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1 manner of a conventional VCR with signals from an antenna
2 being received by tuner 16 and recorded directly on media 23
3 in analog form. At the same time the received program may
4 be viewed on the television screen with the television
5 connected at video output terminal 42. An optional signal
6 source for this type of operation is the video line or
7 camera input line 15 selectable by switch 35.

8 In a second operating mode a program stored in media 23
9 of AVRU 11 may be played back and viewed on the connected
10 television set.

11 When it is desired to copy a program from one recording
12 media to another, the recording media holding the desired
13 program is installed in the AVRU. The recording media is
14 then played back with optional viewing on a connected
15 television set or other TV monitor or listening through
16 speakers (as appropriate). As the recording media is played
17 back, the analog signals from the recording media (video
18 and/or audio) are dispatched to VCU 12 via connection 47.
19 The analog signals are converted to digital signals by ADC
20 24, compressed by compressor/decompressor 26 and the
21 compressed digital signals are stored in memory 13. The
22 foregoing operations are accomplished under the control of
23 controller 27 and CPU 28. RAM 29 is used for interim data
24 storage during this process. Once the complete video/audio
25 program has been stored in memory 13, the recording media
26 from which the stored program has just been read is replaced
27 by blank recording media upon which the stored program is to
28 be copied. CPU 28 in cooperation with controller 27 and RAM
29 29 then executes the decompression and digital to analog
30 conversion of the program stored in memory 13, decompression
31 taking place in compressor/decompressor 26, and digital to
32 analog conversion being accomplished by DAC 25. The
33 resulting analog program is stored on the blank recording
34 media which constitutes media 23 of AVRU 11.

35 In an alternate mode of operation, the decompression
36 circuitry of VCU 12 can be bypassed. Thus, a user has the
37 option of downloading the stored program from memory 13 onto
38 recording media 23 in compressed digital format. The user

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1 can then reload the program from media 23 into memory 13 at
2 a future time for viewing, editing or recording back onto
3 recording media 23 in analog form. This capability allows
4 the user to quickly clear memory 13 for other interim uses
5 and also provides the user with a hard copy of the program
6 in digital format. The hard copy in compressed digital
7 format has a number of uses, e.g. it could be archived for
8 later viewing, transmitted by an appropriate independent
9 transmitter, etc.

10 During the foregoing procedures, DCU 14 may be utilized
11 for editing operations. As the program is being read from
12 the first or original recording media, it is simultaneously
13 viewed on the TV screen, or listened to by means of an audio
14 monitor, converted to digital signals, compressed and stored
15 in memory 13. Once the digital audio/video program is
16 stored in memory 13, editing is accomplished by the user
17 through control of DCU 14, by means of a control panel (not
18 shown) coupled to DCU 14. If desired, additional
19 audio/video signals may be simultaneously entered into
20 memory 13 and added to those received from VCU 12. The
21 additional signals may be introduced from auxiliary digital
22 input port 17 or from fiber optic input/output port 18 and
23 may comprise video captions for super imposed position upon
24 the stored video images, or they may be audio commentaries
25 to be added to silent video presentations. In addition, as
26 mentioned above, the order in which various segments appear
27 in the video programs may be altered. Certain undesired
28 segments, such as TV commercials, may be removed. This
29 editing operation is accomplished under the control of
30 DCU 14.

31 In still another operating mode, a program stored in
32 media 23 of AVRU 11 or being received by AVRU 11 from input
33 line 15 (as from a video camera) may be digitized and
34 compressed by VCU 12 and routed via bus 34, to memory 13.
35 The data from memory 13 is then routed to line 43,
36 transmitter/ receiver 22 and to a telephone line. At the
37 other end of the telephone line the signals received are
38 processed by another VCR-ET.

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1 Once received in the second VCR-ET's memory 13, the
2 digitized program can then either be viewed directly from
3 memory or transferred to storage medium 23, either in its
4 entirety or in random segments, based on user preference.

5 In the case of video camera input at input 15 the
6 transmitted signals may comprise a live transmission.
7 Alternatively the transmitted program may be derived from a
8 program stored in media 23 of AVRU 11. In this case the
9 stored analog program is again decoded, digitized,
10 compressed and transmitted via bus 34 to memory 13. The
11 data in memory 13 is then communicated via line 43 and
12 transmitter/receiver 22 to telephone lines.

13 It follows, of course, that digitized video and audio
14 signals from the remote VCR-ET at the other end of the
15 telephone line may be received at line 46, entered into
16 memory 13 via transmitter/receiver 22, converted to analog
17 signals by VCU 12, and recorded on media 23 and then viewed,
18 if desired, on a television set connected at output 42. A
19 hard copy of the program may also be made for later viewing.

20 As mentioned earlier, when any of the foregoing
21 operations entail the processing of unmodulated video
22 signals, such signals must first be processed by RF
23 modulator 19 before they can be accepted by devices such as
24 a conventional VCR or television set; when the monitoring
25 means is a computer monitor or a similar display device the
26 signals are processed by RGB converter 21.

27 All of the foregoing operations are performed with
28 enhanced quality and efficiency by virtue of the digital,
29 rather than analog, storage and transmission modes and the
30 compressed data storage mechanism, with additional
31 advantages of improved cost and reliability afforded in the
32 case of tape to tape (or other media to media) program
33 transfers by virtue of the requirement for only a single
34 tape deck or other storage device.

35 Fig. 3 illustrates an alternative embodiment invention
36 in which AVRU 11 is not integral with VCU 12, memory 13 or
37 editor 14. In this embodiment, AVRU 11 is a conventional,
38 commercially available VCR which receives a modulated video

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1 input signal on an input cable 50. In this embodiment
2 AVRU 11 includes a RF tuner 51 for demodulating the input
3 signal so it can be stored in media 23. AVRU 11 also
4 includes a RF modulator 52 for modulating the signal
5 received from media 23 and providing the RF modulated output
6 signal on an output cable 53, which can be coupled to a
7 television set. (TV RF tuner 51 and RF modulator 52 are
8 provided in typical commercially available VCR's.) A switch
9 54 is provided to couple input cable 50 to output cable 53
10 when media 23 is not serving as a video signal source. The
11 VCR-ET of this embodiment includes a TV RF tuner 55 which
12 receives and demodulates the signal on cable 53, and
13 provides the resultant analog audio/video signal on a
14 lead 56, which is digitized and compressed as described
15 above. In this alternative embodiment, the digitized
16 compressed signal may be processed as described above, e.g.
17 stored in memory 13 (via high speed bus 34), edited,
18 transmitted by the fiber optic port 18 to another VCR-ET,
19 etc. When it is desired to view a program stored in
20 memory 13, data from memory 13 is decompressed and converted
21 to an analog signal by VCU 12, and the resulting signal is
22 provided on an output lead 57 to a RF modulator 58, which
23 modulates the video signal so that it can be received and
24 stored by AVRU 11 or viewed on a television coupled to cable
25 53. (As mentioned above, in the Fig. 3 embodiment, AVRU 11
26 is a conventional VCR.)

27 One advantage of the embodiment of Fig. 3 is that many
28 people already own VCR's. Rather than buying apparatus
29 which duplicates much of the hardware already present in
30 their VCR, the embodiment of Fig. 3 would provide to owners
31 of conventional VCR's capabilities which are otherwise
32 currently unavailable in an economical manner.

33 In one embodiment, analog auxillary audio and video
34 input terminals 62, 64 are provided so that analog signals
35 may be provided by alternate sources to VCU 12.

