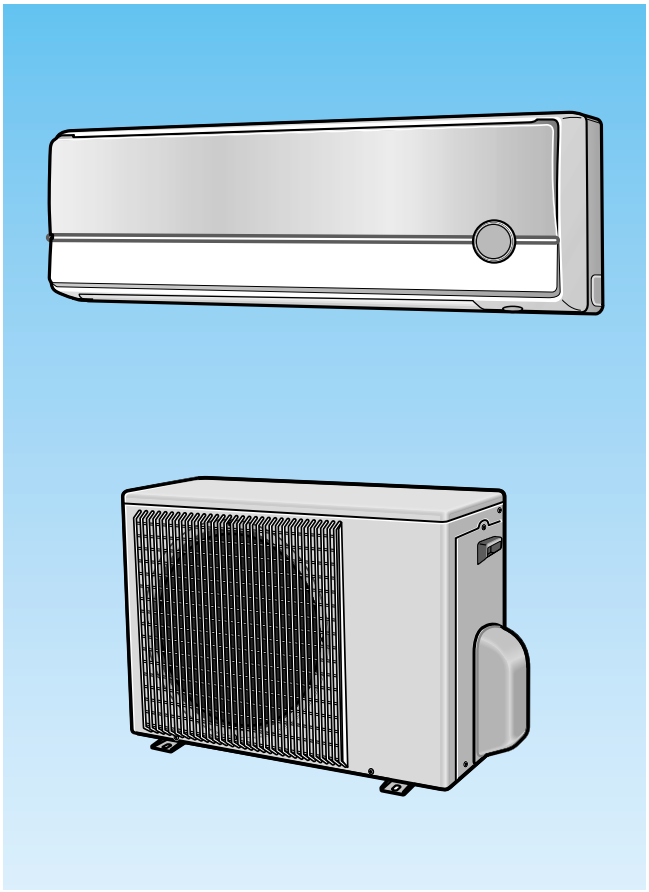
SAMSUNG

ROOM AIR CONDITIONER

INDOOR UNIT	OUTDOOR UNIT
SH07APG	SH07APGX
SH07APGA	SH07APGAX
SH09APG	SH09APGX
SH12APG	SH12APGX

SERVICE *Manual*

AIR CONDITIONER



CONTENTS

1. Product Specifications
2. Operating Instructions
3. Disassembly and Reassembly
4. Refrigerating Cycle Diagram
5. Set Up the Model Option
6. Troubleshooting
7. Exploded Views and Parts List
8. Block Diagram
9. PCB Diagram
10. Wiring Diagram
11. Schematic Diagram

1. Product Specifications

1-1 Table

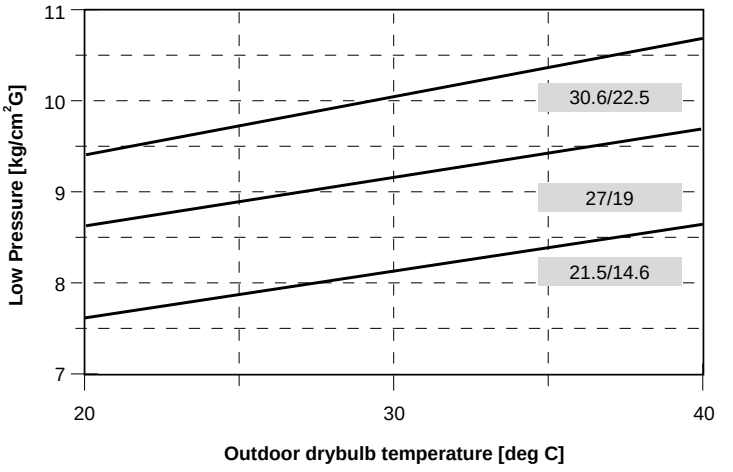
Item \ Model					SH07APG		SH07APGA	
					Indoor unit	Outdoor unit	Indoor unit	Outdoor unit
Type					Wall-mounted		Wall-mounted	
Perfor-mance	Cooling			kW	2.47		2.47	
	Heating				2.46		2.46	
	Dehumidifying			ℓ/h	0.9		0.9	
	Air Volume	Cooling		m^3/min	6.0	24	6.0	24
		Heating			6.8	24	6.8	24
	Noise ( ):EUROVENT	Cooling		dB	36(47)	47(47)	36(47)	36(47)
		Heating			36(57)	47(57)	36(57)	47(57)
	Energy Efficiency Ratio	Cooling		W/W	3.21		3.21	
		Heating			3.42		3.42	
	Power			V-Hz	1-220 / 240-50		1-220 / 240-50	
Power	Power Consumption	Cooling		W	770		770	
		Heating			720		720	
	Operating Current	Cooling		A	3.4		3.4	
		Heating			3.3		3.3	
	Power Factor	Cooling		%	98.5		98.5	
		Heating			94.9		94.9	
	Starting Current			A	18.0		18.0	
	Power Cord	Length		m	-		-	
		Number of Core Wire			-		-	
		Capacity		A	250V-10 / 16A		250V-10 / 16A	
Size	Outer Dimension	W x H x D		mm	795 x 258 x 179	695 x 530 x 280	795 x 258 x 179	695 x 530 x 280
				inch	31.3 x 10.2 x 7.0	27.4 x 20.9 x 11.0	31.3 x 10.2 x 7.0	27.4 x 20.9 x 11.0
	Weight			kg	7.5	27.0	7.5	27.0
	Refrigerant Pipe	Liquid		mm x L(m)	ø6.35 x 7		ø6.35 x 7	
		GAS		mm x L(m)	ø9.52 x 7		ø9.52 x 7	
	Drain Hose			D x L(mm)	ø18 x 2,000		ø18 x 2,000	
	Compressor	Type			Rotary		Rotary	
		Motor	Type		-	-	-	-
			Rated Output		-	-	-	-
	Blower	Type			Cross-fan	Propeller	Cross-fan	Propeller
		Motor	Type		steel	steel	steel	steel
			Rated Output	W	11	25	11	25
Heat Exchanger					2ROW 10STEP	1ROW 24STEP	2ROW 10STEP	1ROW 24STEP
Refrigerant Control Unit					CAPILLARY TUBE		CAPILLARY TUBE	
Freezer Oil Capacity				cc	350		350	
Refrigerant to Change(R410A)				g	650		600	
Protection Device(OLP)					MRA99901-9201		RAC12126-9622	
Cooling Test Condition					INDOOR UNIT : DB27˚C WB19˚C		OUTDOOR UNIT : DB35˚C WB24˚C	
Maximum Operation Condition					INDOOR UNIT : DB32˚C WB23˚C		OUTDOOR UNIT : DB43˚C WB26˚C	

Table(cont.)

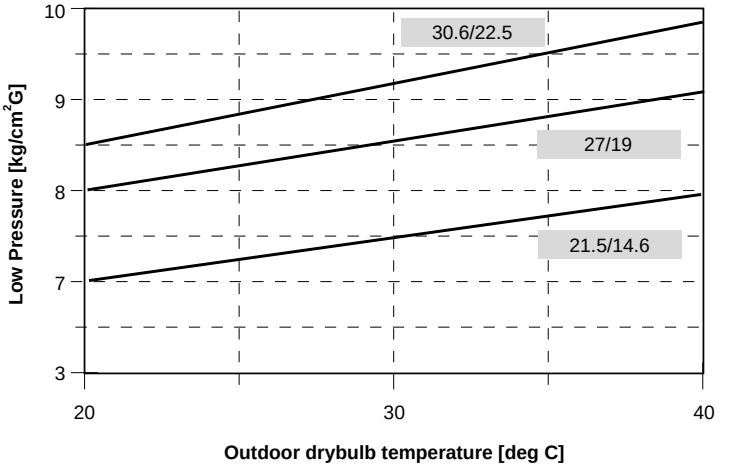
Item \ Model					SH09APG		SH12APG	
					Indoor unit	Outdoor unit	Indoor unit	Outdoor unit
Type					Wall-mounted		Wall-mounted	
Performance	Cooling			kW	2.70		3.50	
	Heating				2.90		3.80	
	Dehumidifying			ℓ/h	1.4		1.9	
	Air Volume	Cooling		m^3/min	6.4	24	8.2	24
		Heating			7.4	24	8.6	24
	Noise ( ):EUROVENT	Cooling		dB	39(50)	48(58)	42(53)	50(63)
		Heating			39(50)	48(58)	42(53)	50(63)
	Energy Efficiency Ratio	Cooling		W/W	3.21		3.21	
		Heating			3.41		3.22	
	Power			V-Hz	1-220 / 240-50		1-220 / 240-50	
Power	Power Consumption	Cooling		W	840		1,090	
		Heating			850		1,180	
	Operating Current	Cooling		A	3.7		5.0	
		Heating			3.7		5.2	
	Power Factor	Cooling		%	98.7		94.8	
		Heating			99.9		98.7	
	Starting Current			A	21.0		28.0	
	Power Cord	Length		m	-		-	
		Number of Core Wire			-		-	
		Capacity		A	250V-10 / 16A		250V-10 / 16A	
Size	Outer Dimension	W x H x D		mm	795 x 258 x 179	695 x 530 x 280	890 x 285 x 179	695 x 530 x 280
				inch	31.3 x 10.2 x 7.0	27.4 x 20.9 x 11.0	35.0 x 11.2 x 7.0	27.4 x 20.9 x 11.0
	Weight			kg	7.5	28.0	8.5	32.5
	Refrigerant Pipe	Liquid		mm x L(m)	ø6.35 x 7		ø6.35 x 7	
		GAS		mm x L(m)	ø9.52 x 7		ø12.7 x 7	
	Drain Hose			D x L(mm)	ø18 x 2,000		ø18 x 2,000	
	Compressor	Type			Rotary		Rotary	
		Motor	Type		-	-	-	-
			Rated Output		-	-	-	-
	Blower	Type			Cross-fan	Propeller	Cross-fan	Propeller
		Motor	Type		steel	steel	steel	steel
			Rated Output	W	11	25	15	25
Heat Exchanger					2ROW 10STEP	1ROW 24STEP	2ROW 12STEP	2ROW 24STEP
Refrigerant Control Unit					CAPILLARY TUBE		CAPILLARY TUBE	
Freezer Oil Capacity				cc	280		500	
Refrigerant to Change(R410A)				g	590		880	
Protection Device(OLP)					RBC12054-12500		RBC12128-12500	
Cooling Test Condition					INDOOR UNIT : DB27˚C WB19˚C		OUTDOOR UNIT : DB35˚C WB24˚C	
Maximum Operation Condition					INDOOR UNIT : DB32˚C WB23˚C		OUTDOOR UNIT : DB43˚C WB26˚C	

1-2 Pressure Graph

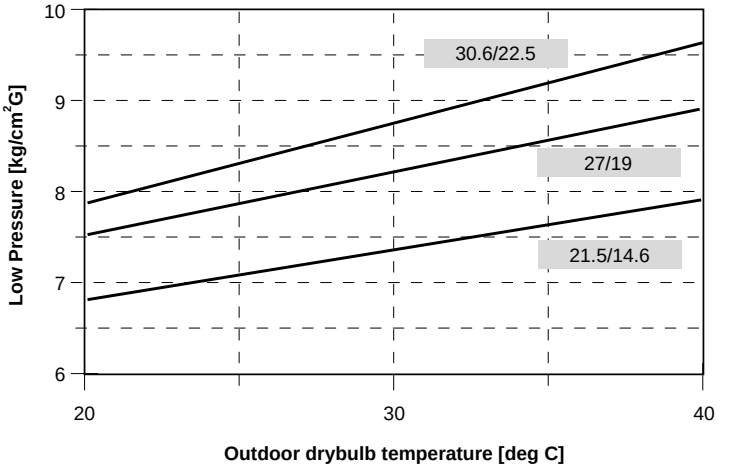
■ **SH07APG**
SH07APGA



■ **SH09APG**



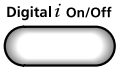
■ **SH12APG**



2. Operating Instructions

2-1 The Feature of Key in remote control

No	NAMED OF KEY	FUNCTION OF KEY
1	(On/Off)	On/Off button. Press the button to stop or run the air conditioner.
2	(UP)	Temperature adjustment button(UP). To increase the temperature by the pressing the temperature button.
	(DOWN)	Temperature adjustment button(DOWN). To decrease the temperature by the pressing the temperature button.
3	Mode	Mode selection button. Each time you press this button Mode is changed in the following order : Auto Mode : Fan Only : Cool Mode : Heat Mode : Dry Mode
4		Fan speed adjustment button. Each time you press this button, FAN SPEED is changed in the following order. Low → Medium → High Automatic(rotated :)
5		Swing button. It adjusts the airflow to upward and downward.
6	TURBO	Turbo button. The air conditioner cools or heats the room as quickly as possible. After 30 minutes, the air conditioner is reset automatically to the previous mode.
7		Energy saving button. If you wish to save energy when using your air conditioner, select the Energy saving mode with the button.
8		Sleep button. The sleep timer can be used when you are cooling or heating your room to switch the air conditioner off automatically after a period of 6 hours.

No	NAMED OF KEY	FUNCTION OF KEY
9		Anion button. Press the  button to generate ion from the air conditioner.
10		On Timer button. The On Timer enables you to **switch on** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the  button one or more times until the required time display.
11		Off Timer button. The Off Timer enables you to **switch off** the air conditioner automatically after a given period of time that is from 30 minutes to 24 hours. To set the operating time, press the  button one or more times until the required time display.
12		Timer Set/Cancel button. After setting On Timer or Off Timer, press the  button to set it completely. And press the  button again to cancel On Timer or Off Timer set.
13		Digital *i* On/Off button. If you want to turn off the display during operation press the  button.

2-1-1 Name & Function of Key in remote control

1. AUTO MODE : In this mode, operation mode(COOL, HEAT) is selected automatically by the room temperature of initial operation.

Room Temp	Operation Type
Tr≥ 21°C+ΔT	Cool Operation (Set Temp:24˚C+ΔT)
21°C +ΔT>Tr	Heat Operation (Set Temp:22˚C+ΔT)

   ΔT= -1°C, -2°C, 0°C, +1°C, +2°C
   ΔT is controlled by setting temperature up/down key of remote control

2. COOL MODE : The unit operates according to the difference between the setting and room temperature. (18°C~30°C)

3. HEAT MODE : The unit operates according to the difference between the setting and room temperature.(16°C~30°C)
   *Prevention against cold wind : In order to prevent the cool air from flowing out at the heat mode, the indoor fan does not operate or operates very slowly in the following cases. At this time, the indoor heat exchanger will be preheating.
   - For 3~5 minutes after the initial operation
   - For deicing operation
   - The operation of an indoor fan in accordance with the temperature of an indoor heat exchanger

The temperature of indoor heat exchanger	Indoor fan speed
below 28˚C	off
28˚C~below 34˚C	LL Speed
34˚C~below 40˚C	L Speed
above 40˚C	Setting Speed

   *High temperature release function : It is a function to detect an outdoor overload by the sensor of an indoor heat exchanger and to turn the outdoor fan or the compressor ON/OFF for safety.
   *Deice : Deicing operation is controlled by indoor unit's heat exchanger temperature and accumulating time of compressor's operation.
   Deice ends by sensing of the processing time by deice condition.

