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UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA (SAN FRANCISCO)

APPLE COMPUTER, INC.,	§	Case No. 3:06-CV-00019 MHP
	§	
Plaintiff/Counterdefendant,	§	**DEFENDANT BURST.COM, INC.'S**
	§	**REPLY BRIEF ON**
	§	**CLAIM CONSTRUCTION**
v.	§	
	§	
BURST.COM, INC.,	§	
	§	
Defendant/Counterclaimant.	§	
	§	

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TABLE OF CONTENTS

TABLE OF AUTHORITIES

STATUTES

MISCELLANEOUS

I. INTRODUCTION

Apple portrays Richard Lang's invention as nothing more than a video cassette recorder (VCR) that sends and receives programs using an archaic multiplexing signaling technique. But this portrait bears little resemblance to the invention described in the patent specification and claims. Lang's invention transcended the VCR and the real-time broadcast paradigm which allowed listeners and viewers to record a program on an analog VCR tape only as it was broadcast, on the schedule dictated by the broadcaster. The Burst patents established a new paradigm for receiving, compressing, storing, editing, and transmitting audio and/or video programs so as to escape the constraints of the VCR and the paradigm of real-time broadcasting.

Ironically, Apple attempts to superimpose on the Burst patents the same real-time multiplexed broadcast paradigm that those patents surmounted. Apple does this by contradicting the inventor's own written description in the patent with the opinion of an expert and isolated statements taken out of context from the prosecution history. The ultimate result of Apple's contorted approach to claim construction is not a realistic portrait of the true invention, but a cubist painting whose pieces do not fit together.

A. Richard Lang's Inventions

While Richard Lang certainly found his inspiration while thinking about a successor to the dual-deck analog tape VCR, an invention for which he had jointly received U.S. Patent No. 4,768,110, that inspiration led him to conceive an entirely new way of handling audio and video. The VCR had enabled consumers to record onto magnetic tape the analog audio/video programs that were broadcast to their televisions in real time, allowing them to watch a recorded program at a different, later time. '995 Patent, 1:7-12. The dual-deck VCR added the feature of copying a recorded program from one VCR tape to another. '995 Patent, 1:40-49.

The dual-deck VCR was merely the launch pad for Mr. Lang's invention. To call his inventions a "mundane" improvement on the VCR, as Apple does, is to misread and misrepresent the Burst patents. To contend that only one sentence in the specification supports the patents' paradigm shift, as Apple also does, is to ignore numerous other passages in that specification. The innovations in the claimed inventions as compared to a conventional VCR are significant, and include:

- receiving audio and video programs from a variety of digital sources and analog sources, and converting to digital form. '995 Patent, 1:53-57; 2:18-22; 2:27-32.

- using data compression to reduce the number of digital bits that constitute the program, enabling reduced storage and high-speed transmission of a program in a time period shorter than it takes to watch it. '995 Patent, 2:42-51.

- storing the digitally compressed program in digital memory to provide quick, random access to any given segment of a program. '995 Patent, 2:59-66.

- enabling the user to edit the stored programs, using computer software executing on a processor. '995 Patent, 1:56-59, 2:67-3:2.

- transmitting the compressed program over high speed communication channels to another device that can play those same programs back, and doing so in a period of time shorter than the real-time playback. '995 Patent, 7:51-66.

- configuring the transceiver apparatus with computer system components such as a processor, memory, sophisticated digital circuitry, and software to provide enhanced capabilities and improved signal quality. '995 Patent, 4:17-27.

- packaging the transceiver into a portable housing. '995 Patent, 10:50-51.

In short, the Burst patents describe a device and a method for handling audio and video programs to eliminate the constraints of scheduled programs and real-time delivery. It may be difficult to recall that era now, 18 years after the filing of the first Burst patent application was filed. Today, a consumer can go to the iTunes Music Store to download a digitally compressed song, album, or video onto an Apple computer or Windows PC in less time than it takes to watch

or listen to it; store the downloaded audio or video on that computer; and then efficiently transmit that song, album, or video to an iPod for playback at any time. Notwithstanding Apple's efforts to trivialize Mr. Lang's invention as a "mundane" improvement on the VCR, Lang's invention embodies this new world and the shift away from the broadcast paradigm that existed in 1988.

B. Apple's Accused Products

According to Apple, Burst contends that Apple's products infringe because they can be used to transmit compressed audio and/or video in less time than it takes to play them. Apple's characterization is incomplete. The products infringe because they perform all the claim limitations of receiving, compressing, storing, editing, and transmitting audio and video information. To use Apple's own examples:

- The iTunes Store receives audio and video programs from content providers, stores those programs as a library in compressed digital form, and transmits the programs to Apple computers and Windows PCs faster than it takes to play them back.

- iTunes software running on computers receives audio or video programs from the iTunes Store (or from a CD that a user inserts into the CD-ROM drive to "rip" the songs from it and then use iTunes to compress them), stores the compressed programs in memory, and then transmits the stored programs to the iPod faster than it takes to play them back.

- The iPod–which itself is a computer, containing a processor, memory, sophisticated digital circuitry, and software – similarly receives audio or video programs in compressed form, stores them, and transmits them faster than real time.

These and other Apple products that receive, compress, store, edit, and transmit audio and video programs – including Apple computers running GarageBand, Final Cut, and QuickTime software – infringe the Burst patents because they perform all the claim limitations.

C. The Parties' Radically Different Approaches to the Claims and Claim Construction

Apple acknowledges that its approach to claim construction is "unusual" in that its proposed constructions of key terms such as "time compressed representation" exclude the preferred embodiment described in the patent specification. Apple's Br. at 27-28. That approach is blatantly incorrect because it subverts the hierarchy of sources and authorities for claim construction established by the Federal Circuit in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). In particular, *Phillips* instructed litigants that claim construction should remain true to the context provided by the patent specification, because reliance on extrinsic evidence that is "divorced from the intrinsic evidence risks transforming the meaning of the claim term to the artisan into the meaning of the term in the abstract, out of its particular context, which is the specification." 415 F.3d at 1321.

Ignoring *Phillips*, Apple begins by determining what it characterizes as "the ordinary meaning" of "time compressed representation" from various extrinsic sources, including treatises, dictionaries, other patents and its expert Mr. Halpern.[1] Apple's Br. at 8-15. Furthermore, rather than construing "time compressed representation," Apple wanders off into the realm of "time compression multiplexing" (or "TCM"),[2] which is the subject of the treatises, dictionaries and other articles it cites.

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[1] It should be noted that in the latter half of its brief Apple inexplicably begins referring to its expert as Dr. Halpern and Burst's expert as Ms. Hemami, swapping their. Apple Brief at 48, 49, 59. For purposes of clarification, Dr. Hemami has a PhD in Electrical Engineering. Mr. Halpern does not have any graduate degree. In fact, he does not have an engineering degree.

[2] TCM is used generically in this brief to refer to both (1) time compression multiplexing as mentioned in Haskell and Sklar (which use the term in the time division multiplexing context) and (2) full duplex communications as mentioned in Lee & Messerschmitt and the Gitlin treatises. Although TCM is used differently in these documents, they are discussed jointly because both include the concept of increasing the frequency of the signal in the context of a shared communication channel.

Building on this extrinsic evidence, Apple then turns to the prosecution history, a form of evidence that "often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Phillips*, 415 F.3d at 1317. Apple brushes by this cautionary note from *Phillips* and selectively chooses bits and pieces from the prosecution history in an effort to support its expert's opinion. Finally, having built its arguments on these shifting sands, Apple turns to the patent and concludes that the specification does not describe the claimed invention. This faulty conclusion derives from the view of Apple's expert that the claims must be construed to cover a compression technique that is not mentioned in the patent specification.

