ABSTRACT OF THE DISCLOSURE

A transmission terminal includes at least one processor configured to transmit a terminal information request to request the number of transmission terminals under transmission to a transmission management apparatus connected via a network; and display image data received from one or more of the transmission terminals under transmission on a display device, and display the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on the display device.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	New Application
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

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

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Yoshinaga		KATO	

Residence Information	Non US Residency		
City	Kanagawa	Country of Residence	JP

Mailing Address of Inventor:

Address 1	c/o Ricoh Company, Ltd.		
Address 2	3-6, Nakamagome 1-chome		
City	Ohta-ku	State/Province	Tokyo
Postal Code	143-8555	Country	JP

Correspondence Information:

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	22850
Email Address	oblonpat@oblon.com

Application Information:

Title of the Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		
Attorney Docket Number	526184US	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	29	Suggested Figure for Publication (if any)	

Filing By Reference:

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	New Application
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

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	22850		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this 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 blank.

Prior Application Status	Pending		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	15/277,069	2016-09-27
Prior Application Status	Expired		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
15/277,069	Continuation of	PCT/JP2015/060144	2015-03-31

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	526184US
		Application Number	New Application
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		

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) 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).

Application Number	Country	Filing Date (YYYY-MM-DD)	Access Code (if applicable)
2014-071406	JP	2014-03-31	

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.

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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	New Application
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

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.

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

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.

☐ 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. ☐

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Zoom Communication, Inc. Ex. 1002
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	New Application
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Applicant:

Address 1			
Address 2			
City		**State/Province**	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

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.

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.

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			

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	526184US
		Application Number	New Application
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		

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

Signature	/Sameer Gokhale/			Date (YYYY-MM-DD)	2019-10-16
First Name	Sameer	Last Name	Gokhale	Registration Number	62,618

WHAT IS CLAIMED IS

1. A transmission terminal comprising:

at least one processor configured to

transmit a terminal information request to request the number of transmission terminals under transmission to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network; and

display image data received from one or more of the transmission terminals under transmission on a display device, and display the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on the display device.

1

FIG.1

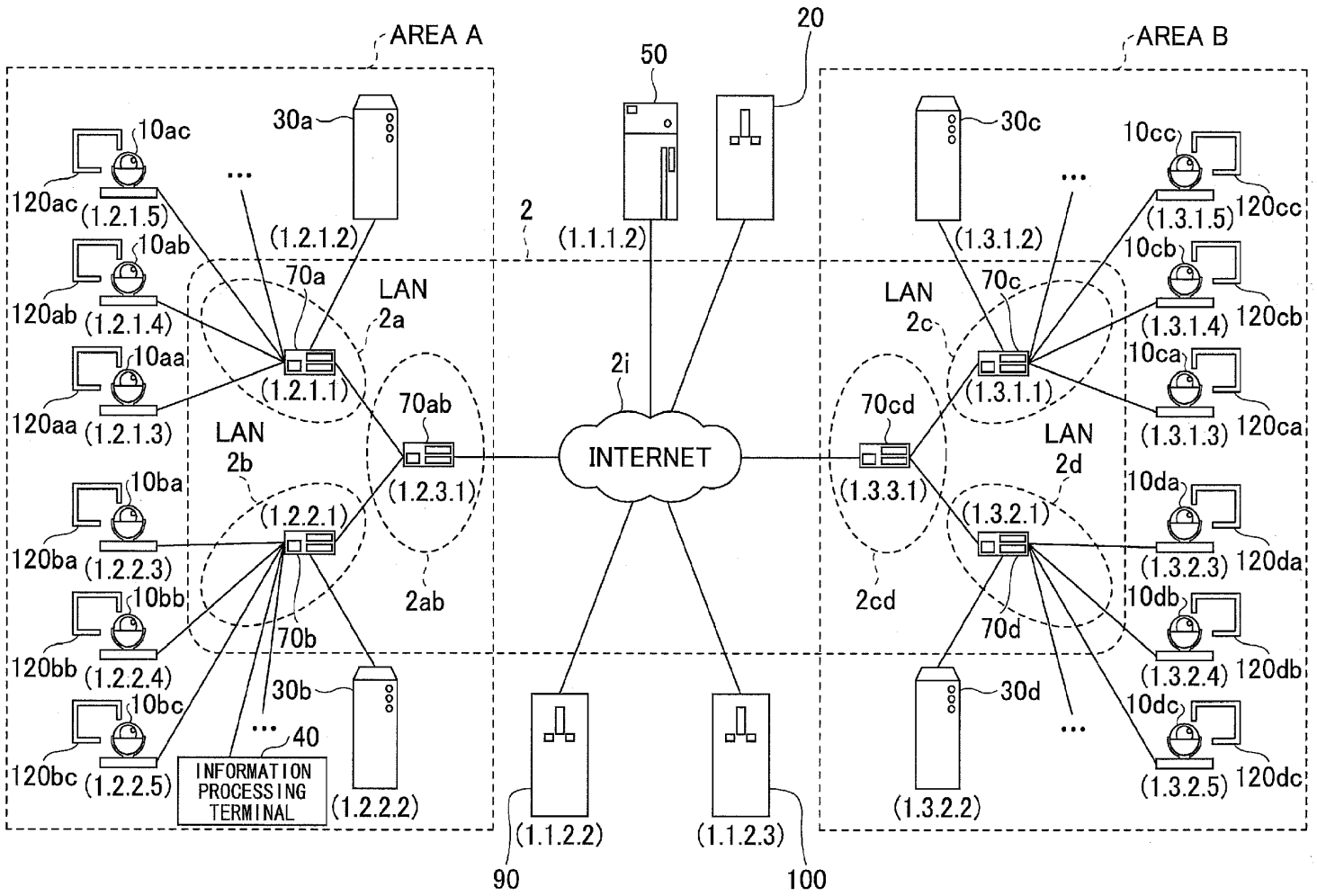

AREA A
AREA B
20
50
30a
30c
10ac
10cc
120ac
(1.2.1.5)
(1.2.1.2)
(1.1.1.2)
(1.3.1.2)
(1.3.1.5)
120cc
2
10ab
10cb
70a
70c
LAN
LAN
120ab
(1.2.1.4)
2a
2c
(1.3.1.4)
120cb
10aa
10ca
2i
120aa
(1.2.1.3)
(1.2.1.1)
(1.3.1.1)
(1.3.1.3)
120ca
70ab
70cd
LAN
LAN
2b
2d
INTERNET
10ba
10da
(1.2.2.1)
(1.3.3.1)
(1.3.2.1)
120ba
(1.2.2.3)
(1.2.3.1)
(1.3.2.3)
120da
2ab
2cd
10bb
10db
70b
70d
120bb
(1.2.2.4)
(1.3.2.4)
120db
30b
30d
10bc
10dc
40
120bc
(1.2.2.5)
INFORMATION PROCESSING TERMINAL
(1.2.2.2)
(1.3.2.2)
(1.3.2.5)
120dc
(1.1.2.2)
(1.1.2.3)
90
100

FIG.2

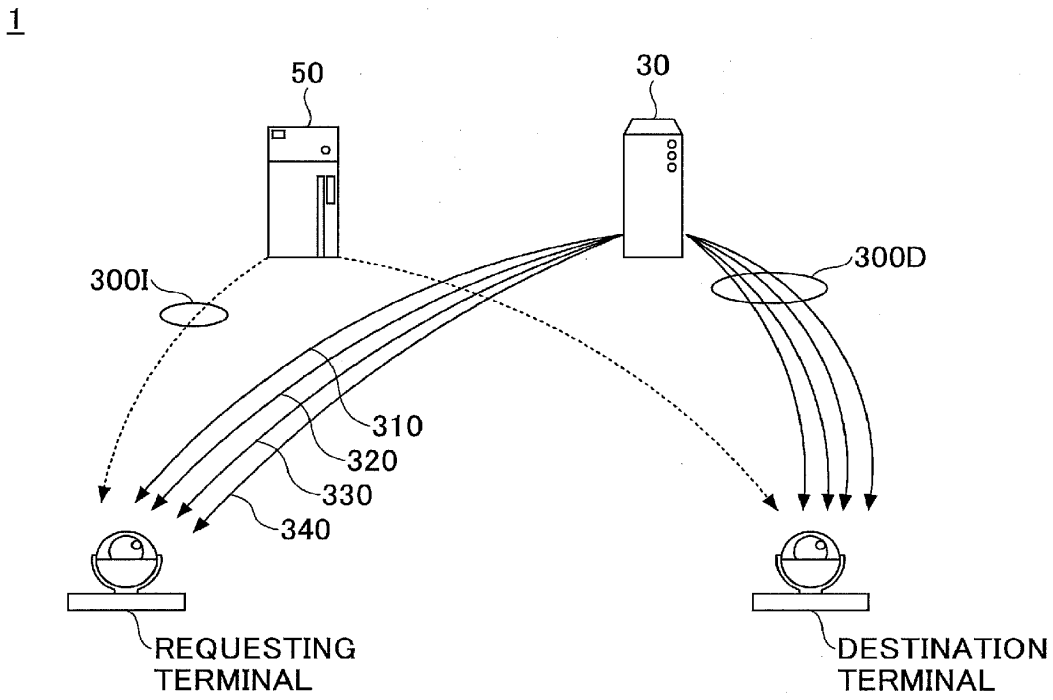

1
50
30
300I
300D
310
320
330
340
REQUESTING TERMINAL
DESTINATION TERMINAL

FIG.3

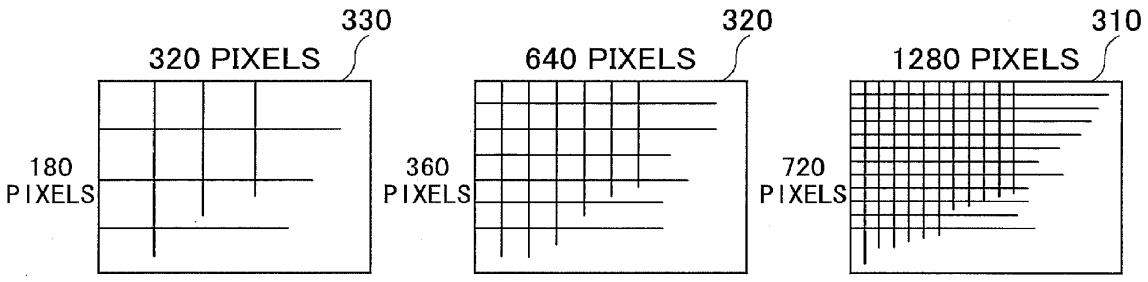

330
320 PIXELS
180 PIXELS
320
640 PIXELS
360 PIXELS
310
1280 PIXELS
720 PIXELS

FIG.4

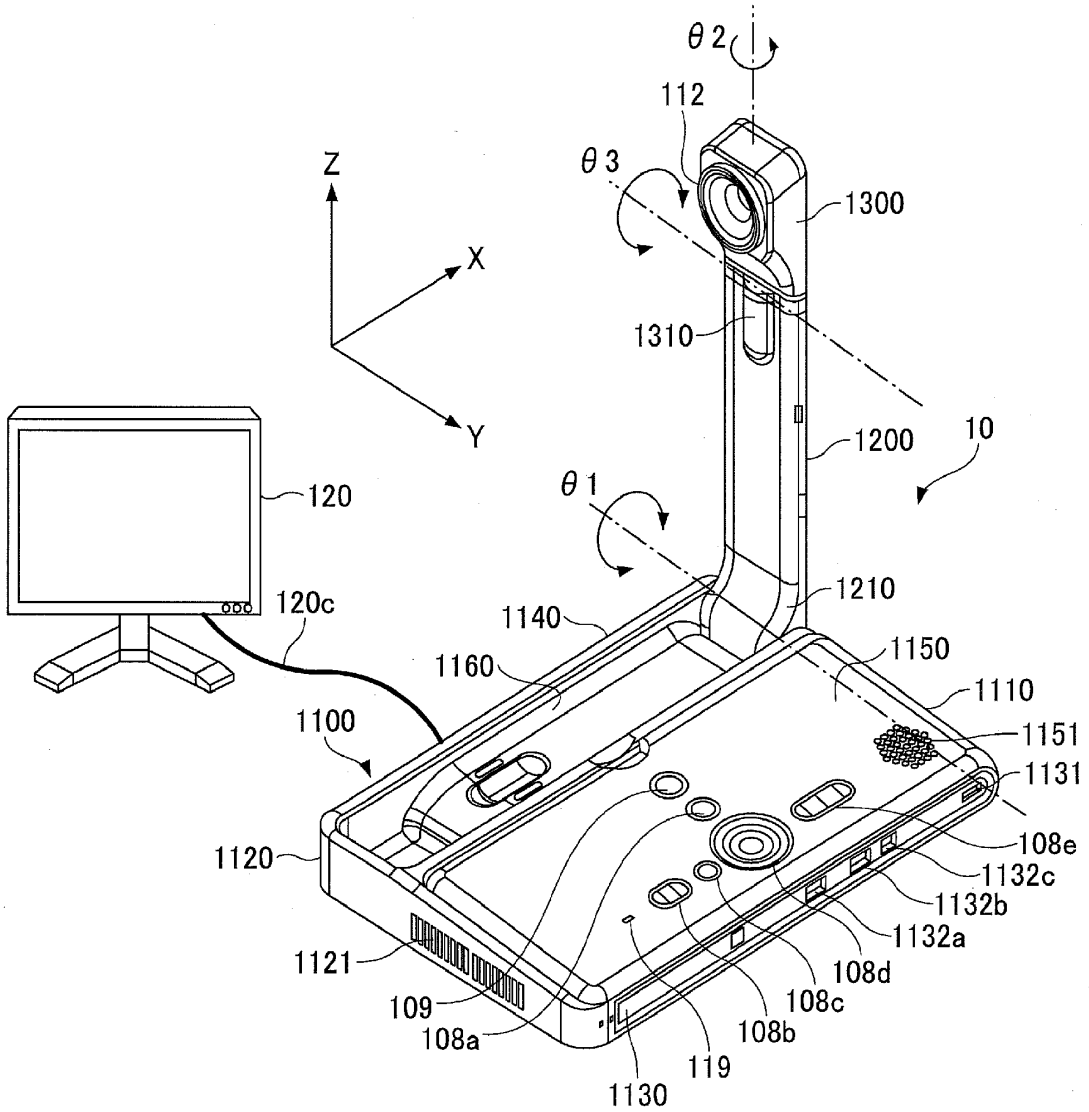
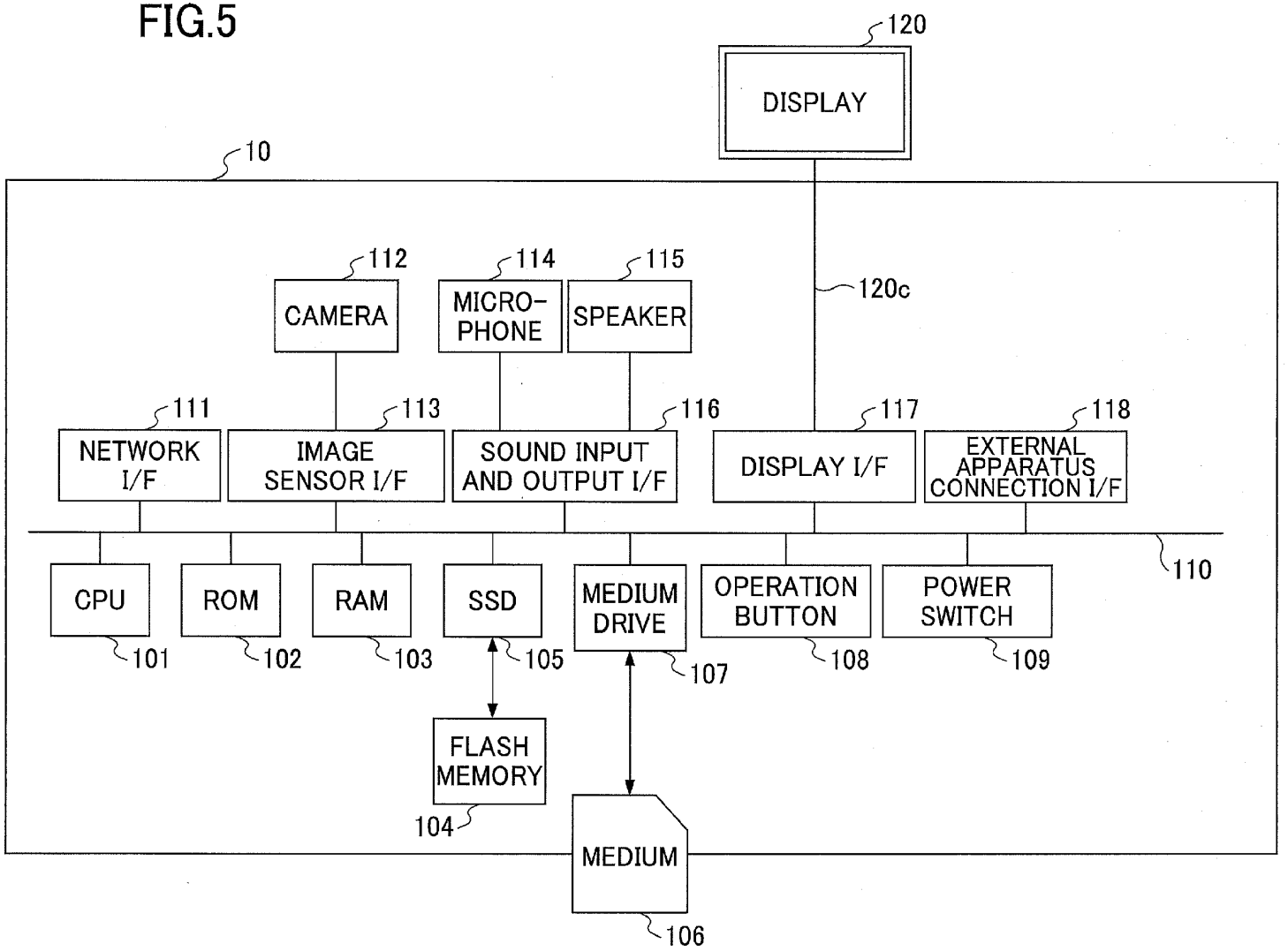

θ2
112
θ3
Z
X
Y
1300
1310
1200
10
θ1
120
120c
1140
1210
1160
1150
1110
1100
1151
1131
1120
108e
1132c
1132b
1132a
1121
108d
109
108c
108a
108b
119
1130

FIG.5


120
DISPLAY
10
112
CAMERA
114
MICRO-PHONE
115
SPEAKER
120c
111
NETWORK I/F
113
IMAGE SENSOR I/F
116
SOUND INPUT AND OUTPUT I/F
117
DISPLAY I/F
118
EXTERNAL APPARATUS CONNECTION I/F
110
CPU
ROM
RAM
SSD
MEDIUM DRIVE
OPERATION BUTTON
POWER SWITCH
101
102
103
105
107
108
109
FLASH MEMORY
104
MEDIUM
106

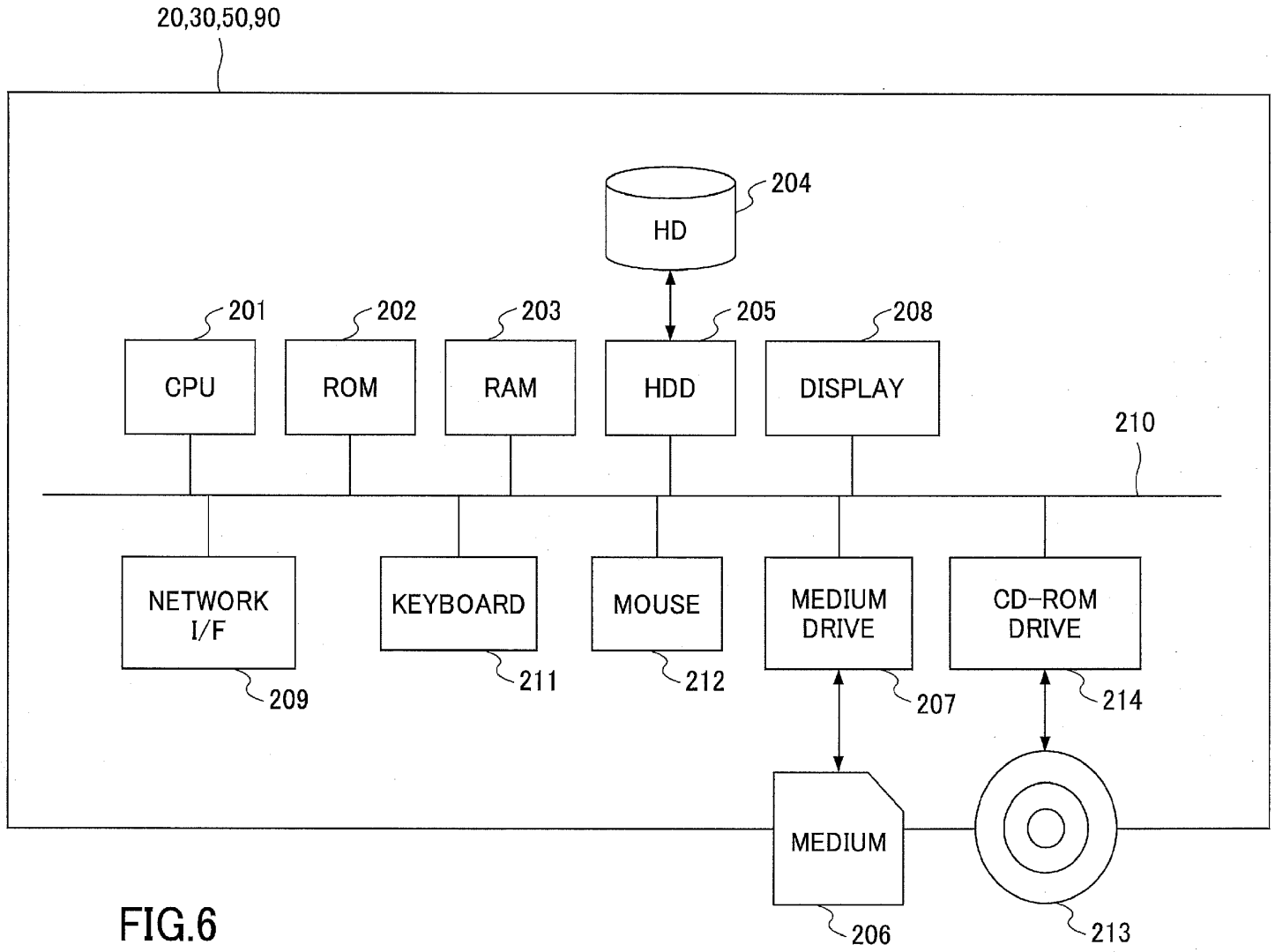

20,30,50,90
HD
204
201
202
203
205
208
CPU
ROM
RAM
HDD
DISPLAY
210
NETWORK I/F
KEYBOARD
MOUSE
MEDIUM DRIVE
CD-ROM DRIVE
209
211
212
207
214
MEDIUM
206
213

FIG.6

FIG.7

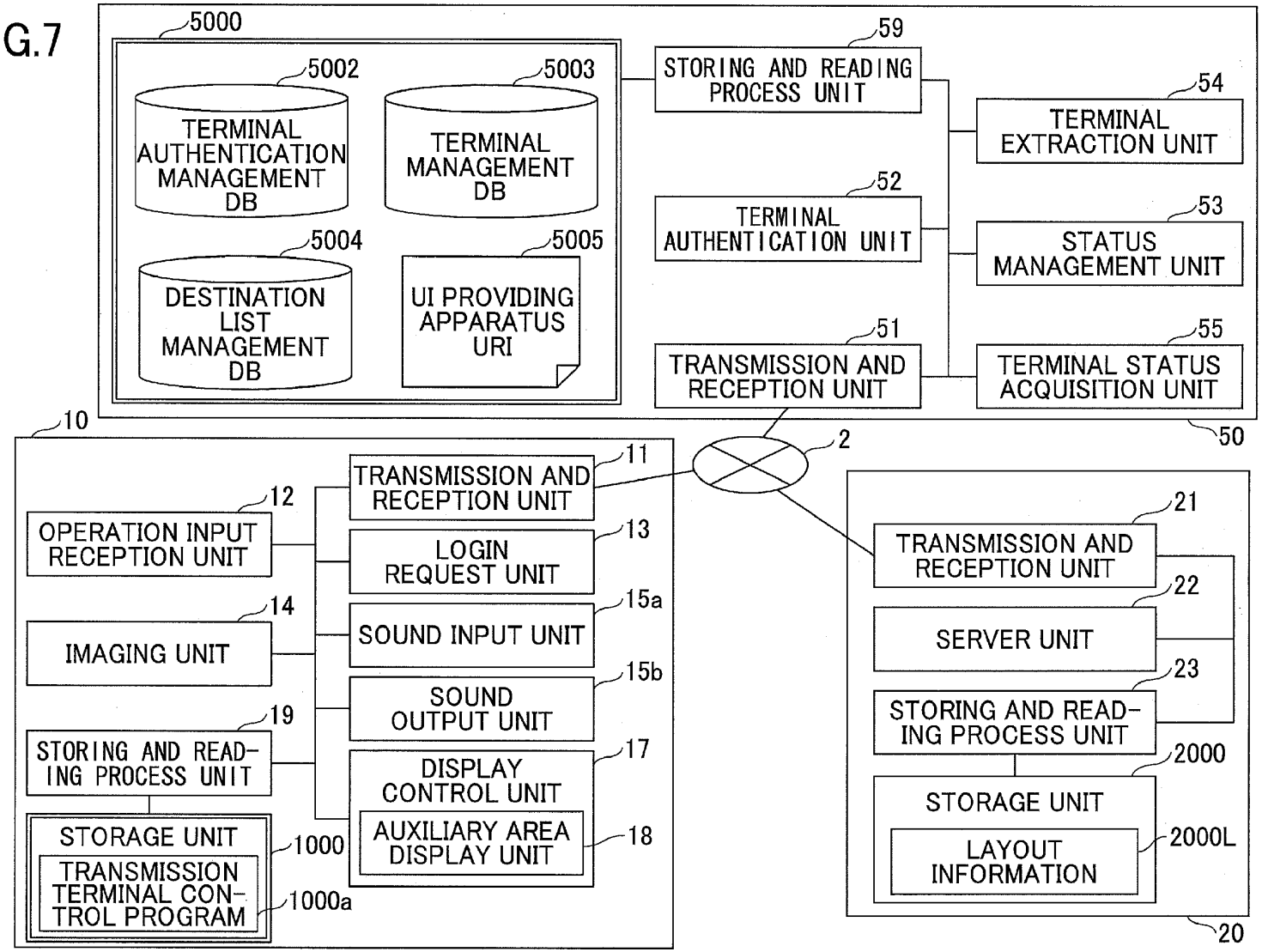

5000
5002
TERMINAL AUTHENTICATION MANAGEMENT DB
5003
TERMINAL MANAGEMENT DB
5004
DESTINATION LIST MANAGEMENT DB
5005
UI PROVIDING APPARATUS URI
59
STORING AND READING PROCESS UNIT
54
TERMINAL EXTRACTION UNIT
52
TERMINAL AUTHENTICATION UNIT
53
STATUS MANAGEMENT UNIT
51
TRANSMISSION AND RECEPTION UNIT
55
TERMINAL STATUS ACQUISITION UNIT
50
10
2
11
TRANSMISSION AND RECEPTION UNIT
12
OPERATION INPUT RECEPTION UNIT
13
LOGIN REQUEST UNIT
14
IMAGING UNIT
15a
SOUND INPUT UNIT
15b
SOUND OUTPUT UNIT
19
STORING AND READING PROCESS UNIT
17
DISPLAY CONTROL UNIT
STORAGE UNIT
1000
TRANSMISSION TERMINAL CONTROL PROGRAM
1000a
AUXILIARY AREA DISPLAY UNIT
18
21
TRANSMISSION AND RECEPTION UNIT
22
SERVER UNIT
23
STORING AND READING PROCESS UNIT
2000
STORAGE UNIT
LAYOUT INFORMATION
2000L
20

FIG.8

5002T

TERMINAL ID	PASSWORD
01aa	aaaa
01ab	abab
01ba	baba
...	...

5003T

TERMINAL ID	DESTINATION NAME	OPERATIONAL STATUS	RECEIVED DATE AND TIME	TERMINAL IP ADDRESS
01aa	JAPAN TOKYO OFFICE AA TERMINAL	ONLINE (TRANSMISSION POSSIBLE)	2009.11.10.13:40	1.2.1.3
01ab	JAPAN TOKYO OFFICE AB TERMINAL	OFFLINE	2009.11.09.12:00	1.2.1.4
...	...	...	...	...
01ba	JAPAN OSAKA OFFICE BA TERMINAL	ONLINE (TRANSMISSION POSSIBLE)	2009.11.10.13:45	1.2.2.3
01bb	JAPAN OSAKA OFFICE BB TERMINAL	ONLINE (TRANSMISSION POSSIBLE)	2009.11.10.13:50	1.2.2.4
...	...	...	...	...
01ca	USA NEW YORK OFFICE CA TERMINAL	OFFLINE	2009.11.10.12:45	1.3.1.3
01cb	USA NEW YORK OFFICE CB TERMINAL	ONLINE (UNDER TRANSMISSION)	2009.11.10.13:55	1.3.1.4
...	...	...	...	...
01da	USA WASHINGTON OFFICE DA TERMINAL	OFFLINE	2009.11.08.12:45	1.3.2.3
01db	USA WASHINGTON OFFICE DB TERMINAL	ONLINE (UNDER TRANSMISSION)	2009.11.10.12:45	1.3.2.4
...	...	...	...	...

FIG.9A

5003T

TERMINAL ID	DESTINATION NAME	OPERATIONAL STATUS	RECEIVED DATE AND TIME	TERMINAL IP ADDRESS
01aa	JAPAN TOKYO OFFICE AA TERMINAL	ONLINE (UNDER TRANSMISSION)	2009.11.10.13:40	1.2.1.3
01ab	JAPAN TOKYO OFFICE AB TERMINAL	OFFLINE	2009.11.09.12:00	1.2.1.4
...	...	...	...	...
01ba	JAPAN OSAKA OFFICE BA TERMINAL	ONLINE (TRANSMISSION POSSIBLE)	2009.11.10.13:45	1.2.2.3
01bb	JAPAN OSAKA OFFICE BB TERMINAL	ONLINE (TRANSMISSION POSSIBLE)	2009.11.10.13:50	1.2.2.4
...	...	...	...	...
01ca	USA NEW YORK OFFICE CA TERMINAL	OFFLINE	2009.11.10.12:45	1.3.1.3
01cb	USA NEW YORK OFFICE CB TERMINAL	ONLINE (UNDER TRANSMISSION)	2009.11.10.13:55	1.3.1.4
...	...	...	...	...
01da	USA WASHINGTON OFFICE DA TERMINAL	OFFLINE	2009.11.08.12:45	1.3.2.3
01db	USA WASHINGTON OFFICE DB TERMINAL	ONLINE (UNDER TRANSMISSION)	2009.11.10.12:45	1.3.2.4
...	...	...	...	...

FIG.9B

FIG.10

5004T

REQUESTING TERMINAL ID	DESTINATION TERMINAL ID
01aa	01ab,01ba,01db
01ab	01aa,01ca,01cb
01ba	01aa,01ab,01ca,01cb,01da,01db
・・・	・・・
01db	01aa,01ab,01ba,・・・,01da,01ca,01cb,・・・,01da

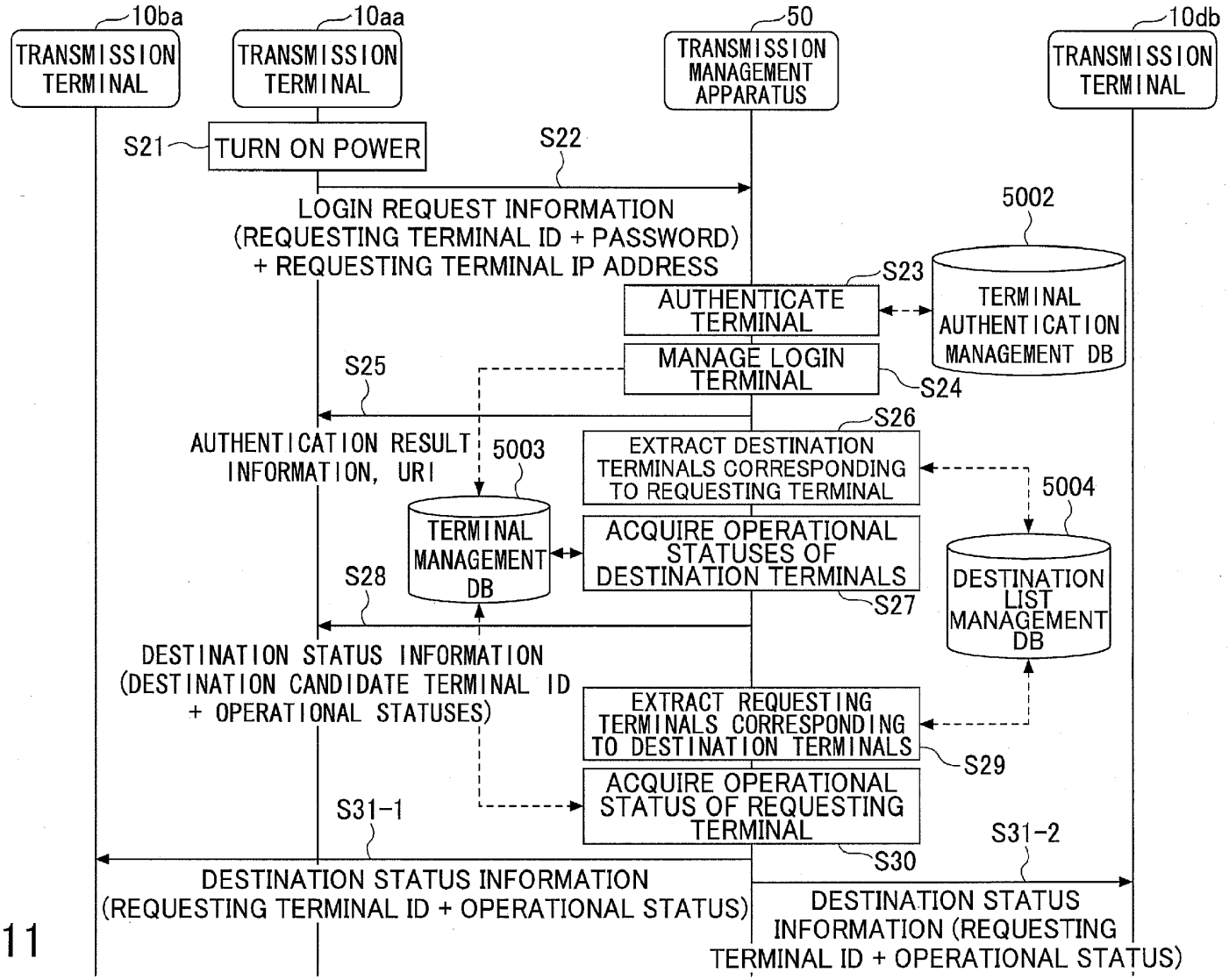

10ba
TRANSMISSION TERMINAL
10aa
TRANSMISSION TERMINAL
50
TRANSMISSION MANAGEMENT APPARATUS
10db
TRANSMISSION TERMINAL
S21
TURN ON POWER
S22
LOGIN REQUEST INFORMATION (REQUESTING TERMINAL ID + PASSWORD) + REQUESTING TERMINAL IP ADDRESS
5002
S23
AUTHENTICATE TERMINAL
TERMINAL AUTHENTICATION MANAGEMENT DB
MANAGE LOGIN TERMINAL
S24
S25
AUTHENTICATION RESULT INFORMATION, URI
S26
EXTRACT DESTINATION TERMINALS CORRESPONDING TO REQUESTING TERMINAL
5003
5004
TERMINAL MANAGEMENT DB
ACQUIRE OPERATIONAL STATUSES OF DESTINATION TERMINALS
S27
S28
DESTINATION LIST MANAGEMENT DB
DESTINATION STATUS INFORMATION (DESTINATION CANDIDATE TERMINAL ID + OPERATIONAL STATUSES)
EXTRACT REQUESTING TERMINALS CORRESPONDING TO DESTINATION TERMINALS
S29
ACQUIRE OPERATIONAL STATUS OF REQUESTING TERMINAL
S31-1
S31-2
S30
DESTINATION STATUS INFORMATION (REQUESTING TERMINAL ID + OPERATIONAL STATUS)
DESTINATION STATUS INFORMATION (REQUESTING TERMINAL ID + OPERATIONAL STATUS)

FIG.11

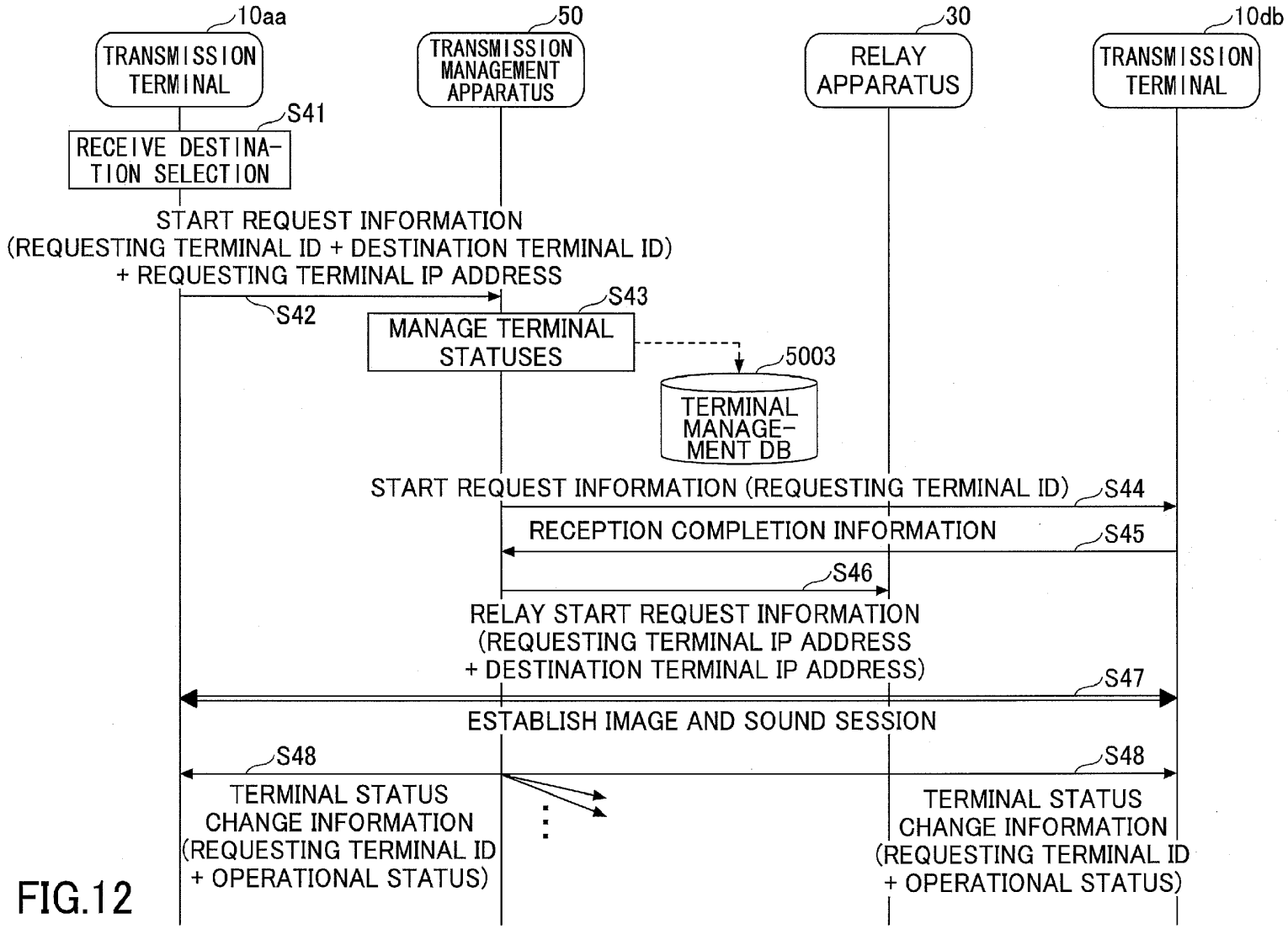

10aa
TRANSMISSION TERMINAL
50
TRANSMISSION MANAGEMENT APPARATUS
30
RELAY APPARATUS
10db
TRANSMISSION TERMINAL
S41
RECEIVE DESTINATION SELECTION
START REQUEST INFORMATION (REQUESTING TERMINAL ID + DESTINATION TERMINAL ID) + REQUESTING TERMINAL IP ADDRESS
S42
S43
MANAGE TERMINAL STATUSES
5003
TERMINAL MANAGEMENT DB
START REQUEST INFORMATION (REQUESTING TERMINAL ID)
S44
RECEPTION COMPLETION INFORMATION
S45
S46
RELAY START REQUEST INFORMATION (REQUESTING TERMINAL IP ADDRESS + DESTINATION TERMINAL IP ADDRESS)
S47
ESTABLISH IMAGE AND SOUND SESSION
S48
S48
TERMINAL STATUS CHANGE INFORMATION (REQUESTING TERMINAL ID + OPERATIONAL STATUS)
TERMINAL STATUS CHANGE INFORMATION (REQUESTING TERMINAL ID + OPERATIONAL STATUS)

