Patent Public Search - Advanced Search overview

Quick Reference Guide 2024

With Patent Public Search's Advanced Search interface, you can execute simple or complex search queries. This Quick Reference Guide introduces concepts that will enhance your search experience.

Select Advanced Search

Go to the Patent Public Search welcome page either from the Find It Fast menu on the USPTO home page (www.uspto.gov) or directly from the URL link on the right side. Select the Advanced Search button (red rectangle in **Figure 1**).

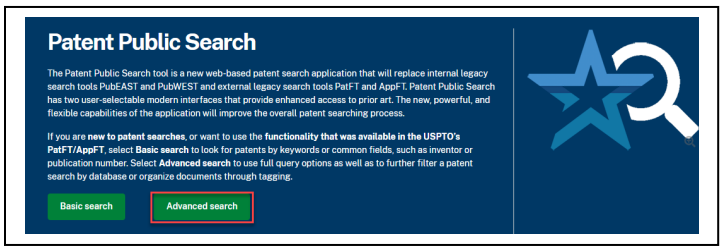

Figure 1. Welcome Page (https://www.uspto.gov/patents/search/patent-public-search).

Search databases

There are 3 selectable Databases to search from:

- US-PGPUB (U.S. pre-grant published patent applications) comprised of full text searchable U.S. Pre-Grant published patent applications from its inception in March 2001 to present.
- USPAT (granted U.S. patents) comprised of granted U.S. patents containing full text of most patents issued from 1971 to present, and limited information for U.S. patents back to 1790 including patent number, date, and classification.
- USOCR (granted U.S. patents scanned using optical character recognition) comprised of U.S. patents dated from 1836 through 2000 that were scanned using optical character recognition and support limited field-specific text searching. This database also contains patent documents dated before 1836 and back to 1790 but have limited information such as patent number to search on.

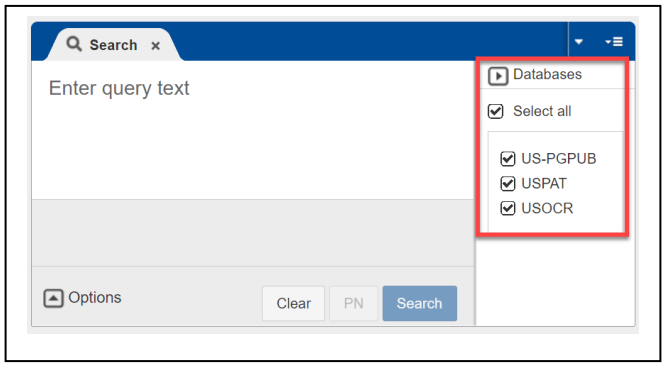

Figure 2. Databases selection option

By default, all three databases are selected but you can deselect a database using the check boxes. Use the "Databases" arrow button (**Figure 2**) to hide the databases menu.

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Search queries

Enter your query in the text box on the Search panel. Select the "Search" button to produce a listing of results in the Search Results pane.

1. A search statement that does not use any search index (field code labels) will search through the entire document for that term (e.g. "radar").
2. Search indices can focus a search to designated areas of a search record (e.g., "radar.ti.") to create a results list of only documents with "radar" in the title; see **Figure 3**. Periods or brackets on either side of the search index code inform the database that a specific search index (e.g., titles) is being searched (e.g., "radar.ti." or "radar[ti]").

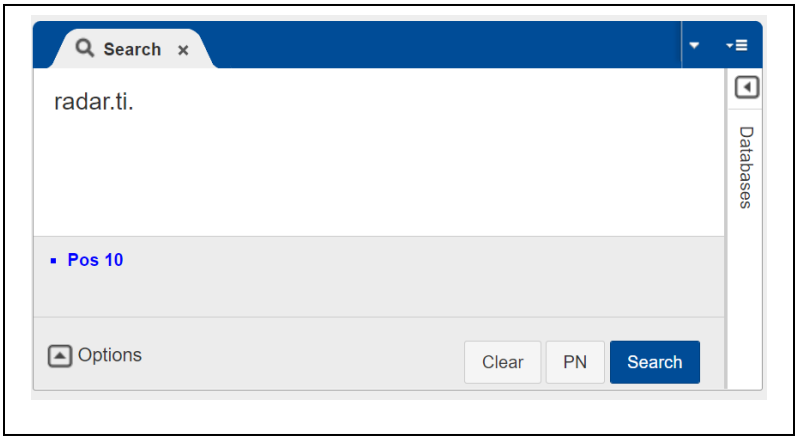

Figure 3. Search query in search panel

Search indexes (field codes)

3. Here is a list of commonly used search indices (field codes) found in the **Help** gadget under "Field Specific Searches." A complete listing of the searchable indexes is linked in the Help gadget panel: https://www.uspto.gov/patents/search/patent-public-search/searchable-indexes.

