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単数又は複数の特許弁護士への委任状伝送書
TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

注記：37 CFR 1.5に従い、委任状が示す出願を特定するため、本書類は「出願人による委任状(PTO/AIA/82B)」と共に提出すること。ただし、「出願人による委任状」で出願番号および出願日が特定されている場合を除く。委任状が示す出願が、PTO/AIA/82AおよびPTO/AIA/82Bのどちらにもおいても特定されていない場合、同出願においての代理権は認められない。

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

出願番号 Application Number	NEW
出願日 Filing Date	May 22, 2023
第一発明者 First Named Inventor	Kazuhiko YOSHIZAWA
名称 Title	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM
技術審査部門 Art Unit	To Be Assigned
審査官氏名 Examiner Name	To Be Assigned
特許弁護士整理番号 Attorney Docket Number	SEI-10340-05

出願人または特許弁護士の署名
SIGNATURE of Applicant or Patent Practitioner

署名 Signature	/Shrinath Malur/	署名日(任意) Date (Optional)	May 22, 2023
氏名 Name	Shrinath Malur	登録番号 Registration Number	34,663
役職(出願人が法人の場合) Title (if Applicant is a juristic entity)			
出願人名(出願人が法人の場合) Applicant Name (if Applicant is a juristic entity)			

注記：本書類は37 CFR 1.33に基づき署名されなければならない。署名に関する要件および証明については37 CFR 1.4(d)を参照。出願人が複数の場合は複数の用紙を使うこと。

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☒ *提出書類 計 _____ 枚。
*Total of 3 _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

出願人による委任状
POWER OF ATTORNEY BY APPLICANT

私はここに、添付の伝送書もしくは下記枠内で特定された出願に対して、現時点より前に与えられたすべての委任状を破棄します。
I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

出願番号 Application Number	出願日 Filing Date

(注記: PTO/AIA/82Aに同じ情報が明記されている場合、上の枠内は空欄でも可)
(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ 私は、下記顧客番号に関連する特許弁護士を、当方の弁護士あるいは代理人に指名し、添付の伝送書 (PTO/AIA/82A) 内もしくは上記に記載の特許出願に関連した米国特許商標庁との業務の全てを同弁護士あるいは代理人に委任します。

I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

又は
OR

24956

☐ 私は、添付のリスト (PTO/AIA/82C) に記載の特許弁護士を、当方の弁護士あるいは代理人に指名し、添付の伝送書 (PTO/AIA/82A) 内もしくは上記に記載の特許出願に関連した米国特許商標庁との業務の全てを同弁護士あるいは代理人に委任します。(注記: PTO/AIA/82C を記入すること。)

I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

添付の伝送書又は上記枠内にて特定された出願に対する郵便物送付先を下記のいずれかに登録または変更してください。

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ 上記顧客番号に付随する住所
The address associated with the above-mentioned Customer Number

又は
OR

☐ 顧客番号に付随する住所
The address associated with Customer Number:

又は
OR

事務所または個人 名 Firm or Individual Name				
住所 Address				
市 City	州 State	郵便番号 Zip		
国 Country				
電話番号 Telephone	メールアドレス Email			

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

出願人による委任状
POWER OF ATTORNEY BY APPLICANT

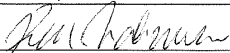
私は出願人であり（出願人が法人の場合、出願人名を下記枠内に記入）：
I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Maxell, Ltd.

- ☐ 発明者もしくは共同発明者である（下記役職の明記は不要）
Inventor or Joint Inventor (title not required below)
- ☐ 死亡したもしくは成年被後見人である発明者の法定代理人である（下記役職の明記は不要）
Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ 被譲渡人もしくは発明者が譲渡する義務を負う人物である
Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ 上記以外で、十分な独占的所有権を示す人物である（例：37 CFR 1.46(b)(2)に基づく申請が本出願において認められた、又は本書類と共にその申請がなされている場合）（出願人が法人の場合、署名者の役職を明記すること）
Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

特許出願人の署名
SIGNATURE of Applicant for Patent

下記署名者（役職は下記に記載）は出願人の代理人と認められている（出願人が法人の場合等）
The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

署名 Signature		署名日（任意） Date (Optional)	January 14th, 2022
氏名 Name	Keiji Nakamura		
役職 Title	President and Representative Director		

注記: 署名 - 本書類は37 CFR 1.33に基づき署名されなければならない。署名の要件および証明に関しては37 CFR 1.4を参照。出願人が複数いる場合は、複数の書類を使うこと。

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ 提出書類 計 _____ 枚。
Total of _____ forms are submitted.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SEI-10340-04
		Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1		Remove	
Legal Name			
Prefix	Given Name	Middle Name	Family Name
	Kazuhiko		YOSHIZAWA
Residence Information (Select One) US Residency • Non US Residency Active US Military Service			
City	baraki-shi	Country of Residence ⁱ	JP
Mailing Address of Inventor:			
Address 1	c/o Maxell, Ltd.		
Address 2	1 Koizumi, Oyamazaki, Oyamazaki-cho, Otokuni-gun		
City	Kyoto	State/Province	
Postal Code	618-8525	Country ⁱ	JP
Inventor 2		Remove	
Legal Name			
Prefix	Given Name	Middle Name	Family Name
	Hirohito		KURIYAMA
Residence Information (Select One) US Residency • Non US Residency Active US Military Service			
City	Tokyo	Country of Residence ⁱ	JP
Mailing Address of Inventor:			
Address 1	c/o Hitachi, Ltd.		
Address 2	6-6, Marunouchi 1-chome, Chiyoda-ku,		
City	Tokyo	State/Province	
Postal Code	100-8280	Country ⁱ	JP
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.			
Add			

Correspondence Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SEI-10340-04
		Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ An Address is being provided for the correspondence information of this application.

Customer Number	24956		
Email Address	ptomail@mmiplaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		
Attorney Docket Number	SEI-10340-04	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	12	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	24956		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SEI-10340-04
		Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status		Pending	Remove			
Application Number	Continuity Type		Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
	Continuation of		17568758	2022-01-05		
Prior Application Status		Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)	
17568758	Continuation of	16686467	2019-11-18	11223757	2022-01-11	
Prior Application Status		Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)	
16686467	Continuation of	15678265	2017-08-16	10511757	2019-12-17	
Prior Application Status		Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)	
15678265	Continuation of	14917586	2016-03-09	9774776	2017-09-26	
Prior Application Status			Remove			
Application Number	Continuity Type		Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
14917586	a 371 of international		PCT/JP2013/074728	2013-09-12		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.						
Add						

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)¹ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SEI-10340-04
		Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		

			Remove
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ^j (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013. NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SEI-10340-04
	Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SEI-10340-04
		Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant 1		Remove	
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
		Clear	
☒ Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor	
Person to whom the inventor is obligated to assign.		Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor:			
If the Applicant is an Organization check here. ☒			
Organization Name	MAXELL, LTD.		
Mailing Address Information For Applicant:			
Address 1	1 KOIZUMI, OYAMAZAKI, OYAMAZAKI-CHO, OTOKUNI-GUN		
Address 2			
City	KYOTO	State/Province	
Country	JP	Postal Code	618-8525
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button. Add			

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SEI-10340-04
		Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		

Assignee	1			
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
				Remove
If the Assignee or Non-Applicant Assignee is an Organization check here.				☐
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				Add

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Shrinath Malur/		Date (YYYY-MM-DD)	2023-05-22
First Name	Shrinath	Last Name	Malur	Registration Number
				34,663
Additional Signature may be generated within this form by selecting the Add button.				Add

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SEI-10340-04
		Application Number	
Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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発明の名称 Title of Invention	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM
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VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

TECHNICAL FIELD

[0001]

5 The present invention relates to a video recording device including a plurality of imaging units and a camera function control program.

BACKGROUND ART

10 [0002]

 Digital cameras each converting a subject image into an electric signal using an electronic device such as a CCD (Charge Coupled Device) and recording the converted electric signal in a memory notably spread. Recently, commonly, the
15 functions of such digital cameras are built in information terminal devices such as a mobile phone, a smartphone, and a tablet terminal.

[0003]

 In a digital camera, similar to a conventional silver
20 halide camera, the start of a recording process is triggered frequently upon an operation of pressing a shutter button. Alternatively, in an information terminal device having a digital camera function, there are also cases where the start of a recording process is triggered upon a tap operation for a
25 shutter icon or the like displayed on a monitor unit provided

with a touch panel function. Any one of the operations described above may cause a so-called "camera shake". As a means for avoiding an occurrence of the "camera shake" described above, many technologies for performing a recording
5 process to be triggered upon voice recognition have been disclosed.

[0004]

As an example thereof, in Patent Document 1, a technology has been described in which, for the purpose of allowing a
10 voice-recognition camera to perform photographing with a natural pose in accordance with the operation of a subject, two kinds of operations including an operation of immediately performing a photographing operation when a command voice is recognized and an operation of performing a photographing
15 operation when a predetermined time elapses after recognition are provided, and, when the command voice of the latter case is recognized, the photographing operation performed by the camera is delayed by a time set in advance.

20 CITATION LIST

PATENT DOCUMENT

[0005]

Patent Document 1: JP 1-191840 A

25 SUMMARY OF THE INVENTION

PROBLEMS TO BE SOLVED BY THE INVENTION

[0006]

According to the technology disclosed in Patent Document 1, it is described that, a predetermined delay time between the recognition of a command voice in a voice recognition camera and the start of a photographing operation of the camera is arranged, and thus, photographing can be performed in a natural pose according to the operation of a subject. However, in a case where a plurality of command voices are registered in advance, and a command voice is selectively used according to a photographing purpose, the usability of the camera is degraded, and, in a case where a command voice is incorrectly selected, anticipated photographing timing is lost.

[0007]

Recently, an information terminal device (video recording device) such as a camera-attached mobile phone or a smartphone includes two camera units, one camera unit is provided on the side of a same face (front face) as that of a monitor, and the other is provided on the side of a face (rear face) that is opposite to that of the monitor. In a case where a subject is photographed using such an information terminal device, a subject located in front of a user is photographed using the camera unit (out camera) provided on the face opposite to that of the monitor, and the monitor is used as a finder. On the other hand, in the case of photographing a self-image in which

the user himself is a subject, the subject is photographed using the camera unit (in camera) provided on the same face as that of the monitor, and the monitor is used for checking the self-image.

5 [0008]

In an information terminal device (video recording device) including such two camera units, a case will be considered in which the start of photographing (the start of recording) is triggered upon a voice uttered by a user. First, 10 in a case where a subject located in front of a user is photographed using the out camera, when voice recognition is made, the photographing process is immediately started, and, generally, there is no problem. On the other hand, in a case where a self-image is photographed using the in camera, when 15 voice recognition is made, and immediately the photographing process is started, there is a problem in that the user is photographed with the form of his mouth to be in a state immediately after the utterance of the command voice. In order to avoid this, it is necessary to delay the start of the 20 photographing process after the voice recognition by a predetermined time.

[0009]

In this way, in a case where a voice recognition function is applied to an information terminal device (video recording 25 device) including two cameras of the out camera and the in

camera, in order to photograph a subject in a natural pose, it is necessary to adjust photographing timing depending on which camera is used. Such problems have not been disclosed or suggested in conventional technologies including Patent Document 1.

[0010]

An object of the present invention is to enable photographing of a subject with a natural pose using a video recording device including a plurality of imaging units such as an out camera and an in camera and improving the usability of the video recording device in consideration of the problems described above.

SOLUTIONS TO PROBLEMS

[0011]

As a means for solving the problems described above, technologies described in the claims are used. In other words, according to the present invention, there is provided a video recording device that includes an imaging unit, a display unit, and a recording unit, displays a video signal input from the imaging unit on the display unit, and records the video signal using the recording unit, the imaging unit including a first imaging unit that is arranged on a same face as that of the display unit of a casing of the device and a second imaging unit that is arranged on a face different from that of the

display unit of the casing of the device, the video recording device including: an operation unit that selects one of the first imaging unit and the second imaging unit to be enabled; an audio input unit that inputs a command voice giving an instruction for recording the video signal; and a control unit that causes the recording unit to start a process of recording a video signal input from the imaging unit enabled by the operation unit in accordance with the command voice input to the audio input unit, the control unit differently setting a delay time until start of the recording process performed by the recording unit after input of the command voice in accordance with the imaging unit enabled by the operation unit. Here, the control unit sets the delay time of a case where the first imaging unit is enabled by the operation unit to be longer than the delay time of a case where the second imaging unit is enabled.

EFFECTS OF THE INVENTION

[0012]

According to the present invention, photographing of a subject can be performed with a natural pose using a video recording device including a plurality of imaging units such as an out camera and an in camera, and the usability of the video recording device can be improved.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

Fig. 1 is a block diagram that illustrates a video recording device according to one embodiment of the present invention.

Fig. 2 is a software configuration diagram of a video recording device 100.

Fig. 3 is a diagram that illustrates the configuration of a communication system including the video recording device 100.

Fig. 4 is a diagram that illustrates the external view of the video recording device 100.

Fig. 5 is a diagram that illustrates an example of a basic screen displayed on a display unit 121.

Fig. 6 is a diagram that illustrates an example of a camera function selection screen.

Fig. 7 is a diagram that illustrates an example of a command voice registration screen.

Fig. 8 is a diagram that illustrates an example of a live view display screen.

Fig. 9 is a diagram that illustrates a process of controlling switching between recording start delay times.

Fig. 10 is a flowchart that illustrates the flow of a camera operation of the video recording device 100.

Fig. 11 is a flowchart that illustrates the flow of a

command voice registration process (S600).

Fig. 12 is a diagram that illustrates an example of a screen on which two camera videos are composed and displayed.

Fig. 13 is a diagram that illustrates an example of a
5 screen on which recording timing is displayed.

MODE FOR CARRYING OUT THE INVENTION

[0014]

Hereinafter, embodiments of the present invention will be
10 described with reference to the drawings. In description
presented below, a device to which the present invention is
applied will be referred to as a "video recording device" and
may be a recording device that records video signals from a
plurality of cameras (an out camera and an in camera) on a
15 recording medium. More specifically, in addition to any one of
a camera-attached mobile phone and a smartphone enabling a
phone call with an external device using a telephone network
communication unit, a tablet terminal, and the like, the
device may be a digital still camera recording images by using
20 one still image as a unit, a personal digital assistants (PDA)
that transmits/receives information to/from an external device
through wireless communication by using a wireless
communication unit, or a notebook PC (personal computer). In
addition, the device may be a video camera capable of
25 capturing a moving image, a portable gaming device, or the

like or any other portable digital device.

[0015]

Fig. 1 is a block diagram that illustrates a video recording device according to one embodiment of the present invention. Here, a case where the video recording device 100 is a smartphone or a tablet terminal will be considered. The video recording device 100 includes: a main control unit 101; a system bus 102; a ROM 103; a RAM 104; a storage unit 110; a video processing unit 120; an audio processing unit 130; an operation unit 140; a communication processing unit 150; a sensor unit 160; and an extension interface unit 170.

[0016]

The main control unit 101 is a microprocessor unit that controls the overall operation of the video recording device 100 in accordance with a predetermined program. The system bus 102 is a data communication path used for performing data transmission/reception between the main control unit 101 and each unit arranged inside the video recording device 100.

[0017]

The ROM (Read Only Memory) 103 is a memory in which a basic operation program such as an operating system and other application programs are stored and, for example, a rewritable ROM such as an EEPROM (Electrically Erasable Programmable ROM) or a flash ROM is used. The RAM (Random Access Memory) 104 becomes a work area at the time of executing the basic

operation program or any other application program. The ROM 103 and the RAM 104 may be integrally configured with the main control unit 101.

[0018]

5 The storage unit 110 stores still-image data, a moving-image data, or the like captured by the video recording device 100. In addition, the storage unit 110 stores each operation setting value of the video recording device 100, user information (command voice data) of the video recording device
10 100, and the like. Furthermore, the storage unit 110 stores various programs used for realizing a camera function, and such programs are executed in the RAM 104. The storage unit 110 needs to maintain stored information even in a state in which power is not supplied to the video recording device 100,
15 and thus, for example, a device such as a flash ROM, an SSD (Solid State Drive), or an HDD (Hard Disc Drive) is used.

[0019]

 The video processing unit 120 is configured by: a display unit 121; a video signal processing unit 122; a first imaging
20 unit 123; and a second imaging unit 124. The display unit 121, for example, is a display device such as a liquid crystal panel and provides video data processed by the video signal processing unit 122 for a user by displaying the video data. The video signal processing unit 122 includes a video RAM not
25 illustrated in the diagram and displays input video data on

the display unit 121. In addition, the video signal processing unit 122 performs a format conversion, a superimposition process of a menu or any other OSD (On Screen Display) signal, and the like as is necessary. Each of the first imaging unit 5 123 and the second imaging unit 124 is an independent camera unit and acquires video data of a subject by converting light input from a lens using an electronic device such as a CCD or a CMOS (Complementary Metal Oxide Semiconductor) sensor into an electric signal. As will be described later, for example, 10 the first imaging unit 123 used as an in camera photographing the user himself, and the second imaging unit 124 used as an out camera photographing a subject disposed on the periphery are selectively used. While a configuration including two imaging units is employed here, a plurality of imaging units 15 may be included as long as two functions of the in camera and the out camera are included therein. In addition, a configuration may be employed in which the second imaging unit 124 is configured as a unit that is separate from the video recording device 100 and is connected to the video recording 20 device 100 through wired communication or wireless communication.

[0020]

The audio processing unit 130 is configured by: an audio output unit 131; an audio signal processing unit 132; and an 25 audio input unit 133. The audio output unit 131 is a speaker

and outputs an audio processed by the audio signal processing unit 132. The audio input unit 133 is a microphone and inputs audio data by converting a command voice of a user and the like into the audio data. Here, a configuration may be employed in which the audio input unit 133 is configured as a unit that is separate from the video recording device 100 and is connected to the video recording device 100 through wired communication or wireless communication.

[0021]

10 The operation unit 140 is a part to which a user's operation instruction for the video recording device 100 is input. For example, the operation unit 140 is configured by a touch panel that is arranged to be superimposed on the display unit 121 or operation keys in which button switches are aligned. As the function of the touch panel, a function included in the display unit 121 may be used. In addition, an operation may be performed using a keyboard connected to the extension interface unit 170 to be described later or the like. Furthermore, an operation may be performed using a separate information terminal device connected through wired communication or wired communication.

[0022]

25 The communication processing unit 150 is configured by: a LAN (Local Area Network) communication unit 151; a mobile telephone network communication unit 152; and a near-field

wireless communication unit 153. The LAN communication unit 151 is connected to a wireless communication access point of the Internet through wireless communication and performs transmission/reception of data. The mobile telephone network communication unit 152 performs telephone communication (phone call) and transmission/reception of data through wireless communication with a base station of a mobile telephone network. The near-field wireless communication unit 153 performs wireless communication at the time of an approach of a corresponding reader/writer. Each of the LAN communication unit 151, the mobile telephone network communication unit 152, and the near-field wireless communication unit 153 includes a coding circuit, a decoding circuit, an antenna, and the like. In addition, an infrared communication unit and the like may be included therein.

[0023]

The sensor unit 160 is a sensor group used for detecting the state of the video recording device 100 and is configured by: a GPS (Global Positioning System) reception unit 161; an acceleration sensor 162; a gyro sensor 163; a geometric sensor 164; an illuminance sensor 165; and a proximity sensor 166. By using such a sensor group, the position, the movement, the inclination, and the azimuth of the video recording device 100, ambient brightness, a proximity situation of surrounding objects, and the like are detected. In addition, any other

sensor may be included therein.

[0024]

The extension interface unit 170 is an interface group used for extending the function of the video recording device 100 and is configured by: a video/audio interface; a USB (Universal Serial Bus) interface; a memory interface; and the like. The video/audio interface performs input of a video signal/audio signal from an external video/audio output device, output of a video signal/audio signal to an external video/audio input device, and the like. The USB interface connects a keyboard or other USB devices. The memory interface connects a memory card or any other memory medium and performs transmission/reception of data.

[0025]

In addition, a configuration of a digital television broadcast reception function, an electronic money payment function, or the like may be added to the information terminal device such as a smartphone or a tablet terminal. The video recording device 100 illustrated in Fig. 1 is assumed to be an information terminal device and thus includes configurations such as the communication processing unit 150 and the sensor unit 160 that are not essential for the execution of the present invention, and, also in the case of a configuration not including such configurations, the operations according to the present invention can be performed.

[0026]

Fig. 2 is a software configuration diagram of the video recording device 100 according to this embodiment and illustrates the software configurations of the ROM 103, the RAM 104, and the storage unit 110.

In the ROM 103, a basic operation program 103a such as an operating system and other application programs 103b are stored. By updating the programs stored in the ROM 103, the versions of the basic operation program and the other application programs can be upgraded, and functional expansion thereof can be made.

[0027]

The RAM 104 is a work area when various programs are executed and is configured by: a basic operation executing unit 104a; a camera function executing unit 104b; a voice recognition executing unit 104c; a timing display executing unit 104d; and a temporary storage area 104e, and the like. For example, the basic operation executing unit 104a is configured as the basic operation program 103a stored in the ROM 103 is expanded into the RAM 104, and the expanded basic operation program is executed by the main control unit 101. The camera function executing unit 104b, the voice recognition executing unit 104c, and the timing display executing unit 104d are configured as a camera function program 110b, a voice recognition program 110c, and a timing display program 110d

stored in the storage unit 110 are expanded into the RAM 104 and are executed by the main control unit 101. The temporary storage area 104e is an area in which data is temporarily maintained as is necessary when various application programs are executed. A distinctive feature of this embodiment is a camera operation (recording start timing switching) performed by the camera function executing unit 104b, the voice recognition executing unit 104c, and the timing display executing unit 104d.

10 [0028]

The storage unit 110 includes a various information/data storing area 110a and stores the camera function program 110b, the voice recognition program 110c, and the timing display program 110d therein. In the various information/data storing area 110a, still-image data, moving-image data, and the like captured by the video recording device 100 are stored, and each operation setting value of the video recording device 100, user's information, and the like are stored. The camera function program 110b performs control of switching of a delay time until recording starts in accordance with one of the first imaging unit 123 and the second imaging unit 124 to be used. The voice recognition program 110c is used for registering a user's voice and recognizing whether or not a command voice input as a trigger operation is correct. The timing display program 110d is used for displaying timing of

recording start on the screen when the recording start is delayed. Here, the programs 110b to 110d described above may be integrated into only one program having the functions thereof.

5 [0029]

In addition, the ROM 103 may not have an independent configuration as illustrated in Figs. 1 and 2 but may use a partial storage area (other programs 110e) inside the storage unit 110. Furthermore, the camera function executing unit 104b,
10 the voice recognition executing unit 104c, and the timing display executing unit 104d may be configured by hardware realizing equivalent operations.

[0030]

Fig. 3 is a diagram that illustrates the configuration of
15 a communication system including the video recording device 100 according to this embodiment. The video recording device 100 is connected to a wide-area public network 201 such as the Internet through a wireless communication access point 202. In addition, the video recording device 100 is connected to a
20 mobile telephone communication server 213 through a base station 203 of a mobile telephone communication network. An application server 211, an image data server 212, and a mobile telephone communication server 213 are connected to the wide-area public network 201. In the communication processing unit
25 150 of the video recording device 100, the LAN communication

unit 151 is connected to the wireless communication access point 202 of the Internet 201 and performs transmission/reception of data. In addition, the mobile telephone network communication unit 152 is connected to the base station 203 of the mobile telephone communication network and performs transmission/reception of data.

[0031]

By using such a communication system, the video recording device 100 can download a new application program from the application server 211 through the Internet 201 and the wireless communication access point 202 or the base station 203 of the mobile telephone communication network. At this time, the downloaded new application program is stored in the storage unit 110. The main control unit 101 expands the new application program stored in the storage unit 110 into the RAM 104 and executes the new application program, thereby realizing a new function of the video recording device 100, whereby a function expansion can be made.

[0032]

Each of the programs described above may be in the state of being stored in the ROM 103, the storage unit 110, or the like of the video recording device 100 in advance at a time point of product shipment. Alternatively, after the product shipment, the programs may be acquired from the application server 211 or the like on the Internet 201 through the LAN

communication unit 151 or the mobile telephone network communication unit 152. Furthermore, the programs stored in a memory card or the like may be acquired through the extension interface unit 170.

5 [0033]

Fig. 4 is a diagram that illustrates the external view of the video recording device 100 according to this embodiment. Here, a case is illustrated in which the video recording device 100 is an information terminal device such as a
10 smartphone, (a) is a diagram of a front face, and (b) is a diagram of a rear face (back face). On the front face side of the video recording device 100, a display unit 121 is arranged. The first imaging unit (camera unit) 123 is arranged on a same face (front face) as that of the display unit 121, and the
15 second imaging unit (camera unit) 124 is arranged on a face (rear face) opposite to the display unit 121. Hereinafter, the first imaging unit 123 arranged on the same face as that of the display unit 121 will be referred to as an "in camera", and the second imaging unit 124 arranged on the side opposite
20 to the display unit 121 will be referred to as an "out camera". Here, the position of the second imaging unit 124 may be arranged on a side face or the like other than the same face as that of the display unit 121. The first imaging unit 123 (in camera) mainly photographs the user himself as a subject,
25 and the second imaging unit 124 (out camera) photographs a

subject disposed on the periphery.

[0034]

As the operation unit 140 that receives an operation instruction from a user for the video recording device 100, various operation keys (a power key 142 and a home key 143) according to the touch panel 141 arranged to be superimposed on the display unit 121 and button switches are arranged. In addition, an audio output unit (speaker) 131 and an audio input unit (microphone) 133 are included.

10 [0035]

Next, an example of various screens displayed on the display unit 121 in accordance with various operations of the video recording device 100 will be illustrated.

Fig. 5 is a diagram that illustrates an example of a basic screen displayed on the display unit 121. The basic screen 300 is displayed when the power of the video recording device 100 is turned on according to pressing of the power key 142 or when the home key 143 is pressed during the execution of an arbitrary application program. An icon group 301 displayed on the basic screen 300 is a collection of icons associated with application programs that can be executed by the video recording device 100. By selecting any one of icons, a predetermined application program associated with the selected icon is executed. Among the icons, an icon 302 is an icon at the time of executing the camera function that is a

15
20
25

distinctive feature of the video recording device 100 according to this embodiment.

[0036]

The selection of an icon may be performed by performing a
5 tap operation for an area on the touch panel 141 that corresponds to a position on the display unit 121 at which a target icon is displayed. Alternatively, an operation key such as a cross cursor key or a determination key not illustrated in the drawing may be performed.

10 [0037]

Fig. 6 is a diagram that illustrates an example of a camera function selection screen displayed at the time of starting the camera function. The camera function selection menu screen 310 is configured by: an out camera selection icon
15 311 used in a case where photographing is performed using the out camera; an in camera selection icon 312 in a case where photographing is performed using the in camera; a command voice registration icon 313 used in a case where a command voice is registered; a delay time setting icon 314 used in a
20 case where a recording start delay time is set; and an end icon 315. A user selects a camera in accordance with a photographing target. Alternatively, in a case where a command voice is not registered, before the photographing process, a command voice is registered.

