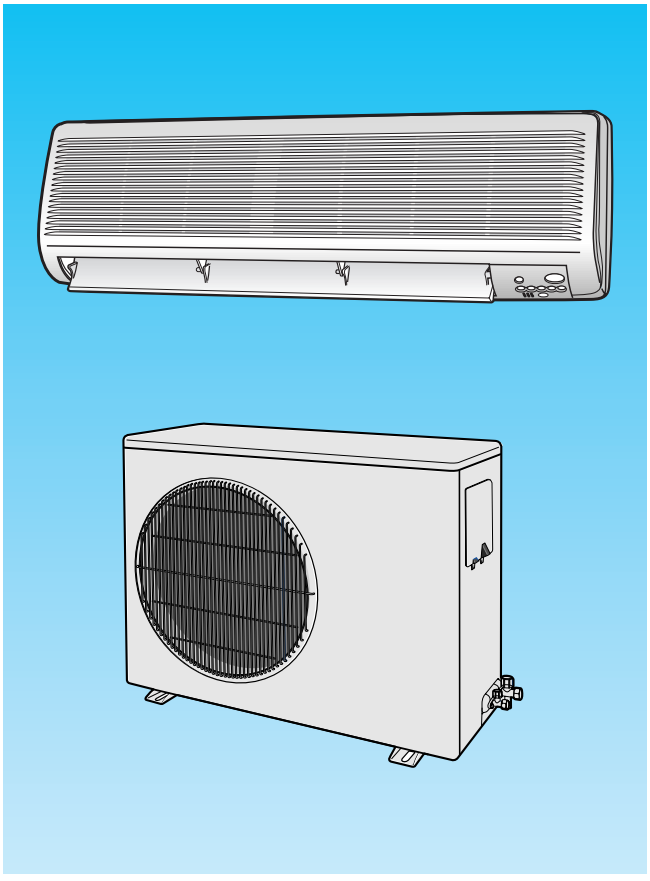
SAMSUNG

ROOM AIR CONDITIONER

INDOOR	OUTDOOR
AST24A(B)5(6)RE/B	UST24A(B)5(6)RE/B
AST18A(B)9(0)RE/B	UST18A(B)9(0)RE/B
AS18A(B)9(0)RE/D	US18A(B)9(0)RE/D
SC24TA(B)5	SC24TA(B)5X
SC18ZA(B)9	SC18ZA(B)9X

SERVICE *Manual*

AIR CONDITIONER



CONTENTS

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1. Precautions

1. Warning: Prior to repair, disconnect the power cord from the circuit breaker.

2. Use proper parts: Use only exact replacement parts. (Also, we recommend replacing parts rather than repairing them.)

3. Use the proper tools: Use the proper tools and test equipment, and know how to use them. Using defective tools or test equipment may cause problems later-intermittent contact, for example.

4. Power Cord: Prior to repair, check the power cord and replace it if necessary.

5. Avoid using an extension cord, and avoid tapping into a power cord. This practice may result in malfunction or fire.

6. After completing repairs and reassembly, check the insulation resistance.
   Procedure: Prior to applying power, measure the resistance between the power cord and the ground terminal. The resistance must be greater than 30 megohms.

7. Make sure that the grounds are adequate.

8. Make sure that the installation conditions are satisfactory.
   Relocate the unit if necessary.

9. Keep children away from the unit while it is being repaired.

10. Be sure to clean the unit and its surrounding area.

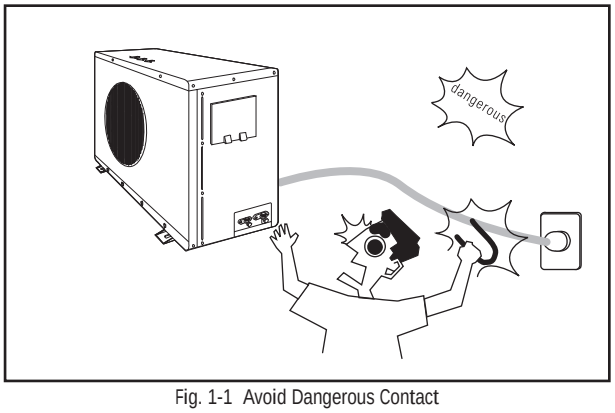


Fig. 1-1 Avoid Dangerous Contact

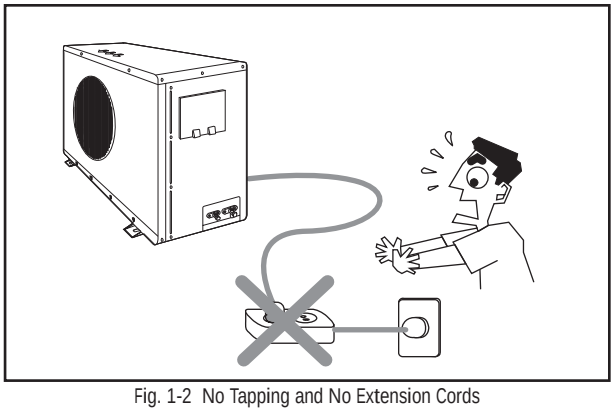


Fig. 1-2 No Tapping and No Extension Cords

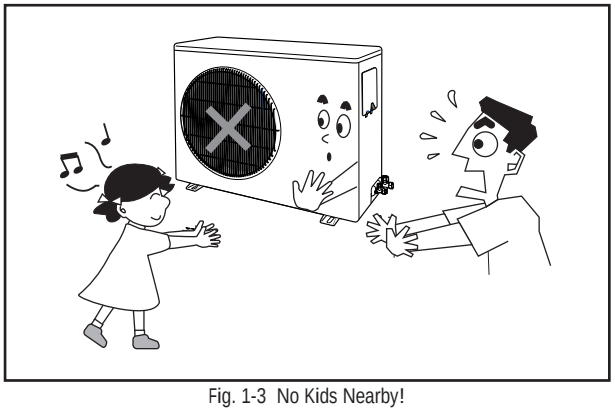


Fig. 1-3 No Kids Nearby!

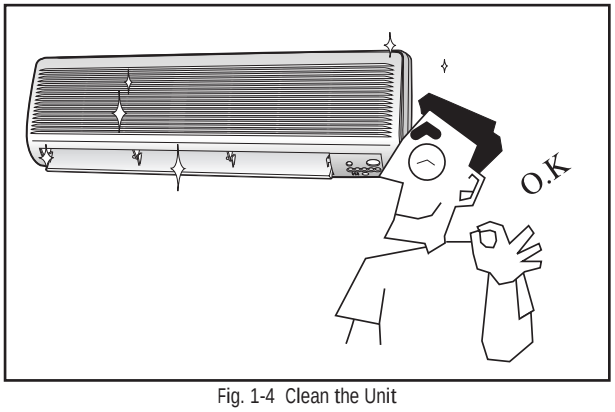


Fig. 1-4 Clean the Unit

MEMO

2. Product Specifications

2-1 Table

Item			Model	AST24A(B)5(6)RE/SC24T(B)5		AST24A(B)5(6)RB		AST18A(B)9(0)RE		AST18A(B)9(0)RB		AS18A(B)9(0)RE/SC18ZA(B)9		AS18A(B)9(0)RD	
				Cooling only		Cooling only		Cooling only		Cooling only		Cooling only		Cooling only	
Power Sourse				220-240V~, 50Hz		220V~, 60Hz		220-240V~, 50Hz		220V~, 60Hz		220-240V~, 50Hz		220-240V~, 60Hz	
Perfor-mance	Capacity (ISO/SASO)		kcal/h	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW	BTU	KW
			BTU/h	24,000 BTU/h	6.80KW	24,000 BTU/h	-	18,000 BTU/h	5.10KW	18,000 BTU/h	-	18,000 BTU/h	5.10KW	18,000 BTU/h	5.0KW
	Air circulation (High)		m^2/min	14.0	14.0	14.0	-	13.0	13.0	13.0	-	13.5	13.5	13.5	13.5
	Moisture removal (High)		Liters/h	3.0		3.0		2.5		2.5		2.5		2.5	
Electrical Rating	Available voltage range		V	198 ~ 264		187 ~253		198 ~ 264		187 ~ 263		198 ~ 264		180 ~ 242	
	Running amperes (ISO/SASO)		A	12.5	12.5	13.0	-	9.5	9.5	10.0	-	8.3	8.3	9.0	9.0
	Power input (ISO/SASO)		KW	2.6	2.6	2.60	-	2.00	2.00	2.00	-	1.85	1.80	1.8	1.8
	Power factor (ISO/SASO)		%	86.7	86.7	90.2	-	87.7	87.7	90.9	-	92.8	90.4	90.9	90.9
	Energy efficiency ratio (ISO/SASO)		BTU/wh	9.2	-	9.2	-	9.0	-	9.0	-	9.7	-	10.0	2.78
	Compressor locked rotor amperes		A	82		73		54		52		35		35	
Features	Controls/Temperature control			Microprocessor / I.C Thermostat		Microprocessor / I.C Thermostat		Microprocessor / I.C Thermostat		Microprocessor / I.C Thermostat		Microprocessor / I.C Thermostat		Microprocessor / I.C Thermostat	
	Control unit			Wireless remote control		Wireless remote control		Wireless remote control		Wireless remote control		Wireless remote control		Wireless remote control	
	Timer			24-Hour ON or OFF		24-Hour ON or OFF		24-Hour ON or OFF		24-Hour ON or OFF		24-Hour ON or OFF		24-Hour ON or OFF	
	Fan speed		Indoor/Outdoor	3 Steps and Turbo / 1 Step		3 Steps and Turbo / 1 Step		3 Steps and Turbo / 1 Step		3 Steps and Turbo / 1 Step		3 Steps and Turbo / 1 Step		3 Steps and Turbo / 1 Step	
	Airflow direction (indoor)		Horizontal	Manual		Manual		Manual		Manual		Manual		Manual	
			Vertical	Auto		Auto		Auto		Auto		Auto		Auto	
	Comperssor			Reciprocating(Tecumseh)		Reciprocating(Tecumseh)		Rotary(SAMSUNG)		Rotary(SAMSUNG)		Rotary(SAMSUNG)		Rotary(SAMSUNG)	
	Refrigerant/Amount charged at rating		g	R22 / 1550g		R22 / 1550g		R22 / 1550g		R22 / 1550g		R22 / 1550g		R22 / 1550g	
	Refrigerant control			Capillary tube		Capillary tube		Capillary tube		Capillary tube		Capillary tube		Capillary tube	
	Operation sound	Indoor Hi/Me/Lo	dB-A	45 / 43 / 41		45 / 43 / 41		45 / 42 / 39		45 / 42 / 39		45 / 42 / 39		45 / 42 / 39	
		Outdoor-Hi	dB-A	58		58		55		55		55		55	
	Refrigerant tubing connections			Flare type		Flare type		Flare type		Flare type		Flare type		Flare type	
	Max. allowable tubing length at shippint		m	20		20		15		15		15		15	
	Refrigerant tube diameter	Narrow tube	(in.)	6.35(1/4Ó)		6.35(1/4Ó)		6.35(1/4Ó)		6.35(1/4Ó)		6.35(1/4Ó)		6.35(1/4Ó)	
		Wide tube	(in.)	15.88(5/8Ó)		15.88(5/8Ó)		12.70(1/2Ó)		12.70(1/2Ó)		12.70(1/2Ó)		12.70(1/2Ó)	
	Refrigerant tube kit/Accessories			Optional / Hanger-plate		Optional / Hanger-plate		Optional / Hanger-plate		Optional / Hanger-plate		Optional / Hanger-plate		Optional / Hanger-plate	
Dimensions & Weight				Indoor unit	Outdoor	Indoor unit	Outdoor	Indoor unit	Outdoor	Indoor unit	Outdoor	Indoor unit	Outdoor	Indoor unit	Outdoor
	Unit dimensions	Height	mm	275	638	275	638	275	620	275	620	275	620	275	620
		Width	mm	1080	880	1080	880	1080	787	1080	787	1080	787	1080	787
		Depth	mm	204	310	204	310	204	320	204	320	204	320	204	320
	Package dimensions	Height	mm	372	704	372	704	372	692	372	692	372	692	372	692
		Width	mm	1151	1023	1151	1023	1151	909	1151	909	1151	909	1151	909
		Depth	mm	277	413	277	413	277	444	277	444	277	444	277	444
	Weight	Net	kg	13	62	13	62	13	58	13	58	13	45	13	45
		Shipping	kg	16	66	16	66	16	62	16	62	16	49	16	49

Remarks : Rating Conditions are :

Indoor air temperature ISO(50Hz) : 27ûC DB/19.0ûC WB, ISO(60Hz) : 27.0ûC DB/19.5ûC WB

Outdoor air temperature ISO : 35.0ûC DB/24.0ûC WB

2-2 Major Component specifications

■ Indoor unit

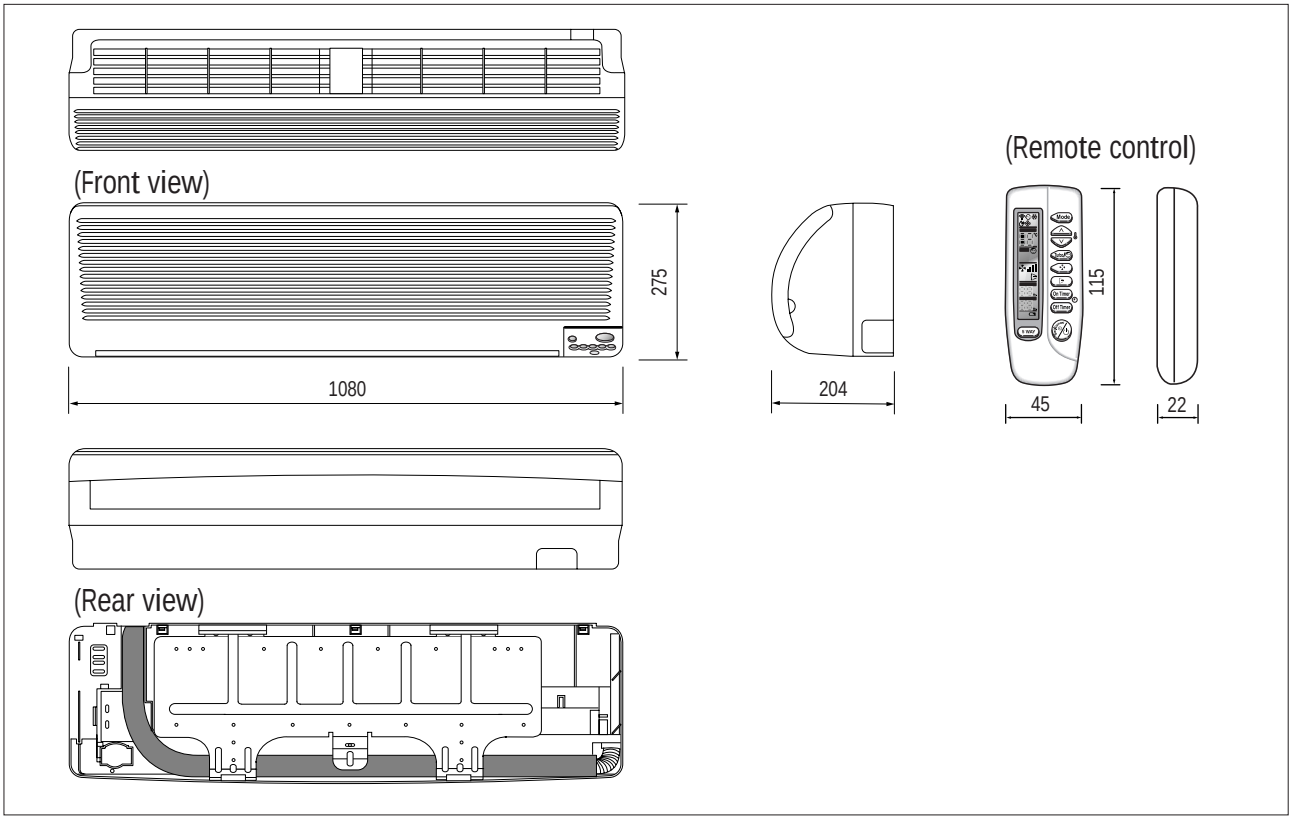
Model				AST24A(B)5(6)RE/SC24TA(B)5	AST24A(B)5(6)RB	AST18A(B)9(0)RE	AST18A(B)9(0)RB	AS18A(B)9(0)RE/SC18ZA(B)9	AS18A(B)9(0)RD
PCB	Part No.			PD-TQ24A1R-01	PD-TQ24A1R-01	PD-TQ24A1R-01	PD-TQ24A1R-01	PE-S1450R-01	PE-S1450R-01
	Controls			Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
	Control circuit fuse			250V, 3.15A	250V, 3.15A	250V, 3.15A	250V, 3.15A	250V, 3.15A	250V, 3.15A
Fan & Fan Motor	Type			Cross-Flow	Cross-Flow	Cross-Flow	Cross-Flow	Cross-Flow	Cross-Flow
	Dia. and length		mm	∅95/L = 842	∅95/L = 842	∅95/L = 842	∅95/L = 842	∅95/L = 842	∅95/L = 842
	Fan motor model			IC-9430SKC7A	IC-9430SKC7A	IC-9430SKC7A	IC-9430SKC7A	IC-9430SKC7A	IC-9430SKC7A
	Pols,rpm(at 240V)			4P, 1350 RPM	4P, 1350 RPM	4P, 1350 RPM	4P, 1350 RPM	4P, 1350 RPM	4P, 1350 RPM
	Normal out		W	40W	40W	40W	40W	40W	40W
	Coil resistance(Ambient temp.20ûC)		½	MAIN : 137½	MAIN : 137½	MAIN : 137½	MAIN : 137½	MAIN : 137½	MAIN : 137½
				SUB : 132½	SUB : 132½	SUB : 132½	SUB : 132½	SUB : 132½	SUB : 132½
	Safety devices	Type		17AM034A5	17AM034A5	17AM034A5	17AM034A5	17AM034A5	17AM034A5
		Operating temp.	Open ûC	135 ± 5¡C	135 ± 5¡C	135 ± 5¡C	135 ± 5¡C	135 ± 5¡C	135 ± 5¡C
	Run capacitor		µF x VAC	2.0µF X 450VAC	2.0µF X 450VAC	2.0µF X 450VAC	2.0µF X 450VAC	2.0µF X 450VAC	2.0µF X 450VAC
	Type								
S-Motor	Model			MSFCC20A03	MSFCC20A03	MSFCC20A03	MSFCC20A03	MSFCC20A03	MSFCC20A03
	Rating			DC 12V	DC 12V	DC 12V	DC 12V	DC 12V	DC 12V
	Coil resistance (Ambient temp. 25ûC)		½	530½	530½	530½	530½	530½	530½
	Coil			AL-FIN/Copper tube	AL-FIN/Copper tube	AL-FIN/Copper tube	AL-FIN/Copper tube	AL-FIN/Copper tube	AL-FIN/Copper tube
Heat Exch.	Rows x Steps			2 x 15	2 x 15	2 x 15	2 x 15	2 x 15	2 x 15
	Fin pitch		mm	1.2	1.2	1.5	1.5	1.5	1.5
	Face area		m^2	0.315	0.315	0.315	0.315	0.315	0.315