FIG.12

FIG.13

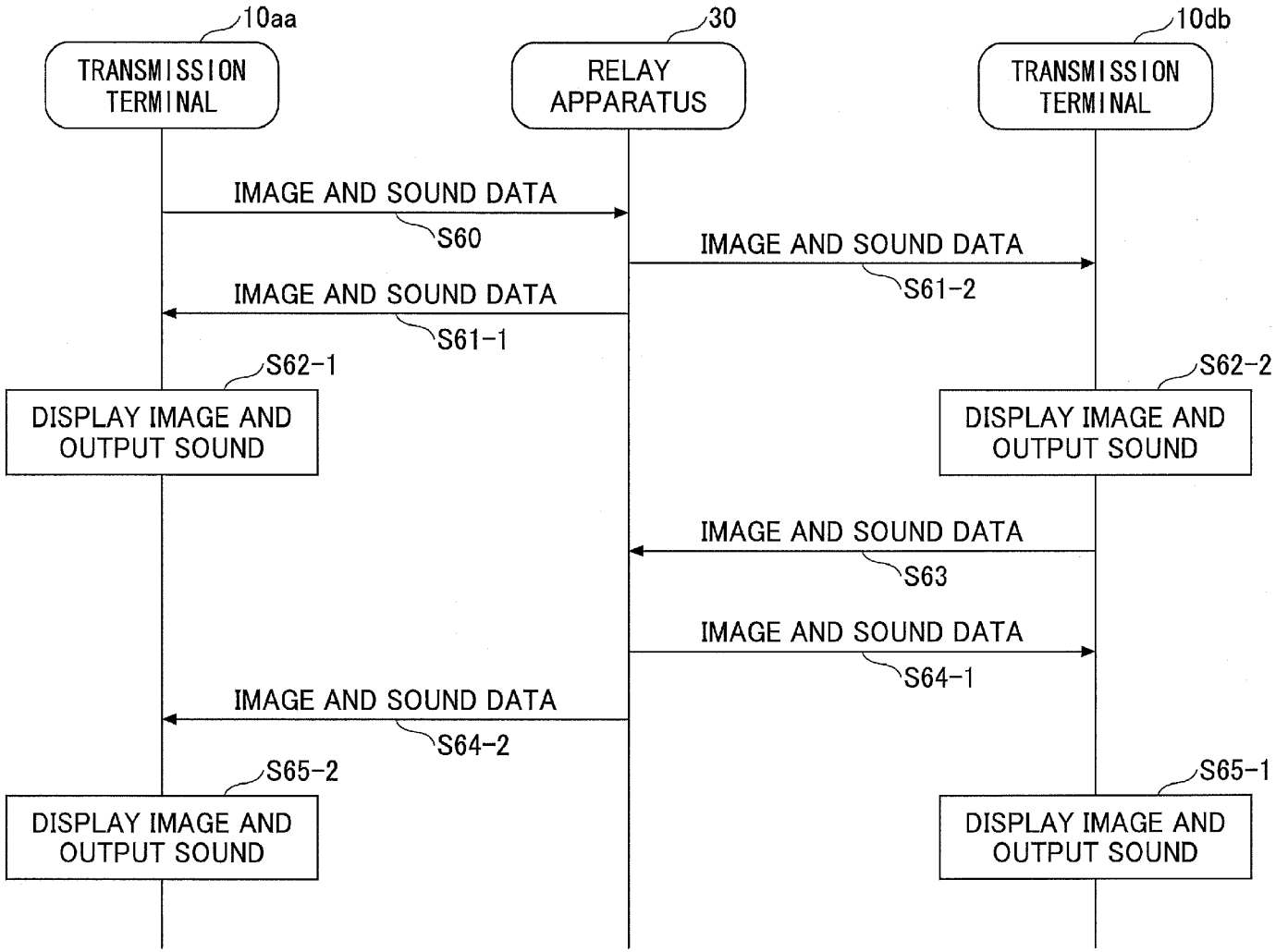

10aa
TRANSMISSION TERMINAL
30
RELAY APPARATUS
10db
TRANSMISSION TERMINAL
IMAGE AND SOUND DATA
S60
IMAGE AND SOUND DATA
S61-2
IMAGE AND SOUND DATA
S61-1
S62-1
DISPLAY IMAGE AND OUTPUT SOUND
S62-2
DISPLAY IMAGE AND OUTPUT SOUND
IMAGE AND SOUND DATA
S63
IMAGE AND SOUND DATA
S64-1
IMAGE AND SOUND DATA
S64-2
S65-2
DISPLAY IMAGE AND OUTPUT SOUND
S65-1
DISPLAY IMAGE AND OUTPUT SOUND

FIG.14

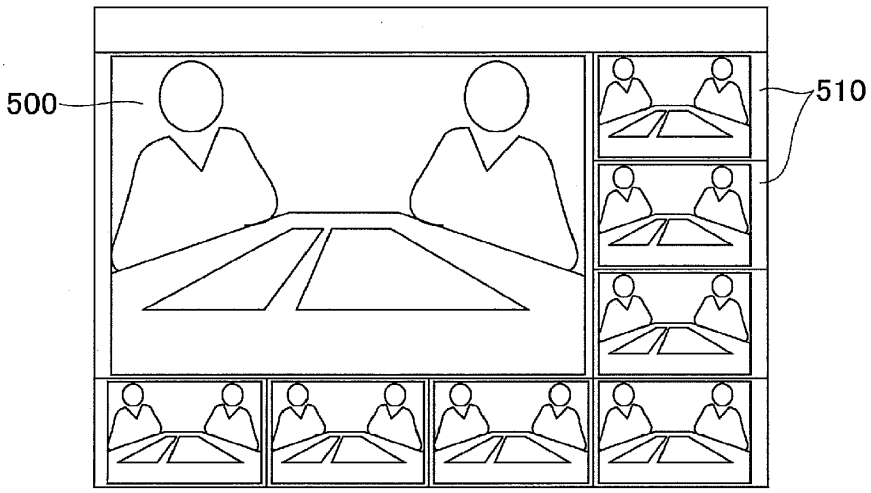


FIG.15

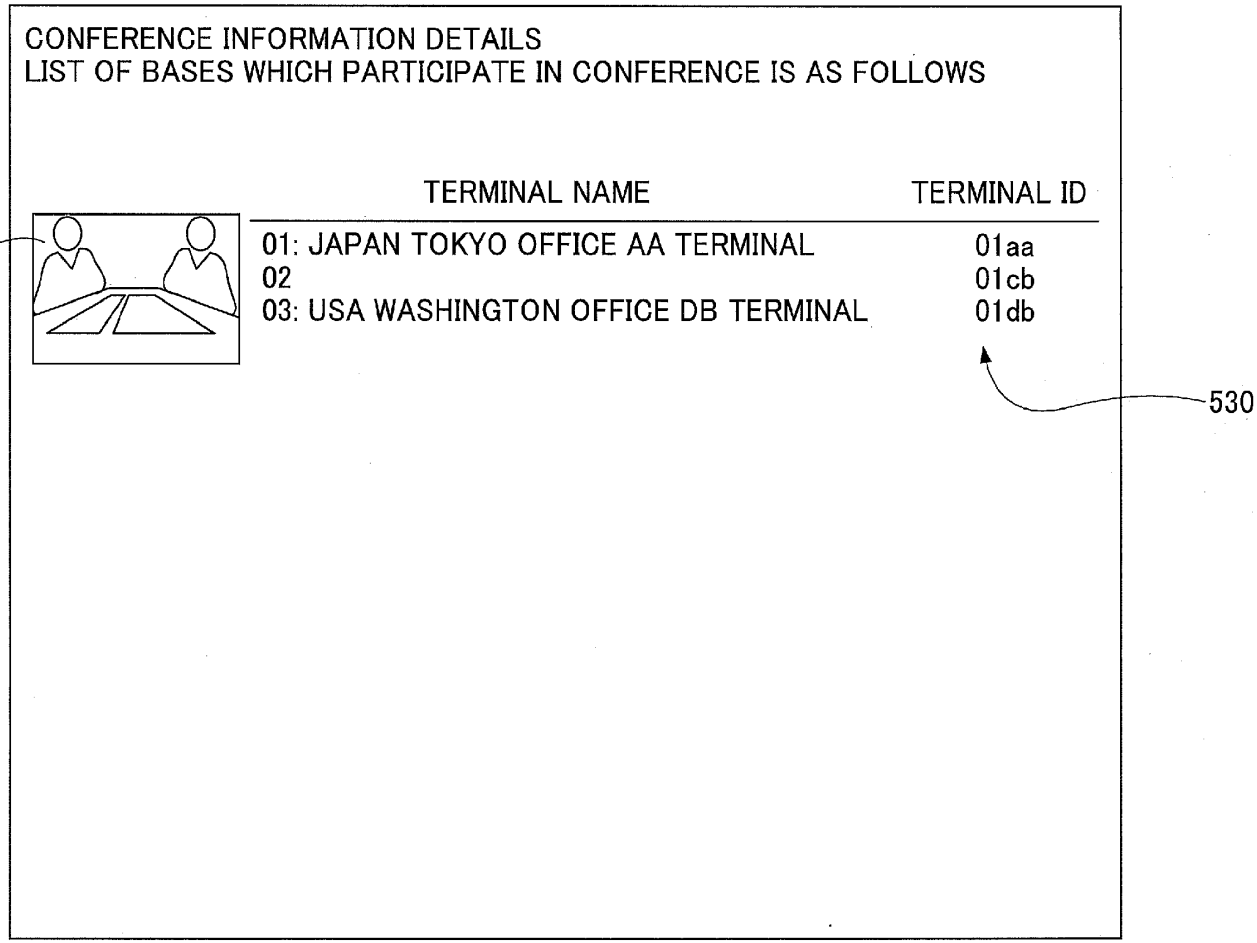

CONFERENCE INFORMATION DETAILS
LIST OF BASES WHICH PARTICIPATE IN CONFERENCE IS AS FOLLOWS
TERMINAL NAME
TERMINAL ID
01: JAPAN TOKYO OFFICE AA TERMINAL
01aa
02
01cb
03: USA WASHINGTON OFFICE DB TERMINAL
01db
520
530

FIG.16

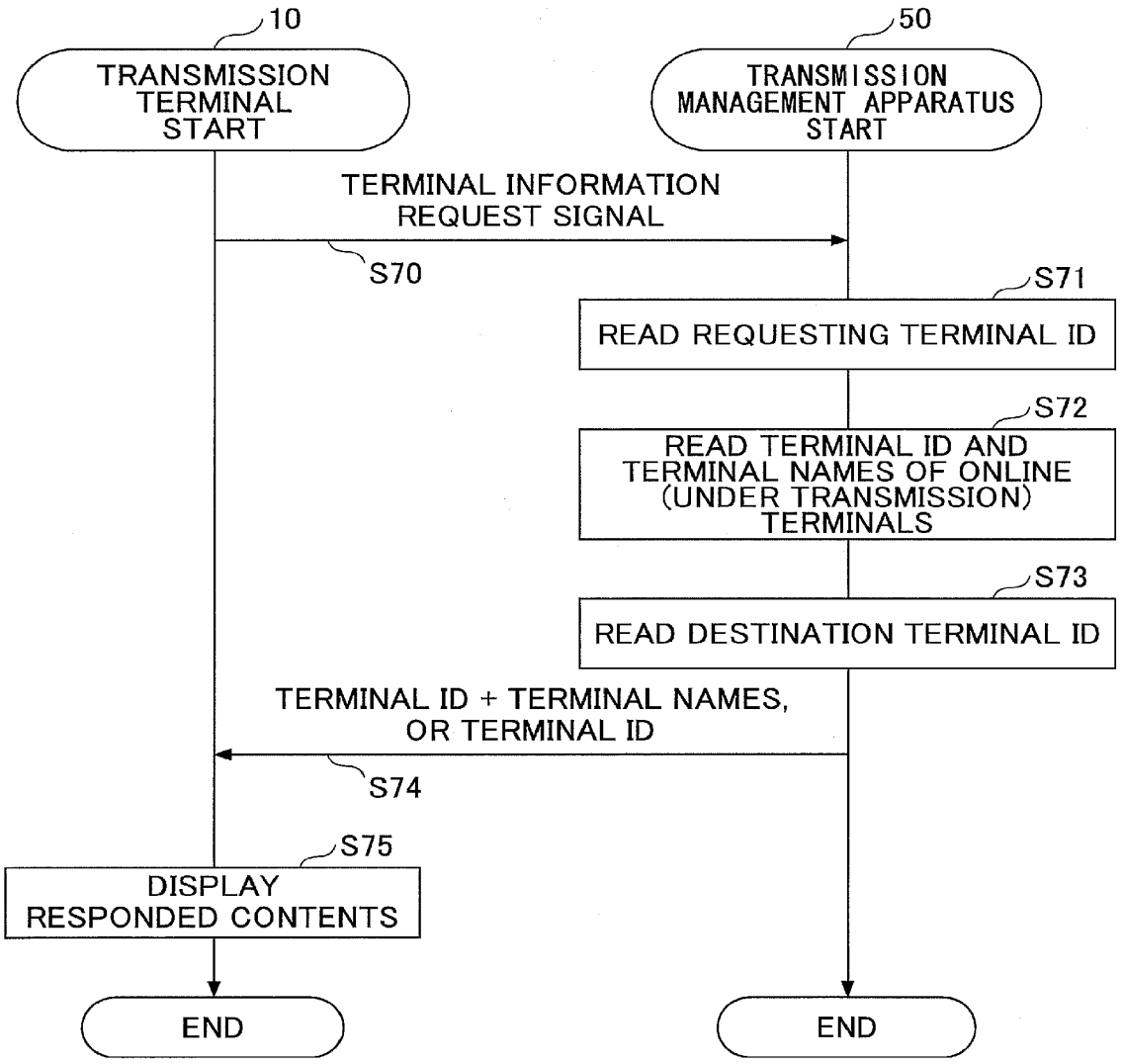

10
TRANSMISSION TERMINAL START
50
TRANSMISSION MANAGEMENT APPARATUS START
TERMINAL INFORMATION REQUEST SIGNAL
S70
S71
READ REQUESTING TERMINAL ID
S72
READ TERMINAL ID AND TERMINAL NAMES OF ONLINE (UNDER TRANSMISSION) TERMINALS
S73
READ DESTINATION TERMINAL ID
TERMINAL ID + TERMINAL NAMES, OR TERMINAL ID
S74
S75
DISPLAY RESPONDED CONTENTS
END
END

FIG.17A

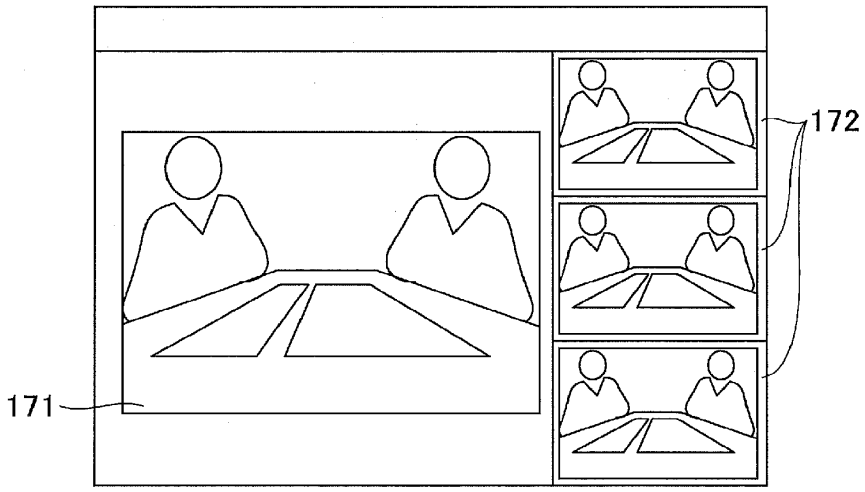
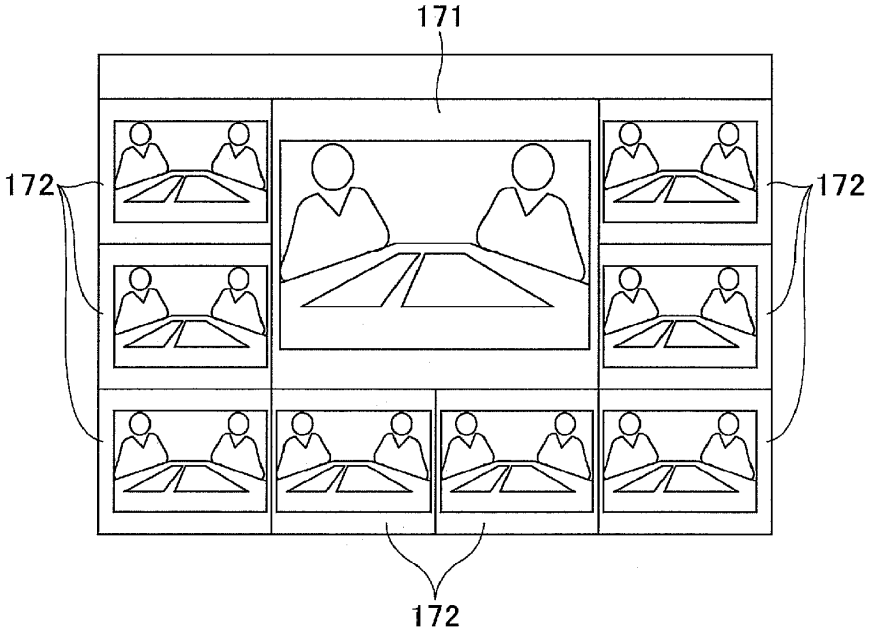


FIG.17B



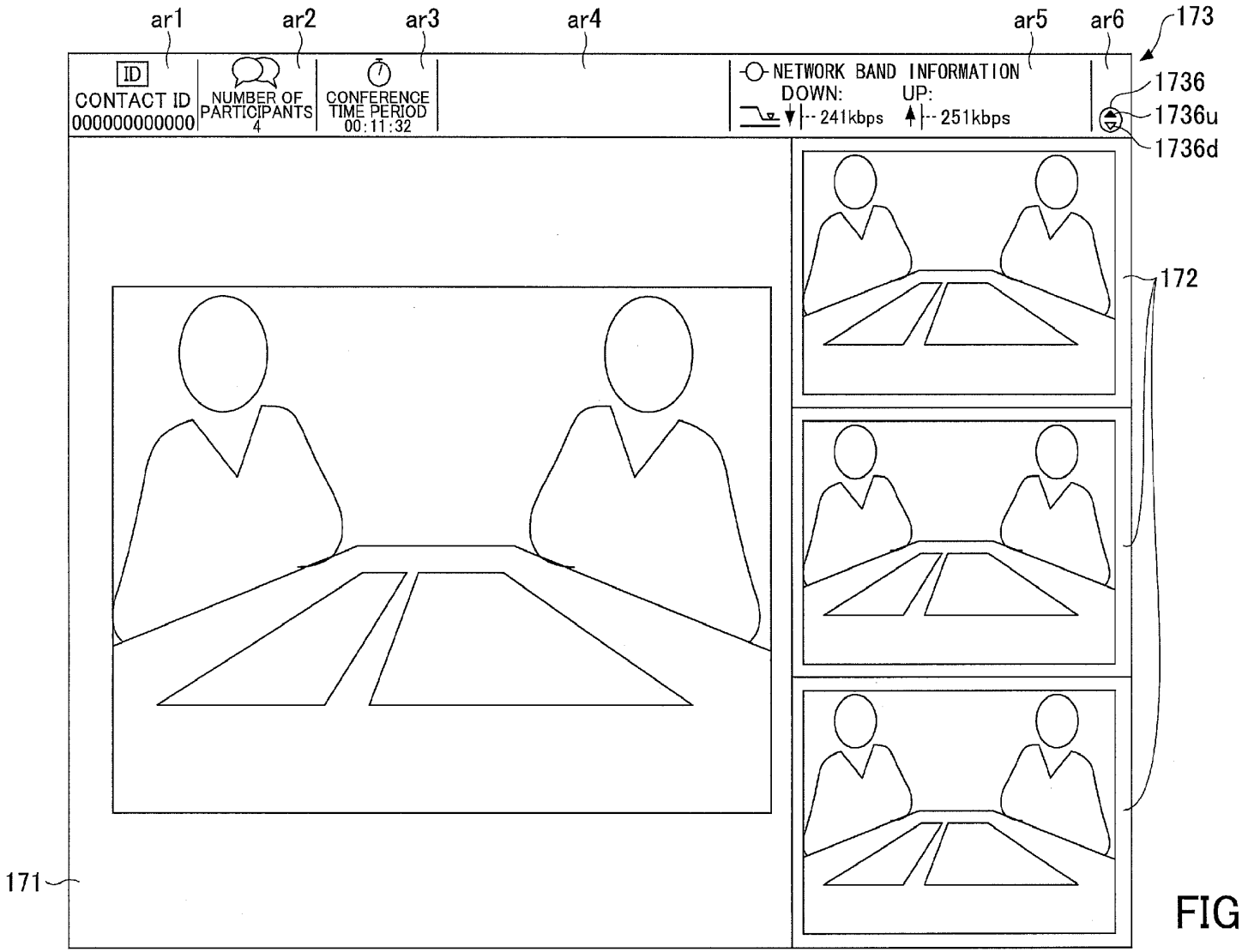

ar1
ar2
ar3
ar4
ar5
ar6
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CONTACT ID
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NUMBER OF PARTICIPANTS
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DOWN:
UP:
241kbps
251kbps
1736
1736u
1736d
172
171

FIG.18

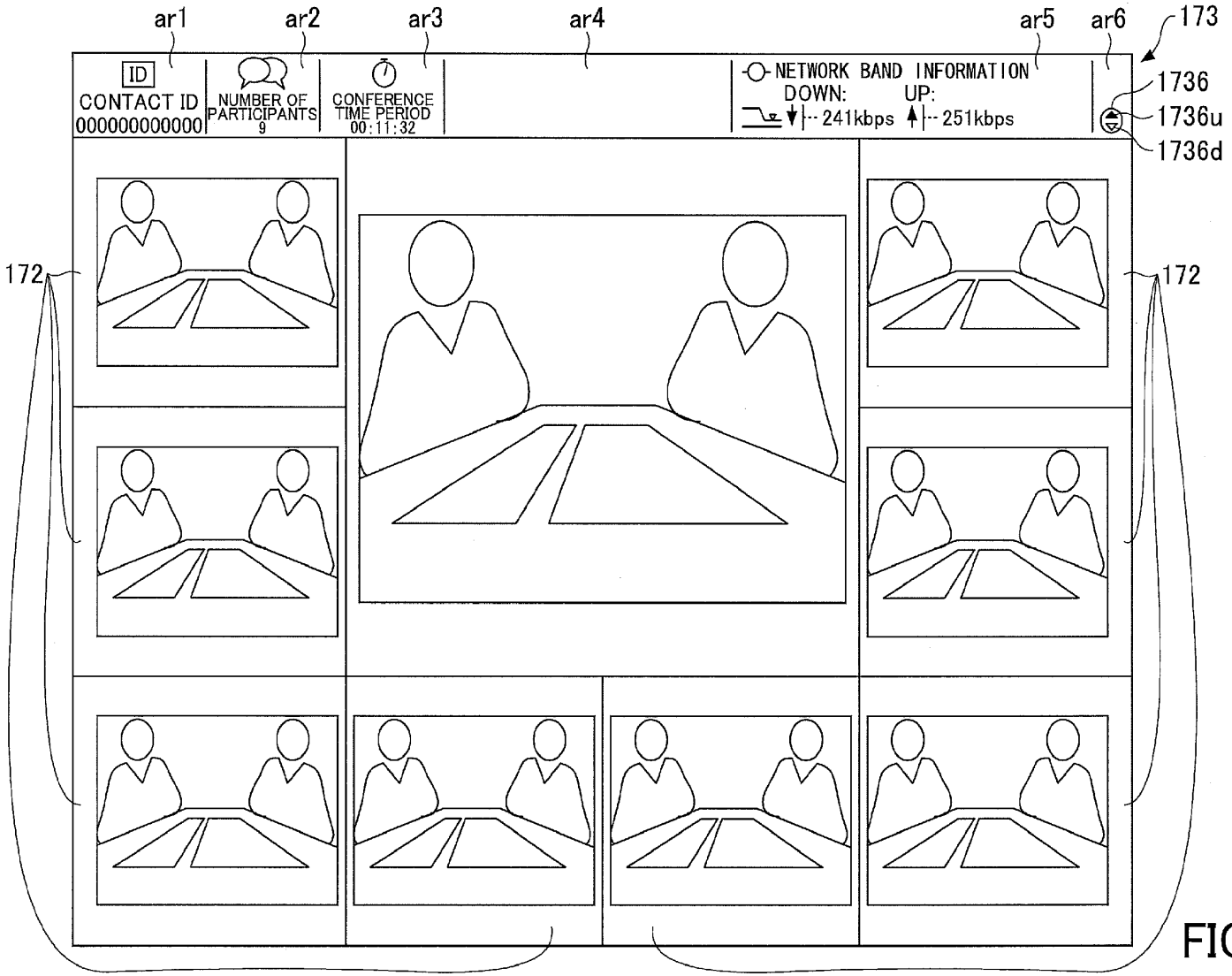

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CONTACT ID
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NUMBER OF PARTICIPANTS
9
CONFERENCE TIME PERIOD
00:11:32
NETWORK BAND INFORMATION
DOWN:
241kbps
UP:
251kbps
1736
1736u
1736d
172
172

FIG.19

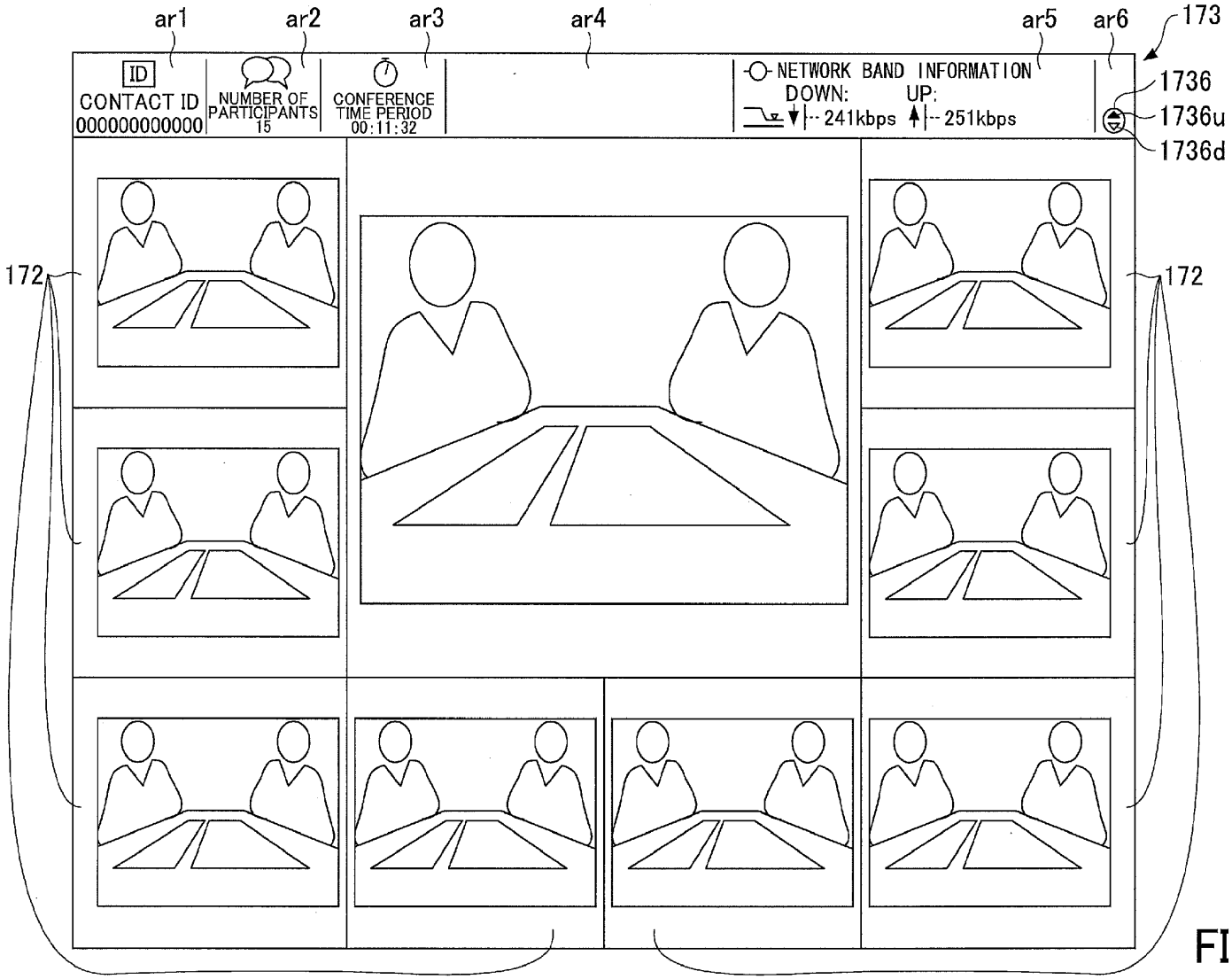

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ar3
ar4
ar5
ar6
173
ID
CONTACT ID
000000000000
NUMBER OF PARTICIPANTS
15
CONFERENCE TIME PERIOD
00:11:32
NETWORK BAND INFORMATION
DOWN:
241kbps
UP:
251kbps
1736
1736u
1736d
172
172

FIG.20

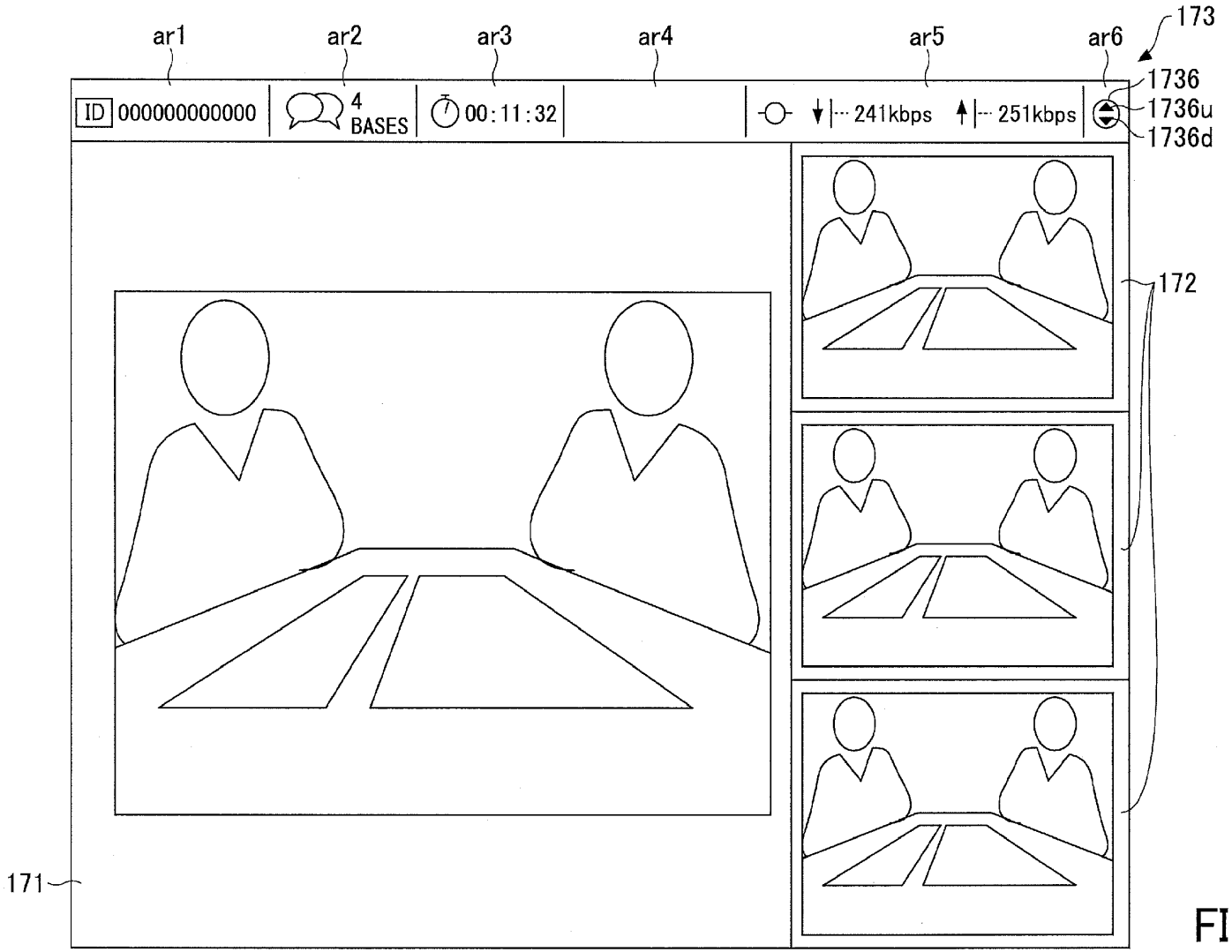

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ar2
ar3
ar4
ar5
ar6
173
1736
1736u
1736d
ID 000000000000
4 BASES
00:11:32
241kbps
251kbps
172
171

FIG.21

FIG.22

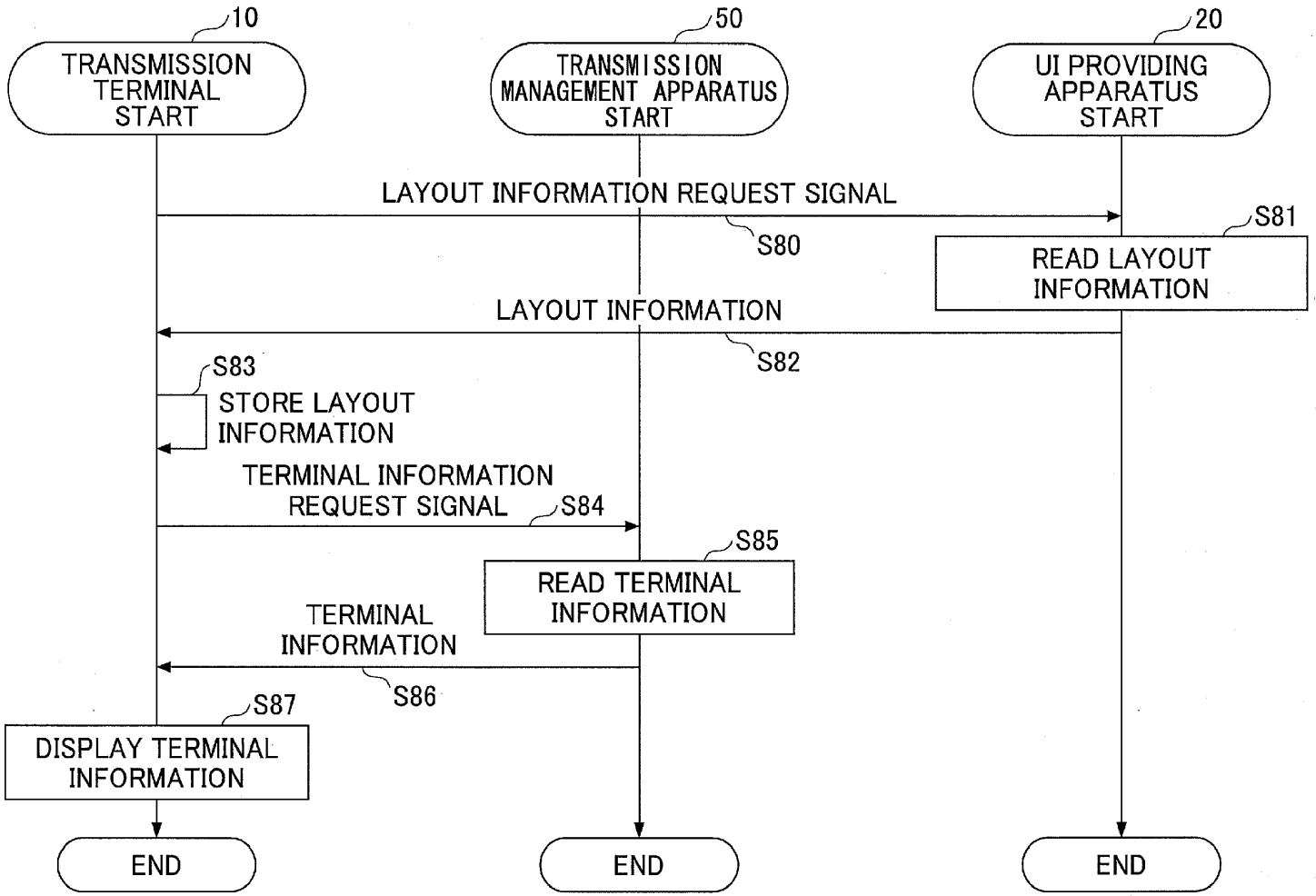

10
TRANSMISSION TERMINAL START
50
TRANSMISSION MANAGEMENT APPARATUS START
20
UI PROVIDING APPARATUS START
LAYOUT INFORMATION REQUEST SIGNAL
S80
S81
READ LAYOUT INFORMATION
LAYOUT INFORMATION
S82
S83
STORE LAYOUT INFORMATION
TERMINAL INFORMATION REQUEST SIGNAL
S84
S85
READ TERMINAL INFORMATION
TERMINAL INFORMATION
S86
S87
DISPLAY TERMINAL INFORMATION
END
END
END

FIG.23

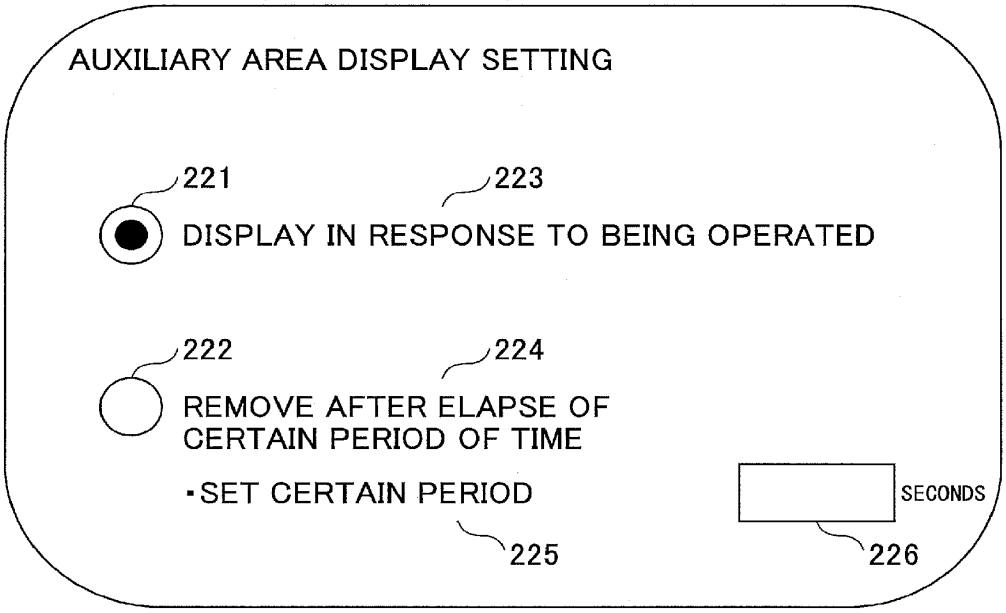

AUXILIARY AREA DISPLAY SETTING
221
223
DISPLAY IN RESPONSE TO BEING OPERATED
222
224
REMOVE AFTER ELAPSE OF CERTAIN PERIOD OF TIME
・SET CERTAIN PERIOD
SECONDS
225
226