25 [0038]

Fig. 7 is a diagram that illustrates an example of a command voice registration screen displayed when a command voice is registered. The command voice registration screen 320 is configured by: a recording start/stop icon 321; a playback start/stop icon 322; and a return icon 323. At the time of recording, the recording start/stop icon 321 is selected, and a voice uttered by the user is input from the audio input unit 133 and is stored. At the time of playback, the playback start/stop icon 322 is selected, and the stored user's voice is output from the audio output unit 131.

[0039]

Fig. 8 is a diagram that illustrates an example of a live view display screen displaying a camera video. The live view display screen 330 is configured by: a command voice reception icon 331; a live view window 332; a shutter icon 333; and an end icon 334.

[0040]

The live view window 332 displays video data input from the first imaging unit 123 (in camera) or the second imaging unit 124 (out camera) as it is. In this example, an out camera view input from the second imaging unit 124 is displayed. A user adjusts the layout and the like of a subject to be captured while checking a video displayed in the live view window 332. In addition, by performing a touch panel operation such as pinch-out/in at a position located at an upper part of

the live view window 332, zoom-in/out of a displayed video is controlled.

[0041]

The command voice reception icon 331 represents that a
5 recording process can be started by using a command voice
input from the audio input unit 133 as a trigger. In other
words, by displaying the icon 331, it represents that the
voice input function is enabled (alternately, the voice input
function may be represented to be enabled by changing the
10 shape of the icon 331). The shutter icon 333 is used for
starting a recording process by using the selection of the
shutter icon as a trigger. The user can use both the audio
input unit 133 and the shutter icon 333 as a trigger for
starting a recording process. In addition, whether or not the
15 function for using a voice input as a trigger is enabled can
be selected by the user.

[0042]

Hereinafter, the camera function (an operation for
delaying the start of recording) that is a distinctive feature
20 of the video recording device 100 according to this embodiment
will be described.

In a general subject photographing process, it is
preferable that a delay time until the start of a recording
process after a shutter operation (in this embodiment,
25 including the input of a command voice used as a trigger for

starting a recording process) is as close as possible to zero. However, in a case where the user himself is photographed (self-image photographing) using a camera that starts a recording process using a voice input as a trigger, such a
5 delay time is not preferable since the user is photographed with his mouth in a state immediately after the utterance of a command voice in that case. In order to avoid this, in this embodiment, a predetermined delay time until the start of a recording process after the input of a command voice is
10 provided. In other words, a control process is performed such that switching to a delay time until the start of recording after detection of a trigger for starting the recording process is made in accordance with a photographing target (an external subject/a self-image) or a photographing method (the
15 out camera/the in camera).

[0043]

Fig. 9 is a diagram that illustrates a process of controlling switching between recording start delay times. The video recording device 100 according to this embodiment
20 performs the process of controlling switching between delay times in accordance with which one of the two cameras is used.

[0044]

In a control sequence, when a trigger operation start 401 (an input of a command voice) is received, after a trigger
25 recognition process 402 (a process of recognizing a command

voice) and a standby process 403 of a predetermined time are performed, a recording process start 404 is performed. Then, a predetermined recording sequence 405 (storage of video data) is executed, and a recording process end 406 is performed.

5 [0045]

As illustrated in (a), in a case where a subject is photographed using the second imaging unit 124 (out camera), a standby process 403 of a standby time T_a is performed. On the other hand, as illustrated in (b), in a case where a subject
10 is photographed using the first imaging unit 123 (in camera), a standby process 403 of a standby time T_b is performed. Here, the standby times of both the cases are different from each other, and the standby time T_b is set to be longer than the standby time T_a ($T_a < T_b$). Accordingly, a delay time until the
15 recording process start 404 from the trigger operation start 401 is longer at the time of using the in camera illustrated in (b) than at the time of using the out camera illustrated in (a). In this way, the delay time is automatically switched over in accordance with selection of one of the second imaging
20 unit 124 (out camera) and the first imaging unit 123 (in camera). Therefore, an optimal video corresponding to a photographing target (an external subject/a self-image) can be recorded.

[0046]

25 Here, in the delay time until the recording process start

404 from the trigger operation start 401, the trigger recognition process 402 and the standby process 403 are included. In the trigger recognition process 402, a process of inputting a command voice from the audio input unit 133 and a process of checking the data matching ratio between voice data of the command voice input by the voice recognition executing unit 104c and voice data of the recorded command voice are included. Accordingly, a time required for the trigger recognition process 402 is not basically zero. Meanwhile, the standby process 403 is a process that is intentionally inserted for adjusting the timing of the recording process start 404. Thus, when the second imaging unit 124 (out camera) is used, in order to further decrease the delay time, it is preferable that the standby time Ta of the standby process 403 is close to zero.

[0047]

While fixed values different from each other may be set to the standby time Ta at the time of using the out camera illustrated in (a) and the standby time Tb at the time of using the in camera illustrated in (b) in advance, arbitrary values may be set thereto by the user. In a case where the setting is made by the user, a method may be used in which the standby times are selected from among a plurality of values prepared in advance. Also in such a case, it is apparent that the standby time Tb is set to be longer than the standby time

Ta. The delay time setting icon 314 illustrated in Fig. 6 is used for the user to set the delay times (standby times).

[0048]

In the recording sequence 405, not only the process of recording video data in the storage unit 110 (or the image data server 212 or any other memory device), but focusing of a camera unit, an exposure process, an A/D conversion process for the output of a CCD/CMOS sensor, a gamma correction, noise elimination, and image compression process are performed.

10 [0049]

According to this embodiment, compared to a case as illustrated in Patent Document 1 described above in which a plurality of command voices are prepared in advance, and the timing at which a recording process is started is delayed in accordance with a command voice, there is no risk of losing the photographing timing due to erroneous selection of a command voice. In addition, compared to a camera device having a plurality of photographing modes (for example, an ordinary mode and a self-timer mode) having mutually-different delay times, checking/selecting of the mode do not need to be performed at each photographing time, and accordingly, the usability is improved.

[0050]

Next, the flow of the camera operation of the video recording device 100 according to this example will be

described in detail. Here, general operations/manipulations as a camera device such as focusing and exposure are known, and thus description thereof will not be presented. In addition, in order to simplify the description, processes performed by the main control unit 101 expanding various programs stored in the ROM 103 and the storage unit 110 into the RAM 104 and executing the programs will be described as processes executed by the executing units 104a to 104d of the RAM 104.

[0051]

10 Fig. 10 is a flowchart that illustrates the flow of the camera operation of the video recording device 100. When the icon 302 is selected on the basic screen 300 illustrated in Fig. 5, the basic operation executing unit 104a operates the camera function executing unit 104b and transfers the control subject to the camera function executing unit 104b.

[0052]

20 The camera function executing unit 104b displays the camera function selection menu screen 310 illustrated in Fig. 6 (S501) and determines a function menu (icon) that has been selected by the user (S502).

[0053]

25 In S502, in a case where the user selects (1) the out camera selection icon 311, the camera function executing unit 104b enables the second imaging unit 124, starts inputting video data from the out camera (S503), and displays the input

video data on the display unit 121 as a live view (S505). On the other hand, in a case where the user selects (2) the in camera selection icon 312, the camera function executing unit 104b enables the first imaging unit 123, starts inputting
5 video data from the in camera (S504), and displays the input video data on the display unit 121 as a live view (S505).

[0054]

In S502, in a case where the user selects (3) the command voice registration icon 313, the camera function executing
10 unit 104b operates the voice recognition executing unit 104c and executes a command voice registration process (S600). This command voice registration process (S600) will be additionally described with reference with Fig. 11. In addition, in S502, in a case where the user selects the end icon 315 (not
15 illustrated in the drawing), the camera function executing unit 104b returns the control subject to the basic operation executing unit 104a. The basic operation executing unit 104a displays the basic screen 300 and ends the operation of the camera function executing unit 104b.

20 [0055]

In S505, the camera function executing unit 104b displays the live view display screen 330 illustrated in Fig. 8 and operates the voice recognition executing unit 104c. Then, it is determined whether the user has selected the shutter icon
25 333 as a trigger operation (S506) or whether there is a

command voice input from the audio input unit 133 (S507). In S506, in a case where the user selects the shutter icon 333, the process proceeds to S509.

[0056]

5 In S507, in a case where the input of a command voice from the audio input unit 133 is detected, the camera function executing unit 104b transmits the voice data of the input command voice to the voice recognition executing unit 104c. The voice recognition executing unit 104c compares the voice
10 data of the input command voice with the voice data of the registered command voice that is registered in the various information/data storing area 110a of the storage unit 110 and determines whether or not the input command voice is correct (S508). More specifically, the voice recognition executing
15 unit 104c acquires a data matching ratio between the voice data of the input command voice and the voice data of the registered command voice and determines whether or not the matching ratio is a predetermined threshold or more. A result of the determination is transmitted to the camera function
20 executing unit 104b, and, when the command voice is correct, the process proceeds to S509. On the other hand, when the command voice is incorrect, the voice data of the input command voice is discarded, the process is returned to S506, and again, the process stands by for selection of the shutter
25 icon 333 or input of a new command voice (S507).

[0057]

In S509, the camera function executing unit 104b checks whether the camera that is currently operated is the the first imaging unit 123 (in camera) or the second imaging unit 124 (out camera) (in other words, whether the icon selected in S502 is the out camera selection icon 311 or the in camera selection icon 312).

[0058]

In a case where (1) the out camera is operated, the camera function executing unit 104b executes a predetermined standby process (the standby time Ta: short) (S510) and then, starts a recording sequence (S512). On the other hand, in a case where (2) the in camera is operated, the camera function executing unit 104b executes a predetermined standby process (the standby time Tb: long) (S511) and then, starts a recording sequence (S512). In the standby process of S511, a timing display process to be described later with reference to Fig. 13 may be performed together. When the recording sequence of S512 ends, the process is returned to S506, and a standby process for a next trigger operation is performed.

[0059]

In this way, in the camera operation according to this embodiment, the recording process is started using a command voice input to the audio input unit 133 or the process of selecting the shutter icon 333 as a trigger. At that time, in

accordance with the out camera or the in camera that is operated, a delay time until the start of recording from timing at which the trigger is received is automatically switched over.

5 [0060]

In addition, the determination of the input voice in S508 may be performed based not only on the comparison of the matching ratio of the voice data but also on a detailed comparison of voice print data or the like or a comparison
10 based on only matching between keywords. In a case where the detailed comparison is made based on the voice print data or the like, only a user who has performed the command voice registration process can use the video recording device 100, whereby the security is improved. On the other hand, in a case
15 where the comparison is made based on only keywords, anyone including the user can use the video recording device 100, whereby the usability is improved. Thus, it may be configured such that whether the use is limited to a specific user or not is determined by performing switching between comparison
20 methods in accordance with a use environment.

[0061]

Fig. 11 is a flowchart that illustrates the flow of the command voice registration process (S600) illustrated in Fig. 10.

25 The camera function executing unit 104b operates the

voice recognition executing unit 104c, displays the command voice registration screen 320 illustrated in Fig. 7 (S601), and determines an icon disposed within the screen that is selected by the user (S602). In a case where the user selects the recording start/stop icon 321 of "(1)", the process proceeds to S603, and an operation of recording a command voice is performed. In a case where the user selects the playback start/stop icon 322 of "(2)", the process proceeds to S606, and an operation of playing back a command voice is performed. In a case where the user selects the return icon 323 of "(3)", the camera function executing unit 104b ends the operation of the voice recognition executing unit 104c, and the process proceeds to S501 illustrated in Fig. 10.

[0062]

15 In the recording operation of S603, the camera function executing unit 104b starts a process of recording a voice signal input from the audio input unit 133. Then, when it is detected that the user selects the recording start/stop icon 321 again during the execution of the recording process (S604), 20 the process of recording a voice signal input from the audio input unit 133 ends. The voice recognition executing unit 104c registers recorded voice data in the various information/data storing area 110a of the storage unit 110 as a command voice under the control of the camera function executing unit 104b 25 (S605). Thereafter, the camera function executing unit 104b

moves the control to S601.

[0063]

In the playback operation of S606, the voice recognition
executing unit 104c checks whether or not the command voice is
5 registered in the various information/data storing area 110a
of the storage unit 110 under the control of the camera
function executing unit 104b. In a case where the command
voice is registered, the voice recognition executing unit 104c
reads the registered command voice from the various
10 information/data storing area 110a, and the camera function
executing unit 104b starts a process of playing back the
registered command voice that has been read. A voice signal of
the registered command voice that has been played back is
output from the audio output unit 131 (S607). Then, when it is
15 detected that the user selects the playback start/stop icon
322 again during the execution of the playback process (S608),
the camera function executing unit 104b ends the process of
playing back the registered command voice (S609). Thereafter,
the camera function executing unit 104b moves the control to
20 S601.

[0064]

On the other hand, in a case where the command voice is
not registered in S606, the camera function executing unit
104b displays an indication thereof on the display unit 121
25 and moves the control to S601. In addition, in S608, also in a

case where it is not detected that the user selects the playback start/stop icon 322 again, after the process of playing back all the data of the registered command voice ends, the control is moved to S601.

5 [0065]

According to the command voice registration process described above, a voice of a user's taste can be registered as a command voice used as a trigger for the start of a recording process, and the registered command voice can be
10 checked.

[0066]

Next, additional functions of the video recording device
100 according to this embodiment will be described.

Fig. 12 is a diagram that illustrates an example of a
15 screen on which two camera videos are composed and displayed. In this case, both the first imaging unit 123 (in camera) and the second imaging unit 124 (out camera) are simultaneously enabled, and two units of video data are input. In a live view window 336 of the live view display screen 330, video data
20 336a input from the out camera and video data 336b input from the in camera are composed in the form of PinP (Picture in Picture) and are displayed.

[0067]

A process of recording the video data composed in the
25 form of PinP in this way is performed as below. When a trigger

operation (command voice input) is received, a standby process having the standby time T_a (short) is performed for the video data 336a of the out camera, and the standby process having the standby time T_b (long) is performed for the video data 336b supplied from the in camera. Then, both the video data 336a and the video data 336b are composed and recorded. Accordingly, image data supplied from each of two cameras can be recorded in an optimal state.

[0068]

10 However, according to the method described above, a predetermined time difference occurs between the two units of video data, and there are cases where a video after the composition becomes unnatural depending on the situation of the subject. In such a case, both the standby times are 15 configured to coincide with each other. More specifically, the standby time T_b (long) of the in camera is also applied to the standby time of the out camera. In such a case, there is no time difference between two units of video data, and unnaturalness can be resolved. Whether the standby times of 20 the two units of video data are configured to be the same or different from each other can be selected by the user depending on the situation of a subject by arranging a selection switch.

[0069]

25 Fig. 13 is a diagram that illustrates an example of a

screen on which recording timing is displayed.

As described above, in this embodiment, a delay time until the start of recording from a trigger operation (command voice input) is arranged. Particularly, in a case where a video supplied from the first imaging unit 123 (in camera) is recorded, the standby time T_b of the standby process is increased. For this reason, there are cases where the user does not know when an actual recording process is started and feels inconvenience. Thus, in order to resolve this, the timing of the start of recording is displayed on the display unit.

[0070]

"(a)" illustrates a live view display screen 330 and is in a state standing by for a trigger operation while a camera video is displayed. Here, in a live view window 335, video data supplied from the in camera is displayed. In addition, in order to receive a trigger operation, a command voice reception icon 331 and a shutter icon 333 are displayed. In this state, the user utters a command voice or selects the shutter icon 333 as a trigger operation.

[0071]

"(b)" illustrates a recording timing display screen 340 after the reception of a trigger operation. The command voice reception icon 331 and the shutter icon 333 used for a trigger operation are eliminated, and a timing display icon 341 is

displayed by the timing display executing unit 104d. In this state, a trigger recognition process and a predetermined standby process (in this example, having the standby time T_b : long) are performed.

5 [0072]

The timing display icon 341 is configured by: a microphone mark 341a; a progress bar 341b; and a camera mark 341c. In the progress bar 341b, a time elapse (painted white) until the start of recording is displayed. The display state
10 is controlled by the timing display executing unit 104d and is linked to the standby process described above. In other words, the bar starts to grow from the microphone mark 341a that is a start point at a time point when the voice recognition process of a command voice is completed, and, when the bar arrives at
15 the camera mark 341c that is an end point, the recording sequence is started. The user can easily acquire a time elapse of the standby process and the timing of the start of the recording process by visually recognizing the bar display of the progress bar 341b of the timing display icon 341.

20 [0073]

The design of the timing display icon 341 may be variously represented. Instead of the progress bar, for example, a remaining time display according to countdown using a numerical value or an animation in the shape of an analog
25 time can be made, and any design may be employed as long as

the remaining time can be roughly perceived.

[0074]

To display the recording timing display screen 340 described above is effective when the first imaging unit 123 (in camera) having a long standby time T_b is used. On the other hand, when the second imaging unit 124 (out camera) having a short standby time T_a is used, the display of the progress bar 341b instantly ends, and thus, it does not have any meaning. However, in a case where the standby time T_a is set to a large value to some degrees, the display is effective, and, thus, it is preferable that the length of the standby time is compared with a threshold, and, in a case where the length of the standby time is larger than the threshold, the recording timing display screen is displayed.

15 [0075]

As described above, according to the video recording device 100 of this embodiment, a delay time is arranged until a recording process is started after detection of a trigger operation for the start of the recording process, and the length of the delay time is automatically switched over in accordance with one of two camera units (the out camera and the in camera) that is used. Accordingly, in a case where a recording process is started using a command voice input as a trigger or in a case where the user himself is photographed using the in camera (self-image photographing), a subject can

be photographed in a natural pose. In addition, by displaying the recording timing display screen 340, also in a case where a delay time is arranged between the trigger operation and the recording process, timing at which the recording process is actually performed can be easily acquired. Accordingly, a video recording device having improved usability can be provided.

[0076]

As above, while several embodiments of the present invention have been described, the configuration realizing the technology according to the present invention is not limited to the embodiments described above, and various application examples and modified examples can be made. In other words, in the embodiment described above, while an applied device has been called and described as a video recording device, more specifically, the applied device may be a mobile phone having a camera function, a smartphone, a tablet terminal, a digital still camera, a personal digital assistants (PDA), or a notebook PC. Furthermore, the applied device may be a video camera, a portable gaming device, or any other portable digital device. In addition, numerical values, display terms, and the like represented in the embodiments and the drawings are merely examples, and, in a case where they are equivalent in accordance with an applied device, the effects of the present invention are not degraded.

[0077]

Some or all of the functions and the like of the present invention described above may be realized by hardware, for example, by designing them using an integrated circuit or the like. In addition, the functions and the like may be realized by software as a microprocessor unit or the like analyses and executes a program realizing each of the functions. Furthermore, hardware and software may be used together.

[0078]

10 In addition, control lines and information lines illustrated in the drawings are lines that are considered to be necessary for the description, and it cannot be determined that all the control lines and all the information lines for products are necessarily illustrated. Actually, most of all 15 the configurations may be considered to be connected to each other.

REFERENCE SIGNS LIST

[0079]

20 100 Video recording device
 101 Main control unit
 102 System bus
 103 ROM
 104 RAM
 25 104a Basic operation executing unit

- 104b Camera function Executing unit
- 104c Voice recognition executing unit
- 104d Timing display executing unit
- 110 Storage unit
- 5 120 Video processing unit
- 121 Display unit
- 122 Video signal processing unit
- 123 First imaging unit (in camera)
- 124 Second imaging unit (out camera)
- 10 130 Audio processing unit
- 131 Audio output unit
- 132 Audio signal processing unit
- 133 Audio input unit
- 140 Operation unit
- 15 150 Communication processing unit
- 160 Sensor unit
- 170 Extension interface unit
- 300 Basic screen
- 310 Camera function selection menu screen
- 20 320 Command voice registration screen
- 330 Live view display screen
- 340 Recording timing display screen

CLAIMS

1. An image recording method of an image recording device configured to execute a plurality of different photographing processes, comprising the steps of:

5 photographing an object and acquiring an image signal by a first camera or a second camera, the first camera being arranged on the same face side of a touch display and configured to acquire a first image signal, the second camera being arranged on an opposite side of the touch display and
10 configured to acquire a second image signal;

receiving a command voice from an audio input interface;

controlling to enable one of the first camera and the second camera;

when the audio input interface receives the command
15 voice giving a first instruction to start a recording of an image signal in a state in which the first camera is enabled, controlling to start a recording of the first image signal in response to the first instruction;

when the touch display receives the touch operation
20 instruction giving a second instruction, to start a recording of an image signal in a state in which the second camera is enabled, controlling to start a recording of the second image signal in response to the second instruction; and

performing control such that a first standby time
25 between a recognition of the first instruction and a start of

the recording of the first image signal acquired by the first camera after the first camera is enabled and the second camera is disabled is longer than a second standby time between the recognition of the second instruction and a start of the recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled.

2. The image recording method according to claim 1,
10 wherein one of the first standby time or the second standby time controlled by the control circuitry is arbitrarily settable or selectable by a user.

3. The image recording method according to claim 1,
15 further comprising the step of:
causing an elapse state of the first standby time from a recognition of the first instruction to a start of the recording of the first image signal to be displayed on the touch display.

20
4. The image recording method according to claim 1, further comprising the step of:
recording the first image signal input from the first camera or the second image signal input from the second camera
25 in an internal storage.

5. The image recording method according to claim 1,
further comprising the step of:

recording the first image signal input from the first
5 camera or the second image signal input from the second camera
in a memory medium connected to the image recording device.

6. The image recording method according to claim 1,
further comprising the steps of:

10 performing communication with a server device on the
Internet; and

recording the first image signal input from the first
camera or the second image signal from the second camera in
the server device.

15

7. The image recording method according to claim 1,
further comprising the steps of:

performing control such that a command voice to be
recorded in a command voice storage is received from the audio
20 input interface and stored in the command voice storage as a
command voice registration process;

determining that the command voice instructs the
photographing when the command voice input to the audio input
interface is identical to the command voice stored in the
25 command voice storage; and

determining that the command voice does not instruct the photographing when the command voice input to the audio input interface is not identical to the command voice stored in the command voice storage.

ABSTRACT

A video recording device includes: a first imaging unit (in camera) arranged on a same face as that of a display unit of a casing of the device; a second imaging unit (out camera) arranged on a face different from that of the display unit of the casing of the device; and an audio input unit that inputs a command voice giving an instruction for recording a video signal. A control unit sets a delay time until start of a recording process performed by the recording unit after input of the command voice to be different in accordance with the enabled imaging unit and sets a delay time of a case where the first imaging unit is enabled to be longer than a delay time of a case where the second imaging unit is enabled.

