

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANK B. MANNING
and WILLIAM HUME VANCE

Appeal No. 2001-2270
Application 09/235,529¹

ON BRIEF

Before JERRY SMITH, BARRETT, and RUGGIERO, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-6 and 9-12. Claims 7 and 8 are objected to as being dependent upon rejected base claims. Claims 13-18 are allowed.

¹ Application for patent filed January 22, 1999, entitled "Parallel-Connected Dialing Signal Transmission Inhibiting Device for Data Transfer Over a Telephone Link," which is a continuation of Application 08/542,661, filed October 13, 1995, now U.S. patent 5,898,756, issued April 27, 1999.

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We affirm-in-part.

BACKGROUND

The invention relates to a parallel-connected device for intercepting dialing signals across the tip and ring conductors of a telephone line by switching in a load that attenuates the dialing signals by at least 30 dB.

Claim 1 is reproduced below.

1. A parallel-connected dialing signal detection and transmission-inhibiting device, comprising

a detector for identifying dual-tone multifrequency dialing signals across the tip and ring conductors of a telephone link;

a load that connects across the tip and ring conductors to attenuate the dialing signals by at least 30 dB; and

a controller for controlling a call and the connection of the load in response to the identified dialing signals.

The examiner relies on the following references:

Gaukel et al. (Gaukel)	5,200,995	April 6, 1993
Stevens et al. (Stevens)	5,590,182	December 31, 1996 (filed June 22, 1994)
Eaton	5,710,808	January 20, 1998 (§ 102(e) date August 11, 1995)

Claims 1-5 and 9-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens and Eaton.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens, Eaton, and Gaukel.

We refer to the final rejection (Paper No. 7) (pages referred to as "FR__") and the examiner's answer (Paper No. 10)

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(pages referred to as "EA__") for a statement of the examiner's rejection, and to the brief (Paper No. 9) (pages referred to as "Br__") and reply brief (Paper No. 16) (pages referred to as "RBr__") for a statement of appellants' arguments thereagainst.

OPINION

Grouping of claims

In the principal brief, appellants argued the following groups of claims (Br4):

Group I: Claims 1, 3-6, 9, and 11
Group II: Claims 2 and 10
Group III: Claim 12

In the reply brief, appellants argues the separate patentability of claim 6 (RBr9-10), which had not been argued in the main brief. These arguments, presented for the first time in the reply brief, are untimely and will not be considered. Cf. Kaufman Company, Inc. v. Lantech, Inc., 807 F.2d 970, 973 n.*, 1 USPQ2d 1202, 1204 n.* (Fed. Cir. 1986); McBride v. Merrell Dow and Pharmaceuticals, Inc., 800 F.2d 1208, 1210-11 (D.C. Cir. 1986) ("We generally will not entertain arguments omitted from an appellant's opening brief and raised initially in his reply brief. . . . Considering an argument advanced for the first time in a reply brief, then, is not only unfair to an appellee, . . . but also entails the risk of an improvident or ill-advised opinion on the legal issues tendered."). While 37 CFR § 1.192(c)(7) (1999) usually requires each separate ground of

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rejection to be addressed, see In re McDaniel, 293 F.3d 1379, 1384-85, 63 USPQ2d 1462, 1465-66 (Fed. Cir. 2002), the rule only applies to grounds of rejection which an applicant contests. Appellants did not contest the rejection of claim 6 in the principal brief either in the grouping of claims, as required by § 1.192(c)(7), or in the arguments, as required by § 1.192(c)(8)(iv). Since claim 6 is a dependent claim, it can be assumed that appellants considered the patentability to stand or fall with claim 1. Examiners are not permitted to file a supplemental answer as of right, § 1.193(b)(1); thus, it would be unfair to let in new arguments in the reply brief. Accordingly, this opinion addresses only the three groups in the main brief.