FIG.24

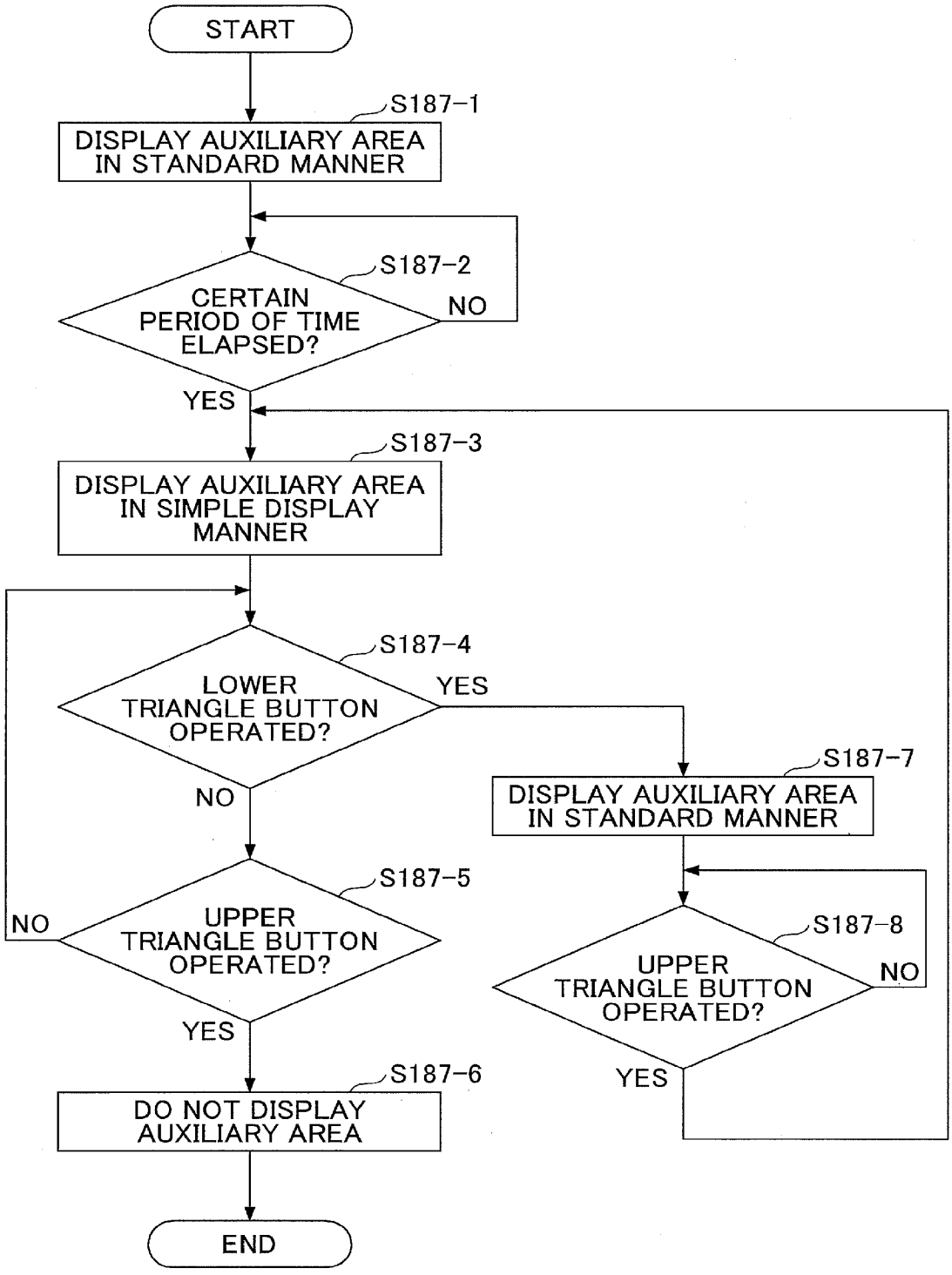

START
S187-1
DISPLAY AUXILIARY AREA IN STANDARD MANNER
S187-2
CERTAIN PERIOD OF TIME ELAPSED?
NO
YES
S187-3
DISPLAY AUXILIARY AREA IN SIMPLE DISPLAY MANNER
S187-4
LOWER TRIANGLE BUTTON OPERATED?
YES
NO
S187-5
UPPER TRIANGLE BUTTON OPERATED?
NO
YES
S187-6
DO NOT DISPLAY AUXILIARY AREA
END
S187-7
DISPLAY AUXILIARY AREA IN STANDARD MANNER
S187-8
UPPER TRIANGLE BUTTON OPERATED?
NO
YES

FIG.25

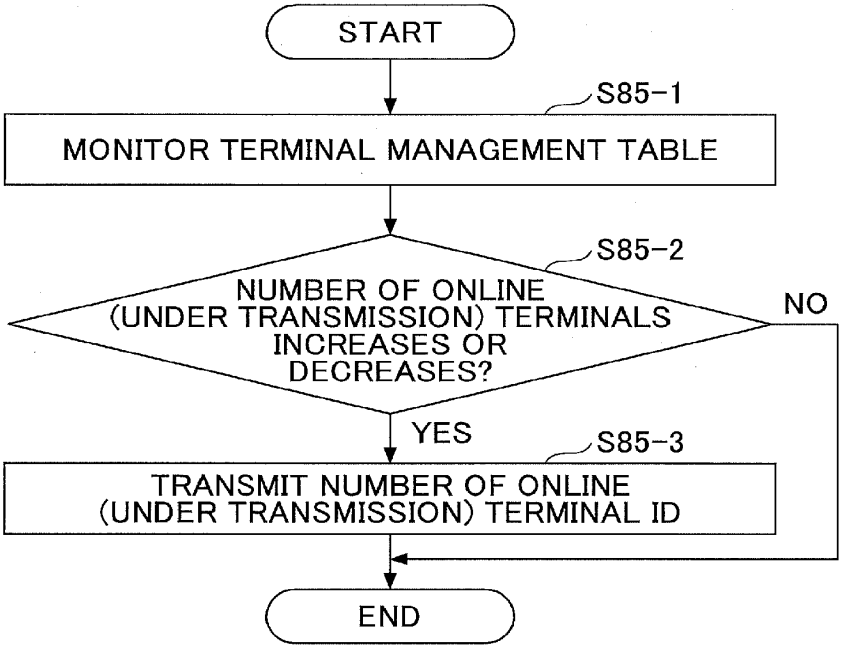

START
S85-1
MONITOR TERMINAL MANAGEMENT TABLE
S85-2
NUMBER OF ONLINE (UNDER TRANSMISSION) TERMINALS INCREASES OR DECREASES?
NO
YES
S85-3
TRANSMIT NUMBER OF ONLINE (UNDER TRANSMISSION) TERMINAL ID
END

FIG.26

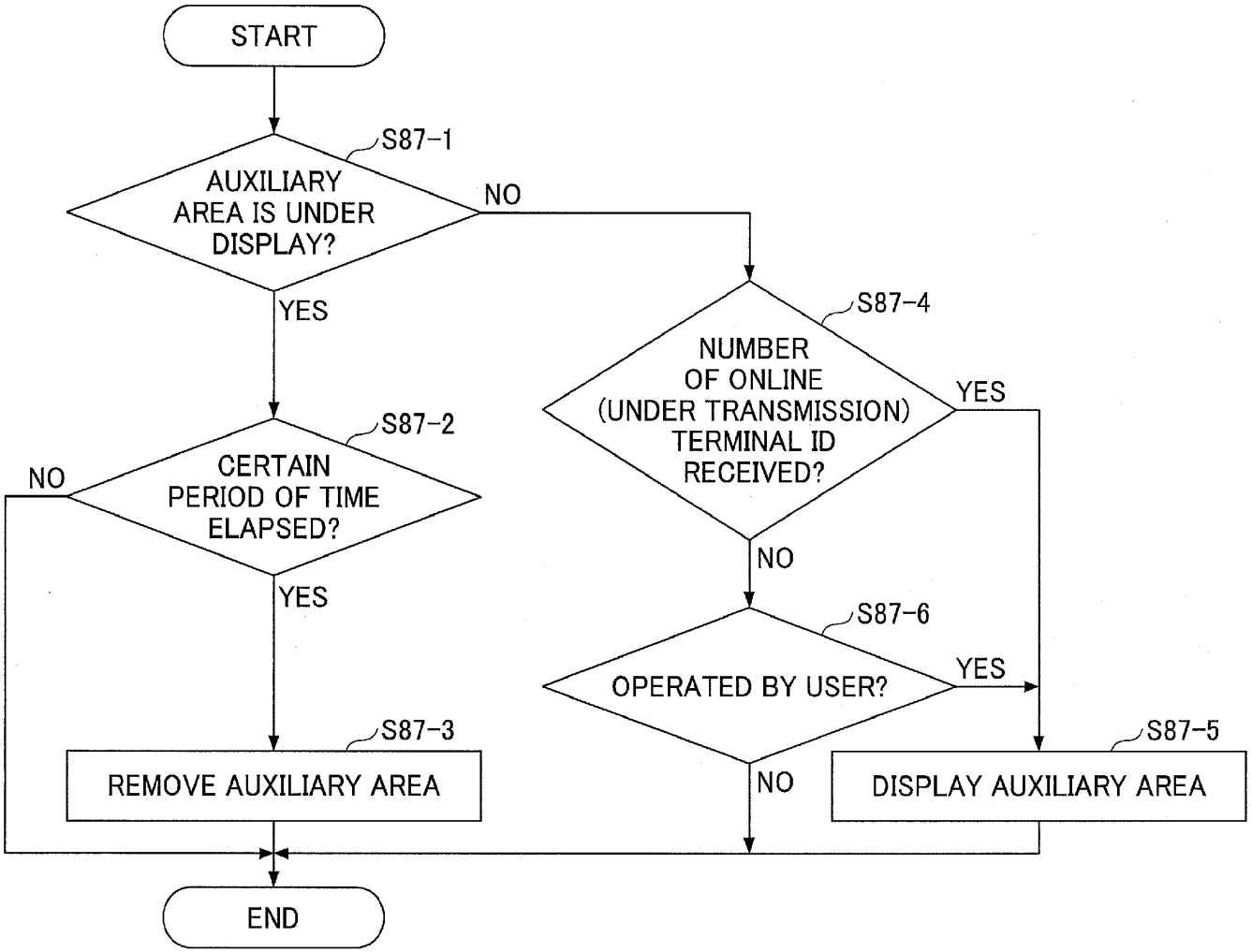

START
S87-1
AUXILIARY AREA IS UNDER DISPLAY?
NO
YES
S87-4
NUMBER OF ONLINE (UNDER TRANSMISSION) TERMINAL ID RECEIVED?
YES
NO
S87-2
CERTAIN PERIOD OF TIME ELAPSED?
NO
YES
S87-6
OPERATED BY USER?
YES
NO
S87-3
REMOVE AUXILIARY AREA
S87-5
DISPLAY AUXILIARY AREA
END

FIG.27

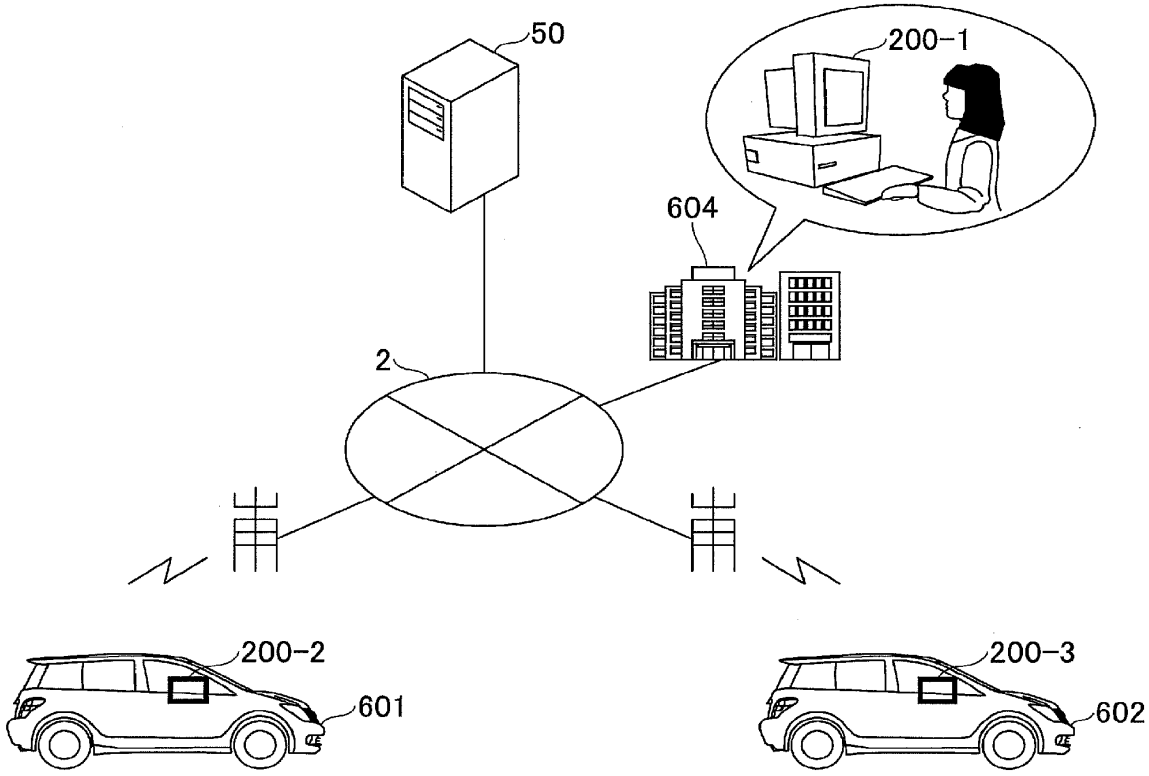


FIG.28

200-2, 200-3

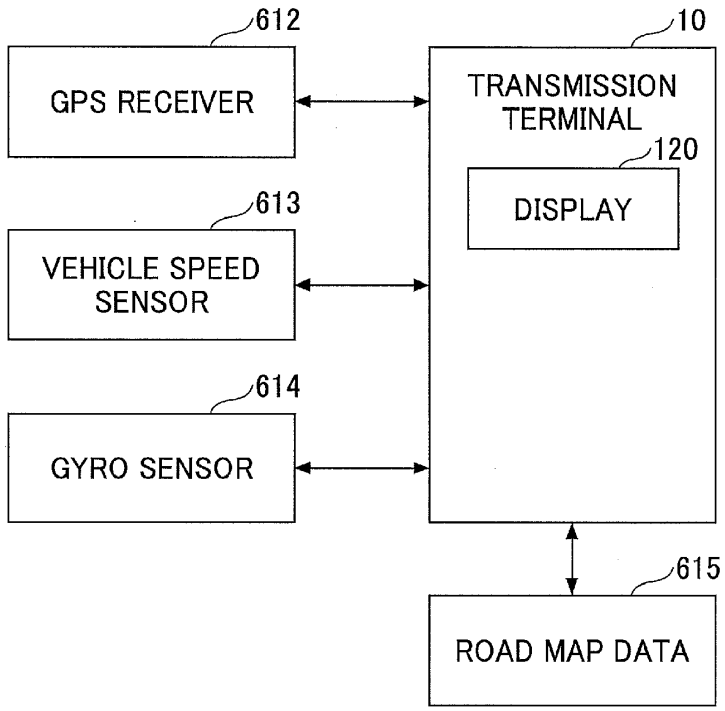
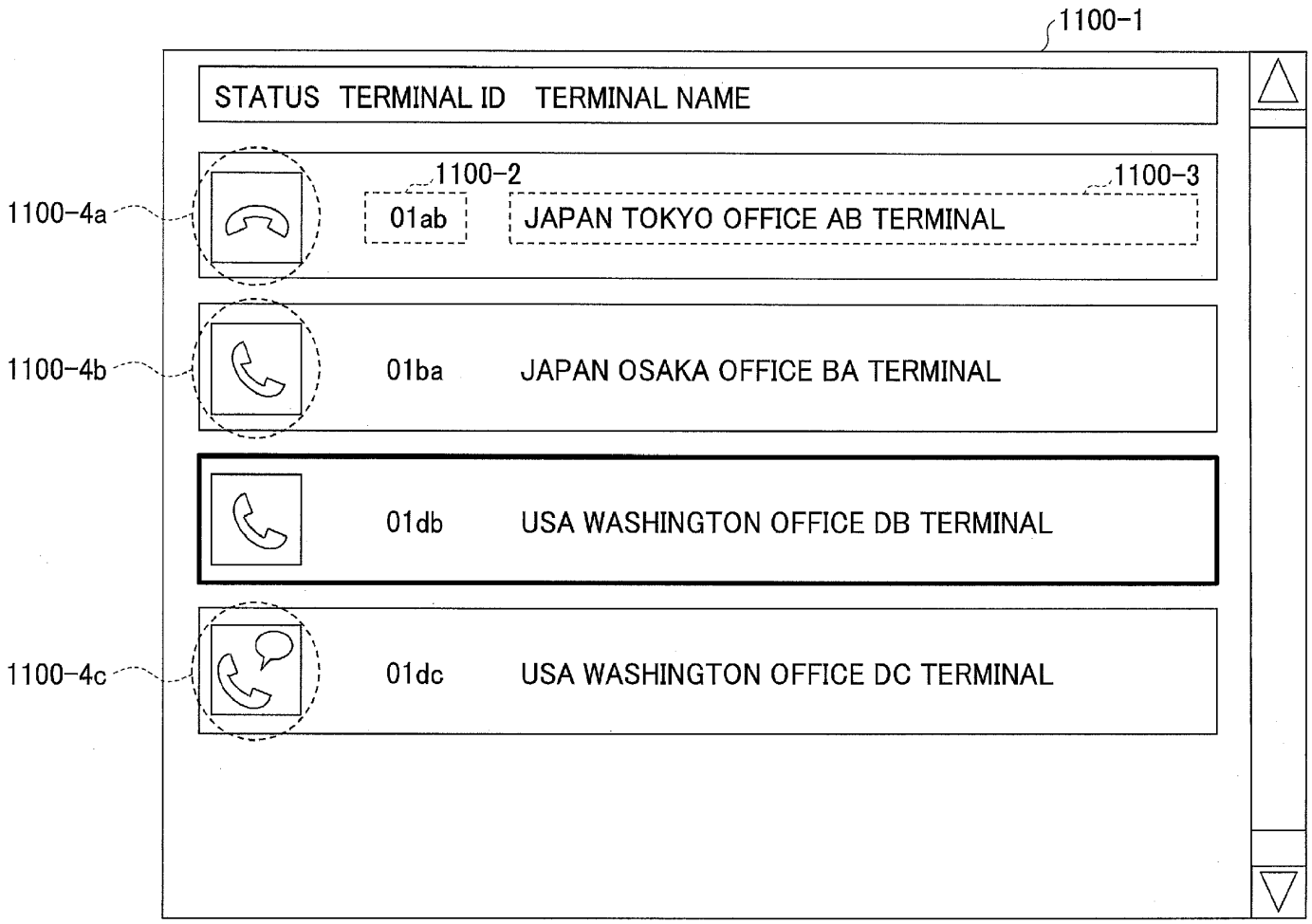


FIG.29


1100-1
STATUS TERMINAL ID TERMINAL NAME
1100-2
1100-3
1100-4a
01ab
JAPAN TOKYO OFFICE AB TERMINAL
1100-4b
01ba
JAPAN OSAKA OFFICE BA TERMINAL
01db
USA WASHINGTON OFFICE DB TERMINAL
1100-4c
01dc
USA WASHINGTON OFFICE DC TERMINAL

Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO.	SERIAL NO.
		526184US	New Application
LIST OF REFERENCES CITED BY APPLICANT		APPLICANT	
		Yoshinaga KATO	
		FILING DATE	GROUP
		Herewith	Unassigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	9,307,197	04/05/2016	Kato et al.			
	AB	9,131,104	09/08/2015	Nakafuji et al.			
	AC	2012/0182384	07/19/2012	Eric C. ANDERSON, et al. (corresponding to U.S. Publication Nos. 2014/0111597 and 2016/0088259)			
	AD	2014/0111597	04/24/2014	Eric C. ANDERSON, et al.			
	AE	2016/0088259	03/24/2016	Eric C. ANDERSON, et al.			
	AF	2009/0310601	12/17/2009	KAWAHATA, S.			
	AG	2017/0201718	07/13/2017	KATO, Y. et al.			
	AH	2014/0181340	06/2014	Parthasarathy, Balaji			
	AI	2012/0182381	07/2012	Abate, Umberto			
	AJ	2012/0069132	03/2012	Kato, Yoshinaga			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	AK	2013-157995	08/15/2013	Japan (corresponds to U.S. Patent No. 9,307,197)		X
	AL	2014-200063	10/23/2014	Japan (corresponds to U.S. Patent No. 9,131,104)		X
	AM	2013-191954	09/26/2013	Japan (w/English abstract)		X
	AN	2001-313915	11/09/2001	Japan (w/English abstract)		X
	AO	2007-025946	02/01/2007	Japan (w/English abstract)		X
	AP	2004-187170	07/02/2004	Japan (w/English abstract)		X
	AQ	WO 2011/126511 A1	10/13/2011	WIPO		
	AR	2009-302806 A	12/24/2009	Japan (corresponds to U.S. Publication No. 2009/0310601)		X
	AS	2012-134939 A	07/12/2012	Japan (corresponds to U.S. Publication No. 2017/0201718)		X
	AT	7-203405 A	08/04/1995	Japan (with English Abstract)		X
	AU	2012-195926 A	10/11/2012	Japan (Corresponds to U.S. Patent No. 9,307,197)		X

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AV	International Search Report issued on May 12, 2015 in PCT/JP2015/060144 filed on March 31, 2015 (w/English translation)
	AW	Written Opinion issued on May 12, 2015 in PCT/JP2015/060144 filed on March 31, 2015
	AX	Niimi, "Speech Recognition", Kyoritsu Publishing, Co., 1979, pp. 68-72
	AY	
	AZ	☒ Additional References sheet attached

Examiner	Date Considered

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

Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 526184US	SERIAL NO. New Application
LIST OF REFERENCES CITED BY APPLICANT		INVENTOR(S) Yoshinaga KATO	
		FILING DATE Herewith	GROUP Unassigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	BA						
	BB						
	BC						
	BD						
	BE						
	BF						
	BG						
	BH						
	BI						
	BJ						
	BK						
	BL						
	BM						
	BN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	BO					
	BP					
	BQ					
	BR					
	BS					
	BT					
	BU					
	BV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	BW	Office Action issued February 27, 2017 in European Patent Application No. 15773300.7	
	BX	Singaporean Office Action issued May 11, 2017in Singaporean Patent Application No. 11201608023X	
	BY	Office Action issued Mar. 20, 2018 in Japanese Patent Application No. 2014-111480, 3 pages	
	BZ	Office Action issued November 6, 2018 in corresponding Japanese Patent Application No. 2018-128035, 3 pages	☐ Additional References sheet attached
Examiner			Date considered

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

Electronic Acknowledgement Receipt	
EFS ID:	37476517
Application Number:	16654752
International Application Number:	
Confirmation Number:	6383
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Customer Number:	22850
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Filer Authorized By:	Philippe Jean-Claude Signore
Attorney Docket Number:	526184US
Receipt Date:	16-OCT-2019
Filing Date:	
Time Stamp:	16:36:42
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$2120
RAM confirmation Number	E20190FG36567486
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		526184USNewApp.pdf	12509955 d70baf07fec320da29a0d2fd2206f06b44ff6607	yes	151

Multipart Description/PDF files in .zip description

Document Description	Start	End
Information Disclosure Statement (IDS) Form (SB08)	150	151
Transmittal Letter	149	149
Power of Attorney	147	148
Oath or Declaration filed	146	146
Drawings-only black and white line drawings	117	145
Abstract	116	116
Claims	115	115
Specification	9	114
Application Data Sheet	3	8
Miscellaneous Incoming Letter	2	2
Transmittal of New Application	1	1

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	36811 ab02aa32cffeff65eeb7512ec238a2ea0e0c049d	no	2

Warnings:

Information:

Total Files Size (in bytes):	12546766

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 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.
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.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

As the below named inventor, I hereby declare that:

This declaration ☒ The attached application, or

is directed to: ☐ United States application or PCT international application number _____ filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

WHEREAS, Ricoh Company, Ltd. (hereinafter referred to as "ASSIGNEE") having places of business at: 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 143-8555, Japan, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS ($5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I, by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries (including the right to claim priority under the terms of the International Convention and other relevant International Treaties and Arrangements from the aforesaid application) and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.

Further, I agree that I will communicate to said ASSIGNEE or its (his) representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

LEGAL NAME OF INVENTOR

Inventor: Yoshinaga KATO Date: Sep. 23, 2016

Signature: Yoshinaga Kato

OBLON, McCLELLAND, MAIER & NEUSTADT, L.L.P.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5. If the Power of Attorney by Applicant form is not accompanied by this transmittal form or an equivalent, the Power of Attorney will not be recognized in the application.

Application Number	New Application
Patent Number	
Filing Date	Herewith
Issue Date	
First Named Inventor	Yoshinaga KATO
Title	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	526184US

SIGNATURE of Applicant or Patent Practitioner

Signature	/Sameer Gokhale/	Date	2019-10-16
Name	Sameer Gokhale	Telephone	703-413-3000
Registration Number	62,618		

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

■ *Total of 2 forms are submitted.

POWER OF ATTORNEY BY APPLICANT
(INVENTOR(S))

I hereby revoke all previous powers of attorney given in the application identified in the attached Transmittal for Power of Attorney form.

■ I hereby appoint 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:

22850

Please recognize or change the correspondence address for the above-identified patent to:

■ The address associated with the above-mentioned Customer Number.

I am the Applicant:

■ Inventor or Joint Inventor

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor

SIGNATURE of Applicant for Patent

Signature	Yoshinaga Kato	Date	Sep. 23, 2016
Name	Yoshinaga KATO	Telephone	

NOTE: Signature - This form must be signed by the applicant or applicant's representative in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below*.

■ *Total of 1 forms are submitted.

Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Yoshinaga KATO GAU: Unassigned

SERIAL NO: New Application EXAMINER: Unassigned

FILED: Herewith

FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

SUBMISSION NOTICE REGARDING PRIORITY DOCUMENT(S)

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

Certified copies of the Convention Application(s) corresponding to the above-captioned matter:

- ☐ are submitted herewith
- ■ were retrieved by the USPTO in prior application Serial No. 15/277,069 filed September 27, 2016.
- ☐ were submitted to the International Bureau in PCT Application Number _____
  Receipt of the certified copies by the International Bureau in a timely manner under PCT Rule 17.1(a) has been acknowledged as evidenced by the attached PCT/IB/304.

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TITLE OF THE INVENTION

TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

CROSS-REFERENCE TO APPLICATIONS

This application is a continuation of and claims the benefit of priority under 35 U.S.C. §120 from U.S. Application No. 15/277,069 filed September 27, 2016, which is a continuation of prior International Application No. PCT/JP2015/060144 filed March 31, 2015, which claims the benefit of priority under 35 U.S.C. §119 from Japanese Patent Application No. 2014-071406 filed March 31, 2014, the entire contents of each of which are incorporated herein by reference. Also, the contents of Japanese Patent Application No. 2014-111480 filed May 29, 2014 is incorporated herein by reference in its entirety.

BACKGROUND

1. Technical Field

The present invention relates to a transmission terminal, a non-transitory recording medium, a transmission method, and a transmission system.

2. Description of the Related Art

In a video conference system, a transmission terminal acquires an image and a sound by taking an image and acquiring a statement of a participant of the video conference, and transmits the acquired image and sound to a destination transmission terminal. The destination transmission terminal displays the image using a display or a projector connected to the destination transmission terminal, and outputs the sound from a speaker. Thus, it is possible for respective remote participants to carry out a conference in a condition similar to an actual conference.

In such a remote conference system, the number of transmission terminals that participate in a conference is not limited to 2, and, it is possible to implement a video conference among many bases by using all the transmission terminals that participate in the conference.

Generally speaking, in a video conference carried out among many bases, a participant who will participate in the conference using a transmission terminal wishes to know who in a remote place has participated in the conference. Therefore, each transmission terminal divides an image area of a

display of the transmission terminal into divisions corresponding to transmission terminals which have participated in the video conference, and displays participants in the respective division image areas transmitted from the corresponding transmission terminals.

A transmission terminal that has an image mode where information of transmission terminals that have participated in a video conference is displayed in addition to an image mode where images transmitted from the other transmission terminals are displayed is known (for example, see Japanese Unexamined Patent Application No. 2013-157995).

Also, there is a disclosure on 68-72 pages of a document "Voice Recognition", written by Yasunaga Niimi, published by Kyoritsu Shuppan Co., Ltd., 1979.

SUMMARY

According to one aspect, a transmission terminal includes at least one processor that is configured to transmit a terminal information request to request the number of transmission terminals under transmission to a transmission management apparatus connected via a network; and display image data

received from one or more of the transmission terminals under transmission on a display device, and display the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on the display device.

Other objects, features, and advantages will become more apparent from the following detailed description when read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 generally illustrates one example of a transmission system 1;

FIG. 2 is a conceptual diagram illustrating one example of a state where, in the transmission system, image data, sound data, and various sorts of management information are transmitted and received;

FIG. 3 is a conceptual diagram illustrating image quality of image data;

FIG. 4 is one example of an outline view of a transmission terminal;

FIG. 5 illustrates one example of a hardware configuration of the transmission terminal;

FIG. 6 is a hardware configuration diagram

of any one of a transmission management apparatus, a UI providing apparatus, a relay apparatus, and a program providing apparatus;

FIG. 7 is one example of a functional block diagram of each of the terminals, the apparatuses and the system included in the transmission system;

FIG. 8 is one example of a conceptual diagram of a terminal authentication management table managed by the transmission management apparatus;

FIG. 9A is one example of a conceptual diagram of a terminal management table managed by the transmission management apparatus;

FIG. 9B is one example of a conceptual diagram of a terminal management table managed by the transmission management apparatus;

FIG. 10 is one example of a conceptual diagram of a terminal management table managed by the transmission management apparatus;

FIG. 11 is one example of a sequence diagram illustrating a preparation stage operation carried out until a transmission terminal enters a preparation state for participating in a video conference;

FIG. 12 is one example of a sequence diagram illustrating a conference participation

operation carried out until a transmission terminal enters a participated state where the transmission terminal has participated in the video conference;

FIG. 13 is one example of a sequence diagram illustrating a data transmission operation between transmission terminals;

FIG. 14 illustrates one example of a screen page displayed on a display in a full screen display mode;

FIG. 15 illustrates one example of a screen page displayed on the display in an information display mode;

FIG. 16 is a sequence diagram illustrating a terminal information displaying operation of displaying terminal information in a terminal information display area when a transmission terminal has switched a display mode into the information display mode;

FIG. 17A illustrates one example of a display screen page in the full screen display mode when the number of bases is 4;

FIG. 17B illustrates one example of a display screen page in the full screen display mode when the number of bases is 9;

FIG. 18 illustrates one example of a

display screen page where the number of bases is displayed in the full screen display mode;

FIG. 19 illustrates another example of a display screen page where the number of bases is displayed in the full screen display mode;

FIG. 20 illustrates one example of a display screen page where the number of images displayed in the full screen display mode is different from the number of bases displayed in a second area;

FIG. 21 illustrates one example of an auxiliary area in a simple display manner;

FIG. 22 is one example of a sequence diagram illustrating a procedure in which the transmission system displays the number of bases when a transmission terminal is in the full screen display mode;

FIG. 23 illustrates one example of a screen page from which a user performs a setting to display an auxiliary area;

FIG. 24 is one example of a flowchart illustrating an operation procedure to switch between the auxiliary area in a standard manner and the auxiliary area in a simple display manner carried out by a transmission terminal when "display in response

to being operated" is selected;

FIG. 25 is one example of a flowchart illustrating an operation procedure of the transmission management apparatus;

FIG. 26 is one example of a flowchart illustrating an operation procedure of a transmission terminal;

FIG. 27 illustrates one example of a system configuration in a case where a transmission terminal is applied as a car navigation apparatus;

FIG. 28 illustrate one example of a configuration diagram of an in-vehicle car navigation apparatus; and

FIG. 29 illustrates one example of displaying a destination list displayed on the car navigation apparatus.

DETAILED DESCRIPTION OF EMBODIMENTS

In a transmission terminal disclosed in Japanese Unexamined Patent Application No. 2013-157995, switching is carried out between an image mode where images transmitted from the other transmission terminals are displayed and an image mode where information of transmission terminals that have participated in a video conference is displayed.

Therefore, for example, in the image mode where images transmitted from the other transmission terminals are displayed, it is impossible to acquire the information of transmission terminals acquirable in the image mode where the information of transmission terminals that have participated in a video conference is displayed.

In consideration of the problem, an object is to provide a transmission terminal with which it is possible to know information of other bases even in an image mode where images from transmission terminals are displayed.

Below, embodiments of the present invention will be described with reference to the drawings.

FIG. 1 generally illustrates a transmission system 1 according to an embodiment of the present invention. FIG. 2 is a conceptual diagram illustrating a state where, in the transmission system 1, image data, sound data, and various sorts of management information are transmitted and received. FIG. 3 is a conceptual diagram illustrating image quality of image data.

The transmission system 1 may be a data providing system that unidirectionally transmits content data from one transmission terminal to a

plurality of transmission terminals via a transmission management apparatus 50, or a communication system that transmits information, feelings, and so forth, mutually between a plurality of transmission terminals via a transmission management apparatus 50. The communication system may be a system that transmits information, feelings, and so forth, mutually between a plurality of communication terminals (corresponding to "transmission terminals") via a communication management apparatus (corresponding to a "transmission management apparatus"), and thus, for example, may be a video conference system, a video phone system, or the like.

Concerning the present embodiment, the transmission system 1, a transmission management apparatus 50, and transmission terminals 10 will be described, assuming a video conference system as one example of a communication system, assuming a video conference management apparatus as one example of a communication management apparatus, and assuming video conference terminals as examples of communication terminals. That is, the transmission terminals and the transmission management apparatus 50 according to the present invention can be applied

not only to a video conference system but also to a communication system, or a data transmission system.

As illustrated in FIG. 1, the transmission system 1 includes a plurality of the transmission terminals 10aa, 10ab, and so forth, displays 120aa, 120ab, and so forth of the respective transmission terminals 10aa, 10ab, and so forth, a UI providing apparatus 20, an information processing terminal 40, relay apparatuses 30a, 30b, 30c, and 30d, the transmission management apparatus 50, and a program providing apparatus 90. The transmission terminals 10aa, 10ab, and so forth, transmit and receive, for example, image data and sound data, as content data.

Note that, hereinafter, any one of the transmission terminals 10aa, 10ab, and so forth, may be referred to as a "transmission terminal 10", and any one of the displays 120aa, 120ab, and so forth, may be referred to as a "display 120". A transmission terminal that requests to start a video conference may be referred to as a "requesting terminal", and a transmission terminal which is thus requested may be referred to as a "destination terminal". Also, any one of the relay apparatuses 30a through 30d may be referred to as a "relay apparatus 30".

Also, transmission terminals 10 that have participated in a video conference or places where the terminals 10 are located will be referred to as "bases". The number of bases is the same as the number of transmission terminals 10 that have participated in the video conference. However, there may be a plurality of terminals 10 in a space that can be regarded as a single place (for example, a single conference room).

The UI providing apparatus 20 transmits layout information (described later), mainly for displaying the number of bases, to transmission terminals 10. For example, the transmission management apparatus 50 or a relay apparatus 30 may function as the UI providing apparatus 20 in addition to the original function of the transmission management apparatus 50 or the relay apparatus 30 itself.

Also, the information processing terminal 40 is an apparatus where the function of a transmission terminal 10 is implemented by software. Actually, the information processing terminal 40 is implemented in a configuration of, for example, a PC (Personal Computer), a tablet-type terminal, a smartphone, a cell phone, a PDA (Personal Digital

Assistant), an electronic book reading terminal, or the like.

As illustrated in FIG. 2, in the transmission system 1, a management information session 300I for transmitting and receiving various sorts of management information is established between a requesting terminal and a destination terminal via the transmission management apparatus 50.

Also, between a requesting terminal and a destination terminal between which a management information session 300I is established, 4 respective sessions are established for transmitting and receiving, via a relay apparatus 30, 4 types of data, i.e., high resolution image data 310, medium resolution image data 320, low resolution image data 330, and sound data 340. Note that in the present embodiment, the 4 sessions will be referred to as an "image and sound data session 300D" as a whole.

Image data processed in the present embodiment is scalably encoded. For example, image data processed in the present embodiment includes low resolution image data 330, medium resolution image data 320, and high resolution image data 310. As illustrated in FIG. 3, low resolution image data 330 has a resolution such as 320 pixels (horizontal

direction) by 180 pixels (vertical direction), medium resolution image data 320 has a resolution such as 640 pixels (horizontal direction) by 360 pixels (vertical direction), and high resolution image data 310 has a resolution such as 1280 pixels (horizontal direction) by 720 pixels (vertical direction).

If a band to transmit image data is narrow, low resolution image data 330 as a base image is transmitted, and a transmission terminal 10 on the reception side can display an image of low image quality based on the transmitted low resolution image data 330.

If a band to transmit image data is relatively wide, low resolution image data 330 as a base image and medium resolution image data 320 are transmitted, and a transmission terminal 10 on the reception side can display an image of medium image quality based on the transmitted low resolution image data 330 and the medium resolution image data 320.

If a band to transmit image data is very wide, low resolution image data 330 as a base image, medium resolution image data 320, and high resolution image data 310 are transmitted, and a transmission terminal 10 on the reception side can display an image of high image quality based on the transmitted

low resolution image data 330, the medium resolution image data 320, and the high resolution image data 310.

In FIG. 1, a relay apparatus 30 relays content data between a plurality of transmission terminals 10. The transmission management apparatus 50 unitarily manages login authentication requested by transmission terminals 10, transmission statuses of transmission terminals 10, a destination list, a transmission situations in relay apparatuses 30, and so forth. Note that an image expressed by image data may be a moving image or a static image, or both a moving image and a static image.

A plurality of routers 70a, 70b, 70c, 70d, 70ab, and 70cd select optimum routes of image data and sound data. Note that hereinafter, any one of the routers 70a, 70b, 70c, 70d, 70ab, and 70cd may be referred to as a "router 70".

The program providing apparatus 90 includes a hard disk (HD) 204 (FIG. 6), stores a transmission terminal control program 1000a (FIG. 7) to implement various functions of transmission terminals 10, and can transmit the transmission terminal control programs 1000a to the transmission terminals 10.

Also, in the HD204 of the program providing

apparatus 90, a relay apparatus program to implement various functions of a relay apparatus 30 is stored, and the program providing apparatus 90 can transmit the relay apparatus programs to the relay apparatuses 30.

Also, in the HD204 of the program providing apparatus 90, a transmission management program to implement various functions of the transmission management apparatus 50 is stored, and the program providing apparatus 90 can transmit the transmission management program to the transmission management apparatus 50.

Also, in the HD204 of the program providing apparatus 90, a UI providing apparatus program to implement various functions of the UI providing apparatus 20 is stored, and the program providing apparatus 90 can transmit the UI providing apparatus program to the UI providing apparatus 20.