■ Outdoor unit

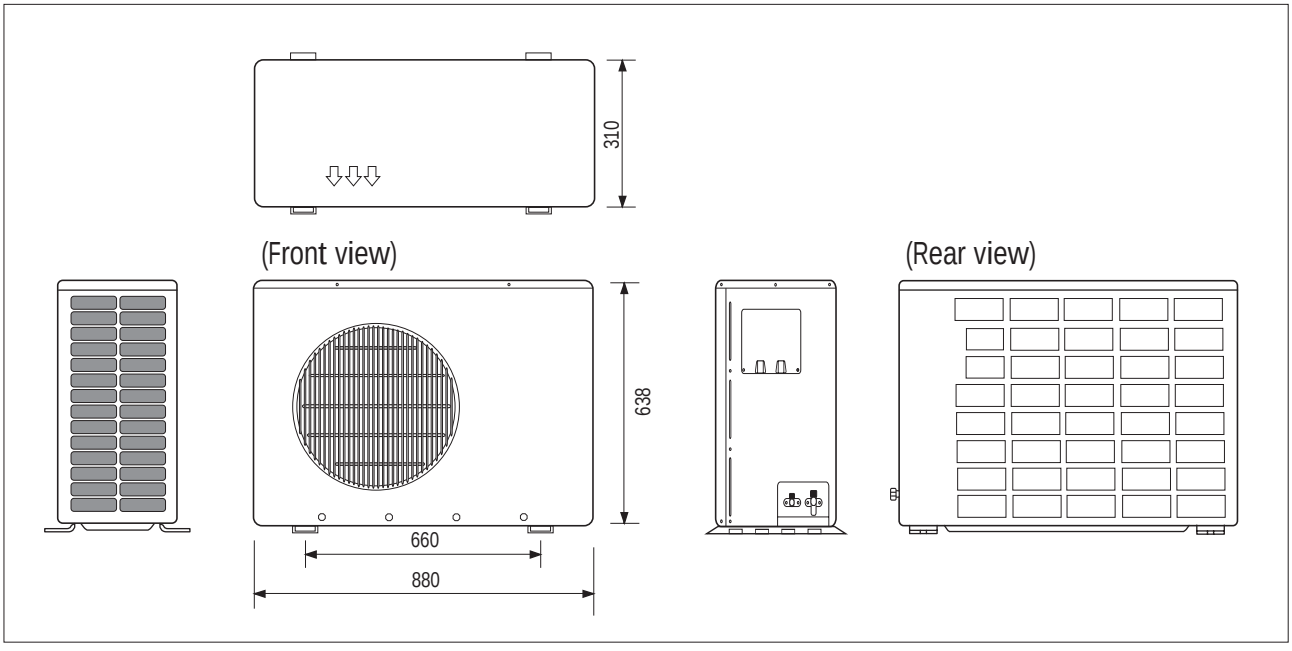
Model				UST24A(B)5(6)RE/SC24TA(B)5	UST24A(B)5(6)RB	UST18A(B)9(0)RE	UST18A(B)9(0)RB	US18A(B)9(0)RE/SC18ZA(B)9	US18A(B)9(0)RD
Compressor	Type			Reciprocating	Reciprocating	Reciprocating	Reciprocating	Rotary	Rotary
	Compressor model			AWG5532EXC	AWG5528EXN	AWG5524EXC	AWG5520EXN	48B180JV1EH	48B180MV1EH
	Normal output		W	2660	2830	2030	2070	1855	1846
	Comperssor oil kind			WITCO LP200 OR EQUIVALENT	WITCO LP200 OR EQUIVALENT	WITCO LP200 OR EQUIVALENT	WITCO LP200 OR EQUIVALENT	SUNISO-4GSD-T	SUNISO-4GSD-T
	Comperssor oil		cc	INITIAL : 1125 REFILL : 1066	INITIAL : 1125 REFILL : 1066	INITIAL : 1125 REFILL : 1066	INITIAL : 1125 REFILL : 1066	600	600
	Oil Specific gravity			0.92	0.92	0.92	0.92	0.92	0.92
	Coil resistance(Ambient temp.25ûC)		½	Start winding : 2.49	Start winding : 1.94	Start winding : 2.98	Start winding : 2.72	Start winding : 1.84	Start winding : 1.84
				Run winding : 0.81	Run winding : 0.88	Run winding : 1.42	Run winding : 1.32	Run winding : -	Run winding : -
	Safety devices	Type		15HM2415-148	15HM2415-148	15HM2416-148	15HM2311-148	RAC12016-9622	RAC12018-9266
		Overloal relay		Internal Line Break	Internal Line Break	Internal Line Break	Internal Line Break	External Line Break	External Line Break
		Operating temp.	Open ûC	120	120	120	120	165	155
			Close ûC	69	69	69	69	74	69
		Operating amp(Ambient temp.)		73.0 AT 2-10 SECOND	73.0 AT 2-10 SECOND	73.0 AT 2-10 SECOND	73.0 AT 2-10 SECOND	120¡C : 10.7A 130¡C : 9.4A	31.5A / 6~16SECOND
	Run capacitor		µF x VAC	45MF X 370VAC	35MF X 370VAC	35MF X 370VAC	25MF X 370VAC	40µF x 450VAC	45µF x 450VAC
Fan & Fan	Type			Propeller	Propeller	Propeller	Propeller	Propeller	Propeller
	Dia. and length		mm	¿460	¿460	¿405	¿405	¿405	¿405
	Fan motor model			OSME-906SRC	OSM-906SRC	ASS030AVEB	ASS030ZTEC	ASS030AVEB	ASS030AVEB
	Pols, rpm(at240V)			6P, 850/400 RPM	6P, 850/400 RPM	4P, 950/500 RPM	4P, 950/500 RPM	4P, 950/500 RPM	4P, 950/500 RPM
	Normal output		W	70W	70W	35W	35W	35W	35W
	Coil resistance(Ambient temp.20ûC)		½	MAIN : 55½	MAIN : 55½	MAIN : 180½	MAIN : 160½	MAIN : 180½	MAIN : 180½
				SUB : 60½	SUB : 65½	SUB : 200½	SUB : 170½	SUB : 200½	SUB : 200½
	Safety devices	Type		17AM037A5	17AM037A5	17AM034A5	17AM034A5	17AM034A5	17AM034A5
		Operating temp.	Open ûC	150±5¡C	150±5¡C	135±5¡C	135±5¡C	135±5¡C	135±5¡C
			Close ûC						
	Run capacitor		µF x VAC	4µF x 450VAC	4µF x 450VAC	2.5µF x 450VAC	2.5µF x 450VAC	2.5µF x 450VAC	2.5µF x 450VAC
Heat Exch.	Coil			AL-FIN / Copper tube	AL-FIN / Copper tube	AL-FIN / Copper tube	AL-FIN / Copper tube	AL-FIN / Copper tube	AL-FIN / Copper tube
	Rows x Steps			2 x 24	2 x 24	2 x 24	2 x 24	2 x 24	2 x 24
	Fin pitch		mm	1.7	1.7	1.7	1.7	1.7	1.7
	Face area		m^2	0.5376	0.5376	0.504	0.504	0.504	0.504

2-3 Dimensions

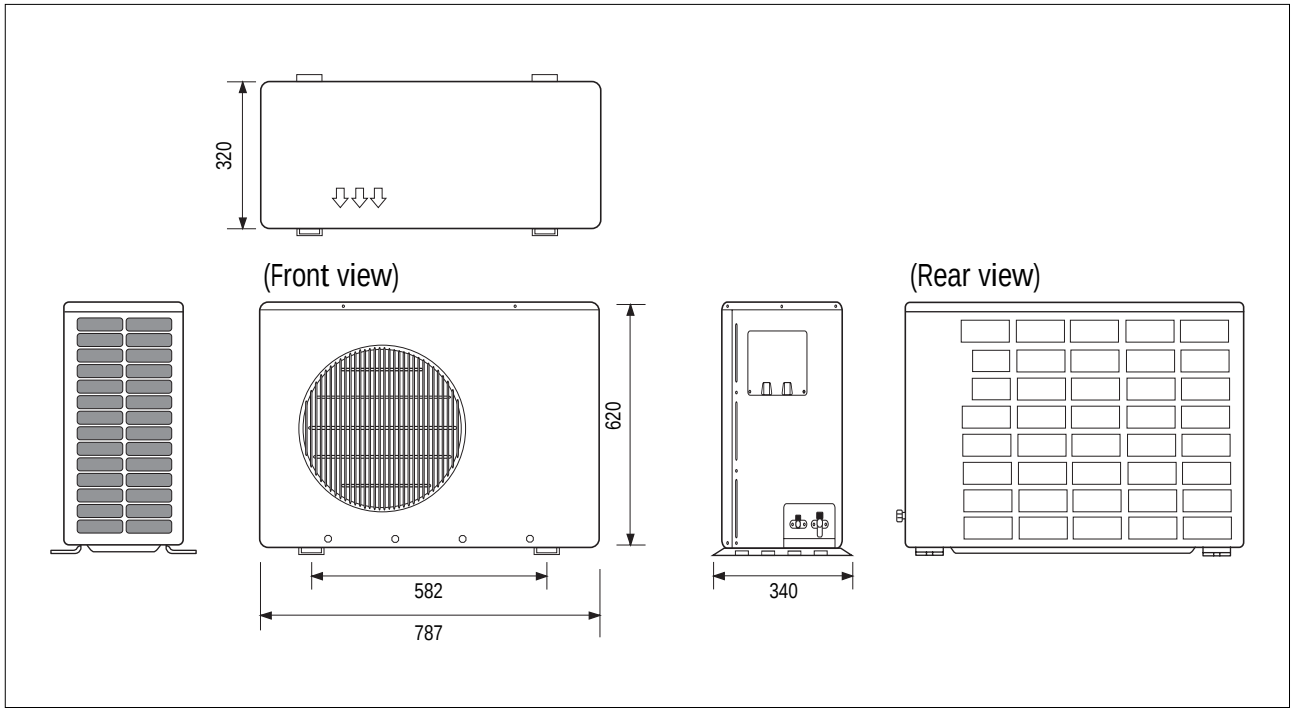
2-3-1 Indoor Unit



2-3-2 Outdoor Unit

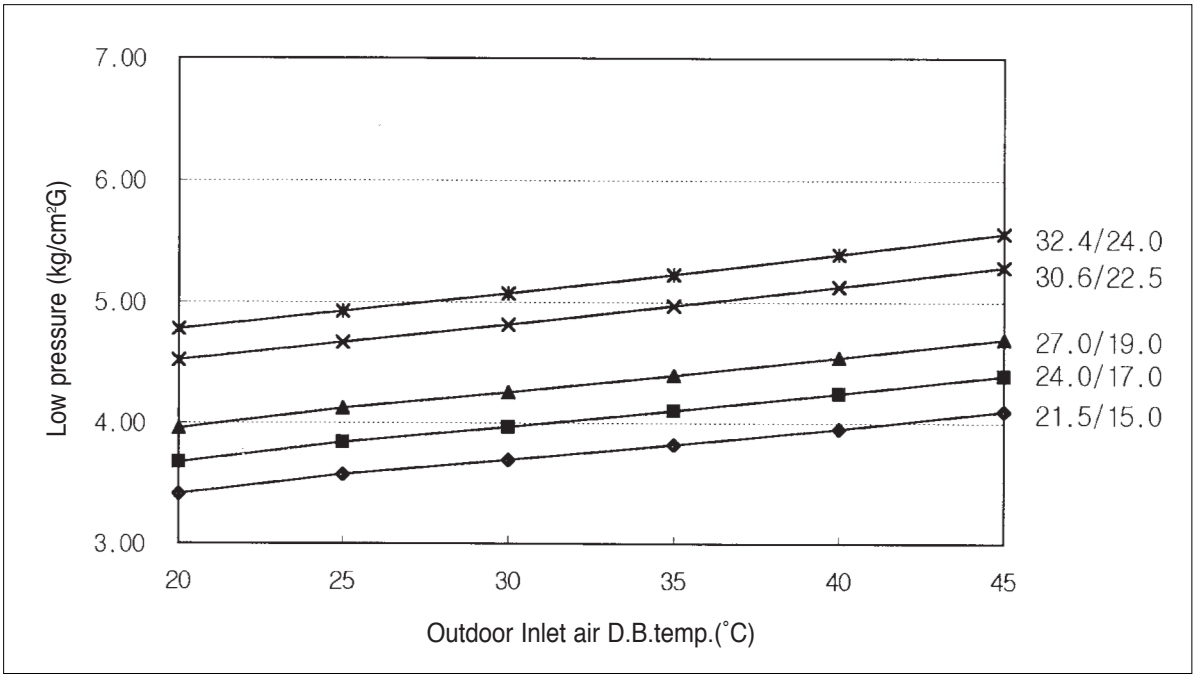


2-3-3 Outdoor unit (18K BTU)

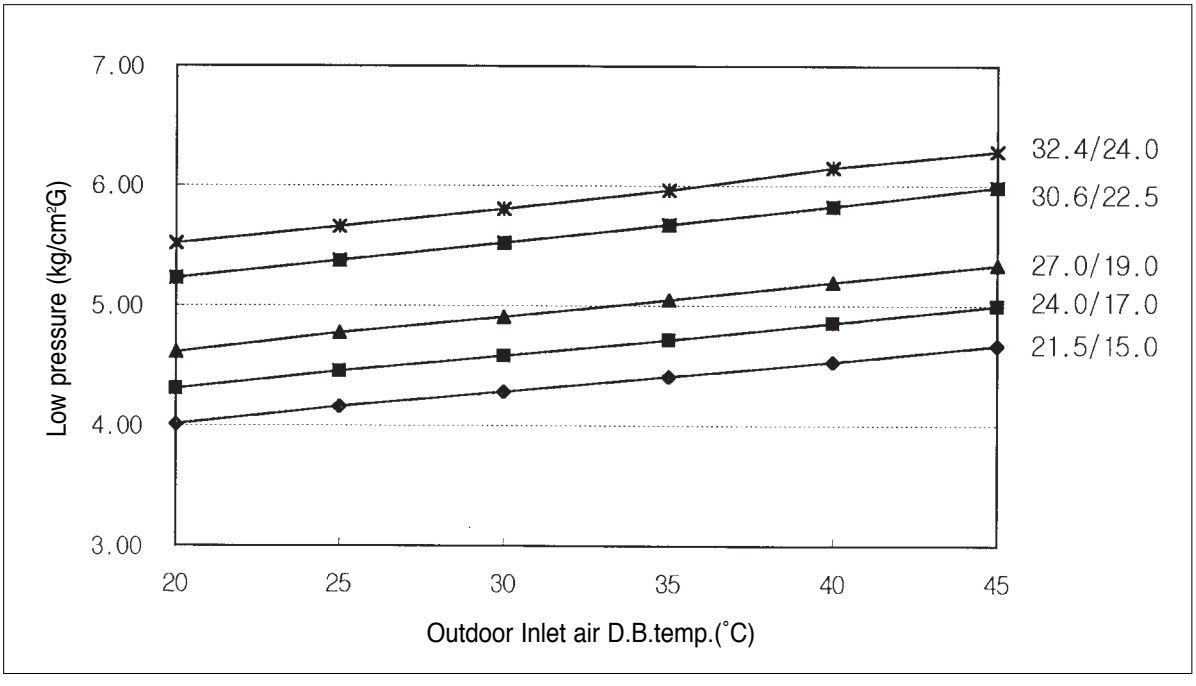


2-4 Pressure Graph

■ 24K BTU



■ 18K BTU

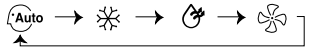
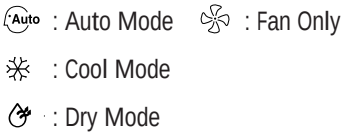
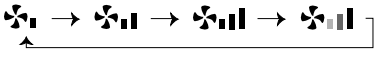
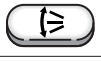


MEMO

3. Operating Instructions and Installation

3-1 Operating Instructions

3-1-1 Name & Function of Key in remote controller

NO	NAMED OF KEY	FUNCTION OF KEY
1		Power On/Off button to start and stop airconditioner or timer set up
2	 (UP)	Temp. up button. To increase the temperatute by the pressing the temperature button
	 (DOWN)	Temp. down button. To decrease the temperature by the pressing the temperature button
3		Each time you press this button Mode is changed in the following order  
4		Press  until the appearance. the air condition cools or heats the room as quickly as possible. after 30minutes, the air, the airconditioner is reset automatically to the previous mode
		Press  until the appearance. the sleep timer can be used when you are cooling your room to switch the air conditioner off automatically after a perriod of six hours.
5		Each time you press this button, FAN SPEED is changed in the following order. 
6		Adjust air flow vertically.
7		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 cancel the On Time, press the (Set/Cancel) button.
8		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 cancel the On Time, press the (Set/Cancel) button.
9		To select the 5 way function with the remote control, press the 5 way button one or more times until the desired mode is selected.. Each time you press the 5 way button  Each 5 way indicator on the indoor unit comes on in or der.

3-1-1 Name & Function of Key in remote controller

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

Room Temp	Operation Type
Tr³ 21¡C+ÆT	Cool Operation (Set Temp:AUTO SETTING)

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

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

3. 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)

4. TURBO MODE : This mode is available in AUTO, COOL, 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.

5. SLEEP MODE : Sleep mode is available only in COOL 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.

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

7. COMPULSORY OPERATION :
   For operating the air conditioner without the remote controller.
   *AUTO : The operating is the same function that AUTO MODE in the remote controller. And each time you press the button the 5WAY func-tion is changed as follow.
   STD → NATURE → POWER → SAVING → SILENCE → POWER OFF
   Each time you press This button, 5WAY function is changed in the following order
   STD(standard) → NATURE → POWER(High-speed) → Saving(Power-Saving) → Quite
   ❊ STD(standard)(STD) : General operation Mode
   ❊ NATURE( ) : The unit is operated according to health pattern control
   ❊ POWER( ) : The unit is operated in powerful state
   ❊ SAVING( ) : The unit is operated in power saving state
   ❊ SILENCE( ) : The unit is operated quitely
   Each mode has Auto, Cool and SLEEP operation designed in advarce.

8. SWING : BLADE-H is rotated vertically by the stepping motor.
   *Memory louver : When ON/OFF button is pressed at stop state, the BLADE-H returns to its original location which is operating state before stop
   *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.

9. 24-Hour ON/OFF Real Setting Timer. : The air conditioner is turned ON at a specified time using On Timer.
   OFF TIMER : The air Conditioner is turned OFF at a specified time using Off Timer.
   *ON TIMER : Only timer LED lights on.
   *OFF TIMER : Both timer and operation LED lights on.

