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# United States Patent [19]

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Olofsson et al.

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- [54] **METHOD FOR SELECTING A COMBINATION OF MODULATION AND CHANNEL CODING SCHEMES IN A DIGITAL COMMUNICATION SYSTEM**
- [75] Inventors: **Håkan Gunnar Olofsson**, Stockholm, Sweden; **Jörn Thielecke**, Erlangen, Germany
- [73] Assignee: **Telefonaktiebolaget LM Ericsson (publ)**, Stockholm, Sweden
- [21] Appl. No.: **08/921,321**
- [22] Filed: **Aug. 29, 1997**
- [51] **Int. Cl.**<sup>7</sup> ..... **H04Q 7/34**
- [52] **U.S. Cl.** ..... **370/252; 370/345; 455/67.3**
- [58] **Field of Search** ..... **370/252, 345; 455/63, 67.3, 226.3, 228, 522**

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*Primary Examiner*—Melvin Marcelo  
*Attorney, Agent, or Firm*—Burns, Doane, Swecker & Mathis, L.L.P.

### [57] ABSTRACT

A communication system that supports multiple modulation and channel coding schemes selects an optimum RF link by measuring link quality parameters, such as C/I ratio. All of the available RF links are characterized based on the measured link quality parameters by calculating mean values and variances of the parameters. Based on the characterization of the RF link, user quality values, such as user data throughput and speech quality values, are estimated. The communication system selects the RF link that provides the best user quality value.

