

- [54] **PACKETIZED ENSEMBLE MODEM**
- [75] **Inventor:** Paul Baran, Menlo Park, Calif.
- [73] **Assignee:** Telebit Corporation, Cupertino, Calif.
- [21] **Appl. No.:** 205,744
- [22] **Filed:** Nov. 10, 1980
- [51] **Int. Cl.³** H04J 11/00; H04J 4/00
- [52] **U.S. Cl.** 370/19; 370/60; 370/94; 370/16; 370/50
- [58] **Field of Search** 370/18, 70, 13, 16, 370/17, 19, 94, 60, 50

- [56] **References Cited**
- U.S. PATENT DOCUMENTS**
- 3,706,929 12/1972 Robinson 179/1 SA
- 3,875,394 4/1975 Shapely et al. 370/19
- 4,206,320 6/1980 Keasler et al. 370/19

OTHER PUBLICATIONS

Product Brochure for Gandalf SM9600 Super Modem, Gandalf Data, Inc.
 "Digital Super Modem: Why and How It Was Devel-

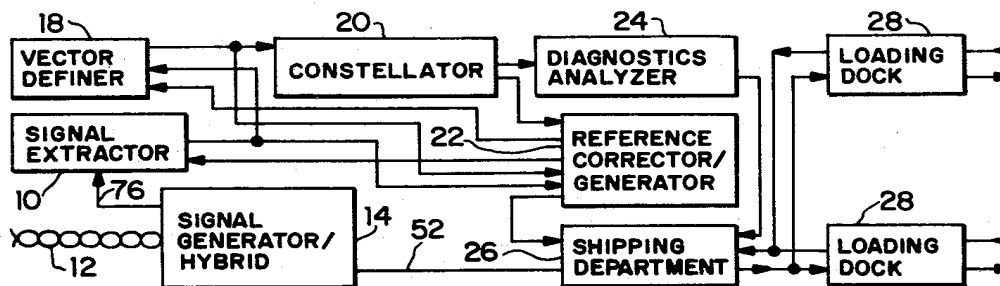
oped", *Data Communications*, Jun. 1980, pp. 87-95, Hick.
 Product Brochure for AT&T 2096A, 9600 bps, Data-phone II.

Primary Examiner—Gerald L. Brigance
Attorney, Agent, or Firm—Townsend and Townsend

[57] **ABSTRACT**

A high speed digital data modem particularly suited for use on a dial up telephone line is disclosed. For the transmit ensemble, the telephone passband is divided into sixty-four sub-bands each with a carrier located approximately in the center of each sub-band. Each carrier is amplitude and phase modulated in order to encode five (5) bits. One carrier is used as a reference signal for phase and amplitude. The modulated carriers can be changed in data content every epoch. By use of packetization of data, individual amplitude correction, and individual phase correction for each carrier, the high speed modem may achieve up to 12000 bps over a dial up line with a simultaneous 300 bps reverse channel.