10. SELF Diagnosis

Check Point	LED DISPLAY					
	TIMER	STD	NATURE	POWER	SAVING	SILENCE
Indoor unit room temperature sensor error(open or short)	◑	○	○	○	○	○
Indoor unit heat exchanger temperature sensor error(open or short)	◑	◑	○	○	○	○
Indoor fan mal function	○	○	◑	○	○	○
EEPROM error	◑	◑	◑	○	○	○
Option error(option wasn't set up or option data error)	◑	◑	◑	◑	◑	◑

◑ : LED blinking ○ : LED off

11. 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"

3-2 Installation

3-2-1 Selecting Area for Installation

Select an area for installation that is suitable to the customer's needs.

3-2-1(a) Indoor Unit

1. Make sure that you install the indoor unit in an area providing good ventilation. It must not be blocked by an obstacle affecting the airflow near the air inlet and the air outlet.
2. Make sure that you install the indoor unit in an area allowing good air handling and endurance of vibration of the indoor unit.
3. Make sure that you install the indoor unit in an area where there is no source of heat or vapor nearby.
4. Make sure that you install the indoor unit in an area from which hot or cool air is spread evenly in a room.
5. Make sure that you install the indoor unit in an area away from TVs, audio units, cordless phones, fluorescent lighting fixtures and other electrical appliances (at least 1 meter).
6. Make sure that you install the indoor unit in an area which provides easy pipe connection with the outdoor unit, and easy drainage for condensed water.
7. Make sure that you install the indoor unit in an area which is large enough to accomodate the measurements shown in figure on the next page.

3-2-1(b) Outdoor Unit

1. Make sure that you install the outdoor unit in area not exposed to the rain or direct sun light.
   (Install a separate sunblind if exposed to direct sun light.)
2. Make sure that you install the outdoor unit in area allowing good air moment, not amplifying noise or vibration, especially to avoid disturbing neighbours.
   (Fix the unit firmly if it is mounted in a high place.)
3. Make sure that you install the outdoor unit in area providing good ventilation and which is not dusty. It must not be blocked by any obstacle affecting the airflow near the air inlet and the air outlet.
4. Make sure that you install the outdoor unit in area free from animals or plants.
5. Make sure that you install the outdoor unit in area not blocking the traffic.
6. Make sure that you install the outdoor unit in area easy to drain condensed water from the indoor unit.
7. Make sure that you install the outdoor unit in area which provides easy connection within the maximum allowable length of a coolant pipe(18✻✻:15meters, 24✻✻:20meters).

Note

1. Add (18✻✻:30g, 24✻✻:40g) of refrigerant (R-22) for every 1 meter if the pipe length exceeds the standard pipe length of 5 meters.
2. Maintain a height between the indoor and outdoor units of less than 8 meters.

8. Make sure that you install the outdoor unit in an area which is large enough to accommodate the measurements

3-2-1(c) Remote Control Unit

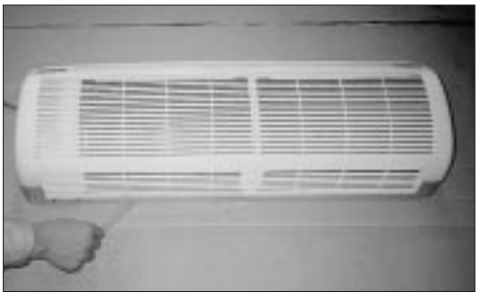
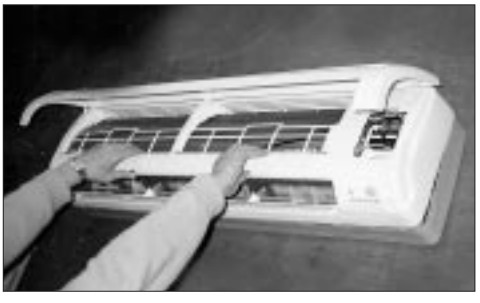
1. Make sure that you install the remote control unit in an area free from obstacles such as curtains etc, which may block signals from the remote control unit.
2. Make sure that you install the remote control unit in an area not exposed to direct sunlight, and where there is no source of heat.
3. Make sure that you install the remote control unit in an area away from TVs, audio units, cordless phones, fluorescent lighting fixtures and other electrical appliances (at least 1 meter).

Caution :
It is harmful to the air conditioner if it is used in the following environments: greasy areas (including areas near machines), salty areas such as coast areas, areas where sulfuric gas is present such as hot spring areas. Contact your dealer for advice.

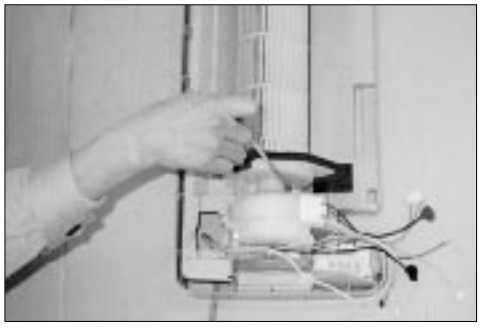
4. Disassembly and Reassembly

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

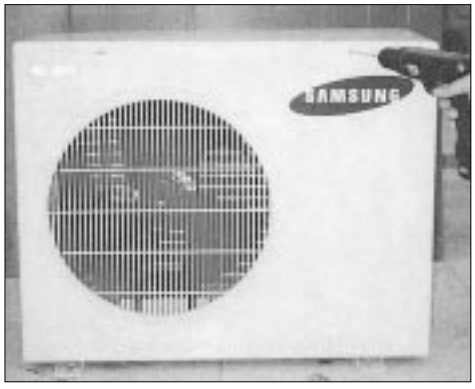
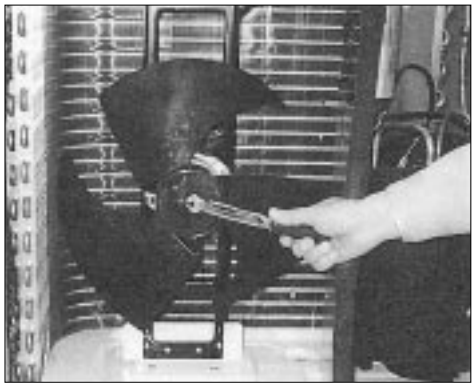
4-1 Indoor Unit

No	Parts	Procedure	Remark
1	Front Grille	1) Stop the air conditioner operation and block the main power. 2) Seperate tape of front panel upper.	
		3) Contract the second finger to the left, and right handle and pull to open the inlet grille. 4) Take the left and right filter out. * Take the Deodorizing and Electrostatic filter out. (optional) 5) Loosen one of the right fixing screw and seperate the terminal cover.	
		6) Loosen three fixing screws of front grille.	
		7) Pull the upper left right and center of discharge softly for the outside cover to be pulled out.	
		8) Pull softly the lower part of discharge and push it up. **Caution;** Assemble the front panel and fix the hooks of left, right and center.	

No	Parts	Procedure	Remark
2	AssÕy Tray Drain.	1) Do Ò1Ó above. Separate the drain hose from the extension drain hose. 2) Take the display PCB out. (Right of indoor unit) 3) Pull tray drain out from the back body.	 
3	Electrical Parts (Main PCB)	1) Do Ò1Ó, Ò2Ó above 2) Take all the connector of PCB upper side out. (Inclusion Earth Wire) 3) Separate the outdoor unit connection wire from the terminal block. 4) If pulling the Main PCB up. it will be taken out.	
4	Heat Exchanger	1) Do Ò1Ó and Ò2Ó, Ò3Ó above 2) Loosen two fixing earth screws of right side. 3) Separate the connection pipe. 4) Separate the bush body at the upper side and holder at the rearside. 5) Loosen the two fixing screws of left side. 6) Lifting the heat exchanger up a little to push the up side for separation from the indoor unit.	 

No	Parts	Procedure	Remark
5	Fan Motor and Cross Fan	1) Do Ò1Ó Ò2Ó Ó3Ó Ò4Ó above. 2) Loosen the fixing three screws and separate the motor holder. 3) Loosen the fixing screw of fan motor. (By use of M3 wrench) 4) Separate the fan motor from the fan. 5) Separate the fan from the left holder bearing.	 

4-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Cabinet	1) Turn off the unit and remove the power cable 2) Remove the top cover. 3) Remove the control box cover. 4) Unplug the ass'y cable. 5) Remove the cabi-side. 6) Remove the cabi-front. * When you assemble the parts, check if the each parts and electric connectors are fixed firmly.	
2	Fan Motor & Propeller Fan	1) Do Procedure 1 above. 2) Remove the nut flange. (Turn to the right to remove as it is a left turned screw) 3) Disassemble the propeller fan.	

5. Troubleshooting

5-1 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 6 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 STD operation indication LED 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 IN DOOR 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 AUTO or DRY mode.	The speed of the indoor fan is set to LL in DRY mode. Fan speed is 5 steps 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	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.

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

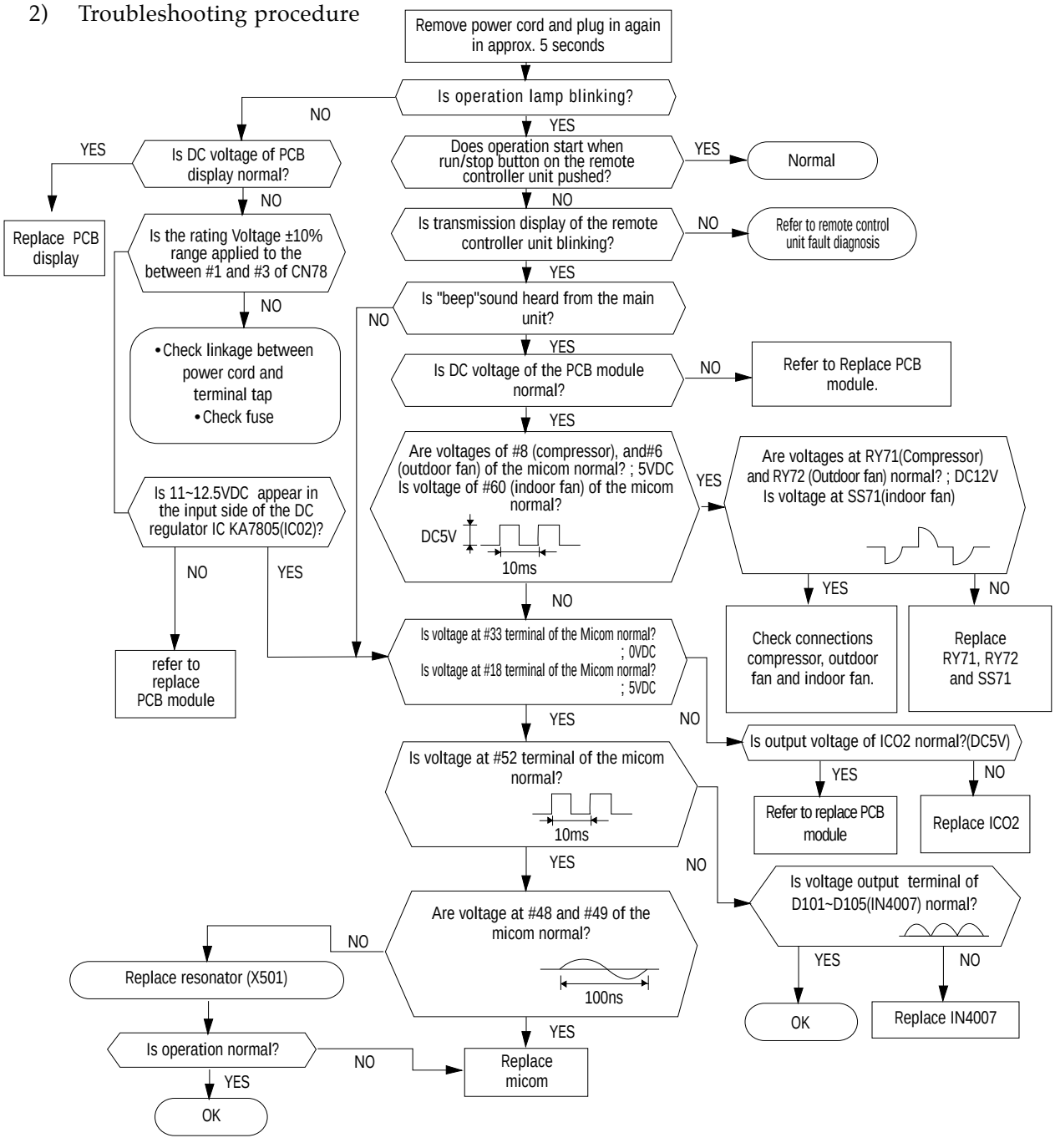
NO	Display	Self Diagnosis
1	STD LED blinking (1Hz)	Restore from power failure (input initial power)
2	TIMER LED blinking (1Hz)	Indoor unit Room sensor Error (open or short)
3	STD and TIMER LED blinking (1Hz)	Indoor unit heat exchanger temperature sensor Error (open or short)
4	Nature LED blinking (1Hz)	Indoor fan malfunctioning (for spead is Below 450rpm)
5	STD, Nature and TIMER LED blinking(1Hz)	EEPROM Error
6	All LED blinking(1Hz)	Option Error(option wasn't set up or option data error)

5-2 Fault Diagnosis by Symptom

5-2-1 No Power (completely dead)-Initial diagnosis

1) Checklist :
   (1) Is input voltage normal? the rating voltage ±10% range.
   (2) Is AC power linked correctly?
   (3) Are connections between primary side, secondary side of the power transformer and PCB good.
   (4) Is input voltage of DC regulator IC KA7805 (IC02) normal? (11VDC-12.5VDC)
   (5) Is output voltage of DC regulator IC KA7805 (IC02) normal? (4.5VDC-5.5VDC)

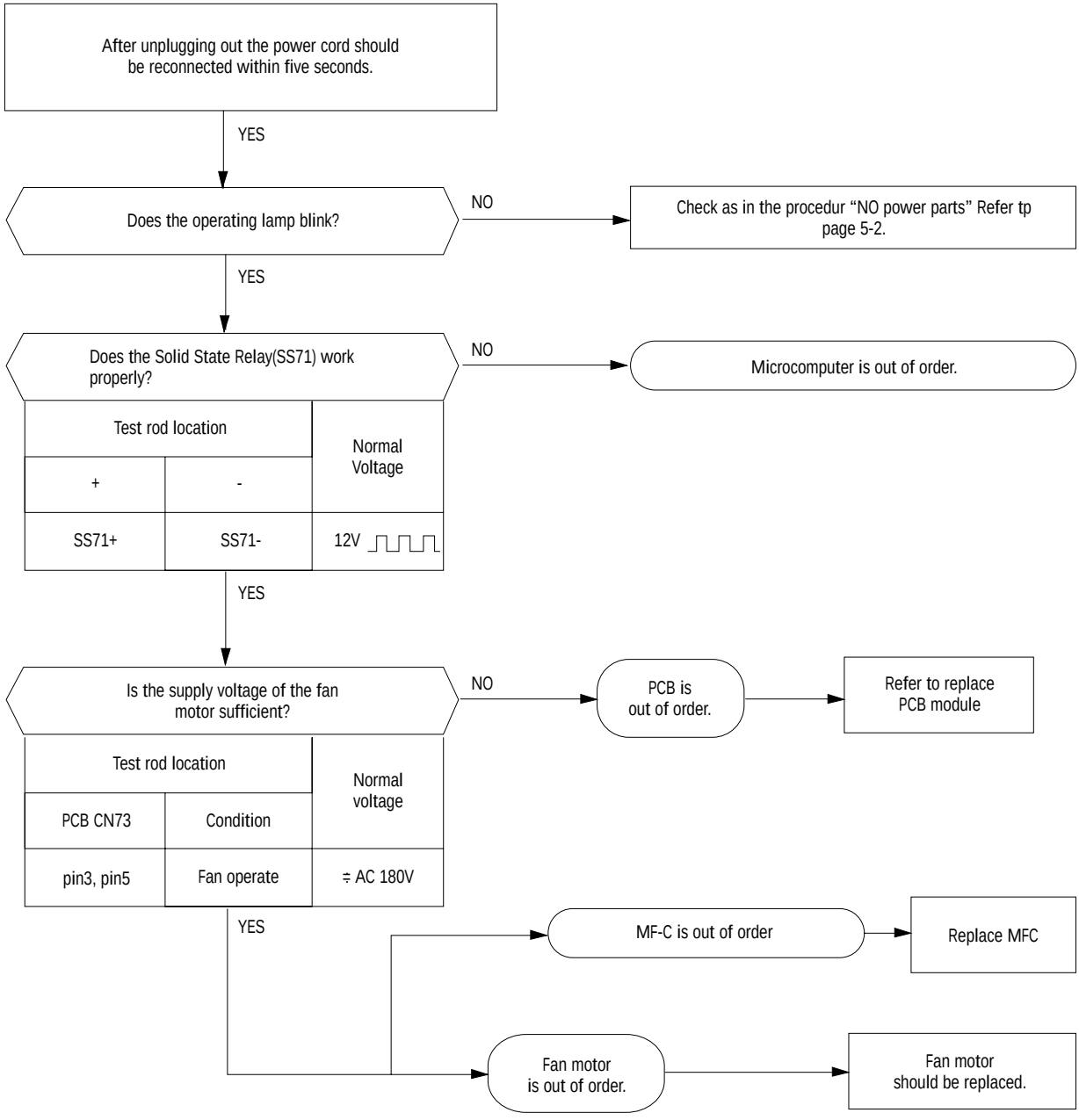
2) Troubleshooting procedure



5-2-2 When the Indoor Unit Fan Does Not Operate. (Initial Diagnosis)

1) Checklist :
   (1) Is the indoor unit fan motor properly connected with the connector (CN73)?
   (2) Is the AC voltage correct?
   (3) Is HALL IC in indoor fan motor properly connected with the connector (CN43)?
   (4) Is the running capacitor properly connected with the solder part of the PCB?

