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McGibney

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(54) **ASYMMETRIC EQUALIZATION SYSTEM FOR DATA TRANSMISSION**

(75) Inventor: **Grant McGibney**, Calgary (CA)

(73) Assignee: **Telecommunications Research Laboratories**, Edmonton (CA)

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Primary Examiner—Temesghen Ghebretinsae
Assistant Examiner—Kevin M Burd
(74) *Attorney, Agent, or Firm*—Christensen O'Connor Johnson Kindness PLLC

(57) **ABSTRACT**

This disclosure covers a method of equalization for a high speed, indoor wireless local area network. The invention is designed so that the terminal equipment is as simple as possible while the hardware required for adaptive filtering, antenna diversity and frequency diversity is implemented almost entirely at the base station. The system uses pre-equalization for the downlink and post-equalization for the uplink. Antenna diversity and adaptive rate frequency diversity are used together to reduce the effects of frequency selective multipath fading to ensure that the equalizer can correct the distortion introduced by the radio channel.

39 Claims, 14 Drawing Sheets