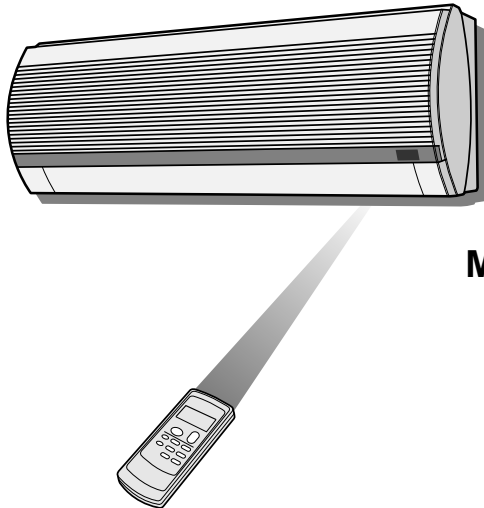


# SHARP SERVICE MANUAL

S4216AYA09BE/



## SPLIT SYSTEM ROOM AIR CONDITIONERS

- MODELS**
- INDOOR UNIT**
- AH-A07BE/A09BE/A12BE**
  - AH-A07BE-C/A09BE-C**
  - AY-A07BE/A09BE/A12BE**
  - AY-A07BE-C/A09BE-C**
- OUTDOOR UNIT**
- AU-A07BE/A09BE/A12BE**
  - AU-A07BE-C/A09BE-C**
  - AE-A07BE/A09BE/A12BE**

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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**SHARP CORPORATION**

## SPECIFICATIONS

ITEMS		INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT
		AY-A07BE	AE-A07BE	AY-A07BE-C	AE-A07BE-C
Cooling capacity	kW	2.1			
Heat pump Heating capacity	kW	2.4			
Moisture removal	Liters/h	0.7			

### Electrical data

Phase	-		Single			
Rated frequency	Hz		50			
Rated voltage range	V		198 to 264			
Rated voltage	V		220 - 240			
Rated current *	Cool	A	3.1 - 3.0			
	Heat	A	2.9 - 2.8			
Rated input *	Cool	W	650 - 690			
	Heat	W	600 - 640			
Power factor *	Cool	%	95 - 96			
	Heat	%	94 - 95			
Compressor	Type		Hermetically sealed rotary type			
	Model		QK134PA13A		RH135VHST	
	Oil charge		300cc (SUNISO 4GSI)		300cc (DIAMOND MS56)	
Refrigerant system	Evaporator		Louver fin and Bare tube type			
	Condenser		Corrugate fin and Grooved tube type			
	Control		Capillary tube			
	Refrigerant volume		700g		650g	
De-Ice system		Micro computercontrolled reverse systyem				
Noise level (at cooling)	High	dB(A)	33	43	33	43
	Med.	dB(A)	29	-	29	-
	Low	dB(A)	27	-	27	-

### Fan system

Drive			Direct drive			
Air flow quantity	High	m <sup>3</sup> /min.	7.2	21	7.2	21
	Med.	m <sup>3</sup> /min.	6.0	-	6.0	-
	Low	m <sup>3</sup> /min.	4.8	-	4.8	-
Fan			Cross flow fan	Propeller fan	Cross flow fan	Propeller fan

### Connections

Refrigerant coupling			Flare type			
Refrigerant tube size Gas, Liquid			3/8", 1/4"			
Drain piping		mm	O.D ø 18			

### Others

Safety device			Compressor: Overload protector		Compressor: Overload protector (Internal)	
			Fan motor: Thermal fuse			
			Fuse, Micro computer control			
Air filters			Polypropylene net (Washable)			
Net dimensions	Width	mm	815	720	815	720
	Height	mm	278	535	278	535
	Depth	mm	198	236	198	236
Net weight		kg	9	30	9	30

Note: The condition of star( \* ) marked item are 'ISO5151' : 1994(E), condition T1.

ITEMS		INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT
		AY-A09BE	AE-A09BE	AY-A09BE-C	AE-A09BE-C	AY-A12BE	AE-A12BE
Cooling capacity	kW	2.64				3.5	
Heat pump	kW	3.1				4.0	
Heating capacity							
Moisture removal	Liters/h	0.8				1.2	

#### Electrical data

Phase	–		Single					
Rated frequency	Hz		50					
Rated voltage range	V		198 to 264					
Rated voltage	V		220 - 240					
Rated current *	Cool	A	3.8 - 3.6				5.0 - 4.8	
	Heat	A	3.7 - 3.5				5.0 - 4.8	
Rated input *	Cool	W	820 - 850				1090 - 1120	
	Heat	W	810 - 840				1080 - 1120	
Power factor *	Cool	%	98 - 98				99 - 97	
	Heat	%	100 - 100				98 - 97	
Compressor	Type		Hermetically sealed rotary type					
	Model		QK164PA13A		RH165VHET		RH207VHET	
	Oil charge		300cc (SUNISO 4GSI)		300cc (DIAMOND MS56)		520cc (DIAMOND MS56)	
Refrigerant system	Evaporator		Louver fin and Grooved tube type					
	Condenser		Corrugate fin and Grooved tube type					
	Control		Capillary tube					
	Refrigerant volume		740g		690g		970g	
De-Ice system		Micro computercontrolled reverse systyem						
Noise level (at cooling)	High	dB(A)	36	43	36	43	38	48
	Med.	dB(A)	32	–	32	–	33	–
	Low	dB(A)	27	–	27	–	29	–

#### Fan system

Drive	Direct drive							
Air flow quantity Overload	High	m³/min.	8.6	28	8.6	28	9.3	30
	Med.	m³/min.	6.8	–	6.8	–	8.4	–
	Low	m³/min.	5.3	–	5.3	–	7.4	–
Fan			Cross flow fan	Propeller fan	Cross flow fan	Propeller fan	Cross flow fan	Propeller fan

#### Connections

Refrigerant coupling	Flare type							
Refrigerant tube size Gas, Liquid	3/8", 1/4"						1/2", 1/4"	
Drain piping	mm		O.D ø 18					

#### Others

Safety device			Compressor:		Compressor: Overload protector (Internal)					
			Overload protector							
			Fan motor: Thermal fuse							
			Fuse, Micro computer control							
Air filters			Polypropylene net (Washable)							
Net dimensions	Width	mm	815	780	815	780	815	780		
	Height	mm	278	540	278	540	278	540		
	Depth	mm	198	269	198	269	198	269		
Net weight	kg		9	34	9	34	10	39		

Note: The condition of star( \* ) marked item are 'ISO5151' : 1994(E), condition T1.

ITEMS		INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT
		AH-A07BE	AU-A07BE	AH-A07BE-C	AU-A07BE-C
Cooling capacity	kW	2.1			
Moisture removal	Liters/h	0.7			

#### Electrical data

Phase	–	Single				
Rated frequency	Hz	50				
Rated voltage range	V	198 to 264				
Rated voltage	V	220 - 240				
Rated current *	A	3.1 - 3.0				
Rated input *	W	650 - 690				
Power factor *	%	95 - 96				
Compressor	Type	Hermetically sealed rotary type				
	Model	QK134PA13A		RH130VHST		
	Oil charge	300cc (SUNISO 4GSI)		300cc (DIAMOND MS 56)		
Refrigerant system	Evaporator	Louver fin and Bare tube type				
	Condenser	Louver fin and Bare tube type				
	Control	Capillary tube				
	Refrigerant volume	480g		470g		
Noise level (at cooling)	High	dB(A)	33	43	33	43
	Med.	dB(A)	29	–	29	–
	Low	dB(A)	27	–	27	–

#### Fan system

Drive	Direct drive						
Air flow quantity	High	m <sup>3</sup> /min.	7.2	20	7.2	20	
	Med.	m <sup>3</sup> /min.	6.0	–	6.0	–	
	Low	m <sup>3</sup> /min.	4.8	–	4.8	–	
Fan	Cross flow fan		Propeller fan		Cross flow fan		Propeller fan

#### Connections

Refrigerant coupling	Flare type					
Refrigerant tube size Gas, Liquid	3/8", 1/4"					
Drain piping	mm	O.D ø 18				

#### Others

Safety device	Compressor: Overload protector			Compressor: Overload protector (Internal)		
	Fan motor: Thermal fuse					
	Fuse, Micro computer control					
Air filters	Polypropylene net (Washable)					
Net dimensions	Width	mm	815	720	815	720
	Height	mm	278	535	278	535
	Depth	mm	198	236	198	236
Net weight	kg	9		29		29

Note: The condition of star( \* ) marked item are 'ISO5151' : 1994(E), condition T1.

ITEMS		INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT
		AH-A09BE	AU-A09BE	AH-A09BE-C	AU-A09BE-C	AH-A12BE	AU-A12BE
Cooling capacity	kW	2.64				3.5	
Moisture removal	Liters/h	0.8				1.2	

#### Electrical data

Phase	–	Single						
Rated frequency	Hz	50						
Rated voltage range	V	198 to 264						
Rated voltage	V	220 - 240						
Rated current *	A	3.8 - 3.6				5.0 - 4.8		
Rated input *	W	820 - 850				1090 - 1120		
Power factor *	%	98 - 98				99 - 97		
Compressor	Type	Hermetically sealed rotary type						
	Model	QK164PA13A		RH154VHST		RH207VHET		
	Oil charge	300cc (SUNISO 4GSI)		300cc (DIAMOND MS56)		520cc (DIAMOND MS56)		
Refrigerant system	Evaporator	Louver fin and Grooved tube type						
	Condenser	Louver fin and Grooved tube type						
	Control	Capillary tube						
	Refrigerant volume	550g		560g		870g		
Noise level (at cooling)	High	dB(A)	36	43	36	43	38	48
	Med.	dB(A)	32	–	32	–	33	–
	Low	dB(A)	27	–	27	–	29	–

#### Fan system

Drive	Direct drive							
Air flow quantity	High	m <sup>3</sup> /min.	8.6	28	8.6	28	9.3	30.0
	Med.	m <sup>3</sup> /min.	6.8	–	6.8	–	8.4	–
	Low	m <sup>3</sup> /min.	5.3	–	5.3	–	7.4	–
Fan	Cross flow fan		Propeller fan		Cross flow fan		Propeller fan	

#### Connections

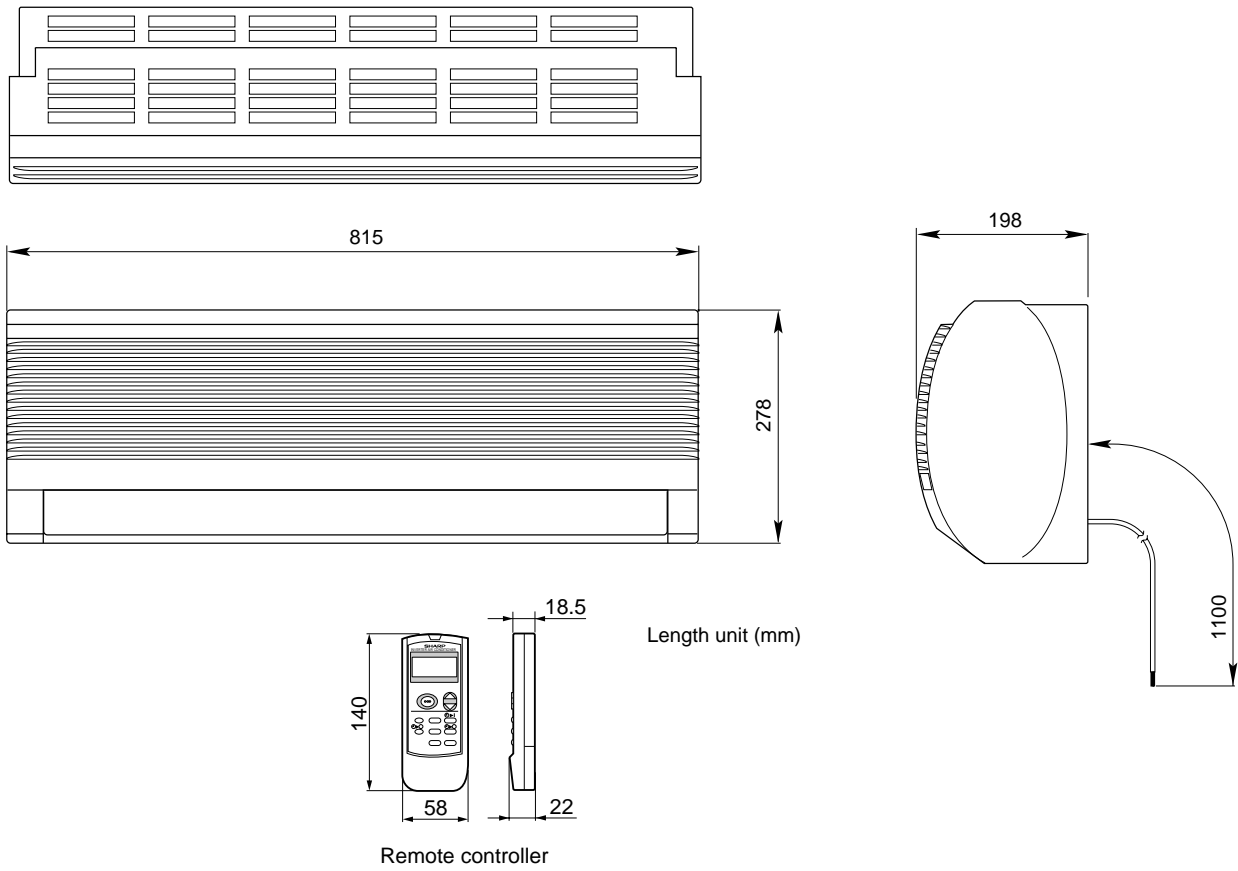
Refrigerant coupling	Flare type						
Refrigerant tube size Gas, Liquid	3/8", 1/4"				1/2", 1/4"		
Drain piping	mm	O.D ø 18					

#### Others

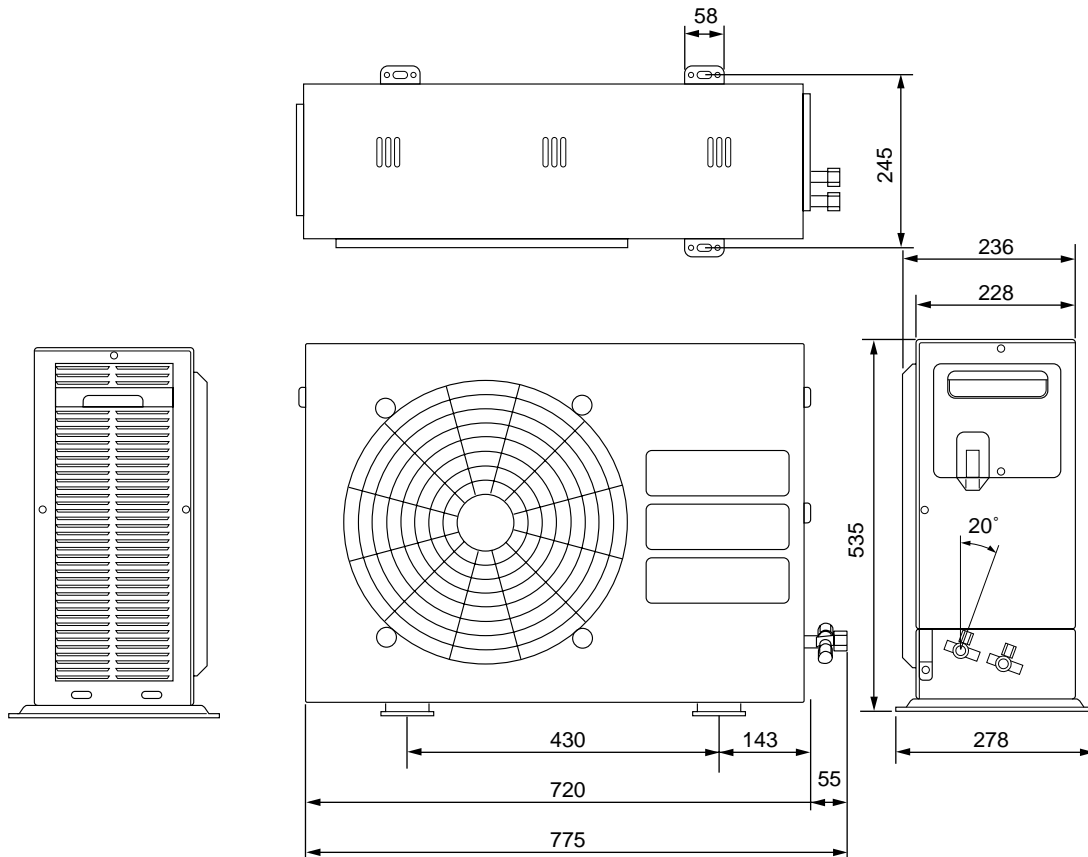
Safety device	Compressor: Overload protector		Compressor: Overload protector (Internal)					
	Fan motor: Thermal fuse							
	Fuse, Micro computer control							
Air filters	Polypropylene net (Washable)							
Net dimensions	Width	mm	815	780	815	780	815	780
	Height	mm	278	540	278	540	278	540
	Depth	mm	198	269	198	269	198	269
Net weight	kg	9	33	9	33	10	38	

Note: The condition of star( \* ) marked item are 'ISO5151' : 1994(E), condition T1.