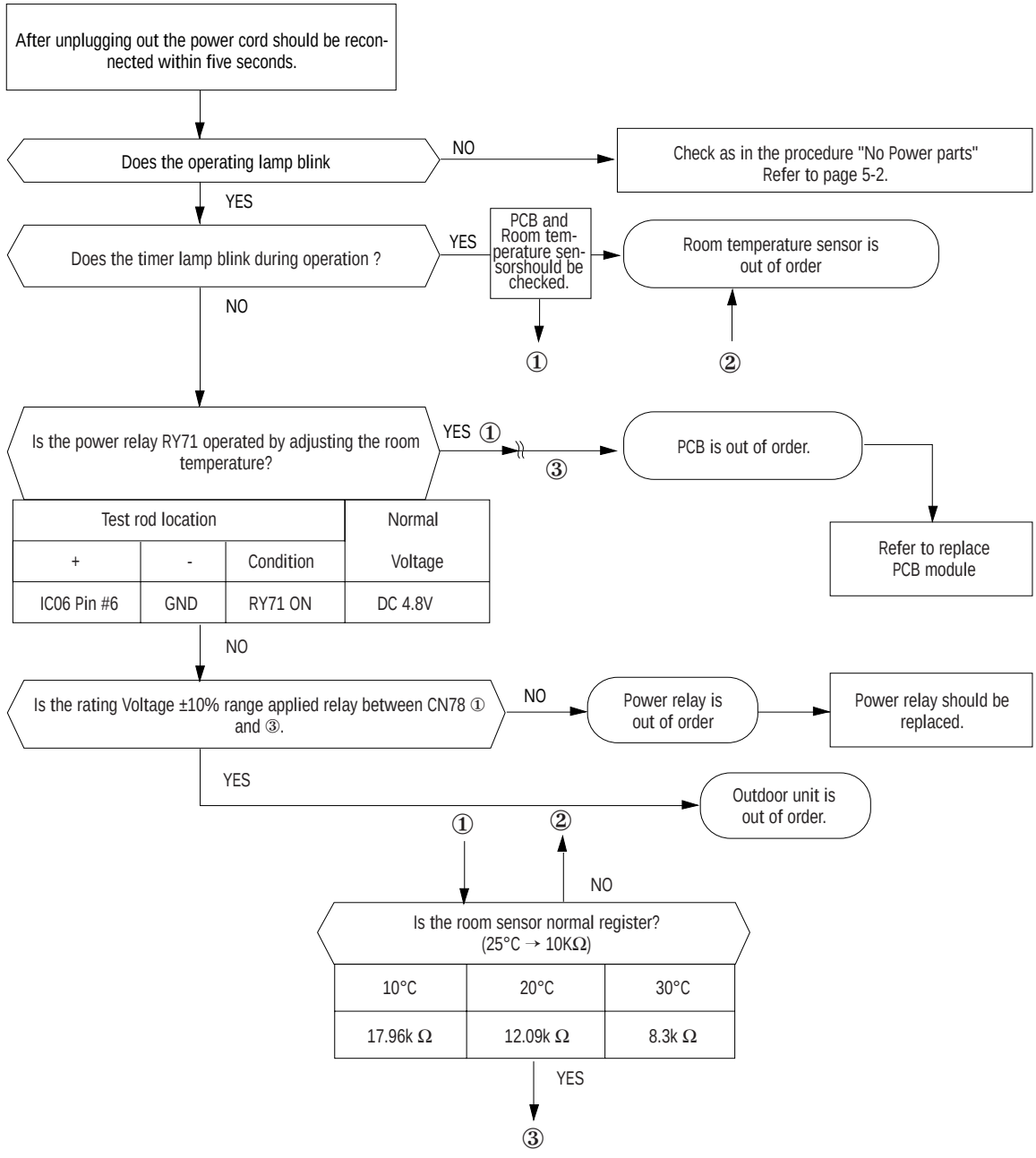
2) Troubleshooting procedure



5-2-3 When the Outdoor Unit Does Not Operate. (Initial Diagnosis)

1) Checklist :
   (1) Is input voltage normal? (rating voltage ±10% range)
   (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 (CN78) linked correctly?
   (5) Is the outdoor unit properly connected with the TERMINAL BLOCK connector(6P)?

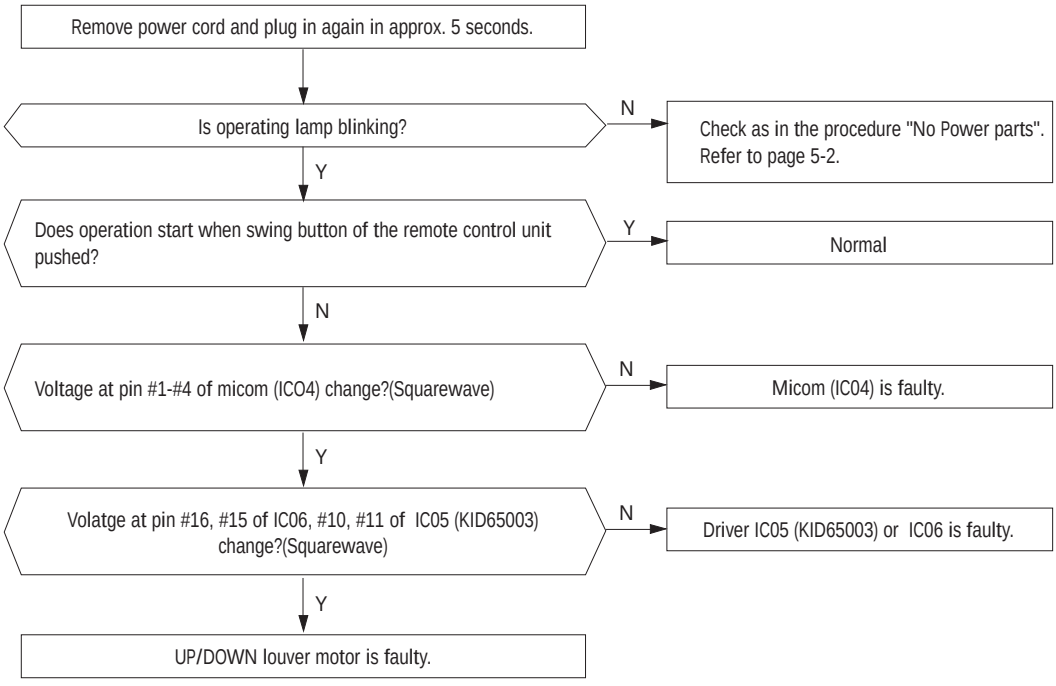
2) Troubleshooting procedure



5-2-4 When the UP/DOWN Louver Moter Does Not Operate. (Initial Diagnosis)

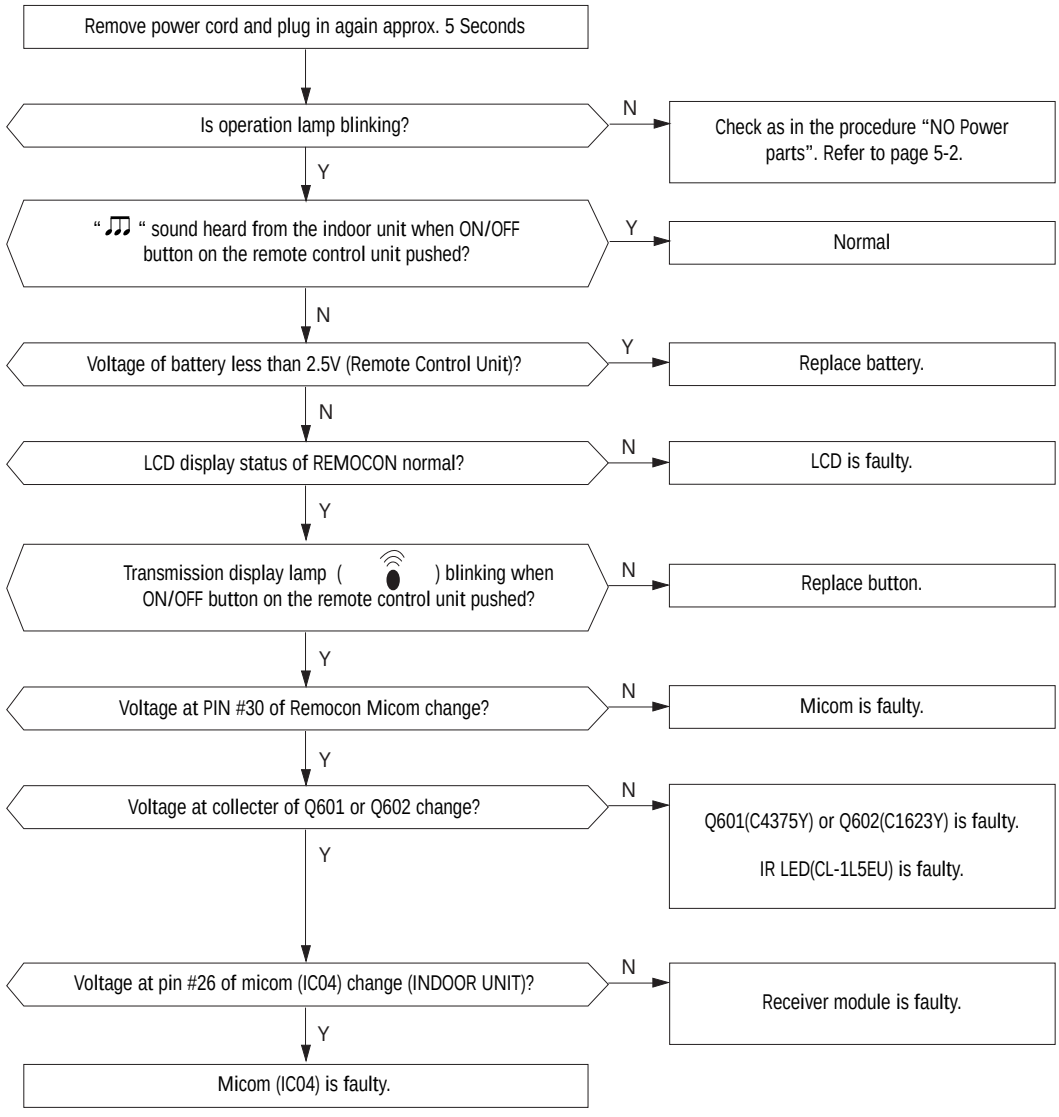
1) Checklist :
   (1) Is input voltage normal? (input voltage ±10% range)
   (2) Is the UP/DOWN louver motor properly connected with the connector (CN61)?

2) Troubleshooting procedure



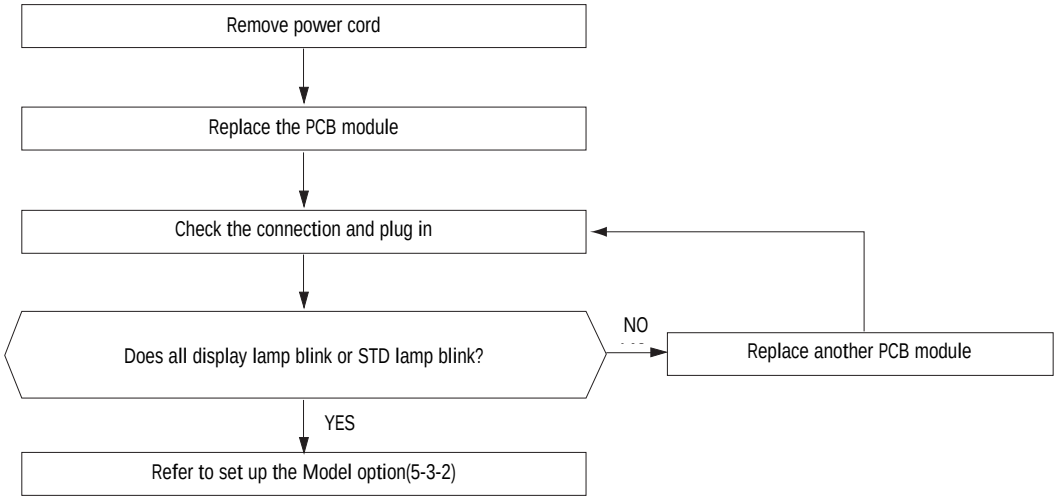
5-2-5 If Operation By Remote Control Unit Is Impossible. (Initial Diagnosis)

1) Troubleshooting procedure



5-3 Replace PCB module

5-3-1 Replace PCB module



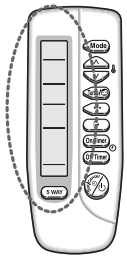
5-3-2 Set up the Model option

The Method for Setting up the model option with remocon

- **It is necessary to set up option code after replacing the main-PAB as a service parts.**
  Make sure that you can set up the option of code the remote controller after you replace the main PBA otherwise, the unit won't be working properly and all LED lamps on display will be flickering.

Step 1 : Preparing the remocon to main PBA option set

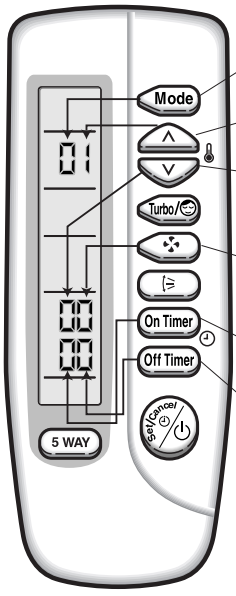
1st Remove the battery from the remocon.
2nd Press the temperature raise/down button simultaneously and insert the battery again.
3rd Make sure the remocon display shown as 00 00 00.



Step 2 : Second stage preparation of the remocon option set.

✵ **Note** ; In case the wrong letter has been selected, continue to press the button until the correct letter appears.

1st If the first stage number "0" appears on the display, proceed to the second stage.
2nd Every time the ① and ⑦ button, "0" and "1" each continue to appear.
3rd Whenever pressing the ②, ③, ④, ⑤, ⑥, ⑧, ⑨, ⑩, ⑪, ⑫ button, the number increase from 0~9(0123456789) and A, b, C, d, E, F each time.



① If the first number is 0, it is correct otherwise press Mode until 0 appear.

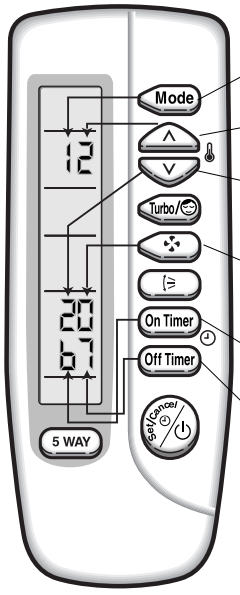
② When pressing the ∧ button 0 ~ F appear on the display, select one of them.

③ When pressing the ∨ button 0 ~ F appear on the display, select one of them.

④ When pressing the button 0 ~ F appear on the display, select one of them.

⑤ When pressing the On Timer button 0 ~ F appear on the display, select one of them.

⑥ When pressing the Off Timer button 0 ~ F appear on the display, select one of them.



① If the first number is 1, it is correct otherwise press Mode until 1 appear.

② When pressing the ∧ button 0 ~ F appear on the display, select one of them.

③ When pressing the ∨ button 0 ~ F appear on the display, select one of them.

④ When pressing the fan button 0 ~ F appear on the display, select one of them.

⑤ When pressing the On Timer button 0 ~ F appear on the display, select one of them.

⑥ When pressing the Off Timer button 0 ~ F appear on the display, select one of them.

Step 3 : Reconfirming option set after completion

(in case of ex. 017d25-17021d)

After pressing Mode selector for the 0 mode, the display shown as 01 7d 25.
After pressing Mode selector for the 1 mode, the display shown as 17 02 1d .

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 first LED lamp on the left side 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 and plug in again and pressing 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 it's model.

■ OPTION ITEMS

REMOCON / MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
AQT24A(B)5RE	0	9	4	6	1	7	1	A	0	2	3	F
SH24TA(B)5	0	9	4	6	1	7	1	A	0	2	3	F
AQT24A(B)6RE	0	8	4	6	1	7	1	A	0	2	3	F
AQT24A(B)6RB	0	8	4	6	1	7	1	A	0	2	3	4
AST24A(B)5RE	0	9	0	0	0	0	1	A	0	2	3	F
SC24AT(B)5	0	9	0	0	0	0	1	A	0	2	3	F
AST24A(B)6RE	0	8	0	0	0	0	1	A	0	2	3	F
AST24A(B)6RB	0	8	0	0	0	0	1	A	0	2	3	F
AQT18A(B)9RE	0	9	7	4	1	7	1	A	0	0	F	B
AQT18A(B)0RE	0	8	0	0	0	0	1	A	0	2	3	F
AQT18A(B)0RB	0	8	0	0	0	0	1	A	0	2	3	F
AQ18A(B)9RE	0	9	4	4	1	7	1	A	0	2	1	D
SH18ZA(B)9	0	9	4	4	1	7	1	A	0	2	1	D
AQ18A(B)0RE	0	8	4	4	1	7	1	A	0	2	1	D
AST18A(B)9RE	0	9	0	0	0	0	1	A	0	0	F	B
AST18A(B)0RE	0	8	0	0	0	0	1	A	0	0	F	B
AST18A(B)0RB	0	8	0	0	0	0	1	A	0	0	F	B
AS18A(B)9RE	0	9	0	0	0	0	1	A	0	2	1	D
SC18ZA(B)9	0	9	0	0	0	0	1	A	0	2	1	D
AS18A(B)0RE	0	8	0	0	0	0	1	A	0	2	1	D
AS18A(B)9RD	0	9	0	0	0	0	1	A	0	2	1	d
AS18A(B)0RD	0	8	0	0	0	0	1	A	0	2	1	d

5-4 PCB Inspection

5-4-1 Cautions for Part Replacement

1. The human body carries much static electricity. Before touching a part for repair, replacement or the similar purpose, be sure to touch a grounded metallic portion by hand to let the static electricity go through the metallic portion to the earth. Especially when handling any micro computer or IC, carefully remove such static electricity before touching them.

2. When repairing any part on a work bench, be sure to place an insulative sheet on the bench and always keep the sheet surface neat without any metal fragments. If any such fragment touches a part, a secondary trouble will possibly be caused in the part.

3. Before replacing any parts, be sure to turn off the power supply. If such replacement is done with the power supply kept on, an electric shock, short circuit or destruction of a part may result.

4. During replacement or repair of a part, carefully handle it : The printed circuit board has fine lead wires (jumper wires) and glass-made parts (diode) on its substrate. So if a circuit board is roughly handled, such lead wires and parts will be easily broken or damaged by bending or shock.

5. When soldering the lead wires of any new part, be sure to polish them using an emery paper or the like before solding them. Since the lead wires of any new part are covered with an oxide film, solder cannot adhere to the lead wires if not polished.

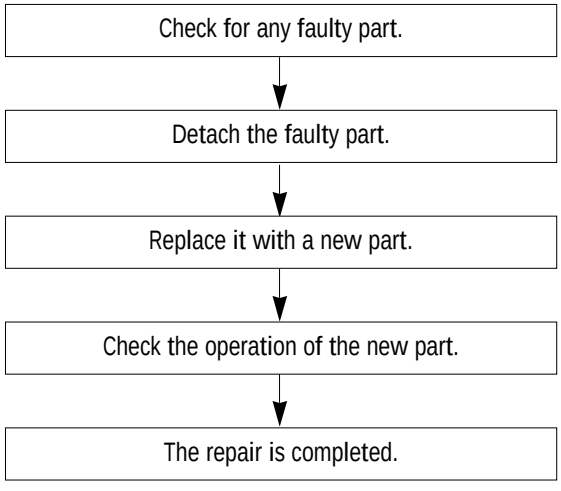
6. When soldering any part, care should be exercised not to apply any high-wattage soldering iron to the part for a long time. Some parts are of so low a heat resistance that they may be broken or have the properties changed if a soldering iron is so applied (Otherwise, the pattern may possibly be separated and raised).

7. The heat of the soldering iron should be transfered to the entire object to be soldered. If the solder pieces are not well fused due to insufficient transfer of the heat from the soldering iron, no satisfactory electrical continuity can be assured even if the soldered objects appear well connected to each other.

