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Dear Sirs

Application PCT/US89/05829
Richard A Lang

Further to my letter of 22 August 1990, I now file in triplicate claims 1-72, in replacement of the current claims of the International application.

A fee voucher in respect of the excess claim fees due on claims 11-72 is also filed.

Yours faithfully
W P THOMPSON & CO

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(Applicants' Authorised Representative)

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As new claims → search file

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CLAIMS

1. An audio/video transceiver apparatus comprising:

5 input means for receiving audio/video source information;

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

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

20 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 for transmission away from said audio/video transceiver apparatus.

25 2. An apparatus as claimed in claim 1 comprising editing means, coupled to said random access storage means, for editing the time compressed representation of said audio/video source information stored in said random access storage means and for restoring the edited time compressed representation of said audio/video source information in said random access storage means; and wherein said output means is
30 operative for receiving the edited time compressed representation of said audio/video source information stored in said random access storage means for transmission away from said audio/video transceiver apparatus.

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3. An apparatus as claimed in claim 2 comprising monitor means for enabling the user to selectively identify the time compressed representation of said audio/video source information stored in said random access storage means during editing.

4. An apparatus as claimed in claim 2 comprising recording means, including a removable recording medium, coupled to said random access storage means, for storing the edited time compressed representation of said audio/video source information stored in said random access storage means onto said removable recording medium.

5. An apparatus as claimed in claim 4 comprising monitor means for enabling the user to selectively view the time compressed representation of said audio/video source information stored on said removable recording medium.

6. An apparatus as claimed in claim 2 comprising external video tape recorder means, coupled to said output means, for storing the edited time compressed representation of said audio/video source information stored in said random access storage means onto magnetic tape.

7. An apparatus as claimed in claim 1 wherein the output means comprises a fiber optic output port for coupling the apparatus to a fiber optic transmission line.

8. An apparatus as claimed in claim 1 wherein the output means comprises a modem for coupling the apparatus to a telephone transmission line.

9. An apparatus as claimed in claim 1 wherein:
said audio/video source information comprises analog audio/video source information;
said audio/video transceiver apparatus further comprises analog to digital converter

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means for converting said analog audio/video source information to corresponding digital audio/video source information;

5 said compression means is operative for compressing said corresponding digital audio/video source information into a digital time compressed representation thereof having an associated time period that is shorter than a time period associated with a real time representation of said digital audio/video source information; and

10 said random access storage means is operative for storing said digital time compressed representation of said corresponding digital audio-video source information.

15 10. An apparatus as claimed in claim 9 wherein said input means is coupled to an external television camera and said analog audio-video source information comprises information received from said external television camera.

20 11. An apparatus as claimed in claim 9 wherein said input means is coupled to an external analog video tape recorder and said analog audio/video source information comprises information received from said external analog video tape recorder.

25 12. An apparatus as claimed in claim 9 wherein said input means is coupled to an external television RF tuner and said analog audio/video source information comprises information received from said external television RF tuner.

30 13. An apparatus as claimed in claim 9 wherein said input means comprises television RF tuner means coupled to an external television antenna and said analog audio/video source information comprises information transmitted by a remotely located
35 television transmitter.

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14. An apparatus as claimed in claim 9 wherein said input means comprises television RF tuner means coupled to an external cable television system and said analog audio/video source information comprises information received from said external cable television system.

15. An apparatus as claimed in claim 9 comprising:

decompression means, coupled to said random access storage means, for selectively decompressing the digital time compressed representation of said corresponding digital audio/video source information stored in said random access storage means; and

editing means, coupled to said random access storage means and decompression means, for editing the decompressed digital time compressed representation of said corresponding digital audio/video source information and for then storing the edited decompressed digital time compressed representation of said corresponding digital audio/video source information in said random access storage means.

16. An apparatus as claimed in claim 15 comprising monitor means for enabling the user to selectively view the decompressed digital time compressed representation of said corresponding digital audio/video source information during editing.

17. An apparatus as claimed in claim 9 comprising:

decompression means, coupled to said random access storage means, for selectively decompressing the digital time compressed representation of said corresponding digital audio/video source information stored in said

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random access storage means; and

monitor means, coupled to said decompression means, for enabling the user to selectively view the decompressed digital time compressed representation of said corresponding digital audio-video source information.

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18. An apparatus as claimed in claim 9 comprising a video tape recorder for providing said analog audio/video source information.

