID cannot be combined together.

CHAPTER 12 SPECIAL SEARCHING TYPES

12.1 MINIMUM MUST MATCH QUERY

PatSeer also supports minimum must match query which enforce a minimum number of words to match within an OR'ed list. For instance, TA: ANY2(computer* OR PDA OR PC OR laptop). This will match any 2 words from the list of words in OR query.

Similarly,

- TAC: ANY2(nano fabric OR nano fabrics OR nanofibre* OR nano fiber* OR nano fibre* OR nanometer fiber) matches any 2 words out of 6 words in any record to be relevant for inspection.

12.2 HIT CUTOFF QUERY

PatSeer allows searching for only those records in which a word or a phrase appears more than X number of times in the field you have specified. The hit cutoff operator PatSeer uses is | which is to be added at the end of a word or a phrase that you want to specify a cutoff for.

For example,

TAC: (mobile AND network|3) searches for mobile and network, where network appears 3 or more times within TAC

TAC:"thin battery"|3 searches for records that have the phrase thin battery appearing 3 or more time in the title

12.3 TERM BOOSTING

You can boost a term or a phrase to influence the relevance order of results.

GPS^4 OR triangulation: matches either words but GPS documents come earlier in results.

"skate board"^10: the phrase is boosted by order of 10

By default, the boost factor is 1. Although the boost factor must be positive, it can be less than 1 (e.g. 0.2).

12.4 QUERY MODIFIERS

Query modifiers are special functions that take a search query as an input and modify the results of that query. The list of Query Modifiers are:

EFAMOF()	This query modifier will give all the extended family members of the results of input query in the result set	E.g *EFAMOF(C:((led OR "light emitting diode") AND display))*
SFAMOF()	This query modifier will give all the simple family members of the results of input query in the result set	E.g *SFAMOF(C:((led OR "light emitting diode") AND display))*
BCTOF()	This query modified will give all the backward citations of the results of the input query. Only the first 1000 results of the input query will be considered	E.g *BCTOF(TAC:((led OR "light emitting diode") AND display))*
FCTOF()	This query modified will give all the forward citations of the results of the input query. Only the first 1000 results of the input query will be considered.	E.g *FCTOF(TAC:((led OR "light emitting diode") AND display))*

CHAPTER 13 MOST POPULAR FIELD CODES

13.1 SEARCH FIELDS

The search fields provided by a database are the tools that are used to engineer the entire search and while using a database a searcher must be thorough with what the database offers as searchable fields. The below table represents most commonly used search fields by searchers.

Field code	Field Name	Syntax Example
TA	Title and Abstract	TA:((led OR "light emitting diode") AND display)
TAC	Title, Abstract and Claims	TAC:((led OR "light emitting diode") AND display)
TACD	Title, Abstract, Claims and Description **(Full text)**	TACD:((led OR "light emitting diode“) AND display)
IC	International Classification (All versions)	IC:G06F13* IC:G06F13/00
CPC	Cooperative Patent Classification (CPC)	CPC:”B23B29/24” CPC:A01N47*
UC	US Classification	UC:"713/201“ UC:713*
PBC	Publication Country	PBC:CA
APD	Application Date (YYYY-MM-DD)	APD:2007-06-21 APD:2009-12 APD:[2001-01-01 TO 2009-12-31]
APY	Application Year (YYYY)	APY:2001 APY:[2001 TO 2004]
PBD	Publication Date (YYYY-MM-DD)	PBD:2011-11-20 PBD:2011-11 PBD:[2003-01-01 TO 2007-12-31]
PBY	Publication Year (YYYY)	PBY:2011 PBY:[2010 TO 2011]
ASN	Assignee	ASN:”General Motors”
INV	Inventor	INV:(John w1 smith)

Note: See Appendix for complete field code list

CHAPTER 14 PATSEER SEARCH FORMS

PatSeer allows you to search for worldwide patent records and has various types of in built search forms based on different search criteria for easy searching.
The following are the main types of searches in PatSeer:

14.1 SEARCH FORMS

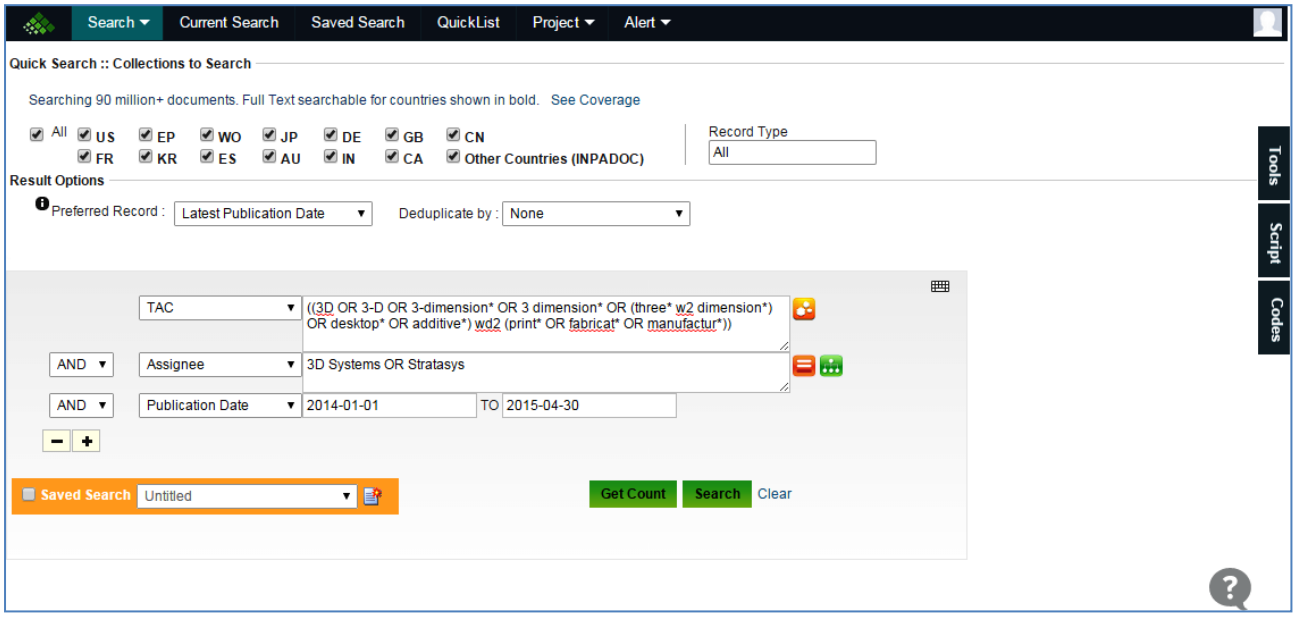
There are different types of search forms to suit different searchers. These platforms are made available for simple and advanced searching techniques.

