



# United States Patent [19] Lindell

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[45] Date of Patent: **Jun. 4, 1996**

[54] **AVERAGED RF EXPOSURE CONTROL**

1427578 9/1988 U.S.S.R. .  
2198912 6/1988 United Kingdom ..... 455/79

[75] Inventor: **Bo K. Lindell**, Lidingo, Sweden

### OTHER PUBLICATIONS

[73] Assignee: **Ericsson GE Mobile Communications Inc.**, Research Triangle Park, N.C.

"IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," IEEE C95.1-1991, Institute of Electrical and Electronics Engineers, Inc., New York, N.Y., USA, Apr. 27, 1992.

[21] Appl. No.: **168,151**

Federal Communications Commission (FCC), Notice of Proposed Rulemaking, "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation," ET Docket No. 93-62, Apr. 8, 1993, pp. 1-26.

[22] Filed: **Dec. 17, 1993**

[51] Int. Cl.<sup>6</sup> ..... **H04B 1/04**

[52] U.S. Cl. .... **455/117; 455/115; 455/127; 340/635**

[58] Field of Search ..... **455/127, 115, 455/117, 126; 340/635, 657**

### [56] References Cited

#### U.S. PATENT DOCUMENTS

4,034,297	7/1977	Giorgi et al.	455/117
4,114,108	9/1978	Faulkenberry et al.	455/117
4,165,493	8/1979	Harrington	330/207 P
4,242,753	12/1980	Dolikian et al.	375/70
4,313,210	1/1982	Hume et al.	455/117
4,373,206	2/1983	Suzuki et al.	455/103
4,521,912	6/1985	Franke et al.	455/115
4,939,786	7/1990	McCallum et al.	455/67
5,193,212	3/1993	Son	455/38.3
5,241,690	8/1993	Larsson et al.	455/54.1

#### FOREIGN PATENT DOCUMENTS

2-39634 2/1990 Japan .

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### [57] ABSTRACT

A radio transmitter output power controller which automatically restricts the maximum transmitting time during an averaging time so that the average power remains below an acceptable level. Additionally or alternatively, the maximum transmitter output power may be automatically reduced to a lower level if and when a predetermined average power level is approached. A warning signal may be generated to inform a user that the maximum permitted power output is being approached.

