US 20070010956A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2007/0010956 A1

Nerguizian et al. (43) Pub. Date: Jan. 11, 2007

(54) METHOD AND SYSTEM FOR INDOOR GEOLOCATION USING AN IMPULSE RESPONSE FINGERPRINTING TECHNIQUE

(76) Inventors: **Chahe Nerguizian**, Montreal (CA); **Charles Despins**, L'Orignal (CA); **Sofiene Affes**, Montreal (CA)

Correspondence Address:
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402 (US)

(21) Appl. No.: **11/389,882**

(22) Filed: **Mar. 27, 2006**

Related U.S. Application Data

(63) Continuation of application No. PCT/CA04/01745, filed on Sep. 24, 2004.

(30) **Foreign Application Priority Data**

Apr. 7, 2005 (WO) 2005/032189 A1

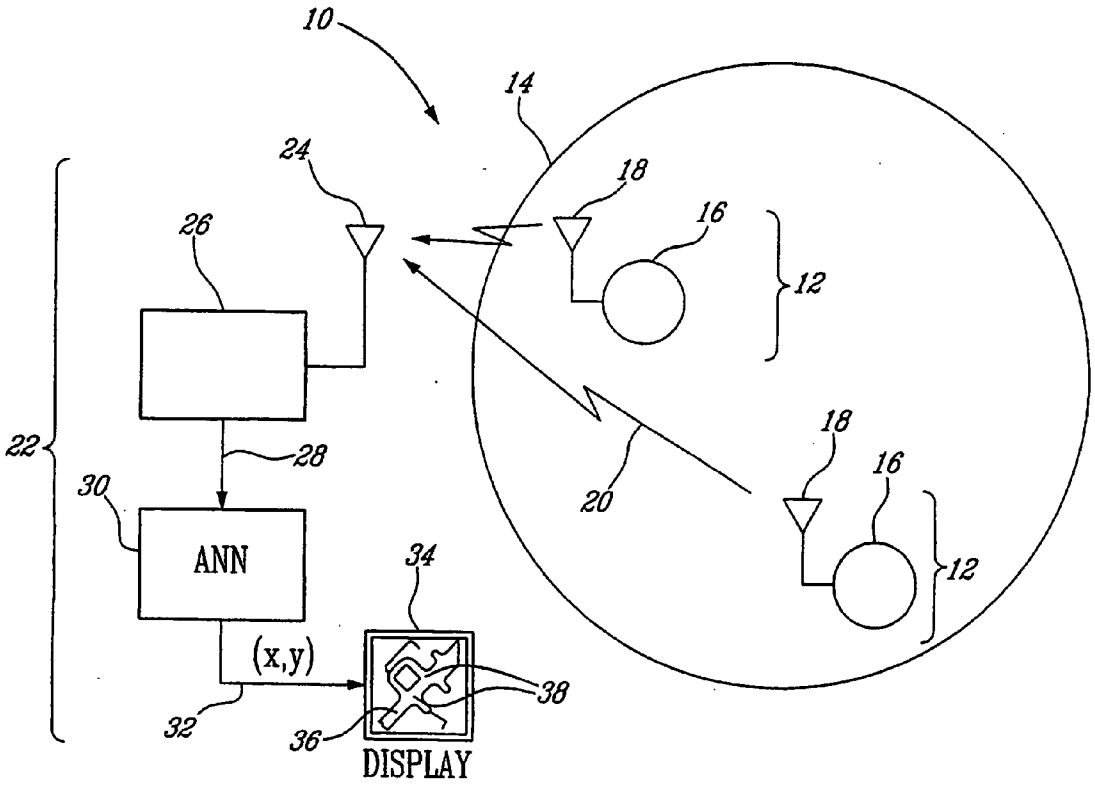
Publication Classification

(51) **Int. Cl.**
G06F 19/00 (2006.01)

(52) **U.S. Cl.** **702/57**

(57) **ABSTRACT**

A system and method for predicting the location of a transmitter in an indoor zone of interest, including fixed receiver for receiving a signal from the transmitter, the receiver deriving a fingerprint from the received signal, and a trained neural network. The trained neural network predicts the transmitter location from the fingerprint. The method includes receiving a signal transmitted from the transmitter at a fixed-location receiver, deriving a fingerprint from the received signal, supplying the fingerprint to a trained neural network, and reading the predicted location from the neural network. The artificial neural network may further be trained and include a plurality of weights and biases is also shown. The method may include collecting a training data set of fingerprints and corresponding locations, inputting the training data set to the neural network, and adjusting the weights and biases by minimising a sum of squares error function.



DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

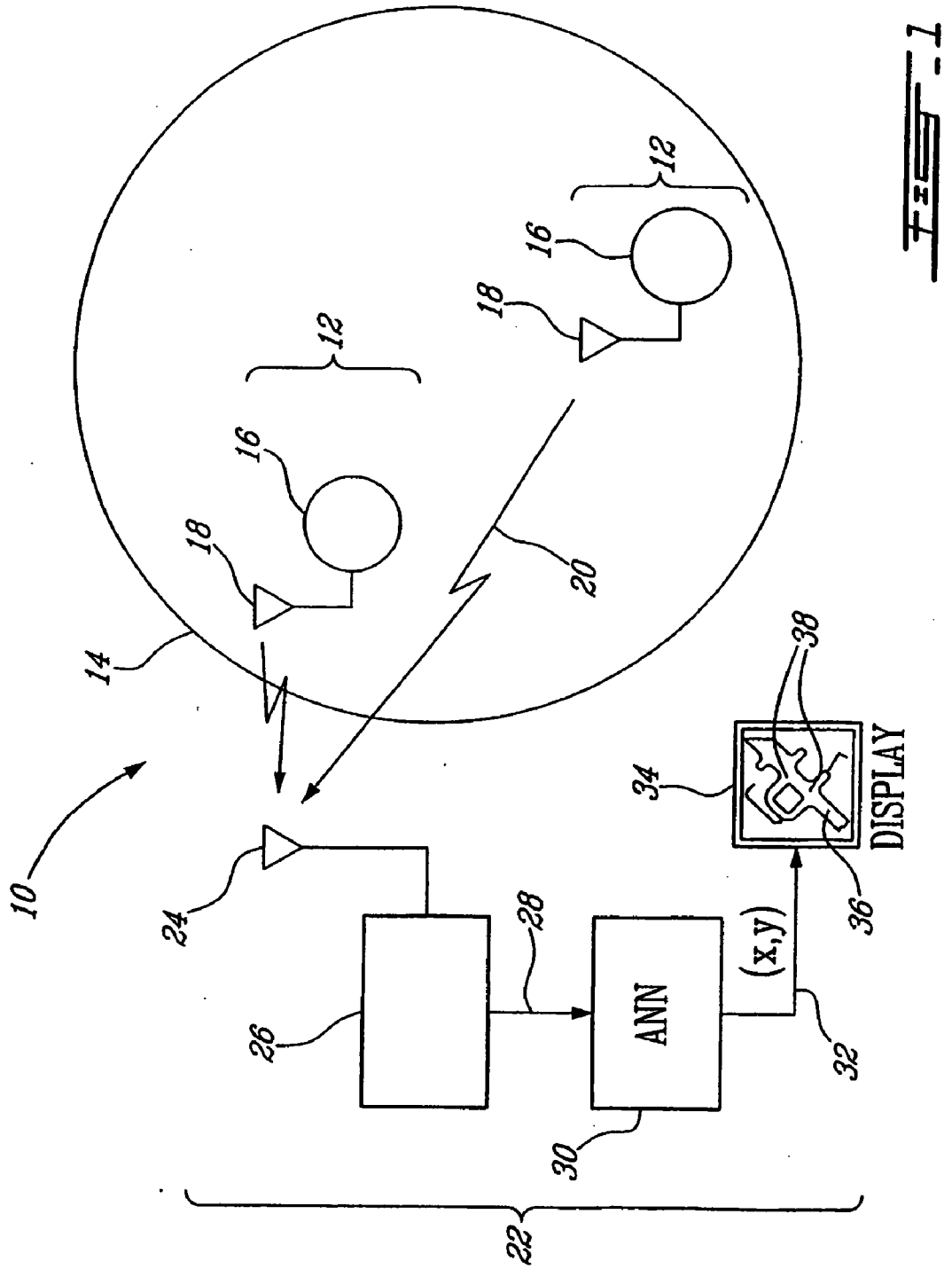


Fig. 1