8. The solder used should be limited to a minimum. If excessive solder is used, it will cause inter-pattern contact, which may cause malfunction of the circuit.

5-4-2 Procedure

The parts should be replaced in the following procedure.



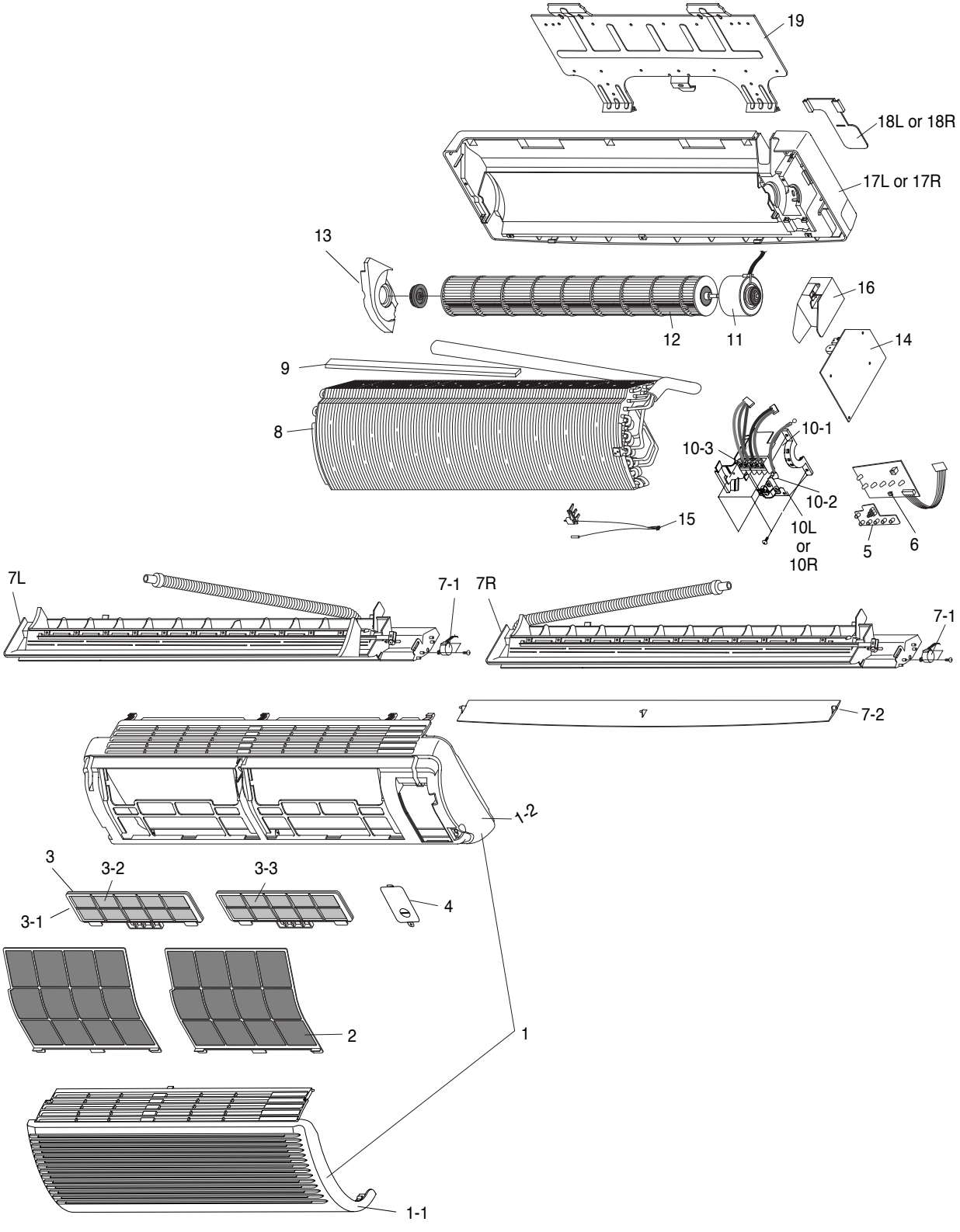
5-4-3 Detailed Procedure

No.	Malfunction	Checking point (symptoms)	Causes
1	Pull out the power plug from the AC terminal and confirm the fuse on the PCB assembly	1. Is the broken?	1. Voltage over 2. Indoor unit fan motor short-circuit.
2	Turn the power on. If lamp blinks trouble is not related to the items 1 through 4 on the right.	Voltage check	
		1. AC voltage at both end of transformer Primary? ; rating voltage ±10% range	1. Irregular power code or power fuse, or poor wiring.
			2. Transformer is faulty.
		3. DC voltage at IN and GND of IC02 ; (KA7805)? 12VDC	3. Power circuit is faulty.
		4. DC voltage at OUT and GND of IC02? ; 5VDC	4. Power circuit is faulty.
		5. DC voltage at Q201 Base and GND change? ; squarewave	5. Q201 is faulty.
3	Set operating mode when RMC switch pushed. Except for [FAN]mode and [TIMER] mode.	Voltage check	
		1. Voltage of relay (RY71) coil Voltage at PIN#11, PIN#12, PIN#15 of IC06 : 12VDC	1. Relay(RY 71) coil is open. IC07 is faulty.
		2. Voltage at CN78 #1 and CN78 #5 ; rating voltage ±10% range	2. Relay(RY 71) contactor is faulty.
4	Set operating mode when RMC switch pushed. 1. COOL mode 2. TURBO operating	1. Compressor does not operate.	1. PCB is faulty. 2. Connecting is faulty
5	Set operating mode when RMC switch pushed. 1. HEAT mode 2. TUBRO operating	1. Compressor does not operate	1. PCB is faulty. 2. Connecting is faulty
6	Set operating mode when RMC switch pushed. 1. [FAN] mode 2. Fan speed [Hi] 3. Continuously operation	1. Voltage at ③ ⑤ both ends of CN73 : above 180V~	1. Indoor unit fan motor is faulty.
		2. Indoor unit fan motor does not operate.	2. Poor connection of indoor fan motor and connector of RPM sensing (CN43)

MEMO

6. Exploded Views and Parts List

6-1 Indoor Unit

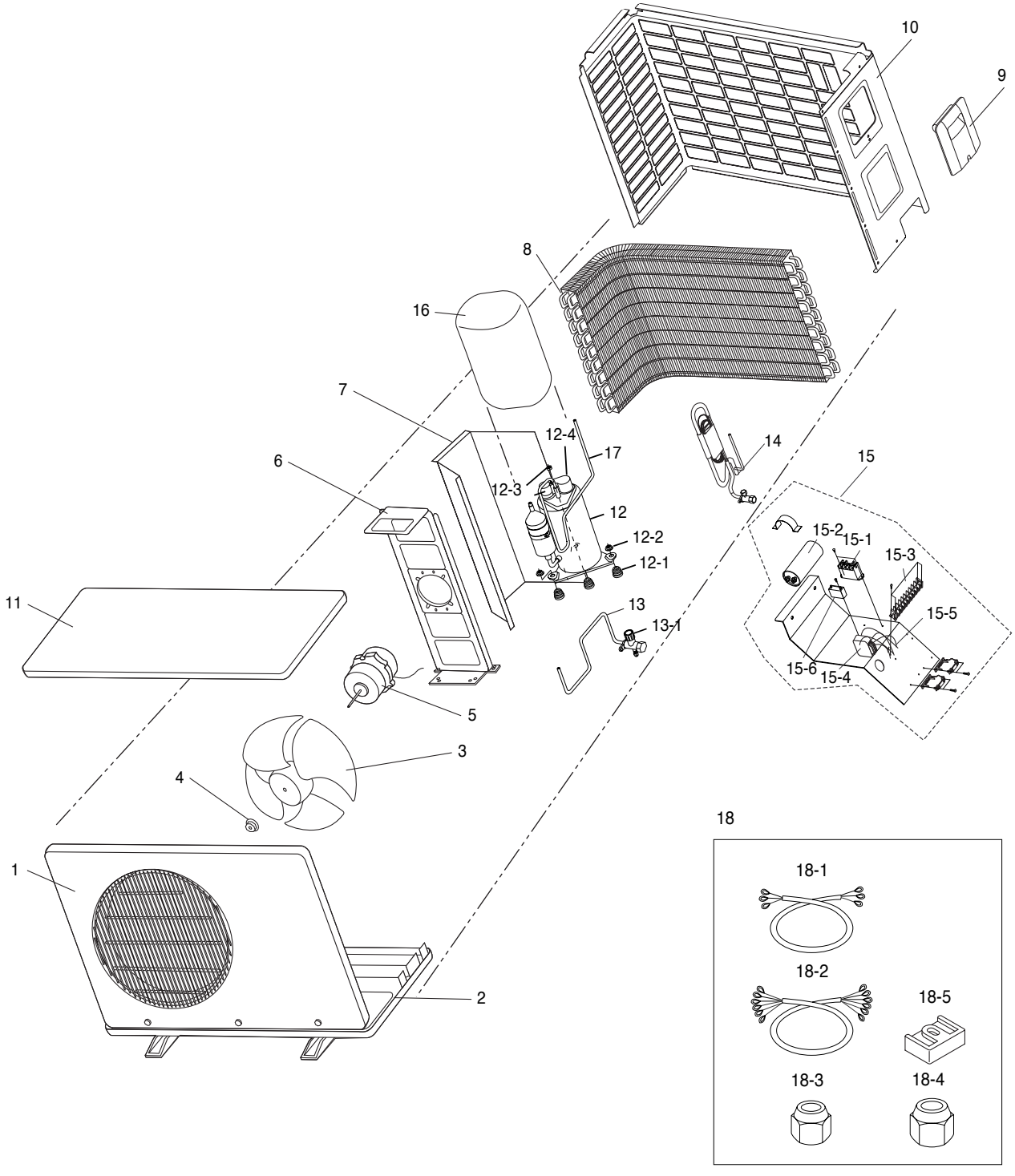


■ Parts List

No.	CODE NO	Description	Specification	QÕTY			Remarks
				AST24✻5(6)RE/B SC24TS5	AST18✻9(0)RE/B	AS18✻9(0)RE/D SC18ZS9	
1	DB92-00035M	ASS'Y FRONT PANEL	ASS'Y	1	1	1	MODEL:*A*
	DB92-00179A	ASS'Y FRONT PANEL	ASS'Y	1	1	1	MODEL:*B*
1-1	DB64-00127A	GRILLE AIR INLET	HIPS	1	1	1	MODEL*A*
	DB64-00278A	GRILLE AIR INLET	HIPS	1	1	1	MODEL*B*
2	DB63-30150C	GUARD AIR FILTER	PP	2	2	2	
3	DB74-10101C	CLEANER FILTER ASS'Y	ASS'Y	1	1	1	OPTION
3-1	DB61-10164B	CASE CLEANER FILTER	PP	2	2	2	OPTION
3-2	DB74-10082A	DEODORIZING FILTER	POLYESTER/CARBON	1	1	1	OPTION
3-3	DB74-10081A	CLEANER FILTER	POLYESTER/COTTON	1	1	1	OPTION
4	DB63-00091A	COVER TERMINAL	ABS(VO)	1	1	1	
5	DB63-00115A	COVER DISPLAY	ABS(BLK)	1	1	1	
6	DB93-00311C	ASS'Y PCB DISPLAY	ASS'Y	1	1	1	
7L	DB94-00029B	ASS'Y TRAY DRAIN	ASS'Y	1	1	1	DRAIN:LEFTSIDE
7R	DB94-00099A	ASS'Y TRAY DRAIN	ASS'Y	1	1	1	DRAIN:RIGHTSIDE
7-1	DB31-10153 B	ASS'Y STEPING MOTOR	STEEPING	1	1	1	
7-2	DB66-00104A	BLADE-H	ABS	1	1	1	
8	DB75-40087G	ASS'Y EVAP	PLATE1.2(5/8")	1	1	-	
	DB75-40087F	ASS'Y EVAP	SLIT1.5(1/2")	-	-	1	
9	DB67-30089E	ASS'Y SPACER	PVC	1	1	1	
10L	DB90-00140B	ASS'Y HOLDER MOTOR	ASS'Y	1	1	-	DRAIN:LEFTSIDE
10L	DB90-00375A	ASS'Y HOLDER MOTOR	ASS'Y	-	-	1	DRAIN:LEFTSIDE
10R	DB90-00140K	ASS'Y HOLDER MOTOR	ASS'Y	1	1	-	DRAIN:RIGHTSIDE
10R	DB90-00433B	ASS'Y HOLDER MOTOR	ASS'Y	-	-	1	DRAIN:RIGHTSIDE
10-2	DB65-10108A	CLIP EARTH WIRE	SECC	1	1	1	
10-3	DB65-00039B	TERMINAL BLOCK ASS'Y	6P,25A	1	1	-	
	DB65-00068A	TERMINAL BLOCK ASS'Y	6P,25A	-	-	1	
11	DB31-10151C	MOTOR FAN IN	IC-9430SKC7A	1	1	1	
12	DB94-00040C	ASS'Y C-F-FAN	ø95xL	1	1	1	
13	DB90-40135B	ASS'Y HOLDER BEARING	ASS'Y	1	1	1	
14	PD-TQ24A1R-01	ASS'Y MAIN PCB	PD-T24A1R-01	1	1	-	
	PE-S1450R-01	ASS'Y MAIN PCB	PE-S1470-01	-	-	1	
15	DB32-00027B	ASS'Y TERMISTOR	103AT	1	1	1	
16	DB61-10163A	CASE CONTROL	ABS(VO)	1	1	1	
17L	DB94-20037H	ASS'Y BACK BODY	ASS'Y	1	1	1	
17R	DB94-00107A	ASS'Y BACK BODY	ASS'Y	1	1	1	
18L	DB90-00163A	HOLDER PIPE	PP	1	1	1	
18R	DB90-00434A	HOLDER PIPE	PP	1	1	1	
19	DB70-10663A	PLATE HANGER	SGCC-M	1	1	1	