10

19. An apparatus as claimed in claim 1 wherein:
said audio/video source information comprises digital audio/video source information;

15

said compression means is operative for compressing said digital audio/video source information into a digital time compressed representation thereof having an associated time period that is shorter than a time period associated with a real time representation of said digital audio/video source information; and

20

said random access storage means is operative for storing said digital time compressed representation of said digital audio/video source information.

25

20. An apparatus as claimed in claim 19 wherein said input means is coupled to an external computer and said digital audio/video source information comprises computer-generated audio/video information.

30

21. An apparatus as claimed in claim 19 wherein said input means comprises a fiber optic input port coupled to a fiber optic transmission line and said digital audio/video source information comprises information received over said fiber optic transmission line.

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22. An apparatus as claimed in claim 19 comprising:

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decompression means, coupled to said random access storage means, for selectively decompressing the digital time compressed representation of said digital audio/video source information stored in said random access memory means; and

editing means, coupled to said random access storage means and decompression means, for editing the decompressed digital time compressed representation of said digital audio/video source information;

said random access storage means thereafter being operative for storing the edited decompressed digital time compressed representation of said digital audio/video source information in said random access storage means.

23. An apparatus as claimed in claim 22 further comprising monitor means for enabling the user to selectively view the decompressed digital time compressed representation of said digital audio-video source information during editing.

24. An apparatus as claimed in claim 19 comprising:

decompression means, coupled to said random access storage means, for selectively decompressing the digital time compressed representation of said digital audio/video source information stored in said random access memory means; and

monitor means, coupled to said decompression means, for enabling the user to selectively view the decompressed digital time compressed representation of said digital audio-video source information.

25. An apparatus as claimed in claim 19

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comprising CD-ROM means for providing said digital audio/video source information.

26. An apparatus as claimed in claim 19 comprising erasable optical disc means for providing
5 said digital audio/video source information.

27. An apparatus as claimed in claim 1 comprising:
decompression means, coupled to said random
access storage means, for selectively
decompressing said time compressed representation
10 of said audio/video source information stored in
said random access storage means; and

editing means, coupled to said random access
storage means and decompression means, for editing
said selectively decompressed time compressed
15 representation of said audio/video source
information, and for storing said edited
selectively decompressed time compressed
representation of said audio/video source
information in said random access storage means.

28. An apparatus as claimed in claim 27
20 comprising recording means, including a removable
recording medium, coupled to said random access storage
means, for storing the edited decompressed time
compressed representation of said audio/video source
25 information stored in said random access storage means.

29. An apparatus as claimed in claim 27
comprising external video tape recorder means, coupled
to said output means, for storing the edited
decompressed time compressed representation of said
30 audio/video source information stored in said random
access storage means onto magnetic tape.

30. An apparatus as claimed in claim 1
comprising:
decompression means, coupled to said random
35 access storage means, for selectively

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decompressing said time compressed representation of said audio/video source information stored in said random access storage means; and

5 editing means, coupled to said random access storage means and decompression means, for editing said selectively decompressed time compressed representation of said audio/video source information;

10 wherein said compression means is operative for recompressing the edited selectively decompressed time compressed representation of said audio/video source information; and

15 wherein said random access storage means is operative for storing the recompressed selectively decompressed time compressed representation of said audio/video source information.

31. An apparatus as claimed in claim 1 comprising:

20 decompression means, coupled to said random access storage means, for selectively decompressing the time compressed representation of said audio/video source information stored in said random access storage means; and

25 monitor means for enabling the user to view the selectively decompressed time compressed representation of said audio/video source information.

32. An apparatus as claimed in claim 31 comprising:

30 recording means, including a removable recording medium, coupled to said decompression means, for storing the selectively decompressed time compressed representation of said audio/video source information on said hard copy storage medium; and

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wherein said monitor means is operative for enabling the user to view the selectively decompressed time compressed representation of said audio/video source information stored on said removable recording medium.

33. An apparatus as claimed in claim 31 comprising external video tape recorder means, coupled to said output means, for storing the selectively decompressed time compressed representation of said audio/video source information onto magnetic tape.

34. An apparatus as claimed in claim 1 comprising recording means, including a removable recording medium, coupled to said random access storage means, for storing the time compressed representation of said audio/video source information stored in said random access storage means onto said removable recording medium.

35. An apparatus as claimed in claim 1 comprising:
decompression means, coupled to said random access storage means, for selectively decompressing the time compressed representation of said audio/video source information stored in said random access storage means; and

recording means, including a removable recording medium, coupled to said decompression means, for storing the selectively decompressed time compressed representation of said audio/video source information stored in said random access storage means.

