AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court CENTRAL DISTRICT OF CALIFORNIA on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT CENTRAL DISTRICT OF CALIFORNIA
PLAINTIFF JOHNSON SAFETY, INC.		DEFENDANT VOXX INTERNATIONAL CORPORATION, VOXX ELECTRONICS CORPORATION, and INVISION AUTOMOTIVE SYSTEMS INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,871,356	3/22/2005	Johnson Safety, Inc.
2	7,267,402	9/11/2007	Johnson Safety, Inc.
3	7,379,125	5/27/2008	Johnson Safety, Inc.
4	7,448,679	11/11/2008	Johnson Safety, Inc.
5	7,894,003	2/22/2011	Johnson Safety, Inc.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 6,871,356 B2
DATED : March 22, 2005
INVENTOR(S) : Chung L. Chang

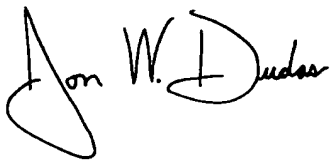
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page,
Item [74], *Attorney, Agent, or Firm*, delete "Knobee" and insert -- Knobbe --.

Column 18,
Line 36, delete "coupled" and insert -- couple --.

Signed and Sealed this

Twenty-fourth Day of January, 2006



JON W. DUDAS
Director of the United States Patent and Trademark Office

10/361897

cofc #

Knobbe Martens Olson & Bear LLP

Intellectual Property Law

2040 Main Street
Fourteenth Floor
Irvine, CA 92614
Tel 949-760-0404
Fax 949-760-9502
www.kmob.com

Andrew M. Douglas

November 29, 2005

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Re: Title: MOBILE VIDEO SYSTEM
Letters Patent No. 6,871,356
Issued: March 22, 2005
Our Reference: JHNSF.014A

Dear Sir:

Enclosed for filing is a Certificate of Correction in connection with the above-identified patent.

As the errors cited in the Certificate of Correction were incurred through the fault of the Applicant, enclosed is our check in the amount of $100. Please charge any additional fees to our Deposit Account No. 11-1410.

12/02/2005 HDEMESS1 00000003 6871356
01 FC:1811 100.00 OP

Respectfully submitted,

Knobbe, Martens, Olson & Bear, LLP

Andrew M. Douglas
Registration No. 51,212
Customer No. 20,995

Enclosures

2120754
112905

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,871,356

DATED : March 22, 2005

INVENTOR(S): Chung L. Chang

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

At line (74) of the cover sheet, for the *Attorney, Agent, or Firm*, delete "Knobee" and insert -- Knobbe --, therefore.

At column 18, line 36, in Claim 5, delete "coupled" and insert -- couple --, therefore.

MAILING ADDRESS OF SENDER:

Andrew M. Douglas
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street, 14th Floor
Irvine, California 92614

PATENT NO. 6,871,356

2100419
November 29, 2005

JHNSF.014A

FORM PTO 1050
2100419
112805

No. of add'l. copies
@ 50¢ per page
1

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20995 7590 11/17/2004

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

01/26/2005 YPOLITE2 00000124 10361897

01 FC:2501 700.00 OP
02 FC:1504 300.00 OP
03 FC:8001 30.00 OP

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

Andrew M. Douglas	(Depositor's name)
[signature]	(Signature)
JANUARY 20, 2005	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/361,897	02/07/2003	Chung L. Chang	JHNSF.014A	7412

TITLE OF INVENTION: MOBILE VIDEO SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	~~$685~~ 700	$300	~~$985~~ 1000	02/17/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
USTARIS, JOSEPH G	2616	725-075000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Knobee, Martens,
2 Olson & Bear LLP
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Johnson Safety, Inc.
(B) RESIDENCE: (CITY and STATE OR COUNTRY): San Bernardino, CA

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:
☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☒ Advance Order - # of Copies 10

4b. Payment of Fee(s):
☒ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 11-1410 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature [signature] Date JANUARY 20, 2005

Typed or printed name Andrew M. Douglas Registration No. 51,212

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20995 7590 11/17/2004

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
USTARIS, JOSEPH G	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 11/17/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/361,897	02/07/2003	Chung L. Chang	JHNSF.014A	7412

TITLE OF INVENTION: MOBILE VIDEO SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$685	$300	$985	02/17/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 11/04) Approved for use through 04/30/2007.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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20995 7590 11/17/2004

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FOURTEENTH FLOOR
IRVINE, CA 92614

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/361,897	02/07/2003	Chung L. Chang	JHNSF.014A	7412

TITLE OF INVENTION: MOBILE VIDEO SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$685	$300	$985	02/17/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
USTARIS, JOSEPH G	2616	725-075000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:
- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):
- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

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NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/361,897	02/07/2003	Chung L. Chang	JHNSF.014A	7412

20995 7590 11/17/2004

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
USTARIS, JOSEPH G	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 11/17/2004

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

PTOL-85 (Rev. 11/04) Approved for use through 04/30/2007.

Notice of Allowability	Application No.	Applicant(s)
	10/361,897	CHANG, CHUNG L.
	Examiner	Art Unit
	Joseph G Ustaris	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *an RCE dated 27 August 2004*.

2. ☒ The allowed claim(s) is/are *25-33*.

3. ☒ The drawings filed on *17 December 2003* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

ANDREW FAILE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward Schlatter on November 8, 2004.

The application has been amended as follows:

- Cancel claims 34 and 35.

Allowable Subject Matter

2. Claims 25-33 are allowed in light of the amendments.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph G Ustaris whose telephone number is 703-305-0377. The examiner can normally be reached on M-F 7:30-5PM; Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew I Faile can be reached on 703-305-4380. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGU
November 8, 2004

ANDREW FAILE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Interview Summary	Application No.	Applicant(s)	
	10/361,897	CHANG, CHUNG L.	
	Examiner	Art Unit	
	Joseph G Ustaris	2616	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Joseph G Ustaris*. (3)_____.

(2) *Edward Schlatter*. (4)_____.

Date of Interview: *08 November 2004*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *34 and 35*.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Agreed to cancel claims 34 and 35*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

_____
Examiner's signature, if required

Issue Classification	Application No.	Applicant(s)	
	10/361,897	CHANG, CHUNG L.	
	Examiner	Art Unit	
	Joseph G Ustaris	2616	

ISSUE CLASSIFICATION

ORIGINAL					CLASS	CROSS REFERENCE(S)							
CLASS				SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)							
725				75	348	837							
INTERNATIONAL CLASSIFICATION					381	86							
H	0	4	N	7/18									
H	0	4	N	5/64									
H	0	4	B	1/00									
				/									
				/									

Joseph G. Ustaris 11/08/2004
(Assistant Examiner) (Date)

MJackson 11/15/04
(Legal Instruments Examiner) (Date)

ANDREW FAILE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

(Primary Examiner) (Date) 11/12/04

Total Claims Allowed: 9

O.G. Print Claim(s)	O.G. Print Fig.
25	6

☒ **Claims renumbered in the same order as presented by applicant** ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		31		61		91		121		151		181
	2		32		62		92		122		152		182
	3		33		63		93		123		153		183
	4		34		64		94		124		154		184
	5		35		65		95		125		155		185
	6		36		66		96		126		156		186
	7		37		67		97		127		157		187
	8		38		68		98		128		158		188
	9		39		69		99		129		159		189
	10		40		70		100		130		160		190
	11		41		71		101		131		161		191
	12		42		72		102		132		162		192
	13		43		73		103		133		163		193
	14		44		74		104		134		164		194
	15		45		75		105		135		165		195
	16		46		76		106		136		166		196
	17		47		77		107		137		167		197
	18		48		78		108		138		168		198
	19		49		79		109		139		169		199
	20		50		80		110		140		170		200
	21		51		81		111		141		171		201
	22		52		82		112		142		172		202
	23		53		83		113		143		173		203
	24		54		84		114		144		174		204
	25		55		85		115		145		175		205
	26		56		86		116		146		176		206
	27		57		87		117		147		177		207
	28		58		88		118		148		178		208
	29		59		89		119		149		179		209
	30		60		90		120		150		180		210

JHH/RF 014A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang
Appl. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Group Art Unit	:	2611

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

July 8, 2004
(Date)

Edward A. Schlatter, Reg. No. 32,297

RESPONSE TO OFFICE ACTION OF FEBRUARY 26, 2004

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This paper is filed in response to the Office Action mailed February 26, 2004 (the Office Action).

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Summary of Interview begins on page 7 of this paper.

Remarks/Arguments begin on page 8 of this paper.

PLEASE ENTER

Joseph G. Ustaris

11/8/04

SEARCH

Class	Sub.	Date	Exmr.
725	75	7/31/03	J.U.
725	76-77	7/31/03	J.U
348	837	7/31/03	J.U
348	838	7/31/03	J.U
381	86	7/31/03	J.U
455	345	7/31/03	J.U
455	154.1	7/31/03	J.U.
455	157.2	7/31/03	J.U.
455	158.2	7/31/03	J.U.
455	151.1	7/31/03	J.U.
455	151.2	7/31/03	J.U
455	152.1	7/31/03	J.U.
SEARCH ABOVE UPDATED		2/10/04	JU
SEARCH ABOVE UPDATED		11/8/04	JU

INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.
725	75	11/8/04	JU
348	837	11/8/04	JU
381	86	11/8/04	JU

SEARCH NOTES

(List databases searched. Attach search strategy inside.)

	Date	Exmr.
Vivek Srivastava 348	7/31/03	J.U.
Nguyen VO CL 455	7/31/03	J.U
EAST TEXT SEARCH ENCLOSED	7/31/03	J.U.
SEE EAST SEARCH ATTACHED	11/8/04	JU

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	26	(725/75).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/02/09 13:36
S2	1	("4647980").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/30 16:26
S3	1	("6304173").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/30 16:26
S4	46	(348/837).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 08:11
S5	448	(381/86).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 11:14
S6	251	((381/86).CCLS.) and frequency	US-PGPUB; USPAT	OR	OFF	2003/07/31 09:04
S7	43	(((381/86).CCLS.) and frequency) and (indicator status)	US-PGPUB; USPAT	OR	OFF	2003/07/31 09:08
S8	165	(((381/86).CCLS.) and frequency) and select$3	US-PGPUB; USPAT	OR	OFF	2003/07/31 09:31
S9	11	((((381/86).CCLS.) and frequency) and select$3) and headrest	US-PGPUB; USPAT	OR	OFF	2003/07/31 09:49
S10	439	(455/345).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 09:50
S11	4	((455/345).CCLS.) and headrest	US-PGPUB; USPAT	OR	OFF	2003/07/31 09:51
S12	205	((455/345).CCLS.) and select$3	US-PGPUB; USPAT	OR	OFF	2003/07/31 09:52
S13	143	(((455/345).CCLS.) and select$3) and (indicator frequenc$4)	US-PGPUB; USPAT	OR	OFF	2003/07/31 09:53
S14	46	(348/837).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 11:15
S15	182	(348/825).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 11:17
S16	1	((348/825).CCLS.) and headrest	US-PGPUB; USPAT	OR	OFF	2003/07/31 11:19
S17	9	((348/825).CCLS.) and tilt	US-PGPUB; USPAT	OR	OFF	2003/07/31 11:21
S18	4	((348/825).CCLS.) and motor	US-PGPUB; USPAT	OR	OFF	2003/07/31 11:21

S19	64	(725/76-77).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 11:23
S20	439	(455/345).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 12:13
S21	133	((455/345).CCLS.) and frequency and select$3	US-PGPUB; USPAT	OR	OFF	2003/07/31 12:17
S22	4	((455/345).CCLS.) and headrest	US-PGPUB; USPAT	OR	OFF	2003/07/31 12:15
S23	242	455/154.1	US-PGPUB; USPAT	OR	OFF	2003/07/31 12:17
S24	148	455/154.1 and frequency and select$3	US-PGPUB; USPAT	OR	OFF	2003/07/31 12:21
S25	50	(455/154.1 and frequency and select$3) and indicator	US-PGPUB; USPAT	OR	OFF	2003/07/31 13:42
S26	62	455/157.2	US-PGPUB; USPAT	OR	OFF	2003/07/31 13:43
S27	9	455/157.2 and frequency and selector	US-PGPUB; USPAT	OR	OFF	2003/07/31 13:46
S28	53	(455/159.2).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 13:46
S29	30	("3028488" | "3546386" | "4069455" | "4130801" | "4507646" | "4734897" | "5073976" | "5161251" | "5214787" | "5239540" | "5319716" | "5408686" | "5444675" | "5448757" | "5455823" | "5490284" | "5526284" | "5572442" | "5732324" | "5794138" | "5797088" | "5828951" | "5862235" | "5867794" | "5910866" | "5970390" | "6002924" | "6023616" | "6052603" | "6272328").PN.	USPAT	OR	OFF	2003/07/31 14:00
S30	209	(455/151.1-151.2).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 14:20
S31	40	((455/151.1-151.2).CCLS.) and frequency and indicator	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:11
S32	65	(455/152.1).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2003/07/31 14:26
S33	10	((455/152.1).CCLS.) and indicator	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:20

S34	3650	"remote control" and frequency and indicator	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:27
S35	756	("remote control" and frequency and indicator) and vehicle	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:27
S36	316	(("remote control" and frequency and indicator) and vehicle) and audio	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:28
S37	167	((("remote control" and frequency and indicator) and vehicle) and audio) and car	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:30
S38	109	((((("remote control" and frequency and indicator) and vehicle) and audio) and car) and wireless	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:30
S39	274	"wireless remote" and frequency and indicator	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:36
S40	66	("wireless remote" and frequency and indicator) and vehicle	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:36
S41	35493	remote and wireless	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:52
S42	20325	(remote and wireless) and frequency	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:52
S43	10518	((remote and wireless) and frequency) and (indicator or status)	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:53
S44	2417	(((remote and wireless) and frequency) and (indicator or status)) and vehicle	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:53
S45	967	((((remote and wireless) and frequency) and (indicator or status)) and vehicle) and car	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:53
S46	565	(((((remote and wireless) and frequency) and (indicator or status)) and vehicle) and car) and audio	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:54
S47	565	((((((remote and wireless) and frequency) and (indicator or status)) and vehicle) and car) and audio) and remote	US-PGPUB; USPAT	OR	OFF	2003/07/31 14:54
S48	1	"6409242".pn.	US-PGPUB; USPAT	OR	OFF	2004/02/09 12:09
S49	2787	(video$2 near5 (tilt$2 or angle$2)) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/02/09 15:43
S50	6	(video$2 near5 (tilt$2 or angle$2) near5 hinge$2) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/02/09 15:44
S51	7	(video$2 near5 (tilt$2 or angle$2) near5 seat$2) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/02/09 15:47

S52	24	(video$2 near5 (tilt$2 or angle$2) with seat$2) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/02/09 15:47
S53	1	("6532592").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/11/03 14:24
S54	116	(headrest$1 (headadj2rest$1)) same screen$1	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:09
S55	11	("5100098" | "5173686" | "6020867" | "D324040" | "D376588" | "D405781" | "D415147" | "D422575" | "D438849" | "D439567" | "D446193").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/11/03 10:44
S56	19	(headrest$1 (headadj2rest$1)) same screen$1 same (pivot$5)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:14
S57	0	("2004/0212745").URPN.	USPAT	OR	OFF	2004/11/03 11:10
S58	5	(headrest$1 (headadj2rest$1)) same screen$1 same (hinge$3)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:17
S59	14	(headrest$1 (headadj2rest$1)) same (video$1 screen$1) same (hinge$3)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:26
S60	1742	(video$1 screen$1) same (hinge$3) same (pivot$4)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:26
S61	469	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:31
S62	19	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (vehicle$1)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:28
S63	26	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (vehicle$1 car$1)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:29
S64	7	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (car$1)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:29
S65	398	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (screen$1)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:30
S66	13	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (passenger$1)	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:30
S67	404	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:33
S68	227	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (top$1 upper$1) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:34

S69	31	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (top$1 upper$1) same (adjacent$1) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/11/03 11:35
S70	72	(video$1 screen$1) same (hinge$3) same (pivot$4) same (hous$3) same (out$1 outward$3) and @ay<"2002"	US-PGPUB; USPAT	OR	OFF	2004/11/03 13:23
S71	1	"6695376".pn.	US-PGPUB; USPAT	OR	OFF	2004/11/03 13:23
S72	0	("chang.in.").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2004/11/03 14:24
S73	21396	chang.in.	US-PGPUB; USPAT	OR	OFF	2004/11/03 14:24
S74	1	"20040032543".pn.	US-PGPUB; USPAT	OR	OFF	2004/11/03 14:26

PATENT RCE IFW

Attorney Docket No.: JHNSF.014A
Date: August 25, 2004

REQUEST FOR CONTINUED EXAMINATION (RCE)
UNDER 37 C.F.R. § 1.114

Applicant:	Chung L. Chang
Application Number:	10/361,897
Filing Date:	February 7, 2003
Title:	MOBILE VIDEO SYSTEM
Examiner Name:	Joseph G. Ustaris
Group Art Unit:	2616

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Mail Stop RCE, Alexandria, VA 22313-1450, on

August 25, 2004
(Date)

Andrew M. Douglas, Reg. No. 51,212

Commissioner for Patents
P.O. Box 1450
Mail Stop RCE
Alexandria, VA 22313-1450

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

Submission Required under 37 C.F.R. § 1.114:

(X) Previously submitted:
(X) Consider the amendment/reply under 37 C.F.R. § 1.116 previously filed on July 8, 2004.

(X) Enclosed:
(X) Return Postcard

Fees:

(X) RCE fee ($385 small entity)

(X) Third Month ($475) Extension of Time fee:

Payment:

(X) Check in the amount of $860 to cover the above fees.

(X) The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. § 1.16 and § 1.17 which may be required, now or in the future, or credit any overpayment to Deposit Account No. 11-1410.

Address all future communications to Customer No. 20,995.

Dated: August 25, 2004

Andrew M. Douglas
Registration No. 51,212
Attorney of Record
Customer No. 20,995
(949) 760-0404

08/30/2004 YPOLITE1 00000015 10361897

01 FC:2801 385.00 OP
02 FC:2253 475.00 OP

H:\DOCS\AMD\AMD-6386.DOC:rdc/082504

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/361,897	02/07/2003	Chung L. Chang	JHNSF.014A	7412

20995 7590 08/23/2004

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
USTARIS, JOSEPH G	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	10/361,897	CHANG, CHUNG L.	
	Examiner	Art Unit	
	Joseph G Ustaris	2616	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 July 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☒ The proposed amendment(s) will not be entered because:

   (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *See Continuation Sheet*.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☐ The a)☐ affidavit, b)☐ exhibit, or c)☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☐ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: _____.

   Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☐ Other: _____

Continuation of 2. NOTE: The amendments made to the independent claims, "the viewing screen facing the passenger compartment when the screen structure is in a stowed position" change the scope of the claims thereby requiring a new search..

VIVEK SRIVASTAVA
PRIMARY EXAMINER

OIPE JC48
JUL 1 2 2004
PATENT & TRADEMARK OFFICE

JHNSF.014A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang
Appl. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Group Art Unit	:	2611

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

July 8, 2004
(Date)

[signature]
Edward A. Schlatter, Reg. No. 32,297

RESPONSE TO OFFICE ACTION OF FEBRUARY 26, 2004

RECEIVED
JUL 1 5 2004
Technology Center 2600

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This paper is filed in response to the Office Action mailed February 26, 2004 (the Office Action).

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Summary of Interview begins on page 7 of this paper.

Remarks/Arguments begin on page 8 of this paper.

DO NOT ENTER
Joseph G. [signature]
8/13/04

AF/2614

PATENT

Case Docket No. JHNSF.014A
Date: July 8, 2004

In re application of	:	Chung L. Chang
App. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Art Unit	:	2611

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July 8, 2004
(Date)

Edward A. Schlatter, Reg. No. 32,297

MAIL STOP AF
COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an amendment in the above-identified application.

(X) An extension of time to respond for 2 months is hereby requested.

Time Extension Fee:

(X) two month ($210 small entity)

The fee has been calculated as shown below:

CLAIMS AS FILED

	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
Total Claims	11	—	29	= 0 ×	$9	= $0
Independent Claims	4	—	5	= 0 ×	$43	= $0
If application has been amended to contain multiple dependent claim(s), then add					$145	= $0
Time Extension Fee						$210
				TOTAL ADDITIONAL FEE FOR THIS AMENDMENT		$210

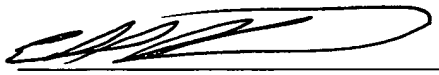
07/14/2004 HALI11 00000006 10361897
01 FC:2252 210.00 OP

(X) The present application qualifies for small entity status under 37 C.F.R. § 1.27.

(X) Return prepaid postcard.

(X) A check in the amount of $210 is enclosed.

(X) Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.



Edward A. Schlatter
Registration No. 32,297
Attorney of Record
Customer No. 20,995
(949) 760-0404

H:\DOCS\AMD\AMD-6146.DOC
070604

JHF 014A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang
Appl. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Group Art Unit	:	2611

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

July 8, 2004
(Date)

Edward A. Schlatter, Reg. No. 32,297

RESPONSE TO OFFICE ACTION OF FEBRUARY 26, 2004

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This paper is filed in response to the Office Action mailed February 26, 2004 (the Office Action).

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Summary of Interview begins on page 7 of this paper.

Remarks/Arguments begin on page 8 of this paper.

AF/2614

PATENT

Case Docket No. JHNSF.014A
Date: July 8, 2004

In re application of	:	Chung L. Chang
App. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Art Unit	:	2611

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July 8, 2004
(Date)

Edward A. Schlatter, Reg. No. 32,297

MAIL STOP AF
COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an amendment in the above-identified application.

(X) An extension of time to respond for 2 months is hereby requested.

Time Extension Fee:

(X) two month ($210 small entity)

The fee has been calculated as shown below:

CLAIMS AS FILED

	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
Total Claims	11	—	29	= 0 ×	$9	= $0
Independent Claims	4	—	5	= 0 ×	$43	= $0
If application has been amended to contain multiple dependent claim(s), then add					$145	= $0
Time Extension Fee						$210
				TOTAL ADDITIONAL FEE FOR THIS AMENDMENT		$210

07/14/2004 HALI11 00000006 10361897
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(X) Return prepaid postcard.

(X) A check in the amount of $210 is enclosed.

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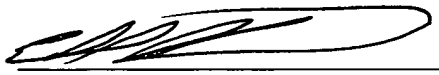

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070604

JHF 014A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang
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July 8, 2004
(Date)

Edward A. Schlatter, Reg. No. 32,297

RESPONSE TO OFFICE ACTION OF FEBRUARY 26, 2004

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This paper is filed in response to the Office Action mailed February 26, 2004 (the Office Action).

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Summary of Interview begins on page 7 of this paper.

Remarks/Arguments begin on page 8 of this paper.

AMENDMENTS TO THE CLAIMS

1.-24. **(Canceled)**

25. **(Currently Amended)** A mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor, the floor having formed therein a plurality of apertures configured to receive fasteners for securely mounting the first video monitor to the headrest of the first seat; and

a screen structure comprising a viewing screen and a second hinge portion adjacent an upper edge thereof, the viewing screen facing the passenger compartment when the screen structure is in a stowed position, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, access is provided to the apertures;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

26. **(Previously Presented)** The mobile video system of Claim 25, wherein the plurality of apertures comprises four apertures.

27. **(Previously Presented)** The mobile video system of Claim 25, further comprising an aperture formed in the housing configured to receive an input cable.

28. **(Previously Presented)** The mobile video system of Claim 25, wherein the motorized land vehicle further comprises a second seat having a second headrest, the second video monitor mounted to the second headrest of the second seat.

29. **(Currently Amended)** A mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor, the floor having an aperture formed therein;

a screen structure comprising a viewing screen and a second hinge portion adjacent an upper edge thereof, the viewing screen facing the passenger compartment when the screen structure is in a stowed position, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, access is provided to the aperture; and

a fastener configured to be advanced through the aperture and to coupled with the headrest of the first seat to secure the first video monitor thereto;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

30. **(New)** The mobile video system of Claim 29, comprising a plurality of apertures formed in the floor of the housing and a corresponding plurality of fasteners configured to be advanced through the apertures.

31. **(New)** The mobile video system of Claim 30, wherein the plurality of apertures comprises four apertures.

32. **(New)** The mobile video system of Claim 29, further comprising an aperture formed in the housing configured to receive an input cable.

33. **(New)** The mobile video system of Claim 29, wherein the motorized land vehicle further comprises a second seat having a second headrest, the second video monitor mounted to the second headrest of the second seat.

34. **(New)** A mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor, the floor having formed therein a plurality of apertures configured to receive fasteners for securely mounting the first video monitor to the headrest of the first seat; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, access is provided to the apertures, wherein the screen structure is interposed between a viewer and the apertures along a line of sight of the viewer when the screen structure is pivoted out to a desired viewing position;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

35. (**New**) A mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor, the floor having an aperture formed therein;

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen

structure is pivoted outward from the housing, access is provided to the aperture, wherein the screen structure is interposed between a viewer and the aperture along a line of sight of the viewer when the screen structure is pivoted out to a desired viewing position; and

a fastener configured to be advanced through the aperture and to coupled with the headrest of the first seat to secure the first video monitor thereto;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

SUMMARY OF INTERVIEW

Exhibits and/or Demonstrations

None

Identification of Claims Discussed

29

Identification of Prior Art Discussed

- Hays et al. (U.S. Application Publication No. US 2003/0020842 A1)
- Steventon et al. (U.S. Patent No. 4,647,980)
- Norvell et al. (U.S. Application Publication No. US 2003/0137584 A1)
- Nagata et al. (U.S. Application Publication No. US 2002/0149708 A1)
- Ceccanese et al. (U.S. Patent No. 6,412,848)

Proposed Amendments

As set forth in the *Interview Summary* composed by Examiner Srivastava.

Principal Arguments and Other Matters

The pending claims and proposed amended claims overcome the prior art of record.

Results of Interview

Applicant to submit proposed amended claims for consideration.

REMARKS

Applicant initially would like to thank Examiners Ustaris and Srivastava for courtesies extended to Applicant's representative in connection with an interview held on June 25, 2004, summarized above.

By way of summary, Claims 1-29 were pending in this application. Claims 1-24 are canceled herein. Claims 25 and 29 are amended herein. Claims 30-35 are added herein. Accordingly, Claims 25-35 remain pending for consideration.

Applicant does not agree that Claims 1-29 submitted in the *Response to Office Action of August 7, 2003* are not allowable. In particular, Applicant does not agree that the references relied upon by the Examiner to reject the claims teach or suggest all of the limitations of those claims. Nor does Applicant concede that proposed combinations of references set forth in the Office Action are proper. However, to more clearly distinguish the prior art and to expedite allowance of this application, Claims 25 and 29 have been amended, as set forth above. Applicant respectfully submits that Claims 25 and 29 are patentably distinguished over the references cited by the Examiner, and Applicant requests allowance of Claims 25 and 29. Claims 26-28 depend from Claim 25 and further defines the invention defined in Claim 25. For at least the reasons set forth above with respect to Claim 25, Applicant respectfully submits that Claims 26-28 are patentably distinguished over the cited references. Claims 26-28 also are patentably distinguished over the cited references in view of the additional limitations defined in Claims 26-28. Therefore, Applicant respectfully requests allowance of Claims 26-28.

Applicant respectfully asserts that this application is in condition for allowance, and Applicant respectfully requests that a Notice of Allowance be issued at the earliest opportunity. If there be any further impediment to the issuance of a Notice of Allowance, the Examiner is respectfully requested to contact Applicant's representative at the telephone number set forth below to resolve such issues.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: July 8, 2004

By: _____

Edward A. Schlatter
Registration No. 32,297
Attorney of Record
Customer No. 20,995
(949) 760-0404

AMD-6150.DOC // 070704

PTO/SB/06 (08-03)
Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 10/361897

CLAIMS AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE	SMALL ENTITY FEE	OR	OTHER THAN SMALL ENTITY RATE	OTHER THAN SMALL ENTITY FEE
BASIC FEE (37 CFR 1.16(a))				$____	OR		$____
TOTAL CLAIMS (37 CFR 1.16(c))	24 minus 20 =	*	X $____ =		OR	X $____ =	
INDEPENDENT CLAIMS (37 CFR 1.16(b))	3 minus 3 =	*	X $____ =		OR	X $____ =	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(d))			+ $____ =		OR	+ $____ =	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		OR	TOTAL	

CLAIMS AS AMENDED – PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE	SMALL ENTITY ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY RATE	OTHER THAN SMALL ENTITY ADDITIONAL FEE
Total (37 CFR 1.16(c))	* 29	Minus	** 24	= 5	X $ 9 =	45.00	OR	X $____ =	
Independent (37 CFR 1.16(b))	* 5	Minus	*** 3	= 2	X $ 43 =	86.00	OR	X $____ =	
~~FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))~~					+ $____ =		OR	+ $____ =	
					TOTAL ADD'L FEE	131.00	OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
Total (37 CFR 1.16(c))	* 11	Minus	** 29	= ——	X $____ =		OR	X $____ =	
Independent (37 CFR 1.16(b))	* 4	Minus	*** 5	= ——	X $____ =		OR	X $____ =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ $____ =		OR	+ $____ =	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
Total (37 CFR 1.16(c))	*	Minus	**	=	X $____ =		OR	X $____ =	
Independent (37 CFR 1.16(b))	*	Minus	***	=	X $____ =		OR	X $____ =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ $____ =		OR	+ $____ =	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Interview Summary	Application No.	Applicant(s)	
	10/361,897	CHANG, CHUNG L.	
	Examiner	Art Unit	
	Joseph G Ustaris	2611	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Joseph G Ustaris*. (3) *Vivek Srivastava*.

(2) *Ed Schlatter*. (4)_____.

Date of Interview: *06/25/2004*.

Type: a)☐ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☐ applicant 2)☒ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☑ No.
If Yes, brief description: _____.

Claim(s) discussed: 29.

Identification of prior art discussed: Hays et al., Steventon et al., Norvell et. al, Nagata et al., Ceccanese et. al.

Agreement with respect to the claims f)☐ was reached. g)☑ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments:

DISCUSSED AMENDING CLAIM TO REFLECT SCREEN ALWAYS FACING THE VIEWER &/OR HIDING THE APERATURES ON THE FLOOR OF THE HOUSING. PROPOSED AMENDMENTS APPEAR TO OVERCOME ART ON RECORD.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

VIVEK SRIVASTAVA
PRIMARY EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/361,897	02/07/2003	Chung L. Chang	JHNSF.014A	7412

20995 7590 02/26/2004

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IRVINE, CA 92614

EXAMINER	
USTARIS, JOSEPH G	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/361,897	CHANG, CHUNG L.	
	Examiner	Art Unit	
	Joseph G Ustaris	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 8.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 12 December 2003 in application 10/361,897.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 8, 9, and 11-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al. (US 20030020840A1) in view of Steventon et al. (4,647,980) and Norvell et al. (US 20030137584A1) and Nagata et al. (US 20020149708A1).

In regards to claim 1, Hays et al. discloses a mobile video-audio switching system that is mounted within a motor vehicle or "motorized land vehicle" (See paragraph 0022 line 3). The mobile video-audio system utilizes four different video-audio input devices or "video source", four LCD screens or "video monitor" (See paragraph 0022 line15 and Fig. 4), four wireless remote control transmitters or "wireless transmitter" (See paragraph 0022 line 22 and Fig. 4), and a radio with a speaker system or "loudspeaker" (See paragraph 0022 line 32) where a signal from any video-audio input device can be sent to any individual LCD screen (See paragraph 0022 lines 13-

18). However, Hays et al. lacks the LCD screens mounted to the headrests of the motor vehicle that includes a housing with hinges to attach to the LCD.

Steventon et al. discloses an aircraft passenger television system where the television receivers or "video monitor" are mounted on the passenger seats or "headrest" facing rearward (See Fig. 2 and Fig. 3). The television system serves the same purpose as the mobile video-audio switching system disclosed by Hays et al., that is to entertain the passengers. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Hays et al. LCD screens to be mounted on the seats or "headrest", as taught by Steventon et al., in order to provide the passengers a direct and leveled viewing of the LCD screens or "video monitor".

Norvell et al. discloses a vehicle monitor or LCD that uses a housing. The housing is placed within a headrest of a seat (See Fig. 1 and 2; paragraph 0025). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the LCD disclosed by Hays et al. to be mounted to the headrest using a housing, as taught by Norvell et al., in order to provide a convenient means of removing and adjusting the LCD from the headrest.

Nagata et al. discloses a display monitor or LCD that is mounted to a housing using hinges (See Fig. 23-28). The hinges are located to the sides of the display monitor and the housing or "adjacent an upper edge thereof" (See Fig. 25 and 28). The hinges allow the display monitor to rotate or "pivot" independently from the housing (See paragraphs 0140-0143). Therefore, it would have been obvious to one with ordinary skill

in the art at the time the invention was made to modify the housing and LCD disclosed by Hays et al. in view of Steventon et al. and Norvell et al. to have hinges on the housing and LCD, as taught by Nagata et al., in order to allow the user to adjust the angle of the display monitor in order to achieve a better view.

Regarding claim 2, Hays et al. discloses a headset or "headphones" and four wireless transmitters (See paragraph 0022 lines 22 and 34).

Regarding claim 3, Hays et al. discloses that any of the wireless transmitters may use IR signals or "infrared audio" (See paragraph 0022 lines 33-35).

Regarding claims 4 and 5, Steventon et al. utilizes channel selector pushbuttons or "frequency selector" that are located on the television receivers or "video monitor" (See Steventon et al. Fig. 9 and column 5 lines 25-33).