- Quick Search
- Simple Search
- Field Search
- Command Line Search
- Number Search
- Natural Language Search

The following snapshots illustrate various searching platform options within PatSeer

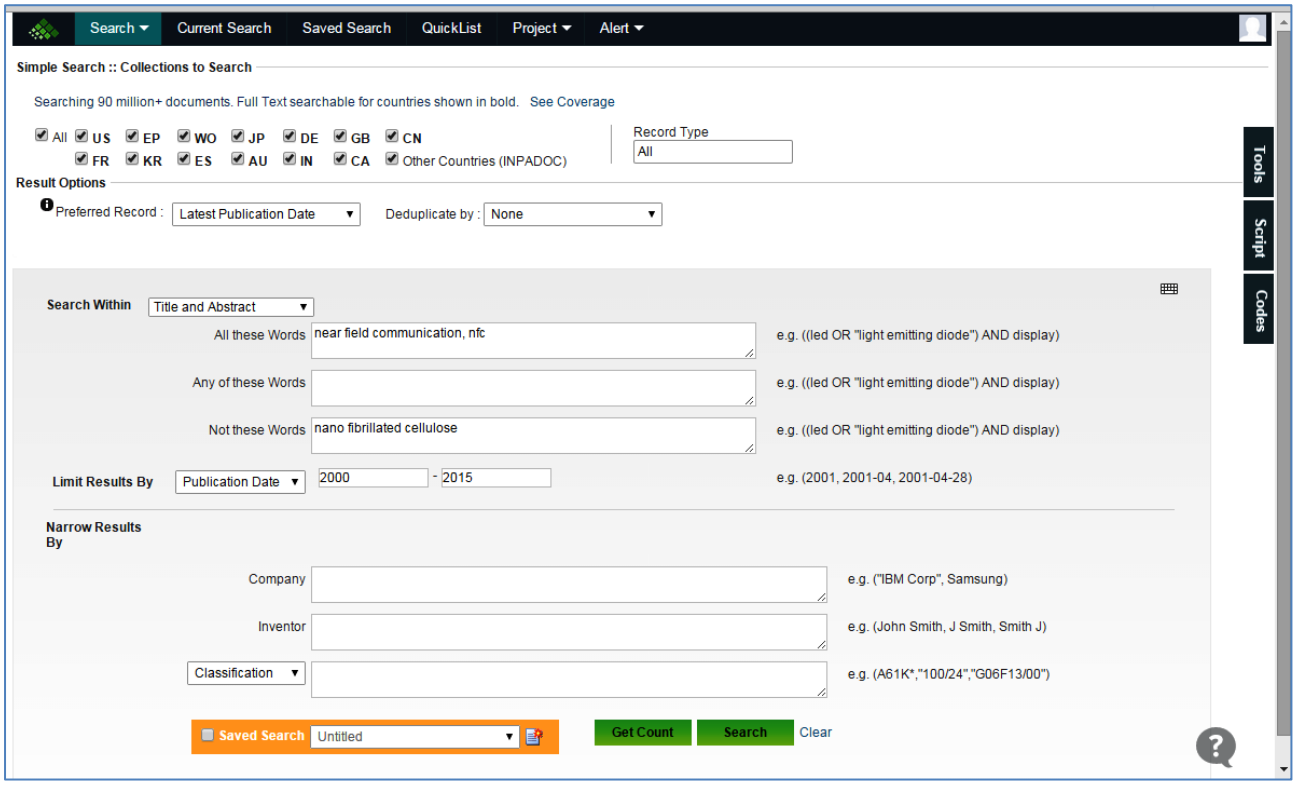
14.1.1 QUICK SEARCH

Quick Search makes it easier to build queries using many fields. The form can be used to create structured queries in addition to running simple searches.



14.1.2 SIMPLE SEARCH

You can search quickly within title and abstract, title, abstract and claims or full text. This is useful when you do not want to form complex Boolean queries yourself. The different text fields in this form allow you to include words that you want to mandatorily have or words that you want to exclude.



14.1.3 FIELD SEARCH

You can search a patent across various fields. There are various types of fields: Text, Number /Date, Applicant, References, Families, Classification, Legal Status and Other Fields. There are various subcategories provided for each of the fields. It is **not** mandatory to fill all the fields to search.
As per your requirement you can enter the data and search for the patent records. The Field Search form also includes search tools such as the Semantic Search Suggester, Find Matching Assignee / Inventor, Corporate Tree lookup, Get Related Classes. For more information on these see the section on Search Tools.

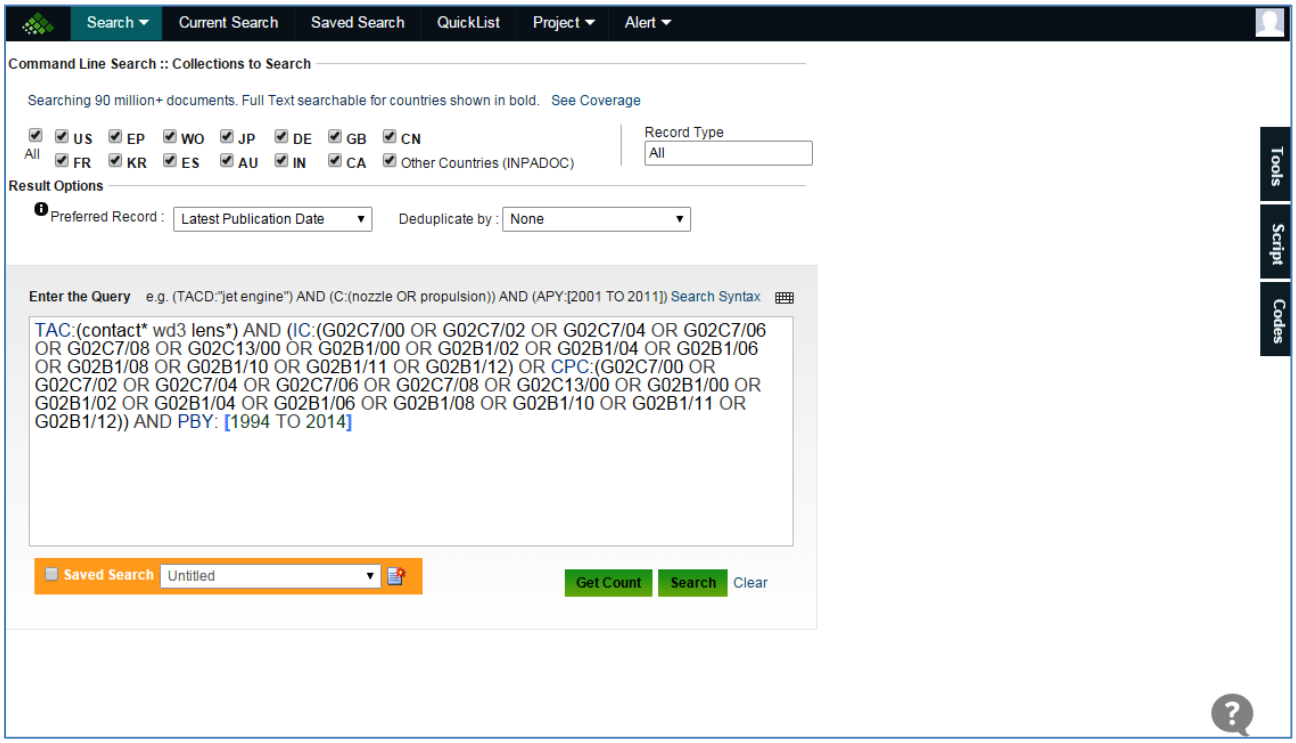
Following are extensive search fields made available to the user for locating keywords in exact field

Text ➢ Title ➢ Abstract ➢ Description ➢ Claims **Number/ Date** ➢ Publication Number ➢ Application Number ➢ Application Date ➢ Publication Date ➢ Priority Date **Applicant** ➢ Assignee ➢ Current Assignee ➢ US Reassignment Assignee ➢ Inventor ➢ Assignee Country ➢ Inventor Country ➢ Priority Country **References** ➢ Forward Citations ➢ Backward Citations ➢ Non-Patent Citations	**Families** ➢ Simple Family ➢ Extended Family **Classification** ➢ US Classification ➢ IPC (All versions) ➢ ICR (Versions 8-9) ➢ IPO (Versions 1 to 7) ➢ Cooperative Patent Classification ➢ Japan FI ➢ Japan FTerm **Legal Status** ➢ Current Legal Status ➢ Legal Status Events ➢ Legal Status- Other Significant Events **Other Fields** ➢ Independent Claims ➢ Description Example ➢ Prior Art

In addition to searching across fields, there are three main tools that help users refine search queries. These are shown as icons next to their applicable fields. Semantic Suggester, Get Matching Assignee, Get Matching Inventor and Assignee Corporate Tree.