In short, Apple's approach stands the *Phillips* hierarchy on its head and leads to absurd results: the Burst patents become nonsensical by virtue of an expert injecting a foreign concept into them like a poisonous drug. If Apple were completely candid, it would acknowledge that its claim construction positions are aimed not at understanding the patented invention, but at rendering the patents invalid as a complete defense to Burst's claims in this case.

As a result of Apple's use of an "unusual" approach to claim construction that differs markedly from Burst's traditional approach of reading the claims in conjunction with the specification as required by *Phillips*, the parties' claim constructions differ in numerous critical respects. Nevertheless, the parties agree on a few terms, as reflected in Exhibit A to the Joint Claim Construction and Prehearing Statement. There are also other terms for which Apple no longer opposes Burst's proposed construction or Burst's position that the terms need no construction.[3]

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[3] Apple has conceded that no construction is required for the terms "analog to digital converter means", "monitor means", "recording ... onto a removable recording medium", "selectively view ... during editing", and "monitoring ... during editing". Apple's Brief at 69. Apple's brief does not respond to Burst's constructions of several additional terms, for which

The parties also appear to agree that the basic claim limitations describe a sequence in which the steps or actions must occur: receiving, converting from analog to digital (when necessary), compressing (when necessary), storing, and transmitting.[4] Indeed, as set forth in Section II(B)(2)(b) of this brief, below, this very sequence disproves Apple's proposed construction for time compressed representation. To be clear, although Burst agrees that this is the correct sequence, Burst does not agree with Apple's attempt to graft on an additional requirement that each step in the sequence must involve the complete audio/video source information that is received in the first step. As set forth in Section V(D) below, the claims and specification simply do not require this.[5]

II. THE COMPRESSION TERMS

A. Compressing

Apple offers no argument for the term "compressing." That is not surprising because the patent specifications define the compressing operation as "enabl[ing] the representation of a series of numbers by a reduced number of digits." *See, e.g.*, '995 Patent 4:63-68. When an inventor defines a term, that meaning governs. *Phillips*, 415 F.3d at 1316.

The relevant phrase in the Burst patent claims is "compressing the audio/video source information into a time compressed representation." *See, e.g.,* '995 claim 1; '839 claim 1; '932 claim 4. This phrase requires that the compressing act produce a time compressed

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Apple argued no proposed constructions in its brief, namely "decompression means," "selectively decompressing", and "visually displaying … for selective viewing by a user during editing".

[4] Additional steps also can occur between the steps of storing and transmitting, including decompressing, editing, re-storing after editing, displaying, monitoring, and recording.

representation.[6] Because "compressing" "enables the representation of a series of numbers by a reduced number of digits," it logically follows that the time compressed representation has a reduced number of bits relative to the audio/video source information.

B. Time Compressed Representation

1. Apple's Construction for "Time Compressed Representation" Improperly Excludes the Preferred Embodiment

Apple concedes that its construction for "time compressed representation" excludes the only embodiment disclosed in the Burst patents. Apple Br. at 27-29. The patent specifications describe data compression as the mechanism to minimize both storage capacity and the time required to transmit the audio/video data. *See* '995 Patent 2:42-45; 2:46-51; 4:63-5:35. The parties and the experts all agree that the specifications mention no other compression technique. 1st Payne Decl., Exh. 8 (Halpern Depo. Tr.) at 51:11-52:21, 99:5-102:18, 165:13-166:13. Nonetheless, Apple persists in arguing that compression must be implemented in the claims without data compression.

A claim construction that excludes the preferred embodiment is "rarely, if ever, correct." *Vitronics Corp. v. Conceptions, Inc.*, 90 F.3d at 1583. Apple seeks to tread this rare path by arguing that the facts in this case support a divergence from the almost universal rule that a claim construction should encompass the preferred embodiment. Such a divergence requires "highly persuasive evidentiary support." *IXYS Corp. v. Advanced Power Tech.*, 301 F. Supp. 2d 1065,

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[5] Similarly, at one time Apple took the position that each step in the sequence had to be completed before the next step could occur. Whether Apple continues to maintain this position is unclear. To the extent that Apple is still asserting it, Burst opposes such a construction.

1072 (N.D. Cal. 2004) (Patel, CJ); *Collaboration Props., Inc. v. Tandberg ASA*, No. C 05-01940, 2006 WL 1752146, slip op. at 9 (N.D. Cal. June 23, 2006). That demanding evidentiary burden cannot be satisfied by extracting a few snippets from the prosecution history and ignoring the context provided by the entirety of the record. *IXYS*, 301 F. Supp. 2d at 1076; *see also Nellcor Puritan Bennett, Inc.* v. *Masimo Corp.*, 402 F.3d 1368-70 (Fed. Cir. 2005) (finding that the prosecution history, when read in context, did not support excluding the preferred embodiments). Nor can this burden be met if the statements in the prosecution history are subject to reasonable alternative interpretations. *SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1287 (Fed. Cir. 2005).

In seeking a claim construction that excludes the Burst patents' preferred embodiment, Apple cites two of the "rare" cases in which such "highly persuasive evidentiary support" existed (and misinterprets yet a third). However, none of these cases is remotely applicable here. The first two cases — *North American Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335 (Fed. Cir. 2005) and *Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc.*, 214 F.3d 1302 (Fed. Cir. 2000) — set a rigorous benchmark for the "highly persuasive evidentiary support," but involved both claim amendments and applicant remarks that specifically and unequivocally relinquished a preferred embodiment based on prior art disclosing that embodiment.

The preferred embodiment in *Elekta* disclosed radiation sources "located between the latitudes of 0° and 45°" in a device used to irradiate patients with brain tumors. *Id.* at 1308. Before amendment, the claims required that the radiation sources be located "within a zone

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[6] Notably, the phrase does not state that it is "time compressing" into a time compressed representation. The claim merely states that it is "compressing," which is a term defined in the specification. Apple even concedes in its brief that the term "compressing" when used alone

extending to 30°-45° latitudes" (*i.e.*, requiring that a subset of the radiation sources be located at latitudes between 30° and 45°). *Id.* The PTO examiner rejected the claims as obvious:

> Applicant claims his sources within a zone of latitudes from 30°-45°. But the prior art gamma units have sources which are located within a zone which includes 30°-45°. Applicant does not claim the zone which is exclusively 30°-45°.
> . . .

Id. (emphasis added). In response, applicant amended the claims to require that the radiation sources be "only within a zone extending [to] between latitudes 30°-45°." (Underlining refers to additions and bracketing to deletions). *Id.* By amending the claims to require that radiation sources be located "only . . . between" latitudes 30°-45°, the applicants necessarily surrendered use of radiation sources at angles between 0° and 30°, notwithstanding the preferred embodiment.