36 The embodiments described above include means for
37 transmitting/receiving video programs over fiber optic
38 cables. However, in an alternative embodiment, either in

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1 place of fiber optic port 18 or in addition to fiber optic
2 port 18, means are provided for transmitting and/or
3 receiving a video program via microwave. In conventional
4 microwave technology, satellite systems and microwave
5 transmitters transmit data using a low power/high frequency
6 signal. In an embodiment of the invention designed to
7 receive microwaves, the VCR-ET includes an amplifier for
8 amplifying the microwave signal and a demodulator for
9 obtaining the video program signal from the microwave
10 signal. Receiving, amplifying and demodulating the
11 microwave signal can be accomplished with conventional
12 microwave transceiver equipment. The video program signal
13 is typically in digital form, and may be stored, viewed or
14 edited as in the above-described embodiments. Program data
15 from memory 13 can also be transmitted by the microwave
16 transceiver, thereby providing the capability for microwave
17 transmission of stored video programs in compressed digital
18 format. Thus, the invention can be used to receive and
19 transmit programs via microwaves at an accelerated rate
20 similar to and at least as fast as, the transmission and
21 reception of programs over optical fibers. This feature
22 allows transmission and reception of programs in a few
23 minutes or seconds using currently available technology.
24 Both point-to-point microwave transceivers and satellite
25 transceivers may be used.

26 The embodiments described include means for receiving,
27 storing and transmitting both audio and video signals.
28 However, the invention encompasses apparatus which can store
29 and transmit video signals only and apparatus which can
30 store and transmit audio signals only. An embodiment
31 designed to store and compress audio signals is illustrated
32 in Fig. 4. Referring to Fig. 4, an audio signal source 70
33 (a tape recorder, microphone, record player, etc.) is
34 coupled to a digitizer and compressor circuit 72, which
35 converts the analog signal to a digital signal and
36 compresses the digital signal in a manner similar to VCU 12
37 described above. The digital compressed signal can then be
38 stored in a memory 74. Of importance, data from memory 74

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1 can be transmitted by a fiber optic transceiver 76, or by a
2 microwave transceiver 78 at an accelerated rate. This is
3 important not only in a home entertainment application, but
4 in other applications as well. For example, a user can
5 dictate an audio presentation and send it to a remote
6 location (e.g. an office) at an accelerated rate without
7 having to monopolize the transmission medium (e.g. the fiber
8 optic cable) for an extended length of time.

9 The business uses of the embodiment illustrated in Fig.
10 4 makes home offices feasible for many workers now confined
11 to more traditional offices and also opens new possibilities
12 to business people who are traveling.

13 In the embodiment of Fig. 4, data can also be loaded
14 from memory 74, via a modem 79 over a conventional phone
15 line 80. Data can also be received from phone line 80,
16 fiber optic transceiver 76 or microwave transceiver 78,
17 loaded into memory 74, and converted to an analog signal by
18 circuit 72, to be listened to via an audio monitor 82, or to
19 be stored on an audio tape cassette 84 or other storage
20 media.

21 An editor 86 is optionally provided so that the data in
22 memory 74 may be edited, e.g., by rearranging the order of
23 portions of the audio program, increasing or decreasing the
24 volume of portions (or different frequency components) of
25 the audio program, or enhancing the audio program through
26 filtering techniques (e.g. to remove static and noise).

27 An improved audio/video recorder with significantly
28 expanded functional capabilities is thus provided in
29 accordance with the stated objects of the invention and
30 although but a single embodiment of the invention has been
31 illustrated and described, it will be apparent to those
32 skilled in the art that various changes and modifications
33 may be made therein without departing from the spirit of the
34 invention or from the scope of the appended claim. For
35 example, the VCR-ET can be constructed so as to be
36 portable. Thus, it could be carried to a location where it
37 is desired to record a program, and used to edit the program
38 after it is recorded with a video camera. Other

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1 modifications will be apparent to those skilled in the art
2 in light of the present specification.

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1 CLAIMS

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3 What is claimed is:

4
5 1. Apparatus comprising:

6 first means for receiving a video signal from a
7 VCR and digitizing said received signal;
8 memory means coupled to said first means for
9 storing said digitized video signal; and
10 second means coupled to said memory means for
11 converting said stored digitized signal to an analog
12 video signal and providing said analog video signal to
13 said VCR.

14
15 2. Apparatus of Claim 1 further comprising an editor
16 for editing said digitized video signal stored in said
17 memory means.

18
19 3. Apparatus of Claim 1 further comprising an I/O
20 port for receiving data and storing said data in said memory
21 means so that said received data can be converted to an
22 analog video signal by said second means, and so that said
23 data in said memory means can be communicated to said I/O
24 port, whereby said apparatus facilitates communication of
25 signals between said VCR and an auxiliary device coupled to
26 said I/O port.

27
28 4. Apparatus of Claim 3 wherein said I/O port is an
29 optic fiber I/O port.

30
31 5. Apparatus of Claim 3 wherein said I/O port is a
32 modem.

33
34 6. Apparatus of Claim 3 wherein said I/O port is a
35 microwave transceiver.

36
37 7. Apparatus of Claim 3 wherein said I/O port
38 transmits and receives data corresponding to said video

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1 signal at an accelerated rate.

2

3 8. Apparatus of Claim 1 wherein said first means
4 compresses said digitized video signal prior to storage in
5 said memory means.

6

7 9. Apparatus comprising:
8 means for receiving an analog audio signal;
9 means for digitizing said analog audio signal,
10 thereby generating digital data corresponding to said
11 audio signal and for compressing said digitized data;
12 means for storing said compressed digital data;
13 and
14 transceiver means for transmitting said compressed
15 digital data.

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17 10. Apparatus of Claim 9 wherein said transceiver
18 means also receives and stores compressed digital data in
19 said means for storing, said apparatus also including means
20 for converting the data stored in said means for storing
21 into an analog audio signal.

22

23 11. Apparatus of Claim 10 wherein the time required by
24 said transceiver means to transmit or receive said
25 compressed digital data is less than the time required to
26 monitor the audio signal corresponding to said data.

27

28 12. Apparatus comprising:
29 first means for receiving and converting an analog
30 video signal to a digital video signal;
31 second means for storing said digital video
32 signal, wherein said first means also receives said
33 digital video signal back from said second means and
34 reconverts said digital video signal back to an analog
35 video signal for viewing;
36 third means for storing data; and
37 fourth means for transferring said digital video
38 signal from said second means to said third means,

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- 1 thereby making said second means available for receiving
2 and storing additional digital video signals.
3
4 13. Apparatus of Claim 12 wherein said first means
5 also compresses data, so that said digital video signal is a
6 compressed video signal, and wherein said third means is a
7 video tape cassette capable of receiving said digital video
8 signal from said second means, and third means also being
9 capable of receiving and storing said reconverted analog
10 video signal from said first means.
11
12 14. Apparatus of Claim 12 wherein said third means is
13 remote from said first and second means and said fourth
14 means comprises a microwave transceiver.
15
16 15. Apparatus of Claim 12 wherein said third means is
17 remote from said first and second means and said fourth
18 means comprises an optical fiber.
19
20 16. Apparatus of Claim 12 wherein said third and
21 fourth means is remote from said first and second means and
22 said fourth means comprises a telephone line.
23
24 17. Apparatus comprising:
25 first means for receiving and converting an analog
26 audio signal to a digital audio signal;
27 second means for storing said digital audio
28 signal, wherein said first means also receives said
29 digital audio signal from said second means and
30 reconverts said digital audio signal back to an analog
31 audio signal for listening;
32 third means for storing data; and
33 fourth means for transferring said digital audio
34 signal from said second means to said third means,
35 thereby making said second means available for receiving
36 and storing additional digital audio signals.
37 18. Apparatus of Claim 17 wherein said first means
38

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1 also compresses data, so that said digital audio signal is a
2 compressed digital audio signal, and wherein said third
3 means is a audio tape cassette capable of receiving said
4 digital audio signal from said second means, and third means
5 also being capable of receiving and storing said reconverted
6 analog audio signal from said first means.

7
8 19. Apparatus of Claim 17 wherein said third means is
9 remote from said first and second means and said fourth
10 means comprises a microwave transceiver.

11
12 20. Apparatus of Claim 17 wherein said third means is
13 remote from said first and second means and said fourth
14 means comprises an optical fiber.

15
16 21. Apparatus of Claim 17 wherein said third and
17 fourth means is remote from said first and second means and
18 said fourth means comprises a telephone line.