15

FIG. 1

VIDEO RECORDING DEVICE 100

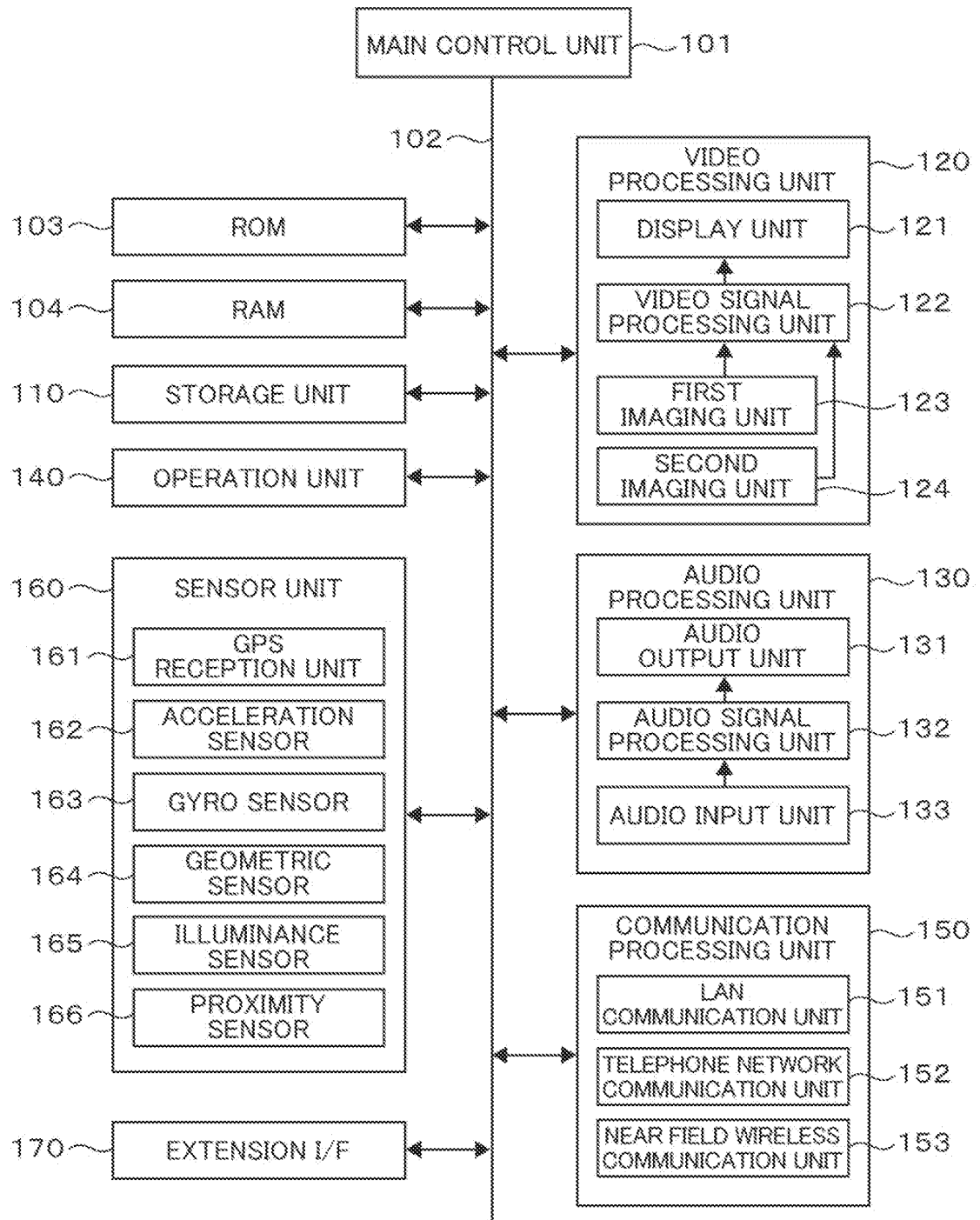


FIG. 2

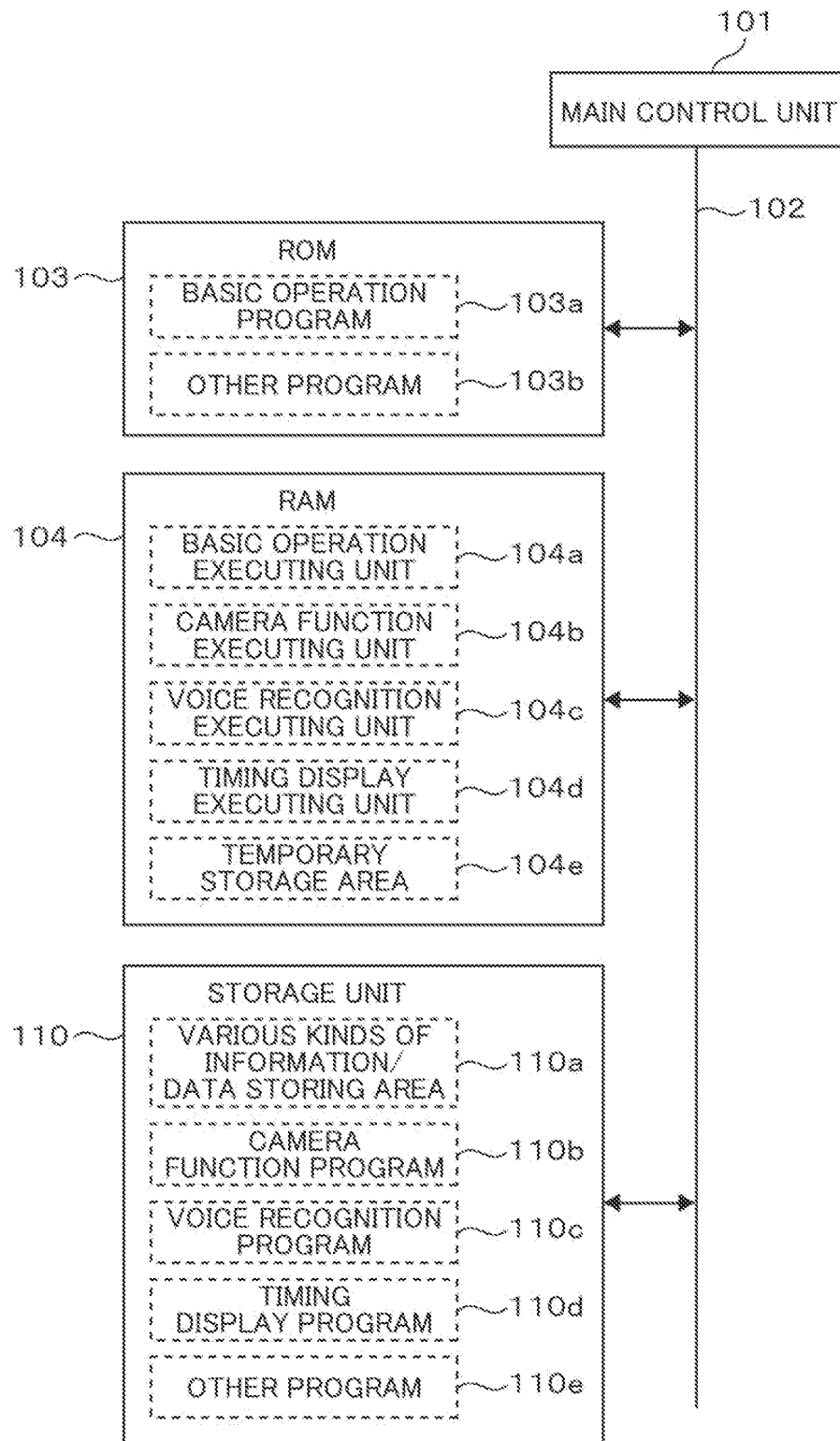
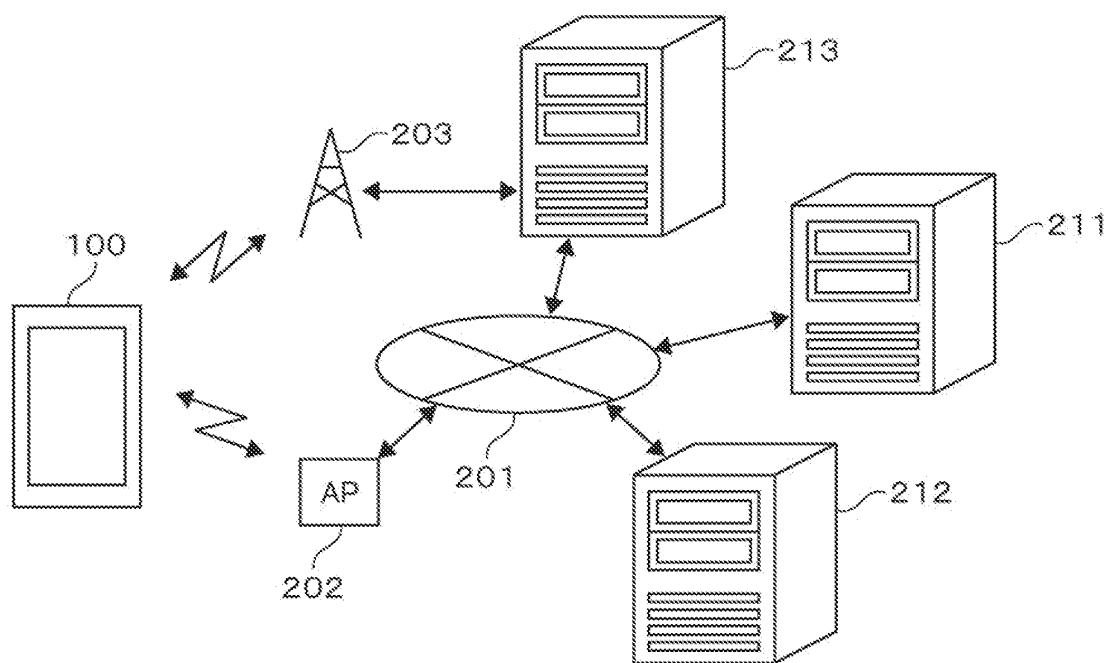