Suffix	Description	Example
AB	Searches the **abstract** text	amethyst.ab.
AD	Searches the **application filing date**	20120616.ad.
APP	Searches the **application number**	10/501576.app. *or* (12/123456).app.
AS	Searches the **assignee** name text	Microsoft.as.

Suffix	Description	Example
ATT	Search the **attorney** name text	(john NEAR3 smith).att.
ATTY	Search the **attorney/agent/firm** name text	(cantor NEAR3 colburn).atty.
AY or FY	Searches the **application filing year**	2006.ay.
BSUM	Searches the **brief summary** section	medicinal.bsum.
CCLS	Searches the **U.S. Patent Classification** and subclass	138/26.ccls.
CLAS	Searches the **USPC Classification** text of the patent	435.clas.
CLM or CLMS	Searches the **claims** section	tube.clm. *or* tube.clms.
CPC	Searches all **Cooperative Patent Classifications**	F16L11/00.cpc.
DID	Searches a specific **Document ID** (use hyphens)	US-11449323-B2.did. *or* US-20220297635-A1.did.
FD	Searches the **application filing date**	20110811.fd.
IN or INV	Searches the **inventor name**	(Smith NEAR2 John).in.
IPC	Searches all **International Patent Classifications**	G06F17/00.ipc.
PD	Searches **publication date**	20150217.pd.
PN	Searches a specific **publication number**	7557042.pn.
SPEC	Searches the **specification** section	collar.spec.
TI	Searches the **title**	concrete.ti.
URPN	Searches the **references cited patent numbers**	80525207.urpn.
XA	Searches the **assistant examiner's name**	smith.xa.
XP	Searches the **primary examiner's name**	hook.xp.

Date Ranges: Various date ranges for application year, application date, publication date and patent year

Equal	@pd=20011118
Greater than	@ad>19961231
Greater than or equal to	@ay>=2014
Less than	@py<1975
Less than or equal to	@py<=1975
Not equal to	@pd<>19990216
Range	@ay>=1980<=1986

Search query options

4. Advanced Search provides **Options** in the **Search** panel as shown in **Figure 4**. By default, Options are shown. Clicking on the Options arrow will hide the display of Options and provide additional space to enter a search query.

- **Default Operator**: You can select a default Boolean operator for search statements where no Boolean operator is specified. For instance, if "OR" is the default Boolean operator, then the search "Cars Automobiles Vehicles" would apply OR to each term in the search. It would have the same search results as the search statement "Cars OR Automobiles OR Vehicles."
- **Highlights**: You can select search terms to appear highlighted in the full-text search records with a single color, multiple colors for each search term (and its variants), or no highlighting.
- **Show Errors**: If the Show Errors box is checked, errors in search queries will appear below the query box.
- **Plurals**: If the Plurals box is checked, both plural and singular forms of search terms will be searched.
- **British Equivalents**: If the British Equivalents box is checked, a search of British equivalents of American English words will also be performed (e.g., "tyre" and "tire," "colour" and "color.")

