

US006934148B2

## (12) United States Patent

Gorenz, Jr. et al.

(10) Patent No.: US 6,934,148 B2

(45) **Date of Patent:** Aug. 23, 2005

#### (54) ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

(75) Inventors: Harold J. Gorenz, Jr., Lisle, IL (US); William R. Groves, Naperville, IL

(US); Roger W. Ady, Chicago, IL (US)

(73) Assignee: General Instrument Corporation,

Horsham, PA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 10/414,346

(22) Filed: Apr. 15, 2003

(65) Prior Publication Data

US 2004/0207981 A1 Oct. 21, 2004

(51) Int. Cl.<sup>7</sup> ...... G06F 1/16

(56) References Cited

### U.S. PATENT DOCUMENTS

4,717,216 A 1/1988 Hornak 5,216,579 A 6/1993 Basara et al.

5,282,114	Α		1/1994	Stone
5,287,244	Α		2/1994	Hileman et al.
5,505,533	Α		4/1996	Kammersqard et al.
5,663,868	Α	*	9/1997	Stalley 361/695
6,011,689	Α		1/2000	Wrycraft
6,144,549	Α	*	11/2000	Moss et al 361/681
6,315,655	B1		11/2001	McEwan et al.
6,389,499	<b>B</b> 1	*	5/2002	Frank et al 710/300
6,525,935	<b>B</b> 2	*	2/2003	Casebolt 361/687

#### OTHER PUBLICATIONS

Faneuf et al. (US 2003/0002254 A1), "High Capacity Air-Cooling Systemfor Electronic Apparatus And Associated Method", Jan. 2, 2003.\*

\* cited by examiner

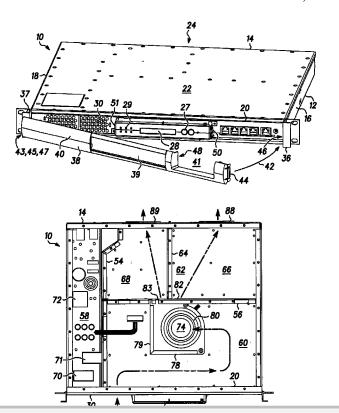
Primary Examiner—Yean-Hsi Chang

(74) Attorney, Agent, or Firm-Lawrence T. Cullen

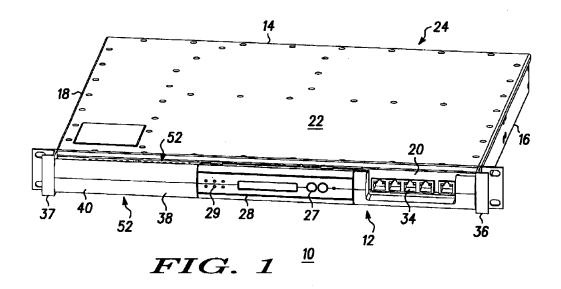
(57) ABSTRACT

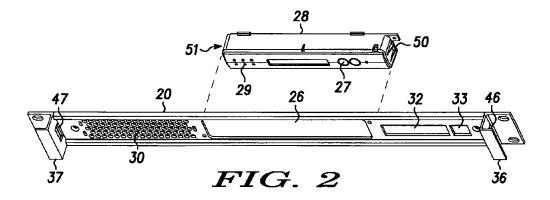
The invention provides a chassis for housing printed circuit boards comprising: a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit. The front wall includes an inlet vent, a display module, and a jack and the back side wall includes an exhaust vent. A front wall face plate overlies the inlet vent, display module and jack, with the inlet vent arranged in parallel, overlapping but offset planes. A centrifugal blower is provided inside the chassis housing.

### 18 Claims, 4 Drawing Sheets

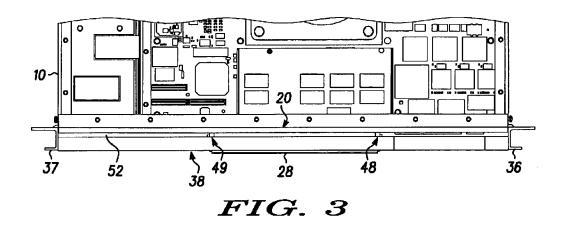


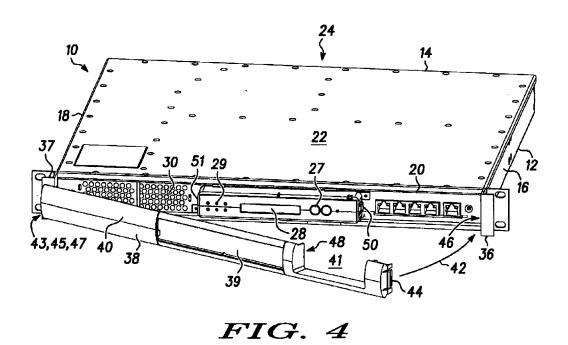


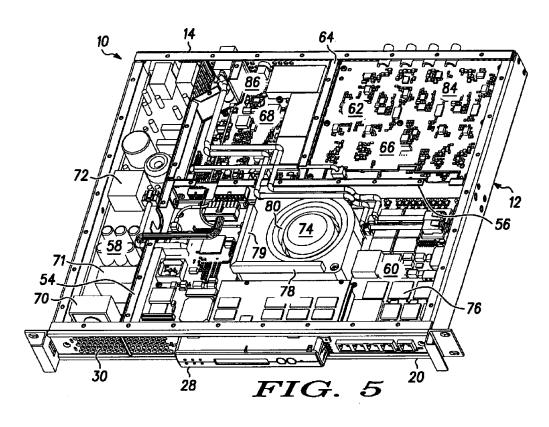


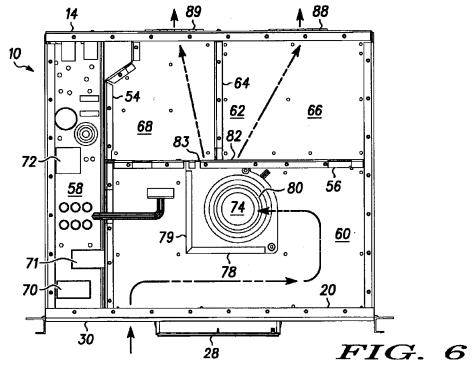




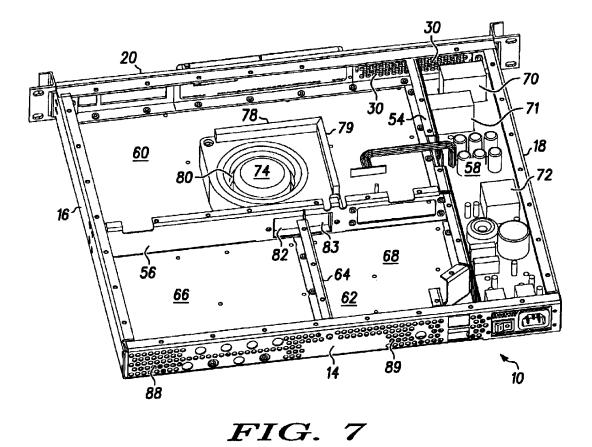














# DOCKET A L A R M

## 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.