10 Claims, 14 Drawing Figures



ARRIS EX. 1005

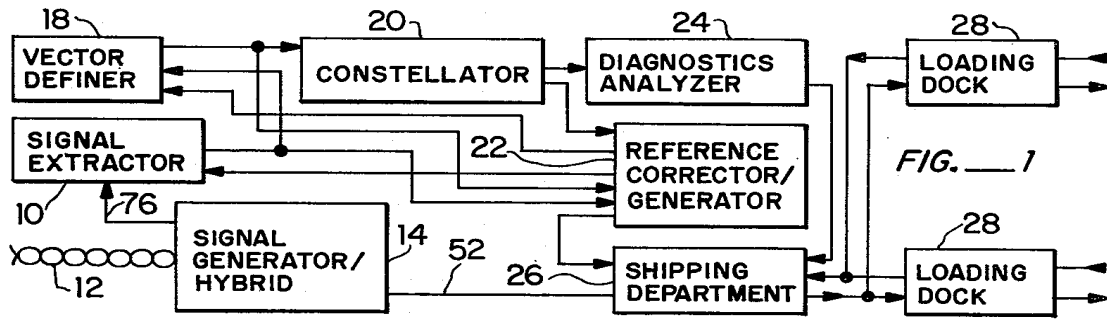


FIG. 1

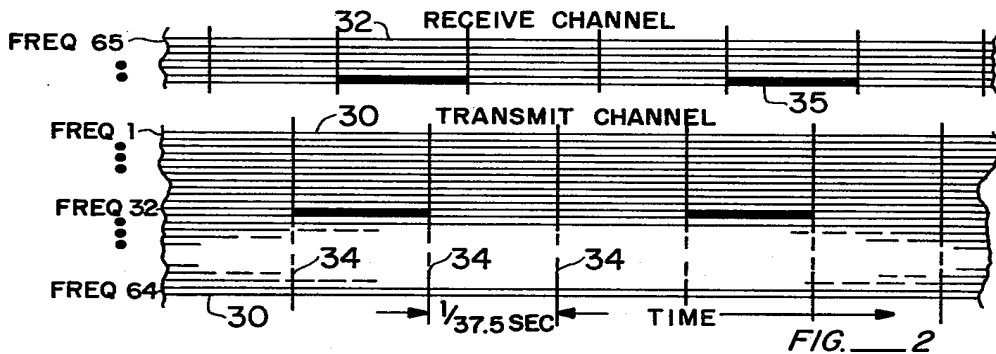