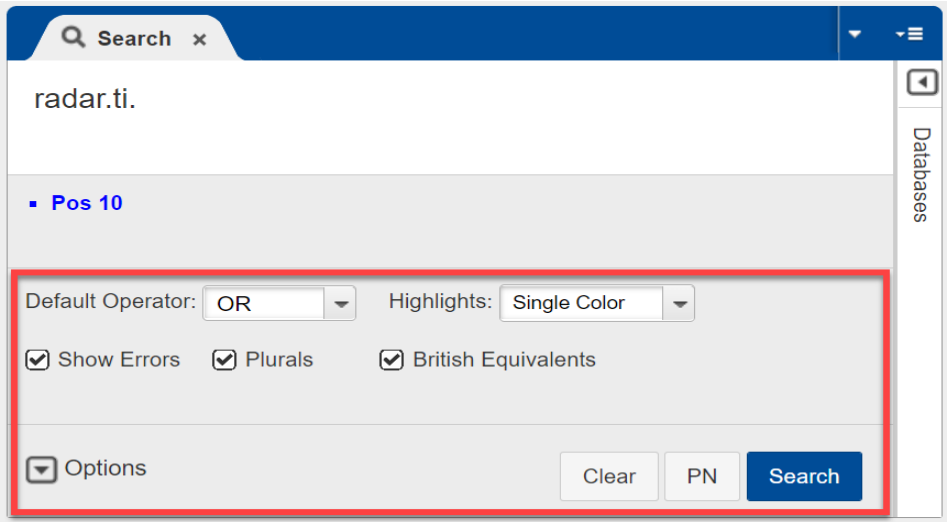

Figure 4. Options in search panel

Search query set operators and truncation

Operator	Description	Example	Behavior
AND	Two terms, joined by "AND" must occur within the same document.	photographic AND noodle	Returns all documents that contain both the terms "photographic" and "noodle" somewhere in the document-regardless of their order.
OR	Two terms, joined by "OR" means at least one of the terms must occur in the document.	dog OR cat	One of these two terms must occur in the document.
NOT	The first term must occur, the second term must not.	cardboard NOT box	Returns documents where the term "cardboard" does occur in the document, and the term "box" never occurs in the document.
XOR	Two terms, joined by "XOR" means at least one of the terms must occur in the document, but not both terms	pipe XOR ptfe	One of these two terms must occur in the document, but not both terms.

Figure 5: Boolean set operators

5. Users can combine search terms in queries using Boolean operators; see **Figure 5.**

6. Variant spellings of words (including variant beginning or endings of words) may be searched using wildcard or truncation symbols; see **Figure 6**.

Wildcard	Description	Example	Behavior
?	Matches any single character, can occur at the beginning, middle or end of a word.	m?cro	Returns all documents that contain the word "micro" or the word "macro" anywhere in the text of the document. You will see different highlighting for each term.
$[#]	Matches up to the given number of characters.	micro$3	The $3 here matches up to 3 characters. Hits would include terms like "microvia", "microbio", "microsec", "microgel".

Figure 6: Wildcard and truncation symbols

Search query proximity operators

7. You can use proximity operators in search queries. These can be especially valuable in full-text searching; see **Figure 7**.

Operator	Description	Example	Behavior
ADJ	Two terms must occur directly next to each other, and in order. ADJ is the only ordered operator.	oxidizing ADJ bacteria	Returns documents where these two terms occur adjacent to each other and in the same order. This is the default operator, and is applied when no operators are given.
ADJ[n]	Two terms must occur within [n] terms of each other, in order, and within the same sentence.	wet adj4 silicon	The term "silicon" must occur within the 4 words that follow the term "wet" - so the following "wet oxidized, polysilazane-based silicon oxide" would be considered a hit. Maximum value of N is 450.
NEAR	Similar to ADJ but order is not relevant.	electrospray NEAR ion	Returns documents where the terms "electrospray" and "ion" are next to each other and in the same sentence, but in any order. So unlike ADJ, this search would return a hit for "negative ion electrospray"
NEAR[n]	Again, similar to ADJ[n], but order is not relevant.	cyclotron NEAR7 magnetic	Finds documents where the term cyclotron is within 7 words or the term magnetic - regardless of order. This would hit the following "a magnetic sector mass analyzer, or an ion cyclotron." Maximum value of N is 450.
WITH	Terms joined with WITH must occur within the same sentence.	detect WITH light	Finds documents where the terms "Light" and "detect" occur within the same sentence.
WITH[n]	Terms joined with WITH must occur within n sentences of each other.	detect WITH10 light	Finds documents where the terms "Light" and "detect" occur within 10 sentences of each other. Maximum value of N is 25.
SAME	Term joined with SAME must occur within the same paragraph.	synthesizing SAME tomography	Very similar to WITH but the searches occur over paragraphs rather than sentences.
SAME[n]	Two term just occur within n paragraphs of each other.	wheel SAME3 wood	Very similar to WITH[n] but the searches occur over n paragraphs rather than sentences. Maximum value of N is 25.

Figure 7: Proximity operators

8. Search statements are saved in Advanced Search within a session as **L numbers**. Rather than retyping a search statement, you can use the generated L number for the search to save time and have greater flexibility in searching.

   For example: “(lidar OR radar) ADJ4 sensor” is L1; “automobile OR car OR vehicle” is L2; the user can enter “L1 AND L2” as a search statement.

   The search interface allows the use of the number itself without the L to indicate a search statement. “1 AND 2” would produce the same results. To search for a number used as a search term, and not indicating an L number, put quotation marks around the number in your search.