Also, in the HD204 of the program providing apparatus 90, an information processing terminal program to implement various functions of the information processing terminal 40 is stored, and the program providing apparatus 90 can transmit the information processing terminal program to the information processing terminal 40.

The transmission terminals 10aa, 10ab, 10ac, and so forth, and the router 70a are connected together via a local area network (LAN) 2a in a manner to enable data transmission. The transmission terminal 10ba, 10bb, 10bc, and so forth, and the router 70b are connected together via a LAN 2b in a manner to enable data transmission.

The LANs 2a and 2b are connected together via a private line 2ab that includes the router 7ab, in a manner to enable data transmission, and are installed in a certain area A. For example, the area A is Japan, the LAN 2a is installed in a Tokyo office, and the LAN 2b is installed in an Osaka office.

The transmission terminal 10ca, 10cb, 10cc, and so forth, and the router 70c are connected together via a LAN 2c in a manner to enable data transmission. The transmission terminal 10da, 10db, 10dc, and so forth, and the router 70d are connected together via a LAN 2d in a manner to enable data transmission.

The LANs 2c and 2d are connected together via a private line 2cd that includes the router 7cd, in a manner to enable data transmission, and are installed in a certain area B. For example, the area B is USA, the LAN 2c is installed in a New York

office, and the LAN 2d is installed in a Washington office. The areas A and B are connected together via the Internet using the routers 70ab and 70cd, respectively, in a manner to enable data transmission therebetween.

Also, the relay apparatuses 30, the transmission management apparatus 50, the UI providing apparatus 20, the information processing terminal 40, and the program providing apparatus 90 are connected to the respective transmission terminals 10 via the Internet 2i in a manner to enable data transmission. The relay apparatuses 30, the transmission management apparatus 50, the UI providing apparatus 20, the information processing terminal 40, and the program providing apparatus 90 may be installed in the area A or the area B, or in an area other than the areas A and B.

Note that according to the present embodiment, the transmission network 2 includes the LANs 2a and 2b, the private line 2ab, the Internet 2i, the private line 2cd, and the LANs 2c and 2d. The transmission network 2 may include not only zones where wired transmission is carried out, but also zones where wireless transmission is carried out through WiFi (Wireless Fidelity), Bluetooth

(registered trademark), or the like.

Also, in FIG. 1, the 4 digit figures indicated below each of the transmission terminals 10, the relay apparatuses 30, the transmission management apparatus 50, the routers 70, the UI providing apparatus 20, the information processing terminal 40, and the program providing apparatus 90 simply express an IP address in a general IPv4. For example, the IP address of the transmission terminal 10aa is "1.2.1.3". Instead of IPv4, IPv6 may be used. However, for the sake of simplification of description, description will be made using IPv4.

Note that the respective transmission terminals 10 may be used not only for a video conference among a plurality offices or among a plurality of rooms in the same office, but also for a video conference in the same room, or a video conference between an outdoor place and an indoor place, or between an outdoor place and another outdoor place. If the respective transmission terminals 10 are used outdoor, transmission is carried out wirelessly through a cell phone network or the like.

FIG. 4 is an outline view of a transmission terminal 10. Below, description will be made

assuming the longitudinal direction of the transmission terminal 10 as an X-axis direction, a direction perpendicular to the X-axis direction on a horizontal plane as a Y-axis direction, and a direction (vertical direction) perpendicular to the X-axis direction and the Y-axis direction as a Z-axis direction.

As illustrated in FIG. 4, a transmission terminal 10 includes a housing 1100, an arm 1200, and a camera housing 1300. A front wall 1110 of the housing 1100 has an air suction surface (not illustrated) that includes air suction holes, and a rear wall 1120 of the housing 1100 has an air ejection surface 1121 that includes air ejection holes. Thereby, as a result of a cooling fan included in the housing 1100 being driven, an external air can be suctioned through the suction surface from the front side of the transmission terminal 10, and the suctioned air can be ejected to the rear side of the transmission terminal 10 through the air ejection surface 1121. The right wall 1130 of the housing 1100 has a sound collection hole 1131 through which, by a built-in-type microphone 114 (FIG. 5) described later, voices, sounds, noises, and so forth can be collected.

At a side of the housing 1100 near the right wall 1130, an operation panel 1150 is formed. The operation panel 1150 has a plurality of operation buttons 108a through 108e, a power switch 109, and an alarm lamp 119, and also, has a sound output surface 1151 that includes sound output holes through which sounds that are output from a built-in-type speaker 115 (FIG. 5) pass. At a side of the housing 1100 near the left wall 1140, an accommodation section 1160 as a recess to accommodate the arm 1200 and the camera housing 1300 is formed. The right wall 1130 of the housing 1100 has connection holes 1132a through 1132c for eclectically connecting cables to an external apparatus connection interface (I/F) 118 (FIG. 5). The left wall 1140 of the housing 1100 has a connection hole (not illustrated) for electrically connecting a cable 120c for the external apparatus connection I/F 118 for the display 120.

Hereinafter, any one of the operation buttons 108a through 108e will be referred to as an "operation button 108", and any one of the connection holes 1132a through 1132c will be referred to as a "connection hole 1132".

The arm 1200 is installed on the housing 1100 via a torque hinge 1210, so that the arm 1200 is

vertically rotatable with respect to the housing 1100, in a tilt angle range $\theta 1$ of 135 degrees. FIG. 4 indicates that a state of the arm 1200 where the tilt angle $\theta 1$ is 90 degrees.

The camera housing 1300 has a built-in-type the camera 112, and it is possible to take images of a user, a document, a room, and so forth through the camera 112. Also, the camera housing 1300 has a torque hinge 1310. The camera housing 1300 is installed on the arm 1200 through the torque hinge 1310. The camera housing 1300 is rotatable vertically and horizontally with respect to the arm 1200, in a panning range of $\theta 2$ of ± 180 degrees and a tilt angle range $\theta 3$ of ± 45 degrees from the state of the camera housing 1300 illustrated in FIG. 4.

Note that the UI providing apparatus 20, the relay apparatuses 30, the transmission management apparatus 50, the program providing apparatus 90, and a maintenance system 100 have outlines the same as a common server computer. Therefore, description of the outlines will be omitted. The information processing terminal 40 has an outline the same as a common PC, a smartphone, a tablet terminal, or the like, and therefore, description of the outline will be omitted.

FIG. 5 illustrates one example of a hardware configuration of a transmission terminal 10. As illustrated in FIG. 5, the transmission terminal 10 includes a CPU (Central Processing Unit) 101 controlling the entirety of the transmission terminal 10, a ROM (Read-Only Memory) 102 storing programs such as an IPL (Initial Program Loader) used to drive the CPU 101, a RAM (Random Access Memory) 103 used as a work area of the CPU 101, a flash memory 104 storing various sorts of data such as the transmission terminal control program 1000a, and image data and sound data, a solid state drive (SSD) 105 controlling reading various sorts of data from the flash memory 104 and writing various sorts of data to the flash memory 104 under the control of the CPU 101, a medium drive 107 controlling reading data from a recording medium 106 such as a flash memory and writing (storing) data to the recording medium 106, the operation buttons 108 operated for selecting a destination of the transmission terminal 10, for example, the power switch 109 for turning on and off the power in the transmission terminal 10, and a network I/F 111 for data transmission via the transmission network 2 (FIG. 1).

Also, the transmission terminal 10 includes

the built-in-type the camera 112 to acquire image data by taking an image of a subject under the control of the CPU 101, an image sensor I/F 113 to control driving the camera 112, the microphone 114 as a built-in-type sound collection device to input sounds, the built-in-type speaker 115 to output sounds, a sound input and output I/F 116 inputting and outputting sound signals between the microphone 114 and the speaker 115 under the control of the CPU 101, a display I/F 117 transmitting image data to an externally installed display 120 under the control of the CPU 101, the external apparatus connection I/F 118 to connect various external apparatuses, and a bus line 110 such as an address bus, a data bus, and so forth to electrically connect the above-mentioned respective elements.

A display 120 is a display device using a liquid crystal or an organic electroluminescence (EL) to display an image of a subject, operation icons, and so forth. The display 120 is connected to the display I/F 117 via the cable 120c. The cable 120c may be an analog RGB (VGA) signal cable, a component video cable, a cable for HDMI (High-Definition Multimedia Interface) (registered trademark), or a DVI (Digital Video Interactive)

signal.

The camera 112 includes a lens and a solid-state image sensing device to acquire image data of an image of a subject by converting light into charge. As the solid-state image sensing device, a CMOS (Complementary Metal Oxide Semiconductor), a CCD (Charge Coupled Device), or the like is used.

It is possible to connect an external apparatus such as an externally installed camera, an externally installed microphone, an externally installed speaker, and so forth to the extremal apparatus connection I/F 118 through a USB (Universal Serial Bus) cable, or the like.

If an externally installed camera is connected to the external apparatus connection I/F 118, the CPU 101 drives the externally installed camera in priority to the built-in-type the camera 112. Also, if an externally installed microphone or an externally installed speaker is connected to the external apparatus connection I/F 118, the CPU 101 drives the externally installed microphone or the externally installed speaker in priority to the built-in-type microphone 114 or the built-in-type speaker 115.

Note that the recording medium 106 is

detachable to the transmission terminal 10. Also, the transmission terminal 10 may use, as a nonvolatile memory for reading data and writing data under the control of the CPU 101, an EEPROM (Electrically Erasable and Programmable ROM), or the like, instead of the flash memory 104.

The transmission terminal control program 1000a may be a file of an installable or executable type, and may be circulated in a form of a computer readable medium such as the recording medium 106. Also, the transmission terminal control program 1000a may be stored in the ROM 102 instead of the flash memory 104.

The information processing terminal 40 has a hardware configuration the same as or similar to the transmission terminal 10, and therefore, description of the hardware configuration will be omitted. However, in the SSD 105, the information processing terminal program to control the information processing terminal 40 is stored.

FIG. 6 is a hardware configuration diagram of any one of the transmission management apparatus 50, the UI providing apparatus 20, a relay apparatus 30, and the program providing apparatus 90. As illustrated in FIG. 6, the transmission management

apparatus 50 includes a CPU 201 to control the entirety of the transmission management apparatus 50, a ROM 202 to store programs such as an IPL to drive the CPU 201, a RAM 203 used as a work area of the CPU 201, a HD204 to store various sorts of data such as the transmission management program, a hard disk drive (HDD) 205 to control reading various sorts of data from and writing various sorts of data to the HD204 under the control of the CPU 201, a medium drive 207 to control reading data from and writing (storing) data to (in) a recording medium 206 such as a flash memory, a display 208 to display various sorts of information such as a cursor, a menu, a window, a character/letter, an image, and so forth, a network I/F 209 for data transmission through the transmission network 2 (FIG. 1), a keyboard 211 including a plurality of keys for inputting character/letters, numerical values, various instructions, and so forth, a mouse 212 for selecting or executing various instructions, selecting a processing target, moving the cursor, and so forth, a CD-ROM (Compact Disc Read-Only Memory) drive 214 to control reading various sorts of data from and writing various sorts of data to a CD-ROM 213 as an example of a detachable recording medium, and a bus

line 210 such as an address bus and a data bus to electrically connect the respective elements.

Note that the transmission management program may be a file of an installable or executable type, and may be circulated in a form of a computer readable medium such as the recording medium 206 or the CD-ROM 213. Also, the transmission management program may be stored in the ROM 202 instead of the HD 204.

A relay apparatus 30 has a hardware configuration the same as or similar to the transmission management apparatus 50, and therefore, description of the hardware configuration will be omitted. However, in the HD 204, the relay apparatus program to control the relay apparatus 30 is stored.

Also in this case, the relay apparatus program may be a file of an installable or executable type, and may be circulated in a form of a computer readable medium such as the recording medium 206 or the CD-ROM 213. Also, the relay apparatus program may be stored in the ROM 202 instead of the HD 204.

Also, the program providing apparatus 90 has a hardware configuration the same as or similar to the transmission management apparatus 50, and therefore, description of the hardware configuration

will be omitted. However, in the HD 204, the program providing apparatus program to control the program providing apparatus 90 is stored.

Also in this case, the program providing apparatus program may be a file of an installable or executable type, and may be circulated in a form of a computer readable medium such as the recording medium 206 or the CD-ROM 213. Also, the program providing apparatus program may be stored in the ROM 202 instead of the HD 204.

Also, the UI providing apparatus 20 has a hardware configuration the same as or similar to the transmission management apparatus 50, and therefore, description of the hardware configuration will be omitted. However, in the HD 204, the UI providing apparatus program to control the UI providing apparatus 90 and layout information described later is stored.

Also in this case, the UI providing apparatus program and the layout information may be files of an installable or executable type, and may be circulated in a form of a computer readable medium such as the recording medium 206 or the CD-ROM 213. Also, the UI providing apparatus program and the layout information may be stored in the ROM 202

instead of the HD 204.

Note that as the above-mentioned computer readable recording media, CD-R (Compact Discs Recordable), DVD (Digital Versatile Disks), Blu-ray disks, or the like may be used.

FIG. 7 is a functional block diagram of any one of the terminals, apparatuses and the system included in the transmission system 1. As illustrated in FIG. 7, a transmission terminal 10, a relay apparatus 30 and the transmission management apparatus 50 are connected together via the transmission network 2 in such a manner as to enable data transmission. Note that because the relay apparatuses 30 and the program providing apparatus 90 illustrated in FIG. 1 do not directly relate to data transmission concerning video conferences, the relay apparatus 30 and the program providing apparatus 90 are omitted in FIG. 7. Because the information processing terminal 40 has a function equivalent to a transmission terminal 10, the transmission terminal 10 in FIG. 7 may be the information processing terminal 40.

A functional configuration of a transmission terminal 10 will be described. The transmission terminal 10 includes a transmission and

reception unit 11, an operation input reception unit 12, a login request unit 13, an imaging unit 14, a sound input unit 15a, a sound output unit 15b, a display control unit 17, and a storing and reading process unit 19. These elements are functions implemented by the CPU 101 executing the transmission terminal control program 1000a written in the RAM 103 from the flash memory 104. Also, the transmission terminal 10 has a storage unit 1000 implemented by the RAM 103 and the flash memory 104.

The transmission and reception unit 11 is implemented by the CPU 101 and the network I/F 111, and transmits various sorts of data and information to and receives various sorts of data and information from another transmission terminal 10, a relay apparatus 30, the transmission management apparatus 50, and the program providing apparatus 90 via the transmission network 2.

The transmission and reception unit 11 starts receiving respective items of status information that indicate statuses of the respective transmission terminals 10 as candidates for connecting destinations concerning a video conference, from the transmission management apparatus 50, before starting the video conference with the desired

destination terminals.

The status information indicates not only an operational status as to whether each transmission terminal 10 is in an online status or an offline status but also a detailed operational status as to whether each transmission terminal 10 is in an online and transmission possible status or in an online and under transmission status, or the like.

Also, the status information indicates not only the operational status of each transmission terminal 10 but also various statuses of each transmission terminal 10 as to whether the cable 120c is removed from the transmission terminal 10, the transmission terminal 10 outputs a sound but does not output an image, the transmission terminal 10 is in a state where the transmission terminal 10 is prevented from outputting a sound (MUTE), and so forth. However, hereinafter, for the sake of easily understanding the present invention, a case where status information indicates an operational status of each transmission terminal 10 will be described.

The operation input reception unit 12 is implemented by the CPU 101, the operation buttons 108, and the power switch 109, and receives user's various inputs. For example, if a user turns on the power

switch 109, the operation input reception unit 12 receives the power-turning-on operation, to turn on the power in the transmission terminal 10.

The login request unit 13 is implemented by the CPU 101, and, in response to reception of a power-turning-on operation, the login request unit 13 transmits login request information that indicates a request to login and a current IP address of the transmission terminal 10, to the transmission management apparatus 50 from the transmission and reception unit 11 via the transmission network 2.

Also, if a user operates the power switch 109, from the turned on state to the turned off state, the operation input reception unit 12 completely turns off the power in the transmission terminal 10 after the transmission and reception unit 11 transmits status information that indicates to turn off the power to the transmission management apparatus 50. Therefore, the transmission management apparatus 50 can know that the transmission terminal 10 is switched from the power turned on state to the power turned off state.

The imaging unit 14 is implemented by the CPU 101, the camera 112, and the image sensor I/F 113, takes an image of a subject, and outputs image

data acquired from taking the image to the transmission and reception unit 11.

The sound input unit 15a is implemented by the CPU 101 and the sound input and output I/F 116. A sound signal that represents a sound collected by the microphone 114 is input to the sound input unit 15a which converts the input sound signal into sound data.

The sound output unit 15b is implemented by the CPU 101 and the sound input and output I/F 116, convers sound data into a sound signal, outputs the converted sound signal to the speaker 115 which then outputs a corresponding sound.

The display control unit 17 is implemented by the CPU 101 and the display I/F 117, combines respective pieces of image data received by the transmission and reception unit 11 having different resolutions, transmits the combined image data to the display 120 which then displays an image expressed by the image data.

Also, the display control unit 17 transmits destination list information that the transmission and reception unit 11 receives from the transmission management apparatus 50 to the display 120 which thus displays a corresponding destination list.

The display control unit 17 has an auxiliary area display unit 18. If the transmission terminal 10 is in a full screen display mode that will be described later, the auxiliary area display unit 18 displays the number of bases participating a conference, and so forth, in an auxiliary area of a display screen page.

The storing and reading process unit 19 is implemented by the CPU 101 and the SSD 105, and stores various sorts of data in the storage unit 1000, and reads various sorts of data from the storage unit 1000.

The storage unit 1000 stores an identifier for identifying the transmission terminal 10 (also referred to as identification information, and, hereinafter, referred as a "terminal ID"), a password, and so forth. Also, the storage unit 1000 is used as a reception buffer for storing image data and sound data that are received when the transmission terminal 10 carries out a video conference with a destination terminal.

Note that the terminal ID according to the present embodiment denotes information for uniquely identifying the transmission terminal 10 such as a language, characters/letters, a symbol, or any one of

various signs. Also, the terminal ID may be information acquired from combining at least two of a language, characters/letters, a symbol, and any one of various signs.

A functional configuration of the transmission management apparatus 50 will now be described. The transmission management apparatus 50 includes a transmission and reception unit 51, a terminal authentication unit 52, a status management unit 53, a terminal extraction unit 54, a terminal status acquisition unit 55, and a storing and reading process unit 59. These units are functions implemented by the CPU 201 that executes the transmission management program written in the RAM 203 from the HD 204. Also, the transmission management apparatus 50 has a storage unit 5000 implemented by the HD 204.

In the storage unit 5000, a terminal authentication management DB 5002 that has a terminal authentication management table 5002T such as a table illustrated in FIG. 8 is established. In the terminal authentication management table 5002T, passwords are associated with respective terminal IDs of all the transmission terminals 10 managed by the transmission management apparatus 50 and are

managed. For example, the terminal authentication management table 5002T illustrated in FIG. 8 indicates a password "aaaa" for a terminal ID "01aa" of a transmission terminal 10aa.

Also, in the storage unit 5000, a terminal management DB 5003 that has a terminal management table 5003T such as a table illustrated in FIGs. 9A and 9B is established. FIG. 9A illustrates the terminal management table 5003T where the transmission terminal 10aa that has the terminal ID "01aa" has logged in, and FIG. 9B illustrates the terminal management table 5003T where the transmission terminal 10aa that has the terminal ID "01aa" has transmitted start request information that will be described later.

In the terminal management table 5003T, for the terminal ID of each transmission terminal 10, an identifier of the transmission terminal 10 (hereinafter, referred to as a "terminal name"), the operational status of the transmission terminal 10, the received date and time at which the transmission management apparatus 50 has received login request information for logging in to transmission system 1, and the IP address of the transmission terminal 10 are associated with each other, and are managed.

For example, the terminal management table 5003T illustrated in FIG. 9A indicates that the transmission terminal 10aa that has the terminal ID "01aa" has a terminal name "Japan Tokyo office AA terminal", and the operational status "online (transmission possible)", the date and time at which the transmission management apparatus 50 has received login request information is "13:40, November 10, 2009", and the transmission terminal 10aa has the IP address "1.2.1.3".

The terminal ID in the terminal management table 5003T is uniquely assigned to each transmission terminal 10 when the transmission terminal 10 is registered with the transmission system 1 before login request information that is transmitted in step S22 of FIG. 11 described later is transmitted, and the terminal name is registered or changed by an administrator of the transmission management apparatus 50. Note that the terminal name may be registered or changed according to a request that is transmitted from the transmission terminal 10 to the transmission management apparatus 50.

The operational status "online (transmission possible)" denotes a state where the transmission terminal 10 has logged in the

transmission system 1, and has not participated in a video conference. The operational status "online (under transmission)" denotes a state where the transmission terminal 10 has logged in the transmission system 1, and has participated in a video conference. The operational status "offline" denotes a state where the transmission terminal 10 has not logged in the transmission system 1. A transmission terminal 10 that has participated in a video conference is a transmission terminal 10 that has an operational status "online (under transmission)".

Also, in the storage unit 5000, a destination list management DB 5004 that has a destination list management table 5004T such as a table illustrated in FIG. 10 is established. Note that the destination list management DB 5004 corresponds to a destination list management table storage unit.

In the destination list management table 5004T, all of the terminal IDs of destination terminals registered as candidates for destination terminals are associated with the terminal ID of a requesting terminal that requests to start a video conference, and are managed.

For example, the destination list management table 5004T illustrated in FIG. 10 indicates that candidates for destination terminals to which the transmission terminal 10aa that has the terminal ID "01aa" requests to start a video conference are the transmission terminal 10ab of the terminal ID "01ab", the transmission terminal 10ba of the terminal ID "01ba", and the transmission terminal 10db of the terminal ID "01db". Candidates for destination terminal are added or deleted according to a request that is transmitted from a transmission terminal 10 to the transmission management apparatus 50.

In the destination list management table 5004T, candidates for destination terminals to which a transmission terminal 10 requests to start a video conference are registered. The transmission terminals 10 that can participate in a video conference are not limited to the transmission terminals 10 registered in the destination list management table 5004T.

Also, in the storage unit 5000, the URI (Uniform Resource Identifier) 5005 of the UI providing apparatus 20 is stored. The URI 5005 of the UI providing apparatus 20 is set by an

administrator of the transmission management apparatus 50 or the UI providing apparatus 20.

The transmission and reception unit 51 is implemented by the CPU 201 and the network I/F 209, and transmits various sorts of data and information to and receives various sorts of data and information from a transmission terminal 10, a relay apparatus 30, and the program providing apparatus 90 via the transmission network 2.

The terminal authentication unit 52 is implemented by the CPU 101, and searches the terminal authentication management DB 5002 of the storage unit 5000 using the terminal ID and the password included in login request information received by the transmission and reception unit 51 as search keys, to carry out terminal authentication by determining whether the same terminal ID and password are managed in the terminal authentication management DB 5002.

The status management unit 53 is implemented by the CPU 101, and, in order to manage the operational status of a requesting terminal that has transmitted a login request, associates the operational status, the received date and time at which the transmission management apparatus 50 has received the login request information, and the IP

address with the terminal ID of the requesting terminal, store the associated information in the terminal management DB 5003 (FIG. 9A and 9B) to manage the stored information.

Also, the status management unit 53 changes the operational status of a transmission terminal 10 from "online" to "offline" in the terminal management DB 5003 (see FIGs. 9A and 9B) based on the status information that indicates to turn off the power transmitted from the transmission terminal 10 as a result of the user switching the state of the power switch of the transmission terminal 10 from the turned on state to the turned off state

The terminal extraction unit 54 is implemented by the CPU 101, and searches the destination list management DB 5004 (FIG. 10) using the terminal ID of a requesting terminal that has transmitted a login request as a search key to extract the terminal IDs of candidates for destination terminals of the requesting terminal.

Also, the terminal extraction unit 54 searches the destination list management DB 5004 (FIG. 10) using the terminal ID of a requesting terminal that has transmitted a login request as a search key to extract the terminal IDs of other requesting

terminals that register the terminal ID of the requesting terminal as candidates for destination terminals.

The terminal status acquisition unit 55 is implemented by the CPU 101, and searches the terminal management DB 5003 (FIG. 9A and 9B) using the terminal IDs of candidates for destination terminals extracted by the terminal extraction unit 54 as search keys, to read the operational statuses for the thus detected terminal IDs.

Thereby, the terminal status acquisition unit 55 can acquire the operational statuses of candidates for destination terminals of a requesting terminal that has transmitted a login request. Also, the terminal status acquisition unit 55 searches the terminal management DB 5003 using a terminal ID extracted by the terminal extraction unit 54 as a search key, to acquire the operational status of a requesting terminal that has transmitted a login request.

The storing and reading process unit 59 is implemented by the CPU 101 and the HDD 205, stores various sorts of data in the storage unit 5000, and read various sorts of data from the storage unit 5000.

A functional configuration the UI providing

apparatus 20 will be described. The transmission and reception unit 21 is implemented by the CPU 201 and the network I/F 209, and transmits various sorts of data and information to and receives various sorts of data and information from a transmission terminal 10 via the transmission network 2.

The server unit 22 is implemented by the CPU 101, acquires a layout information request signal from a transmission terminal 10, to transmit layout information 2000L that is read from the storage unit 2000 by the storing and reading process unit 23 to the transmission terminal 10 via the transmission and reception unit 21.

The storing and reading process unit 23 is implemented by the CPU 101, stores various sorts of data in the storage unit 2000, and reads various sorts of information from the storage unit 2000. The storage unit 2000 is implemented by the HDD 205, and mainly stores the layout information 2000L.

Next, operation of the transmission system 1 according to the present embodiment will be described. FIG. 11 is a sequence diagram illustrating a preparation stage operation carried out until a transmission terminal 10 enters a prepared state where the transmission terminal 10

will participate in a video conference. Note that FIG. 11 illustrates an example where the transmission terminal 10aa comes to enter the prepared state. In the preparation stage operation, various sorts of information is transmitted and received in the management information session 300I (FIG. 2).

First, in step S21, when a user of the transmission terminal 10aa has turned on the power switch 109 of the transmission terminal 10aa, the operation input reception unit 12 receives the power-turning-on operation to turn on the power. Then, in step S22, in response to the reception of the power-turning-on operation, the login request unit 13 transmits login request information that indicates a login request to the transmission management apparatus 50 through the transmission and reception unit 11 of the transmission terminal 10aa via the transmission network 2.

The login request information includes the terminal ID and the password to identify the transmission terminal 10aa that has transmitted the login request. The terminal ID and the password are read by the storing and reading process unit 19 from the storage unit 1000.

Note that when the login request

information transmitted from the transmission terminal 10aa has been received by the transmission management apparatus 50, the transmission management apparatus 50 can know the IP address of the transmission terminal 10aa on the transmission side.

Next, in step S23, the terminal authentication unit 52 of the transmission management apparatus 50 carries out a terminal authentication operation by searching the terminal authentication management DB 5002 (FIG. 8) of the storage unit 5000 using the terminal ID and the password included in the login request information received through the transmission and reception unit 51 as search keys to determine whether the terminal authentication management DB 5002 has managed the same terminal ID and password as the search keys.

If the terminal authentication unit 52 has determined that the terminal authentication management DB 5002 has not managed the same terminal ID and password as the search keys, that is, if it is determined that the login request is not a login request from a transmission terminal 10 that has legitimate usage authority, the transmission and reception unit 51 transmits authentication result information that indicates the authentication result

acquired by the terminal authentication unit 52 to the transmission terminal 10aa that has requested login via the transmission network 2, and thus, the operation in the preparation stage is ended.

On the other hand, if the terminal authentication unit 52 has determined that the terminal authentication management DB 5002 has managed the same terminal ID and password as the search keys, that is, it is determined that the login request is a login request from a transmission terminal 10 that has legitimate usage authority, the status management unit 53 associates the terminal ID and the operational status of the transmission terminal 10aa, the received date and time at which the login request information has been received, and the IP address of the transmission terminal 10aa with each other, and stores the associated items of information in the terminal management DB 5003 (FIG. 9A) in step S24.

Thus, as illustrated in FIG. 9A, the terminal management table 5003T associates the terminal ID "01aa", the operational status "online (transmission possible)", the received date and time "2009.11.10.13 : 40", and the IP address "1.2.1.3" of the transmission terminal 10aa with each other, and

manages the associated items of information.

Next, in step S25, the transmission and reception unit 51 of the transmission management apparatus 50 transmits authentication result information that indicates the authentication result acquired by the terminal authentication unit 52 to the transmission terminal 10aa that has requested login via the transmission network 2. Also, the transmission management apparatus 50 transmits, together with the authentication result information, or before or after the transmission of the authentication result information, the URI 5005 of the UI providing apparatus 20 to the transmission terminal 10aa. Thereby, the transmission terminal 10aa comes to be able to access the UI providing apparatus 20.

The URI 5005 of the UI providing apparatus 20 indicates the place where the layout information 2000L is stored in the transmission network 2. For example, the URI has a format such as "IP address (or a domain name) + folder name + file name", and can have any format as long as it is possible to access the UI providing apparatus 20.

As a result of the URI 5005 being not stored by each transmission terminal 10, it is

sufficient for the administrator of the transmission management apparatus 50 to change the URI stored by the transmission management apparatus 50, even if the UI providing apparatus 20 is replaced, the URI is changed, or the like. That is, because it is not necessary to change the URL in all the transmission terminals 10, it is possible to reduce the management load.

Next, in step S26, the terminal extraction unit 54 of the transmission management apparatus 50 searches the destination list management DB 5004 (FIG. 10) using the terminal ID "01aa" of the transmission terminal 10aa that has requested login as a search key, to extract the terminal IDs of candidates for destinations of the transmission terminal 10aa.

In this example, the respective terminal IDs "01ab", "01ba", and "01db" of the transmission terminals 10ab, 10ba, and 10db that are destination terminals of the transmission terminal 10aa having the terminal ID "01aa" are extracted.

Next, in step S27, the terminal status acquisition unit 55 of the transmission management apparatus 50 acquires the respective operational statuses of the transmission terminals 10ab, 10ba, and 10db by searching the terminal management DB 5003

(FIG. 9A) using the terminal ID "01ab", "01ba", and "01db" of the candidates for destination terminals extracted by the terminal extraction unit 54 as search keys, to read the operational statuses, i.e., "offline", "online (transmission possible)", or "online (under transmission)", for the respective terminal IDs extracted by the terminal extraction unit 54.

Next, in step S28, the transmission and reception unit 51 of the transmission management apparatus 50 transmits destination status information that includes the terminal IDs "01ab", "01ba", and "01db" used in step S27 as the search keys, and the respective operational statuses, i.e., "offline", "online (transmission possible)", or "online (under transmission)", of the corresponding transmission terminals 10ab, 10ba, 10db to the transmission terminal 10aa via the transmission network 2.

Thereby, the transmission terminal 10aa can know the current respective operational statuses, i.e., "offline", "online (transmission possible)", or "online (under transmission)", of the transmission terminal 10ab, 10ba, and 10db that are candidates for destination terminals.

Also, in step S29, the terminal extraction unit 54 of the transmission management apparatus 50 searches the destination list management DB 5004 (FIG. 10) using the terminal ID "01aa" of the transmission terminal 10aa that has requested login as a search key, to extract the terminal IDs of other transmission terminals 10 each of which registers the terminal ID "01aa" of the transmission terminal 10aa as a candidate for a destination terminal. For example, in the destination list management table 5004T illustrated in FIG. 10, the terminal IDs "01ab", "01ba", and "01db" are extracted.

Next, in step S30, the status management unit 53 of the transmission management apparatus 50 searches the terminal management DB 5003(FIG. 9A) using the terminal ID "01aa" of the transmission terminal 10aa that has requested login as a search key, to acquire the operational status "online (transmission possible)" of the transmission terminal 10aa that has requested login.

Next, in steps S31-1 and S31-2, the transmission and reception unit 51 of the transmission management apparatus 50 transmits destination status information that includes the terminal ID "01aa" and the operational status "online

(transmission possible)" of the transmission terminal 10aa acquired in step S30, to the transmission terminals 10ba and 10db which have the operational statuses "online" in the terminal management DB 5003 (FIG. 9A) from among the respective transmission terminals 10ab, 10ba, and 10db respectively identified by the terminals ID "01ab", "01ba", and "01db" extracted in S29.

Note that, when the destination status information will be transmitted to the transmission terminals 10ba and 10db, the transmission and reception unit 51 reads the IP addresses of the transmission terminals managed in the terminal management table 5003T illustrated in FIG. 9A based on the respective terminal IDs "01ba" and "01db".

Thus, it is possible to report the terminal ID "01aa" and the operational status "online (transmission possible)" of the transmission terminal 10aa that has requested login to the transmission terminals 10db and 10ba each of which can transmit data to the transmission terminal 10aa that has requested login as a destination.

Also, the display control unit 17 of the transmission terminal 10aa can allow the user to know the transmission terminal 10 that has participated in

or can participate in the video conference by, for example, highlighting the information item of the transmission terminal 10db that has participated in or can participate in the video conference, that is, the information item of the transmission terminal 10db that has the operational status "online (under transmission)" or "online (transmission possible)" on the display 120 from among information items of the destination list displayed on the display 120, when step S28 of the preparation operation has been completed.

FIG. 12 is a sequence diagram illustrating a conference participating operation carried out until a transmission terminal 10 enters a participated state where the transmission terminal 10 has participated in the video conference. Note that FIG. 12 illustrates an example where the transmission terminal 10aa enters a participated state. In the conference participating operation, various sorts of information is transmitted and received in the management information session 300I (FIG. 2).

First, in step S41, as a result of the user pressing an operation button 108 (FIG. 4) to select to participate in the video conference, the operation input reception unit 12 receives a request to

participate in the video conference with the transmission terminal 10db. Note that if the transmission terminal 10aa is the information processing terminal 40, the operation input reception unit 12 receives a request to participate in the video conference as a result of a hardware key or a software key displayed on a touch panel of the information processing terminal 40, instead of the operation button 108, being pressed.

In step S42, in response to the request, the transmission and reception unit 11 of the transmission terminal 10aa transmits participation request information that includes the terminal ID "01aa" of the transmission terminal 10aa and the terminal ID "01db" of the transmission terminal 10db, and indicates to participate in the video conference to the transmission management apparatus 50.

Thereby, the transmission and reception unit 51 of the transmission management apparatus 50 can receive the participation request information and can know the IP address "1.2.1.3" of the transmission terminal 10aa that has transmitted the information.

Next, in step S43, the status management unit 53 of the transmission management apparatus 50 searches the terminal management DB 5003 using the

terminal ID "01aa" of the transmission terminal 10aa included in the participation request information as a search key to set the operational status of the transmission terminal 10aa that has requested to participate in the video conference to be "online (under transmission)". Thus, the operational status in the terminal management table 5003T is updated (FIG. 9B).

Next, in step S44, the transmission and reception unit 51 of the transmission management apparatus 50 transmits start request information that includes the terminal ID "01aa" of the transmission terminal 10aa to the transmission terminal 10db through the transmission network 2. Thereby, the transmission terminal 10db can know which transmission terminal 10 has requested to participate in the video conference.

Although detailed description will be omitted for the sake of easily understanding the embodiment, the transmission and reception unit 51 of the transmission management apparatus 50 transmits start request information that includes the terminal ID "01aa" of the transmission terminal 10aa also to the transmission terminal 10cb through the transmission network 2 because also the operational

status of the transmission terminal 10cb is "online (under transmission)" in the terminal management DB 5003 illustrated in FIG. 9B.

Next, in step S45, the transmission terminal 10db transmits reception completion information that indicates that reception of the start request information has been completed, from the transmission and reception unit 11 to the transmission management apparatus 50 via the transmission network 2.

Next, in step S46, the transmission and reception unit 51 of the transmission management apparatus 50 transmits relay start request information that indicates a request to start relaying to the relay apparatus 30 via the transmission network 2. The relay start request information includes the respective IP addresses "1.2.1.3" and "1.3.2.4" of the transmission terminal 10aa and the transmission terminal 10db.

Thereby, in step S47, the relay apparatus 30 establishes a session for transmitting 3 types, i.e., low resolution, medium resolution, and high resolution, of image data, and sound data between the transmission terminals 10aa and 10db. Thus, the transmission terminal 10aa comes to be able to

participate in the video conference with the transmission terminal 10db.

Also, in step S48, the transmission and reception unit 51 of the transmission management apparatus 50 transmits terminal status change information that includes the terminal ID "01aa" and the operational status "online (under transmission) of the transmission terminal 10aa to the respective transmission terminals 10 registered in the terminal management DB 5003 (FIG. 9B). Thereby, the respective transmission terminals 10 that have received the terminal status change information can, as appropriate, store and display the operational status of the transmission terminal 10aa of the terminal ID "01aa".

FIG. 13 is a sequence diagram illustrating a data transmission operation between transmission terminals 10. Note that in the data transmission operation illustrated in FIG. 13, image data and sound data are transmitted and received in an image and sound data session 300D (FIG. 2).

After the session is established between the transmission terminals 10aa and 10db as described above with reference to FIG. 12, the transmission terminal 10aa transmits image data taken by the

imaging unit 14 and sound data converted from a sound signal that is input to the sound input unit 15a to the relay apparatus 30 through the transmission and reception unit 11 in step S60.

In steps S61-1 and S61-2, the relay apparatus 30 that has received the image data and the sound data from the transmission terminal 10aa transmits the received image data and sound data to the respective transmission terminals 10aa and 10db that have participated in the video conference.

In steps S62-1 and S62-2, the respective transmission terminals 10aa and 10db that have received the image data and the sound data from the relay apparatus 30 display images expressed by the received image data on the displays 120 through the display control units 17, and output sounds expressed by the received sound data from the speakers 115 through the sound output units 15b.

Next, in step S63, the transmission terminal 10db transmits image data taken by the imaging unit 14 and sound data converted from a sound signal that is input to the sound input unit 15a to the relay apparatus 30 through the transmission and reception unit 11.

In steps S64-1 and S64-2, the relay

apparatus 30 that has received the image data and the sound data from the transmission terminal 10db transmits the received image data and sound data to the respective transmission terminals 10aa and 10db that have participated in the video conference.

In steps S65-1 and S65-2, the respective transmission terminals 10aa and 10db that have received the image data and the sound data from the relay apparatus 30 display images expressed by the received image data on the displays 120 through the display control units 17, and output sounds expressed by the received sound data from the speakers 115 through the sound output units 15b.

Thus, the transmission terminals 10aa and 10db can carry out the video conference through the relay apparatus 30. Note that in FIG. 13, for the sake of easily understanding the present embodiment, the transmission terminals 10 that participate in the video conference are the two transmission terminals 10aa and 10db. However, transmission terminals 10 that participate in a video conference can be three or more transmission terminals. Also in this case, image data and sound data are transmitted in the same way as the data transmission operation illustrated in FIG. 13.

Displaying an image in a transmission terminal 10 will be described. The display control unit 17 according to the present embodiment has two display modes, i.e., a full screen display mode and an information display mode.

First, with reference to FIG. 14, the full screen display mode will be described. FIG. 14 illustrates one example of a screen page displayed on the display 120 (FIG. 4) in the full screen display mode. A screen page is displayed in the full screen display mode as a result of the session being established in step S47 of FIG. 12, and transmission and reception of image data and sound data being started. That is, from among the two display modes, the full screen display mode is a display mode mainly used during a video conference.

In the full screen display mode, the display control unit 17 of the transmission terminal 10 displays all the images transmitted from the respective transmission terminals 10 that have participated in the video conference on the display 120. If one image area becomes smaller as a result of all the images being displayed together, the number of the images corresponding to a predetermined upper limit are displayed.

To the display screen page illustrated in FIG. 14, one first image area 500 that is relatively wide and a plurality of second image areas 510 that are relatively narrow are assigned. For example, in the respective second image areas 510, images expressed by image data transmitted from the respective transmission terminals 10 that have participated in the video conference are displayed. In the first image area 500, an image expressed by image data transmitted from a main transmission terminal 10 from among the transmission terminals 10 that have participated in the video conference is displayed.