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

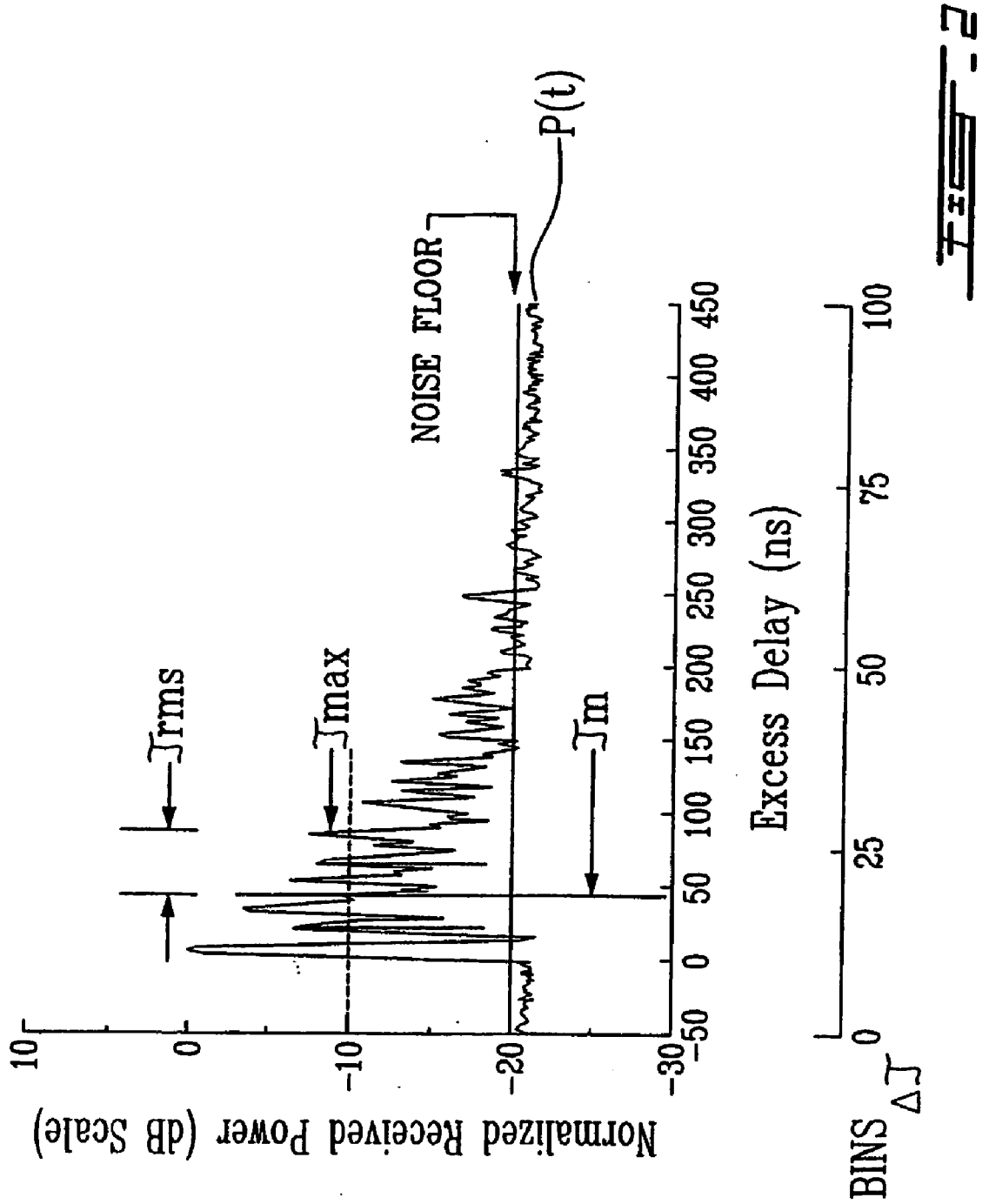


Fig. 7

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