FIG. 2

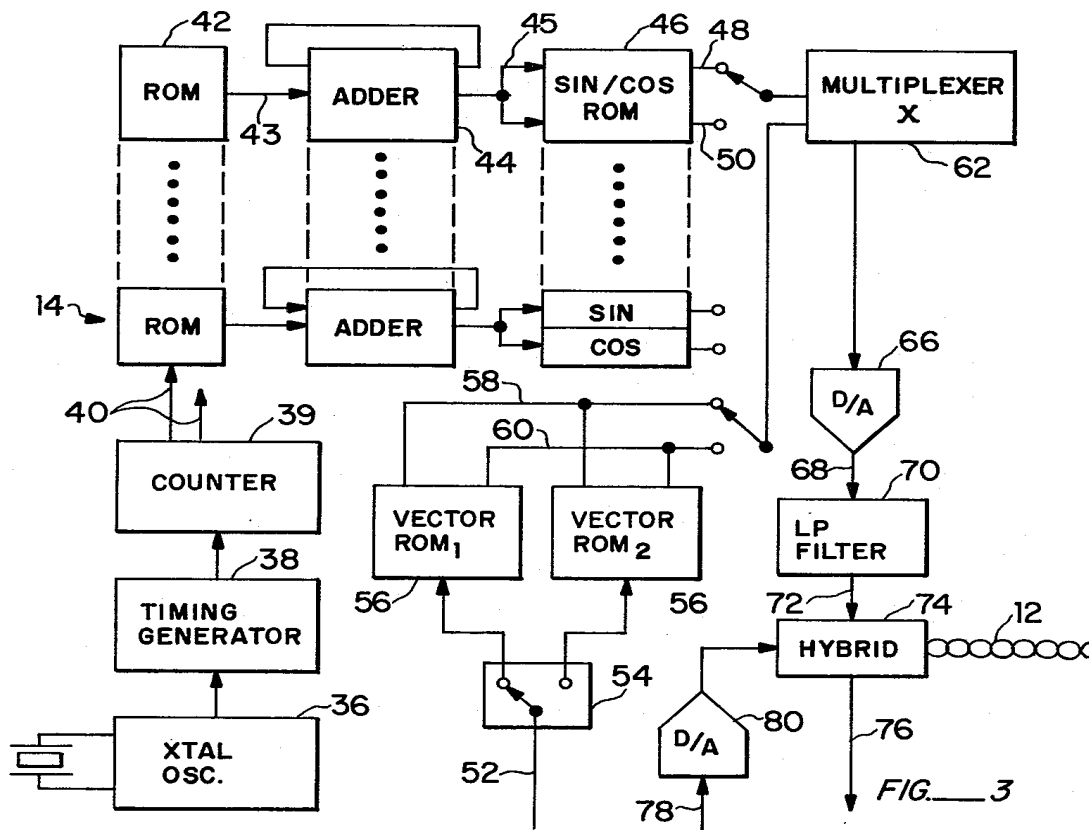
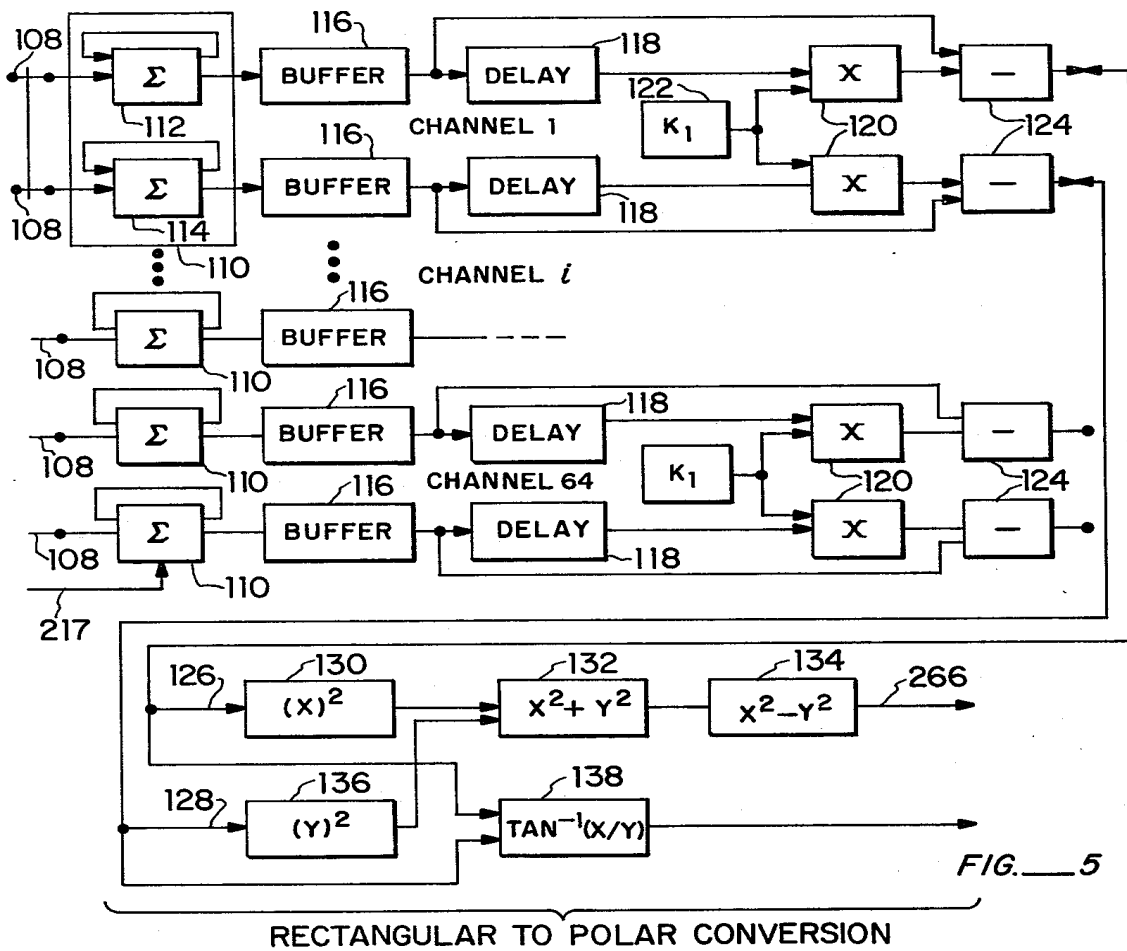
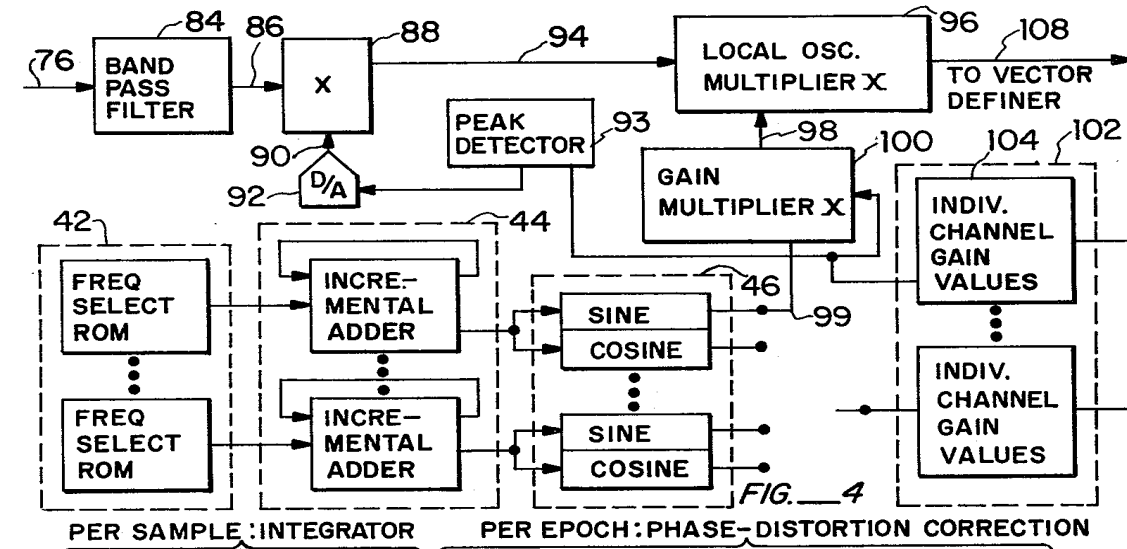