4. DRY MODE : Has 3 states, each determined by room temperature.
   The unit operates in DRY mode.
   *Compressor ON/OFF Time is controlled compulsorily(can not set up the fan speed, always breeze).
   *Protective function : Low temperature release. (Prevention against freeze)

5. TURBO MODE : This mode is available in AUTO, COOL, HEAT, DRY, FAN MODE.
   When this button is pressed at first, the air conditioner is operated "powerful" state for 30 minutes regardless of the set temperature, room temperature.
   When this button is pressed again, or when the operating time is 30 minutes, turbo operation mode is canceled and returned to the previous mode.
   *But, if you press the TURBO button in DRY or FAN mode that is changed with AUTO mode automatically.

6. SLEEP MODE : Sleep mode is available only in COOL or HEAT mode.
   The operation will stop after 6 hours.
   *In COOL mode : The setting temperature is automatically raised by 1°C each 1hour When the temperature has been raised by total of 2°C, that temperature is maintained.
   *In HEAT mode : The setting temperature is automatically dropped by 1°C each 1hour.
   When the temperature has been dropped by total of 2°C, that temperature is maintained.

7. FAN SPEED : Manual (3 step), Auto (4 step)
   Fan speed automatically varies depending on both the difference between setting and the room temperature.

8. COMPULSORY OPERATION :
   For operating the air conditioner without the remote control.
   *The air conditioner starts up in the most suitable mode for the room temperature:

Room Temperature	Operating Mode	Temperature Setting
Less than 21˚C	Heat	22˚C approx.
21˚C or above	Cool	24˚C approx.

9. SWING : BLADE-H is rotated vertically by the stepping motor.
   *Swing Set : Press the button under the remote control is displayed on LCD the and the blades move up and down. If the one more time press the button, blades location is stop.

10. SETTING THE ON/OFF TIMER. :
   *ON TIMER : The On Timer enables you to switch on the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.
   *OFF TIMER : The Off Timer enables you to switch off the air conditioner automatically after a given period of time. You can set the period of time from 30 minutes to 24 hours.

11. GENERATING ANION :
   The air conditioner can generate anion with an ionizer in the indoor unit.

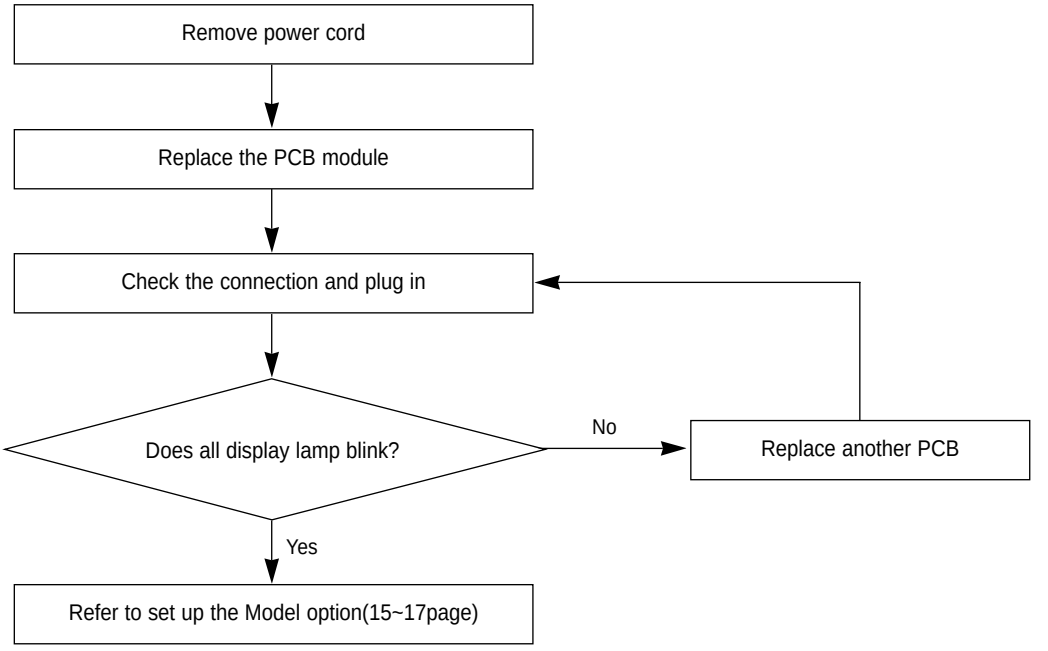
12. SELF DIAGNOSIS

Error Mode	DISPLAY 7-SEGMENT		Remark
	Operation Off	Operation On	
Indoor unit room temperature sensor error (open or short)	OFF	E1	
Indoor unit heat exchanger temperature sensor error(open or short)	OFF	E2	
Indoor FAN MOTOR error : Keep the RPM value 450 below for 15 seconds	OFF	E3	
EEPROM error	OFF	E6	
Error in option In case of No option set-up In case of option data error	All lamp blinking	All lamp blinking	

13. BUZZER SOUND : Whenever the On/Off button is pressed or whenever change occurs to the condition which is set up or select, the compulsory operation mode, buzzer is sounded "beep".

2-2 Replace PCB Model option

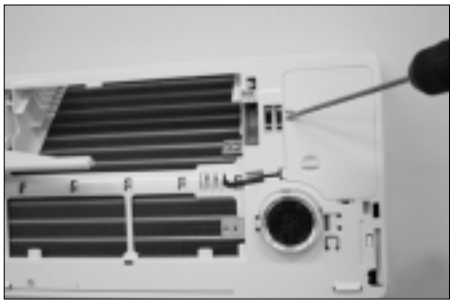
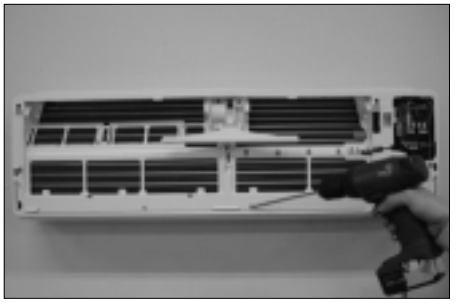
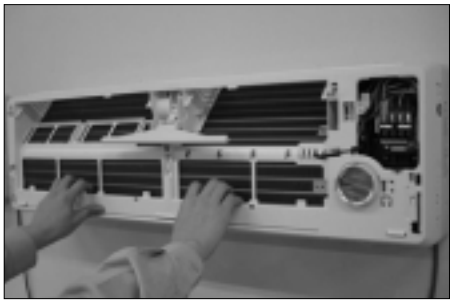
2-2-1 Replace PCB model option

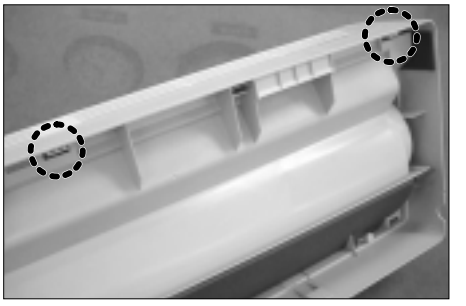
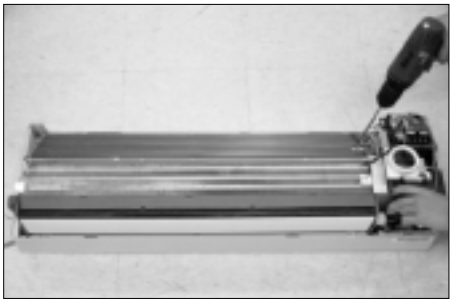
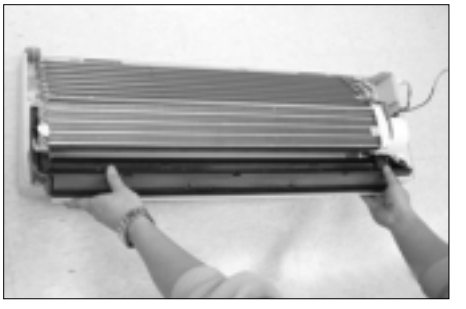


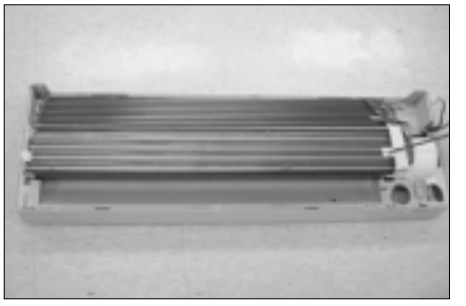
3. Disassembly and Reassembly

Stop operation of the air conditioner and remove the power cord before repairing the unit.

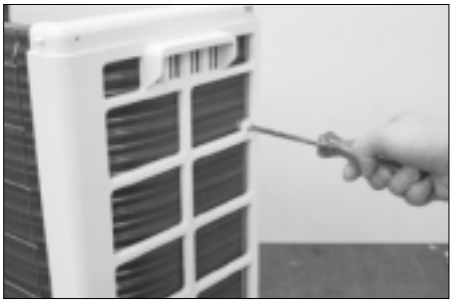
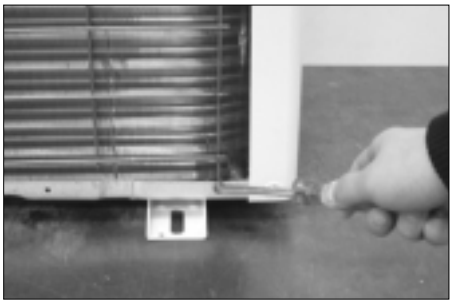
3-1 Indoor Unit

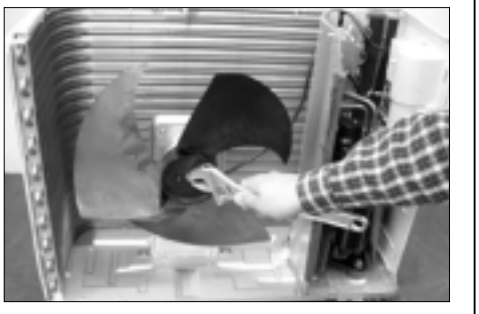
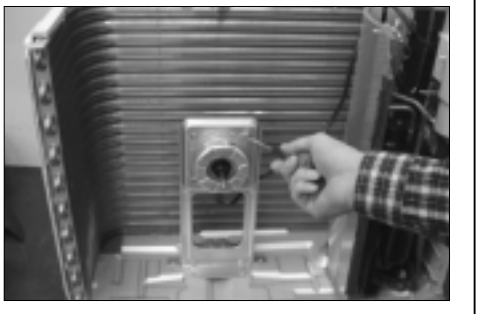
No	Parts	Procedure	Remark
1	Front Panel	1) Stop the air conditioner operation and block the main power. 2) Separate tape of Front Panel upper.	
		3) Slide the lower Front Grille down, then disassemble it by pulling it forwards. 4) Open the upper Front Grille by pulling right and left sides of the Grille. 5) Take the left and right Filter out. 6) Loosen one of the right screw and detach the Terminal Cover. 7) Detach the thermistor from the Front Grille.	
		8) Loosen 5 fixing screws of Front Grille.	
		9) Pull the lower left and right of discharge softly for the outside cover to be pulled out.	

No	Parts	Procedure	Remark
		10) At first, press the left and center hook of the back side of the Panel Grille with the thumb to remove the hook. And press the right of the upper side of the Panel Grille with the fingers. And then disassemble the Panel Grille.	 
2	Electrical Parts (Main PCB)	1) Take all the connector of PCB upper side out.(Including Power Cord) 2) Detach the outdoor unit connection wire from the Terminal Block. 3) If pulling the main PCB up, it will be taken out.	
3	Tray Drain	1) Pull Tray Drain out from the Back Body.	

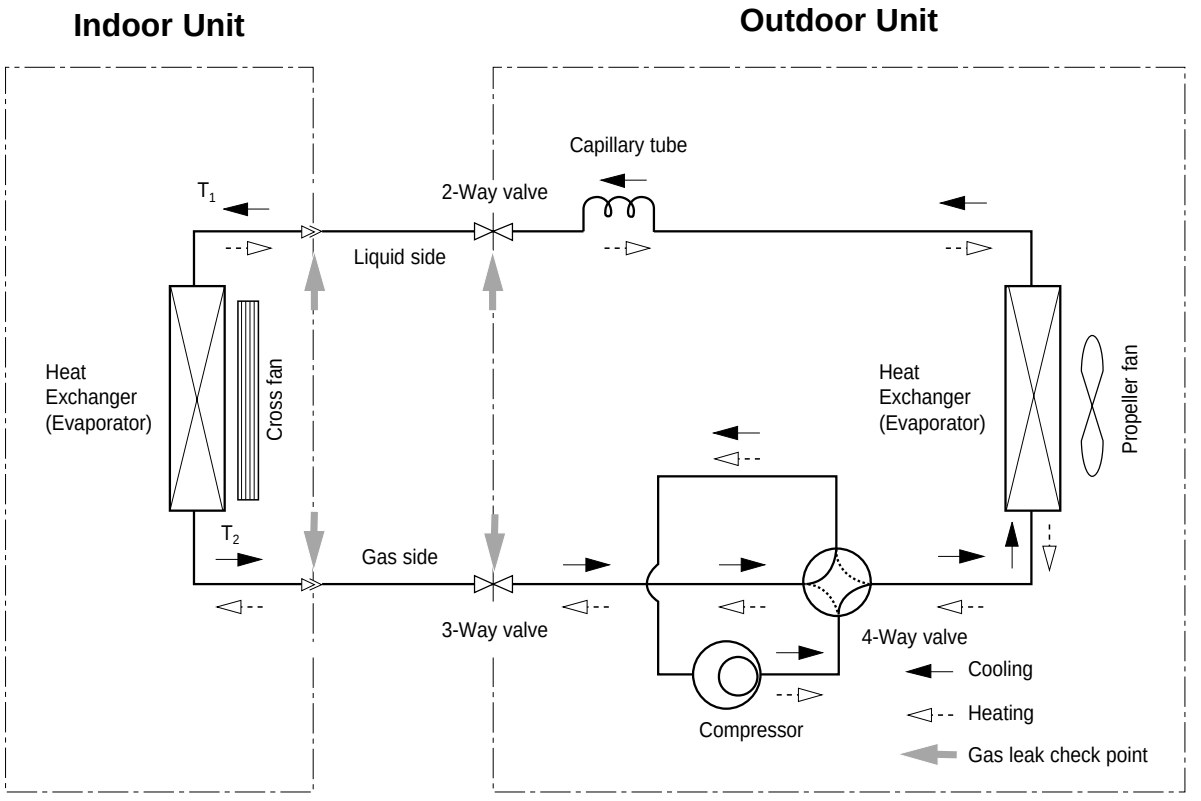
No	Parts	Procedure	Remark
4	Heat Exchanger	1) Loosen 2 fixing earth screws of right side. 2) Detach the Connection Pipe. 3) Detach the Holder Pipe at the rear side. 4) Loosen 3 fixing screws of right and left side.	
		5) Detach the Heat Exchanger from the indoor unit.	 
5	Fan Motor & Cross Fan	1) Loosen 2 fixing screws and separate the Motor Holder. 2) Loosen 1 fixing screw of Fan Motor. (with a M3 wrench) 3) Detach the Fan Motor from the Fan.	
		4) Detach the Fan from the left Holder Bearing.	