14.1.4 COMMAND LINE SEARCH

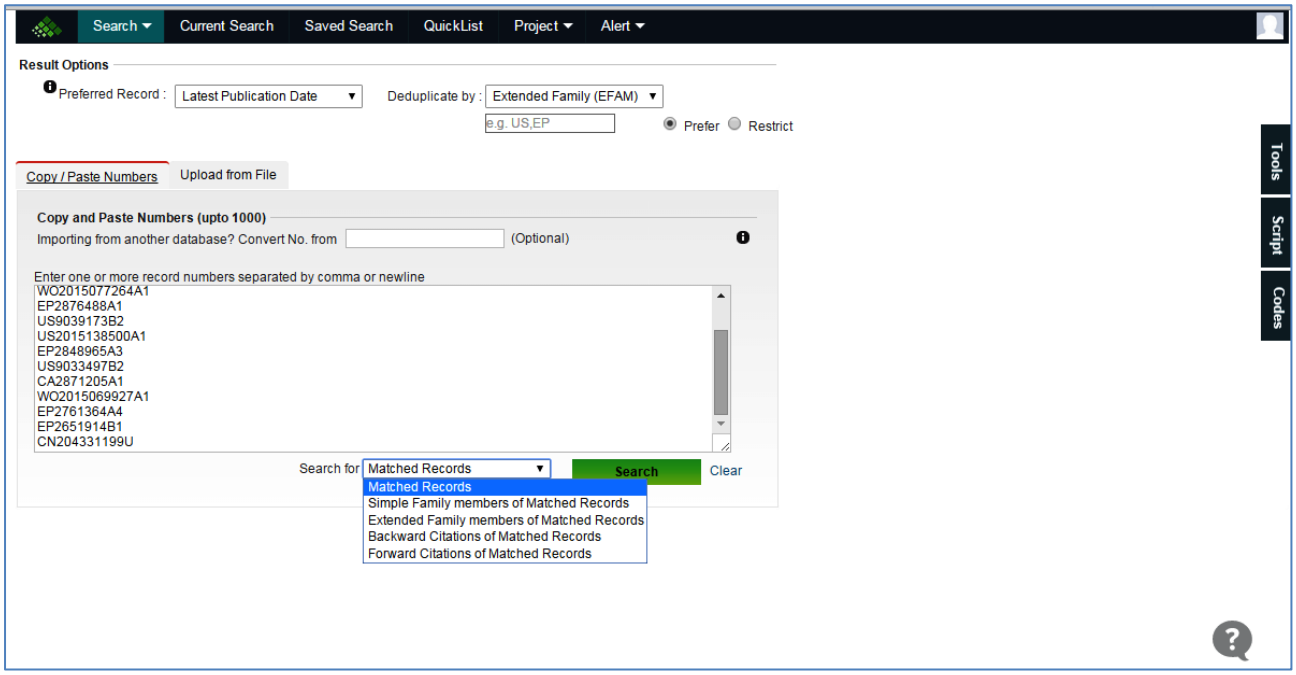
You can search using all the basic text search features from complex boolean to command line syntax. You can enter a query with a combination of field codes, field name and various syntax's. It provides flexibility to enter long queries. One of the advantages here is that multi-language searches can be combined.

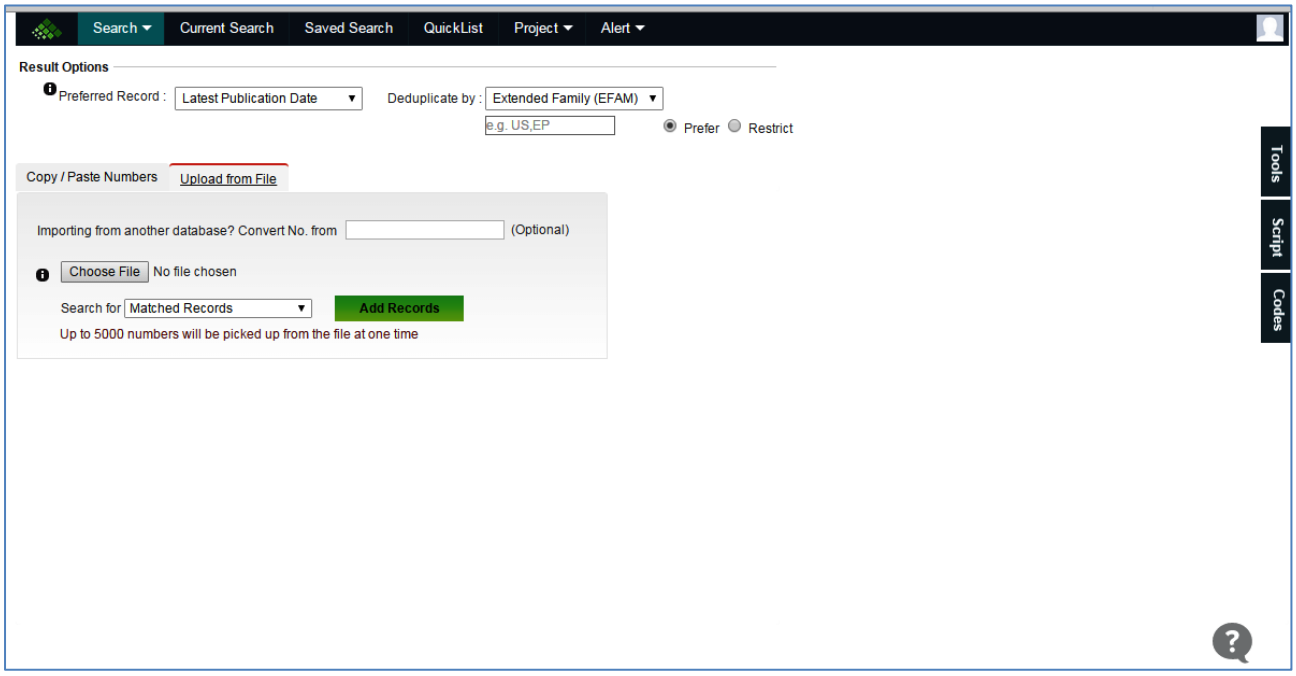


14.1.5 NUMBER SEARCH

You can search by using patent numbers or by uploading the numbers from files. The file formats allowed are xls, xlsx while uploading the records. The file size should not be more than 50 MB.

Now users can import Numbers in PatSeer from any other database with ease. The wizard takes care of complex number conversion so that most numbers get matched. You can also search for family members and citations of the record numbers that they want in their result set.

