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## EUROPEAN PATENT APPLICATION

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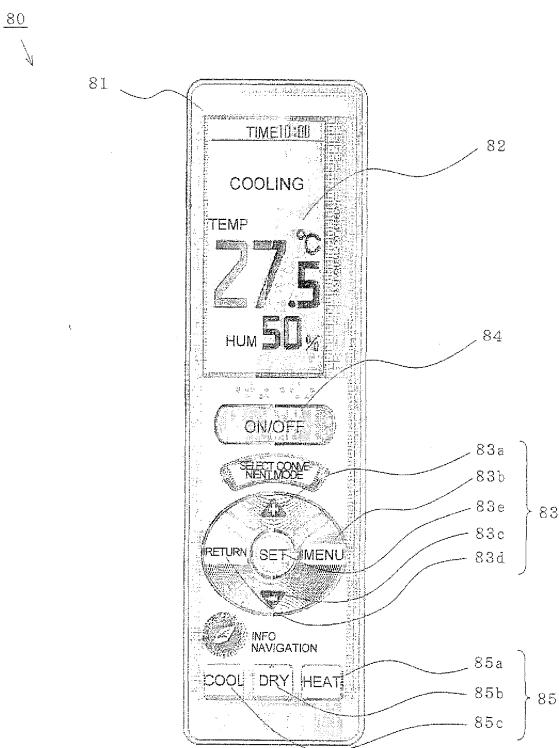
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(54) Air-conditioning apparatus and support system of the same

(57) When a user thinks "Is it a malfunction?" and wants to relieve this doubt and worry, the user first pushes a menu button (83b) on the remote control (80) and further pushes a minus button (83c) or a plus button (83a) to set the cursor on the "In a case such as...(inquiry menu)". Here, when the set button (83e) is pushed, two menu items, namely, "During heating operation..." and "From the outdoor unit..." are displayed. Further, when the set button (83e) is pushed while the cursor is set to the "During heating operation...", "The horizontal flaps will be in a horizontal state at the start of operation, during defrosting, and when temperature has become above the set temperature. It is not a malfunction" is displayed on the display unit (82).

FIG. 7





## EUROPEAN SEARCH REPORT

Application Number

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
10 X	EP 2 253 896 A2 (LG ELECTRONICS INC [KR]) 24 November 2010 (2010-11-24) * the whole document *	1,3-8	INV. F24F1/00 F24F11/00
15 A	-----	2,9-11	
15 X	JP 2008 015838 A (DAIKIN IND LTD) 24 January 2008 (2008-01-24) * paragraphs [0010], [0020], [0022] - [0040]; figures 1-3 *	1,3-8	
20 X	-----	1,3-8	
20 X	JP 2008 202898 A (MITSUBISHI HEAVY IND LTD) 4 September 2008 (2008-09-04) * paragraphs [0017] - [0032]; figures 1-12 *	1,3-8	
25 X	-----	1,3-8	
25 X	JP 2002 071200 A (TOSHIBA CARRIER KK) 8 March 2002 (2002-03-08) * paragraphs [0010] - [0025]; figures 1-7 *	1,3-8	
30 X	-----	1,3,4	TECHNICAL FIELDS SEARCHED (IPC)
30 X	WO 2008/084741 A1 (DAIKIN IND LTD [JP]; KOYAMA TAKUJI [JP]; NATSUME MORIKUNI [JP]) 17 July 2008 (2008-07-17) * the whole document *	1,3,4	F24F
35 X	-----	2	
35 A	EP 1 674 804 A1 (LG ELECTRONICS INC [KR]) 28 June 2006 (2006-06-28) * paragraphs [0024], [0033] - [0054]; figures 1-5C *	9	
40 A	-----	9-11	
45 A	US 2011/074589 A1 (HAN JONGHYE [KR] ET AL) 31 March 2011 (2011-03-31) * the whole document *	9-11	
45	-----		
50 2	The present search report has been drawn up for all claims		
50	Place of search Munich	Date of completion of the search 24 May 2018	Examiner Blot, Pierre-Edouard
55	CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	



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Application Number

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## CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

## LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION**  
**SHEET B**

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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**1. claims: 1(completely); 3-8(partially)**

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Claims 1 and 3-8 when dependent on claim 1 relate to an air-conditioning apparatus wherein the remote control unit includes selection means to select the projected image displayed on the display unit, the projected image is provided with an inquiry menu to inquire about a state that occurs in low frequency during steady operation, and when the inquiry menu is selected by manipulation of the selection means, the projected image explaining a content of the state is displayed subsequent to the inquiry menu on the display unit by communication between the remote control unit and the body control unit (inventive concept).

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**2. claims: 2(completely); 3-8(partially)**

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Claims 2 and 3-8 when dependent on claim 2 relate to an air-conditioning apparatus wherein the remote control unit includes an ON/OFF button, instructing the start or stop of an operation, or an acceleration sensor, when there is a malfunction or a nonconformance in a portion of the components before a start of operation, upon pushing of the ON/OFF button or upon detection of movement of the remote control unit by the acceleration sensor, the projected image explaining a content of the malfunction or the nonconformance is displayed on the display unit by a command of the body control unit (inventive concept).

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**3. claims: 9-11**

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Claims 9-11 relate to a support system of an air-conditioning apparatus that supports the air-conditioning apparatus through a highly functional mobile phone and a terminal connected to the Internet, wherein the terminal displays on an equipped screen a projected image of the air-conditioning apparatus that has been taken by a camera installed in the highly functional mobile phone, and that has been transmitted through the Internet from the highly functional mobile phone; and transmits a content of a state of the air-conditioning apparatus and an outline of dealing with the content, based on the projected image displayed on the screen, to the highly functional mobile phone through the Internet, and the highly functional mobile phone displays the content of the state of the air-conditioning apparatus and the outline of dealing with the content that has been transmitted from the terminal through the Internet on a screen of the highly functional mobile phone (inventive concept).

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**LACK OF UNITY OF INVENTION  
SHEET B**

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 12 17 2327

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-05-2018

10	Patent document cited in search report	Publication date	Patent family member(s)		Publication date
15	EP 2253896 A2	24-11-2010	EP 2253896 A2	ES 2572622 T3	24-11-2010 01-06-2016
			KR 20100123485 A		24-11-2010
			US 2010292960 A1		18-11-2010
20	JP 2008015838 A	24-01-2008	NONE		
25	JP 2008202898 A	04-09-2008	JP 4981479 B2	JP 2008202898 A	18-07-2012 04-09-2008
			JP 4553465 B2		29-09-2010
	JP 2002071200 A	08-03-2002	JP 2002071200 A		08-03-2002
30	WO 2008084741 A1	17-07-2008	JP 2008172524 A	WO 2008084741 A1	24-07-2008 17-07-2008
			WO 2008084741 A1		
35	EP 1674804 A1	28-06-2006	CN 1786605 A	EP 1674804 A1	14-06-2006 28-06-2006
			KR 20060064822 A		14-06-2006
			US 2006123808 A1		15-06-2006
40	US 2011074589 A1	31-03-2011	KR 20110013585 A	US 2011074589 A1	10-02-2011 31-03-2011
45					
50					
55					