3-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Common Work	1) Loosen 2 fixing screws and separate the Cover Valve. 2) Detach the connection wire from the Terminal Block.	
		3) Loosen 4 fixing screws and detach the Cabinet Front.	
		4) Loosen 2 fixing screws and detach the Cabinet-Side LF.	
		5) Loosen 2 fixing screws of the Cabinet-Side RH.	
		6) Loosen 2 fixing screws and detach the Bar Steel.	

No	Parts	Procedure	Remark
2	Fan & Motor	1) Detach the connection wire of the Motor Fan.	
		2) Remove the Nut Flange.(Turn to the clock-wise) 3) Detach the Fan.	
		4) Loosen 4 fixing screws to detach the Motor. 5) Loosen 4 fixing screws and detach the Motor Bracket from the Base.	
3	Heat Exchanger	1) Loosen 2 fixing screws of left and right side. 2) Disassemble the inlet and outlet pipe by welding. 3) Detach the Heat Exchanger.	
4	Compressor	1) Open the Terminal Cover of Compressor and unscrew the Connection Terminal. 2) Disassemble the inlet and outlet pipe of Compressor by welding. 3) Loosen 3 fixing bolts of the lower part. 4) Detach the Compressor.	

4. Refrigerating Cycle Diagram



5. Set Up the Model Option

5-1 Setting Option Setup Method

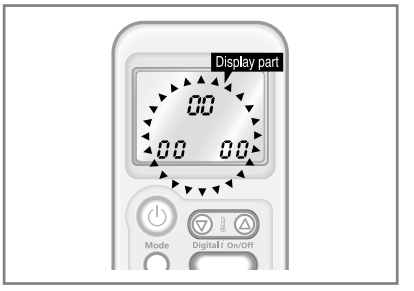
ex) Option No. : 066064- 170373

Step 1 : **Enter the Option Setup mode.**

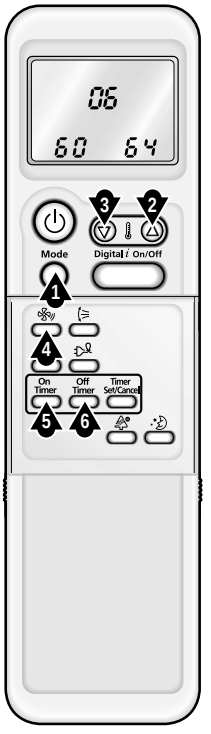
1st Take out the batteries of remote control.

2nd Press the temperature (▽ / △) button simultaneously and insert the battery again.

3rd Make sure the remocon display shown as 00 00 00.



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



✻ Setting is not required if you must 0 a value which has a 0 default.

1

The default value is 00 00 00.
Otherwise, push the Mode button to 0.
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2

Push the (△) button to set the display panel to 6.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3

Push the (▽) button to set the display panel to 6.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4

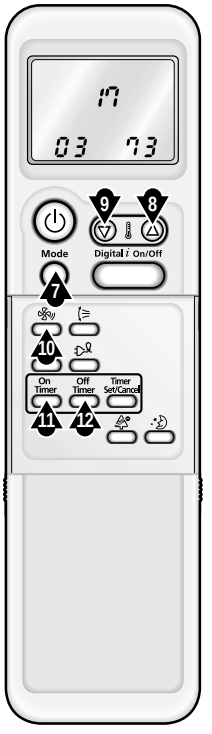
Push the button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5

Push the On Timer button to set the display panel to 6.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6

Push the Off Timer button to set the display panel to 4.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



✳ Setting is not required if you must 0 a value which has a 0 default.

7 Press Mode button, then the default value is 00 00.

8 Push the ▲ button to set the display panel to 1.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9 Push the ▼ button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10 Push the button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11 Push the On Timer button to set the display panel to 1.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12 Push the Off Timer button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows 60 06 64.

Press the Mode Selection key, Mode to set the display part to 1 and check the display part.

➡ The display part shows 03 11 13.

Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote controller for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote controller.

Second, Re-insert the battery into the remote controller.

Third, Press ON/OFF key with the direction of remote controller for set.

• Error Mode

1st If all lamps of indoor unit are flickering, plug out, plug in battery again and press the ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

■ OPTION ITEMS

REMOCON / MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
SH07APG	0	2	6	0	6	4	1	7	0	2	2	E
SH07APGA	0	2	6	0	6	5	1	7	0	2	2	E
SH09APG	0	2	6	5	6	5	1	7	0	3	5	1
SH12APG	0	6	7	0	6	4	1	7	0	3	6	2

6. Troubleshooting

6-1 Items to be checked first

1. The input voltage should be rating voltage ±10% range.
   The airconditioner may not operate properly if the voltage is out of this range.

2. Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 5 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the airconditioner may not operate properly.

3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the airconditioner.

No	Operation of air conditioner	Explanation
1	The OPERATION indication LED(GREEN) blinks when a power plug of the indoor unit is plugged in for the first time.	It indicates power is on. The LED stops blinking if the operation ON/OFF button on the remote control unit is pushed.
2	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. **[In case of heat pump model]** In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.
3	Fan speed setting is not allowed in DRY( ) mode.	The speed of the indoor fan is set to LL in DRY mode. Fan speed is selected automatically in AUTO mode.
4	Compressor stops operation intermittently in DRY( ) mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
5	Timer LED(GREEN) of the indoor unit lights up and the air conditioner does not operate.	Timer is being activated and the unit is in ready mode. The unit operates normally if the timer operation is cancelled.
6	The compressor stops intermittently in a COOL mode or DRY mode, and fan speed of the indoor unit decreases.	The compressor stops intermittently or the fan speed of the indoor unit decreases to prevent inside/outside air frozen depending on the inside/outside air temperature.
7	**[In case of heat pump model]** Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 9 minutes (maximum) until the deice is completed.
8	**[In case of heat pump model]** The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
9	**[In case of heat pump model]** Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation

4. Indoor unit observes operation condition of the air conditioner, and displays self diagnosis details on the display panel.

Error Mode	LAMP			7-segment Display
	OPERATION	TIMER	TURBO	
	≋	⏱	TURBO	
Indoor unit room temperature sensor error (open or short)	○	◑	○	E1
Indoor unit heat exchanger temperature sensor error (open or short)	◑	◑	○	E2
Indoor fan motor malfunction	◑	○	◑	E3
EEPROM error	○	◑	◑	E6
Option error (option wasn't set up or option data error)	◑	◑	◑	Display Flickering

○ : Lamp off ◑ : Lamp flickering

5. Operation with abnormal motion

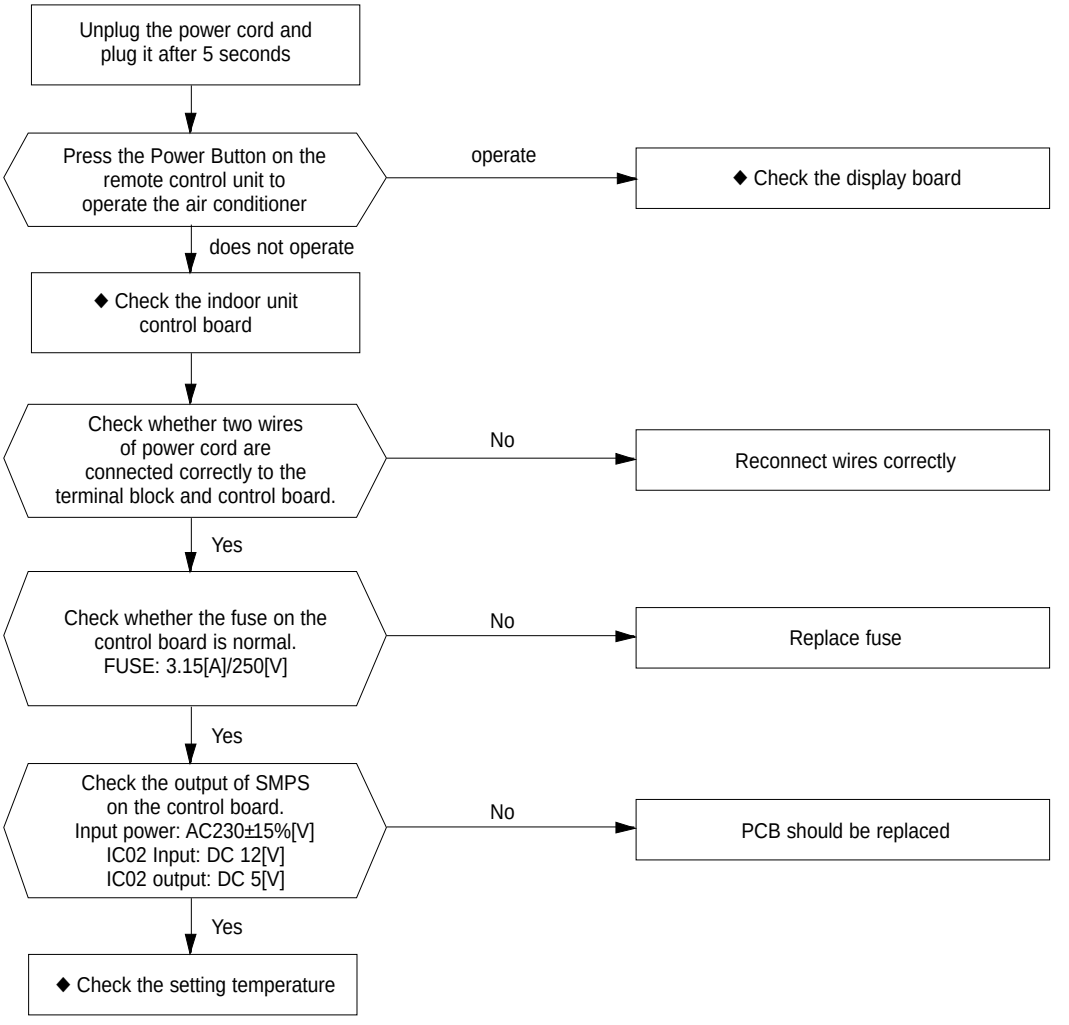
No	Abnormal condition	Inspection		Initial Diagnosis
1	No response from the remote control operation signal.	• Plug out and plug in 5 seconds later.	Able to operate the remote control.	OK
			Unable to operate the remote control.	Press the ⏻ (ON/OFF) button in the indoor unit. • If it operates, the remote control and indoor unit receiver are in trouble. • If not, the indoor unit is in trouble.
2	Unable to operate the outdoor unit	• Press the TURBO button with the remote control. • In 3 minutes, check the voltage between the indoor unit terminal block N(1) and 1.	AC198V ~ AC242V	Problem with the outdoor unit or PCB
			No power source displayed.	Problem with the relay (RY71) or PCB

6-2 Fault Diagnosis by Symptom

6-2-1 No Power (completely dead)-Initial diagnosis

1. Checklist :
   1) Is input voltage normal?
   2) Is AC power linked correctly?
   3) Is input voltage of DC regulator IC KA7805 (IC02) normal? (11VDC-12.5VDC)
   4) Is output voltage of DC regulator IC KA7805 (IC02) normal? (4.5VDC-5.5VDC)

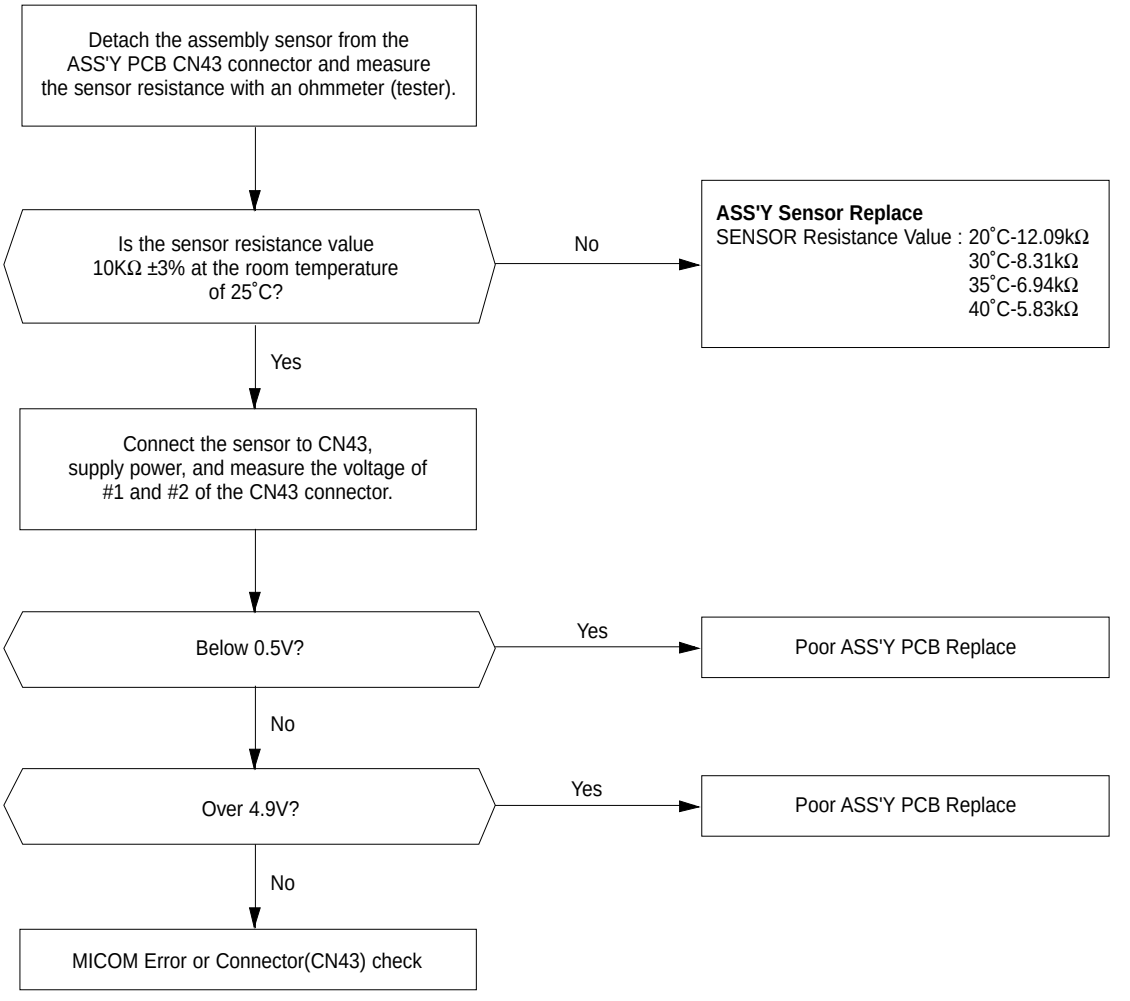
2. Troubleshooting procedure



6-2-2 Room temperature sensor failure

Description	LAMP			7-segment Display
	OPERATION	TIMER	TURBO	
	≋	⏱	TURBO	
Indoor unit room temperature sensor error(open or short)	○	◑	○	E 1

○ : Lamp off ◑ : Lamp flickering



6-2-3 Room Pipe sensor failure

Description	LAMP			7-segment Display
	OPERATION	TIMER	TURBO	
Indoor unit heat exchanger temperature sensor error (open or short)	◑	◑	○	E2

○ : Lamp off ◑ : Lamp flickering

1. Check the assembly condition of the sensor connector(CN43) on the indoor unit Main PCB and if not assembled, reassemble the connector accurately.