6-2 Outdoor Unit

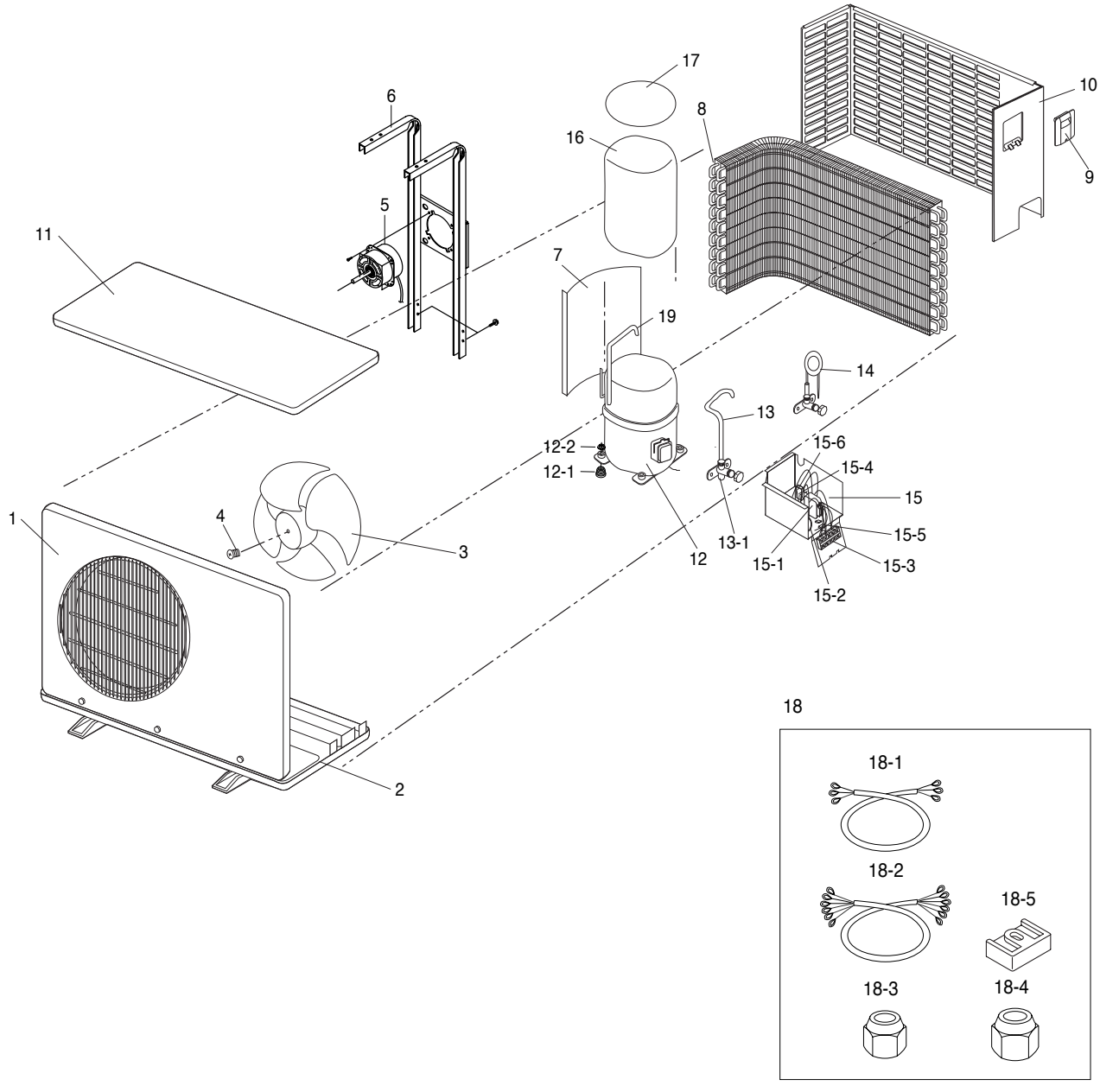
6-2-1 18K BTU



■ Parts List

No.	CODE NO	Description	Specification	QÕTY				Remarks
				UST18A(B)9(0)RE	UST18A(B)9(0)RB	US18A(B)9(0)RE SC18ZA1X	US18A(B)9(0)RD	
1	DB90-00033A	ASS'Y-WELD FRONT	SC-90073T	1	1	1	-	
	DB90-10641M	ASS'Y-WELD FRONT	SC-90073T	-	-	-	1	
2	DB90-20160C	ASS'Y BASE OUT	SC-90073T	1	1	-	-	
	DB90-20160D	ASS'Y BASE OUT	SC-90073T	-	-	1	1	
3	DB67-50063A	ASS'Y FAN	AS+G/F20%	1	1	1	1	
4	DB60-30020A	NET FLANGE	M6LF	1	1	1	1	
5	DB31-00056C	MOTOR FAN OUT	AMASS-030AVEB	1	-	1	1	
	DB31-00056D	MOTOR FAN OUT	AMASS-030ZTEC	-	1	-	-	
6	DB61-20008C	BASE-MOTOR	SGCC-M	1	1	1	1	
7	DB94-50034A	PARTITION	SGCC-M	1	1	1	1	
8	DB75-30103C	ASS'Y-CONDENSER	ASS'Y	1	1	-	-	
	DB75-30130B	ASS'Y-CONDENSER	ASS'Y	-	-	1	1	
9	DB90-40176B	COVER-CONTROL	ABS(V5)	1	1	1	1	
10	DB64-60172A	ASS'Y-CABI BACK	SC-90073T	1	1	1	1	
11	DB90-40124A	TOP COVER	SC-90073T	1	1	-	-	
	DB90-10613D	TOP COVER	SC-90073T	-	-	1	-	
	DB90-00074B	TOP COVER	SC-90073T	-	-	-	1	
12	DB95-10351D	COMPRESSOR	AWG5524EXC	1	-	-	-	
	DB95-10351H	COMPRESSOR	AWG5520EXN	-	1	-	-	
	48B180JV1EH	COMPRESSOR	48B180JV1EH	-	-	1	-	
	48B180MV1EH	COMPRESSOR	48B180MV1EH	-	-	-	1	
12-1	DB73-10008A	GROMMET ISOLATOR	EPDM	4	4	-	-	
	DB73-10004A	GROMMET ISOLATOR	EPDM	-	-	3	3	
12-2	DB60-30028A	NUT WASHER	M8	4	4	3	3	
12-3	DB60-30018A	NUT FLANGE	M5	-	-	1	1	
12-4	DB68-10165D	COVER TERMINAL	NORYL	-	-	1	-	
13	DB96-10638A	ASS'Y SUCTION	ASS'Y	1	1	-	-	
	DB96-10570B	ASS'Y SUCTION	ASS'Y	-	-	1	1	
13-1	DB62-40074C	PACKED V/V 1/2"	10LT/MIN	1	1	1	1	
14	DB96-10640B	ASS'Y-TUBE CAPI	ASS'Y	1	-	-	-	
	DB96-10640A	ASS'Y-TUBE CAPI	ASS'Y	-	1	-	-	
	DB96-10640C	ASS'Y-TUBE CAPI	ASS'Y	-	-	1	1	
15	DB93-00673B	ASS'Y CONTRAL OUT	ASS'Y	1	-	-	-	
	DB93-00673C	ASS'Y CONTRAL OUT	ASS'Y	-	1	-	-	
	DB93-00672A	ASS'Y CONTRAL OUT	ASS'Y	-	-	1	-	
	DB93-00672B	ASS'Y CONTRAL OUT	ASS'Y	-	-	-	1	
15-1	3051-001184	SWITCH MAGNET	45CG20ALB	1	1	-	-	
15-2	2501-001237	COMPOR CAPACITOR	35/450VAC	1	-	-	-	
	2501-001235	COMPOR CAPACITOR	25/450VAC	-	1	-	-	
	2501-001238	COMPOR CAPACITOR	40/450VAC	-	-	1	-	
	2501-001239	COMPOR CAPACITOR	40/450VAC	-	-	-	1	
15-3	DB65-00040A	TERMINAL BLOCK	8P/20A	1	1	1	1	
15-4	DB95-90026B	SPARK KILLER	-	1	1	1	1	
15-5	3601-000236	FUSE	2A,250V	1	1	1	1	
15-6	2501-001370	MOTOR CAPACITOR	2.5F/450VAC	1	1	1	1	
16	DB72-50622A	CLOTH SOUND	-	1	1	-	-	
	DB72-50537A	CLOTH SOUND	-	-	-	1	1	
17	DB96-10728A	ASS'Y-TUBE DISCHARGE	ASS'Y	1	1	-	-	
	DB71-30017A	TUBE DISCHARGE	-	-	-	1	1	
18-1	DB39-00121A	CONNECTOR POWER	3G,2.5mm^2	1	1	1	1	OPTION
18-2	DB39-00122E	CONNECTOR WIRE	6G,1.0mm^2	1	1	-	-	OPTION
	DB39-00473A	CONNECTOR WIRE	4G,AWG16	-	-	1	1	
18-3	DB60-30010A	NUT FLANGE 1/4"	C3771BD	2	2	2	2	
18-4	DB60-30010C	NUT FLANGE 1/2"	C3771BD	2	2	2	2	
18-5	DB73-20134A	RUBBER LEG	IN	4	4	4	4	

6-2-2 24K BTU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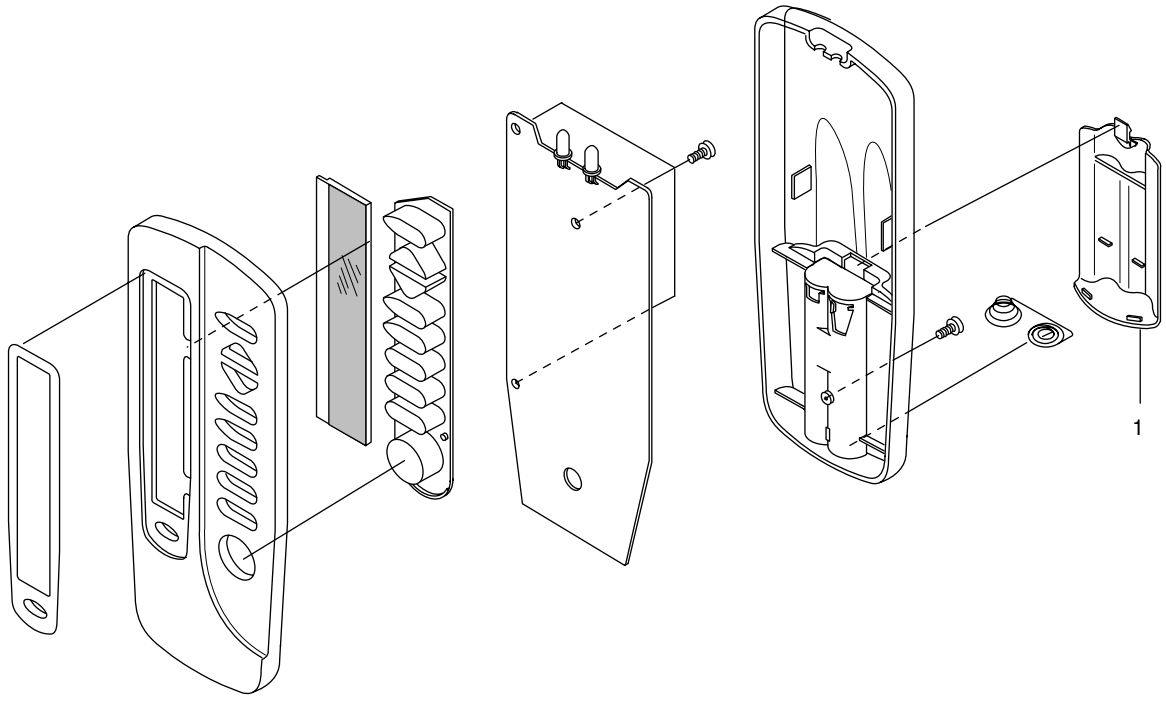
■ Parts List

No.	CODE NO	Description	Specification	QÕTY		Remarks
				UST24A(B)5(6)RE SC24TA(B)5X	UST24A(B)5(6)RB	
1	DB90-10634A	ASS'Y-WELD FRONT	SC-90073T	1	1	
2	DB90-20210A	ASS'Y-BASE OUT	SC-90073T	1	1	
3	DB67-50074A	ASS'Y-FAN	AS+G/F20%	1	1	
4	DB60-20020A	BOLT SPECIAL	M8, L25	1	1	
5	DB31-00027E	MOTOR FAN OUT	OSM-906SRC	1	-	
	DB31-00027F	MOTOR FAN OUT	OSME-906SRC	-	1	
6	DB95-20147A	ASS'Y-MOTOR B/K	SGCC-M	1	1	
7	DB94-50039C	PARTITION	SGCC-M	1	1	
8	DB75-30102D	ASS'Y-CONDENSER	ASS'Y	1	1	
9	DB90-40176B	COVER-CONTROL	ABS(V5)	1	1	
10	DB64-60160C	CABI SIDE OUT	SC-90073T	1	1	
11	DB90-10616A	TOP COVER	SC-90073T	1	1	
12	DB95-10351B	COMPRESSOR	AWG5532EXC	1	-	
	DB95-10351F	COMPRESSOR	AWG5528EXN	-	1	
12-1	DB73-10004A	GROMMET ISOLATOR	EPDM	4	4	
12-2	DB60-00028A	NWT WASHER	M8	4	4	
13	DB96-10727A	ASS'Y-SUCTION	ASS'Y	1	1	
13-1	DB62-40055F	PACKED V/V5/8"	20LT/MIN,5/8"	1	1	
14	DB96-10635C	ASS'Y-TUBE CAPI	UST24A1RE	1	-	
	DB96-10635A	ASS'Y-TUBE CAPI	UST24A1RB	-	1	
15	DB93-00680A	ASS'Y CONTROL OUT	ASS'Y	1	-	
	DB93-00680B	ASS'Y CONTROL OUT	ASS'Y	-	1	
15-1	3501-001184	SWITCH MAGNET	45CG20ALB	1	1	
15-2	2501-001239	COMPOR CAPACITOR	45ßfi X 370VAC	1	-	
	2501-001237	COMPOR CAPACITOR	35ßfi X 450VAC	-	1	
15-3	DB65-00040A	TERMINAL BLOCK	8P/20A	1	1	
15-4	DB95-90026B	SPARK KILLER	-	1	1	
15-5	3601-000236	FUSE	2A,250V	1	1	
15-6	2501-001379	MOTOR CAPACITOR	4ßfi X 450VAC	1	1	
16	DB72-50622A	CLOTH SOUND	-	1	1	
17	DB72-50614A	CLOTH SOUND UP	-	1	1	
18-1	DB39-00121A	CONNECTOR POWER	3G, 2.5mm^2	1	1	OPTION
18-2	DB39-00122E	CONNECTOR WIRE	6G, 1.0mm^2	1	1	OPTION
18-3	DB60-30010A	NUT FLANGE 1/4"	C3771BD	2	2	
18-4	DB60-30010D	NUT FLANGE 5/8"	C3771BD	2	2	
18-5	DB73-20134A	RUBBER-LEG	NR	4	4	
19	DB96-10728A	TUBE-DISCHARGE	-	1	1	

6-3 Remote Control & PCB Box

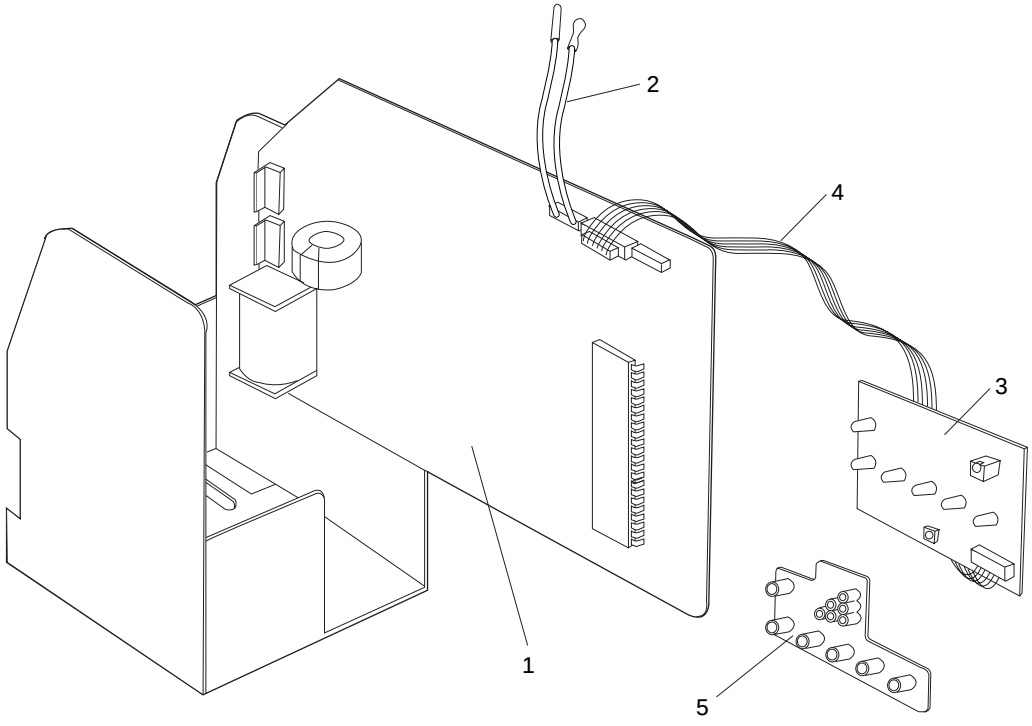
6-3-1 Remote Control : DB93-00251K



■ Parts List

No	Description	Specification	QÕTY	Remark
	ASSÕY PCB REMOCON	ARC-406	-	
1	BATTERY COVER		1	

6-3-2 PCB Box



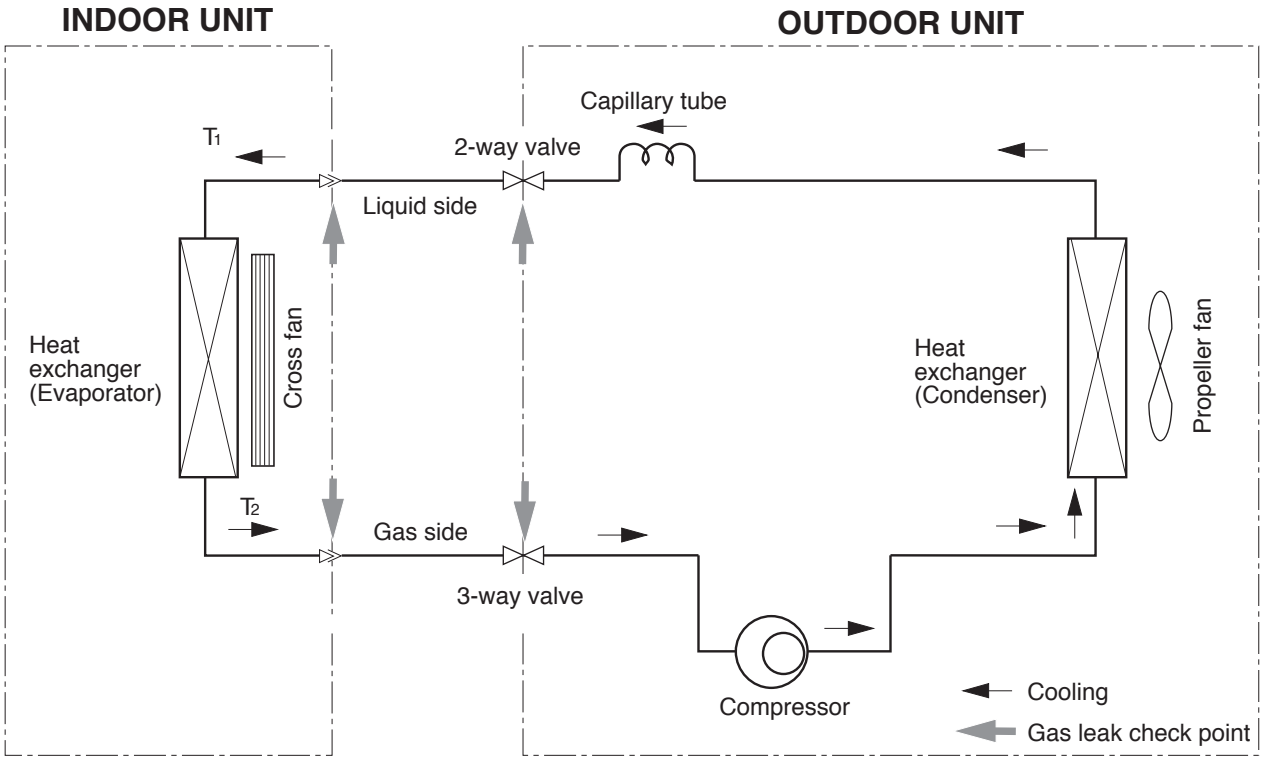
■ Parts List

No	CODE NO	Description	Specification	QÕTY	Remark
1	PD-TQ24A1R-01	ASS'Y MAIN PCB	ASSÕY	1	The others
	PE-S1450R-01	ASS'Y MAIN PCB	ASSÕY	1	AS18A(B)9(0)RE, SC18A(B)9
2	DB32-00027B	ASSÕY THERMISTOR	103AT 240/240		
3	DB93-00311C	ASSÕY PCB DISPLAY	ASSÕY	1	
4	DB39-00172A	CONNECTOR WIRE DISPLAY	AWG#26	1	
5	DB63-00115A	COVER-DISPLAY UP	ABS(BLK)	1	

