US005940117A

United States Patent [19]

Hassan et al.

[11] **Patent Number: 5,940,117**

[45] **Date of Patent: Aug. 17, 1999**

[54] **METHOD FOR TRANSMITTING MULTIRESOLUTION IMAGE DATA IN A RADIO FREQUENCY COMMUNICATION SYSTEM**

[75] Inventors: **Amer Hassan**, Cary; **David G. Matthews**, Raleigh, both of N.C.

[73] Assignee: **Ericsson, Inc.**, RTP, N.C.

[21] Appl. No.: **08/682,043**

[22] Filed: **Jul. 16, 1996**

[51] **Int. Cl.**[6] **H04N 7/14**

[52] **U.S. Cl.** **348/13**; 345/328

[58] **Field of Search** 348/384, 12, 13, 348/426, 469; 358/260, 433; 345/328

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,414,580	11/1983	Johnson et al.	358/260
4,654,484	3/1987	Reiffel et al.	379/53
4,672,444	6/1987	Bergen et al.	348/384
4,674,125	6/1987	Carlson et al. .	
4,682,869	7/1987	Itoh et al. .	
4,709,394	11/1987	Bessler et al. .	
4,718,104	1/1988	Anderson .	
4,870,497	9/1989	Chamzas et al.	348/426
4,931,954	6/1990	Honda et al. .	
5,050,230	9/1991	Jones et al. .	
5,119,081	6/1992	Ikehira .	
5,153,936	10/1992	Morris et al. .	
5,218,455	6/1993	Kristy .	
5,262,958	11/1993	Chui et al. .	
5,420,637	5/1995	Zeevi .	
5,426,513	6/1995	Scorse et al.	358/433
5,461,655	10/1995	Vuylsteke et al. .	
5,504,933	4/1996	Saito	348/13

FOREIGN PATENT DOCUMENTS

0449529A2	3/1991	European Pat. Off. .
WO 90/13966	11/1990	WIPO .
WO 96/29818	9/1996	WIPO .

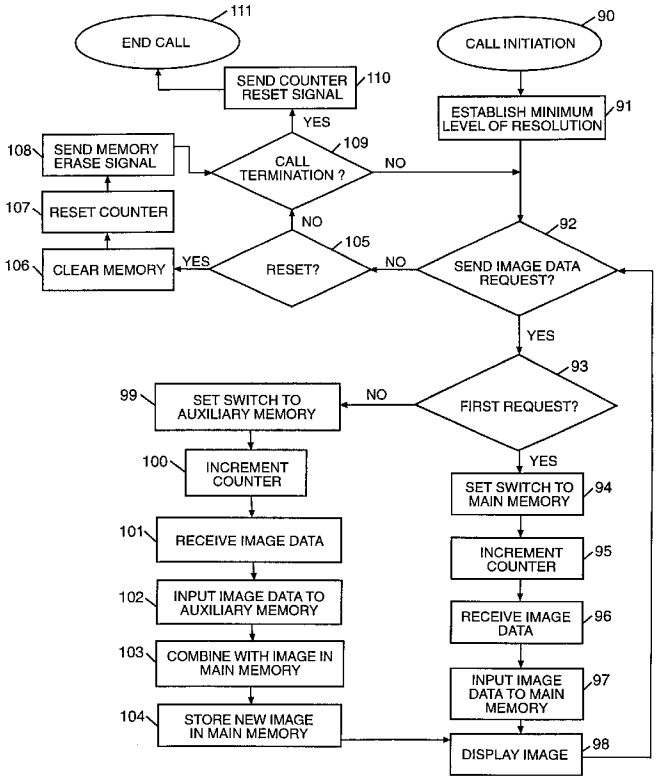
Primary Examiner—Victor R. Kostak

Attorney, Agent, or Firm—Rhodes, Coats & Bennett, L.L.P.

[57] **ABSTRACT**

The present invention relates to a method for transmitting multiresolution image data via wireless devices in a radio frequency communication system wherein images are decomposed into levels of resolution. The image data is stored in discrete information blocks in an image storage unit including a base image and one or more image details. The base image represents the coarsest resolution of the image. Each image detail, when added to the base image, improves the resolution of the image. An image display unit transmits a request for image data to the image storage unit. In response to the initial request, the base image is transmitted to the image display unit. If the base image is insufficient, the resolution can be increased incrementally by sending additional image data requests to transmit additional image detail. The additional image detail is then transmitted to the image display unit and recombined with the base image to provide a higher level of resolution to the image.