2. Detach the room pipe sensor connector(CN43) and check the resistance between connector 3 and 4.

Temperature(˚C)	Resistance Value(Kohm)	Temperature(˚C)	Resistance Value(Kohm)	Others
15	14.68	30	8.31	The data tolerance is ±3%.
20	12.09	35	6.94	
25	10	40	5.83	

   If the above data is not met, replace the room pipe sensor.

3. Assemble the room pipe sensor to PCB, plug in, and check the voltage of connector 3 and 4. If the resistance is below 0.5V or over 4.9V, replace the indoor Main PCB. (short or disconnected in the PCB board)

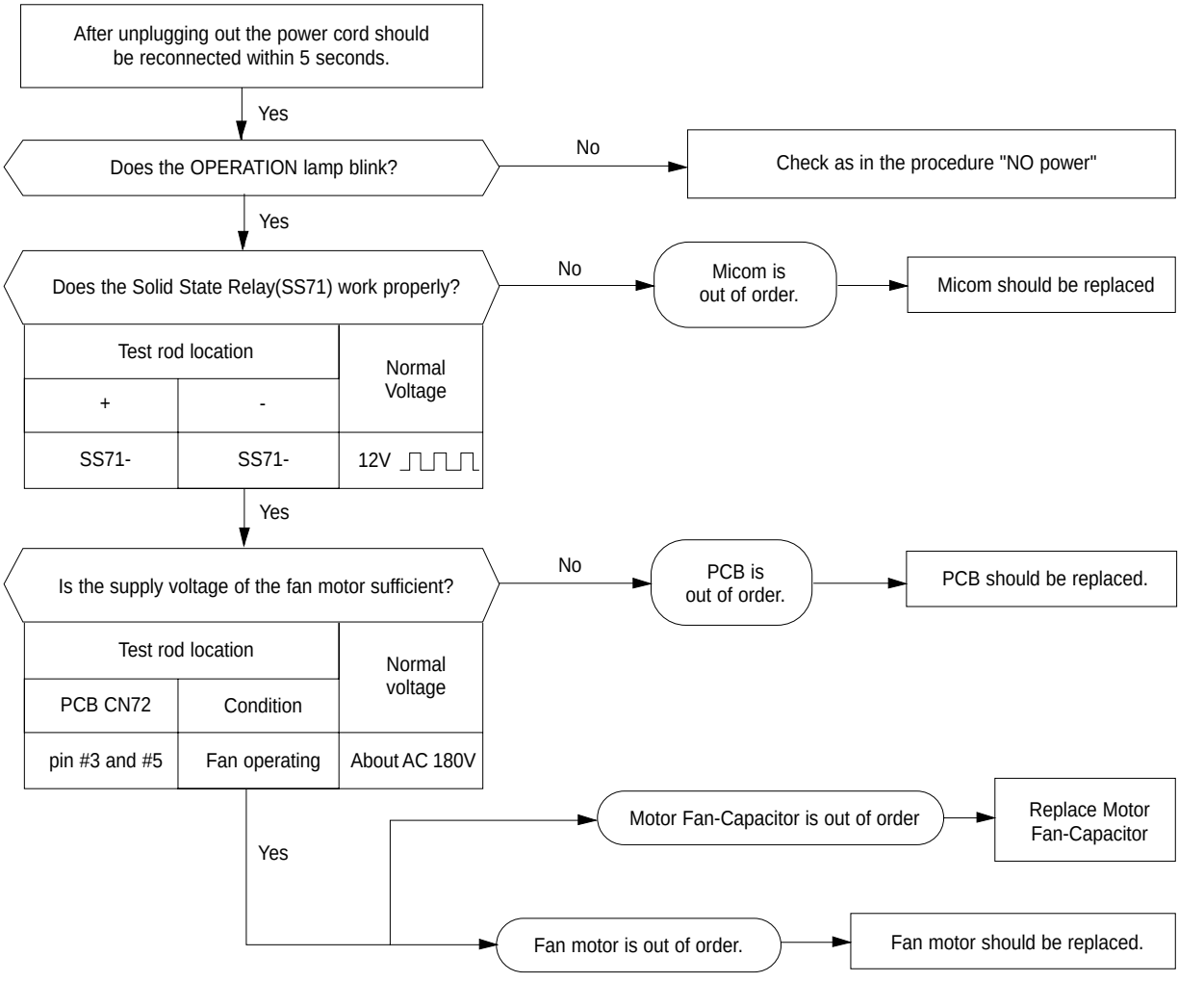
6-2-4 When the Indoor Unit Fan Does Not Operate. (Initial Diagnosis)

Description	LAMP			7-segment Display
	OPERATION	TIMER	TURBO	
Indoor fan motor malfunction	◑	○	◑	E3

○ : Lamp off ◑ : Lamp flickering

1. Checklist :
   1) Is the indoor unit fan motor properly connected with the connector (CN72)?
   2) Is the AC voltage correct?
   3) Is HALL IC in indoor fan motor properly connected with the connector (CN44)?
   4) Is the running capacitor (CR71) properly connected with PCB board?

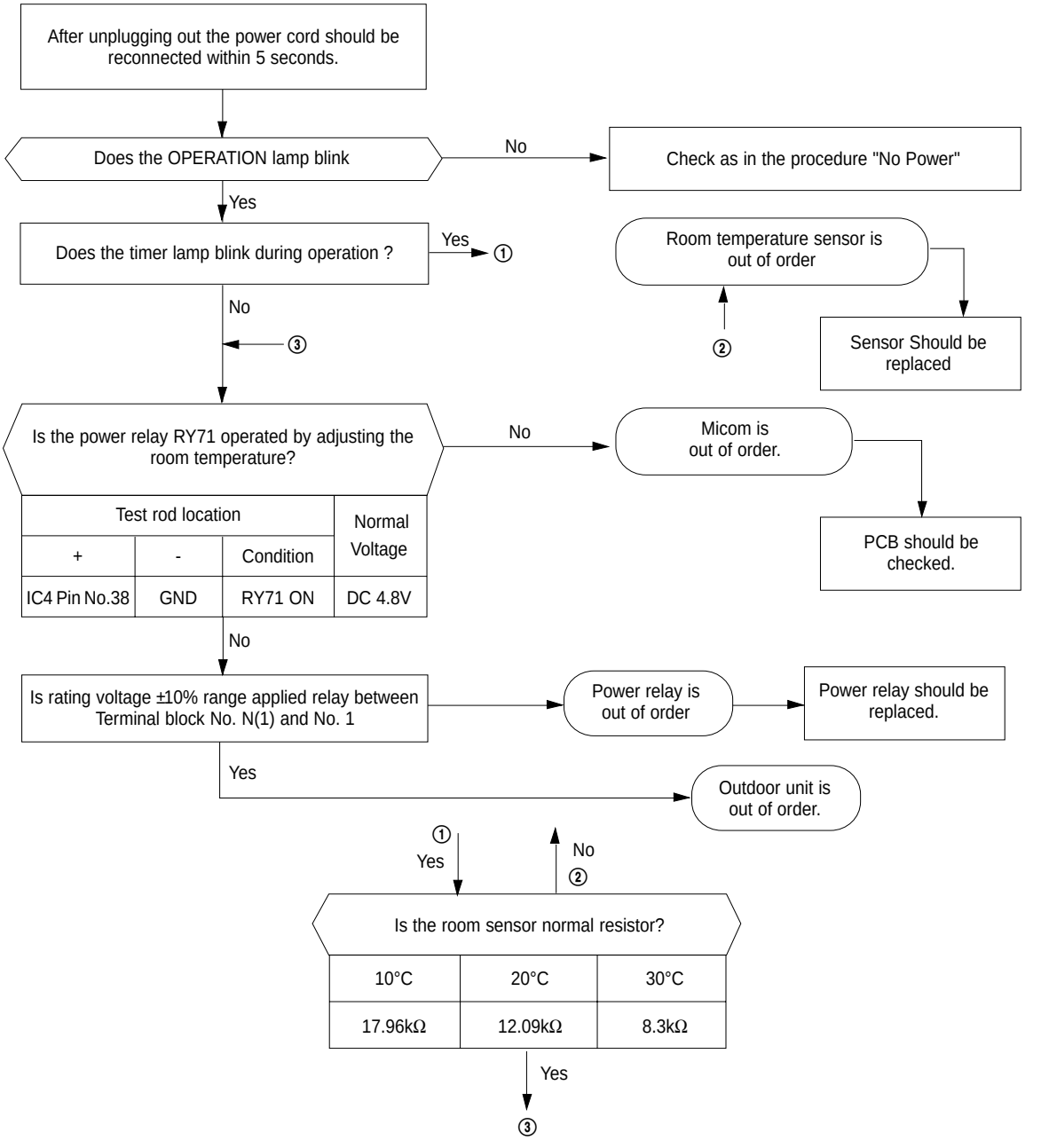
2. Troubleshooting procedure



6-2-5 When the Outdoor Unit Does Not Operate. (Initial Diagnosis)

1. Checklist :
   1) Is input voltage normal?
   2) Is the set temperature of the remote control higher than room temperature in COOL mode?
   3) Is the set temperature of the remote control lower than room temperature in HEAT mode?
   4) Is the POWER IN connector (CN71) linked correctly?
   5) Is the outdoor unit properly connected with the TERMINAL BLOCK connector(N(1), 1, 2, 3)?

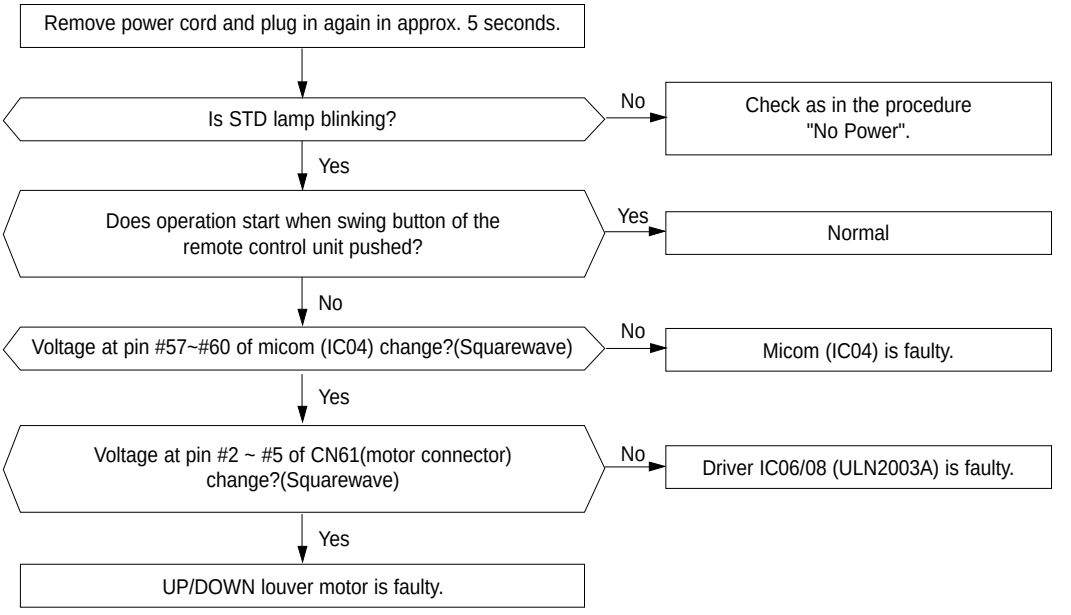
2. Troubleshooting procedure



6-2-6 When the UP/DOWN Louver Motor Does Not Operate. (Initial Diagnosis)

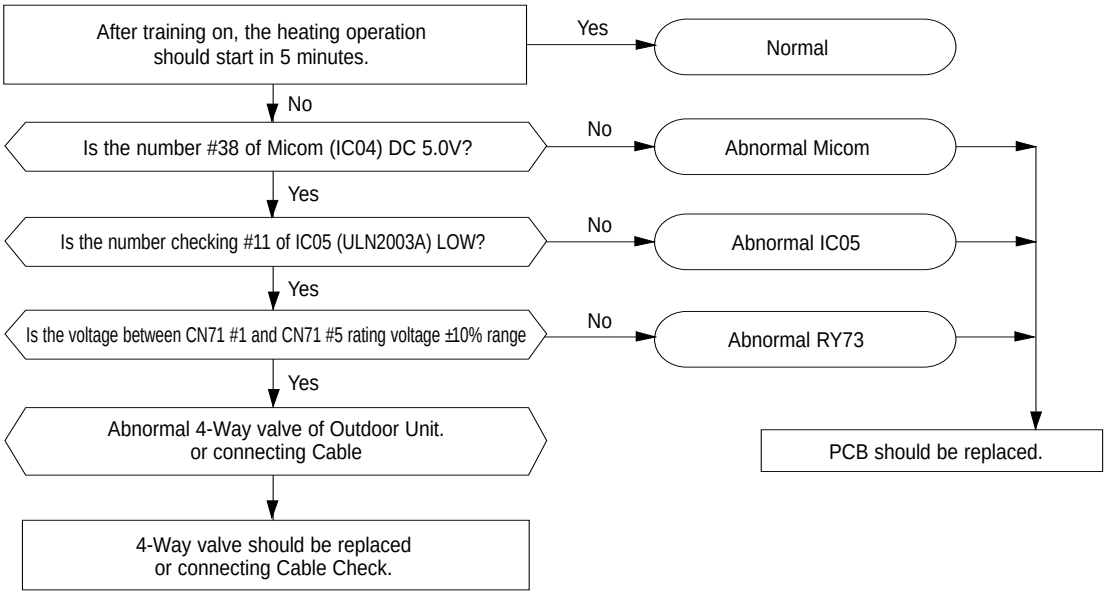
1. Checklist :
   1) Is input voltage normal?
   2) Is the UP/DOWN louver motor properly connected with the connector (CN61)?