19
20 22. Apparatus comprising:
21 receiving means for receiving and storing an audio
22 signal in a first memory means during a first time
23 period;
24 communication means for communicating said stored
25 audio signal during a second time period substantially
26 less than said first time period.

27
28 23. Apparatus of Claim 22 wherein said receiving means
29 converts said received audio signal from an analog to
30 digital format prior to storage, and said communication
31 means transmits said stored audio signal to a location
32 remote from said apparatus.

33
34 24. Apparatus comprising:
35 receiving means for receiving and storing an audio
36 signal in a first memory means during a first time
37 period;
38 means for providing said stored audio signal to a

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1 speaker so that said signal can be listened to during a
2 second time period substantially greater than said
3 first time period.

4
5 25. Apparatus of ~~Claim~~^B 24 wherein said receiving means
6 receives said audio signal in digital format and converts
7 said received audio signal from said digital format to an
8 analog format, said receiving means receiving said audio
9 signal from a location remote from said apparatus.

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AUDIO/VIDEO RECORDER/TRANSCIVER

Richard A. Lang

ABSTRACT OF THE DISCLOSURE

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8 An improved video recorder/transceiver with expanded
9 functionality ("VCR-ET") including a capability for storing
10 video and video programs in digital format, editing such
11 programs, transferring such programs onto a hard copy
12 magnetic media, and transmitting such programs to a remote
13 location using a second VCR-ET. The increased functionality
14 is realized through the use of analog to digital conversion,
15 signal compression and intermediate storage in an integrated
16 circuit, random access memory. The recorder/transmitter has
17 capabilities to transmit and receive program information in
18 either a compressed or decompressed format over fiber optic
19 lines, conventional phone lines or microwaves.
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27 I hereby certify that this correspondence is being deposited with the United States
28 Postal Service as express mail in an envelope addressed to the Director of
29 Patents and Trademarks, Washington, D.C. 20521, on MAY 5
19 89. Express Mail Receipt No. 8206 949 427

30 5/5/89 Richard A. Lang
Date of Signature

CPM/M914-DEC

Docket No.: M-914 US

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled "AUDIO/VIDEO RECORDER/TRANSCIEVER" the specification of which

(check one) is attached hereto.
 [XX] was filed

on May 5, 1989 as Application Serial No. 07/347,629

and was amended

on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

n/a _____
(Number) (Country) (Day/Month/Year Filed)

I hereby claim the benefit under title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations,

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§1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

<u>07/289,776</u>	<u>12/27/88</u>	<u>Pending</u>
(Serial No.)	(Filing Date)	(Status-patented, pending, abandoned)

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

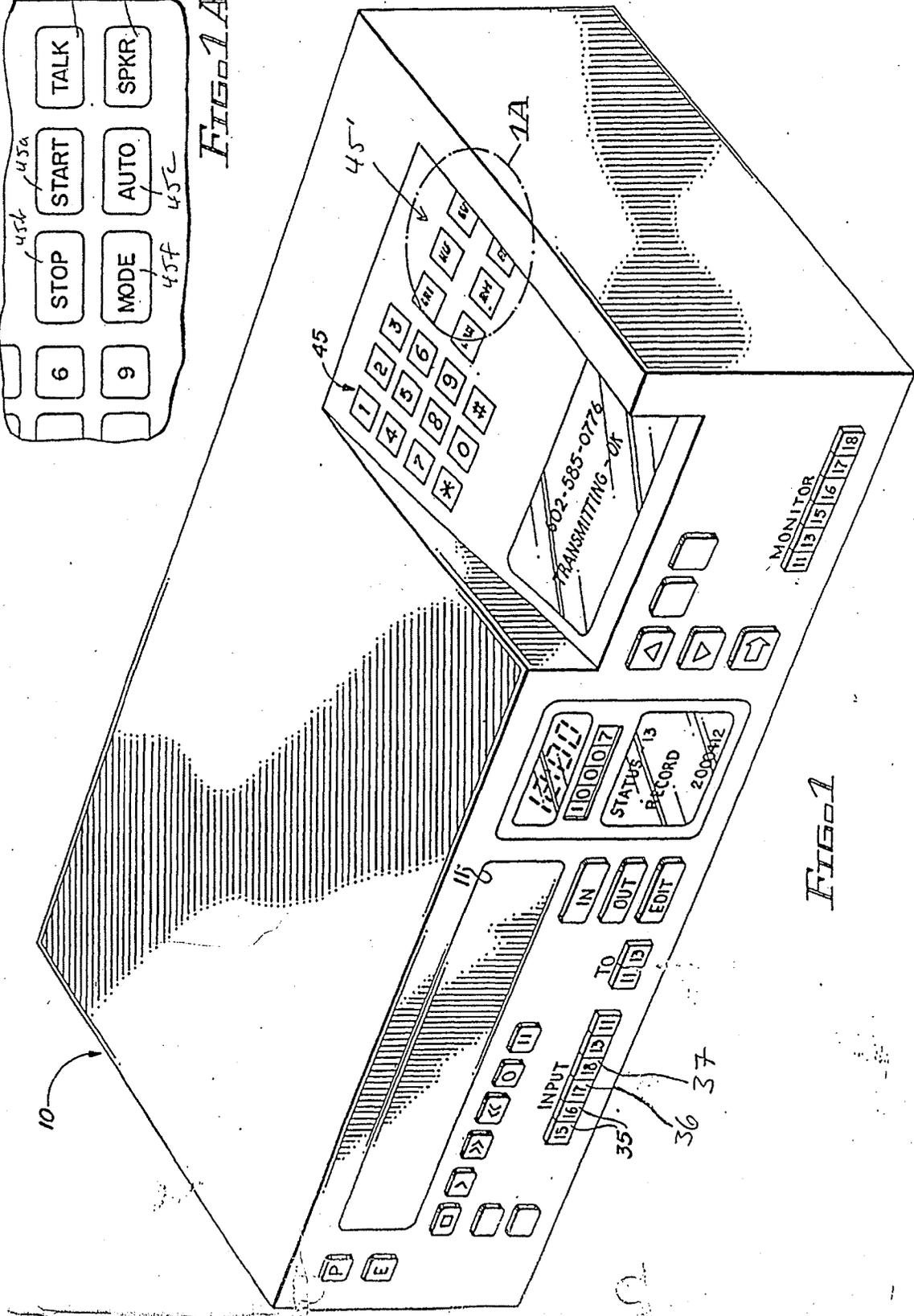
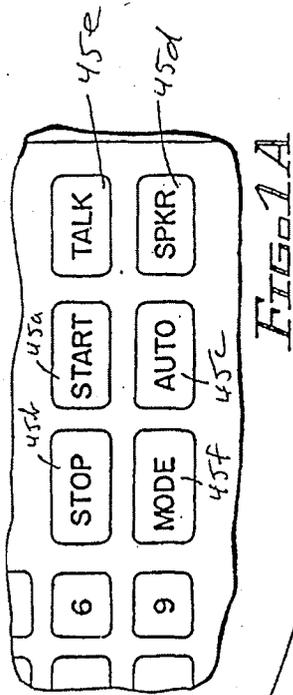
Alan H. MacPherson (24,423); Thomas S. MacDonald (17,774); Richard Franklin (19,128); Kenneth E. Leeds (30,566); Walter J. Madden, Jr., (16,661); Nathan N. Kallman (19,405); Paul J. Winters (25,246); Brian D. Ogonowsky (31,988); Ediel M. Young (32,451); David W. Held (25,875); Gideon Gimlan (31,955); Guy W. Shoup (26,805); Stephen L. Malaska (32,655); Forrest E. Gunnison (32,899); and Norman K. Klivans (33,003).