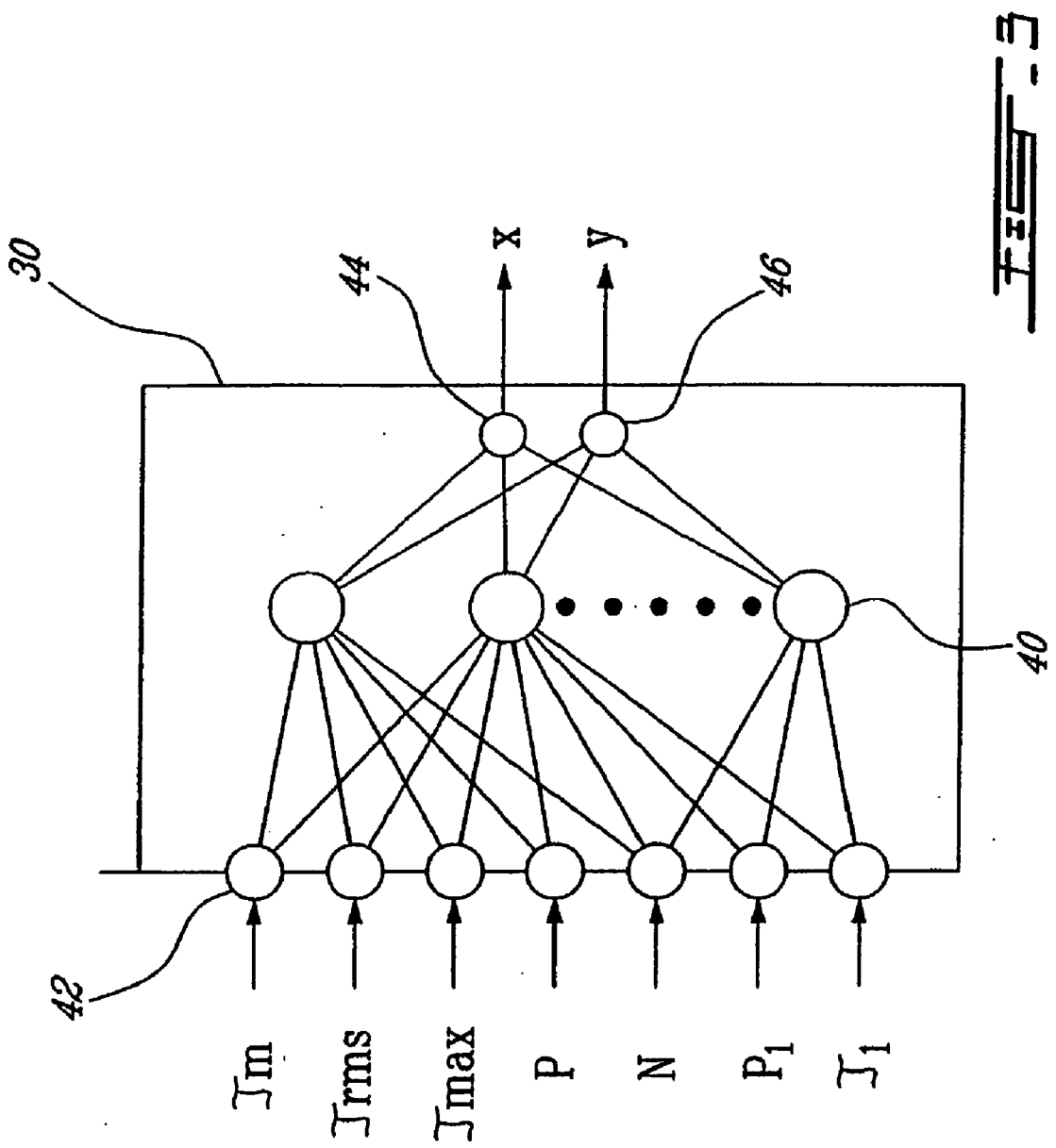


Fig. 3

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