33 Claims, 5 Drawing Sheets



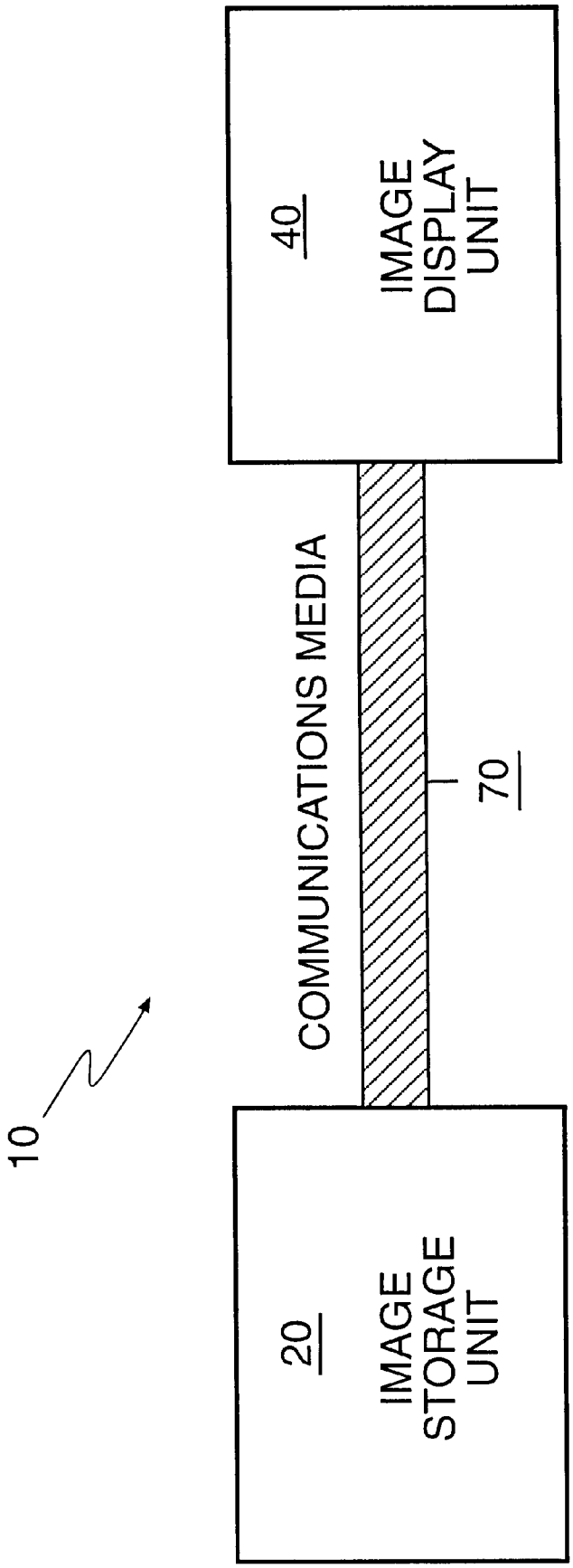


FIGURE 1