Regarding claim 8, the channel selector pushbuttons or "frequency selector" as discussed in claims 4 and 5 also serves as an indicator or "frequency indicator". The depression of a certain button indicates the channel they are tuned to (See Steventon et al. Fig. 9 and column 5 lines 25-33).

Regarding claim 9, the channel selector as discussed in claims 4, 5, and 8 is mounted to a headrest as taught by Steventon et al (See Fig. 3 and Fig. 9).

Regarding claim 11, Steventon et al. discloses a plurality of television receivers or "video monitor" that includes the channel selector/indicator or "frequency indicator" (See Steventon et al. Fig. 2).

Regarding claim 12, 13, and 14, Hays et al. may utilize multiple input devices including DVD players and computer games or "video game console" (See paragraph 0003 lines 4-8).

Regarding claim 15, Hays et al. discloses that any of the wireless transmitters may use RF signals or "FM transmitter" (See paragraph 0022 lines 33-35).

Regarding claim 16, Hays et al. mobile video-audio switching system is capable of sending a signal from any input device to any LCD screen (See paragraph 0022 lines 13-18).

Regarding claim 17, Hays et al. discloses four wireless transmitters (See paragraph 0022 line 22 and Fig. 4).

Regarding claim 18, 19 and 20, see rejections of claim 3 and 15.

Regarding claim 21, the LCD is adjustable without disturbing the environment or "headrests" that the LCD screens are mounted to (See claim 1).

Claim 22 is broader than claim 1 (where the second video monitor does not have the limitation of "mounted to a second headrest") and is analyzed as previously discussed with respect to claim 1. Furthermore, Hay et al. discloses a "motor vehicle" (paragraph 0022) whereas claim 22 calls for a "motorized land vehicle". It would have been obvious to apply the teachings of Hays et al. "motor vehicle" to a car, which is a "motorized land vehicle," in order to take advantage of the massive consumer market of cars.

Claim 23 refers to a specific part of claim 1 (where the second video monitor is "mounted to a second headrest") and is analyzed as previously discussed with respect to claim 1.

Claim 24 contains the limitations of claims 1, 22, and 23 and is analyzed as previously discussed with respect to those claims.

Claims 6, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al. (US 20030020840A1) in view of Steventon et al. (4,647,980) and Norvell et al. (US 20030137584A1) and Nagata et al. (US 20020149708A1) as applied to claim 1-5, 8, 9, and 11-24 above, and further in view of Shintani et al. (US006532592B1).

In regards to claim 6, Hays et al. in view of Steventon et al. and Norvell et al. and Nagata et al. lacks a remote control that operates the "frequency selector" and that indicates the current frequency that is in use.

Shintani et al. discloses a remote control that is used to control a television or "video monitor". The remote control is capable of changing channels or "frequency" as well as display information like the current channel or "frequency" on a crystal display or "indicator" (See Fig. 2 element 103 and 104, column 3 lines 66-67, column 4 lines 1-5). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Hays et al. in view of Steventon et al. and Norvell et al. and Nagata et al. to include a remote control, as taught by Shintani et al., in order to

provide control and information to users or "passengers" seated away from the television or "video monitor".

Regarding claims 7 and 10, Shintani et al. shows a remote control that consists of a crystal display or "indicator" (See Fig. 2 element 103 and column 4 lines 1-5).

Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al. (US 20030020840A1) in view of Steventon et al. (4,647,980) and Norvell et al. (US 20030137584A1) and Nagata et al. (US 20020149708A1) as applied to claim 1-5, 8, 9, and 11-24 above, and further in view of Ceccanese et al. (US006412848B1).

Claim 25 contains the limitations of claims 1 and 22 and is analyzed as previously discussed with respect to those claims. However, Hays et al. in view of Steventon et al. and Norvell et al. and Nagata et al. lacks apertures to receive fasteners.

Ceccanese et al. discloses a vehicle display monitor system where a housing is used to hold the display monitor. The housing has numerous slots or "apertures" that receives mounts and legs or "fasteners" (See Fig. 3 and 4, elements 30, 50, and 54). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the housing disclosed by Hays et al. in view of Steventon et al. and Norvell et al. and Nagata et al. to include slots, mounts, and legs, as taught by Ceccanese et al., in order to secure the housing within the vehicle on a headrest, so that it may not move around freely.

Regarding claim 26, Ceccanese et al. discloses more than 4 slots or "apertures" (See Fig. 3, element 50).

Regarding claim 27, the housing disclosed by Norvell et al. has connectors that connect to the back of the monitor or LCD. Inherently, there would be holes or "apertures" to allow the cables and connectors to be seated within the housing (See Norvell et al. Fig. 1).

Claim 28 contains the limitations of claims 23 and 25 and is analyzed as previously discussed with respect to those claims.

Claim 29 contains the limitations of claims 1, 22, and 25 and is analyzed as previously discussed with respect to those claims.

Response to Arguments

3. Applicant's arguments filed 12 December 2003 have been fully considered but they are not persuasive.

The objections to the drawings and specification are now withdrawn in view of the amendments.

Applicant argues that Hays et al. does not give any details to how the LCD screens are mounted. Admittedly, Hays et al. does not disclose details about mounting the LCD. However, based on the teachings from Steventon et al., Norvell et al., and Nagata et al. the limitations claimed are now met. Please see claim rejections.

In regards to arguments about Rosen, applicant argues that Rosen's teachings of mounting and size of display renders it unclear how to mount the display on a headrest. In light of the new claim rejections, Rosen is not used, however Nagata et al. teachings meet all the claimed limitations. Please see claim rejections.

In regards to Shintani, applicant argues that Shintani does not address mounting the television. However, that feature has already been met by other references (i.e. Steventon et al., Norvell et al., and Nagata et al.) Therefore, Shintani is only teaching to add more features, such as the remote control, to enhance the video-audio system.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Ustaris whose telephone number is (703) 305-0377. The examiner can normally be reached on Monday-Friday with alternate Fridays off from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile, can be reached on (703) 305-4380. The fax phone number for this Group is (703) 872-9306.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 305-4700.

JGU
February 10, 2004

VIVEK SRIVASTAVA
PRIMARY EXAMINER

Notice of References Cited	Application/Control No. 10/361,897	Applicant(s)/Patent Under Reexamination CHANG, CHUNG L.	
	Examiner Joseph G Ustaris	Art Unit 2611	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-2002/0149708 A1	10-2002	Nagata et al.	348/837
	B	US-6,412,848 B1	07-2002	Ceccanese et al.	296/37.7
	C	US-2003/0137584 A1	07-2003	Norvell et al.	348/61
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. JHNSF.014A	APPLICATION NO. 10/361,897
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)	APPLICANT Chung L. Chang	
	FILING DATE February 7, 2003	GROUP 2611

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
JV	1.	3,019,050	01/30/62	Spielman			
JV	2.	4,792,183	12/20/88	Townsend, II			
JV	3.	5,188,421	02/23/93	Arseneault			
JV	4.	5,267,775	12/07/93	Nguyen			
JV	5.	5,984,347	11/16/99	Blanc-Rosset			
JV	6.	6,092,705	07/25/00	Matt			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO

EXAMINER INITIAL		OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
	7.	Assignee's co-pending U.S. Application Serial No. 10/219,987, filed August 14, 2002.

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121103

EXAMINER	DATE CONSIDERED 2/16/04

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

#7/a
W. Lamura
1/5/04

JHNSF.014A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang
Appl. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Group Art Unit	:	2611

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

December 12, 2003
(Date)

Edward A. Schlatter, Reg. No. 32,297

RESPONSE TO OFFICE ACTION OF AUGUST 7, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This paper is filed in response to the Office Action mailed August 7, 2003 (the Office Action).

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 14 of this paper.

Amendments to the Drawings begin on page 22 of this paper. A "Replacement Sheet" for each sheet of drawings being amended can be found in the Appendix.

Remarks/Arguments begin on page 23 of this paper.

12/18/2003 RADDF01 00000078 10361897

01 FC:2201 86.00 OP
02 FC:2202 45.00 OP

AMENDMENTS TO THE SPECIFICATION

Please insert the following paragraphs after paragraph [0016]:

Figure 7 is a front elevation view of one embodiment of a headrest-mounted monitor, illustrating the monitor installed in a headrest of a vehicle seat;

Figure 7A is a front elevation view of the headrest-mounted monitor of Figure 7;

Figure 8A is a left side elevation view of the screen structure of the headrest-mounted monitor of Figure 7;

Figure 8B is a rear elevation view of the screen structure of Figure 8A;

Figure 9A is a front elevation view of the housing of the headrest-mounted monitor of Figure 7;

Figure 9B is a left side elevation view of the housing of Figure 9A;

Figure 9C is a detail view of the second hinge portion of the housing of Figure 9A;

a1

Figure 10 is a perspective view of the headrest-mounted monitor of Figure 7, illustrating the screen structure pivoted outward from the housing;

Figure 11A is a left side section view of the headrest-mounted monitor of Figure 7, illustrating the screen structure in a storage position;

Figure 11B is a left side section view of the headrest-mounted monitor of Figure 7, illustrating the screen structure pivoted outward from the housing;

Figure 12 is a perspective view of the bracket of the headrest-mounted monitor of Figure 7;

Figure 13A is a left side elevation view of the headrest-mounted monitor and headrest of Figure 7, illustrating the screen structure in a storage position; and

Figure 13B is a left side elevation view of the headrest-mounted monitor and headrest of Figure 7, illustrating the screen structure pivoted outward from the housing.

Please amend paragraph [0028] as indicated below:

a2

[0028] The video monitor 56 may be adapted to be adjustably mounted to the headrest 36. For example, in one embodiment, an angular orientation of the

video monitor 56 relative to the headrest 36 is adjustable without moving the headrest 36. More details various embodiments of a video monitor 56 that is configured to be mounted to a headrest are set forth herein in connection with Figures 7 – 13B, and may be found in U.S. Application Serial No. 10/219,987, filed August 13, 2002, which is hereby expressly incorporated by reference herein in its entirety and made a part of this specification.

Please amend paragraph [0029] as indicated below:

[0029] In one embodiment, the video monitor 56 also includes a secondary wireless transmitter 148. Preferably, the secondary wireless transmitter 148 transmits an audio portion of an audiovisual signal to at least one secondary receiver 150. In the embodiment illustrated in Figure 4, the at least one secondary receiver 150 comprises two sets of headphones. Thus, in this embodiment, the at least one secondary receiver 150 comprises two personal speaker systems. The secondary wireless transmitter 148 advantageously transmits the audio portion of an audiovisual signal. Arrows 149 indicate that the transmission from the transmitter 148 to the at least one secondary receiver 150 is wireless. The transmitter 148 can operate on any desirable frequency range. In one embodiment, the secondary wireless transmitter 148 is an FM transmitter. FM transmitters advantageously do not require a line-of-sight connection between the secondary wireless transmitter 148 and the secondary receiver 150. In another embodiment, the secondary wireless transmitter 148 comprises an infrared transmitter. Infrared audio signal transmitters advantageously do not transmit in a band that can be received by the radio 31 and therefore they will not interfere with reception by the radio 31. One type of infrared transmitter that can be used comprises four light emitting diodes (LEDs). In one embodiment the infrared transmitter [[48]]148 operates at about 2.3 MHz or at about 2.8 MHz. In another embodiment the infrared audio signal transmitter 148 operates at about 3.2 MHz or at about 3.8 MHz. In one embodiment, the transmitter 148 transmits audio signals in stereo at 2.3 MHz, at 2.8 MHz, or at both 2.3 MHz and 2.8 MHz. One skilled in the art will recognize that other frequencies could also be used for such

a2 cont.

transmissions. By including the secondary wireless transmitter 148 and the receiver 150, one or more passengers can enjoy a movie or a video game while other passengers listen to the same movie or video game on the radio 31. This enables the passenger listening on the headphones to not be disturbed if other passengers listening on the radio 31 choose to listen to a broadcast radio station.

a2 cont'd.

Please amend paragraph [0046] as indicated below:

[0046] In addition to the advantages discussed above in connection with the audiovisual system 48, the audiovisual system [[348]]248 provides a great deal of flexibility in passenger entertainment. For example, the audiovisual system [[348]]248 advantageously allows one passenger to watch a movie generated by one of the audiovisual sources 252, 254 on one of the video monitors 258, 260, while another passenger watches a different movie generated by a different audiovisual source on the other of the video monitors 258, 260. Or, while one passenger watches a movie on one of the video monitors 258, 260, another passenger can play a video game using a different audiovisual source, with the video signal of the video game being displayed on the other of the video monitors 258, 260. Numerous combinations of audiovisual signals that can be flexibly displayed on the video monitors 258, 260 are possible. The audiovisual system 248 is also flexible in that audio signals can be conveyed thereby in the two modes (e.g., FM wireless and IR wireless, in one embodiment) as described above in connection with the audiovisual system 48.

a3

Please amend paragraph [0047] as indicated below:

[0047] The audiovisual system [[348]]248 allows one passenger to listen privately on headphones to a movie, a video game, or another audiovisual signal, while the other passengers listen together over the vehicle radio or other FM receiver to the audio signal of another movie, another video game, or another audiovisual source. By providing multiple headphones 388, two or more passengers can listen privately to the audio signal generated by one audiovisual source, while one or more other passengers listen collectively to the audio signal generated by another audiovisual source and provided to the speakers 360.

Please amend paragraph [0049] as indicated below:

[0049] Advantageously, the audiovisual system [[348]]248 can provide flexible entertainment, as discussed above, without requiring a separate switching unit. Accordingly, the audiovisual system [[348]]248 costs less to manufacture and to install and also is easier to install.

Please insert the following paragraphs immediately after paragraph [0049]:

Figure 7 illustrates another embodiment of a monitor 410 disposed within a headrest 412. The headrest 412 is mounted to a vehicle seatback 414, and is movable independently of the seatback 414 toward and away from the seatback 414. The monitor 410 preferably faces a rear of the vehicle so that images displayed on the monitor 410 are visible to passengers seated behind the seatback 414. Features of the monitor 410, which are described in detail below, reduce the risk of injury to passengers presented by the monitor 410, and enable the monitor 410 to be mounted in the very limited space available within a typical vehicle headrest 412.

a4

As shown in Figures 10, 11A and 11B, the monitor 410 includes a screen structure 416 that is pivotably attached to a housing 418. Both the housing 418 and an outer casing of the screen structure 416 are preferably constructed of a high-strength plastic, so that the monitor 410 is lightweight and durable. The housing 418, which is embedded in the headrest 412 as shown in Figures 7, 13A and 13B, includes a cavity 420 (Figures 9, 10, and 11B) defining a storage space for the screen structure 416. The cavity 420 is substantially the same size and shape as the screen structure 416, such that when the screen structure 416 is in the storage position of Figures 11A and 13A, a front face 422 of the screen structure 416 is substantially flush with an outer surface 424 of the housing 418, which is in turn substantially flush with a surface 425 of the headrest 412 (Figure 13A). The monitor 410 thus preferably protrudes only minimally or not at all from the headrest 412.

In the illustrated embodiment, the screen structure 416 includes a front portion 426 (Figures 8A and 8B) that is a substantially rectangular parallelepiped,

and a rear portion 428 that tapers inward from the front portion 426 toward a rear face 430. Each of the left and right faces 432, 434 of the screen structure 416 includes a first hinge portion 436 adjacent a top face 438 of the screen structure 416. Each hinge portion 436 comprises a substantially flat bar 440 defining a plane that is parallel to a side faces 432, 434 of the screen structure 416. The bar 440 is pivotably secured at a first end 442 to the side faces 432, 434 of the screen structure 416, such that the bar 440 is pivotable in the plane defined by the bar 440. The first hinge portions 436 cooperate with second hinge portions 444 (Figures 9A-9C) on the housing 418 to pivotably secure the screen structure 416 to the housing 418, as described in detail below. The illustrated first hinge portions 436 are preferred, because they simplify the assembly of the monitor 410, as explained below. However, those of skill in the art will appreciate that a variety of alternate hinge constructions could be used and still achieve a number of advantages of the present monitor 410.

A4 cont.

The front surface 422 of the screen structure 416 (Figure 7A) includes a viewing screen 446 that displays images to passengers. As shown in Figures 8A and 8B, the screen structure 416 includes an input cable 448 for receiving an input signal to control the images displayed on the viewing screen 446. A first end 450 of the cable preferably includes a multi-pin connector 452 that enables a variety of input devices to selectively communicate with the monitor 410.

The monitor 410 further includes a plurality of controls for determining characteristics of the displayed images. For example, one control preferably enables power to be selectively applied to the monitor 410. Other controls preferably enable a viewer to select between various input sources for the monitor 410, such as a television tuner, a DVD player, a video game system, etc. Other controls preferably enable adjustment of qualities of the screen images, such as brightness, sharpness, contrast, etc.

In the illustrated embodiment, a first cluster of manual controls 454 is located on the front face 422 of the screen structure 416, and a second cluster of manual controls 456 is located on the outer surface 424 of the housing 418 adjacent the screen structure 416. The front face 422 of the screen structure 416

further includes an infrared sensor 458 for receiving signals from a handheld wireless remote control unit (not shown). Those of skill in the art will appreciate that all controls may be located on the screen structure 416, or all controls may be located on the housing 418. Alternatively, the monitor 410 may include no integrated manual controls, such that the monitor 410 is controllable using only a handheld wired or wireless remote control unit.

An interior of the screen structure 416 preferably includes at least one speaker 459 that produces audible sounds that accompany the images displayed on the screen 446. At least one of the controls 454, 456 on the monitor 410 or on an optional remote control unit preferably enables adjustment of a volume level produced by the at least one speaker 459. The rear face 430 of the screen structure 416, shown in Figure 8B, includes apertures 460 that enable sounds produced by the speaker 459 to be heard clearly by passengers. Those of skill in the art will appreciate that the apertures 460 are not necessary to achieve many advantages of the present monitor 410.

a4 cont.

Those of skill in the art will also appreciate that the monitor 410 need not include a speaker 459. The monitor 410 could, for example, be connected to the vehicle's sound system such that sounds from the monitor 410 are produced by speakers mounted in the vehicle's interior. However, front seat passengers, who are not in a position to view the images on the monitor 410, may wish to listen to, for example, a radio broadcast through the vehicle's sound system. Therefore, providing at least one speaker 459 in the monitor 410 enables rear seat passengers to listen to sounds produced by the monitor 410, and front seat passengers to listen to sounds produced by the vehicle's sound system. To eliminate any dissonance created by two sources of different sounds, the monitor 410 could also include a headphone jack so that only backseat passengers wearing headphones can hear sounds produced by the monitor 410.

As shown in Figures 9A-9C, 11A, and 11B, front edges of the housing 418 extend outward and backward, thus creating a rim 462 around the cavity 420 having a front face 464 and side faces 466, 468, 470, 472 that are substantially parallel to side faces of the cavity 420. The rim 462 increases the rigidity of the

housing 418 without substantially increasing its weight or volume. In the illustrated embodiment, a portion of the front face 464 of the rim 462 adjacent a lower right edge 468 of the housing 418 includes a plurality of apertures 474. The apertures 474 are adapted to house controls, such as buttons or knobs, for adjusting various aspects of the monitor 410, as described above. Those of skill in the art will appreciate that the apertures 474 are not necessary to achieve all the advantages of the monitor 410, since controls may be mounted on the screen structure 416 or on a remote control unit.

A floor 476 of the cavity 420 preferably includes a plurality of apertures 478 (Figure 9A) that cooperate with mounting hardware, such as screws, to secure the housing 418 to the headrest 412. The floor 476 preferably also includes an aperture 480 of sufficient size to allow the input cable 448 to pass through the floor 476 without interference. A top surface 482, bottom surface 484 and opposing side surfaces 486 extend upward from the floor 476. The floor 476 protects the monitor 410 and the headrest 412 during use.

Q4 cont.

Adjacent the top surface 482, each side surface 486 of the cavity 420 includes a second hinge portion 444 (Figures 9A-9C) that cooperates with one of the first hinge portions 436 on the screen structure 416 to pivotably secure the screen structure 416 to the housing 418. Each second hinge portion 444 comprises a slot having a width substantially equal to a thickness of the bar 440 of the first hinge portion 436. The bar 440 is thus slidable within the slot. With the bar 440 disposed within the slot, a position and orientation of the bar 440 is fixed relative to the housing 418. However, because the bar 440 is rotatable with respect to the screen structure 416, the screen structure 416 is pivotable with respect to the housing 418.

A tab 488 within the slot cooperates with an aperture 490 (Figure 8A) on the bar 440 to lock the bar 440 within the slot. The tab 488 is cantilevered and attached to a side edge 492 of the floor 476 of the cavity 420. The tab 488 includes a forward facing tapered portion 494 (Figure 9C) that terminates in a ledge 96 that is perpendicular to a longitudinal axis of the tab 488 and faces away from the rim 462. As the bar 440 is inserted within the slot, the bar 440 slides

along the outside of the tab 488, and the bar 440 urges the tab 488 inward due to interengagement of the bar 440 with the tapered surface 494. As a leading edge 498 (Figure 8A) of the bar 440 reaches a rear end of the slot, the tab 488 snaps into position within the aperture 490 of the bar 440. The ledge 496 abuts an edge of the aperture 490, thus locking the bar 440 within the slot and securing the screen structure 416 to the housing 418. The present monitor 410 is thus easy to assemble. The bars 440 are simply inserted into the slots until the tabs 488 lock into place within the apertures 490.

While the illustrated second hinge portions 444 are preferred for their ease of assembly together with the illustrated first hinge portions 436, those of skill in the art will appreciate that the illustrated second hinge portions 444 are merely exemplary. A variety of alternate hinge constructions could be used to achieve many advantages of the present monitor 410.

a4 cont.

Preferably, the first and second hinge portions 436, 444 are located near an upper edge 438, 482 of the screen structure 416 and housing 418, respectively. The upper edge 438 of the screen structure 416 thus remains substantially fixed with respect to the housing 418, while a lower edge 500 of the screen structure 416 is capable of protruding substantially from the front face 422 of the housing 418, as shown in Figure 11B. Preferably, a finger catch 502 (Figures 8A, 8B, 11A and 11B) extends downward from the lower edge 500 of the screen structure 416. The finger catch 502 provides a convenient surface against which a viewer may place his or her fingers to rotate the screen structure 416 with respect to the housing 418. Preferably, the lower edge 470 of the housing includes a cut out portion 504 (Figures 9A and 10) so that a viewer can reach behind the finger catch 502 to pull the screen structure 416 outward from the stowed position of Figure 11A.

Advantageously, as the screen structure 416 pivots from the stowed position of Figure 11A to the position of Figure 11B, no portion of the rear face 430 of the screen structure 416 moves toward the floor 476 of the cavity 420. The floor 476 thus defines a limit for the monitor 410. No portion of the monitor 410, including the screen structure 416, extends beyond the floor 476 into the headrest

412. Thus, the overall monitor 410 occupies relatively little depth of the headrest 412, because the depth occupied by the monitor 410 corresponds roughly to the thickness of the screen structure 416.

With prior art monitors, such as the monitors disclosed in U.S. Patent Nos. 5,267,775 to Nguyen, 5,507,556 to Dixon, and 5,842,715 to Jones, additional depth beyond the thickness of the screen structure would be required within a headrest to accommodate these monitors. As the screen structures of these monitors pivot from the stowed position to a viewing position, an upper edge of the screen structure would move backward into the headrest. This configuration is disadvantageous because limited space is available within a headrest.

The function of a headrest is to provide padding for comfort and safety. Thus, a headrest must comprise at least a minimum amount of padding. When a monitor is added to a headrest, padding is displaced. The padding may be eliminated entirely, but such elimination makes the headrest less comfortable and less safe. Alternatively, the padding may be retained but moved elsewhere within the headrest. Disadvantageously, this option makes the headrest larger. If the headrest is made wider, the extra width obstructs a larger portion of the driver's view. If instead the headrest is made deeper, (extends farther into rear passenger area) the portion of the headrest that protrudes into the rear passenger area presents an obstacle to rear seat passengers. Therefore, a headrest-mounted monitor desirably occupies minimal space.

Besides defining a thickness of the present monitor 410, the housing 418 also provides a self-contained casing for the monitor 410. The housing 418 thus protects the monitor 410 from impacts, for example. The housing 418 also facilitates installation and removal of the monitor 410. To exchange one monitor 410 for another, for example if the first monitor 410 is defective, the housing 418 and all of the components within the housing are easily removed from the headrest 412. A new monitor 410 is then easily installed by inserting the housing 418 of the new monitor 410 into the headrest 412.

As shown in Figures 10, 11A, and 11B, the monitor 410 includes a bracket 506 that limits a range of pivot of the screen structure 416 relative to the housing

418. The shape of the bracket 506, illustrated in Figure 12, preferably resembles a straight wire 508 with an attached pair of L-shaped wires 510. Of course, the bracket 506 may be produced by many different processes such that the straight wire 508 and L-shaped wires 510 comprise one piece, or separate pieces attached to one another.

All three wires 508, 510, 510 are coplanar, and both L-shaped wires 510 extend from the straight wire 508 in the same direction. The upright portion 512 of each L-shaped wire 510 is substantially perpendicular to the straight wire 508, and the base portion 514 of each L-shaped wire 510 is substantially parallel to the straight wire 508. Further, the base portions 514 of each L-shaped wire 510 extend toward each other, and include a small gap 516 between their ends. The upright portions 512 of the L-shaped wires 510 are attached to the straight wire 508 such that opposite end portions of the straight wire 508, comprising posts 518, extend beyond the attachment points of the L-shaped wires 510.

a4 cont.

The base portions 514 of the L-shaped wires 510, which define a first end 524 of the bracket 506, are pivotably retained within a tube 520 (Figures 9A, 10 and 11A-11B) on the floor 476 of the cavity 420. The tube 520 defines a first pivot opening and a second pivot opening. The posts 518 of the straight wire 508, which define a second end 526 of the bracket 506, are slidably retained within a channel 522 on the rear face 430 of the screen structure 416, as shown in Figures 8B, 11A and 11B. In the stowed position shown in Figure 11A, the bracket 506 is substantially parallel to the rear face 430 of the screen structure 416. As the screen structure 416 pivots outward from the cavity 420, the base portions 514 of the L-shaped wires 510 pivot within the tube 520 and the posts 518 slide downward within the channel 522. As Figure 11B illustrates, the posts 518 eventually reach a lower end of the channel 522, defining a maximum angle of the screen structure 416 relative to the housing 418.

Preferably, the hinges 436, 444 that pivotably connect the screen structure 416 to the housing 418 are self tensioning. Thus, the hinges 436, 444 retain the screen structure 416 in the position of Figure 11B, and in any position in between the positions of Figure 11A and Figure 11B. A viewer can thus position the

screen structure 416 anywhere between the limits of rotation to enjoy the optimum viewing angle. For example, the optimum viewing angle often depends upon the position of the sun. Glare from sunlight interferes with the viewer's ability to see images on the screen. Thus, the viewer can orient the screen structure 416 such that glare from sunlight is minimized. Furthermore, as the vehicle travels, its position and orientation with respect to the sun are continuously changing. At one moment, there may be little or no glare on the screen 446, and the next moment the vehicle may round a corner and suddenly there is a substantial glare on the screen 446. Because the present monitor 410 is positionable in a wide range of viewing angles, the monitor 410 enables the viewer to continuously adjust the angle of the screen structure 416 to avoid sun glare occasioned by variations in the vehicle's position and/or orientation with respect to the sun.

a4 cont.

The present monitor 410 advantageously collapses toward the storage position (Figures 11A and 13A) when a force F is applied to the front surface 422 of the screen structure 416 as shown in Figures 11B and 13B. This feature is especially advantageous when a vehicle in which the monitor 410 is installed collides with another vehicle or brakes suddenly, for example. In these situations, a passenger seated behind the monitor 410 is often thrown forward, and may collide with the monitor 410. If the monitor 410 does not quickly collapse upon contact, the monitor 410 could injure the passenger.

As shown in Figure 11B, the bracket 506 limits the rotation of the screen structure 416 relative to the housing 418. The length of the bracket 506 is fixed, and the first end 524 of the bracket 506 is constrained against translation. Therefore, a maximum angle that the screen structure 416 can be rotated from the stowed position of Figure 11A coincides with a configuration wherein a longitudinal axis of the bracket 506 is perpendicular to the rear face 430 of the screen structure 416. In such a configuration, a force applied perpendicularly to the front face of the screen structure 416, such as the force F in Figure 11B, would not have a component that acts on the bracket second end 526 in a direction parallel to the channel 522 and perpendicular to the bracket 506. Instead, the entire magnitude of the force would act in a direction parallel to the bracket 506,

and would not cause the bracket second end 526 to slide upward within the channel 522, thus rotating the bracket 506 about its first end. In such a configuration, the bracket 506 would prevent the screen structure 416 from rotating back toward the storage configuration of Figure 11A. The screen structure 416 would thus pose a danger to a passenger colliding with it, as in a crash or a sudden stop.

However, as explained above and illustrated in Figure 11B, a lower end of the channel 522 in the rear face 430 of the screen structure 416 limits the travel of the bracket 506 within the channel 522 and prevents the bracket 506 from reaching the configuration wherein the bracket 506 is perpendicular to the rear face 430 of the screen structure 416. As shown in Figure 11B, the maximum angle α between the bracket 506 and the rear face 430 of the screen structure 416 is preferably about 80°, and more preferably about 75°. In this configuration, the force F applied perpendicularly to the front face 422 of the screen structure 416 has a component that acts parallel to the channel 522, and a component that acts perpendicularly to the bracket 506. These force components cause the bracket second end 526 to translate upward within the channel 522, causing the bracket 506 to rotate about its first end 524 as the screen structure 416 collapses toward the storage configuration of Figure 11A. The bracket 506 thus diminishes the injury-causing potential of the monitor 410 by enabling the screen structure 416 to pivot safely out of the way when a passenger collides with it.

AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A mobile audiovisual system for a ~~car~~motorized land vehicle, comprising:

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor adapted to be mounted to a first headrest of the ~~car~~motorized land vehicle, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, no portion of the screen structure moves toward the floor of the cavity of the housing, the first video monitor being adapted ~~and~~ to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a5

a second video monitor adapted to be mounted to a second headrest of the ~~car~~ motorized land vehicle and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is adapted to be installed in the ~~car~~motorized land vehicle; and

a first wireless transmitter configured to transmit to the radio an audio portion of one of the first audiovisual signal or the second audiovisual signal;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

2. **(Original)** The mobile audiovisual system of Claim 1, further comprising:

a set of headphones; and

a second wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the set of headphones.

3. **(Original)** The audiovisual system of Claim 2, wherein the second wireless transmitter comprises an infrared audio transmitter.

4. **(Original)** The mobile audiovisual system of Claim 1, further comprising:

a manually operated audio frequency selector that selects a transmission frequency upon which the wireless transmitter transmits the audio portion of the first audiovisual signal or the audio portion of the second audiovisual signal.

5. **(Original)** The mobile audiovisual system of Claim 4, wherein the manually operated audio frequency selector is at least partially positioned within a housing for the first video monitor or within a housing for the second video monitor.

6. **(Original)** The mobile audiovisual system of Claim 4, wherein the manually operated audio frequency selector comprises a remote control.

a5 cont.

7. **(Original)** The mobile audiovisual system of Claim 4, further comprising an audio frequency indicator.

8. **(Original)** The mobile audiovisual system of Claim 7, further comprising a first housing for the first video monitor and a second housing for the second video monitor, the audio frequency indicator positioned within one of the first housing and the second housing.

9. **(Original)** The mobile audiovisual system of Claim 7, further comprising a housing for the audio frequency indicator, the housing adapted to be mounted to one of the first headrest and the second headrest.

10. **(Original)** The mobile audiovisual system of Claim 7, further comprising a remote control device, the audio frequency indicator positioned on the remote control device.

11. **(Original)** The mobile audiovisual system of Claim 7, further comprising a second audio frequency indicator.

12. **(Original)** The mobile audiovisual system of Claim 1, wherein the first video source comprises a DVD player.

13. **(Original)** The mobile audiovisual system of Claim 1, wherein the first video source comprises a video game console.

14. **(Original)** The mobile audiovisual system of Claim 13, wherein the second video source comprises a DVD player.

15. **(Original)** The mobile audiovisual system of Claim 1, wherein the wireless transmitter comprises a frequency modulation (FM) transmitter.

16. **(Original)** The mobile audiovisual system of Claim 1, further comprising a first video signal transmitter adapted to provide a video portion of at least one of the first audiovisual signal and the second audiovisual signal to at least one of the first video monitor and the second video monitor.

a5 cont.

17. **(Original)** The mobile audiovisual system of Claim 1, further comprising a second wireless transmitter.

18. **(Original)** The audiovisual system of Claim 17, wherein the first transmitter comprises a frequency modulation (FM) transmitter.

19. **(Original)** The audiovisual system of Claim 18, wherein the second transmitter comprises a frequency modulation (FM) transmitter.

20. **(Original)** The audiovisual system of Claim 18, wherein the second transmitter comprises an infrared transmitter.

21. **(Original)** The audiovisual system of Claim 1, wherein a first angular orientation of the first video monitor relative to the first seat and a second angular orientation of the second video monitor relative to the second seat are adjustable without moving the headrests.

22. **(Currently Amended)** A mobile video system, comprising:

a ~~car~~motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the headrest of the first seat, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, no portion of the screen structure moves toward the floor of the cavity of the housing, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a5 Cont.

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

23. **(Currently Amended)** The mobile video system of Claim 22, wherein the ~~car~~motorized land vehicle further comprises a second seat having a second headrest, the second video monitor mounted to the second headrest of the second seat.

