

PAD

**PRIOR ART
DATABASE**

KEYWORD SEARCH GUIDE

Syntax, Boolean and Positional Operators,
Wildcards and Numeric Ranges

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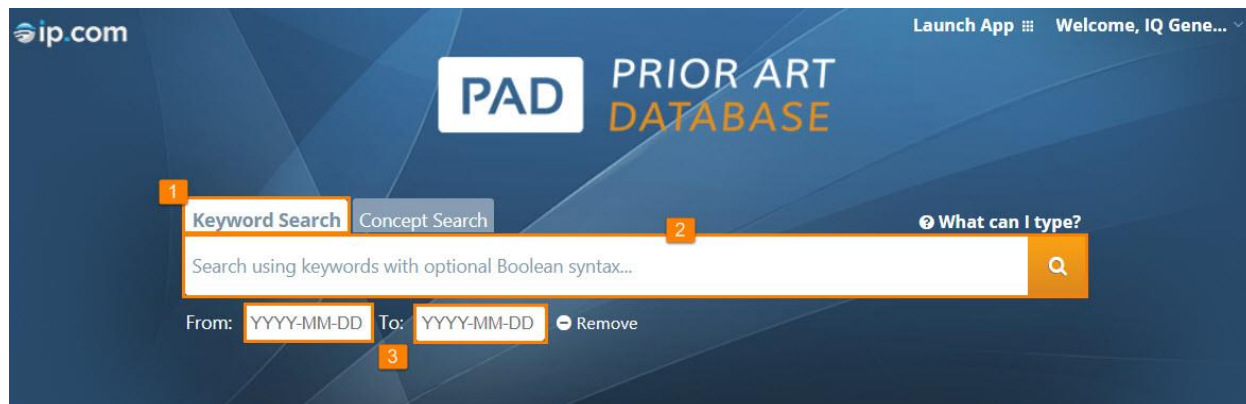
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PAD Keyword Search Overview

This guide includes an overview of the IP.com Prior Art Database keyword search facility including syntax, available Boolean and positional operators, and functions such as wildcards and numeric ranges. The Prior Art Database search performs a traditional text-based query directed at the non-patent, defensive publications stored in the IP.com Prior Art Database. The underlying keyword index supports all languages. Disclosures published into the Prior Art Database become available in this index shortly upon completion of processing. You may print a copy of this paper for your personal reference.

This document provides guidance on using Keyword Search. Concept search help is available from the Concept Search tab.

1. To search documents by using the keyword search facility, select the **Keyword Search** tab.
2. To start a search, enter keywords using the available Boolean syntax and other functions, then click the magnifying glass.
3. To search for documents within a specific date range, enter the **From** and **To** dates in the following formats: YYYY-MM-DD, YYYY-MM, or YYYY.



Syntax Overview

You can use the Keyword Search to find documents by entering a search request that filters the results based on your criteria. The table below provides an overview of the guidelines and operators.

AND	Must include all operands	fingerprint AND identification
OR	Must include at least one operand	fingerprint OR biometric
W/#	Unordered adjacent within “n” words	fingerprint W/5 touchpad
NOT	Must include left operand but not right operand	fingerprint AND NOT DNA
CONTAINS	The Field must contain the operand	TITLE CONTAINS fingerprint
()	Use parenthesis to set the precedence	authentication AND (fingerprint AND (three dimensional OR 3-D))
Special Characters	<p>? matches any single character</p> <p>* matches any number of characters</p> <p>% fuzzy search</p> <p># phonic search</p> <p>~ stemming</p> <p>~~ inclusive numeric range</p> <p>: variable term weighting</p>	<p>fingerprint? matches fingerprints</p> <p>touch* matches touch, touchpad, touchscreen</p> <p>comput%%e matches computers, compute</p> <p>#aluminium matches aluminium, aluminum</p> <p>apply~ matches apply, applies, applied</p> <p>12~~20 matches 12, 13, 14, 15, 16, 17, 19, 20</p> <p>fingerprint:4 W/5 biometric:1 – for sorting the results, fingerprint is weighted four times more and within five words of biometric</p>
Words and Phrases	<p>Enter a phrase the way it appears; no special punctuation is needed.</p> <p>Punctuation inside a search word is treated as a space.</p>	<p>fingerprint W/5 electronic device</p> <p>can't – is treated as a phrase consisting of two words can t</p>
Fields	The IP.com Prior Art Database contains some information that may be utilized using field searching.	Title, Abstract, Copyright, Related_People, Related Documents, Original_Date, Pub_Country, Pub_Language
Date Range	Enter a date range YYYY-MM-DD.	From: 2015-01-01 To: 2018-12-31

Operators and operands are Not case sensitive.

Notes

The search box also supports the look-up of an IP.com Digital Signature (also referred to as Fingerprint). Enter the 72-, 48-, or 32-character code to retrieve details of the associated file or submission.

The inclusion of the Fields and the quality of the information they contain is decided by the submitter of the document, not by IP.com.

