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**BANDPASS PHASE TRACKER WITH HILBERT TRANSFORMATION BEFORE
PLURAL-PHASE ANALOG-TO-DIGITAL CONVERSION**

ABSTRACT OF THE DISCLOSURE

The tuner in a digital TV receiver converts received signal to a penultimate intermediate-frequency signal. Penultimate local oscillations are supplied in a first phasing and in a second phasing in quadrature therewith, for heterodyning with the penultimate IF signal in first and second mixers respectively to generate real and
5 imaginary components of an ultimate intermediate-frequency signal. The first and second mixers are of a switching type, switching in respective response to the penultimate local oscillations as supplied in first and in second phasing. First analog-to-digital conversion circuitry containing a number N of analog-to-digital converters digitizes the real component of the ultimate IF signal on an N -phase basis, N being at
10 least one. Second analog-to-digital conversion circuitry, which contains a number N of analog-to-digital converters, digitizes the imaginary component of the ultimate IF signal on an N -phase basis. A complex digital carrier signal is generated at the frequency of the radio carrier wave as translated to the ultimate IF signal band. Synchrodyning circuitry responds to the complex digital carrier signal supplied as
15 ultimate local oscillations, and to the digital samples of the real and imaginary components of the ultimate IF signal, for recovering in-phase and quadrature-phase components of baseband signal.

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