24. **(Currently Amended)** A ~~car-based~~ mobile video system, comprising:

a ~~car~~ motorized land vehicle comprising a passenger compartment within which are positioned a first seat having a first headrest and a second seat having a second headrest;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the first headrest of the first seat, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, no portion of the screen structure moves toward the floor of the cavity of the housing, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted to the second headrest of the second seat, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

a5 cont.

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

25. **(New)** A mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor, the floor having formed therein a plurality of apertures configured to receive fasteners for securely mounting the first video monitor to the headrest of the first seat; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, access is provided to the apertures;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

26. (New) The mobile video system of Claim 25, wherein the plurality of apertures comprises four apertures.

27. (New) The mobile video system of Claim 25, further comprising an aperture formed in the housing configured to receive an input cable.

28. (New) The mobile video system of Claim 25, wherein the motorized land vehicle further comprises a second seat having a second headrest, the second video monitor mounted to the second headrest of the second seat.

a5 cont.

29. (New) A mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor, the floor having an aperture formed therein;

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, access is provided to the aperture; and

a fastener configured to be advanced through the aperture and to coupled with the headrest of the first seat to secure the first video monitor thereto;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a5 cont'd.

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawing include revised Figures 2, 3, 4, and 6 and new Figures 7 – 13B.

Attachments: fourteen (14) drawing sheets, two (2) of which were originally filed in this case, four (4) of which is revised herein to correct various informalities, and eight (8) of which are bodily incorporated herein from an application that was expressly incorporated by reference in this application when filed.