MEMO

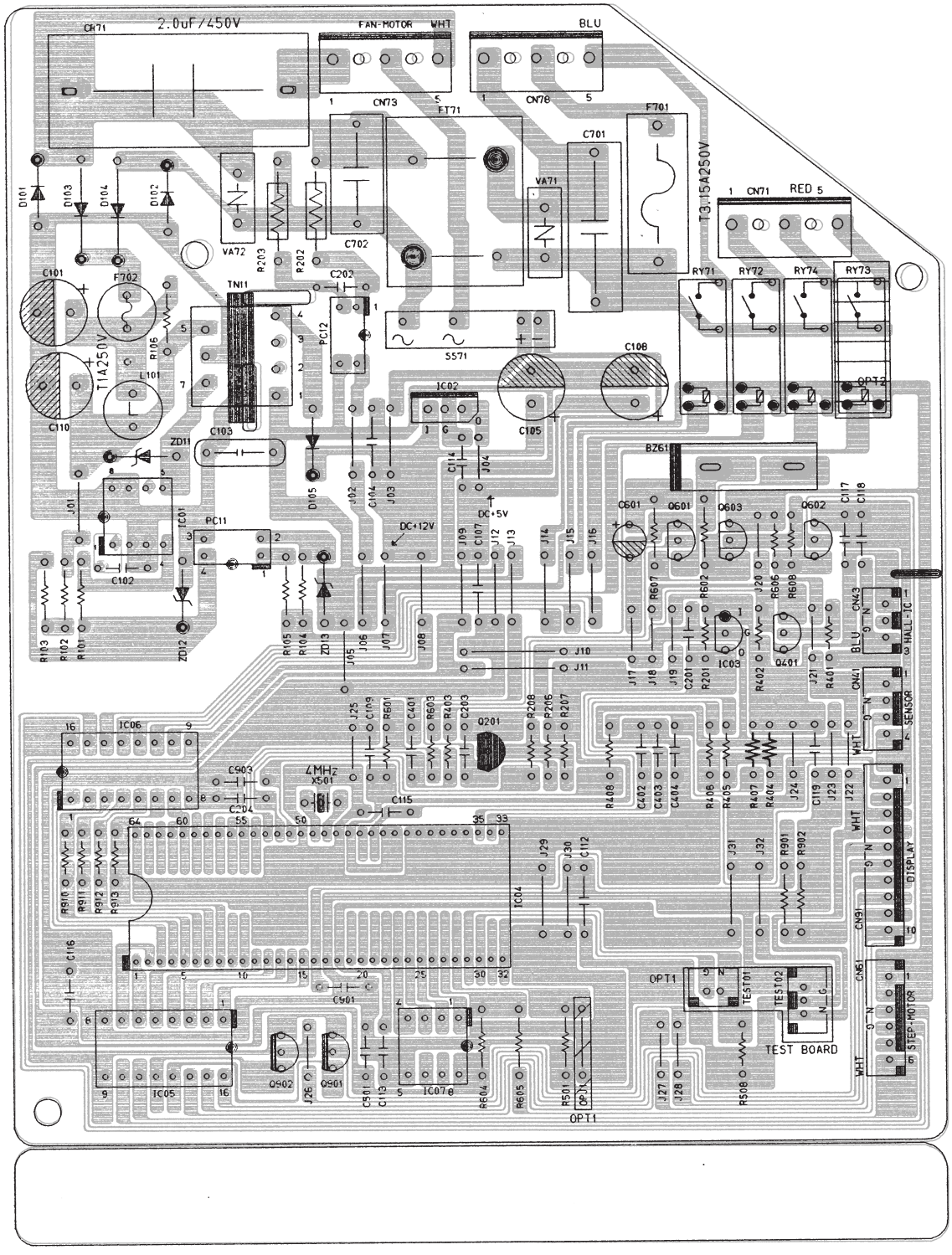
7. Block Diagrams

7-1 Refrigerating Cycle Block Diagram



8. PCB Diagrams

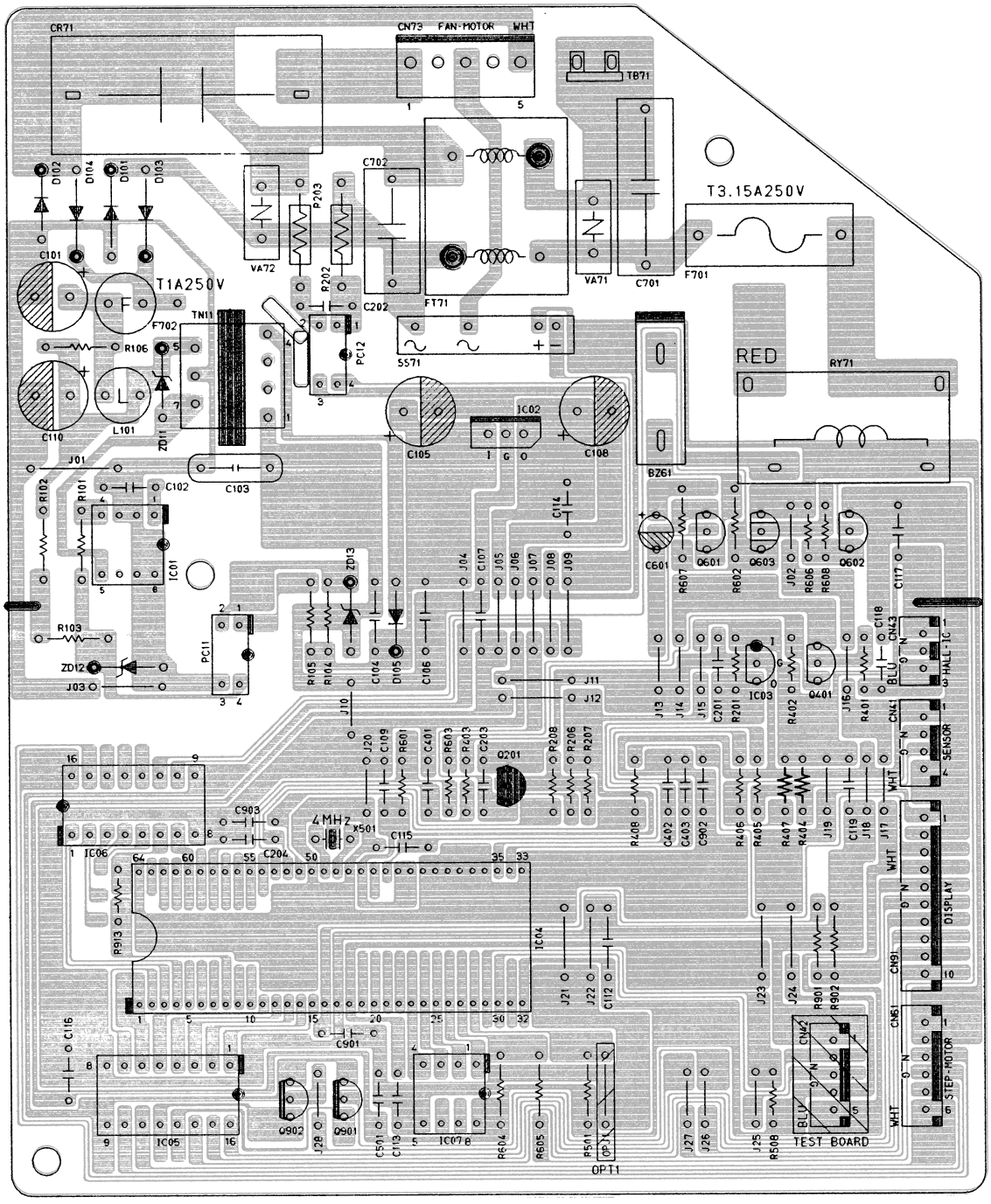
8-1 Main PCB(PD-TQ24A1R-01): AST24A(B)5(6)RE/B, SC24TA(B)5, AST18A(B)9(0)RE/B



■ Parts List

No	Design Location	Description	Specification
1	F701	FUSE	FST 250V 3.15A
2	F701,F101	HOLDER-FUSE	FH-51H 7.5A
3	IC02	IC-VOLT REGU	KA7805A
4	CR71	C-FILM	CQS 450V 2.OuF
5	FT71	FITER NOISE	LSA05230P 250V-2A 23mH*2
6	R104, 105	R-CARBON	RD 1/4 TP 221-J
7	R102, 103	R-CARBON	RD 1/4 TP 334-J
8	R405, 406	R-CARBON	RD 1/8 TP 331-J
9	R201, 207, 208, 401, 403, 408, 603, 605, 608	R-CARBON	RD 1/8 TP 102-J
10	R607	R-CARBON	RD 1/4 TP 561-J
11	R602	R-CARBON	RD 1/2 T(S) 102-J
12	R402	R-CARBON	RD 1/4 TP 682-J
13	R910~R913	R-CARBON	RD 1/8 TP 332-J
14	R404, 407	R-METAL FILM	RD 1/8 TP 682-F
15	D101~104	DIODE-RECT	1N4007
16	SS71	THYRISTOR	G3MB-202PL
17	BZ61	BUZZER	CBE 2220BA STICK
18	C203, 204	C-CERAMIC	CA 0A 50V 103Z
19	C401,404,903	C-CERAMIC	CA 0A 50V 102Z
20	C102,104,107,112~119,201,202,402,403,501,901	C-CERAMIC	CA 0A 50V 104Z
21	C105	C-ELEC	CE04 25V 102
22	C108	C-ELEC	CE04 25V 471-M
23	C601	C-ELEC	47/50V
24	IC04	IC-MCU	uFD78002ACW
25	IC03	IC	KA7533Z
26	X501	RESONATOR-CERAMIC	4MHz
27	ICO5,06	IC-DRIVE	KID65003AP
28	Q401,601,602	TR-GENERAL	KSC945Y
29	Q603	TRANSISTOR	A708Y
30	Q901,902	TRANSISTOR	R2002
31	CN73	CONNECTOR WAFER	YW396-05AV WHT
32	CN43	CONNECTOR WAFER	SMW250-03 BLU
33	CN41	CONNECTOR WAFER	SMW250-04 WHT
34	CN61	CONNECTOR WAFER	SMW250-06 WHT
35	CN91	CONNECTOR WAFER	SMW250-10 WHT
36	J1~J32	WIRE SO COPER	PI0.6 SN T52MM
37	RY71~72, RY74	RELAY	FTR-F3AA012E
38	F702	FUSE	250V-1A
39	IC07	EEPROM	93LC56B-I/P
40	C103	C-FILM,MPEF	222M
41	R101	R-CARBON	RD 1/4 TP 471-J
42	R202,203	R-CARBON	RD 2 TP 513-J
43	ZD11	T.V.S	ST02D-200
44	IC01	TR-SWITCH	TNY 255P
45	D105	FR-DIODE	UG2B
46	ZD12	ZENER 3.6V	BZX55-C3V6
47	ZD13	ZENER 11V	BZX55-C11
48	PC11	PHOTO COUPLER	PC817
49	PC12	PHOTO COUPLER	PC814
50	Q201	TRANSISTOR	R1002
51	TN11	SW-TRANS	DN-OCI
52	R106,901	R-CARBON	RD 1/8 TP 472-J
53	C101,110	C-ELEC	SD 6.8uF 450V
54	L101	COIL	5mH 50mA
55	VA71,72	VARISTOR	INR14D 561K
56	C702	C-FILM	104M 275VX2
57	C701	C-FILM	224M 275VX2
58	R206,501,508,601,604,606,902	R-CARBON	RD 1/8 TP 103-J
59	CN71	CONNECTOR WAFER	YW396-05AV RED
60	CN78	CONNECTOR WAFER	YW396-05AV BLU

8-2 Main PCB(PE-S1450R-01): AS18A(B)9(0)RE/D, SC18A(B)9

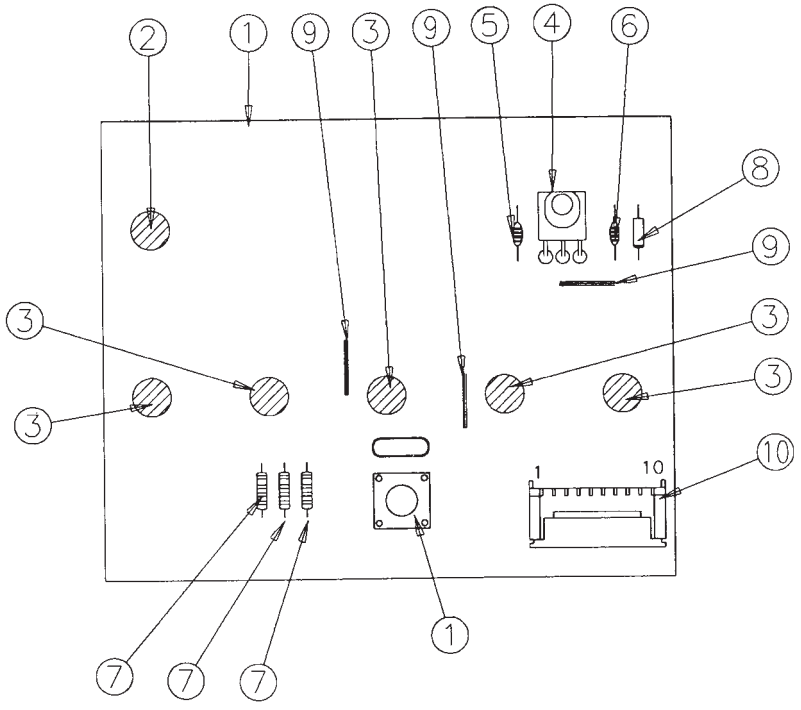


■ Parts List

No	Design Location	Description	Specification
1	F701	FUSE	FST 250V 3.15A
2	F701,F101	HOLDER-FUSE	FH-51H 7.5A
3	IC02	IC-VOLT REGU	KA7805A
4	CR71	C-FILM	CQS 450V 2.OuF
5	FT71	FITER NOISE	LSA05230P 250V-2A 23mH*2
6	R104, 105	R-CARBON	RD 1/4 TP 221-J
7	R102, 103	R-CARBON	RD 1/4 TP 334-J
8	R405, 406	R-CARBON	RD 1/8 TP 331-J
9	R201, 207, 208, 401, 403, 408, 603, 605, 608	R-CARBON	RD 1/8 TP 102-J
10	R607	R-CARBON	RD 1/4 TP 561-J
11	R602	R-CARBON	RD 1/2 T(S) 102-J
12	R402	R-CARBON	RD 1/4 TP 682-J
13	R913	R-CARBON	RD 1/8 TP 332-J
14	R404, 407	R-METAL FILM	RD 1/8 TP 682-F
15	D101~104	DIODE-RECT	1N4007
16	SS71	THYRISTOR	G3MB-202PL
17	BZ61	BUZZER	CBE 2220BA STICK
18	C203, 204, 401	C-CERAMIC	CA 0A 50V 103Z
19	C902, 903	C-CERAMIC	CA 0A 50V 102Z
20	C102,104,106,107,109,112~119,201,202,402,403,501,901	C-CERAMIC	CA 0A 50V 104Z
21	C105	C-ELEC	CE04 25V 102
22	C108	C-ELEC	CE04 25V 471-M
23	C601	C-ELEC	47/50V
24	IC04	IC-MCU	uFD78002ACW
25	IC03	IC	KA7533Z
26	X501	RESONATOR-CERAMIC	4MHz
27	IC05,06	IC-DRIVE	KID65003AP
28	Q401,601,602	TR-GENERAL	KSC945Y
29	Q603	TRANSISTOR	A708Y
30	Q901,902	TRANSISTOR	R2002
31	CN73	CONNECTOR WAFER	YW396-05AV WHT
32	CN43	CONNECTOR WAFER	SMW250-03 BLU
33	CN41	CONNECTOR WAFER	SMW250-04 WHT
34	CN61	CONNECTOR WAFER	SMW250-06 WHT
35	CN91	CONNECTOR WAFER	SMW250-10 WHT
36	J1~J28	WIRE SO COPER	PI0.6 SN T52MM
37	RY71	RELAY-POWER	DI1U
38	F702	FUSE	250V-1A
39	IC07	EEPROM	93LC56B-I/P
40	C103	C-FILM, MPEF	222M
41	R101	R-CARBON	RD 1/4 TP 471-J
42	R202, 203	R-CARBON	RD 2 TP 513-J
43	ZD11	T.V.S	ST02D-200
44	IC01	TR-SWITCH	TNY 255P
45	D105	FR-DIODE	UG2B
46	ZD12	ZENER 3.6V	BZX55-C3V6
47	ZD13	ZENER 11V	BZX55-C11
48	PC11	PHOTO COUPLER	PC817
49	PC12	PHOTO COUPLER	PC814
50	Q201	TRANSISTOR	R1002
51	TN11	SW-TRANS	DN-OCI
52	R106, 901	R-CARBON	RD 1/8 TP 472-J
53	C101, 110	C-ELEC	SD 6.8uF 450V
54	L101	COIL	5mH 50mA
55	VA71, 72	VARISTOR	INR14D 561K
56	C702	C-FILM	104M 275VX2
57	C701	C-FILM	224M 275VX2
58	TB71	CONNECTOR-WIRE	250TAP 1PIN
59	R206, 501, 508, 601, 604, 606, 902	R-CARBON	RD 1/8 TP 103-J

8-2 ASSÕY DISPLAY & Module

• ASS'Y DISPLAY & MODULE PCB : DB93-00311C



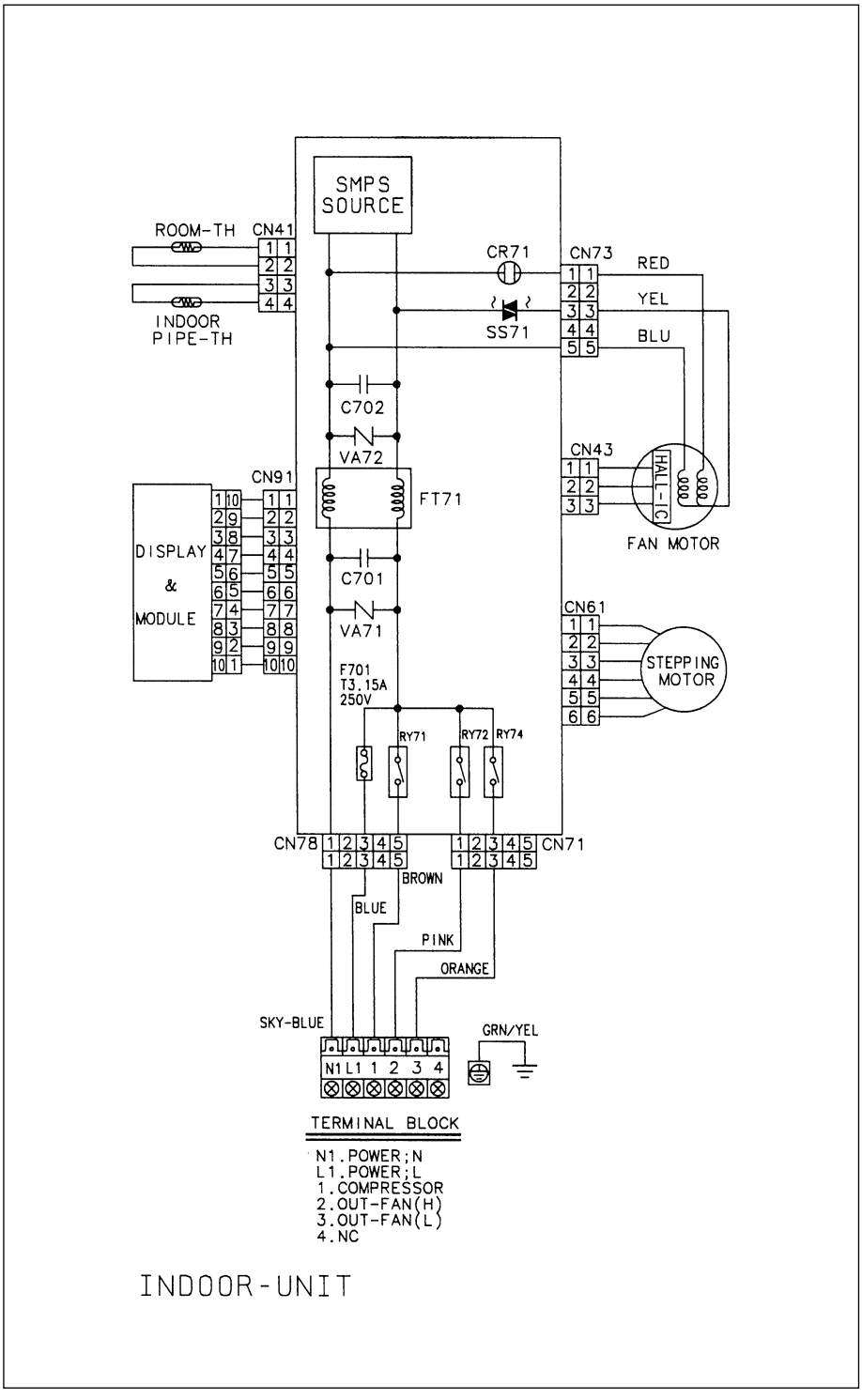
■ Parts List

NO	Description	Specification	QÕTY
1	PCB-DISPLAY	FR-1 T1.6	1
2	LED-LAMP	SY5511(YEL)	1
3	LED-LAMP	S05511(ORG)	5
4	MODULE REMCOON	PNA4612MOOHB	1
5	C-CERAMIC	CA 0A 50V 102Z	1
6	C-CERAMIC	CA 0A 50V 104Z	1
7	R-CARBON	RD 1/4 TP 471-J	3
8	DIODE SWITCHING	1N4148	1
9	JUMP-WIRE	10mm	3
10	CONNECTOR WAFER	SMAW200-10P	1
11	COVER DISPLAY UP	ABS BLK	1