FIG. 3



F I G. 4

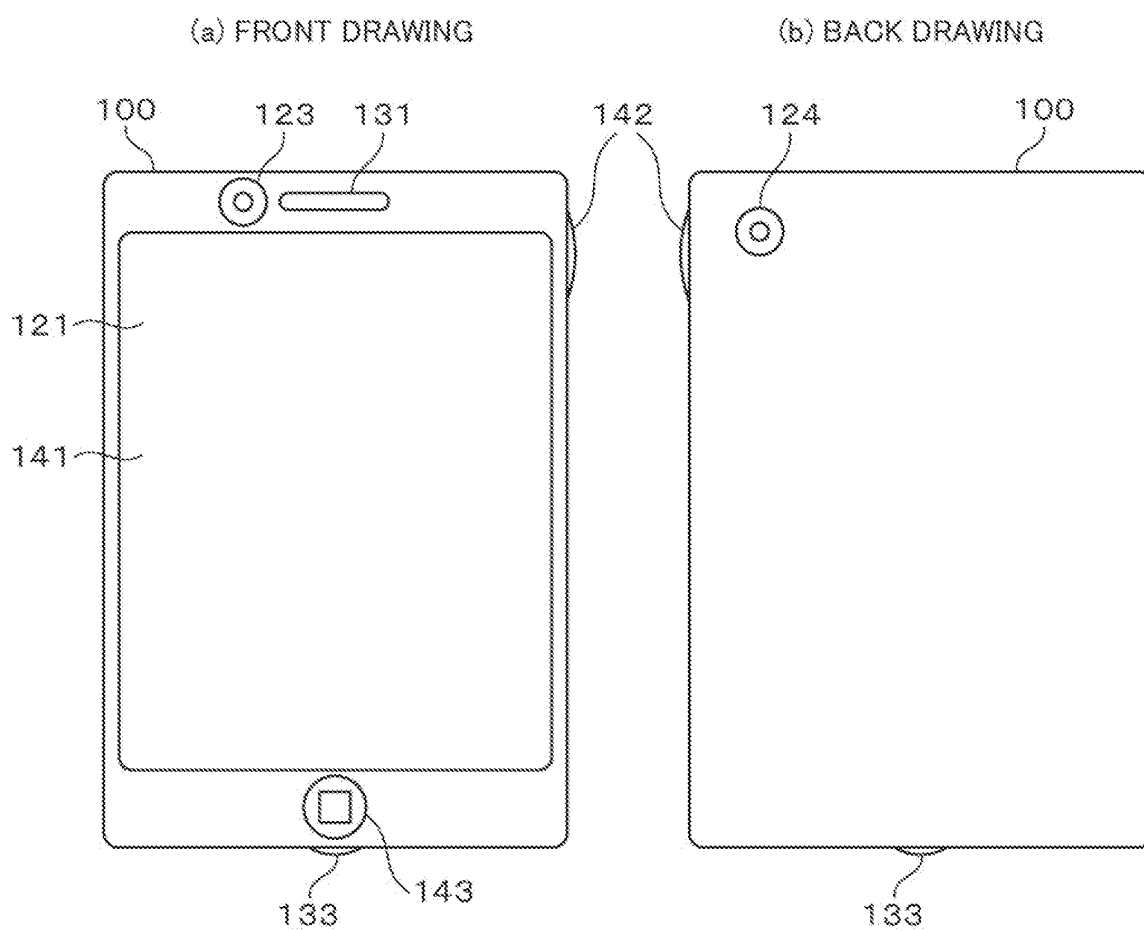


FIG. 5

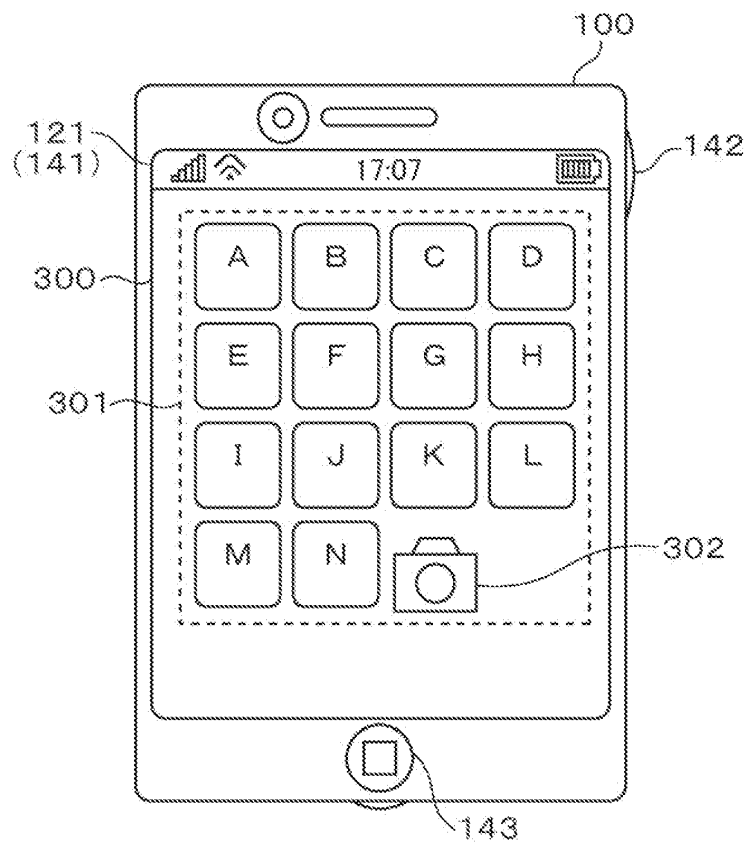


FIG. 6

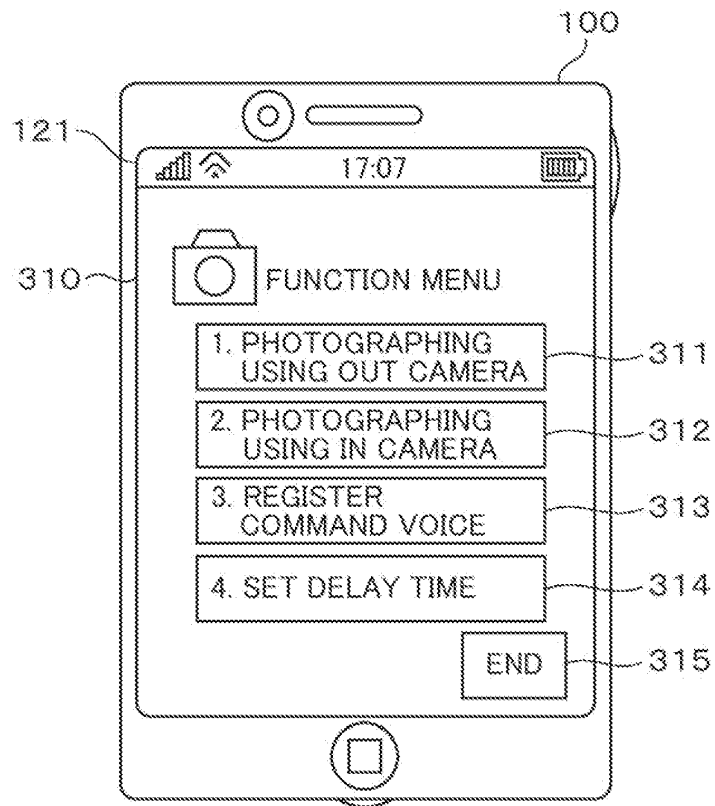


FIG. 7

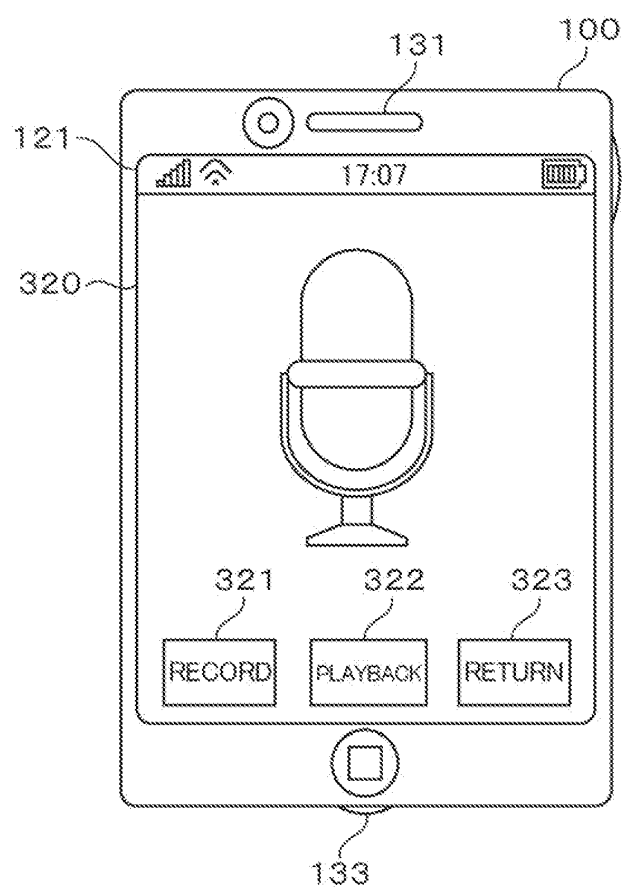


FIG. 8

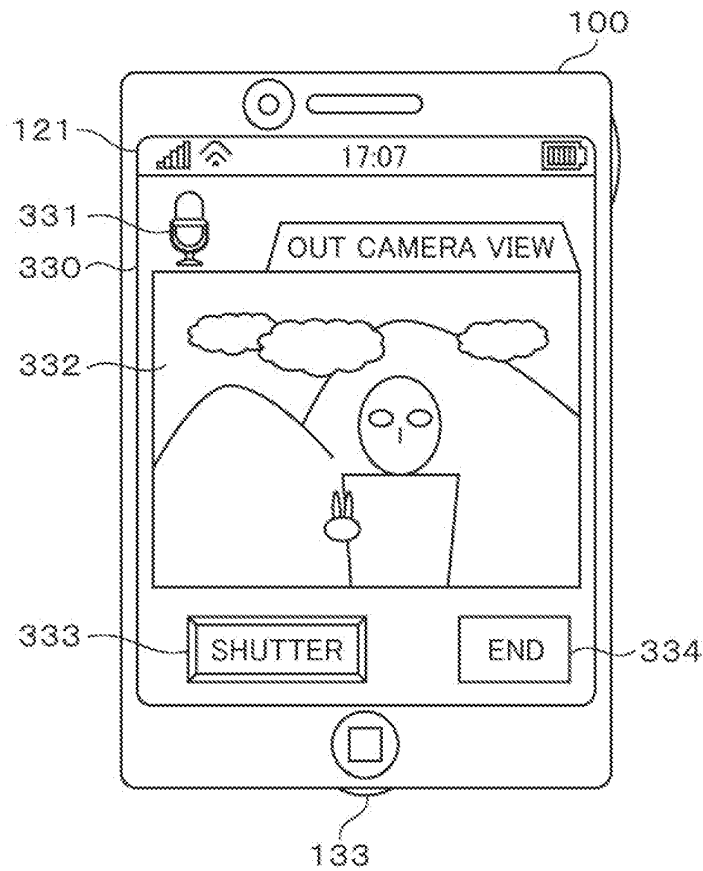


FIG. 9

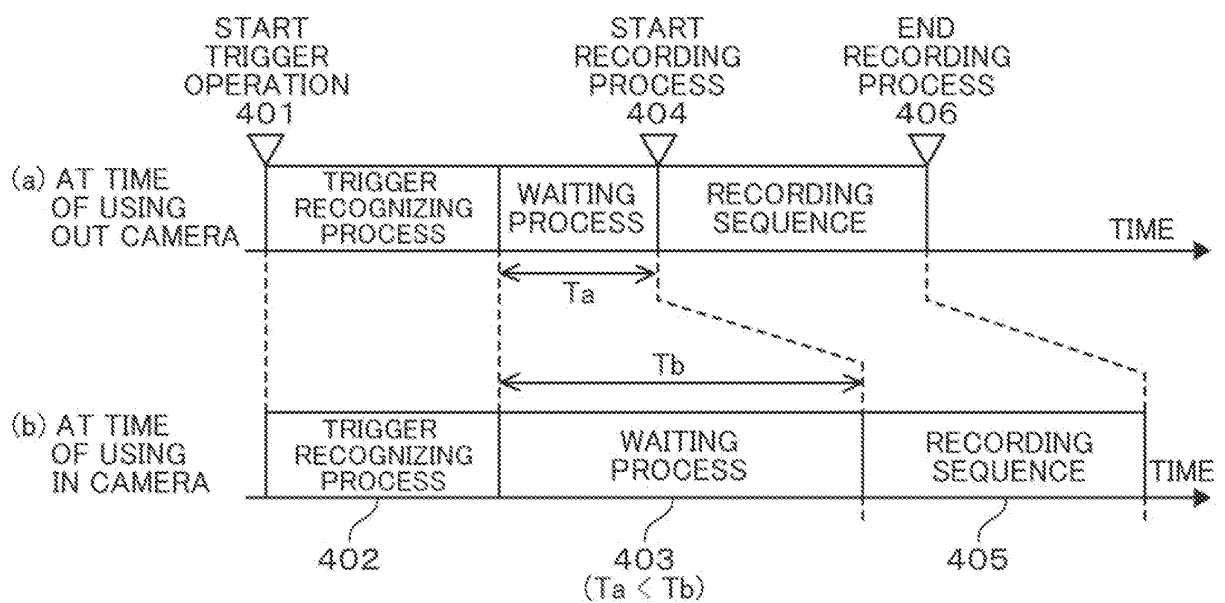


FIG. 10

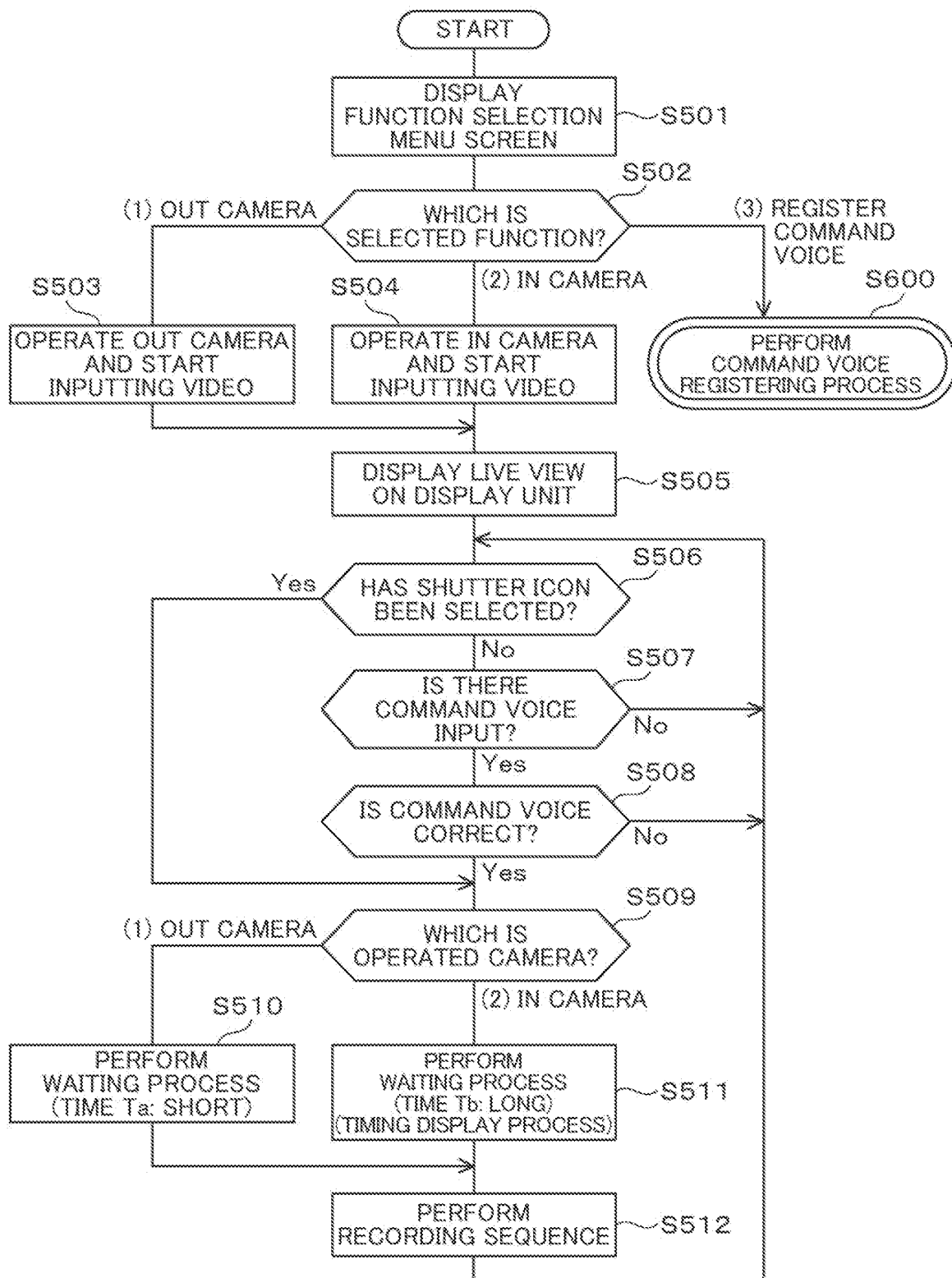


FIG. 11

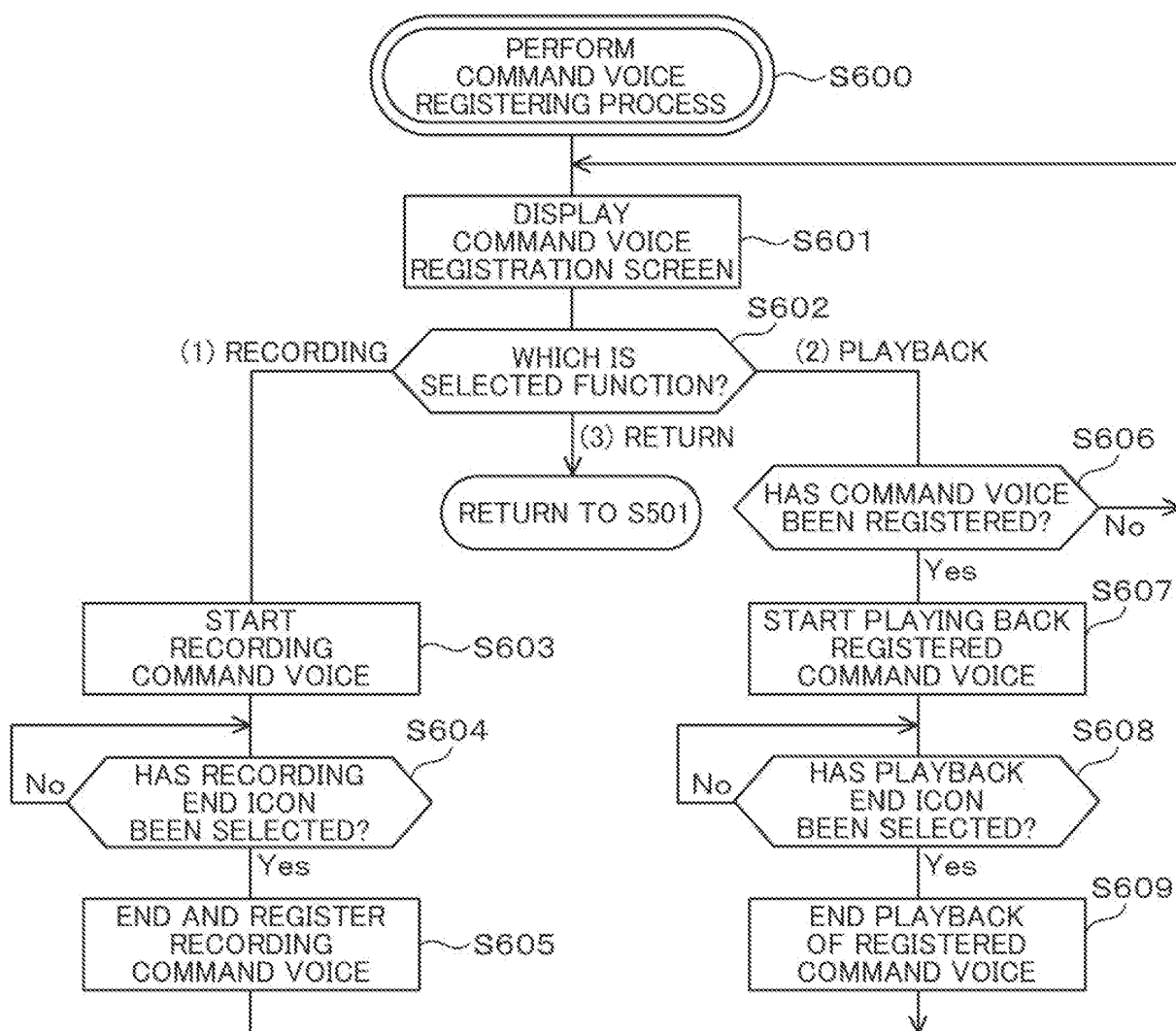


FIG. 12

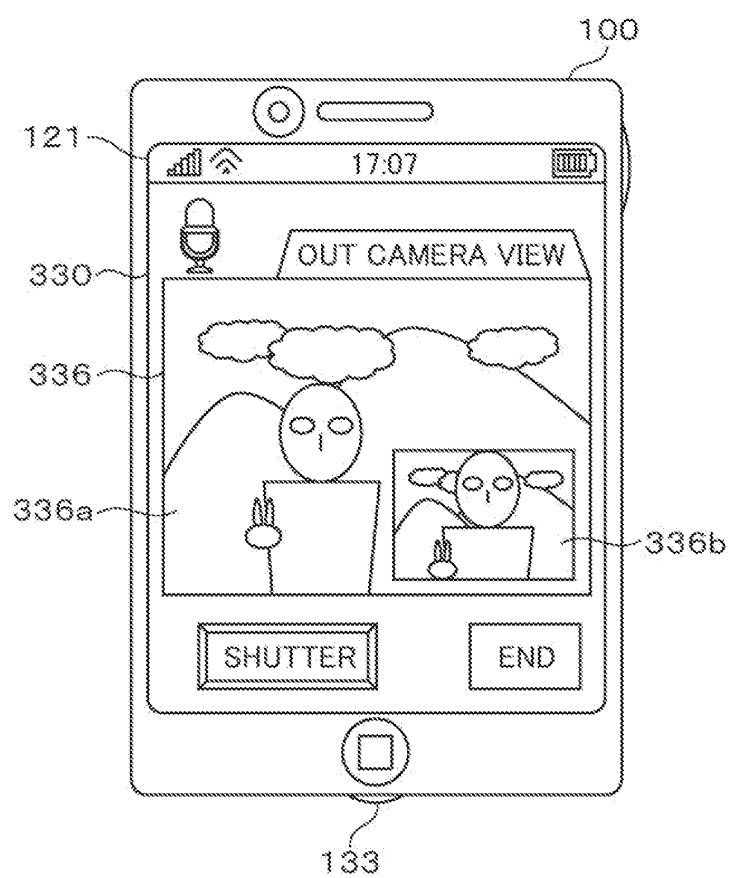
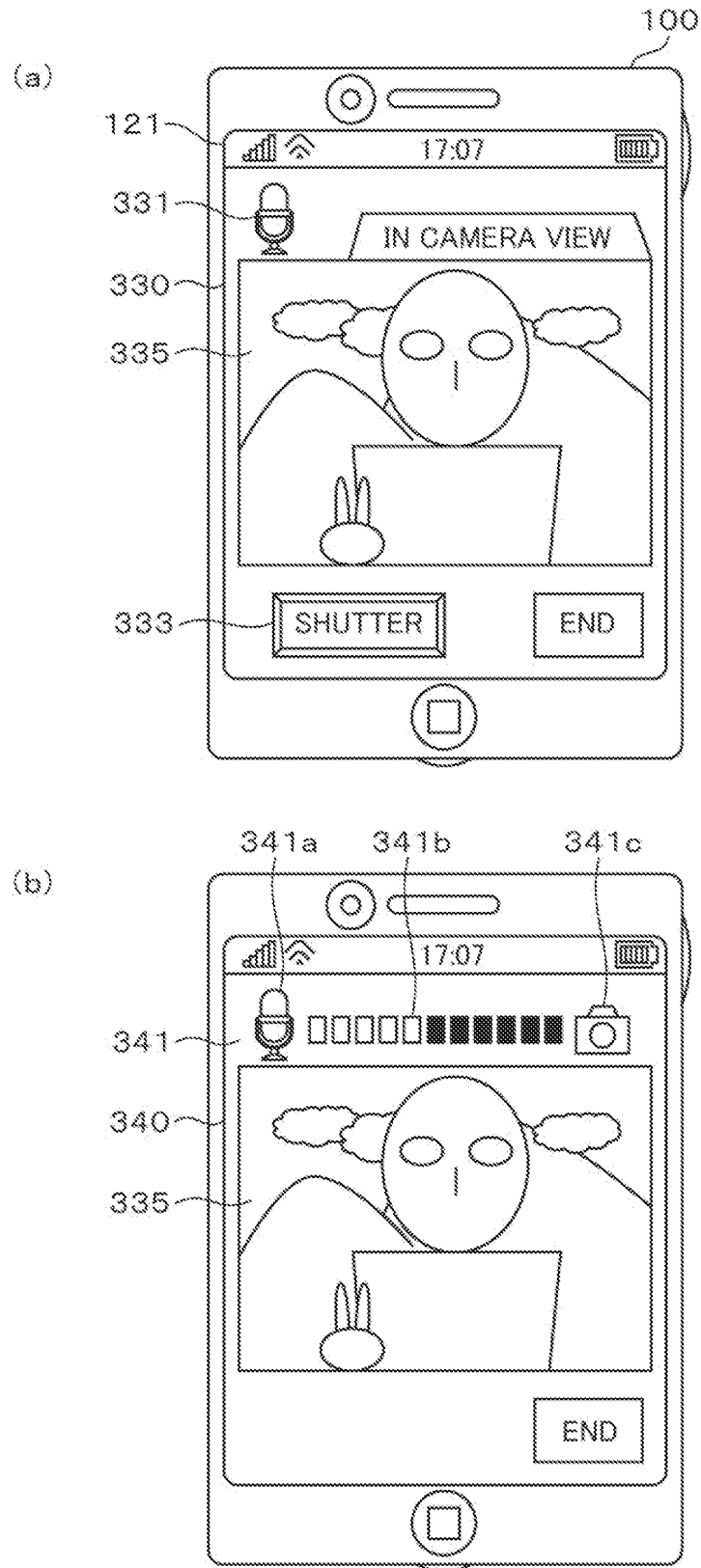


FIG. 13



INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	
	Filing Date	2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA
	Art Unit	
	Examiner Name	
	Attorney Docket Number	SEI-10340-05

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	10015400		2018-07-03	Kim et al.		
	2	11374757		2022-06-28	Cai et al.		
If you wish to add additional U.S. Patent citation information please click the Add button.							Add
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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	20150199320		2015-07-16	Ho et al.		
	2	20140341528		2014-11-20	Mahale et al.		
	3	20140028826		2014-01-30	Lee et al.		
	4	20110070835		2011-03-24	Borras et al.		

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		SEI-10340-05

5	20170104928		2017-04-13	CHASE et al.	
6	20170019580		2017-01-19	Boghosian et al.	
7	20150318020		2015-11-05	Pribula et al.	
8	20150078606		2015-03-19	Zhang et al.	
9	20050128311		2005-06-16	Rees et al.	
10	20110076003		2011-03-31	CHO et al.	
11	20160014264		2016-01-14	VIM et al.	
12	20140232921		2014-08-21	Kim; Moon-Soo	
13	20130328997		2013-12-12	Desai; Prashant	
14	20130093904		2013-04-18	Wagner, Paul F.	
15	20120281129		2012-11-08	Wang; Kong Qiao	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		SEI-10340-05

	16	20120229512		2012-09-13	Hayashi; Yugo	
	17	20130321340		2013-12-05	Seo; Joon-kyu	
	18	20090253463		2009-10-08	SHIN et al.	
	19	20150029089		2015-01-29	KIM	
	20	20190138704		2019-05-09	Shrivastava et al.	
	21	20180048750		2018-02-15	Hardi	
	22	20070086764		2007-04-19	Konicek	
	23	20220124241		2022-04-21	Manzari et al.	
	24	20220224813		2022-07-14	Gonzalez Morin et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA	
	Art Unit		
	Examiner Name		
Attorney Docket Number		SEI-10340-05	

	1	01-191840	JP	A	1989-08-01	Konica Corp	Document submitted in parent application no. 14/917,586.	
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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	International Search Report of PCT/JP2013/074728 dated December 17, 2013	✕

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		SEI-10340-05

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Shrinath Malur/	Date (YYYY-MM-DD)	2023-05-22
Name/Print	Shrinath Malur	Registration Number	34,663

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM		
First Named Inventor/Applicant Name:		Kazuhiko YOSHIZAWA		
Filer:		Shrinath Malur/Kristin Huber		
Attorney Docket Number:		SEI-10340-05		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	320	320
UTILITY SEARCH FEE	1111	1	700	700
UTILITY EXAMINATION FEE	1311	1	800	800
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1820

Electronic Acknowledgement Receipt	
EFS ID:	48036572
Application Number:	18200071
International Application Number:	
Confirmation Number:	2947
Title of Invention:	VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM
First Named Inventor/Applicant Name:	Kazuhiko YOSHIZAWA
Customer Number:	24956
Filer:	Shrinath Malur/Kristin Huber
Filer Authorized By:	Shrinath Malur
Attorney Docket Number:	SEI-10340-05
Receipt Date:	22-MAY-2023
Filing Date:	
Time Stamp:	12:50:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1820
RAM confirmation Number	E20235LC50587401
Deposit Account	501417
Authorized User	Kristin Huber
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)					
37 CFR 1.20 (Post Issuance fees)					
37 CFR 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	10340-05_POA.pdf	1517735	no	3
			ddcb60179e006cdd5eedbb27c0b2e4ed654517f		
Warnings:					
Information:					
2	Application Data Sheet	10340-05_ADS.pdf	1823489	no	9
			2407be4d022ae6b02515d6ab2ecfa13c04bdc4fc		
Warnings:					
Information:					
3	Oath or Declaration filed	10340-05_DEC.pdf	262447	no	2
			f10361e889bb6f3ccb494ff5b6e65b3745d65535		
Warnings:					
Information:					
4		10340-05_Specification.pdf	135393	yes	47
			3c8adff8fe69fe5354a033d364f0422e107c557fe		
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
	Specification	1	42		
	Claims	43	46		
	Abstract	47	47		
Warnings:					
Information:					
5	Drawings-only black and white line drawings	10340-05_DWG.pdf	1673043	no	12
			7959566a3d8bc8d84774d45caa65b87cef7c25a7		

Warnings:					
Information:					
6	Information Disclosure Statement (IDS) Form (SB08)	10340-05_SB08A.pdf	613047 b4f0fa0a65c66c6fb1fafb7da13502285725f3c9	no	6
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	44135 a1dc3adce3f35536f82babe478c7ce8f2271efc	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			6069289		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 18/200,071			
APPLICATION AS FILED - PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	320		
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	700		
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	800		
TOTAL CLAIMS (37 CFR 1.16(j))	7	minus 20 = *	0			x	= 0		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *				x	= 0		
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0		
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0		
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL	1820		
APPLICATION AS AMENDED - PART II									
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))						OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))						OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						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 found in the appropriate box in column 1.									



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
18/200,071	05/22/2023		1820	SEI-10340-04	7	1

CONFIRMATION NO. 2947

FILING RECEIPT



0000000058060297

24956
MATTINGLY & MALUR, PC
1800 DIAGONAL ROAD
SUITE 210
ALEXANDRIA, VA 22314

Date Mailed: 06/13/2023

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

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Inventor(s)

Kazuhiko YOSHIZAWA, Ibaraki-shi, JAPAN;
Hirohito KURIYAMA, Tokyo, JAPAN;

Applicant(s)

MAXELL, LTD., Kyoto, JAPAN;

Power of Attorney: The patent practitioners associated with Customer Number 24956

Domestic Priority data as claimed by applicant

This application is a CON of 17/568,758 01/05/2022
which is a CON of 16/686,467 11/18/2019 PAT 11,223,757
which is a CON of 15/678,265 08/16/2017 PAT 10,511,757
which is a CON of 14/917,586 03/09/2016 PAT 9,774,776
which is a 371 of PCT/JP2013/074728 09/12/2013

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 06/08/2023

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/200,071**

Projected Publication Date: 09/21/2023

Non-Publication Request: No

Early Publication Request: No

Title

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
18/200,071	05/22/2023	Kazuhiko YOSHIZAWA	SEI-10340-05

CONFIRMATION NO. 2947

24956
MATTINGLY & MALUR, PC
1800 DIAGONAL ROAD
SUITE 210
ALEXANDRIA, VA 22314

PUBLICATION NOTICE



OC00000062244206

Date Mailed: 09/22/2023

Title:VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Publication No.US-2023-0300457-A1

Publication Date:09/21/2023

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

<i>Notice of References Cited</i>	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.	
	Examiner HELEN SHIBRU	Art Unit 2484	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Name	CPC Classification	US Classification
*	A	US-20150341547-A1	2015-11-26	Petrescu; Doina I.	H04N23/611	348/222.1
*	B	US-20150189221-A1	2015-07-02	Nakase; Yuichi	H04N5/772	386/225
	C					
	D					
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	I					
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	K					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Country	Name	CPC 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	

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Dates in YYYY-MM-DD format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20240514

Notice of References Cited	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.	
	Examiner HELEN SHIBRU	Art Unit 2484	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Name	CPC Classification	US Classification
	A					
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	O					
	P					
	Q					
	R					
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	T					

NON-PATENT DOCUMENTS

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

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Dates in YYYY-MM-DD format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20240514

Search Notes 	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.
	Examiner HELEN SHIBRU	Art Unit 2484

CPC - Searched*		
Symbol	Date	Examiner
(H04N23/66 or G03B17/38 or H04N5/765 or H04N5/77 or H04N5/772 or H04N5/91 or H04N23/45 or H04N23/62 or H04N23/632 or H04N23/633 or H04N23/667 or G06F3/167 or H04N23/661)	05/16/2024	hs

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
386	225	05/16/2024	hs

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
performed text search	05/13/2024	hs
performed interference search	05/16/2024	hs

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L472	955	((("YOSHIZAWA") near3 ("Kazuhiko")) OR ((("KURIYAMA") near3 ("Hirohito")))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2024/05/16 08:49 PM
L473	307	472 AND camera	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/16 08:49 PM
L474	142	472 AND (display WITH camera)	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/16 08:50 PM
L475	16	474 AND (camera WITH (enabl\$4 OR disabl\$4))	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/16 08:50 PM

PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L362	580	((first OR second) near2 (camera OR (captur\$4 near2 device))) SAME standby	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/13 04:48 PM
L363	36	((first OR second) near2 (camera OR (captur\$4 near2 device))) SAME (standby near2 (time OR period OR duration))	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/13 04:49 PM
L364	1	"9204026".pn. AND (second NEAR camera)	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/13 05:25 PM
L365	8	"20210105451"	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/13 05:55 PM
L366	1	"20070086764".pn.	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/14 04:41 PM
L367	1	"20070086764".pn. AND user	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/14 08:11 PM
L368	3	"17568758"	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/14 08:31 PM
L369	2200528	"17568758" camera	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/14 08:34 PM
L370	3	"17568758" AND camera	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/14 08:34 PM
L371	358783	(H04N23/66 or G03B17/38 or H04N5/765 or H04N5/77 or H04N5/772 or H04N5/91 or H04N23/45 or H04N23/62 or H04N23/632 or H04N23/633 or H04N23/667 or G06F3/167 or H04N23/661).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/05/14 08:40 PM
L372	220	371 AND 386/225.ccls.	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/14 08:40 PM

PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	
	Filing Date	2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA
	Art Unit	
	Examiner Name	
	Attorney Docket Number	SEI-10340-05

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
/H.S./	1	10015400		2018-07-03	Kim et al.		
/H.S./	2	11374757		2022-06-28	Cai et al.		
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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
/H.S./	1	20150199320		2015-07-16	Ho et al.		
/H.S./	2	20140341528		2014-11-20	Mahate et al.		
/H.S./	3	20140028826		2014-01-30	Lee et al.		
/H.S./	4	20110070835		2011-03-24	Borras et al.		

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		SEI-10340-05

/H.S./	5	20170104928		2017-04-13	CHASE et al.	
/H.S./	6	20170019580		2017-01-19	Boghosian et al.	
/H.S./	7	20150318020		2015-11-05	Pribula et al.	
/H.S./	8	20150078606		2015-03-19	Zhang et al.	
/H.S./	9	20050128311		2005-06-16	Rees et al.	
/H.S./	10	20110076003		2011-03-31	CHO et al.	
/H.S./	11	20160014264		2016-01-14	VIM et al.	
/H.S./	12	20140232921		2014-08-21	Kim; Moon-Soo	
/H.S./	13	20130328997		2013-12-12	Desai; Prashant	
/H.S./	14	20130093904		2013-04-18	Wagner, Paul F.	
/H.S./	15	20120281129		2012-11-08	Wang; Kong Qiao	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		SEI-10340-05

/H.S./	16	20120229512		2012-09-13	Hayashi, Yugo	
/H.S./	17	20130321340		2013-12-05	Seo, Joon-kyu	
/H.S./	18	20090253463		2009-10-08	SHIN et al.	
/H.S./	19	20150029089		2015-01-29	KIM	
/H.S./	20	20190138704		2019-05-09	Shrivastava et al.	
/H.S./	21	20180048750		2018-02-15	Hardi	
/H.S./	22	20070086764		2007-04-19	Konicek	
/H.S./	23	20220124241		2022-04-21	Manzari et al.	
/H.S./	24	20220224813		2022-07-14	Gonzalez Morin et al.	

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		SEI-10340-05

/H.S./	1	01-191840	JP	A	1989-08-01	Konica Corp	Document submitted in parent application no. 14/917,586.
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NON-PATENT LITERATURE DOCUMENTS

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
/H.S./	1	International Search Report of PCT/JP2013/074728 dated December 17, 2013	×

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EXAMINER SIGNATURE

Examiner Signature	/HELEN SHIBRU/	Date Considered	05/16/2024
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	SEI-10340-05	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Shrinath Malur/	Date (YYYY-MM-DD)	2023-05-22
Name/Print	Shrinath Malur	Registration Number	34,663

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The information provided by you in this form will be subject to the following routine uses:

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Bibliographic Data

Application No: 18/200,071

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged: /HELEN SHIBRU/

Examiner's Signature

Initials

Title:

VIDEO RECORDING DEVICE AND CAMERA FUNCTION
CONTROL PROGRAM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
05/22/2023	386	2484	SEI-10340-05
RULE			

APPLICANTS

MAXELL, LTD.,

INVENTORS

Kazuhiko YOSHIKAWA, Ibaraki-shi, JAPAN

Hirohito KURIYAMA, Tokyo, JAPAN

CONTINUING DATA

This application is a CON of 17568758 01/05/2022 PAT 11696021

17568758 is a CON of 16686467 11/18/2019 PAT 11223757

16686467 is a CON of 15678265 08/16/2017 PAT 10511757

15678265 is a CON of 14917586 03/09/2016 PAT 9774776

14917586 is a 371 of PCT/JP2013/074728 09/12/2013

FOREIGN APPLICATIONS

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06/08/2023

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L472	955	((("YOSHIZAWA") near3 ("Kazuhiko")) OR ((("KURIYAMA") near3 ("Hirohito")))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2024/05/16 08:49 PM
L473	307	472 AND camera	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/16 08:49 PM
L474	142	472 AND (display WITH camera)	(US-PGPUB; USPAT)	OR	ON	ON	2024/05/16 08:50 PM

PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/200,071	05/22/2023	Kazuhiko YOSHIZAWA	SEI-10340-05	2947
24956 7590 05/21/2024 MATTINGLY & MALUR, PC 1800 DIAGONAL ROAD SUITE 210 ALEXANDRIA, VA 22314			EXAMINER SHIBRU, HELEN	
			ART UNIT 2484	PAPER NUMBER
			NOTIFICATION DATE 05/21/2024	DELIVERY MODE ELECTRONIC

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

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Rejections - 35 USC § 103

2. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis (i.e., changing from AIA to pre-AIA) for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.
3. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7 are rejected under 35 U.S.C. 103 as being unpatentable over Desai (US PG PUB 2013/0328997) in view of Konicek (US PG PUB 2007/0086764).

Regarding claim 1, Desai discloses an image recording method of an image recording device configured to execute a plurality of different photographing processes, comprising the steps of:

photographing an object and acquiring an image signal by a first camera or a second camera, the first camera being arranged on the same face side of a touch display and configured to acquire a first image signal (see figure 3A camera 127A and paragraphs 0049-0050), the second

camera being arranged on an opposite side of the touch display and configured to acquire a second image signal (see figure 3B camera 127B and paragraphs 0049-0050);

receiving a command voice from an audio input interface (see paragraph 0042 allowing user to transmit voice as a means of establishing communication or as an alternate to using physical user interface);

controlling to enable one of the first camera and the second camera (see paragraph 0063 switching from front to rear).

Claim 1 differs from Desai in that the claim further requires when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal in a state in which the first camera is enabled, controlling to start a recording of the first image signal in response to the first instruction; when the touch display receives the touch operation instruction giving a second instruction, to start a recording of an image signal in a state in which the second camera is enabled, controlling to start a recording of the second image signal in response to the second instruction; and performing control such that a first standby time between a recognition of the first instruction and a start of the recording of the first image signal acquired by the first camera after the first camera is enabled and the second camera is disabled is longer than a second standby time between the recognition of the second instruction and a start of the 5 recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled.

In the same field of endeavor Konicek discloses when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal in a state in which the first camera is enabled, controlling to start a recording of the first image signal in response to the first instruction; when the touch display receives the touch operation instruction

giving a second instruction, to start a recording of an image signal in a state in which the second camera is enabled, controlling to start a recording of the second image signal in response to the second instruction (see paragraph 0011, voice recognition cameras; one microphone placed on the back and one on the front; user can also select which microphone is used as the input to the voice recognition unit; see paragraph 0013 selecting outputs as being the camera controller's voice recognition input; see claim 1 of the prior art; voice recognizer coupled to camera; see also paragraph 0002 voice operated cameras); and

performing control such that a first standby time between a recognition of the first instruction and a start of the recording of the first image signal acquired by the first camera after the first camera is enabled and the second camera is disabled is longer than a second standby time between the recognition of the second instruction and a start of the recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled (see paragraph 0022 if the command camera system recognized the command as coming from the frontside microphone, delay is used; but if the command came from the backside, then no delay is used).

Therefore, in light of the teaching in Konicek it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to provide a controller to control audio input interface and standby time as claimed in order to allow time for the user to close her/his mouth quickly or to settle down quickly before the picture is taken.

Regarding claim 2, Konicek discloses one of the first standby time or the second standby time controlled by the control circuitry is arbitrarily settable or selectable by a user (see paragraphs 0011, 0023 and 0024). The motivation to combine the references is discussed in claim 1 above.

Regarding claim 3, Desai discloses causing an elapse state of the first standby time from a recognition of the first instruction to a start of the recording of the first image signal to be displayed on the touch display (see 0052, 0056-0057 and figure 5).

Regarding claim 4, Desai discloses recording the first image signal input from the first camera or the second image signal input from the second camera in an internal storage (see paragraph 0046).

Regarding claim 5, Desai discloses recording the first image signal input from the first camera or the second image signal input from the second camera in a memory medium connected to the image recording device (see figure 11).

Regarding claim 6, Desai discloses performing communication with a server device on the Internet; and recording the first image signal input from the first camera or the second image signal from the second camera in the server device (see figure 11 and paragraphs 0076-0082).

Regarding claim 7, Desai discloses performing control such that a command voice to be recorded in a command voice storage is received from the audio input interface and stored in the command voice storage as a command voice registration process; determining that the command voice instructs the photographing when the command voice input to the audio input interface is identical to the command voice stored in the command voice storage; and determining that the command voice does not instruct the photographing when the command voice input to the audio input interface is not identical to the command voice stored in the command voice storage (see paragraphs 0016-0021 and 0039).

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved

immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-L.jsp.

6. Claims 1-7 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 11,696,021. Although the claims at issue are not identical, they are not patentably distinct from each other. See the reasons sets forth below.

Regarding claim 1, the patent application claim 1 recites, an image recording device configured to execute a plurality of different photographing processes, comprising: an audio input interface configured to receive a command voice; a touch display arranged on a first surface of the image recording device and configured to display an image signal and receive a touch operation instruction; a first camera arranged on the same side of the touch display and configured to photograph an object and acquire a first image signal; a second camera arranged on an opposite side of the touch display and configured to photograph an object and acquire a second image signal; a recorder configured to record at least one of the first image signal or the second image signal on a storage; and a control circuitry, wherein the control circuitry is configured to: control such that one of the first camera and the second camera is enabled, control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal in a state in which the first camera is enabled, the recorder starts a recording of the first image signal on the storage in response to the first instruction, control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal in a state in which the second camera is enabled, the recorder starts a recording of the second image signal on the storage in response to the second instruction, and control such that a first standby time between a recognition of the first instruction and a start of the recording of the first image signal acquired by the first camera after the first camera is enabled and the

second camera is disabled is longer than a second standby time between the recognition of the second instruction and a start of the recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled.

Regarding claim 2, the Patent application claim 2 recites the limitation of claim 2.

Regarding claim 3, the Patent application claim 3 recites the limitation of claim 3.

Regarding claim 4, the Patent application claim 4 recites the limitation of claim 4.

Regarding claim 5, the Patent application claim 5 recites the limitation of claim 5.

Regarding claim 6, the Patent application claim 6 recites the limitation of claim 6.

Regarding claim 7, the Patent application claim 7 recites the limitation of claim 7.

7. Claims 1-7 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 10,511,757. Although the claims at issue are not identical, they are not patentably distinct from each other. See the reasons sets forth below.

Regarding claim 1, the Patent application claim 1 recites a video recording device configured to execute a plurality of different photographing processes, comprising: an audio input interface configured to receive a command voice; a touch display arranged on a first surface of the video recording device and configured to display a video signal and receive a touch operation instruction; a first camera arranged on the same side of the touch display and configured to photograph an object and acquire a first video signal; a second camera arranged on an opposite side of the touch display and configured to photograph an object and acquire a second video signal; a recorder configured to record at least one of the first video signal or the second video signal on a storage; and a controller, wherein the controller is configured to: control such that one of the first camera and the second camera is enabled, control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of a video signal in a state in

which the first camera is enabled, the recorder starts a recording of the first video signal on the storage in response to the first instruction, control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of a video signal in a state in which the second camera is enabled, the recorder starts a recording of the second video signal on the storage in response to the second instruction, and control such that a standby time from a recognition of the first instruction to a start of the recording of the first video signal is larger than a standby time from a recognition of the second instruction to a start of the recording of the second video signal.

Regarding claim 2, the Patent application claim 2 recites the limitation of claim 2.

Regarding claim 3, the Patent application claim 3 recites the limitation of claim 3.

Regarding claim 4, the Patent application claim 4 recites the limitation of claim 4.

Regarding claim 5, the Patent application claim 5 recites the limitation of claim 5.

Regarding claim 6, the Patent application claim 6 recites the limitation of claim 6.

Regarding claim 7, the Patent application claim 7 recites the limitation of claim 7.

8. Claims 1-7 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 11223757. Although the claims at issue are not identical, they are not patentably distinct from each other. See the reasons sets forth below.

Regarding claim 1, the Patent application claim 1 recites an image recording device configured to execute a plurality of different photographing processes, comprising: an audio input interface configured to receive a command voice; a touch display arranged on a first surface of the image recording device and configured to display an image signal and receive a touch operation instruction; a first camera arranged on a same side of the touch display and configured to photograph an object and acquire a first image signal; a second camera arranged on an opposite

side of the touch display and configured to photograph an object and acquire a second image signal; a recorder configured to record at least one of the first image signal or the second image signal on a storage; and a controller, wherein the controller is configured to: control such that, when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal, the recorder starts a recording of the first image signal acquired by the first camera on the storage in response to the first instruction, control such that, when the touch display receives the touch operation instruction giving a second instruction to start a recording of an image signal, the recorder starts a recording of the second image signal acquired by the second camera on the storage in response to the second instruction, and control such that a first standby time of a case where the first camera is enabled and the second camera is disabled is longer than a second standby time of a case where the second camera is enabled and the first camera is disabled, wherein the first standby time is a time from a recognition of the first instruction to a start of the recording of the first image signal acquired by the first camera, and the second standby time is a time from a recognition of the second instruction to a start of the recording of the second image signal acquired by the second camera.

Regarding claim 2, the patent application claims 3 and 4 recite the limitation of claim 2.

Regarding claim 3, the patent application claim 5 recites the limitation of claim 3.

Regarding claim 4, the patent application claim 7 recites the limitation of claim 4.