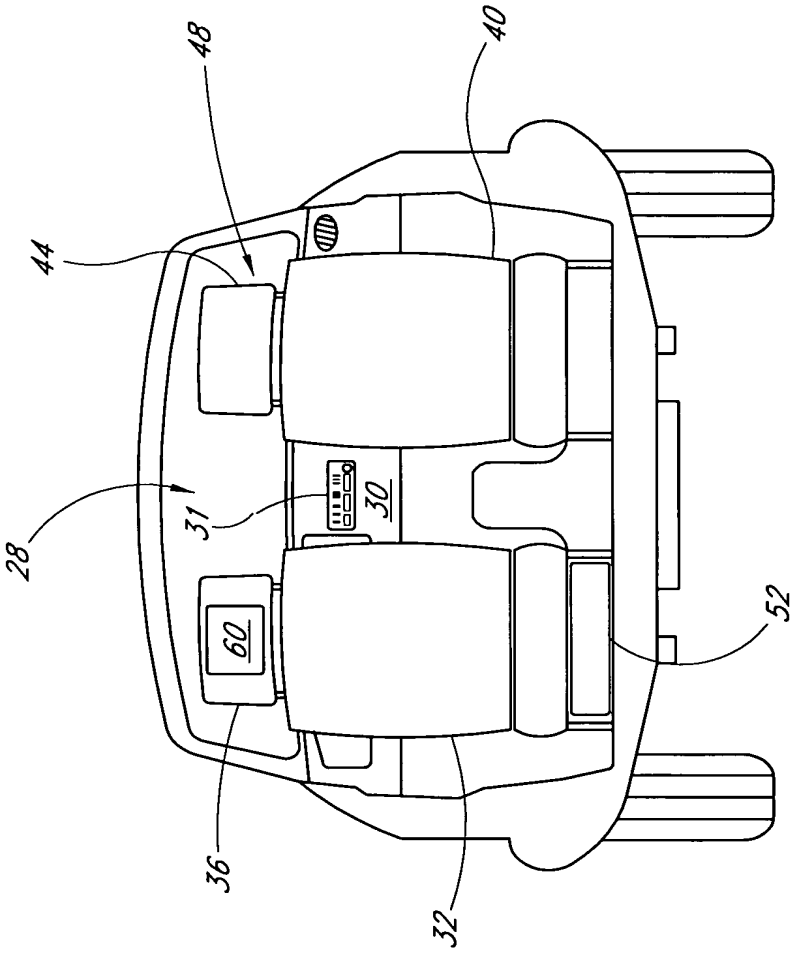


FIG. 2

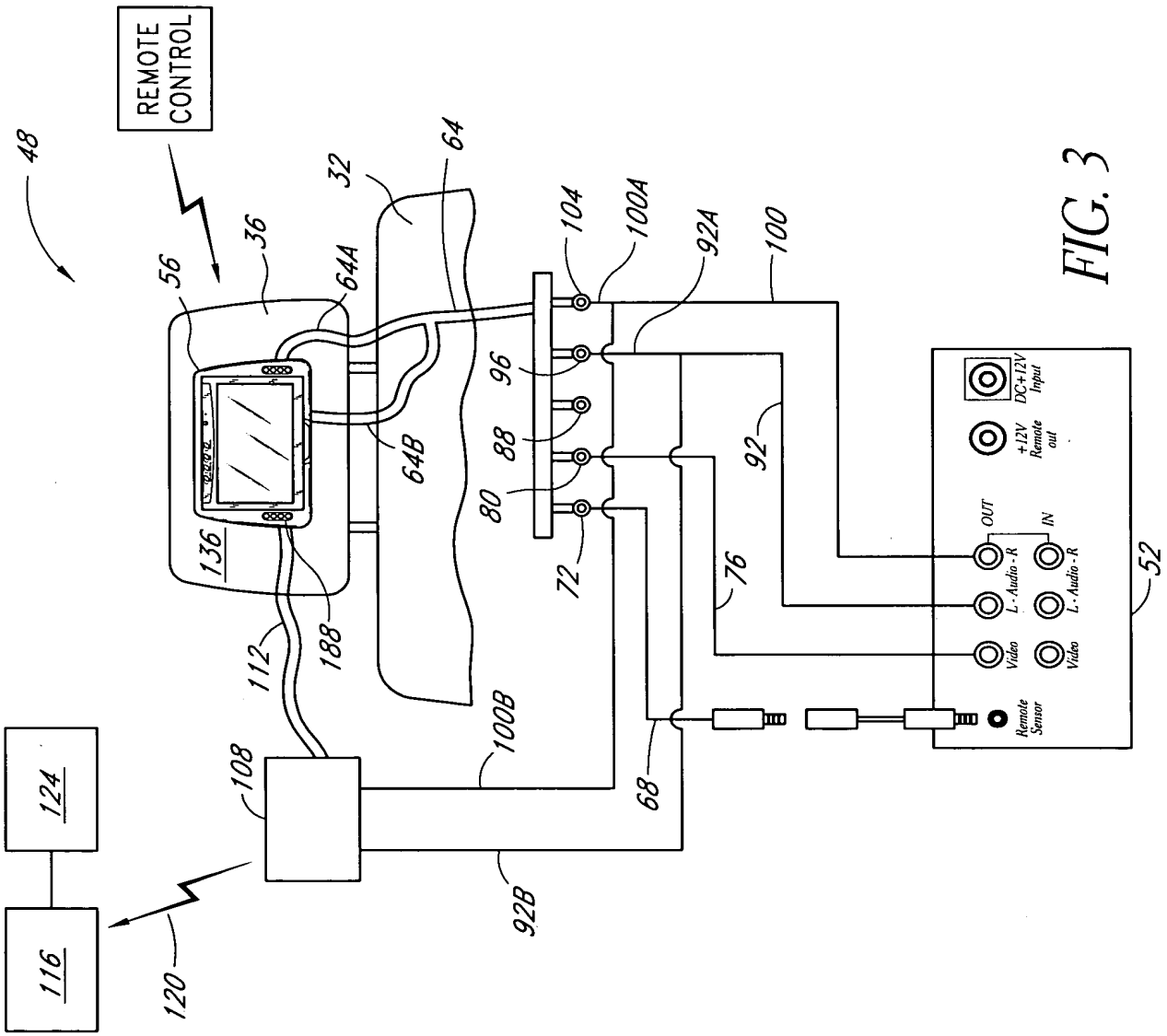


FIG. 3

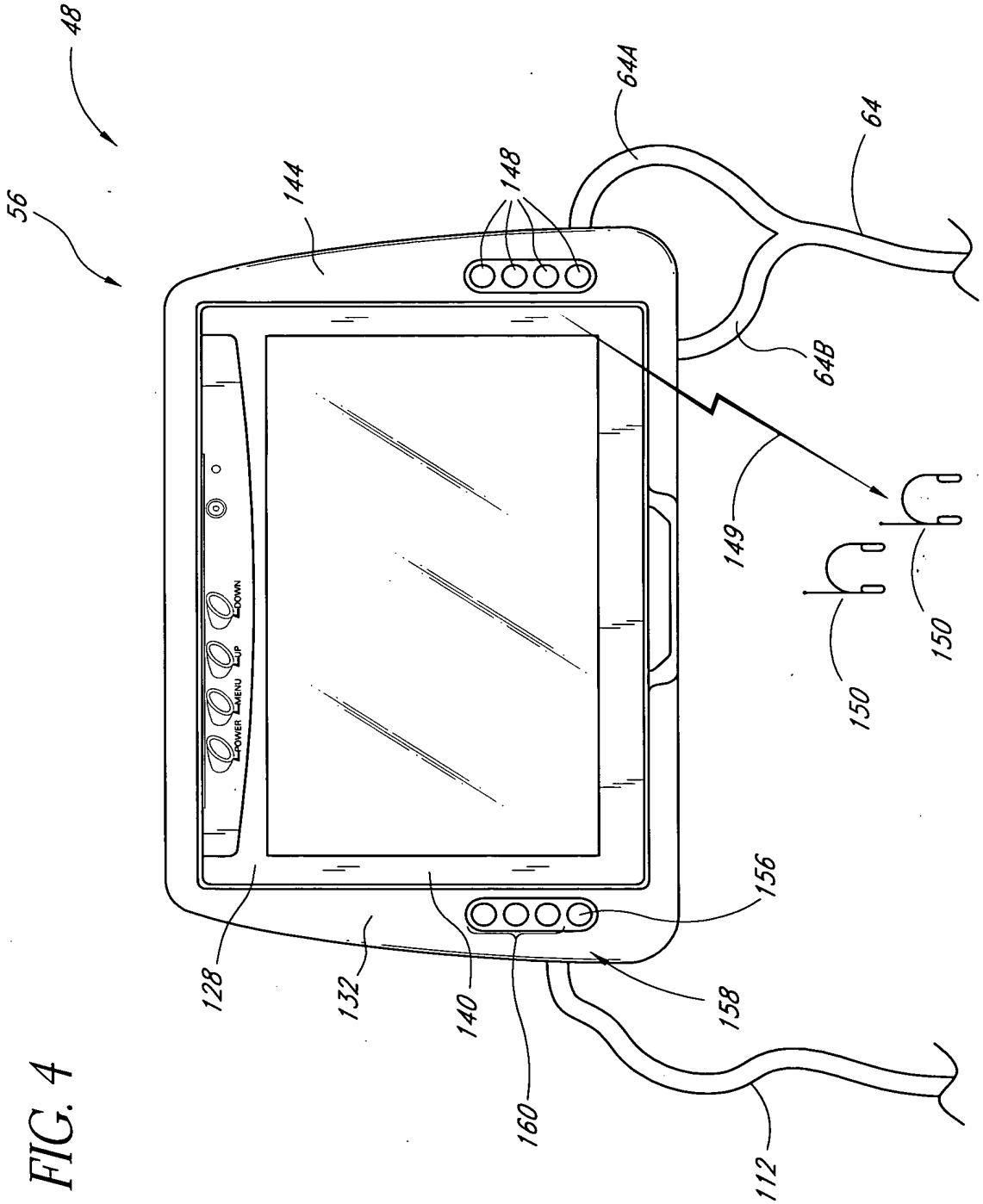


FIG. 4

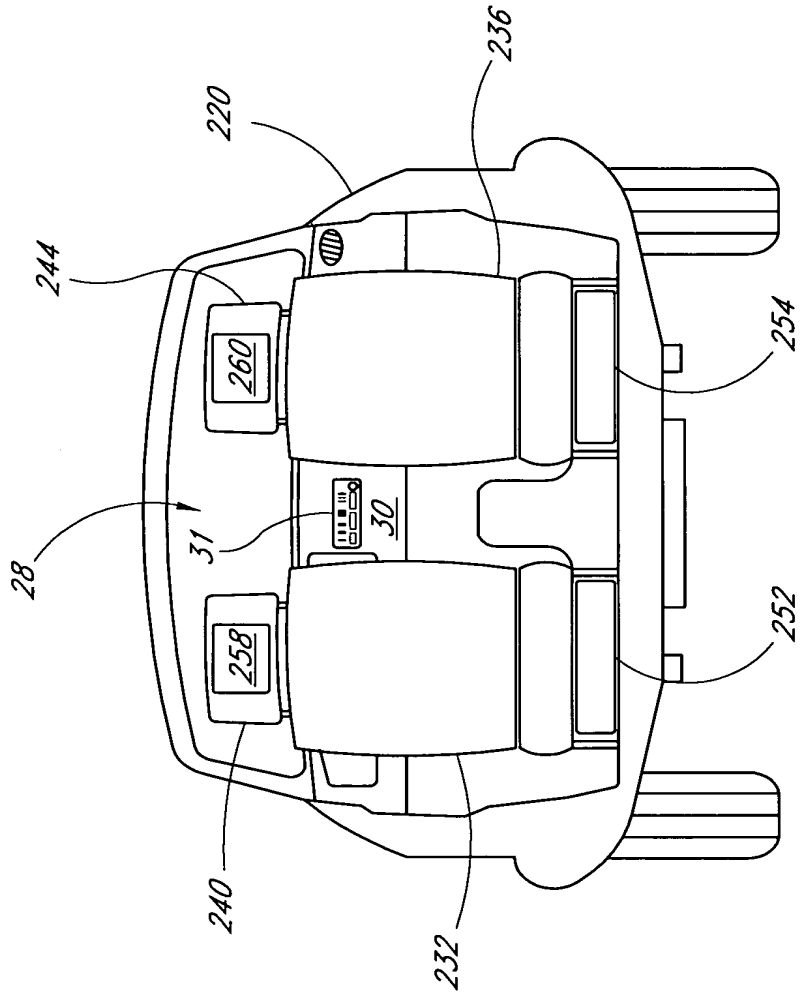


FIG. 5

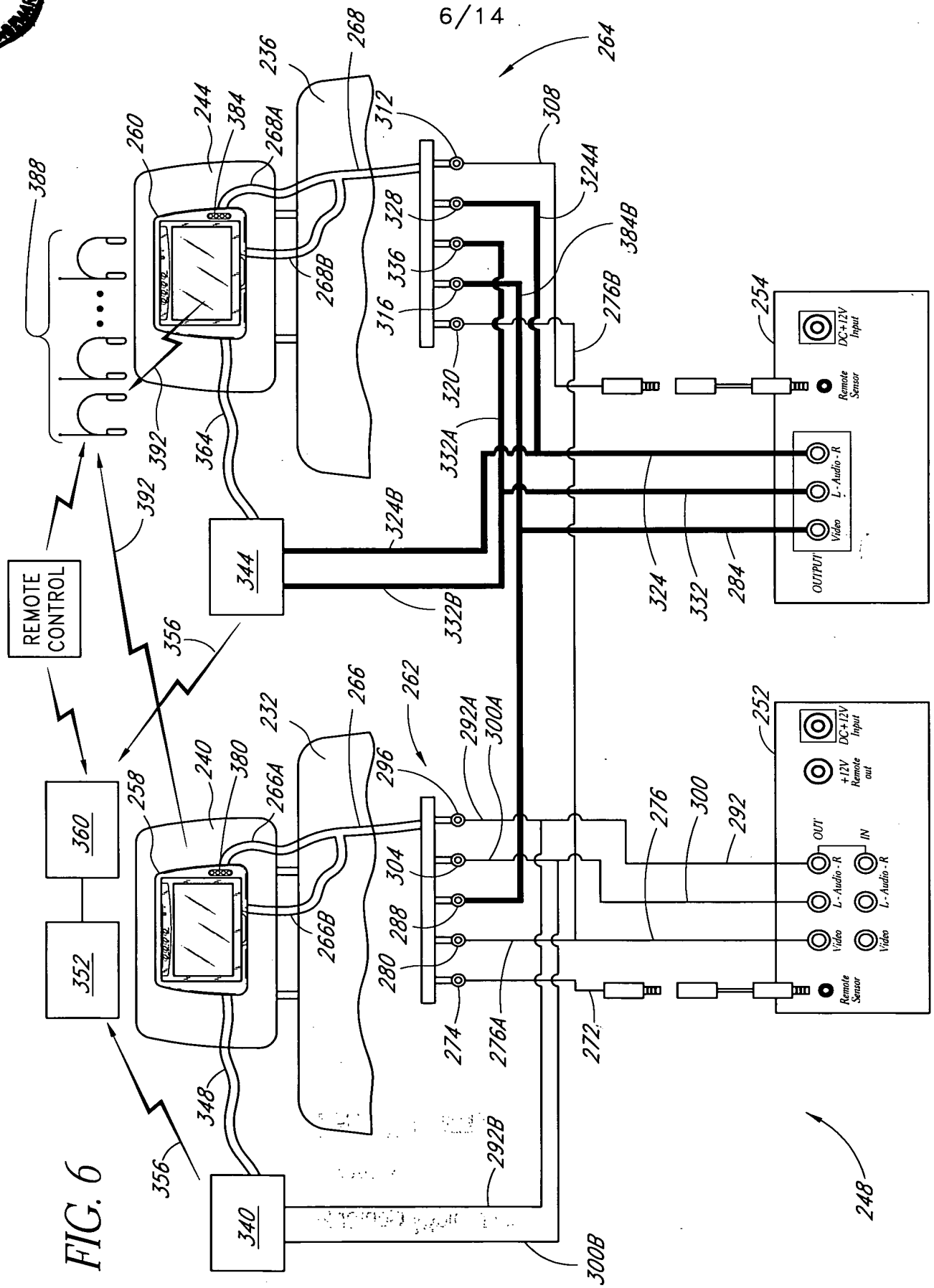


FIG. 6

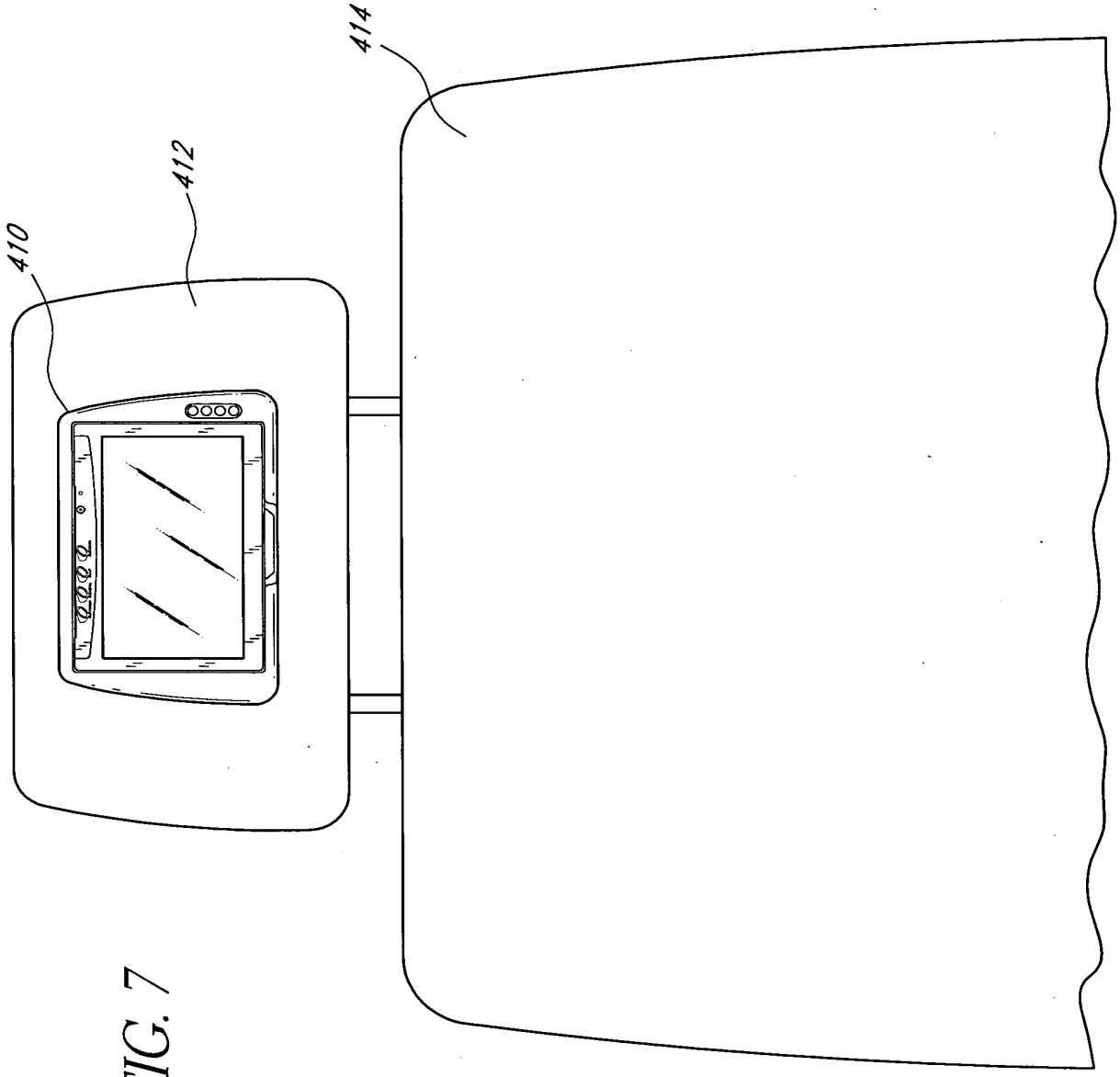


FIG. 7

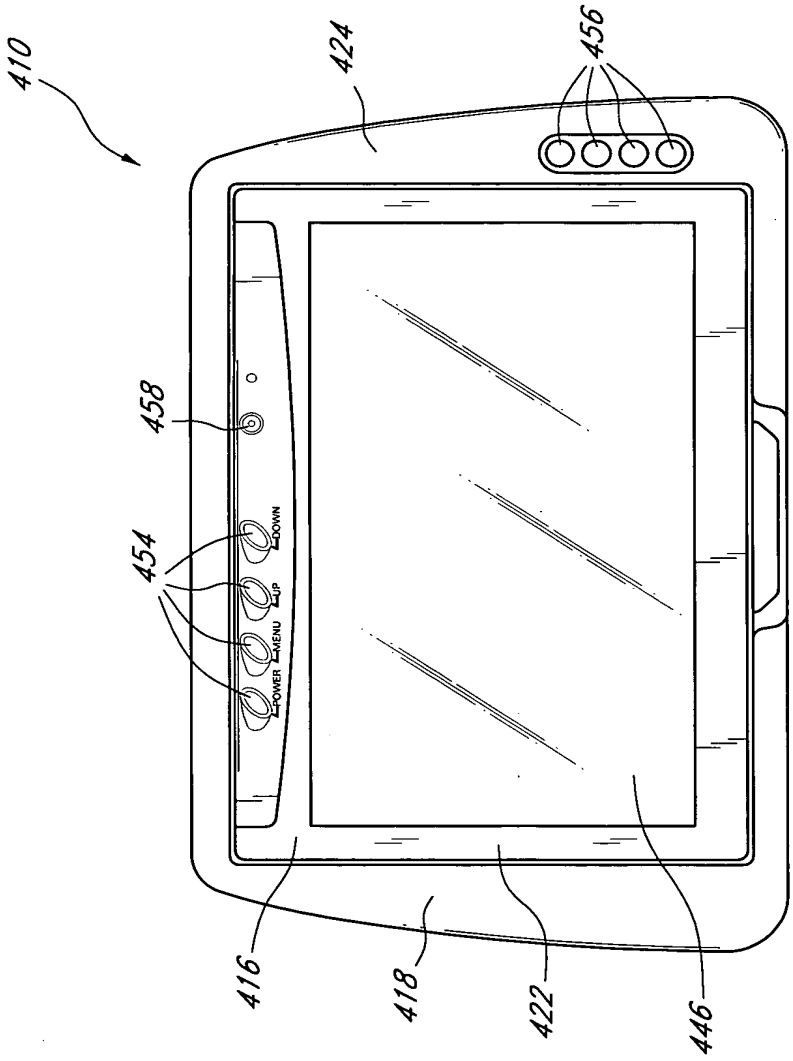


FIG. 7A

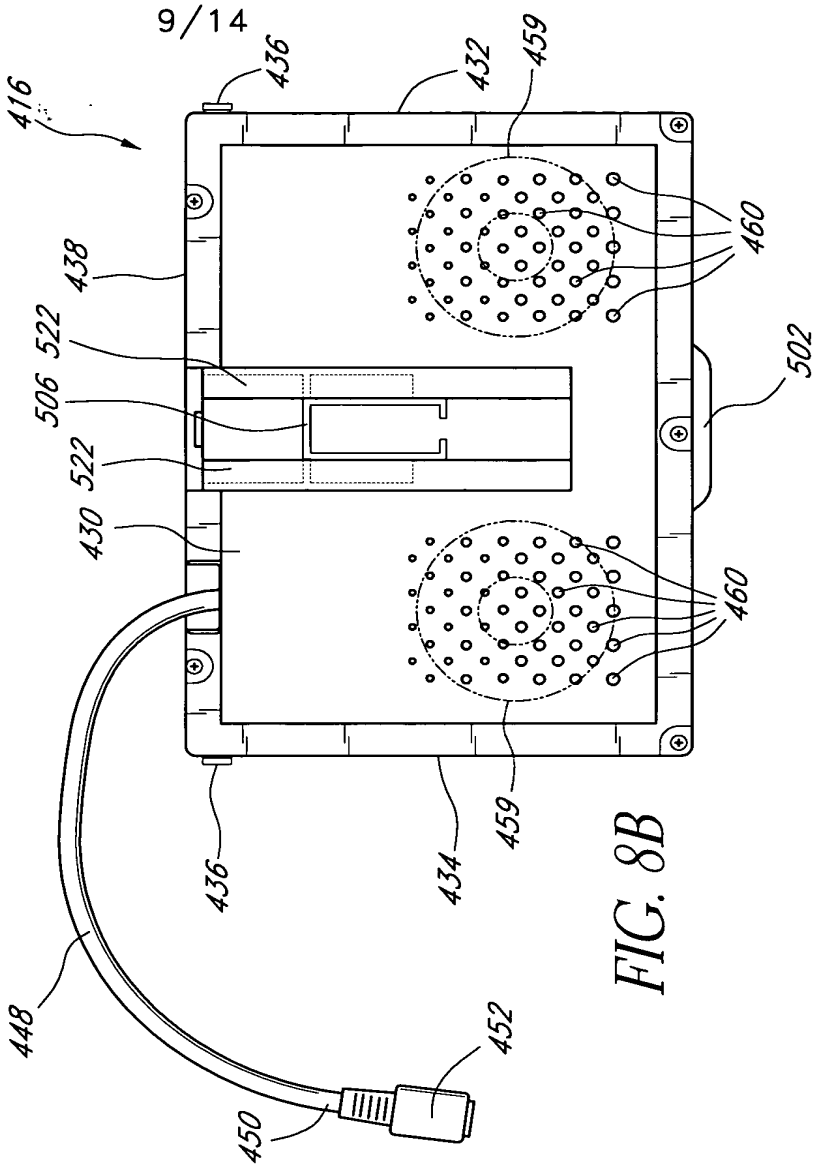


FIG. 8B

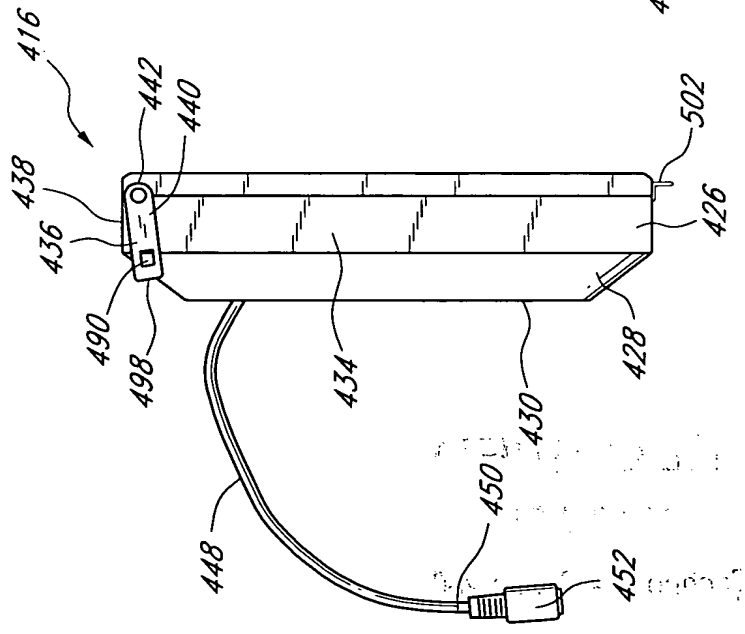


FIG. 8A

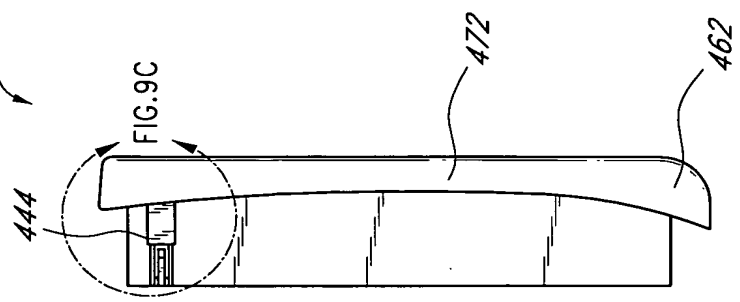


FIG. 9B

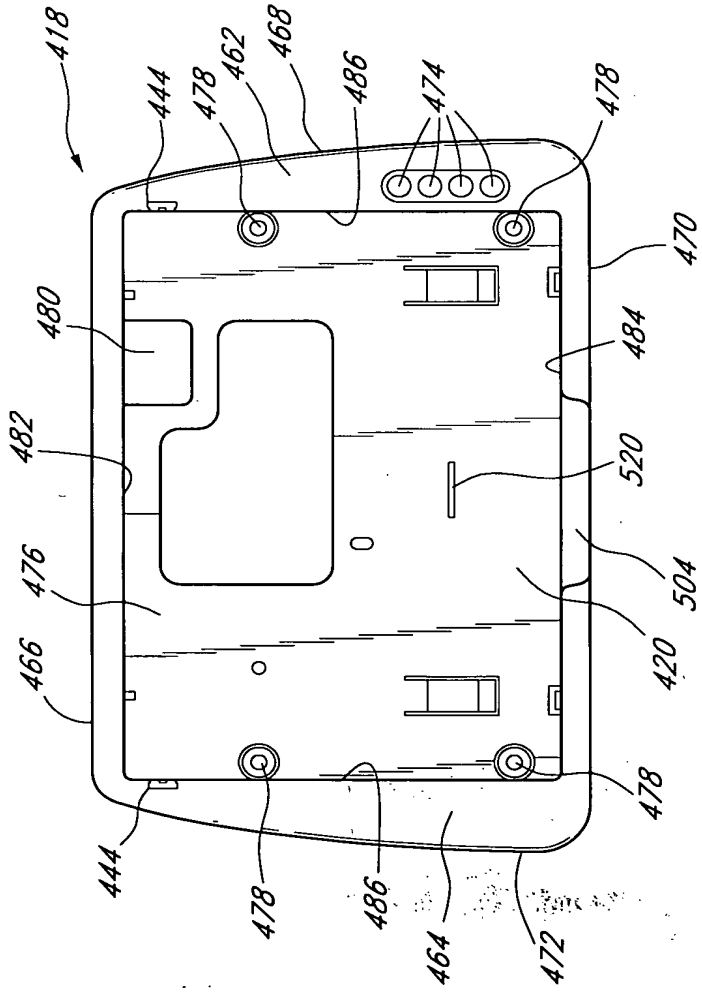


FIG. 9A

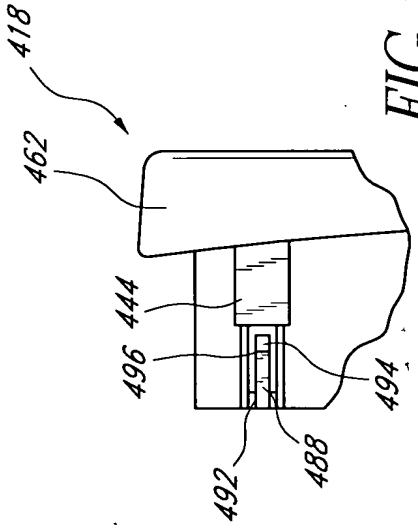


FIG. 9C

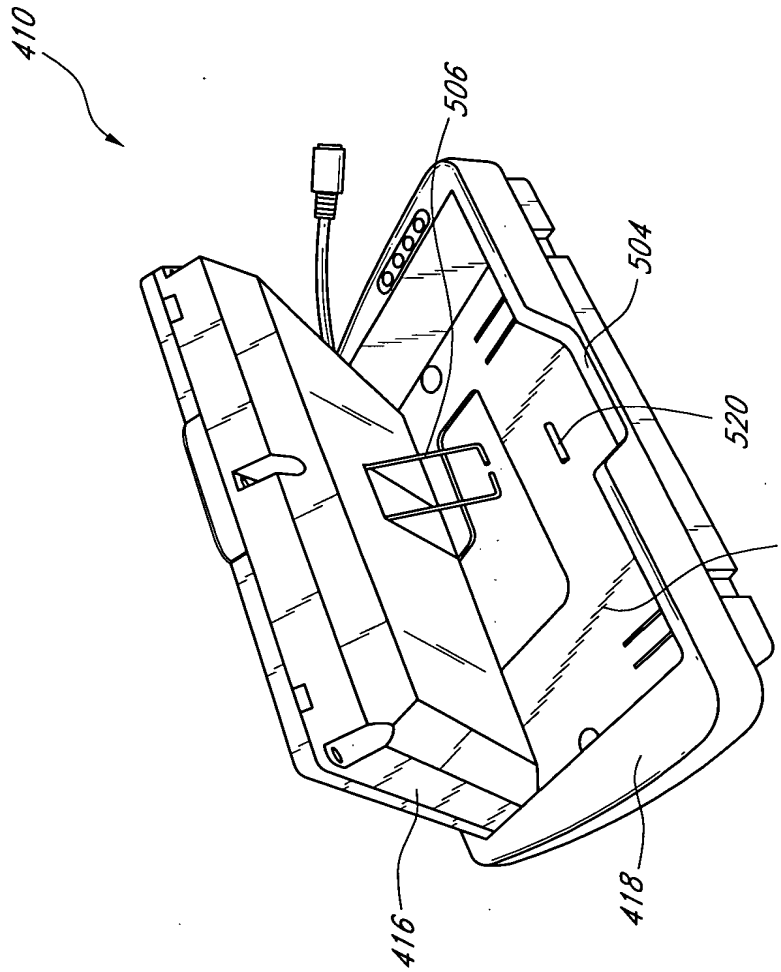


FIG. 10

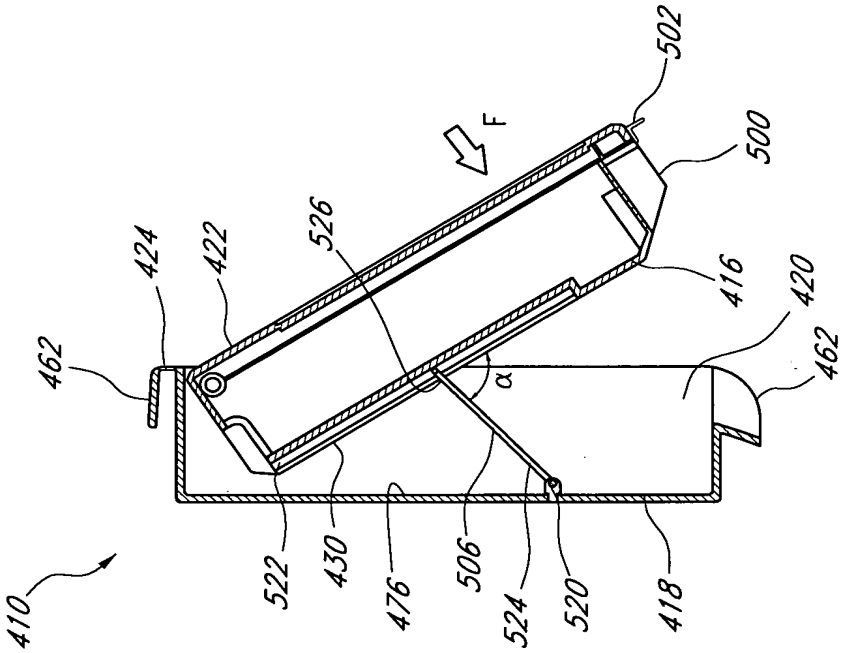


FIG. 11B

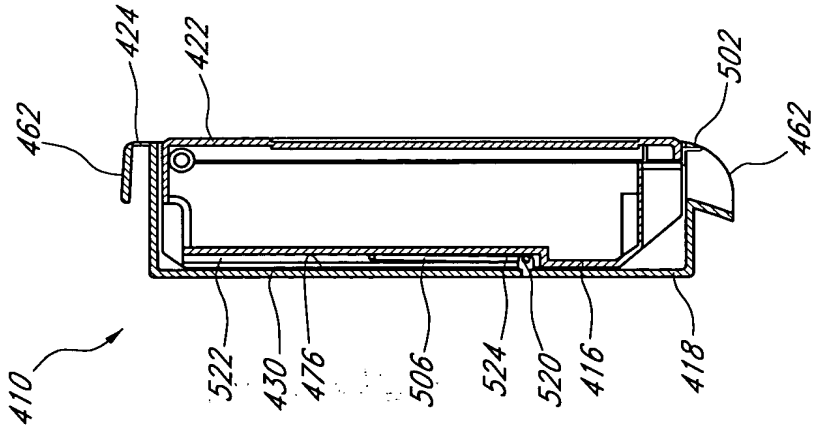


FIG. 11A

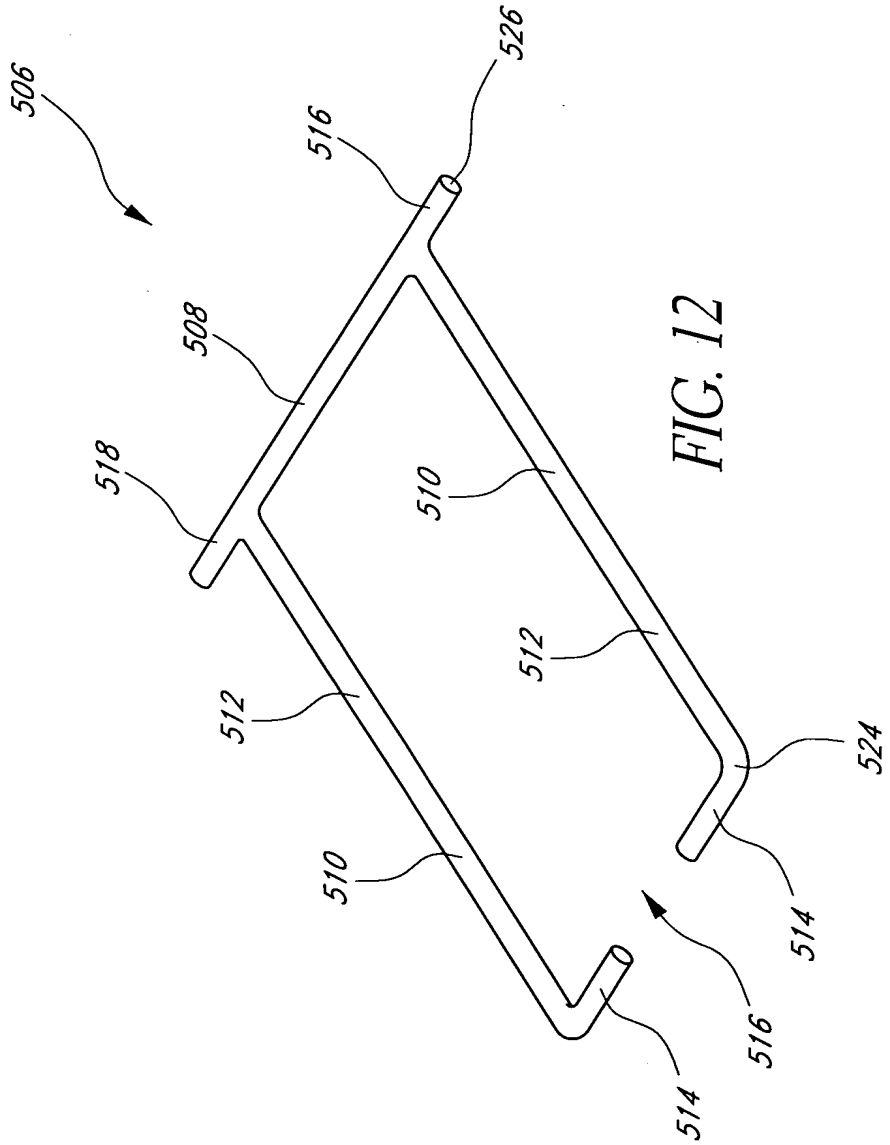


FIG. 12

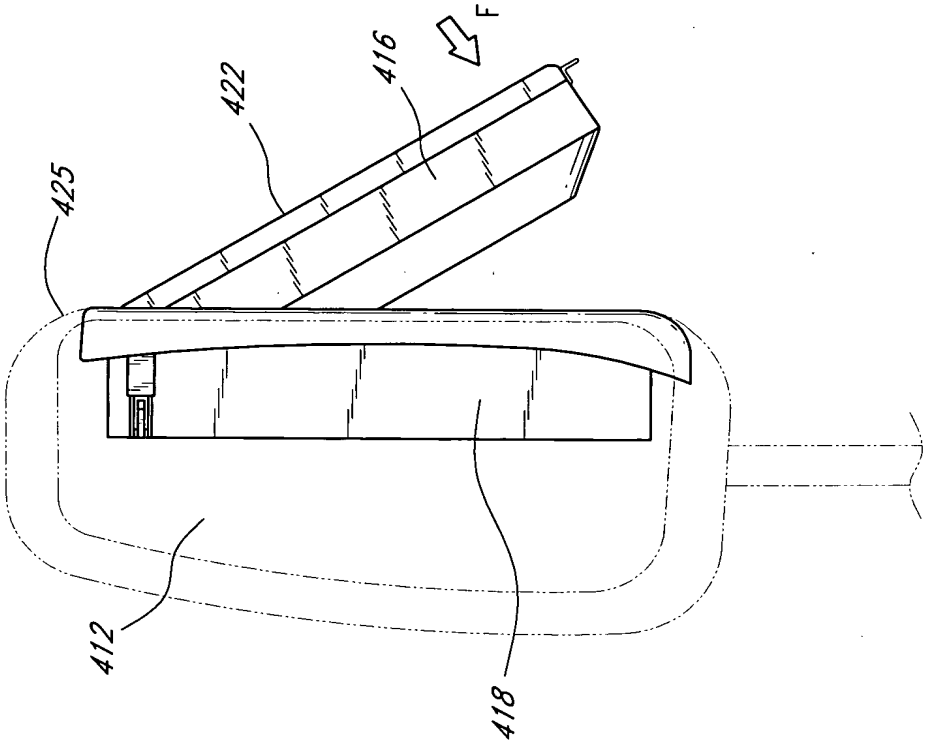


FIG. 13B

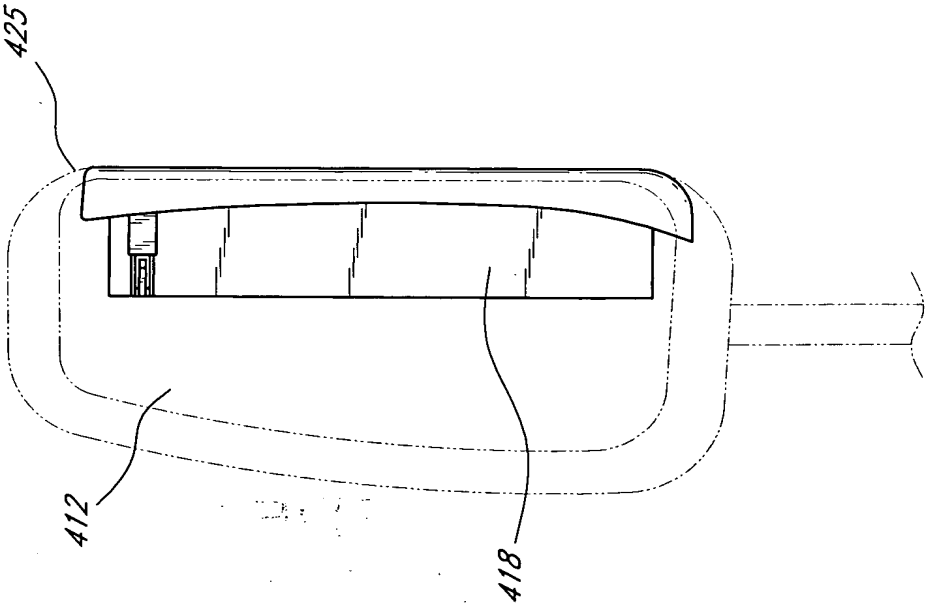


FIG. 13A

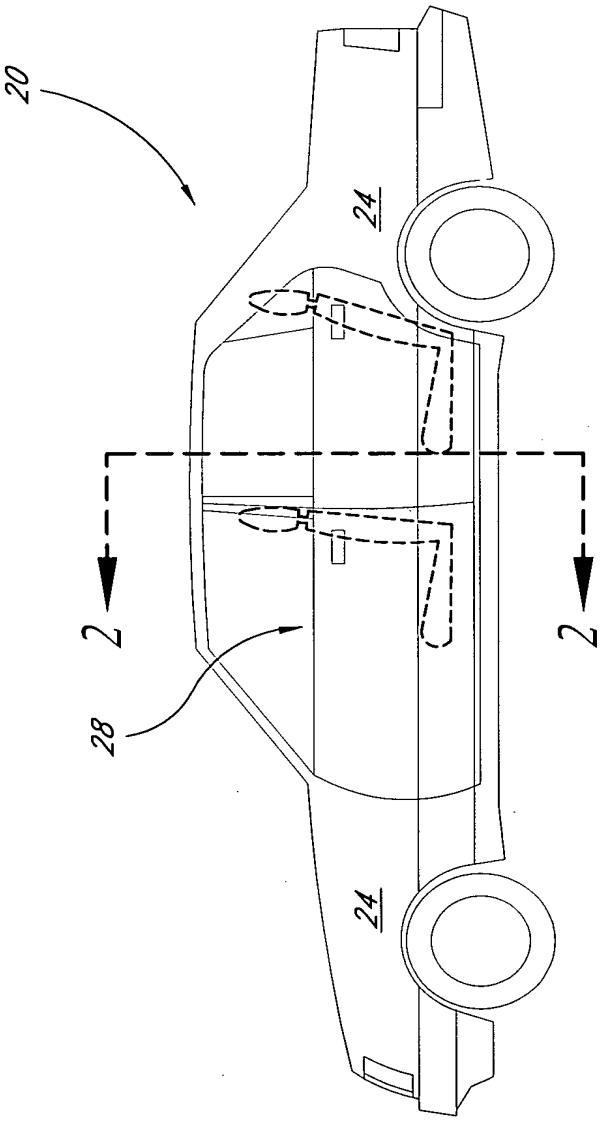


FIG. 1

APPENDIX – AMENDED DRAWINGS

AMD-5064.DOC // 121003

REMARKS

By way of summary, Claims 1-24 were pending in this application. In the present amendment, Applicant amends Claims 1 and 22-24. New Claims 25-29 are added. Accordingly, Claims 1-29 remain pending for consideration.

Objections to the Drawings and Specification

The Office Action objects to some of the figures for various informalities. As discussed above, these informalities are corrected in the substitute drawing sheets attached hereto in the Appendix. The Office Action objects to the specification as containing informalities in connection with the recitation of "the transmitter 48" and the "audiovisual system 348." These informalities are corrected herein. Correction of these informalities does not add new matter. Applicant respectfully requests that the Examiner withdraw the objections to the specification and drawings.

Rejection of Claims 1-5, 8-9, 11-20, and 22-24 Under 35 U.S.C. § 103(a)

The Office Action rejects Claims 1-5, 8-9, 11-20, and 22-24 under 35 U.S.C. § 103(a) as being unpatentable over Publication No. 20030020840A1 listing Hays et al. as inventors ("Hays") in view of U.S. Patent No. 4,647,980 to Steventon et al. ("Steventon").

Applicant has amended Claims 1, 22, and 24 herein to expedite allowance of this application, as discussed below. Therefore, Applicant will not address the propriety of the combination of Hays and Steventon nor whether the combination would teach each and every limitation of the original claims. Rather Applicant briefly demonstrates below that the claims as amended herein are allowable over these references. Applicant reserves the right to address the propriety of the combination of these references in a later paper and to pursue claims with scope similar to the original claims in a continuation application.

Hays and Stventon

Hays is directed to a video-audio switching system 28 for a motor vehicle that has a video-audio switch device 10 and four different video-audio input devices 40-43 electrically connected thereto. The system 28 also has four liquid crystal display screens 60-63, which are disclosed as being "mounted in the motor vehicle." See Abstract. However, no details are given as to the construction of these screens, let alone whether they are fixedly or adjustably mounted.

Steventon is directed to an aircraft passenger television system 10 that includes a plurality of compact television receivers 25 that are mounted on the rear side of a passenger seat. Each receiver 25 has a screen 26 that is angularly oriented at a fixed, selected tilt angle. The tilt angle is selected based on the average reclined angle of the passenger seat thereby orienting the screen at or near a substantially vertical attitude for passenger viewing. See Column 5, lines 2-19 and Figure 4.

Claims 1-20

In contrast to Hays and Steventon, Claim 1 as amended recites a mobile audiovisual system for a motorized land vehicle, comprising:

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor adapted to be mounted to a first headrest of the motorized land vehicle, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, no portion of the screen structure moves toward the floor of the cavity of the housing, the first video monitor being adapted and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor adapted to be mounted to a second headrest of the motorized land vehicle and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is adapted to be installed in the motorized land vehicle; and

a first wireless transmitter configured to transmit to the radio an audio portion of one of the first audiovisual signal or the second audiovisual signal;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

Hays and Steventon do not teach or suggest, alone or in combination, the foregoing limitations. Accordingly, Applicant respectfully requests the Examiner to allow Claim 1. Claims 2-20 depend from Claim 1 and further define the invention thereof. Accordingly, Claims 2-20 are allowable at least for the same reasons that Claim 1 is allowable and are allowable in their own right. Accordingly, Applicant respectfully requests the Examiner to allow Claims 2-20.

Claims 22-23

Similarly, Claim 22 recites a mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the headrest of the first seat, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, no portion of the screen structure moves toward the floor of the cavity of the housing, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

Hays and Steventon do not teach or suggest, alone or in combination, the foregoing limitations of Claim 22. Accordingly, Applicant respectfully requests the Examiner to allow Claim 22. Claim 23 depends from Claim 22 and further defines the invention thereof. Accordingly, Claim 23 is allowable at least for the same reasons that Claim 22 is allowable and is allowable in its own right. Accordingly, Applicant respectfully requests the Examiner to allow Claim 23.

Claim 24

Similarly, Claim 24 recites a mobile video system, comprising:

a motorized land vehicle comprising a passenger compartment within which are positioned a first seat having a first headrest and a second seat having a second headrest;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the first headrest of the first seat, the first video monitor comprising:

a housing comprising a first hinge portion adjacent an upper edge thereof and defining a storage cavity having a floor; and

a screen structure comprising a second hinge portion adjacent an upper edge thereof, the second hinge portion cooperating with the first hinge portion to pivotably secure the screen structure to the housing such that when the screen structure is pivoted outward from the housing, no portion of the screen structure moves toward the floor of the cavity of the

housing, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted to the second headrest of the second seat, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

Hays and Steventon do not teach or suggest, alone or in combination, the foregoing limitations of Claim 24. Accordingly, Applicant respectfully requests the Examiner to allow Claim 24.

Rejection Of Claim 21 Under 35 U.S.C. § 103(a)

The Office Action rejects Claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Hays in view of Steventon and further in view of Publication No. 20020005917A1 listing Rosen as the inventor ("Rosen").

As discussed above, Claim 21 depends from amended Claim 1, which is allowable over Hays and Steventon as discussed above. Because Claim 21 includes the limitations of amended Claim 1, Applicant will not address the propriety of the combination of Hays, Steventon, and Rosen, nor whether the combination would teach each and every limitation of Claim 21. Rather Applicant briefly demonstrates below that Claim 21 is allowable over these references.

Rosen

Rosen is directed to a display unit 12 mounted on the ceiling 10a of an automobile 10 overhead and forward of the passenger seating area 14. The display unit 12 includes a housing 20 and a screen 30. The screen 30 is coupled with the housing 20 by a hinge 34 for movement between a stowed position, wherein the screen 30 is contained within the housing 20 (see Figure

1), and a deployed position, wherein the screen 30 projects from the housing 20 to present the screen's viewing surface to rear-seat passenger P (see Figures 2 and 4). The hinge 34 is located at a top edge 30a of the screen 30 so that the screen may be reversibly deployed from the ceiling 10a. See Figure 4. The hinge 34 is also intended to rotate about a second axis B for side-to-side rotation. See Paragraph [0023]. Thus Rosen does not teach pivotably mounting a side portion of a video monitor nor does Rosen teach locating a video monitor in a headrest.

Although Rosen discloses a hinge, one skilled in the art would not be motivated modify the arrangement of Rosen to the arrangement of the present application. For example, it is not clear how the side-to-side rotation of the Rosen hinge could be accomplished with a side mounted hinge. Also, the Rosen display unit is much too long to be mounted in a headrest. In particular, Rosen teaches providing the housing 20 with a perimeter structure 22 having a proximal portion closer to the passenger seating area and a distal portion more remote from the passenger seating area. This arrangement is required to separate the screen 30 from a video control module 40, which directs operation of the screen 30 to keep the display unit thin. See paragraph [0019]. Thus, the housing 20 is elongated, being about twice the length of the screen 30. See Figure 3. Such an arrangement would be much too long for a headrest.

Hays, Steventon, and Rosen do not teach or suggest, alone or in combination, the limitations of Claim 1 or of Claim 21. Accordingly, Applicant respectfully requests the Examiner to allow Claim 21.

Rejection Of Claims 6, 7, and 10 Under 35 U.S.C. § 103(a)

The Office Action rejects Claims 6, 7, and 10 under 35 U.S.C. § 103(a) as being unpatentable over Hays in view of Steventon and further in view of U.S. Patent No. 6,533,592 to Shintani et al. ("Shintani").

As discussed above, Claims 6, 7, and 10 depend from amended Claim 1, which is allowable over Hays and Steventon as discussed above. Because Claims 6, 7, and 10 include the limitations of amended Claim 1, Applicant will not address the propriety of the combination of Hays, Steventon, and Shintani nor whether the combination would teach each and every limitation of original claims 6, 7, and 10. Rather Applicant briefly demonstrates below that the claims as amended herein are allowable over these references.

Shintani

Shintani is directed to a bi-directional remote control unit 100 that is adapted to control a television set 101. As can be seen in Figure 1, Shintani illustrates the television set 101 schematically and does not address any aspect of mounting the television set 101. Accordingly, Shintani does not affect the analysis of any of the claims set forth above in connection with the combination of Hays and Steventon.

Hays, Steventon, and Shintani do not teach or suggest, alone or in combination, the limitations of amended Claim 1 or of Claims 6, 7, and 10. Accordingly, Applicant respectfully requests the Examiner to allow Claims 6, 7, and 10.

NOTICE OF CO-PENDING APPLICATIONS

Applicant hereby notifies the Examiner of Applicant's co-pending U.S. Application Serial No. 10/219,987 (the '987 application), filed August 14, 2002, which includes related disclosure and claims. As of the filing of this response, Applicant is not aware of any completed Office Action in the '987 application.

CONCLUSION

For the foregoing reasons, Applicant respectfully asserts that this application is in condition for allowance, and Applicant respectfully requests that a notice of allowance be issued at the earliest opportunity.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: December 17, 2003

By: _____

Edward A. Schlatter
Registration No. 32,297
Attorney of Record
Customer No. 20,995
(949) 760-0404

Docket No.: JHNSF.014A

Customer No.: 20,995

2611/13

#6 W Lawson 1/5/04

AMENDMENT / RESPONSE TRANSMITTAL

Applicant	:	Chung L. Chang
App. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Art Unit	:	2611

CERTIFICATE OF MAILING

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

December 12, 2003
(Date)

Edward A. Schlatter, Reg. No. 33,297

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith for filing in the above-identified application are the following enclosures:

(X) Response to Office Action in 44 pages (including Appendix in 15 pages, including Amended Drawings in 14 pages).

(X) An Information Disclosure Statement.

(X) A PTO Form 1449 with 7 references.

(X) A check in the amount of $521.

(X) A Return prepaid postcard.

The fee has been calculated as shown below:

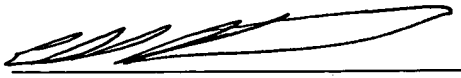
(X) The present application qualifies for small entity status under 37 C.F.R. § 1.27.

FEE CALCULATION				
FEE TYPE		**FEE CODE**	**CALCULATION**	**TOTAL**
Total Claims	29 - 24 = 5	2202 ($9)	5 x 9 =	$45
Independent Claims	5 - 3 = 2	2201 ($43)	2 x 43 =	$86
Multiple Claim		2203 ($145)		$0
2 Month Extension		2252 ($210)		$210
IDS Fee				$180
			TOTAL FEE DUE	**$521**

(X) An extension of time is hereby requested by payment of the appropriate fee indicated above.

12/18/2003 AADOF01 00000078 10361897
03 FC:2252 210.00 OP

(X) Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.



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121103

Docket No.: JHNSF.014A **Customer No. 20,995**

#8 W.Lawson 1/3/04

INFORMATION DISCLOSURE STATEMENT

Applicant	:	Chung L. Chang
App. No.	:	10/361,897
Filed	:	February 7, 2003
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Joseph G. Ustaris
Group Art Unit	:	2611

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Enclosed is form PTO-1449 listing 7 references that are also enclosed.

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(c)(2) before the mailing date of a final action and before the mailing of a Notice of Allowance. This Statement is accompanied by the fees set forth in 37 C.F.R. § 1.17(p). The Commissioner is hereby authorized to charge any additional fees which may be required or to credit any overpayment to Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: December 12, 2003

By: _____

Edward A. Schlatter
Registration No. 32,297
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Customer No. 20,995
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04 FC:1806 180.00 OP

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/361,897	02/07/2003	Chung L. Chang	JHNSF.014A	7412

20995 7590 08/07/2003

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EXAMINER
USTARIS, JOSEPH G

ART UNIT	PAPER NUMBER
2611	5

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	Application No.	Applicant(s)	
	10/361,897	CHANG, CHUNG L.	
	Examiner	Art Unit	
	Joseph G Ustaris	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "Figure 6 element 292A" has been used to designate both the first branch of the audio signal line and the second branch of the audio signal line. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show "remote control" as described in the specification (Paragraph 0033 lines 13-19). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "mobile video system 48". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- A typo, "transmitter 48" in paragraph 0029 line 17. "Transmitter 48" should be labeled as transmitter 148.
- "Audiovisual system 348" is describing the system labeled as "248" in Figure 6. See paragraph 0045 line 2 and 3, paragraph 0047 line 1, and paragraph 0049 line 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-4, 5, 8, 9, 11-20, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al. (US 20030020840A1) in view of Steventon et al. (4,647,980).

2. In regards to claim 1, Hays et al. discloses a mobile video-audio switching system that is mounted within a motor vehicle or "car" (See paragraph 0022 line 3). The mobile video-audio system utilizes four different video-audio input devices or "video source", four LCD screens or "video monitor" (See paragraph 0022 line15 and Fig. 4), four wireless remote control transmitters or "wireless transmitter" (See paragraph 0022

line 22 and Fig. 4), and a radio with a speaker system or "loudspeaker" (See paragraph 0022 line 32) where a signal from any video-audio input device can be sent to any individual LCD screen (See paragraph 0022 lines 13-18). However, Hays et al. lacks the LCD screens mounted to the headrests of the motor vehicle.

3. Steventon et al. discloses an aircraft passenger television system where the television receivers or "video monitor" are mounted on the passenger seats or "headrest" facing rearward (See Fig. 2 and Fig. 3). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Hays et al. LCD screens to be mounted on the seats or "headrest", as taught by Steventon et al., in order to provide the passengers a direct and leveled viewing of the LCD screens or "video monitor".

4. Regarding claim 2, Hays et al. discloses a headset or "headphones" and four wireless transmitters (See paragraph 0022 lines 22 and 34).

5. Regarding claim 3, Hays et al. discloses that any of the wireless transmitters may use IR signals or "infrared audio" (See paragraph 0022 lines 33-35).

6. Regarding claims 4 and 5, Hays et al. in view of Steventon et al. utilizes channel selector pushbuttons or "frequency selector" that are located on the television receivers or "video monitor" (See Steventon et al. Fig. 9 and column 5 lines 25-33).

7. Regarding claim 8, the channel selector pushbuttons or "frequency selector" as discussed in claims 4 and 5 also serves as an indicator or "frequency indicator". The depression of a certain button indicates the channel they are tuned to (See Steventon et al. Fig. 9 and column 5 lines 25-33).

8. Regarding claim 9, the channel selector as discussed in claims 4, 5, and 8 is mounted to a headrest as taught by Steventon et al (See Fig. 3 and Fig. 9).

9. Regarding claim 11, Hays et al. in view of Steventon et al. discloses a plurality of television receivers or "video monitor" that includes the channel selector/indicator or "frequency indicator" (See Steventon et al. Fig. 2).

10. Regarding claim 12, 13, and 14, Hays et al. may utilize multiple input devices including DVD players and computer games or "video game console" (See paragraph 0003 lines 4-8).

11. Regarding claim 15, Hays et al. discloses that any of the wireless transmitters may use RF signals or "FM transmitter" (See paragraph 0022 lines 33-35).

12. Regarding claim 16, Hays et al. mobile video-audio switching system is capable of sending a signal from any input device to any LCD screen (See paragraph 0022 lines 13-18).

13. Regarding claim 17, Hays et al. discloses four wireless transmitters (See paragraph 0022 line 22 and Fig. 4).

14. Regarding claim 18, 19 and 20, see rejections of claim 3 and 15.

15. Claim 22 is broader than claim 1 (where the second video monitor does not have the limitation of "mounted to a second headrest") and is analyzed as previously discussed with respect to claim 1. Furthermore, Hay et al. discloses a "motor vehicle" (paragraph 0022) whereas claim 22 calls for a "car". It would have been obvious to apply the teachings of Hays et al. "motor vehicle" to a car in order to take advantage of the massive consumer market of cars.

16. Claim 23 refers to a specific part of claim 1 (where the second video monitor is "mounted to a second headrest") and is analyzed as previously discussed with respect to claim 1.

17. Claim 24 contains the limitations of claims 1, 22, and 23 and is analyzed as previously discussed with respect to those claims.

18. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al. (US 20030020840A1) in view of Steventon et al. (4,647,980) as applied to claim 1-4, 5, 8, 9, 11-20, and 22-24 above, and further in view of Rosen (US 20020005917A1).

19. Hays et al. in view of Steventon et al. lacks LCD screens that could be adjusted without moving the headrests that the LCD screens are mounted to. Rosen discloses a display unit or "video monitor" that is mounted in a vehicle to provide passengers with some video entertainment. The display unit can be adjusted within the housing without disturbing the environment in which it is mounted to (See Fig. 3 and page 2 column 1 paragraph 0022 lines 9-11). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Hays et al. in view of Steventon et al. by making the LCD screens adjustable within the housing without disturbing the environment or "headrests", as taught by Rosen, in order to provide the passengers the capability to adjust the LCD screens or "video monitor" to obtain optimum viewing without disturbing the front passenger or driver.

20. Claims 6, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al. (US 20030020840A1) in view of Steventon et al. (4,647,980) as applied to claim 1-4, 5, 8, 9, 11-20, and 22-24 above, and further in view of Shintani et al. (US006532592B1).

21. In regards to claim 6, Hays et al. in view of Steventon et al. lacks a remote control that operates the "frequency selector" and that indicates the current frequency that is in use. Shintani et al. discloses a remote control that is used to control a television or "video monitor". The remote control is capable of changing channels or "frequency" as well as display information like the current channel or "frequency" on a crystal display or "indicator" (See Fig. 2 element 103 and 104, column 3 lines 66-67, column 4 lines 1-5). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Hays et al. in view of Steventon et al. to include a remote control, as taught by Shintani et al., in order to provide control and information to users or "passengers" seated away from the television or "video monitor".

22. Regarding claims 7 and 10, Shintani et al. shows a remote control that consists of a crystal display or "indicator" (See Fig. 2 element 103 and column 4 lines 1-5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Take note of Oxman (4,352,200) for his use of a wireless system to transmit the audio.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Ustaris whose telephone number is (703) 305-0377. The examiner can normally be reached on Monday-Friday with alternate Fridays off from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile, can be reached on (703) 305-4380. The fax phone number for this Group is (703) 308-5359.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 305-4700.