Address all telephone calls to Kenneth E. Leeds
 at telephone no. (408) 283-1222
 Address all correspondence to Kenneth E. Leeds
SKJERVEN, MORRILL, MacPHERSON,
FRANKLIN & FRIEL
25 METRO DRIVE, SUITE 700
SAN JOSE, CALIFORNIA 95110

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

1-00 Full name of sole or first inventor RICHARD A. LANG Date 6/5/89
 Inventor's signature [Signature] Residence Cave Creek, Arizona AZ Citizenship United States
 Post Office Address 29209 N. 56th St., Cave Creek, Arizona 85331

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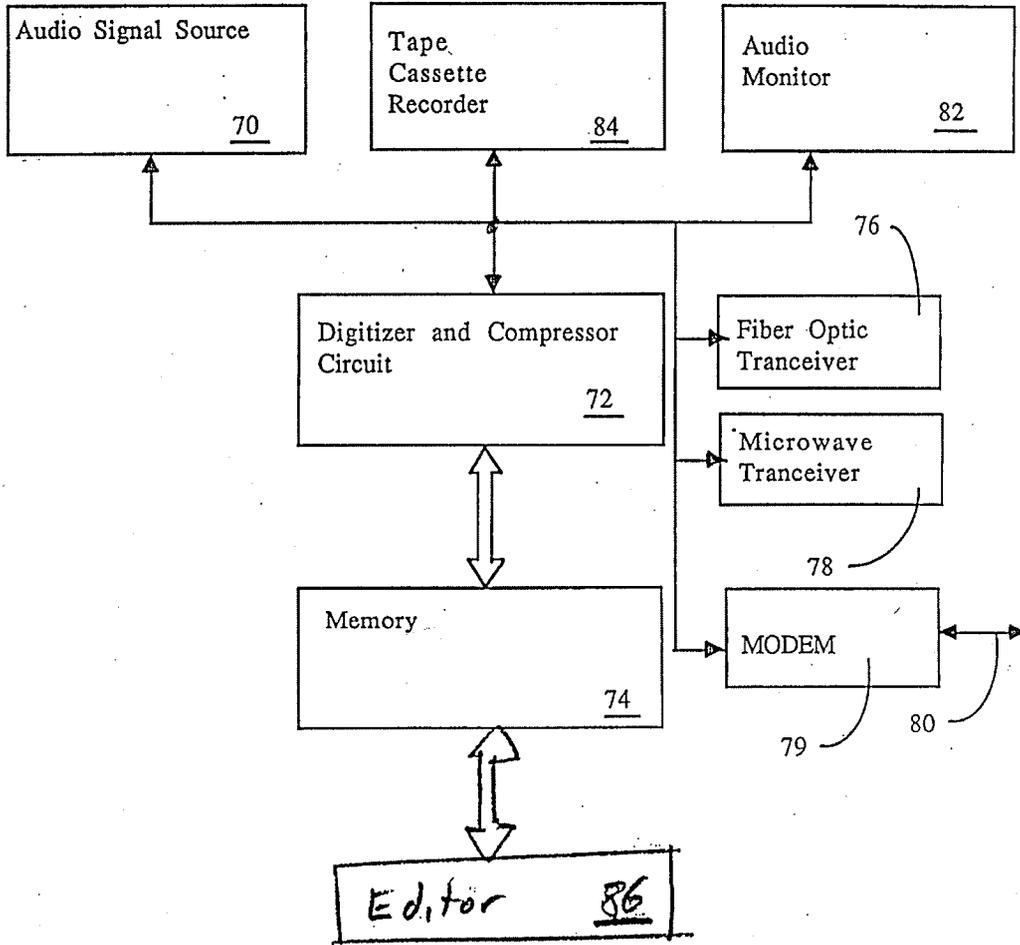


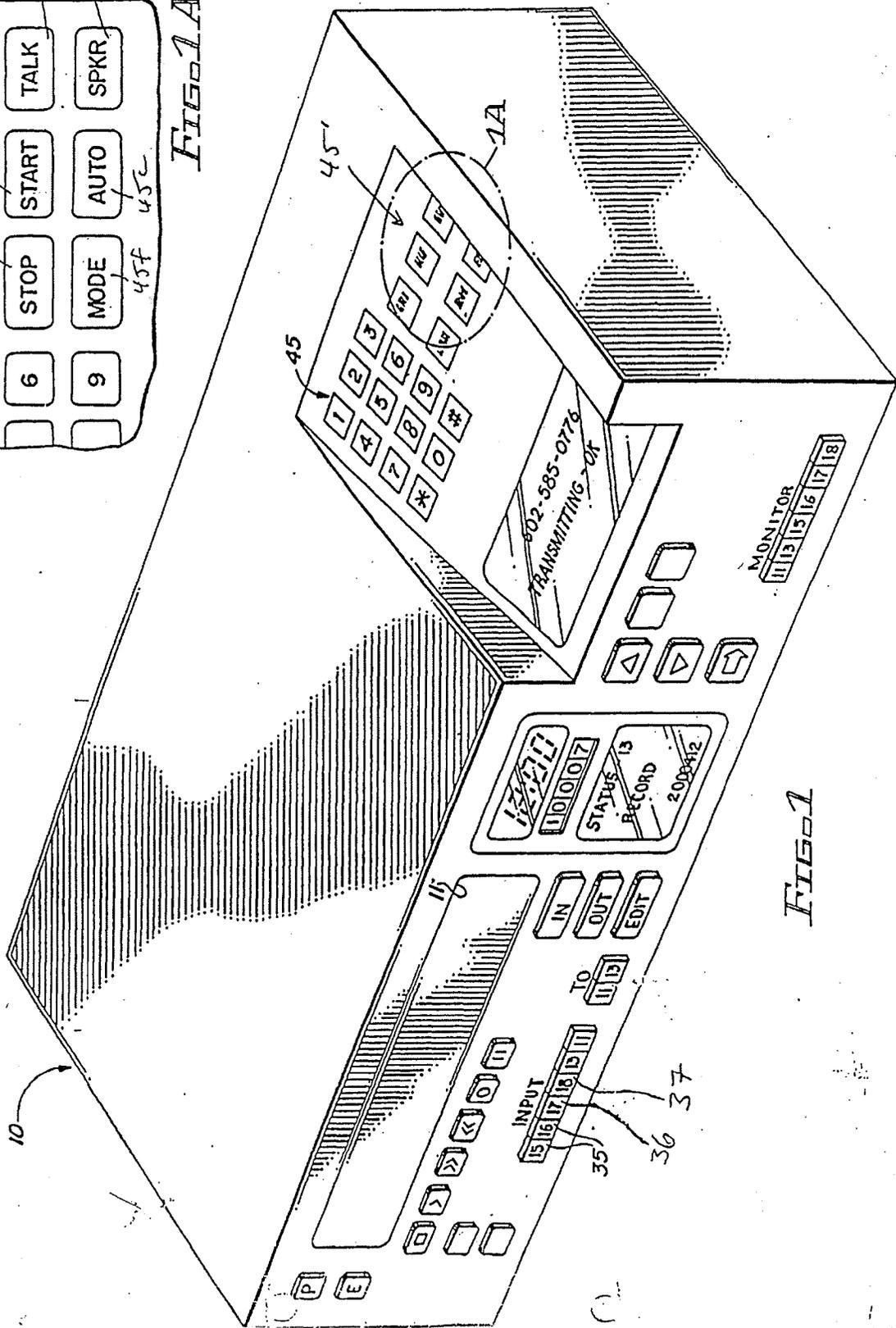
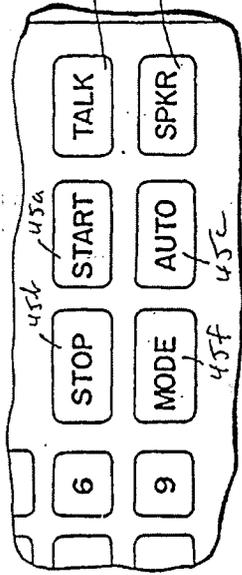
Figure 4

