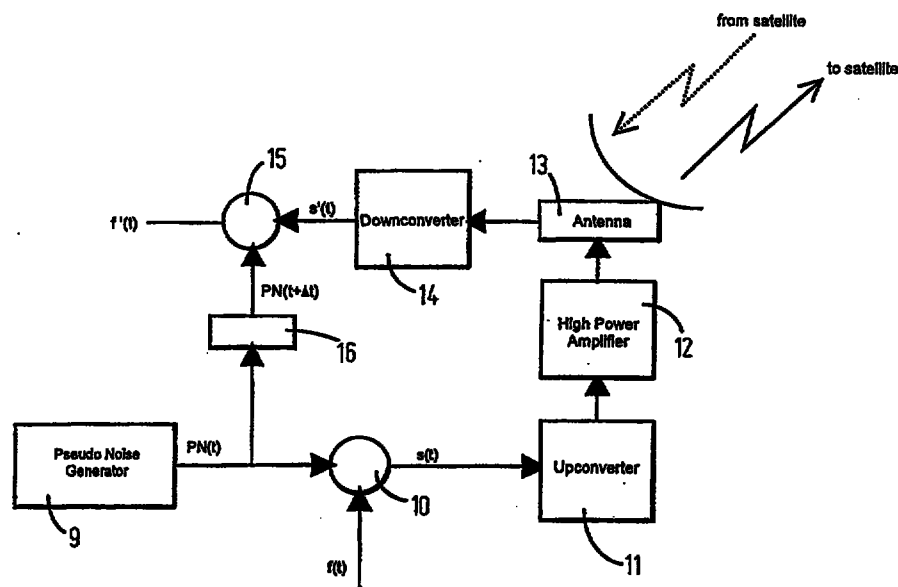




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(54) Title: METHOD AND APPARATUS FOR DETERMINING CHARACTERISTICS OF COMPONENTS OF A COMMUNICATION CHANNEL UNDER LOAD

**(57) Abstract**

For determining characteristics of components of a communication channel, for example of a transponder in a communication satellite, a clean carrier signal $f(t)$ is modulated with a pseudo noise signal $PN(t)$ and transmitted through the communication channel at a level below the level of a payload signal which is transmitted via the communication channel simultaneously. The received signal $s'(t)$ is correlated with same pseudo noise signal $PN(t)$ to obtain a recovered carrier signal $f'(t)$. Both the clean carrier signal $f(t)$ and the recovered carrier signal $f'(t)$ can be used to determine the desired characteristics. Since the PN modulated clean carrier signal $s(t)$ is transmitted at a low level, it is possible to perform measurements without switching off the payload signal.