JGU
August 5, 2003

ANDREW FAILE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Notice of References Cited	Application/Control No. 10/361,897	Applicant(s)/Patent Under Reexamination CHANG, CHUNG L.	
	Examiner Joseph G Ustaris	Art Unit 2611	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-2003/0020840 A1	01-2003	Hays et al.	348/837
	B	US-6,532,592 B1	03-2003	Shintani et al.	725/141
	C	US-2002/0005917 a1	01-2002	Rosen, John B.	348/837
	D	US-4,352,200	09-1982	Oxman, Martin H.	455/41.2
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. JHNSF.014A	APPLICATION NO. Unknown
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT Chung L. Chang	
(USE SEVERAL SHEETS IF NECESSARY)	FILING DATE Herewith	GROUP Unknown

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
JV	1	4,584,603	4/22/86	Harrison			
JV	2	4,635,110	1/6/87	Weinblatt			
JV	3	4,647,980	3/3/87	Steventon et al.			
JV	4	5,507,556	4/16/96	Dixon			
JV	5	5,713,633	2/3/98	Lu			
JV	6	5,842,715	12/1/98	Jones			
JV	7	5,997,091	12/7/99	Rech et al.			
JV	8	6,097,448	8/1/00	Perkins			
JV	9	6,250,967	6/26/01	Chu			
JV	10	6,304,173	10/16/01	Pala et al.			
JV	11	6,394,551	5/28/02	Beukema			
JV	12	2002/0105507 A1	8/8/02	Tranchina et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO
	13							
	14							
	15							

EXAMINER INITIAL		**OTHER DOCUMENTS** (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
	16	
	17	
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	19	
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EXAMINER Joseph G. Hebert	DATE CONSIDERED 8/4/03

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L Number	Hits	Search Text	DB	Time stamp
-	26	(725/75).CCLS.	USPAT; US-PGPUB	2003/08/04 13:50
-	1	("4647980").PN.	USPAT; US-PGPUB	2003/08/04 13:51
-	1	("6304173").PN.	USPAT; US-PGPUB	2003/08/04 13:51
-	46	(348/837).CCLS.	USPAT; US-PGPUB	2003/08/04 13:51
-	448	(381/86).CCLS.	USPAT; US-PGPUB	2003/08/04 13:51
-	251	((381/86).CCLS.) and frequency	USPAT; US-PGPUB	2003/07/31 09:04
-	43	(((381/86).CCLS.) and frequency) and (indicator status)	USPAT; US-PGPUB	2003/08/04 13:51
-	165	(((381/86).CCLS.) and frequency) and select$3	USPAT; US-PGPUB	2003/07/31 09:31
-	11	((((381/86).CCLS.) and frequency) and select$3) and headrest	USPAT; US-PGPUB	2003/08/04 13:53
-	439	(455/345).CCLS.	USPAT; US-PGPUB	2003/07/31 09:50
-	4	((455/345).CCLS.) and headrest	USPAT; US-PGPUB	2003/07/31 09:51
-	205	((455/345).CCLS.) and select$3	USPAT; US-PGPUB	2003/07/31 09:52
-	143	(((455/345).CCLS.) and select$3) and (indicator frequenc$4)	USPAT; US-PGPUB	2003/08/04 13:52
-	46	(348/837).CCLS.	USPAT; US-PGPUB	2003/07/31 11:15
-	182	(348/825).CCLS.	USPAT; US-PGPUB	2003/08/04 13:51
-	1	((348/825).CCLS.) and headrest	USPAT; US-PGPUB	2003/07/31 11:19
-	9	((348/825).CCLS.) and tilt	USPAT; US-PGPUB	2003/07/31 11:21
-	4	((348/825).CCLS.) and motor	USPAT; US-PGPUB	2003/07/31 11:21
-	64	(725/76-77).CCLS.	USPAT; US-PGPUB	2003/08/04 13:52
-	439	(455/345).CCLS.	USPAT; US-PGPUB	2003/07/31 12:13
-	133	((455/345).CCLS.) and frequency and select$3	USPAT; US-PGPUB	2003/07/31 12:17
-	4	((455/345).CCLS.) and headrest	USPAT; US-PGPUB	2003/07/31 12:15
-	242	455/154.1	USPAT; US-PGPUB	2003/07/31 12:17
-	148	455/154.1 and frequency and select$3	USPAT; US-PGPUB	2003/08/04 13:53
-	50	(455/154.1 and frequency and select$3) and indicator	USPAT; US-PGPUB	2003/07/31 13:42
-	62	455/157.2	USPAT; US-PGPUB	2003/07/31 13:43
-	9	455/157.2 and frequency and selector	USPAT; US-PGPUB	2003/08/04 13:54
-	53	(455/159.2).CCLS.	USPAT; US-PGPUB	2003/07/31 13:46
-	30	("3028488" | "3546386" | "4069455" | "4130801" | "4507646" | "4734897" | "5073976" | "5161251" | "5214787" | "5239540" | "5319716" | "5408686" | "5444675" | "5448757" | "5455823" | "5490284" | "5526284" | "5572442" | "5732324" | "5794138" | "5797088" | "5828951" | "5862235" | "5867794" | "5910866" | "5970390" | "6002924" | "6023616" | "6052603" | "6272328").PN.	USPAT	2003/07/31 14:00
-	209	(455/151.1-151.2).CCLS.	USPAT; US-PGPUB	2003/07/31 14:20
-	40	((455/151.1-151.2).CCLS.) and frequency and indicator	USPAT; US-PGPUB	2003/07/31 14:11

-	65	(455/152.1).CCLS.	USPAT; US-PGPUB	2003/07/31 14:26
-	10	((455/152.1).CCLS.) and indicator	USPAT; US-PGPUB	2003/08/04 13:54

L Number	Hits	Search Text	DB	Time stamp
1	77	streck.in.	USPAT	2003/07/31 15:28
2	5	streck.in. and 455/$.ccls.	USPAT	2003/07/31 15:32
3	2160	wireless same ((select$4 or choos$6 or set$4) near5 (carrier or frequen$2 or channel$1))	USPAT	2003/07/31 15:34
4	1322	wireless same (select$4 near5 (carrier or frequen$2 or channel$1))	USPAT	2003/07/31 15:38
5	74	(wireless same (select$4 near5 (carrier or frequen$2 or channel$1))) and 348/$.ccls.	USPAT	2003/07/31 15:34
6	423	(wireless near5 transmi$6) same (select$4 near5 (carrier or frequen$2 or channel$1))	USPAT	2003/07/31 15:39
7	31	((wireless near5 transmi$6) same (select$4 near5 (carrier or frequen$2 or channel$1))) and 348/$.ccls.	USPAT	2003/07/31 15:44
8	7	((remote adj control) near5 led$1) near10 (channel$1 or frequenc$4)	USPAT	2003/07/31 15:52
9	170	(remote adj control) near10 (displa$4 near5 (channel$1 or frequenc$4))	USPAT	2003/07/31 15:53

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In re Application of:
CHANG, CHUNG L.
Application No. 10/361,897
Filed: February 7, 2003
For: MOBILE VIDEO SYSTEM

DECISION ON PETITION
TO MAKE SPECIAL

This is a decision on the petition filed February 7, 2003 under Manual of Patent Examination Procedure §708.02, VIII requesting accelerated examination.

The petition under Manual of Patent Examination Procedure §708.02, VIII, must:
(1) be filed prior to receiving any examination by the examiner,
(2) be accompanied by the required fee- $130,
(3) the claims should be directed to a single invention (if it is determined that the claims pertain to more than one invention, then applicant will have to make an election without traverse or forfeit accelerated examination status),
(4) state that a pre-examination search was made, and fully discuss the search method employed, such as classes and subclasses searched, publications, Chemical abstracts, patents, etc. A search made by a foreign patent office satisfies this requirement,
(5) be accompanied by a copy of each of the references most closely related to the subject matter encompassed by the claims if said references are not already of record,
(6) fully discuss the references, pointing out with the particularity required by 37 C.F.R. §1.111(b) and (c), how the claimed subject matter is patentable over the references.

The petition meets all the above-listed requirements. Accordingly, the petition is **GRANTED**.

The application will retain its special status throughout its entire prosecution, including any appeal to the Board of Patent Appeals and Interferences, subject only to diligent prosecution by the applicant. After mailing, the application will be forwarded to the examiner for immediate handling.

Kenneth A. Wieder
Special Program Examiner
Technology Center 2600
(703) 305-4710

02/11/03 10361897.020703A

PATENT

Attorney Docket No. JHNSF.014A
Date: February 7, 2003

United States Patent and Trademark Office
P.O. Box 2327
Arlington, VA 22202

ATTENTION: BOX PATENT APPLICATION

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): **Chung L. Chang**

For:

MOBILE VIDEO SYSTEM

Enclosed are:

(X) Six (6) sheets of drawings.

(X) Recordation form cover sheet with 1-page assignment.

(X) A power of attorney form and copy of assignment.

(X) Initial signed declaration by inventor(s).

(X) Petition to Make Special for New Application.

(X) Information Disclosure Statement, Form PTO-1449 and twelve (12) references.

(X) Return prepaid postcard.

The present application qualifies for small entity status under 37 C.F.R. § 1.27. The fees are calculated below:

CLAIMS AS FILED

FOR	NUMBER FILED	NUMBER EXTRA	RATE	FEE
Basic Fee			$375	$375
Total Claims	24 - 20 =	4 ×	$9	$ 36
Independent Claims	3 - 3 =	0 ×	$42	$
If application contains any multiple dependent claims(s), then add			$140	$
TOTAL FILING FEE		$411		

(X) A check in the amount of $541 to cover the filing fee (including the Petition fee) is enclosed.

(X) A check in the amount of $40 to cover the assignment recording fee.

(X) The Commissioner is hereby authorized to charge any additional fees which may be required, now or in the future, or credit any overpayment to Account No. 11-1410.

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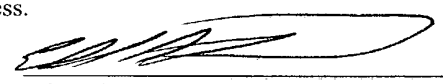

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Attorney Docket No.	:	JHNSF.014A
Applicant(s)	:	Chung L. Chang
For	:	MOBILE VIDEO SYSTEM
Attorney	:	Edward A. Schlatter
"Express Mail" Mailing Label No.	:	EV 262194001 US
Date of Deposit	:	February 7, 2003

I hereby certify that the accompanying

Transmittal letter; specification in 22 pages; 6 sheets of drawings; **Signed** Declaration by Inventor in 1 page; Recordation Form Cover Sheet and Assignment in 2 pages; Power of Attorney by Assignee in 2 pages; Information Disclosure Statement, PTO Form 1449 with 12 references; Petition to Make Special; Check(s) for Filing Fee(s); Return Prepaid Postcard

are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and are addressed to the United States Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202.

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JHNSF.014A PATENT

MOBILE VIDEO SYSTEM

Related Applications

[0001] This application claims the benefit of U.S. Application No. 60/435810, filed December 20, 2002, and also claims the benefit of U.S. Application Serial No. 60/421,936, filed October 28, 2002, the entire contents of both of which are hereby expressly incorporated by reference.

Background of the Invention

Field of the Invention

[0002] This application relates to a mobile video system having more than one audiovisual source and more than one video monitor. More specifically, a mobile video system is provided that includes a wireless transmitter that transmits an audio portion of an audiovisual signal from an audiovisual source to a receiver, which may be a car radio.

Description of the Related Art

[0003] Audiovisual systems for vehicles have been commonplace aboard commercial aircraft and motor coaches for quite some time. Such systems have also been incorporated into automobiles. For example, U.S. Patent No. 6,339,455 to Allan et al. discloses a digital video disc vehicle television mounted to the ceiling of an automobile. Similarly, U.S. Patent No. 5,775,762 to Vitito discloses an overhead console having a flip-down monitor, where the console is mounted to the ceiling of an automobile.

[0004] The systems disclosed in U.S. Patents No. 6,339,455 and 5,775,762, provide a TV monitor that is mounted to the ceiling of the automobile. Several passengers can watch the same program on the monitor simultaneously. While suitable for simultaneous viewing, passengers often have varying taste in entertainment and might, therefore, prefer to watch different programs. These systems, unfortunately, do not allow different passengers to select programming that suits them. This is a significant draw-back for one of the primary applications of such systems: occupying children during long road-trips. Children of different ages require different sorts of programming to maintain their interests. Accordingly, a child will not be distracted by programming that is not tailored to him or her.

[0005] Some of the systems designed for aircraft provide a unit associated with each seat (i.e., a viewer unit) that allow each passenger to select among a range of programs. However, hardwire connections are required between a device that transmits the programs (i.e., a program device) and the viewer unit. Thus, these systems require extensive wiring to interconnect the program device and the viewer unit. Moreover, because the systems require extensive wiring, as a practical matter, they can only be installed during manufacturing and cannot easily be after-market installed. Also, these systems generally only enable private listening of programs via headphones. While aircraft sometimes have overhead loudspeakers, these loudspeakers are generally not used for programs, but rather are reserved for announcements, e.g., safety instruction, arrival information, and customs procedures. Thus these systems relay the audio signal of the programs to passengers in only one way, through headphones.

Summary of the Invention

[0006] In one embodiment, a mobile audiovisual system for a car is provided. The mobile audiovisual system includes a first video source, a second video source, a first video monitor, and a second video monitor. The mobile audiovisual system also includes a radio and a first wireless transmitter. The first video source generates a first audiovisual signal. The second video source that generates a second audiovisual signal. The first video monitor is adapted to be mounted to a first headrest of the car. The first video monitor is also adapted to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is adapted to be mounted to a second headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The radio includes a loudspeaker and is adapted to be installed in the car. The first wireless transmitter transmits to the radio an audio portion of one of the first audiovisual signal or the second audiovisual signal. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

[0007] In another embodiment, a mobile video system is provided that includes a car, a first video source, a second video source, a first video monitor, a second video monitor, a radio, and a first wireless transmitter. The car includes a passenger compartment

and a first seat having a first headrest. The first seat is positioned in the passenger compartment. The first video source generates a first audiovisual signal. The second video source generates a second audiovisual signal. The first video monitor is mounted to the headrest of the first seat. The first video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is mounted in the passenger compartment. The second video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The radio includes a loudspeaker and is installed in the vehicle. The first wireless transmitter transmits an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

[0008] In another embodiment, a car-based mobile video system includes a car, a first video source, a second video source, a first video monitor, a second video monitor, a radio, and a first wireless transmitter. The car has a passenger compartment within which a first seat having a first headrest and a second seat having a second headrest are positioned. The first video source generates a first audiovisual signal. The second video source generates a second audiovisual signal. The first video monitor is mounted to the first headrest of the first seat. The first video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is mounted to the second headrest of the second seat. The second video monitor is configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The radio includes a loudspeaker that is installed in the vehicle. The first wireless transmitter is configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

[0009] In another embodiment, a mobile video system includes a car, a first video source, a second video source, a first video monitor, a second video monitor, an audio signal receiver, and a first wireless transmitter. The car has a passenger compartment within which

a first seat having a first headrest and a second seat having a second headrest are positioned. The first video source generates a first audiovisual signal. The second video source generates a second audiovisual signal. The first video monitor is mounted to the first headrest of the first seat. The first video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is mounted to the second headrest of the second seat. The second video monitor is configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The first wireless transmitter is configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the audio signal receiver. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

Brief Description of the Drawings

[0010] These and other features, aspects and advantages of the present invention will be better understood with reference a preferred embodiment, which is illustrated in the accompanying drawings. The illustrated embodiment is merely exemplary and is not intended to define the outer limits of the scope of the present invention. The drawings of the illustrated arrangement comprise six figures.

[0011] Figure 1 is a side elevation view of a car arranged and configured in accordance with certain features, aspects and advantages of the present invention.

[0012] Figure 2 is a cross sectional view of the car of Figure 1.

[0013] Figure 3 is a schematic view of one embodiment of a mobile video system having a video monitor mounted in a headrest of a vehicle seat.

[0014] Figure 4 is schematic view of the embodiment of Figure 3, showing more details of the video monitor;

[0015] Figure 5 is a cross-sectional view similar to that of Figure 2, showing a car equipped with one embodiment of a dual-monitor mobile video system;

[0016] Figure 6 is a schematic view of one embodiment of a dual monitor mobile video system.

Detailed Description of the Preferred Embodiment

[0017] With reference now to Figures 1 and 2, a car featuring certain features, aspects and advantages of the present invention will be described. The car, indicated generally by the reference numeral 20, is an environment for which many features, aspects and advantages of the embodiments described herein have been specially adapted. As used herein "car" is a broad term and is used in its ordinary sense and refers, without limitation, to any personal land transportation vehicle, e.g., a passenger automobile, a truck, a van, a mini-van, a sport-utility vehicle, etc. Nevertheless, certain features, aspects and advantages of the embodiments described herein can be used with other vehicles.

[0018] The car 20 generally comprises a chassis (not shown) to which a body having a plurality of body panels 24 is attached. A passenger compartment 28 is defined by the body. A dashboard 30 preferably is positioned within the passenger compartment 28. The dashboard 30 usually is coupled with the chassis of the car 20 and houses several components of the car 20, e.g., a car radio 31. A first front seat 32 that includes a first headrest 36 is positioned within the passenger compartment 28. Preferably a second front seat 40 that includes a second headrest 44 is also positioned within the passenger compartment 28. One skilled in the art will appreciate that the headrests 36, 44 need not take any particular form. For example, in one embodiment, at least one of the headrests 36, 44 is detachably attached to the corresponding front seat 32, 40. In another embodiment, at least one of the headrests 36, 44 is integrally formed with the corresponding front seat 32, 40. In other words, the headrests 36, 44 can take many forms, generally providing the function of supporting a head of a passenger sitting in the front seats 32, 40. In some embodiments, the size of at least one of the headrests 36, 44 must be sufficient to house a video monitor, as discussed in more detail below.

[0019] Figures 2-4 show one embodiment of a mobile video system 48 that preferably is positioned in the car 20. The mobile video system 48 preferably includes a video source 52, a video monitor 56 and the radio 31. As discussed in more detail below, the mobile video system 48 provides wireless transmission of an audio portion of an audiovisual signal and a manually operated audio frequency selector, or manual actuator, that selects a wireless transmission frequency.

[0020] The video source 52 is also referred to herein as an "audiovisual source." The terms "video source" and "audiovisual source" are broad terms that are used in their

ordinary sense and refer, without limitation, to any device that generates an audiovisual signal that includes a video portion that can be processed to produce a video signal (e.g., to produce a visual image) and an audio portion that can be processed to produce an audio signal (e.g., sound at a level high enough to be heard by a human ear). For example, "video source" and "audiovisual source" are broad enough to cover a digital video-disc player, a video cassette player, a video-game console, and a computer that can generate audiovisual signals, etc. Thus, the video source 52 is described herein as generating or providing an audiovisual signal.

[0021] Video sources typically have a variety of jacks for interconnecting the sources with other components. For example, the sources may have output jacks to convey the audio portion of an audiovisual signal and may have output jacks to convey the video portion of an audiovisual signal. Video sources may also have output jacks to convey to other devices power or control signals, e.g., remote control signals. Video sources also may have input jacks to receive from other sources power, control signals, or other audiovisual signals.

[0022] The video source 52 advantageously can be positioned in a wide variety of locations in the car 20. In some embodiments, the video source 52 is preferably positioned within the passenger compartment 28 so as to be accessible while the car 20 is in motion. For example, the video source 52 is shown positioned beneath the front seat 32 in the embodiment illustrated by Figure 2. In other embodiments, the video source 52 is positioned in the dashboard 30. It may be advantageous to position the video source 52 in a more secure location, such as in a storage compartment that is not accessible from the passenger compartment 28 (e.g., the trunk). Alternatively, in some cars, there may be sufficient overhead space in the passenger compartment 28 for the source 52 to be mounted overhead. One skilled in the art will appreciate that the source 52 could be housed in an overhead console (not shown). In some embodiments, more than one video source is provided. Such embodiments are discussed in connection with Figures 5 and 6.

[0023] The mobile video system 48 preferably also includes a set of input jacks 60. As discussed more fully below, a first audiovisual signal line 64 having an audio branch 64A and a video branch 64B interconnects the input jacks 60 and the video monitor 56. In one embodiment, the first video source 52 connects to the set of input jacks 60 through a

series of signal lines. For example, a remote sensor signal line 68 that is connected to the first video source 52 is received by a first remote sensor jack 72. Preferably, a video signal line 76 interconnects the video source 52 and a primary video signal jack 80. In the illustrated embodiment, a secondary video signal jack 88 is provided which can receive a signal line connected to a second video source. A left-side audio signal line 92 has a first branch 92A and a second branch 92B. The first branch 92A of the left-side audio signal line 92 interconnects the video source 52 and a left-side audio signal jack 96. A right-side audio signal line 100 has a first branch 100A and a second branch 100B. The first branch 100A of the right-side audio signal line 100 interconnects the first video source 52 and a right-side audio signal jack 104.

[0024] As discussed above, the mobile video system 48 provides wireless transmission of audio signals. Preferably the mobile video system 48 includes at least one wireless transmitter. In one embodiment a primary wireless transmitter 108 is provided that is coupled with the video monitor 56 via a signal line 112. As is discussed more fully below, the signal line 112 may be capable of conveying at least one input command from a passenger that may include directing the transmitter 108 to switch from one frequency to another frequency. In the illustrated embodiment, the primary wireless transmitter 108 and the video source 52 also are connected via the audio signal lines 92, 100. In particular, the second branch 92B of the left-side audio signal line 92 interconnects the video source 52 and the primary wireless transmitter 108 and the second branch 100B of the right-side audio signal line 100 interconnects the video source 52 and the primary wireless transmitter 108. Other embodiments with a single connection between the primary wireless transmitter 108 and the video source 52 can also be provided.

[0025] Wireless transmission in the mobile video system 48 is indicated by the arrow 120. Wireless transmission of the audio signals advantageously eliminates the need for extensive installation of wiring in the car 20 to physically connect the source 52 and the radio 31. This is particularly advantageous for after-market installation of the mobile video system 48. The primary wireless transmitter 108 preferably can employ any radio frequency transmission method that is compatible with the receiver 116, e.g., amplitude modulation transmission, short-wave transmission, etc. In one embodiment, the primary wireless transmitter 108 comprises a frequency modulation (FM) transmitter that transmits audio

signals in a wireless manner to at least one audio signal receiver 116. FM transmission is particularly advantageous because it produces higher quality sound reproduction than other transmission techniques, e.g., amplitude modulation transmission.

[0026] The audio signal receiver 116 is a factory or a permanently installed radio in one embodiment, e.g. the car radio 31, and is a portable radio within the vehicle in another embodiment. In one embodiment, the audio signal receiver 116 provides audio signals to at least one loudspeaker, or speaker 124 to be audibly reproduced for one or more passengers in the car 20. Thus, a group of listeners can enjoy the audio signals generated by the audiovisual source 52. In another embodiment, the at least one audio signal receiver 116 comprises two sets of headphones that include speakers for private listening by a single passenger. As discussed more fully below, at least one set of headphones can also be provided to receive audio signals from a secondary audio signal transmitter.

[0027] One embodiment of the video monitor 56 is shown in more detail in Figure 4. The embodiment illustrated in Figure 4 is particularly suited for mounting in a headrest of a vehicle seat. In other embodiments, the video monitor 56 can be configured to be suspended from the ceiling of the vehicle. Details of the construction of such a system are set forth in U.S. Patent No. 6,409,242, the entire contents of which is hereby expressly incorporated herein and made a part of this specification. The video monitor 56 illustrated in Figure 4 includes a screen structure 128 that is pivotally attached to a housing 132. Both the housing 132 and an outer casing of the screen structure 128 are preferably constructed of a high-strength plastic, so that the video monitor 56 is lightweight and durable. The housing 132 is configured to be embedded in a headrest, e.g., the independently moveable headrest 36. In particular, the housing 132 is embedded in a rear-facing surface 136 of the headrest 36 (See Figure 3). The housing 132 preferably defines a cavity that receives the screen structure 128. The cavity is substantially the same size and shape as the screen structure 128, such that when the screen structure 128 is stored, a front face 140 of the screen structure 128 is substantially flush with an outer surface 144 of the housing 132, which is in turn substantially flush with the rear-facing surface 136 of the headrest 36. The video monitor 56 thus preferably protrudes only minimally or not at all from the headrest 36.

[0028] The video monitor 56 may be adapted to be adjustably mounted to the headrest 36. For example, in one embodiment, an angular orientation of the video monitor

56 relative to the headrest 36 is adjustable without moving the headrest 36. More details various embodiments of a video monitor 56 that is configured to be mounted to a headrest may be found in U.S. Application Serial No. 10/219,987, filed August 13, 2002, which is hereby expressly incorporated by reference herein in its entirety and made a part of this specification.

[0029] In one embodiment, the video monitor 56 also includes a secondary wireless transmitter 148. Preferably, the secondary wireless transmitter 148 transmits an audio portion of an audiovisual signal to at least one secondary receiver 150. In the embodiment illustrated in Figure 4, the at least one secondary receiver 150 comprises two sets of headphones. Thus, in this embodiment, the at least one secondary receiver 150 comprises two personal speaker systems. The secondary wireless transmitter 148 advantageously transmits the audio portion of an audiovisual signal. Arrows 149 indicate that the transmission from the transmitter 148 to the at least one secondary receiver 150 is wireless. The transmitter 148 can operate on any desirable frequency range. In one embodiment, the secondary wireless transmitter 148 is an FM transmitter. FM transmitters advantageously do not require a line-of-sight connection between the secondary wireless transmitter 148 and the secondary receiver 150. In another embodiment, the secondary wireless transmitter 148 comprises an infrared transmitter. Infrared audio signal transmitters advantageously do not transmit in a band that can be received by the radio 31 and therefore they will not interfere with reception by the radio 31. One type of infrared transmitter that can be used comprises four light emitting diodes (LEDs). In one embodiment the infrared transmitter 48 operates at about 2.3 MHz or at about 2.8 MHz. In another embodiment the infrared audio signal transmitter 148 operates at about 3.2 MHz or at about 3.8 MHz. In one embodiment, the transmitter 148 transmits audio signals in stereo at 2.3 MHz, at 2.8 MHz, or at both 2.3 MHz and 2.8 MHz. One skilled in the art will recognize that other frequencies could also be used for such transmissions. By including the secondary wireless transmitter 148 and the receiver 150, one or more passengers can enjoy a movie or a video game while other passengers listen to the same movie or video game on the radio 31. This enables the passenger listening on the headphones to not be disturbed if other passengers listening on the radio 31 choose to listen to a broadcast radio station.

[0030] Because many environments in which the mobile video system 48 will be used receive broadcasts at many radio frequencies, interference between these prevailing radio signals and those generated by the primary wireless transmitter 108 sometimes will occur. This interference can render the audio signal unlistenable. Thus, the mobile video system 48 advantageously includes a manually operated audio frequency selector, or manual actuator 156. The manual actuator 156 selects a transmission frequency upon which the primary wireless transmitter 108 transmits the audio portion of an audiovisual signal. In one embodiment, the manual actuator 156 comprises a push-button that is wired to the primary wireless transmitter 108 and that is operable by a passenger within the car 20. In one embodiment, the manual actuator 156 also provides an on/off signal to the video monitor 56.

[0031] Preferably, the manual actuator 156 is at least partially positioned within the housing 132 for the video monitor 56. In one embodiment, the manual actuator 156 is provided in a cluster of manual controls 158 located on the housing 132. By positioning the manual actuator 156 within the housing 132 for the video monitor 56, the number of components that need to be separately installed is reduced, which also reduces installation cost and complexity. In another embodiment, the manual actuator 156 comprises a remote control device. The remote control manual actuator 156 advantageously allows passengers sitting in a variety of seats throughout the vehicle to move the frequency of transmission as needed. As will be understood by one skilled in the art, a remote control device can be a self-contained device that can be moved around within the passenger compartment 28, or can be a control panel affixed to a location within the passenger compartment, but remotely located from the video monitor 56.

[0032] Preferably the mobile video system 48 also includes an audio frequency indicator 160 that provides a visual signal regarding the frequency of transmission selected by the manual actuator 156. For example, as shown in Figure 4, the audio frequency indicator 160 comprises a plurality of LEDs that are energized to indicate the frequency of transmission selected by the manual actuator 156. The audio frequency indicator 160 informs at least one passenger which frequency is being used by the primary wireless transmitter 108 and, therefore, which frequency to tune the audio receiver 116 to in order to receive the audio transmission. The audio frequency indicator 160 thus enables the passenger to very quickly tune the receiver 116 to the indicated frequency.

[0033] In one embodiment, the audio frequency indicator 160 is positioned within the housing 132 of the video monitor 56, e.g., as one portion of the manual controls 158. By positioning the audio frequency indicator 160 in the housing 132, the indicator 160 is desirably visible to the passengers who are able to view the monitor so that the audio signal receiver 116 can be tuned to the selected frequency. Also, by positioning the audio frequency indicator 160 in the housing 132, the number of components to be separately installed is reduced, as is the cost of the installation. Of course, the audio frequency indicator 160 could be located elsewhere, so long it can be conveniently read by a passenger. For example, it may be advantageous in some embodiments to position the audio frequency indicator 160 near the radio 31 so that a passenger in the front seat near the radio 31 can switch the radio 31 to the selected frequency. In another embodiment, the audio frequency indicator 160 is positioned on a remote control device, e.g., a remote control audio frequency selector. Providing the audio frequency indicator 160 on a remote control device advantageously reduces installation cost where the remote control is not connected to the passenger compartment 28. Also, where the remote control device is not connected to the passenger compartment 28, any passenger seated anywhere in the vehicle can see the audio frequency indicator 160. In another embodiment, the audio frequency indicator 160 is located in a separate housing that is located within the passenger compartment 28, e.g., near the radio 31.

[0034] In one embodiment, the manual actuator 156 is a power/select button that switches the mobile video system 48 on and off if held in for an extended time. However, once the mobile video system 48 is turned on, brief actuation of the manual actuator 156 causes the frequency of transmission of the primary wireless transmitter 108 to be altered. In one embodiment, the brief actuation of the manual actuator 156 causes a signal to be conveyed to the wireless transmitter 108 via the signal line 112.

[0035] The manual actuator 156 and the audio frequency indicator 160, where used together, provide great advantages to the mobile video system 48. For example, these components enable a passenger to sense the degrading quality of audio signal reception at the receiver 116. This degrading quality can cause some or all of the audio signal to be obscured. Thus, as the signal degrades, the passenger can manually actuate the actuator 156, thus causing the frequency of transmission to be altered. In one embodiment, three preset

transmission frequencies are provided. The passenger manually actuates the actuator 156 to move the frequency of transmission from one of the three preset frequencies to another of the preset frequencies. The audio frequency indicator 160 indicates which frequency has been thereby selected and indicates, therefore, to which frequency the passenger should tune the receive 116. Thus, three known frequencies are provided to which the receiver 116 can be tuned.

[0036] This arrangement advantageously enables the passengers to move from a frequency to another frequency preemptively. On a familiar drive (e.g., a daily commute), a passenger may become aware of a first area where, at a first frequency band, interference causes the audio signal to become obscured, i.e., degrades the audio signal from listenable to unlistenable. The passenger may also know that at a second frequency band interference is not present when the car is in the first area, and therefore the audio signal would not become obscured. A little farther along the drive, the car might enter a second area known by the passenger to be subject to interference at the second frequency band. The passenger may also know that at a third frequency band, interference is not present in the second area. Accordingly, the prior to entering the first area, the transmitter 108 may be set to transmit to the receiver 116 at the first preset frequency band. Because the passenger is aware of the impending interference in the second area, the passenger can actuate the manual actuator 156 just prior to entering the second area to cause the transmission frequency band to move from the first preset frequency band to the second preset frequency band. Also, the receiver 116 may have a button that automatically causes the receiver 116 to receive signals at the same second preset frequency band (e.g., a radio station preset buttons). Then, just prior to entering the second area, the passenger can again actuate the manual actuator 156 to cause the band of frequency transmission to move from the second preset frequency to the third preset frequency band. As discussed above, the receiver 116 can be automatically switched to the third preset frequency, e.g., using a radio station preset button. Thus, one advantage of the mobile video system 48 is that it enable passengers to preemptively switch transmission frequency of the transmitter 108 to prevent any substantial amount of audio signal loss during a familiar car trip. If the passenger had to turn a dial or in any other hunt for an available frequency, the passenger would either have to pause the playback of the audiovisual signal or completely miss a portion of the signal.

[0037] Another embodiment is illustrated by Figures 5 and 6, wherein at least two video sources and two video monitors are provided. The system below is similar to that described above, and the details described above should be considered to supplement the discussion of the following embodiment.

[0038] Referring to Figure 5, a car 220 includes a first seat 232 and a second seat 236. The first seat 232 comprises a first headrest 240 and the second seat comprises a second headrest 244. The car 220 also includes a mobile audiovisual system 248 that includes a first video source 252 and a second video source 254. The video sources 252, 254 are similar to the source 52 discussed above. Although this embodiment shows two sources, there can of course be more than two as well.

[0039] The mobile video system 248 preferably also includes a first set of input jacks 262, a second set of input jacks 264, a first video monitor 258, and a second video monitor 260. A first audiovisual signal line 266 that has an audio branch 266A and a video branch 266B is provided to interconnect the input jacks 262 and the first video monitor 258. A second audiovisual signal line 268 having an audio branch 268A and a video branch 268B is provided to interconnect the input jacks 264 and the second video monitor 260.

[0040] In one embodiment, the first video source 252 connects to the input jacks 262, 264 through a series of signal lines. For example, a remote sensor signal line 272 that is connected to the first video source 252 is received by a first remote sensor jack 274. Preferably, a first video signal line 276 is connected to the first video source 252. The first video signal line 276 includes a first branch 276A and a second branch 276B. The first branch 276A of the first video signal line 276 is received by a first primary video signal jack 280. A second video signal line 284 is connected to the second video source 254. The second video signal line 284 includes a first branch 284A and a second branch 284B. The first branch 284A is received by a first secondary video signal jack 288. A first right-side audio signal line 292 that is connected to the first video source 252 includes a first branch 292A and a second branch 292B. The first branch 292A of the first right-side audio signal line 292 is received by a first right-side audio signal jack 296. A first left-side audio signal line 300 that is connected to the first video source 252 includes a first branch 300A and a second branch 300B. The first branch 300A is received by a first left-side audio signal jack 304.

[0041] In one embodiment, the second video source 254 connects to the input jacks 262, 264 through a series of signal lines. For example, a remote sensor signal line 308 that is connected to the second video source 254 is received by a second remote sensor jack 312. Preferably, the second branch 284B of the second video signal line 284 is received by a second secondary video signal jack 316. The second branch 276B of the first video signal line 276 preferably is received by a second primary video signal jack 320. A second right-side audio signal line 324 that is connected to the second video source 254 includes a first branch 324A and a second branch 324B. The first branch 324A of the first right-side audio signal line 324 is received by a second right-side audio signal jack 328. A second left-side audio signal line 332 that is connected to the second video source 254 includes a first branch 332A and a second branch 332B. The first branch 328A is received by a second left-side audio signal jack 336.