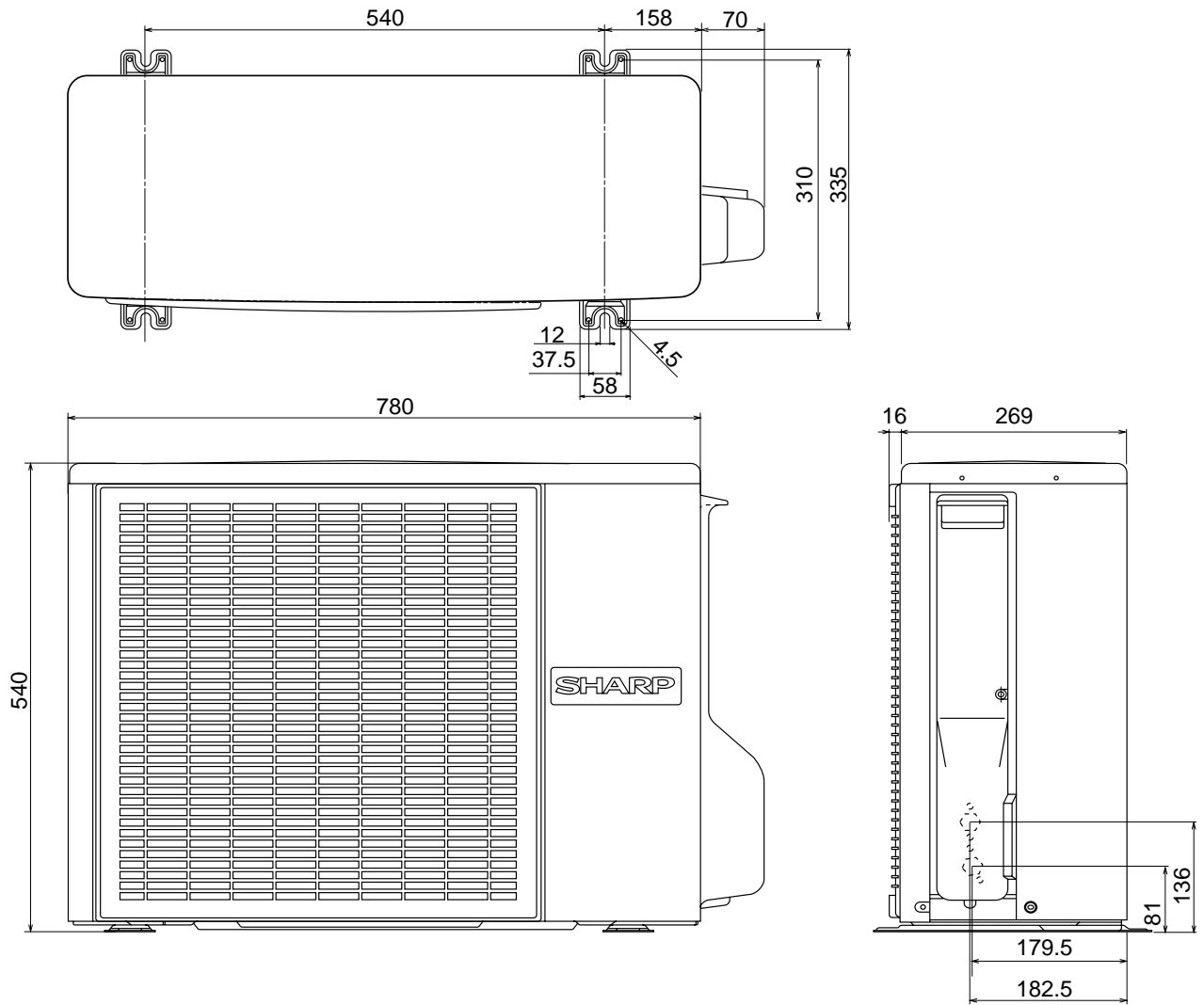
## EXTERNAL DIMENSIONS



**Figure E-1. INDOOR UNIT**



**Figure E-2. OUTDOOR UNIT FOR AE-A07BE/AE-A07BE-C AND AU-A07BE/AU-A07BE-C**



**Figure E-3. OUTDOOR UNIT FOR AE-A09BE/AE-A09BE-C/A12BE AND AU-A09BE/AU-A09BE-C/A12BE**

## WIRING DIAGRAMS

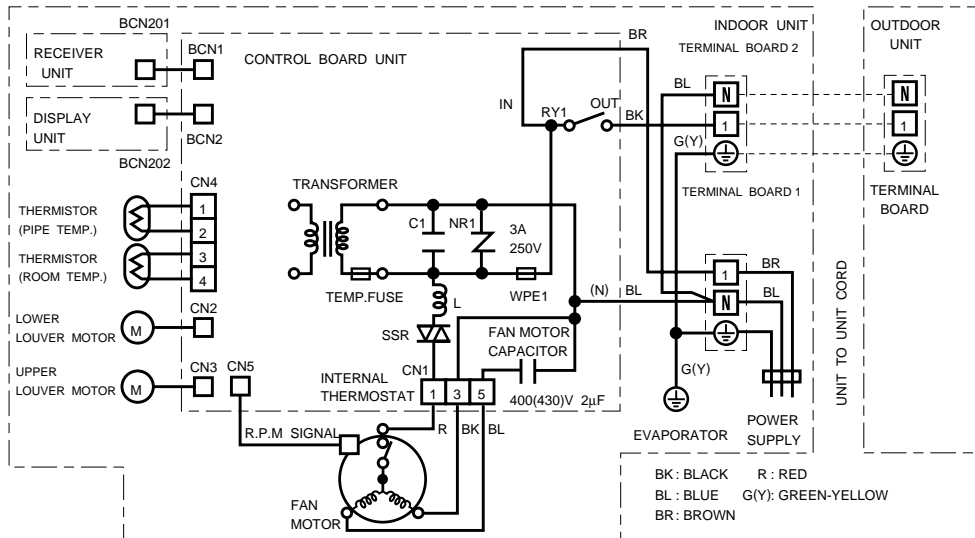


Figure W-1. Wiring Diagram for AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE

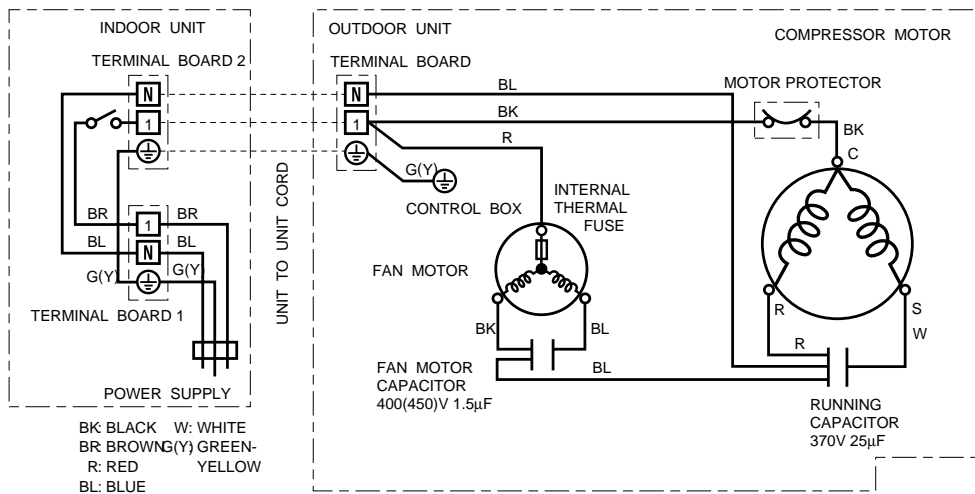


Figure W-2. Wiring Diagram for AU-A07BE

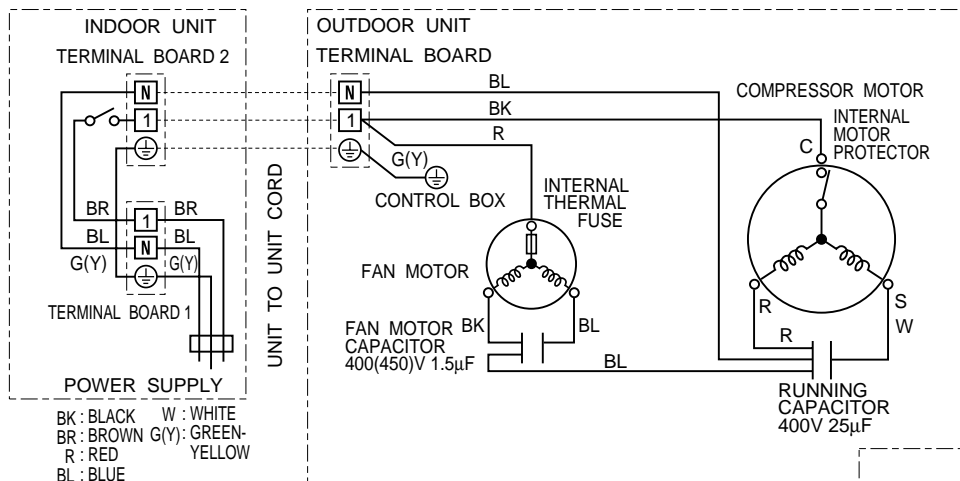
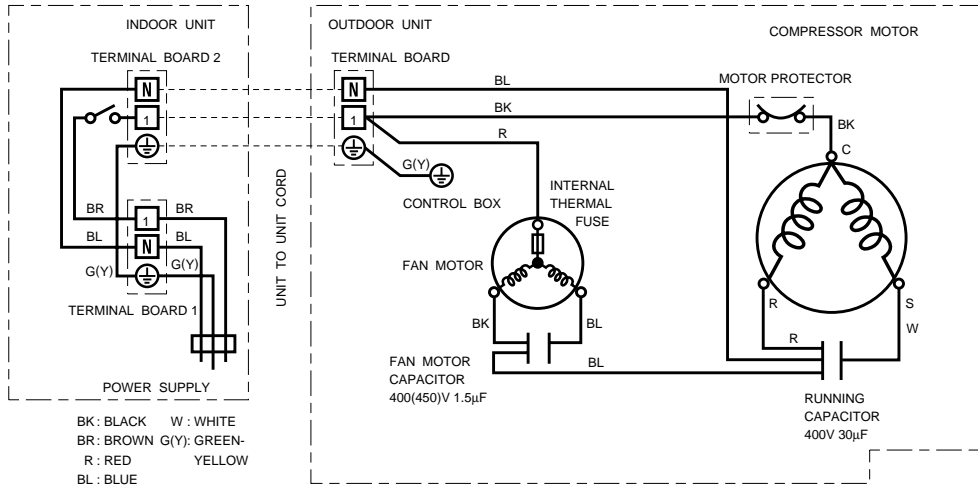
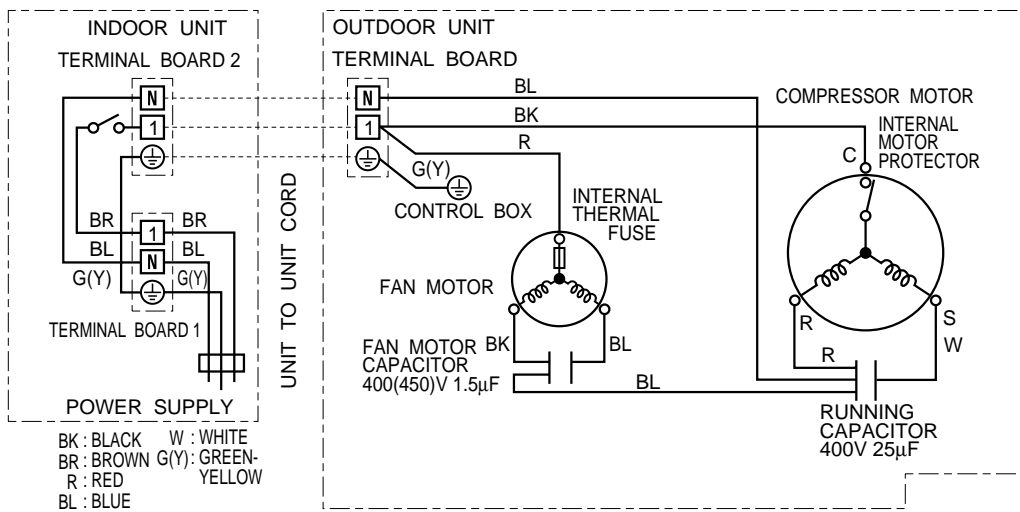


