

United States Patent [19]

Darbee

[54] PDA HAVING A SEPARATE INFRARED GENERATING DEVICE CONNECTED TO ITS PRINTER PORT FOR CONTROLLING HOME APPLIANCES

- [75] Inventor: Paul Vernon Darbee, Santa Ana, Calif.
- [73] Assignce: Universal Electronics Inc., Cypress, Calif.
- [21] Appl. No.: 707,819
- [22] Filed: Sep. 4, 1996

Related U.S. Application Data

- [63] Continuation of Ser. No. 37,619, Mar. 24, 1993, abandoned.

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,200,862	4/1980	Campbell et al 340/310 A
4,252,299	2/1981	Eisenburg 340/825.69
4,313,227	1/1982	Eder
4,703,450	10/1987	Sueyoshi et al 395/892
4,718,112	1/1988	Shinoda .
4,856,081	8/1989	Smith .
4,918,439	4/1990	Wozniak et al 340/825.69
4,959,810	9/1990	Darbee et al
5,109,222	4/1992	Welty 340/825.07
5,204,768	4/1993	Tsakiris et al
5,220,522	6/1993	Wilson et al
5,227,780	7/1993	Tigwell 340/825.72
5,307,173	4/1994	Yven et al
5,388,216	2/1995	Oh.
5,490,283	2/1996	Chin
5,579,487	11/1996	Meyerson et al 395/280
5,579,489	11/1996	Dornier et al
5,600,800	2/1997	Kikinis et al
5,615,393	3/1997	Kikinis et al 395/887

[11] **Patent Number:** 5,778,256

[45] Date of Patent: Jul. 7, 1998

OTHER PUBLICATIONS

Electronics Now, "Equipment Reports", Sep. 1988 vol. 59 Issue 9, pages all.

Schilit et al., "The Parctab Mobile Computing System", Workstation Operating Systems, 1993, IEEE/IEE Pubs On Disc.

Proquest Periodical Abstracts, 1992, Access Nos.:00975658, 01211830, 01211826, 01146935.

Computer Select 1989–1990. Doc. #5015. The Computer Conference Analysis Newsletter. Nov. 1990. N. 266, pp. 11–13. "The State of the Art 1995".

"Computer to Wear: PC-Compatible Palm Pad . . . ". San Jose Mercury News (CA), Mar. 19, 1992 p1E, 10E.

"Dress Code: The Ultimate PCs Will Be Worn", OMNI (GOMN) v15, N3, p. 20, A.J.S. Rayl.

"Future Is Now" Broadcast By PBS, Jan. 1992, XEROX's Palo Alto Research Center. Videotape.

Meintz, Sharon; Shaha, Steven; "Our Hand Held Computer Beats Them All", RN vol. 55, Iss. 1, Jan. 1992, pp. 52–57. Scheier, Robert, "Users Are Already Buying PDAs..."Nov. 16, 1992, PC Week, vol. 9, Iss. 46, p. 13.

Scheier, Robert, "PDAs Spell Sea Change for the PC Industry", Nov. 16, 1992, PC Week, vol. 9, Iss. 46, p. 12.

Louderback. Jim. "No Public Displays of Affection Likely for PDA's", Aug. 10, 1992, PC Week, vol. 9, Iss. 32, p. 62.