Group I: Claims 1, 3-6, 9, and 11

Claim 1 is representative of Group I. The sole difference between Steven and the subject matter of claim 1 is that Stevens does not disclose attenuating the dialing signals by "at least 30 dB." Stevens discloses an attenuator device, AC shunt 13 in Fig. 2, connected in parallel (in shunt) across the tip and ring conductors of a telephone link where "[t]he attenuator attenuates the signals on the telephone line so that the amplitude of the signals on the telephone line is below a threshold of the central office, so that the central office does not recognize the signals as representing a telephone number entered by the user" (col. 2,

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lines 41-45). However, Stevens does not disclose that the attenuation should be "at least 30 dB." Stevens discloses that the AC (alternating current, also abbreviated "a.c.") shunt may include a low impedance (less than $1/3$ the impedance of the telephone device) across the tip-ring wires (col. 6, lines 8-13). Appellants state that this corresponds to an attenuation of only 8 dB (Br6), although no explanation of how this is calculated or the effect of "less than $1/3$ " is presented. Stevens discloses that an alternative, or additional, way to ensure that the central office does not detect the DTMF codes is to jam the DTMF codes by introducing an interfering tone (col. 2, lines 30-34; col. 6, lines 20-33).

The attenuator in Stevens serves the same purpose as appellants' claimed a.c. load, i.e., the load is chosen "such that DTMF signals, for example, generated by telephones 30 or 32 are attenuated to a level at which the central office 5 will not recognize the tones as valid" (spec. at 8, lines 1-3). Appellants discuss that both serial-connected and parallel-connected call function devices were known in the prior art (spec. at 2, lines 3-18). However, serial-connected devices often required an experienced technician for installation to work with several telephones (spec. at 2, lines 3-8). Known parallel-connected devices placed an a.c. load in parallel across the tip and ring conductors so that dialing signals generated by the

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telephones are not detected by the central office, but these signals were often detected by variability in central office sensitivity, telephone network attenuation, and dialing signal strength (spec. at 2, line 20 to spec. at 3, line 6). It is stated (Br4): "The research of the present inventors into the Bellcore specifications and the real characteristics of central office receivers has led to the conclusion that much more attenuation is needed. As a result, the present claims require a substantially higher attenuation of 30 dB or higher."

Eaton discloses a telephone dialing code processor for intercepting outgoing DTMF codes (i.e., preventing them being received by the central office) and then either redialing a modified sequence of telephone numbers or barring the call (col. 3, line 63 to col. 4, line 3). The device is located in series with one of the telephone line conductors (Fig. 2; col. 5, lines 51-53). Eaton disclose that in the mute (interception) mode the loss is typically 30 dB (col. 9, lines 3-5).

The examiner concludes (FR2-3; EA5):

It would have been obvious to one of ordinary skill in the art at the time of [sic] the invention was made to utilize the teachings of Eaton (e.g., choosing an impedance or an AC load that can attenuate the tone signals to a certain threshold level, e.g., 30-38 dB) so that the central office does not recognize the outgoing dialing signals (e.g., the DTMF tones), and a conventional telephone system can be economically used as an intercom system.

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We agree that Eaton's teaching of an attenuation between the telephone and the central office of 30 dB, albeit in a series device, would have suggested to the artisan modifying Stevens' parallel attenuator to provide an attenuation of 30 dB between the telephone and the central office. The important fact is the attenuation of DTMF tones between the telephone and central office, not the kind of connection (serial or parallel) which provides the attenuation. In addition, even without Eaton, the "at least 30 dB" limitation appears to be an obvious limitation which is determinable by routine investigation by one of ordinary skill in the art in view of the guidance provided by Stevens that the attenuation should be sufficient "so that the amplitude of the signals on the telephone line is below a threshold of the central office, so that the central office does not recognize the signals as representing a telephone number entered by the user" (col. 2, lines 42-45). Appellants note that "[t]he signaling chapter of 'BOC Notes on the LEC Network - 1990' states that a central office DTMF receiver should register DTMF digits with a power per frequency of -25 to 0 dBm" (spec. at 9, lines 2-4), which teaches that the attenuation should be greater than 25 dB; "[t]he Mitel MT8870D integrated DTMF receivers are claimed to be 'central office quality'; and they accept a DTMF low group or high group tone of -29 to +1 dBm" (spec. at 9, lines 9-10), which teaches that the attenuation should be greater than 29 dB (e.g.,