For example, the display control unit 17 identifies, as the main transmission terminal 10, a transmission terminal 10 that has transmitted sound data that expresses a voice from among respective received pieces of sound data received from the transmission terminals 10 that have participated in the video conference. Sound data that expresses a voice means sound data determined to have a voice period, as a result of the respective received pieces of sound data being processed to determine whether the respective received pieces of sound data include the voice period. Note that detection of the voice

period can be implemented using known technology (for example, see the above-mentioned document "Voice Recognition", written by Yasunaga Niimi, published by Kyoritsu Shuppan Co., Ltd., 1979).

Note that the display screen page illustrated in FIG. 14 is merely one example. In the full screen display mode, it is possible to display respective images in such a manner that all of a plurality of image areas have the same size, display an image of a main transmission terminal 10 throughout the whole area of the display 120, or the like.

Next, the information display mode will be described. As a result of, for example, a user operating an operation button 108 (FIG. 4), it is possible to switch between the two display modes. Note that if the transmission terminal 10 is the information processing terminal 40, it is possible to switch between the two display modes as a result of a hardware key or a software key displayed on a touch panel of the information processing terminal 40, instead of an operation button 108, being pressed or touched.

FIG. 15 illustrates one example of a screen page displayed on the display 120 (FIG. 4) in the

information display mode. As illustrated in FIG. 15, in the information display mode, the display control unit 17 of the transmission terminal 10 displays terminal information that includes at least the terminal names and the terminal IDs of the respective transmission terminals 10 that have participated in the video conference on the display 120.

To the display screen page illustrated in FIG. 15, an image display area 520 for displaying an image, and a terminal information display area 530 for displaying terminal information. For example, in the terminal information display area 530, a list of items of terminal information of the transmission terminals 10 that have participated in the video conference is displayed.

Note that, in the list of items of terminal information, an item of terminal information that does not include a terminal name corresponds a transmission terminal 10 that has not been registered as a candidate for a destination terminal of the transmission terminal 10 that displays the display screen page in the destination list management DB 5004 (FIG. 10).

For example, in the display screen page illustrated in FIG. 15, because the transmission

terminal 10db is registered as a candidate for a destination terminal of the transmission terminal 10aa in the destination list management DB 5004, the terminal name is displayed. In contrast thereto, because the transmission terminal 10cb is not registered as a candidate for a destination terminal of the transmission terminal 10aa in the destination list management DB 5004, the terminal name is not displayed.

In the image display area 520, an image expressed by image data of the main transmission terminal 10 from among the transmission terminals 10 that have participated in the video conference is displayed. For example, the display control unit 17 identifies, as the main transmission terminal 10, the transmission terminal 10 that has transmitted sound data that expresses a voice from among the received pieces of sound data from the transmission terminals 10 that have participated in the video conference. Also, the display control unit 17 may identify a selected transmission terminal 10 as the main transmission terminal if the operation input reception unit 12 receives a selection operation for one transmission terminal 10 from among the transmission terminals 10 that have participated in

the video conference in response to the corresponding user's operation of a operation button 108. Note that if the transmission terminal 10 is the information processing terminal 40, the information processing terminal 40 identifies the selected transmission terminal 10 as the main transmission terminal 10 as a result of a hardware key or a software key displayed on a touch panel of the information processing terminal 40, instead of an operation button 108, being pressed.

FIG. 16 is a sequence diagram illustrating a terminal information displaying operation of displaying terminal information in the terminal information display area 530 when the transmission terminal 10 has switched the display mode into the information display mode. Note that, in the terminal information displaying operation illustrated in FIG. 16, various sorts of information is transmitted and received in a management information session 300I (FIG. 2).

First, in step S70, the transmission terminal 10 transmits a terminal information request signal that requests terminal information of the transmission terminals 10 that have participated in the video conference to the transmission management

apparatus 50.

In step S71, the terminal status acquisition unit 55 that has received the terminal information request signal of the transmission management apparatus 50 searches the terminal management DB 5003 (FIG. 9B) of the storage unit 5000 using the IP address of the transmission terminal 10 that has transmitted the terminal information request signal as a search key to acquire the terminal ID of the transmission terminal that has transmitted the terminal information request signal.

Next, in step S72, the terminal status acquisition unit 55 searches the terminal management DB 5003 to retrieve the terminal IDs and the terminal names for which the operational statuses are "online (under transmission)". In the present embodiment, the terminal IDs retrieved by the terminal status acquisition unit 55 are "01aa", "01cb", and "01db". Note that the operational status of the transmission terminal having the terminal ID "01aa" is set as "online (under transmission)" in step S43 of FIG. 12 (FIG. 9B).

Next, in step S73, the terminal status acquisition unit 55 searches the destination list management DB 5004 (FIG. 10) of the storage unit 5000

using the terminal ID (in the present embodiment, "01aa") detected in step S71 as a search key to acquire the terminal IDs of candidates for destination terminals of the transmission terminal 10 that has transmitted the terminal information request signal.

For example, assuming that the terminal ID of the transmission terminal 10 that has transmitted the terminal information request signal is "01aa", the terminal IDs retrieved by the terminal status acquisition unit 55 are "01ab", "01ba", and "01db".

Next, in step S74, the terminal status acquisition unit 55 determines whether the respective terminal IDs retrieved in step S72 are included in the terminal ID of the transmission terminal 10 that has transmitted the terminal information request signal and the terminal IDs retrieved in step S73. Concerning the terminal IDs from among the respective terminal IDs retrieved in step S72 determined to be included in the terminal IDs of the transmission terminal 10 that has transmitted the terminal information request signal and the terminal IDs retrieved in step S73, the terminal status acquisition unit 55 causes the transmission and reception unit 51 to transmit the corresponding

terminal IDs and terminal names to the transmission terminal 10 that has transmitted the terminal information request signal. In contrast thereto, concerning the terminal IDs from among the respective terminal IDs retrieved in step S72 determined to be not included in the terminal ID of the transmission terminal 10 that has transmitted the terminal information request signal and the terminal IDs retrieved in step S73, the terminal status acquisition unit 55 causes the transmission and reception unit 51 to transmit the corresponding terminal IDs to the transmission terminal 10 that has transmitted the terminal information request signal.

For example, if the transmission terminal 10 that has transmitted the terminal information request signal has the terminal ID "01aa", the terminal IDs "01aa" and "01db" and the terminal names "Japan Tokyo office AA terminal" and "USA Washington office DB terminal" of the transmission terminal 10aa and the transmission terminal 10db, and the terminal ID "01cb" of the transmission terminal 10cb are transmitted to the transmission terminal 10aa that has transmitted the terminal information request signal.

In step S75, the display control unit 17

that has received the response of the transmission terminal 10 displays the corresponding contents in the terminal information display area 530 as illustrated in the display screen page illustrated in FIG. 15.

Displaying the number of bases, and so forth, in the full screen display mode will be described. From the display screen page of the full screen display mode illustrated in FIG. 14, a participant of the video conference can easily know the other participants who have participated in the conference if the number of the transmission terminals 10 that have participated in the conference is small. However, if the number of the transmission terminals 10 that have participated in the conference becomes greater, it is not possible for a participant of the video conference to easily know the other participants who have participated in the conference. This point will now be described with reference to drawings.

FIG. 17A illustrates one example of a display screen page in the full screen display mode when the number of bases is 4. The display screen page of FIG. 17A has a wider first image area 171, and 3 second image areas 172 narrower than the first

image area 171. In the same way as FIG. 14, in each second image area 172, images expressed by image data transmitted from the respective transmission terminals 10 that have participated in the video conference are displayed, while in the first image area 171, an image expressed by image data transmitted from the main transmission terminal 10 from among the transmission terminals 10 that have participated in the video conference is displayed.

If the number of bases is on the order of 4, it is not impossible for a user to identify a participant from one second image area 172. However, if, as illustrated in FIG. 17B, the number of bases becomes greater, it is difficult for a participant to identify the other participants. FIG. 17B illustrates one example of a display screen page in the full screen display mode when the number of bases is 9.

Further, in consideration of usefulness, it is desired to set an upper limit (referred to as a "display upper limit") for the number of bases that the display 120 displays simultaneously. However, the number of bases (referred to as a "base upper limit") among which transmission terminals 10 can carry out a video conference may not be the same as

the display upper limit. If the display upper limit is greater than or equal to the base upper limit, each transmission terminal 10 can display the images of all the bases on the display 120. However, if the display upper limit is less than the base upper limit, it is not possible for some bases to be displayed on the transmission terminal 10.

There is a case where the terminal names and the terminal IDs of the transmission terminals 10 of all the bases can be displayed, as a result of the user operating an operation button 108 (FIG. 4) to switch the display mode into the information display mode as illustrated in FIG. 16. However, in this case, the user is required to perform the operation to implement the switching.

Further, during the information display mode, because the image of one main base is displayed while the images of the other bases are not displayed, it is not possible to know the situations in the other bases.

Therefore, in the transmission terminal 10 according to the present embodiment, the number of bases that have participated in the video conference is displayed while the full screen display mode is kept. Therefore, a participant of a video conference

can know the number of bases in a real-time manner while the full screen display mode is kept.

FIG. 18 illustrates one example of a display screen page where the number of bases is displayed in the full screen display mode. In the auxiliary area display unit 18 (FIG. 7) displays the number of bases in an auxiliary area 173 in the full screen display mode. In FIG. 18, the auxiliary area 173 is a belt-like blank space at the top of the display screen page. However, the auxiliary area 173 may be a belt-like blank space at the right end, the left end, or the bottom end of the display screen page, or may be displayed in the image in a superimposing manner.

The auxiliary area 173 is segmented into a first area ar1 through a sixth area ar6. In the first area ar1, the terminal ID of the transmission terminal 10 that displays the display screen page is displayed. A user who wishes to participate in the same video conference as the transmission terminal 10 that displays the display screen page can query the displayed terminal ID, and input the acquired terminal ID from the transmission terminal 10 that the user is operating or select the acquired terminal ID displayed on the transmission terminal 10 that the

user is operating to participate in the video conference. In the second area ar2, the number of bases (the number of the participants) is displayed. In the third area ar3, the period of time elapsed from when the session was established is displayed. In the fourth area ar4, any information can be displayed. In the fifth area ar5, network band information (i.e., respective communications rates in the uplink and the downlink) is displayed. In the sixth area ar6, cursor buttons 1736 are displayed.

The cursor buttons 1736 include an upper triangle button 1736u and a lower triangle button 1736d. The upper triangle button 1736u has a black color while the lower triangle button 1736d has a white color. It is possible for the user to operate the upper triangle button 1736u but it is not possible for the user to operate the lower triangle button 1736d.

Note that it is desirable that the auxiliary area 173 is displayed in a semitransparent manner so that even if image data transmitted and received among the bases overlaps the auxiliary area 173, the visibility can be easily maintained.

Note that the number of bases may be displayed at any one of the first through sixth areas.

If the auxiliary area 173 is not segmented, the number of bases may be displayed at any position in the auxiliary area 173. However, as a result of the auxiliary area 173 being segmented, visibility of the user for the display screen page is improved.

The cursor buttons 1736 in the sixth area ar6 are icons for the user to indicate that it is possible to switch into an auxiliary area 173 in a simple display manner by operating an operation button 108 (FIG. 2) of the transmission terminal 10. Hereinafter, the auxiliary area 173 of FIG. 18 will be referred to as an "auxiliary area 173 in a standard manner" to distinguish the auxiliary areas 173 in the two display manners.

That is, according to an initial setting of the transmission terminal 10, the various sorts of information of the first area ar1 through the sixth area ar6 of FIG. 18 is displayed in the auxiliary area 173. However, the user can switch the auxiliary area 173 in the standard manner into the auxiliary area 173 in the simple display manner, and thereafter, the user can perform such a setting as to not display the auxiliary area 173, by operating an operation button 108 (or operating a touch panel or the like) to press the upper triangle button 1736u. Details

will be described with reference to FIG. 24.

Note that if the transmission terminal 10 is the information processing terminal 40, it is possible to not display the various sorts of information of the first area ar1 through the sixth area ar6 in the auxiliary area 173 as a result of a hardware key or a software key displayed on a touch panel of the information processing terminal 40, instead of the operation button 108, being pressed.

In FIG. 18, images of 4 bases are displayed on the display 120. Therefore, the number of bases in the second area ar2 is "4". The user can know that the number of bases that have participated in the video conference at a glance.

FIG. 19 illustrates another example of a display screen page where the number of bases is displayed in the full screen display mode. In FIG. 19, the same elements as the elements of FIG. 18 have the same or similar functions, and therefore, different points will be described.

In FIG. 19, the display screen page is divided into nine areas. Also, the number of second areas ar2 is "9". Therefore, even if the number of bases increases, the user can know the number of bases that have participated in the video conference

at a glance.

For the sake of convenience of description, it is assumed that the display upper limit in the transmission terminal 10 is "9". When the display upper limit in the transmission terminal 10 is "9", 10 or more transmission terminals 10 may be participating in the video conference. In this case, the transmission terminal 10 keeps the number of images displayed in the full screen display mode as "9" as it is, while the transmission terminal 10 displays the number of transmission terminals 10 that have participated in the video conference in the second area ar2 as the number of bases.

FIG. 20 illustrates one example of a display screen page where the number of images displayed in the full screen display mode is different from the number of bases displayed in the second area ar2. In FIG. 20, while the number of images displayed in the full screen display mode is "9", the number of bases displayed in the second area ar2 is "15". Thus, even when the number of bases that have participated in a video conference exceeds the display upper limit, the user can know the number of bases that have participated in the video conference at a glance.

The layout (i.e., the arrangement) in the auxiliary area 173 is prescribed in the layout information 2000L (FIG. 7) stored in the storage unit 2000 of the UI providing apparatus 20. The layout information 2000L is described based on a language or a standard such as HTML, JavaScript (registered trademark), XML, CSS, or the like.

According to the layout information 2000L, the position of the auxiliary area 173, the manner that the auxiliary area 173 is segmented into the first area through the sixth area having respective fixed sizes, and respective items of information displayed in the first area ar1 through the sixth area ar6 are determined. Therefore, the transmission terminal 10 that has acquired the layout information 2000L from the UI providing apparatus 20 can set various sorts of information in the first area ar1 through the sixth area ar6, and display the information in the first area ar1 through the sixth area ar6.

As illustrated in FIGs. 17A and 17B, and so forth, the arrangement (layout) in which the transmission terminal 10 displays image data received from the destination terminals on the display 120 in the full screen display mode is previously determined

depending on the number of bases, and so forth. In contrast thereto, the layout information 2000L is defined separately from the layout of image data. Therefore, it is possible to determine information to be arranged in the auxiliary area 173 and the arrangement in the auxiliary area 173 without being influenced by the layout of image data. That is, the transmission terminal 10 can display the first area ar1 through the sixth area ar6 in the auxiliary area independently from image data, and therefore, even if the layout of image data is changed, the auxiliary area 173 is not influenced by the change.

FIG. 21 illustrates one example of the auxiliary area 173 in the simple display manner. In FIG. 21, the number of bases is the same as FIG. 18. However, information concerning transmission statuses in the first through sixth areas ar1 through ar6 is displayed in a simplified manner.

In the auxiliary area 173 in the simple display manner, information concerning what is displayed in each area is not displayed, and, mainly, the first area ar1 displays the contact ID, the second areas ar2 displays the number of bases, the third area displays the clock time, and the fifth area ar5 displays the band.

The cursor buttons 1736 in the sixth area ar6 are changed in the form from the auxiliary area 173 in the standard manner. In the auxiliary area 173 in the simple display manner, each of both the upper triangular button 1736u and the lower triangular button 1736d has a black color. The user can operate either one of the upper and lower triangular buttons. The lower triangular button is used to switch the form of the auxiliary area 173 into the standard manner. The upper triangular button is used to not display the auxiliary area 173 in the simple display manner (not display the auxiliary area 173 in the standard manner either).

The area occupied by the auxiliary area 173 in the simple display manner in the display 120 is reduced from the auxiliary area 173 in the standard manner, and therefore, it is possible to improve the visibility of image data while displaying the information of transmission statuses in the auxiliary area 173.

Note that it is desirable that also the auxiliary area 173 in the simple display manner is displayed in a semitransparent manner the same as the auxiliary area 173 in the standard manner.

FIG. 22 is one example of a sequence

diagram illustrating a procedure in which the transmission system 1 displays the number of bases when the transmission terminal 10 is in the full screen display mode. The procedure of FIG. 22 is carried out after the session is established in step S47 of FIG. 12 even when the user does not operate the operation button 108 (FIG. 4) or the like. That is, in the transmission terminal 10, an initial setting to display the auxiliary area 173 has been set.

The procedure of FIG. 22 may also be carried out as a result of, after the session is established in step S47, the user pressing an operation button 108. Note that, in this regard, if the transmission terminal 10 is the information processing terminal 40, the procedure of FIG. 22 is carried out as a result of a hardware key or a software key displayed on a touch panel of the information processing terminal 40, instead of the operation button 108, being pressed.

First, in step S80, the transmission terminal 10 designates the URI of the UI providing apparatus 20 acquired in step S25 of FIG. 11 to transmit a layout information request signal (one example of an arrangement information request) for

requesting the layout information 2000L to the UI providing apparatus 20. Note that, instead of acquiring the URI of the UI providing apparatus 20 in step S25 of FIG. 11, the URI of the UI providing apparatus 20 may be acquired, for example, by the transmission terminal 10 from the transmission management apparatus 50 immediately before step S80, or by the user pressing an operation button 108. Note that if the transmission terminal 10 is the information processing terminal 40, the URI of the UI providing apparatus 20 is acquired as a result of a hardware key or a software key displayed on a touch panel of the information processing terminal 40, instead of the operation button 108, being pressed.

In step S81, the transmission and reception unit 21 of the UI providing apparatus 20 receives the layout information request signal, and, as a result, the server unit 22 reads the storage unit 2000 based on the designated URI to acquire the layout information 2000L.

Next, in step S82, the server unit 22 transmits the layout information 2000L that has been read through the transmission and reception unit 21 to the transmission terminal 10 that has transmitted the layout information request signal. The layout

information includes respective items of layout information of the auxiliary area 173 in both the standard manner and the simple display manner.

In step S83, the transmission and reception unit 11 of the transmission terminal 10 stores the layout information 2000L in a volatile memory. The volatile memory is, for example, the RAM 103. That is, by storing the layout information 2000L that has been acquired once in the transmission terminal 10, it is not necessary to again acquire the layout information 2000L from the UI providing apparatus 20 during the power being supplied. Therefore, even if the transmission terminal 10 again displays the auxiliary area 173 after having removed the auxiliary area 173 once, the transmission terminal 10 can read the layout information 2000L from the volatile memory of the transmission terminal 10. Therefore, it is possible to eliminate a processing time to acquire the layout information 2000L, and as a result, a time for displaying the auxiliary area 173 can be reduced. Also, as a result of the layout information 2000L being stored in a volatile memory, the layout information 2000L is deleted as a result of the power being turned off in the transmission terminal 10. Thus, it is possible to prevent the layout

information 2000L from being leaked from the transmission terminal 10.

Next, in step S84, the auxiliary area display unit 18 of the transmission terminal 10 (FIG. 7) transmits a terminal information request signal to the transmission management apparatus 50. The terminal information request signal is a signal to request the number of the transmission terminals 10 which have participated in the video conference.

In step S85, the transmission and reception unit 51 of the transmission management apparatus 50 receives the terminal information request signal, and as a result, the terminal status acquisition unit 55 searches the terminal management DB 5003 to calculate the number of terminal IDs for which the operational statuses are "online (under transmission)". That is, the terminal status acquisition unit 55 identifies the terminal management table 5003T (FIG. 9B) that registers the IP address of the transmission terminal 10 that has transmitted the terminal information request signal, and identifies all of the terminal IDs for which the operational statuses are "online (under transmission)" from the identified terminal management table 5003T to acquire the number of the terminal IDs. According to the present embodiment,

the terminal status acquisition unit 55 detects the terminal IDs, i.e., "01aa", "01cb", and "01db". Thus, the number of the terminal IDs is "3". Note that the operational status of the transmission terminal 10aa that has the terminal ID "01aa" is set to be "online (under transmission)" in step S43 of FIG. 12.

Note that it is possible to acquire the number of the transmission terminals 10 of "online (transmission possible)" in addition to the number of transmission terminals 10 of "online (under transmission)". As a result, each transmission terminal 10 can display the number of the transmission terminals 10 that have logged in on the display 120. It is also possible to separately acquire the number of the transmission terminals 10 of "online (under transmission)", and the number of the transmission terminals 10 of "online (transmission possible)", and each transmission terminal 10 can display these numbers separately on the display 120. As a result, it is possible to know that there are users who have not participated in the conference if these numbers are not the same as one another, for example. Next, in step S86, the terminal status acquisition unit 55 transmits, through the transmission and reception unit 51, the

acquired number of the terminal ID of "online (under transmission)" to the transmission terminal 10 that has transmitted the terminal information request signal.

Note that the terminal status acquisition unit 55 may transmit the terminal IDs of "online (under transmission)" also to other transmission terminals 10 than the transmission terminal 10 that has transmitted the terminal information request signal. For example, after the number of the terminal IDs of online is transmitted to the transmission terminal 10aa that has the terminal ID "01aa" in step S86, the number of the terminal IDs of online may be transmitted also to the transmission terminals 10cb and 10db that have the terminal IDs "01cb" and "01db". Thereby, each of the transmission terminals 10cb and 10db having the terminal IDs "01cb" and "01db" can display the number of the bases in the auxiliary area 173, as a result of receiving the layout information 2000L.

In step S87, the transmission and reception unit 11 of the transmission terminal 10 receives the number of the terminal IDs of "online (under transmission)", and the auxiliary area display unit 18 displays the number on the display 120. That is,

the auxiliary area display unit 18 interprets the layout information 2000L to determines a position of the auxiliary area 173 and a layout of the first area ar1 through the sixth area ar6, sets the respective items of information in the first area ar1 through the sixth area ar6, and displays the information on the display 120.

The terminal ID of the transmission terminal 10 itself in the first area ar1 has been stored in the storage unit 1000. The number of bases in the second area ar2 is transmitted from the transmission management apparatus 50. The period of time elapsed from when the session has been established in the third area ar3 is measured by the transmission terminal 10 after the session has been established. Information in the fourth area ar4 is, for example, information that the transmission terminal 10 or the transmission management apparatus 50 has. Information concerning a network band in the fifth area ar5 is displayed in such a manner that the transmission terminal 10 measures the communications rate between the transmission terminal 10 and the relay apparatus 30 periodically or in a real-time manner, and displays the measured rate. The cursor buttons 1736 in the sixth area ar6 are image data

such as previously determined icons.

Note that the displayed auxiliary area 173 can be removed as a result of the user operating an operation button 108. Also, the displayed auxiliary area 173 can be again displayed as a result of the user operating an operation button 108.

Thus, the transmission terminal 10 can display the number of bases which have participated in the video conference without entering an information display mode. Therefore, the user need not operate an operation button 108, or the like. Because the transmission terminal 10 is kept in the full screen display mode, the user can know the number of bases while seeing images of the respective bases. Even if the number of bases that have participated in the video conference exceeds the display upper limit, the user can accurately know the number of bases.

The user is allowed to set either one of a manner to "display in response to being operated" the auxiliary area 173 or a manner to "remove after elapse of certain period of time" the once displayed auxiliary area 173 to the transmission terminal 10.

FIG. 23 illustrates one example of a screen page from which the user performs a setting to

display the auxiliary area 173. The screen page of FIG. 23 is displayed on the display 120 in response to the user operating, for example, an operation button 108. The screen page of FIG. 23 includes two radio buttons 221 and 222, a message 223 "display in response to being operated" associated with the radio button 221, and a message 224 "remove after elapse of certain period of time" associated with the radio button 222. The user can select either one of the two radio buttons 221 and 222.

If the radio button 221 is selected, the transmission terminal 10 continuously displays the auxiliary area 173. Then, as illustrated in FIG. 24, the transmission terminal 10 displays the auxiliary area 173 in the standard manner and the auxiliary area 173 in the simple display manner alternately, or displays none of the auxiliary area 173 in the standard manner and the auxiliary area 173 in the simple display manner, according to an operation of the user.

If the radio button 222 is selected, the transmission terminal 10 removes the auxiliary area 173 after displaying the auxiliary area 173 for a certain period of time, and again displays the auxiliary area 173 in response to a detection of a

trigger to again display the auxiliary area 173. Also in this case, the user may display or remove the auxiliary area 173 by performing an operation as one example of the trigger.

If the radio button 222 is selected, a message "set certain period" 225 becomes visible, and also, the user is allowed to set a numeral in a time period setting field 226. The user can set a period of time for which the auxiliary area 173 will be displayed and will be removed thereafter in the time period setting field 226. Before the user sets the period of time, a certain initial value has been set. The user of the transmission terminal 10 can set any period of time in the time period setting field 226. An upper limit and a lower limit may be prescribed to limit a period of time that can be set in the time period setting field 226.

FIG. 24 is one example of a flowchart illustrating a switching operation between the auxiliary area 173 in the standard manner and the auxiliary area 173 in the simple display manner carried out by the transmission terminal 10 when the above-mentioned manner "display in response to being operated" is selected.

In step S187-1, the process of FIG. 24 is

started when the auxiliary display unit 18 starts displaying the auxiliary area 173 in the standard manner in step S87 of FIG. 22.

In step S187-2, the auxiliary display unit 18 determines whether a certain period of time has elapsed, after displaying the auxiliary area 173 in the standard manner. The certain period of time may be previously determined, or the certain period of time that is set in FIG. 23 when the manner "remove after elapsed of certain period of time" is selected may be used. Also, the certain period of time may be set by the user separately from the certain period of time that is set in FIG. 23.

After the certain period of time has elapsed (Yes in step S187-2), the auxiliary display unit 18 switches the auxiliary area 173 in the standard manner into the auxiliary area 173 in the simple display manner in step S187-3. The cursor buttons 1736 in the auxiliary area 173 in the simple display manner are such that both the upper and lower triangular buttons 1736u and 1736d have black colors, and therefore, it is possible to allow the user to understand that the screen page will be changed by pressing either one of the triangular buttons is pressed.

The auxiliary display unit 18 determines whether the lower triangular button 1736d has been operated, in S187-4.

If the lower triangular button 1736d has been operated (Yes in step S187-4), the auxiliary display unit 18 switches the auxiliary area 173 in the simple display manner into the auxiliary area 173 in the standard manner in step S187-7. In the auxiliary area 173 in the standard manner, the lower triangular button 1736d has a white color, and therefore, it can be suggested that nothing occurs if the lower triangular button 1736d is pressed. The upper triangular button 1736u has a black color, and therefore, it can be suggested that the auxiliary area 173 in the simple display manner will be displayed again if the upper triangular button 1736u is pressed. Also, because the auxiliary area 173 in the standard manner is displayed in a semitransparent manner, it is possible to continue the conference without degrading the visibility of image data as much as possible.

If the lower triangular button 1736d has not been operated (No in step S187-4), the auxiliary display unit 18 determines whether the upper triangular button 1736u has been operated in step

S187-5. Note that the determination as to whether the lower triangular button 1736d has been operated and the determination as to whether the upper triangular button 1736u has been operated may be carried out in any order.

If the upper triangular button 1736u has been operated (Yes in step S187-5), the auxiliary display unit 18 does not display the auxiliary area 173 in step S187-6. That is, the auxiliary display unit 18 displays none of the auxiliary area 173 in the simple display manner and the auxiliary area 173 in the standard manner. Thereafter, the auxiliary display unit 18 may display the auxiliary area 173 in the simple display manner (i.e., the process may return to step S187-3) in response to the lower triangular button 1736d being operated. Note that such a design can be made that nothing occurs even if the upper triangular button 1736u is operated, or the auxiliary area 173 in the standard manner is displayed in response to the operation. It is also possible to be able to carry out such control that the auxiliary display unit 18 displays none of the auxiliary area 173 in the simple display manner and the auxiliary area 173 in the standard manner, but displays the cursor buttons 1736, and returns to step

S187-3.

If, in step S187-7, the auxiliary area 173 in the standard manner is displayed, the auxiliary display unit 18 determines whether the upper triangular button 1736u has been operated, in step S187-8.

If the upper triangular button 1736u has been operated (Yes in step S187-8), the auxiliary display unit 18 switches the auxiliary area 173 in the standard manner into the auxiliary area 173 in the simple display manner in step S187-3.

Thus, the user can switch the display mode of the auxiliary area by operating the cursor buttons 1736.

Next, operations of the transmission management apparatus 50 and the transmission terminal 10 after the transmission terminal 10 displays the auxiliary area 173 in step S87 of FIG. 22 will now be described.

FIG. 25 is one example of a flowchart illustrating operations of the transmission management apparatus 50. A process of FIG. 25 is, for example, carried out repetitiously after the transmission management apparatus 50 calculates the number of the online terminal IDs in step S85 of FIG.

22.

In step S85-1, the terminal status acquisition unit 55 (FIG. 7) monitors the terminal management table 5003T in which the IP address (or the terminal ID) of the transmission terminal 10 that has transmitted the terminal information request signal is registered.

In step S85-2, the terminal status acquisition unit 55 determines whether the number of the terminal IDs of "online (under transmission)" transmitted in step S85 of FIG. 22 has increased or decreased.

If the determination result in step S85-2 is NO, the process of FIG. 25 is once ended, and the process is then repetitiously carried out from step S85-1.

If the determination result in step S85-2 is YES, this means that the number of bases has changed. Therefore, in step S85-3, the terminal status acquisition unit 55 transmits the number of terminal IDs each of which currently has the operational status "online (under transmission)" to the transmission terminal 10. Therefore, the transmission terminal 10 that has once acquired the number of the terminal IDs of "online (under

transmission)" can acquire the correct number of bases at any time.

Also in FIG. 25, the terminal status acquisition unit 55 may transmit the number of the terminal IDs of "online (under transmission)" also to the transmission terminals 10 of "online (under transmission)" other than the transmission terminal 10 that has transmitted the terminal information request signal. Thereby, all the transmission terminals 10 of online can have the correct number of bases at any time.

FIG. 26 is one example of a flowchart illustrating an operation procedure of the transmission terminal 10. The process of FIG. 26 is, for example, repetitiously carried out after the transmission terminal 10 displays the auxiliary area 173 in step S87 of FIG. 22. FIG. 26 now will be described assuming a case where a setting is made to select the manner "remove after elapse of certain period of time" the once displayed auxiliary area 173.

First, in step S87-1, the auxiliary area display unit 18 (FIG. 7) determines whether the auxiliary area display unit 18 is currently displaying the auxiliary area 173.

If the determination result in step S87-1

is YES, the auxiliary area display unit 18 determines in step S87-2 whether the period of time that has elapsed from when the auxiliary area display unit 18 starts displaying the auxiliary area 173 exceeds the certain period of time.

If the determination result of step S87-2 is YES, the auxiliary area display unit 18 removes the auxiliary area 173 in step S87-3. Therefore, the participant can participate in the video conference while paying attention mainly to the images of the respective bases.

If the determination result of step S87-2 is NO, the auxiliary area display unit 18 keeps displaying the auxiliary area 173.

If the determination result of step S87-1 is NO, the auxiliary area display unit 18 determines whether a trigger to display the auxiliary area 173 occurs. The trigger is a case where the auxiliary area display unit 18 has received the number of the terminal IDs of "online (under transmission)" from the transmission management apparatus 50, or a case where the user has performed an operation to display the auxiliary area 173.

First, in step S87-4, the auxiliary area display unit 18 determines whether the auxiliary area

display unit 18 has received the number of the terminal IDs of "online (under transmission)" from the transmission management apparatus 50.

If the determination result of step S87-4 is YES, the auxiliary area display unit 18 again displays the auxiliary area 173 based on the layout information 2000L stored in the RAM 103, in step S87-5. Thereby, if the number of bases has changed, the transmission terminal 10 can immediately reflect the changed number of bases in the auxiliary area 173.

If the determination result of step S87-4 is NO, the auxiliary area display unit 18 determines in step S87-6 whether the user has performed an operation to display the auxiliary area 173.

If the determination result of step S87-6 is YES, the auxiliary area display unit 18 displays the auxiliary area 173 based on the layout information 2000L stored in the RAM 103 in step S87-5. Thereby, the user can display the auxiliary area 173 at any timing.

If each of both the determination results of step S87-4 and step S87-6 is NO, the auxiliary area display unit 18 keeps not displaying the auxiliary area 173.

Thus, the auxiliary area 173 is displayed

when the number of bases has changed. Therefore, the user can easily know that the number of bases has changed. Because the auxiliary area 173 is removed after the elapse of the certain period of time, the user can participate in the video conference while paying attention mainly to the images of the respective bases.

If the user wishes to know details of bases which have participated in the video conference as a result of knowing a change in the number of bases or knowing the number of bases, the user can switch the display mode into the information display mode. Because the user can switch the display mode into the information display mode when the number of bases has changed, the user need not switch the display mode into the information display mode to know the number of bases or the bases which have participated in the video conference.

The transmission terminals, the transmission management apparatuses, the programs, the transmission methods, and the transmission systems have been described in the embodiments. However, the present invention is not limited to the above-mentioned embodiments, and various modifications and improvements can be made within the

scope of the present invention.

For example, the relay apparatuses 30, the transmission management apparatus 50 and the program providing apparatus 90 can be established by a single computer instead of being provided separately. Also, the respective elements and the storage units 1000, 2000, 3000, and 5000 of the relay apparatuses 30, the transmission management apparatus 50 and the program providing apparatus 90 can be freely assigned to a plurality of computers. In this case, the UI providing apparatus 20 can be included as a function of any one of the computers.

Also, as an example of quality of an image relayed by a relay apparatus 30, resolution of an image of image data is managed in the above-mentioned embodiments. However, what is managed is not limited to this example. As others example of quality to be managed, a depth of image quality of image data, a sampling frequency used when a sound is sampled to acquire sound data, a bit length in a sound of sound data, or the like, can be managed. Also, it is possible that sound data is transmitted and received in a manner that the sound data is separated into respective pieces that have 3 types of resolution (high resolution, medium resolution, and low

resolution).

Also, in FIG. 9A and 9B, the IP addresses of the transmission terminals 10 are managed. However, what is managed is not limited to IP addresses, and any other information for identifying the transmission terminals 10 in the transmission network 2 may be used. For example, FQDNs (Fully Qualified Domain Names) of the transmission terminals 10 may be managed. In this case, through a known DNS (Domain Name System) server, the IP addresses corresponding to the FQDNs are acquired.

Also, in the above-mentioned embodiments, a video conference system has been described as one example of the transmission system 1. However, the transmission system 1 is not limited to the video conference system. For example, the transmission system 1 may be a telephone system of IP (Internet Protocol) phones, internet phones or the like, or an interactive white board system.

Also, the transmission system 1 can be a system that includes car navigation apparatuses mounted in moving bodies, respectively. FIG. 27 illustrates one example of a system configuration in a case where transmission terminals 10 are applied as car navigation apparatuses 200-2 and 200-3 mounted in

respective moving bodies (automobiles 601 and 602), respectively.

In this case, one transmission terminal 10 corresponds to the car navigation apparatus 200-2 mounted in the automobile 601. Another transmission terminals 10 corresponds to a management terminal 200-1 used by a communicator in a management center 604, or the car navigation apparatus 200-3 mounted in the automobile 602. The management terminal 200-1 and the car navigation apparatuses 200-2 and 200-3 are connected together via a network 2. Also, the management terminal 200-1 and the car navigation apparatuses 200-2 and 200-3 establish a session using a transmission management apparatus 50.

FIG. 28 illustrates one example of a configuration diagram of any one of the in-vehicle car navigation apparatuses 200-2 and 200-3. The car navigation apparatus 200-2 has a configuration such that, to a transmission terminal 10 described above, a GPS receiver 612, a vehicle speed sensor 613, a gyro sensor 614, and a road map data 615 are connected. Also, the transmission terminal 10 includes a display 120 integrally. Note that the display 120 may be connected to the transmission terminal 10 in a wired manner or wirelessly, or may

be detachable to and from the transmission terminal 10.

The transmission terminal 10 provides the function as any one of the car navigation apparatus 200-2 and 200-3 by executing a program. The GPS receiver 612 captures GPS satellite signals to output the coordinates of the current position. The vehicle speed sensor 613 detects the vehicle speed (i.e., the rotational speed of the wheels) of the vehicle 601 or 602. The gyro sensor 614 detects the angular velocity, and, as a result of integrating the angular velocity, it is possible to detect the direction in which the vehicle 601 or 602 travels.

The road map data 615 is data that expresses roads by combinations of nodes and links, and can be downloaded from the outside or can be previously held by the vehicle 601 or 602. The road map data is displayed on the display 120.

Note that a PC may be connected to the transmission terminal 10 for sharing screen pages. Also, the car navigation apparatus 200-2 or 200-3 may have, in addition to the configuration illustrated in FIG. 28, a tuner function to a receive radio or TV broadcasts, an audio function to reproduce music, a function to link with an in-vehicle camera such as a

rearview camera, a browser function to display Web sites, and so forth.

The transmission terminal 10 estimates the position of the vehicle by applying autonomous navigation that accumulates travel distances detected by the vehicle speed sensor 613 in the travel direction detected by the gyro sensor 614 using the position information that is detected by the GPS receiver 612 as a starting point. The position of the vehicle is displayed in the road map in a form of a vehicle mark. Also, the transmission terminal 10 searches for a route for a destination and guides the vehicle driver with the searched route. Thus, the transmission terminal 10 implements the car navigation function.

The car navigation apparatuses 200-2 and 200-3 are connected to the network 20 through functions of the transmission terminals 10. For example, each transmission terminal 10 is connected to the network 2 using a cellphone via a cellphone network that may use wireless communications that mainly cover a wide area such as an outdoor area or the like using antenna power from a base station.

The transmission terminal 10 as the car navigation apparatus 200-2 or 200-3 displays a screen

page of a destination list on the display 120 such as the destination list of FIG. 29. The destination list is a display screen page where, in a destination list frame 1100-1, terminal IDs 1100-2, terminal names 1100-3, and icons 1100-4a through 1100-4c representing status information of destination terminal candidates are included. The occupant selects a destination terminal from the list of destination terminals displayed on the display 120.

After a session is established with the destination terminal, the transmission terminal 10 (the car navigation apparatus 200-2 or 200-3) can transmit image data from a camera, voice data, and so forth to, and receive image data, voice data, and so forth from the selected destination terminal.

Also, as a result of the user (the occupant) performing an operation on the transmission terminal 10 (the car navigation apparatus 200-2 or 200-3), the transmission terminal 10 can acquire display data such as a road map, a TV picture, or the like. In this case, the car navigation apparatus 200-2 or 200-3 can transmit display data to the other car navigation apparatus that is the destination terminal connected via the network 2.

Also, if the user selects the management

terminal 200-1 used by the communicator of the management center 604 from the list of the destination terminals, image data of the communicator is displayed on the display 120, and a voice of the communicator is output from the speaker. Thus, the user can perform a conversation with the communicator as a TV phone.

Thus, merely the mounting place becomes the moving body (the automobile, or the like), image data, voice data, and display data can be transmitted and received in a manner the same as or similar to a transmission terminal 10 in an office.

Also, in the above-mentioned embodiments, as an example of content data, image data and sound data are processed. However, content data is not limited to image data and sound data, and content data may be touch data. In this case, a feeling generated when a user touches one transmission terminal 10 is transmitted to another transmission terminal 10.

Also, content data may be smell data. In this case, a smell on the side of one transmission terminal is transmitted to another transmission terminal. Also, content data may be at least one of image data, sound data, touch data, and smell data.

Also, in the above-mentioned embodiments, the case where the transmission system 1 is used to carry out a video conference. However, actual applications of the transmission system 1 are not limited to this case. The transmission system 1 may be used for a meeting, a general conversation among family members, friends, or the like, or submitting information unidirectionally.

Thus, it is possible to provide a transmission terminal with which it is possible to know information of other bases even in an image mode where images from transmission terminals are displayed.

Thus, the transmission terminals, the transmission management apparatuses, the non-transitory recording media, the transmission methods, and the transmission systems have been described in the embodiments. However, embodiments are not limited to the above-described embodiments, and various modifications and replacements may be made.

Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:	Yoshinaga KATO		
SERIAL NO:	New Application	GAU:	Unassigned
FILED:	Herewith	EXAMINER:	Unassigned
FOR:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

Applicant(s) wish to disclose the following information.

REFERENCES

■ The applicant(s) wish to make of record the reference(s) listed on the attached form PTO-1449 and/or accompanying documents from a corresponding foreign application. Copies of the listed reference(s) were made of record in parent Application No. 15/277,069 filed September 27, 2016, as are either statements of relevancy, English translations of the categories of cited documents for foreign search reports or English translations of foreign Office Actions which provide the statement of relevancy for the foreign language references cited therein, or any readily available partial or full English translations of pertinent portions of any non-English language reference(s).

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CERTIFICATION

☐ Each item of information contained in this 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 this statement.

☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

■ Please charge any additional fees for the papers being filed herewith and for which no payment is enclosed herewith, or credit any overpayment to deposit account number **15-0030**.

Respectfully submitted,

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MAIER & NEUSTADT, L.L.P.

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Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S) Yoshinaga KATO

SERIAL NO: New Application ART UNIT: Unassigned

FILING DATE: Herewith EXAMINER: Unassigned

FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

FEE TRANSMITTAL

☐ No additional fee is required

☐ Small entity status of this application under 37 C.F.R. §1.9 and §1.27 is claimed.

☐ Track 1 Prioritized Examination

The Fee has been calculated as shown below:

FOR	NUMBER FILED	NUMBER EXTRA	RATE	CALCULATIONS
TOTAL CLAIMS	1 - 20 =	0	x $100 =	$ 0.00
INDEPENDENT CLAIMS	1 - 3 =	0	x $460 =	$ 0.00
UTILITY APPLICATION SIZE FEE	103* - 100 = (* 137 x .75)	1 (each addtl. 50 sheets over 100)	x $400 =	$400.00
☐ MULTIPLE DEPENDENT CLAIMS (If applicable)			+ $820 =	$0.00
☐ LATE FILING OF DECLARATION			+ $160 =	$0.00
☐ NON-ELECTRONIC FILING FEE			+ $400 =	$0.00
■ FILING FEE ($300.00) ■ SEARCH FEE ($660.00) ■ EXAMINATION FEE ($760.00)			BASIC FEES	$1,720.00
			TOTAL OF ABOVE CALCULATIONS	$2,120.00
☐ REDUCTION BY 50% FOR FILING BY SMALL ENTITY				$0.00
☐ FILING FEE REDUCED IF E-FILED – SMALL ENTITY			+ $-75 =	$0.00
☐ FILING IN NON-ENGLISH LANGUAGE			+ $140 =	$0.00
			TOTAL	$2,120.00

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■ The Director is hereby authorized to charge any additional fees which may be required for the papers being filed herewith and for which no payment is enclosed herewith, or credit any overpayment to Deposit Account No. **15-0030**, with the **EXCEPTION** of deficiencies in fees for multiple dependent claims in new applications.

Submitted by: /Sameer Gokhale/

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Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Attorney Docket Number:	526184US

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	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
UTILITY APPL SIZE FEE PER 50 SHEETS >100	1081	1	400	400
Claims:				
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		2120

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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
16/654,752	10/16/2019	2414	2120	526184US	1	1

CONFIRMATION NO. 6383

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FILING RECEIPT

OC000000112323585

Date Mailed: 11/04/2019

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)

Yoshinaga KATO, Kanagawa, JAPAN;

Applicant(s)

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Power of Attorney: The patent practitioners associated with Customer Number 22850

Domestic Priority data as claimed by applicant

This application is a CON of 15/277,069 09/27/2016 PAT 10482046
which is a CON of PCT/JP2015/060144 03/31/2015

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
JAPAN 2014-071406 03/31/2014 No Access Code Provided

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If Required, Foreign Filing License Granted: 10/31/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/654,752**

Projected Publication Date: 02/13/2020

Non-Publication Request: No

Early Publication Request: No

Title

TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

Preliminary Class

370

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

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/654,752

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	1 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*				x 460 =	0.00
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).						400
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	2120

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	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))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	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))									
	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".
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JP,06-070040,A(1994) Entire PDF Document Details DPD Search key URL Mistranslation

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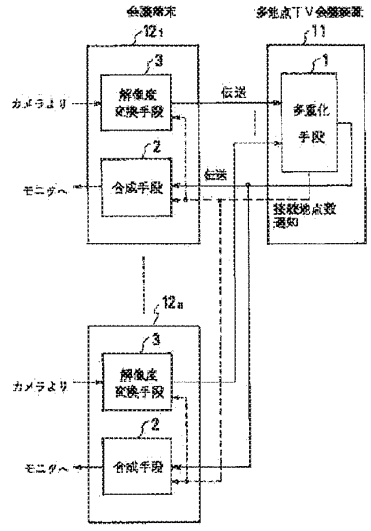
(11)[Publication number] : 06-070040
(43)[Date of publication of application] : Mar.11,1994
(21)[Application number] : 04-219951
(22)[Filing date] : Aug.19,1992
(51)[International Patent Classification] : H04N 3/56
H04N 7/15
(54)[Title of the Invention] : DISPLAY FORM CHANGING SYSTEM FOR MULTI-POSITION VIDEO CONFERENCE SYSTEM
(71)[Applicant] : FUJITSU LTD
(72)[Inventor] : TSURUTA TORU
ITO TAKASHI
MATSUDA KIICHI

Overview Open

Drawings Close

Representative drawing

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Representative drawing

Previous document 1 of 1 Display Next document

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IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 161 of 316

(19)日本国特許庁（ＪＰ）　(12)**公開特許公報**（Ａ）　(11)特許出願公開番号

特開平6－70040

(43)公開日　平成６年(1994)３月11日

(51)Int.Cl.[5]	識別記号	庁内整理番号	ＦＩ	技術表示箇所
Ｈ０４Ｍ　3/56		C		
Ｈ０４Ｎ　7/15		8943－5C		

審査請求　未請求　請求項の数４(全　９　頁)

(21)出願番号　特願平4－219951

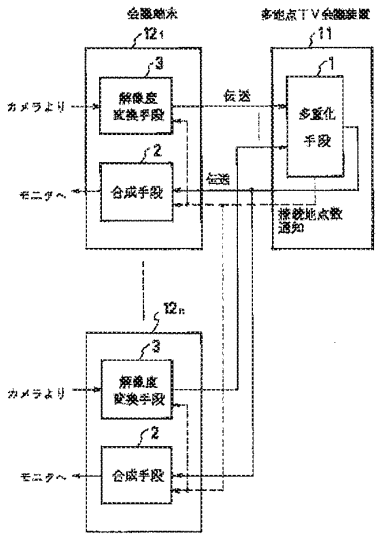
(22)出願日　平成４年(1992)８月19日

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(54)【発明の名称】　多地点テレビ会議システムにおける表示形態変更方式

(57)【要約】
多地点テレビ会議システムに関し、画面上の表示形態を変化させる場合の、表示形態変更方式を提供することを目的とする。
【構成】多地点テレビ会議システムにおいては、複数の地点に設けられた会議端末１２$_1$～１２$_n$を多地点ＴＶ会議装置１１に接続するとともに、多地点ＴＶ会議装置１１が、複数の会議端末からの画像を選択して多重化して出力する多重化手段１を備え、各会議端末１２$_1$～１２$_n$が、多重化された受信データから分離された各会議端末からの画像データを合成して多地点同時表示を行う合成手段２を備えている。この場合に、各会議端末における合成手段２が、多地点ＴＶ会議装置１１から通知された会議端末数に応じて、画面上の分割表示形態を変更することで構成する。

本発明の原理的構成を示す図



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Zoom Communication, Inc. Ex. 1002
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1

【特許請求の範囲】

【請求項１】　複数の地点に設けられた会議端末（１２$_1$～１２$_n$）を多地点ＴＶ会議装置（１１）に接続し、各会議端末から多地点ＴＶ会議装置に画像を伝送するとともに、多地点ＴＶ会議装置が複数の会議端末からの画像を選択して各会議端末に伝送し、各会議端末が１画面を複数領域に分割して各領域に多地点ＴＶ会議装置から伝送された該領域数以内の異なる会議端末からの受信画像を表示する多地点テレビ会議システムにおいて、各会議端末が多地点ＴＶ会議装置から通知された地点数に応じて画面上の分割表示形態を動的に変更することを特徴とする多地点テレビ会議システムにおける表示形態変更方式。

【請求項２】　複数の地点に設けられた会議端末（１２$_1$～１２$_n$）を多地点ＴＶ会議装置（１１）に接続するとともに、該多地点ＴＶ会議装置が、複数の会議端末からの画像を選択して多重化して出力する多重化手段（１）を備え、各会議端末が、多重化された受信データから分離された各会議端末からの画像データを合成して多地点同時表示を行う合成手段（２）を備えた多地点テレビ会議システムにおいて、各会議端末における前記合成手段が前記多地点ＴＶ会議装置から通知された会議端末数に応じて画面上の分割表示形態を変更することを特徴とする多地点テレビ会議システムにおける表示形態変更方式。

【請求項３】　複数の地点に設けられた会議端末（１２$_1$～１２$_n$）を多地点ＴＶ会議装置（１１）に接続し、各会議端末から多地点ＴＶ会議装置に画像を伝送するとともに、多地点ＴＶ会議装置が複数の会議端末からの画像を選択して各会議端末に伝送し、各会議端末が１画面を複数領域に分割して各領域に多地点ＴＶ会議装置から伝送された該領域数以内の異なる会議端末からの受信画像を表示する多地点テレビ会議システムにおいて、各会議端末が多地点ＴＶ会議装置から通知された地点数に応じて画面上の分割表示形態を動的に変更するとともに、通知された地点数および自端末が発言者であるか否かに応じて多地点ＴＶ会議装置へ伝送する画像の解像度を自動的に変更することを特徴とする多地点テレビ会議システムにおける表示形態変更方式。

【請求項４】　複数の地点に設けられた会議端末（１２$_1$～１２$_n$）を多地点ＴＶ会議装置（１１）に接続するとともに、該多地点ＴＶ会議装置が、複数の会議端末からの画像を選択して多重化して出力する多重化手段（１）を備え、各会議端末が、多重化された受信データから分離された各会議端末からの画像データを合成して多地点同時表示を行う合成手段（２）を備えた多地点テレビ会議システムにおいて、各会議端末における前記合成手段が前記多地点ＴＶ会議装置から通知された会議端末数に応じて画面上の分割表示形態を変更するとともに、

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各会議端末に画像の解像度を変更して出力する解像度変換手段（３）を備え、多地点ＴＶ会議装置から通知された会議端末数および自端末が発言者であるか否かに応じて送信する画像の解像度を変更することを特徴とする多地点テレビ会議システムにおける表示形態変更方式。

【発明の詳細な説明】

【０００１】

【産業上の利用分野】本発明は、多地点テレビ会議システムに関し、特に多地点テレビ会議システムにおいて、画面上の表示形態を変化させる場合の、表示形態変更方式に関するものである。

【０００２】多地点テレビ会議システムは、複数の人が複数の地点の会議端末において、多地点ＴＶ会議装置（ＭＣＵ）を介して、会議形式で通話を行うものであり、これによって、いながらにして、遠隔地間において会議を行うことができる。

【０００３】しかしながら、会議端末を介して行う会議は臨場感に欠けるため、各会議端末において、多地点の会議参加者の画像を同時に表示することによって、複数の人が直接一室に会同して行う、従来からの会議の雰囲気にできるだけ近づけるようにしている。

【０００４】このような、多地点テレビ会議システムの、多地点同時表示機能において、画面の表示分割数が固定の場合、表示すべき相手が少ないために、画面内に非表示部分が生じることは好ましくないので、地点数に応じて画面分割数を変更できるようにする、表示形態変更方式が要望されている。

【０００５】

【従来の技術】図５は、多地点テレビ会議システムのシステム構成を示したものであって、多地点ＴＶ会議装置（ＭＣＵ）１１に対して、複数の地点の会議端末１２$_1$～１２$_n$が接続されることが示されている。

【０００６】このような多地点テレビ会議システムにおいては、各会議端末に、複数の地点（の会議端末；以下会議端末を略す）からの画像を同時に表示する、多地点同時表示機能が用いられている。多地点同時表示機能は、多地点テレビ会議システムにおいて、会議の臨場感を高める上で重要なものである。

【０００７】図６は、従来の画面表示方式を示したものであって、（ａ）は画面を４分割する場合を示し、（ｂ）は画面を分割しない場合を示している。従来は図６（ａ）に示すように、画面を単純に４分割して、相手１～相手４の４地点の画像を表示する手法が一般に用いられている。また図６（ｂ）は、画面を分割することなく、１地点における相手１のみの画像を表示するものである。

【０００８】

【発明が解決しようとする課題】図６（ａ）に示された従来の画面表示方式では、会議参加地点数が４以下の場合や、最終的に５地点以上の会議となる場合でも、全部

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の地点が接続される以前のように、通信相手が4地点に満たないときは、表示形態が4分割表示のみの場合、画面内に非表示部分を生じることになる。

【0009】図7は、4分割画面表示方式において、通信相手が3地点の場合の表示例を示したものであって、相手1～相手3の画像を表示しても、Aに示すように画面内に非表示部分が生じるので、あまり好ましくない。一方、このような場合に、表示方式を図6（b）に示す1地点表示方式に戻すことは、相手1は表示できるが、相手2～相手3を表示できないので、多地点会議の臨場感が低下することが避けられない。

【0010】本発明は、このような従来技術の課題を解決しようとするものであって、多地点テレビ会議システムにおいて、多地点同時表示機能を備える場合に、画面分割数を、表示地点数に応じて所定数以内で変更可能にすることによって、画面表示における臨場感を損なうことなく、かつ非表示部分を発生させないような、多地点テレビ会議システムにおける表示形態変更方式を提供することを目的としている。

【0011】

【課題を解決するための手段】(1) 本発明は、複数の地点に設けられた会議端末12_1～12_nを多地点ＴＶ会議装置１１に接続し、各会議端末から多地点ＴＶ会議装置に画像を伝送するとともに、多地点ＴＶ会議装置が複数の会議端末からの画像を選択して各会議端末に伝送し、各会議端末が1画面を複数領域に分割して各領域に多地点ＴＶ会議装置から伝送された該領域数以内の異なる会議端末からの受信画像を表示する多地点テレビ会議システムにおいて、各会議端末が多地点ＴＶ会議装置から通知された地点数に応じて画面上の分割表示形態を動的に変更するものである。

【0012】(2) また本発明は、複数の地点に設けられた会議端末12_1～12_nを多地点ＴＶ会議装置１１に接続するとともに、多地点ＴＶ会議装置が、複数の会議端末からの画像を選択して多重化して出力する多重化手段1を備え、各会議端末が、多重化された受信データから分離された各会議端末からの画像データを合成して多地点同時表示を行う合成手段2を備えた多地点テレビ会議システムにおいて、各会議端末における合成手段が多地点ＴＶ会議装置から通知された会議端末数に応じて画面上の分割表示形態を変更するものである。

【0013】(3) また本発明は、複数の地点に設けられた会議端末12_1～12_nを多地点ＴＶ会議装置１１に接続し、各会議端末から多地点ＴＶ会議装置に画像を伝送するとともに、多地点ＴＶ会議装置が複数の会議端末からの画像を選択して各会議端末に伝送し、各会議端末が1画面を複数領域に分割して各領域に多地点ＴＶ会議装置から伝送された領域数以内の異なる会議端末からの受信画像を表示する多地点テレビ会議システムにおいて、各会議端末が多地点ＴＶ会議装置から通知された地点数に応じて画面上の分割表示形態を動的に変更するとともに、通知された地点数および自端末が発言者であるか否かに応じて多地点ＴＶ会議装置へ伝送する画像の解像度を自動的に変更するものである。

【0014】(4) また本発明は、複数の地点に設けられた会議端末12_1～12_nを多地点ＴＶ会議装置１１に接続するとともに、多地点ＴＶ会議装置が、複数の会議端末からの画像を選択して多重化して出力する多重化手段1を備え、各会議端末が、多重化された受信データから分離された各会議端末からの画像データを合成して多地点同時表示を行う合成手段2を備えた多地点テレビ会議システムにおいて、各会議端末における合成手段が多地点ＴＶ会議装置から通知された会議端末数に応じて画面上の分割表示形態を変更するとともに、各会議端末に画像の解像度を変更して出力する解像度変換手段3を備え、多地点ＴＶ会議装置から通知された会議端末数および自端末が発言者であるか否かに応じて送信する画像の解像度を変更するものである。

【0015】

【作用】(1) 図1は、本発明の原理的構成を示したものである。多地点テレビ会議システムにおいては、複数の地点に設けられた会議端末12_1～12_nを多地点ＴＶ会議装置１１に接続するとともに、多地点ＴＶ会議装置１１が、多重化手段1を備えて、複数の地点からの画像を選択して多重化して出力し、各会議端末12_1～12_nが、合成手段2を備えて、多重化された受信データから分離された各会議端末からの画像データを合成して多地点同時表示を行う。

【0016】このような多地点テレビ会議システムにおいて、各会議端末における合成手段2が、多地点ＴＶ会議装置１１から通知された会議端末数に応じて、画面上の分割表示形態を変更する。

【0017】このように、多地点テレビ会議システムにおいて、多地点同時表示機能を備える場合に、画面分割数を、表示地点数に応じて所定数以内で、変更可能にしたので、画面表示における臨場感を損なうことなく、かつ、非表示部分を発生させないようにすることができる。

【0018】(2) また、多地点テレビ会議システムにおいては、複数の地点に設けられた会議端末12_1～12_nを多地点ＴＶ会議装置１１に接続するとともに、多地点ＴＶ会議装置１１が、複数の地点からの画像を選択して多重化して出力する多重化手段1を備え、各会議端末12_1～12_nが、多重化された受信データから分離された各会議端末からの画像データを合成して多地点同時表示を行う合成手段2を備えている。

【0019】このような多地点テレビ会議システムにおいて、各会議端末における合成手段2が、多地点ＴＶ会議装置１１から通知された会議端末数に応じて、画面上の分割表示形態を変更するとともに、各会議端末に画像

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の解像度を変更して出力する解像度変換手段３を備えて、この解像度変換手段３が、多地点ＴＶ会議装置１１から通知された会議端末数および自端末が発言者であるか否かに応じて、送信する画像の解像度を変更する。

【００２０】このように、多地点テレビ会議システムにおいて、多地点同時表示機能を備える場合に、画面分割数を、表示地点数に応じて所定数以内で、変更可能にするとともに、表示地点数および発言者の場合とそうでない場合とで、解像度を変えて画像を送信するので、画面表示における臨場感を損なうことなく、発言者により大きなスペースを与えながら、非表示部分を発生させないようにすることができる。

【００２１】

【実施例】図２は、本発明の一実施例の、地点数に応じた表示形態を示したものであって、会議端末において、多地点ＴＶ会議装置に接続している地点数に応じて、表示する形態を、図２のように変更する。

【００２２】図３は、本発明の一実施例の、会議端末における合成表示を実現する構成を示したものであって、２１は多地点ＴＶ会議装置（ＭＣＵ）、２２は会議端末の受信部、２３は会議端末におけるモニタである。ＭＣＵ２１において、２４は複数地点からの画像を多重化する多重化部である。会議端末の受信部２２において、２５は多重化信号の分離と復号化とを行う分離／復号部、２６は復号された複数の画像を合成する合成部である。

【００２３】図３において、ＭＣＵ２１は、地点①～地点④から伝送されてくる画像データを、多重化部２４で多重化して各会議端末に伝送する。会議端末の受信部２２において、分離／復号部２５は、伝送された多重化された画像データを分離したのち復号化して、画像データを再生する。合成部２６は、復号された複数の画像データを合成して、モニタ２３に出力する。この際合成部２６では、ＭＣＵ２１から通知される接続地点数に応じて、表示形態を自動的に変更する。モニタ２３は、合成部２６から指定された表示形態で、地点数だけの画面を表示する。

【００２４】図４は、本発明の一実施例の、会議端末の送信部の構成を示したものであって、２１はＭＣＵ、３１は会議端末の送信部である。会議端末の送信部３１において、３２は会議参加者を撮像するカメラ、３３は画像の解像度を変更する解像度変換部、３４はアナログ画像を符号化して伝送する符号化部である。

【００２５】図４において、解像度変換部３３は、カメラ３２で撮像した画像の解像度を、ＭＣＵ２１からの接続地点数の指示に応じて変更し、符号化部３４はこの画像データを符号化して、ＭＣＵ２１に伝送する。

【００２６】この際、モニタ２３においてフルサイズ表示する場合の解像度を１とすると、接続地点数が２以下の場合は、画像の解像度を１とし、接続地点数が２の場合は、フルサイズの画面からそれぞれ１／２を切り出して表示する。接続地点数が３の場合は、自端末が会議内の発言者である場合は画像の解像度を１として、フルサイズの画面から１／２を切り出して表示し、発言者でない場合は、フルサイズの画面を１／４に縮小して表示するので、画像の解像度を１／４とする。自端末が会議内で発言者であるか否かは、ＭＣＵ２１から通知される。接続地点数が４以上の場合は、すべてフルサイズの画面を１／４に縮小して表示するものとし、画像の解像度を１／４とする。

【００２７】以下、本発明方式の具体的適用例について説明する。

(1)　接続地点数が１の場合

図４において、会議端末の送信部３１における解像度変換部３３では、ＭＣＵ２１から接続地点数が１であることを通知されると、カメラ３２からのフルサイズの画像の解像度を１として、符号化部３４へ送り、符号化部３４ではこれを所定の符号に符号化して伝送する。

【００２８】図３において、ＭＣＵ２１は伝送された画像データを、会議端末の受信部２２へ伝送する。会議端末の受信部２２において、分離／復号部２５は伝送された画像データを復号したのち、合成部２６へ出力する。合成部２６は、モニタ２３に対して、フルサイズの表示形態で出力し、モニタ２３はこれに従って、フルサイズの表示を行う。

【００２９】(2)　接続地点数が２の場合

図４において、会議端末の送信部３１における解像度変換部３３では、ＭＣＵ２１から接続地点数が２であることを通知されると、カメラ３２からの画像の解像度を１として、符号化部３４へ送り、符号化部３４ではこれを所定の符号に符号化して伝送する。

【００３０】図３において、ＭＣＵ２１は伝送された画像データを他の会議端末の画像データと多重化して、会議端末の受信部２２へ伝送する。会議端末の受信部２２において、分離／復号部２５は伝送された画像データを分離し復号して、それぞれ、合成部２６へ出力する。合成部２６は、それぞれの画像データを１／２サイズに切り出して、画像データを合わせて、１／２の表示形態としてモニタ２３に対して、フルサイズの表示形態で出力し、モニタ２３はこれに従って、フルサイズの表示を行う。

【００３１】(3)　接続地点数が３の場合

図４において、会議端末の送信部３１における解像度変換部３３では、ＭＣＵ２１から接続地点数が３であり、かつ自端末が発言者であることを通知されると、カメラ３２からの画像の解像度を１として、符号化部３４へ送り、符号化部３４ではこれを所定の符号に符号化して伝送する。

【００３２】一方、会議端末の送信部３１における解像度変換部３３では、ＭＣＵ２１から接続地点数が３であり、かつ自端末が発言者でないことを通知されると、カ

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メラ３２からのフルサイズの画像の解像度を１／４として、符号化部３４へ送り、符号化部３４ではこれを所定の符号に符号化して伝送する。

【００３３】図３において、ＭＣＵ２１は伝送された画像データを、他の会議端末の画像データと多重化して、会議端末の受信部２２へ伝送する。会議端末の受信部２２において、分離／復号部２５は伝送された画像データを分離し、復号したのち、合成部２６へ出力する。合成部２６は、分離された画像データ中に解像度１の画像があるか否かを判定し、解像度１の画像を含む場合は、解像度１の画像を１／２サイズとし、解像度１／４の画像を１／４サイズとして、３分割の表示形態でモニタ２３へ出力する。モニタ２３は、これに従って、各地点の画像データを合わせてフルサイズの表示を行う。

【００３４】一方、分離された画像データ中に解像度１の画像を含まない場合は、合成部２６は、解像度１／４の画像を１／４サイズとし、１箇所非表示の状態で、４分割の表示形態でモニタ２３に出力する。モニタ２３は、これに従って、各地点の画像データを合わせてフルサイズの表示を行う。

【００３５】(4)　接続地点数が４の場合

図４において、会議端末の送信部３１における解像度変換部３３では、ＭＣＵ２１から接続地点数が４であることを通知されると、カメラ３２からの画像の解像度を１／４として、符号化部３４へ送り、符号化部３４ではこれを所定の符号に符号化して伝送する。

【００３６】図３において、合成部２６は、画像を１／４サイズとして、４分割の表示形態でモニタ２３に出力する。モニタ２３は、これに従って、各地点の画像データを合わせてフルサイズの表示を行う。

＊【００３７】

【発明の効果】以上説明したように本発明によれば、多地点テレビ会議システムにおいて、多地点同時表示機能を備える場合に、画面分割数を、表示地点数に応じて変更可能にし、また発言者により大きなスペースを与えるようにしたので、地点数に応じた画面表示の臨場感を得ることができるとともに、画面に非表示部分を作らないようにすることが可能となる。

【図面の簡単な説明】

【図１】本発明の原理的構成を示す図である。

【図２】本発明の一実施例の、地点数に応じた表示形態を示す図である。

【図３】本発明の一実施例の、会議端末における合成表示を実現する構成を示す図である。

【図４】本発明の一実施例の、会議端末の送信部の構成を示す図である。

【図５】多地点テレビ会議システムのシステム構成を示す図である。

【図６】従来の画面表示方式を示す図であって、（ａ）は画面を４分割する場合を示し、（ｂ）は画面を分割しない場合を示す。

【図７】４分割画面表示方式において、通信相手が３地点の場合の表示例を示す図である。

【符号の説明】

１１　多地点ＴＶ会議装置

１２１～１２ｎ　会議端末

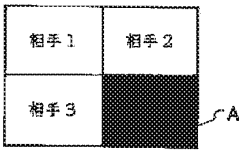
１　多重化手段

２　合成手段

３　解像度変換手段

【図７】

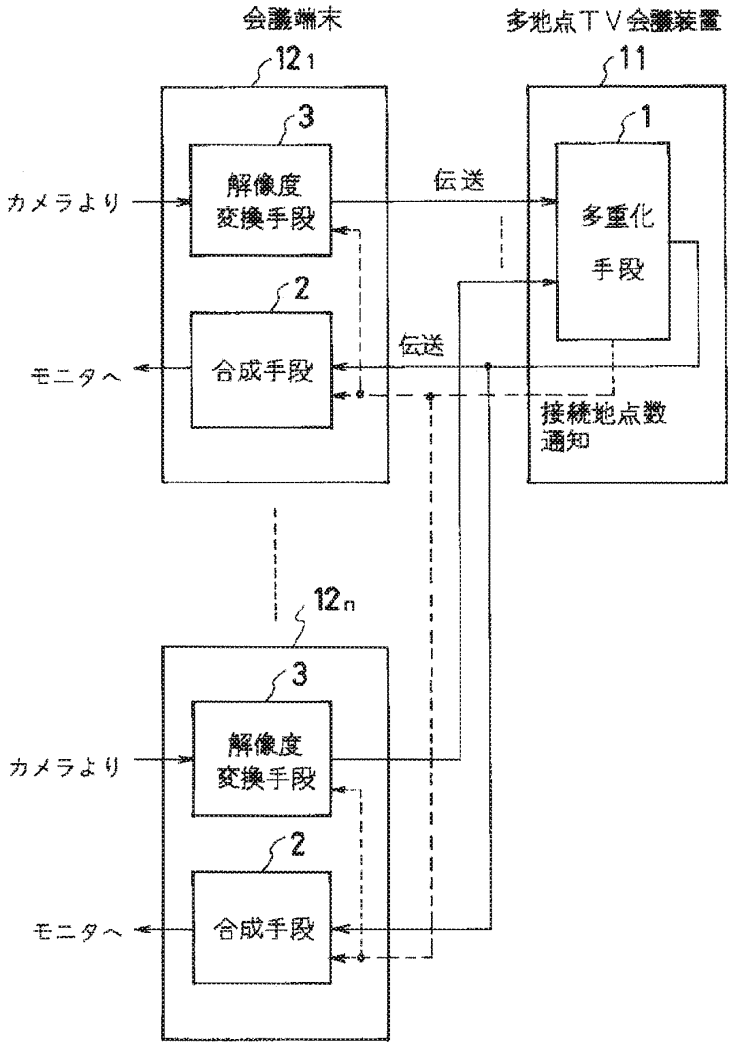
４分割画面表示方式において、
通信相手が３地点の場合の表示例を示す図



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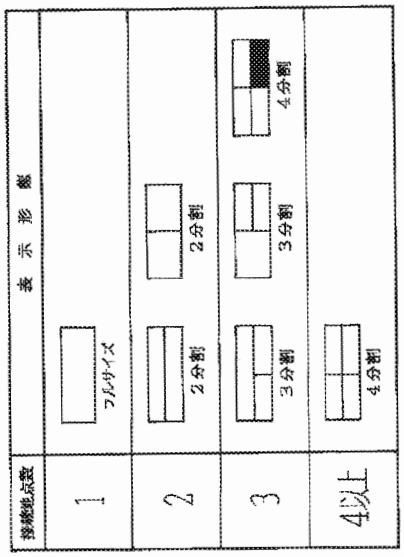
【図１】

本発明の原理的構成を示す図



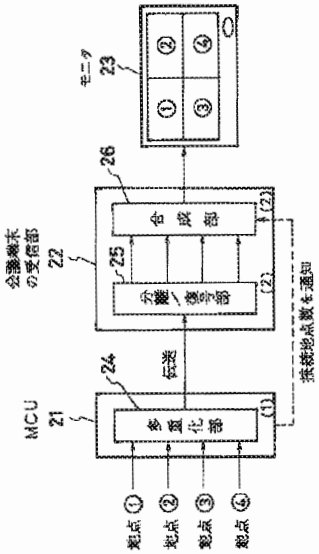
【図2】

本発明の一実施例の、
地点数に応じた表示形態を示す図



【図3】

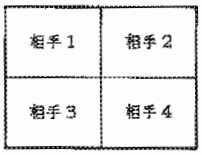
本発明の一実施例の、会議端末における
合成表示を実現する構成を示す図



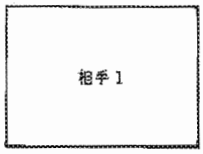
【図6】

従来の画面表示方式を示す図

(a)



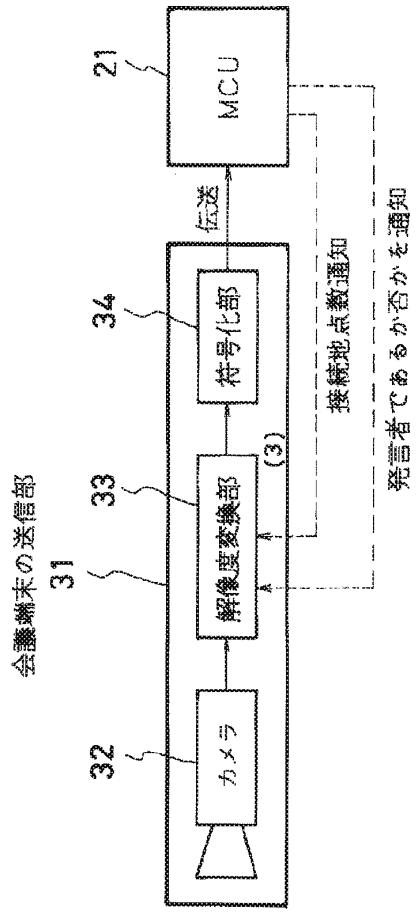
(b)



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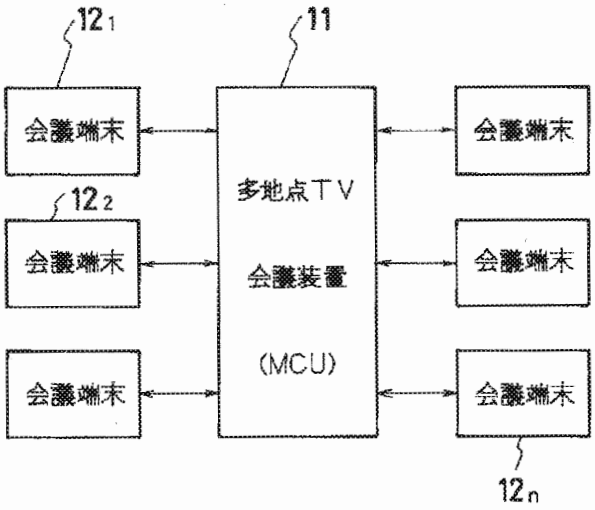
【図4】

本発明の一実施例の、
会議端末の送信部の構成を示す図



【図5】

多地点テレビ会議システムの
システム構成を示す図



Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 526184US	SERIAL NO. 16/654,752
LIST OF REFERENCES CITED BY APPLICANT		INVENTOR(S) Yoshinaga KATO	
		FILING DATE October 16, 2019	GROUP 2184

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	AO	6-70040 A	03-11-1994	Japan (with English abstract)		X
	AP					
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	Japanese Office Action issued on Oct. 29, 2019, in Patent Application No. 2019-046881, 3 pages
	AX	
	AY	
	AZ	☐ Additional References sheet(s) attached
Examiner		Date considered

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

Electronic Acknowledgement Receipt

EFS ID:	37675628
Application Number:	16654752
International Application Number:	
Confirmation Number:	6383
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Customer Number:	22850
Filer:	Daniel J. Pereira/Jeeda Oulabi
Filer Authorized By:	Daniel J. Pereira
Attorney Docket Number:	526184US
Receipt Date:	06-NOV-2019
Filing Date:	16-OCT-2019
Time Stamp:	16:20:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		526184US.pdf	11525387 f623ba5eef929355c8705a1e21ab8106f4da3089	yes	16

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Patent Term Adjustment Stmt Under 37CFR1.704(d)	2	2
	Information Disclosure Statement (IDS) Form (SB08)	3	3
	Non Patent Literature	4	6
	Foreign Reference	7	16
Warnings:			
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New Applications Under 35 U.S.C. 111
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.
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.

PATENT TERM ADJUSTMENT STATEMENT UNDER 37 CFR 1.704(d)		
	Application Number	16/654,752
	Filing Date	October 16, 2019
	First Named Inventor	Yoshinaga KATO
	Art Unit	2184
	Examiner Name	
	Practitioner Docket No.	526184US

APPLICANT HEREBY STATES THE FOLLOWING (please review 37 CFR 1.704(d) before filing this form):

■ Each item of information contained in the information disclosure statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office, and this communication was not received by any individual designated in 37 CFR 1.56(c) more than thirty days prior to the filing of the information disclosure statement.

AND/OR

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INSTRUCTIONS:

- **This form will not satisfy the requirement of 37 CFR 1.97(e).** The present statement is filed under 37 CFR 1.704(d) and will not substitute for compliance with any of the requirements of 37 CFR 1.97 and 1.98. For an information disclosure statement to comply with 37 CFR 1.97(c) or (d), the information disclosure statement must be accompanied by a statement under 37 CFR 1.97(e) not with standing any statement filed under 37 CFR 1.704(d).
- The present form (PTO/SB/133) should be filed concurrently with the information disclosure statement to derive benefit under 37 CFR 1.704(d).

Signature	/Hengyi Jiang/	Date	2019-11-06
Typed or printed name	Hengyi Jiang	Practitioner Registration Number	L1319

***Note**: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*.*

* Total of 1 forms are submitted.

Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:	Yoshinaga KATO		
SERIAL NO:	16/654,752	GAU:	2184
FILED:	October 16, 2019	EXAMINER:	
FOR:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:
Applicant(s) wish to disclose the following information.

REFERENCES

■ The applicant(s) wish to make of record the reference(s) listed on the attached form PTO-1449 and/or accompanying documents from a corresponding foreign application. Copies of the listed reference(s) are attached, where required, as are either statements of relevancy, English translations of the categories of cited documents for foreign search reports or English translations of foreign Office Actions which provide the statement of relevancy for the foreign language references cited therein, or any readily available partial or full English translations of pertinent portions of any non-English language reference(s).

☐ Credit card payment is being made online (if electronically filed), or is attached hereto (if paper filed), in the amount required under 37 CFR §1.17(p).

CERTIFICATION

☐ Each item of information contained in this 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 this statement.

☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

■ Please charge any additional fees for the papers being filed herewith and for which no payment is enclosed herewith, or credit any overpayment to deposit account number **15-0030**.

Respectfully submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

/Hengyi Jiang/

Kurt M. Berger, Ph.D.
Registration No. 51,461

Sameer Gokhale
Registration No. 62,618

Hengyi Jiang
Registration No. L1319

Customer Number
22850

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(OMMN 02/12)

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/654,752	10/16/2019	Yoshinaga KATO	526184US

CONFIRMATION NO. 6383

22850
OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

PUBLICATION NOTICE

OC000000114707019

Title:TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

Publication No.US-2020-0050567-A1
Publication Date:02/13/2020

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.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

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Notice of References Cited	Application/Control No. 16/654,752	Applicant(s)/Patent Under Reexamination KATO, Yoshinaga	
	Examiner JOHN B ROCHE	Art Unit 2184	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-10503676-B2	12-2019	Kato; Yoshinaga	H04N7/15	1/1
*	B	US-20130242033-A1	09-2013	Kato; Yoshinaga	H04N7/15	348/14.08
*	C	US-20060227632-A1	10-2006	Koyama; Nobukazu	G06Q30/06	365/200
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	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	

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

SHEET 1 OF 1

Form PTO 1449 (Modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 526184US	SERIAL NO. 16/654,752
LIST OF REFERENCES CITED BY APPLICANT	INVENTOR(S) Yoshinaga KATO	
	FILING DATE October 16, 2019	GROUP 2184

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
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	AD						
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	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

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/J.B.R/	AO	6-70040 A	03-11-1994	Japan (with English abstract)		X
	AP					
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

/J.B.R/	AW	Japanese Office Action issued on Oct. 29, 2019, in Patent Application No. 2019-046881, 3 pages
	AX	
	AY	
	AZ	☐ Additional References sheet(s) attached

Examiner	/JOHN B ROCHE/	Date considered	02/27/2020

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Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO.	SERIAL NO.
LIST OF REFERENCES CITED BY APPLICANT		526184US	New Application
		APPLICANT: Yoshinaga KATO	16/654,752 - GAU: 2184
		FILING DATE: Filing date: 10/16/2019	GROUP: Unassigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
/J.B.R/	AA	9,307,197	04/05/2016	Kato et al.			
	AB	9,131,104	09/08/2015	Nakafuji et al.			
	AC	2012/0182384	07/19/2012	Eric C. ANDERSON, et al. (corresponding to U.S. Publication Nos. 2014/0111597 and 2016/0088259)			
	AD	2014/0111597	04/24/2014	Eric C. ANDERSON, et al.			
	AE	2016/0088259	03/24/2016	Eric C. ANDERSON, et al.			
	AF	2009/0310601	12/17/2009	KAWAHATA, S.			
	AG	2017/0201718	07/13/2017	KATO, Y. et al.			
	AH	2014/0181340	06/2014	Parthasarathy, Balaji			
	AI	2012/0182381	07/2012	Abate, Umberto			
	AJ	2012/0069132	03/2012	Kato, Yoshinaga			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
/J.B.R/	AK	2013-157995	08/15/2013	Japan (corresponds to U.S. Patent No. 9,307,197)		X
/J.B.R/	AL	2014-200063	10/23/2014	Japan (corresponds to U.S. Patent No. 9,131,104)		X
/J.B.R/	AM	2013-191954	09/26/2013	Japan (w/English abstract)		X
/J.B.R/	AN	2001-313915	11/09/2001	Japan (w/English abstract)		X
/J.B.R/	AO	2007-025946	02/01/2007	Japan (w/English abstract)		X
/J.B.R/	AP	2004-187170	07/02/2004	Japan (w/English abstract)		X
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/J.B.R/	AR	2009-302806 A	12/24/2009	Japan (corresponds to U.S. Publication No. 2009/0310601)		X
/J.B.R/	AS	2012-134939 A	07/12/2012	Japan (corresponds to U.S. Publication No. 2017/0201718)		X
/J.B.R/	AT	7-203405 A	08/04/1995	Japan (with English Abstract)		X
/J.B.R/	AU	2012-195926 A	10/11/2012	Japan (Corresponds to U.S. Patent No. 9,307,197)		X

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

/J.B.R/	AV	International Search Report issued on May 12, 2015 in PCT/JP2015/060144 filed on March 31, 2015 (w/English translation)
/J.B.R/	AW	Written Opinion issued on May 12, 2015 in PCT/JP2015/060144 filed on March 31, 2015
/J.B.R/	AX	Niimi, "Speech Recognition", Kyoritsu Publishing, Co., 1979, pp. 68-72
	AY	
	AZ	☒ Additional References sheet attached

Examiner /JOHN B ROCHE/ Date Considered 02/27/2020

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		INVENTOR(S) Yoshinaga KATO	16/654,752 - GAU: 2184
		FILING DATE Herewith Receipt date: 10/16/2019	GROUP Unassigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	BA						
	BB						
	BC						
	BD						
	BE						
	BF						
	BG						
	BH						
	BI						
	BJ						
	BK						
	BL						
	BM						
	BN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	BO					
	BP					
	BQ					
	BR					
	BS					
	BT					
	BU					
	BV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

/J.B.R/	BW	Office Action issued February 27, 2017 in European Patent Application No. 15773300.7
/J.B.R/	BX	Singaporean Office Action issued May 11, 2017in Singaporean Patent Application No. 11201608023X
/J.B.R/	BY	Office Action issued Mar. 20, 2018 in Japanese Patent Application No. 2014-111480, 3 pages
/J.B.R/	BZ	Office Action issued November 6, 2018 in corresponding Japanese Patent Application No. 2018-128035, 3 pages ☐ Additional References sheet attached

Examiner	/JOHN B ROCHE/	Date considered	02/27/2020

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.B.R/

Bibliographic Data

Application No: 16/654,752

Foreign Priority claimed: (•) Yes ( ) No

35 USC 119 (a-d) conditions met: [✓] Yes [ ] No [ ] Met After Allowance

Verified and Acknowledged: /JOHN B ROCHE/ (Examiner's Signature) /JBR/ (Initials)

Title: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/16/2019	710	2184	526184US
RULE			

APPLICANTS

INVENTORS

Yoshinaga KATO Kanagawa, JAPAN

CONTINUING DATA

This application is a CON of 15277069 09/27/2016 PAT 10503676

15277069 is a CON of PCT/JP2015/060144 03/31/2015

FOREIGN APPLICATIONS

JAPAN 2014-071406 03/31/2014

IF REQUIRED, FOREIGN LICENSE GRANTED**

10/31/2019

STATE OR COUNTRY

JAPAN

ADDRESS

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314
UNITED STATES

FILING FEE RECEIVED

$2,120

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

22850 7590 03/03/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
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EXAMINER	
ROCHE, JOHN B	

ART UNIT	PAPER NUMBER
2184	

NOTIFICATION DATE	DELIVERY MODE
03/03/2020	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):

OBLONPAT@OBLON.COM
iahmadi@oblon.com
patentdocket@oblon.com

Office Action Summary	**Application No.** 16/654,752	**Applicant(s)** KATO, Yoshinaga	
	Examiner JOHN B ROCHE	**Art Unit** 2184	**AIA (FITF) Status** Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

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

Status

1)☑ Responsive to communication(s) filed on 16 October 2019.

