Exhibit 12

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Parent application:

APPLICANT: Richard Lang
SERIAL NO.:   08/624,958
FILING DATE: 3/28/96
TITLE: Burst Transmission Apparatus and Method for
                  Audio/Video Information
EXAMINER: Huy Nguyen
ART UNIT: 2604
ATTY. DKT. NO: 639

Continuation Application:

APPLICANT: Richard Lang
TITLE: Burst Transmission Apparatus and Method for
                  Audio/Video Information
FILING DATE: July 18, 1997
ATTY. DKT. NO: 816

CERTIFICATE OF MAILING
I hereby certify that this paper is being deposited with the United States
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Date: _8-4-97_   _____
                                        Marc A. Sockol

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

PRELIMINARY AMENDMENT

Applicant respectfully requests that the Examiner enter the following amendments
and consider the following remarks before examining the application. Most importantly,
Applicant would like to thank the Examiner for his time and consideration during the
numerous telephone conversations with Applicant's attorney. This preliminary
amendment and response is being submitted to address the rejections made in the Office
Action mailed 2/20/97.

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IN THE CLAIMS:

27.   (three times amended) An audio/video transceiver apparatus comprising:

input means for receiving audio/video source information, said audio/video information comprising a multiplicity of video frames in the form of one or more full motion video programs;

compression means, coupled to said input means, for compressing said audio/video source information into a time compressed representation thereof, said time compressed representation having an associated burst time period that is shorter than a time period associated with real time viewing by a receiver of said audio/video source information;

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

output means, coupled to said storage means, [for receiving the time compressed representation of said audio/video source information stored in said storage means and] for [serially] transmitting said time compressed representation of said audio/video source information away from said audio/video transceiver apparatus in said burst time period that is shorter than said time period associated with real time viewing by the receiver of said audio/video source information; and

editing means, coupled to said storage means, for editing the time compressed representation of said audio/video source information stored in said storage means and for storing the edited time compressed representation of said audio/video source information in said storage means;

said output means being operative for receiving the edited time compressed representation of said audio/video source information stored in said storage means for transmission away from said audio/video transceiver apparatus in a burst time period that is shorter than a time period associated with real time viewing by the receiver of said edited time compressed representation of said audio/video source information.

43.   (three times amended) An audio/video transceiver apparatus comprising:

input means for receiving audio/video source information as a time compressed representation thereof, said audio/video source information comprising a multiplicity of video frames in the form of one or more full motion video programs, said time compressed representation of said audio/video source information being received over an associated burst time period that is shorter than a time period associated with real time viewing by a receiver of said audio/video source information;

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storage means, coupled to said input means, for storing the time compressed
representation of said audio/video source information received by said input means; and
output means, coupled to said storage means, [for receiving the time compressed
representation of said audio/video source information stored in said storage means and]
for [serially] transmitting said time compressed representation of said audio/video source
information away from said audio/video transceiver apparatus;

said input means being coupled, via a communication link, to a remotely located
video library, said video library storing a multiplicity of programs, each of said programs
comprising a multiplicity of video frames in the form of a full motion video program,
each of said programs being stored in said time compressed representation for selective
retrieval, in said associated burst time period over said communication link[, by the user].

55.   An audio/video information transfer network comprising:
a plurality of audio/video transceivers, coupled via one or more communications
links, each of said audio/video transceivers [comprising:] including
input means for receiving audio/video source information, said
audio/video source information comprising a multiplicity of video frames in the
form of one or more full motion video programs;
compression means, coupled to said input means, for compressing said
audio/video source information into a time compressed representation thereof
having an associated burst time period that is shorter than a time period associated
with real time viewing of said audio/video source information;
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 storage means and to one of said one or
more communications links, [for receiving the time compressed representation of
said audio/video source information stored in said storage means and] for
[serially] transmitting said time compressed representation of said audio/video
source information in said burst time period to another one of said plurality of
audio/video transceivers.