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30 dB); and "AT&T central office switches typically reject DTMF tones less than -38.2 dBm per tone" (spec. at 9, lines 17-18), which teaches that the attenuation should be greater than 38.2 dB. Thus, if one of ordinary skill in the art wanted to determine how much attenuation would be required so that the central office would not detect the DTMF signals, this knowledge appears to be readily available in the art. We conclude that the examiner has established a prima facie case of obviousness.

Appellants argue that the Stevens system does not provide adequate attenuation (Br6).

The examiner does not rely solely on Stevens. However, Stevens expressly teaches that the attenuation should be enough so that the central office will not detect the DTMF signals. It was evidently known in the art that an attenuation of at least 30 dB or 38.2 dB was required to meet this condition. In addition, Eaton discloses that the DTMF tones should be attenuated by 30 dB, which suggests that the attenuation in Stevens also be 30 dB.

Appellants argue that the examiner's rejection states (at FR6) that Stevens can be a parallel or series device while Eaton teaches a series device and since both references teach the use of a series device, it would have been obvious to utilize the 30 dB teachings of Eaton in Stevens (Br7). It is argued that

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this reasoning would yield a series device, which is contrary to the parallel limitations of the claims (Br8).

While the examiner's reasoning could be better stated, we interpret the examiner's rejection to mean that it would have been obvious to modify Stevens' parallel attenuator to provide an attenuation of 30 dB in view of Eaton's teaching of an attenuation between the telephone and the central office of 30 dB, albeit in a series device. The examiner's reference to both Stevens and Eaton teaching serial devices appears to be only an attempt to show some commonality between the references rather than a statement that the device should be serial.

Appellants argue that Stevens requires the use of a waveform generator circuit to generate an interference signal so that the central office does not detect DTMF dialing signals, and the attenuator alone is not sufficient to block dialing signals so that they are not detected (RBr3-4). It is argued that the teaching of using an interference signal teaches away from the present invention (RBr4).

The waveform generator in Stevens is an alternative or additional means to prevent DTMF signals from being recognized by the central office and is not required. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from

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the path that was taken by the applicant." In re Gurley, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). The alternative or additional use of a waveform generator does not constitute a teaching away from using the attenuator alone to block the DTMF tones. The waveform generator teaching does not contradict Stevens' teaching that the DTMF signals should be attenuated so that they are not detected by the central office.

Appellants argue that the attenuation of dialing signals by more than 30 dB by the present invention requires that highly attenuated DTMF dialing signals be detected by the transmission-inhibiting device of the present invention even though such signals cannot be detected at the central office. It is argued that this engineering task of processing substantially attenuated dialing signals is not addressed by Stevens at all, which "is presumably why Stevens teaches away from the techniques as recited by the present invention" (RBr5). It is argued that "Applicants disclose a method of detecting the attenuated dialing signals even though they are attenuated by greater the [sic, than] 30dB" (RBr6) and it is the ability to detect these attenuated dialing signals as in the claimed invention that enables the user to connect it across any point in the telephone line so that it can be used for multiple parallel devices (RBr6). Appellants argue that if Eaton were changed to a parallel load, the dialing signals could no longer be detected by the decoder

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chip shown in Fig. 9 (RBr8). It is argued that the examiner has not cited a reference in which any dialing signals that are attenuated by more than 30 dB are detected by any type of detection device (RBr9).

While the power to the central office may be attenuated by 30 dB, as shown in appellants' sketch at RBr6, it does not appear that the voltage across the parallel attenuator is changed. Therefore, appellants have not shown that a special voltage detector is required or that one of ordinary skill in the art would not know how to detect the DTMF signals without undue experimentation. Moreover, it does not appear from appellants' disclosure that the invention is the circuitry for detecting an attenuated signal. No special detection circuitry is claimed.