Figure W-3. Wiring Diagram for AU-A07BE-C

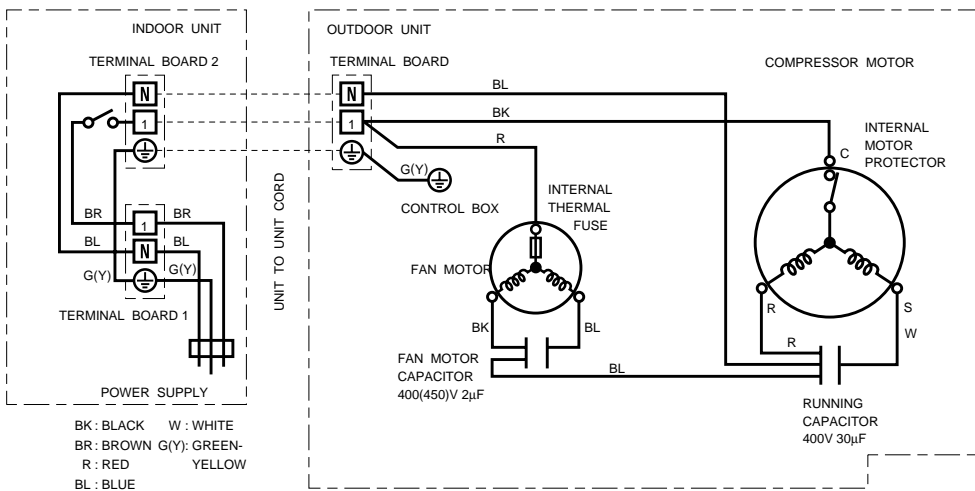




**Figure W-4. Wiring Diagram for AU-A09BE**



**Figure W-5. Wiring Diagram for AU-A09BE-C**



**Figure W-6. Wiring Diagram for AU-A12BE**

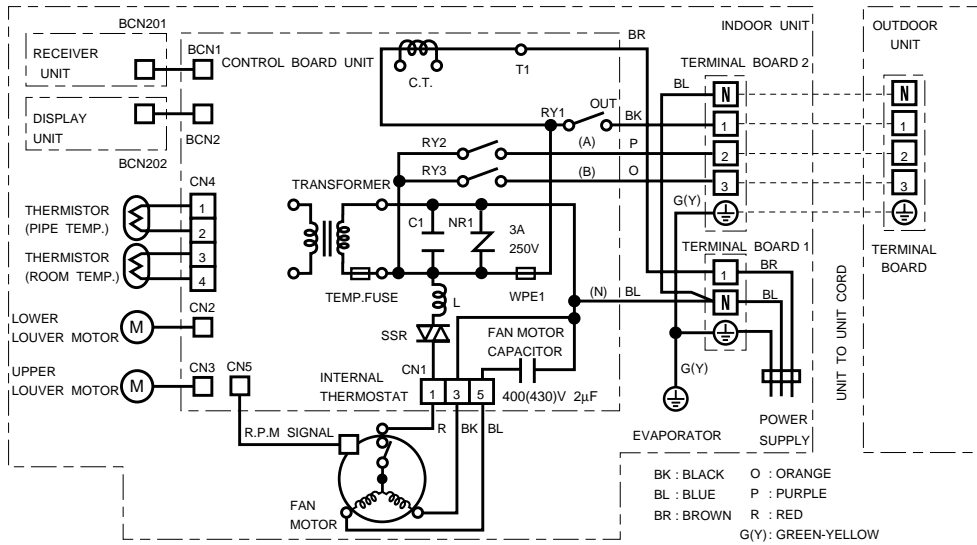


Figure W-7. Wiring Diagram for AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE

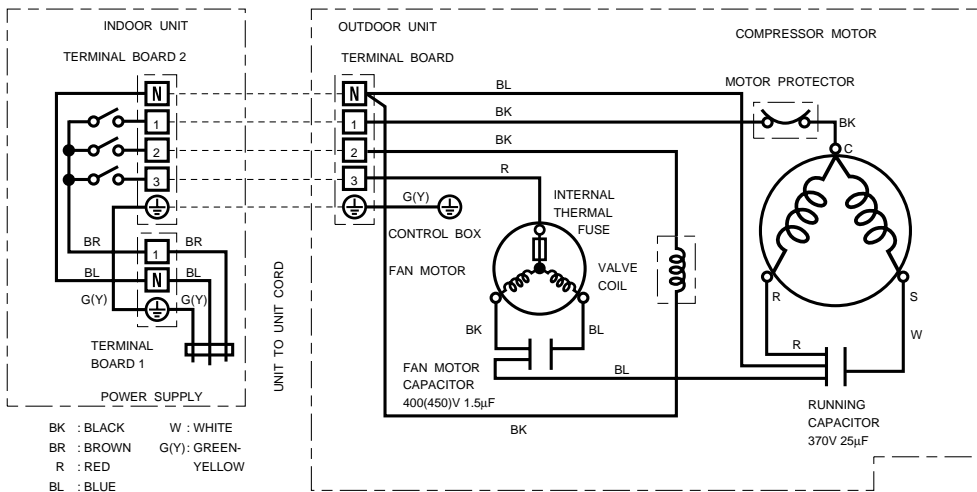


Figure W-8. Wiring Diagram for AE-A07BE

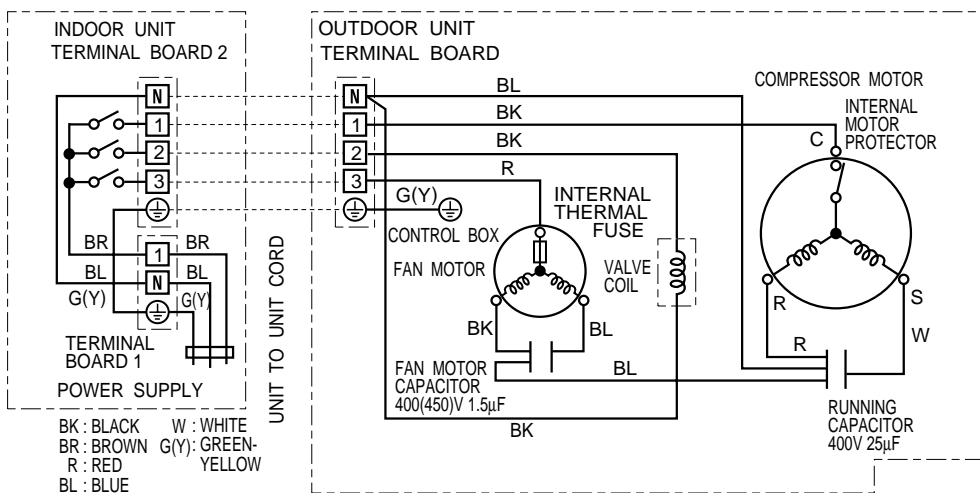
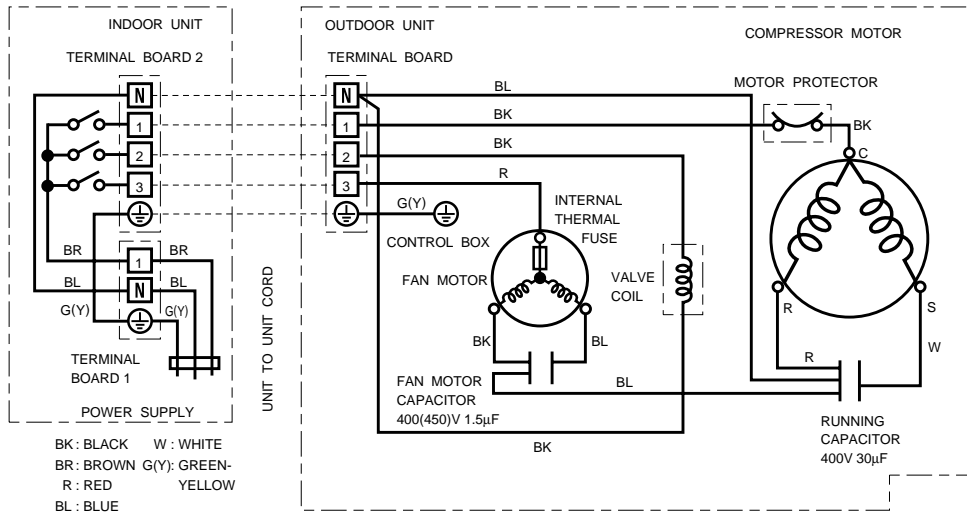
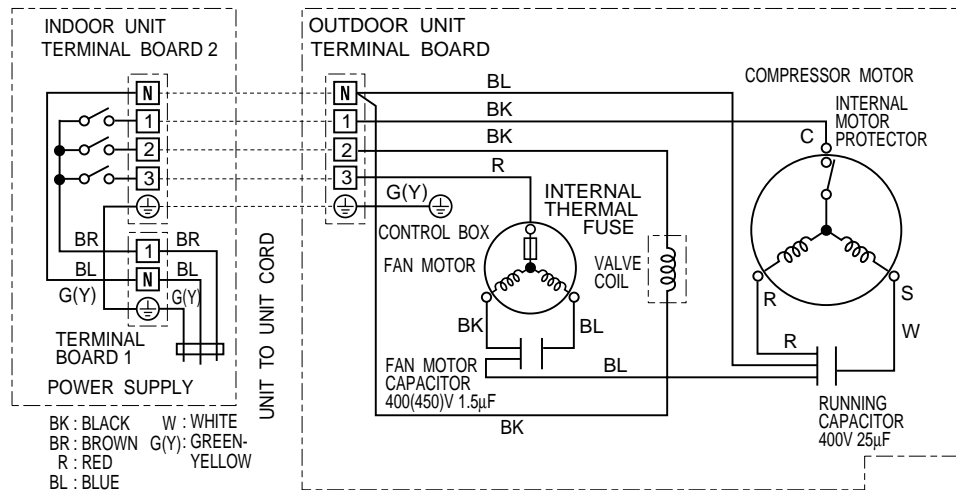


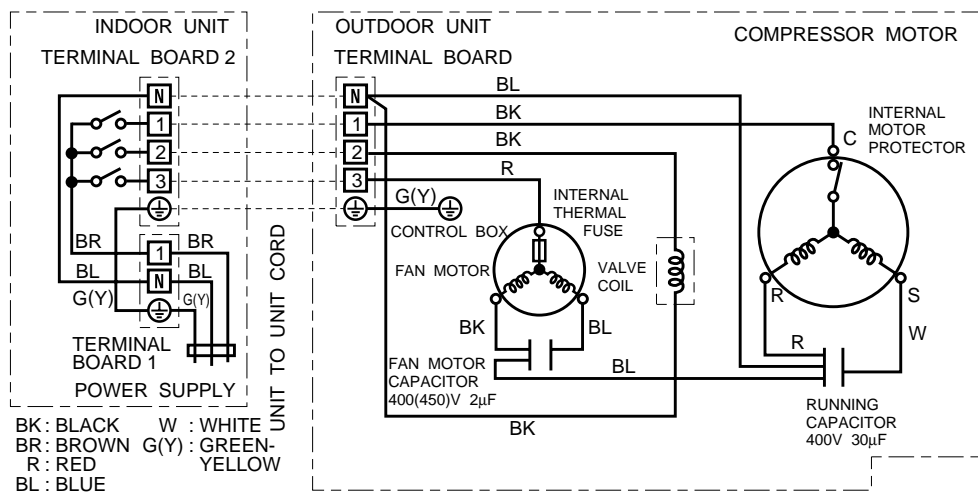
Figure W-9. Wiring Diagram for AE-A07BE-C



**Figure W-10. Wiring Diagram for AE-A09BE**



**Figure W-11. Wiring Diagram for AE-A09BE-C**



**Figure W-12. Wiring Diagram for AE-A12BE**

## ELECTRICAL PARTS

### For Models AY-A07BE/A07BE-C, AH-A07BE/A07BE-C, AE-A07BE/A07BE-C, AU-A07BE and AU-A07BE-C

DESCRIPTION	MODEL	REMARKS	SITE
Compressor	QK134PA13A	220 - 240V, 50Hz, 620W	AE/AU-A07BE
Compressor	RH135VHST	220 - 240V, 50Hz, 650W	AE-A07BE-C
Compressor	RH130VHST	220 - 240V, 50Hz, 650W	AU-A07BE-C
Indoor fan motor	ML-A915	220 - 240V, 50Hz	AY, AH
Outdoor fan motor	ML-A592	220 - 240V, 50Hz	AE, AU
Indoor fan motor capacitor	–	400V, 2 $\mu$ F	AY, AH
Outdoor fan motor capacitor	–	400V, 1.5 $\mu$ F	AE, AU
Running capacitor	–	370V, 25 $\mu$ F	AE/AU-A07BE
Running capacitor	–	400V, 25 $\mu$ F	AE/AU-A07BE-C
Transformer	–	Primary; AC 230V, 50Hz Secondary; AC16.7V, 50Hz	AY, AH
Fuse	–	250V, 3A	AY, AH
Reverse valve	VK1100B, 1400B	–	AE
Reverse valve coil	–	220 - 240V, 50/60Hz	AE

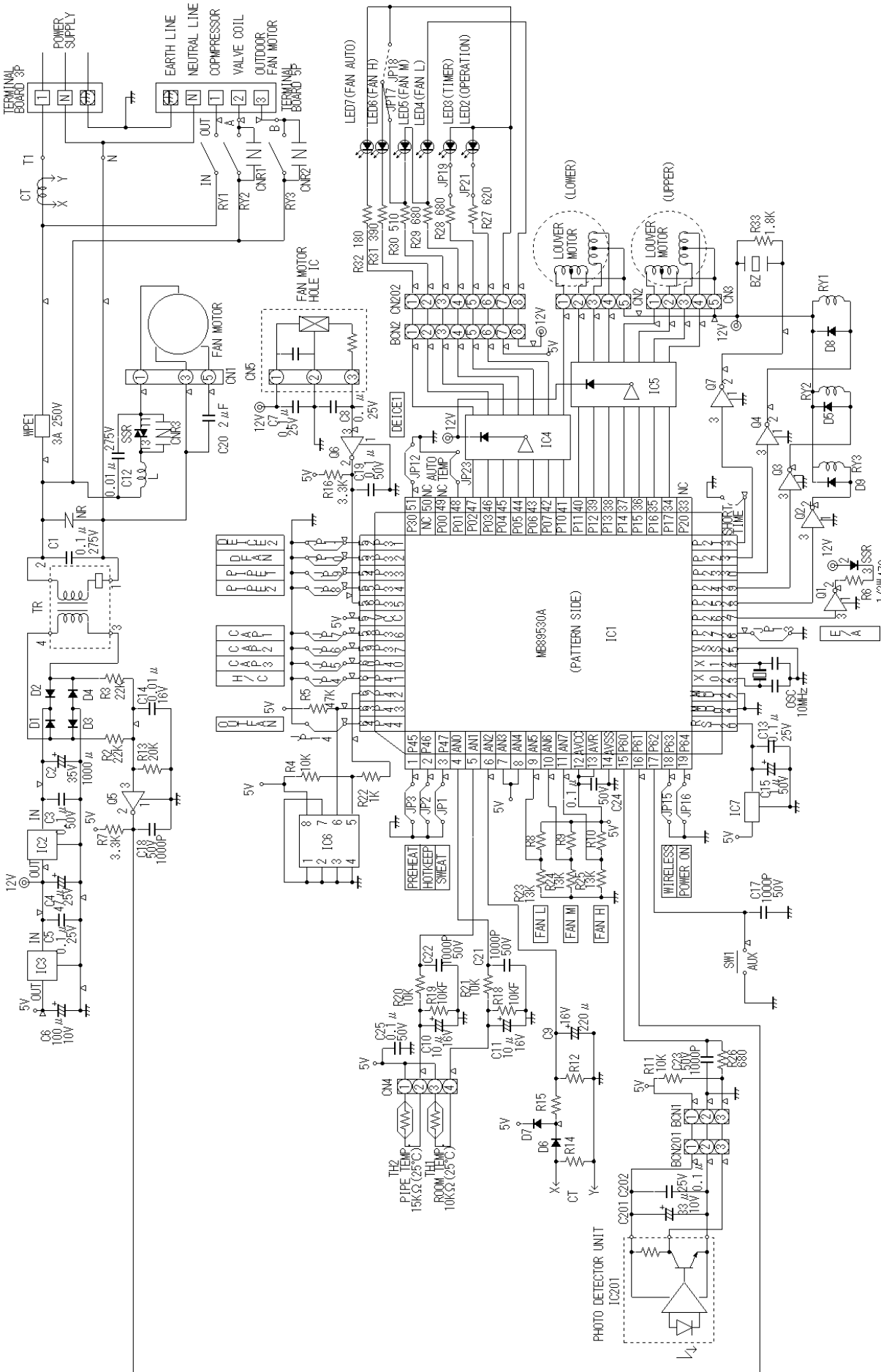
### For Models AY-A09BE/A09BE-C, AH-A09BE/A09BE-C, AE-A09BE/A09BE-C, AU-A09BE and AU-A09BE-C