**11 Claims, 4 Drawing Sheets**

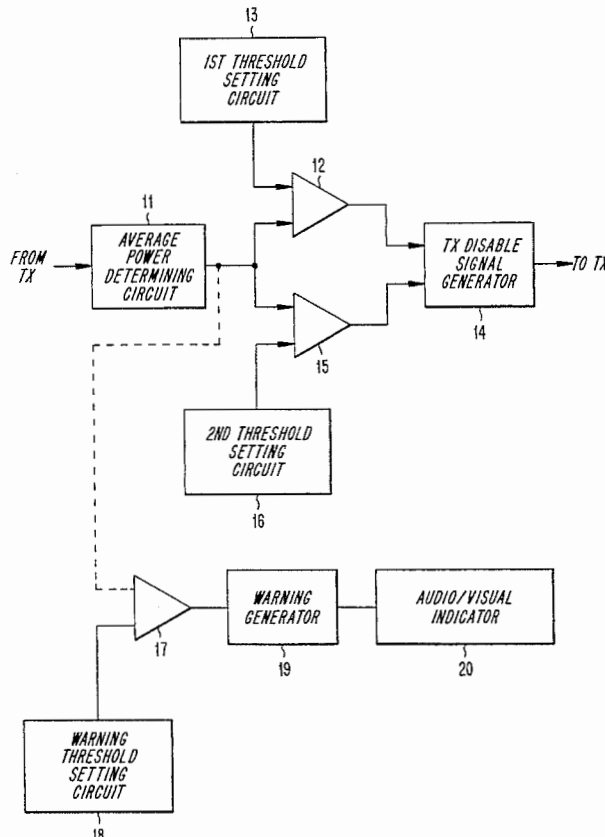


FIG. 1

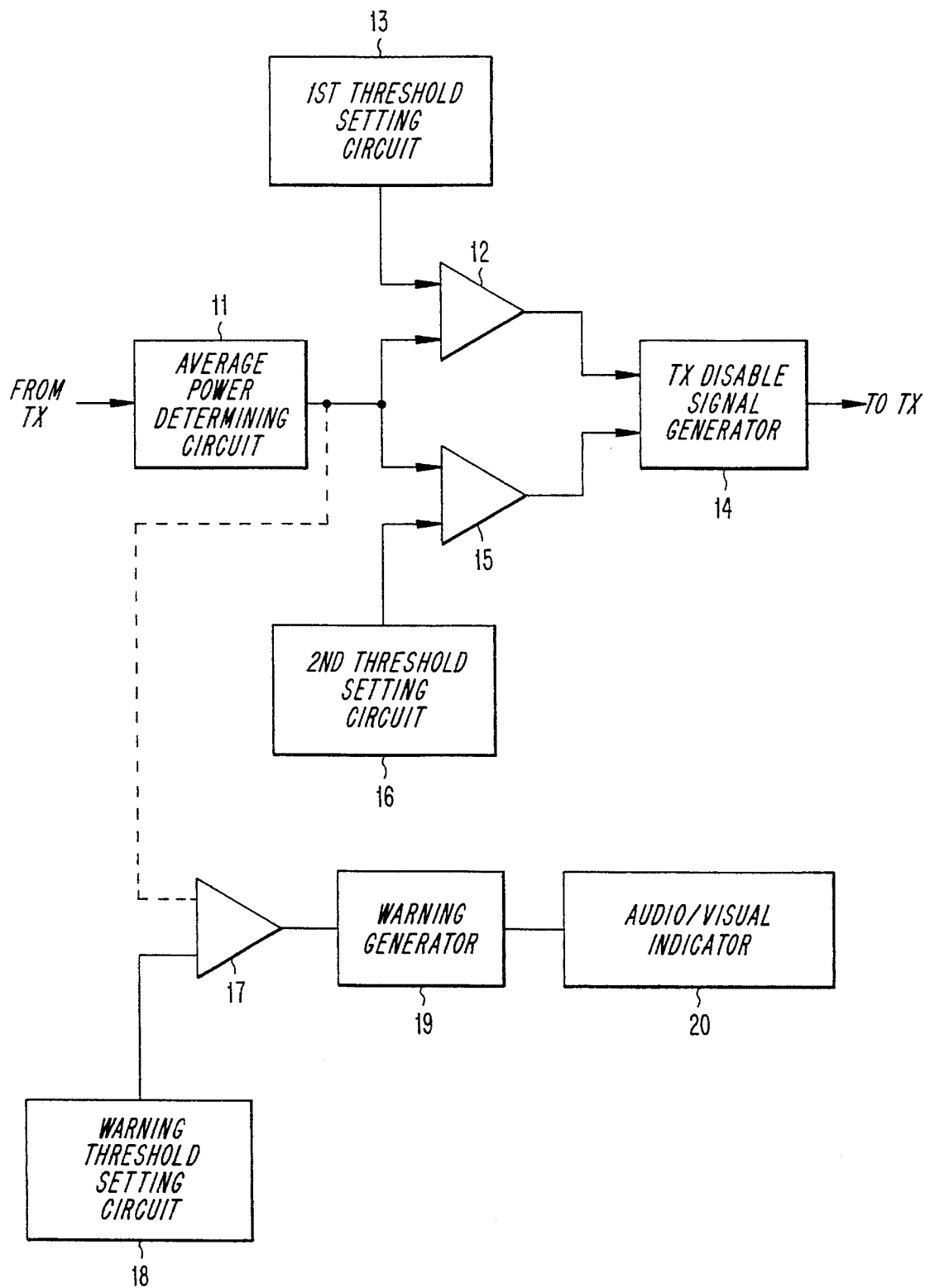