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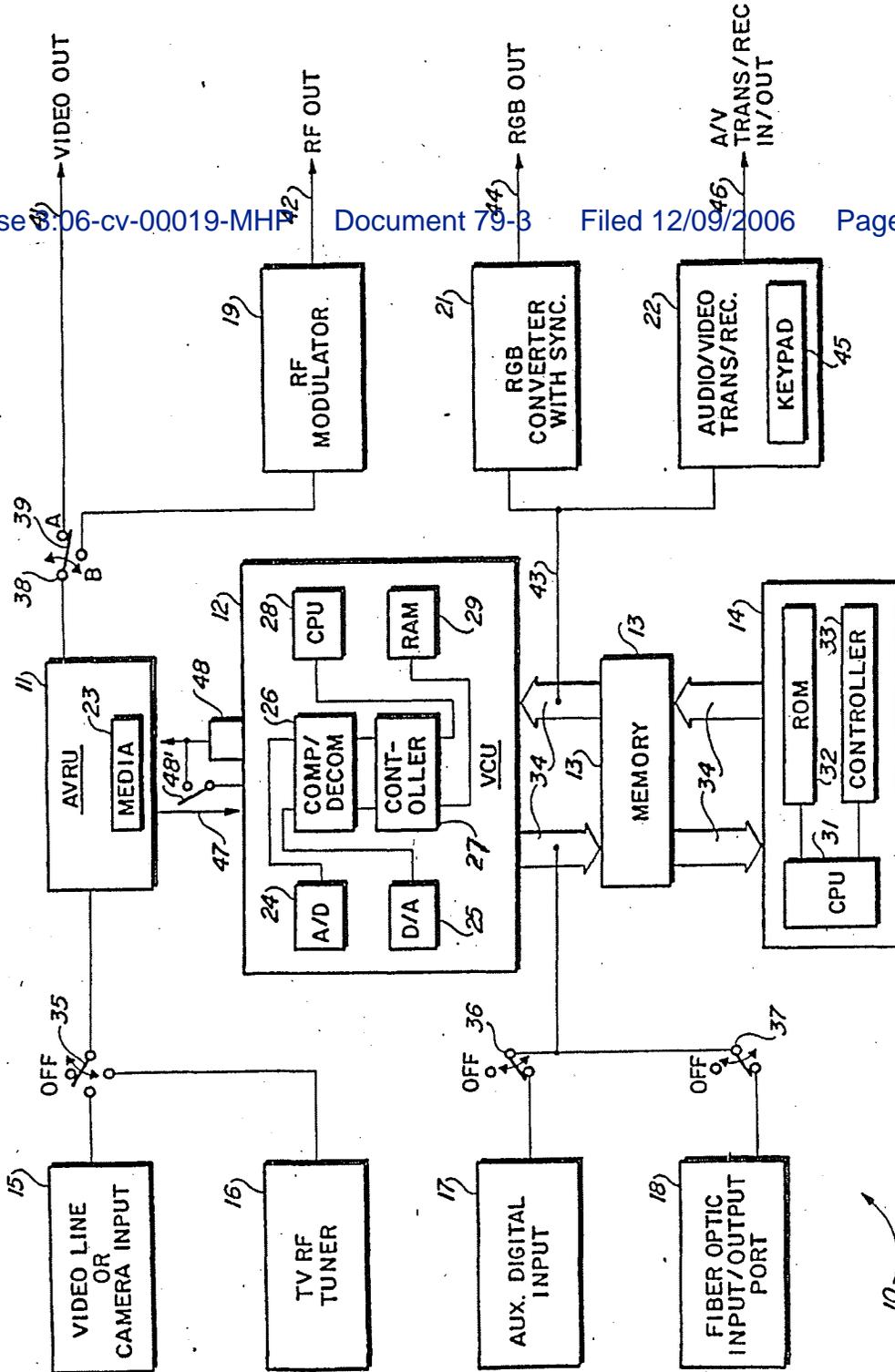


FIG. 2

IF DRAWINGS
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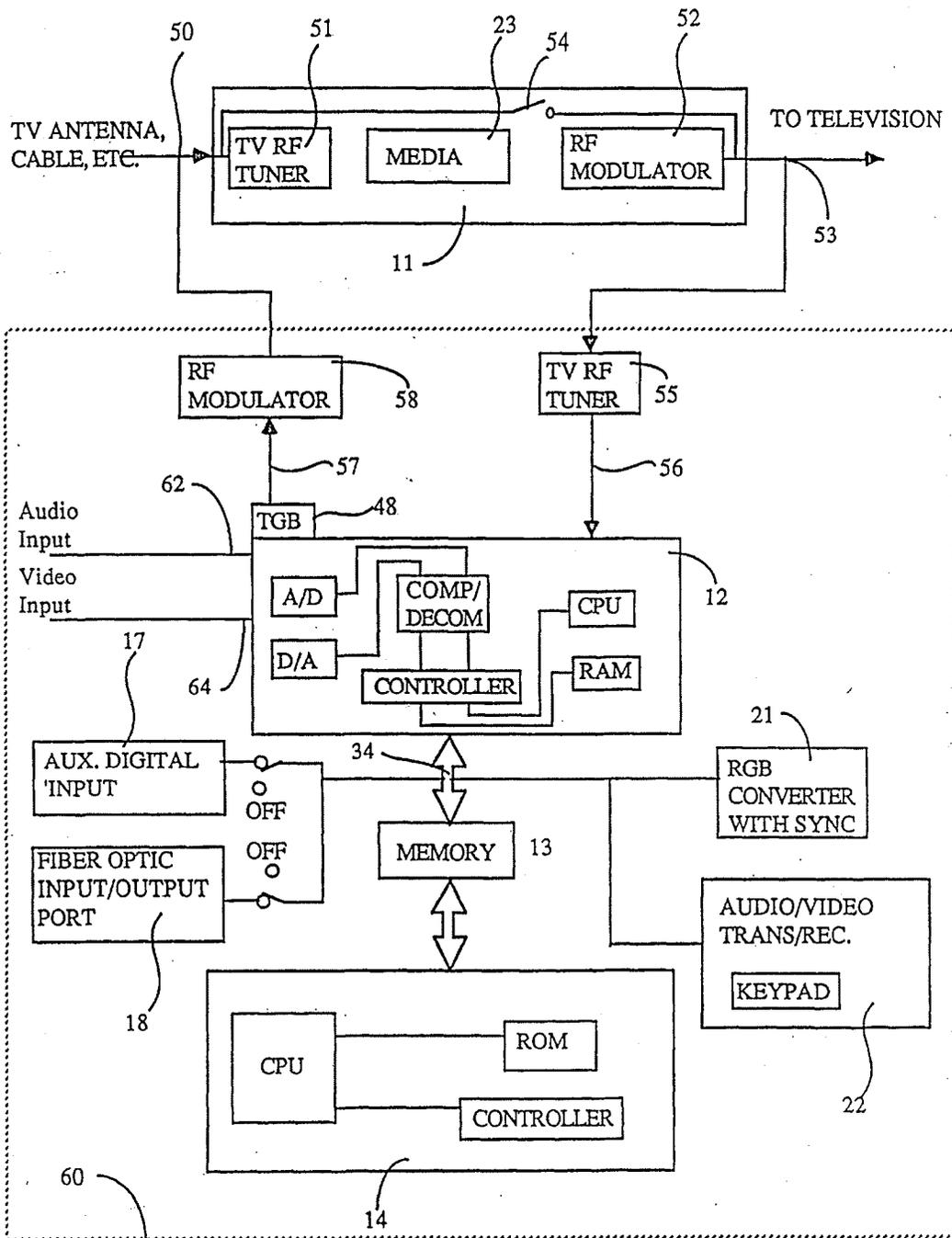