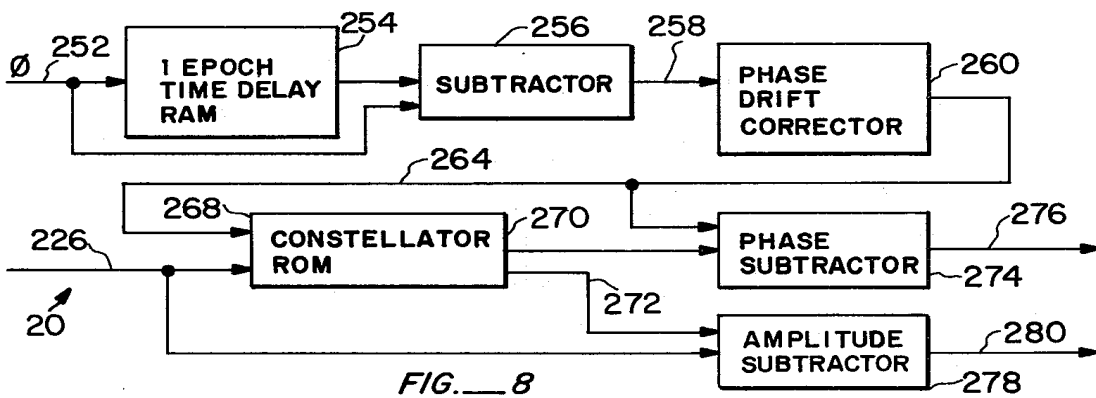
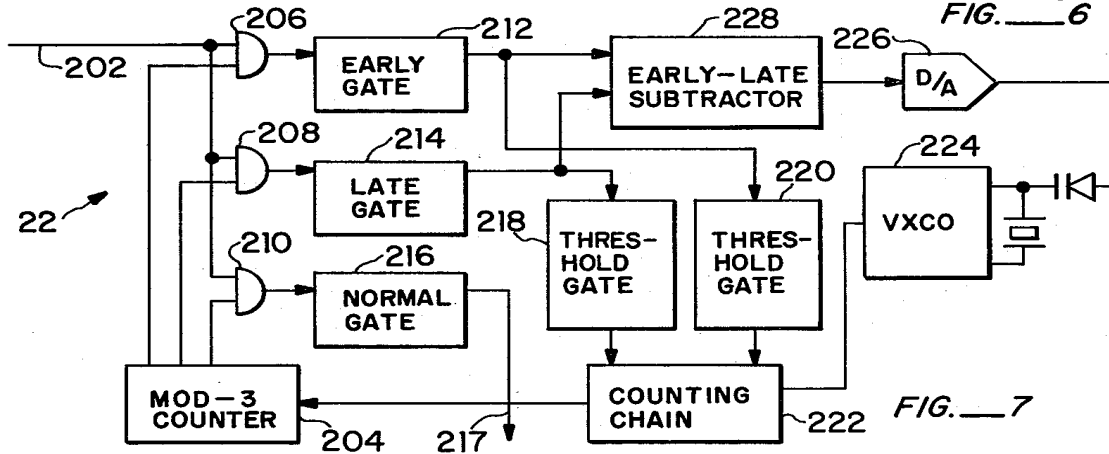
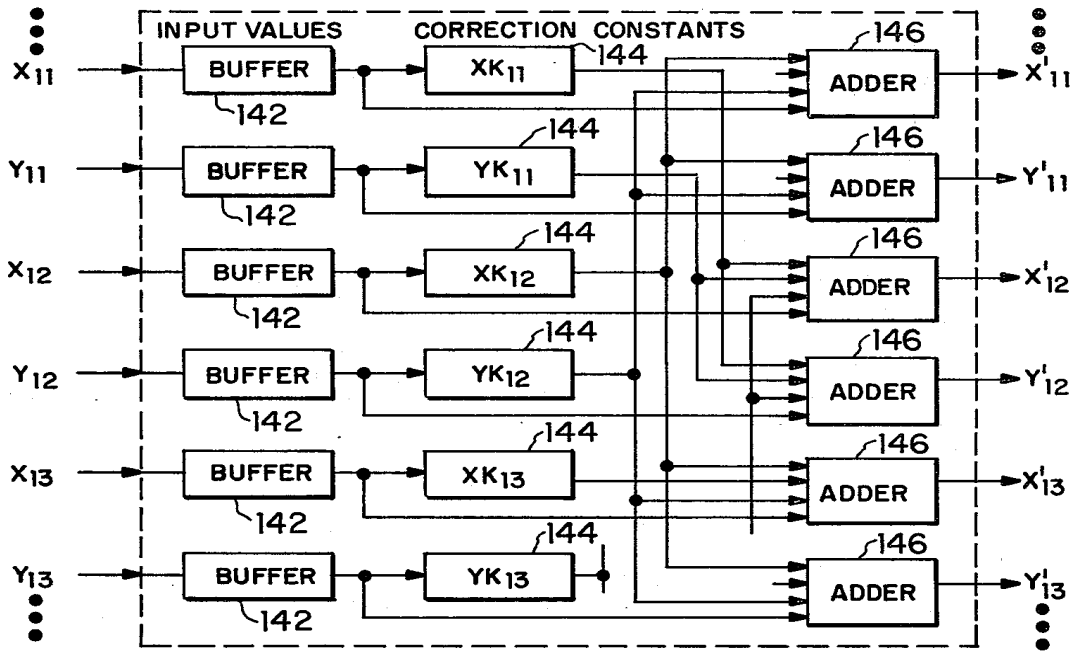
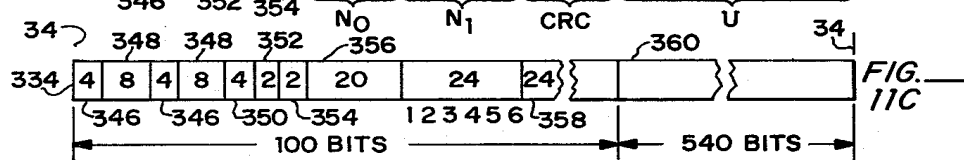