FIG. 2

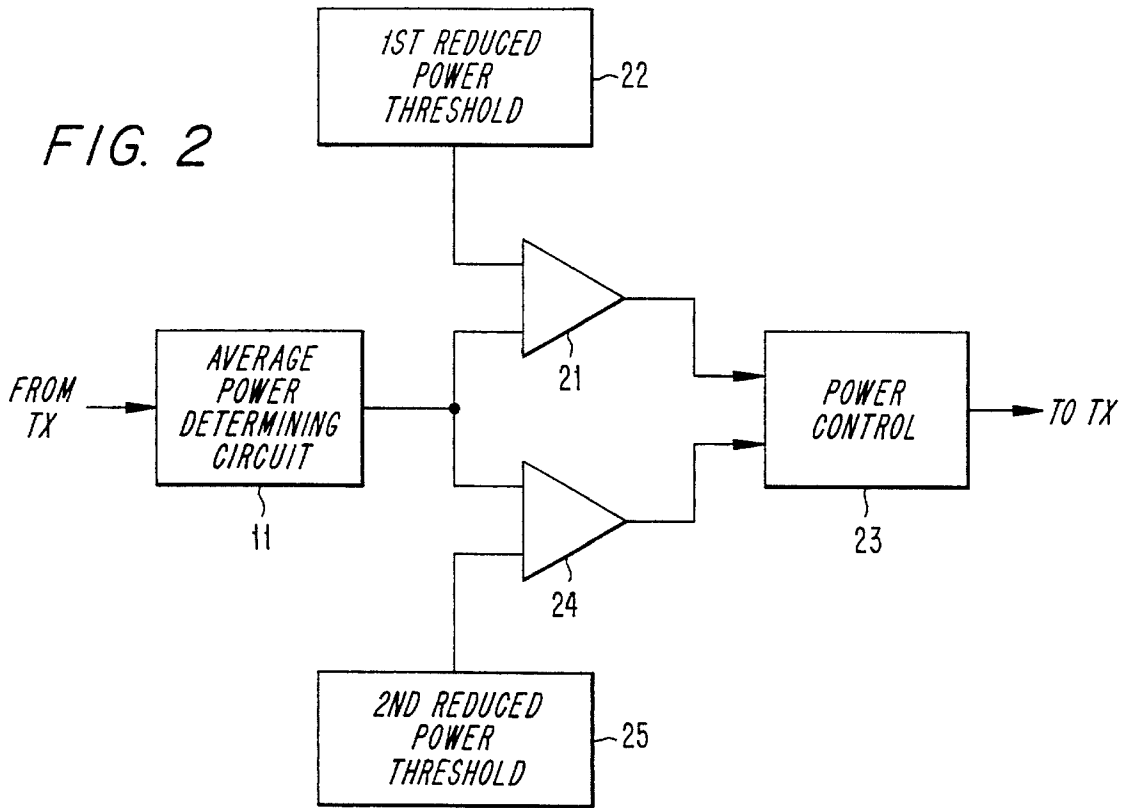


FIG. 3

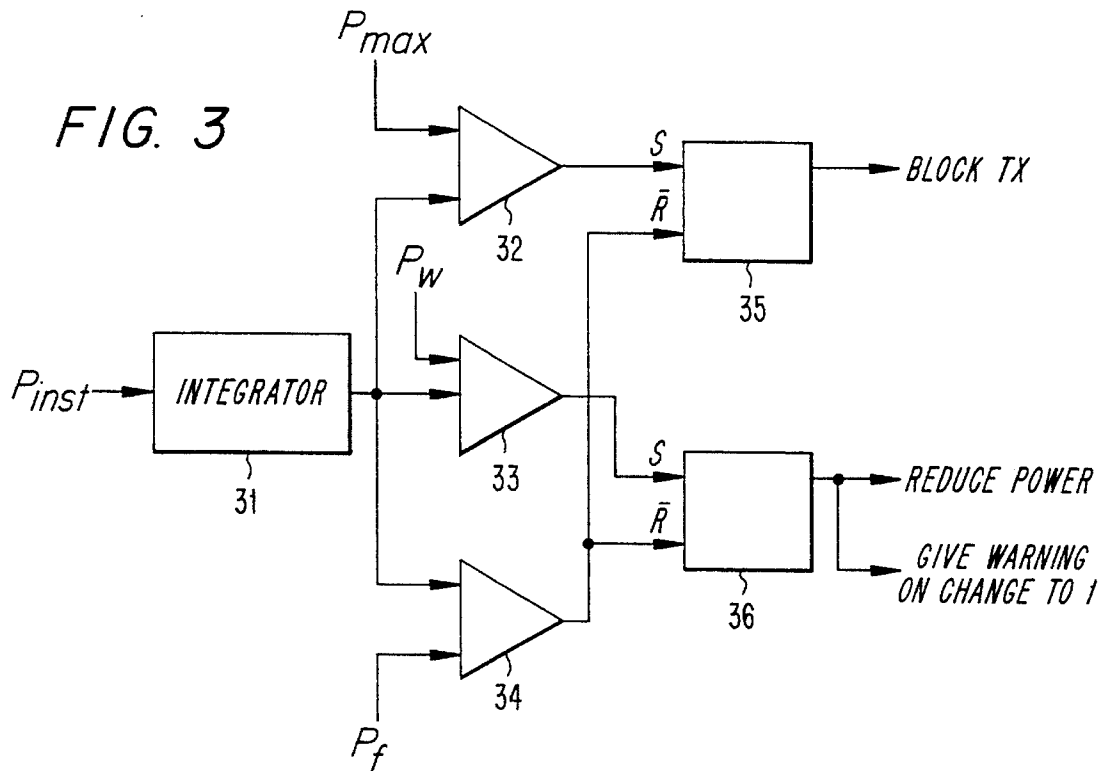