36. An apparatus as claimed in claim 1 comprising:
decompression means, coupled to said random access storage means, for selectively decompressing the time compressed representation

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of said audio/video source information stored in said random access storage means; and

5 external video tape recorder means, coupled to said output means, for storing the selectively decompressed time compressed representation of said audio/video source information stored in said random access storage means.

10 37. An apparatus as claimed in claim 1 comprising editing means, coupled to said random access storage means, for editing said time compressed representation of said audio/video source information and for then storing the edited time compressed representation of said audio/video source information in said random access storage means.

15 38. An apparatus as claimed in claim 1 wherein said input means and output means comprises microwave transceiver means, coupled to a microwave link, for receiving said audio/video source information over said microwave link and for transmitting said time compressed audio/video source information stored in said random access storage means over said microwave link.

25 39. An apparatus as claimed in any preceding claim wherein the random access storage means comprises an optical disc, a semiconductor memory, a bubble memory, digital paper, or one or more magnetic discs.

40. An audio/video transceiver apparatus comprising:

30 input means for receiving audio/video source information as a time compressed representation thereof, said time compressed representation of said audio/video source information being received over an associated burst time period that is shorter than a real time period associated with
35 said audio/video source information;

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random access 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

5 output means, coupled to said random access storage means, for receiving the time compressed representation of said audio/video source information stored in said random access storage means for transmission away from said audio/video
10 transceiver apparatus.

41. An audio-video transceiver apparatus as in claim 40 wherein:

said input means comprises a fiber optic input port;

15 said input means is coupled, via a fiber optic transmission line, to a video library, said video library storing a multiplicity of items of audio/video source information in said time compressed representation for selective retrieval,
20 in said associated burst time period over said fiber optic transmission line, by the user.

42. An audio/video transceiver apparatus as in claim 40 in combination with a video library, coupled via a communication link with said audio-video
25 transceiver apparatus, said video library storing a multiplicity of items of audio/video source information in said time compressed representation for selective retrieval, in said associated burst time period over said communication link.

30 43. An apparatus as claimed in claim 40 comprising recording means, including a removable recording medium, coupled to said random access storage means, for storing the time compressed representation of said audio/video source information stored in said random
35 access storage means onto said removable recording

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medium.

44. An apparatus as claimed in claim 40 wherein:
said input means comprises television RF
tuner means; and

5 said audio/video source information comprises
a time compressed representation thereof
transmitted by a remotely located television
transmitter.

45. An apparatus as claimed in claim 1 or 40
10 comprising external video tape recorder means, coupled
to said output means, for storing the time compressed
representation of said audio/video source information
stored in said random access storage means onto magnetic
tape.

15 46. An apparatus as claimed in claim 40 wherein
said input means and output means comprises microwave
transceiver means coupled, via a microwave link, to a
video library, said video library storing a
multiplicity of items of audio/video source information
20 in said time compressed digital representation for
selective retrieval, in said associated burst time
period, over said microwave link, said microwave
transceiver means being further operative for
transmitting said time compressed representation of
25 said audio/video information stored in said random
access storage means over said microwave link.

47. An audio/video information transfer network
comprising a plurality of audio/video transceivers
coupled via one or more communications links, each of
30 the audio/video transceivers comprising:

input means for receiving audio/video source
information;

compression means, coupled to said input
means, for compressing said audio/video source
35 information into a time compressed representation

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thereof having an associated burst time period that is shorter than a time period associated with a real time representation of said audio-video source information; and

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

10 output means, coupled to storage means and to one of said one or more communications links, for receiving the time compressed format representation of said audio/video source information stored in said random access storage means for transmission in said burst time period
15 to another one of said plurality of audio/video transceivers.

48. A network as claimed in claim 47 wherein said input means of one of said plurality of audio/video transceivers comprises a fiber optic input port, said
20 output means of another one of said plurality of audio/video transceiver apparatus comprises a fiber optic output port, and one of said one or more communication links comprises a fiber optic transmission line coupled between said fiber optic
25 input port and said fiber optic output port.

49. A network as claimed in claim 47 wherein said output means of one of said plurality of audio/video transceiver apparatus comprises a modem and one of said one or more communications links comprises a telephone
30 transmission line.

50. A network as claimed in claim 47 wherein at least one of said audio/video transceivers comprises recording means, including a removable recording medium, coupled to said random access storage means,
35 for storing the time compressed representation of said



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audio/video source information stored in said random access storage means onto said removable recording medium.