85.   (once amended) An audio/video transceiver apparatus comprising:
input means for receiving analog and/or digital audio/video source information,
said analog and/or digital audio/video source information comprising a multiplicity of
video frames in the form of one or more full motion video programs;
analog to digital converter means for converting analog audio/video source

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information received at said input means to corresponding digital audio/video source information;

digital to analog converter means for converting digital audio/video source information received at said input means to corresponding analog audio/video source information;

compressor/decompressor means for compressing digital audio/video source information received at said input means or said corresponding digital audio/video source information received from said analog to digital converter means into a time compressed representation of said digital or corresponding digital audio/video source information, said time compressed representation having an associated burst time period that is shorter than a time period associated with real time viewing by a receiver of said digital or corresponding digital audio/video source information, said compressor/decompressor means being further operative for decompressing said time compressed representation into a decompressed real time representation of said digital or corresponding digital audio/video source information;

central processing unit means for controlling operation of [of] said compressor/decompressor means;

storage means for storing said time compressed representation of said digital or corresponding digital audio/video source information and for storing said decompressed real time representation of said digital or corresponding digital audio/video source information;

controller means for enabling communication between said compressor/decompressor means, said central processing unit means, and said memory means; and

output means for [receiving said time compressed representation of said digital or corresponding digital audio/video source information stored in said storage means and] for [serially] transmitting said time compressed representation away from said audio/video transceiver apparatus in said burst time period.

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115.   (twice amended) A method for handling audio/video source information, the method comprising the steps of:

receiving audio/video source information;

compressing the received audio/video source information into a time compressed representation thereof;

storing the time compressed representation of said audio/video source information;

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[serially] transmitting said stored time-compressed representation of said audio/video source information in a burst time period that is shorter than a time period associated with real time viewing <u>by a receiver</u> of said audio/video source information;

    editing the stored time compressed representation of said audio/video source information;

    storing the edited time compressed representation of said audio/video source information; and

    receiving the stored edited time compressed representation of said audio/video source information for transmission away from said audio/video transceiver apparatus.

131.   (twice amended) A method for handling audio/video source information, the method comprising:

    receiving audio/video source information as a time compressed representation thereof, said audio/video source information comprising a multiplicity of video frames in the form of one or more full motion video programs, said time compressed representation of said audio/video source information being received over an associated burst time period that is shorter than a time period associated with real time viewing <u>by a receiver</u> of said audio/video source information;

    storing the time compressed representation of said audio/video source information received by said input means; and

    [serially] transmitting said stored time compressed representation of said audio/video source information away from said audio/video transceiver apparatus;

    said audio/video source information comprising information received from a video library, said video library storing a multiplicity of programs, each of said programs comprising a multiplicity of video frames in the form of a full motion video program, each of said programs being stored in said time compressed representation for selective retrieval, in said associated burst time period, over a fiber optic transmission line[, by the user].

132.   (twice amended) A method for handling audio/video source information, the method comprising:

    receiving audio/video source information as a time compressed representation thereof, said audio/video source information comprising a multiplicity of video frames in the form of one or more full motion video programs, said time compressed representation of said audio/video source information being received over an associated burst time period that is shorter than a time period associated with real time viewing <u>by a receiver</u> of

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said audio/video source information;

storing the time compressed representation of said audio/video source information received by said input means; and

[serially] transmitting said stored time compressed representation of said audio/video source information away from said audio/video transceiver apparatus;

said audio/video source information comprising information received from a video library, said video library storing a multiplicity of programs, each of said programs comprising a multiplicity of video frames in the form of a full motion video program, each of said programs being stored in said time compressed representation for selective retrieval, in said associated burst time period, over a communication link.

143.   (once amended) A method for handling audio/video source information, the method comprising:

providing a network that includes a plurality of audio/video transceivers, coupled via one or more communications links;

receiving audio/video source information at one or more of said plurality of audio/video transceivers, said audio/video source information comprising a multiplicity of video frames in the form of one or more full motion video programs;

compressing said audio/video source information into a time compressed representation thereof having an associated burst time period that is shorter than a time period associated with real time viewing by a receiver of said audio/video source information;

storing the time compressed representation of said audio/video source information; and

[serially] transmitting said stored time compressed representation of said audio/video source information in said burst time period to another one of said plurality of audio/video transceivers.