DESCRIPTION	MODEL	REMARKS	SITE
Compressor	QK164PA13A	220 - 240V, 50Hz, 780W	AE/AU-A09BE
Compressor	RH165VHET	220 - 240V, 50Hz, 800W	AE-A09BE
Compressor	RH154VHST	220 - 240V, 50Hz, 750W	AU-A09BE
Indoor fan motor	ML-A915	220 - 240V, 50Hz	AY, AH
Outdoor fan motor	ML-A916	220-240V,50Hz 220-230V,60Hz	AE, AU
Indoor fan motor capacitor	–	400V, 2 $\mu$ F	AY, AH
Outdoor fan motor capacitor	–	400V, 1.5 $\mu$ F	AE, AU
Running capacitor	–	400V, 30 $\mu$ F	AE/AU-A09BE
Running capacitor	–	400V, 25 $\mu$ F	AE/AU-A09BE-C
Transformer	–	Primary; AC 230V, 50Hz Secondary; AC16.7V, 50Hz	AY, H
Fuse	–	250V, 3A	AY, AH
Reverse valve	VK1100B, 1400B	–	AE
Reverse valve coil	–	220 - 240V, 50/60Hz	AE

### For Model AY-A12BE, AH-A12BE, AE-A12BE and AU-A12BE

DESCRIPTION	MODEL	REMARKS	SITE
Compressor	RH207VHET	220 - 240V, 50Hz, 1000W	AE, AU
Indoor fan motor	ML-A915	220 - 240V, 50Hz	AY, AH
Outdoor fan motor	ML-A917	220-240V,50Hz 220-230V,60Hz	AE, AU
Indoor fan motor capacitor	–	400V, 2 $\mu$ F	AY, AH
Outdoor fan motor capacitor	–	400V, 2 $\mu$ F	AE, AU
Running capacitor	–	400V, 30 $\mu$ F	AE, AU
Transformer	–	Primary; AC 230V, 50Hz Secondary; AC16.7V, 50Hz	AY, AH
Fuse	–	250V, 3A	AY, AH
Reverse valve	VK2100B, 2400B	–	AE
Reverse valve coil	–	220 - 240V, 50/60Hz	AE

# MICROCOMPUTER CONTROL SYSTEM



**Figure L-1. Electronic Control Circuit Diagram for AY-A07BE/A-Y-A07BE-C/A09BE/A09BE-C/A12BE**

PART CODE	P47	JP1	JP2	JP3	JP4	JP5	JP6	JP7	JP8	JP9	JP10	JP11	JP12	JP13	JP14	JP15	JP16	JP23	FB	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	R33	R34	R35	R36	R37	R38	R39	R40								
AY-A07BE/A09BE-C																																																											
AY-A09BE/A09BE-C																																																											
AY-A12BE																																																											

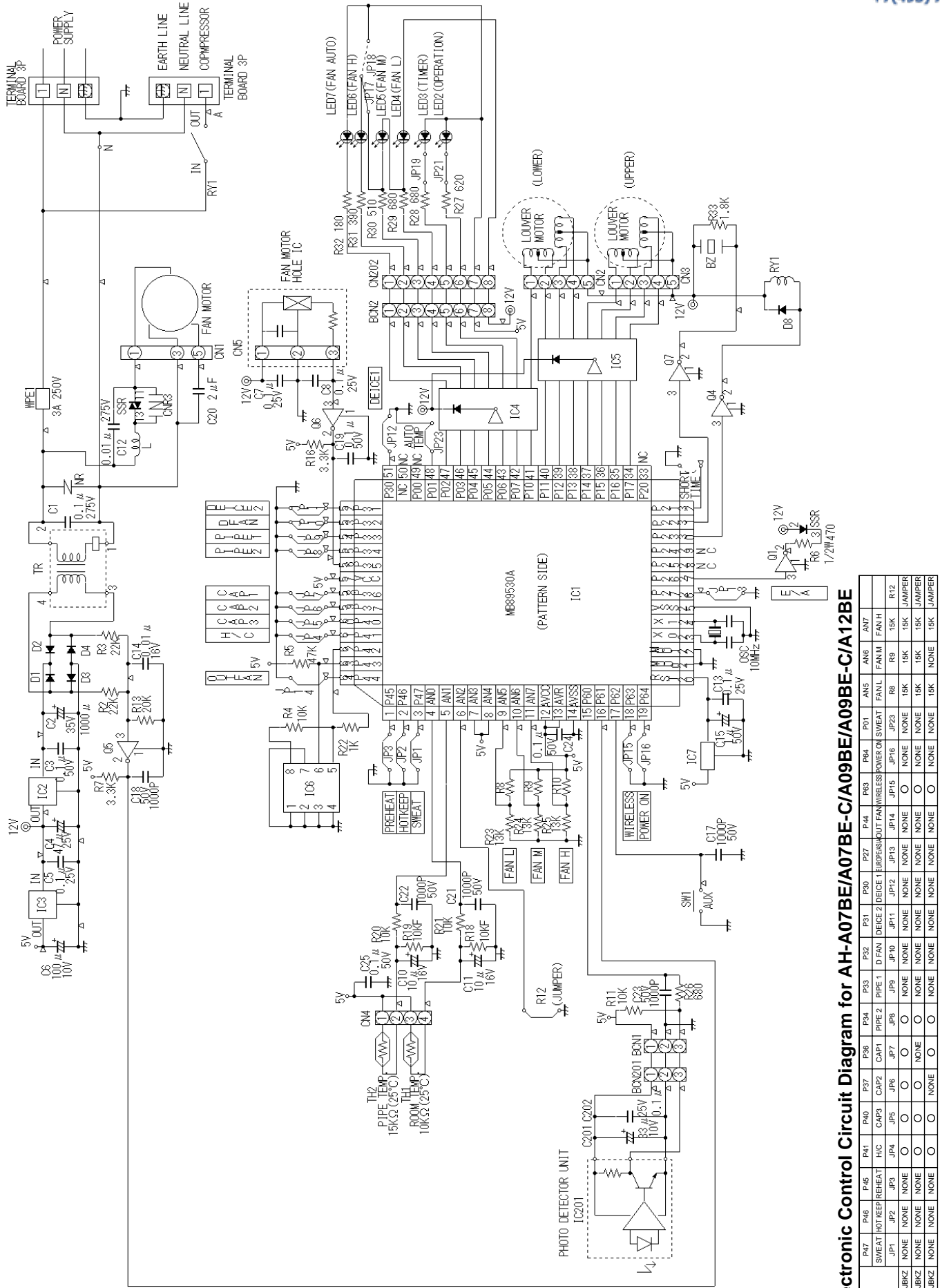


Figure L-2. Electronic Control Circuit Diagram for AH-A07BE-C/A09BE/A09BE-C/A12BE

PART CODE	P47	P48	P49	P50	P51	P52	P53	P54	P55	P56	P57	P58	P59	P60	P61	P62	P63	P64	P65	P66	P67	P68	P69	P70	P71	P72	P73	P74	P75	P76	P77	P78	P79	P80	P81	P82	P83	P84	P85	P86	P87	P88	P89	P90	P91	P92	P93	P94	P95	P96	P97	P98	P99	P100				
AH-A07BE/07BE-C	SWEAT	HOT	KEEP	REHEAT	H/C	CAP3	JP1	JP2	JP3	JP4	JP5	JP6	JP7	JP8	JP9	JP10	JP11	JP12	JP13	JP14	JP15	JP16	JP17	JP18	JP19	JP20	JP21	JP22	JP23	JP24	JP25	JP26	JP27	JP28	JP29	JP30	JP31	JP32	JP33	JP34	JP35	JP36	JP37	JP38	JP39	JP40	JP41	JP42	JP43	JP44	JP45	JP46	JP47	JP48	JP49	JP50		
AH-A09BE/A09BE-C	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	
AH-A12BE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

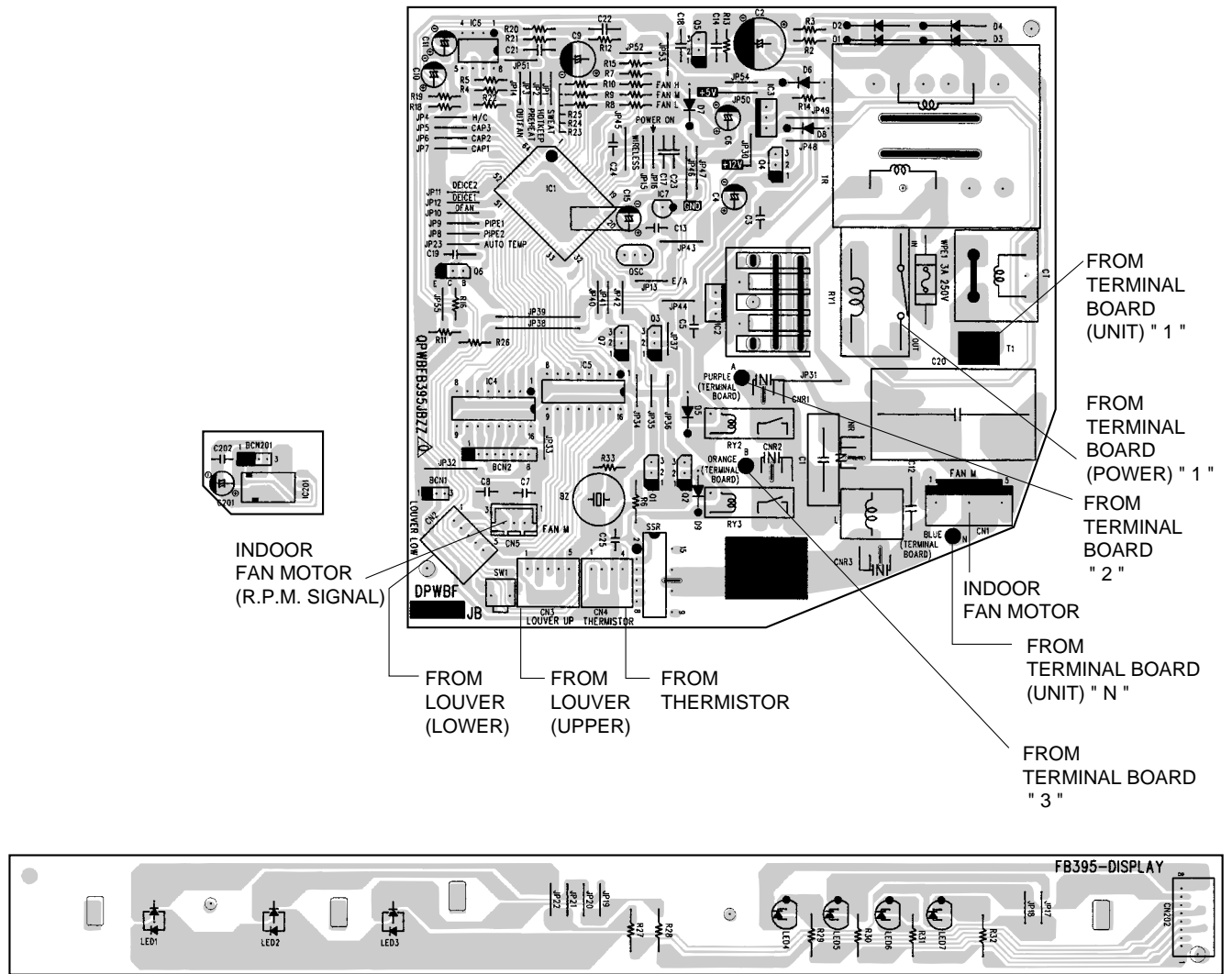


Fig. L-3 Printed Wiring Diagram for AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE

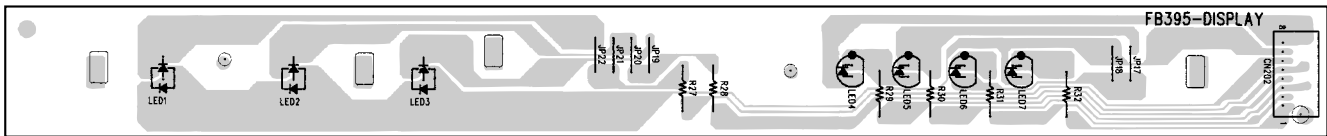
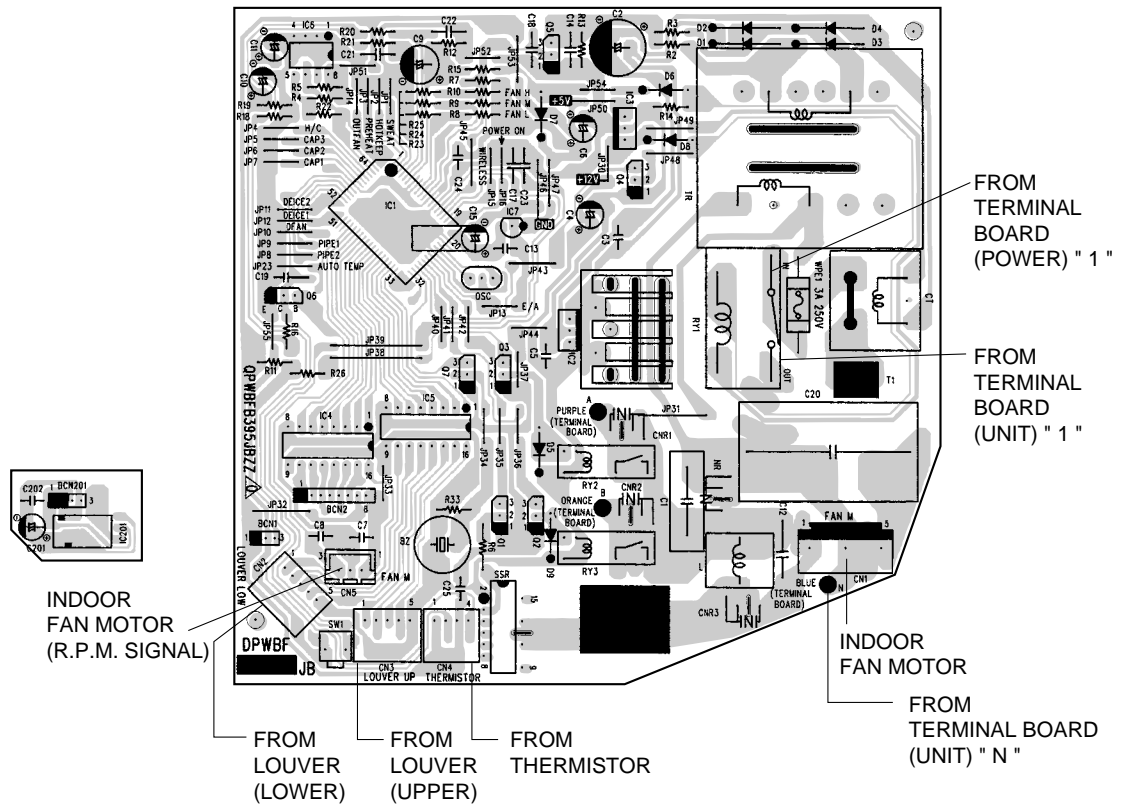


Fig. L-4 Printed Wiring Diagram for AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE



## FUNCTIONS

**AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE are not provided with the heating function**

### 1. Temperature control characteristic

#### 1-1 COOL operation

In the "COOL" mode, the thermostat circuit is controlled by four thermostat lines (C1 thru C4).

