

EXHIBIT 8

#4/A
10-9-01
M.L.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sorrells *et al.*

Appl. No. 09/770,675

Filed: January 29, 2001

For: **Wireless and Wired Cable Modem
Applications of Universal
Frequency Translation Technology**



Confirmation No.: 5430

Art Unit: *to be assigned*

Examiner: *to be assigned*

Atty. Docket: 1744.0140005

Preliminary Amendment Under 37 C.F.R. § 1.115

Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants respectfully request that the Examiner enter the following Amendment.

This Amendment is provided in the following format:

- (A) A clean version of each replacement paragraph/section/claim along with clear instructions for entry;
- (B) Starting on a separate page, appropriate remarks; and
- (C) Starting on a separate page, a marked-up version entitled: "Version with markings to show changes made."

It is not believed that extensions of time or fees for net addition of claims are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments

In the Claims:

Please cancel claims ~~6~~, ~~7~~, and ~~8~~, without prejudice or disclaimer.

Please substitute the following claims 1-5 and 9-31 for the pending claims 1-5 and 9-31:

1.(Amended) A cable modem for down-converting an electromagnetic signal having complex modulations, comprising:

an oscillator to generate an in-phase oscillating signal;

a phase shifter to receive said in-phase oscillating signal and to create a quadrature-phase oscillating signal;

a first universal frequency down-conversion module to receive the electromagnetic signal and said in-phase oscillating signal;

a second universal frequency down-conversion module to receive the electromagnetic signal and said quadrature-phase oscillating signal; wherein

said first universal frequency down-conversion module further comprising a first universal frequency translation module and a first storage module, wherein said first universal frequency translation module samples the electromagnetic signal at a rate that is a function of said in-phase oscillating signal, thereby creating a first sampled signal; and

said second universal frequency down-conversion module further comprising a second universal frequency translation module and a second storage module, wherein said first universal frequency translation module samples the electromagnetic signal at a rate that is a function of said quadrature-phase oscillating signal, thereby creating a second sampled signal.

2.(Amended) The cable modem of claim 1, wherein said quadrature-phase oscillating signal is out of phase with said in-phase oscillating signal by substantially 90°.

Sorrells *et al.*
Appl. No. 09/770,675

A1
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3.(Amended) The cable modem of claim 1, wherein said first storage device has a first storage first port and a first storage second port, said first storage first port being connected to said first sampled signal, and said first storage second port is connected to a first reference potential, and said second storage device has a second storage first port and a second storage second port, said second storage first port being connected to said second sampled signal, and said second storage second port is connected to a second reference potential.

4.(Amended) The cable modem of claim 3, wherein said first storage device is a first capacitor, and said second storage device is a second capacitor.

5.(Amended) The cable modem of claim 3, wherein said first reference potential is substantially equal to ground, and said second reference potential is substantially equal to ground.

9.(Amended) The cable modem of claim 1, wherein said first sampled signal is comprised of two or more voltage levels.

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10.(Amended) The cable modem of claim 9, wherein said first sampled signal is comprised of eight voltage levels.

11.(Amended) The cable modem of claim 9, wherein said first sampled signal is comprised of sixteen voltage levels.

12.(Amended) The cable modem of claim 1, wherein said second sampled signal is comprised of two or more voltage levels.

13.(Amended) The cable modem of claim 12, wherein said second sampled signal is comprised of eight voltage levels.

Sorrells *et al.*
Appl. No. 09/770,675

14.(Amended) The cable modem of claim 12, wherein said second sampled signal is comprised of sixteen voltage levels.

15.(Amended) The cable modem of claim 1, wherein said first sampled signal is a first information output signal, and said second sampled signal is a second information output signal.

16.(Amended) The cable modem of claim 1, further comprising a first amplifier receiving said first sampled signal and outputting a first amplified signal, and a second amplifier receiving said second sampled signal and outputting a second amplified signal.

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17.(Amended) The cable modem of claim 16, further comprising a first filter receiving said first amplified signal and outputting a first filtered signal, and a second filter receiving said second amplified signal and outputting a second filtered signal.

18.(Amended) The cable modem of claim 1, further comprising a first filter receiving said first sampled signal and outputting a first filtered signal, and a second filter receiving said second sampled signal and outputting a second filtered signal.

19.(Amended) The cable modem of claim 1, wherein the electromagnetic signal has been transmitted over a coaxial cable to the cable modem.

20.(Amended) The cable modem of claim 1, wherein the electromagnetic signal has been transmitted by a wireless method to the cable modem.

21.(Amended) A cable modem, comprising:
an oscillator to generate an in-phase oscillating signal;
a phase shifter to receive said in-phase oscillating signal and to create a quadrature-phase oscillating signal;

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