As in *Elekta*, the facts in *Plastipak* compelled the exclusion of the preferred embodiment. *Plastipak* involved a patent related to blow-molded plastic bottles. *Plastipak*, 415 F.3d at 1338. During prosecution, the PTO examiner rejected the application based on prior art disclosing a bottle with a generally convex base. *Id.* at 1340. In response, the applicant amended the claims to require that the inner walls be "generally convex." *Id.* In the remarks, the applicant distinguished the prior art on the basis that the newly amended claims required "generally convex" walls whereas the prior art disclosed slightly or entirely concave walls. *Id.*

During litigation the patentee sought claim coverage for bottles having concave walls—precisely the subject matter relinquished to secure claim allowance. *Id.* at 1344. In support of its position, the patentee pointed to certain of the patent Figures. *Id.* at 1345. Those Figures, however, showed "bottles with inner walls in the base portion that appear to have *no* convex points." *Id.* at 1346. Thus, construing the claims to cover concavity would have ignored the

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implies data compression. Apple Br. at 20. Here the act of compressing is used without any

very basis upon which the applicants established patentability over the prior art, and the Federal Circuit properly rejected it. *Id.*

Apple's third case, *Schoenhaus v. Genesco, Inc.*, 440 F.3d 1354 (Fed. Cir. 2006), did not involve a preferred embodiment issue at all. The claim limitation at issue in *Schoenhaus* was a "rigid" heel seat, and the Federal Circuit concluded that the limitation did not encompass a "semi-rigid" heel seat. *Id.* at 1358. Despite Apple's characterization to the contrary, the *Schoenhaus* specification did not disclose the excluded subject matter but rather disclosed "semi-rigid material" in an orthotic device:

> [T]he patentee's usage of the phrase "semi-rigid material" . . . when referring to the material to be used in the manufacture of the orthotic device generally, is insufficient to disclaim the requirement in claim 1 that the material used to construct the "heel seat" be "rigid."

Id. (emphasis added). The *Schoenhaus* court's construction of "rigid" so as to exclude something not explicitly disclosed in that patent offers little support for excluding something that is explicitly disclosed.

Central to the *Schoenhaus* court's holding (as in *Plastipak* and *Elekta*) was the clarity with which the patentee had surrendered its proposed construction. During prosecution, the PTO rejected the claims as obvious in view of prior art disclosing a "flexible" orthotic device and agreed to allow the claims "only if the [patentees] would adopt additional limitations suggested in an Examiner's Amendment, including the term 'rigid.'" *Id.* The applicants acquiesced to the amendment but in subsequent litigation sought to recapture precisely what they had ceded during prosecution. In addition, to the extent the construction of "rigid" excluded a preferred embodiment, the amended claim nevertheless covered some subject matter disclosed in that

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qualifier in the claims.

patent's specification – otherwise the Examiner would not have suggested that the claims be amended to require rigid construction. A fundamental difference exists between (1) construing a claim so as to encompass some but not all of the disclosed embodiments (as in the facts in *Schoenhaus*) and (2) construing a claim to exclude all disclosed embodiments and to include undisclosed subject matter (as Apple's request in this case).

This case is distinguishable from the "rare" cases because the entirety of the record shows that Burst did not clearly disclaim the preferred embodiment. Even in the best case scenario for Apple, the specific statement cited by Apple is subject to multiple reasonable interpretations. In addition, one other fact is critical here: the PTO examiner must have concluded that "time compressed representation" was disclosed in the Burst patents' specifications. Any other conclusion would have obligated the PTO to issue a written description rejection under 35 U.S.C. § 112 ¶ 1. *See* 2nd Payne Decl., Exh. 39 (MANUAL OF PATENT EXAMINING PROCEDURES § 706.03(o) (5th Ed. 1989)) (when amendments claim "subject matter not disclosed in the original application [,] …[s]uch a claim is rejected on the ground that it recites elements without support in the original disclosure under 35 U.S.C. 112, first paragraph"). No such rejection issued, reflecting the PTO's recognition that the "time compressed representation" accorded with the description in the specification. Apple's proposed interpretation thus runs afoul of the presumption that the PTO examiner has done his or her job properly. *N. Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 939 (Fed. Cir. 1990); *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984).

Apple makes two arguments in an attempt to support its unusual approach to claim construction. First, it contends that the presence in the claims of the word "time" in the phrase "time compressed representation" indicates that Burst intended to disregard the patent

specification and claim a type of compression not disclosed in the specification.[7] Second, Apple contends that Burst disclaimed data compression during the course of patent prosecution. Both contentions fail because neither the claims nor the prosecution history present the kind of clear and unambiguous statements that compel the rare result that Apple seeks.[8]

2. The Claims Themselves Reveal that the Compression Terms are Directed to Data Compression, Not Time Compression Multiplexing

Apple argues that inclusion of the term "time" in "time compressed representation" reflected a conscious decision by Burst to abandon the compression techniques disclosed in the patent specification and instead have the claims cover time compression multiplexing (TCM). While some linguistic overlap exists between the phrases "time compressed representation" and "time compression multiplexing," nothing in the intrinsic or extrinsic evidence suggests that Burst intended to limit its claims to the TCM techniques or to some unspecified variation of TCM.[9] For at least three reasons, the literal language of the claims does not encompass TCM-type compression techniques.

First, a review of the specification and claims shows that Burst was simply trying to describe in lay-terms the paradigm shift of sending digitally compressed data faster than real-time. Second, TCM varies fundamentally from the concepts claimed in the Burst patents. Many of the Burst claims require compression of the audio/video information into a time compressed

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[7] Apple also argues that the use of the term "burst" reinforces this conclusion. That term will be addressed separately in the "burst" section, below.

[8] This is no doubt part of the reason why Judge Motz ruled that the Burst patent claims were not limited to the type of time compression multiplexing that Apple advocates here. *See* 1st Payne Dec., Exh. 23 (March 12, 2004 letter from Judge Motz) at pages 1-2.

[9] Moreover, if Apple's construction were accepted, the claims would cover something that Burst never described in the patent specification, and thus the resulting claim would be subject to attack under the 1st paragraph of 35 USC § 112.

representation, which is then stored. *See, e.g.*, '995 claim 1; '839 claim 1; '932 claim 4; '705 claim 1. Storing a time compressed representation is nonsensical in Apple's version of time compression because storage of a TCM-compressed representation causes the effects of compression to be lost. Third, TCM applies to transmission of multiple sources or components in real-time on a shared communication channel. The system described and claimed in the Burst patents envisions a transmission sent faster than real-time. The TCM teachings on real-time transmission are not applicable to the basic concepts claimed by Burst.[10]

a. The "time compressed representation" results from data compression

The claim phrase "time compressed representation" does not have a special technical meaning limiting its use to the field of time compression multiplexing (TCM). Indeed, as Dr. Hemami states, "the meaning of 'time compressed representation' can only be gleaned from the Burst patents themselves, because that term did not have a single accepted use or meaning in 1988."[11] 1st Payne Decl., Exh. 5 (Hemami Report), at 42. Even the abbreviated term "time

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[10] Even if Apple were correct and the claims were sufficiently broad to cover TCM, under well-established legal principles that would not restrict the claim scope to just TCM. *See Phillips*, 415 F.3d at 1326-27 ("baffles" not limited to a particular structural configuration). In other words, even if Apple were correct that the claim language is sufficiently broad to encompass TCM, the proper legal result would be to construe the claims to cover the use of either TCM-type compression or data compression, and not to eliminate data compression from the claimed scope.