[0042] The mobile video system 248 also advantageously includes a plurality of wireless transmitters. In one embodiment a first primary wireless transmitter 340 and a second primary wireless transmitter 344 are provided. In one embodiment, the second branch 292B of the first right-side audio signal line 292 is coupled with the first primary wireless transmitter 340. Preferably, the second branch 300B of the first left-side audio signal line 300 is coupled with the first primary wireless transmitter 340. In one embodiment, the first primary wireless transmitter 340 is also coupled with the first video monitor 258, e.g., via a signal line 348. Like the signal line 112, the signal line 348 may be capable of conveying at least one input command from a passenger that may include directing the transmitter to switch from one frequency to another frequency.

[0043] The second primary wireless transmitter 344 is similarly coupled with the second video source 254. In particular, the second branch 332B of the second left-side audio signal line 332 and the second branch 324B of the first right-side audio signal line 324 are coupled with the second primary wireless transmitter 344. In one embodiment, the second primary wireless transmitter 344 is also coupled with the second video monitor 260, e.g., via a signal line 364. As with the signal line 348, the signal line 364 may be capable of conveying at least one input command from the user.

[0044] The primary wireless transmitters 340, 344 are configured to transmit an audio portion of an audiovisual signal generated by the first source 252 and the second

source 254 respectively in the manner described above. Thus, in one embodiment, the wireless transmitters 340, 344 transmit the audio portion of the audiovisual signals to at least one audio signal receiver 352. Wireless transmission is indicated by the arrow 356. As discussed above, in connection with the receiver 116, the receiver 352 preferably is connected to at least one loudspeaker 360.

[0045] In one embodiment, the first video monitor 258 includes a first secondary wireless transmitter 380 and the second video monitor 260 includes a second secondary wireless transmitter 384. The transmitters 380, 384 may operate in a fashion similar to the wireless transmitter 148, discussed above. Each of the first secondary wireless transmitter 380 and the second secondary wireless transmitter 384 can desirably transmit audio signals to one or more sets of headphones 388. The wireless transmission to the sets of headphones 388 is indicated by the arrows 392. As discussed above in connection with the transmitter 148, the transmitters 380, 384 can be an infrared transmitters, or any other suitable transmitter.

[0046] In addition to the advantages discussed above in connection with the audiovisual system 48, the audiovisual system 348 provides a great deal of flexibility in passenger entertainment. For example, the audiovisual system 348 advantageously allows one passenger to watch a movie generated by one of the audiovisual sources 252, 254 on one of the video monitors 258, 260, while another passenger watches a different movie generated by a different audiovisual source on the other of the video monitors 258, 260. Or, while one passenger watches a movie on one of the video monitors 258, 260, another passenger can play a video game using a different audiovisual source, with the video signal of the video game being displayed on the other of the video monitors 258, 260. Numerous combinations of audiovisual signals that can be flexibly displayed on the video monitors 258, 260 are possible. The audiovisual system 248 is also flexible in that audio signals can be conveyed thereby in the two modes (e.g., FM wireless and IR wireless, in one embodiment) as described above in connection with the audiovisual system 48.

[0047] The audiovisual system 348 allows one passenger to listen privately on headphones to a movie, a video game, or another audiovisual signal, while the other passengers listen together over the vehicle radio or other FM receiver to the audio signal of another movie, another video game, or another audiovisual source. By providing multiple

headphones 388, two or more passengers can listen privately to the audio signal generated by one audiovisual source, while one or more other passengers listen collectively to the audio signal generated by another audiovisual source and provided to the speakers 360.

[0048] In the embodiment illustrated in Figure 6, two primary wireless transmitters are provided that can communicate with the audio signal receiver 352, namely the first primary wireless transmitter 340 and the second primary wireless transmitter 344. In another embodiment, a mobile video system can be provided that includes two video sources and one primary wireless transmitter that is associated with only one of the two video source. In this embodiment, the source with which the primary wireless transmitter is associated will be the source used for group viewing. The other source will be capable of transmitting to headphones for private listening. Of course, the source associated with the primary wireless transmitter can also comprise a secondary wireless transmitter that transmits to headphones for private listening.

[0049] Advantageously, the audiovisual system 348 can provide flexible entertainment, as discussed above, without requiring a separate switching unit. Accordingly, the audiovisual system 348 costs less to manufacture and to install and also is easier to install.

[0050] Although the present invention has been described in terms of certain preferred embodiments, other embodiments apparent to those of ordinary skill in the art also are within the scope of this invention. Thus, various changes and modifications may be made without departing from the spirit and scope of the invention. Moreover, not all of the features, aspects and advantages are necessarily required to practice the present invention. Accordingly, the scope of the present invention is intended to be defined only by the claims that follow.

WHAT IS CLAIMED IS:

1. A mobile audiovisual system for a car, comprising:

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor adapted to be mounted to a first headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor adapted to be mounted to a second headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is adapted to be installed in the car; and

a first wireless transmitter configured to transmit to the radio an audio portion of one of the first audiovisual signal or the second audiovisual signal;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

2. The mobile audiovisual system of Claim 1, further comprising:

a set of headphones; and

a second wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the set of headphones.

3. The audiovisual system of Claim 2, wherein the second wireless transmitter comprises an infrared audio transmitter.

4. The mobile audiovisual system of Claim 1, further comprising:

a manually operated audio frequency selector that selects a transmission frequency upon which the wireless transmitter transmits the audio portion of the first audiovisual signal or the audio portion of the second audiovisual signal.

5. The mobile audiovisual system of Claim 4, wherein the manually operated audio frequency selector is at least partially positioned within a housing for the first video monitor or within a housing for the second video monitor.

6. The mobile audiovisual system of Claim 4, wherein the manually operated audio frequency selector comprises a remote control.

7. The mobile audiovisual system of Claim 4, further comprising an audio frequency indicator.

8. The mobile audiovisual system of Claim 7, further comprising a first housing for the first video monitor and a second housing for the second video monitor, the audio frequency indicator positioned within one of the first housing and the second housing.

9. The mobile audiovisual system of Claim 7, further comprising a housing for the audio frequency indicator, the housing adapted to be mounted to one of the first headrest and the second headrest.

10. The mobile audiovisual system of Claim 7, further comprising a remote control device, the audio frequency indicator positioned on the remote control device.

11. The mobile audiovisual system of Claim 7, further comprising a second audio frequency indicator.

12. The mobile audiovisual system of Claim 1, wherein the first video source comprises a DVD player.

13. The mobile audiovisual system of Claim 1, wherein the first video source comprises a video game console.

14. The mobile audiovisual system of Claim 13, wherein the second video source comprises a DVD player.

15. The mobile audiovisual system of Claim 1, wherein the wireless transmitter comprises a frequency modulation (FM) transmitter.

16. The mobile audiovisual system of Claim 1, further comprising a first video signal transmitter adapted to provide a video portion of at least one of the first audiovisual signal and the second audiovisual signal to at least one of the first video monitor and the second video monitor.

17. The mobile audiovisual system of Claim 1, further comprising a second wireless transmitter.

18. The audiovisual system of Claim 17, wherein the first transmitter comprises a frequency modulation (FM) transmitter.

19. The audiovisual system of Claim 18, wherein the second transmitter comprises a frequency modulation (FM) transmitter.

20. The audiovisual system of Claim 18, wherein the second transmitter comprises an infrared transmitter.

21. The audiovisual system of Claim 1, wherein a first angular orientation of the first video monitor relative to the first seat and a second angular orientation of the second video monitor relative to the second seat are adjustable without moving the headrests.

22. A mobile video system, comprising:

a car comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the headrest of the first seat, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

23. The mobile video system of Claim 22, wherein the car further comprises a second seat having a second headrest, the second video monitor mounted to the second headrest of the second seat.

24. A car-based mobile video system, comprising:

a car comprising a passenger compartment within which are positioned a first seat having a first headrest and a second seat having a second headrest;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the first headrest of the first seat, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted to the second headrest of the second seat, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

MOBILE VIDEO SYSTEM

Abstract of the Disclosure

A mobile video system includes a first video source, a second video source, a first video monitor, a second video monitor, an audio signal receiver, and a wireless transmitter. One of the first video source and the second video source generates a first audiovisual signal. One of the first video monitor and the second video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The wireless transmitter transmits an audio portion of one of the first audiovisual signal or the second audiovisual signal to the audio signal receiver. A video portion of the first audiovisual signal or the second audiovisual signal is displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

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MOBILE VIDEO SYSTEM
Chung L. Chang
Appl. No.: Unknown Atty Docket: JHNSF.014A

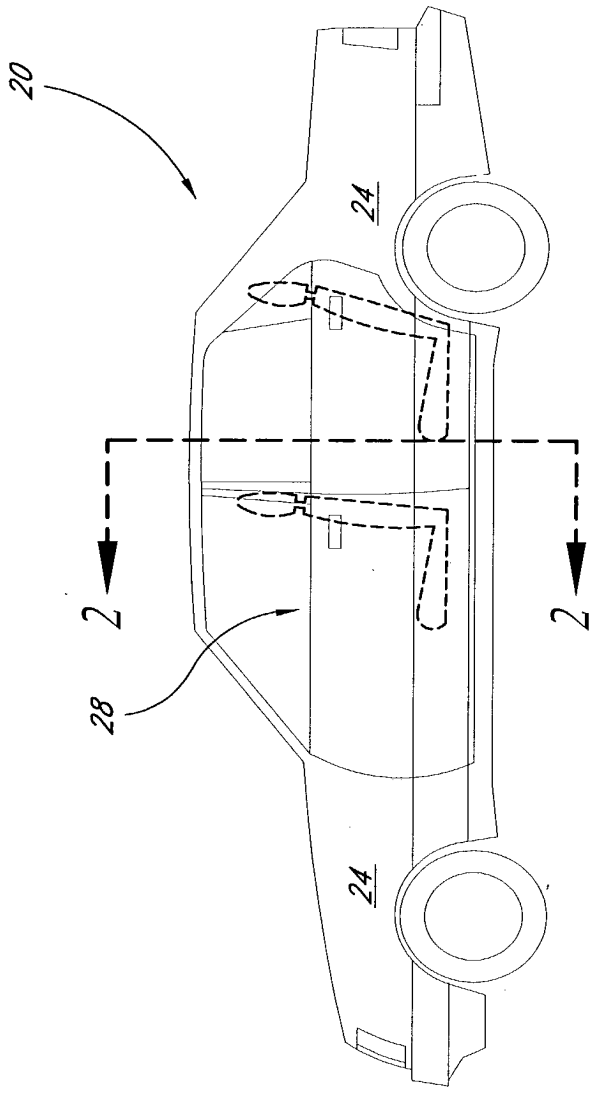

FIG. 1

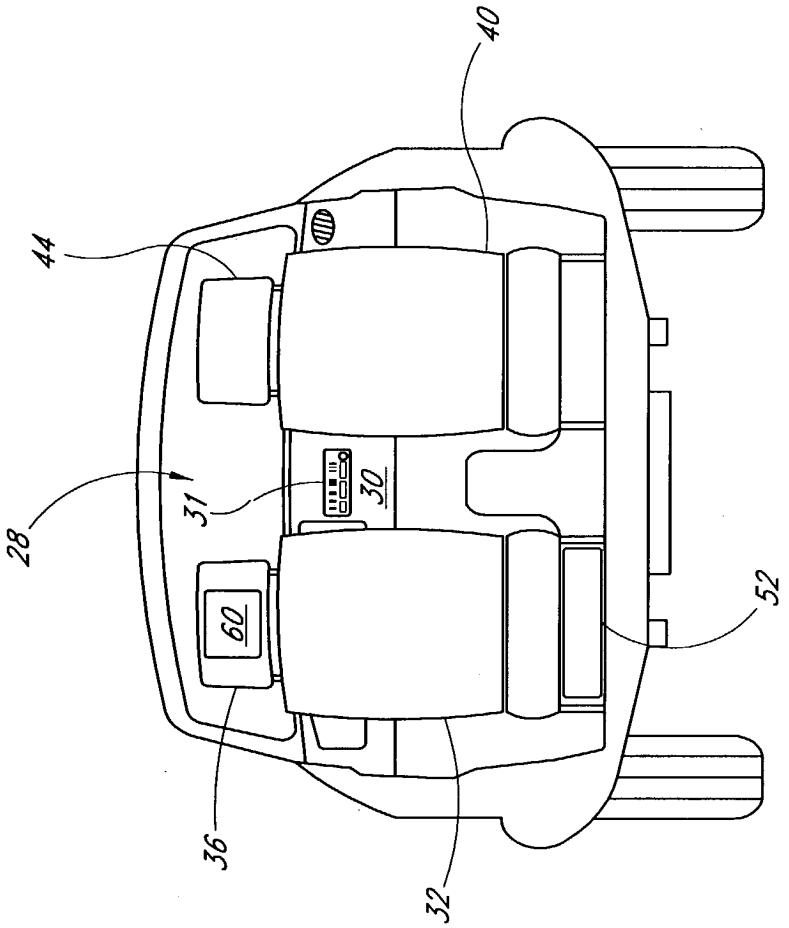

FIG. 2

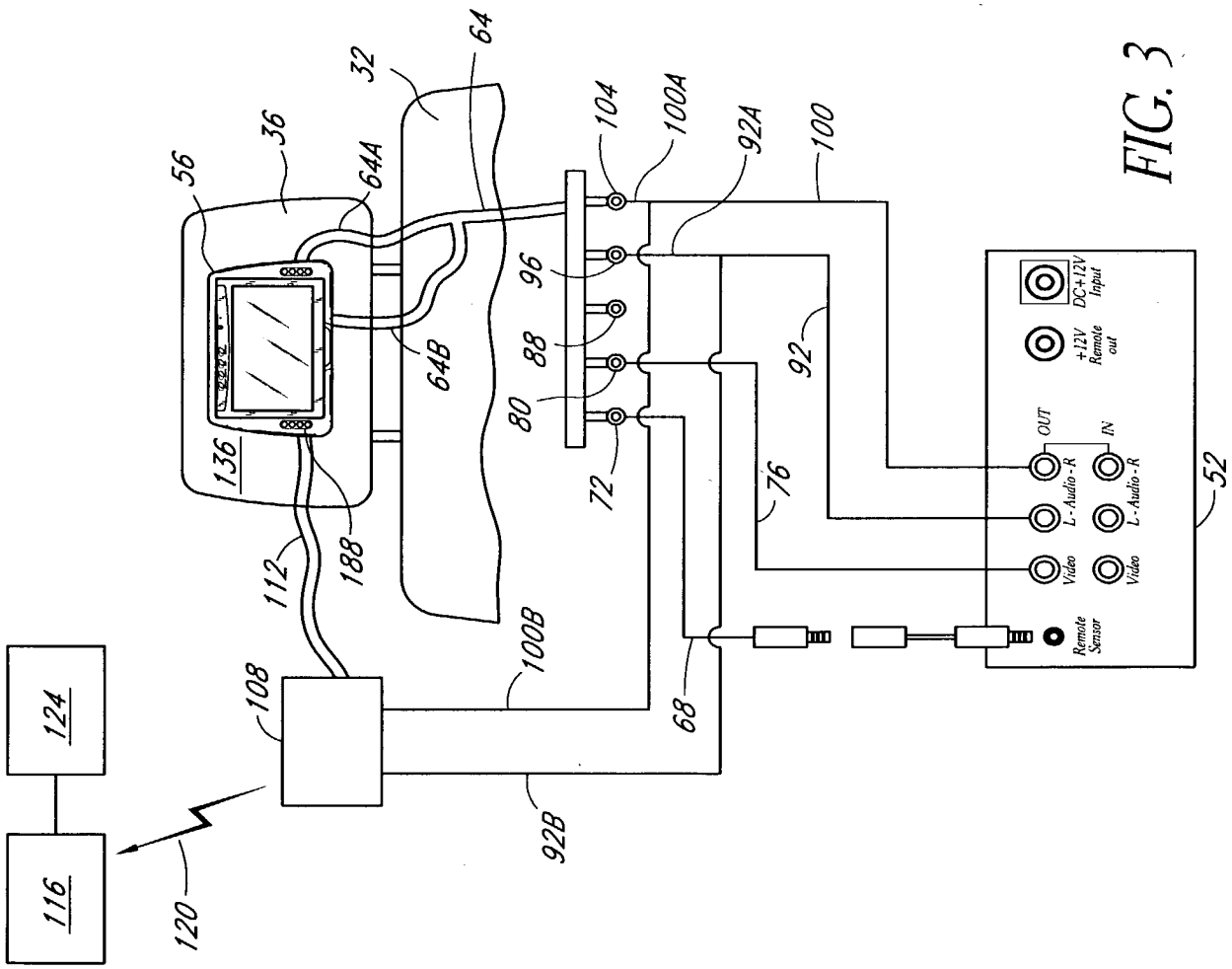

FIG. 3

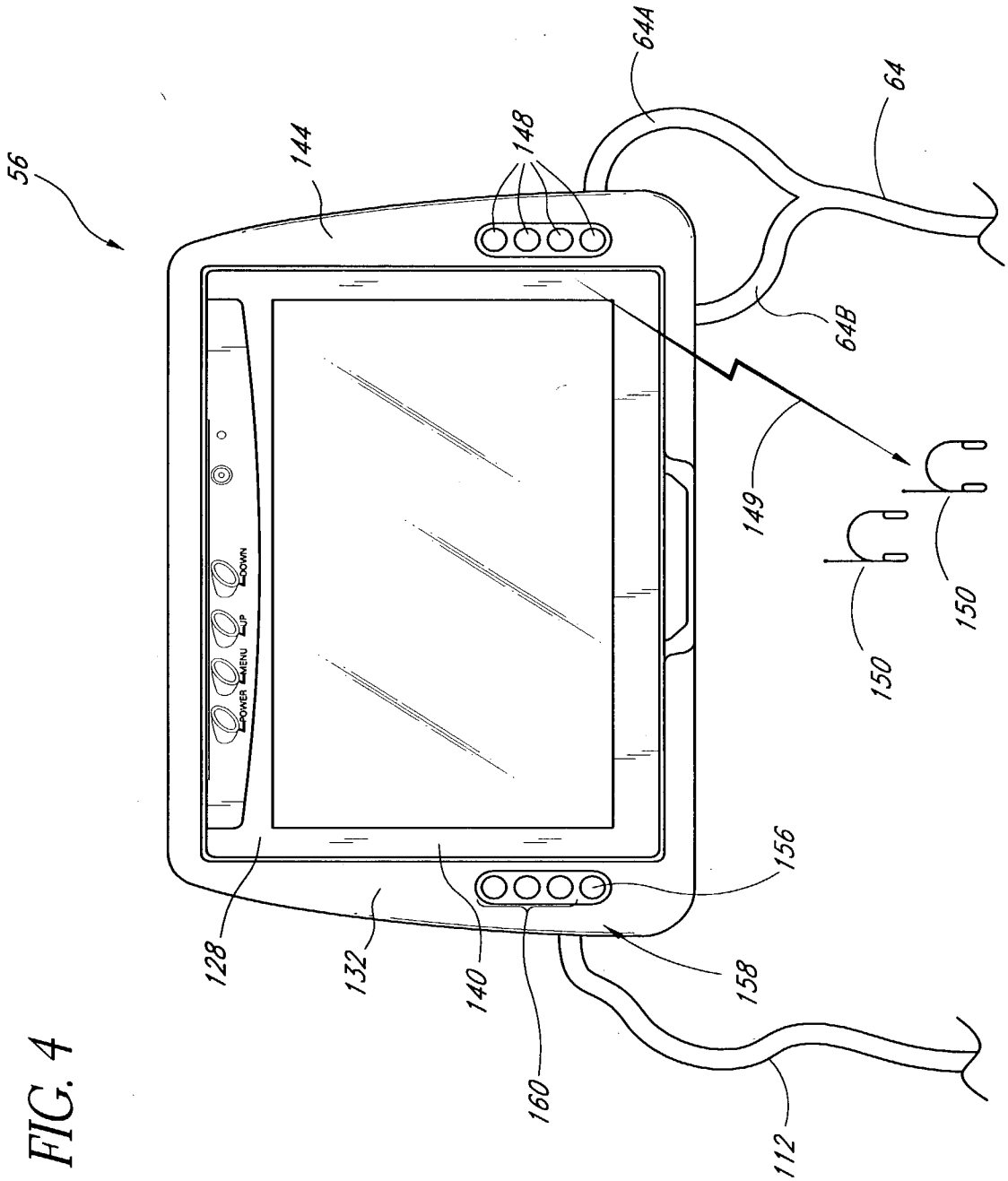

FIG. 4

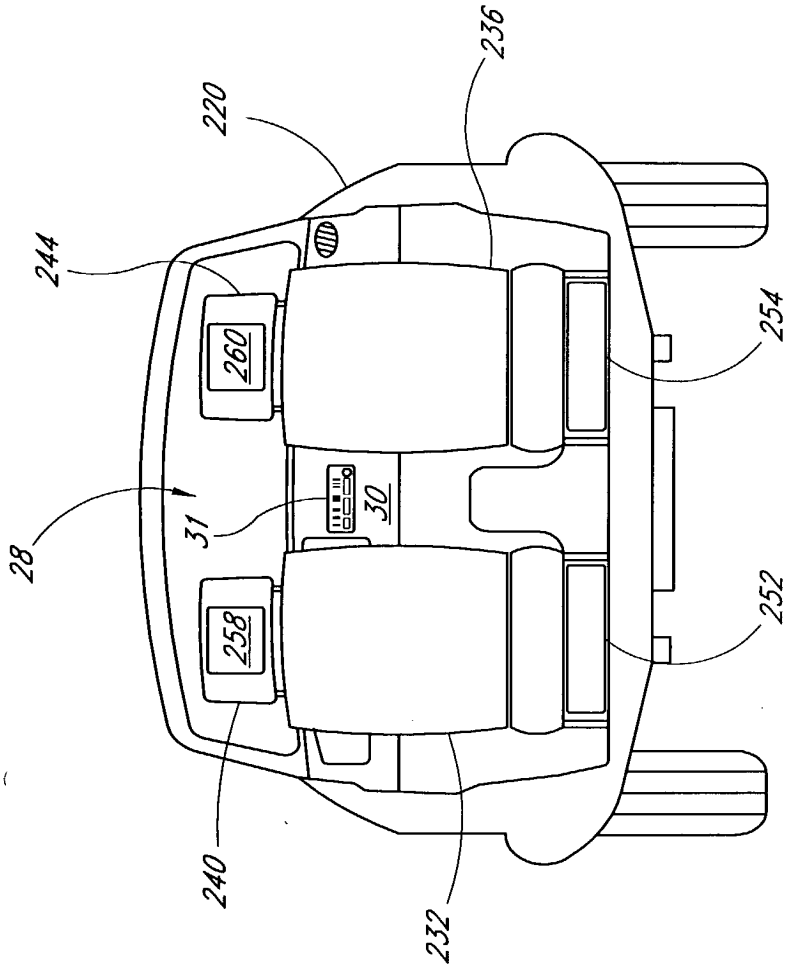

FIG. 5

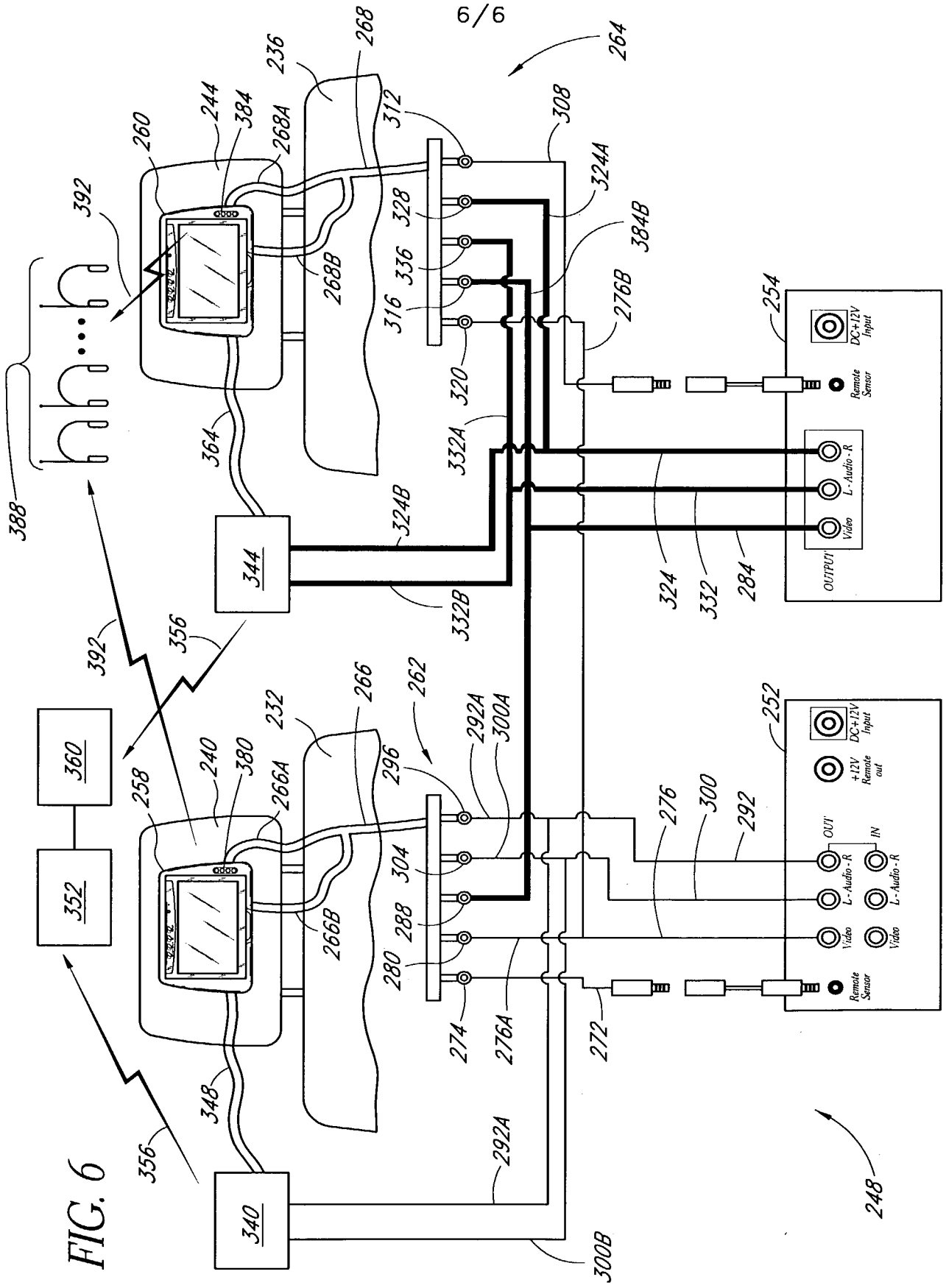

FIG. 6

 Attorney's Docket No. JHNSF.014A

DECLARATION - USA 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 of the subject matter which is claimed and for which a patent is sought on the invention entitled MOBILE VIDEO SYSTEM; the specification of which is attached hereto;

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 patentability as defined in Title 37, Code of Federal Regulations, § 1.56;

I hereby claim the benefit under Title 35, United States Codes § 119(e) of any United States provisional application(s) listed below.

Application No.: 60/435,810 Filing Date: 12/20/02
Application No.: 60/421,936 Filing Date: 10/28/02

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.

Full name of sole inventor: **Chung L. Chang**

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Customer No. 20,995

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JHNSF.014A PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang
App. No.	:	Unknown
Filed	:	Herewith
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Unknown

ESTABLISHMENT OF RIGHT OF ASSIGNEE TO TAKE ACTION
AND
REVOCATION AND POWER OF ATTORNEY

United States Patent and Trademark Office
P.O. Box 2327
Arlington, VA 22202

Dear Sir:

The undersigned is empowered to act on behalf of the assignee below (the "Assignee"). A true copy of the original Assignment of the above-captioned application from the inventor(s) to the Assignee is attached hereto. This Assignment represents the entire chain of title of this invention from the Inventor(s) to the Assignee.

I declare that all statements made herein are true, and that all statements made upon 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 18 U.S.C. § 1001, and that willful, false statements may jeopardize the validity of the application, or any patent issuing thereon.

The undersigned hereby revokes any previous powers of attorney in the subject application, and hereby appoints the registrants of Knobbe, Martens, Olson & Bear, LLP, 2040 Main Street, Fourteenth Floor, Irvine, California 92614, Telephone (949) 760-0404, **Customer No. 20,995**, as its attorneys with full power of substitution and revocation to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected

App. No. : Unknown
Filed : December 20, 2002

herewith. This appointment is to be to the exclusion of the inventor(s) and his attorney(s) in accordance with the provisions of 37 C.F.R. § 3.71.

Please use **Customer No. 20,995** for all communications.

Johnson Safety, Inc.

Dated: 2-5/2003

By: Chung L. Chang

Title: President

Address: 1425 Cooley Court
San Bernardino, CA 92408

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U.S. UTILITY Patent Application

PATENT NUMBER and ISSUE DATE

APPL NUM	FILING DATE	CLASS	SUBCLASS	GAU	EXAMINER
10361897	02/07/2003	455		2681	VSTARIS

JC41ase

**APPLICANTS: Chang Chung;

**CONTINUING DATA VERIFIED:
This appln claims benefit of 60/435,810 12/20/2002
and claims benefit of 60/421,936 10/28/2002

** FOREIGN APPLICATIONS VERIFIED:

PG-PUB DO NOT PUBLISH ☐ RESCIND ☐

Foreign priority claimed ☐ yes ☐ no
35 USC 119 conditions met ☐ yes ☐ no
Verified and Acknowledged Examiner's initials

ATTORNEY DOCKET NO
JHNSF.014A

TITLE : Mobile video system

U.S.DEPT. OF COMM./PAT.& TM-PTO-436L(Rev. 12-91)

NOTICE OF ALLOWANCE MAILED		CLAIMS ALLOWED	
	Assistant Examiner	Total Claims	Print Claim for O.G
ISSUE FEE		DRAWING	
Amount Due / Date Paid	Primary Examiner	Sheets Drwg. / Figs.Drwg. / Print Fig.	
☐ TERMINAL DISCLAMER	PREPARED FOR ISSUE	Application Examiner	

FILED WITH: ☐ DISK (CRF) ☐ CD-ROM
(Attached in pocket on right inside flap)

SEARCH

Class	Sub.	Date	Exmr.
725	75	7/31/03	J.U.
725	76-77	7/31/03	J.U
348	837	7/31/03	J.U
348	838	7/31/03	J.U
381	86	7/31/03	J.U
455	345	7/31/03	J.U
455	154.1	7/31/03	J.U.
455	157.2	7/31/03	J.U.
455	158.2	7/31/03	J.U.
455	151.1	7/31/03	J.U.
455	151.2	7/31/03	J.U
#455	152.1	7/31/03	J.U.
SEARCH ABOVE UPDATED		2/10/04	JU

INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.

SEARCH NOTES

(List databases searched. Attach search strategy inside.)

	Date	Exmr.
Vivek Srivastava 348	7/31/03	J.U.
Nguyen VO CL 455	7/31/03	J.U
EAST TEXT SEARCH ENCLOSED	7/31/03	J.U.

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ISSUE SLIP STAPLE AREA (for additional cross-references)

ISSUING CLASSIFICATION			
ORIGINAL		CROSS REFERENCE(S)	
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
INTERNATIONAL CLASSIFICATION			
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INDEX OF CLAIMS

✓ .... Rejected – (Through numeral) ... Canceled N .... Non-elected A .... Appeal

= .... Allowed + ... Restricted I .... Interference O .... Objected

Claim Final	Claim Original	8/4/03	2/10/04	Claim Final	Claim Original	Date	Claim Final	Claim Original	Date
	1	✓	✓		51			101	
	2	✓			52			102	
	3	✓			53			103	
	4	✓			54			104	
	5	✓			55			105	
	6	✓			56			106	
	7	✓			57			107	
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PATENT

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ATTENTION: BOX PATENT APPLICATION

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): **Chung L. Chang**

For:

MOBILE VIDEO SYSTEM

Enclosed are:

(X) Six (6) sheets of drawings.

(X) Recordation form cover sheet with 1-page assignment.

(X) A power of attorney form and copy of assignment.

(X) Initial signed declaration by inventor(s).

(X) Petition to Make Special for New Application.

(X) Information Disclosure Statement, Form PTO-1449 and twelve (12) references.

(X) Return prepaid postcard.

The present application qualifies for small entity status under 37 C.F.R. § 1.27. The fees are calculated below:

CLAIMS AS FILED

FOR	NUMBER FILED	NUMBER EXTRA	RATE	FEE
Basic Fee			$375	$375
Total Claims	24 - 20 =	4 ×	$9	$ 36
Independent Claims	3 - 3 =	0 ×	$42	$
If application contains any multiple dependent claims(s), then add			$140	$
TOTAL FILING FEE		$411		

(X) A check in the amount of $541 to cover the filing fee (including the Petition fee) is enclosed.

(X) A check in the amount of $40 to cover the assignment recording fee.

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Registration No. 32,297
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(949) 760-0404

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Attorney Docket No.	:	JHNSF.014A
Applicant(s)	:	Chung L. Chang
For	:	MOBILE VIDEO SYSTEM
Attorney	:	Edward A. Schlatter
"Express Mail" Mailing Label No.	:	EV 262194001 US
Date of Deposit	:	February 7, 2003

I hereby certify that the accompanying

Transmittal letter; specification in 22 pages; 6 sheets of drawings; **Signed** Declaration by Inventor in 1 page; Recordation Form Cover Sheet and Assignment in 2 pages; Power of Attorney by Assignee in 2 pages; Information Disclosure Statement, PTO Form 1449 with 12 references; Petition to Make Special; Check(s) for Filing Fee(s); Return Prepaid Postcard

are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and are addressed to the United States Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202.