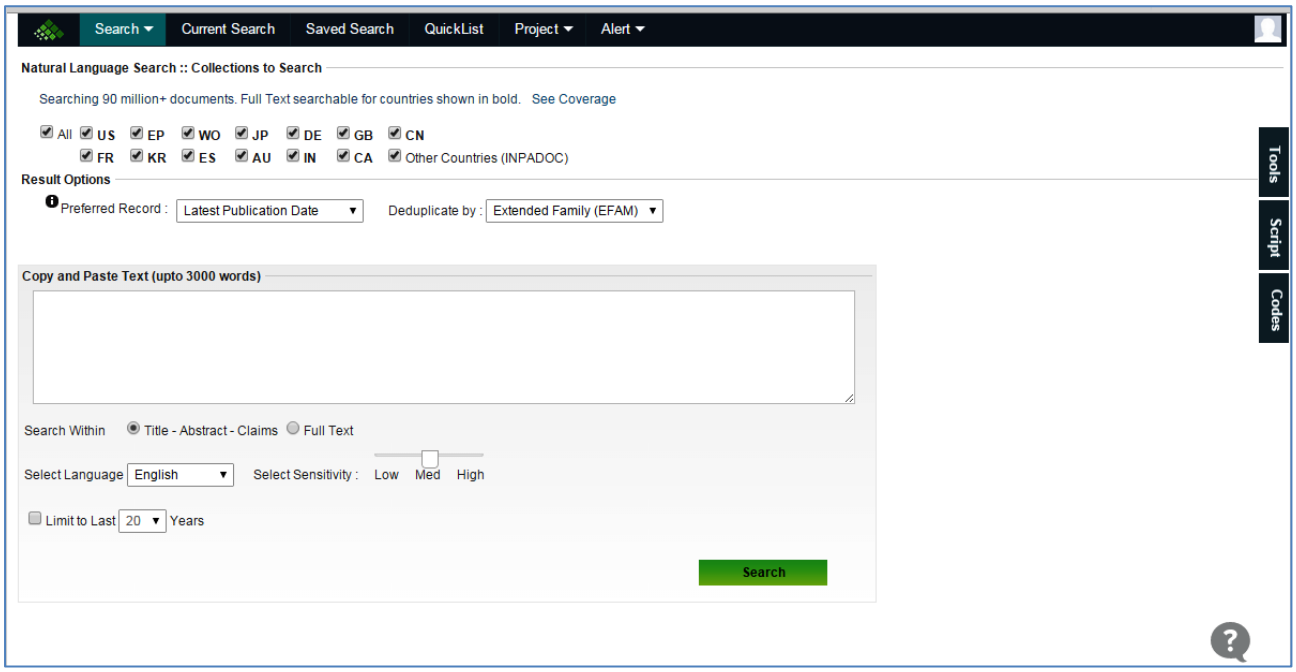




14.1.6 NATURAL LANGUAGE SEARCH

You can search free text using the Natural Language Search form. You can limit the search to either TAC or to TACD (full text) and also to records in last 20 years.

The Sensitivity option allows you to influence the Natural Language Searching Algorithm. Higher sensitivity, results in more precise matching and hence lower number of results.



CHAPTER 15 SEARCH AIDS AND TOOLS

15.1 SEMANTIC SEARCH SUGGESTER

The Semantic Search Suggester is provided as an icon next to the text based search fields in Quick Search and Field Search forms. The suggester takes the current set of input that you have given in the text field and looks up our Internal Semantic index for related terms.
It then shows a list of related technology terms in a drop down from where you can select or copy any term you want include in your search query.

Note: A seed input search is required for the suggester to look up. Also the suggester only considered the text that you have entered in the adjoining textbox.

15.2 FIND MATCHING ASSIGNEE / INVENTOR

Find Matching Assignee allows you to browse the complete Assignee Index to look for name variations that may occur. The option is provided as an icon next to the Assignee field in Quick Search and Field Search forms.
To look up name variation simple enter any Assignee name and click on the Find Matching Assignee icon. You will see a list of matching names show up in a drop down. You can then select all the matching names and add them to your search query.
Find Matching Inventors, works the same way as that for Assignee.

15.3 CORPORATE TREE

PatSeer features an integrated Corporate Tree of top 3000 Assignees within search platform. This allows users to choose subsidiary companies and include them in Assignee searches.
The Corporate Tree database contains Corporate hierarchy data. The information in the corporate tree database comes from Company Annual Reports/SEC filings, M&A news/feeds, corporate websites and other miscellaneous sources.

Important Note: Its important to note that the names in the corporate tree database may not match with the names in the patent database as they come from a different source. Also due to the complexity of acquisitions if a company A acquires company B, it is not necessary that the patents held by company B would be part of the transaction. You are advised to use the corporate tree as a reference and do your own research before including the names appearing in the tree in your search.

The option for Corporate Tree appears as an icon next to the Assignee Search box within Quick Search and Field Search forms.

Searching the Corporate tree is a 2 step process. The procedure is:

1. Enter the name of any company (whether parent or subsidiary) that you want to lookup. The name you provide is searched across all parent/child names in the database.

2. You will then see a list of matching top-level organization names that contain the company name you entered. For example if you enter 'Warner' you will see organizations such as Pfizer and Time Warner.

3. Select the organization you are interested in, to view its subsidiary list.

4. You can then select the subsidiary names which you want to include in your search query.

15.4 TERM TRANSLATOR

As PatSeer includes, searchable content in multiple languages you may be interested to lookup the equivalent of your search term in a different language and include it in your query.

A search in TAC searches the English Title, Abstract and Claims only, so by getting the translated terms you can search in TAC$ which will search across the Title, Abstract, Claims in all 9 languages including non-latin languages. For example your query can look like:
TAC$: ((induction or asynchronous or induktion or asynchronen or subsynchronous) w3 (generador or alternador or 产生器 or ジェネレーター or Jenerēta or generator or Erzeuger or Lichtmaschine or générateur or hatsudenki OR 発電機 OR 発生器 or machine*)*

The Term Translator is a handy tool to lookup the translation of your search terms in other languages from within the PatSeer application itself. The option is present in the Search Tools tab that can be seen on the right side within all Search Forms.

To use the Term Translator, enter the text you want to translate, select the source and destination language and click on Translate button.

15.5 TERM INDEX LOOKUP

The Term Index lookup tool helps you see all variations of search terms from the PatSeer Search Index. You can browse through all the variations of the text you enter and decide on which terms to include in your query or on how to truncate your query.

To use the Term Index lookup feature you need to enter a word to lookup. This feature supports left truncation and even SLART (Simultaneous left and right truncation). So you can lookup variations of left-truncated words and include them in your search query.

The feature shows the top 200 matching terms from the database, in the order of popularity. So the top terms show higher up in the list.
You can select-copy the relevant terms from the result and include it in your search query.

15.6 SEARCH CLASS DEFINITIONS

PatSeer includes the full Classification Definitions for IPC, US Class and CPC. The Search Class Definitions tool within the Search Tools section allows you to search across text of the Class Definitions with the same powerful patent search syntax.
The search interface of Class Definitions Search is similar to Field Search. An explanation of each field is as follows:

- **By Class No**. - You can supply a Class No. To search for a portion of a class you must use a wildcard at the end of it. For example 007*, A61K*, A01D42* or C01*. To search full class number with the backslash '/' , please include it in double quotes. For example "A01D42/06", "029/560.1", "137/270.5", "A01D2034/6806" etc

- **By Text** - Your search term can include Boolean AND/OR/NOT clauses and proximity clauses. The search syntax is same that of patent search forms. To run you search in the Full Class Description select the "Full hierarchy" option. To run your search within the same level description statement only, select the "Same level" option. For example, if your search term is *(harvest* w5 convert*)* and you are searching within CPC, selecting "Same Level" will match only A01D57/05 class as the words *converting* and *harvesting* come within 5 words in the same sentence/level there. But if you search it within Full Hierarchy you will see more matching classes such as A01D7/02 etc where the words appear in different levels within the Class description although within 5 words of each other.

- **Class Type** - Search across All Class Descriptions or restrict your search to a particular type of Class (IC, UC or CPC).