**41 Claims, 10 Drawing Sheets**

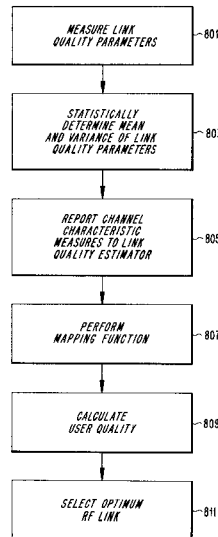


FIG. 1

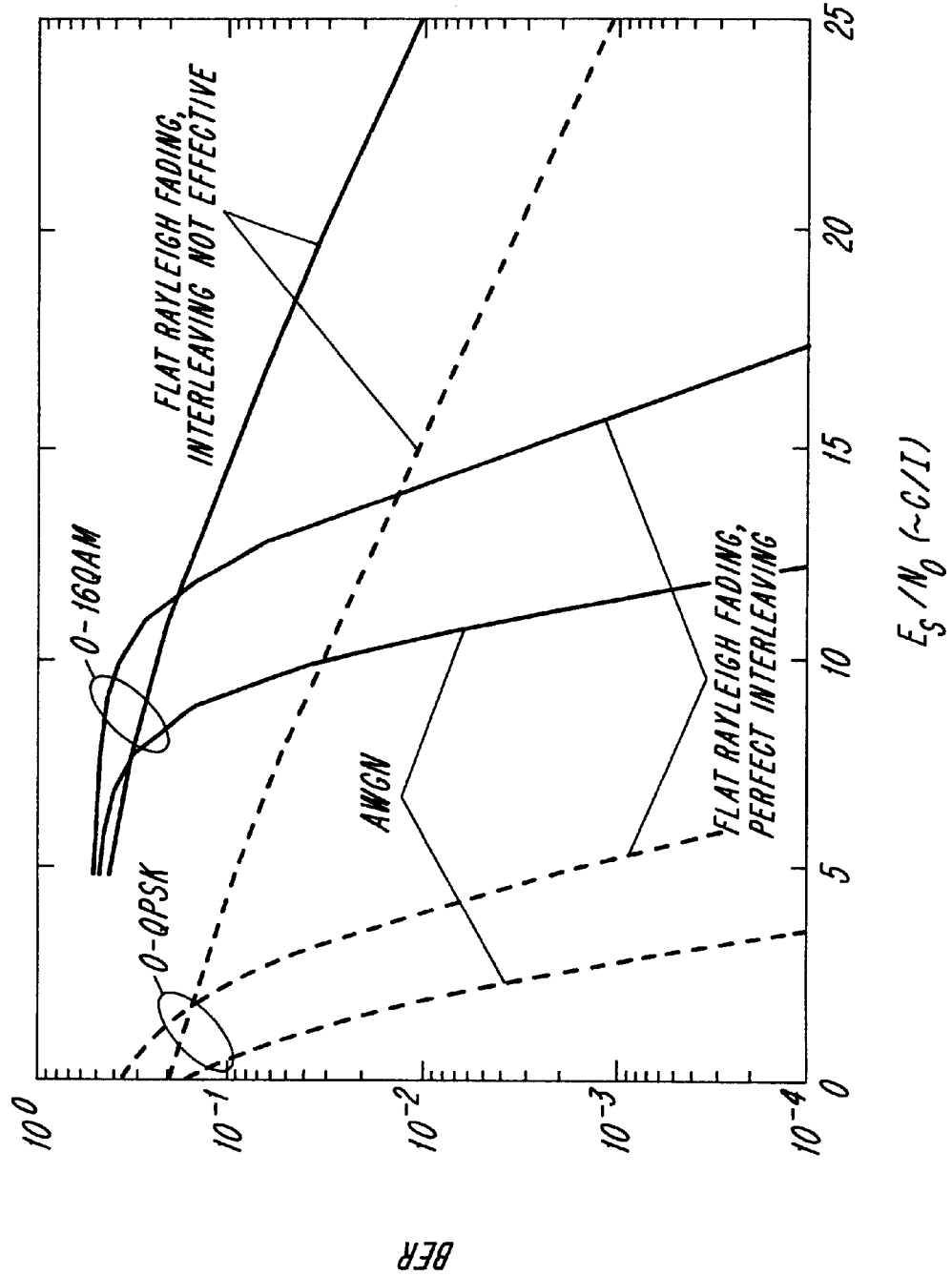
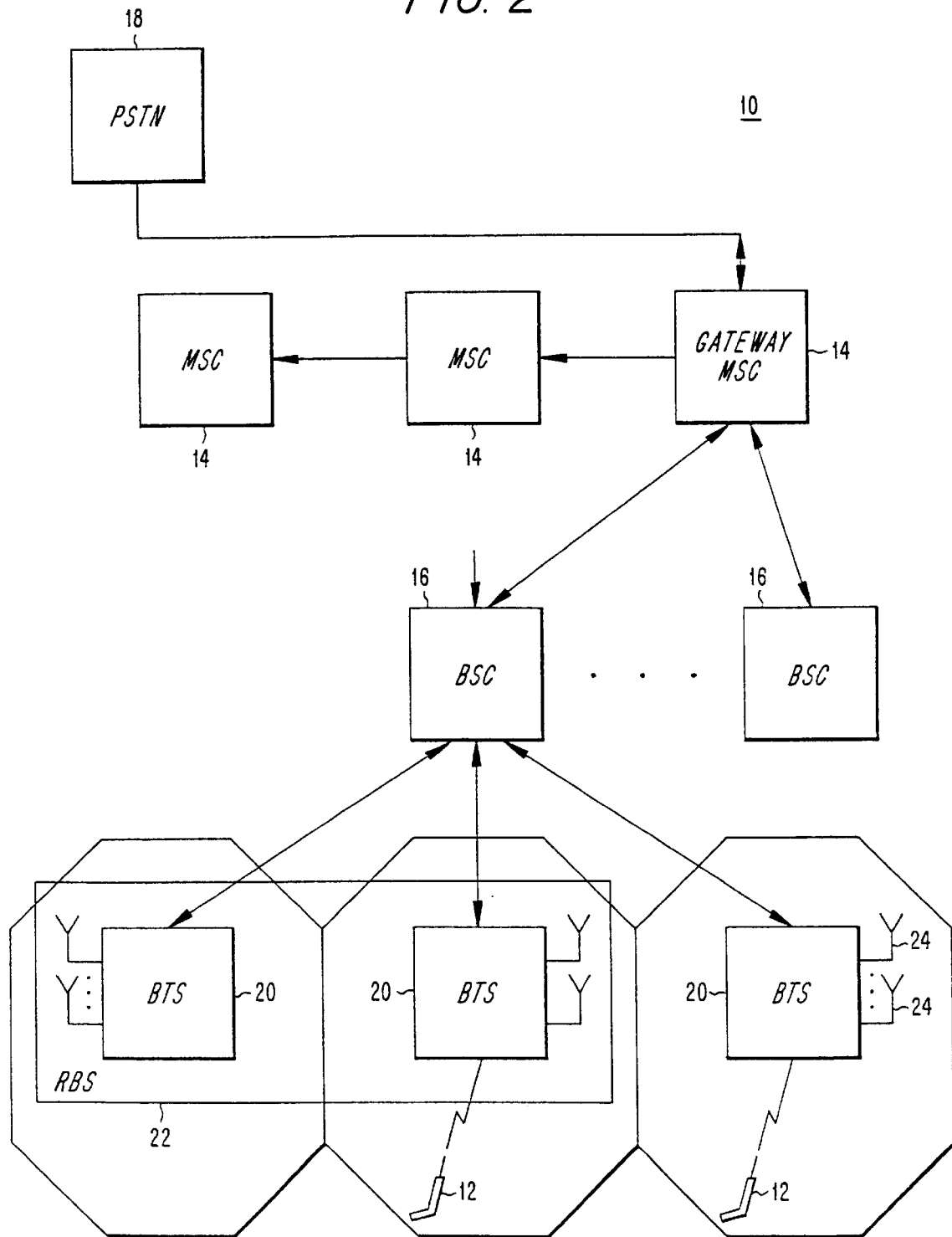