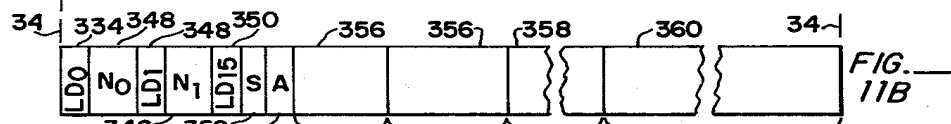
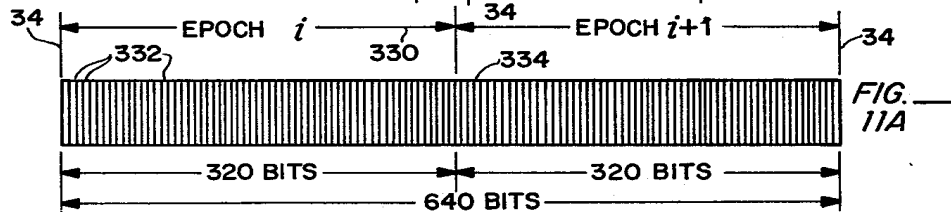
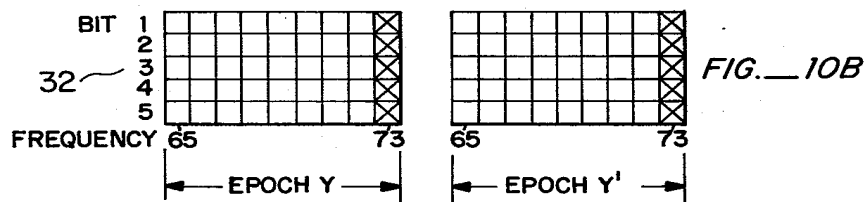