2. Troubleshooting procedure



6-2-7 In the HEAT mode, When there is no warm air current. Check this fist;

1. Is the set temperature of Remote Control lower than room temperature in Heat mode?
2. Is the Indoor PCB properly connected with the CN71 connector?



6-2-8 When the remote control is not receiving

1. Check if the connector was normally assembled.

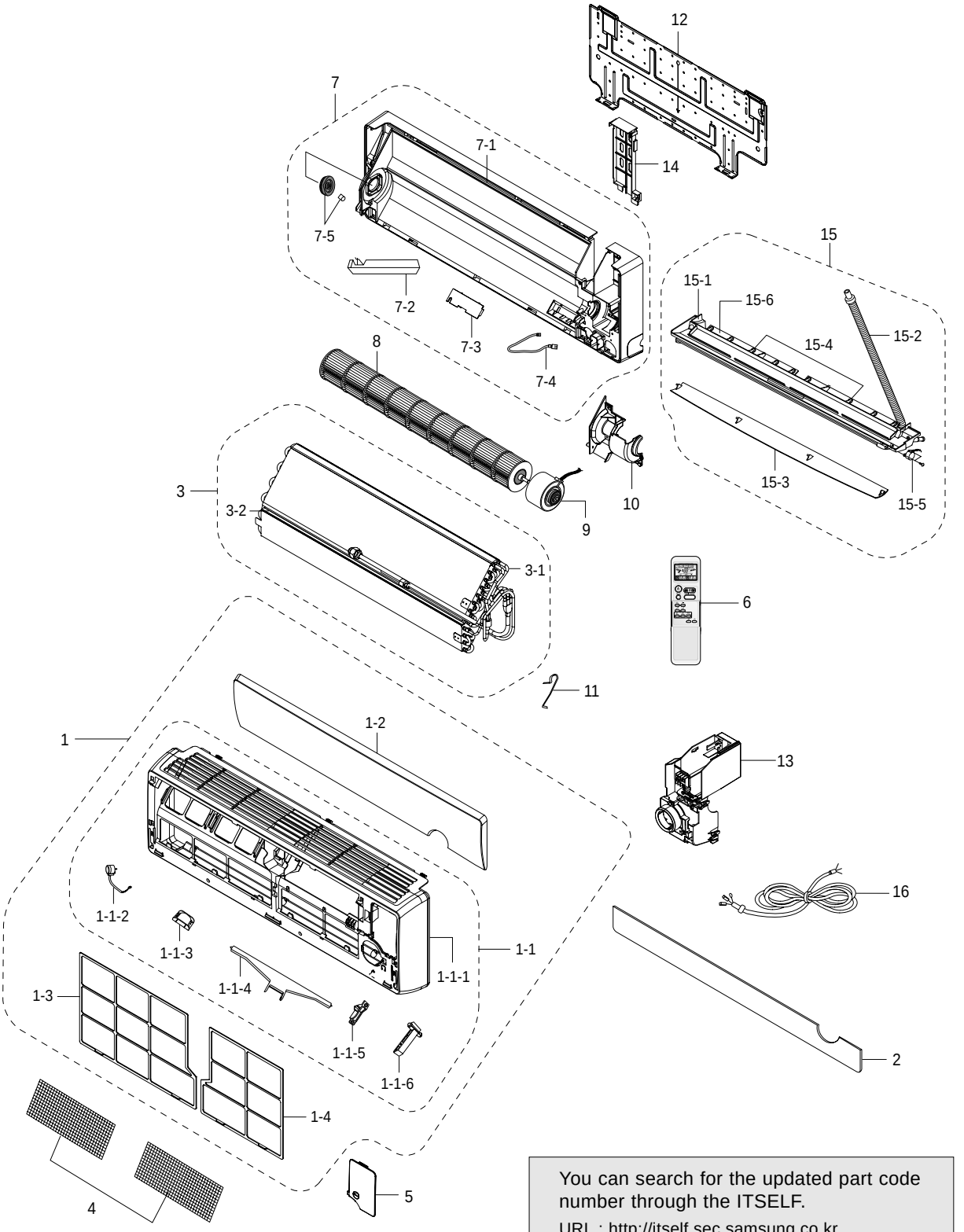
2. Put the set in operation and check the voltage of No. 3(+) and No. 2(-) of the main PCB CN91 while operating the remote control. When the voltage descends below 3V, the assembly module PCB is normal and the main PCB is poor. Then replace the main PCB.

3. Replace the assembly display PCB because the module PCB is poor if the voltage between No. 2~3 of CN91 maintains 5V after the remote control starts operation.

MEMO

7. Exploded Views and Parts List

7-1 Indoor Unit



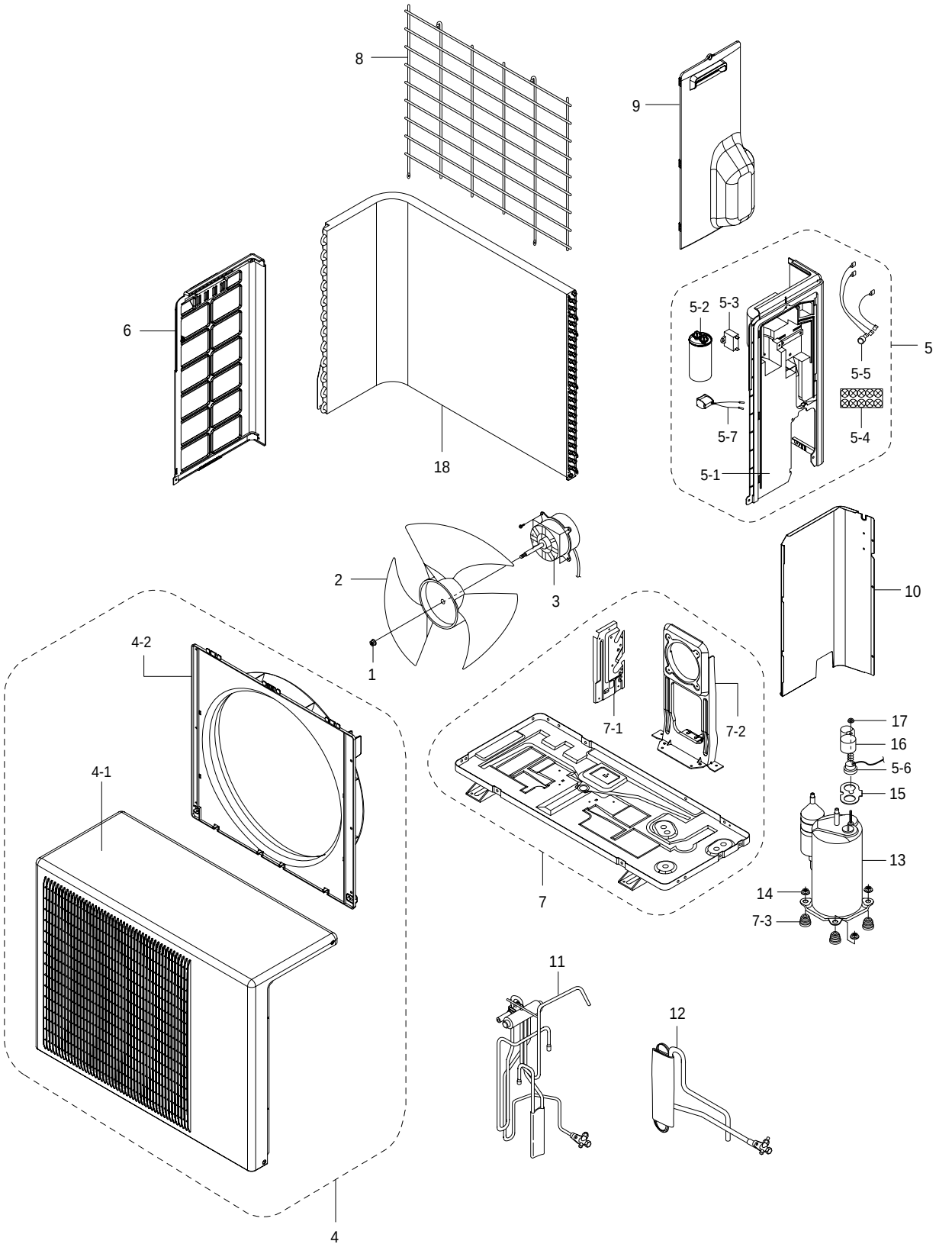
You can search for the updated part code number through the ITSELF.

URL : http://itself.sec.samsung.co.kr

■ Parts List

No.	Code No.	Description	Specification	Q'TY			Remark
				SH07APG SH07APGA	SH09APG	SH12APG	
1	DB92-00561A	ASS'Y PANEL FRONT TOTAL	ASS'Y	-	-	1	
	DB92-00558A	ASS'Y PANEL FRONT TOTAL	ASS'Y	1	1	-	
1-1	DB92-00560A	ASS'Y PANEL FRONT SUB-P	ASS'Y	-	-	1	
	DB92-00557A	ASS'Y PANEL FRONT SUB-P	ASS'Y	1	1	-	
1-1-1	DB92-00559A	ASS'Y PANEL FRONT SUB	ASS'Y	-	-	1	
	DB92-00556A	ASS'Y PANEL FRONT SUB	ASS'Y	1	1	-	
1-1-2	DB31-00166B	MOTOR STEPPING	-	1	1	1	
1-1-3	DB61-01114A	HOLDER MOTOR DC	HIPS	-	-	1	
	DB61-01123A	HOLDER MOTOR DC	HIPS	1	1	-	
1-1-4	DB61-01115A	HINGE GRILLE	HIPS	-	-	1	
	DB61-01132A	HINGE GRILLE	HIPS	1	1	-	
1-1-5	DB61-01116A	GUIDE LINK	HIPS	-	-	1	
	DB61-01133A	GUIDE LINK	HIPS	1	1	-	
1-1-6	DB66-00364A	LINK MOTOR	ABS	-	-	1	
	DB66-00365A	LINK MOTOR	ABS	1	1	-	
1-2	DB64-00640A	GRILLE UP	ABS	-	-	1	
	DB64-00655A	GRILLE UP	ABS	1	1	-	
1-3	DB63-00585B	FILTER-AIR LF	PP	-	-	1	
	DB63-00590B	FILTER-AIR LF	PP	1	1	-	
1-4	DB63-00586B	FILTER-AIR RH	PP	-	-	1	
	DB63-00591B	FILTER-AIR RH	PP	1	1	-	
2	DB92-00540A	ASS'Y GRILLE LOW	ASS'Y	-	-	1	
	DB92-00538A	ASS'Y GRILLE LOW	ASS'Y	1	1	-	
3	DB96-02092J	ASS'Y EVAPORATOR TOTAL	ASS'Y	-	-	1	
	DB96-02145G	ASS'Y EVAPORATOR TOTAL	ASS'Y	1	1	-	
3-1	DB96-03123A	ASS'Y EVAPORATOR	ASS'Y	-	-	1	
	DB96-03101A	ASS'Y EVAPORATOR	ASS'Y	1	1	-	
3-2	DB67-00051A	SPACE-EVAP	PVC	1	1	-	
4	DB95-00367E	ASS'Y FILTER BIO	ASS'Y	1	1	1	
5	DB63-00581A	COVER TERMINAL	HIPS	-	-	1	
	DB63-00588A	COVER TERMINAL	HIPS	1	1	-	
6	DB93-02530G	ASS'Y REMOCON	ASS'Y	1	1	1	
7	DB94-00488C	ASS'Y BACK BODY	ASS'Y	-	-	1	
	DB94-00486C	ASS'Y BACK BODY	ASS'Y	1	1	-	
7-1	DB61-01098A	BACK BODY	HIPS	-	-	1	
	DB61-01119A	BACK BODY	HIPS	1	1	-	
7-2	DB91-00248A	ASS'Y ELECTRIC-IONS	ASS'Y	1	1	1	
7-3	DB63-00580A	COVER-IONIZER	HIPS	1	1	1	
7-4	DB93-01383D	ASS'Y CONNECTOR WIRE-IONIZER	ASS'Y	-	-	1	
	DB93-01451B	ASS'Y CONNECTOR WIRE-IONIZER	ASS'Y	1	1	-	
7-5	DB94-00258A	ASS'Y BEARING	ASS'Y	1	1	1	
8	DB94-00040R	ASS'Y CROSS FAN	ASS'Y	-	-	1	
	DB94-00040F	ASS'Y CROSS FAN	ASS'Y	1	1	-	
9	DB31-00152B	MOTOR-FAN IN	-	-	-	1	
	DB31-00152A	MOTOR-FAN IN	-	1	1	-	
10	DB61-01099A	HOLDER-MOTOR	PP	-	-	1	
	DB61-01120A	HOLDER-MOTOR	PP	1	1	-	
11	DB67-60030A	SPRING-SENSOR	STS301	1	1	1	
12	DB70-00276A	PLATE-HANGER	SGCC-M	-	-	1	
	DB70-00288A	PLATE-HANGER	SGCC-M	1	1	-	
13	DB93-24541A	ASS'Y CONTROL IN	ASS'Y	-	-	1	
	DB93-02542A	ASS'Y CONTROL IN	ASS'Y	1	1	-	
14	DB90-00992A	HOLDER-PIPE	HIPS	-	-	1	
	DB61-01121A	HOLDER-PIPE	HIPS	1	1	-	
15	DB94-00468A	ASS'Y TRAY DRAIN	ASS'Y	-	-	1	
	DB94-00465A	ASS'Y TRAY DRAIN	ASS'Y	1	1	-	
15-1	DB63-00587A	TRAY DRAIN	HIPS	-	-	1	
	DB63-00592A	TRAY DRAIN	HIPS	1	1	-	
15-2	DB94-00062E	ASS'Y HOSE DRAIN	ASS'Y	1	1	1	
15-3	DB61-01103A	BLADE-H	HIPS	-	-	1	
	DB61-01125A	BLADE-H	HIPS	1	1	-	
15-4	DB61-01104A	BLADE-V	PP	-	-	3	
	DB61-01126A	BLADE-V	PP	3	3	-	
15-5	DB95-20138A	ASS'Y STEPPING MOTOR	ASS'Y	1	1	1	
15-6	DB63-00634A	GUARD-SAFETY WIRE	STS27	-	-	1	OPTION
	DB63-00635A	GUARD-SAFETY WIRE	STS27	1	1	-	
16	DB93-01549B	ASS'Y CONNECTOR POWER	ASS'Y	1	1	1	