Detailed Examples

Terms and Phrases

Terms and Phrases are entered as they ordinarily appear; they do not require any special punctuation or commands.

Example / Guidelines	Syntax	Results
Search for a term and a phrase.	fingerprint AND electronic device	Document results include both operands; “fingerprint” and “electronic device”.
A phrase can be used anywhere in a search request.	fingerprint OR (recognition W/5 electronic device)	Document results include either operands; “fingerprint” OR “recognition” within five words of “electronic device”.
Punctuation inside a search term is treated as a space.	IEEE 802.12	The term is treated as a phrase consisting of three terms IEEE 802 12
All terms, regardless of their semantic value, are indexed. This includes words that are sometimes considered “noise,” such as the, a, or of.	theory W/2 relativity	“theory w/2 relativity” is likely to return better results than “theory of relativity” .
The trailing * wildcard character can be used to match many terms.	c* comp*	A broad search will take longer to return results. Too many matches will cause the search to fail. In that case, narrow the search to continue.

Special Characters (% # ~ *)

The special characters; %, #, ~ and *, have a specific function which impact the search results. It is recommended that you omit these special characters from your search query unless intended for the following purpose:

Function	Syntax	Results
% Fuzzy searching	TITLE CONTAINS distributed comput%%	distributed comput%% matches distributed computer, distributed computers, but NOT distributed computing
# Phonic searching	(TITLE CONTAINS #colour) AND (PUB_COUNTRY CONTAINS NL)	#colour matches color, colour
~ Stemming	(TITLE CONTAINS distribut~ W/10 system AND information)	distribut~ matches distributed, distribution, distributing
* Wildcard	TITLE CONTAINS distribut* AND computer*	distribut* AND computer* matches distributed computers, distributed personal computer, computer controlled distributor

Numeric Range Searching

A numeric range search is a search for numbers that fall within a range.

Example / Guidelines	Syntax	Results
To add a numeric range component to a search request, enter the upper and lower bounds of the search separated by ~.	pattern recognition W/5 12~~17	Document results include “pattern recognition” within five words of a number between and including 12 and 17.
Numeric range searches only positive integers and includes the upper and lower bounds.	CPU load W/3 75~~100	Document results include “CPU” within three words of a number between and including 75 and 100.
For purposes of numeric range searching, decimal points and commas are treated as spaces and minus signs are ignored.	-123,456.78	interpreted as 123 456 78 (three numbers)
Another example, use 1024 bytes instead of 1,024 bytes	1,024 bytes	interpreted as 1 024 bytes
Date range searches use the following formats: YYYYMMDD, YYYYMM, or YYYY	(ORIGINAL_DATE CONTAINS 2001~~2002)	Results include documents with an Original_Date between 2001-01-01 through 2002-12-31.

Variable Term Weighting

When the search facility sorts results after a search, by default all words in a request count equally in counting hits. However, you can change this by specifying the relative weights for each term in your search request.

Example	Syntax	Results
Search for documents with the specified terms in any order and giving equal weight to all terms.	encryption AND security AND algorithm	Returned documents contain all specified terms.
Search for documents and sort using relative weights specified for the terms.	encryption:6 AND security:9 AND algorithm:2	The same documents are returned but they are ranked using the user supplied weights where a higher number indicates greater importance.
Use a negative weight to deemphasize a term without excluding it completely.	encryption:2 AND security:-9 AND algorithm:6	Documents are ranked emphasizing the positive weighted terms and deemphasizing the negatively weighted terms.

IP.com Prior Art Database Field Names

The IP.com Prior Art Database (PAD) contains some information that may be utilized using field searching. The inclusion of these fields and the quality of the information they contain is decided by the submitter of the document, not by IP.com. You can limit a search to the following fields:

TITLE	Search for the title of a document.	TITLE CONTAINS fingerprint AND sensor
ABSTRACT	Search for the abstract of a document.	ABSTRACT CONTAINS (fingerprint W/5 dimensional) OR (pattern recognition)
COPYRIGHT	Search for copyright information of a document. The format of the information is unpredictable.	COPYRIGHT CONTAINS 2018
RELATED_PEOPLE	Search for related people including the author, attorney, or inventor.	RELATED_PEOPLE CONTAINS #Lee
RELATED_DOCUMENTS	Search for related documents including patents, applications, URLs, and other publications.	RELATED_DOCUMENTS CONTAINS IEEE
ORIGINAL_DATE	Search for the month and year of the document as it originally appeared in print, not originally published using the PAD, or if it repeats the PAD month and year of publication. The formats are YYYYMMDD, YYYYMM, or YYYY and allows for the numeric range operator: ~~.	IBM AND (ORIGINAL_DATE CONTAINS 200401~~200412) searches for all documents from the year 2004 which contain the term IBM Use the same format for both start and end dates. For example, 200411~~20050101 includes 20010615
PUB_COUNTRY	Search for the country of origin of a document abbreviated by the ISO-3166 two-letter country code.	PUB_COUNTRY CONTAINS JP searches for all documents where the country of origin is Japan.
PUB_LANGUAGE	Search for the publication language of a document abbreviated by the ISO-639 two-letter language code, plus an optional territory selection. The territory selection can further filter results.	PUB_LANGUAGE CONTAINS EN searches for all documents where English (EN) is the language, regardless of territory PUB_LANGUAGE CONTAINS EN_GB searches for all documents where English (EN) is the language and United Kingdom (GB) is the territory

Field searches can be combined using AND, OR, and NOT. The parentheses are necessary to ensure that the search facility interprets the search request correctly. For example,

(TITLE CONTAINS (fingerprints OR biometric)) AND (ABSTRACT CONTAINS (pattern recognition))

Document results must include at least one operand in the Title, either “fingerprints” OR “biometric”; AND include “pattern recognition” in the Abstract.

