

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte KEVIN LOUGHRAN  
and  
CHRISTOPHER FRANCIS ZAPPALA

Appeal No. 2001-1941  
Application No. 09/023,469

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ON BRIEF

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Before HAIRSTON, LALL, and DIXON, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 18.

The disclosed invention relates to an apparatus that comprises a downconverter for downconverting an information-bearing signal to an intermediate frequency signal, a transmitter for transmitting the intermediate frequency

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signal over a twisted-pair wireline and a demodulating means for receiving and demodulating the intermediate frequency signal.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. An apparatus comprising:

a first antenna for receiving a first information-bearing signal at a first radio frequency;

a first downconverter for downconverting said first information-bearing signal to a first intermediate frequency;

a first transmitter for transmitting said first information-bearing signal at said first intermediate frequency over a first wireline, wherein said first wireline is twisted-pair;

means for receiving said first information-bearing signal at said first intermediate frequency from said first wireline and for demodulating said first information-bearing signal.

The references relied on by the examiner are:

Baba et al. (Baba)	3,750,020	Jul. 31, 1973
Lee	5,504,936	Apr. 2, 1996
Nakagoshi et al. (Nakagoshi)	5,799,252	Aug. 25, 1998
		(filed Mar. 1, 1996)

Claims 1, 5 through 7 and 11 through 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Baba.

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Claims 2 through 4, 8 through 10 and 14 through 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Baba and Nakagoshi.

Reference is made to the briefs (paper numbers 10 and 14) and the answer (paper number 11) for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 1 through 18.

According to the examiner (answer, page 3), Lee discloses (Figure 3) a first antenna 13b, a first converter 49, a first transmitter for transmitting an information-bearing signal over a first wireline 25 and a means demodulating the information-bearing signal. The examiner acknowledges (answer, pages 3 and 4) that the converter 49 is not a downconverter that downconverts an information-bearing signal to an intermediate frequency signal, and that the first wireline 25 is not a twisted-pair wireline. Based upon Lee's teaching (column 7, lines 21 through 25) that "[i]t will be apparent to those skilled in the art that such

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cables may include, for example, T1 carrier cables, optical fibers, or the like," the examiner concludes (answer, page 4) that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide twisted-pair cable to the system of Lee in order [to] reduce the cost of the system." With respect to the intermediate frequency signal, the examiner indicates (answer, page 4) that "Baba teaches that the received high frequency signal fR2 from a distant repeater is first down convert[ed] into the intermediate frequency signal fm2 and sent to the preceding repeater over the cable for further processing" (column 3, lines 18 through 36). With this teaching in mind, the examiner contends (answer, page 4) that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Baba to the transmission of Lee in order to reduce radiation of the transmitted signal, thereby reducing transmission loss ([Baba,] col. 5, lines 21-24)."

Appellants argue (brief, page 7) that:

**First**, neither Lee nor Baba teach or suggest, alone or in any combination, what the claims recite, namely the transmission of an intermediate

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signal over a "twisted pair" wireline. Whereas Lee teaches the transmission of optical frequency signals over "optical fibers" (col. 7, line[s] 44-45) and baseband signals over "T1 carrier cables" (col. 7, lines 46-47), Baba teaches the transmission of intermediate frequency signals over "leaky coaxial cable" (col. 2, line 34). Furthermore, nowhere does Baba or Lee teach or suggest any deficiency with coaxial cable or optical fiber.

Appellants additionally argue (brief, page 8) that "[e]ven though Baba taught the transmission of signals at IF frequencies to minimize power loss, even Baba didn't see, as did the inventors of the present invention, that the use of IF frequencies obviated the need for coaxial cable."

We agree with appellants' arguments. Thus, the obviousness rejection of claims 1, 5 through 7 and 11 through 13 is reversed because "no proper combination of Lee and Baba teaches or suggests the present invention" (brief, page 9; reply brief, page 5). The obviousness rejection of claims 2 through 4, 8 through 10 and 14 through 18 is likewise reversed because the teachings of Nakagoshi fail to cure the noted shortcomings in the combined teachings of Lee and Baba.

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DECISION

The decision of the examiner rejecting claims 1 through  
18 under 35 U.S.C. § 103(a) is reversed.

REVERSED

KENNETH W. HAIRSTON	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
PARSHOTAM S. LALL	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
JOSEPH L. DIXON	)	
Administrative Patent Judge	)	

KWH:hh

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JASON PAUL DEMONT  
DEMONT & BREYER, LLC  
P.O. BOX 7490  
SHREWSBURY, NJ 07702