Regarding claim 5, the Patent application claim 8 recites the limitation of claim 5.

Regarding claim 6, the Patent application claim 9 recites the limitation of claim 6.

Regarding claim 7, the Patent application claim 10 recites the limitation of claim 7.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELEN SHIBRU whose telephone number is (571)272-7329. The examiner can normally be reached M-TR 8:00AM-5:00PM.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI TRAN can be reached on 571 272 7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Primary Examiner, Art Unit 2484
May 14, 2024

(19) Japan Patent Office (JP)

**(12) Japanese Unexamined
Patent
Application Publication (A)**

(11) Japanese Unexamined Patent
Application Publication Number

**Tokkai 2001-305642
(P2001-305642A)**

(43) Publication date: 02 Nov 2001

(51) Int. CL ⁷	Identification codes	FI	Theme codes (reference)
G03B 17/38 17/18		G03B 17/38 17/18	B 2H020 D 2H102 Z 5C022
G10L 15/00 15/28		H04N 5/225 5/232	A 5D015 B
Request for examination: None Number of claims: 5 Online (Total of 9 pages) Cont'd on last page			

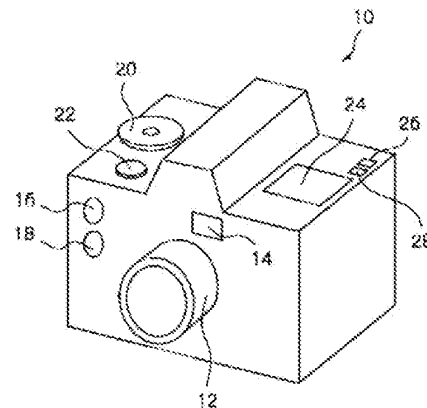
(21) Application number	Tokugan 2000-128977 (P2000-128977)	(71) Applicant	000005201 Fuji Photo Film Co., Ltd. 210 Nakazuma, Minamiashigara-shi, Kanagawa-ken
(22) Date of application	25 Apr 2000	(72) Inventor	Yoshiharu TAKAHASHI % Fuji Photo Film Co., Ltd. 3-11-46 Sensui, Asaka-shi, Saitama-ken
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		F terms (reference)	2H020 FB05 MA07 MC83 MD15 2H102 AA51 AA62 AB17 BA03 BB01 CA02 5C022 AA13 AB22 AB65 AC11 AC69 AC72 5D015 KB01

(54) [Title of the Invention] Image Capturing Device

(57) [Abstract]

[Problem] To perform photography simply and reliably using voice audio input in cases where the photographer is the subject.

[Solution] Voice audio registration mode is set using a mode dial 20, and a first voice audio pattern for focus adjustment and a second voice audio pattern for shutter release are registered in response to voice audio input using a microphone 16. When voice audio photography mode is set, a voice audio recognition process is performed on voice audio input using the microphone 16, with focus adjustment being performed if voice audio corresponding to the first voice audio pattern is recognized, and shutter release control being performed after a prescribed amount of time has elapsed if voice audio corresponding to the second voice audio pattern is recognized.



[Claims]

[Claim 1] An image capturing device which uses a prescribed image capturing means to capture images of a desired subject field which is incident through an optical system including a lens, wherein the device includes a voice audio input means for inputting voice audio from the direction of incidence of the subject field, a voice audio recognition means for recognizing whether the voice audio input by the voice audio input means includes a prescribed voice audio pattern, a time measurement means for measuring a prescribed amount of elapsed time when the voice audio recognition means has recognized a prescribed voice audio pattern, and an image capturing control means for controlling an image capturing operation by the image capturing means of the desired subject field through the optical system when the time measurement means has measured the prescribed amount of elapsed time.

[Claim 2] The image capturing device as claimed in claim 1, wherein the time measurement means has a pre-set desired set time, and the device includes a time adjustment means for variably adjusting the set time.

[Claim 3] The image capturing device as claimed in claim 1, wherein the device includes a voice audio registration means for registering a plurality of voice audio patterns ahead of time, and a focus control means for controlling the optical system to focus on the subject field which is incident into the image capturing means, and the voice audio recognition means includes a first voice audio recognition means which launches the focus control means upon recognizing a first voice audio pattern from the voice audio input means based on the first voice audio pattern registered in the voice audio registration means ahead of time, and a second voice audio recognition means which launches the time measurement means upon recognizing a second voice audio pattern from the voice audio input means based on the second voice audio pattern registered in the voice audio registration means ahead of time.

[Claim 4] The image capturing device as claimed in any one of claims 1 to 3, wherein the device includes an annunciation means for announcing towards the subject field at least whether the voice audio recognition has recognized a prescribed voice audio pattern.

[Claim 5] The image capturing device as claimed in claim 4, wherein the annunciation means includes a light emitting means attached to a front surface of a main device body to which the optical system is provided, and a drive means for driving the light emitting means based on recognition results of the voice audio recognition means, the drive means causing the light emitting means to blink in a first blinking pattern when a prescribed voice audio pattern has been recognized by the voice audio recognition means, and causing the means to blink in a second blinking pattern when a prescribed voice audio pattern has not been recognized.

[Detailed Description of the Invention]

[0001]

[Technical Field of the Invention] The present invention relates to image capturing devices, and more particularly relates to an image capturing device suitable for application to silver halide film cameras or digital cameras which use electronic control to control image capturing operations, for example.

[0002]

[Prior Art] The number of functions has been increasing in image capturing devices such as single reflex cameras, compact cameras, or digital still cameras, for example, and microcomputers and the like are being used as control units controlling the various functions. High-functionality and high-precision electronics have also been developed for such cameras, and there has been recent progress in voice audio recognition technology, leading to the development of various types of equipment and devices allowing operational control of various parts using voice audio input.

[0003] Conventionally, the cameras described in, for example, JP S64-56428 A, JP H7-84302 A, or JP H7-84311 A, have been proposed as image capturing devices to which such voice audio recognition technology has been applied. In essence, these image capturing devices strive to improve ease and speed of use by using voice audio input to control the various functions needed for photography operations, such as setting the exposure mode of the camera or the like, while the operator is looking into the camera's viewfinder, i.e. while the photographer is holding the camera and looking at the subject.

[0004] JP S64-56428 A, for example, describes mounting a voice audio recognition device on a camera, connecting the voice audio recognition device to the camera using microwave, ultrasonic, or other communication means, or incorporating the voice audio recognition device inside the camera. When the voice audio recognition device is built into the camera or mounted thereon, a voice audio input microphone is provided to the rear surface of the camera, allowing the photographer to use voice audio input through that microphone to control photographic functions or operations such as flash, zoom, exposure correction, self timer, continuous photography, and single-shot photography, etc. Alternately, when the voice audio recognition device is connected to the camera using the communication means, the same type of control as described above can be performed via remote control for a plurality of cameras based on voice audio input recognized by the voice audio recognition device.

[0005] On the other hand, in the camera described in JP H7-84302 A, a vibration detection sensor which detects vibrating waves produced by voice audio transmitted through the skin or bones of the photographer's face is provided around the viewfinder in order to reliably detect the photographer's voice; an earphone-type microphone which detects voice audio vibrations transmitted by the photographers years is connected; and a voice audio input microphone like the one in JPS 64-56428 A is provided to the rear surface of the camera body. In this manner, if the photographer emits voice audio while holding the camera, the voice audio is detected by the vibration detection sensor, the earphone, or the microphone, or any combination thereof, to control various photographic functions or operations.

[0006] With the camera described in JP H7-84311 A, a voice audio input microphone is provided on the rear surface of the camera body, in the middle lower section or along the top edge, allowing input of voice audio depending on how the camera is being held. For example, if the camera is being held in an ordinary horizontal attitude, the voice audio is input using the microphone in the middle lower section of the rear surface, but if the camera is held in a vertical attitude, the voice audio is input using the microphone along the top edge, thereby allowing control of photographic functions and operations.

[0007]

[Problem to Be Solved by the Invention] However, with these conventional technologies, photographic functions and operations are controlled via voice audio input through a microphone provided, for example, to the rear surface of the camera while the camera is being held by the photographer, meaning that if the photographer him or herself is the subject, such as for commemorative photographs or the like, photography via voice audio operation is difficult, which is a drawback.

[0008] Let us assume, for example, that a photographer looks through the viewfinder with the camera in a fixed position, imagines the location in which he or she is to be photographed, adjusts the focus and so forth for that location, and otherwise configures photographic functions in the camera in that fixed location. When the photographer then moves to the location to be photographed, he or she must carry out a shutter release operation. Although the photographer can configure the exposure and almost all other photographic functions using voice audio input with the camera in the fixed position, the problem arises that it is impossible to tell whether the focus is on the actual location to be photographed if there is nothing in that location. It is conceivable for the photographer to combine use of the self timer to carry out the shutter release operation, use voice audio input to give the camera the instruction to take the picture with the camera in the fixed position, and then go to the location to be photographed, but this requires the photographer to give the instruction orally near the rear surface of the camera, in which case ordinary button operation would be more convenient. It is also conceivable for the photographer to give the camera the instruction to take the picture by saying something from the location to be photographed, thereby triggering the shutter release operation, but since the voice audio input microphone is on the rear surface of the camera, it is uncertain whether the voice audio input would be accurately recognized, which is a problem. In this case, even if the voice audio from the photography location is recognized by the camera, the shutter release operation would occur immediately, meaning the photographer would be photographed while speaking, making it impossible for him or her to be photographed with the desired facial expression or pose, which is a problem.

[0009] The present invention eliminates these drawbacks in the prior art and has as an object to provide an image capturing device which allows simple and reliable photography operations via voice audio input when the photographer is the subject.

[0010]

[Means for Solving the Problem] In order to solve this problem, the present invention is an image capturing device which uses a prescribed image capturing means to capture images of a desired subject field which is incident through an optical system including a lens, wherein the device includes a voice audio input means for inputting voice audio from the direction of incidence of the subject field, a voice audio recognition means for recognizing whether the voice audio input by the voice audio input means includes a prescribed voice audio pattern, a time measurement means for measuring a prescribed amount of elapsed time when the voice audio recognition means has recognized a prescribed voice audio pattern, and an image capturing control means for controlling an image capturing operation by the image capturing means of the desired subject field through the optical system when the time measurement means has measured the prescribed amount of elapsed time.

[0011] In this case the time measurement means advantageously has a pre-set desired set time, and the device includes a time adjustment means for variably adjusting the set time.

[0012] Furthermore, the device includes a voice audio registration means for registering a plurality of voice audio patterns ahead of time, and a focus control means for controlling the optical system to focus on the subject field which is incident into the image capturing means, and the voice audio recognition means includes a first voice audio recognition means which launches the focus control means upon recognizing a first voice audio pattern from the voice audio input means based on the first voice audio pattern registered in the voice audio registration means ahead of time, and a second voice audio recognition means which launches the time measurement means upon recognizing

a second voice audio pattern from the voice audio input means based on the second voice audio pattern registered in the voice audio registration means ahead of time.

[0013] Furthermore, the device preferably includes an annunciation means for announcing towards the subject field at least whether the voice audio recognition has recognized a prescribed voice audio pattern.

[0014] In this case, the annunciation means advantageously includes a light emitting means attached to a front surface of a main device body to which the optical system is provided, and a drive means for driving the light emitting means based on recognition results of the voice audio recognition means, the drive means causing the light emitting means to blink in a first blinking pattern when a prescribed voice audio pattern has been recognized by the voice audio recognition means, and causing the means to blink in a second blinking pattern when a prescribed voice audio pattern has not been recognized.

[0015]

[Embodiments] One embodiment of an image capturing device according to the present invention will be described in detail next, with reference to the attached drawings. Figures 1 and 2 show an embodiment of an image capturing device according to the present invention. The image capturing device according to the present embodiment is a camera which takes photographs by exposing on silver halide film a subject field entering through an optical system including a lens. The present embodiment is described using as an example an electronically controlled camera in which electronic control is used to control photographic functions such as exposure settings and focus and photographic operations such as shutter release. In particular, a principal feature of the image capturing device according to the present embodiment is the inclusion of a voice audio recognition photography function with which photographic operations are carried out using voice audio input in cases where the photographer is the subject. Note that Figures 1 and 2 omit parts which are not directly related to the present invention, and descriptions thereof are omitted in the following.

[0016] An outer configuration of the image capturing device according to the present invention is first described in greater detail with reference to Figure 1. The image capturing device according to the present embodiment comprises a camera body 10 formed having a substantially box-like shape, to which is attached a lens barrel 12 of an optical system including a lens, a diaphragm, and a shutter, protruding outward from the front surface in a location near the center, with a rangefinder window 14 for autofocus provided nearby, above or diagonally. To the side of the lens barrel 12 are provided a forward directional microphone 16 for inputting voice audio emitted from the direction of the subject, and a light-emitting diode (LED) 18 which turns on and off according to prescribed blinking patterns during voice audio recognition.

[0017] A shutter release button 22, which is pressed to drive the shutter when in ordinary manual photography mode, and a mode dial 20 for selecting manual photography mode, voice audio photography mode, and voice audio pattern registration mode are provided to one side on the top surface of the camera body 10, and a liquid crystal display 24 which displays function configurations, and a plus (+) adjustment button 26 and a minus (-) adjustment button 28 for scrolling the display and for configuring settings are provided to the other side.

[0018] A circuit configuration of a control system of the image capturing device according to the present embodiment is described next, with reference to Figure 2. A control system of the image capturing device according to the present embodiment includes a switch detection circuit 100, a timer circuit 102, a flash drive circuit 104, a voice audio pattern registration circuit 106, a display control circuit 108, a light measurement circuit 110, an LED drive circuit 112, an autofocus (AF) circuit 114, a lens barrel drive circuit 116, a film feed circuit 118, a shutter drive circuit 120, a voice audio input circuit 122, and a voice audio recognition circuit 124, these circuits 100 to 124 being connected to a main control circuit (CPU (central processor unit)) 126 and configured so as to drive and control various parts of the camera.

[0019] To describe the various parts in greater detail, the switch detection circuit 100 is a detection circuit which detects switching of the mode dial 20, pressing of the shutter release button 22, and pressing of the adjustment buttons 26 and 28, and sends the results thereof to the main control circuit 126.

[0020] The timer circuit 102 is a time measurement circuit which measures the time set by the self timer in manual photography mode using the shutter release button 22 and a prescribed shutter release standby time in voice audio photography mode. In the present embodiment, a prescribed amount of time is set ahead of time for voice audio photography mode, but this set amount of time can be adjusted to be variably longer or shorter by operating the adjustment buttons 26 and 28.

[0021] The flash drive circuit 104 is a drive circuit which drives light emission by the flash under the control of the main control circuit 126. In the present embodiment, light emission by the flash is driven based on light measurement results from the light measurement circuit 110 when the flash has been turned on using the liquid crystal display, for example.

[0022] The voice recognition pattern registration circuit 106 is a storage circuit which stores voice recognition patterns input from the voice recognition input circuit 122 when the mode dial 20 has been switched to the position indicating voice audio registration mode, and has a non-volatile storage element such as an EEPROM or the like. In particular, in the present embodiment, a first voice audio pattern for focus adjustment, e.g., a voice audio pattern of

the phrase "adjust the focus" or the like, and a second voice audio pattern for taking a photograph, e.g., a voice audio pattern of the photographer saying "take the picture" or the like, are registered ahead of time in the storage element as instruction patterns in voice audio photography mode.

[0023] The display control circuit 108 is a control circuit which drives the liquid crystal display (LCD) 24 and controls screen display therein, text data and symbols of various modes, etc., from the main control circuit 126 being displayed in the liquid crystal display 24.

[0024] The light measurement circuit 110 is a computational circuit for finding the amount of light entering the optical system under the control of the main control circuit 126, advantageously being able to switch among a variety of light measurement settings such as multi-pattern, central weighted, and spot measurement, for example. The light measurement results are supplied to the main control circuit 126 and used as indicative quantities for determining exposure and whether to turn the flash on.

[0025] The LED drive circuit 112 is a drive circuit that causes the light-emitting diode 18 on the front of the camera to blink in prescribed blinking patterns under the control of the main control circuit 126 when in voice audio photography mode. In the present embodiment, the LED drive circuit 112 is a recognition results annunciation circuit which instructs the photographer to input voice audio by turning on the light emitting diode 18 when in voice audio photography mode, causing the light-emitting diode 18 to blink in a first blinking pattern if voice audio is input and recognition thereof is successful, and causing the light-emitting diode 18 to blink in a second blinking pattern if recognition has failed.

[0026] The autofocus circuit 114 is a computational circuit for measuring the distance to the subject and finding the focal position thereof. In the present embodiment, the autofocus circuit 114 is launched when the first voice audio pattern has been recognized in voice audio photography mode, and finds the focal position of the subject. The computational results are sent to the main control circuit 126. The lens barrel drive circuit 116 is a drive circuit which drives the lens barrel 12 to a focal position found by the autofocus circuit 114 under the control of the main control circuit 126 to make the lens position match the focal position.

[0027] The film feed circuit 118 is a drive circuit for driving winding of the film under the control of the main control circuit 126. In the present embodiment, the film feed circuit 118 is advantageously an Advanced Photo System (APS)-compatible circuit which winds the film one frame at a time every time the shutter is released and rewinds the entirety of the film back into the cartridge once photography has ended at the end of the film.

[0028] The shutter drive circuit 120 is a drive circuit which opens and closes the shutter under the control of the main control circuit 126. In the present embodiment, the shutter drive circuit 120 drives the shutter in response to pressing of the shutter release button 22 when in manual photography mode, and drives the shutter once the timer circuit 102 has measured the release standby time following recognition of the second voice audio pattern when in voice audio photography mode.

[0029] The voice audio input circuit 122 is an input circuit for converting analog voice audio signals from the microphone 16 into digital signals and inputting digital signals, registering the digital signals in the voice audio pattern registration circuit 106 via the main control circuit 126 when in voice audio registration mode, and sending the digital signals to the voice audio recognition circuit 124 via the main control circuit 126 when in voice audio photography mode.

[0030] The voice audio recognition circuit 124 is a pattern detection circuit for detecting whether or not the voice audio signals from the voice audio input circuit 122 include the prescribed voice audio patterns in voice audio photography mode. In the present embodiment, the voice audio recognition circuit 124 is a voice audio cross-referencing circuit which sequentially cross-references the voice audio patterns input under the control of the main control circuit 126 with the first and second voice audio patterns registered ahead of time in the voice audio pattern registration circuit 106.

[0031] The main control circuit 126 is an image capturing control circuit for controlling a sequence of photographic operations in accordance with whichever mode of the mode dial 20 is detected by the switch detection circuit 100, and includes a central processing circuit (CPU) 120, ROM (read only memory) 130 storing data ahead of time for programs and the like for running the central processing circuit, including sequence programs for manual photography mode, voice audio photography mode, and voice audio registration mode, and RAM (random access memory) 132 storing various data including text data for displaying various mode settings and data used when computing exposures and focus.

[0032] Next, operation of the image capturing device according to the present embodiment is described, with reference to Figures 3 to 5. First, before taking any pictures, the photographer registers the first voice audio pattern for adjusting focus and the second voice audio pattern for taking a picture. Specifically, the photographer sets the mode dial 20 to voice audio registration mode, which is detected by the control system using the switch detection circuit 100, and the result is sent to the main control circuit 126. The main control circuit 126 then write-enables the voice audio pattern registration circuit 106 and waits for voice audio input from the microphone 16. While this is

happening, the main control circuit 126 launches the LED drive circuit 112 and turns on the light-emitting diode 18, for example.

[0033] The photographer speaks a phrase such as, for example, "adjust focus" as the first voice audio pattern. That audio signal is input from the microphone 16 into the voice audio input circuit 122 and converted into a digital signal which is written to the voice audio pattern registration circuit 106. While this is happening, the main control circuit 126 drives the LED drive circuit 112 to cause the light-emitting diode 18 to blink while the first voice audio pattern is being written. When writing is done, the light-emitting diode 18 is once again illuminated. Next, the photographer speaks a phrase such as, for example, "take a picture" as the second voice audio pattern, and the second voice audio pattern for taking pictures is registered in the voice audio pattern registration circuit 106 as described above. Photography using voice audio input is thus made possible.

[0034] Operation during photography is described next, with reference to Figure 3. First, the photographer turns the main power of the camera on in step S10. The main control circuit 126 then detects the state of various circuits and initializes various parts in step S12. Next, in step S14, the photographer operates the mode dial 20 and the adjustment buttons 26 and 28 while looking at the liquid crystal display 24 to select or set the photography mode and photography conditions, etc.

[0035] Once the photography mode, photography conditions, and so forth have been set, the main control circuit 126 moves to step S16 and determines whether voice audio photography mode has been selected. If manual photography mode has been selected, the main control circuit 126 moves to step S18 and executes the ordinary photography sequence triggered by pushing the shutter release button 22. If voice audio photography mode has been selected, the main control circuit 126 launches the voice audio input circuit 122, moves to step S20, and waits for the first voice audio input. At this point, the LED drive circuit 112 is driven and the light-emitting diode 18 is turned on. The photographer then fixes the camera 10 in a prescribed position, turns the camera towards the location to be photographed where the photographer him or herself will be the subject, and then moves to the location to be photographed. Once the photographer is at the location to be photographed, he or she speaks the phrase "adjust focus" which has been registered ahead of time, the voice audio is input from the microphone 16 into the voice audio input circuit 12, and the voice audio, which is now a digital signal, is sent sequentially to the voice audio recognition circuit 124.

[0036] The main control circuit 126 now reads out the first voice audio pattern from the voice audio pattern registration circuit 106 in step S22 and sends it to the voice audio recognition circuit 124. The voice audio patterns are cross-referenced with each other in the voice audio recognition circuit 124. More specifically, as shown in Figure 4 for example, the voice audio recognition circuit 124 extracts frequency patterns of the input voice audio and the registered voice audio in step S102, cross-references the frequency patterns in step S104, and sends the results to the main control circuit 126 in step S106.

[0037] The main control circuit 126, having received the recognition results from the voice audio recognition circuit 124, determines whether or not a voice audio pattern has been recognized in step S24 shown in Figure 3. If the determination result is "no," the main control circuit 126 moves to step S26 and instructs the LED drive circuit 112 to use the second blinking pattern indicating that the voice audio has not been recognized. As a result, when the LED drive circuit 112 causes the light-emitting diode 18 to blink in the second blinking pattern, the photographer sees the blinking pattern and understands that the voice audio could not be recognized. Next, the main control circuit 126 once again illuminates the light-emitting diode 18 and returns to step S20. The photographer then once again speaks the first voice audio pattern, and steps S20 to S24 are repeated. Once the voice pattern has been successfully recognized in step S22, the main control circuit 126 moves from step S24 to step S28 and instructs the LED drive circuit 112 to use the first blinking pattern indicating that the voice audio has been recognized. The light-emitting diode 18 thus blinks in the first blinking pattern.

[0038] Next, the main control circuit 126 moves to step S30 shown in Figure 4, launches the autofocus circuit 114, finds the focal distance of the subject, drives the lens barrel drive circuit 116 based on that result to adjust the lens position, and focuses on the subject. This operation is repeated several times until the subject is in focus, at which point the main control circuit 126 drives the LED drive circuit 112 so that the light-emitting diode stops blinking in the first pattern and is illuminated. The photographer thus understands that the focus has been adjusted and speaks the phrase "take a picture," which is the second voice audio pattern, in step S32. This voice audio is sent from the microphone 16 to the voice audio recognition circuit 124 via the voice audio input circuit 122 as described above and is cross-referenced with the second voice audio pattern registered ahead of time in the voice audio pattern registration circuit 106 as described above in step S34. The determination result is sent to the main control circuit 126 as described above where a determination is made as to whether or not the voice audio has been recognized in step S36.

[0039] In step S36, if the voice audio has not been recognized, then the light-emitting diode 18 is caused to blink in the second blinking pattern in step S38 and the process returns to step S32, once again standing by for input of the second voice audio pattern. When the voice audio is recognized in step S36, the main control circuit 126 moves from

step S36 to step S40, causes the light-emitting diode 18 to blink in the first blinking pattern as described above and launches the timer circuit 102. The timer circuit 102 then begins measuring a prescribed set time or an adjusted set time, and once that amount of time has elapsed, sends the result to the main control circuit 126. While this is happening, the camera 10 is standing by to take the photograph. The photographer, who is the subject in this case, sees that the light-emitting diode 18 is blinking in the first blinking pattern and understands that the voice audio has been recognized, and therefore adjusts his or her facial expression from having spoken the voice audio to a state ready to be photographed and waits for the camera shutter to be released.

[0040] Next, the main control circuit 126 receives the time measurement result from the timer circuit 102, cancels the photography standby state, and launches the shutter drive circuit 120 in step S42 to drive the shutter release, at which point an image of the subject is captured. Once the image of the subject has been captured, the main control circuit 126 drives the film feed circuit 118 in step S44 to wind the film, once again illuminates the light-emitting diode 18, and ends the photographic operation. To take another picture in the same location, the photographer can speak the second voice audio pattern again to take another picture, in which case steps S32 to S44 are repeated. If the location to be photographed is moved forward or back, the photographer can move to that location and speak the first voice audio pattern to adjust the focus, after which he or she can speak the second voice audio pattern to trigger the shutter release and take a photograph as described above.

[0041] With the image capturing device according to the present embodiment as described above, the voice audio input microphone 16 is provided to the front of the camera body 10 and the voice audio, which is emitted from the same direction as the subject entering the optical system, is input, enabling accurate input the voice audio and recognition of the voice audio when the photographer him or herself is the subject. During voice audio recognition, the light-emitting diode 18 which is provided to the front of the camera body 10 is caused to blink, letting the photographer know whether or not the voice audio has been recognized, enabling the photographer to continuously operate the camera using voice audio input without moving from that location. Inputting the first voice audio pattern adjusts the focus, and inputting the second voice audio pattern takes the picture, making it possible to accurately focus on the photographer, who is acting as the subject, by means of the photographer speaking the first voice audio pattern in the location to be photographed, and take the picture. Recognition of the second voice audio pattern launches the timer circuit 102 and releases the shutter after a prescribed amount of time has elapsed, giving the photographer time to adjust his or her facial expression and pose during that time. This makes it possible to be photographed accurately with the desired facial expression and while not in the middle of speaking.

[0042] Note that with the present embodiment, voice audio photography mode is set, the first voice audio pattern is recognized, and the autofocus circuit 114 is launched, but in order to shorten the focus adjustment time, it is also possible, for example as shown in Figures 6 and 7, to launch the autofocus circuit 114 in step S50 when voice audio photography mode has been set, carry out focus adjustment to find the right focus, and then re-focus in step S30 upon input of the first voice audio pattern (step S20) and lock the focus at this point.

[0043] Furthermore, the present embodiment has been described using as an example a case in which the present invention is applied to a camera using silver halide film, but it goes without saying that the present invention may also be applied to digital cameras using charge coupled devices (CCDs) as the image capturing means.

[0044] Furthermore, in the present embodiment, only the focus is adjusted as the photographic function setting triggered by voice audio input from the location to be photographed, but it is also possible in the present invention to use voice audio input from the location to be photographed to control exposure by means of the aperture and shutter speed, and to configure other photographic function settings such as zoom control as well. It is also possible to set the shutter release standby time to an amount of time corresponding to the results of a voice audio recognition process.

