

file

94-1295

MAILED

NOV 16 1994

Paper No. 22

PAT.&T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte RICHARD M. CZERWIEC,  
JOSEPH E. SUTHERLAND, MARLIN V. SIMMERING,  
ANDREW L. WITHERS, and ROBERT S. KRONINGER

Appeal No. 94-1295  
Application 07/738,315<sup>1</sup>

ON BRIEF

Before THOMAS, HAIRSTON, and FLEMING, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 3, and 4. Claim 7 has been found allowable, and claim 6 has been objected to as depending from a rejected base claim,

<sup>1</sup> Application for patent filed July 31, 1991.

Appeal No. 94-1295  
Application 07/738,315

but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 2 and 5 have been cancelled.

The disclosed invention relates to an optical distribution unit in an optical fiber communications network that receives an electrical time division multiplexed baseband telephony signal comprised of a plurality of channels, and broadband video channels. The broadband video channels and the baseband signals are frequency division multiplexed with each other, and are then provided as an optical output from the optical distribution unit.

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

1. An optical distribution unit for use in an optical fiber communications network, said optical distribution unit comprising:

means for receiving an electrical TDM baseband telephony signal comprising a plurality of channels;

means for receiving broadband video channels;

means for frequency division multiplexing the broadband video channels with the baseband signals; and

means for providing an optical output corresponding to said frequency division multiplexed video channels and the baseband signals.

The references relied on by the examiner are:

Shibagaki et al. (Shibagaki)	4,704,715	Nov. 3, 1987
Andrew et al. (Andrew)	4,723,237	Feb. 2, 1988
Graves et al. (Graves)	5,029,333	July 2, 1991

Appeal No. 94-1295  
Application 07/738,315

Claims 1 and 3 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shibagaki in view of Andrew.

Claim 4 stands rejected under 35 U.S.C. § 103 as being unpatentable over Graves.

Reference is made to the briefs and the answers for the respective positions of the appellants and the examiner.

#### OPINION

We have carefully considered the entire record before us, and we will sustain the 35 U.S.C. § 103 rejection of claims 1, 3, and 4.

At the outset, we wish to point out that one cannot show nonobviousness by attacking references individually where the rejection is based on a combination of references. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. Nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to the artisan. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). A convincing argument for patentability is not one in which a reference is

Appeal No. 94-1295  
Application 07/738,315

attacked for lacking what is found in another reference. On pages 7 and 8 of the main brief, for example, appellants argue that the primary reference to Shibagaki does not show FM video even though the examiner relied on the secondary reference to Andrew for such a teaching. On pages 9 and 10 of the main brief, appellants argue that the secondary reference to Andrew fails to show frequency division multiplexing of voice and video notwithstanding the fact that the examiner relied on the primary reference to Shibagaki for such a teaching.

The reference to Shibagaki discloses an optical distribution unit for use in an optical fiber communications network that comprises in Figure 2 a frequency division multiplexer 40 that receives electrical time division multiplexed baseband multi-channel audio signals S6, and analog broadband video image signals S1. The signals S1 and S6 are frequency division multiplexed by the frequency division multiplexer. The electrical to optical converter 62 is a means for providing an optical output S9 to an optical cable corresponding to the frequency division multiplexed video signals and the baseband signals. When the claimed optical distribution unit is given its broadest reasonable interpretation, we find that the Figure 2 circuit in Shibagaki functions as an optical distribution unit. Appellants' arguments to the contrary notwithstanding, nothing in

claim 1 indicates that the optical output from the unit is received by a plurality of subscribers. Reading a claim in the light of the specification to interpret broadly worded limitations explicitly recited in the claim is a quite different thing from reading limitations of the specification into a claim to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim. See In re Prater, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969). We agree with the appellants that the baseband signals in Shibagaki are audio signals, but we also agree with the examiner that it would have been obvious to one of ordinary skill in the art to replace the audio signals in Shibagaki with telephony signals because telephony signals are a form of audio signal. The 35 U.S.C. § 103 rejection of claim 1 is sustained.

On page 3 of the main answer, the examiner concludes that if the signals are frequency multiplexed, then "there would be a frequency modulated carrier to carry the signals along the fiber." We are of the opinion that a frequency modulated (FM) carrier would inherently exist in the Figure 2 embodiment of Shibagaki<sup>2</sup> to "carry the signals along the fiber." If such a FM

---

<sup>2</sup> The Figure 1 embodiment in Shibagaki demonstrates that it is known in the art to frequency modulate video signals prior to distributing them to subscribers. In this embodiment, the  
(continued...)

Appeal No. 94-1295  
Application 07/738,315

carrier does not inherently exist in Shibagaki, then we also agree with the examiner that it would have been obvious to one of ordinary skill in the art to place the video signals of Shibagaki on a FM carrier as taught by Andrew at column 2, lines 30 through 33, for the advantages of bit rate reduction and avoiding the need for network synchronization of the FM signal. The 35 U.S.C. § 103 rejection of claim 3 is sustained.

Turning to claim 4, the reference to Graves discloses an optical communications system with a plurality of optical distribution units that include means for multiplexing electrical time division multiplexed baseband signals STS-1 and video signals STS-23. A micro-controller for the communications system is described at column 8, lines 43 through 62 of this reference. On page 13 of the main brief, appellants argue that Graves has nothing to do with either "the claimed FM or the claimed frequency-division multiplexing function." We agree with appellants that Graves is not frequency multiplexing a FM video signal with a baseband signal. As indicated at column 3, line 39 through column 4, line 40, Graves is using wave division multiplexing to multiplex a video signal with a baseband signal.

---

<sup>2</sup>(...continued)  
analog matrix switch 10 receives wideband video image signals and audio signals, and switches them to FM modulator 18 prior to distributing them to subscribers via electrical/optical converter 20.

Appeal No. 94-1295  
Application 07/738,315

On page 4 of the main answer, the examiner states that "wavelength division multiplexing and frequency division are conceptually the same<sup>3</sup> and that either method may be used in an optical system," and "the use of a frequency modulated carrier would have been obvious to one of ordinary skill in the art since transmitting a frequency modulated video carrier is old and well known in the art and would reduce cost by using the bandwidth of the optical channel efficiently." Neither the reply brief nor the supplemental reply brief responds to or rebuts the examiner's conclusions concerning frequency division multiplexing or the FM video carrier. In the absence of a challenge by the appellants to the examiner's conclusions, we will accept them as correct and sustain the 35 U.S.C. § 103 rejection of claim 4.

#### DECISION

The decision of the examiner rejecting claims 1, 3, and 4 under 35 U.S.C. § 103 is affirmed.

---

<sup>3</sup> We note in passing that the reference to Andrew discusses in the first two paragraphs in column 18 the use of both frequency division multiplexing and wavelength division multiplexing in an optical system. It appears that frequency division multiplexing is preferred when multiplexing electrical signals in the system, and wavelength division multiplexing is preferred when multiplexing optical signals in the system. Figure 7 in Shibagaki shows interchangeable use of the two multiplexing techniques.



Appeal No. 94-1295  
Application 07/738,315

Peter C. Van Der Sluys  
Ware, Fressola, Van Der Sluys & Adolphson  
755 Main Street, Bldg. 5, P. O., Box 224  
Monroe, CT 06468