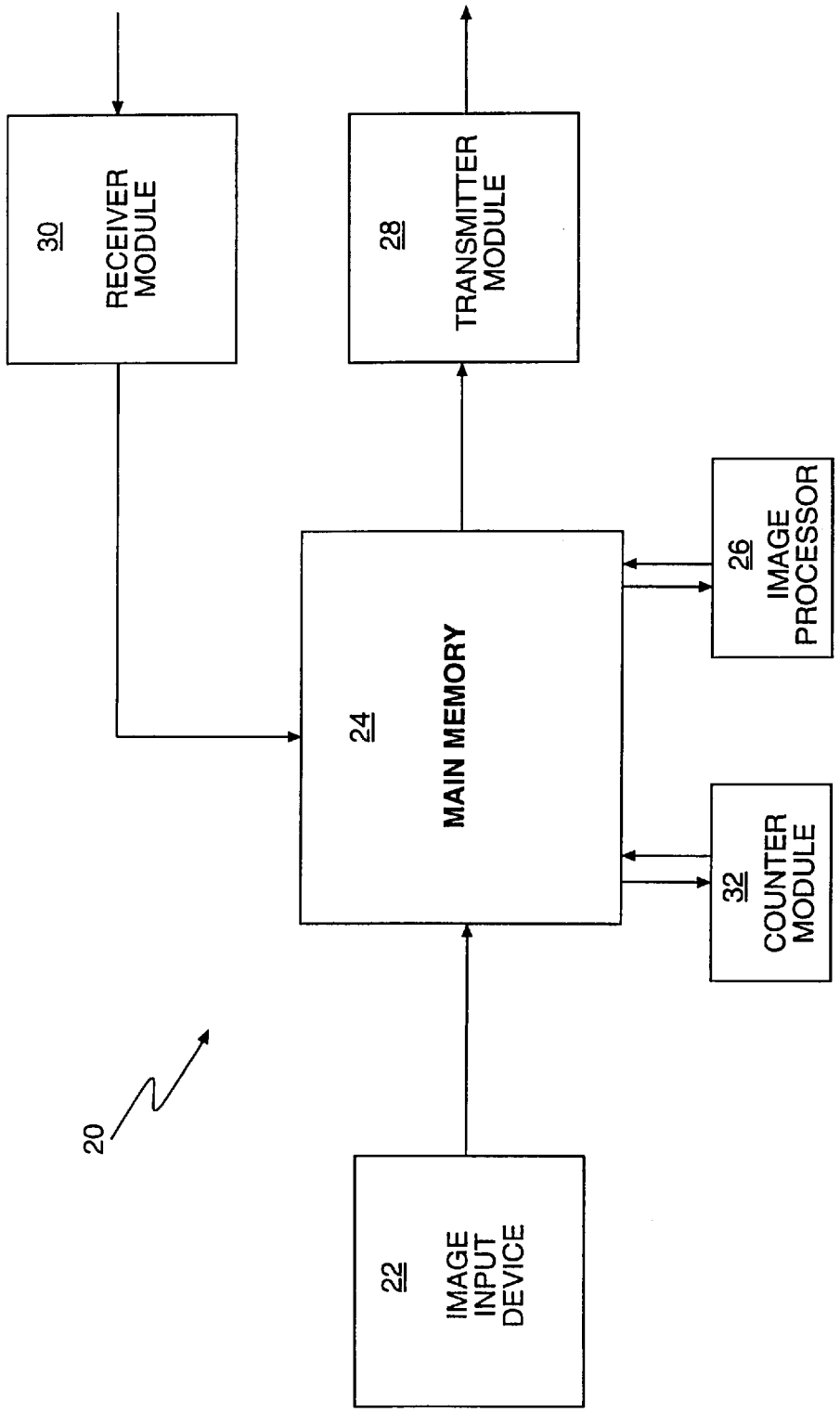


FIGURE 2

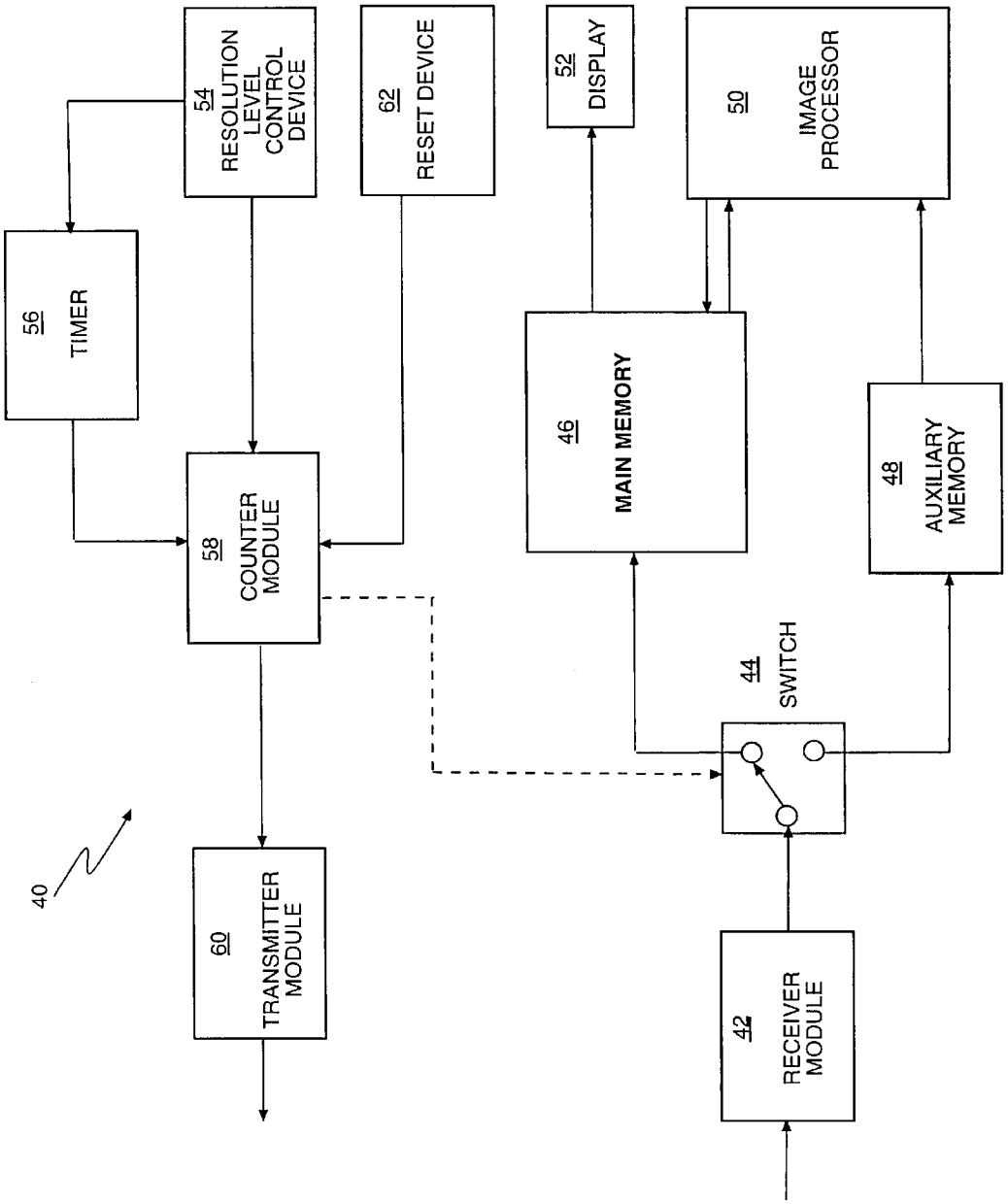


FIGURE 3