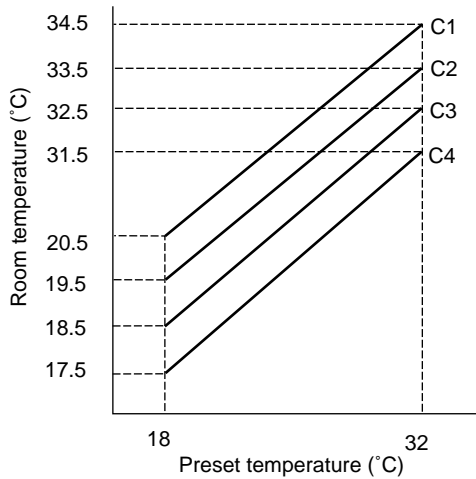


Figure Y-1

#### 1-2 DRY operation

In the "DRY" mode, the thermostat circuit is controlled by three thermostat lines (D1 thru D3).

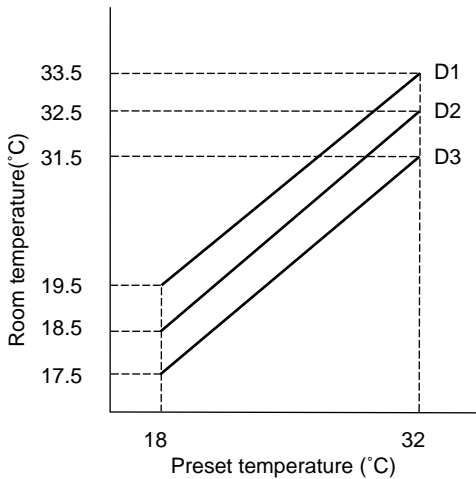


Figure Y-2

#### 1-3 HEAT operation

In the "HEAT" mode, the thermostat circuit is controlled by six thermostat lines (H01 thru H4).

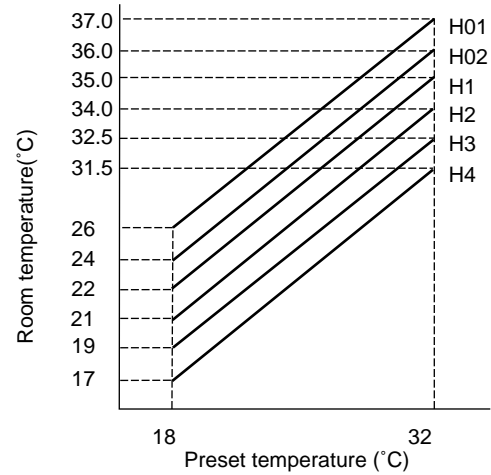


Figure Y-3

### 2. Operation modes

#### 2-1 COOL operation

The compressor turns on or off, at the thermostat lines C3 and C4. The outdoor fan motor is also controlled with the compressor.

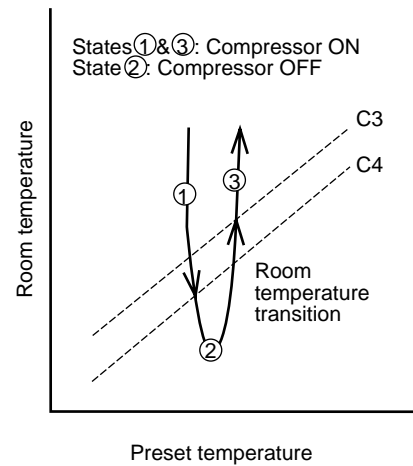


Figure Y-4

**2-2 DRY operation**

On the switch on, the compressor always starts to operate for 2 minutes with fan speed "DL". The microcomputer reads the room temperature 2 minutes after this first compressor operation. This room temperature is set as the preset temperature automatically.

The preset temperature ranges from 18°C to 32°C. When the room temperature is below 18°C, the preset temperature is set to 18°C, and when the room temperature is over 32°C, the preset temperature is set to 32°C.

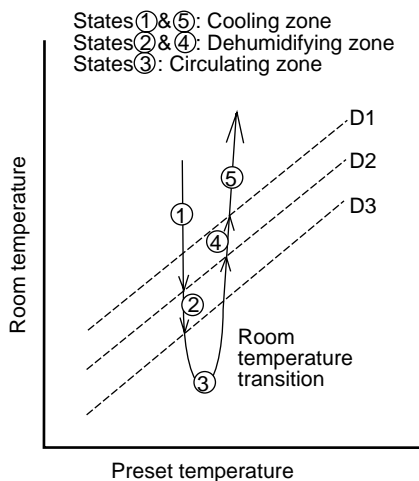
Dry operation is divided into three zones (Cooling zone, Dehumidifying zone and Circulating zone) by thermostat lines (D1 to D3), and the compressor and the fan motor are controlled in each zone as shown in Table Y-1.

**Table Y-1**

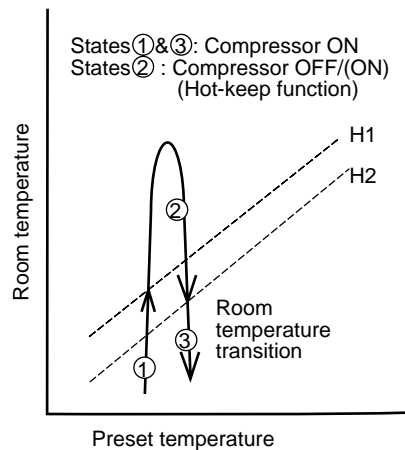
	Compressor	Fan speed
Cooling zone	ON	"DH"
Dehumidifying zone	ON	"DL"
Circulating zone	OFF	"DL" or OFF

**2-3 Heat operation**

The compressor turns on or off, at State 2, turns on continuously at State 1 & 3.



**Figure Y-5**



**Figure Y-6**

**3. Fan speed**

Fan speeds are given by the indoor fan motor, "DL"~"HH" which are available in the following operation mode.

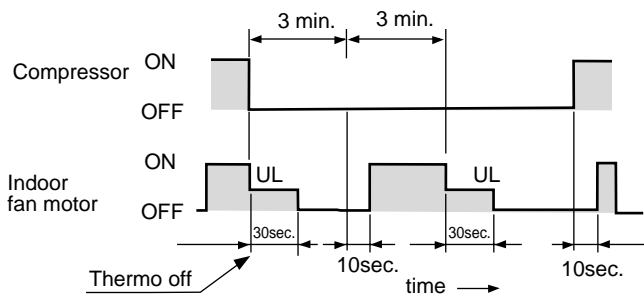
**Table Y-2**

(r.p.m.)

Fan speed	Fan switch	Fan switch (AUTO)	07BE/07BE-C TYPE		09BE/09BE-C TYPE		12BE TYPE	
			AY	AH	AY	AH	AY	AH
DL	—	DRY	630	630	690	690	750	750
DH	—		710	710	740	740	840	840
CL	COOL SOFT	—	710	710	760	760	840	840
CAL	—	COOL	750	750	790	790	860	860
CM	COOL LOW		830	830	910	910	930	930
CAH	—		900	900	990	990	970	970
CH	COOL HIGH	—	950	950	1090	1090	1010	1010
HUL	—	—	700	—	750	—	850	—
HL	HEAT SOFT	—	830	—	920	—	920	—
HAL	—	HEAT	850	—	950	—	950	—
HM	HEAT LOW		900	—	1000	—	1000	—
HAH	—		950	—	1050	—	1040	—
HH	HEAT HIGH		—	990	—	1100	—	1080

**4. Hot-Keep**

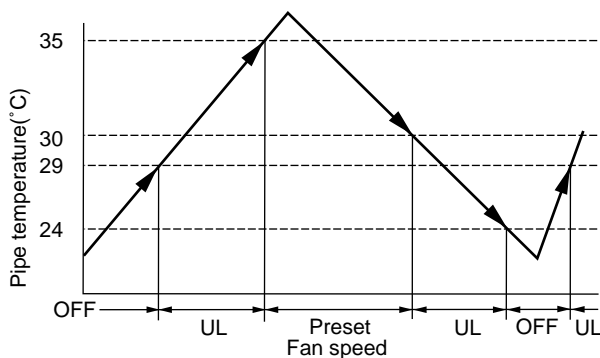
This function automatically controls the on-off operation of the indoor fan motor in accordance during the heating operation, thereby preventing the air conditioner from delivering a cold air when the compressor is off. When the room temperature exceeds the thermostat line "H1", the compressor is turned off, and the indoor fan motor is turned off after rotating at "HUL" for 30 seconds. 3 minutes and 10 seconds after turning off the compressor, the indoor fan motor is turned on for 3 minutes and 20 seconds. At 10 seconds after turning on the compressor, the indoor fan motor is turned on. The next compressor OFF time is for 3, 8 or more than 8 minutes according to the room temperature (the time increases with a rise of room temperature) when 3 minutes elapse after turning on the compressor.



**Figure Y-7**

**5. Preheat air flow**

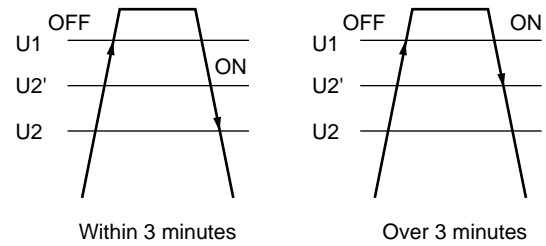
This function is intended to prevent cold air from being discharged when the heating operation starts or when defrosting. When the indoor pipe temperature is below 29°C at the beginning of the heat operation or after defrosting, the indoor fan motor stays. When the indoor pipe temperature gets higher than 29°C, the fan motor is turned on at speed "HUL" after compensation of starting. When the indoor pipe temperature exceeds 35°C, the specified fan speed is restored. When the indoor pipe temperature falls below 30°C, the fan speed shifts down to "HUL". And, when the indoor pipe temperature falls below 23°C, the fan motor turns off. Then, over 29°C, it turns on again at speed "HUL".



**Figure Y-8**

**6. Overheating protection system**

When overloading occurs during the heating operation, this system controls the outdoor fan motor according to the indoor pipe temperature to prevent the overloading of the compressor and restrain the rise in high pressure. When the indoor pipe temperature exceeds U1°C, the outdoor fan motor is turned off, and when the indoor pipe temperature falls U2°C, the outdoor fan motor turns on. If 3 minutes elapse after turning off outdoor fan motor, the outdoor fan motor is turned on, when the indoor pipe falls U2' °C,



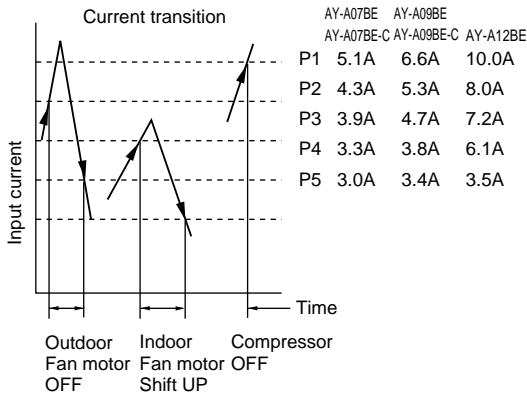
**Figure Y-9**

**Table Y-3**

MODELS	Fan speed	HH HAH	HM HAL HL HUL
	L1ne		
AY-A07BE AY-A07BE-C	U1	53°C	53°C
	U2'	52°C	52°C
	U2	49°C	49°C
AY-A09BE AY-A09BE-C	U2	53°C	54°C
	U'2	52°C	53°C
	U2	49°C	50°C
AY-A12BE	U2	53°C	54°C
	U2'	52°C	53°C
	U2	49°C	50°C

**7. Current control**

This system, in order to prevent overcurrent during heating operation, controls the outdoor fan motor and changes the indoor fan motor speed by detecting total current. When the current exceeds P2, the outdoor fan motor is automatically turned off, and when the current falls below P4, the outdoor fan motor is turned on. When the current exceeds P3 and the indoor fan speed shifts down because of cold air (5. Preheat air flow), the changes in the indoor fan speed shifts up as follows, from "off" to "HUL", or from "HUL" to "HL". And when the current falls below P5, the indoor fan speed shift up is canceled.



**Figure Y-10**

**8. Freeze preventive**

When the indoor pipe temperature falls below 0°C during cool operation or dry operation, the compressor is turned off.

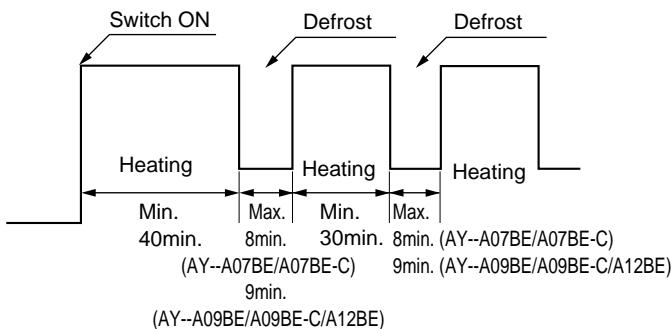
**9. Defrost**

The defrost timer (integrating the operation time of compressor) counts time with microcomputer during heat operation.

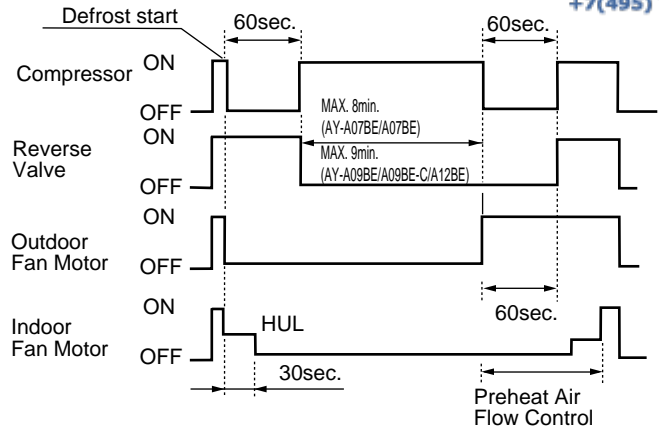
Frost of outdoor pipe is estimated by indoor pipe temperature (TH2), room temperature (TH1), indoor fan speed and operation state of compressor.

In the defrost operation, first the compressor is turned off, the fan speed is set to "HUL" and the outdoor fan motor is turned off.

30 seconds later the indoor fan motor is turned off, 60 seconds later the reverse valve is turned off, and the compressor is turned on. In the end of defrosting, the compressor is turned off, the outdoor fan motor is turned on, 60 seconds later the reverse valve is turned on, and the compressor is turned on, starting heat operation. At this time, the indoor fan motor is turned off or the fan speed is set to "HUL" if preheat air flow function is effective.



**Figure Y-11**



**Figure Y-12**

**10. Delayed operation of the reverse valve**

When the heat operation is shut down or the operating mode is switched from heat to cool or dry, or vice versa, the reverse valve is switched after 3 minutes.

**11. Test run**

If the "AUX" button on the unit is pressed for 5 seconds or more during operation, cool test operation starts. The operation LED (red) flickers during test run.

To put the system in the heating test run mode, start the cooling operation and select the heating mode on the remote control. In cool and heat mode continuous compressor on operation is performed. In dry mode the operation is in dehumidifying zone. In fan only mode the indoor fan motor runs continuously.