[11] Apple attempts to minimize the impact of Hemami's Declaration, arguing that Dr. Hemami admitted that the only meaning of time compression she was aware of in the field of the Burst patents was increasing the frequency of an analog signal or the signaling rate of a digital signal. Apple Br. at 10. But that is not what Professor Hemami said. Dr. Hemami made it clear that the use of digital time compression in the relevant references appeared in the context of full duplex transmissions. Brown Decl., Exh. C (Hemami Depo Tr.) at 194, 317-319. She testified that she did not believe the specified references were in the field of the Burst patent because they related to full duplex systems or multiplexing systems, and the Burst patents do not. *Id.* at 317-319 This point is reinforced in her report where she states that "None of these definitions [of time compression in the literature] is applicable to the Burst patents. The information being

compression" did not have a single meaning. *Id.* at 42-43. *See also* Brown Decl., Exh. C (Hemami Depo. Tr.), at 190-191. In the *Burst v. Microsoft* case, Judge Motz agreed, finding:

> [T]here is ample extrinsic evidence that the term 'time compression' has (and at all relevant times had) multiple definitions, embodying the generic concept of reducing the time of data transmission by the dropping of video frames. I find that in light of this evidence, if one of skill of the art intended to use the term with the more individualized meaning proposed by Microsoft, she or he would have said so expressly (just as *Haskell* did).

1st Payne Decl., Exh. 23 (Letter from Motz, J., dated March 12, 2004), at 2. The evidence referenced by Judge Motz is attached as Exhibits 27-31 to the 2d Payne Declaration.

Burst used the phrase "time compressed representation" to describe the characteristics of the audio/video source information after it had been compressed. *See, e.g.*, '995 claim 1; '932 claim 4; '839 claim 1; '705 claim 1. As used in the claims, the words "time" and "compressed" are descriptive modifiers of "representation," which itself signifies that the audio/video source information has undergone a change from its original state. The word "compressed" indicates that the representation has been subject to compression and reduced in some respect. As noted in Burst's brief and as conceded by Apple, the only such compression described in the specification is data compression to reduce the number of bits. The word "time" further indicates that a temporal aspect of the audio/video source information has been modified and, when coupled with the word "compressed," suggests that this temporal aspect has been reduced. In combination, the words "time compressed representation" mean that the audio/video source information has been modified by reducing some temporal aspect.

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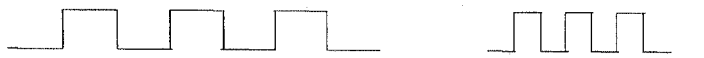
compressed in the Burst patents is digital (eliminating 1); the patents are not in the area of speech processing (eliminating 2 and 3); and the patents emphasize efficient use of existing bandwidth rather than increasing the transmission bandwidth to allow sharing of a communication medium (eliminating 4)." 1st Payne Decl., Exh. 5 (Hemami Report), at 43.

Apple argues that the temporal reduction must be that which is described in the TCM treatises and articles, in which the period or duration of each individual wave is decreased by increasing the frequency (or signaling rate) of the source information, as shown below:

Apple's view of "time compressed"

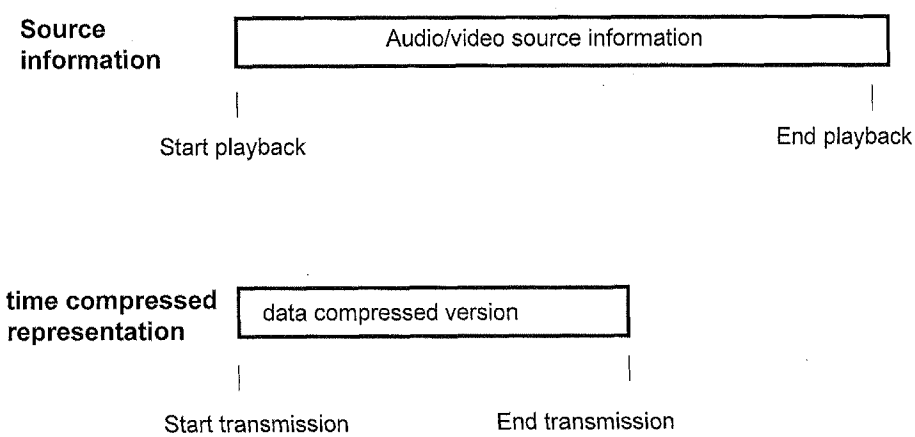


source information

time compressed representation

But the patent specifications never suggest that sort of temporal reduction. Instead, the specifications discuss a different temporal modification – reducing the time or duration necessary to transmit the audio/video information over a communication channel to another device:

Burst's view of "time compressed"



For example, the '995 Patent provides:

> The VCR-ET can receive a video program at an accelerated rate via fiber optic port 18, e.g., from a variety of sources. For example--a video program may be communicated at an accelerated rate from the first VCR-ET to a second VCR-ET in less time than it would take to view the program. Thus, it is not necessary to access the optical fiber for long periods of time to transmit a long video program.

'995 Patent at 7:58-66 (emphasis added). It is this type of temporal reduction—making the transmission time shorter than the viewing time—that is the subject of the Burst patent claims.

The import of the word "time" in "time compressed representation" is further evident in the following passage from the '995 patent specification:

> In still another operating mode a program stored in media 23 of AVRU 11 or being received by AVRU 11 from input line 15 (as from a video camera) may be digitized and compressed by VCU 12 and routed via bus 34, to memory 13. The data from memory 13 is then routed to line 43, transmitter/receiver 22 and to a telephone line. At the other end of the telephone line the signals received are processed by another VCR-ET. As indicated above, conventional nonoptical telephone lines do not typically support high data transmission rates at the present time. Accordingly, even compressed data may require more time to transmit over conventional phone lines than it would take to view the actual video program.

'995 Patent at 9:55-68 (emphasis added). This passage makes clear that a compressed data representation may, depending on the particular bandwidth characteristics of the communication channel, take more time to transmit than it would take to view the source information in real-time. In the context of the '995 Patent specification, such a compressed representation would not be a "time compressed representation" because the transmission time is greater than the playback time. The Burst patent claims include the word "time" to make it clear that the claims are limited to instances in which the representation has been compressed sufficiently to enable transmission in less time than it would take to playback the audio/video information in real-time. In other words, "time" was included in "time compressed representation" to indicate that Burst was not trying to cover every situation in which data compression occurred, but instead was

limiting the claim to instances in which the audio/video source information has been sufficiently compressed to permit transmission faster than real-time.[12]

The conclusion that "time" relates to compression of the transmission time relative to the playback time is reinforced by the contextual claim language. The patent claims expressly state that the "time compressed representation [has] an associated time period that is shorter than a time period associated with a real time representation of said audio/video source information." *See, e.g.*, '995 claim 1. Thus, the claim language itself defines the temporal aspect of the representation. This point is crystallized in the '705 Patent claims,[13] which recite "compressing said audio/video information into a digital time compressed representation ... [that] is capable of being transmitted in a burst transmission period that is substantially shorter than a time period associated with real time viewing by a receiver." '705 claim 1. In the '705 Patent the "time" in "time compressed representation" is directly linked to a transmission period – the "burst transmission period that is substantially shorter" than a real-time viewing time period.

Contrary to Apple's allegation, Burst did not ignore the word "time" in its construction of "time compressed representation," but instead gave that word a meaning consistent with the literal claim language and the patent specification. The intrinsic evidence demonstrates that "time compressed representation" was not used to implicate a TCM-type system. The claims included the term "time compressed representation" to suggest that the digitally compressed representation could be sent faster than real-time.

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[12] Apple cites this same passage in its brief (at 23-24) but misses its importance and draws the wrong conclusion from it. Apple cites the passage to argue that data compression is irrelevant to faster-than-real-time transmission. For the reasons stated, that conclusion is wrong.