[0045] Furthermore, in the present embodiment, the photographer is notified of the voice audio recognition results by the blinking of the light emitting diode 18, but it is also possible in the present invention to provide a voice audio synthesizer circuit to the control system, for example, to emit the voice audio recognition results through the voice audio synthesizer.

[0046]

[Effects of the Invention] With the image capturing device according to the present invention, a voice audio input means is provided for inputting voice audio from the same direction as the direction of incidence of the subject field into the optical system, a recognition process is carried out to determine whether or not voice audio input from the voice audio input means includes prescribed voice audio patterns, and, if a prescribed voice audio pattern has been recognized, an image is captured of the subject field after measuring that a prescribed amount of time has elapsed. Therefore, in cases where the photographer is the subject, the photographer is able to photograph him or herself accurately with the correct facial expression by inputting voice audio accurately from the location to be photographed.

[Brief Description of the Drawings]

FIG. 1 is an oblique view showing one embodiment of an image capturing device according to the present invention.
 FIG. 2 is a block diagram showing a configuration of a control system of the image capturing device according to the embodiment in FIG. 1.
 FIG. 3 is a flowchart for describing operation when in voice audio photography mode in the image capturing device according to the embodiment in FIG. 1.
 FIG. 4 is a flowchart for describing operation when in voice audio photography mode in the image capturing device according to the embodiment in FIG. 1.
 FIG. 5 is a flowchart for describing operation during voice audio recognition in the image capturing device according to the embodiment in FIG. 1.
 FIG. 6 is a flowchart for describing operation during voice audio recognition in the image capturing device according to the embodiment in FIG. 1.
 FIG. 7 is a flowchart for describing another operational example in the image capturing device according to the embodiment in FIG. 1.

[Explanation of the Reference Numerals]

10 Camera body
 12 Lens barrel
 16 Microphone
 18 Light-emitting diode
 20 Mode dial
 22 Shutter release button
 24 Liquid crystal display
 26, 28 Adjustment buttons
 102 Timer circuit
 106 Voice audio pattern registration circuit
 122 Voice audio input circuit
 124 Voice audio recognition circuit

FIG. 2

100 Switch detection circuit
 102 Timer circuit
 104 Flash circuit
 106 Voice audio pattern registration circuit
 108 Display control circuit
 110 Like measurement circuit
 112 LED drive circuit
 114 Autofocus circuit
 116 Lens barrel drive circuit
 118 Film feed circuit
 120 Shutter drive circuit
 122 Voice audio input circuit
 124 Voice audio recognition circuit
 126 Main control circuit
 128 CPU
 130 ROM
 132 RAM

FIG. 3

Start
 S10 Turn on power
 S12 Initialize
 S14 Select photography mode and photography conditions
 S16 Select voice audio photography mode
 S18 Ordinary photography sequence
 S20 Input first voice audio
 S22 Cross reference voice audio patterns
 S24 Voice pattern 1?

S26 LED blinking pattern 2
S28 LED blinking pattern 1

FIG. 4

S30 Autofocus
S32 Input second voice audio
S34 Cross reference voice audio patterns
S36 Voice audio pattern 2?
S38 LED blinking pattern 2
S40 Standby for predetermined amount of time (LED blinking)
S42 Release shutter
S44 Feed film
Return

FIG. 5

Start
S20 (S32) Input voice audio
S102 Extract frequency pattern
S104 Cross reference frequency pattern
S106 Return cross reference results
End

FIG. 6

Start
S10 Turn on power
S12 Initialize
S14 Select photography mode and photography conditions
S16 Select voice audio photography mode
S18 Ordinary photography sequence
S50 Autofocus
S20 Input first voice audio
S22 Cross reference voice audio patterns
S24 Voice pattern 1?
S26 LED blinking pattern 2
S28 LED blinking pattern 1

FIG. 7

S30 Focus lock
S32 Input second voice audio
S34 Cross reference voice audio patterns
S36 Voice audio pattern 2?
S38 LED blinking pattern 2
S40 Standby for predetermined amount of time (LED blinking)
S42 Release shutter
S44 Feed film
Return

Continuation of front page

(51) Int. Cl. ⁷	Identification codes	FI	(Reference)
G10L 15/22		H04N 101:00	
H04N 5/225		G10L 3/00	551G
5/232			561H
//H04N 101:00			561C

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開2001-305642

(P2001-305642A)

(43) 公開日 平成13年11月2日 (2001.11.2)

(51) Int.Cl. ⁷	識別記号	F I	ターム* (参考)
G 0 3 B 17/38		G 0 3 B 17/38	B 2 H 0 2 0
17/18		17/18	D 2 H 1 0 2
			Z 5 C 0 2 2
G 1 0 L 15/00		H 0 4 N 5/225	A 5 D 0 1 5
15/28		5/232	B
審査請求 未請求 請求項の数 5 O L (全 9 頁) 最終頁に続く			

(21) 出願番号 特願2000-128977(P2000-128977)

(22) 出願日 平成12年4月25日 (2000.4.25)

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Fターム(参考) 2H020 FB05 MA07 MC83 MD15

2H102 AA51 AA62 AB17 BA03 BB01

CA02

5C022 AA13 AB22 AB65 AC11 AC69

AC72

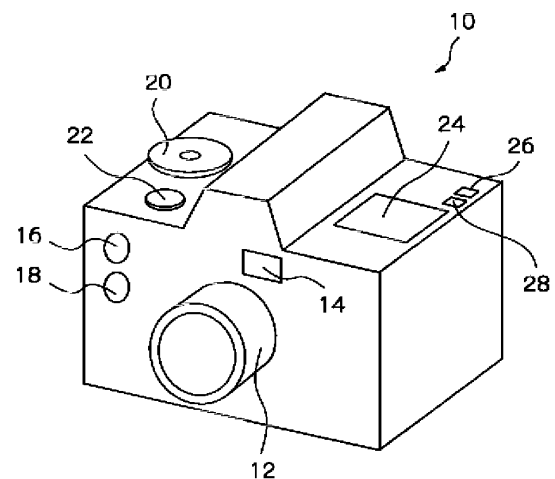
5D015 KK01

(54) 【発明の名称】 撮像装置

(57) 【要約】

【課題】 撮影者自らが被写体となる場合に、音声入力による撮影を簡単かつ的確に実行する。

【解決手段】 モードダイヤル20によって音声登録モードが設定されると、マイク16にて入力される音声に応じて、フォーカス調整の際の第1の音声パターンとリリース動作の際の第2の音声パターンとが登録され、音声撮影モードが設定されると、マイク16にて入力される音声に対する音声認識処理が行われ、第1の音声パターンに対応する音声認識されるとフォーカス調整が行われ、第2の音声パターンに対応する音声認識されると、所定の待ち時間経過した後にリリース制御が実行される。



【特許請求の範囲】

【請求項1】 レンズを含む光学系を介して入射する所望の被写界像を所定の撮像手段にて撮像する撮像装置において、該装置は、前記被写界像の入射方向からの音声を入力する音声入力手段と、該音声入力手段にて入力した音声が所定の音声パターンを含むか否かを認識する音声認識手段と、該音声認識手段にて所定の音声パターンを認識した際に所定の時間経過を計時する計時手段と、該計時手段にて所定の時間経過を計時した際に、前記撮像手段への前記光学系からの所望の被写界像の撮像動作を制御する撮像制御手段とを含むことを特徴とする撮像装置。

【請求項2】 請求項1に記載の撮像装置において、前記計時手段は、あらかじめ所望の設定時間が設定され、該装置は、該設定時間を可変に調整する時間調整手段を含むことを特徴とする撮像装置。

【請求項3】 請求項1に記載の撮像装置において、該装置は、複数の音声パターンがあらかじめ登録される音声登録手段と、前記光学系を制御して前記撮像手段に入射する被写界像の焦点を合わせる合焦制御手段とを含み、前記音声認識手段は、前記音声入力手段からの第1の音声パターンを前記音声登録手段にあらかじめ登録された第1の音声パターンに基づいて認識した際に、前記合焦制御手段を起動する第1の音声認識手段と、前記音声入力手段からの第2の音声パターンを前記音声登録手段にあらかじめ登録された第2の音声パターンに基づいて認識した際に、前記計時手段を起動する第2の音声認識手段とを含むことを特徴とする撮像装置。

【請求項4】 請求項1ないし請求項3のいずれかに記載の撮像装置において、該装置は、少なくとも前記音声認識手段にて所定の音声パターンを認識したか否かを被写界に向けて報知する報知手段を含むことを特徴とする撮像装置。

【請求項5】 請求項4に記載の撮像装置において、前記報知手段は、前記光学系が設けられた装置本体の前面に取り付けられた発光手段と、前記音声認識手段の認識結果に基づいて該発光手段を駆動する駆動手段とを含み、該駆動手段は、前記音声認識手段にて所定の音声パターンを認識した際に前記発光手段を第1の点滅パターンにて点滅させ、所定の音声パターンを認識できなかった際に前記手段を第2の点滅パターンにて点滅させることを特徴とする撮像装置。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、撮像装置に係り、特に、たとえば電子制御により撮像動作を制御する銀塩フィルムを用いたカメラやデジタルカメラなどに適用

して好適な撮像装置に関するものである。

【0002】

【従来の技術】たとえば、一眼レフカメラまたはコンパクトカメラあるいは電子スチルカメラなどの撮像装置では、多機能化が図られて、それら各種機能を制御する制御部としてマイクロコンピュータなどが用いられ、さらに高性能かつ高精度な電子化されたものが開発されている。また、近年、音声認識技術の進歩が図られ、音声入力により各部の動作を制御可能な各種機器または装置などが開発されている。

【0003】従来、上記のような音声認識技術を適用した撮像装置として、たとえば、特開昭64-56428号公報、特開平7-84302号公報または特開平7-84311号公報などに記載のカメラが提案されている。これらの撮像装置は、基本的には、操作者がカメラのファインダに臨む体勢にて、つまり撮影者がカメラを構えて被写体を臨む状況にて、カメラの露出モードなどの撮影操作に必要な各種機能を音声入力により制御して、その操作性および速写性の向上を図ったものであった。

【0004】たとえば、特開昭64-56428号公報には、音声認識装置をカメラに着脱自在にしたもの、音声認識装置を赤外線、マイクロ波または超音波などの通信手段にてカメラに接続したもの、あるいは音声認識装置をカメラに内蔵したものが記載されていた。特に、カメラに音声認識装置を内蔵したもの、または着脱式としたものでは、音声入力用のマイクがカメラの裏面側に設けられており、そのマイクからの撮影者の音声入力によりストロボ、ズーム、露出補正あるいはセルフタイマ、連続撮影または1コマ撮影などの撮影機能または撮影動作などを制御するものであった。また、カメラに、音声認識装置を通信手段にて接続したもので、複数台のカメラを音声認識装置にて認識した音声入力に基づいて上記と同様な制御をリモートコントロールするものであった。

【0005】一方、特開平7-84302号公報に記載のカメラでは、撮影者の音声を実際に検出するため、ファインダの周囲に、撮影者の顔面の骨または皮膚を伝わる音声の振動波を検出する振動検出センサを備え、また撮影者の耳から伝わる音声振動を検知するイヤホン型のマイクを接続し、さらに、前述の特開昭64-56428号公報と同様の音声入力用のマイクをカメラ本体の裏面側に備えたものであった。これにより、撮影者がカメラを構えた状態にて音声を発すると、振動検出センサ、イヤホンまたはマイク、あるいはそれらの組み合わせにて音声を検出して、各種撮影機能または撮影動作などを制御するものであった。

【0006】さらに、特開平7-84311号公報に記載のカメラでは、カメラ本体の裏面側に、その中央下部およびその上方一端部に、音声入力用のマイクを設けて、その構え方に応じて音声を入力するものであった。たとえば、カメラを通常の横姿勢にて構えた場合に、裏面中央

下部のマイクにて音声を入力し、縦姿勢にて構えた場合に上方一端部のマイクにて音声を入力して、撮影機能および撮影動作を制御するものであった。

【0007】

【発明が解決しようとする課題】しかしながら、上述した従来の技術では、撮影者がカメラを構えた状態、たとえば、カメラの裏面側に備えられたマイクからの音声入力により撮影機能または撮影動作を制御するので、たとえば、記念撮影などにて撮影者本人が被写体となる場合に、その音声操作による撮影がし難いという欠点があった。

【0008】たとえば、撮影者は、カメラを固定した状態にてファインダを覗き、自らが撮影される場所を想定して、その場所に焦点などを合わせる等の撮影機能をカメラの固定個所にて設定した後に、自らが撮影される場所に行き、リリース動作を行わなければならない。この場合、撮影機能のうち露出などはカメラの固定個所にて音声入力によりほぼ設定することができるが、撮影位置に目標とするものがない場合には、焦点が実際の撮影位置に合っているか否かがわからないという問題があった。また、リリース動作については、セルフタイマを併用して、カメラの固定個所にて音声入力により撮影を指示してから撮影場所に行くことが考えられるが、これは撮影者がカメラの裏面側に口を近づけて指示をしなければならないので、通常のボタン操作の方が有利であった。また、リリース動作として、撮影者が撮影場所から声を発して撮影しようということが考えられるが、音声入力用のマイクがカメラの裏面側にあるため、音声入力が正確に認識されるか否か確実ではないという問題があった。この場合、撮影場所からの音声はカメラにて音声認識されたとしても、その際に即座にリリース動作がされてしまうため、撮影者が声を発した状態にて撮影されてしまい、思った通りの表情やポーズにて撮影できないなどの問題があった。

【0009】本発明はこのような従来技術の欠点を解消し、撮影者自らが被写体となった際に、音声入力による撮影操作を簡単かつ的確に行なうことができる撮像装置を提供することを目的とする。

【0010】

【課題を解決するための手段】本発明は上述の課題を解決するために、レンズを含む光学系を介して入射する所望の被写界像を所定の撮像手段にて撮像する撮像装置において、この装置は、被写界像の入射方向からの音声を入力する音声入力手段と、音声入力手段にて入力した音声は所定の音声パターンを含むか否かを認識する音声認識手段と、音声認識手段にて所定の音声パターンを認識した際に所定の時間経過を計時する計時手段と、計時手段にて所定の時間経過を計時した際に、撮像手段への光学系からの所望の被写界像の撮像動作を制御する撮像制御手段とを含むことを特徴とする。

【0011】この場合、計時手段は、あらかじめ所望の設定時間が設定され、この装置は、設定時間を可変に調整する時間調整手段を含むと有利である。

【0012】また、この装置は、複数の音声パターンがあらかじめ登録される音声登録手段と、光学系を制御して撮像手段に入射する被写界像の焦点を合わせる合焦制御手段とを含み、音声認識手段は、音声入力手段からの第1の音声パターンを音声登録手段にあらかじめ登録された第1の音声パターンに基づいて認識した際に、合焦制御手段を起動する第1の音声認識手段と、音声入力手段からの第2の音声パターンを音声登録手段にあらかじめ登録された第2の音声パターンに基づいて認識した際に、計時手段を起動する第2の音声認識手段とを含むことを特徴とする。

【0013】また、この装置は、少なくとも音声認識手段にて所定の音声パターンを認識したか否かを被写界に向けて報知する報知手段を含むとよい。

【0014】この場合、報知手段は、光学系が設けられた装置本体の前面に取り付けられた発光手段と、音声認識手段の認識結果に基づいて発光手段を駆動する駆動手段とを含み、駆動手段は、音声認識手段にて所定の音声パターンを認識した際に発光手段を第1の点滅パターンにて点滅させ、所定の音声パターンを認識できなかった際に前記手段を第2の点滅パターンにて点滅させると有利である。

【0015】

【発明の実施の形態】次に、添付図面を参照して、本発明による撮像装置の一実施例を詳細に説明する。図1および図2には、本発明による撮像装置の一実施例が示されている。本実施例による撮像装置は、レンズを含む光学系を介して入射する被写界像を銀塩フィルムに露光して撮影するカメラであり、本実施例では、露出設定および合焦機能などの撮影機能およびリリース動作などの撮影動作を電子制御により制御する電子制御カメラを例に挙げて説明する。特に、本実施例による撮像装置は、撮影者自らが被写体となる際に、その音声入力により撮影動作を行なう音声認識撮影機能を含む点が主な特徴点である。なお、図1および図2において、本発明に直接関係ない部分はその図示を省略し、以下その説明は省略する。

【0016】詳細には、まず図1を参照して本実施例による撮像装置の外観構成を説明すると、本実施例による撮像装置は、略箱状に形成されたカメラ10本体に、その前面中央部付近に突出してレンズ、絞りとシャッターを含む光学系の鏡胴12が取り付けられ、その上方やや斜め付近に、オートフォーカス用の測距窓14が設けられている。また、鏡胴12の側方には、被写体方向から発せられる音声を入力する前方指向性のマイク16と、音声認識の際に所定の点滅パターンにより点灯および消灯する発光ダイオード(LED (Light Emitting Diode)) 18 とが設

けられている。

【0017】カメラ10本体の上面には、その一方側に、通常の手動撮影モードにてシャッタを駆動する際に押下されるレリーズボタン22と、その手動撮影モード、音声撮影モードおよび音声パターン登録モードを選択する際のモードダイヤル20とが設けられ、他方側に、各種機能の設定状態を表示する液晶表示部24と、その表示切替および設定用のプラス(+)調整ボタン26と、マイナス(-)調整ボタン28とが設けられている。

【0018】次に、図2を参照して本実施例による撮像装置の制御系の回路構成を説明すると、本実施例による撮像装置の制御系は、スイッチ検出回路100と、タイマ回路102と、ストロボ駆動回路104と、音声パターン登録回路106と、表示制御回路108と、測光回路110と、LED駆動回路112と、オートフォーカス(AF)回路114と、鏡胴駆動回路116と、フィルム搬送回路118と、シャッタ駆動回路120と、音声入力回路122と、音声認識回路124とを含み、これら各回路100～124が主制御回路(CPU (Central Processor Unit)) 126に接続されて、カメラ各部を駆動および制御するように構成されている。

【0019】上記各部の詳細を説明すると、スイッチ検出回路100は、モードダイヤル20の切替え、レリーズボタン22の押下、調整ボタン26,28のそれぞれの押下を検出する検出回路であり、それらの結果を主制御回路126に供給する。

【0020】タイマ回路102は、レリーズボタン22による手動撮影モード時のセルフタイマの設定時間と音声撮影モード時の所定のレリーズ待ち時間とをそれぞれ計時する計時回路であり、本実施例では、音声撮影モード時には、あらかじめ所定の時間が設定されており、また、調整ボタン26,28の操作によりその設定時間を長短可変に調整することができる。

【0021】ストロボ駆動回路104は、主制御回路126の制御の下にストロボの発光を駆動する駆動回路であり、本実施例では、たとえば液晶表示にてストロボ発光がオンとされている際に、測光回路110からの測光結果に基づいてストロボの発光を駆動する。

【0022】音声パターン登録回路106は、モードダイヤル20が音声登録モードを指定する位置に切り替えられている際に、音声入力回路122から入力された音声パターンを記憶する記憶回路であり、たとえばEEPROMなどの不揮発性の記憶素子を有している。特に、本実施例では、音声撮影モード時の指示パターンとして、焦点調整用の第1の音声パターン、たとえば「フォーカス調整」と発した音声パターンと、撮影用の第2の音声パターン、たとえば「撮ります」などと発した撮影者の音声パターンが記憶素子にあらかじめ登録される。

【0023】表示制御回路108は、液晶表示部(LCD)24を駆動してその画面表示を制御する制御回路であり、主

制御回路126からの文字データおよび各種モードのキャラクタなどを液晶表示部24に表示させる。

【0024】測光回路110は、主制御回路126の制御の下に光学系に入射する光量を求める演算回路であり、たとえばマルチパターン、中央部重点、スポット測光などのいずれか、または複数の測光方式を切替え自在に設定すると有利である。その測光結果は、主制御回路126に供給されて、露出決定、あるいはストロボのオン、オフ時の示量として用いられる。

【0025】LED駆動回路112は、音声撮影モード時に主制御回路126の制御の下にカメラ前面の発光ダイオード18を所定の点滅パターンにて点滅させる駆動回路であり、本実施例では、音声撮影モードとなった際に発光ダイオード18を点灯して音声入力を指示し、音声が入力されてその認識が成功した際に第1の点滅パターンにて点滅させ、認識が失敗した際に第2の点滅パターンにて点滅させる認識結果報知回路である。

【0026】オートフォーカス回路114は、被写体までの距離を測定してその焦点位置を求める演算回路であり、本実施例では、音声撮影モード時には第1の音声パターンが認識された際に起動して、その被写体の焦点位置を求める。その演算結果は、主制御回路126に供給される。鏡胴駆動回路116は、主制御回路126の制御の下にオートフォーカス回路114にて求めた焦点に鏡胴12を駆動してそのレンズ位置を合わせる駆動回路である。

【0027】フィルム搬送回路118は、主制御回路126の制御の下にフィルムの巻き上げを駆動する駆動回路であり、本実施例では、レリーズ動作毎にコマ分づつフィルムを巻き上げ、また、フィルム終端にて撮影終了した全フィルムをカートリッジに巻き戻すAPS (Advanced Photo System) 対応の回路が有利に適用されている。

【0028】シャッタ駆動回路120は、主制御回路126の制御の下にシャッタを開閉駆動する駆動回路であり、本実施例では、手動撮影モード時にはレリーズボタン22の押下に応動してシャッタを駆動し、音声撮影モード時には第2の音声パターンが認識されてからタイマ回路102にてレリーズ待ち時間が計時された際にシャッタを駆動する。

【0029】音声入力回路122は、マイク16からのアナログの音声信号をデジタル信号に変換して入力する入力回路であり、音声登録モード時には主制御回路126を介して音声パターン登録回路106に登録し、音声撮影モードでは主制御回路126を介して音声認識回路124にそれぞれ供給する。

【0030】音声認識回路124は、音声撮影モード時に音声入力回路122からの音声信号が所定の音声パターンを含むか否かを検出するパターン検出回路である。音声認識回路124は、本実施例では、主制御回路126の制御の下に入力した音声パターンを音声パターン登録回路106にあらかじめ登録された第1または第2の音声パター

ンと順次照合する音声照合回路である。その照合結果は、主制御回路126 に供給される。

【0031】主制御回路126 は、スイッチ検出回路100にて検出されたモードダイヤル20の指示モードに従って一連の撮影動作を制御する撮像制御回路であり、中央処理回路(CPU) 128 と、手動撮影モード、音声撮影モードおよび音声登録モードのそれぞれのシーケンスプログラムを含む中央処理回路を動作させるためのプログラムなどのデータがあらかじめ記憶されたROM (Read Only Memory) 130と、それぞれのモードでの設定状態を表示する文字データおよび露出あるいは焦点の演算の際のデータを含む各種データが記憶されるRAM (Random Access Memory) 132を含む。

【0032】次に、図3ないし図5を参照して、本実施例による撮像装置の動作を説明すると、まず、撮影者は、焦点を調整する際の第1の音声パターンと、撮影の際の第2の音声パターンとをあらかじめ撮影に先立って登録しておく。つまり、撮影者がモードダイヤル20を音声登録モードにすると、制御系では、これをスイッチ検出回路100にて検出してその結果が主制御回路126 に供給される。これにより、主制御回路126 は、音声パターン登録回路106 を書き込み可能な状態に制御して、マイク16からの音声入力等待。この際、主制御回路126 は、たとえば、LED 駆動回路112 を起動して発光ダイオード18を点灯させる。

【0033】これにより、撮影者は、第1の音声パターンとして、たとえば「フォーカス調整」などの音声を発すると、その音声信号がマイク16から音声入力回路122に入力されて、そこでデジタル信号に変換されて、音声パターン登録回路106 に書き込まれる。この際、主制御回路126 は、第1の音声パターンを書き込んでいる際に、LED 駆動回路112 を駆動して発光ダイオード18を点滅させ、その書き込みが終了すると、再び発光ダイオード18を点灯させる。次いで、撮影者は、第2の音声パターンとして、たとえば「撮ります」などの音声を発して、上記と同様に撮影の際の第2の音声パターンを音声パターン登録回路106 に登録しておく。この結果、音声入力による撮影が可能な状態となる。

【0034】次に、撮影の際の動作を図3を参照して説明すると、まず、撮影者は、ステップS10にてカメラの主電源をオンとすると、主制御回路126 は、ステップS12にて各回路の状態を検出して各部の初期化処理をする。次いで、撮影者は、ステップS14にて、モードダイヤル20の操作および液晶表示部24の表示を見つつ調整ボタン26,28の操作をして、撮影モードおよび撮影条件などを選択あるいは設定をする。

【0035】撮影モードおよび撮影条件などが設定されると、主制御回路126 は、ステップS16に移り、音声撮影モードが選択されているか否かを判定する。手動撮影モードが選択されていれば、ステップS18に移り、レリ

ーズボタン22の押下による通常の撮影シーケンスが実行される。音声撮影モードが選択されている場合は、主制御回路126 は、音声入力回路122 を起動して、ステップS20に移り、第1の音声入力等待。この際、LED 駆動回路112 が駆動されて、発光ダイオード18が点灯する。これにより、撮影者は、カメラ10を所定の位置に固定して、その撮影方向を自らが被写体となって撮影する場所に向けておき、この状態にて、撮影者自らがその撮影場所に行く。次いで、撮影者がその撮影場所にて、まず、あらかじめ登録しておいた「フォーカス調整」という音声を発すると、その音声信号がマイク16から音声入力回路122に入力されて、デジタル信号となった音声信号が順次音声認識回路124 に供給される。

【0036】この際、主制御回路126 は、ステップS22にて音声パターン登録回路106 から第1の音声パターンを読み出して音声認識回路124 に供給して、音声認識回路124 にそれらの音声パターンを照合させる。詳しくは、たとえば図4に示すように、音声認識回路124 は、ステップS102にて入力音声と登録音声の周波数パターンを抽出して、次に、ステップS104にてこれら周波数パターンを照合して、その結果をステップS106にて主制御回路126 に供給する。

【0037】これにより、音声認識回路124 からの認識結果を受けた主制御回路126 は、図3に示すステップS24にて音声パターンが認識されたか否かを判定して、その判定結果が「No」であれば、ステップS26に移ってLED 駆動回路112 に音声認識ができなかったことを表わす第2の点滅パターンを指示する。この結果、LED 駆動回路112 が発光ダイオード18を第2の点滅パターンにて点滅させると、撮影者はその点滅パターンを見て、音声認識ができなかったことを知る。次いで、主制御回路126 は、再び発光ダイオード18を点灯させ、ステップS20に戻る。これにより撮影者が再び、第1の音声パターンを発生して、ステップS20～S24 が繰り返されて、ステップS22にて音声パターンの認識が成功すると、主制御回路126 はステップS24 からステップS28に移ってLED 駆動回路112 に音声認識されたことを表わす第1の点滅パターンを指示して、発光ダイオード18が第1の点滅パターンにて点滅する。

