

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RISHI MOHINDRA

Appeal No. 2001-2018
Application No. 08/668,114

ON BRIEF

Before THOMAS, KRASS, and JERRY SMITH, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 2 and 8-13.

The invention is directed to a quadrature demodulator. Independent claim 12 is representative of the embodiment wherein the quadrature demodulator has a phase shifting network that

Appeal No. 2001-2018
Application No. 08/668,114

comprises a series arrangement of network elements. Independent claim 13 is representative of the embodiment wherein the quadrature demodulator has a phase shifting network that comprises a parallel arrangement of network elements.

Independent claim 12 is reproduced as follows:

12. A quadrature demodulator for demodulating an intermediate frequency signal obtained from an angle modulated radio frequency signal, the quadrature demodulator having a first branch, a phase shifting network in a quadrature branch, and a multiplier means, said first branch and said phase shifting network being coupled to said multiplier means, and wherein said phase shifting network comprises a series arrangement of a first resistor and a first capacitor, said series arrangement being coupled to a first inductor, a junction of the series arrangement and the first inductor being an output of the phase shifting network providing a quadrature signal and wherein said junction is directly connected to an input of said multiplier means, whereby the first resistor provides a damping such that an overall quality factor of the phase shifting network is substantially smaller than a quality factor of the inductor.

The examiner relies on the following references:

Kimyacioglu	4,866,397	Sep. 12, 1989
Worsham, Jr.	5,414,385	May 09, 1995

Nilsson, "Electric Circuits", Addison-Wesley Publishing Company, Third Edition (May 1990), pp. 393-394.

Claims 2 and 8-13 stand rejected under 35 U.S.C. 103 as unpatentable over Worsham in view of Kimyacioglu and Nilsson.

Reference is made to the briefs and answer for the

Appeal No. 2001-2018
Application No. 08/668,114

respective positions of appellant and the examiner.

OPINION

At the outset, we note that, in accordance with appellant's grouping of claims, at page 4 of the principal brief, claims 2, 8 and 10 will stand or fall with claim 12 and claims 9 and 11 will stand or fall with claim 13.

Taking claim 12, and comparing the elements thereof to Figure 2 of Worsham, we note that the reference discloses a demodulator 15 comprising first and second branches with a phase shifting network 31 in one branch and the phase shifting network coupled to a multiplier means 32. Worsham also discloses a capacitor 30 and an inductor 33, wherein the junction of these elements is connected as the output of the phase shifting network for providing a quadrature signal to the multiplier.

In fact, Worsham appears to disclose the claimed subject matter but for the disclosure of a resistor in series with the capacitor 30 and wherein the resistor provides a damping such that the overall quality factor of the phase shifting network is substantially smaller than a quality factor of the inductor.

The examiner recognized this difference and applied

Appeal No. 2001-2018
Application No. 08/668,114

Kimyacioglu for a teaching of a phase shifter 52 having an RLC network, though Figure 2 of Kimyacioglu appears to us to depict two series-connected inductors connected to a capacitor. The examiner then applies Nilsson for its teaching of equivalent circuits to somehow provide an incentive for modifying the phase shifting network of Worsham by providing for a resistor in series with capacitor 30.

The examiner has failed to provide a convincing rationale as to what would have led the artisan to modify Worsham to provide for the claimed subject matter. The examiner's motivation for combining the applied references appears to come from appellant's own disclosure. Such hindsight gleaned from an applicant's own disclosure cannot serve as a basis for combining references within the meaning of 35 U.S.C. 103.

A review of the examiner's rationale, as per equivalent circuits, appears to be more of a mathematical rationale as to *how* the instant claimed subject matter may be constructed rather than a sufficient basis to provide the answer as to *why* the artisan would have been led to the instant claimed subject matter without appellant's disclosure. In short, we agree with appellant [bottom of page 9 of the principal brief] that the examiner has not provided a sufficient basis for replacing the

Appeal No. 2001-2018
Application No. 08/668,114

phase shift network of Worsham with the simple phase shifting network of the clock recovery circuit of Kimyacioglu which has been modified by applying a single network equivalence theorem of Thevenin. Moreover, the examiner has offered nothing, other than the fact that it could be done, that would have led the artisan to interchange the positions of the capacitor and the inductor in Kimyacioglu's phase shifter 52, in order to arrive at the claimed subject matter.

Other than being in a parallel arrangement, the subject matter of claim 13 is similar to that of claim 12. The other claims all have similar recitations regarding the relationship between the resistor and capacitor in the phase shifting network of a quadrature demodulator. Therefore, our rationale, supra, applies to these claims.

Accordingly, since the examiner has not provided a prima facie case of obviousness, we will not sustain the rejection of claims 2 and 8-13 under 35 U.S.C. 103.

Appeal No. 2001-2018
Application No. 08/668,114

The examiner's decision is reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	
)	
ERROL A. KRASS)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
)	
JERRY SMITH)	
Administrative Patent Judge)	

Appeal No. 2001-2018
Application No. 08/668,114

EK/RWK

CORPORATE PATENT COUNSEL
US PHILIPS CORPORATION
580 WHITE PLAINS ROAD
TARRYTOWN, NY 10591