[13] The parties agree that the term "time compressed representation" should be construed consistently across the various patents. Thus, if Apple's construction doesn't fit for the '705 claims, it should be rejected for all of the claims.

b. The claimed sequence shows that TCM is outside the claims

The Burst patent claims clearly exclude coverage of the time compression techniques advanced by Apple. Many of the Burst claims require the specific sequence of (i) compressing the audio/video source information into a time compressed representation; (ii) storing the time compressed representation; and (iii) transmitting the stored time compressed representation. *See, e.g.*, '839 claim 1; '995, claim 1; and '932 claim 4. Because each step refers to the prior step, it is clear that these claims mandate the sequence of compress, store, and transmit.

By contrast, the TCM type systems cited by Apple, such as Gitlin, necessarily must implement a different sequence. In TCM systems, the sequence is (i) store; (ii) compress; and (iii) transmit. The steps of this sequence, which are out-of-order relative to the Burst claims, are added below to Figure 9.3 of the Gitlin treatise, which Apple replicated several times in its Brief:

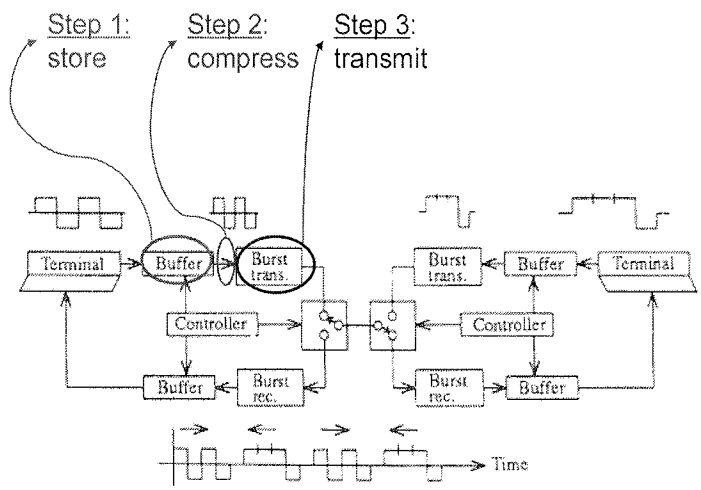

Fig. 9.3 Time-compression multiplexing (TCM), in which transmission is one way at a time in high-rate bursts.

Figure 9.3 of Gitlin shows receipt of a digital signal at the Terminal, with the waveform of the received signal shown above the Terminal. Next, the signal is stored in a Buffer. The stored digital signal represents the 0's and 1's of the received input signal. No compression occurs prior to storage of the input signal. Next, the stored data is read out of the buffer at a higher clock frequency than the input signal, thus causing the period of each digital signal to be reduced. This reduction of the digital signal pulse-width is illustrated by the waveform located above the signal line connecting the buffer to the burst transmission block. The resulting signal, with the higher signaling rate, then is transmitted over the communication channel as part of a duplex communication (e.g., a two-way telephone conversation).[14] This characteristic sequence in TCM systems such as Gitlin of (i) storing, (ii) compressing, and (iii) transmitting, does not match the sequence in the Burst claims of (i) compressing, (ii) storing, and (iii) transmitting. *See also* discussion on pages 56-57 of Burst's Opening Brief.

The other TCM literature cited by Apple operates in a fashion similar to Gitlin. In each instance, the compression occurs after storage, typically as part of the transmission stage. Because the compression in TCM changes the frequency (in analog systems) or the signaling rate (in digital systems), this modification to the data must occur after storage or else it will be lost because the digital memory stores the data (the 0's and the 1's), not the clock rate or width of the wave.[15] As Apple and its expert repeatedly state, the compression in TCM occurs as data is read

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[14] A similar process occurs on the other side of the communication channel and the signals are interleaved in predetermined time slots.

[15] This very point was highlighted by the European Patent Office (EPO) Examiner in the prosecution history for the Burst EPO application. That examiner observed that if "time compressed representation" were construed broadly enough to cover TCM, the claim would be nonsensical because "it does not make sense to generate a time compressed representation of an information and store this representation in a memory means where the effect of time compression is lost." Brown Decl., Exh. V, at 3. *See also Id.*, Exh. T, at 3.

out of memory by increasing the frequency (or clock rate) of the output circuit relative to the input circuit. *See, e.g.*, Apple Br. at 15 (summarizing Haskell).

Apple claims in its brief that storage in TCM can take place before or after compression, but it fails to cite a single instance where storage occurs after compression.[16] Apple Br. at 26-27. The only example that Apple provides involves tape recording the audio output of a phonograph played at a higher speed (45 rpm) than the normal playback speed (33 rpm). Apple makes no effort, however, to tie its example to the TCM literature it cites.

Moreover, Apple's example speaks volumes about the weakness of its position on the storage of a TCM-type compressed signal. The example is entirely removed from the context of the claims. The signal stored and played in the hypothetical is an analog signal; it does not involve the storage or transmission of a digital signal. The Burst patent claims, however, involve digital storage, either because of express claim limitations or because of the type of storage required. *See, e.g.*, '995 claim 1 (requiring random access storage, which is digital storage); '705 claim 1 (the stored time compressed representation is digital); '932 claim 4 (storage is on magnetic disks); *see also* '995 Patent, 2:13-17, 2:59-3:2, 4:23-27, 9:55-59; 1st Payne Decl., Exh. 9 ('995 PH, March 12, 1990 Amendment), at 19-20; Brown Decl., Exh. U, at APBU 415366-68. Apple's example uses analog storage – a record and a tape recorder. The effect of TCM-type compression is lost when the signal is stored digitally. Because Apple's example neither

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[16] Apple's expert was stumped at his deposition by this out-of-order sequence relative to the claims. Mr. Halpern testified that he had not performed any analysis to determine if Apple's position on "time compressed representation" made any technical sense in the context of the claimed sequence. 2d Payne Decl., Exh. 32 (Halpern Depo. Tr.), at 121-127.

transmits nor digitally stores a compressed representation, it only serves to highlight the problems raised by the claimed sequence in Apple's time compression world.[17]

For these reasons, one skilled in the art would not believe the Burst claims require TCM.

c. All of Apple's time compression evidence involves multiplexing or duplexing information for real-time communications

All of Apple's extrinsic evidence and examples of time compression involve multiplexing or full duplex communications. Importantly, they all perform transmission for real-time communications, not faster than real-time, because the goal in these systems is to send more data, not faster data. *See* Brown Decl., Exh. D (Gitlin), at APBU 414889 ("Time compression multiplexing ... is a time-domain sharing technique which is more or less equivalent to bandsplitting...."). Consequently, these systems differ fundamentally from Burst's patent claims.

A multiplexing system is one in which multiple sources of information share a common communication channel. To effectuate transfers over the common channel, each information source sends data during a predetermined time slot. No other information source transmits except during its predetermined time slot.

A duplex system is a system in which two sources communicate with each other. The term "full duplex" means that each source may communicate with the other so as to carry on a two-way conversation, such as a telephone conversation. The duplexing may be achieved by time-sharing the communication channel so that only one source transmits information at any given time, but a perception of simultaneity occurs because the time intervals are so short.

The system described in the Burst patents is neither a multiplexing nor a duplexing system but instead was intended to make efficient use of existing bandwidth. *See, e.g.*, '995

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[17] Apple's example is also flawed because it equates playback with transmission.

Patent, 2:46-51 ("A still further object of the invention is to provide an audio/video recorder utilizing a data compression technique for efficient storage, transmission, and reception of a digitized audio/video program…"). The TCM systems cited by Apple all perform transmission in real-time. Stated differently, in each of the cited TCM systems, the amount of time from the beginning of transmission until the work has been fully transmitted equals the real-time period. The TCM systems do not contemplate sending the audio/video information faster than the real-time viewing period. This is a major difference between the patented system and the TCM systems. Given this fundamental difference, it makes no sense to argue that the Burst patents would implement TCM-like techniques in the claimed inventions.