9. **Stopwords** are words that are not indexed for text paragraphs in Advanced Search. They give little meaning to a document since they occur so frequently. When a stopword is used in a search query, the term is only searched in certain metadata fields, such as assignee name and PCT data. No results are returned if the stopword is found in the text fields or body of the document (e.g., in the Title, Abstract, or Claims.)

a* (Upper/mixed case, "a" or "A")	for	of	these
an	if	on	they
and* (Upper, "AND")	in* (Mixed case, "In.m/c.")	or* (Upper case, "OR")	this
are	into	such	was
as* (Mixed case, "As.m/c.")	is	that	will
at* (Mixed case, "At.m/c.")	it* (Upper case, "IT")	the	
be* (Mixed case, "Be.m/c.")	no	their	
by	not	then	

However, some stopwords can be searched if they are uppercase or mixed case in the metadata or body of a document. These are **searchable stopwords** and indicated by an asterisk (*) in the chart. For example, the searchable stopword "AND" will be found and highlighted in the document body. Searchable stopwords will be found in any case within the metadata. "AND" and "OR" are searchable stopwords that are also Boolean operators and should be searched inside quotation marks, written in uppercase letters, to transform the operator into a searchable stopword. "As" (arsenic), "At" (astatine), "Be" (beryllium), "In" (indium) are chemical symbols that can only be searched inside quotation marks using the mixed-case index label .m/c. Patent Public Search does not count stopwords when figuring word proximity. This is vital to consider when determining search strategy that uses proximity operators. For example:

(analog ADJ digital ADJ computer)

Retrieves "…a single microcomputer analog to digital computer"
["to" is a stopword, so analog is considered adjacent to digital]

Retrieves "…determines the rate of communication between an analog and a digital computer or as a master oscillator for equipment testing at various frequencies"
["and" and "a" are stopwords, so analog is considered adjacent to digital]

(DNA ADJ3 Computer)

Retrieves "…the digital-DNA, then storing it on the computer's non-transitory computer storage medium"
["then," "it," "on," and "the" are stopwords, so DNA is considered adjacent to computer within three terms]

Retrieves "…a target DNA in a sample, for example, computer-implemented methods…."
["in," "a," and "for" are stopwords, so DNA is considered adjacent to computer within three terms]

10. **Patent number searching** is one of the most common searches employed in Advanced Search. The searchable index abbreviation is .**pn**.. The format used depends on the type of publication being searched, see examples below. Do not use commas inside a number.

"1234567".pn. For utility patents at least 7 digits are required.

"0000009".pn. Depending on the length of the utility patent number, fill with leading zeroes if needed.

"11000000".pn. More recently issued utility patents (since 6/19/2018) will accept 8 digits.

"**D123456".pn.** For design patents "D" plus at least 6 digits, fill with leading zeroes if needed.

"**PP12345".pn.** For plant patents "PP" plus 5 digits, fill with leading zeroes if needed.

Published patent application numbers may also be searched using .pn. with the format YYYYnnnnnnn, use leading zeroes if necessary, after the year ('YYYY') to meet the required 11-digit format.

"20180093696".pn.

Or, as a time-saving alternative you can use the **PN button** (see highlighted in red in Figure 8 below) to the left of the Search button. Enter the patent/published patent application number(s) you wish to search with **a space between each one**, as in this example:

("20180093696" "6707006" "6392195")

Select the "PN" button. The search will execute with the .PN. searchable index (field code) applied to each item in the entire search string.

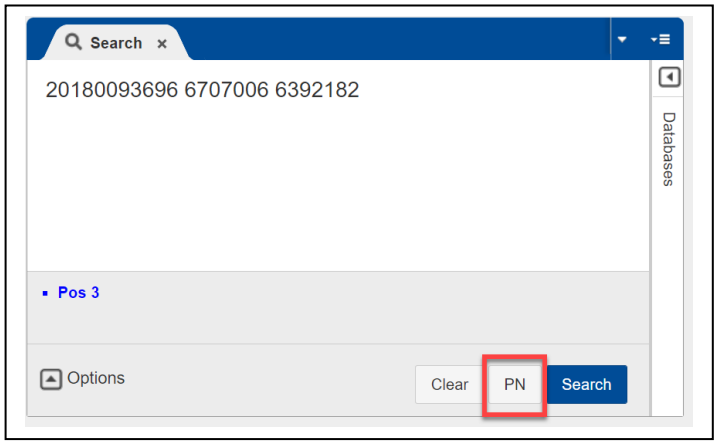

Figure 8: PN button

You may also search patent numbers using the document identifier (ID) searchable index abbreviation **.did.** See example below.

- **"US-10906080-B2".did.** Requires use of Country Code, Kind Code and hyphens.