Nelson Merida

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MOBILE VIDEO SYSTEM
Chung L. Chang
Appl. No.: Unknown Atty Docket: JHNSF.0[illegible]

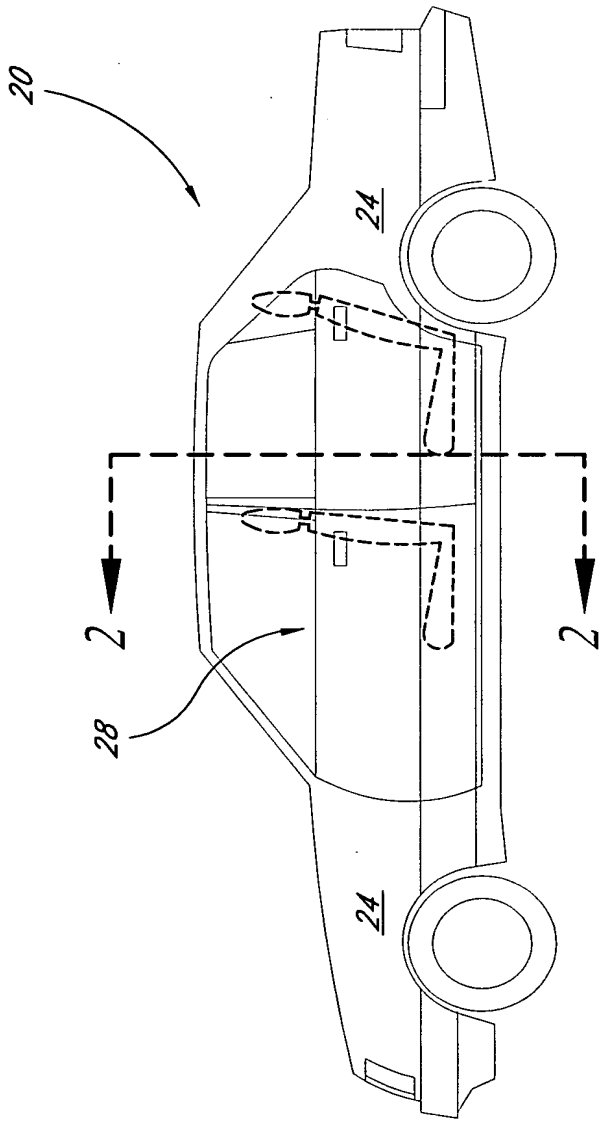

FIG. 1

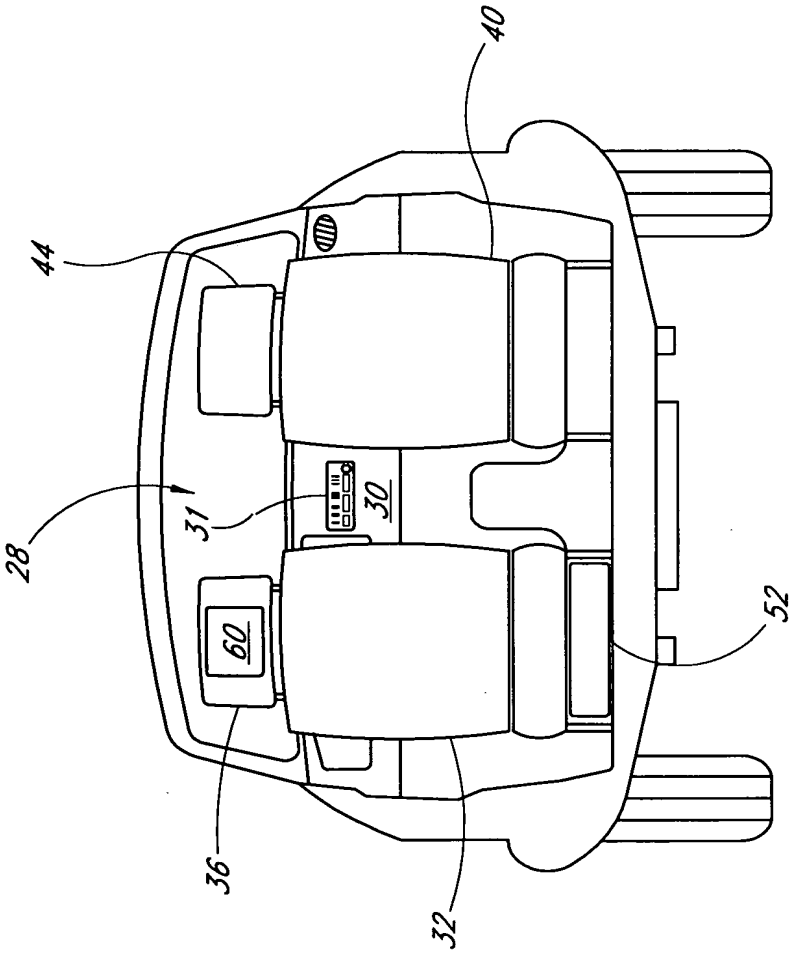

FIG. 2

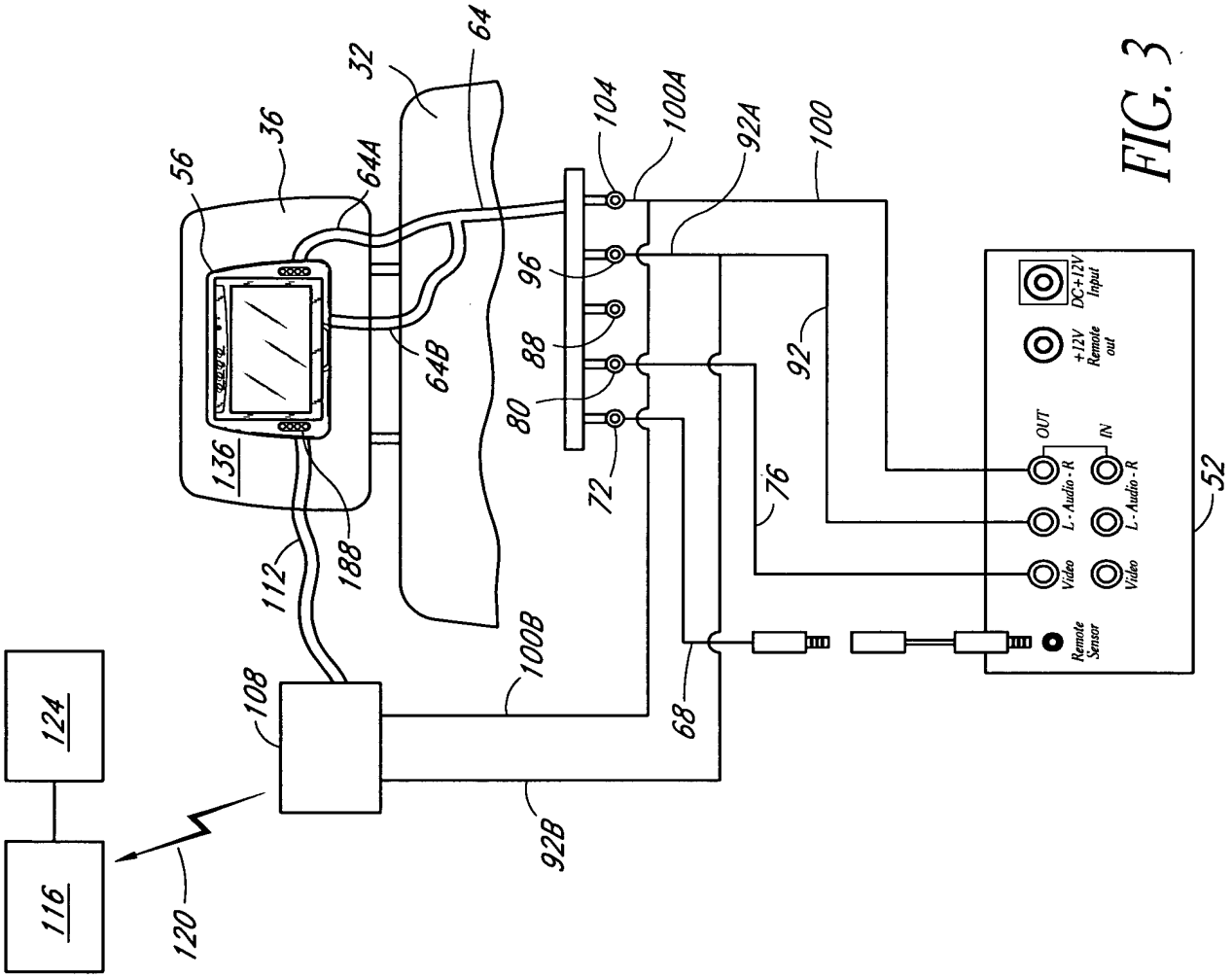

FIG. 3

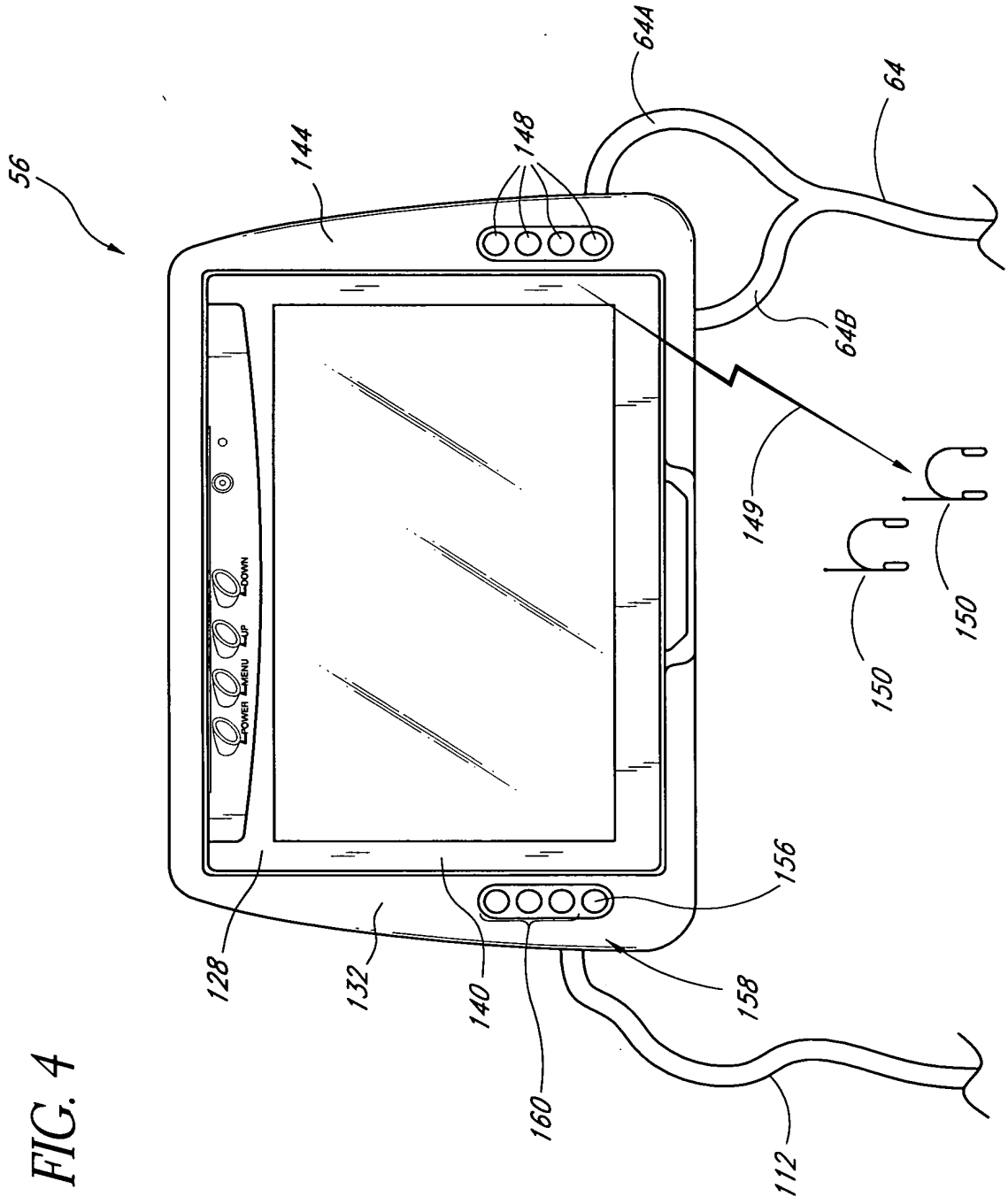

FIG. 4

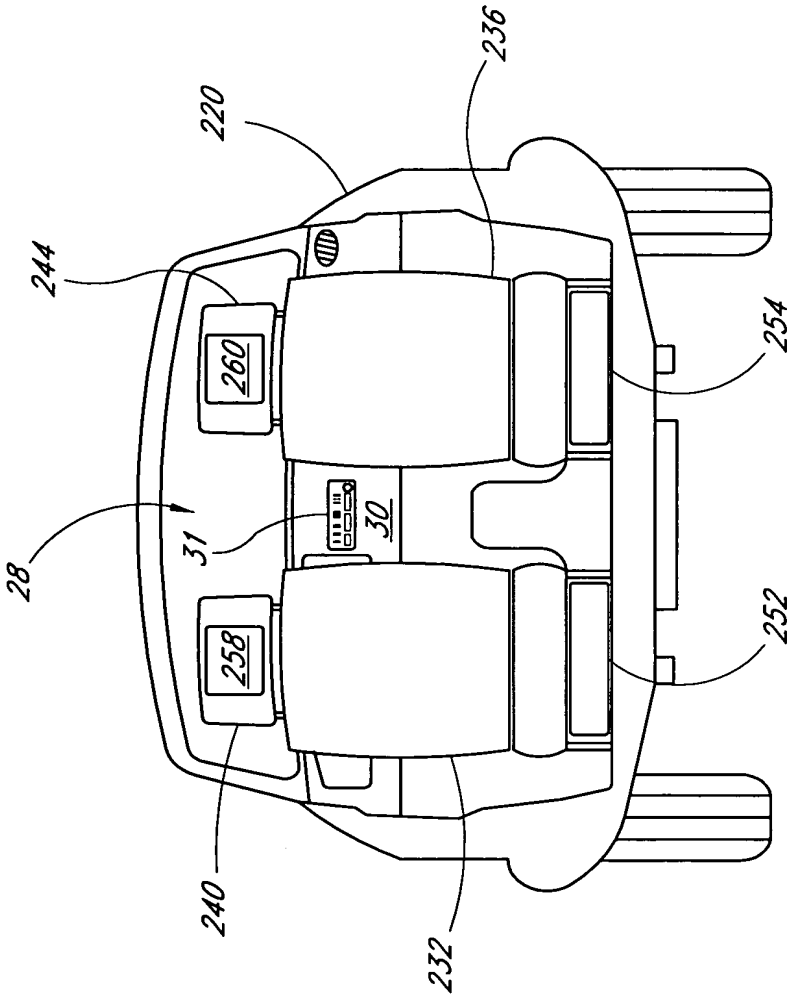

FIG. 5

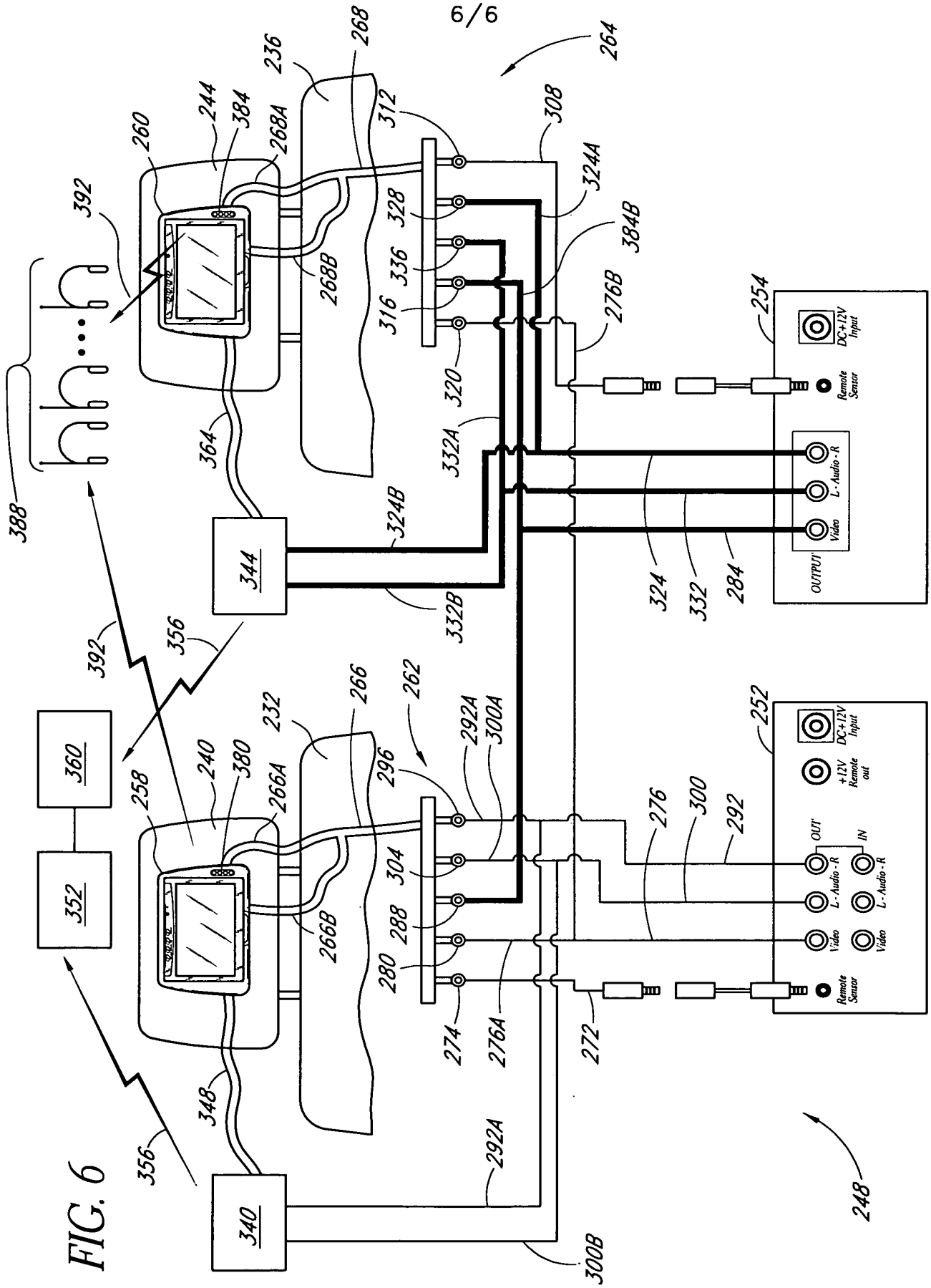

FIG. 6

MOBILE VIDEO SYSTEM

Related Applications

[0001] This application claims the benefit of U.S. Application No. 60/435810, filed December 20, 2002, and also claims the benefit of U.S. Application Serial No. 60/421,936, filed October 28, 2002, the entire contents of both of which are hereby expressly incorporated by reference.

Background of the Invention

Field of the Invention

[0002] This application relates to a mobile video system having more than one audiovisual source and more than one video monitor. More specifically, a mobile video system is provided that includes a wireless transmitter that transmits an audio portion of an audiovisual signal from an audiovisual source to a receiver, which may be a car radio.

Description of the Related Art

[0003] Audiovisual systems for vehicles have been commonplace aboard commercial aircraft and motor coaches for quite some time. Such systems have also been incorporated into automobiles. For example, U.S. Patent No. 6,339,455 to Allan et al. discloses a digital video disc vehicle television mounted to the ceiling of an automobile. Similarly, U.S. Patent No. 5,775,762 to Vitito discloses an overhead console having a flip-down monitor, where the console is mounted to the ceiling of an automobile.

[0004] The systems disclosed in U.S. Patents No. 6,339,455 and 5,775,762, provide a TV monitor that is mounted to the ceiling of the automobile. Several passengers can watch the same program on the monitor simultaneously. While suitable for simultaneous viewing, passengers often have varying taste in entertainment and might, therefore, prefer to watch different programs. These systems, unfortunately, do not allow different passengers to select programming that suits them. This is a significant draw-back for one of the primary applications of such systems: occupying children during long road-trips. Children of different ages require different sorts of programming to maintain their interests. Accordingly, a child will not be distracted by programming that is not tailored to him or her.

[0005] Some of the systems designed for aircraft provide a unit associated with each seat (i.e., a viewer unit) that allow each passenger to select among a range of programs. However, hardwire connections are required between a device that transmits the programs (i.e., a program device) and the viewer unit. Thus, these systems require extensive wiring to interconnect the program device and the viewer unit. Moreover, because the systems require extensive wiring, as a practical matter, they can only be installed during manufacturing and cannot easily be after-market installed. Also, these systems generally only enable private listening of programs via headphones. While aircraft sometimes have overhead loudspeakers, these loudspeakers are generally not used for programs, but rather are reserved for announcements, e.g., safety instruction, arrival information, and customs procedures. Thus these systems relay the audio signal of the programs to passengers in only one way, through headphones.

Summary of the Invention

[0006] In one embodiment, a mobile audiovisual system for a car is provided. The mobile audiovisual system includes a first video source, a second video source, a first video monitor, and a second video monitor. The mobile audiovisual system also includes a radio and a first wireless transmitter. The first video source generates a first audiovisual signal. The second video source that generates a second audiovisual signal. The first video monitor is adapted to be mounted to a first headrest of the car. The first video monitor is also adapted to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is adapted to be mounted to a second headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The radio includes a loudspeaker and is adapted to be installed in the car. The first wireless transmitter transmits to the radio an audio portion of one of the first audiovisual signal or the second audiovisual signal. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

[0007] In another embodiment, a mobile video system is provided that includes a car, a first video source, a second video source, a first video monitor, a second video monitor, a radio, and a first wireless transmitter. The car includes a passenger compartment

and a first seat having a first headrest. The first seat is positioned in the passenger compartment. The first video source generates a first audiovisual signal. The second video source generates a second audiovisual signal. The first video monitor is mounted to the headrest of the first seat. The first video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is mounted in the passenger compartment. The second video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The radio includes a loudspeaker and is installed in the vehicle. The first wireless transmitter transmits an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

[0008] In another embodiment, a car-based mobile video system includes a car, a first video source, a second video source, a first video monitor, a second video monitor, a radio, and a first wireless transmitter. The car has a passenger compartment within which a first seat having a first headrest and a second seat having a second headrest are positioned. The first video source generates a first audiovisual signal. The second video source generates a second audiovisual signal. The first video monitor is mounted to the first headrest of the first seat. The first video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is mounted to the second headrest of the second seat. The second video monitor is configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The radio includes a loudspeaker that is installed in the vehicle. The first wireless transmitter is configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

[0009] In another embodiment, a mobile video system includes a car, a first video source, a second video source, a first video monitor, a second video monitor, an audio signal receiver, and a first wireless transmitter. The car has a passenger compartment within which

a first seat having a first headrest and a second seat having a second headrest are positioned. The first video source generates a first audiovisual signal. The second video source generates a second audiovisual signal. The first video monitor is mounted to the first headrest of the first seat. The first video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The second video monitor is mounted to the second headrest of the second seat. The second video monitor is configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The first wireless transmitter is configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the audio signal receiver. A video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

Brief Description of the Drawings

[0010] These and other features, aspects and advantages of the present invention will be better understood with reference a preferred embodiment, which is illustrated in the accompanying drawings. The illustrated embodiment is merely exemplary and is not intended to define the outer limits of the scope of the present invention. The drawings of the illustrated arrangement comprise six figures.

[0011] Figure 1 is a side elevation view of a car arranged and configured in accordance with certain features, aspects and advantages of the present invention.

[0012] Figure 2 is a cross sectional view of the car of Figure 1.

[0013] Figure 3 is a schematic view of one embodiment of a mobile video system having a video monitor mounted in a headrest of a vehicle seat.

[0014] Figure 4 is schematic view of the embodiment of Figure 3, showing more details of the video monitor;

[0015] Figure 5 is a cross-sectional view similar to that of Figure 2, showing a car equipped with one embodiment of a dual-monitor mobile video system;

[0016] Figure 6 is a schematic view of one embodiment of a dual monitor mobile video system.

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Detailed Description of the Preferred Embodiment

[0017] With reference now to Figures 1 and 2, a car featuring certain features, aspects and advantages of the present invention will be described. The car, indicated generally by the reference numeral 20, is an environment for which many features, aspects and advantages of the embodiments described herein have been specially adapted. As used herein "car" is a broad term and is used in its ordinary sense and refers, without limitation, to any personal land transportation vehicle, e.g., a passenger automobile, a truck, a van, a mini-van, a sport-utility vehicle, etc. Nevertheless, certain features, aspects and advantages of the embodiments described herein can be used with other vehicles.

[0018] The car 20 generally comprises a chassis (not shown) to which a body having a plurality of body panels 24 is attached. A passenger compartment 28 is defined by the body. A dashboard 30 preferably is positioned within the passenger compartment 28. The dashboard 30 usually is coupled with the chassis of the car 20 and houses several components of the car 20, e.g., a car radio 31. A first front seat 32 that includes a first headrest 36 is positioned within the passenger compartment 28. Preferably a second front seat 40 that includes a second headrest 44 is also positioned within the passenger compartment 28. One skilled in the art will appreciate that the headrests 36, 44 need not take any particular form. For example, in one embodiment, at least one of the headrests 36, 44 is detachably attached to the corresponding front seat 32, 40. In another embodiment, at least one of the headrests 36, 44 is integrally formed with the corresponding front seat 32, 40. In other words, the headrests 36, 44 can take many forms, generally providing the function of supporting a head of a passenger sitting in the front seats 32, 40. In some embodiments, the size of at least one of the headrests 36, 44 must be sufficient to house a video monitor, as discussed in more detail below.

[0019] Figures 2-4 show one embodiment of a mobile video system 48 that preferably is positioned in the car 20. The mobile video system 48 preferably includes a video source 52, a video monitor 56 and the radio 31. As discussed in more detail below, the mobile video system 48 provides wireless transmission of an audio portion of an audiovisual signal and a manually operated audio frequency selector, or manual actuator, that selects a wireless transmission frequency.

[0020] The video source 52 is also referred to herein as an "audiovisual source." The terms "video source" and "audiovisual source" are broad terms that are used in their

ordinary sense and refer, without limitation, to any device that generates an audiovisual signal that includes a video portion that can be processed to produce a video signal (e.g., to produce a visual image) and an audio portion that can be processed to produce an audio signal (e.g., sound at a level high enough to be heard by a human ear). For example, "video source" and "audiovisual source" are broad enough to cover a digital video-disc player, a video cassette player, a video-game console, and a computer that can generate audiovisual signals, etc. Thus, the video source 52 is described herein as generating or providing an audiovisual signal.

[0021] Video sources typically have a variety of jacks for interconnecting the sources with other components. For example, the sources may have output jacks to convey the audio portion of an audiovisual signal and may have output jacks to convey the video portion of an audiovisual signal. Video sources may also have output jacks to convey to other devices power or control signals, e.g., remote control signals. Video sources also may have input jacks to receive from other sources power, control signals, or other audiovisual signals.

[0022] The video source 52 advantageously can be positioned in a wide variety of locations in the car 20. In some embodiments, the video source 52 is preferably positioned within the passenger compartment 28 so as to be accessible while the car 20 is in motion. For example, the video source 52 is shown positioned beneath the front seat 32 in the embodiment illustrated by Figure 2. In other embodiments, the video source 52 is positioned in the dashboard 30. It may be advantageous to position the video source 52 in a more secure location, such as in a storage compartment that is not accessible from the passenger compartment 28 (e.g., the trunk). Alternatively, in some cars, there may be sufficient overhead space in the passenger compartment 28 for the source 52 to be mounted overhead. One skilled in the art will appreciate that the source 52 could be housed in an overhead console (not shown). In some embodiments, more than one video source is provided. Such embodiments are discussed in connection with Figures 5 and 6.

[0023] The mobile video system 48 preferably also includes a set of input jacks 60. As discussed more fully below, a first audiovisual signal line 64 having an audio branch 64A and a video branch 64B interconnects the input jacks 60 and the video monitor 56. In one embodiment, the first video source 52 connects to the set of input jacks 60 through a

series of signal lines. For example, a remote sensor signal line 68 that is connected to the first video source 52 is received by a first remote sensor jack 72. Preferably, a video signal line 76 interconnects the video source 52 and a primary video signal jack 80. In the illustrated embodiment, a secondary video signal jack 88 is provided which can receive a signal line connected to a second video source. A left-side audio signal line 92 has a first branch 92A and a second branch 92B. The first branch 92A of the left-side audio signal line 92 interconnects the video source 52 and a left-side audio signal jack 96. A right-side audio signal line 100 has a first branch 100A and a second branch 100B. The first branch 100A of the right-side audio signal line 100 interconnects the first video source 52 and a right-side audio signal jack 104.

[0024] As discussed above, the mobile video system 48 provides wireless transmission of audio signals. Preferably the mobile video system 48 includes at least one wireless transmitter. In one embodiment a primary wireless transmitter 108 is provided that is coupled with the video monitor 56 via a signal line 112. As is discussed more fully below, the signal line 112 may be capable of conveying at least one input command from a passenger that may include directing the transmitter 108 to switch from one frequency to another frequency. In the illustrated embodiment, the primary wireless transmitter 108 and the video source 52 also are connected via the audio signal lines 92, 100. In particular, the second branch 92B of the left-side audio signal line 92 interconnects the video source 52 and the primary wireless transmitter 108 and the second branch 100B of the right-side audio signal line 100 interconnects the video source 52 and the primary wireless transmitter 108. Other embodiments with a single connection between the primary wireless transmitter 108 and the video source 52 can also be provided.

[0025] Wireless transmission in the mobile video system 48 is indicated by the arrow 120. Wireless transmission of the audio signals advantageously eliminates the need for extensive installation of wiring in the car 20 to physically connect the source 52 and the radio 31. This is particularly advantageous for after-market installation of the mobile video system 48. The primary wireless transmitter 108 preferably can employ any radio frequency transmission method that is compatible with the receiver 116, e.g., amplitude modulation transmission, short-wave transmission, etc. In one embodiment, the primary wireless transmitter 108 comprises a frequency modulation (FM) transmitter that transmits audio

signals in a wireless manner to at least one audio signal receiver 116. FM transmission is particularly advantageous because it produces higher quality sound reproduction than other transmission techniques, e.g., amplitude modulation transmission.

[0026] The audio signal receiver 116 is a factory or a permanently installed radio in one embodiment, e.g. the car radio 31, and is a portable radio within the vehicle in another embodiment. In one embodiment, the audio signal receiver 116 provides audio signals to at least one loudspeaker, or speaker 124 to be audibly reproduced for one or more passengers in the car 20. Thus, a group of listeners can enjoy the audio signals generated by the audiovisual source 52. In another embodiment, the at least one audio signal receiver 116 comprises two sets of headphones that include speakers for private listening by a single passenger. As discussed more fully below, at least one set of headphones can also be provided to receive audio signals from a secondary audio signal transmitter.

[0027] One embodiment of the video monitor 56 is shown in more detail in Figure 4. The embodiment illustrated in Figure 4 is particularly suited for mounting in a headrest of a vehicle seat. In other embodiments, the video monitor 56 can be configured to be suspended from the ceiling of the vehicle. Details of the construction of such a system are set forth in U.S. Patent No. 6,409,242, the entire contents of which is hereby expressly incorporated herein and made a part of this specification. The video monitor 56 illustrated in Figure 4 includes a screen structure 128 that is pivotally attached to a housing 132. Both the housing 132 and an outer casing of the screen structure 128 are preferably constructed of a high-strength plastic, so that the video monitor 56 is lightweight and durable. The housing 132 is configured to be embedded in a headrest, e.g., the independently moveable headrest 36. In particular, the housing 132 is embedded in a rear-facing surface 136 of the headrest 36 (See Figure 3). The housing 132 preferably defines a cavity that receives the screen structure 128. The cavity is substantially the same size and shape as the screen structure 128, such that when the screen structure 128 is stored, a front face 140 of the screen structure 128 is substantially flush with an outer surface 144 of the housing 132, which is in turn substantially flush with the rear-facing surface 136 of the headrest 36. The video monitor 56 thus preferably protrudes only minimally or not at all from the headrest 36.

dno.a2 **[0028]** The video monitor 56 may be adapted to be adjustably mounted to the headrest 36. For example, in one embodiment, an angular orientation of the video monitor

56 relative to the headrest 36 is adjustable without moving the headrest 36. More details various embodiments of a video monitor 56 that is configured to be mounted to a headrest may be found in U.S. Application Serial No. 10/219,987, filed August 13, 2002, which is hereby expressly incorporated by reference herein in its entirety and made a part of this specification.