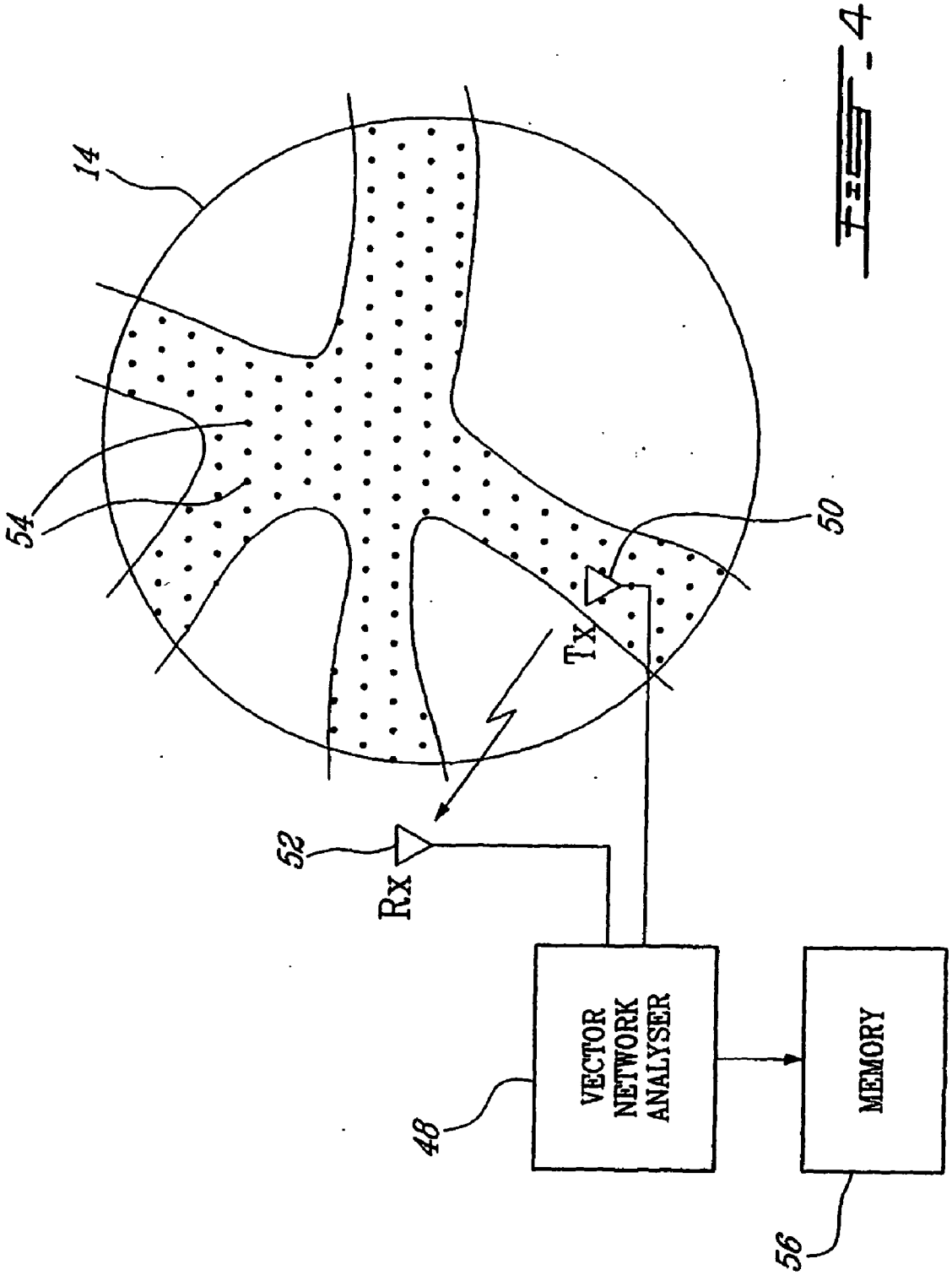


Fig. 4

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.