

EXHIBIT 5



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(54) **WIRELESS AND WIRED CABLE MODEM APPLICATIONS OF UNIVERSAL FREQUENCY TRANSLATION TECHNOLOGY**

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 See application file for complete search history.

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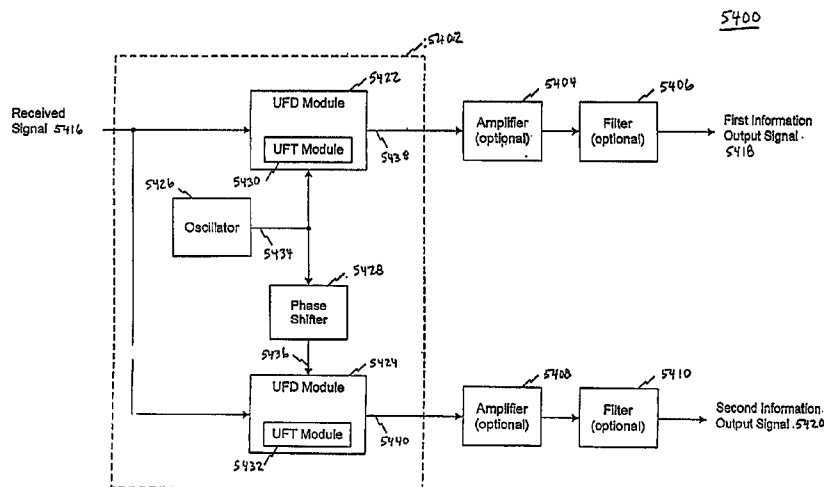
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(57) **ABSTRACT**

Frequency translation and applications of same are described herein, including cable modem applications. Such applications include, but are not limited to, frequency down-conversion, frequency up-conversion, enhanced signal reception, unified down-conversion and filtering, and combinations and applications of same. Furthermore, QAM, QPSK, and other modulation techniques are also described.

21 Claims, 77 Drawing Sheets



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