Fig. 3

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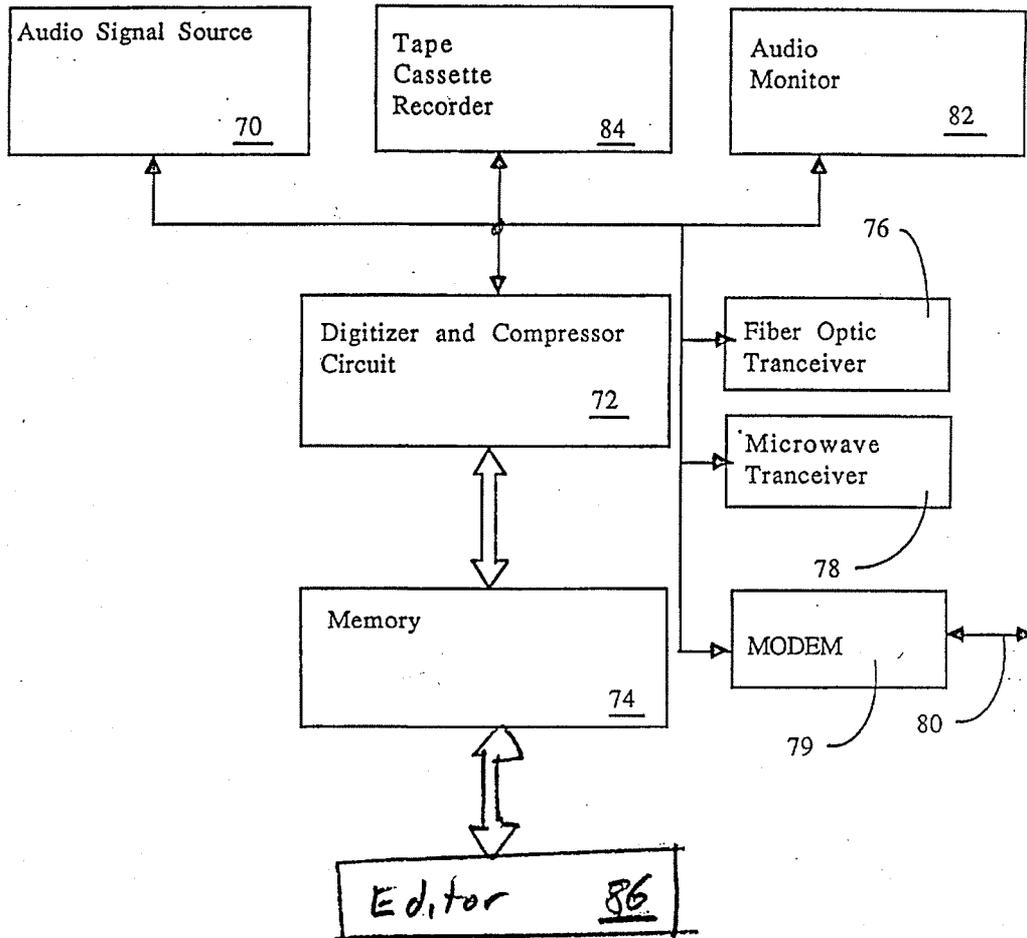


Figure 4

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D. Johnson
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12 288
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Re-a



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Date of Deposit November 14, 1992

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RULE 60 DIVISION-CONTINUATION PROGRAM APPLICATION TRANSMITTAL FORM

Attorney's Docket No. (284)
Prior Application: 07/775,182
Examiner: H. Nguyen
Group Art Unit 2305

THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Dear Sir:

This is a request for filing a divisional application under Rule 60 of pending prior U.S. Patent Application Serial No. 07/775,182 originally entitled AUDIO/VIDEO RECORDER/TRANSCIEVER filed October 11, 1991, by Richard A. Lang.

1. Enclosed is a copy of U.S. Patent Application Serial No. 07/775,182 and of its parent U.S. Patent Application Serial No. 07/347,629, including the declaration, as originally filed. The undersigned attorney of record hereby verifies the enclosed papers to be a true copy of parent application Serial No. 07/775,182 and grandparent application Serial No. 07/347,629 as originally filed. The undersigned states that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

2. Cancel in this application original claims 2-25 of the prior application before calculating the filing fee.

3. The filing fee is calculated below:

TOTAL CLAIMS: 1-20 = 0 EXTRA
INDEPENDENT CLAIMS: 1-3 = 0 EXTRA
BASIC FEE (SMALL ENTITY) = \$355.00
TOTAL FILING FEE ENCLOSED = \$355.00

4. A verified statement claiming small entity status was filed in grandparent application Serial No. 07/347,629. Small entity status is still proper and desired in this Rule 60 divisional application.

5. A check in the amount of \$355.00 is enclosed in payment of the filing fee calculated above.

6. Amend the specification by canceling the paragraph immediately preceding the section heading BACKGROUND OF THE INVENTION on page 1 of the specification and by substituting therefor the following new heading: Reference to Related Applications and Patents-- and the paragraph: --This is a division of application Serial No. 07/775,182 filed October 11, 1991, which is, in turn a

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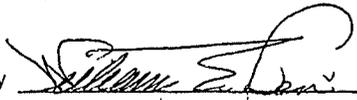
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division of application Serial No. 07/347,629 filed May 5, 1989, which is, in turn, a continuation-in-part of application Serial No. 07/289,776 filed December 27, 1988.-f-

- 7. Copies of the informal drawings as originally filed are enclosed.
- 8. The prior application is assigned of record to Explore Technology, Inc., 7950 East Acoma Drive, Suite 211, Scottsdale, Arizona 85260.
- 9. The power of attorney in the prior application is to William E. Hein, Registration No. 26,465, P.O. Box 335, Loveland, Colorado 80539. Since this power does not appear in the original papers, a copy of the power of attorney to Mr. Hein in the grandparent application is enclosed herewith. Please address all future communications to the attorney of record in the prior application, William E. Hein, P.O. Box 335, Loveland, Colorado 80539.

Respectfully submitted,

Richard A. Lang

By 

William E. Hein
Patent Attorney No. 26,465
P.O. Box 335
Loveland, Colorado 80539

November 14, 1992
(303) 667-6741
Loveland, Colorado

John 07/75/976542
Pre- #5



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I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Plus Office in Addressee" service under 37 CFR 1.10 at the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

William E. Hein

(Type or print name of person mailing paper or fee)

(Signature of person mailing paper or fee)

RULE 60 DIVISION-CONTINUATION PROGRAM APPLICATION TRANSMITTAL FORM

Attorney's Docket No. 284
Prior Application: 07/775,182
Examiner: H. Nguyen
Group Art Unit 2305

THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Dear Sir:

This is a request for filing a divisional application under Rule 60 of pending prior U.S. Patent Application Serial No. 07/775,182 originally entitled AUDIO/VIDEO RECORDER/TRANSCIEVER filed October 11, 1991, by Richard A. Lang.

1. Enclosed is a copy of U.S. Patent Application Serial No. 07/775,182 and of its parent U.S. Patent Application Serial No. 07/347,629, including the declaration, as originally filed. The undersigned attorney of record hereby verifies the enclosed papers to be a true copy of parent application Serial No. 07/775,182 and grandparent application Serial No. 07/347,629 as originally filed. The undersigned states that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

2. Cancel in this application original claims 2-25 of the prior application before calculating the filing fee.

3. The filing fee is calculated below:

TOTAL CLAIMS: 1-20 = 0 EXTRA	
INDEPENDENT CLAIMS: 1-3 = 0 EXTRA	
BASIC FEE (SMALL ENTITY)	= \$355.00
TOTAL FILING FEE ENCLOSED	= \$355.00

4. A verified statement claiming small entity status was filed in grandparent application Serial No. 07/347,629. Small entity status is still proper and desired in this Rule 60 divisional application.

5. A check in the amount of \$355.00 is enclosed in payment of the filing fee calculated above.

6. Amend the specification by canceling the paragraph immediately preceding the section heading BACKGROUND OF THE INVENTION on page 1 of the specification and by substituting therefor the following new heading: --Reference to Related Applications and Patents-- and the paragraph: --This is a division of application Serial No. 07/775,182 filed October 11, 1991, which is, in turn a

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division of application Serial No. 07/347,629 filed May 5, 1989, which is, in turn, a continuation-in-part of application Serial No. 07/289,776 filed December 27, 1988.--.