FIG. 2



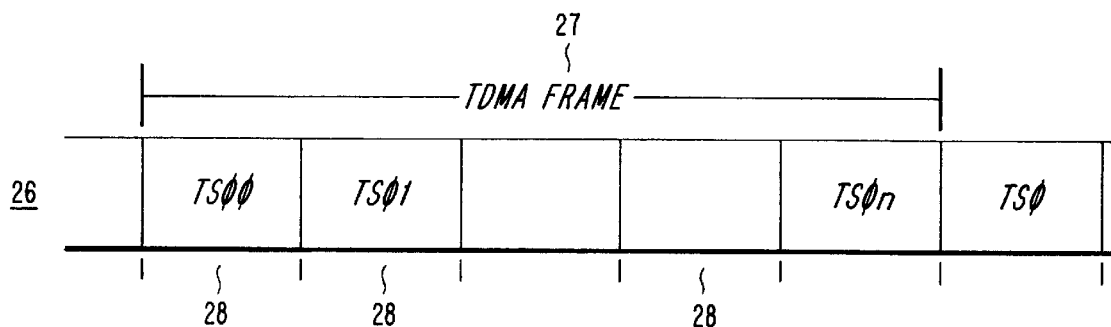


FIG. 3

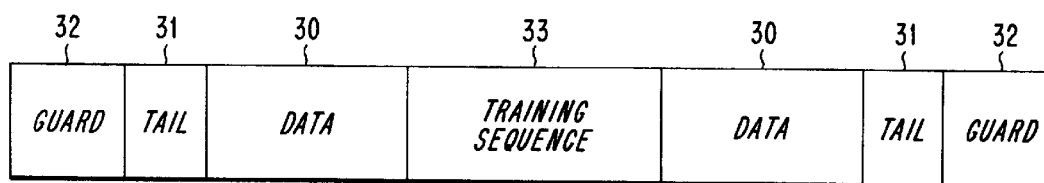


FIG. 4

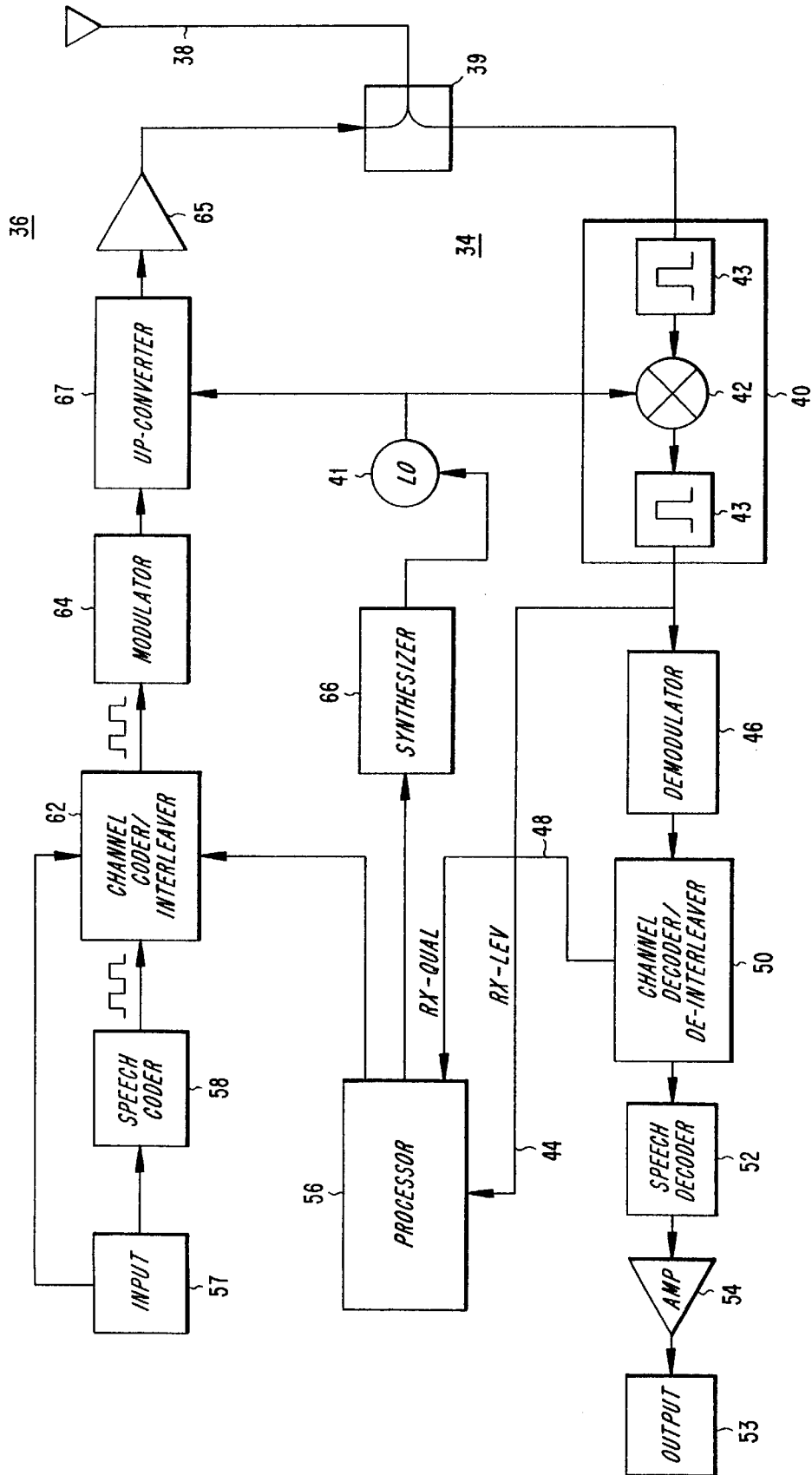


FIG. 5

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