7-2 Outdoor Unit

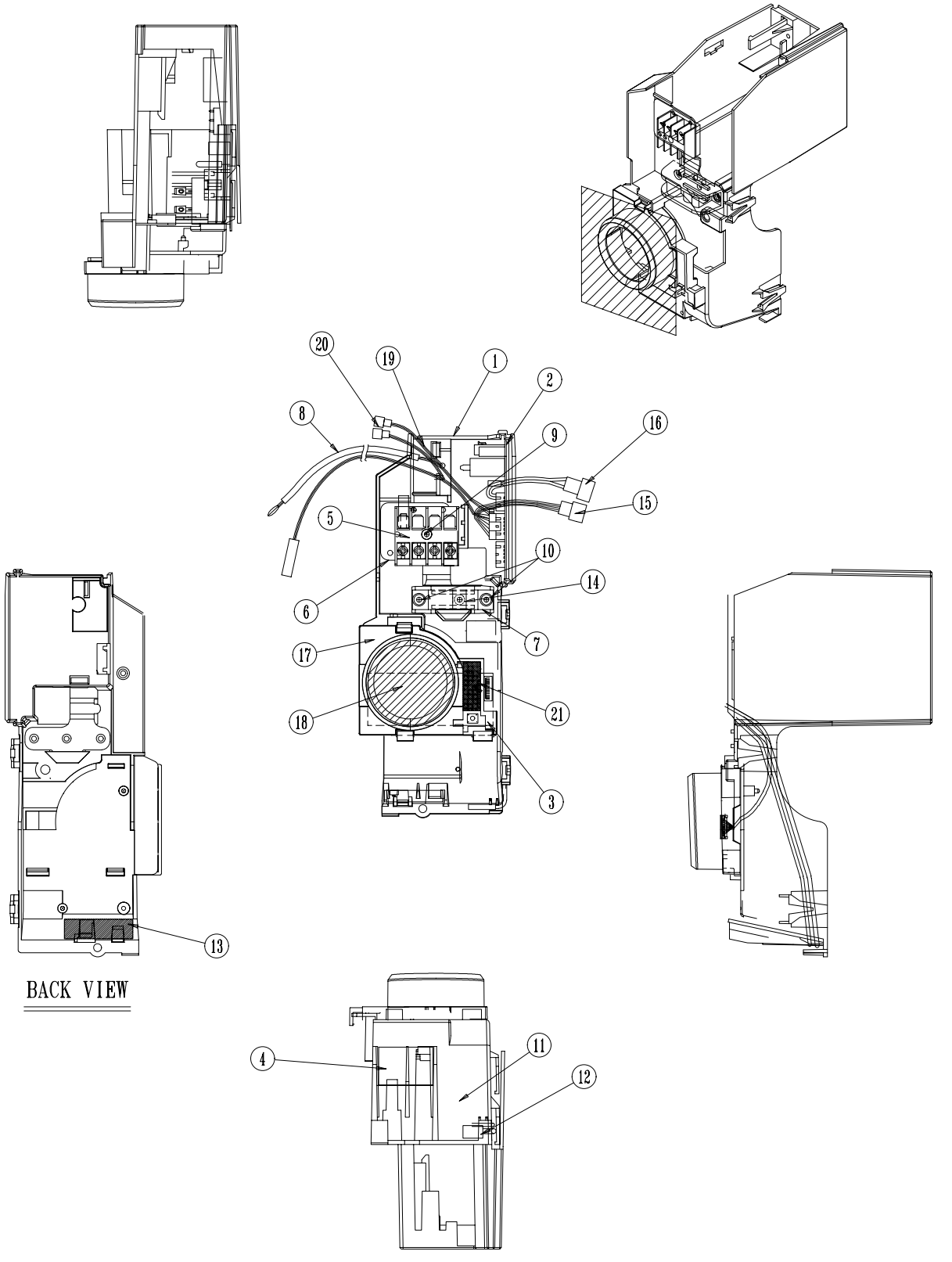


■ Parts List

No.	Code No.	Description	Specification	Q'TY			
				SH07APGX	SH07APGAX	SH09APGX	SH12APGX
1	DB60-30020A	NUT FLANGE	2C,M6,SM20C,NTR	1	1	1	1
2	DB67-50063A	FAN PROPELLER	AS+G/F 20%, ø405	1	1	1	1
3	DB31-10058C	MOTOR FAN OUT	220/240V,50/60Hz	1	1	1	1
4	DB90-01338B	ASS'Y CABINET FRONT	ASS'Y	-	-	-	1
	DB90-01338A	ASS'Y CABINET FRONT	ASS'Y	1	1	1	-
4-1	DB64-00648A	CABINET FRONT	PP	1	1	1	1
4-2	DB61-01113A	BELL MOUTH	PP	1	1	1	1
5	DB90-00133C	ASS'Y CABINET SIDE RH	ASS'Y	-	-	-	1
	DB90-01333B	ASS'Y CABINET SIDE RH	ASS'Y	-	-	1	-
	DB90-01333A	ASS'Y CABINET SIDE RH	ASS'Y	1	-	-	-
	DB90-01333G	ASS'Y CABINET SIDE RH	ASS'Y	-	1	-	-
5-1	DB64-00650A	CABINET SIDE RH	PP	1	1	1	1
5-2	2501-001237	CAPACITOR-COMP	35uF/450VAC	-	-	-	1
	2501-001238	CAPACITOR-COMP	40uF/450VAC	-	-	1	-
	2501-001236	CAPACITOR-COMP	30uF/450VAC	1	1	-	-
5-3	2301-001375	CAPACITOR-MOTOR	1.5uF/450VAC	1	1	1	1
5-4	DB65-40049E	TERMINAL BLOCK	4P	1	1	1	1
5-5	DB93-01547D	ASS'Y LEAD WIRE	Samsung COMPor	-	1	1	1
	DB93-01547C	ASS'Y LEAD WIRE	Matsushita COMPor	1	-	-	-
5-6	DB35-00028B	OLP	RBC 12128-12500	-	-	-	1
	DB35-00028A	OLP	RBC 12054-12500	-	-	1	-
	DB35-00026A	OLP	MRA99901-9201	1	-	-	-
	DB35-00015T	OLP	RAC12126-9622	-	1	-	-
5-7	DB33-00049A	ASS'Y SOLENOID COIL	ASS'Y	1	1	1	1
6	DB64-00649A	CABINET SIDE LF	PP	1	1	1	1
7	DB90-01056E	ASS'Y BASE OUTDOOR	ASS'Y	-	-	-	1
	DB90-01056F	ASS'Y BASE OUTDOOR	ASS'Y	-	1	1	-
	DB90-01056G	ASS'Y BASE OUTDOOR	ASS'Y	1	-	-	-
7-1	DB61-01322A	BRACKET VALVE	GALVA	1	1	1	1
7-2	DB61-00802A	BRACKET MOTOR	SGCC-M	1	1	1	1
7-3	DB73-00067A	GROMMET-ISOLATOR	NR	-	-	-	3
	DB73-00070A	GROMMET-ISOLATOR	NR	-	3	3	-
	DB63-00930A	GROMMET-ISOLATOR	NR	3	-	-	-
8	DB71-00085B	BAR STEEL	HSWR	-	-	-	1
	DB71-00085A	BAR STEEL	HSWR	1	1	1	-
9	DB90-00947A	ASS'Y COVER VALVE	ASS'Y	1	1	1	1
10	DB94-00303B	ASS'Y PARTITION	ASS'Y	-	-	-	1
	DB94-00500A	ASS'Y PARTITION	ASS'Y	1	1	1	-
11	DB96-03010A	ASS'Y TUBE 4WAY VALVE	ASS'Y	-	-	-	1
	DB96-03011A	ASS'Y TUBE 4WAY VALVE	ASS'Y	-	-	1	-
	DB96-03099A	ASS'Y TUBE 4WAY VALVE	ASS'Y	1	-	-	-
	DB96-03531A	ASS'Y TUBE 4WAY VALVE	ASS'Y	-	1	-	-
12	DB96-02413G	ASS'Y TUBE CAPILLARY	ASS'Y	-	-	-	1
	DB96-03094A	ASS'Y TUBE CAPILLARY	ASS'Y	-	-	1	-
	DB96-03100A	ASS'Y TUBE CAPILLARY	ASS'Y	1	-	-	-
	DB96-03277C	ASS'Y TUBE CAPILLARY	ASS'Y	-	1	-	-
13	G8C124JU1EL	COMPRESSOR	G8C124	-	-	-	1
	G4A091JU1EP	COMPRESSOR	G4A091	-	-	1	-
	DB95-00477A	COMPRESSOR	5PS102	1	-	-	-
	G4A080JU1EP	COMPRESSOR	G4080	-	1	-	-
14	DB60-30028A	NUT WASHER	HEX2CM8ZPC	3	3	3	3
15	DB63-20002A	GASKET	EPDM	-	1	1	1
	DB63-00929A	GASKET	EPT	1	-	-	-
16	DB63-10165D	COVER TERMINAL	POM	-	1	1	1
	DB63-00927A	COVER TERMINAL	PET	1	-	-	-
17	DB60-30018A	NUT FLANGE	M5,SM20C	-	1	1	1
	DB60-30020A	NUT FLANGE	M6	1	-	-	-
18	DB96-02236A	ASS'Y CONDENSER	ASS'Y	-	-	-	1
	DB96-03110A	ASS'Y CONDENSER	ASS'Y	-	-	1	-
	DB96-03111A	ASS'Y CONDENSER	ASS'Y	1	1	-	-

7-3 Ass'y Control In (Indoor Unit)

■ **SH07APG / SH07APGA / SH09APG : DB93-02542A**
SH12APG : DB93-02541A

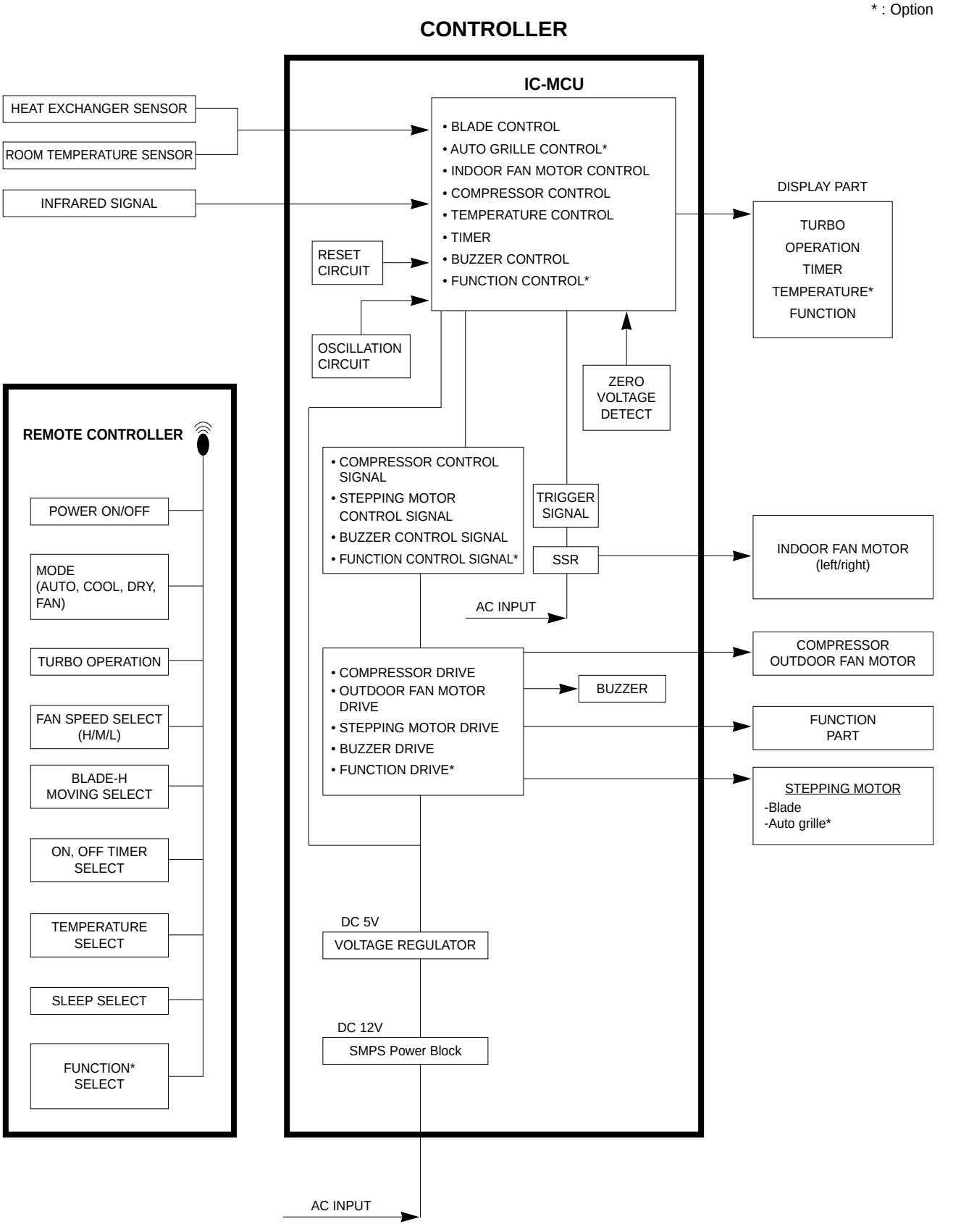


■ **Parts List**

No.	Code No.	Description	Specification	Q'TY		Remark
				SH07APG SH07APGA SH09APG	SH12APG	
1	DB61-01631A	CASE-CONTROL AC	ABS	-	1	
	DB61-01127A	CASE-CONTROL AC	ABS	1	-	
2	DB93-02572A	ASS'Y MAIN PCB	ASS'Y	1	1	
3	DB93-01368G	ASS'Y S/W & DISPLAY PCB	ASS'Y	1	1	
4	DB93-01369A	ASS'Y-MODULE PCB	ASS'Y	1	1	
5	DB93-02508A	ASS'Y TERMINAL BLOCK	ASS'Y	-	1	
	DB65-00103B	ASS'Y TERMINAL BLOCK	ASS'Y	1	-	
6	DB70-00289A	PLATE TERMINAL LOW	SGCC-M,T1.2	1	1	
7	DB61-00171A	HOLDER WIRE CLAMP	HIPS	1	1	
8	DB32-00020A	ASS'Y THERMISTOR	ASS'Y	1	1	
9	6001-000929	SCREW-MACHINE	PH M3xL22	1	1	SNA
10	6001-000725	SCREW-MACHINE	TH M4xL16	2	2	SNA
11	DB93-01380A	C/W MODULE	ASS'Y	-	1	
	DB93-01380B	C/W MODULE	ASS'Y	1	-	
12	DB39-00643F	C/W STEP MOTOR UP/DOWN	ASS'Y	-	1	
	DB39-00643M	C/W STEP MOTOR UP/DOWN	ASS'Y	1	-	
13	DB62-01368X	SEAL	61x40x3,30FOAM-PE,GRAY	1	1	SNA
14	-	SCREW-MACHINE	PH M4x10	1	1	SNA
15	DB39-00780B	C/W STEPPING MOTOR	ASS'Y(AUTO GRILLE)	1	1	
16	DB39-00820A	C/W ION-PCB	ASS'Y	1	1	
17	DB61-01110A	HOLDER-DISPLAY	ABS	1	1	
18	DB64-00763A	HALF MIRROR	95,T1.5	1	1	
19	DB93-01387A	ASS'Y PCB HVPS	ASS'Y	-	-	
20	DB39-00866B	ASS'Y C/W HVPS(12V)	ASS'Y	-	-	
21	DB72-00126N	SEAL	30x10x3,30FOAM-PE,GRAY	1	1	SNA