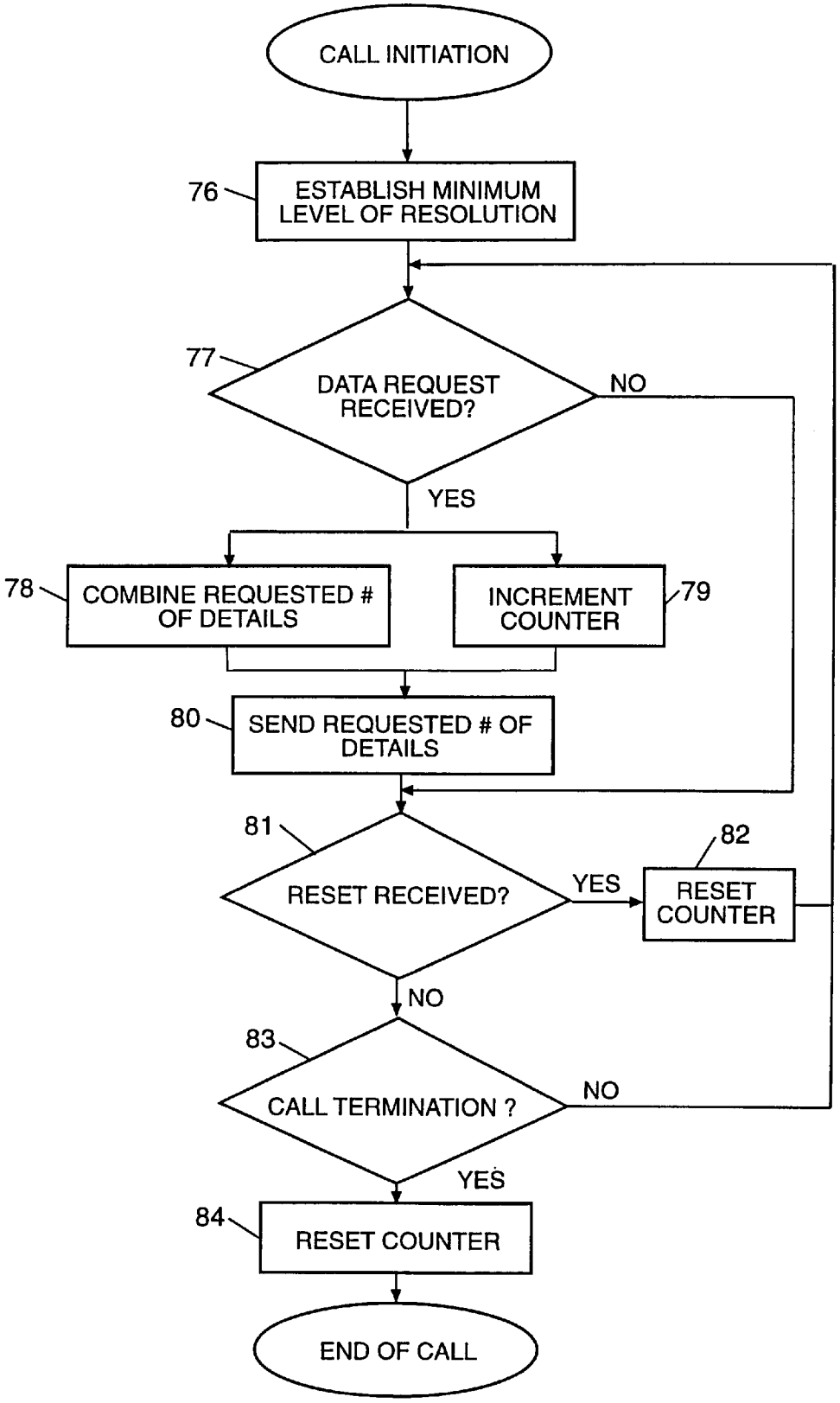


FIGURE 4

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.