162.   (three times amended) A method for handling audio/video source information, the method comprising the steps of:

receiving audio/video source information;

compressing the received audio/video source information into a time compressed representation thereof;

storing the time compressed representation of said audio/video source information;

[serially] transmitting said stored time compressed representation of said

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audio/video source information in a burst time period that is shorter than a time period associated with real time viewing by a receiver of said audio/video source information;

[selectively] decompressing at least a portion of the stored time compressed representation of said audio/video source information; and

recording the [selectively] portion of the decompressed time compressed representation of said audio/video source information onto a removable recording medium.

173.   (once amended) A method for handling analog and/or digital audio/video source information, the method comprising the steps of:

receiving analog and/or digital audio/video source information, said analog and/or digital audio/video source information comprising a multiplicity of video frames in the form of one or more full motion video programs;

converting received analog audio/video source information to corresponding digital audio/video source information;

converting received digital audio/video source information to corresponding analog audio/video source information;

compressing said received digital or converted corresponding digital audio/video source information into a time compressed representation thereof, said time compressed representation having an associated burst time period that is shorter than a time period associated with real time viewing by a receiver of said digital or corresponding digital audio/video source information;

decompressing said time compressed representation into a decompressed real time representation of said digital or corresponding digital audio/video source information;

storing said decompressed real time representation of said digital or corresponding digital audio/video source information; and

[serially] transmitting said time compressed representation away from said audio/video transceiver apparatus to a selected destination in said burst time period.

194.   (once amended) A method for handling audio/video source information, the method comprising:

providing a network that includes a plurality of audio/video transceivers, coupled via one or more communications links;

receiving, at one or more of said audio/video transceivers, audio/video source information, said audio/video source information comprising a multiplicity of video frames in the form of one or more full motion video programs, said audio/video source

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information being received as a time compressed representation thereof having an associated burst time period that is shorter than a time period associated with real time viewing by a receiver of said audio/video source information.

storing the time compressed representation of said audio/video source information; and

[serially] transmitting said stored time compressed representation of said audio/video source information in said burst time period to another one of said plurality of audio/video transceivers.

REMARKS

Claims 27-41, 43-68, 70-113, 115-129 and 131-194 were examined and rejected in the parent case. Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

Applicant would like to thank the Examiner for providing time on June 18, 1997, on June 25, 1997 and on June 30, 1997 to discuss the claimed invention. During these discussions, Applicant and the Examiner reach an agreement which addressed both Applicant's and the Examiner's concerns. The agreement consisted of amendments to claim 27 for the purposes of clarification, which acknowledge that the time compressed representation of the audio/video source information could be received and viewed by a receiver. The Examiner indicated in the interview summary of June 30, 1997 (a copy of which is attached hereto) that these amendments overcame the applied art but that a new search would be required. Accordingly, Applicant has incorporated these amendments into all the independent claims, namely, into claims 27, 43, 55, 85, 115, 131, 132, 143, 162, 173 and 194.

The following is a summary of the art discussed with the Examiner during the discussions. Izeki teaches a compression technique without transmission. Eggars teaches a transmission system for sending analog signals *in real time* to a client. Hooks teaches a compression system for converting a continuous analog audio/video signal to the NTSC standard, and transmitting the converted signal *in real time*. Haskell and Hamilton teach a system for time compression multiplexing so that multiple clients can receive audio/video information *in real time*. 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.
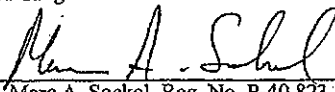
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From the advent of compression techniques, system designers noted that a system implementing compression could service more clients in real time than a system without compression. In fact, system designers recognized that better compression enabled 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. Sending time compressed representations to a receiver can add a new variable, consumption rate, to the equation which indicates the maximum number of clients a system can service. That is, if several clients pause or rewind videos, less information may need to be sent to the clients thereby enabling the system to manage additional clients.

Since the agreed upon amendments have been incorporated into all independent claims, Applicant respectfully submits that all independent and dependent claims 27-41, 43-68, 70-100, 102-113, 115-129 and 131-194 are in condition for allowance. Reconsideration and allowance of the aforementioned claims are respectfully requested.

If the Examiner has questions regarding this case, he is invited to telephone the Applicant's undersigned representative at the number given below. Thanks again for all your assistance.

Respectfully submitted,
Richard Lang

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