8. Block Diagram

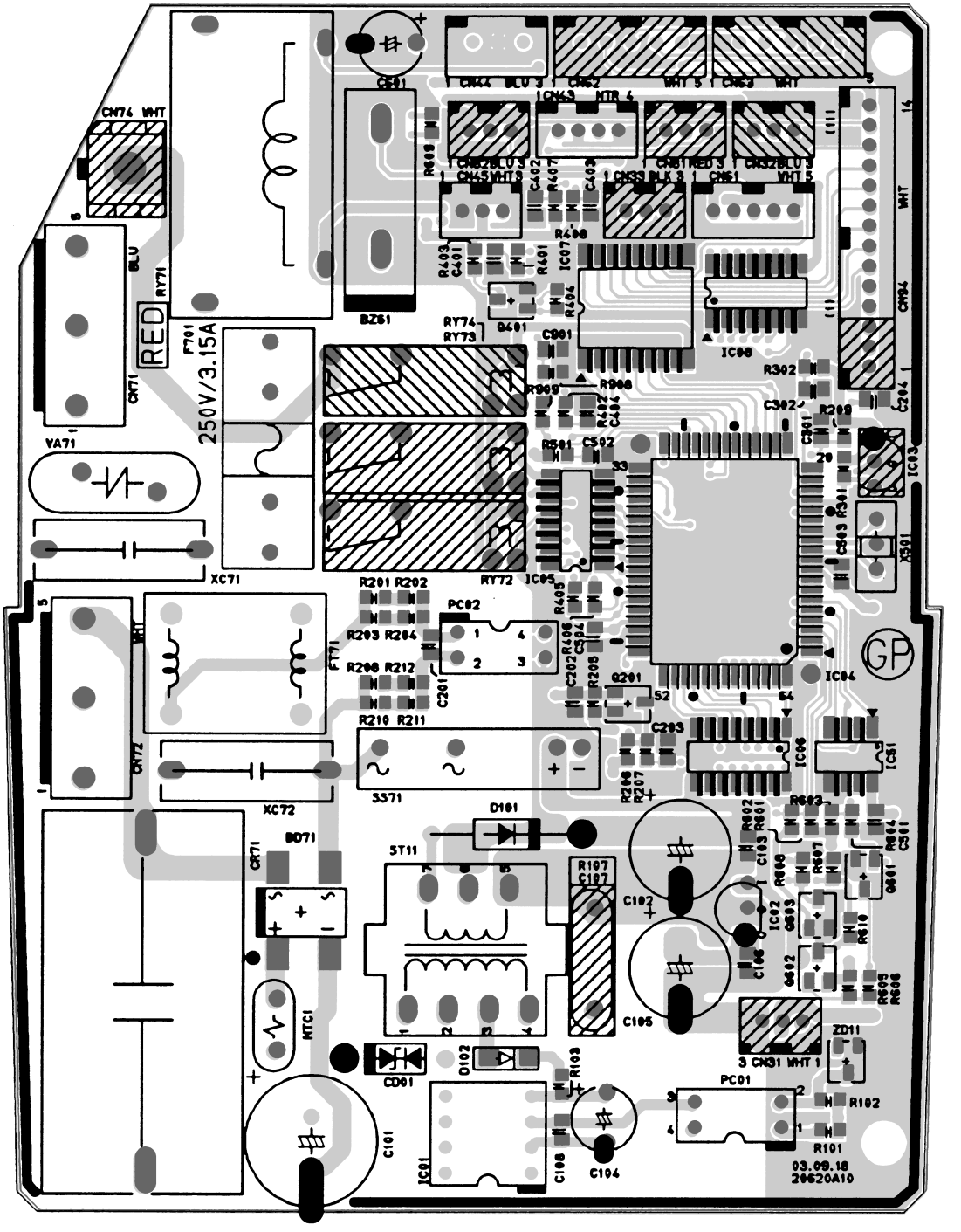
* : Option



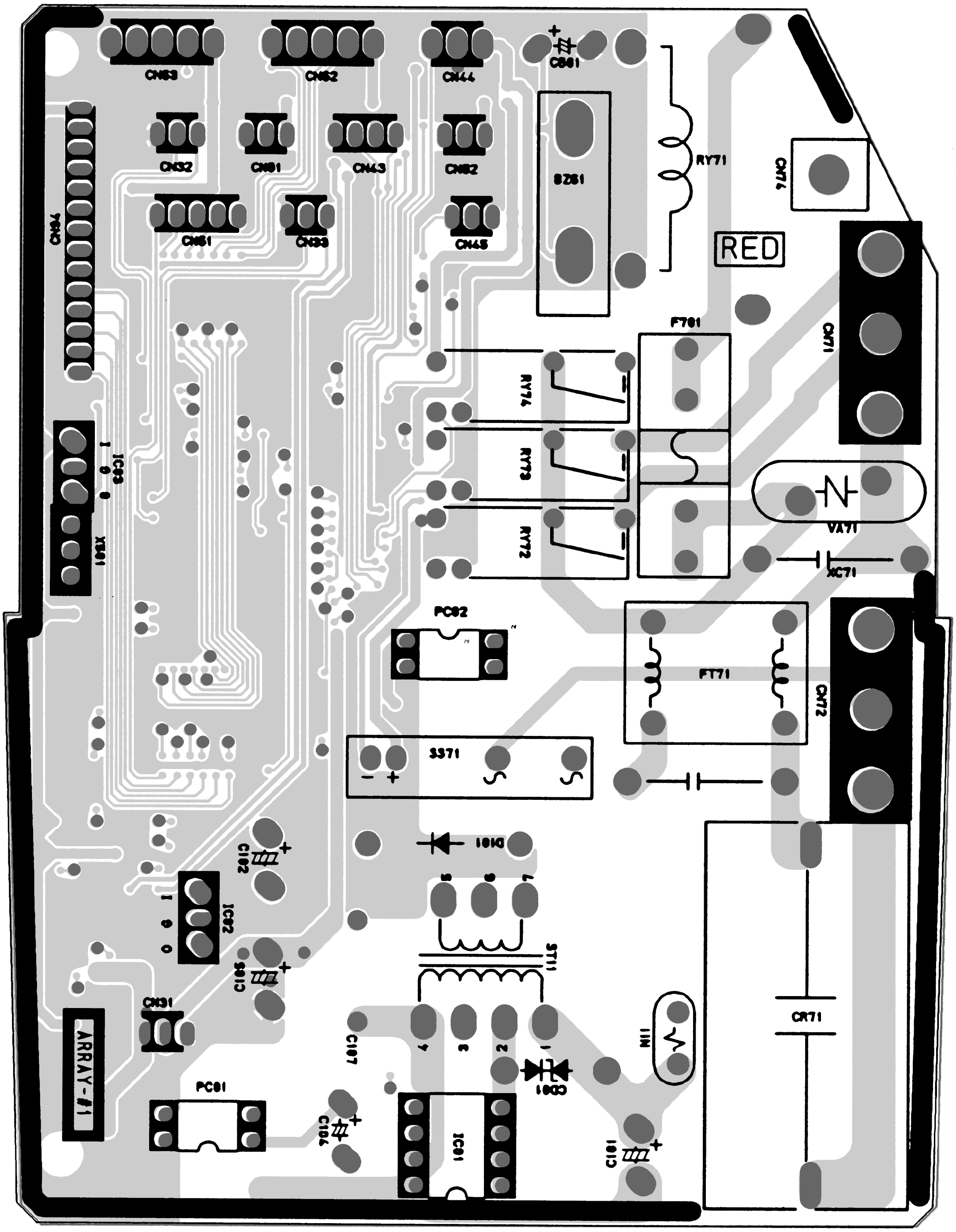
9. PCB Diagram

9-1 ASS'Y MAIN PCB(7K / 9K / 12K) : DB93-02572A

■ TOP



■ BOTTOM



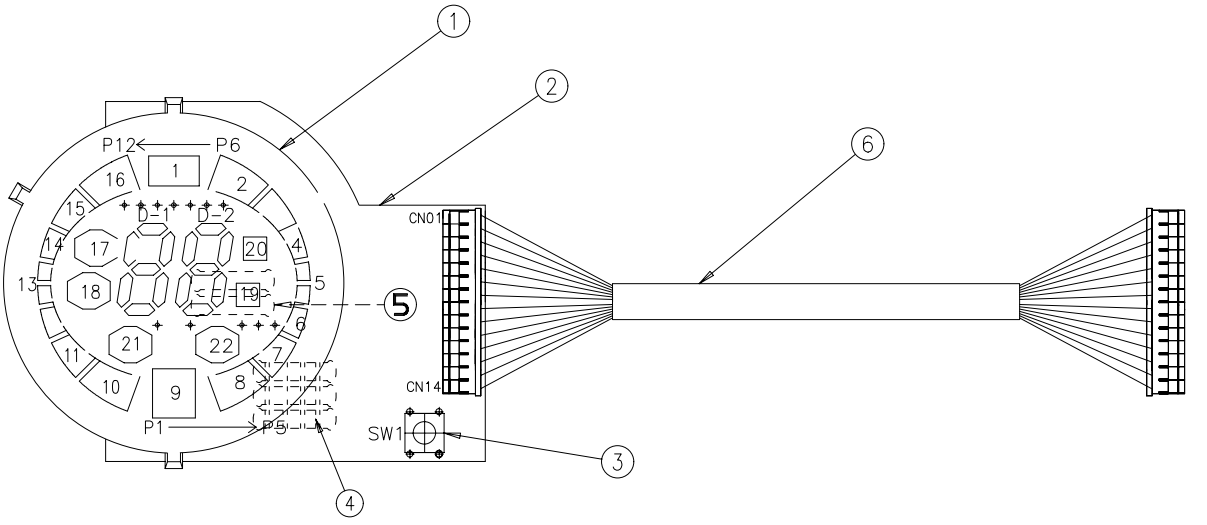
■ Parts List

Location No.	Description	Specification	Q'TY	Remark
BD71	DIODE-BRIDGE	DF06S,600V,1A,SMD-4,TP	1	SNA
BZ61	BUZZER	80DB,9V ,-,2.0KHz,-,26.5x22.0x7.0mm	1	SNA
C101	C-AL	10uF,20%,450V,GP,TP,13x20mm,5	1	SNA
C102	C-AL	470uF,20%,25V,GP,TP	1	SNA
C103,C106,C108,C201	C-CERAMIC,DISC	100nF,+80-20%,50V,Y5V,TP,2012	14	SNA
C204,C301C302,C402				
C403,C501,C502,C503				
C504,C901				
C104,C601	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	2	SNA
C105	C-AL	470uF,20%,16V,GP,TP	1	SNA
C107	C-CERAMIC,DISC	2.2nF,20%,400V,Y5U,TP,12.5x6,10	1	SNA
R107	R-CARBON	12MΩ-J,0.5W	1	SNA
C202,C203,C404	C-CERAMIC,DISC	10nF,+80-20%,50V,Y5V,TP,2012	3	SNA
C401	C-CERAMIC,DISC	1nF,10%,50V,X7R,TP,2012,-	1	SNA
CD01	DIODE-TVS	ST02D-200,185/200/215V,200W,DO-214	1	SNA
CN31,CN32,CN33	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN	3	SNA
CN43	CONNECTOR-HEADER	BOX,4P,1R,2mm,STRAIGHT,SN	1	SNA
CN44	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,STRAIGHT,SN	1	SNA
CN45	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN	1	SNA
CN61	CONNECTOR-HEADER	BOX,5P,1R,2mm,STRAIGHT,SN	1	SNA
CN62,CN63	CONNECTOR-HEADER	BOX,5P,1R,2.5mm,STRAIGHT,SN	2	SNA
CN71	CONNECTOR-HEADER	1WALL,3P/5P,1R,3.96mm,STRAIGHT,SN	1	SNA
CN72	CONNECTOR-HEADER	1WALL,3P/5P,1R,3.96mm,STRAIGHT	1	SNA
CN74	CONNECTOR-TERMINAL	PIN,MALE,#18-22,2.35mm	1	SNA
CN81	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN,RED	1	SNA
CN82	CONNECTOR-HEADER	BOX,3P,1R,2mm,STRAIGHT,SN,BLU	1	SNA
CN94	CONNECTOR-HEADER	BOX,11P,1R,2mm,STRAIGHT,SN	1	SNA
CN94	CONNECTOR-HEADER	BOX,14P,1R,2mm,STRAIGHT,SN	1	SNA
CR71	C-FILM,MPPF	1.2uF,10%,450Vac,BK,38x18x30,3	1	SNA
D101	DIODE-RECTIFIER	UG2D,200V,2A,DO-204AC,TP	1	SNA
D102	DIODE-SWITCHING	RSL4148,100V,200mA,DO-35,TP	1	SNA
F701	FUSE-CARTRIDGE	250V,3.15A,TIME-LAG,GLASS,5x20mm	1	SNA
F701	FUSE- CLIP	500V,-,100M	1	SNA
FT71	LS404190M	AS-S660,19mH,+50,-30%,-,300Mohm,2A,-,-,-	1	SNA
IC01	IC-PWM CONTROLLER	VIPER12ADIP,DIP,8P,300MIL,PLASTIC	1	SNA
IC02	IC-POSI ADJUST REG	78L05A,TO-92,3P,-,PLASTIC,4.6	1	SNA
IC03	IC-VOLTAGE	COMP,7533,TO-92,3P,-,SINGLE,-,-,PLASTIC	1	SNA
IC04	IC-MICOM	S3C8489XZZ-QTR5,-,64,+5V,10MHz,STM-0219-O	1	SNA
IC05,IC06,IC08	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	3	SNA
IC07	IC-SOURCE DRIVER	TD62783AFW,SOL,18P,-,8,-500mA,TP	1	SNA