- **Class Portion** - Restricts your search to a specific portion of the class. For example to search only within the US main class, you can select Class Type as UC and Class Portion as "Subclass/ US Main Class". Note:- If you Search within Full Class, your results will show only the matching Full Classifications. However if you search within "All" your search will show Main, Groups , Full Class separately in the results.

You can switch the results display to show the Class Numbers only instead of the Full Hierarchy using the option present above the results pane.

15.7 SEARCH QUERY MIGRATOR

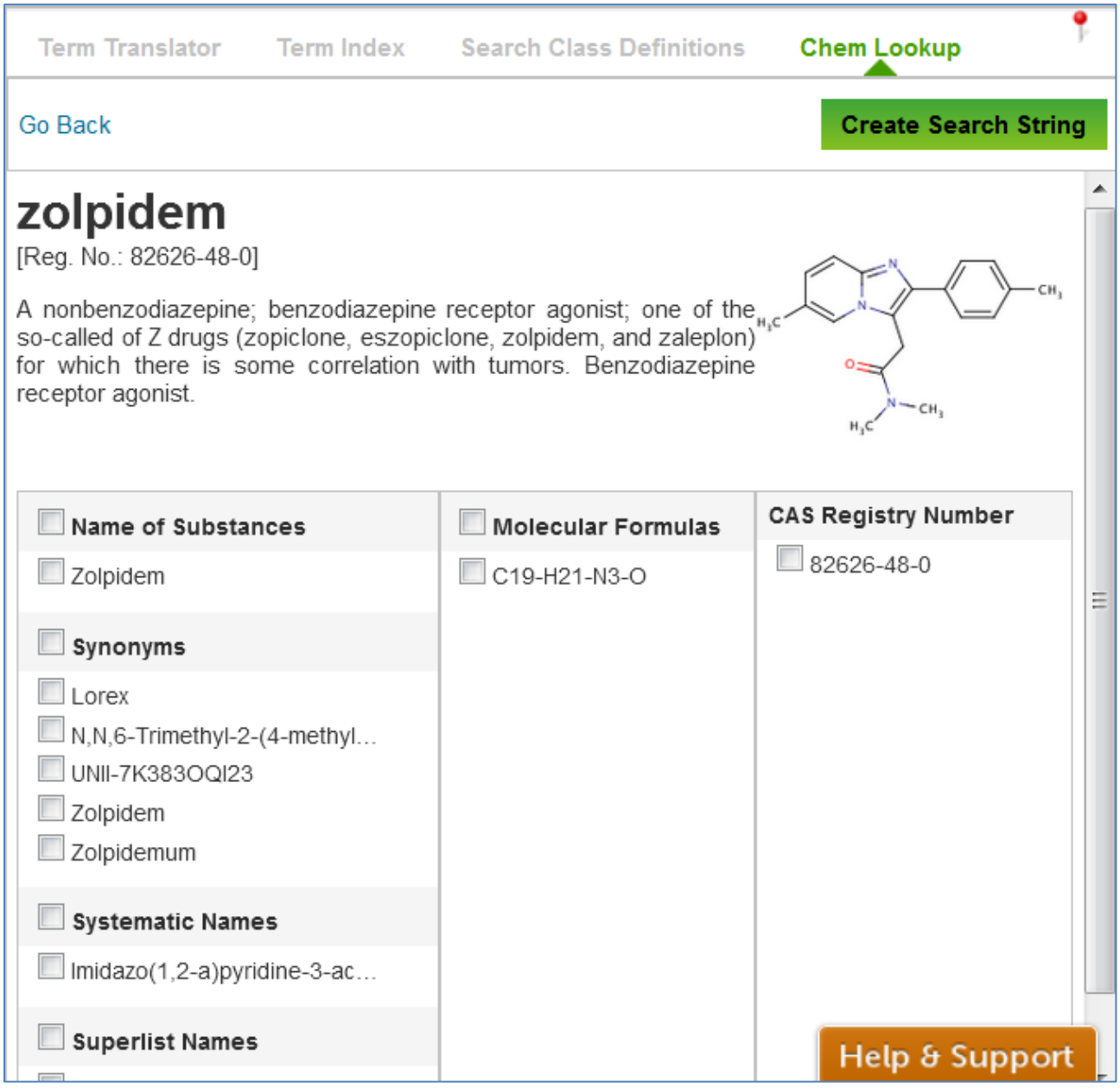
You can convert search queries from other databases to PatSeer. The Syntax converter within the Search Tools section allows you to convert search queries from other databases. You can enter your search query in the textbox above and the source database name to convert the syntax.

15.8 CHEM LOOKUP

When searching for chemicals, its important to all include its name variations, synonyms, registry numbers in the search query to increase the precision of the search.

Using data provided by the US National Library of Medicine, the Chem lookup feature provides you with a set of matching compound synonyms, Industry names, molecular formula and registry numbers for an input chemical or compound name.

As a first step, the system verifies your provided input and shows you all the matching chemicals. Here you can enter a compound name, industry drug name etc. From the list of matching names, you can select the chemical of interest and then you get full details for that chemical including an image of its chemical structure. See example image below:



You can use the provided information as a reference and select those names that you want to include in your search query and then click on the "Create Search String" option on top to get the resulting search string.

NOTE: Registry numbers must be included in double quotes for proper matching. Including a Registry Number in your text search simply searches for the its occurrence in the text of patents and should not be

confused with searching by Registry Number or Chemical Structure search in other specialized chemistry databases such as STN.

15.9 GET RELATED CLASSIFICATIONS

Get related classification tool allows you to quickly see the classifications that have matched the query you have entered till then.

Available as an icon next to the US, IPC and CPC classification fields, this option will take the search query (across all the fields) entered in the search form and will show all matching classifications in decreasing order of ranking.

When run it first shows the main classes. You can expand them to see the matching subclasses along with their definitions.

15.10 RESIZABLE ELEMENTS IN QUICK/SIMPLE/FIELD SEARCH

The height for text boxes in quick/simple/field search resizes based on the length of your query. This makes it easy to see your complete query.

15.11 SYNONYM / RELATED TERMS LOOKUP – F9 KEY

You can now lookup the synonym and related terms for any word by pressing the F9 key within any search form. On a key press of F9, the system will take the word next to your cursor and look it up for synonyms and all related terms.

Note: This feature looks up the terms for only a single word.

This feature is different from the Semantic Suggester which shows related technology terms to your search query.

15.12 SPECIAL CHARACTERS KEYBOARD

A virtual keypad is provided to include various symbols like alpha (α), beta (β) or even range of temperature (°) in search queries across search interfaces. It can also be used in 'current search' as well. This is useful while conducting chemical related searches.

15.13 NUMBER SEARCH ORDER RETENTION

You can view records in same order as you have entered when you sort by relevance. This can be done when you sort results by relevance within **Results View**. To view results, enter numbers in **Number Search,** click on **Search.** Select **Relevance Descending** to sort the results. Now, you can see results are displayed in the same order as you had entered.

15.14 SEARCH QUERY HIGHTLIGHTER

The query highlighter within command line search now colors field codes and boolean operators automatically as you type. It also indicates common syntax mistake in Red. For instance, if you type in “CD” (an incorrect field code) to search in claims and description section or even if parenthesis doesn’t match, the syntax gets highlighted in red. For correct syntax, the field code appears in blue.

15.15 SEARCH QUERY ANALYZER

This feature shows exact count contributed by each word in the search query through the **Search Query Analyzer**. Click on Get Count to see the number of resulting hits. Then click on the number hyperlink shown to launch the analyzer.

This feature is present across Quick Search/ Simple Search/ Field Search and Command Line Search forms.