**12. Timer**

**12-1 ON/OFF TIMER**

When the unit operates during one hour after the OFF-time is set, thermostat setting is automatically shifted (+1°C in cool operation and dry operation, -3°C in heat operation, 16°C - 32°C). When the ON-timer is set in heat operation and cool operation, operation starts before 0 to 30 minutes (depends on the room temperature) so that preset temperature is obtained at set time.

**12-2 ONE-HOUR TIMER**

When ONE-HOUR timer is set, the unit turns off automatically after one hour. The one hour timer operation has priority over other time operation, such as the TIMER ON and TIMER OFF. If the ONE-HOUR TIMER button is pressed again during operation, the unit will operate additionally for another one hour.

### 13. Automatic air conditioning

When automatic air conditioning is selected, the operation mode and preset temperature are set automatically according to the room temperature on starting operation.

**Table Y-4**

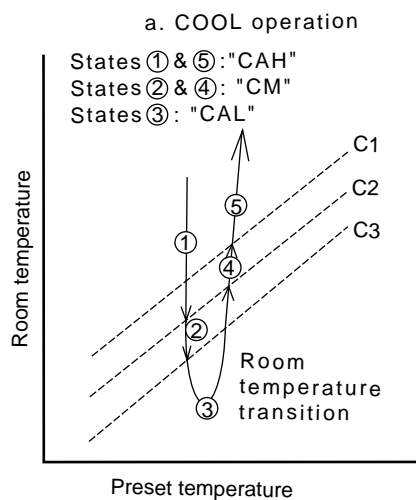
When DRY mode is selected by the micro computer

Room temperature at operation start	Operation Mode	Preset Temperature
Above 28°C	COOL	26°C
26°C ~ 28°C		25°C
24°C ~ 26°C		24°C
21°C ~ 24°C	DRY	Room temperature at operation start
Below 21°C	HEAT	23°C

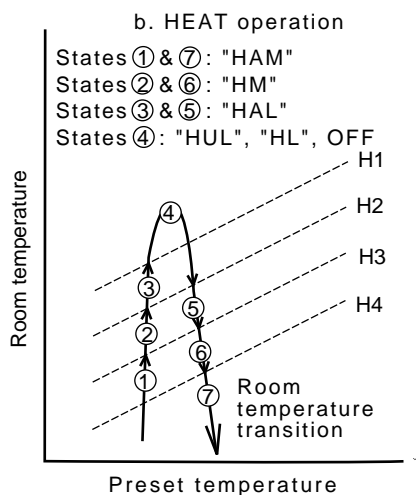
with AUTO operation, the fan speed lamps on the indoor unit panel will indicate identically with the fan speed symbols on the remote control display, as the FAN speed setting is changed accordingly. Despite, the actual fan speed will not change, as it is determined automatically by the micro computer.

### 14. Automatic fan speed

When the automatic fan speed is selected in cool or heat operation, the fan speed is automatically changed by the thermostat lines C1 to C3 in cool operation, and H1 to H4 in heat operation.



**Figure Y-13**



**Figure Y-14**

### 15. Outputs in each operation mode

**Table Y-5**

Mode	Compressor	Outdoor Fan Motor	Indoor Fan Motor	Valve Coil	
COOL	Cooling	ON	ON	ON	OFF
	Circulating	OFF	OFF	ON	OFF
HEAT	Normal	ON	ON	ON	ON
		OFF	OFF	ON/UL/OFF	ON
	Preheat Air Flow Control	ON	ON	UL/OFF	ON
	ON Defrost	ON	OFF	OFF	OFF
DRY	Cooling			L/UL	OFF
	Dehumidifying	ON	ON	UL/D	OFF
	Circulating	OFF	OFF	D/OFF	OFF

### 16. Power on start

If the connecting wire "POWER ON" (JP16) is cut on the PWB ass'y, when the power is supplied by turning on a circuit breaker, the air conditioner automatically starts of operation in "AUTO".  
(Refer to Figure L-2. Printed Wiring Board.)

### 17. AUTO RESTART

Power failure occurs during operation, the unit will retart in the same operation mode as before after power recovery.  
(Refer to Figure L-2. Printed Wiring Board.)

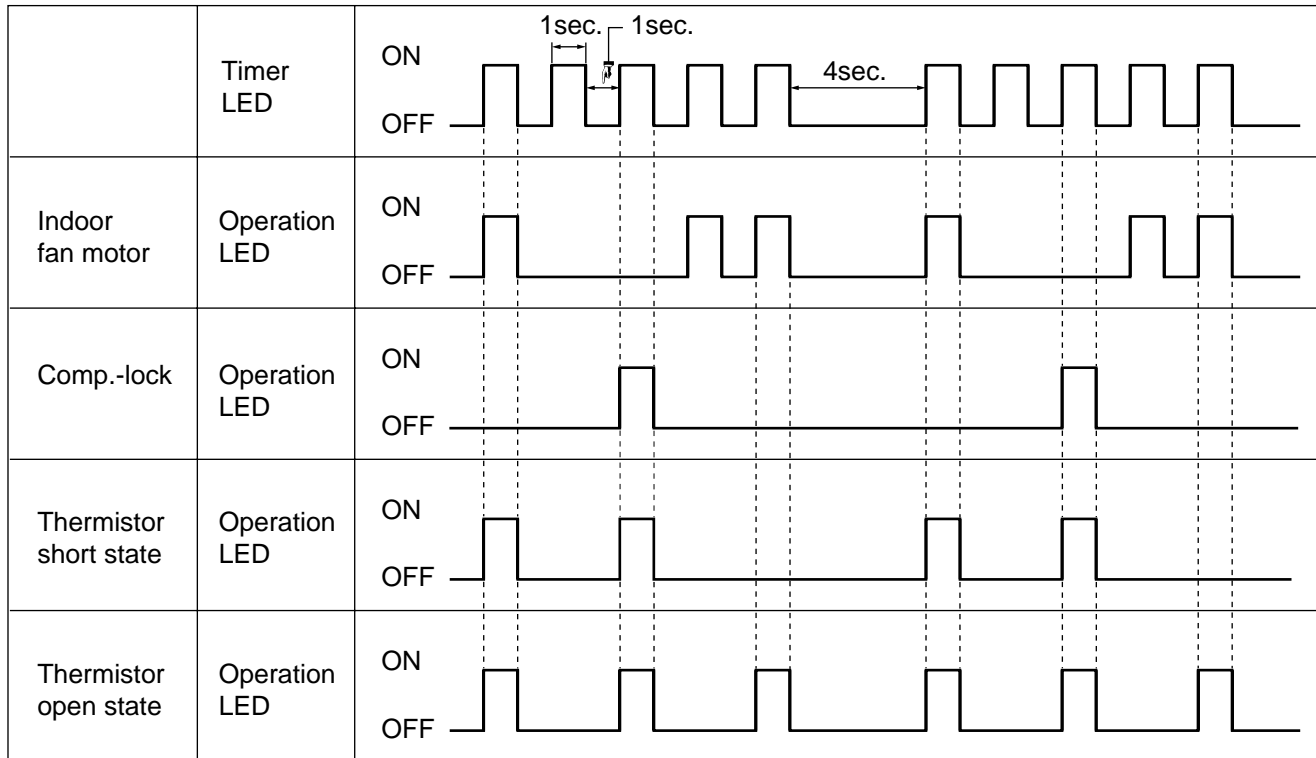
### 18. Test mode

Keep pushing the "AUX." buttons and supply the power, the system will go to the test mode. In this mode, the output of operation is switched by pushing the "AUX." button in the unit or the "OI" button in the remote controller. Normal outputs are shown in Table Y-6 and Y-7.

**19. Diagnosis procedure**

When indoor fan motor is out of order or compressor lock occurs, the compressor, indoor fan motor, outdoor fan motor, and louver are all stopped and the operation LED(red) turns on or off synchronously with the timing of the timer LED.

When the thermistor for room temperature or pipe temperature is open or short state, the operation LED turns on or off synchronously with the timing of the timer LED by pushing continuously for more than 5 seconds "AUX." button during suspension of operation.



Timing chart of Timer LED and Operation LED of DIAGNOSIS PROCEDURE.

When "OI" button the remote controller or "AUX." button in the unit is pushed, the unit is free from DIAGNOSIS PROCEDURE.

**Table Y-6 [AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]**

Step		1	2	3	4	5	6	7	8	9	10	11	
AY-A07BE AY-A07BE-C	Lamps	RED	※1	FLICK	OFF	ON	ON	OFF	ON	OFF	OFF	OFF	
		YELLOW	※2	※3	OFF	ON	OFF	ON	OFF	ON	ON	ON	OFF
		FAN SOFT	ON	ON	ON	ON	OFF	ON	OFF	ON	ON	ON	OFF
		FAN LOW	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		FAN HIGH	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		AUTO	ON	OFF	OFF	OFF	ON	ON	OFF	ON	ON	ON	OFF
	Louver	OPEN	OFF	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Indoor fan	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF
	Outdoor fan	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	ON
	4-way valve	OFF	ON	OFF	ON	ON※4	ON	ON	OFF	OFF	OFF	OFF	OFF
Compressor	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
AY-A09BE AY-A09BE-C	Lamps	RED	※1	FLICK	ON	ON	ON	OFF	ON	OFF	OFF	OFF	
		YELLOW	※2	※3	OFF	ON	OFF	ON	OFF	ON	ON	ON	OFF
		FAN SOFT	ON	ON	ON	ON	OFF	ON	ON	ON	ON	ON	OFF
		FAN LOW	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		FAN HIGH	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		AUTO	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF
	Louver	OPEN	OFF	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Indoor fan	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF
	Outdoor fan	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	ON
	4-way valve	OFF	ON	OFF	ON	ON※4	ON	ON	OFF	OFF	OFF	OFF	
Compressor	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		
AY-A12BE	Lamps	RED	※1	FLICK	OFF	ON	ON	OFF	ON	OFF	OFF	OFF	
		YELLOW	※2	※3	ON	ON	OFF	ON	OFF	ON	OFF	ON	OFF
		FAN SOFT	ON	ON	ON	ON	OFF	ON	ON	ON	OFF	ON	OFF
		FAN LOW	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		FAN HIGH	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		AUTO	ON	OFF	OFF	OFF	ON	ON	ON	ON	OFF	ON	OFF
	Louver	OPEN	OFF	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Indoor fan	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF
	Outdoor fan	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	ON
	4-way valve	OFF	ON	OFF	ON	ON※4	ON	ON	OFF	OFF	OFF	OFF	
Compressor	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		

- ※1 :  $7^{\circ}\text{C} \leq \text{Room temp.} < 42^{\circ}\text{C}$  ..... ON  
 :  $7^{\circ}\text{C} > (\text{Room temp.})$  or  $(\text{Room temp.}) \geq 42^{\circ}\text{C}$  ..... OFF
- ※2 :  $-2^{\circ}\text{C} \leq \text{Pipe temp.} < 45^{\circ}\text{C}$  ..... ON  
 :  $-2^{\circ}\text{C} > (\text{Pipe temp.})$  or  $(\text{Pipe temp.}) \geq 45^{\circ}\text{C}$  ..... OFF
- ※3 :  $0.31\text{V} \leq (\text{AN2 input voltage}) \leq 4.47\text{V}$  ..... ON  
 :  $0.31\text{V} > (\text{AN2 input voltage})$  or  $(\text{AN2 input voltage}) > 4.47\text{V}$  ..... OFF
- ※4 : When Power on start is effective, 4-way valve is OFF.

**Table Y-7 [AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]**

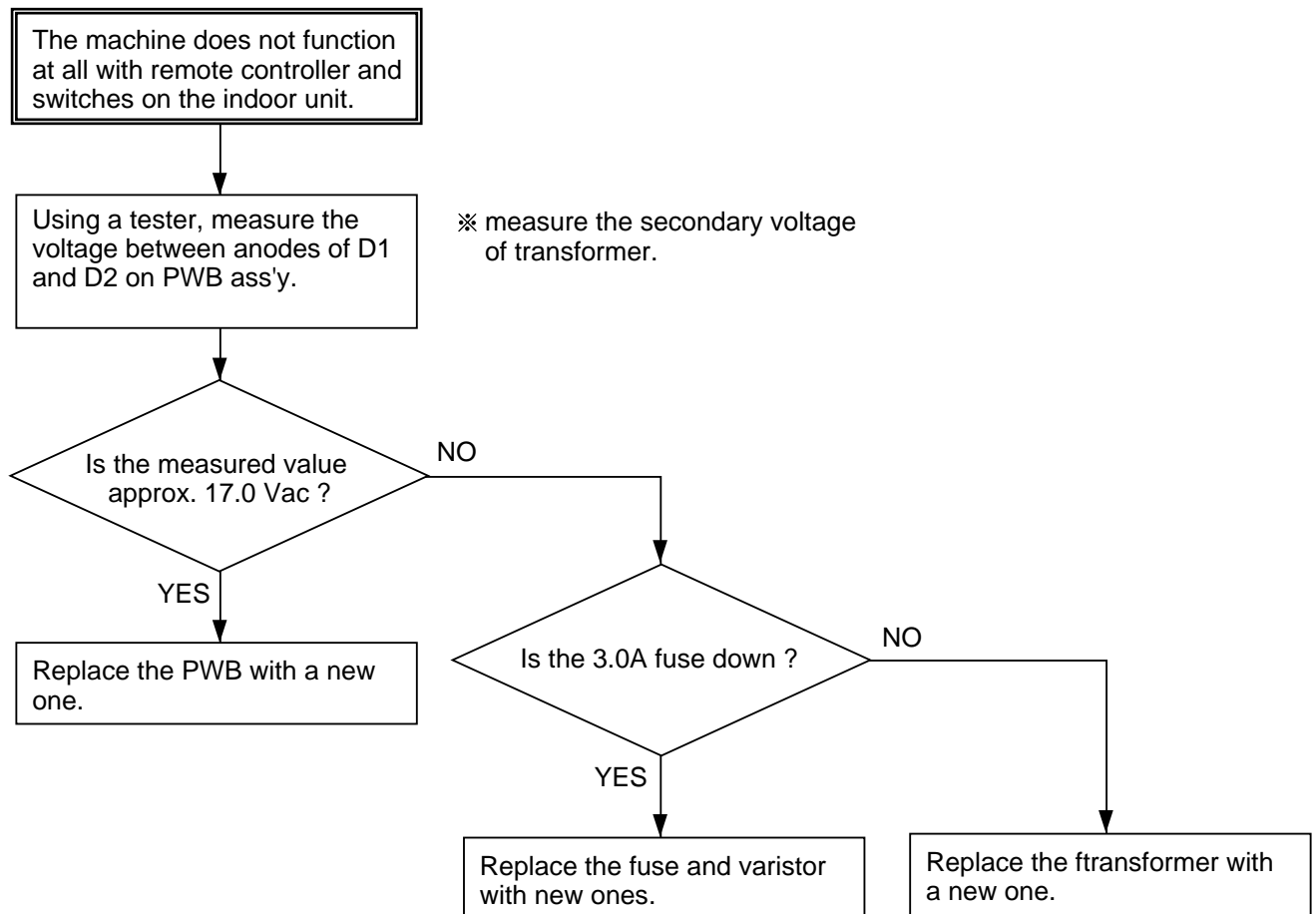
Step		1	2	3	4	5	6	7	8	9	10	11	
AH-A07BE AH-A07BE-C	Lamps	RED	※1	FLICK	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
		YELLOW	※2	OFF	OFF	ON	OFF	ON	OFF	ON	ON	ON	OFF
		FAN SOFT	ON	ON	ON	ON	OFF	ON	ON	ON	ON	ON	OFF
		FAN LOW	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		FAN HIGH	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		AUTO	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF
	Louver	OPEN	OFF	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Indoor fan	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF
	Compressor	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
AH-A09BE AH-A09BE-C	Lamps	RED	※1	FLICK	ON	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
		YELLOW	※2	OFF	OFF	ON	OFF	ON	OFF	ON	ON	ON	OFF
		FAN SOFT	ON	ON	ON	ON	OFF	ON	ON	ON	ON	ON	OFF
		FAN LOW	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		FAN HIGH	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		AUTO	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF
	Louver	OPEN	OFF	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Indoor fan	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF
	Compressor	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
AH-A12BE	Lamps	RED	※1	FLICK	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
		YELLOW	※2	OFF	ON	ON	OFF	ON	OFF	ON	OFF	ON	OFF
		FAN SOFT	ON	ON	ON	ON	OFF	ON	ON	ON	OFF	ON	OFF
		FAN LOW	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		FAN HIGH	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		AUTO	ON	OFF	OFF	OFF	ON	ON	ON	ON	OFF	ON	OFF
	Louver	OPEN	OFF	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	Indoor fan	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF
	Compressor	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