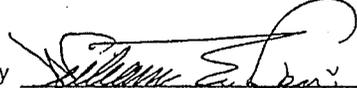
7. Copies of the informal drawings as originally filed are enclosed.

8. The prior application is assigned of record to Explore Technology, Inc., 7950 East Acoma Drive, Suite 211, Scottsdale, Arizona 85260.

9. The power of attorney in the prior application is to William E. Hein, Registration No. 26,465, P.O. Box 335, Loveland, Colorado 80539. Since this power does not appear in the original papers, a copy of the power of attorney to Mr. Hein in the grandparent application is enclosed herewith. Please address all future communications to the attorney of record in the prior application, William E. Hein, P.O. Box 335, Loveland, Colorado 80539.

Respectfully submitted,

Richard A. Lang

By 

William E. Hein
Patent Attorney No. 26,465
P.O. Box 335
Loveland, Colorado 80539

November 14, 1992
(303) 667-6741
Loveland, Colorado

PATENT APPLICATION SERIAL NO. 07/976542

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

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J. Johnson
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Prior art
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IN THE GROUP 260
UNITED STATES PATENT AND TRADEMARK OFFICE
ART UNIT 2615
Examiner

Richard A. Lang
CASE 284
SERIAL NO. 07/976,542
FILED November 16, 1992
SUBJECT AUDIO/VIDEO RECORDER/TRANSCIEVER

THE COMMISSIONER OF PATENTS AND TRADEMARKS
WASHINGTON, D.C. 20231

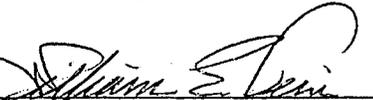
SIR:

INFORMATION DISCLOSURE STATEMENT

Pursuant to the provisions of 37 CFR 1.56, 1.97, and 1.98, applicant cites herein twenty-one U.S. patent references which were cited in parent application Serial No. 07/775,182. Enclosed are two sheets of Form PTO-1449 on which the twenty-one references are cited. Copies of those references are not enclosed since they were submitted in the parent application.

Respectfully submitted,

Richard A. Lang

By 

William E. Hein
Patent Attorney #26,465

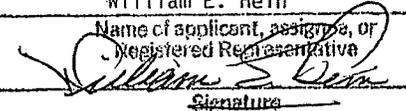
December 19, 1992
(303) 667-6741
Loveland, Colorado

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on December 19, 1992.

Date

William E. Hein

Name of applicant, assignee, or Registered Representative



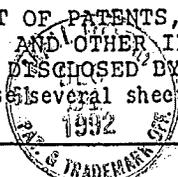
Signature

December 19, 1992

Date

Sheet 1 of 2

LIST OF PATENTS, PUBLICATIONS, AND OTHER INFORMATION DISCLOSED BY APPLICANT (Use several sheets if necessary)	ATTY. DOCKET NO. 284	SERIAL NO. 077976542
	APPLICANT Richard A. Lang	93 JAN 12 AM 7:48
	FILING DATE November 16, 1992	GROUP 260



U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HN	AA	4	1	7	9	7	0	9	7/1979	Workman	353	133	
HN	AB	4	4	0	0	7	1	7	8/1983	Southworth et al.	358	13	
HN	AC	4	5	0	6	3	8	7	5/1985	Walter	455	612	
HN	AD	4	5	1	1	9	3	4	4/1985	Ohira et al.	360	55	
HN	AE	4	5	1	6	1	5	6	5/1985	Fabris et al.	358	85	
HN	AF	4	5	6	3	7	1	0	1/1986	Baldwin	360	9.1	
HN	AG	4	6	2	5	0	8	0	1/1986	Scott	379	104	
HN	AH	4	6	5	4	4	8	4	3/1987	Reiffel et al.	379	53	
HN	AI	4	6	9	8	6	6	4	10/1987	Nichols et al.	358	10	
HN	AJ	4	7	0	9	4	1	8	1/1987	Fox et al.	455	612	
HN	AK	4	7	2	4	4	9	1	2/1988	Lambert	358	310	

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

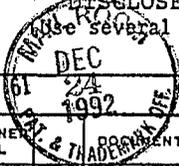
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EXAMINER <i>Huy Nguyen</i>	DATE CONSIDERED <i>4/16/93</i>
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Sheet 2 of 2

LIST OF PATENTS, PUBLICATIONS, AND OTHER INFORMATION DISCLOSED BY APPLICANT (Use several sheets if necessary)	ATTY. DOCKET NO. 284	SERIAL NO. 07-1076-542 08/896727
	APPLICANT Richard A. Lang	
	FILING DATE November 16, 1992	GROUP 2615



U.S. PATENT DOCUMENTS

EXAMINE INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
HW	AA 4 7 3 6 2 3 9	4/1988	Sprague et al.	358	21R	
HW	AB 4 7 4 3 9 5 9	10/1988	Frederiksen	358	11	
HW	AC 4 7 5 0 0 3 4	6/1988	Lem	358	84	
HW	AD 4 7 6 8 1 1 0	8/1988	Dunlap et al.	360	33.1	
HW	AE 4 7 7 4 5 7 4	9/1988	Daly et al.	358	133	
HW	AF 4 8 2 1 2 0 8	4/1989	Ryan et al.	364	518	10/1986
HW	AG 4 8 5 1 9 3 1	7/1989	Parker et al.	360	15	2/1987
HW	AH 4 8 6 8 6 5 3	9/1989	Golin et al.	358	133	10/1987
HW	AI 4 9 1 8 5 2 3	4/1990	Simon et al.	358	133	10/1987
HW	AJ 4 4 4 6 4 9 0	5/1984	Hoshimi et al.	360	32	
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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EXAMINER <i>Huy Nguyen</i>	DATE CONSIDERED 4/16/93
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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE
ART UNIT 2615
Examiner

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Richard A. Lang
CASE 284
SERIAL NO. 07/976,542
FILED November 16, 1992
SUBJECT AUDIO/VIDEO RECORDER/TRANSCIEVER

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GROUP 260

THE COMMISSIONER OF PATENTS AND TRADEMARKS
WASHINGTON, D.C. 20231

SIR:

Preliminary Amendment

Please amend the above-identified Rule 60 divisional patent application by canceling claim 1 and adding claims 26-113 as follows:

26. 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;
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, 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 a burst time period that is shorter than a time period associated with real time viewing of said audio/video source information.

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SUB 27. An audio/video transceiver apparatus as in claim 26 further

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comprising 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; and wherein said output means is 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.

28. An audio/video transceiver apparatus as in claim 27 further comprising monitor means for enabling the user to selectively identify the time compressed representation of said audio/video source information stored in said storage means during editing.

B1 *SOB D 2* 29. An audio/video transceiver apparatus as in claim 26 wherein said output means comprises a fiber optic output port for coupling said audio/video transceiver apparatus to a fiber optic transmission line.

Ant 30. An audio/video transceiver apparatus as in claim 26 wherein said output means comprises a modem for coupling said audio/video transceiver apparatus to a telephone transmission line.

31. An audio/video transceiver apparatus as in claim 26 wherein said storage means comprises an optical disc.

32. An audio/video transceiver apparatus as in claim 26 wherein said storage means comprises a semiconductor memory.

33. An audio/video transceiver apparatus as in claim 26 wherein:
said audio/video source information comprises analog audio/video source information;

said audio/video transceiver apparatus further comprises analog to digital converter means for converting said analog audio/video source information to corresponding digital audio/video source information;

said compression means is operative for compressing said corresponding digital audio/video source information into a digital time compressed representation thereof; and

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

34. An audio/video transceiver apparatus as in claim 26 wherein: said audio/video source information comprises digital audio/video source information;

said compression means is operative for compressing said digital audio/video source information into a digital time compressed representation thereof; and

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

35. An audio/video transceiver apparatus as in claim 33 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.

36. An audio/video transceiver apparatus as in claim 33 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.

37. An audio/video transceiver apparatus as in claim 33 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.

38. An audio/video transceiver apparatus as in claim 33 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 television transmitter.