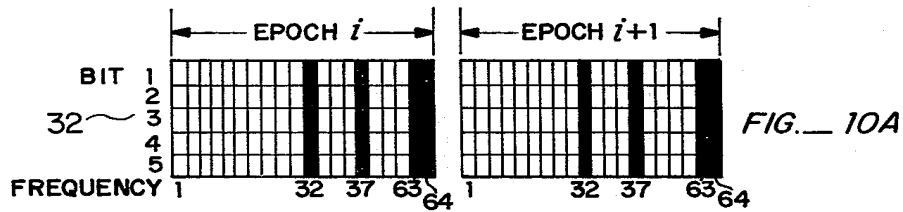
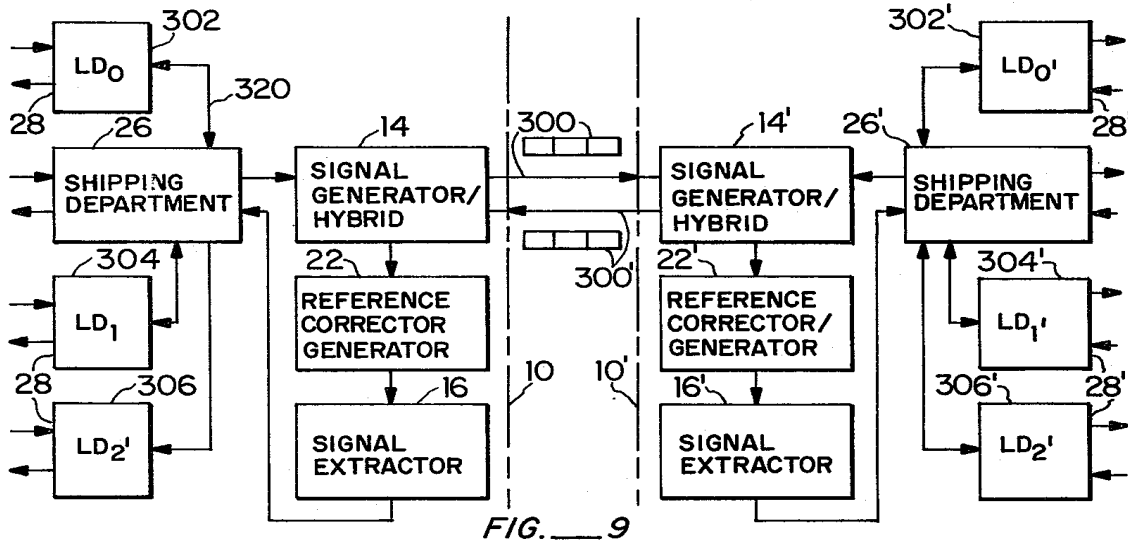


FIG. 3







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.