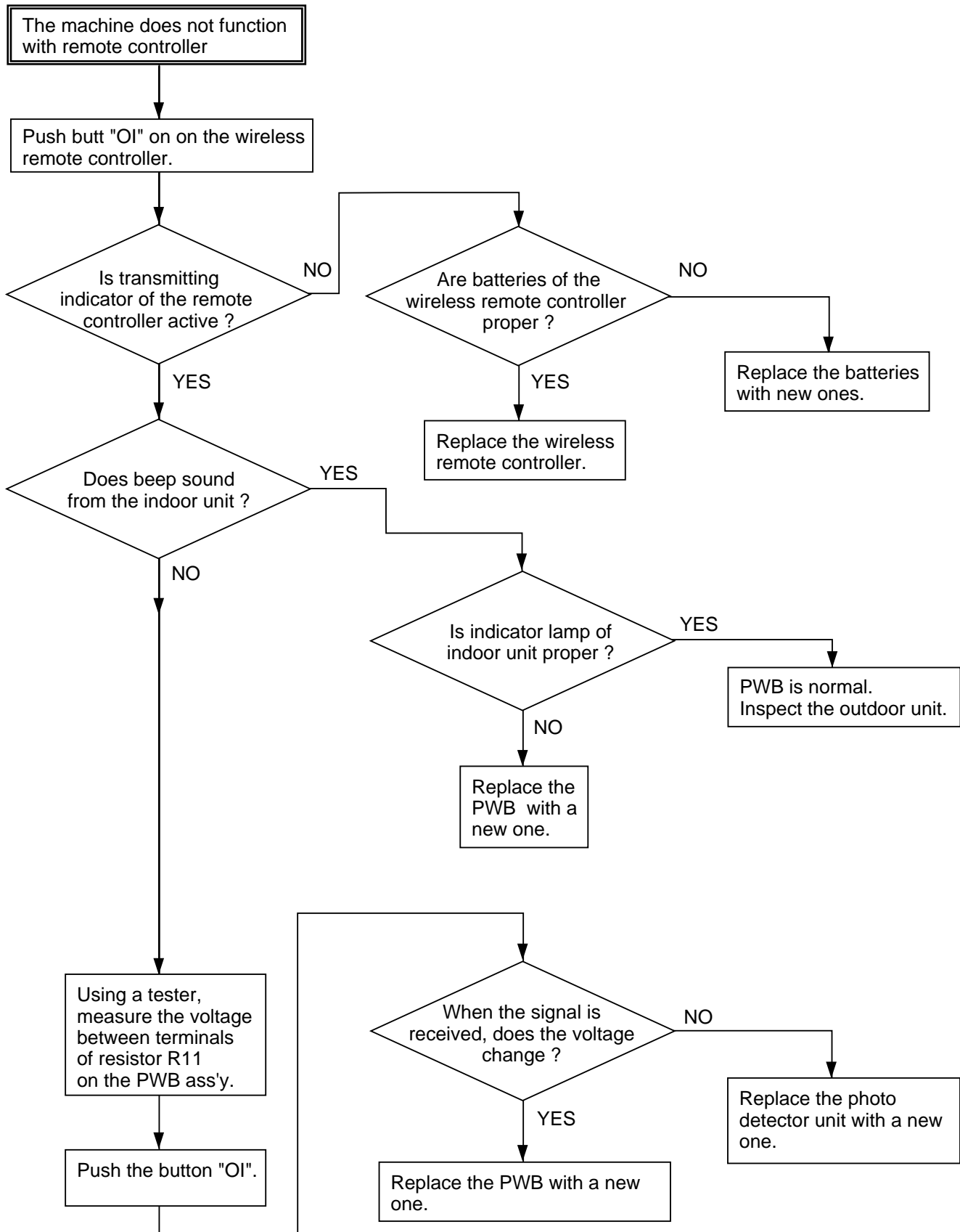
※1 : 7°C ≤ Room temp. < 42°C ..... ON  
 : 7°C > (Room temp.) or (Room temp.) ≥ 42°C ..... OFF

※2 : -2°C ≤ Pipe temp. < 45°C ..... ON  
 : -2°C > (Pipe temp.) or (Pipe temp.) ≥ 45°C ..... OFF



## TROUBLESHOOTING GUIDE OF CONTROL CIRCUIT





The room is not cooled at all or not cooled.  
The compressor does not operate.

Push the button "AUX." on the indoor unit, for more than 5 sec.

Using a tester, measure voltage at the terminals on the terminal board.

Is the voltage between terminal "N" and "1" of the terminal board the power supply voltage?

YES

Measure resistances of TH1 and TH2.

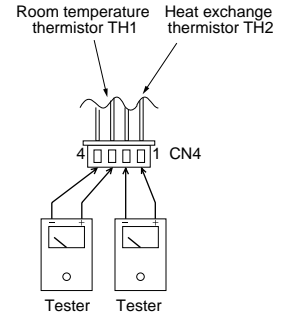
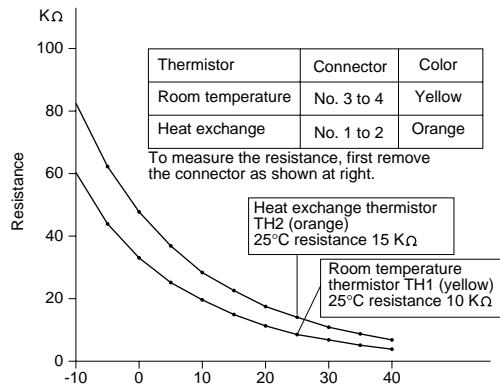
Are the resistances conformed Fig. 1 ?

YES

The control circuit is normal.

- The compressor may be defective.
- The running capacitor may be defective.
- Refrigerant may be leaked.
- The outdoor fan motor may be defective.
- The outdoor fan motor capacitor may be defective.

**Fig. 1 Temperature properties of indoor thermistors**



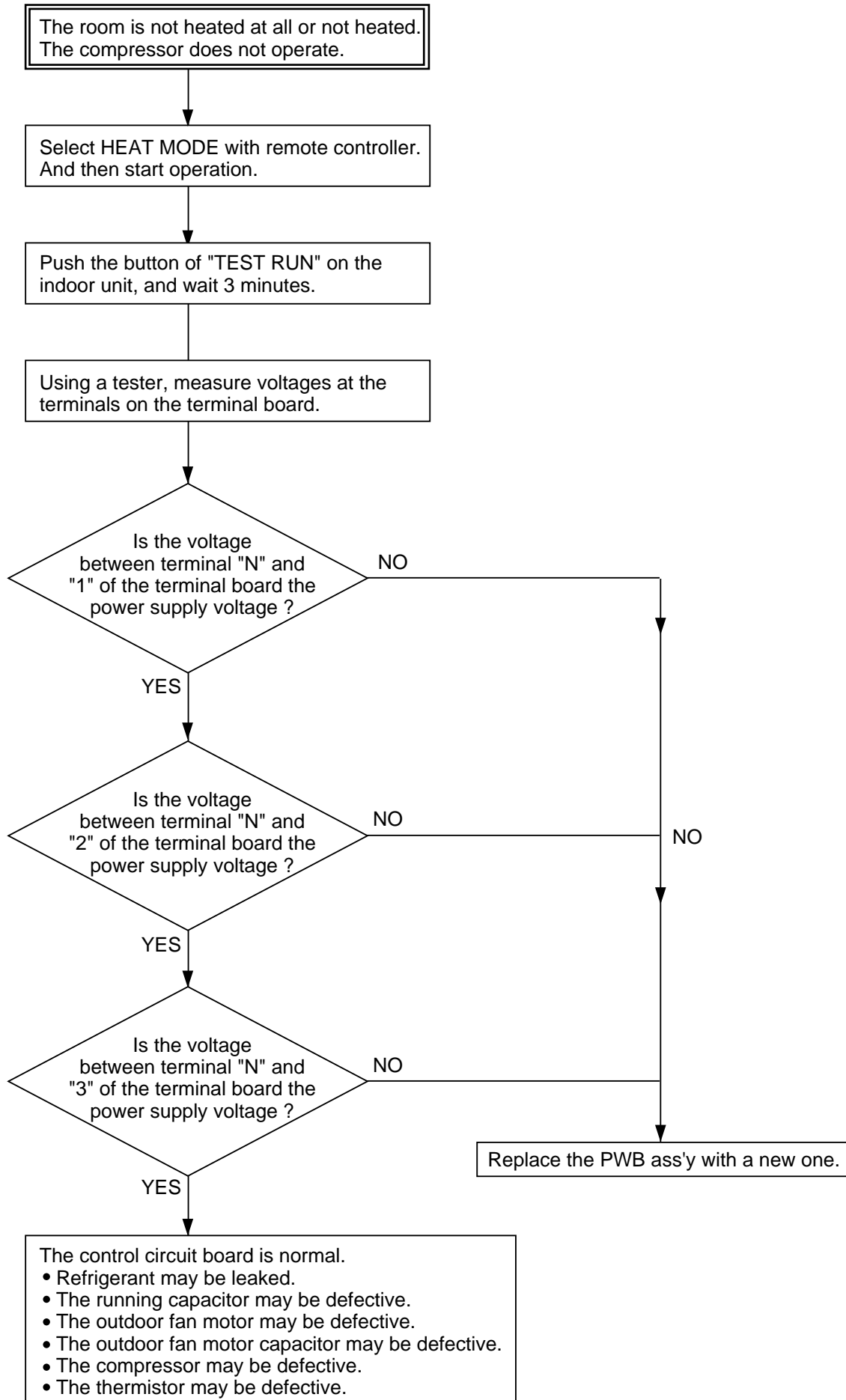
**Fig. 1**

NO

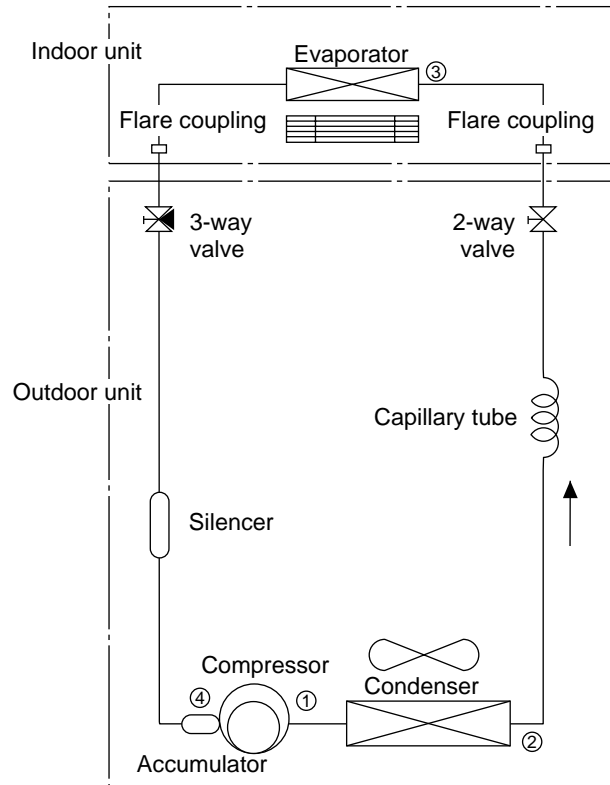
Replace the PWB ass'y with a new one.

NO

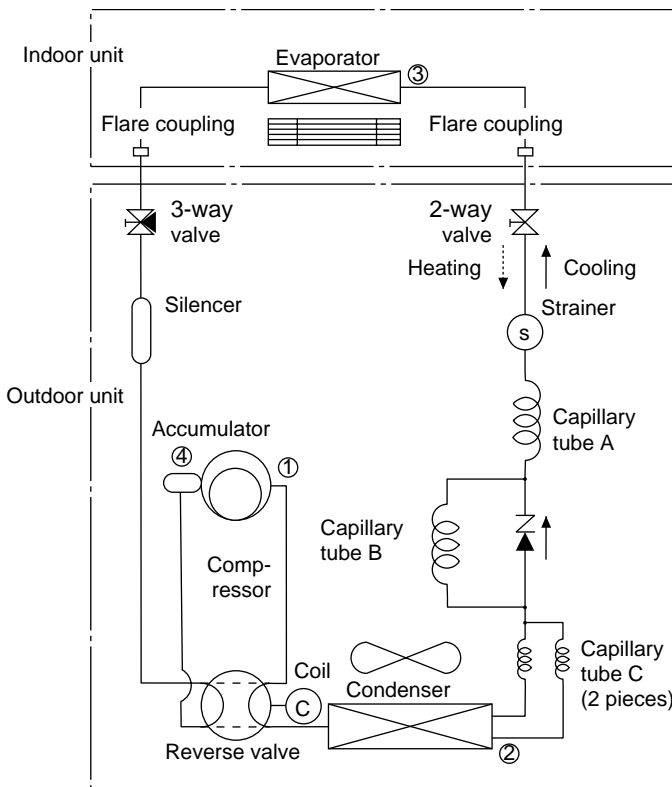
Replace the thermistor ass'y with a new one.