Primary Examiner-Thomas C. Lee

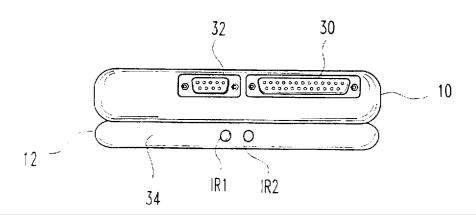
Assistant Examiner-Ki S. Kim

Attorney, Agent, or Firm-Mark R. Galis; Gary R. Jarosik

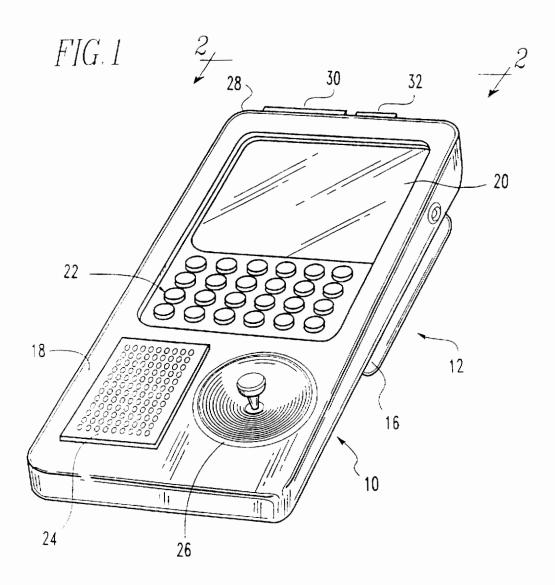
[57] ABSTRACT

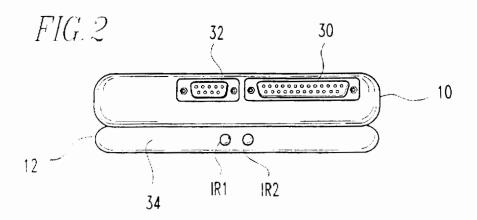
According to the present invention there is provided an infrared code generating and transmitting device adapted to be coupled to or incorporated in a microcomputer system, commonly referred to as a personal digital assistant (PDA). The IR code generating and transmitting device comprises a CPU separate or incorporated into the microcomputer system of the PDA; a memory separate or incorporated into the microcomputer system; an LED output; LED driver circuitry coupled between the CPU and the LED output; an interface connector; an interface buffer circuit coupled between the interface connector and the CPU; and an interface data buffer circuit coupled by data lines between the interface connector and the CPU.

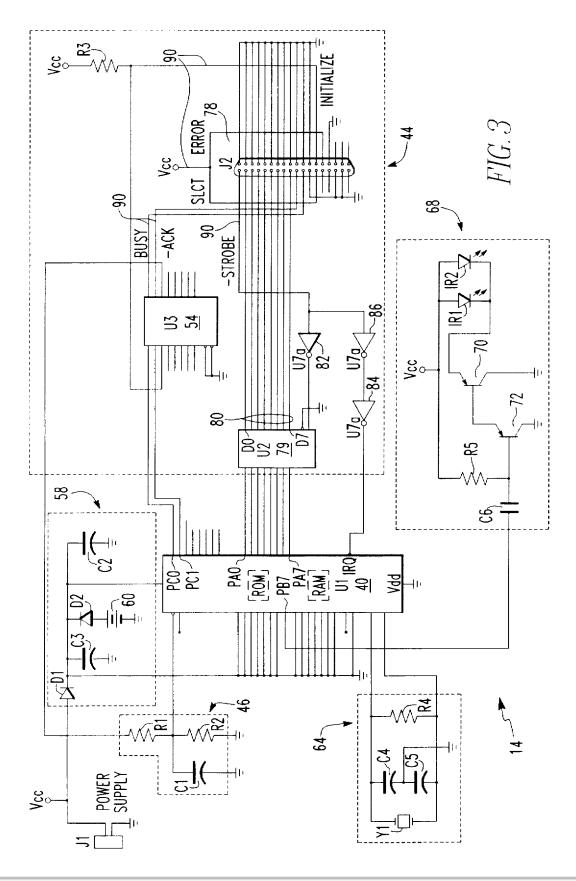
3 Claims, 7 Drawing Sheets



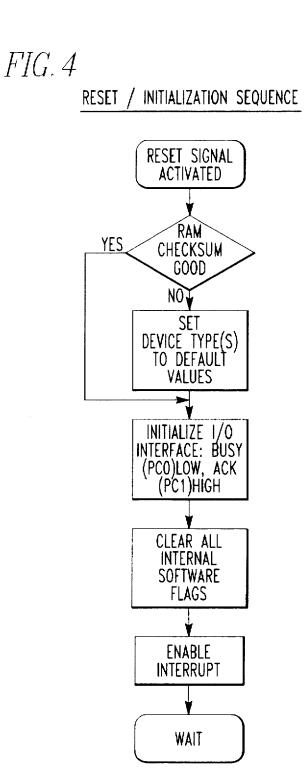
Find authenticated court documents without watermarks at docketalarm.com.







DOCKET ALARM Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

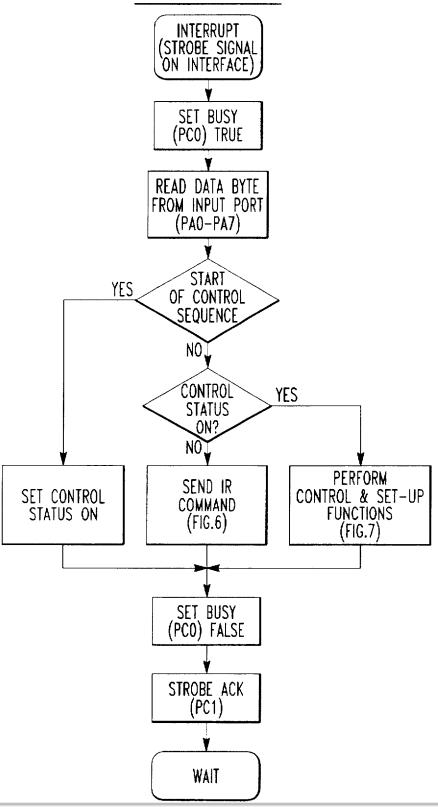


DOCKET A L A R M Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

Α

FIG. 5

RECEIVE DATA ROUTINE



RM Find authenticated court documents without watermarks at docketalarm.com.

DOCKET A L A R M



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.