CHAPTER 16 WORKING WITH SEARCH RESULTS AND EXPORT

16.1 VIEWING RESULTS

The search results are automatically loaded when you click on Search from any of the search forms. You can view the records in various formats as well as refine your search by sorting records.
There are many different types of views. These are described in the table below:

Types of views	**Description**
Tabular View	Displays vertical list of records in tabular form with Patent number, Appl. Date, Pub. Date, Normalized Assignee.
Standard View	Displays parallel list of records in standard form with PDF, Drawings Mosaic, Legal status, Patent number, Abstract, APD (Application Date), PBD (Publication Date), EED (Expected Expiry Date), ASNO (Assignee Original) , ASNN (Assignee Normalized), INV (Inventor), EPRD (Earliest Priority date), EPBD (Earliest Publication date), PRN (Priority Details), IC (International Classification), UC (US Classification).
Standard + Claims View	Displays parallel list of records in standard form with claims, PDF, Drawings Mosaic, Legal status, Patent number, Abstract, APD, PBD, EED, ASN, INV, EPRD, EPBD, PRN, IC, UC.
Standard + Family View	Displays parallel list of records in standard form with patent family, PDF, Drawings Mosaic, Legal status, Patent number, Abstract, APD, PBD, EED, ASN, INV, EPRD, EPBD, PRN, IC, UC. The Family table shown includes options to view the Simple and Extended family members along with a link to the Register data for selected countries.
Drawings View	Displays collection of images in vertical carousel pattern, helping you to see multiple images in a single space.
Numbers Only View	Displays vertical list of records in tabular form.
Custom View	Displays list of records in a table form with the specified custom fields.

16.2 SEARCH RESULT FILTERS

PatSeer integrated the search results with a set of filters that allows the user to narrow down with ease. The Integrated filters is one of the most powerful features of the platform.

When viewing the results, you will see the filters arranged by Field names on the left. Clicking on any of the field name will expand the filter and show field values sorted by descending order against your search query. Usually the Top 50 items from the field are shown first and you have a 'More' option present below the scroll bar to load the next 50.

16.3 EXPORT OPTIONS

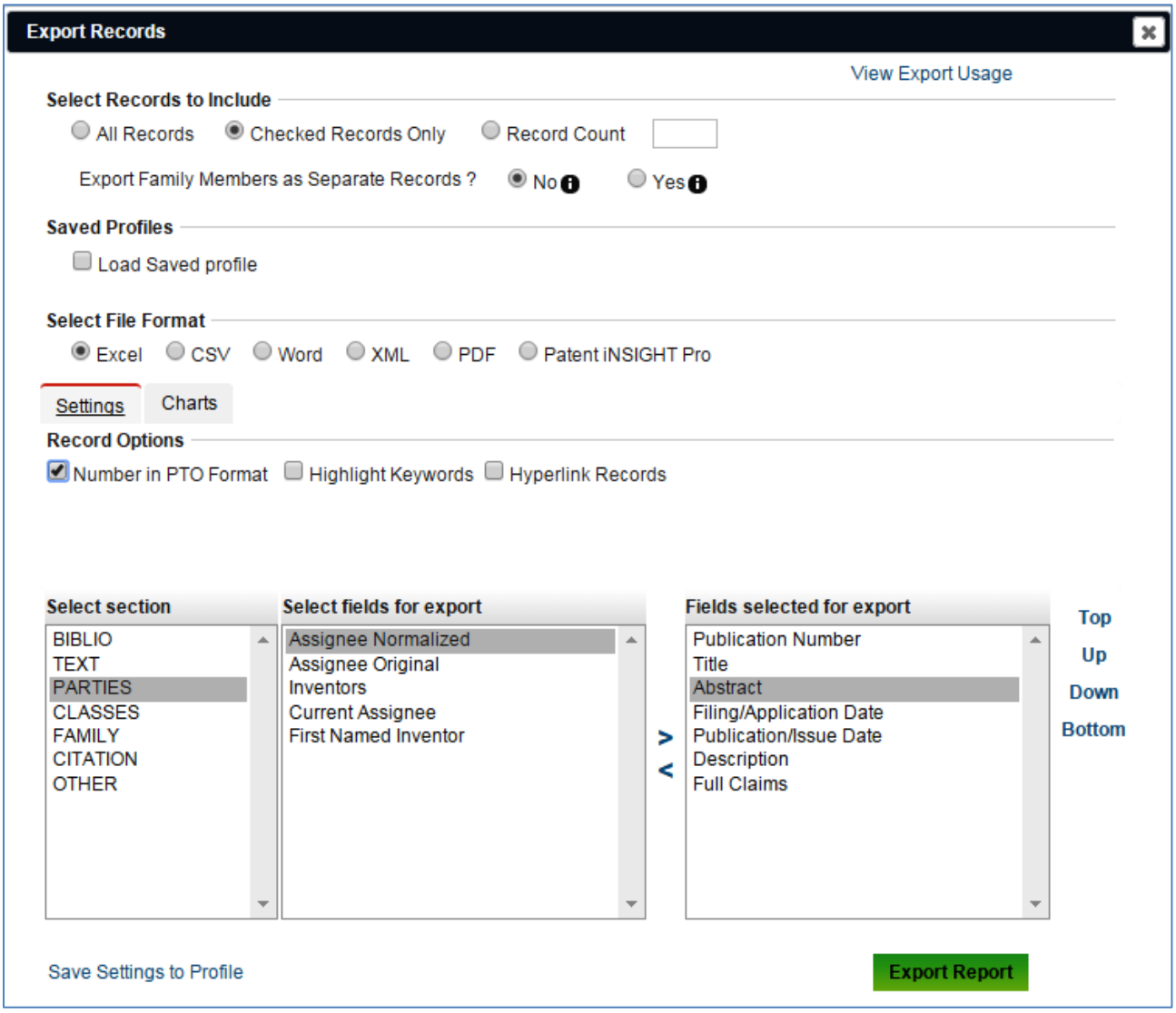
You can export records from the searches, quick list as well as from a project in ready-to-use Word/ Excel/CSV/PDF formats. You can also export charts and graphs along with the records. This can be done from within searched results or a project. PatSeer also allows export of data in XML format or replicate results sets into Patent iNSIGHT Pro with easy and minimum time. All additional data such as custom fields, rating, categorizations, etc. is also exported and recreated in Patent iNSIGHT Pro import method. Users can also export 'First Named Inventor'.

Users can add user defined fields for future exports thereby reducing time

While exporting results users can export:

1. All the family members for each record instead of just the record in the result set when working on SFAM/EFAM de-duped results sets.

2. The publication number of the record as per the format followed by its respective patent office using 'Number in PTO Format'.



Field Limits for exporting larger number of records:-

Some fields are limited to only exports within a certain number of records. So if you are exporting records higher than the limit, these fields will not be exported. The fields and their limits are:

- Full Claims - Up to 10000 records
- Independent Claims - Up to 15000 records
- Description - Up to 5000 records
- Images - Up to 1000 records

CHAPTER 17 PATSEER PROJECTS

Projects in PatSeer are a lot more than folders holding data. If you are working on a specific technology area, relevant results can be added to a project for further analysis. Within a project, records can be enhanced further by flagging records, adding a rating or even adding a comment to any record.

17.1 ADDING RECORDS TO PROJECT

PatSeer Premier edition user can add search results directly to a project when viewing the results. Projects Edition users can create a project and then import records using the ' Add Records ' option that is present inside a Project. Within 'Add Records' there are two options: Number Import and Field Import.