3. The Prosecution History Does Not Show a Clear Disavowal of Data Compression

Apple contends that the prosecution histories of the patents-in-suit show that Burst disclaimed coverage of data compression. The prosecution histories do not show any such disclaimer, let alone the sort of clear disavowal legally necessary to constitute a disclaimer of the preferred embodiment. *See Sandisk*, 415 F.3d at 1287; *Aquatex Indus., Inc. vs. Technique Solutions*, 419 F.3d 1374, 1381 (Fed. Cir. 2005) (finding that ambiguous statements in prosecution history insufficient to establish a disavowal); *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.2d 1282, 1297, 1308 (Fed. Cir. 2005) (finding that statements from prosecution history do not reveal a disclaimer sufficient to contradict written description in specification). To the contrary, the prosecution histories show that Burst distinguished prior systems not because of the type of compression, but instead because those systems did not teach the Burst paradigm of compressing data to allow faster-than-real-time transmission. Burst's prosecution history statements reflect its intent to cover that paradigm shift.

Apple selectively focuses on (1) the presentation and amendment of the original claims in the '995 Patent and (2) the Third Response filed by Burst in the '705 Patent prosecution. In addition to addressing these events, which Apple either misunderstands or misstates, Burst will explain the full context of the prosecution history. Though the explanation is lengthy, this context is critical to an accurate understanding of the prosecution history, which "represents an ongoing negotiation between the PTO and the applicant." *Phillips*, 415 F.3d at 1317.

a. The amendment of the original claims

The original patent application filed by Burst included nine independent claims. *See* Brown Decl., Exh. A ('995 application) at APBU 18-47. The subject matter of these independent claims varied significantly. Independent claims 1 and 18 claimed concepts related to the speed or time duration of transmission. As an example, Claim 1 recited:

> 1. An apparatus comprising:
>
> a first means for converting analog video signals received to first digital data signals,
>
> an output port, and
>
> a second means for transmitting said first digital data signals to said output port at a speed greater than the speed of the analog video signals received by said first means.

(Emphasis added). Claim 1 required that the transmission period had to be shorter than the reception period, but because the accelerated signal was transmitted only to the output port and not away from the apparatus, the transmission was internal to the apparatus. Also, claim 1 did not require storage of the accelerated signal. In similar fashion, claim 18 received audio/video signals at a first speed from a data storage medium, digitized the signals, and then transmitted the digitized signals to an output port at a second speed.[18]

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[18] Claim 19 (dependent on claim 18) further required that the "second speed is greater than said first speed."

Both claims 1 and 18 were broad enough to cover the use of data compression to achieve the speed difference between the digital data transferred to the output port and the received signals. Arguably, they also were broad enough to cover other mechanisms to produce an accelerated internal signal transfer, such as Apple's TCM-type time compression, because they did not require storage of the faster signal. There is a reasonable argument that the original language of claims 1 and 18 was broad enough to cover data compression and/or TCM-type compression.[19] However, subsequent events in the prosecution of the '995 Patent made it clear that the issued claims no longer covered TCM-type time compression.

In its initial review, the PTO issued an office action rejecting all claims, primarily based on the Baldwin patent. Brown Decl., Exh. A (October 11, 1989 Office Action), at APBU57-65. Baldwin appears to disclose a form of compression akin to Apple's TCM-type time compression. For example, Baldwin states that "video data in each successive block of 17 lines is shuffled as it is stored in the RAM's and is later read out, at a time determined by the headwheel rotation, at 1 1/3 the input speed to bunch the data into a continuous block of 5 by 17 lines which is recorded on tape."[20] 2d Payne Decl., Exh. 33, at 3:42-47.[21]

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[19] This point is reinforced by original claim 4 (dependent on claim 1), which claimed data compression. This conclusion is mandated by the fact that original claim 4 required compressing, which the specification, as noted above, explicitly defined as data compression. Under principles of claim differentiation, the submission of claim 4 suggests that claim 1 was not limited to data compression techniques. *Free Motion Fitness, Inc. v. Cybex Int'l, Inc.*, 423 F.3d 1343, 1351 (Fed. Cir. 2005).

[20] *See also* 3:55-56 ("read and write operations from the stores at higher speed..."); 4:44-47 ("one audio signal during a time equal to one third of a field is bunched together.."); and 7:56-60 (describes reading out from memory at a rate higher than the input data rate).

[21] *See also* 3:55-56 ("read and write operations from the stores at higher speed…"); 4:44-47 ("one audio signal during a time equal to one third of a field is bunched together…"); and 7:56-60 (describes reading out from memory at a rate higher than the input data rate).

In response to this rejection, Burst filed an Amendment cancelling the original claims and adding claims 33-112. Brown Decl., Exh. A ('995 PH, March 12, 1990 Amendment), at A. The new claims ultimately issued in the '995 Patent, and thus these claims included the phrase "time compressed representation ... having an associated time period that is shorter than a time period associated with a real time representation." In the Remarks, Burst described the claimed inventions as follows:

> Claims 33-48 ['995 issued claims 1-16], 52-61 [issued as 20-29], 76-78 [issued as 44-46], 80-84 [issued as 48-52], 86, 87 [issued as 54-55], 89-91 [issued as 57-59], and 112 [issued as 80] are directed to an audio/video transceiver having the ability to receive audio/video source information from a variety of signal sources, compress the received audio/video source information into a time compressed representation thereof, store the time compressed representation of the audio/video source information in a random access storage, and then transmit the time compressed representation of the audio/video source information that is stored in the random access storage to any of various types of destination devices via any of a number of transmission mediums.

Id. at APBU 89 (emphasis added).[22] Thus, relative to claim 1, Burst highlighted to the PTO the claimed sequence of (i) compressing; (ii) storing; and (iii) transmitting the time compressed representation. Because TCM cannot operate in this sequence, these amendments effectively foreclosed coverage of TCM-type compression.

Burst further noted the critical requirement of storing the "time compressed representation" in its subsequent comments in that same response:

> In summary, these important features of applicant's claimed invention provide an audio/video transceiver in which an analog and/or digital audio/video program can be received from a variety of sources. If the audio/video program is received

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[22] With respect to claim 49 (which issued as claim 17), Burst summarized that claim as receiving time compressed source information "over a burst time period that is shorter than the real time period associated with that audio/video source information;" storing the time compressed representation in random access storage; and transmitting "the time compressed audio/video information stored in random access storage." *Id.* at 19.

> in analog format, it may be converted to digital format, compressed into a time compressed digital format, and stored in a random access storage. If the audio/video program is received in digital format, it may then be directly compressed into the time compressed digital format and stored in the random access storage. The time compressed digital format program stored in the random access storage may then be edited and restored in the random access storage. It may then be decompressed and downloaded onto a removable storage medium in either analog or digital format. Alternatively, it may be transmitted over a burst time period to a second remotely located transceiver via any of a number of transmission mediums.

Id. at APBUI 90-91 (emphasis added). These passages clearly illustrate the importance of storing the time compressed representation in digital form. TCM systems do not store a "time compressed digital format" because the compression information is lost in storage. In response to Burst's submission, the PTO withdrew its rejection based on the Baldwin patent and issued a Notice of Allowability.

