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(71) Applicant: BALL AEROSPACE & TECHNOLOGIES CORP.
[US/US]; 10 Longs Peak Drive, Broomfield, CO 80020
(US).(72) Inventors: OLSON, Steven, Carter; 1180 West Sixth Avenue,
Broomfield, CO 80020 (US). GODARD, Jeffrey, Allan;
10650 West Bowles Avenue, Littleton, CO 80127 (US).(74) Agents: ZINGER, David, F. et al.; Sheridan Ross P.C., Suite
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(54) Title: ANTENNA SYSTEM

(57) Abstract

An antenna system (10) that is particularly suited for use in communications systems implementing wireless local loops. In its preferred embodiment, the antenna comprises an array of air loaded stacked patch antenna elements (14a-14d) suspended above a ground plane (12). The antennas each operate in a dual slant (45) linearly polarized mode and are fed by air loaded microstrip transmission line feeds. The line widths of the feed lines are uniform throughout the design, thereby eliminating the need for impedance transformers. The electronics for the antenna is located beneath the antenna ground plane (12) to reduce the footprint of the antenna. In addition, a "connectorless" coupling structure is provided for transferring signals between the antenna elements (14a-14d) and the underlying electronics. In one embodiment, an antenna is provided having enhanced sidelobe suppression despite having a limited number of side by side elements in a plane of interest.