The AND Operator

The AND operator connects two operands; both operands must be found in the document.

Example	Syntax	Results
Search for two terms where both terms are included in the document.	fingerprint AND three dimensional	Results include both operands, “fingerprint” and “three dimensional”, in the same document.

The OR Operator

The OR operator connects two operands; at least one operand must be found in the document.

Example	Syntax	Results
Search for two terms where either term is included in the document.	fingerprint OR biometric	Document results include either operand, “fingerprint” or “biometric”.

The W/# Connector

The W/# connector searches for a specific clause within a certain number of words and in any order of the second clause.

Term:= Word | Phrase

Clause:= Term | (Clause) | (Clause Operator Clause) | Term OR Term OR Term ...

Complex expressions using the W/# connector can produce ambiguous results or invalid queries. Review your query construction carefully.

Example	Syntax	Results
Search for a term within 5 words of another term.	fingerprint W/5 touchpad	Document results include “fingerprint” within 5 words of “touchpad”.
Search for clause within 10 words of a term.	(fingerprint AND sensor) W/10 touchpad	Document results include both operands; “fingerprint” AND “sensor” within ten words of “touchpad”.
Search for a clause within 10 words of a clause.	(fingerprint W/5 sensor) W/10 (touchpad OR mobile device)	Document results include “fingerprint” within five words of “sensor within 10 words of either “touchpad” OR “mobile device”.
Search for a clause within 10 words of a clause.	(fingerprint AND sensor) W/10 (touchpad OR mobile device OR electronic)	Document results include both operands; “fingerprint” AND “sensor” within ten words of “touchpad” OR “mobile device” or “electronic”.

The NOT and NOT W/# Connectors

You may use NOT in front of any search clause to reverse its meaning. This allows you to exclude documents from a search.

Term:= Word | Phrase

Clause:= Term | (Clause) | (Clause Operator Clause)

Example	Syntax	Results
Search for a phrase, but does not include a word.	home automation AND NOT wireless	Results include “home automation”, but not the word “wireless” in the same document.
Start a request with NOT to find documents by excluding a term.	NOT (camera W/5 video) AND home security	Document results do not include documents with either “camera” or video and includes “home security”.
If NOT is not the first connector in a request, you need to use either AND or OR with NOT.	motion sensor W/15 detection AND NOT sample OR NOT audio	Document results include “motion sensor” within five words of “detection” AND documents do not include “sample” OR documents do not include “audio”
Search for a term not in association with another term. NOT W/ means “not within”	fingerprint NOT W/5 audio	Results include the word, “fingerprint”, but not within 5 words of audio.
Unlike the W/ operator, NOT W/ is not symmetrical.	touchpad NOT W/20 fingerprint is not the same as fingerprint NOT W/20 touchpad	In the first example, the facility searches for “touchpad” and excludes cases where “fingerprint” is too close to “touchpad”. In the second example, the facility searches for “fingerprint” and excludes cases where “touchpad” is too close to “fingerprint”.

Non-English Language Searching

The search facility natively operates in English. However, searching for any language is enabled. To fully utilize the capabilities of the search facilities, the individual characters in all Eastern language (Chinese, Korean, and Japanese) documents are indexed as individual words. Simply enter the non-English words (containing the appropriate characters) as you normally would.

Examples:
Search for a German-titled document TITLE CONTAINS (ortsabhängige W/5 teilnehmerverfügbarkeit) Returns documents with the terms ortsabhängige within five words of teilnehmerverfügbarkeit in the title.
Search for documents written in French (PUB_LANGUAGE CONTAINS FR) AND (TITLE CONTAINS s?curi* W/15 auto* OR *efficacité) Returns documents written in French with terms like sécurité or sécurisation within fifteen words of words like Autorégulateur or automatique OR words like l'efficacité in the title.
Search for Korean documents using Chinese, Japanese, and Korean (CJK) characters TITLE CONTAINS 기술적 내용 Returns documents with the CJK characters, 기술적 내용, in the title (translates to “technical content”). PAD does not understand the non-English text, therefore, alternate forms of a given word are not found. A character by character comparison is used to search documents.

Credits

This document was adopted from the dtSearch Version 6 User's Manual, Chapter 6 "Search Requests." dtSearch's Text Retrieval Engine powers IP.com's online full-text search facility.

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