[0029] In one embodiment, the video monitor 56 also includes a secondary wireless transmitter 148. Preferably, the secondary wireless transmitter 148 transmits an audio portion of an audiovisual signal to at least one secondary receiver 150. In the embodiment illustrated in Figure 4, the at least one secondary receiver 150 comprises two sets of headphones. Thus, in this embodiment, the at least one secondary receiver 150 comprises two personal speaker systems. The secondary wireless transmitter 148 advantageously transmits the audio portion of an audiovisual signal. Arrows 149 indicate that the transmission from the transmitter 148 to the at least one secondary receiver 150 is wireless. The transmitter 148 can operate on any desirable frequency range. In one embodiment, the secondary wireless transmitter 148 is an FM transmitter. FM transmitters advantageously do not require a line-of-sight connection between the secondary wireless transmitter 148 and the secondary receiver 150. In another embodiment, the secondary wireless transmitter 148 comprises an infrared transmitter. Infrared audio signal transmitters advantageously do not transmit in a band that can be received by the radio 31 and therefore they will not interfere with reception by the radio 31. One type of infrared transmitter that can be used comprises four light emitting diodes (LEDs). In one embodiment the infrared transmitter 48 operates at about 2.3 MHz or at about 2.8 MHz. In another embodiment the infrared audio signal transmitter 148 operates at about 3.2 MHz or at about 3.8 MHz. In one embodiment, the transmitter 148 transmits audio signals in stereo at 2.3 MHz, at 2.8 MHz, or at both 2.3 MHz and 2.8 MHz. One skilled in the art will recognize that other frequencies could also be used for such transmissions. By including the secondary wireless transmitter 148 and the receiver 150, one or more passengers can enjoy a movie or a video game while other passengers listen to the same movie or video game on the radio 31. This enables the passenger listening on the headphones to not be disturbed if other passengers listening on the radio 31 choose to listen to a broadcast radio station.

[0030] Because many environments in which the mobile video system 48 will be used receive broadcasts at many radio frequencies, interference between these prevailing radio signals and those generated by the primary wireless transmitter 108 sometimes will occur. This interference can render the audio signal unlistenable. Thus, the mobile video system 48 advantageously includes a manually-operated audio frequency selector, or manual actuator 156. The manual actuator 156 selects a transmission frequency upon which the primary wireless transmitter 108 transmits the audio portion of an audiovisual signal. In one embodiment, the manual actuator 156 comprises a push-button that is wired to the primary wireless transmitter 108 and that is operable by a passenger within the car 20. In one embodiment, the manual actuator 156 also provides an on/off signal to the video monitor 56.

[0031] Preferably, the manual actuator 156 is at least partially positioned within the housing 132 for the video monitor 56. In one embodiment, the manual actuator 156 is provided in a cluster of manual controls 158 located on the housing 132. By positioning the manual actuator 156 within the housing 132 for the video monitor 56, the number of components that need to be separately installed is reduced, which also reduces installation cost and complexity. In another embodiment, the manual actuator 156 comprises a remote control device. The remote control manual actuator 156 advantageously allows passengers sitting in a variety of seats throughout the vehicle to move the frequency of transmission as needed. As will be understood by one skilled in the art, a remote control device can be a self-contained device that can be moved around within the passenger compartment 28, or can be a control panel affixed to a location within the passenger compartment, but remotely located from the video monitor 56.

[0032] Preferably the mobile video system 48 also includes an audio frequency indicator 160 that provides a visual signal regarding the frequency of transmission selected by the manual actuator 156. For example, as shown in Figure 4, the audio frequency indicator 160 comprises a plurality of LEDs that are energized to indicate the frequency of transmission selected by the manual actuator 156. The audio frequency indicator 160 informs at least one passenger which frequency is being used by the primary wireless transmitter 108 and, therefore, which frequency to tune the audio receiver 116 to in order to receive the audio transmission. The audio frequency indicator 160 thus enables the passenger to very quickly tune the receiver 116 to the indicated frequency.

[0033] In one embodiment, the audio frequency indicator 160 is positioned within the housing 132 of the video monitor 56, e.g., as one portion of the manual controls 158. By positioning the audio frequency indicator 160 in the housing 132, the indicator 160 is desirably visible to the passengers who are able to view the monitor so that the audio signal receiver 116 can be tuned to the selected frequency. Also, by positioning the audio frequency indicator 160 in the housing 132, the number of components to be separately installed is reduced, as is the cost of the installation. Of course, the audio frequency indicator 160 could be located elsewhere, so long it can be conveniently read by a passenger. For example, it may be advantageous in some embodiments to position the audio frequency indicator 160 near the radio 31 so that a passenger in the front seat near the radio 31 can switch the radio 31 to the selected frequency. In another embodiment, the audio frequency indicator 160 is positioned on a remote control device, e.g., a remote control audio frequency selector. Providing the audio frequency indicator 160 on a remote control device advantageously reduces installation cost where the remote control is not connected to the passenger compartment 28. Also, where the remote control device is not connected to the passenger compartment 28, any passenger seated anywhere in the vehicle can see the audio frequency indicator 160. In another embodiment, the audio frequency indicator 160 is located in a separate housing that is located within the passenger compartment 28, e.g., near the radio 31.

[0034] In one embodiment, the manual actuator 156 is a power/select button that switches the mobile video system 48 on and off if held in for an extended time. However, once the mobile video system 48 is turned on, brief actuation of the manual actuator 156 causes the frequency of transmission of the primary wireless transmitter 108 to be altered. In one embodiment, the brief actuation of the manual actuator 156 causes a signal to be conveyed to the wireless transmitter 108 via the signal line 112.

[0035] The manual actuator 156 and the audio frequency indicator 160, where used together, provide great advantages to the mobile video system 48. For example, these components enable a passenger to sense the degrading quality of audio signal reception at the receiver 116. This degrading quality can cause some or all of the audio signal to be obscured. Thus, as the signal degrades, the passenger can manually actuate the actuator 156, thus causing the frequency of transmission to be altered. In one embodiment, three preset

transmission frequencies are provided. The passenger manually actuates the actuator 156 to move the frequency of transmission from one of the three preset frequencies to another of the preset frequencies. The audio frequency indicator 160 indicates which frequency has been thereby selected and indicates, therefore, to which frequency the passenger should tune the receive 116. Thus, three known frequencies are provided to which the receiver 116 can be tuned.

[0036] This arrangement advantageously enables the passengers to move from a frequency to another frequency preemptively. On a familiar drive (e.g., a daily commute), a passenger may become aware of a first area where, at a first frequency band, interference causes the audio signal to become obscured, i.e., degrades the audio signal from listenable to unlistenable. The passenger may also know that at a second frequency band interference is not present when the car is in the first area, and therefore the audio signal would not become obscured. A little farther along the drive, the car might enter a second area known by the passenger to be subject to interference at the second frequency band. The passenger may also know that at a third frequency band, interference is not present in the second area. Accordingly, the prior to entering the first area, the transmitter 108 may be set to transmit to the receiver 116 at the first preset frequency band. Because the passenger is aware of the impending interference in the second area, the passenger can actuate the manual actuator 156 just prior to entering the second area to cause the transmission frequency band to move from the first preset frequency band to the second preset frequency band. Also, the receiver 116 may have a button that automatically causes the receiver 116 to receive signals at the same second preset frequency band (e.g., a radio station preset buttons). Then, just prior to entering the second area, the passenger can again actuate the manual actuator 156 to cause the band of frequency transmission to move from the second preset frequency to the third preset frequency band. As discussed above, the receiver 116 can be automatically switched to the third preset frequency, e.g., using a radio station preset button. Thus, one advantage of the mobile video system 48 is that it enable passengers to preemptively switch transmission frequency of the transmitter 108 to prevent any substantial amount of audio signal loss during a familiar car trip. If the passenger had to turn a dial or in any other hunt for an available frequency, the passenger would either have to pause the playback of the audiovisual signal or completely miss a portion of the signal.

[0037] Another embodiment is illustrated by Figures 5 and 6, wherein at least two video sources and two video monitors are provided. The system below is similar to that described above, and the details described above should be considered to supplement the discussion of the following embodiment.

[0038] Referring to Figure 5, a car 220 includes a first seat 232 and a second seat 236. The first seat 232 comprises a first headrest 240 and the second seat comprises a second headrest 244. The car 220 also includes a mobile audiovisual system 248 that includes a first video source 252 and a second video source 254. The video sources 252, 254 are similar to the source 52 discussed above. Although this embodiment shows two sources, there can of course be more than two as well.

[0039] The mobile video system 248 preferably also includes a first set of input jacks 262, a second set of input jacks 264, a first video monitor 258, and a second video monitor 260. A first audiovisual signal line 266 that has an audio branch 266A and a video branch 266B is provided to interconnect the input jacks 262 and the first video monitor 258. A second audiovisual signal line 268 having an audio branch 268A and a video branch 268B is provided to interconnect the input jacks 264 and the second video monitor 260.

[0040] In one embodiment, the first video source 252 connects to the input jacks 262, 264 through a series of signal lines. For example, a remote sensor signal line 272 that is connected to the first video source 252 is received by a first remote sensor jack 274. Preferably, a first video signal line 276 is connected to the first video source 252. The first video signal line 276 includes a first branch 276A and a second branch 276B. The first branch 276A of the first video signal line 276 is received by a first primary video signal jack 280. A second video signal line 284 is connected to the second video source 254. The second video signal line 284 includes a first branch 284A and a second branch 284B. The first branch 284A is received by a first secondary video signal jack 288. A first right-side audio signal line 292 that is connected to the first video source 252 includes a first branch 292A and a second branch 292B. The first branch 292A of the first right-side audio signal line 292 is received by a first right-side audio signal jack 296. A first left-side audio signal line 300 that is connected to the first video source 252 includes a first branch 300A and a second branch 300B. The first branch 300A is received by a first left-side audio signal jack 304.

[0041] In one embodiment, the second video source 254 connects to the input jacks 262, 264 through a series of signal lines. For example, a remote sensor signal line 308 that is connected to the second video source 254 is received by a second remote sensor jack 312. Preferably, the second branch 284B of the second video signal line 284 is received by a second secondary video signal jack 316. The second branch 276B of the first video signal line 276 preferably is received by a second primary video signal jack 320. A second right-side audio signal line 324 that is connected to the second video source 254 includes a first branch 324A and a second branch 324B. The first branch 324A of the first right-side audio signal line 324 is received by a second right-side audio signal jack 328. A second left-side audio signal line 332 that is connected to the second video source 254 includes a first branch 332A and a second branch 332B. The first branch 328A is received by a second left-side audio signal jack 336.

[0042] The mobile video system 248 also advantageously includes a plurality of wireless transmitters. In one embodiment a first primary wireless transmitter 340 and a second primary wireless transmitter 344 are provided. In one embodiment, the second branch 292B of the first right-side audio signal line 292 is coupled with the first primary wireless transmitter 340. Preferably, the second branch 300B of the first left-side audio signal line 300 is coupled with the first primary wireless transmitter 340. In one embodiment, the first primary wireless transmitter 340 is also coupled with the first video monitor 258, e.g., via a signal line 348. Like the signal line 112, the signal line 348 may be capable of conveying at least one input command from a passenger that may include directing the transmitter to switch from one frequency to another frequency.

[0043] The second primary wireless transmitter 344 is similarly coupled with the second video source 254. In particular, the second branch 332B of the second left-side audio signal line 332 and the second branch 324B of the first right-side audio signal line 324 are coupled with the second primary wireless transmitter 344. In one embodiment, the second primary wireless transmitter 344 is also coupled with the second video monitor 260, e.g., via a signal line 364. As with the signal line 348, the signal line 364 may be capable of conveying at least one input command from the user.

[0044] The primary wireless transmitters 340, 344 are configured to transmit an audio portion of an audiovisual signal generated by the first source 252 and the second

source 254 respectively in the manner described above. Thus, in one embodiment, the wireless transmitters 340, 344 transmit the audio portion of the audiovisual signals to at least one audio signal receiver 352. Wireless transmission is indicated by the arrow 356. As discussed above, in connection with the receiver 116, the receiver 352 preferably is connected to at least one loudspeaker 360.

[0045] In one embodiment, the first video monitor 258 includes a first secondary wireless transmitter 380 and the second video monitor 260 includes a second secondary wireless transmitter 384. The transmitters 380, 384 may operate in a fashion similar to the wireless transmitter 148, discussed above. Each of the first secondary wireless transmitter 380 and the second secondary wireless transmitter 384 can desirably transmit audio signals to one or more sets of headphones 388. The wireless transmission to the sets of headphones 388 is indicated by the arrows 392. As discussed above in connection with the transmitter 148, the transmitters 380, 384 can be an infrared transmitters, or any other suitable transmitter.

dno.03 **[0046]** In addition to the advantages discussed above in connection with the audiovisual system 48, the audiovisual system 348 provides a great deal of flexibility in passenger entertainment. For example, the audiovisual system 348 advantageously allows one passenger to watch a movie generated by one of the audiovisual sources 252, 254 on one of the video monitors 258, 260, while another passenger watches a different movie generated by a different audiovisual source on the other of the video monitors 258, 260. Or, while one passenger watches a movie on one of the video monitors 258, 260, another passenger can play a video game using a different audiovisual source, with the video signal of the video game being displayed on the other of the video monitors 258, 260. Numerous combinations of audiovisual signals that can be flexibly displayed on the video monitors 258, 260 are possible. The audiovisual system 248 is also flexible in that audio signals can be conveyed thereby in the two modes (e.g., FM wireless and IR wireless, in one embodiment) as described above in connection with the audiovisual system 48.

[0047] The audiovisual system 348 allows one passenger to listen privately on headphones to a movie, a video game, or another audiovisual signal, while the other passengers listen together over the vehicle radio or other FM receiver to the audio signal of another movie, another video game, or another audiovisual source. By providing multiple

headphones 388, two or more passengers can listen privately to the audio signal generated by one audiovisual source, while one or more other passengers listen collectively to the audio signal generated by another audiovisual source and provided to the speakers 360.

[0048] In the embodiment illustrated in Figure 6, two primary wireless transmitters are provided that can communicate with the audio signal receiver 352, namely the first primary wireless transmitter 340 and the second primary wireless transmitter 344. In another embodiment, a mobile video system can be provided that includes two video sources and one primary wireless transmitter that is associated with only one of the two video source. In this embodiment, the source with which the primary wireless transmitter is associated will be the source used for group viewing. The other source will be capable of transmitting to headphones for private listening. Of course, the source associated with the primary wireless transmitter can also comprise a secondary wireless transmitter that transmits to headphones for private listening.

[0049] Advantageously, the audiovisual system 348 can provide flexible entertainment, as discussed above, without requiring a separate switching unit. Accordingly, the audiovisual system 348 costs less to manufacture and to install and also is easier to install.

[0050] Although the present invention has been described in terms of certain preferred embodiments, other embodiments apparent to those of ordinary skill in the art also are within the scope of this invention. Thus, various changes and modifications may be made without departing from the spirit and scope of the invention. Moreover, not all of the features, aspects and advantages are necessarily required to practice the present invention. Accordingly, the scope of the present invention is intended to be defined only by the claims that follow.

WHAT IS CLAIMED IS:

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1. A mobile audiovisual system for a car, comprising:

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor adapted to be mounted to a first headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor adapted to be mounted to a second headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is adapted to be installed in the car; and

a first wireless transmitter configured to transmit to the radio an audio portion of one of the first audiovisual signal or the second audiovisual signal;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

2. The mobile audiovisual system of Claim 1, further comprising:

a set of headphones; and

a second wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the set of headphones.

3. The audiovisual system of Claim 2, wherein the second wireless transmitter comprises an infrared audio transmitter.

4. The mobile audiovisual system of Claim 1, further comprising:

a manually operated audio frequency selector that selects a transmission frequency upon which the wireless transmitter transmits the audio portion of the first audiovisual signal or the audio portion of the second audiovisual signal.

5. The mobile audiovisual system of Claim 4, wherein the manually operated audio frequency selector is at least partially positioned within a housing for the first video monitor or within a housing for the second video monitor.

6. The mobile audiovisual system of Claim 4, wherein the manually operated audio frequency selector comprises a remote control.

7. The mobile audiovisual system of Claim 4, further comprising an audio frequency indicator.

8. The mobile audiovisual system of Claim 7, further comprising a first housing for the first video monitor and a second housing for the second video monitor, the audio frequency indicator positioned within one of the first housing and the second housing.

9. The mobile audiovisual system of Claim 7, further comprising a housing for the audio frequency indicator, the housing adapted to be mounted to one of the first headrest and the second headrest.

10. The mobile audiovisual system of Claim 7, further comprising a remote control device, the audio frequency indicator positioned on the remote control device.

11. The mobile audiovisual system of Claim 7, further comprising a second audio frequency indicator.

12. The mobile audiovisual system of Claim 1, wherein the first video source comprises a DVD player.

13. The mobile audiovisual system of Claim 1, wherein the first video source comprises a video game console.

14. The mobile audiovisual system of Claim 13, wherein the second video source comprises a DVD player.

15. The mobile audiovisual system of Claim 1, wherein the wireless transmitter comprises a frequency modulation (FM) transmitter.

16. The mobile audiovisual system of Claim 1, further comprising a first video signal transmitter adapted to provide a video portion of at least one of the first audiovisual signal and the second audiovisual signal to at least one of the first video monitor and the second video monitor.

17. The mobile audiovisual system of Claim 1, further comprising a second wireless transmitter.

18. The audiovisual system of Claim 17, wherein the first transmitter comprises a frequency modulation (FM) transmitter.

19. The audiovisual system of Claim 18, wherein the second transmitter comprises a frequency modulation (FM) transmitter.

20. The audiovisual system of Claim 18, wherein the second transmitter comprises an infrared transmitter.

21. The audiovisual system of Claim 1, wherein a first angular orientation of the first video monitor relative to the first seat and a second angular orientation of the second video monitor relative to the second seat are adjustable without moving the headrests.

22. A mobile video system, comprising:

a car comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the headrest of the first seat, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

23. The mobile video system of Claim 22, wherein the car further comprises a second seat having a second headrest, the second video monitor mounted to the second headrest of the second seat.

24. A car-based mobile video system, comprising:

a car comprising a passenger compartment within which are positioned a first seat having a first headrest and a second seat having a second headrest;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the first headrest of the first seat, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted to the second headrest of the second seat, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

MOBILE VIDEO SYSTEM

Abstract of the Disclosure

A mobile video system includes a first video source, a second video source, a first video monitor, a second video monitor, an audio signal receiver, and a wireless transmitter. One of the first video source and the second video source generates a first audiovisual signal. One of the first video monitor and the second video monitor receives a video portion of at least one of the first audiovisual signal and the second audiovisual signal. The wireless transmitter transmits an audio portion of one of the first audiovisual signal or the second audiovisual signal to the audio signal receiver. A video portion of the first audiovisual signal or the second audiovisual signal is displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

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DECLARATION - USA 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 of the subject matter which is claimed and for which a patent is sought on the invention entitled MOBILE VIDEO SYSTEM; the specification of which is attached hereto;

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 patentability as defined in Title 37, Code of Federal Regulations, § 1.56;

I hereby claim the benefit under Title 35, United States Codes § 119(e) of any United States provisional application(s) listed below.

Application No.: 60/435,810	Filing Date: 12/20/02
Application No.: 60/421,936	Filing Date: 10/28/02

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.

Full name of sole inventor: **Chung L. Chang**

Inventor's signature Chung L. Chang

Date 2-5/2003

Residence: **22384 Lazy Trail Road, Diamond Bar, California 91765**

Citizenship: **U.S.A.**

Post Office Address: **Same**

Send Correspondence To:
KNOBBE, MARTENS, OLSON & BEAR, LLP
Customer No. 20,995

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JHNSF.014A PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang
App. No.	:	Unknown
Filed	:	Herewith
For	:	MOBILE VIDEO SYSTEM
Examiner	:	Unknown

ESTABLISHMENT OF RIGHT OF ASSIGNEE TO TAKE ACTION
AND
REVOCATION AND POWER OF ATTORNEY

United States Patent and Trademark Office
P.O. Box 2327
Arlington, VA 22202

Dear Sir:

The undersigned is empowered to act on behalf of the assignee below (the "Assignee"). A true copy of the original Assignment of the above-captioned application from the inventor(s) to the Assignee is attached hereto. This Assignment represents the entire chain of title of this invention from the Inventor(s) to the Assignee.

I declare that all statements made herein are true, and that all statements made upon 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 18 U.S.C. § 1001, and that willful, false statements may jeopardize the validity of the application, or any patent issuing thereon.

The undersigned hereby revokes any previous powers of attorney in the subject application, and hereby appoints the registrants of Knobbe, Martens, Olson & Bear, LLP, 2040 Main Street, Fourteenth Floor, Irvine, California 92614, Telephone (949) 760-0404, **Customer No. 20,995**, as its attorneys with full power of substitution and revocation to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected

App. No. : Unknown
Filed : December 20, 2002

herewith. This appointment is to be to the exclusion of the inventor(s) and his attorney(s) in accordance with the provisions of 37 C.F.R. § 3.71.

Please use **Customer No. 20,995** for all communications.

Johnson Safety, Inc.

Dated: 2-5/2003

By: _____
Chung L. Chang

Title: President

Address: 1425 Cooley Court
San Bernardino, CA 92408

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PATENT APPLICATION SERIAL NO. _____

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

02/13/2003 RMEBRAHT 00000009 10361897

01 FC:2001 375.00 OP
02 FC:2202 36.00 OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2001 — 481-697/59173

PATENT APPLICATION FEE DETERMINATION RECORD
Effective January 1, 2003

Application or Docket Number: JHNSF.014A

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	24	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	24 minus 20=	* 4
INDEPENDENT CLAIMS	3 minus 3 =	* 0
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐	RATE	FEE	OR	OTHER THAN SMALL ENTITY	RATE	FEE
	BASIC FEE	$375	OR		BASIC FEE	$750
	X$ 9=	136	OR		X$18=	
	X42=		OR		X84=	
	+140=		OR		+280=	
	TOTAL	411	OR		TOTAL	

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY	RATE	ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY	RATE	ADDITIONAL FEE
	X$ 9=		OR		X$18=	
	X42=		OR		X84=	
	+140=		OR		+280=	
	TOTAL ADDIT. FEE		OR		TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
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AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
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RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
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X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

CLAIMS ONLY

SERIAL NO.	FILING DATE
APPLICANT(S)	

CLAIMS

	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT	
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TOTAL CLAIMS						

* MAY BE USED FOR ADDITIONAL CLAIMS OR AMENDMENTS

FORM PTO-2022 (1-98)

U.S.DEPARTMENT OF COMMERCE
Patent and Trademark Office

*U.S GPO: 1998-443-593/89152

#2

JHNSF.014A PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang	Group Art Unit: Unknown
Appl. No.	:	Unknown	
Filed	:	Herewith	
For	:	MOBILE VIDEO SYSTEM	
Examiner	:	Unknown	

PETITION TO MAKE SPECIAL FOR NEW APPLICATION UNDER 37 C.F.R. § 1.102 AND M.P.E.P. §708.02 [VIII]

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Under the provisions of 37 C.F.R. § 1.102 and M.P.E.P. §708.02 [VIII], Applicant hereby petitions to make special the above-identified application in order to advance its examination in the Patent and Trademark Office.

A check for the payment of the fee of $130 under 37 C.F.R. 1.17(h) is enclosed. Please charge any additional fees or credit overpayment to Deposit Account No. 11-1410.

Should a restriction requirement be necessary, Applicant requests that prompt telephonic notice be given to Applicant's counsel, at which time Applicant will make an election without traverse.

A pre-examination search was conducted in the following areas:

Class 296, subclass 37.16;

Class 297, subclasses 217.1, 217.3, 217.4, 217.5, 27.6, and 391;

Class 348, subclass 837; and

Class 352, subclass 132.

Each reference deemed most closely related to the subject matter encompassed by the claims is made of record in the present application and a copy of each reference was submitted with the information disclosure statement filed herewith.

DISCUSSION OF THE REFERENCES

Applicant provides the following discussion of the references, which points out with the particularity required by 37 C.F.R. § 1.111(b) and (c) how the claimed subject matter is distinguished over the references.

U.S. Patent No. 4,647,980 to Steventon et al. (the '980 patent)

The '980 patent discloses an on-board television system 10 that includes a central broadcast station 14 adapted to supply multiple video program signals on different channels to each of a plurality of compact television receiver modules 16 mounted for individual selection and viewing by the aircraft passengers. The broadcast station 14 includes means for supplying a plurality of different video program signals on different channels to one or more cables 18 which carry the signals to each passenger seat location, for example, by branching off at each row 20 of seats. Audio signals are supplied via an audio jack 64 on a control panel for plug-in reception of a standard headset 66 that includes earphones 68. Column 5, lines 38-42; see also FIG. 2. There is no discussion of how the audio signal is supplied to the audio jack 63.

In contrast, Claims 1-21 recite a mobile audiovisual system for a car, comprising:

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor adapted to be mounted to a first headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor adapted to be mounted to a second headrest of the car and to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is adapted to be installed in the car; and

a first wireless transmitter configured to transmit to the radio an audio portion of one of the first audiovisual signal or the second audiovisual signal;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

The '980 patent does not disclose this claimed structure or any similar structural arrangement which would suggest this claimed structure. For at least these reasons, Claims 1-21 are patentable over the '980 patent.

Also in contrast, Claims 22 –23 recite a mobile video system, comprising:

a car comprising a passenger compartment, a first seat having a first headrest, the first seat positioned in the passenger compartment;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the headrest of the first seat, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted in the passenger compartment, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle ; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

The '980 patent does not disclose this claimed structure or any similar structural arrangement which would suggest this claimed structure. For at least these reasons, Claims 22-23 are patentable over the '980 patent.

Also in contrast, Claim 24 recites a car-based mobile video system, comprising:

a car comprising a passenger compartment within which are positioned a first seat having a first headrest and a second seat having a second headrest;

a first video source that generates a first audiovisual signal;

a second video source that generates a second audiovisual signal;

a first video monitor mounted to the first headrest of the first seat, the first video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a second video monitor mounted to the second headrest of the second seat, the second video monitor configured to receive a video portion of at least one of the first audiovisual signal and the second audiovisual signal;

a radio that includes a loudspeaker and that is installed in the vehicle; and

a first wireless transmitter configured to transmit an audio portion of one of the first audiovisual signal or the second audiovisual signal to the radio;

whereby a video portion of either of the first audiovisual signal or the second audiovisual signal can be displayed on the first video monitor, on the second video monitor, or on both the first video monitor and the second video monitor.

The '980 patent does not disclose this claimed structure or any similar structural arrangement which would suggest this claimed structure. For at least these reasons, Claim 24 is patentable over the '980 patent.

U.S. Patent No. 4,584,603 to Harrison (the '603 patent)

The '603 patent discloses an amusement and information system 10 for use on a passenger carrier. A video display 16 is connected through a selector 18 to a plurality of video recorder/players 20, 22 and to a flight path information computer 24. The video display 16 is also connected through the selector 18 to flight crew information 26 and to video games 28. See Figure 1. The keyboard 14 and the selector 18 are used to select the amusement or information which appears on the video display 16. The '603 patent does not discuss the how audio signals are routed.

The '603 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '603 patent.

U.S. Patent No. 6,304,173 to Pala et al. (the '173 patent)

The '173 patent discloses a rear view and multi-media system for vehicles. In particular, a vehicle display system 20 includes a display 24 that is movably mounted on a rail 26 which is secured to a roof or headliner 28 of a vehicle 22. The display 24 is movable along the rail 26 between a forward first position at the forward end 31 of the rail 26 and a rearward second position 24a at the rear end 33 of the rail 26. In FIG. 1, the display 24 is illustrated at the first position, while reference numeral 24a indicates the display 24 at the second position and reference numeral 24b

indicates the display 24 in a stored position or in movement between the first and second positions. The rail 26 is at least partially enclosed by a housing 34 which may comprise or be similar to the headliner 28. The vehicle 22 further includes front speakers 64 and rear speakers 66. The system 20 further includes a movie player 70, such as a VCR or DVD or other player of prerecorded video signals prestored onto removable media 72. The vehicle display system 20 includes a second display 76 installed for viewing by the driver, such as in the instrument panel or dashboard. User input controls 78, 80 for operation of the display system 20 are provided for the front and rear seat passengers, respectively. There is no discussion of mounting a video monitor to a headrest of a seat.

The '173 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '173 patent.

U.S. Patent Application Publication No. US 2002/0105507 to Tranchina et al. (the '507 publication)

The '507 publication discloses a display device 100 for a vehicle that includes an assembly housing 101, a first wireless transmitter 112, a second wireless transmitter 113, a third wireless transmitter 114, at least one media source 115, a first display 117, a second display 118, a third display 119, and a connector 120. The displays 117, 118, 119 each include speakers 130, 131, an video/audio input jack 134, a video input jack 135, a right channel audio input jack 136, a left channel audio input jack 137, a connector 142, a wireless receiver 143, a headphone jack 145, a screen 148, an antenna 149 and various other components. Figures 4-6 illustrate the mounting arrangements of the display device 100 in a vehicle. In Figure 4, the display device 117 is mounted at a rear portion of seats 488, 489 using one or more straps or Velcro attached to a bag 430. In Figure 5, the assembly housing 101, including the display 118, also is mounted at a rear portion of seats using straps attached to a bag 540. In Figure 6, the display 119 is illustrated as being wireless, and thus not mounted to any portion of the vehicle. There is no discussion of mounting a video monitor to a headrest of a seat.

The '507 publication does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '507 publication.

U.S. Pat. No. 5,507,556 to Dixon (the '556 patent)

The '556 patent discloses a seat 10 that includes an adjustable seat back 14 and a display screen assembly 20. The screen assembly 20 is pivotally attached to the seat back 14. A cable 32 and a sheath 33 coupled with the screen assembly 20 maintain the screen assembly at a proper viewing angle relative to the viewer as the seat back 14 is adjusted. The Dixon patent is directed to the pivotal movement of the video screen and the seat back and thus does not disclose providing multiple audiovisual sources or multiple modes of audio signal transmission.

The '556 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '556 patent.

U.S. Pat. No. 5,713,633 to Lu (the '633 Patent)

The '633 patent discloses a vehicle seat having a backrest 50 with a chamber 51 for storing articles. A pillow 60 having a chamber 61 is disposed above the backrest 50. A TV set 72 is disposed in the chamber 61 of the pillow 60 and a video set, game set, or karaoke 73 is installed in the chamber 51 of the backrest 50. The TV set 72 can receive broadcasts or can act as a monitor for the video set, game set, or karaoke 73.

The '633 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '633 patent.

U.S. Pat. No. 6,250,967 to Chu (the '967 patent)

The '967 patent discloses a mobile video device 3 that is mounted in a pillow 1 that has branch pipes 11. The branch pipes 11 of the pillow are inserted into insertion holes 21 in the seat portion 2. A signal transmission line 31 of the video display 3 penetrates through the branch pipes 11 of the pillow 1 to signal terminals 32. The insertion holes 21 receive the signal terminal 32. Thus, the '967 patent is directed to the interconnection of the pillow 1 and the seat portion 2.

The '967 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '967 patent.

U.S. Patent No. 4,635,110 to Weinblatt (the '110 patent)

The '110 patent discloses a portable video and audio equipment holder 1 that is adapted to fit on the backrest of a front seat of an automobile. The holder 1 includes a head 3 that carries inside it a video monitor referred to as a TV. The holder 1 also includes a front panel 5 on which a VCR 23 and a power supply 25 are mounted. The holder 1 also includes a rear panel 3 to which an audio section 37 is attached. The audio section 37 encases a speaker and also includes three earphone jacks 43.

The '110 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '110 patent.

U.S. Patent No. 5,842,715 to Jones (the '715 patent)

The '715 discloses a vehicular entertainment system 10. The system 10 includes a mounting assembly 14 and an entertainment unit 30. The entertainment unit 30 includes a display 50, a "compact disc 52 receiving means" and a conventional disc drive 64. A headphone jack 66 may be included for allowing the use of conventional headphones. The '715 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '715 patent.

U.S. Patent No. 5,997,091 to Rech et al. (the '091 patent)

The '091 patent discloses a headrest arrangement for a motor vehicle seat that provides a loudspeaker 4, a microphone 5, an element 6 for voice transmission to other passengers, and a noise compression element 7. The '091 patent does not provide audiovisual sources. The '091 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '091 patent.

U.S. Patent No. 6,097,448 to Perkins (the '448 patent)

The '448 patent discloses a vehicle mounting for audio visual equipment that consists of straps 18, 20, 22, and 24 that secure a CRT device 2 between seats. The '448 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the

reasons substantially as discussed above, the claims of the present application are patentable over the '448 patent.

U.S. Patent No. 6,394,551 to Beukema (the '551 patent)

The '551 patent discloses a passenger seat 20 that has a lamp assembly 50 mounted in a headrest assembly 40, but does not disclose audiovisual systems. The '551 patent does not disclose or suggest the structures set forth in Claims 1-24 which are discussed above. For at least the reasons substantially as discussed above, the claims of the present application are patentable over the '551 patent.

CONCLUSION

In view of the foregoing discussion, Applicant respectfully submits that the present invention is patentable over all of the references discussed above. More specifically, the references do not anticipate or render obvious the arrangements of the present invention. Furthermore, the references discussed above do not suggest the claimed invention either alone or in combination. Accordingly, the Applicant respectfully requests expedited allowance of the claims.

Applicant further respectfully submits that the requirements set forth under M.P.E.P. § 708.02 [VIII] for accelerated examination of the above-identified application have been satisfied. Therefore, Applicant respectfully requests that this petition be granted.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: February 7, 2003

By: _____

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Chung L. Chang	) Group Art Unit Unknown
App. No.	:	Unknown	)
Filed	:	Herewith	)
For	:	MOBILE VIDEO SYSTEM	)
Examiner	:	Unknown	)

INFORMATION DISCLOSURE STATEMENT

United States Patent and Trademark Office
P.O. Box 2327
Arlington, VA 22202

Dear Sir:

Enclosed is form PTO-1449 listing references that are also enclosed. This Information Disclosure Statement is being filed within three months of the filing date of this application or upon filing if this is a CPA or RCE, and no fee is required in accordance with 37 C.F.R. § 1.97(b)(1), (b)(2), or (b)(4).

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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