FIG. 4

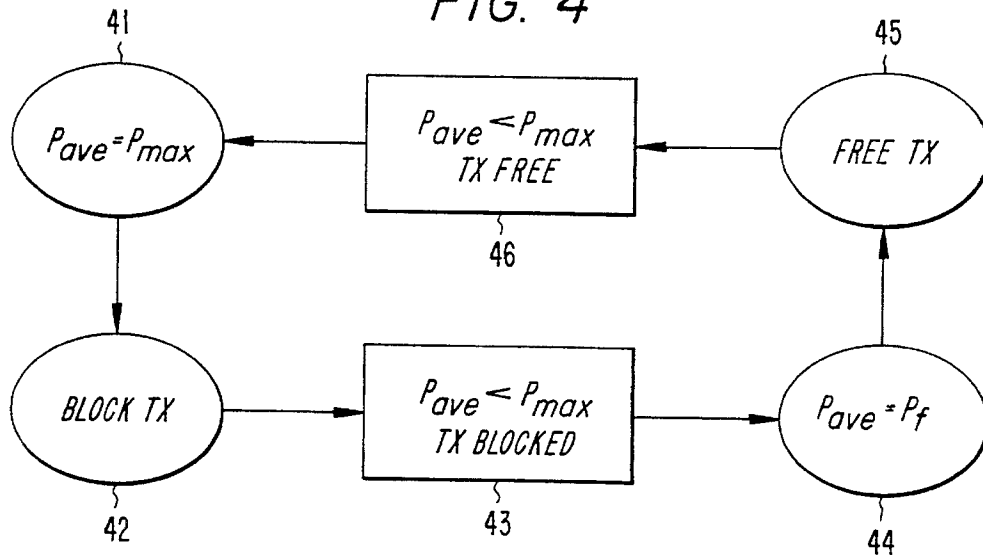


FIG. 5

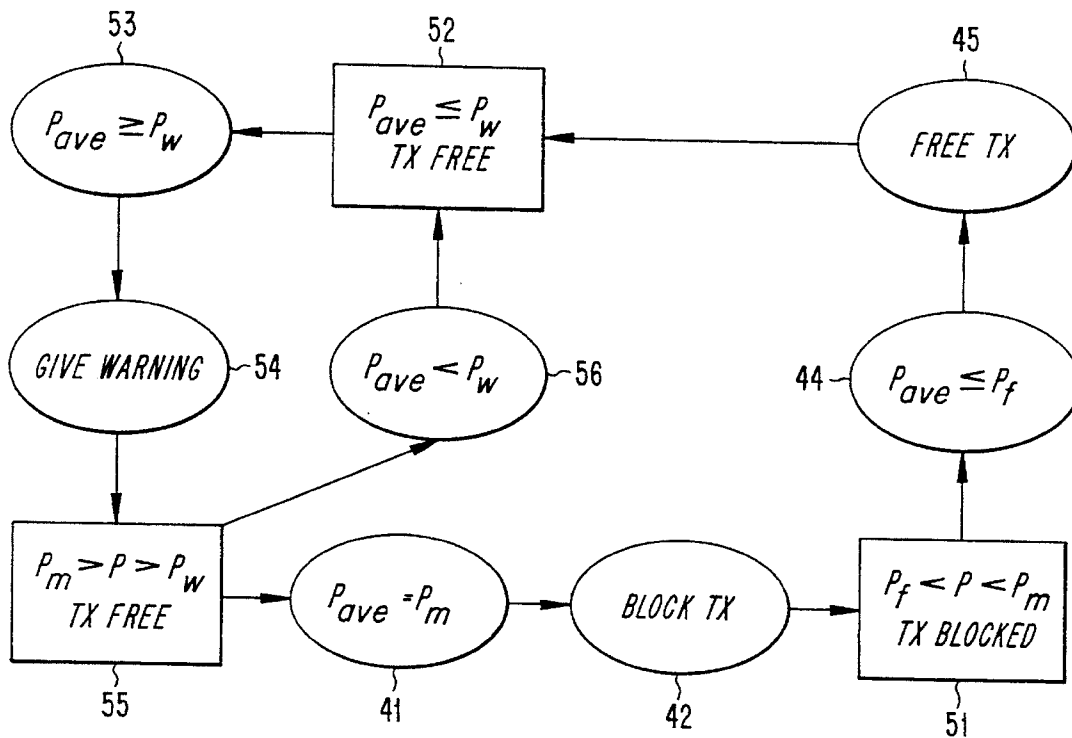
