

US005793744A

United States Patent [19]

Kanerva et al.

[11] Patent Number:

5,793,744

[45] Date of Patent: A

Aug. 11, 1998

[54] MULTICHANNEL HIGH-SPEED DATA TRANSFER [75] Inventors: Mikko Kanerva, Helsinki; Juha Räsänen, Espoo; Harri Jokinen, Hiisi; Harri Honkasalo, Helsinki, all of

Finland

[73] Assignee: Nokia Telecommunications Oy, Espoo,

Finland

[21] Appl. No.: 690,262

[22] Filed: Jul. 24, 1996

[30] Foreign Application Priority Data

[56] References Cited

U.S. PATENT DOCUMENTS

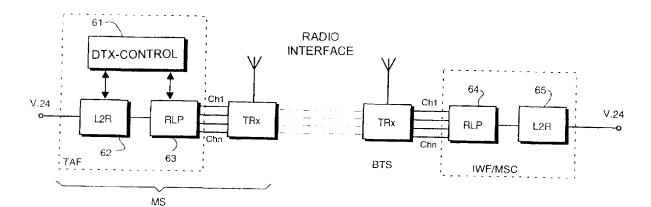
5,566,208 10/1996 Balakrishnan 370/466

Primary Examiner—Benedict V. Safourek
Attorney, Agent, or Firm—IP Group of Pillsbury Madison &
Sutro LLP

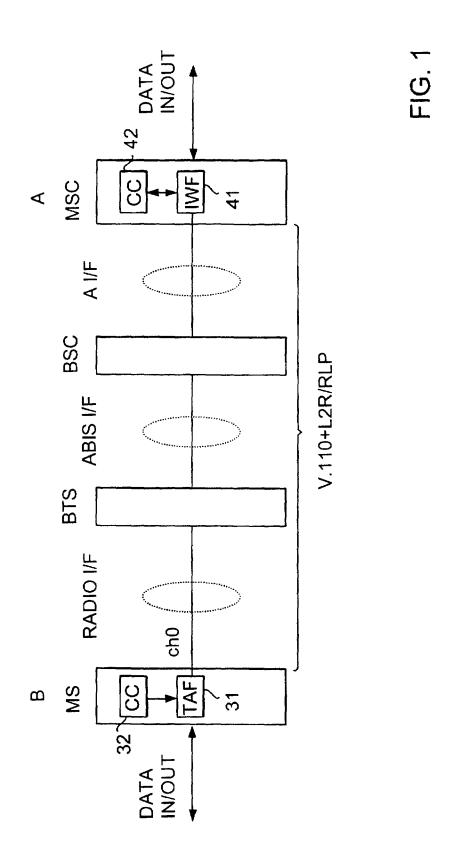
[57] ABSTRACT

A digital mobile communication system has a high-speed non-transparent data connection between a transmitting and a receiving party. For the data connection, parallel subchannels, corresponding in number to the nominal data transfer rate, have been allocated on the radio interface. A radio link protocol is responsible for transmitting data over the radio interface, and for acknowledging correct data frames and for retransmitting defective data frames. A transmission buffer buffers the data frames to be transmitted and stores the data frames transmitted until it receives an acknowledgement of successful reception. In order to reduce interference and power consumption, user data is transmitted by using as many of the allocated subchannels as required by the actual user data rate at any one time. On the other allocated subchannels, transmission is interrupted or discontinuous transmission is applied.

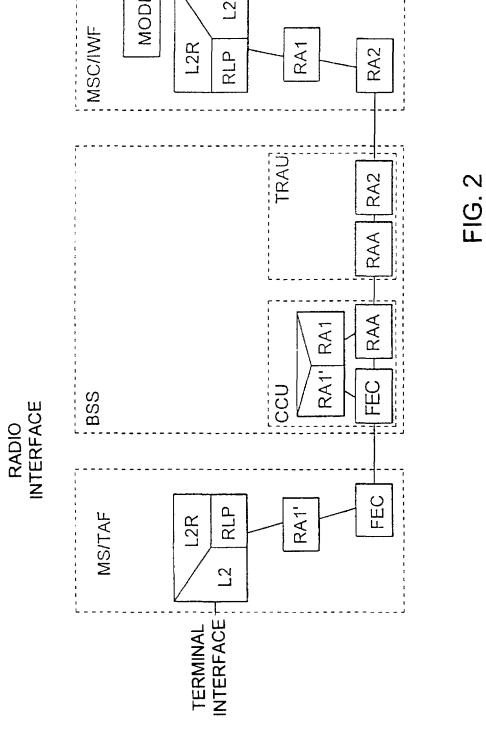
25 Claims, 9 Drawing Sheets











U.S. Patent

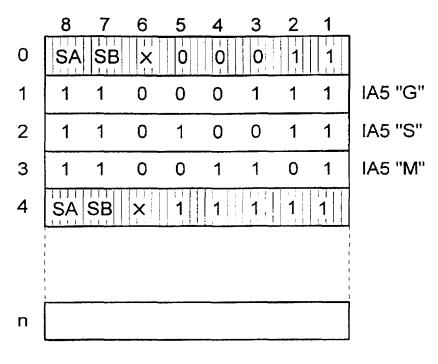
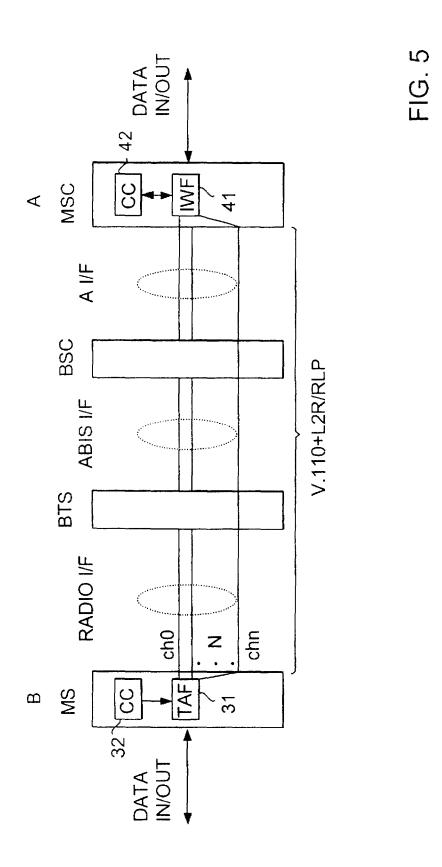


FIG. 3

HEADER	INFORMATION FIELD	FCS
--------	-------------------	-----

FIG. 4



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.