【0038】次いで、図4に示すステップS30に進み、主制御回路126 は、オートフォーカス回路114 を起動して、被写体の焦点距離を求め、その結果に基づいて鏡胴駆動回路116 を駆動してレンズ位置を調整し、被写体に焦点を合わせる。この動作は、数回繰り返されて、被写体に対する合焦状態が得られると、主制御回路126 は、LED 駆動回路112 を駆動して発光ダイオードの第1の点滅パターンを停止して、再び点灯した状態とする。これにより、撮影者はフォーカス調整がされたことを知り、ステップS32にて第2の音声パターン「撮ります」を発声する。その音声は、上記と同様にマイク16から音声入

力回路122 を介して音声認識回路124 に供給されて、ステップS34 にて上記と同様に音声パターン登録回路106 からあらかじめ登録された第2の音声パターンと照合される。その判定結果は、上記と同様に主制御回路126 に供給されて、ステップS36 にて音声認識されたか否かが判定される。

【0039】ステップS36 にて、音声認識がされなかったときは、上記と同様に、ステップS38 にて発光ダイオード18が第2の点滅パターンにて点滅されて、ステップS32に戻り、再び第2の音声パターンの入力待ちとなる。ステップS36 にて音声認識がされると、主制御回路126 はステップS36 からステップS40 に移って、上記と同様に、発光ダイオード18を第1の点滅パターンにて点滅させるとともに、タイマ回路102 を起動する。これにより、タイマ回路102 は、所定の設定時間またはその設定時間を調整した時間の計時を開始して、その時間が経過すると、その結果を主制御回路126 に送出する。この間、カメラ10は撮影待機状態となる。この際、被写体である撮影者は、発光ダイオード18の第1の点滅パターンを見て、音声認識されたことを知り、音声発生の状態から撮影にむいた状態にその表情を整えて、カメラのリリース動作を待つ。

【0040】次いで、主制御回路126 は、タイマ回路102 からの計時結果を受けると、撮影待機状態が解除され、ステップS42 にてシャッタ駆動回路120 を起動してシャッタをリリース駆動し、その際の被写体が撮像される。被写体が撮像されると、主制御回路126 は、ステップS44 にてフィルム搬送回路118 を駆動してフィルムを巻き上げ、さらに発光ダイオード18を再び点灯して、撮影が終了する。撮影者は、さらに同じ場所にて撮影をする場合は、再び第2の音声パターンを発すると、ステップS32 ～ステップS44 が繰り返されて、撮影をすることができる。撮影位置を前後に変えて撮影する場合は、その場所に移動して、第1の音声パターンを発生することにより、再びフォーカス調整され、その後、第2の音声パターンを発生することにより、上記と同様にリリース動作が行なわれて、撮影することができる。

【0041】以上のように本実施例の撮像装置によれば、音声入力用のマイク16をカメラ10本体の前面に設けて、光学系に入射する被写体の方向と同一方向から発せられる音声を入力するので、撮影者自身が被写体となって撮影する場合にその音声を的確に入力して音声認識をすることができる。また、その音声認識の際に、カメラ10本体の前面に設けられた発光ダイオード18を点滅させて、音声認識がされたか否かを撮影者に知らせるので、撮影者はその場所を移動することなく、音声入力によるカメラの操作を続けることができる。さらに、第1の音声パターンの入力により、フォーカス調整をして、第2の音声パターンの入力により撮影動作をするようにしたので、撮影者が撮影場所にて第1の音声パターンを発す

ることにより被写体となった撮影者自身に的確に焦点を合わせて、撮影することができる。また、第2の音声パターンの認識からタイマ回路102 を起動して、所定の時間経過後にシャッタを動作させるようにしたので、撮影者はその間に表情を整えたり、ポーズしたりすることができる。このように音声発生した状態にて撮影されるようなことがなく、所望の表情を的確に撮影することができる。

【0042】なお、上記実施例では、音声撮影モードに設定してから第1の音声パターンを認識してオートフォーカス回路114 を起動するようにしたが、そのフォーカス調整時間を短くするため、たとえば、図6および図7に示すように、音声撮影モードに設定した際に、ステップS50 にてオートフォーカス回路114 を起動してフォーカス調整を行い、一旦合焦した後に、第1の音声パターンの入力（ステップS20 ）により、ステップS30 にてフォーカスを再度調整して、フォーカスをロックするようにしてもよい。

【0043】また、上記実施例では、銀塩フィルムを用いたカメラに適用した場合を例に挙げて説明したが、本発明においては、撮像手段としてCCD (Charge Coupled Device) を用いたデジタルカメラなどにももちろん適用してよい。

【0044】さらに、上記実施例では、撮影位置からの音声入力による撮影機能の設定としてフォーカス調整のみを制御するようにしたが、本発明においては、絞りおよびシャッタ速度による露出制御、さらにはズーム制御など他の撮影機能の設定を撮影位置からの音声入力により制御するようにしてもよい。また、リリース待ち時間を音声認識処理結果に応じた時間に設定することも可能である。

【0045】また、上記実施例では、音声認識結果を発光ダイオード18を点滅させて撮影者に報知するようにしたが、本発明においては、たとえば、制御系に音声合成回路を設けて、その音声合成により音声認識結果を発生させるようにしてもよい。

【0046】

【発明の効果】このように本発明の撮像装置によれば、光学系からの被写界像の入射方向と同一方向からの音声を入力する音声入力手段を設け、その音声入力手段から入力した音声は所定の音声パターンを含むか否かを認識して、所定の音声パターンを認識した際に所定の時間経過を計時してから被写界像を撮像するようにしたので、撮影者自らが被写体となる場合に、その撮影位置からの音声を的確に入力して、さらに表情を整えた状態にて撮影者自身を的確に撮影することができる。

【図面の簡単な説明】

【図1】本発明による撮像装置の一実施例を示す斜視図である。

【図2】図1の実施例による撮像装置の制御系の構成を

示すブロック図である。

【図3】図1の実施例による撮像装置の音声撮影モード時の動作を説明するためのフローチャートである。

【図4】図1の実施例による撮像装置の音声撮影モード時の動作を説明するためのフローチャートである。

【図5】図1の実施例による撮像装置の音声認識の際の動作を説明するためのフローチャートである。

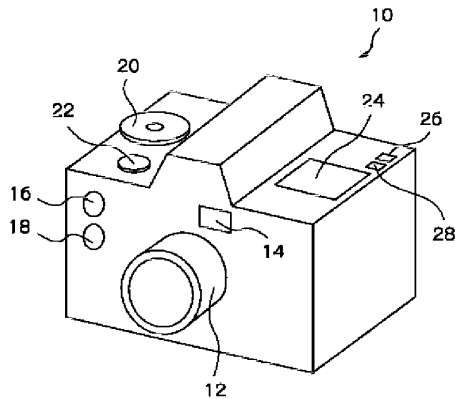
【図6】図1の実施例による撮像装置の音声認識の際の動作を説明するためのフローチャートである。

【図7】図1の実施例による撮像装置の他の動作例を説明するためのフローチャートである。

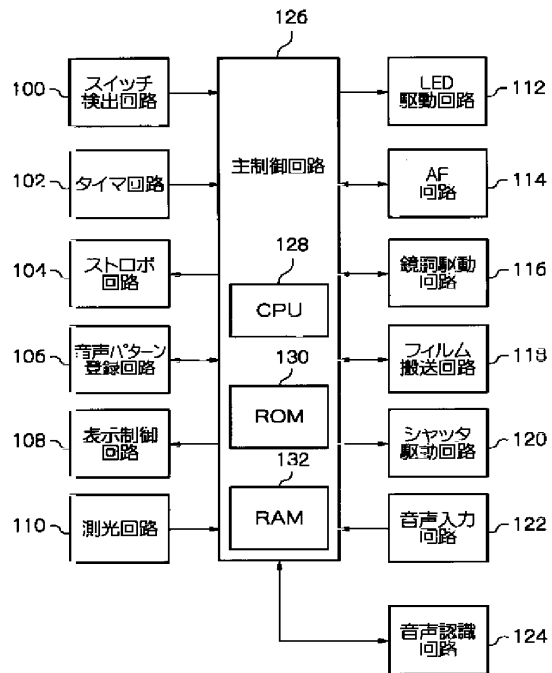
【符号の説明】

- 10 カメラ本体
- 12 鏡頭
- 16 マイク
- 18 発光ダイオード
- 20 モードダイヤル
- 22 レリーズボタン
- 24 液晶表示部
- 26,28 調整ボタン
- 102 タイマ回路
- 106 音声パターン登録回路
- 122 音声入力回路
- 124 音声認識回路

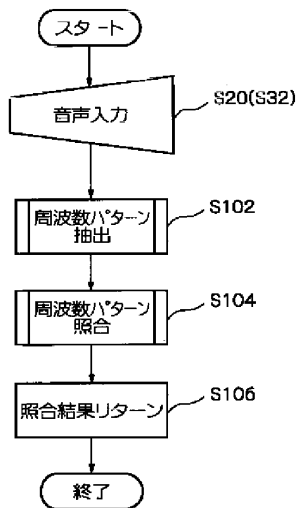
【図1】



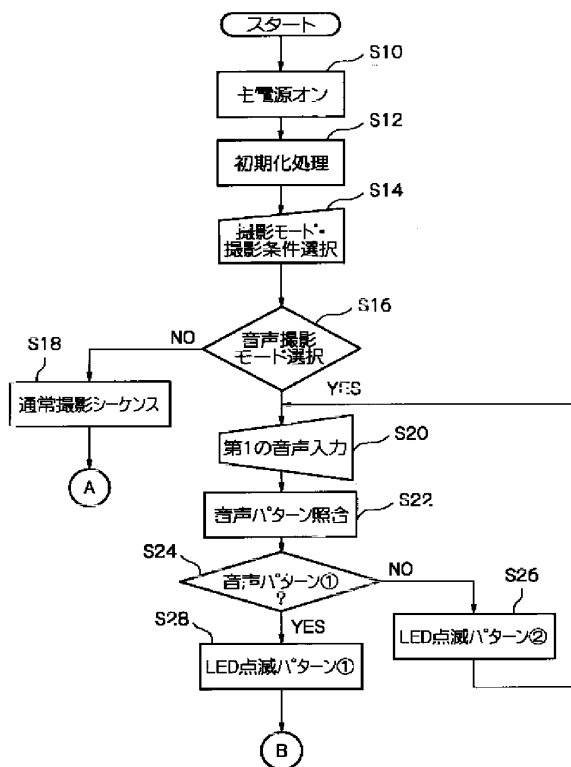
【図2】



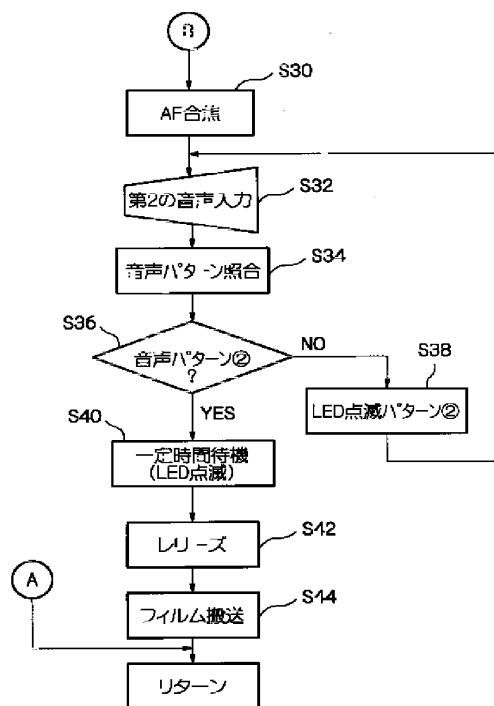
【図5】



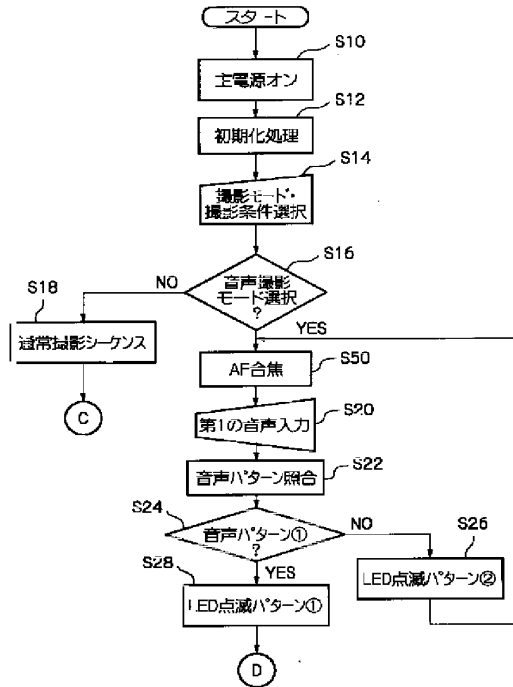
【図3】



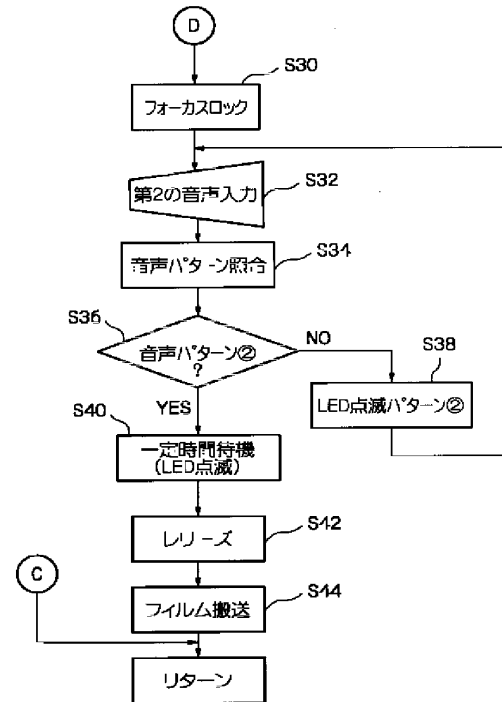
【図4】



【図6】



【図7】



フロントページの続き

(51)Int. Cl. 7

識別記号

F I

(参考)

G 1 0 L 15/22

H 0 4 N 101:00

H 0 4 N 5/225

G 1 0 L 3/00

5 5 1 G

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5 6 1 H

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5 6 1 C



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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/200,071

RECEIPT DATE / TIME
09/23/2024 10:42:47 AM Z ET

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 2947

FILED BY Emily Jans

PATENT CENTER # 67274455

FILING DATE 05/22/2023

CUSTOMER # 24956

FIRST NAMED INVENTOR Kazuhiko YOSHIZAWA

CORRESPONDENCE ADDRESS -

AUTHORIZED BY Shrinath Malur

Documents

TOTAL DOCUMENTS: 20

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
10340-05-SB08A.pdf	6	Information Disclosure Statement (IDS) Form (SB08)	1314 KB
NPL1_1. SAM-MAX-00176654_1 of 2.pdf	105	Non Patent Literature	19303 KB
NPL1_1. SAM-MAX-00176654_2 of 2.pdf	108	Non Patent Literature	19532 KB
NPL2_3. SAM-MAX-00169705.pdf	9	Non Patent Literature	6335 KB
NPL4_5. SAM-MAX-00169714_4 of 4.pdf	3	Non Patent Literature	5143 KB
NPL4_5. SAM-MAX-00170023_1 of 4.pdf	4	Non Patent Literature	1597 KB

NPL4_5. SAM-MAX-00170027_2 of 4.pdf	19	Non Patent Literature	2569 KB
NPL7_8. SAM-MAX-00178948_1 of 3.pdf	177	Non Patent Literature	17168 KB
NPL4_5. SAM-MAX-00170053_3 of 4.pdf	163	Non Patent Literature	10679 KB
NPL8_10. SAM-MAX-00179777_1 of 3.pdf	115	Non Patent Literature	22032 KB
NPL8_10. SAM-MAX-00180013_3 of 3.pdf	258	Non Patent Literature	22782 KB
NPL6_7. SAM-MAX-00169759.pdf	3	Non Patent Literature	2031 KB
NPL5_6. SAM-MAX-00170726.pdf	2	Non Patent Literature	1993 KB
NPL8_10. SAM-MAX-00179777_2 of 3.pdf	121	Non Patent Literature	23593 KB
NPL7_8. SAM-MAX-00178626_3 of 3.pdf	223	Non Patent Literature	21466 KB
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NPL10_1 - Petition 757.pdf	108	Non Patent Literature	2539 KB
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Digest

DOCUMENT

MESSAGE DIGEST(SHA-512)

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APPLICATION #
18/200,071

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ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	2947	FILED BY	Emily Jans
PATENT CENTER #	67274455	AUTHORIZED BY	Shrinath Malur
CUSTOMER #	24956	FILING DATE	05/22/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Kazuhiko YOSHIZAWA

Payment Information

PAYMENT METHOD
CARD / 1027

PAYMENT TRANSACTION ID
E20249MA43275117

PAYMENT AUTHORIZED BY
Emily Jans

PRE-AUTHORIZED ACCOUNT
501417

PRE-AUTHORIZED CATEGORY
37 CFR 1.16 (National application filing, search, and examination fees); 37 CFR 1.17 (Patent application and reexamination processing fees); 37 CFR 1.19 (Document supply fees); 37 CFR 1.20 (Post Issuance fees); 37 CFR 1.21 (Miscellaneous fees and charges)

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TOTAL AMOUNT:				\$260.00

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	18200071
	Filing Date	2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA
	Art Unit	2484
	Examiner Name	HELEN SHIBRU
	Attorney Docket Number	SEI-10340-05

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	8593555	B1	2013-11-26	CHUN	
	2	8831687	B1	2014-09-09	KOTAB	
If you wish to add additional U.S. Patent citation information please click the Add button.						Add
U.S.PATENT APPLICATION PUBLICATIONS Remove						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20100026815	A1	2010-02-04	YAMAMOTO	
	2	20140247368	A1	2014-09-04	CHINN	
	3	20120208466	A1	2012-08-16	PARK	
	4	20100137026	A1	2010-06-03	KIM	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		18200071	
	Filing Date		2023-05-22	
	First Named Inventor	Kazuhiko YOSHIKAWA		
	Art Unit	2484		
	Examiner Name	HELEN SHIBRU		
	Attorney Docket Number	SEI-10340-05		

	5	20120208593	A1	2012-08-16	YANG	
	6	20120120186	A1	2012-05-17	DIAZ	
	7	20130124207	A1	2013-05-16	SARIN	
	8	20130235245	A1	2013-09-12	EATON	
	9	20140240546	A1	2014-08-28	OKAMOTO	
	10	20080036869	A1	2008-02-14	GUSTAFSSON	
	11	20040119837	A1	2004-06-24	INOUE	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2001-305642	JP	A	2001-11-02	FUJI PHOTO FILM CO., LTD.		☒

If you wish to add additional Foreign Patent Document citation information please click the Add button.

NON-PATENT LITERATURE DOCUMENTS

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		18200071
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA	
	Art Unit	2484	
	Examiner Name	HELEN SHIBRU	
	Attorney Docket Number	SEI-10340-05	

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	S3 (SGH-N064, SCH-I535, SCH-S960L, SCH-S968C, GT-I9308) User Manual, 2012	☐
	2	Say Cheese (Web Archive of http://saycheese.rainapps.com/index.php/features), 2011	☐
	3	https://www.youtube.com/watch?v=kpXa_R6rZkg	☐
	4	iPhone 4S User Guide, 2011 and 2019	☐
	5	iPhone 4S Finger Tips, 2011	☐
	6	Camera Plus review - PC Advisor, 2010 (https://web.archive.org/web/20121225112916/http://www.pcadvisor.co.uk:80/reviews/software/3324471/camera-plus-review/)	☐
	7	SII (SGH-I777, SGH-I727, SGH-I927, SPHD710, SGH-T989, SCH-R760) User Manuals, 2011 and 2015	☐
	8	S4 (SCH-I545, SPH-L720, SPH-L720T, SCH-R970, SCH-R970X, SCH-R970C), 2013	☐
	9	Defendant's P.R. 3-3 and 3-4 Invalidity Contentions and Disclosures dated March 7, 2024, Maxell, Ltd. v. SAMSUNG ELECTRONICS CO., LTD., and SAMSUNG ELECTRONICS AMERICA, INC., Civil Action No. 5:23-CV-00092-RWS (E.D. Tex.)	☐
	10	SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS AMERICA, INC., v. Maxell, Ltd., Petition for Inter Partes Review of U.S. Patent No. 11,223,757 Under 35 U.S.C. §§ 311-319 AND 37 C.F.R. §§ 42.1-100, ET SEQ, Inter Partes Review No. IPR2024-00717 dated April 19, 2024	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		18200071
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA	
	Art Unit	2484	
	Examiner Name	HELEN SHIBRU	
	Attorney Docket Number	SEI-10340-05	

	11	Casio Exilim EX-V7 Users Guide	☐
If you wish to add additional non-patent literature document citation information please click the Add button Add			
EXAMINER SIGNATURE			
Examiner Signature		Date Considered	
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	18200071
	Filing Date	2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA
	Art Unit	2484
	Examiner Name	HELEN SHIBRU
	Attorney Docket Number	SEI-10340-05

CERTIFICATION STATEMENT			
Please see 37 CFR 1.97(e) to make the appropriate selection(s):			
☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).			
OR			
☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).			
☐ See attached certification statement.			
☒ A certification statement is not submitted herewith.			
FEE			
☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.			
COPIES			
☐ An identification of an earlier application pursuant to 37 CFR 1.98 (d) (1) is attached.			
SIGNATURE			
A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.			
Signature	/Shrinath Malur/	Date (YYYY-MM-DD)	2024-09-23
Name/Print	Shrinath Malur	Registration Number	34,663
This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.			

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 18/200,071		Filing Date 05/22/2023		☐ To be Mailed			
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO											
APPLICATION AS FILED - PART I											
		(Column 1)		(Column 2)							
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A					
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		x \$100 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		x \$480 =					
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL					
APPLICATION AS AMENDED - PART II											
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	11/21/2024	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 7	Minus	** 20	= 0	x \$100 =		0			
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0	x \$480 =		0			
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
								TOTAL ADD'L FEE		0	
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =					
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =					
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
								TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.								PSA			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".								/LINDA A WISE/			
*** 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.											

This collection of information is required by 37 CFR 1.16. 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/200,071

RECEIPT DATE / TIME
11/21/2024 01:37:59 PM Z ET

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	2947	FILED BY	Kristin Huber
PATENT CENTER #	68051258	FILING DATE	05/22/2023
CUSTOMER #	24956	FIRST NAMED INVENTOR	Kazuhiko YOSHIZAWA
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Shrinath Malur

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
petition-request.pdf	3	Terminal Disclaimer-Filed (Electronic)	45 KB
grantLetter.pdf	1	Terminal Disclaimer-Electronic- Approved	18 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
petition-request.pdf	8908CDD56BA38486400032326ABCABFBA1241CC52E320C884 5F1C19963CF08F71A1BF948CDA12425BBC3630AFD4842FFF DF51B13BD57C46EEA0B2DCAAC36A3B5
grantLetter.pdf	F009AF9790A7EAA36C41B5D61E506C01151FF973E806B199A

7938175260C18F87E6279DA244017B0BBDB99C255BDCD341B
43A6181E08B1F506BC7EC4CDE2F9D0

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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APPROVAL LETTER

APPLICATION #
18/200,071

FILING DATE
05/22/2023

APPLICANT/PATENT UNDER REEXAMINATION
Kazuhiko YOSHIZAWA

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Electronic terminal disclaimer filed on 11/21/2024



Approved

This patent is subject to a Terminal Disclaimer

Approved / Disapproved by: Electronic Terminal Disclaimer automatically approved



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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A PRIOR PATENT

APPLICATION #
18200071

FILING DATE
05/22/2023

FIRST NAMED INVENTOR
Kazuhiko YOSHIZAWA

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM



Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action



This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent interest
MAXELL, LTD.	100%
Total	100%

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Number(s)

Application #	Filing Date
---------------	-------------

as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the reference application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said reference application, "as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application," in the event that any such patent granted on the pending reference application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

Patent #

11696021

10511757

11223757

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.



Terminal disclaimer fee under 37 CFR 1.20(d) included with Electronic Terminal Disclaimer request.

Applicant claims the following entity status:

Regular Undiscounted

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.

I certify, in accordance with 37 CFR 1.4(d)(4) that I am: An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Signature	Name	Registration #
/Shrinath Malur/	Shrinath Malur	34663

* Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP 324.



ELECTRONIC PAYMENT RECEIPT

APPLICATION #
18/200,071

RECEIPT DATE / TIME
11/21/2024 01:37:59 PM Z ET

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	2947	FILED BY	Kristin Huber
PATENT CENTER #	68051258	AUTHORIZED BY	Shrinath Malur
CUSTOMER #	24956	FILING DATE	05/22/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Kazuhiko YOSHIKAWA

Payment Information

PAYMENT METHOD CARD / 1027		PAYMENT TRANSACTION ID E2024AKD38229709		PAYMENT AUTHORIZED BY Shrinath Malur	
FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)	
1814	STATUTORY DISCLAIMER, INCLUDING TERMINAL DISCLAIMER	170.00	1	170.00	
TOTAL AMOUNT:				\$170.00	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C.

371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/200,071

RECEIPT DATE / TIME
11/21/2024 01:48:29 PM Z ET

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	2947	FILED BY	Kristin Huber
PATENT CENTER #	68051294	FILING DATE	05/22/2023
CUSTOMER #	24956	FIRST NAMED INVENTOR	Kazuhiko YOSHIZAWA
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Shrinath Malur

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
10340-05amd01.pdf	9	Amendment/Request for Reconsideration-After Non- Final Rejection	39 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
10340-05amd01.pdf	BBF0E5391A15AC27C7063C580AE497B6FEA17479B09362158 2F07CF7BD132D1FD3987A472E362FEC2CE22E21E3D33757E 0B6FE96D6BB45A18D0D46D4ABEA3228

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #
18/200,071

RECEIPT DATE / TIME
11/21/2024 01:48:29 PM Z ET

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	2947	FILED BY	Kristin Huber
PATENT CENTER #	68051294	AUTHORIZED BY	Shrinath Malur
CUSTOMER #	24956	FILING DATE	05/22/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Kazuhiko YOSHIKAWA

Payment Information

PAYMENT METHOD CARD / 1027	PAYMENT TRANSACTION ID E2024AKD48575328	PAYMENT AUTHORIZED BY Kristin Huber
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FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
1253	EXTENSION FOR RESPONSE WITHIN THIRD MONTH	1480.00	1	1480.00
TOTAL AMOUNT:				\$1,480.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage

submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 18/200,071 Confirmation No. : 2947
Inventor(s) : K. YOSHIZAWA et al. TC/GAU : 2484
Filed : May 22, 2023 Examiner : HELEN SHIBRU
Title : VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL
PROGRAM
Docket No. : SEI-10340-05
Customer No.: 24956

REPLY

Mail Stop: Amendment
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Date: November 21, 2024

Sir:

In response to the Office Action of May 21, 2024, please consider the remarks as follows. A fee for a 3-month Extension of Time and a Terminal Disclaimer accompany this response.

Listing of the Claims begins on page 2 of this paper.

Remarks / Arguments are included following the amendments.