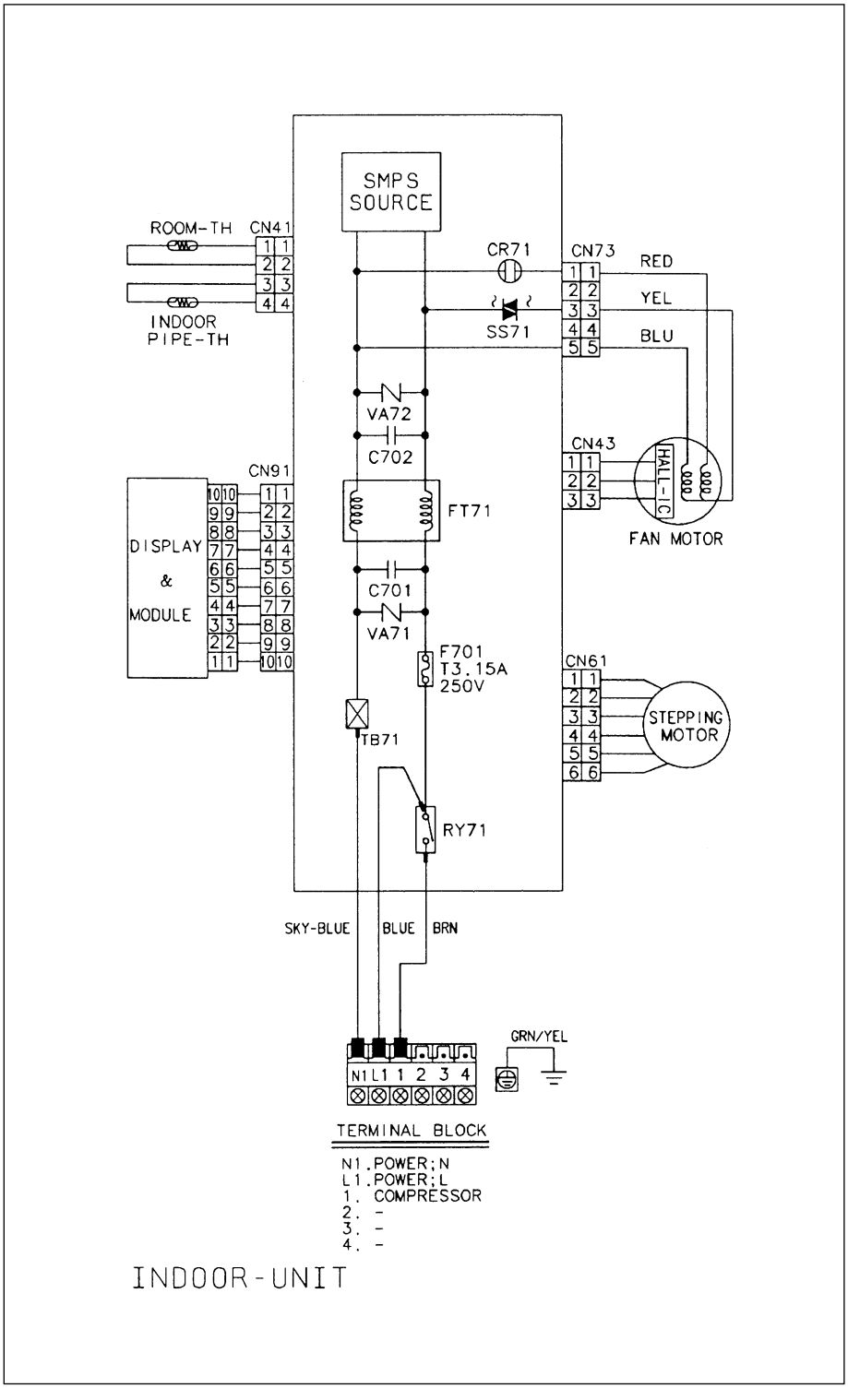
9. Wiring Diagrams

9-1 Indoor Unit

■ **AST24A(B)5(6)RE/B, AST18A(B)9(0)RE/B, SC24TA(B)5**

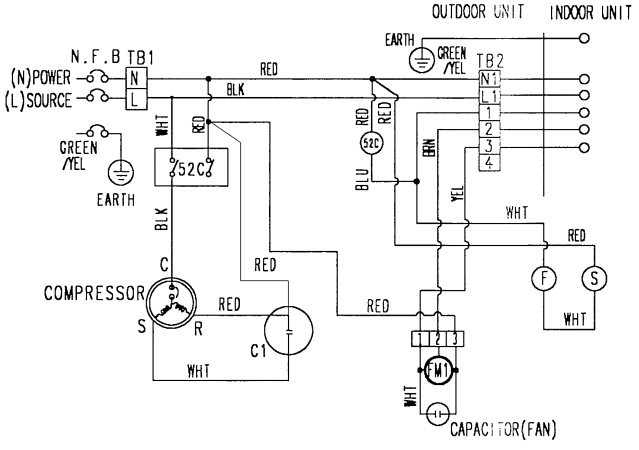


■ **AS18A(B)9(0)RE/D, SC18A9B)9**



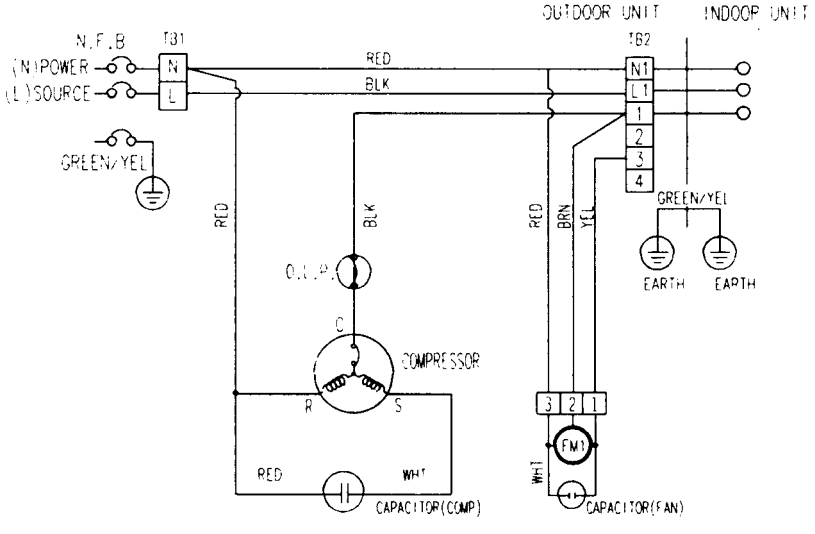
9-2 Outdoor Unit

■ UST24A(B)5(6)RE/B, UST18A(B)9(0)RE/B, SC24TA(B)5X



MARK	NAME	MARK	NAME
52C	MAGNETIC CONTACTOR	TB1, 2	TERMINAL BLOK
C1	CAPACITOR	FM1	FAN MOTOR
F	FUSE(2A, 250V~)	S	SPARK KILLER

■ US18A(B)9(0)RE, SC18ZA(B)9X



UPDATE LOG SHEET

Application date	Page	Part#	Note(Cause & Solution)	S/Bulletin#

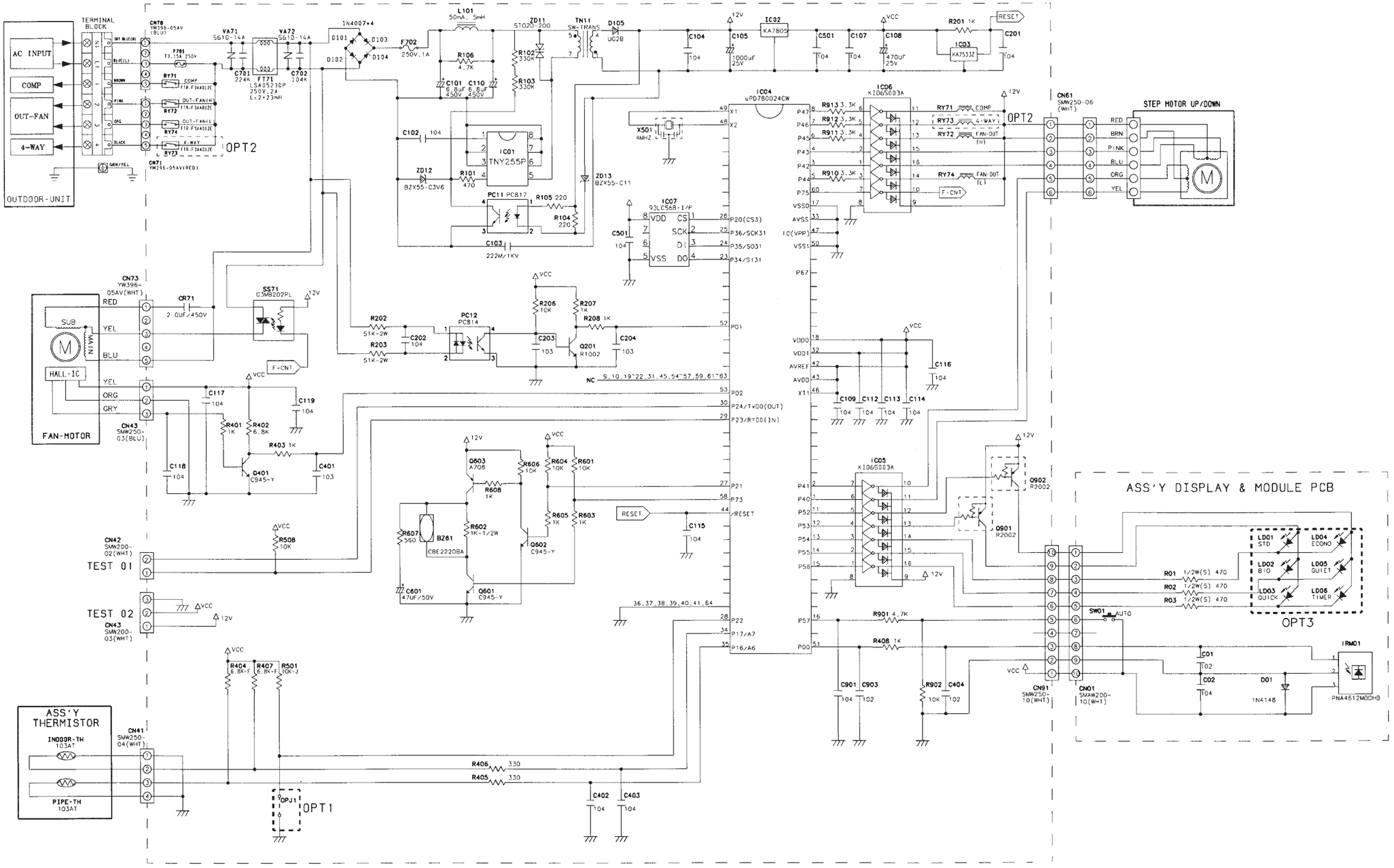
Use this page to keep any special servicing information. (Service Bulletin, etc.)
If only parts number changes, Just change parts number directly on parts list.
And if you need more information, please see the service website.

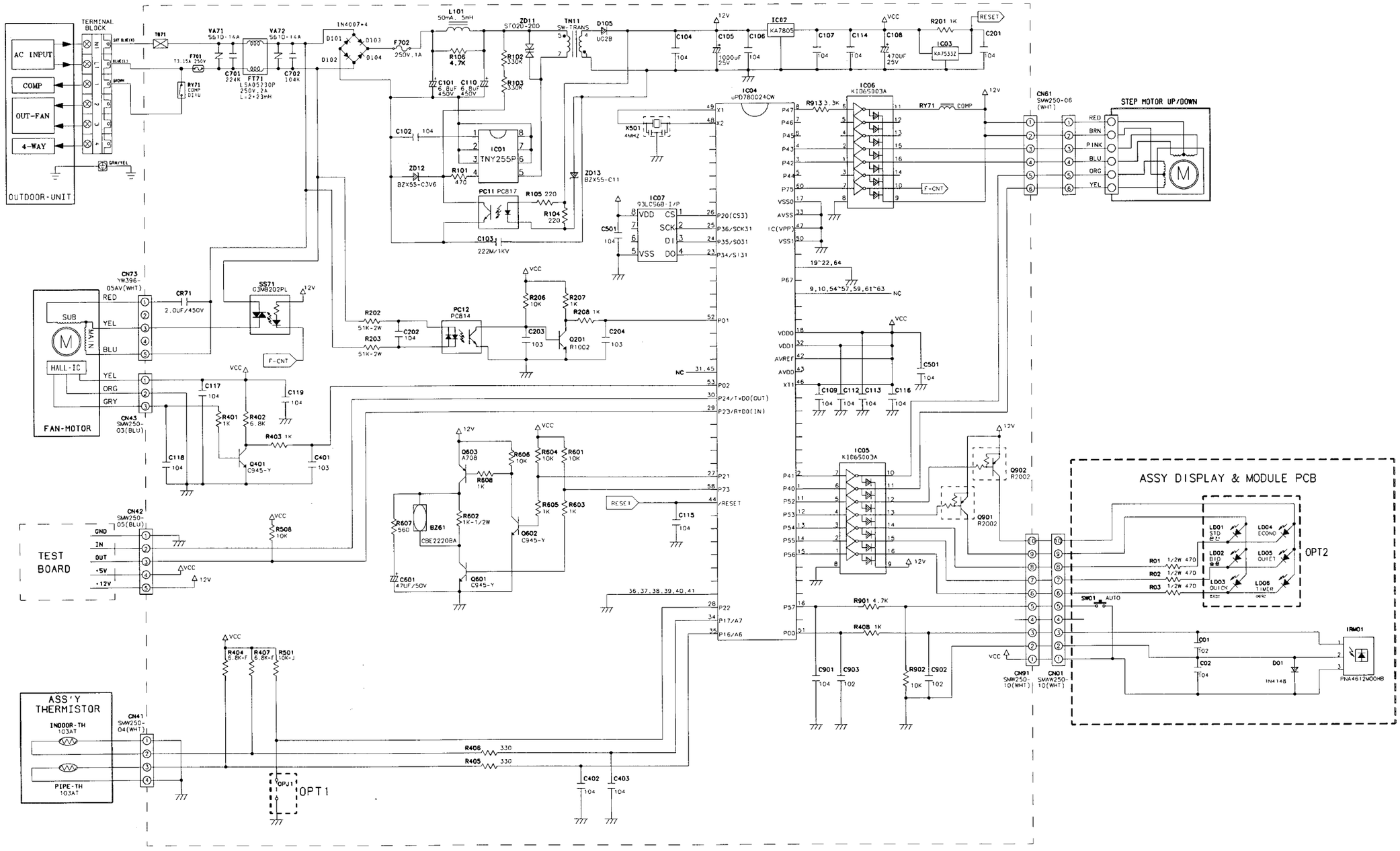
Itself Solution Integrated technology supporting electronic library
http://itself.sec.samsung.co.kr

Printed in Korea.

10. Schematic Diagrams

10-1 Indoor Unit




TERMINAL BLOCK
AC INPUT
COMP
OUT-FAN
4-WAY
OUTDOOR-UNIT
T871
F701 T3.15A 250V
F702 250V,1A
RY71 COMP DIYU
FT71 LSA05230P 250V,2A L=2*23mH
V471 S610-14A
V472 S610-14A
C701 224K
C702 104K
1N4007*4
D101
D102
D103
D104
L101 50mA, 5mH
ZD11 ST020-200
TN11 SW-TRANS
D105 UG2B
R106 4.7K
R102 330K
R103 330K
C101 6.8uF 450V
C110 6.8uF 450V
C102 104
ZD12 BZX55-C3V6
R101 470
ZD13 BZX55-C11
PC11 PC817
R105 220
R104 220
C103 222M/1KV
IC01 TNY255P
IC02 KA7805
IC03 KA7533Z
C104 104
C105 1000uF 25V
C106 104
C107 104
C114 104
C108 470UF 25V
R201 1K
RESET
C201 104
IC04 uPD780024CW
X501 4MHZ
IC06 KID65003A
R913 3.3K
RY71 COMP
F-CNT
CN61 SMW250-06 (WHT)
STEP MOTOR UP/DOWN
RED
BRN
PINK
BLU
ORG
YEL
IC07 93LC56B-I/P
C501 104
P20(CS3)
P36/SCK31
P35/SO31
P34/SI31
P67
19~22,64
9,10,54~57,59,61~63
NC
C501 104
C109 C112 C113 C116 104
CN73 YW396-05AV(WHT)
SUB
MAIN
RED
YEL
BLU
HALL-IC
YEL
ORG
GRY
FAN-MOTOR
CR71 2.0UF/450V
SS71 G3VM202PL
R202 51K-2W
R203 51K-2W
C202 104
PC12 PC814
R206 10K
R207 1K
R208 1K
C203 103
Q201 R1002
C204 103
P01
NC 31,45
P02
P24/TxD0(OUT)
P23/RxD0(IN)
C117 104
C119 104
R401 1K
R402 6.8K
R403 1K
Q401 C945-Y
C401 103
C118 104
CN43 SMW250-03(BLU)
Q603 A708
R606 10K
R604 10K
R601 10K
R608 1K
R605 1K
R603 1K
R602 1K-1/2W
R607 560
BZ61 CBE2220BA
Q602 C945-Y
Q601 C945-Y
C601 47UF/50V
RESET
C115 104
P21
P73
/RESET
36,37,38,39,40,41
P22
P17/A7
P16/A6
CN42 SMW250-05(BLU)
GND
IN
OUT
+5V
+12V
TEST BOARD
R508 10K
R404 6.8K-F
R407 6.8K-F
R501 10K-J
ASS'Y THERMISTOR
INDOOR-TH 103AT
PIPE-TH 103AT
CN41 SMW250-04(WHT)
R406 330
R405 330
OPJ1
OPT1
C402 104
C403 104
IC05 KID65003A
P41
P40
P52
P53
P54
P55
P56
P57
P00
R901 4.7K
R408 1K
C901 104
C903 102
R902 10K
C902 102
Q902 R2002
Q901 R2002
CN91 SMW250-10(WHT)
CN01 SMW250-10(WHT)
ASSY DISPLAY & MODULE PCB
LD01 STD
LD04 ECONO
LD02 BIO
LD05 QUIET
LD03 QUICK
LD06 TIMER
OPT2
R01 1/2W 470
R02 1/2W 470
R03 1/2W 470
SW01 AUTO
C01 102
C02 104
D01 1N4148
IRM01 PNA4612M00HB