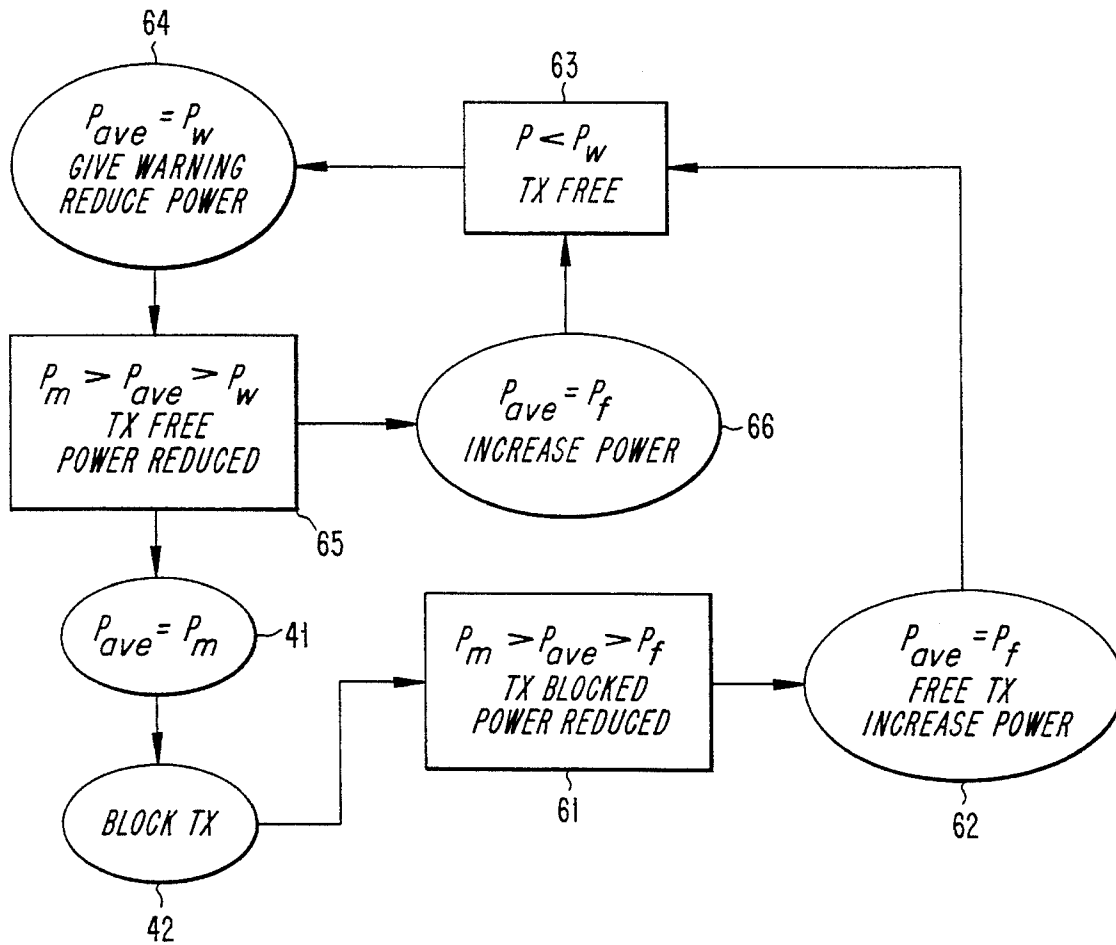


FIG. 6



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