Appellants argue that the references cannot be readily combined without the inventive modifications as recognized by the applicants, nor is there any indication in the reference that they should be combined (RBr8).

"[T]he test [for obviousness] is what the combined teachings of the references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). While Eaton does not expressly say that a parallel attenuator should attenuate by 30 dB, one of ordinary skill in the art would readily appreciate that the 30 dB attenuation between the telephone and central office for a serial device in

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Eaton could be used in a parallel attenuator such as Stevens for the same purpose of preventing detection of DTMF tones by the central office.

For the reasons stated above, we conclude that the examiner has established a prima facie case of obviousness which appellants have not shown to be in error. Accordingly, the rejection of claims 1, 3-6, 9, and 11 is sustained.

Group II: Claims 2 and 10

Representative claim 2 recites that the load attenuates the dialing signals by "at least 38 dB."

Appellants argue that neither of the references suggests this level of attenuation and there is no evidence why such a level of attenuation would be desirable (Br8).

The examiner concludes that 38 dB would have been obvious because one of ordinary skill in the art, knowing from Stevens that the attenuation should be selected to prevent detection of the DTMF tones by the central office, is presumed to have had sufficient skill to determine a specific value by routine experimentation (EA9), citing In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980) ("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) ("[W]here the general conditions of

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a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.").

Appellants argue that neither reference discloses a method of detecting such attenuated dialing signals while inhibiting their transmission so that they are not detected at a central office (RBr9; RBr10).

We agree with the examiner that one of ordinary skill in the art that the limitation of "at least 38 dB" would have been determinable by routine investigation in view of the guidance provided by Stevens and, hence, obvious. Stevens informs one skilled in the art that the attenuation should be sufficient "so that the amplitude of the signals on the telephone line is below a threshold of the central office, so that the central office does not recognize the signals as representing a telephone number entered by the user" (col. 2, lines 42-45). Thus, attenuation is taught to be a result effective variable for preventing detection of tones by the central office. Appellants note that the "AT&T central office switches typically reject DTMF tones less than -38.2 dBm per tone" (spec. at 9, lines 17-18). One of ordinary skill in the art, seeking to determine the level of attenuation which would prevent detection by the central office would have been able to determine this information with routine investigation. We conclude that the examiner has established a

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prima facie case of obviousness which has not been shown to be in error. The rejection of claims 2 and 10 is sustained.

Group III: Claim 12

Claim 12 depends on claim 9 and recites "further comprising adjusting a level of the dialing signals received by a detector in response to attenuation." It appears that this limitation refers to the interfacing or equalizing network 216 which is designed to ensure that the voltage amplitude of a received DTMF signal is substantially the same whether or not the relay SW1 is in an open or closed condition (e.g., spec. at 20, lines 13-15).

As noted by appellants (Br8), the examiner does not address claim 12 in the final rejection. In the examiner's answer, the examiner states that "Stevens in view of Eaton clearly teach the use of AC loads that attenuate and/or adjust the level of dialing signals down to a certain level (e.g., from 3 dB to 30 dB) in response to the attenuation" (EA9). Appellants respond that claim 12 recites adjustment in response to the attenuation, not the attenuation itself, and that no other adjustment of the signal in response to the attenuation is taught in any of the cited references (RBr11).

We agree with appellants that attenuation alone does not meet the limitations of claim 12. The examiner has not shown how

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the combination of references would provide an adjustment in the level of the DTMF signals. Accordingly, we conclude that the examiner has failed to establish a prima facie case of obviousness. The rejection of claim 12 is reversed.

CONCLUSION

The rejections of claims 1-6 and 9-11 are sustained. The rejection of claim 12 is reversed.

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

AFFIRMED-IN-PART

JERRY SMITH)	
Administrative Patent Judge)	
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)	INTERFERENCES
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JOSEPH F. RUGGIERO)	
Administrative Patent Judge)	

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HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133