UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RUSSELL J. APFEL

Appeal 2006-2089
Application 09/778,291
Technology Center 2600

Decided: January 11, 2008

Before JOSEPH F. RUGGIERO, LANCE LEONARD BARRY,
and JEAN R. HOMERE, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

ON REQUEST FOR REHEARING

Appellant requests that we reconsider our Decision of January 17, 2007 wherein we sustained the Examiner's 35 U.S.C. § 103(a) rejection of claims 1-25 based on the combination of the Shenoi and Shapiro references. We have reconsidered our Decision of January 17, 2007 in light of Appellant's comments in the Request for Rehearing, and we find no error

therein. We, therefore, decline to make any changes in our prior Decision for the reasons which follow.

We would initially point out that while our prior Decision undertook an analysis of the disclosure of Shenoi as it relates to the limitations set forth in independent claims 1, 12, and 24, our prior Decision (Decision 5) did conclude that we found no error in the Examiner's finding of obviousness based on the combination of Shapiro with Shenoi. In particular, we remain convinced, Appellant's arguments (Reh'g 3) to the contrary notwithstanding, that, as explained by the Examiner (Ans. 11), Shapiro's defining of a bandwidth for each channel in the form of a maximum bit allocation with a gain assigned to each channel satisfies the claimed requirement of controlling the gain of a portion of a signal based on a determination of bandwidth requirement. Similarly, we find no error in the Examiner's conclusion (Ans. 14) that Shapiro provides a disclosure (col. 7, ll. 36-55 and col. 8, ll. 16-34) of the separation of signal paths based upon the characteristics of a signal path to apply a corresponding gain upon the signal path.

We further find no error in the analysis in our prior Decision (Decision 5-6) of the Shenoi disclosure as it applies to the requirements of appealed independent claims 1, 12, and 24. Initially, we find to be unpersuasive Appellant's contention (Reh'g 2) that, in contrast to the gain control of the appealed claims, Shenoi merely applies a predetermined amplification factor to the transmitted signal based on a cable length of 6000 feet. There is no claim language which precludes the applied amplification, i.e. gain, from being "predetermined," this predetermination in Shenoi's case being based on the center frequency of the bandpass frequency range of the

upstream signal and the high pass filter frequency value of the downstream signal. Similarly, Appellant's argument (*id.*) that the amplification factor in Shenoi is applied to the entire signal as opposed to the claimed "portion" of a signal is unpersuasive since, as disclosed by Shenoi (col. 8, ll. 3-24), the amplification factor is applied to the upstream signal after the bandpass frequency "portion" has been separated out by the bandpass filter BPF. The downstream amplification in Shenoi is also applied to a "portion" of the signal since the gain is applied to the high pass frequency portion separated out by highpass filter HPF.

We also find to be without merit Appellant's contention (Reh'g 2-3) that "monitoring" of a signal to determine gain control is not taking place in Shenoi. We fail to see why, at the very least, the determination of whether a signal is in the upstream or downstream direction in order to apply the differing amplification factors in Shenoi would not be considered as signal "monitoring" by the skilled artisan. Further, signal frequency "monitoring" must occur in Shenoi in order for the bandpass filter to properly separate out the bandpass frequencies in the upstream direction and the highpass filter to separate out frequencies above the highpass value in the downstream direction.

Lastly, with respect to claims 6-11, 17-23, and 25 (the Group II claims), Appellant contends that our prior Decision erred in interpreting Shenoi as disclosing the claimed signal path separation in response to the determination of a length of signal path. According to Appellant (Reh'g 3), no separation of signal paths takes place in Shenoi but, rather, predetermined downstream and paths are selected with no path separation being in response to a determination of signal path length.

We do not find, however, Appellant's arguments to be persuasive of any error in our interpretation of the disclosure of Shenoi set forth in our prior Decision. As illustrated in Figures 1 and 2 of Shenoi and described at column 6, lines 26-34 of Shenoi, for digital transmission between a central office and a subscriber over a subscriber loop, the communication signal is separated into upstream and downstream paths. Further, contrary to Appellant's arguments, there is no positive requirement in any of the appealed claims that the signal path separation be in response to a determination of signal path length. As pointed out in our prior Decision (Decision 8), the appealed claims require only the separation of signal paths in response to "at least one of" signal path length, bandwidth requirement, and gain factor. Accordingly, we find no error in the conclusion reached in our prior Decision that Shenoi's disclosure (col. 8, ll. 3-24) of separating signal communication between the central office and the subscriber into upstream and downstream paths based on the differing bandwidth requirements for upstream and downstream communication satisfies the claimed requirement.

CONCLUSION

Based on the foregoing, we have granted Appellant's request to the extent that we have reconsidered our Decision of January 17, 2007, but we deny the request with respect to making any changes therein.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

REHEARING DENIED

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