■ **Parts List (cont.)**

Location No.	Description	Specification	Q'TY	Remark
IC51	IC-EEPROM	93LC56,128x16Bit,SOP,8P,150MIL,-,2.5V,-	1	SNA
NTC1	THERMISTOR-NTC	22ohm,1.4A,3100K,9.5mW/C,-,7.0,-	1	SNA
PC01	PHOTO-COUPLER	TR,130-260%,200mW,DIP-4,ST	1	SNA
PC02	PHOTO-COUPLER	TR,50-150%,200mW,DIP-4,ST	1	SNA
Q201,Q401,Q601,Q603	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	4	SNA
Q602	TR-SMALL SIGNAL	MMST2907A,PNP,200mW,SOT-23,TP,100-	1	SNA
R101	R-CHIP	100ohm,5%,1/8W,DA,TP,2012	1	SNA
R102	R-CHIP	2.2Kohm,5%,1/8W,DA,TP,2012	1	SNA
R103	R-CHIP	6.8ohm,5%,1/8W,DA,TP,2012	1	SNA
R201,R202,R203,R204	R-CHIP	100Kohm,5%,1/8W,DA,TP,3216	8	SNA
R208,R210,R211,R212				
R205,R501,R601,R603	R-CHIP	10Kohm,5%,1/8W,DA,TP,2012	6	SNA
R605,R908				
R206,R207,R209,R301	R-CHIP	1Kohm,5%,1/8W,DA,TP,2012	11	SNA
R302R401,R402,R404				
R602,R604,R610				
R403	R-CHIP	6.8Kohm,5%,1/8W,DA,TP,2012	1	SNA
R405,R406	R-CHIP	330ohm,5%,1/8W,DA,TP,2012	2	SNA
R407,R408	R-CHIP	6.8Kohm,1%,1/8W,DA,TP,2012	2	SNA
R606,R909	R-CHIP	4.7Kohm,5%,1/8W,DA,TP,2012	2	SNA
R607,R608	R-CHIP	470ohm,5%,1/8W,DA,TP,2012	2	SNA
R609	R-CHIP	560ohm,5%,1/8W,DA,TP,2012	1	SNA
RY71	RELAY-POWER	12VDC,0.9W,75mA,SPST,MAX 20msec,10mS	1	SNA
RY72,RY73	RELAY-POWER	DC12V,3A 250V AC,-,-,10mS,10mS	2	SNA
RY74	RELAY-POWER	DC12V,3A 250V AC,-,-,10mS,10mS	1	SNA
SS71	SSR	12Vdc,-,2A,1mS,1mS	1	SNA
ST11	TRANS SWITCHING-S	W TRANS;-,W-P/J,-,-,-,-,-,-,-	1	SNA
VA71	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA
X501	RESONATOR-CERAMIC	10MHz,0.5%,TP,10.0x5.0x8.0mm	1	SNA
XC71	C-FILM,MPPF	100nF,10%,275V,BK,18x6x12,15	1	SNA
XC72	C-FILM,MPPF	220nF,10%,275V,BK,18x12x6,18	1	SNA
ZD11	DIODE-ZENER	BZX84-C11,10.4-11.6V,350mW,SOT-23,TP	1	SNA

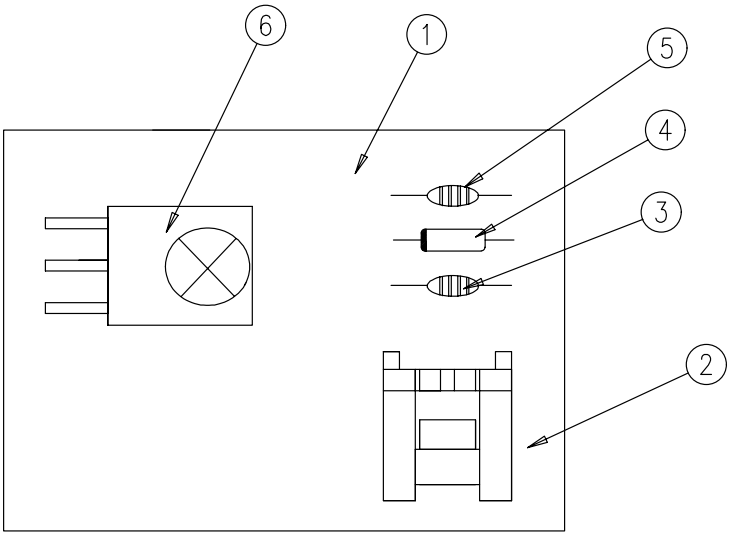
9-2 ASS'Y DISPLAY PCB : DB93-01368G



■ **Parts List**

No.	Description	Specification	Q'TY	Remark
1	ASS'Y LED MODULE		1	SNA
2	PCB-DISPLAY	FR-1 T1.6	1	SNA
3	TACT SWITCH	KPT-1105A	1	SNA
4	RESISTOR	200ohm, 2W	2	SNA
5	RESISTOR	100ohm, 2W	3	SNA
6	CONNECTOR WIRE	14P	1	SNA

9-3 ASS'Y MODULE PCB : DB93-01369A

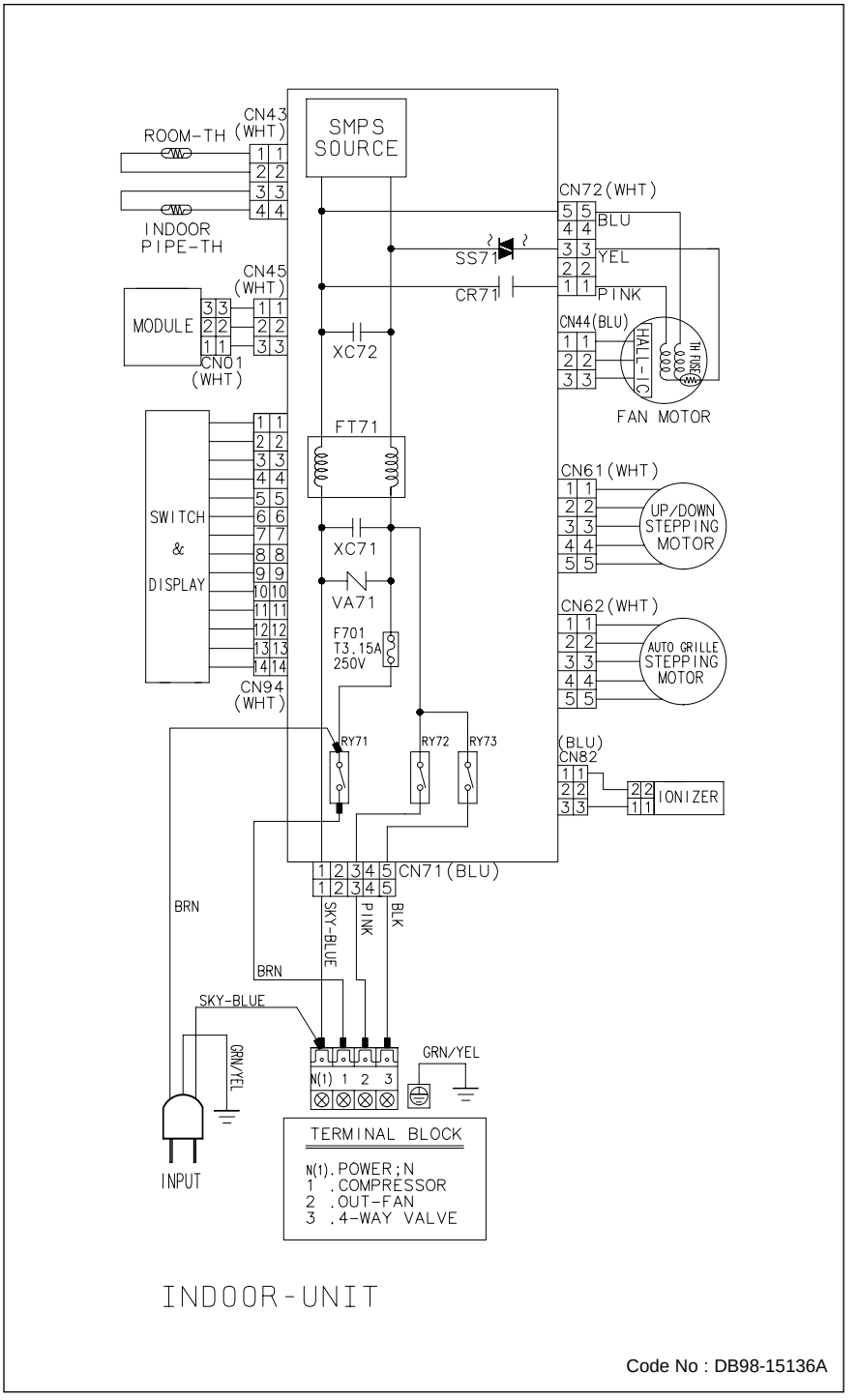


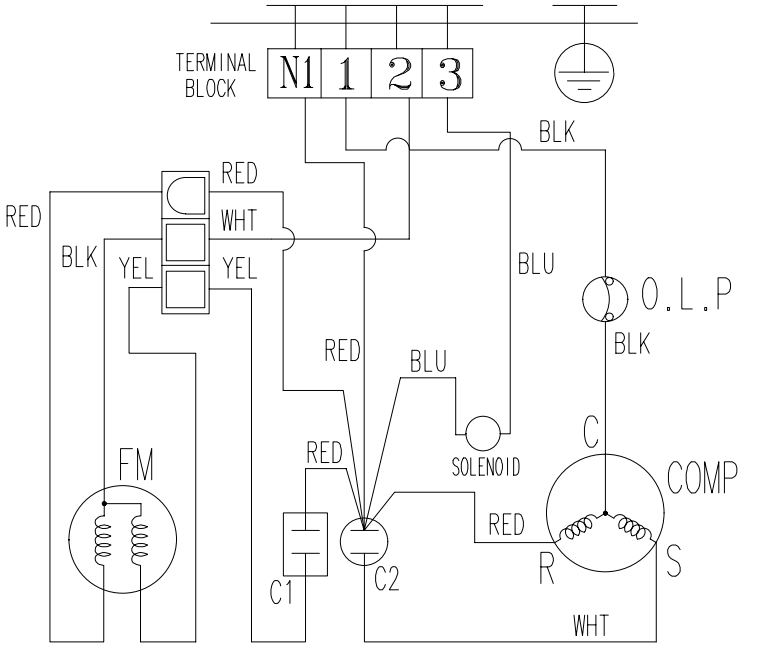
■ **Parts List**

No.	Description	Specification	Q'TY	Remark
1	PCB MODULE	FR1 T1.6	1	SNA
2	CONNECTOR-HEADER	BOX, 3P, 1R, 2mm, ANGLE, SN	1	SNA
3	C-CERAMIC, MLC-AXIAL	1nF, 10%, 50V, Y5P, TP, 1.9 x 3.5, -	1	SNA
4	DIODE-SWITCHING	1N4148, 100V, 200mA, DO-35, TP	1	SNA
5	C-CERAMIC, MLC-AXIAL	100nF, +80-20%, 50V, Y5V, TP, 3.5 x 1	1	SNA
6	MODULE	FRP4021H7	1	SNA

10. Wiring Diagram

10-1 Indoor Unit(7K / 9K / 12K)



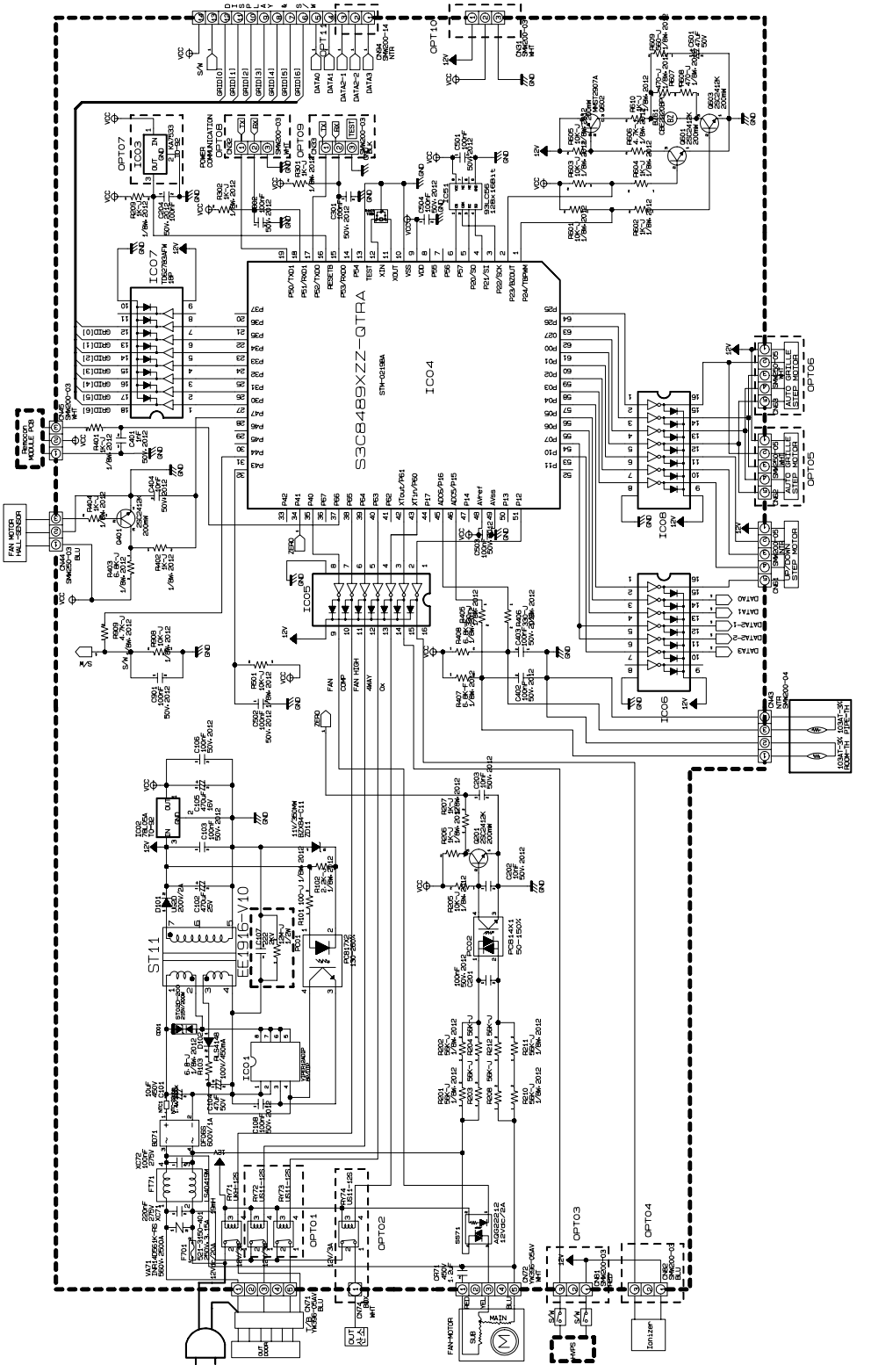


C1	MOTOR CAPACITOR	FM	FAN MOTOR
C2	COMP CAPACITOR	O.L.P	OVER LOAD PROTECTOR

Code No : DB98-15123A

11. Schematic Diagram

11-1 Indoor Unit(7K / 9K / 12K)



MEMO

Printed in Korea.
Code No. DB98-15732A(3)