Contrary to Apple's position that Burst abandoned data compression through amendment of its originally filed claims, the correct interpretation of the prosecution history is that Burst narrowed the claims in a manner that embraced the preferred embodiment and precluded coverage of other non-disclosed techniques such as TCM-type time compression.

b. The '705 prosecution history

In *Phillips* the Federal Circuit warned that, although certainly relevant, the prosecution history often lacks clarity because it reflects an ongoing negotiation between the PTO and the applicant. 415 F.3d at 1317. As a result, the prosecution history may be "less useful for claim construction purposes." *Id.* That is certainly the case here. The '705 Patent was the result of three applications – the '542 application, the '958 application, and the '727 application.[23] Apple

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[23] The '542 application was a divisional application from the application that issued as the '839 Patent. The '958 was a file wrapper continuation of the '542 and the '727 was a file wrapper continuation of the '958.

has taken a single sentence from the Third Response in the '542 application out of context while completely ignoring later statements by both the PTO and Burst in the '727 application that show that Apple's position is totally unfounded.

In the Third Office Action in the '542 application, the PTO rejected the pending claims based on a combination of (1) Izeki et al., (2) the admitted prior art in the patent specification, and (3) Eggers et al. *See* Brown Decl., Exh. L ('542 application PH, Third Office Action dated February 27, 1995), at APBU 532-42. The PTO stated that Izeki disclosed compressing the audio/video information and storing it while also acknowledging that the compressed audio/video information in Izeki was not the time compressed audio/video information recited in the Burst claims. *Id.* at APBU 534-35. However, according to the PTO:

> "employing means for time compressing audio/video information so that the compressed audio/video information can [be] transmitted at high speed (in flash or burst period) and increasing the capacity of a storage medium is well known in the art and available in the market at the time the invention was made [and] that is admitted by the applicant in the specification, page 7 and 8."

Id. at APBU 535 (emphasis added).

Given this statement, the PTO clearly recognized that the "time compressed representation" was the result of data compression. The reference to pages 7 and 8 of the patent application is the portion of the specification where the data compression techniques are disclosed in the '542 application. Brown Decl., Exh. L ('542 patent application), at APBU 412-37. In addition, the Examiner's statement about "increasing the capacity of the storage medium" only makes sense in the context of data compression. TCM-type compression does not impact the storage capacity because, as Apple's expert acknowledged, this type of compression does not reduce the data size. *See* 1st Payne Decl., Exh. 8 (Halpern Depo Tr.) at 73:4-74:10; 126:12-20;

134:22-136:25; 153:24-154:5; 167:5-10; 281:14-19. Thus the '705 Examiner equated "time compressing" with the data compression techniques disclosed in the '705 Patent.

On August 28, 1995, Burst filed a Response amending certain claims. Brown Decl., Exh. L, at APBU 546. Burst argued

> The Izeki et al. reference teaches an audio/video editing system whose primary purpose is to facilitate production of a new master tape containing the edited information. Izeki et al. contains absolutely no showing or suggestion whatsoever of compressing audio/video source information into a time compressed representation thereof having an associated burst time period that is shorter than the time required to effect real time viewing of the audio/video source information, as specifically taught and claimed by applicant. Element 46 of Izeki et al., cited by the Examiner, is a conversion unit **that does nothing more** than convert the inputted video and/or audio data into a prescribed format (see column 2, lines 47-56 and column 7, lines 3-14 of Izeki et al.). While Izeki et al. mentions data compression as one type of conversion process, this is not the equivalent by any means of applicant's specifically claimed time compression. Izeki et al. contains absolutely no recognition of the need for time compression of audio/video source information or of the transmission of time compressed audio/video source information in a burst time period, let alone of applicant's specifically claimed apparatus and method for doing so. In fact, Izeki et al. teaches away from applicant's claimed invention by focussing [sic] on the end result of producing an analog master tape within the apparatus.

Id. at APBU 551-52 (emphasis added).

Apple contends that a single statement in the above passage shows a disclaimer of data compression – the only type of compression disclosed in the patent specification. Apple's position is incorrect. Certainly, there was no clear and unambiguous disavowal of subject matter using expressions of manifest exclusion of the sort required to constitute a disclaimer.

Apple's single sentence is: "While Izeki et al. mentions data compression as one type of conversion process, this is not the equivalent by any means of applicant's specifically claimed time compression." Brown Decl., Exh. L, at APBU 551. All this statement indicates is that data compression alone (a system "that does nothing more" than data compression) is insufficient to meet the '705 claims if the resulting compression cannot be sent faster than real-time. Burst

made the very same point in the originally-filed '995 Patent specification, which noted that a data compressed representation may not permit the sending of the compressed information at an accelerated rate if the communication channel bandwidth is too slow. *See* '995 Patent, 9:55-68. Burst makes the same point in the sentence from the '705 prosecution upon which Apple relies. The sentence states that even though Izeki performs data compression – the type of compression disclosed in the patent – Izeki fails to meet the claimed invention. The reason that Izeki fails to meet the claims is explained in the very next sentence: Izeki "contains absolutely no recognition of the need for time compression of audio/video source information or of its transmission of time compressed audio/video source information in a burst time period. . . ." Brown Decl., Exh. L, at APBU 551-52. Because Izeki did "nothing more" than data compression, it did not meet the claims. Burst's argument to the examiner that the claims require "something more" than data compression does not mean that the claims exclude data compression.

Thus, while Izeki performs data compression, it fails to transmit the compressed signal away faster-than-real-time. Instead, Izeki sends the data to an internal analog tape storage unit where the audio/video program is recorded on a master tape in real-time. Apple's attempt to take a single sentence from a Response in the '542 application and use it to override the patent specification is unwarranted and inappropriate.

Subsequent correspondence with the PTO confirms the absence of any disclaimer in the '705 Patent prosecution. In the next Office Action on November 28, 1995, the PTO indicated it was unpersuaded by Burst's arguments and reiterated that the technique of "compressing the information at high compression ratio for purpose of saving space on a storage medium and increasing storage capacity of the storage medium" was known and available at the time of the invention based on the discussion of data compression appearing on pages 7-8 of the '705 Patent

application. Brown Decl., Exh. L (Fourth Office Action), at APBU554-58. The PTO concluded that it would have been obvious to use the data compression techniques in the Burst patent specification "for compressing the video/audio information of Izeki et al at a high compression ratio so that the video/audio information of a real time period (the time required for viewing video information) can be compressed in a burst time period (a very short time period) in order to increase the storage capacity of the storage medium of Izeki et al." *Id.* at APBU 556-57. The PTO's reference to increasing storage capacity and citation to the data compression techniques disclosed in the '705 Patent once again establish that the Examiner still construed the term "compressing into a time compressed representation" to require data compression.

After this rejection, Burst filed two file wrapper continuation applications (the '958 application, *id.* at APBU 567, followed by the '727 application, *id.* at APBU 603). The '727 application ultimately issued as the '705 Patent. In the '727 application, Burst filed a preliminary amendment in which Burst distinguished Izeki solely by arguing that "Izeki teaches a compression technique without transmission." *Id.* at APBU 620 (August 7, 1997 Preliminary Amendment). Burst did not attempt to distinguish Izeki based on the type of compression that Izeki disclosed. If in fact Burst thought the claims were limited to TCM-type compression and that this limitation was a point of distinction relative to Izeki's data compression, Burst certainly would have presented that argument to the PTO. But Burst did not do so. Instead, Burst summarized the claims as follows:

> As noted by the Examiner, the specification admits that compression alone is not new. However, the subject invention relates to a delivery technique that uses compression to transmit a time compressed representation in a burst time period which is shorter than a period associated with real time viewing by a receiver. From the advent of compression techniques, system designers noted that a system implementing compression could service more clients in real time than a system without compression. In fact, system designers recognized that better compression enabled the system to service even more clients. However, system

> designers did not recognize that time compressed representations could be sent in a burst time period that is shorter than the time period needed for real time viewing by a receiver.