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1. (Original) An image recording method of an image recording device configured to execute a plurality of different photographing processes, comprising the steps of:

photographing an object and acquiring an image signal by a first camera or a second camera, the first camera being arranged on the same face side of a touch display and configured to acquire a first image signal, the second camera being arranged on an opposite side of the touch display and configured to acquire a second image signal;

receiving a command voice from an audio input interface;

controlling to enable one of the first camera and the second camera;

when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal in a state in which the first camera is enabled, controlling to start a recording of the first image signal in response to the first instruction;

when the touch display receives the touch operation instruction giving a second instruction, to start a recording of an image signal in a state in which the second

camera is enabled, controlling to start a recording of the second image signal in response to the second instruction; and

performing control such that a first standby time between a recognition of the first instruction and a start of the recording of the first image signal acquired by the first camera after the first camera is enabled and the second camera is disabled is longer than a second standby time between the recognition of the second instruction and a start of the recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled.

2. (Original) The image recording method according to claim 1, wherein one of the first standby time or the second standby time controlled by the control circuitry is arbitrarily settable or selectable by a user.

3. (Original) The image recording method according to claim 1, further comprising the step of:
causing an elapse state of the first standby time from a recognition of the first instruction to a start of the recording of the first image signal to be displayed on the touch display.

4. (Original) The image recording method according to claim 1, further comprising the step of:

recording the first image signal input from the first camera or the second image signal input from the second camera in an internal storage.

5. (Original) The image recording method according to claim 1, further comprising the step of:

recording the first image signal input from the first camera or the second image signal input from the second camera in a memory medium connected to the image recording device.

6. (Original) The image recording method according to claim 1, further comprising the steps of:

performing communication with a server device on the Internet; and
recording the first image signal input from the first camera or the second image signal from the second camera in the server device.

7. (Original) The image recording method according to claim 1, further comprising the steps of:

performing control such that a command voice to be recorded in a command voice storage is received from the audio input interface and stored in the command voice storage as a command voice registration process;

determining that the command voice instructs the photographing when the command voice input to the audio input interface is identical to the command voice stored in the command voice storage; and
determining that the command voice does not instruct the photographing when the command voice input to the audio input interface is not identical to the command voice stored in the command voice storage.

REMARKS / ARGUMENTS

Claims 1-7 remain pending in this application. No new matter has been added.

Double Patenting Rejections

Claims 1-7 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 11,696,021.

Claims 1-7 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 10,511,757.

Claims 1-7 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 11,223,757.

Without admitting to the propriety of these rejections, Applicant submits herewith a terminal disclaimer to avoid the rejection.

35 U.S.C. §103

Claims 1-7 stand rejected under 35 U.S.C. §103 as being unpatentable over Desai (U.S. Publication No. 2013/0328997; hereinafter “Desai”) in view of Konicek

(U.S. Publication No. 2007/0086764; hereinafter "Konicek"). This rejection is traversed as follows.

Claim 1 is directed to:

1. An image recording method of an image recording device configured to execute a plurality of different photographing processes, comprising the steps of:

- photographing an object and acquiring an image signal by a first camera or a second camera, the first camera being arranged on the same face side of a touch display and configured to acquire a first image signal, the second camera being arranged on an opposite side of the touch display and configured to acquire a second image signal;
- receiving a command voice from an audio input interface;
- controlling to enable one of the first camera and the second camera;
- when the audio input interface receives the command voice giving a first instruction to start a recording of an image signal in a state in which the first camera is enabled, controlling to start a recording of the first image signal in response to the first instruction;
- when the touch display receives the touch operation instruction giving a second instruction, to start a recording of an image signal in a state in which the second camera is enabled, controlling to start a recording of the second image signal in response to the second instruction; and
- performing control such that a first standby time between a recognition of the first instruction and a start of the recording of the first image signal acquired by the first camera after the first camera is enabled and the second camera is disabled is longer than a second standby time between the recognition of the second instruction and a start of the recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled.

Accordingly, claim 1 recites, in combination with the other steps of the claim, the step of "performing control such that a first standby time between a recognition of the first instruction and a start of the recording of the first image signal acquired by the first camera after the first camera is enabled and the second camera is disabled is longer than a second standby time between the recognition of the second

instruction and a start of the recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled.” None of the cited references disclose or suggest this feature of claim 1.

Desai does not disclose that in multiple imaging steps using multiple imaging units (i.e., (1) recording by the first camera after enabling the first camera and disabling the second camera, and (2) recording by the second camera after disabling the first camera and enabling the second camera), the control is performed with different delay times. Furthermore, more specifically regarding the control, there is no disclosure in Desai that, after the first camera is enabled and the second camera is disabled, a first delay time from the recognition of a first instruction to the start of recording of a first image signal acquired by the first camera is controlled to be longer than a second delay time from the recognition of a second instruction to the start of recording of a second image signal acquired by the second camera after the first camera is disabled and the second camera is enabled. This is acknowledged by the Examiner on page 3 of the Office Action.

The Examiner attempts to rely upon Konicek to cure these deficiencies in Desai. However, Konicek only discloses one imaging unit. In addition, unlike the presently claimed invention of claim 1, not only does Konicek not disclose the first and second cameras, but also does not disclose or suggest the above-mentioned feature of claim 1 that is premised on the presence of the first and second cameras.

Therefore, the attempted combination of Desai and Konicek fails to disclose or suggest all of the limitations of claim 1. In particular, the attempted combination of Desai and Konicek fails to disclose or suggest “performing control such that a first standby time between a recognition of the first instruction and a start of the recording of the first image signal acquired by the first camera after the first camera is enabled and the second camera is disabled is longer than a second standby time between the recognition of the second instruction and a start of the recording of the second image signal acquired by the second camera after the second camera is enabled and the first camera is disabled.”

As such, Applicant submits that claim 1 and the claims depending therefrom are patentable.

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Please charge any shortage of fees due in connection with the filing of this paper, or credit any overpayment of fees, to Deposit Account 50-1417.

Respectfully submitted,

MATTINGLY & MALUR, PC

/Shrinath Malur/
Shrinath Malur, Reg. No. 34,663
(703) 684-1120



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND FEE(S) DUE

24956 7590 12/27/2024
MATTINGLY & MALUR, PC
1800 DIAGONAL ROAD
SUITE 210
ALEXANDRIA, VA 22314

EXAMINER

SHIBRU, HELEN

ART UNIT

PAPER NUMBER

2484

DATE MAILED: 12/27/2024

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/200,071	05/22/2023	Kazuhiko YOSHIKAWA	SEI-10340-05	2947

TITLE OF INVENTION: VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	03/27/2025

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 DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

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: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

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 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. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

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

24956 7590 12/27/2024
MATTINGLY & MALUR, PC
1800 DIAGONAL ROAD
SUITE 210
ALEXANDRIA, VA 22314

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 transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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18/200,071 05/22/2023 Kazuhiko YOSHIZAWA SEI-10340-05 2947

TITLE OF INVENTION: VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional UNDISCOUNTED \$1200 \$0.00 \$0.00 \$1200 03/27/2025

EXAMINER	ART UNIT	CLASS-SUBCLASS
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SHIBRU, HELEN 2484 386-225000

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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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,

1 _____

(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.

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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/200,071	05/22/2023	Kazuhiko YOSHIZAWA	SEI-10340-05	2947
24956 7590 12/27/2024 MATTINGLY & MALUR, PC 1800 DIAGONAL ROAD SUITE 210 ALEXANDRIA, VA 22314			EXAMINER SHIBRU, HELEN	
			ART UNIT	PAPER NUMBER
			2484	
DATE MAILED: 12/27/2024				

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

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B 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 30 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.** 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.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013).

<https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf>

Routine uses of the information in this record may include disclosure to:

- 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law;
- 2) a federal, state, local, or international agency, in response to its request;
- 3) a contractor of the USPTO having need for the information in order to perform a contract;
- 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record;
- 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record;
- 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations;
- 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals;
- 8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c));
- 9) the Office of Personnel Management (OPM) for personnel research purposes; and
- 10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Notice of Allowability	Application No. 18/200,071	Applicant(s) YOSHIZAWA et al.	
	Examiner HELEN SHIBRU	Art Unit 2484	AIA (FITF) Status Yes

-- 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 11/21/2024.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-7. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
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. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ 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).

6. ☐ 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)	5. ☐ Examiner's Amendment/Comment
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>09/23/2024</u> .	6. ☐ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.	7. ☐ Other _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.	

/HELEN SHIBRU/ Primary Examiner, Art Unit 2484	
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<i>Notice of References Cited</i>	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.	
	Examiner HELEN SHIBRU	Art Unit 2484	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Name	CPC Classification	US Classification
*	A	US-20110058053-A1	2011-03-10	ROH; Hyun Duk	H04N23/45	348/222.1
*	B	US-8866879-B2	2014-10-21	Seen; Seungmin	H04N13/296	348/42
*	C	US-10812768-B2	2020-10-20	Youn; Joon-Ho	G03B17/20	1/1
*	D	US-11108935-B2	2021-08-31	Kim; Il Joong	H04N5/067	1/1
*	E	US-9318129-B2	2016-04-19	Vasilieff; Brant Jameson	G10L25/78	1/1
*	F	US-10049665-B2	2018-08-14	Lee; Dongyeol	G10L15/25	1/1
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Country	Name	CPC Classification
*	N	WO-2014017876-A1	2014-01-30	WO	LEE D	G10L15/25
	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 YYYY-MM-DD format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 11-2023)

Notice of References Cited

Part of Paper No. 20241214

Search Notes 	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.
	Examiner HELEN SHIBRU	Art Unit 2484

CPC - Searched*		
Symbol	Date	Examiner
(H04N23/66 or G03B17/38 or H04N5/765 or H04N5/77 or H04N5/772 or H04N5/91 or H04N23/45 or H04N23/62 or H04N23/632 or H04N23/633 or H04N23/667 or G06F3/167 or H04N23/661)	05/16/2024	hs

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
386	225	05/16/2024	hs

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
performed text search	05/13/2024	hs
performed interference search	05/16/2024	hs
updated search	12/12/2024	hs
updated search	12/14/2024	hs

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	performed itnerference search	12/14/2024	hs

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Issue Classification 	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.
	Examiner HELEN SHIBRU	Art Unit 2484

CPC						
Symbol					Type	Version
H04N	/	23	/	66	F	2023-01-01
G03B	/	17	/	38	I	2013-01-01
H04N	/	5	/	765	I	2013-01-01
H04N	/	5	/	772	I	2013-01-01
H04N	/	23	/	45	I	2023-01-01
H04N	/	23	/	62	I	2023-01-01
H04N	/	23	/	632	I	2023-01-01
H04N	/	23	/	633	I	2023-01-01
H04N	/	23	/	667	I	2023-01-01
H04N	/	5	/	77	I	2013-01-01
H04N	/	5	/	91	I	2013-01-01
G06F	/	3	/	167	A	2013-01-01

CPC Combination Sets					
Symbol				Type	Set
	/		/		

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 7	
/HELEN SHIBRU/ Primary Examiner, Art Unit 2484 (Primary Examiner) _____ (Date) 14 December 2024		O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office

Part of Paper No.: 20241214

Issue Classification 	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.
	Examiner HELEN SHIBRU	Art Unit 2484

INTERNATIONAL CLASSIFICATION			
CLAIMED			
H04N23/66	/	23	/ 66
G03B17/38	/	17	/ 38
H04N23/45	/	23	/ 45

NON-CLAIMED			
H04N5/765	/	5	/ 765
H04N5/77	/	5	/ 77
H04N23/62	/	23	/ 62
H04N23/63	/	23	/ 63
H04N23/667	/	23	/ 667
H04N5/91	/	5	/ 91
G06F3/16	/	3	/ 16

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS
386	225

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	7	
/HELEN SHIBRU/ Primary Examiner, Art Unit 2484	14 December 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification 	Application/Control No. 18/200,071	Applicant(s)/Patent Under Reexamination YOSHIZAWA et al.
	Examiner HELEN SHIBRU	Art Unit 2484

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1														
2	2														
3	3														
4	4														
5	5														
6	6														
7	7														

NONE	Total Claims Allowed:	
(Assistant Examiner)	(Date)	7
/HELEN SHIBRU/ Primary Examiner, Art Unit 2484	14 December 2024	O.G. Print Claim(s)
(Primary Examiner)	(Date)	1
		O.G. Print Figure
		1

Bibliographic Data

Application No: 18/200,071

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged: /HELEN SHIBRU/

Examiner's Signature

Initials

Title:

VIDEO RECORDING DEVICE AND CAMERA FUNCTION
CONTROL PROGRAM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
05/22/2023	386	2484	SEI-10340-05
RULE			

APPLICANTS

MAXELL, LTD.,

INVENTORS

Kazuhiko YOSHIZAWA, Ibaraki-shi, JAPAN

Hirohito KURIYAMA, Tokyo, JAPAN

CONTINUING DATA

This application is a CON of 17568758 01/05/2022 PAT 11696021

17568758 is a CON of 16686467 11/18/2019 PAT 11223757

16686467 is a CON of 15678265 08/16/2017 PAT 10511757

15678265 is a CON of 14917586 03/09/2016 PAT 9774776

14917586 is a 371 of PCT/JP2013/074728 09/12/2013

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

06/08/2023

STATE OR COUNTRY

JAPAN

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UNITED STATES

FILING FEE RECEIVED

\$1,820

PE2E SEARCH - Search History (Prior Art)

There are no Prior Art searches to show.

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N64	7	(standby AND camera AND second AND first AND recording AND disabled).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2024/12/14 01:14 PM

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-22)

Approved for use through 05/31/2024. OMB 0651-0031

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	18200071
	Filing Date	2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA
	Art Unit	2484
	Examiner Name	HELEN SHIBRU
	Attorney Docket Number	SEI-10340-05

U.S.PATENTS Remove						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8593555	B1	2013-11-26	CHUN	
	2	8831687	B1	2014-09-09	KOTAB	
If you wish to add additional U.S. Patent citation information please click the Add button.						Add
U.S.PATENT APPLICATION PUBLICATIONS Remove						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20100026815	A1	2010-02-04	YAMAMOTO	
	2	20140247368	A1	2014-09-04	CHINN	
	3	20120208466	A1	2012-08-16	PARK	
	4	20100137026	A1	2010-06-03	KIM	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /H.S/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		18200071	
	Filing Date		2023-05-22	
	First Named Inventor	Kazuhiko YOSHIKAWA		
	Art Unit	2484		
	Examiner Name	HELEN SHIBRU		
	Attorney Docket Number	SEI-10340-05		

	5	20120208593	A1	2012-08-16	YANG	
	6	20120120186	A1	2012-05-17	DIAZ	
	7	20130124207	A1	2013-05-16	SARIN	
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	11	20040119837	A1	2004-06-24	INOUE	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2001-305642	JP	A	2001-11-02	FUJI PHOTO FILM CO., LTD.		☒

If you wish to add additional Foreign Patent Document citation information please click the Add button.

NON-PATENT LITERATURE DOCUMENTS

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		18200071
	Filing Date		2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA	
	Art Unit	2484	
	Examiner Name	HELEN SHIBRU	
	Attorney Docket Number	SEI-10340-05	

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	S3 (SGH-N064, SCH-I535, SCH-S960L, SCH-S968C, GT-I9308) User Manual, 2012	☐
	2	Say Cheese (Web Archive of http://saycheese.rainapps.com/index.php/features), 2011	☐
	3	https://www.youtube.com/watch?v=kpXa_R6rZkg	☐
	4	iPhone 4S User Guide, 2011 and 2019	☐
	5	iPhone 4S Finger Tips, 2011	☐
	6	Camera Plus review - PC Advisor, 2010 (https://web.archive.org/web/20121225112916/http://www.pcadvisor.co.uk:80/reviews/software/3324471/camera-plus-review/)	☐
	7	SII (SGH-I777, SGH-I727, SGH-I927, SPHD710, SGH-T989, SCH-R760) User Manuals, 2011 and 2015	☐
	8	S4 (SCH-I545, SPH-L720, SPH-L720T, SCH-R970, SCH-R970X, SCH-R970C), 2013	☐
	9	Defendant's P.R. 3-3 and 3-4 Invalidity Contentions and Disclosures dated March 7, 2024, Maxell, Ltd. v. SAMSUNG ELECTRONICS CO., LTD., and SAMSUNG ELECTRONICS AMERICA, INC., Civil Action No. 5:23-CV-00092-RWS (E.D. Tex.)	☐
	10	SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS AMERICA, INC., v. Maxell, Ltd., Petition for Inter Partes Review of U.S. Patent No. 11,223,757 Under 35 U.S.C. §§ 311-319 AND 37 C.F.R. §§ 42.1-100, ET SEQ, Inter Partes Review No. IPR2024-00717 dated April 19, 2024	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	18200071
	Filing Date	2023-05-22
	First Named Inventor	Kazuhiko YOSHIKAWA
	Art Unit	2484
	Examiner Name	HELEN SHIBRU
	Attorney Docket Number	SEI-10340-05

11	Casio Exilim EX-V7 Users Guide	☐
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	18200071
	Filing Date	2023-05-22
	First Named Inventor	Kazuhiko YOSHIZAWA
	Art Unit	2484
	Examiner Name	HELEN SHIBRU
	Attorney Docket Number	SEI-10340-05

CERTIFICATION STATEMENT			
Please see 37 CFR 1.97(e) to make the appropriate selection(s):			
☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).			
OR			
☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).			
☐ See attached certification statement.			
☒ A certification statement is not submitted herewith.			
FEE			
☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.			
COPIES			
☐ An identification of an earlier application pursuant to 37 CFR 1.98 (d) (1) is attached.			
SIGNATURE			
A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.			
Signature	/Shrinath Malur/	Date (YYYY-MM-DD)	2024-09-23
Name/Print	Shrinath Malur	Registration Number	34,663
This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.			

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L2016	39	("20040119837" OR "20080036869" OR "20100026815" OR "20100137026" OR "20120120186" OR "20120208466" OR "20120208593" OR "20130124207" OR "20130235245" OR "20140240546" OR "20140247368" OR "8593555" OR "8831687" OR "10015400" OR "11374757" OR "20050128311" OR "20070086764" OR "20090253463" OR "20110070835" OR "20110076003" OR "20120229512" OR "20120281129" OR "20130093904" OR "20130321340" OR "20130328997" OR "20140028826" OR "20140232921" OR "20140341528" OR "20150029089" OR "20150078606" OR "20150199320" OR "20150318020" OR "20160014264" OR "20170019580" OR "20170104928" OR "20180048750" OR "20190138704" OR "20220124241" OR "20220224813").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2024/12/14 12:39 PM
L2017	50	(Artificial Intelligence) More like doc: US-20220124241-A1 Text: (JP-H11355617-A OR JP-2000207549-A OR CN-1190053-C OR JP- 2004135074-A OR US- 6801717-B1 OR JP- 4665718-B2 OR JP- 4956988-B2 OR JP- 2008096584-A OR KR- 101406289-B1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA,	OR	ON	ON	2024/12/14 12:46 PM

L2018	49	7911513-B2 OR JP-2009027298-A OR US-8350945-B2 OR JP-5036599-B2 OR US-8237807-B2 OR JP-2010117444-A OR EP-2373002-A4 OR US-8669945-B2 OR JP-5775659-B2 OR JP-5478935-B2 OR KR-101857564-B1).did. (Artificial Intelligence) More like doc: US-10015400-B2 Text: (US-7298412-B2 OR JP-4096950-B2 OR JP-4350725-B2 OR JP-4657960-B2 OR JP-4457358-B2 OR JP-4172507-B2 OR JP-2008244804-A OR JP-5060233-B2 OR JP-5144422-B2 OR JP-5066497-B2 OR US-8532419-B2 OR KR-20120035042-A OR US-20120262592-A1 OR KR-101764372-B1 OR US-20130120602-A1 OR US-8866943-B2 OR KR-101858604-B1 OR US-20130314558-A1 OR US-9148569-B2 OR KR-102018887-B1).did.	VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/12/14 12:49 PM
L2019	47	(Artificial Intelligence) More like doc: US-20160014264-A1 Text: (JP-4295689-B2 OR US-7657849-B2 OR US-20090262074-A1 OR US-20090146962-A1 OR EP-2175349-A1 OR KR-101737829-B1 OR KR-101674011-B1 OR EP-3734407-A1 OR CN-102364422-B OR EP-2584459-A1 OR GB-2500375-A OR CN-103376984-B OR KR-102015913-B1 OR US-9111076-B2 OR KR-20150116037-A OR KR-101404234-B1 OR EP-2987244-A1 OR	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/12/14 12:50 PM

L2020	35	US-20160014264-A1 OR EP-2987244-B1 OR WO-2016010202- A1).did. (Artificial Intelligence) More like doc: US-20150318020-A1 Text: (US-8572646-B2 OR US-8526779-B2 OR US-9141860-B2 OR US-9031382-B1 OR US-9254099-B2 OR US-20150318020-A1 OR US-9870798-B2 OR WO-2014179749-A1 OR US-20160358629- A1 OR US- 20240127863-A1 OR US-12136444-B2 OR US-20120054617-A1 OR US-20130272673- A1 OR US-8447169-B2 OR WO-2024002132- A1 OR US-9998722-B2 OR US-20180150985- A1 OR US- 20170323664-A1 OR CN-117835040-A OR US-10410389-B2).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/12/14 12:50 PM
L2021	45	(Artificial Intelligence) More like doc: US-20140028826-A1 Text: (JP-3688879-B2 OR JP-3893763-B2 OR US- 6594629-B1 OR EP- 1171869-B1 OR US- 7219062-B2 OR US- 7548651-B2 OR US- 20090182562-A1 OR KR-20100007625-A OR JP-2010185975-A OR KR-101092820-B1 OR US-8922485-B1 OR US-8635066-B2 OR US-8836638-B2 OR US-20120260284-A1 OR US-9318129-B2 OR US-8863042-B2 OR US-9823742-B2 OR CN-104428832-B OR US-10049665-B2 OR WO-2014017876- A1).did.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/12/14 12:51 PM
L2022	78	(standby OR delay\$4) SAME (((second OR	(US-PGPUB; USPAT)	OR	ON	ON	2024/12/14 01:03 PM

L2023	78	first) near3 camera) WITH (enabl\$4 OR disabl\$4)) 2022 NOT 2016	(US-PGPUB; USPAT)	OR	ON	ON	2024/12/14 01:03 PM
L2024	40	(Artificial Intelligence) More like doc: US-8866879-B2 Text: (JP-H1066106-A OR US-7619683-B2 OR KR-101058011-B1 OR JP-4596422-B2 OR US- 8189100-B2 OR JP- 4692770-B2 OR KR- 101505681-B1 OR US- 8111247-B2 OR TW- 201040581-A OR KR- 101728725-B1 OR EP- 2451178-A2 OR US- 8866879-B2 OR US- 20120113216-A1 OR EP-2451178-B1 OR KR-101691833-B1 OR KR-20160018001-A OR KR-20160003522-A OR US-20190098213-A1 OR KR-101638902-B1 OR EP-2983355- A1).did. (((("YOSHIZAWA") near3 ("Kazuhiko")) OR (((("KURIYAMA") near3 ("Hirohito")))).INV.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2024/12/14 01:06 PM
L2025	992	(((("YOSHIZAWA") near3 ("Kazuhiko")) OR (((("KURIYAMA") near3 ("Hirohito")))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	OR	ON	ON	2024/12/14 01:12 PM
L2026	11	2025 AND (standby WITH camera)	(US-PGPUB; USPAT)	OR	ON	ON	2024/12/14 01:12 PM

PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

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 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. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

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

24956 7590 12/27/2024
MATTINGLY & MALUR, PC
1800 DIAGONAL ROAD
SUITE 210
ALEXANDRIA, VA 22314

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 transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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18/200,071	05/22/2023	Kazuhiko YOSHIZAWA	SEI-10340-05	2947
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TITLE OF INVENTION: VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	03/27/2025
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EXAMINER	ART UNIT	CLASS-SUBCLASS
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SHIBRU, HELEN	2484	386-225000
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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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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 Mattingly & Malur, PC

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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

MAXELL, LTD.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

KYOTO, JAPAN

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

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☒ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 501417

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Shrinath Malur/

Date March 26, 2025

Typed or printed name Shrinath Malur

Registration No. 34663



UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #
18/200,071

RECEIPT DATE / TIME
03/26/2025 09:19:38 AM Z ET

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	2947	FILED BY	Kristin Huber
PATENT CENTER #	69738663	AUTHORIZED BY	Shrinath Malur
CUSTOMER #	24956	FILING DATE	05/22/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Kazuhiko YOSHIZAWA

Payment Information

PAYMENT METHOD CARD / 1027	PAYMENT TRANSACTION ID E20253P020018015	PAYMENT AUTHORIZED BY Kristin Huber		
FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
1501	UTILITY ISSUE FEE	1200.00	1	1200.00
TOTAL AMOUNT:				\$1,200.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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Alexandria, VA 22313 - 1450
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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/200,071

RECEIPT DATE / TIME
03/26/2025 09:19:38 AM Z ET

ATTORNEY DOCKET #
SEI-10340-05

Title of Invention

VIDEO RECORDING DEVICE AND CAMERA FUNCTION CONTROL PROGRAM

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	2947	FILED BY	Kristin Huber
PATENT CENTER #	69738663	FILING DATE	05/22/2023
CUSTOMER #	24956	FIRST NAMED INVENTOR	Kazuhiko YOSHIZAWA
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Shrinath Malur

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
10340- 05_Issue_Fee_Transmittal.p df	1	Issue Fee Payment (PTO-85B)	226 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
10340- 05_Issue_Fee_Transmittal.pdf	C960B167F43C4E2DC92EDA4558F0995CDB3752AEBAF2ABF4 0DAD39CA007DBACCA9B7B44A20E569F35AB6D5F9457D68A0 9644E46B0EA3072AF571051FB44AA8E5

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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United States Patent and Trademark Office
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/200,071	04/22/2025	12284437	SEI-10340-05	2947

24956 7590 04/02/2025
MATTINGLY & MALUR, PC
1800 DIAGONAL ROAD
SUITE 210
ALEXANDRIA, VA 22314

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at <https://patentcenter.uspto.gov/>. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at <https://certifiedcopycenter.uspto.gov/index.html>. The Certified Copy Center may be reached at (800)972-6382.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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 Center (<https://patentcenter.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional inventors):

Kazuhiko YOSHIKAWA, Ibaraki-shi, JAPAN;

Hirohito KURIYAMA, Tokyo, JAPAN;

APPLICANT(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional applicants):

MAXELL, LTD., Kyoto, JAPAN;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/200,071	05/22/2023	Kazuhiko YOSHIZAWA	SEI-10340-05	2947
24956 7590 04/22/2025 MATTINGLY & MALUR, PC 1800 DIAGONAL ROAD SUITE 210 ALEXANDRIA, VA 22314			EXAMINER SHIBRU, HELEN	
			ART UNIT 2484	PAPER NUMBER
			NOTIFICATION DATE 04/22/2025	DELIVERY MODE ELECTRONIC

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

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail@mmiplaw.com

APPLICATION NO.	ISSUE DATE	PATENT NO.
18/200,071	22-Apr-2025	12284437

MATTINGLY & MALUR, PC
1800 DIAGONAL ROAD
ALEXANDRIA, VA 22314

EGRANT NOTIFICATION

Your electronic patent grant (eGrant) is now available, which can be accessed via Patent Center at <https://patentcenter.uspto.gov>

The electronic patent grant is the official patent grant under 35 U.S.C. 153. For more information, please visit <https://www.uspto.gov/electronicgrants>