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

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

3)☐ 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.

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

Disposition of Claims*

5) ☑ Claim(s) 1 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1 is/are rejected.

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

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

* If any claims have been determined allowable, 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.**

Application Papers

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

11)☑ The drawing(s) filed on 16 October 2019 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

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

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

Priority under 35 U.S.C. § 119

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

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. 15/277,069.

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

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

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☑ Other: See Continuation Sheet.

Continuation of Attachment(s) 4) Other: Prior Art Search, Prior Art and Interference search for parent case, Index of Claims, Search Notes

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Information Disclosure Statement

The references contained within the Information Disclosure Statement (IDS) submitted on October 16, 2019 were previously submitted with the parent application to the current case. Therefore, the IDS has been duly considered based on these references.

Double Patenting

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 §§ 706.02(l)(1) - 706.02(l)(3) 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-I.jsp.

Claim 1 is rejected on the ground of nonstatutory double patenting as being unpatentable over claim 1 of U.S. Patent No. 10,503,676, hereafter referred to as the ‘676 patent. Although the claims at issue are not identical, they are not patentably distinct from each other.

Current claim 1	Claim 1, ‘676 patent
1. A transmission terminal comprising: at least one processor configured to transmit a terminal information request to request the number of transmission terminals under transmission to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network; and	1. A transmission terminal comprising: at least one processor configured to transmit a terminal information request to request the number of transmission terminals under transmission to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network;

display image data received from one or more of the transmission terminals under transmission on a display device, and display the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on the display device.	display a screen page including at least a list of at least names or identification information of the transmission terminals and a screen page that does not include the list and includes image data received from one or more of the transmission terminals under transmission and the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on a display device; and
	when a number of transmission terminals that are participating in a video conference is greater than a maximum number of transmission terminals that can be displayed on the display device, the maximum number being greater than 1, display, on the display device, image data of the maximum number of transmission terminals that can be displayed on the display device and display, on the display device, the total number of transmission terminals that are participating in the video conference.

Both the current claim 1 and claim 1 of the ‘676 patent disclose a transmission terminal comprising: at least one processor configured to transmit a terminal information request to request the

number of transmission terminals under transmission to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network; and display image data received from one or more of the transmission terminals under transmission on a display device, and display the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on the display device.

Claim 1 of the '676 patent contains further limitations on top of what the current claim 1 contains, so its scope is narrower than that of the current claim 1. However, since the entirety of the current claim 1 is included within claim 1 of the '676 patent, it is not patentably distinct from claim 1 of the '676 patent.

Claim Rejections - 35 USC § 102

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 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.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

Claim 1 is rejected under 35 U.S.C. 102(a)(1) as being anticipated by Anderson et al. (US 2012/0182384), hereafter referred to as Anderson'384.

Referring to claim 1, Anderson'384 anticipates a transmission terminal (internet devices 104-107, see figure 1 and paragraph 145, lines 2-3) comprising: at least one processor (hardware 201 typically includes processors, see figure 2 and paragraph 153, lines 1-2) configured to transmit a terminal information request to request the number of transmission terminals under transmission (conference application 206a communicates with servers 102 and 103 to request additional information regarding the conference in such forms as query string variables, see figure 2 and paragraph 160, lines 4-13; number of attendees in current group/subgroup is known, see figure 12c, step 1255 and paragraph 312, lines 18-19) to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network (web server 102, video streaming server 103, see figure 1 and paragraph 145, lines 9-11); and display image data received from one or more of the transmission terminals under transmission on a display device (video panel 1305 displays speaker's video, see figure 13 and paragraph 337, lines 1-2), and display the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on the display device (conference application 206a communicates with servers 102 and 103 to request additional information regarding the conference in such forms as query string variables, see figure 2 and paragraph 160, lines 4-13; number of participants displayed via participant count 1311, see figure 13 and paragraph 341, lines 1-2).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kato et al. (US 2013/0242033), hereafter referred to as Kato'033, discloses a system to be used in a videoconferencing system that displays data in a similar manner to the current invention.

Koyama (US 2006/0227632), hereafter referred to as Koyama'632, discloses data used to sort information for display or presentation.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B ROCHE whose telephone number is (571)270-1721. The examiner can normally be reached on Monday-Friday, 10:30 - 7.

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, Henry Tsai can be reached on (571)272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.B.R/
Examiner, Art Unit 2184

/HENRY TSAI/
Supervisory Patent Examiner, Art Unit 2184

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant					☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE								
Final	Original	02/27/2020								
	1	✓								

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

CPC - Searched*		
Symbol	Date	Examiner
G06F13/36,4068 H04N7/15	02/27/2020	JR

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* 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
G06F13/36,4068 H04N7/15 with 710/107 in limited search	02/27/2020	JR
Inventor search	02/27/2020	JR
Prior Art Search	02/27/2020	JR
STIC search	02/27/2020	JR
Google search	02/27/2020	JR
Past prior art and interference search from parent case 15/277,069	11/05/2019	JR

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

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We're updating our Terms of Service. Get to know our new Terms before they take effect on March 31, 2020. Review Got it

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	184	kato-yoshinaga.in.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 17:49
S2	2	("9307197" "9131104").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 17:53
S3	24	("2013157995" "2014200063" "2013191954" "2001313915" "2007025946" "2004187170").did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/23 17:58
S4	12	(JP-2013157995-$ JP-2014200063-$ JP-2013191954-$ JP-2001313915-$ JP-2007025946-$ JP-2004187170-$).did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/23 17:59
S5	5	("20140267565" "20130242034" "20160165180" "9621848" "20170171511").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:00
S6	3	("20120182384" "20140111597" "20160088529").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:01
S7	3	("20120182384" "20140111597" "20160088259").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:03
S8	14	("20110249086" "8941706" "20110249075" "8874090" "20110249076" "8917632" "20110249077" "9264659" "20110249078" "8451994" "20110249073" "8744420" "20110249074" "8502856").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:11
S9	2	("20090310601" "20170201718").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:13
S10	2	("9654730" "20130271557").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:16
S11	11198	710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:25
S12	90	710/107.ccls. and (G06F13/36,4068 H04N7/15).cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/23 18:25
S13	7551	(display$3 list$3) with (menu list) with (name identify$3 identification) with	US-PGPUB; USPAT;	OR	OFF	2018/12/06 12:51

		terminal	USOCR			
S14	126	S13 and (display$3 with (screen menu) with (screenshot captur$3) with image)	US-PGPUB; USPAT; USOCR	OR	OFF	2018/12/06 12:52
S15	31	S14 and overlap$4	US-PGPUB; USPAT; USOCR	OR	OFF	2018/12/06 14:00
S16	4	(JP-2012195926-$ JP-07203405-$).did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/18 10:28
S17	10	("8941706" "8451994" "8874090" "8744420" "9055185" "9787938" "8502856" "8917632" "9264659" "20150103135").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/03/18 10:45
S18	7	S17 and (max maximum)	US-PGPUB; USPAT; USOCR	OR	OFF	2019/03/18 10:54
S19	0	710/107.ccls. and (G06F13/36,4068 H04N7/15).cpc. and ((max maximum) with display$3)	US-PGPUB; USPAT; USOCR	OR	OFF	2019/03/18 11:42
S20	274	(710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.) and ((max maximum) with display$3)	US-PGPUB; USPAT; USOCR	OR	OFF	2019/03/18 11:43
S21	8	("9253520" "9310977" "8914837" "9300910" "9485459" "20140359647" "20150026708" "20150070516").pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/03/18 11:56
S22	760	(max maximum) with (display$3 near3 terminal)	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/19 19:48
S23	7	(710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.) and (max maximum) with (display$3 near3 terminal)	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/19 19:48
S24	24	(max maximum) with (display$3 near3 terminal near3 (transmitt$3 transmission))	US-PGPUB; USPAT; USOCR	OR	ON	2019/07/19 19:50
S27	2	(JP-2009033348-$).did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/11/05 14:11
S28	2	(JP-06070040-$).did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/11/05 14:18

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S25	2	(710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.) and (max maximum) with (display$3 near3 terminal)	USPAT	OR	ON	2019/07/19 20:01

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S26	0	(710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.) and ((max maximum) with ((display$3 near3 terminal) near3 (transmitt$3 transmission)))	USPAT	OR	ON	2019/07/19 20:02

2/27/2020 2:28:50 PM
C:\Users\jroche\Documents\EAST\Workspaces\16654752 - TRANSMISSION TERMINAL.wsp

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S29	223	kato-yoshinaga.in.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/02/27 11:15
S30	10	("20090310601" | "20120069132" | "20120182381" | "20120182384" | "20140111597" | "20140181340" | "20160088259" | "20170201718" | "9131104" | "9307197").PN.	US-PGPUB; USPAT	OR	ON	2020/02/27 11:16
L7	92	710/107.ccls. and (G06F13/36,4068 H04N7/15).cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/02/27 14:30
L6	14318	710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/02/27 14:30

2/27/2020 2:38:38 PM
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Search	Search Type	
request* AND number AND terminal AND display* AND "image data" AND display* AND number AND terminal	Advanced Keyword Search	Edit
request* AND number AND terminal AND display* AND "image data" AND display* AND number AND terminal	Advanced Keyword Search	Edit

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DOCKET NO: 526184US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
YOSHINAGA KATO	: EXAMINER: ROCHE, JOHN B.
SERIAL NO: 16/654,752	:
FILED: OCTOBER 16, 2019	: GROUP ART UNIT: 2184
FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	:

AMENDMENT UNDER 37 C.F.R. §1.111

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

In response to the Office Action dated March 3, 2020, please amend the above-identified application as follows:

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

Remarks begin on page 5 of this paper.

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A transmission terminal performing a video conference with a plurality of transmission terminals, the transmission terminal comprising:

~~at least one processor~~ processing circuitry configured to

~~transmit a terminal information request to request the~~ display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein ~~under transmission to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network; and~~

~~display~~ the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference

~~image data received from one or more of the transmission terminals under transmission on a display device, and display the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on the display device~~.

Claim 2 (New): The transmission terminal according to claim 1, wherein

the processing circuitry is configured to display information concerning names or identification information of transmission terminals performing the video conference.

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Claim 3 (New): A transmission terminal performing a video conference with a plurality of transmission terminals, the transmission terminal comprising:

processing circuitry configured to display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein

the total number of transmission terminals participating in the video conference is greater than the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal.

Claim 4 (New): A method implemented by a transmission terminal performing a video conference with a plurality of transmission terminals, method comprising:

displaying on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and displaying, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein

the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.

Claim 5 (New): The method according to claim 4, further comprising:

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displaying information concerning names or identification information of transmission terminals performing the video conference.

Claim 6 (New): A method implemented by a transmission terminal performing a video conference with a plurality of transmission terminals, the method comprising:

displaying, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and displaying, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein

the total number of transmission terminals participating in the video conference is greater than the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal.

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Electronic Acknowledgement Receipt	
EFS ID:	39610065
Application Number:	16654752
International Application Number:	
Confirmation Number:	6383
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Customer Number:	22850
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Filer Authorized By:	Philippe Jean-Claude Signore
Attorney Docket Number:	526184US
Receipt Date:	03-JUN-2020
Filing Date:	16-OCT-2019
Time Stamp:	10:36:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$460
RAM confirmation Number	E202063A36319370
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		526184USAm.pdf	1366943 6097acccded8a6cc1f46ab6a9585de9153d82080	yes	9

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Miscellaneous Incoming Letter	1	1
	Amendment/Req. Reconsideration-After Non-Final Reject	2	2
	Claims	3	5
	Applicant Arguments/Remarks Made in an Amendment	6	9

Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30777 b5acfe55690bb7e6fe01aa54dab91ce0feff4f59	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1397720		

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 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.

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.

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-6 are currently pending, Claim 1 having been amended, and Claims 2-6 having been added. The changes and additions to the claims do not add new matter and are supported by the originally filed specification, for example, on Fig. 20 and paragraph [0219] of the corresponding U.S. PG Publication.

In the outstanding Office Action, Claim 1 was rejected on the ground of nonstatutory double patenting as being unpatentable over Claim 1 of U.S. Patent No. 10,503,676 and Claim 1 was rejected under 35 U.S.C. §102(a)(1) as being anticipated by Anderson et al. (U.S. Publication No. 2012/0182384, hereinafter "Anderson").

With respect to the rejection on the ground of nonstatutory double patenting, Applicant respectfully requests reconsideration of this ground of rejection in view of the current amended version of Claim 1 and new Claims 2-6.

With respect to the rejection of Claim 1 under 35 U.S.C. §102(a)(1), Applicant respectfully submits that the present amendment overcomes this ground of rejection. Amended Claim 1 recites, *inter alia*,

> A transmission terminal performing a video conference with a plurality of transmission terminals, the transmission terminal comprising:
> processing circuitry configured to
> display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other,
> wherein the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number

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of transmission terminals participating in the video conference.

Turning to the applied art, according to Fig. 13a of Anderson (below), the number of participants of a remote conference (1311 Participant Count) and the names of the participants are displayed on the right side of a display screen, and images of persons currently speaking from among the participants of the remote conference are displayed at the top left of the display screen (1314 Speaker indicator).

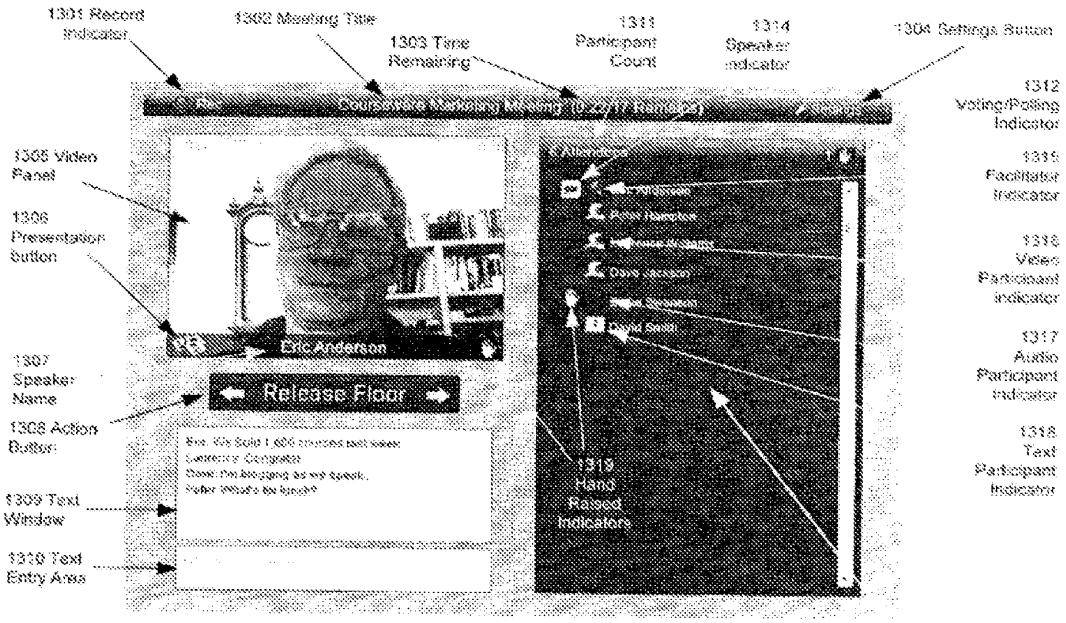


Figure 13a: Alternate Interface Embodiment

However, in amended Claim 1, images transmitted from transmission terminals to each other participating in a video conference are displayed on a display screen of a transmission terminal.

Moreover, a display control scheme of the present application of displaying in such a manner that the number of sets of image data transmitted from transmission terminals to each

other participating in the video conference is smaller than the total number of transmission terminals participating in the video conference is neither disclosed nor suggested by Anderson.

Therefore, Applicant respectfully submits that Anderson fails to disclose, suggest, or render obvious all of "display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference," as recited in amended Claim 1

Applicant emphasizes that for anticipation, "**[t]he identical invention must be shown in as complete detail as is contained in the ... claim.**" See *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). (See also MPEP §2131).

New Claims 3, 4, and 6 recite features analogous to those of amended Claim 1 discussed above.

Therefore, Applicant respectfully submits that amended Claim 1 and new Claims 3-6 patentably distinguish over Anderson.

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Consequently, in light of the above discussion and in view of the present amendment, the outstanding grounds for rejection are believed to have been overcome. The present application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested. Furthermore, the examiner is kindly invited to contact the Applicant's undersigned representative at the phone number below to resolve any outstanding issues.

Respectfully Submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

/Sameer Gokhale/

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Zoom Communication, Inc. Ex. 1002
Page 210 of 316

Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S) Yoshinaga KATO

SERIAL NO: 16/654,752 ART UNIT: 2184

FILING DATE: October 16, 2019 EXAMINER: ROCHE, JOHN B.

FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

FEE TRANSMITTAL

☐ No additional fee is required

☐ Small entity status of this application under 37 C.F.R. §1.9 and §1.27 is claimed.

☐ Track 1 Prioritized Examination

The Fee has been calculated as shown below:

FOR	NUMBER FILED	NUMBER EXTRA	RATE	CALCULATIONS
TOTAL CLAIMS	6 - 20 =	0	x $100 =	$0.00
INDEPENDENT CLAIMS	4 - 3 =	1	x $460 =	$460.00
☐ MULTIPLE DEPENDENT CLAIMS (If applicable)			+ $820 =	$0.00
☐ LATE FILING OF DECLARATION			+ $160 =	$0.00
☐ NON-ELECTRONIC FILING FEE			+ $400 =	$0.00
			BASIC FEES	$0.00
			TOTAL OF ABOVE CALCULATIONS	$460.00
☐ REDUCTION BY 50% FOR FILING BY SMALL ENTITY				$0.00
☐ FILING IN NON-ENGLISH LANGUAGE			+ $140 =	$0.00
			TOTAL	$460.00

☐ Please charge Deposit Account No. **15-0030** in the amount of _____

■ Credit card payment is being made online (if electronically filed), or is attached hereto (if paper filed), in the amount of **$460.00**.

■ The Director is hereby authorized to charge any additional fees which may be required for the papers being filed herewith and for which no payment is enclosed herewith, or credit any overpayment to Deposit Account No. **15-0030**, with the **EXCEPTION** of deficiencies in fees for multiple dependent claims in new applications.

■ If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time may be charged to Deposit Account No. 15-0030.

Submitted by: /Sameer Gokhale/

Kurt M. Berger, Ph.D.
Registration No. 51,461

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(OMMN 02/12)

Sameer Gokhale
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Electronic Patent Application Fee Transmittal

Application Number:	16654752
Filing Date:	16-Oct-2019
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Attorney Docket Number:	526184US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
INDEPENDENT CLAIMS IN EXCESS OF 3	1201	1	460	460
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**460**

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/654,752	Filing Date 10/16/2019	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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 $460 =	
☐ 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	06/03/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 6	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 3	= 1		x $460 =	460
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	460

		(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.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/LAVINIA D JOHNSON/
*** 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.**

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

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/654,752	Filing Date 10/16/2019	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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 $460 =	
☐ 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	06/03/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 6	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x $460 =	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.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/EMORY T LANE/
*** 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.**

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

22850 7590 06/25/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
ROCHE, JOHN B	

ART UNIT	PAPER NUMBER
2184	

NOTIFICATION DATE	DELIVERY MODE
06/25/2020	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):

OBLONPAT@OBLON.COM
iahmadi@oblon.com
patentdocket@oblon.com

Office Action Summary	**Application No.** 16/654,752	**Applicant(s)** KATO, Yoshinaga	
	Examiner JOHN B ROCHE	**Art Unit** 2184	**AIA (FITF) Status** Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

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

Status

1)☑ Responsive to communication(s) filed on 3 June 2020.

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

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

3)☐ 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.

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

Disposition of Claims*

5) ☑ Claim(s) 1-6 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1,3-4 and 6 is/are rejected.

8) ☑ Claim(s) 2 and 5 is/are objected to.

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

* If any claims have been determined allowable, 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.**

Application Papers

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

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

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

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

Priority under 35 U.S.C. § 119

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

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. 15/277,069.

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

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

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☑ Other: See Continuation Sheet.

Continuation of Attachment(s) 4) Other: Prior Art Search History, STIC search, Google search, Index of Claims, Search Notes

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Double Patenting

Applicant is advised that should claim 1 be found allowable, claim 3 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Note that claims 4 and 6 respectively comprise the corresponding limitations of claims 1 and 3; therefore, the above advisory applies to claims 4 and 6 by the same reasoning accordingly.

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 §§ 706.02(l)(1) - 706.02(l)(3) 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-I.jsp.

Claims 1, 3-4, and 6 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1 and 16 of U.S. Patent No. 10,503,676, hereafter referred to as the ‘676 patent. Although the claims at issue are not identical, they are not patentably distinct from each other.

Current claims 1, 3-4, and 6	Claims 1 and 16, ‘676 patent
Claim 1: A transmission terminal performing a video conference with a plurality of transmission terminals, the transmission terminal comprising:	1. A transmission terminal comprising: at least one processor configured to transmit a terminal information request to request the number of

processing circuitry configured to display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein	transmission terminals under transmission to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network; display a screen page including at least a list of at least names or identification information of the transmission terminals and a screen page that does not include the list and includes image data received from one or more of the transmission terminals under transmission and the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on a display device; and
the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.	when a number of transmission terminals that are participating in a video conference is greater than a maximum number of transmission terminals that can be displayed on the display device, the maximum number being greater than 1, display, on the display device, image data of the maximum number of transmission terminals that can be displayed on the display device and display, on the display device, the total number

	of transmission terminals that are participating in the video conference.
3. A transmission terminal performing a video conference with a plurality of transmission terminals, the transmission terminal comprising: processing circuitry configured to display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein	1. A transmission terminal comprising: at least one processor configured to transmit a terminal information request to request the number of transmission terminals under transmission to a transmission management apparatus, managing a plurality of transmission terminals, connected via a network; display a screen page including at least a list of at least names or identification information of the transmission terminals and a screen page that does not include the list and includes image data received from one or more of the transmission terminals under transmission and the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on a display device; and
the total number of transmission terminals participating in the video conference is greater than the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each	when a number of transmission terminals that are participating in a video conference is greater than a maximum number of transmission terminals that can be displayed on the display device, the maximum number being greater than

other, to display on the screen of the transmission terminal.	1, display, on the display device, image data of the maximum number of transmission terminals that can be displayed on the display device and display, on the display device, the total number of transmission terminals that are participating in the video conference.
Claim 4: A method implemented by a transmission terminal performing a video conference with a plurality of transmission terminals, method comprising: displaying on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and displaying, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein	16. A transmission method comprising: carrying out, by at least one processor, transmission with at least one of a plurality of transmission terminals managed by a transmission management apparatus; transmitting, by at least one processor, a terminal information request to request the number of transmission terminals under transmission to the transmission management apparatus via a network; displaying, by at least one processor, a screen page including at least a list of at least names or identification information of the transmission terminals and a screen page that does not include the list and includes image data received from one or more of the transmission terminals under transmission and the number of the transmission terminals under transmission received from the transmission management apparatus in response

	to the terminal information request on a display device; and
the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.	when a number of transmission terminals that are participating in a video conference is greater than a maximum number of transmission terminals that can be displayed on the display device, the maximum number being greater than 1, displaying, on the display device, image data of the maximum number of transmission terminals that can be displayed on the display device, and displaying, on the display device, the total number of transmission terminals that are participating in the video conference.
Claim 6: A method implemented by a transmission terminal performing a video conference with a plurality of transmission terminals, the method comprising: displaying, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and displaying, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals	16. A transmission method comprising: carrying out, by at least one processor, transmission with at least one of a plurality of transmission terminals managed by a transmission management apparatus; transmitting, by at least one processor, a terminal information request to request the number of transmission terminals under transmission to the transmission management apparatus via a network; displaying, by at least one processor, a screen page including at least a list of at least names or identification

participating in the video conference to each other, wherein	information of the transmission terminals and a screen page that does not include the list and includes image data received from one or more of the transmission terminals under transmission and the number of the transmission terminals under transmission received from the transmission management apparatus in response to the terminal information request on a display device; and
the total number of transmission terminals participating in the video conference is greater than the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal.	when a number of transmission terminals that are participating in a video conference is greater than a maximum number of transmission terminals that can be displayed on the display device, the maximum number being greater than 1, displaying, on the display device, image data of the maximum number of transmission terminals that can be displayed on the display device, and displaying, on the display device, the total number of transmission terminals that are participating in the video conference.

The current claim 1 and claim 1 of the ‘676 patent disclose a transmission terminal performing a video conference with a plurality of transmission terminals, the terminal comprising processing circuitry configured to display on the screen information concerning a number of terminals participating in the

video conference, and display on the screen respective sets of image data transmitted by transmission terminals participating in the video conference, wherein the number of the sets of image data is smaller than the total number of terminals participating in the video conference.

The main difference between the current claim 1 and claim 1 of the '676 patent appears to be that claim 1 of the '676 patent displays the sets of image data and information regarding the number of terminals as "a screen page". Otherwise, the two claims do not appear to be patentably distinct from one another.

The current claim 3 is similar to the current claim 1, with the exception of stating "wherein the total number of terminals participating in the video conference is greater than the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal.", rather than "wherein the number of the sets of image data... is smaller than the total number of transmission terminals participating in the video conference", as shown in claim 1. Therefore, the current claim 3 is similar to claim 1 of the '676 patent by the same reasoning accordingly.

The current claim 4 and claim 16 of the '676 patent both disclose a method implemented by a transmission terminal performing a video conference with a plurality of transmission terminals, the terminal comprising processing circuitry configured to display on the screen information concerning a number of terminals participating in the video conference, and display on the screen respective sets of image data transmitted by transmission terminals participating in the video conference, wherein the number of the sets of image data is smaller than the total number of terminals participating in the video conference.

The main difference between the current claim 4 and claim 16 of the '676 patent appears to be that claim 16 of the '676 patent displays the sets of image data and information regarding the number of terminals as "a screen page". Otherwise, the two claims do not appear to be patentably distinct from one another.

The current claim 6 is similar to the current claim 4, with the exception of stating "wherein the total number of terminals participating in the video conference is greater than the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal.", rather than "wherein the number of the sets of image data... is smaller than the total number of transmission terminals participating in the video conference", as shown in claim 4. Therefore, the current claim 6 is similar to claim 16 of the '676 patent by the same reasoning accordingly.

Allowable Subject Matter

Claims 1-6 appear to comprise allowable subject matter; however, claims 1, 3-4 and 6 are currently rejected under non-statutory double patenting. Further, claims 1 and 3 are substantial duplicates of each other, and claims 4 and 6 are substantial duplicates of each other.

Claims 2 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, or if their respective base claims are brought into condition for allowance.

The following is a statement of reasons for the indication of allowable subject matter:

Referring to independent claim 1, the prior art of record does not appear to anticipate, explicitly teach, or fairly suggest a transmission terminal comprising processing circuitry configured to display, on

the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.

Further, it would not have been obvious to one of ordinary skill in the art to combine the above limitations of the claim with the remaining limitations.

Note that independent claim 4 contains similar limitations to claim 1, independent claim 3 is a substantial duplicate of claim 1, and independent claim 6 contains the corresponding limitations of claim 3; therefore, they are considered to show allowable subject matter similar to that of claim 1 accordingly.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B ROCHE whose telephone number is (571)270-1721 and whose fax number is (571)270-2721. The examiner can normally be reached on Monday-Friday, 10:30 - 7.

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, Henry Tsai can be reached on (571)272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.B.R/
Examiner, Art Unit 2184

/HENRY TSAI/
Supervisory Patent Examiner, Art Unit 2184

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

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

CLAIM		DATE								
Final	Original	02/27/2020	06/20/2020							
	1	✓	✓							
	2		O							
	3		✓							
	4		✓							
	5		O							
	6		✓							

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

CPC - Searched*		
Symbol	Date	Examiner
G06F13/36,4068 H04N7/15	02/27/2020	JR

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* 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
G06F13/36,4068 H04N7/15 with 710/107 in limited search	02/27/2020	JR
Inventor search	02/27/2020	JR
Prior Art Search	02/27/2020	JR
STIC search	02/27/2020	JR
Google search	02/27/2020	JR
Past prior art and interference search from parent case 15/277,069	11/05/2019	JR
prior art search	06/20/2020	JR
STIC search	06/20/2020	JR
Google search	06/20/2020	JR

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

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

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Terminal Services Manager Tips & How To's How to restrict the maximum number of monitors that can be used to display a Re...
Missing: transmit* transmission)

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Highest Data Rate - an overview | ScienceDirect Topics

For this purpose, a transmit probability p depending on the data priority, the SNR ... SNRmax is the SNR for the highest data rate that can be achieved (we use 30 dB) ... In the downlink, transmissions to different terminals within a cell are typically ... carrier lifetime τn is increased to χτn [where χ ˜ 1+(τr/τe)] by carrier transport.

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TRANSMIT command operands - IBM Knowledge Center

A maximum of 200 node/userid combinations and 200 nicknames may be specified, but the ... If you want full-screen mode, you must explicitly specify TERMINAL. ... NOLOG. specifies not to record the transmission in the LOG data set. ... SYSOUT(sysoutclass | *): uses the SYSOUT class for messages from utility programs. ...
Missing: max | Must include: max

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*ERROR: Sample data exceeded RPC maximum transmission ...

Jun 17, 2018 - *ERROR: Sample data exceeded RPC maximum transmission limit ... ROWSNVCMD = 100000 //Def 100000, Max 400000 ... issue the NetView DISPPI command to display the status of the ... R xx, JOBNAME=(netview), DSPNAME=('netview'.*), SDATA= (RGN,PSA,ALLNUC,SQA,CSA,TRT,GRSQ),END
Missing: +terminal transmit*

docs.microsoft.com › ... › Active Directory Schema

ms-TS-Max-Connection-Time attribute - Win32 apps ...

May 31, 2018 - Terminal Services session Maximum Connection Time is the maximum amount of time, ... Ldap-Display-Name, msTSMaxConnectionTime.
Missing: transmit* transmission)

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small-diameter earth terminal transmission issues in support ...

terminal in the face of evolving ET transmission limits. INTRODUCTION ... using omni antenna designs and low transmit power levels. Furthermore, adequate ITU ... that defines the maximum Effective Isotropic Radiated. Power (EIRP) density ...
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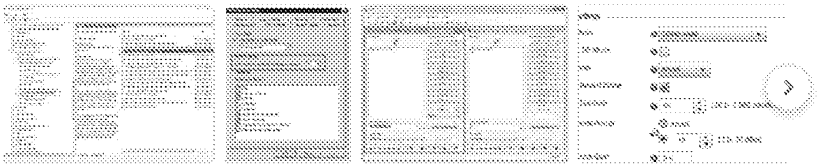
Condition for Maximum Power Transmission - YouTube

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Condition for Maximum Power Transmission Watch More Videos at: https://www.tutorialspoint.com ...
Jan 17, 2018 - Uploaded by Tutorials Point (India) Ltd.
Missing: display +terminal

Images for +(max maximum) +(display*) +terminal +(transmit* transmission)



More images for +(max maximum) +(display*) +terminal +(transmit* transmission)

Report images

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If you like, you can repeat the search with the omitted results included.

Searches related to +(max maximum) +(display*) +terminal +(transmit* transmission)

lte base station maximum transmit **power**	**limit** maximum **number of monitors**
lte enodeb transmit **power**	**ue power class**
5g base station transmit **power**	**5g** transmit **powers**
5g ue transmit **power**	**mobile phone eirp**

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Search History

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Clear History

Search	Search Type	
(max OR maximum) AND display* AND terminal AND (transmit* OR transmission)	Advanced Keyword Search	Edit
(max OR maximum) AND display* AND terminal AND (transmit* OR transmission)	Advanced Keyword Search	Edit

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Horizon Information Portal 3.21_4846

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S33	27	(max maximum) with (display$3 near3 terminal near3 (transmitt$3 transmission))	US-PGPUB; USPAT; USOCR	OR	ON	2020/06/20 15:40
S34	3	((max maximum) with (display$3 near3 terminal near3 (transmitt$3 transmission))) and (710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.)	US-PGPUB; USPAT; USOCR	OR	ON	2020/06/20 15:42

6/20/2020 6:12:36 PM
C:\Users\jroche\Documents\EAST\Workspaces\16654752 - TRANSMISSION TERMINAL.wsp

Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 526184US	SERIAL NO. 16/654,752
LIST OF REFERENCES CITED BY APPLICANT		INVENTOR(S) Yoshinaga KATO	
		FILING DATE October 16, 2019	GROUP 2184

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	2013/0242030	09/19/2013	Kato et al.			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	AO					
	AP					
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	Decision to Refuse a European Application mailed July 21, 2020 in European Application No. 15 773 300.7
	AX	
	AY	
	AZ	☐ Additional References sheet(s) attached

Examiner		Date considered	

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

Electronic Acknowledgement Receipt	
EFS ID:	40208405
Application Number:	16654752
International Application Number:	
Confirmation Number:	6383
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Customer Number:	22850
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Filer Authorized By:	Philippe Jean-Claude Signore
Attorney Docket Number:	526184US
Receipt Date:	06-AUG-2020
Filing Date:	16-OCT-2019
Time Stamp:	09:09:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment Type	CARD
Payment was successfully received in RAM	$240
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		526184USIDS.pdf	1897509 47c7c82c805b774be0c1e858f7cff19d89e22c34	yes	21

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Patent Term Adjustment Stmt Under 37CFR1.704(d)	2	2
	Information Disclosure Statement (IDS) Form (SB08)	3	3
	Non Patent Literature	4	21

Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30669 a03ce5ee8de141a9bd7ce283ef6fb96304e7146f	no	2
Warnings:					
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			Total Files Size (in bytes):	1928178	

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New Applications Under 35 U.S.C. 111

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.

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.

PATENT TERM ADJUSTMENT STATEMENT UNDER 37 CFR 1.704(d)		
	Application Number	16/654,752
	Filing Date	October 16, 2019
	First Named Inventor	Yoshinaga KATO
	Art Unit	2184
	Examiner Name	ROCHE, JOHN B.
	Practitioner Docket No.	526184US

APPLICANT HEREBY STATES THE FOLLOWING (please review 37 CFR 1.704(d) before filing this form):

■ Each item of information contained in the information disclosure statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office, and this communication was not received by any individual designated in 37 CFR 1.56(c) more than thirty days prior to the filing of the information disclosure statement.

AND/OR

☐ Each item of information contained in the information disclosure statement is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and this communication was not received by any individual designated in 37 CFR 1.56(c) more than thirty days prior to the filing of the information disclosure statement.

INSTRUCTIONS:

- **This form will not satisfy the requirement of 37 CFR 1.97(e)**. The present statement is filed under 37 CFR 1.704(d) and will not substitute for compliance with any of the requirements of 37 CFR 1.97 and 1.98. For an information disclosure statement to comply with 37 CFR 1.97(c) or (d), the information disclosure statement must be accompanied by a statement under 37 CFR 1.97(e) not with standing any statement filed under 37 CFR 1.704(d).
- The present form (PTO/SB/133) should be filed concurrently with the information disclosure statement to derive benefit under 37 CFR 1.704(d).

Signature	/Sameer Gokhale/	Date	2020-08-06
Typed or printed name Sameer Gokhale		Practitioner Registration Number	62,618

***Note**: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*.*

* Total of 1 forms are submitted.

Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:	Yoshinaga KATO		
SERIAL NO:	16/654,752	GAU:	2184
FILED:	October 16, 2019	EXAMINER:	ROCHE, JOHN B.
FOR:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

Applicant(s) wish to disclose the following information.

REFERENCES

■ The applicant(s) wish to make of record the reference(s) listed on the attached form PTO-1449 and/or accompanying documents from a corresponding foreign application. Copies of the listed reference(s) are attached, where required, as are either statements of relevancy, English translations of the categories of cited documents for foreign search reports or English translations of foreign Office Actions which provide the statement of relevancy for the foreign language references cited therein, or any readily available partial or full English translations of pertinent portions of any non-English language reference(s).

■ Credit card payment is being made online (if electronically filed), or is attached hereto (if paper filed), in the amount required under 37 CFR §1.17(p).

CERTIFICATION

■ Each item of information contained in this 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 this statement.

☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

■ Please charge any additional fees for the papers being filed herewith and for which no payment is enclosed herewith, or credit any overpayment to deposit account number **15-0030**.

