IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Hudson et al.

Application No.: 11/847,084

Filed: August 29, 2007

For: ADJUSTING THE POWER LEVEL OF A SATELLITE TRANSMITTER

Customer No.: 16565

Confirmation No.: 1549

Examiner: Duc M. Nguyen

Art Unit: 2618

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal from the Final Office Action ("Final Office Action") dated November 3, 2011, finally rejecting claims 20-28 and 32-40; and the decision on the Pre-Brief Appeal Conference dated March 13, 2012.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is WildBlue Communications, Inc., as evidenced by an Assignment recorded at Reel 019763, Frame 0235. WildBlue Communications, Inc. is a wholly owned subsidiary of ViaSat Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that are related to this case.
III. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 20, 21, 22, and 26 are independent claims; claims 23-25 and 32-33 depend from Claim 22; and claims 27-28 and 34-40 depend from Claim 26. The claims are directed, generally, to distortion-based power control systems and methods in satellite communications.

More specifically, independent claim 20 is directed to a method of adjusting the power level of a satellite transmitter on a satellite. The method of claim 20 comprises: generating test signals from a test signal generator on said satellite (see, e.g., p. 29, line 32 through p. 30, line 1; FIG. 14, ref. 322); modulating a carrier signal that is generated by said satellite transmitter with said test signals to produce a modulated output signal (see, e.g., p. 29, line 32 through p. 30, line 1; and FIG. 14, ref. 324); amplifying said modulated output signal in said satellite transmitter to produce an amplified, modulated output signal (see, e.g., p. 30, lines 1-2; and FIG. 14, ref. 326); filtering at least one frequency of said amplified, modulated output signal to determine a distortion level of said amplified, modulated output signal (see, e.g., p. 30, lines 2-3; and FIG. 14, ref. 328); and controlling a power level of said satellite transmitter based upon said distortion level of said amplified, modulated output signal (see, e.g., p. 30, lines 3-9; and FIG. 14, refs. 330-338).

Independent claim 21 is directed to a system for adjusting the power level of a satellite transmitter on a satellite. The system of claim 21 comprises: a test signal generator that generates test signals (see, e.g., p. 29, lines 23-24; and FIG. 13, refs. 270, 314); said satellite transmitter that modulates said test signals with a carrier signal to produce a modulated output signal, and amplifies said modulated output signal to produce an amplified, modulated output signal (see, e.g., p. 29, lines 25-27; and FIG. 13, ref. 282); a filter that filters a predetermined harmonic frequency of said amplified, modulated output signal to generate a distortion control signal having an amplitude that is indicative of a distortion level of said amplified, modulated output signal (see, e.g., p. 29, lines 27-29; and FIG. 13, ref. 274); and a controller that controls an power level of said satellite transmitter in response to said amplitude of said distortion control signal to maintain a constant distortion level of said amplified, modulated output signal (see, e.g., p. 29, lines 29-30; and FIG. 13, ref. 280).
Independent claim 22 is directed to a system comprising: a test signal generator configured to generate test signals (see; e.g., p. 29, lines 23-24; and FIG. 13, refs. 270, 314); a satellite transmitter configured to: modulate said test signals with a carrier signal to generate microwave communication signals; transmit said microwave communication signals (see, e.g., p. 29, lines 27-29; and FIG. 13, ref. 282); a first splitter configured to create a duplicate signal of at least a portion of said microwave communication signal transmitted by said transmitter (see, e.g., p. 29, lines 25-27; and FIG. 13, ref. 272); a filter coupled to said first splitter and configured to isolate a particular portion of said duplicate signal created by said first splitter to produce a filtered duplicate signal (see, e.g., p. 29, lines 27-29; and FIG. 13, ref. 274); and a controller coupled to said filter and configured to: receive the isolated portion of said filtered duplicate signal from said filter; and adjust a power level of said satellite transmitter in response to distortion associated with said isolated portion of said filtered duplicate signal received from said filter (see, e.g., p. 29, lines 29-30; and FIG. 13, ref. 280).

Independent claim 26 is directed to a method of controlling signal strength of a communication signal in a satellite communication system. The method of claim 26 comprises: generating a test signal (see, e.g., p. 29, line 32 through p. 30, line 1; FIG. 14, ref. 322); combining said test signal with said communication signal generated by a satellite transmitter to produce a combined communication and test signal (see, e.g., p. 29, line 32 through p. 30, line 1; and FIG. 14, ref. 324); amplifying said combined communication and test signal at an initial gain level to produce an amplified combined communication and test signal (see, e.g., p. 30, lines 1-2; and FIG. 14, ref. 326); filtering said amplified communication and test signal to isolate a distortion level associated with said test signal (see, e.g., p. 30, lines 2-3; and FIG. 14, ref. 328); and adjusting a power level of said satellite transmitter in response to said distortion (see, e.g., p. 30, lines 3-9; and FIG. 14, refs. 330-338).

IV. ARGUMENT

A. During examination, the claims must be construed, the examiner must make a prima facie case of obviousness, and the final legal conclusion of obviousness must be correct.