- Number Import - You can use this option if you have a set of patent records numbers which you want to add to the Project. PatSeer takes the numbers supplied, matches them with the internal repository and then adds the records to the Projects, with all the patent data (family/legal status etc) linked to the record. In case any record number does not match then that is displayed to the user. To improve the probability of the numbers matching with PatSeer internal repository, if the patent numbers have come from another patent database, then you can supply the database name so that proper number conversion rule is used for matching the supplied number internally.

- Field Import - The field import option allows you to import patent numbers (along with any custom data) from files. If you want to import record numbers from Excel/CSV file then you can supply these files here. Like the Number Import option, PatSeer will match the numbers present in the file with the internal repository and import all the data for the matching records into your Project. The Field import option also allows you import Journals/Non-patent literature into your report. The supported Journal formats are shown in a dropdown menu. Further the field import option allows you to add custom data (flags, rating, comments, categories) along with Patent data. These file formats may contain record numbers with or without kind code.

NOTE: For importing records, you need to specify column header names in Excel which match with predefined field codes present in PatSeer.

CHAPTER 18 EXAMPLE SEARCHING CASE STUDY

CASE STUDY I

18.1 OBJECTIVE OF THE STUDY

To search and analyze patents around 3D printing or additive manufacturing technologies. The table below shows sequence of steps we followed. We started with a combination of keywords and finally combined it with relevant IPC and CPC Classes to restrict the result set to relevant records.

Search Steps	Search Queries	Results
1.	TAC:((3D OR 3-D OR 3-dimension* OR 3 dimension* OR (three* w2 dimension*) OR desktop* OR additive*) wd2 (print* OR fabricat* OR manufactur*))	17698
Increase relevance of results by restricting it to the main IPC and CPC classes for 3D Printing		
2.	TAC:((3D OR 3-D OR 3-dimension* OR 3 dimension* OR (three* w2 dimension*) OR desktop* OR additive*) wd2 (print* OR fabricat* OR manufactur*)) AND (IC:(B29C* OR H01L* OR G06F* OR G02B* OR B32B* OR H05K* OR B41J* OR B41M* OR G06T* OR B44C* OR B22F* OR H04L* OR G03F* OR H04N* OR C04B* OR G05B* OR "G03B35" OR A61*) OR CPC:(B29C* OR H01L* OR G06F* OR G02B* OR B32B* OR H05K* OR B41J* OR B41M* OR G06T* OR H04L* OR B44C* OR B22F* OR G03F* OR H04N* OR C04B* OR G05B* OR A61* OR "G03B35"))	11696
After reviewing few results esp. from older publications, we came across some similar but irrelevant terms which we then excluded from full text using NOT operator.		
3.	TAC:((3D OR 3-D OR 3-dimension* OR 3 dimension* OR (three* w2 dimension*) OR desktop* OR additive*) wd2 (print* OR fabricat* OR manufactur*)) AND (IC:(B29C* OR H01L* OR G06F* OR G02B* OR B32B* OR H05K* OR B41J* OR B41M* OR G06T* OR B44C* OR B22F* OR H04L* OR G03F* OR H04N* OR C04B* OR G05B* OR "G03B35" OR A61*)	10398

	OR CPC:(B29C* OR H01L* OR G06F* OR G02B* OR B32B* OR H05K* OR B41J* OR B41M* OR G06T* OR H04L* OR B44C* OR B22F* OR G03F* OR H04N* OR C04B* OR G05B* OR A61* OR "G03B35")) AND NOT (TACD:(stereoscopic* OR oxidation product* OR streaming interactive OR nanowebor nano web OR nanofiber* OR nanofibre* OR nano fiber* OR nano fibre* OR nanometer fiber* OR nanometer fibre* OR non halogen OR non-halogen OR ((food* OR feed* OR liquid*) w2 additive*) OR seed culture OR nanometrefiber* OR nanometre fibre* OR antibacteria* OR media access control OR multi-wafer 3D CAM cell OR 3-sigma OR three sigma OR rheolog* additive* OR vibration isolator*))	

CASE STUDY II

18.2 OBJECTIVE OF THE STUDY

To search and analyze patents around contact lens technologies for last 15 years. The table below shows sequence of steps we followed. We started with a combination of keywords and finally combined it with relevant IPC and CPC Classes to restrict the result set to relevant records.

Search Steps	Search Queries	Results
1.	TAC:(contact* wd3 lens*)	24886
Increase relevance of results by restricting it to the main IPC and CPC classes for contact lens		
2.	TAC:(contact* wd3 lens*) AND (IC:(G02C7/00 OR G02C7/02 OR G02C7/04 OR G02C7/06 OR G02C7/08 OR G02C13/00 OR G02B1/00 OR G02B1/02 OR G02B1/04 OR G02B1/06 OR G02B1/08 OR G02B1/10 OR G02B1/11 OR G02B1/12) OR CPC:(G02C7/00 OR G02C7/02 OR G02C7/04 OR G02C7/06 OR G02C7/08 OR G02C13/00 OR G02B1/00 OR G02B1/02 OR G02B1/04 OR G02B1/06 OR G02B1/08 OR G02B1/10 OR G02B1/11 OR G02B1/12))	15811
The records were then restricted for records published after 1995		

3.	TAC:(contact* wd3 lens*) AND (IC:(G02C7/00 OR G02C7/02 OR G02C7/04 OR G02C7/06 OR G02C7/08 OR G02C13/00 OR G02B1/00 OR G02B1/02 OR G02B1/04 OR G02B1/06 OR G02B1/08 OR G02B1/10 OR G02B1/11 OR G02B1/12) OR CPC:(G02C7/00 OR G02C7/02 OR G02C7/04 OR G02C7/06 OR G02C7/08 OR G02C13/00 OR G02B1/00 OR G02B1/02 OR G02B1/04 OR G02B1/06 OR G02B1/08 OR G02B1/10 OR G02B1/11 OR G02B1/12)) AND PBY: [1995 TO 2015]	10398
Collapsed the Query in Step 3 by Extended Family to get count of INPADOC Families		
4.	TAC:(contact* wd3 lens*) AND (IC:(G02C7/00 OR G02C7/02 OR G02C7/04 OR G02C7/06 OR G02C7/08 OR G02C13/00 OR G02B1/00 OR G02B1/02 OR G02B1/04 OR G02B1/06 OR G02B1/08 OR G02B1/10 OR G02B1/11 OR G02B1/12) OR CPC:(G02C7/00 OR G02C7/02 OR G02C7/04 OR G02C7/06 OR G02C7/08 OR G02C13/00 OR G02B1/00 OR G02B1/02 OR G02B1/04 OR G02B1/06 OR G02B1/08 OR G02B1/10 OR G02B1/11 OR G02B1/12)) AND PBY: [1995 TO 2015]	2725

APPENDIX– COMPLETE FIELD CODE LIST

Field Code	Field Name	Syntax Example
A	Abstract	A:((led OR "light emitting diode") AND display)
APD	Application Date	APD:2007-06-21 APD:2009-12 APD:[2001-01-01 TO 2009-12-31]
APN	Application No	APN:EP20070824897
APNO	Application Number	APNO:553/MUMNP/2009
APY	Application Year	APY:2001 APY:[2001 TO 2004]
ASN	Assignee	ASN:"General Motors"
ASNN	Normalized Assignee	ASNN:LG ELECTRONICS CO LTD
ASNO	Assignee Original	ASNO:LG ELECTRONICS INC
ASNC	Assignee Country	ASNC:(US OR CA)
ATN	Attorney, Agent or Firm	ATN:"Richardson"
BCT	Backward Citations	BCT:US6000000
C	Claims	C:((led OR "light emitting diode") AND display)
CAAN	Current Assignee + Original and Normalised Assignees	CAAN:IBM
CASN	Current Assignee	CASN:IBM