51. A network as claimed in claim 47 wherein at least one of said audio/video transceivers comprises:

decompression means, coupled to said random access storage means, for decompressing the time compressed representation of said audio/video source information stored in said random access storage means; and

recording means, including a removable recording medium, coupled to said decompression means, for storing the decompressed time compressed format representation of said audio/video source information onto said removable recording medium.

52. A network as claimed in claim 50 or 51 wherein said recording means comprises a video tape recorder and said removable recording medium comprises magnetic tape.

53. A network as claimed in claim 50 or 51 wherein said recording means comprises a write once read many (WORM) optical disc drive and said removable recording medium comprises one or more WORM discs.

54. A network as claimed in claim 50 or 51 wherein said recording means comprises an erasable optical disc drive and said hard copy storage medium comprises one or more erasable optical discs.

55. A network as claimed in any one of claims 47-54 wherein the random access storage means comprises an optical disc memory or a semiconductor memory.

56. A network as claimed in any one of claims 47-54 wherein said random access storage means of one of said plurality of audio/video transceiver apparatus stores a library comprising a multiplicity of items of

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audio/video source information in said time compressed representation for selective transmission in said associated burst time period to another one of said audio/video transceivers.

5 57. An audio/video transceiver apparatus comprising:

input means for receiving analog and/or digital audio/video source information;

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

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

20 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 time period that is shorter than a time period associated with a real time representation of said digital or corresponding digital audio/video source information, said compressor/decompressor means being further
25 operative for decompressing said time compressed representation into a decompressed real time representation of said digital or corresponding digital audio/video source information;

30 central processing unit means for controlling
35 operation of said compressor/decompressor means;



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

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

output means for receiving said time
compressed representation of said digital or
corresponding digital audio/video source
15 information stored in said random access storage
means for transmission away from said audio/video
transceiver apparatus.

58. An apparatus as claimed in claim 57
comprising time base generator mean for supplying
20 timing information for association with the time
compressed representation of the digital or
corresponding digital audio/video source information.

59. An apparatus as claimed in claim 60
comprising audio/video recording means including a
25 recording medium for recording said analog or
corresponding analog audio/video source information
onto the recording medium.

60. An apparatus as claimed in claim 60 further
comprising audio/video recording means, including a
30 recording medium, for recording said digital or
corresponding digital audio/video source information
onto said recording medium.

61. An apparatus as claimed in claim 59 or 60
wherein the recording medium comprises magnetic tape.

35 62. An apparatus as claimed in claim 60 wherein



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the recording medium comprises a CD-ROM or a WORM or an erasable optical disc.

63. An apparatus as claimed in any one of claims 57-62 comprising audio/video recording and playback means coupled to the input means for providing said analog and/or digital audio/video source information.

64. An apparatus as claimed in any of claims 57-62 comprising high speed bus means coupled to the input means, and wherein the input means comprises auxiliary digital input means for receiving the digital audio/video source information.

65. An apparatus as claimed in claim 64 wherein the high speed bus means comprises an optical bus.

66. An apparatus as claimed in any one of claims 57-62 comprising high speed bus means coupled to said input means, and wherein said input means comprises fiber optic means for receiving said digital audio/video source information.

67. An apparatus as claimed in any one of claims 57-63 comprising high speed bus means, and wherein said analog to digital converter means, digital to analog converter means, compressor/decompressor means, central processing unit means, and controller means are coupled to said random access storage mean via said high speed bus means.

68. An apparatus as claimed in claim 67 comprising RGB converter means for converting information stored in said random access storage means to an RGB format, and wherein said output means comprises RGB output means for receiving RGB format information from said RGB converter means.

69. An apparatus as claimed in claim 67 wherein said output means comprise audio/video transmitter/receiver means coupled to said high speed bus for receiving said time compressed representation

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of said digital or corresponding digital audio/video source information stored in said audio/video transceiver apparatus.

70. An apparatus as claimed in claim 69 wherein the audio/video transmitter/receiver mean comprises a modem for coupling to a telephone transmission line, or a fiber optic transceiver for coupling to a fiber optic transmission line.

71. An apparatus as claimed in claim 57 comprising:

digital control unit means, said digital control unit means comprising:

additional central processing unit means;

read-only memory means coupled to said additional central processing unit means for storing microinstructions defining a plurality of selected editing functions; and

additional controller means for enabling communication between said additional central processing unit means and said read-only memory means; and

said additional central processing unit means being operative for selectively executing the microinstructions stored in said read-only memory means to perform one or more of said plurality of selected editing functions.

72. An apparatus as claimed in claim 71 wherein said digital control unit means is coupled to said random access storage means.