Id. at APBU 620-21. These first two sentences in combination show clearly that Burst envisioned using data compression to produce the time compressed representation. The first sentence refers to the specification, which only mentions data compression. The next sentence clearly links "the subject invention" to that data compression to transmit a time compressed representation faster than real-time viewing. In response, the Examiner essentially repeated his prior rejection based on Izeki et al. *Id.* at APBU 625-26 ('727 application PH, Office Action dated November 25, 1997).

In its last Response before issuance, Burst cancelled all pending claims, and added new claims, which eventually became the issued '705 Patent claims. *Id.* at APBU 638-53 ('727 application PH, June 1, 1998 Response). In the accompanying Remarks, Burst discussed at length the "time-compression/burst transmission features" recited in the amended application. *Id.* at APBU 649-53. At the end of that discussion, Burst stated that because "Izeki deals with still picture information, compression of the information would still not represent time compression thereof (as defined in the specification of the Application), since time compression necessarily requires that the information to be compressed have a temporal dimension." *Id.* at APBU 652-53 (emphasis added). Once again, nothing in these Remarks even remotely suggests that data compression was disclaimed from the scope of the claim. To the contrary, Burst indicated that the claimed time compression was "defined in the specification of the Application"

thus leaving no debate about Burst's intent to cover data compression.[24] *See id.* at APBU 653. After this submission, the Examiner allowed the application.

The entirety of the prosecution history reveals that both Burst and the PTO fully understood that the claims covered data compression. In each and every office action and response, both the PTO and Burst repeatedly referenced the patent specification, which described only data compression. Burst, when distinguishing Izeki, consistently argued that Izeki did not transmit the compressed representation faster than real-time to an external device and thus could not meet the claim limitations. Consequently, Apple has no reasonable basis to argue that Burst disclaimed coverage of data compression, let alone clear evidence of such a disclaimer.

4. Apple's Other Evidence Does Not Alter The Conclusion That The Claims Cover Data Compression

Apple presents several other information sources that purportedly show how the Burst claims should be limited to TCM-type compression techniques. In fact, these sources do not mean what Apple says they mean and, in any event, none of this evidence can override the clear teachings of the patent claims, specification, and prosecution history.

a. Burst's EPO prosecution makes clear that Burst intended to cover data compression in its claims

Apple attempts to support its arguments with the prosecution history of Burst's EPO application number 90902741.9, which claimed priority to both the original U.S. '995 Patent application and to the U.S. '932 Patent application. As an initial matter, it should be noted that statements made during the prosecution of foreign counterpart patents are not always relevant to the construction of the claims of a U.S. patent. *See, e.g., Pfizer, Inc. v. Ranbaxy Labs. Ltd.*, 457

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[24] Apple's expert, Mr. Halpern, upon reading this response during his deposition, testified: "They apparently believe there is something in the specification that covers time, that

F.3d 1284, 1290 (Fed. Cir. 2006). Different countries have different legal and procedural requirements that can impact how activities in a foreign jurisdiction should be treated in construing U.S. patent claims, including whether they should be used at all. *See Caterpillar Tractor Co. v. Berco, S.P.A.*, 714 F.2d 1110, 1116 (Fed. Cir. 1983). Nevertheless, the prosecution history for Burst's EPO patent supports Burst's position that the modifier "time compressed" was intended to cover the preferred embodiment of data compression.

In the first action in the EPO, all claims were rejected. Brown Decl., Exh. T. According to the EPO, "[i]n the description, page 7, lines 5-27, the compression refers to data reduction and not to accelerated transmission of information." *Id.* at APBU 415342. The EPO stated further that "it is not clear why the received source information is time compressed before it is written into a storage means since the time compression loses its effect (increased amount of information/second) by storing the information." *Id.* The EPO also contended that "the time compression and the storing of the time compressed information is not supported by the description" because "it is clearly stated that the compression of information refers to a reduction of number of digits."

In its Response filed May 5, 1995, Burst argued:

> Regarding item 2(a) the received audio/video source information is compressed into a time representation thereof and then stored into the random access storage means in order to facilitate subsequent burst source information in a time period that is shorter than a time period associated with a real time (the time required to view) representation of the audio/video source information, as set forth at page 12, lines 28-33 of the description. Thus, the compression described at page 7, lines 5-27 of the description results in the claimed time compressed representation of the audio/video source information.

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describes time compression." 1st Payne Decl., Exh. 8 at 185.

Brown Decl., Exh. U, at APBU 415366 (emphasis added). The description on page 7 of the application described data compression, as the EPO previously noted. *See also* Brown Decl., Exh. R. (European Application), at APBU 415196.

In the next action, the EPO reiterated its objection to the phrase "time compressed representation" language. Specifically, the EPO noted that the claim language "time compressed representation" was not limited to data compression. Brown Decl., Exh. V, at APBU 415421-422 ("The term 'time compressed representation of information' used in the independent claims … means that the information is made available (for transmitting, viewing etc.) in a shorter time period than the real time of said information. The time compression as such does not involve a data compression.").[25] The EPO concluded the claims lack clarity "because it does not make sense to generate a time compressed representation of an information and store this representation in a memory means where the effect of the time compression [is] lost." *Id.*

In the next response, Burst addressed the Examiner's concerns by amending the claims so that "it is now clear that the claims relate to the data compression as described on page 7 of the description." Brown Decl., Exh. W, at APBU 415430. Claim 1 was amended as follows (with underlining to denote additions and strikeouts to show deleted text):

> 1. An audio/video transceiver apparatus comprising:
>
> input means for receiving audio/video source information;
>
> compression means, coupled to said input means, for compressing said audio/video source information into a ~~time~~ compressed representation thereof which is capable of being transmitted in a time compressed form having an associated burst transmission time period that is shorter than a time period associated with ~~a~~ real time ~~representation~~ viewing of said audio/video source information;

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[25] The word "not" is handwritten in the prosecution history.

~~random access~~ storage means, coupled to said compression means, for storing the ~~time~~ compressed representation of said audio/video source information; and

output means, coupled to said ~~random access~~ storage means, for receiving the ~~time~~ compressed audio/video source information stored in said ~~random access~~ storage means and for transmi~~ssion~~tting said compressed representation of said audio/video source information away from said audio/video transceiver apparatus in said burst transmission time period.

Thus, Burst modified the claims in order to clarify what was intended all along – that the patents involve time compression through the use of data compression and not TCM.

Apple contends that the amendments reflect an acknowledgement that "time compression" was not "data compression." Apple Br. at 24-25. In fact, the opposite is true, because the words "time compressed" remained in the EPO claims, and ultimately were issued by the EPO. *See* Brown Decl., Exh. X. Burst simply re-worded the claim to clarify that "time compressed" was relative to the transmission period. This massaging of the claim language to clarify the association of "time compressed" with the transmission period is not an acknowledgment that "time compressed representation" requires TCM-type compression. To the contrary, the EPO ultimately agreed that "a compressed representation … which is capable of being transmitted in a time compressed form" as required by the claims covered data compression despite the inclusion of the "time compressed" language. The EPO also clearly noted that the claimed sequence could not cover TCM-type of compression. Further, and perhaps most importantly, the EPO prosecution makes it crystal clear that Burst always intended for the claims to cover data compression. The EPO prosecution history supports Burst and not Apple.