CPC	Cooperative Patent Classification (CPC)	CPC:"B23B29/24"; CPC:A01N47*
CPCG	CPC Main Group	CPCG:B23B29*
CPSC	CPC Sub Class (First 4 letters)	CPSC:C07C
D	Description	D:((led OR "light emitting diode") AND display)
DEX	Examples Section at end of Description	DEX:((led OR "light emitting diode") AND display)
DPA	Prior/Background Art Section within Description	DPA:((led OR "light emitting diode") AND display)
DS	Designated States	DS:(BE OR AT OR CH)
EED	Estimated Expiry Date	EED:2012-01-23 EED:2012-12 EED:[2012-01-01 TO 2015-12-31]
EEY	Estimated Expiry Year	EEY:2015 EEY:[2013 TO 2014]
EFAM	Extended Family	EFAM: EP0261739 EFAM: EP0261739B1
EFID	PatSeer Extended Family ID	EFID:4423585
EPBD	Earliest Publication Date	EPBD:2001-01-23 EPBD:2001-01 EPBD:[2010-01-01 TO 2010-12-31]
EPBY	Earliest Publication Year	EPBY:2001 EPBY:[2001 TO 2002]

EPRD	Earliest Priority Date	EPRD:2004-11-21 EPRD:2004-11 EPRD:[2001-01-01 TO 2005-12-31]
EPRY	Earliest Priority Year	EPRY:2004 EPRY:[1992 TO 2000]
EXMR	Examiner	EXMR:"John"
FAMID	PatSeer Simple Family ID	FAMID:27177089
FCL	First Claim	FCL:(rechargeable lithium cell and phthalocyanine*)
FCW	First Claims Word Count	FCW:[10 TO 100]
FI	Japanese File Index Classification	FI:C08L* FI:"C08L25/04"
FTERM	Japanese FTERM	FTERM:4J001* FTERM:"3C058/AA09"
FCT	Forward Citations	FCT:US6000000
FOS	Field of Search	FOS:"714015"
IC	International Classification (All versions)	IC:G06F13*; IC:G06F13/00
ICGR	International Patent Classification Group	ICGR:B66D3*
ICO	International Classification (Version 1 to 7)	ICO:G06F13* ICO:"G06F13/00"

ICR	International Classification Revised (Version 8 - 9)	ICR:G06F13* ICR:"G06F13/00"
ICSC	International Patent Classification (Sub Class)	ICSC:A61K*
INC	Independent Claims	INC: :((led OR "light emitting diode") AND display)
INV	Inventor	INV:"CLARK MICHAEL"
INVC	Inventor Country	INVC:AU
JFF	Japanese F-I Facets	JFF:LDR
KC	Kind Code	KC:B*
LOC	Locarno Classification	LOC: 1216
NASNN	Number of normalized Assignee	NASNN:[3 TO 5]
NCASN	Number of Current Assignee	NCASN:[3 TO 5]
NCPC	Number of Cooperative Patent Classification	NCPC:[10 TO 15]
NCPSC	Number of Cooperative Patent Classification (Sub Class)	NCPSC:6

NFTERM	Number of Japanese FTERM	NFTERM:50
NICR	Number of International Patent Classification Full	NICR:3
NICSC	Number of International Patent Classification Main	NICSC:3
NINC	Number of Independent Claims	NINC:3 AND TAC: sucrose
NBCT	Number of Backward Citations	NBCT:2; NBCT:[5 TO 100]
NINV	Number of Inventors	NINV:2; NINV:[2 TO 10]
NREF	Number of Non-patent References	NREF:[3 TO 100]
NUC	Number of US Full Classification	NUC:3 AND PBY:2014
PBC	Publication Country	PBC:CA
PBD	Publication Date	PBD:2011-11-20 PBD:2011-11 PBD:[2003-01-01 TO 2007-12-31]
PBY	Publication Year	PBY:2011 PBY:[2010 TO 2011]
PN	Patent No	PN: EP0261739

PNC	Patent No with Kind Code	PNC: EP0261739 PNC: EP0261739B1
PNKC	Patent No with Kind Code	PNKC:(EP2469552B1 OR US8261433B1)
PRN	Priority No	PRN:DE200610054043
PRD	Priority Date	PRD:2001-03-23 PRD:2001-03 PRD:[2001-01-01 TO NOW]
PRC	Priority Country	PRC:(WO OR EP)
PTYP	Record Type (Patent, Application, Utility Model)	PTYP:Patent PTYP: Application
RAAN	US Reassignment Assignee + Original and Normalised Assignees	RAAN:IBM
RASN	All Assignees in US Reassignment History	RASN:("International Business Machines" or IBM)
REF	References (Non Patent backward citations)	REF:"Physics Today"

SFAM	Simple Family	SFAM: EP0261739 SFAM: EP0261739B1
T	Title	T:((led OR "light emitting diode") AND display)
TA	Title and Abstract	TA:((led OR "light emitting diode") AND display)
TAC	Title, Abstract and Claims	TAC:((led OR "light emitting diode") AND display)
TACD	Title, Abstract, Claims and Description (Full text)	TACD:((led OR "light emitting diode") AND display)
UC	US Classification	UC:"713/201" UC:713*
UCMN	US Main Class	UC:901*
LSC	Current Legal Status	TAC:(graphene) AND LSC:(Active-Granted / Applied)
LSE	Legal Status Events	LSE:"DE 2004" LSE:((US OR EP)) wd5 ([20040101 TO 20101231])
LSSE	Legal Status - Other Significant Events	LSSE:opposition
LST	Legal Status Text	LST:hybrid vehicle

Similar Records by Classification/Assignee/Inventor Search

The following field codes take a record no. (With or without kind code) and searches for similar records by the field code criterion given. Usually the field code is **ANY**XX or **ALL**XX where XX is the particular field being matched.

Field Code	Explanation	Example
ANYIC	Any IC of input patent number	ANYIC: WO2014028879A1
ALLIC	All IC of input patent number	ALLIC: WO2014028879
ANYICGR	Any IC Group of input patent number	ANYICGR: WO2014028879
ALLICGR	All IC Group of input patent number	ALLICGR: WO2014028879A1
ANYICSC	Any IC Sub-Class of input patent number	ANYICSC: WO2014028879
ALLICSC	All IC Sub-Class of input patent number	ALLICSC: WO2014028879A1
ANYUC	Any UC of input patent number	ANYUC: US6667125B2
ALLUC	All UC of input patent number	ALLUC: US6667125B2
ANYUCMN	Any UC Main Class of input patent number	ANYUCMN: US6667125
ALLUCMN	All UC Main Class of input patent number	ALLUCMN: US6667125B2
ANYCPC	Any CPC Class of input patent number	ANYCPC:EP2711422
ALLCPC	All CPC Class of input patent number	ALLCPC:EP2711422
ANYCPCG	Any CPC Group of input patent number	ANYCPCG: WO2014028879A1
ALLCPCG	All CPC Group of input patent number	ALLCPCG: WO2014028879
ANYCPSC	Any CPC Sub-Class of input patent number	ANYCPSC: WO2014028879
ALLCPSC	All CPC Sub-Class of input patent number	ALLCPSC: WO2014028879A1
ANYASN	Any Assignee of input patent number	ANYASN: CN203179714U
ALLASN	All Assignee of input patent number	ALLASN: CN203179714
ANYINV	Any Inventor of input patent number	ANYINV: EP2711422
ALLINV	All Inventor of input patent number	EP2711422A1