39. An audio/video transceiver apparatus as in claim 33 wherein said input means comprises television RF tuner means coupled to an external cable television system and said analog audio/video source information comprises

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information received from said external cable television system.

40. An audio/video transceiver apparatus as in claim 34 wherein said input means is coupled to an external computer and said digital audio/video source information comprises computer-generated audio/video information.

41. An audio/video transceiver apparatus as in claim 34 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.

42. 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 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} ~~serially~~ transmitting said time compressed representation of said audio/video source information away from said audio/video transceiver apparatus.

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43. An audio/video transceiver apparatus as in claim 42 wherein:

said input means comprises a fiber optic input port;

said input means is coupled, via a fiber optic transmission line, to 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 said fiber optic transmission line, by the user.

44. An audio/video transceiver apparatus as in claim 42 in combination with a video library, coupled via a communication link with said audio/video transceiver apparatus, 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.

45. An audio/video transceiver apparatus as in claim 26 further comprising:

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

editing means, coupled to said storage means and decompression means, for editing said selectively decompressed time compressed 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 storage means.

46. An audio/video transceiver apparatus as in claim 26 further comprising:

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

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

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

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

47. An audio/video transceiver apparatus as in claim 26 further comprising:

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

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

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48. An audio/video transceiver apparatus as in claim 33 further comprising:

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

editing means, coupled to said 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.

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49. An audio/video transceiver apparatus as in claim 48 further 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.

50. An audio/video transceiver apparatus as in claim 33 further comprising:

decompression means, coupled to said storage means, for selectively decompressing the digital time compressed representation of said corresponding

digital audio/video source information stored in said 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.

51. An audio/video transceiver apparatus as in claim 34 further
comprising:

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

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

52. An audio/video transceiver apparatus as in claim 51 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.

53. An audio/video transceiver apparatus as in claim 34 further
comprising:

decompression means, coupled to said 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.

54. An audio/video transceiver apparatus as in claim 33 further
comprising a video tape recorder for providing said analog audio/video source
information.

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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:
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.

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56. An audio/video information transfer network as in claim 55 wherein said input means of one of said plurality of audio/video transceivers comprises a fiber optic input port, said output means of another one of said plurality of audio/video transceivers comprises a fiber optic output port, and one of said one or more communications links comprises a fiber optic transmission line coupled between said fiber optic input port and said fiber optic output port.

57. An audio/video information transfer network as in claim 55 wherein said output means of one of said plurality of audio/video transceivers comprises a modem and one of said one or more communications links comprises a telephone transmission line.

58. An audio/video information transfer network as in claim 55 wherein

said storage means comprises an optical disc memory.

59. An audio/video information transfer network as in claim 55 wherein said storage means comprises a semiconductor memory.

60. An audio/video information transfer network as in claim 55 wherein said storage means of one of said plurality of audio/video transceivers stores a library comprising a multiplicity of items of 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.

61. An audio/video information transfer network as in claim 55 wherein at least one of said audio/video transceivers further comprises 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 storage means onto said removable recording medium.

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62. An audio/video information transfer network as in claim 55 wherein at least one of said audio/video transceivers further comprises:

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

63. An audio/video information transfer network as in claim 61 wherein said recording means comprises a video tape recorder and said removable recording medium comprises magnetic tape.

64. An audio/video information transfer network as in claim 62 wherein said recording means comprises a video tape recorder and said removable recording medium comprises magnetic tape.

65. An audio/video information transfer network as in claim 61 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.

66. An audio/video information transfer network as in claim 62 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.

67. An audio/video information transfer network as in claim 61 wherein said recording means comprises an erasable optical disc drive and said hard copy storage medium comprises one or more erasable optical discs.

68. An audio/video information transfer network as in claim 62 wherein said recording means comprises an erasable optical disc drive and said hard copy storage medium comprises one or more erasable optical discs.

69. An audio/video transceiver apparatus as in claim 26 further comprising recording means, including a removable recording medium, coupled to said storage means, for storing the time compressed representation of said audio/video source information stored in said storage means onto said removable recording medium.

70. An audio/video transceiver apparatus as in claim 27 further comprising recording means, including a removable recording medium, coupled to said storage means, for storing the edited time compressed representation of said audio/video source information stored in said storage means onto said removable recording medium.

71. An audio/video transceiver apparatus as in claim 70 further 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.

SUBD4 72. An audio/video transceiver apparatus as in claim 42 further comprising recording means, including a removable recording medium, coupled to said storage means, for storing the time compressed representation of said audio/video source information stored in said storage means onto said removable recording medium.

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73. An audio/video transceiver apparatus as in claim 45 further comprising recording means, including a removable recording medium, coupled to said storage means, for storing the edited decompressed time compressed representation of said audio/video source information stored in said random access storage means.

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SUBD5 74. An audio/video transceiver apparatus as in claim 26 further comprising:

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

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

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75. An audio/video transceiver apparatus as in claim 47 further comprising:

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

76. An audio/video transceiver apparatus as in claim 34 further comprising CD-ROM means for providing said digital audio/video source information.

77. An audio/video transceiver apparatus as in claim 34 further comprising erasable optical disc means for providing said digital audio/video source information.

SUBD6 78. An audio/video transceiver apparatus as in claim 42 wherein:

said input means comprises television RF tuner means; and
said audio/video source information comprises a time compressed
representation thereof transmitted by a remotely located television
transmitter.

79. An audio/video transceiver apparatus as in claim 26 further
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 storage means onto magnetic tape.

80. An audio/video transceiver apparatus as in claim 27 further
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 storage means onto magnetic tape.

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81. An audio/video transceiver apparatus as in claim 42 further
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 storage means onto magnetic tape.

82. An audio/video transceiver apparatus as in claim 45 further
comprising external video tape recorder means, coupled to said output means,
for storing the edited decompressed time compressed representation of said
audio/video source information stored in said storage means onto magnetic
tape.

SUBD8 83. An audio/video transceiver apparatus as in claim 26 further
comprising:

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

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 storage means.

84. An audio/video transceiver apparatus as in claim 47 further

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.

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

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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 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

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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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86. An audio/video transceiver apparatus as in claim 85 further comprising time base generator means for supplying timing information for association with said time compressed representation of said digital or corresponding digital audio/video source information.

87. An audio/video transceiver apparatus as in claim 85 further comprising audio/video recording means, including a recording medium, for recording said analog or corresponding analog audio/video source information onto said recording medium.

88. An audio/video transceiver apparatus as in claim 85 further comprising audio/video recording means, including a recording medium, for recording said digital or corresponding digital audio/video source information onto said recording medium.

89. An audio/video transceiver apparatus as in claim 87 wherein said recording medium comprises magnetic tape.

90. An audio/video transceiver apparatus as in claim 88 wherein said recording medium comprises magnetic tape.

91. An audio/video transceiver apparatus as in claim 88 wherein said recording medium comprises a CD-ROM.

92. An audio/video transceiver apparatus as in claim 88 wherein said recording medium comprises a WORM optical disc.

93. An audio/video transceiver apparatus as in claim 88 wherein said

recording medium comprises an erasable optical disc.

94. An audio/video transceiver apparatus as in claim 85 further comprising audio/video recording and playback means coupled to said input means for providing said analog and/or digital audio/video source information.

95. An audio/video transceiver apparatus as in claim 85 further comprising high speed bus means coupled to said input means, and wherein said input means comprises auxiliary digital input means for receiving said digital audio/video source information.

96. An audio/video transceiver apparatus as in claim 95 wherein said high speed bus means comprises an optical bus.

97. An audio/video transceiver apparatus as in claim 85 further comprising high speed bus means coupled to said input means, and wherein said input means comprises fiber optic input means for receiving said digital audio/video source information.

98. An audio/video transceiver apparatus as in claim 85 further 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 storage means via said high speed bus means.

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SUB E3 99. An audio/video transceiver apparatus as in claim 85 further 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;

said additional central processing unit means being operative for selectively executing the microinstructions stored in said read-only memory