Respectfully submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

/Sameer Gokhale/

Kurt M. Berger, Ph.D.
Registration No. 51,461

Sameer Gokhale
Registration No. 62,618

Customer Number
22850

Tel. (703) 413-3000
Fax. (703) 413-2220
(OMMN 02/12)

Electronic Patent Application Fee Transmittal

Application Number:	16654752
Filing Date:	16-Oct-2019
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Attorney Docket Number:	526184US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

DOCKET NO: 526184US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
YOSHINAGA KATO	: EXAMINER: ROCHE, JOHN B.
SERIAL NO: 16/654,752	:
FILED: OCTOBER 16, 2019	: GROUP ART UNIT: 2184
FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	:

REQUEST FOR RECONSIDERATON UNDER 37 C.F.R. §1.116

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

In response to the Office Action dated June 25, 2020, Applicant respectfully requests reconsideration of the grounds for rejection, as follows:

Remarks begin on page 2 of this paper.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	~~New Application~~ 16/654,752
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

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

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Yoshinaga		KATO	

Residence Information	Non US Residency		
City	Kanagawa	Country of Residence	JP

Mailing Address of Inventor:

Address 1	c/o Ricoh Company, Ltd.		
Address 2	3-6, Nakamagome 1-chome		
City	Ohta-ku	State/Province	Tokyo
Postal Code	143-8555	Country	JP

Correspondence Information:

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	22850
Email Address	oblonpat@oblon.com

Application Information:

Title of the Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		
Attorney Docket Number	526184US	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	29	Suggested Figure for Publication (if any)	

Filing By Reference:

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 246 of 316

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	~~New Application~~ 16/654,752
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

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	22850		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this 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 blank.

Prior Application Status	Pending		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	15/277,069	2016-09-27
Prior Application Status	Expired		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
15/277,069	Continuation of	PCT/JP2015/060144	2015-03-31

Foreign Priority Information:

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 247 of 316

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	526184US
		Application Number	~~New Application~~ 16/654,752
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		

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) 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).

Application Number	Country	Filing Date (YYYY-MM-DD)	Access Code (if applicable)
2014-071406	JP	2014-03-31	

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.

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.

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Zoom Communication, Inc. Ex. 1002
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	~~New Application~~ 16/654,752
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

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.

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

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.

■ 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. ■

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Zoom Communication, Inc. Ex. 1002
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	526184US
	Application Number	~~New Application~~ 16/654,752
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	

Organization Name	Ricoh Company, Ltd.		
Mailing Address Information For Applicant:			
Address 1	3-6, Nakamagome 1-chome, Ohta-ku		
Address 2			
City	Tokyo	**State/Province**	
Country	JP	Postal Code	143-8555
Phone Number		Fax Number	
Email Address			

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.

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.

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			

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	526184US
		Application Number	~~New Application~~ 16/654,752
Title of Invention	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM		

Signature	/Sameer Gokhale/			Date (YYYY-MM-DD)	2020-08-21
First Name	Sameer	Last Name	Gokhale	Registration Number	62,618

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
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Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Yoshinaga KATO

SERIAL NO: 16/654,752 GAU: 2184

FILED: October 16, 2019 EXAMINER: ROCHE, JOHN B.

FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

TERMINAL DISCLAIMER

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

Now comes the undersigned, Attorney of Record in the present application, who avers as follows:

Ricoh Company, Ltd. is the owner of the entire right, title and interest in and to the invention claimed and disclosed in the above-captioned patent application by virtue of assignment, said Assignment having been recorded in the U.S. Patent and Trademark Office at reel no. 039864, frame(s) 0772.

Ricoh Company, Ltd. hereby disclaims the terminal part of any patent granted on the above-captioned application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 and 173 as shortened by any terminal disclaimer of U.S. Patent No. 10,503,676, and hereby agrees that any patent so granted on said above-captioned application shall be enforceable only for and during such period that it and Patent No. 10,503,676 are commonly owned. This agreement runs with any patent granted on the above-captioned application and is binding upon the grantee, its successors or assigns.

Ricoh Company, Ltd. does not disclaim any terminal part of any patent granted on the above-captioned application that would extend to the full statutory term as defined in 35 U.S.C. 154 and 173 as shortened by any terminal disclaimer of U.S. Patent No. 10,503,676 in the event that it later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R. 1.321(a), has all claims canceled by a reexamination certificate, is reissued, or is otherwise terminated prior to the expiration of its statutory term as shortened by any terminal disclaimer, except for the separation of common ownership stated above.

Respectfully Submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

/Sameer Gokhale/

August 21, 2020
Date Signed

Kurt M. Berger, Ph.D.
Registration No. 51,461

Sameer Gokhale
Registration No. 62,618

Customer Number
22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OMMN 11/09)

Electronic Acknowledgement Receipt	
EFS ID:	40347240
Application Number:	16654752
International Application Number:	
Confirmation Number:	6383
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Customer Number:	22850
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Filer Authorized By:	Philippe Jean-Claude Signore
Attorney Docket Number:	526184US
Receipt Date:	21-AUG-2020
Filing Date:	16-OCT-2019
Time Stamp:	10:46:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$160
RAM confirmation Number	E20208KA46271231
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		526184USReqforReconTD.pdf	655615 c0facab9804eb742617be75cf0dd0b445f61f3da	yes	13

Multipart Description/PDF files in .zip description

Document Description	Start	End
Assignee showing of ownership per 37 CFR 3.73	13	13
Power of Attorney	12	12
Application Data Sheet	6	11
Miscellaneous Incoming Letter	5	5
Terminal Disclaimer Filed	4	4
Applicant Arguments/Remarks Made in an Amendment	3	3
Response After Final Action	2	2
Miscellaneous Incoming Letter	1	1

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30525 23100a2f488fe45b4a9e1c64f4eddce6f1619fe1	no	2

Warnings:

Information:

Total Files Size (in bytes):	686140

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 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.

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.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

Attorney Docket Number:	526184US

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with the Customer Number: 22850

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO), in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 22850

Assignee Name and Address:
Ricoh Company, Ltd.
3-6, Nakamagome 1-Chome
Ohta-ku, Tokyo, 143-8555, Japan

A copy of this form, together with a statement under 37 CFR 3.73(c) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	/ Hideo Suzaki /	Date	August 6, 2020
Name	Hideo Suzaki	Telephone	
Title	General Manager Intellectual Property Development Center Intellectual Property Division of Ricoh Company, Ltd.		

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Ricoh Company, Ltd.

Application No./Patent No.: 16/654,752 Filed/Issue Date: October 16, 2019

Entitled: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

Ricoh Company, Ltd. (Name of Assignee)

Corporation (Type of Assignee, e.g., corporation, partnership, government agency, etc.)

States that it is:

1. ■ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest. (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

in the patent application/patent identified above by virtue of:

■ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 039864, Frame 0772, or for which a copy therefore is attached.

■ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Sameer Gokhale/

Signature

2020-08-21

Date

Sameer Gokhale

Printed or Typed Name - Attorney of Record

703-413-3000

Telephone Number

62,618

Registration Number

REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 1, 3, 4 and 6 remain active in this case and stand rejected on the ground of nonstatutory double patenting as being unpatentable over Claims 1 and 16 of U.S. Patent No. 10,503,676.

In response to the outstanding double patenting rejection of Claims 1, 3, 4 and 6, submitted herewith is a duly executed Terminal Disclaimer, filed with the understanding that the filed Terminal Disclaimer "simply serves the statutory function of removing the rejection of double patenting, and raises neither a presumption nor estoppel on the merits of the rejection."[1] Accordingly, Applicant respectfully submits that the rejection is overcome.

Consequently, in view of the Terminal Disclaimer filed herewith, no further issues are outstanding, and the present application is in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully Submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

/Sameer Gokhale/

Kurt M. Berger, Ph.D.
Attorney of Record
Registration No. 51,461

Sameer Gokhale
Registration No. 62,618

Customer Number
22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OMMN 07/09)

[1] As per MPEP 804.02, "[t]he filing of a terminal disclaimer to obviate a rejection based on nonstatutory double patenting is not an admission of the propriety of the rejection. Quad Environmental Technologies Corp. v. Union Sanitary District, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991). The court indicated that the "filing of a terminal disclaimer simply serves the statutory function of removing the rejection of double patenting, and raises neither a presumption nor estoppel on the merits of the rejection."

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Zoom Communication, Inc. Ex. 1002
Page 258 of 316

OBLON

Docket No.: 526184US

ATTORNEYS AT LAW

KURT M. BERGER, PH.D.
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SAMEER GOKHALE
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COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

RE: Application Serial No.: 16/654,752
Applicants: Yoshinaga KATO
Filing Date: October 16, 2019
For: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
Group Art Unit: 2184
Examiner: ROCHE, JOHN B.

Commissioner:

Attached hereto for filing are the following papers:

Request for Reconsideration Under 37 C.F.R. §1.116, Terminal Disclaimer, Submission of ADS, Application Data Sheet, Power of Attorney to Prosecute Applications Before the USPTO, Statement Under 37 C.F.R. 3.73(c)

Credit card payment is being made online (if electronically filed), or is attached hereto (if paper filed), in the amount of **$160.00** to cover any required fees. In the event any variance exists between the submitted amount and the U.S. Patent and Trademark Office fees for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. **15-0030**. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time.

Respectfully submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

/Sameer Gokhale/

Kurt M. Berger, Ph.D.
Registration No. 51,461

Sameer Gokhale
Registration No. 62,618

Customer Number
22850
(703) 413-3000 (phone)
(703) 413-2220 (fax)
(OMMN 02/12)

DOCKET NO.: 526184US/kmd

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Yoshinaga KATO

SERIAL NO: 16/654,752

FILED: October 16, 2019 EXAMINER: ROCHE, JOHN B.

FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

SUBMISSION OF APPLICATION DATA SHEET

Office of Initial Patent Examination
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant(s) submit herewith an Application Data Sheet for the above-identified application for the purpose of updating the Applicant/Assignee Information.

Respectfully Submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

/Sameer Gokhale/

Kurt M. Berger, Ph.D.
Registration No. 51,461

Sameer Gokhale
Registration No. 62,618

Customer Number
22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OMMN 08/09)

Electronic Patent Application Fee Transmittal

Application Number:	16654752
Filing Date:	16-Oct-2019
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Filer:	Philippe Jean-Claude Signore/LaKisha Durham
Attorney Docket Number:	526184US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	160	160
		Total in USD ($)		**160**

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
* 16/654,752 *	16/654,752	KATO, Yoshinaga	
	Examiner	**Art Unit**	
	ROCHE, JOHN B	2184	

Document Code - DISQ	**Internal Document - DO NOT MAIL**

TERMINAL DISCLAIMER	☑ APPROVED	☐ DISAPPROVED
Date Filed: 21 August 2020	**This patent is subject to a Terminal Disclaimer**	

Approved/Disapproved by:

/FELICIA D ROBERTS/

Technology Center: OPLC

Telephone: (571)272-0550

10,503,676

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/654,752	10/16/2019	2184	2580	526184US	1	1

CONFIRMATION NO. 6383

CORRECTED FILING RECEIPT

22850
OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

OC000000119443102

Date Mailed: 08/26/2020

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.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Yoshinaga KATO, Kanagawa, JAPAN;

Applicant(s)

Ricoh Company, Ltd., Tokyo, JAPAN;

Power of Attorney: The patent practitioners associated with Customer Number 22850

Domestic Priority data as claimed by applicant

This application is a CON of 15/277,069 09/27/2016 PAT 10503676
which is a CON of PCT/JP2015/060144 03/31/2015

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
JAPAN 2014-071406 03/31/2014 No Access Code Provided

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: 10/31/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/654,752**

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

Title

TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

Preliminary Class

710

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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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 U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/654,752	10/16/2019	Yoshinaga KATO	526184US

CONFIRMATION NO. 6383

22850
OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

POA ACCEPTANCE LETTER

OC000000119443085

Date Mailed: 08/26/2020

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/21/2020.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/snguyen/

SHEET 1 OF 1

Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO. 526184US	SERIAL NO. 16/654,752
LIST OF REFERENCES CITED BY APPLICANT		INVENTOR(S) Yoshinaga KATO	
		FILING DATE October 16, 2019	GROUP 2184

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
/J.B.R/	AA	2013/0242030	09/19/2013	Kato et al.			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	AO					
	AP					
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

/J.B.R/	AW	Decision to Refuse a European Application mailed July 21, 2020 in European Application No. 15 773 300.7
	AX	
	AY	
	AZ	☐ Additional References sheet(s) attached

Examiner	/JOHN B ROCHE/	Date considered	09/05/2020

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

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.B.R/

DOCKET NO: 526184US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
YOSHINAGA KATO	: EXAMINER: ROCHE, JOHN B.
SERIAL NO: 16/654,752	:
FILED: OCTOBER 16, 2019	: GROUP ART UNIT: 2184
FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	: OK TO ENTER: /J.B.R/

REQUEST FOR RECONSIDERATON UNDER 37 C.F.R. §1.116

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

In response to the Office Action dated June 25, 2020, Applicant respectfully requests reconsideration of the grounds for rejection, as follows:

Remarks begin on page 2 of this paper.

Bibliographic Data

Application No: 16/654,752

Foreign Priority claimed: (•) Yes ( ) No

35 USC 119 (a-d) conditions met: [✓] Yes [ ] No [ ] Met After Allowance

Verified and Acknowledged: /JOHN B ROCHE/ (Examiner's Signature) /JBR/ (Initials)

Title: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/16/2019	710	2184	526184US
RULE			

APPLICANTS

Ricoh Company, Ltd., Tokyo, JAPAN

INVENTORS

Yoshinaga KATO, Kanagawa, JAPAN

CONTINUING DATA

This application is a CON of 15277069 09/27/2016 PAT 10503676

15277069 is a CON of PCT/JP2015/060144 03/31/2015

FOREIGN APPLICATIONS

JAPAN JP2014-071406 03/31/2014

IF REQUIRED, FOREIGN LICENSE GRANTED**

10/31/2019

STATE OR COUNTRY

JAPAN

ADDRESS

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314
UNITED STATES

FILING FEE RECEIVED

$2,120

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	**Art Unit**
	JOHN B ROCHE	2184

CPC							
Symbol						**Type**	**Version**
G06F	/	13	/	36		F	2013-01-01
H04N	/	7	/	15		I	2013-01-01
G06F	/	13	/	4068		I	2013-01-01

CPC Combination Sets								
Symbol						**Type**	**Set**	**Ranking**	**Version**
	/		/						

/JOHN B ROCHE/ Examiner, Art Unit 2184	05 September 2020	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	6	
/HENRY TSAI/ Supervisory Patent Examiner, Art Unit 2184	08 September 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office — Part of Paper No.: 20200905

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 271 of 316

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F	/	13	/	36

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

/JOHN B ROCHE/ Examiner, Art Unit 2184	05 September 2020	Total Claims Allowed:	
(Assistant Examiner)	(Date)	6	
/HENRY TSAI/ Supervisory Patent Examiner, Art Unit 2184	08 September 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office — Part of Paper No.: 20200905

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 272 of 316

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

☑ 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														

/JOHN B ROCHE/ Examiner, Art Unit 2184	05 September 2020	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	6	
/HENRY TSAI/ Supervisory Patent Examiner, Art Unit 2184	08 September 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office — Part of Paper No.: 20200905

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 273 of 316

UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

22850 7590 09/11/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
ROCHE, JOHN B	
ART UNIT	PAPER NUMBER
2184	

DATE MAILED: 09/11/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

TITLE OF INVENTION: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

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	12/11/2020

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 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity 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 and an extra copy of the form should be submitted. 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.

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 274 of 316

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

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 including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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

22850 7590 09/11/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
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 EFS-Web 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.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

TITLE OF INVENTION: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

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	12/11/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROCHE, JOHN B	2184	710-107000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

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

1 _____
2 _____
3 _____

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

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document 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) ❑Advance Order - # of Copies _____

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

❑ Electronic Payment via EFS-Web ❑ 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. _____

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Zoom Communication, Inc. Ex. 1002
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

22850 7590 09/11/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
ROCHE, JOHN B	
ART UNIT	PAPER NUMBER
2184	

DATE MAILED: 09/11/2020

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. 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 disclosure of these records is required by the Freedom of Information Act.
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 inspection 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.

Notice of Allowability	Application No. 16/654,752	Applicant(s) KATO, Yoshinaga	
	Examiner JOHN B ROCHE	Art Unit 2184	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 the Response After Final submitted August 21, 2020.
   ☐ 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 1-6 . 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. 15/277,069 .
   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)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☑ Other See Continuation Sheet.

/HENRY TSAI/
Supervisory Patent Examiner, Art Unit 2184

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Continuation of Attachment(s) 7. Other: Prior Art Search History, Interference Search History, Google Search, STIC search, Issue Classification, Search Notes

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Terminal Disclaimer

The terminal disclaimer filed on August 24, 2020 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of **U.S. Patent 10,503,676** has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

Claims 1-6 are allowed.

The following is an examiner's statement of reasons for allowance:

Referring to independent claim 1, the prior art of record does not appear to anticipate, explicitly teach, or fairly suggest a transmission terminal comprising processing circuitry configured to display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.

Further, it would not have been obvious to one of ordinary skill in the art to combine the above limitations of the claim with the remaining limitations.

Note that independent claim 4 contains similar limitations to claim 1, independent claim 3 is a substantial duplicate of claim 1, and independent claim 6 contains the corresponding limitations of claim 3; therefore, they are considered to show allowable subject matter similar to that of claim 1 accordingly.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B ROCHE whose telephone number is (571)270-1721 and whose fax number is (571)270-2721. The examiner can normally be reached on Monday-Friday, 10:30 - 7.

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, Henry Tsai can be reached on (571)272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.B.R/
Examiner, Art Unit 2184

/HENRY TSAI/
Supervisory Patent Examiner, Art Unit 2184

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

CPC - Searched*		
Symbol	Date	Examiner
G06F13/36,4068 H04N7/15	02/27/2020	JR

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/654,752	KATO, Yoshinaga
	Examiner	Art Unit
	JOHN B ROCHE	2184

Search Notes		
Search Notes	**Date**	**Examiner**
G06F13/36,4068 H04N7/15 with 710/107 in limited search	02/27/2020	JR
Inventor search	02/27/2020	JR
Prior Art Search	02/27/2020	JR
STIC search	02/27/2020	JR
Google search	02/27/2020	JR
Past prior art and interference search from parent case 15/277,069	11/05/2019	JR
prior art search	06/20/2020	JR
STIC search	06/20/2020	JR
Google search	06/20/2020	JR
Prior Art search	09/05/2020	JR
STIC search	09/05/2020	JR
Google search	09/05/2020	JR

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
710	107	09/05/2020	JR
G06F	13/36,4068	09/05/2020	JR
H04N	7/15	09/05/2020	JR

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Google +(max maximum) +(display*) +terminal +(transmit* transmission)

All Shopping Images Videos News More Settings Tools

9 results (0.66 seconds)

It looks like there aren't any great matches for your search

Tip: Try shortening your search to focus on the most important keywords or phrases.

Need help? Check out other tips for searching on Google.

www.ibm.com › Home › SSLTBW_2.2.0

TRANSMIT command operands - IBM Knowledge Center

A maximum of 200 node/userid combinations and 200 nicknames may be specified, but ... You are prompted to enter data to be transmitted either in line mode or in full- screen ... If you want full-screen mode, you must explicitly specify TERMINAL. ... SYSOUT(sysoutclass | *): uses the SYSOUT class for messages from utility ...

Missing: max | Must include: max

support.apple.com › guide › terminal › mac

Limit the number of scrollback rows in Terminal on Mac ...

Terminal retains a log that lets you scroll back through all content typed by a user. Over time, the amount of information grows, making it difficult to scroll back ...

Missing: display transmit* transmission)

tldp.org › LDP › abs › html › abs-guide

Advanced Bash-Scripting Guide

Mar 10, 2014 - change the behavior of the terminal or text display. ... echo "min is the minimum value" echo "max is the maximum value" echo -n "multiple specifies that ... Create fax-formatted files from text files. for file in $(ls $2.0*) # Concatenate the converted files. ... send a 100-line Bash script to the first person on the list

www.gnu.org › software › screen › manual › screen

Screen User's Manual - GNU.org

Screen is a full-screen window manager that multiplexes a physical terminal between several ... Send the specified command to a running screen session. ... Source commands may be nested to a maximum recursion level of ten. ... For tty windows, the command break causes the Data transmission line (TxD) to go low for a ...

github.com › yudai › gotty

yudai/gotty: Share your terminal as a web application - GitHub

Note that the credentical will be transmitted between the server and clients in plain text. For more strict authentication, consider the SSL/TLS client certificate ...

tsl0922.github.io › ttyd

ttyd - Share your terminal over the web - GitHub Pages

ttyd is a simple command-line tool for sharing terminal over the web. ... SIGHUP) -a, --url-arg Allow client to send command line arguments in URL (eg: ... not allow websocket connection from different origin -m, --max-clients Maximum clients to ...

Missing: display transmission)

learn.sparkfun.com › yat---yet-another-terminal-windows

Serial Terminal Basics - learn.sparkfun.com

Each terminal has its own monitor to display outgoing and incoming data. ... Line number; End-of-line sequence; Line length; Line and bytes transmission rate ... Send and receive timing options; Character substitution; Comment exclusion.

Missing: max maximum)

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unix.stackexchange.com › questions › find-the-max-val...

find the max value of column 1 and print respective record ...

Apr 13, 2017 - This should work: awk -v max=0 '{if($1>max){want=$2; max=$1}}END{print want} ' version.log. The -v max=0 sets the variable max to 0 , then, for each line, the ...
5 answers

Finding the **maximum** of the values in a file - Unix & Linux ...	Dec 26, 2015
Is there a unix command that gives the minimum/**maximum** of ...	Feb 24, 2015
STTY: How can I set rows/columns to its supported **maximum** ...	Apr 30, 2015
How to truncate text lines to N characters **maximum**? - Unix ...	Mar 25, 2015

More results from unix.stackexchange.com

Missing: ~~transmit* transmission)~~

panic.com › transmit

Transmit 5 - Panic

Plus it's got a new activity view to better focus on what Transmit is doing right ... Tags; Local-local sync; 2-factor login; Remote-remote sync; Open in Terminal ...
Missing: ~~maximum)~~ | Must include: maximum)

Searches related to +(max maximum) +(display*) +terminal +(transmit* transmission)

screenrc	**gotty**
tso transmit **command syntax**	**tmux**
gnu screen cheat sheet	**gotty vs ttyd**
gnu screen tutorial	**man screen**

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Search

Main Search | Advanced Keyword Search | Search History

Search History

These are your recent searches. You may repeat the search by clicking on it or edit it by clicking on the edit link.

Clear History

Search	Search Type	
(max OR maximum) AND display* AND terminal AND (transmit* OR transmission)	Advanced Keyword Search	Edit
(max OR maximum) AND display* AND terminal AND (transmit* OR transmission)	Advanced Keyword Search	Edit

Email: *STIC.KEMD.SSC@uspto.gov* to ask questions or make suggestions.

Horizon Information Portal 3.21_4846

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EAST Search History

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	1	((max maximum) with (display$3 near3 terminal near3 (transmitt$3 transmission))) and (710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.)	USPAT	OR	ON	2020/09/05 12:53

9/5/2020 12:57:08 PM
C:\Users\jroche\Documents\EAST\Workspaces\16654752 - TRANSMISSION TERMINAL.wsp

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	91	710/107.ccls. and (G06F13/36,4068 H04N7/15).cpc.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/09/05 12:53
L3	27	(max maximum) with (display$3 near3 terminal near3 (transmitt$3 transmission))	US-PGPUB; USPAT; USOCR	OR	ON	2020/09/05 12:53
L4	3	((max maximum) with (display$3 near3 terminal near3 (transmitt$3 transmission))) and (710/107.ccls. (G06F13/36,4068 H04N7/15).cpc.)	US-PGPUB; USPAT; USOCR	OR	ON	2020/09/05 12:53

9/5/2020 12:56:59 PM
C:\Users\jroche\Documents\EAST\Workspaces\16654752 - TRANSMISSION TERMINAL.wsp

Corrected Notice of Allowance - Correction of Issue Fee Amount

Due to a technical problem, the Notice of Allowance and Fee(s) Due mailed in this application specified an incorrect fee amount (the amount effective on October 2, 2020 for Notices of Allowance mailed on or after October 2, 2020). Corrected Notices of Allowance are being mailed to all applicants who are affected. This is necessary because the statute requires the applicant to pay the fee that is specified on the Notice of Allowance.

A Corrected Notice of Allowance is attached which specifies the correct issue fee. The time period for payment of the issue fee set forth in the previous Notice of Allowance and Fee(s) Due is being restarted to run THREE MONTHS from the "DATE MAILED" of the attached Corrected Notice of Allowance. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

For applicants who replied prior to receiving the Corrected Notice of Allowance:

Applicant must still file a completed Part B – Fee(s) Transmittal, Form PTOL-85 Part B, or an equivalent, in reply to the Corrected Notice of Allowance since the Corrected Notice of Allowance sets forth a time period for reply. This applies to those situations in which applicant's reply was not processed before the Corrected Notice of Allowance was mailed (e.g., the reply crossed in the mail with the Corrected Notice of Allowance) and those situations in which applicant's reply was already processed. Applicants should check the appropriate box in section 4b of Form PTOL-85 Part B, such as the box authorizing the Director to "charge the required fee(s), any deficiency, or credit any overpayment" to a deposit account number. If this box is checked, the applicant will be refunded the amount of any overpayment to the designated deposit account. In addition, by checking the appropriate box in section 4b of Form PTOL-85, Part B, the applicant requests the Office to "first reapply any previously paid fee shown above," as stated on the form. Applicant may also include an explanatory cover letter, if desired. If, however, applicant prefers to file an equivalent of Form PTOL-85, Part B, and if applicant paid an increased issue fee amount as specified on the Notice of Allowance, applicant may request a refund of the difference between the incorrect amount specified on the Notice of Allowance and the correct amount specified on the Corrected Notice of Allowance.

For questions regarding the issue fee amount calculation, please contact the Application Assistance Unit at 888-786-0101 or *HelpAAUCBuspfo.gov*.

For assistance with PAIR or EFS-Web, please contact the Patent EBC at 1-866-217-9197 or *ebc@uspto.gov*.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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

CORRECTED
NOTICE OF ALLOWANCE AND FEE(S) DUE

22850 7590 09/23/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER
ROCHE, JOHN B

ART UNIT	PAPER NUMBER
2184	

DATE MAILED: 09/23/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

TITLE OF INVENTION: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
REGULAR	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	12/23/2020

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 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity 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 and an extra copy of the form should be submitted. 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.

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PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

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 including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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22850 7590 09/23/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
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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 EFS-Web or by facsimile to (571) 273-2885, on the date indicated below.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

TITLE OF INVENTION: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
REGULAR	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	12/23/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROCHE, JOHN B	2184	710-107000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

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

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document 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) ❑Advance Order - # of Copies _____

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

❑ Electronic Payment via EFS-Web ❑ 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 — 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.

❑ Applicant asserting small entity status. See 37 CFR 1.27 — 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.

❑ Applicant changing to regular undiscounted fee 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. _____

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Zoom Communication, Inc. Ex. 1002
Page 292 of 316

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

22850 7590 09/23/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
ROCHE, JOHN B	

ART UNIT	PAPER NUMBER
2184	

DATE MAILED: 09/23/2020

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.

PTOL-85 (Rev. 02/11)

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Page 293 of 316

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. 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 disclosure of these records is required by the Freedom of Information Act.
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 inspection 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.

DOCKET NO: 526184US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
YOSHINAGA KATO	: EXAMINER: ROCHE, JOHN B.
SERIAL NO: 16/654,752	:
FILED: OCTOBER 16, 2019	: GROUP ART UNIT: 2184
FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	:

AMENDMENT AFTER ALLOWANCE UNDER 37 CFR § 1.312

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

In response to the Notice of Allowability dated September 23, 2020, please amend the above-identified application as follows:

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

Remarks/Arguments begin on page 5 of this paper.

IN THE CLAIMS

Please amend the claims as follows:

Claim 1. (Currently Amended) A transmission terminal performing a video conference with a plurality of transmission terminals, the transmission terminal comprising:

processing circuitry configured to

display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein

[[the]] a number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.

Claim 2. (Previously Presented) The transmission terminal according to claim 1, wherein

the processing circuitry is configured to display information concerning names or identification information of transmission terminals performing the video conference.

Claim 3. (Currently Amended) A transmission terminal performing a video conference with a plurality of transmission terminals, the transmission terminal comprising:

processing circuitry configured to display, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and display, on the screen of the transmission terminal, respective sets of image

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data transmitted by transmission terminals participating in the video conference to each other, wherein

the total number of transmission terminals participating in the video conference is greater than [[the]] a number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal.

Claim 4. (Currently Amended) A method implemented by a transmission terminal performing a video conference with a plurality of transmission terminals, method comprising:

displaying on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and displaying, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein

[[the]] a number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.

Claim 5. (Previously Presented) The method according to claim 4, further comprising:

displaying information concerning names or identification information of transmission terminals performing the video conference.

Claim 6. (Currently Amended) A method implemented by a transmission terminal performing a video conference with a plurality of transmission terminals, the method comprising:

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displaying, on a screen of the transmission terminal, information concerning a total number of transmission terminals participating in the video conference, and displaying, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein

the total number of transmission terminals participating in the video conference is greater than [[the]] a number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal.

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Zoom Communication, Inc. Ex. 1002
Page 298 of 316

Electronic Acknowledgement Receipt

EFS ID:	41168378
Application Number:	16654752
International Application Number:	
Confirmation Number:	6383
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Customer Number:	22850
Filer:	Philippe Jean-Claude Signore/Santiago Villalobos
Filer Authorized By:	Philippe Jean-Claude Signore
Attorney Docket Number:	526184US
Receipt Date:	19-NOV-2020
Filing Date:	16-OCT-2019
Time Stamp:	12:25:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		526184USIF.pdf	1010395 aff62afb2b95e00236dc9384506e1b735f091517	yes	8

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Post Allowance Communication - Incoming	7	8
	Applicant Arguments/Remarks Made in an Amendment	6	6
	Claims	3	5
	Amendment after Notice of Allowance (Rule 312)	2	2
	Miscellaneous Incoming Letter	1	1
Warnings:			
Information:			
	Total Files Size (in bytes):	1010395	

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 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.

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.

DOCKET NO: 526184US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:	
YOSHINAGA KATO	:	EXAMINER: ROCHE, JOHN B.
SERIAL NO: 16/654,752	:	
FILED: OCTOBER 16, 2019	:	GROUP ART UNIT: 2184
FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	:	

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

Applicant acknowledges with appreciation the indication of allowability of the claims. In response to the Examiner's Statement of Reasons for Allowance in the Notice of Allowance of September 11, 2020, Applicant respectfully submits the following comments.

In the Examiner's Statement of Reasons for Allowance of the Notice of Allowance mailed September 11, 2020, the last two paragraphs on page 2 and the first paragraph on page 3 state in part:

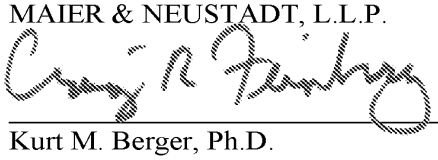
> Referring to independent claim 1, the prior art of record does not appear to anticipate, explicitly teach, or fairly suggest a transmission terminal comprising processing circuitry configured to display, on the screen of the transmission terminal, respective sets of image data transmitted by transmission terminals participating in the video conference to each other, wherein the number of the sets of image data, transmitted by transmission terminals participating in the video conference to each other, to display on the screen of the transmission terminal is smaller than the total number of transmission terminals participating in the video conference.

> Further, it would not have been obvious to one of ordinary skill in the art to combine the above limitations of the claim with the remaining limitations.
>
> Note that independent claim 4 contains similar limitations to claim 1, independent claim 3 is a substantial duplicate of claim 1, and independent claim 6 contains the corresponding limitations of claim 3; therefore, they are considered to show allowable subject matter similar to that of claim 1 accordingly.

Although the above comment seems to be directed to independent Claims 1 and 3, it is respectfully submitted that independent Claims 4 and 6 do not include all of the elements recited above. For example, Claims 4 and 6 do not recite "processing circuitry." Accordingly, it is respectfully submitted that the above quoted statement applies only to independent Claims 1 and 3 (and Claim 2 dependent therefrom), and not to independent Claims 4 and 6 (and Claim 5 dependent therefrom), to the extent the language used in the statement differs from the language of the claims.

Respectfully Submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Kurt M. Berger, Ph.D.
Attorney of Record
Registration No. 51,461

Craig R. Feinberg
Registration No. 62,116

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22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OMMN 07/09)

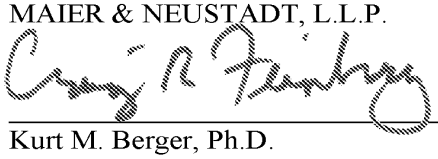
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Zoom Communication, Inc. Ex. 1002
Page 302 of 316

REMARKS/ARGUMENTS

Entry of this Amendment After Allowance Under 37 C.F.R. §1.312 is respectfully requested since it does not add any new matter nor require further consideration and/or search. More specifically, the amendment to Claims 1, 3, 4 and 6 corrects antecedent informalities. The antecedent informalities in the claims were discovered by the Applicant's attorney during a post-allowance review, and the attorney has been diligent in correcting any informalities that he has become aware of.

Respectfully Submitted,

OBLON, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Kurt M. Berger, Ph.D.
Attorney of Record
Registration No. 51,461

Craig R. Feinberg
Registration No. 62,116

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(OMMN 07/09)

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 303 of 316

Docket No. 526184US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S) Yoshinaga KATO

SERIAL NO: 16/654,752 ART UNIT: 2184

FILING DATE: October 16, 2019 EXAMINER: ROCHE, JOHN B.

FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

FEE TRANSMITTAL

■ No additional fee is required

☐ Small entity status of this application under 37 C.F.R. §1.9 and §1.27 is claimed.

☐ Track 1 Prioritized Examination

The Fee has been calculated as shown below:

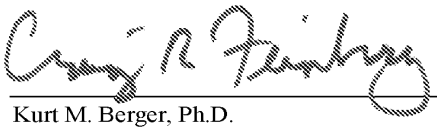
FOR	NUMBER FILED	NUMBER EXTRA	RATE	CALCULATIONS
TOTAL CLAIMS	6 - 20 =	0	x $100 =	$0.00
INDEPENDENT CLAIMS	4 - 4 =	0	x $480 =	$0.00
☐ MULTIPLE DEPENDENT CLAIMS (If applicable)			+ $860 =	$0.00
☐ LATE FILING OF DECLARATION			+ 160 =	$0.00
☐ NON-ELECTRONIC FILING FEE			+ $400 =	$0.00
			BASIC FEES	$0.00
			TOTAL OF ABOVE CALCULATIONS	$0.00
☐ REDUCTION BY 50% FOR FILING BY SMALL ENTITY				$0.00
☐ FILING IN NON-ENGLISH LANGUAGE			+ $140 =	$0.00
			TOTAL	$0.00

☐ Please charge Deposit Account No. **15-0030** in the amount of **$0.00**

☐ Credit card payment is being made online (if electronically filed), or is attached hereto (if paper filed), in the amount of **$0.00**.

■ The Director is hereby authorized to charge any additional fees which may be required for the papers being filed herewith and for which no payment is enclosed herewith, or credit any overpayment to Deposit Account No. **15-0030**, with the **EXCEPTION** of deficiencies in fees for multiple dependent claims in new applications.

■ If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time may be charged to Deposit Account No. 15-0030.

Submitted by: 

Kurt M. Berger, Ph.D.
Registration No. 51,461

Customer Number
22850

Tel. (703) 413-3000
Fax. (703) 413-2220
(OMMN 02/12)

Craig R. Feinberg
Registration No. 62,116

DOCKET NO: 526184US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:	OK TO ENTER: /J.B.R/
YOSHINAGA KATO	:	EXAMINER: ROCHE, JOHN B.
SERIAL NO: 16/654,752	:	
FILED: OCTOBER 16, 2019	:	GROUP ART UNIT: 2184
FOR: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM	:	

AMENDMENT AFTER ALLOWANCE UNDER 37 CFR § 1.312

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

Commissioner:

In response to the Notice of Allowability dated September 23, 2020, please amend the above-identified application as follows:

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

Remarks/Arguments begin on page 5 of this paper.

Response to Rule 312 Communication	Application No.	Applicant(s)	
	16/654,752	KATO, Yoshinaga	
	Examiner	Art Unit	AIA (FITF) Status
	JOHN B ROCHE	2184	Yes

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

1. ☑ The amendment filed on 19 November 2020 under 37 CFR 1.312 has been considered, and has been:
   a) ☑ entered.
   b) ☐ entered as directed to matters of form not affecting the scope of the invention.
   c) ☐ disapproved because the amendment was filed after the payment of the issue fee.
      Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.
   d) ☐ disapproved. See explanation below.
   e) ☐ entered in part. See explanation below.

/HENRY TSAI/
Supervisory Patent Examiner, Art Unit 2184

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

22850 7590 11/27/2020

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
ROCHE, JOHN B	

ART UNIT	PAPER NUMBER
2184	

NOTIFICATION DATE	DELIVERY MODE
11/27/2020	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):

OBLONPAT@OBLON.COM
iahmadi@oblon.com
patentdocket@oblon.com

Corrected ***Notice of Allowability***	**Application No.** 16/654,752	**Applicant(s)** KATO, Yoshinaga	
	Examiner JOHN B ROCHE	**Art Unit** 2184	**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 the 312 Amendment filed November 19, 2020.
   ☐ 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 1-6 . 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. 15/277,069 .
   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)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/HENRY TSAI/
Supervisory Patent Examiner, Art Unit 2184

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Allowable Subject Matter

Claims 1-6 are allowed.

The reason for allowability of claims 1-6 has already been made of record as of the Notice of Allowance sent on September 11, 2020. For the sake of brevity, they will not be repeated here.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN B ROCHE whose telephone number is (571)270-1721. The examiner can normally be reached on Monday-Friday, 10:30 - 7.

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, Henry Tsai can be reached on (571)272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-

my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.B.R/
Examiner, Art Unit 2184

/HENRY TSAI/
Supervisory Patent Examiner, Art Unit 2184

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

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 including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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

CUSTOMER NUMBER
22850

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 EFS-Web or by facsimile to (571) 273-2885, on the date indicated below.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	10/16/2019	Yoshinaga KATO	526184US	6383

TITLE OF INVENTION: TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
REGULAR	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	12/23/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROCHE, JOHN B	2184	710-107000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 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 Oblon, McClelland,
2 Maier & Neustadt, L.L.P.
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: Ricoh Company, Ltd.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Tokyo, 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) ☐ Advance Order - # of Copies _____

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

☒ Electronic Payment via EFS-Web ☐ 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. 15-0030

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

☐ Applicant certifying micro entity status. See 37 CFR 1.29 — 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.

☐ Applicant asserting small entity status. See 37 CFR 1.27 — 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.

☐ Applicant changing to regular undiscounted fee 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 /Yin Y. Nelson/ Date 12/23/2020

Typed or printed name Yin Y. Nelson Registration No. 77,479

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

IPR2026-00424
Zoom Communication, Inc. Ex. 1002
Page 311 of 316

Electronic Acknowledgement Receipt	
EFS ID:	41478760
Application Number:	16654752
International Application Number:	
Confirmation Number:	6383
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Customer Number:	22850
Filer:	Daniel J. Pereira/Dakota Brown
Filer Authorized By:	Daniel J. Pereira
Attorney Docket Number:	526184US
Receipt Date:	23-DEC-2020
Filing Date:	16-OCT-2019
Time Stamp:	13:57:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1000
RAM confirmation Number	E2020BMD57568031
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	526184USIF.pdf	1990955 2bce7a9fae579d0d415b06f946b7819771106683	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30428 74404ae4f08c207fe8c25ca1267fb7198b31b66c	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2021383		

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 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.
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.

Electronic Patent Application Fee Transmittal

Application Number:	16654752
Filing Date:	16-Oct-2019
Title of Invention:	TRANSMISSION TERMINAL, NON-TRANSITORY RECORDING MEDIUM, TRANSMISSION METHOD, AND TRANSMISSION SYSTEM
First Named Inventor/Applicant Name:	Yoshinaga KATO
Filer:	Daniel J. Pereira/Dakota Brown
Attorney Docket Number:	526184US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1000**

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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/654,752	02/02/2021	10909059	526184US	6383

22850 7590 01/13/2021

OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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 Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Yoshinaga KATO, Kanagawa, JAPAN;
Ricoh Company, Ltd., Tokyo, 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.