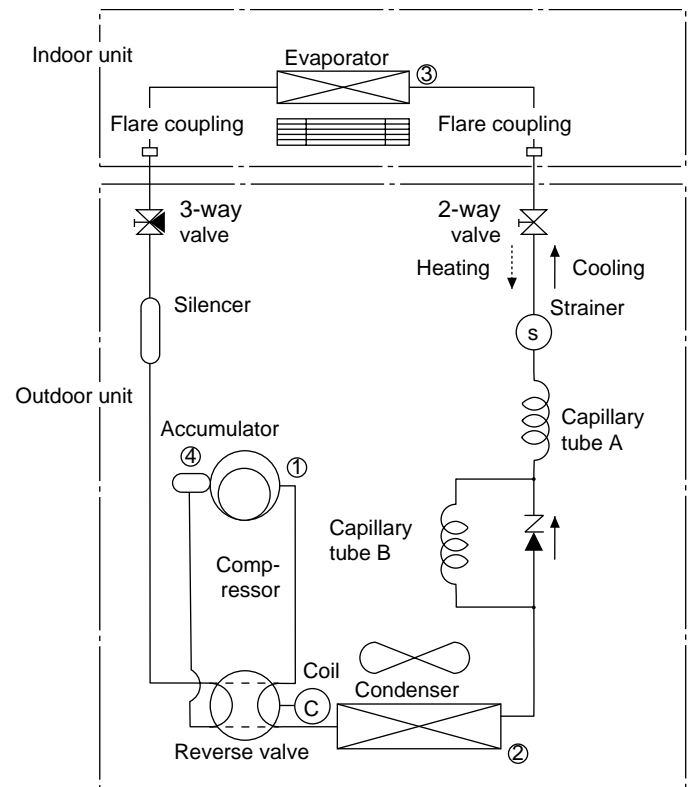
## REFRIGERATION CYCLE



**Figure R-1. Refrigeration Cycle for AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE**



**Figure R-2. Flow of Refrigerant for AY-A09BE/A09BE-C/A12BE**



**Figure R-3. Flow of Refrigerant for AY-A07BE/A07BE-C**

**Standard conditions:**

AH-A07BE / AH-A07BE-C / AH-A09BE / AH-A09BE-C / AH-A12BE

※ REFRIGERANT PIPE LENGTH 7.5m

	Indoor side		Outdoor side	
	Dry-bulb Temp. (°C)	Relative Humidity (%)	Dry-bulb Temp. (°C)	Relative Humidity (%)
Cooling	27	47	35	40

**Temperature at each part and pressure in 3-way valve**

Model	AH-A07BE/A07BE-C	AH-A09BE/A09BE-C	AH-A12BE
①	76°C	81°C	76°C
②	44°C	42°C	40°C
③	11°C	12°C	13°C
④	8°C	10°C	7°C
3-way valve pressure (MPaG)	0.53	0.5	0.49

**Dimension of Capillary tube**

Model	AH-A07BE/A07BE-C			AH-A09BE/A09BE-C			AH-A12BE		
	O.D	I.D	L	O.D	I.D	L	O.D	I.D	L
Capillary tube	ø2.7	ø1.4	400	ø2.7	ø1.5	600	ø2.7	ø1.6	500

**Standard conditions:**

AY-A07BE / AY-A07BE-C / AY-A09BE / AY-A09BE-C / AY-A12BE

※ REFRIGERANT PIPE LENGTH 7.5m

	Indoor side		Outdoor side	
	Dry-bulb Temp. (°C)	Relative Humidity (%)	Dry-bulb Temp. (°C)	Relative Humidity (%)
Cooling	27	47	35	40
Heating	20	—	7	87

**Temperature at each part and pressure in 3-way valve**

Model	AH-A07BE/A07BE-C		AH-A09BE/A09BE-C		AY-A12BE	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
①	70°C	74°C	75°C	74°C	78°C	73°C
②	41°C	3°C	43°C	2°C	41°C	3°C
③	12°C	32°C	13°C	32°C	14°C	32°C
④	7°C	3°C	8°C	3°C	11°C	4°C
3-way valve pressure (MPaG)	0.54	1.51	0.52	1.54	0.52	1.62

**Dimension of Capillary tube**

Model	AY-A07BE			AY-A09BE			AY-A12BE		
	O.D	I.D	L	O.D	I.D	L	O.D	I.D	L
Capillary tube A	ø2.7	ø1.4	600	ø2.7	ø1.5	500	ø2.7	ø1.6	400
Capillary tube B	ø2.7	ø1.4	700	ø2.7	ø1.5	700	ø2.7	ø1.6	700
Capillary tube C	—	—	—	ø2.7	ø1.6	150	ø2.7	ø1.6	150

Model	AY-A07BE-C			AY-A09BE-C		
	O.D	I.D	L	O.D	I.D	L
Capillary tube A	ø2.7	ø1.4	500	ø2.7	ø1.5	400
Capillary tube B	ø2.7	ø1.4	700	ø2.7	ø1.5	700
Capillary tube C	—	—	—	ø2.7	ø1.6	150

## PERFORMANCE CURVES

- NOTE: 1) Indoor fan speed: Hi  
 2) Vertical adjustment louver "45°", Horizontal adjustment louver "front"  
 3) Indoor air temp. : Cooling 27°C, Heating 20°C  
 4) Power source : 220V, 50Hz

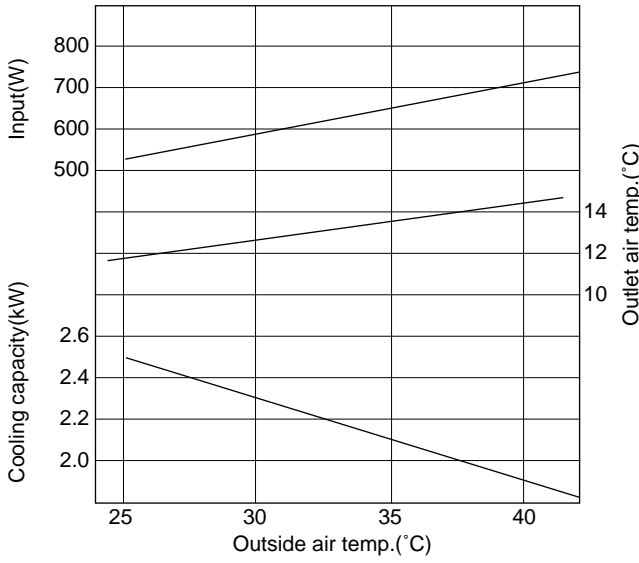


Figure P-1. At Cooling for AH-A07BE/A07BE-C

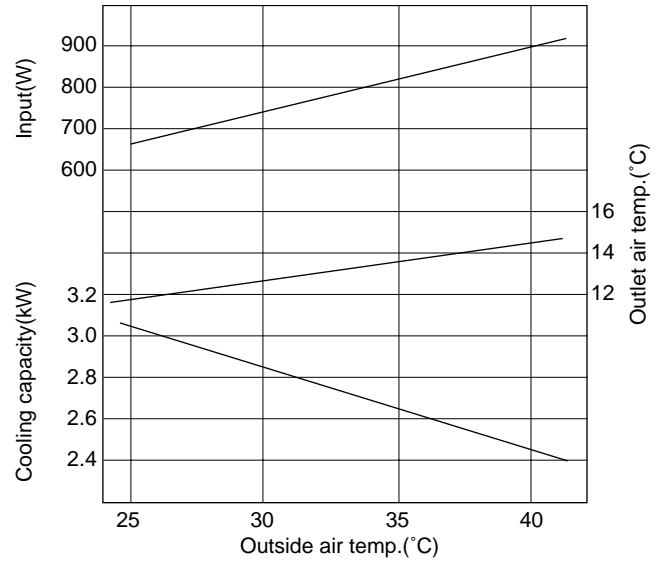


Figure P-2. At Cooling for AH-A09BE/A09BE-C

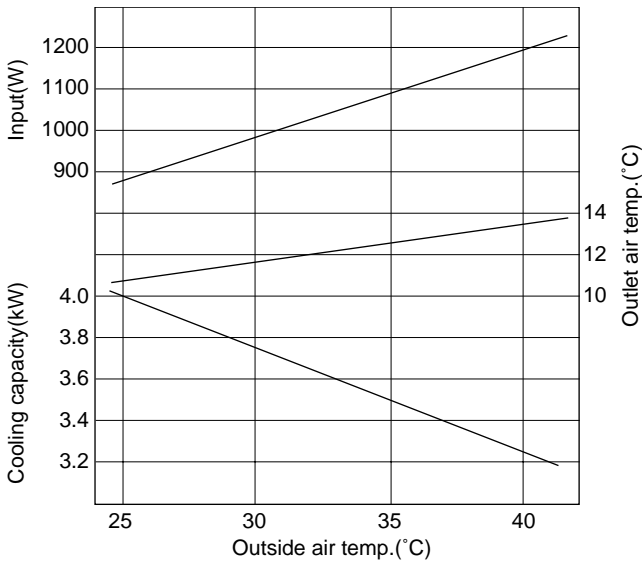


Figure P-3. At Cooling for AH-A12BE

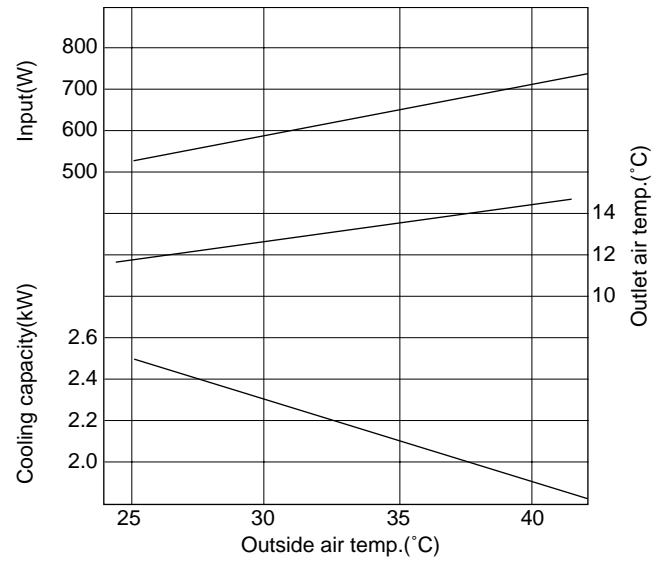


Figure P-4. At Cooling for AY-A07BE/A07BE-C

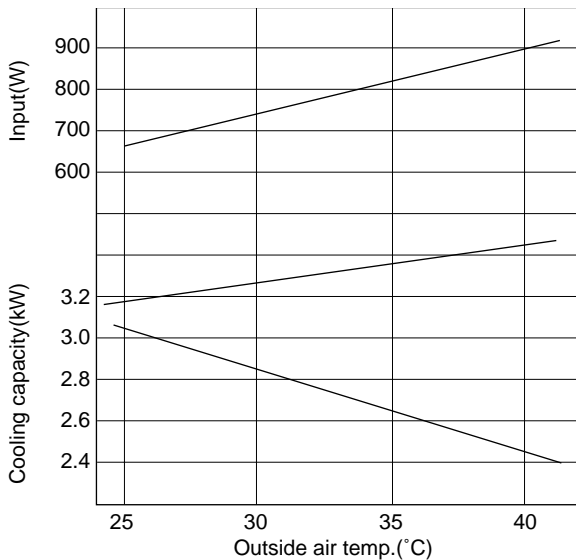


Figure P-5. At Cooling for AY-A09BE/A09BE-C

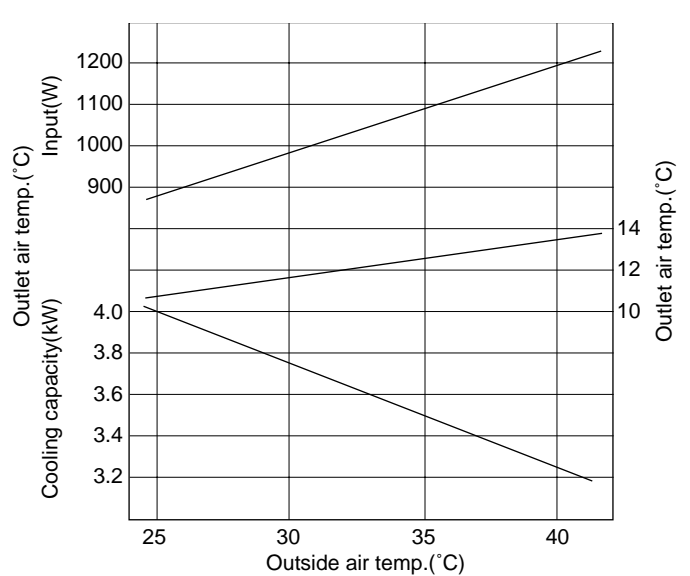


Figure P-6. At Cooling for AY-A12BE

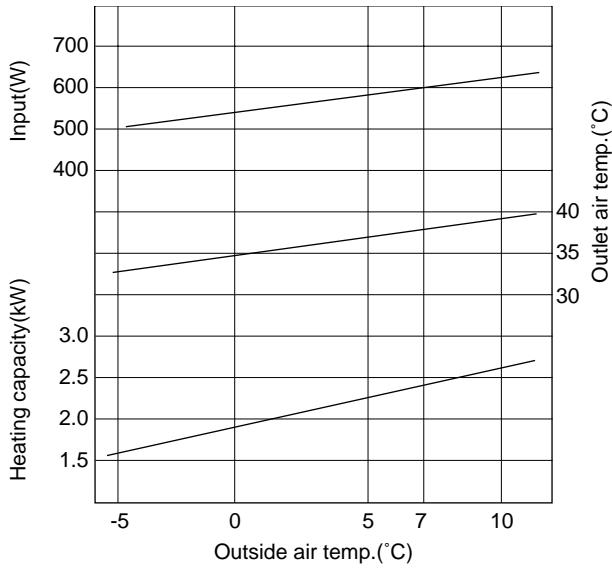


Figure P-7. At Heating for AY-A07BE/A07BE-C

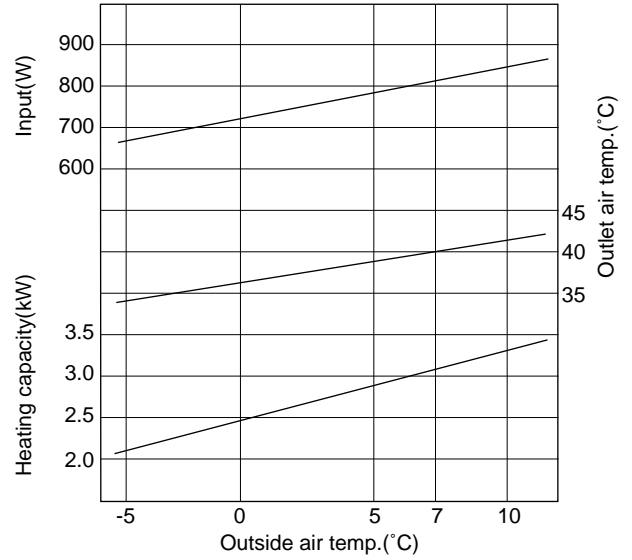


Figure P-8. At Heating for AY-A09BE/A09BE-C

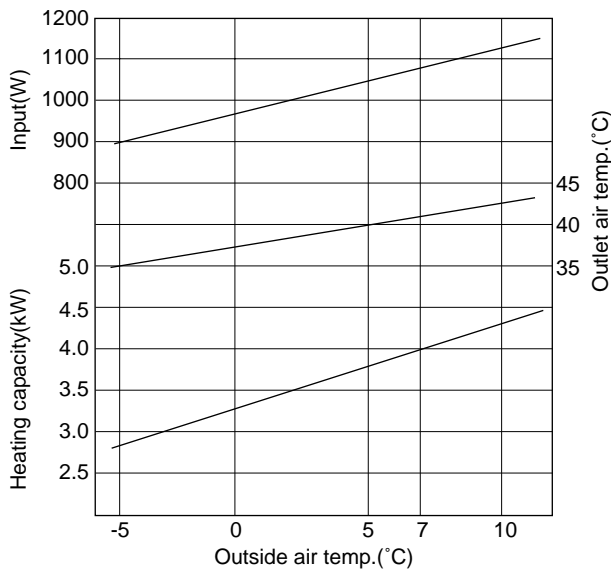
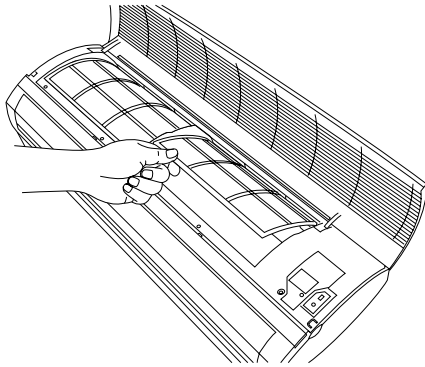


Figure P-9. At Heating for AY-A12BE

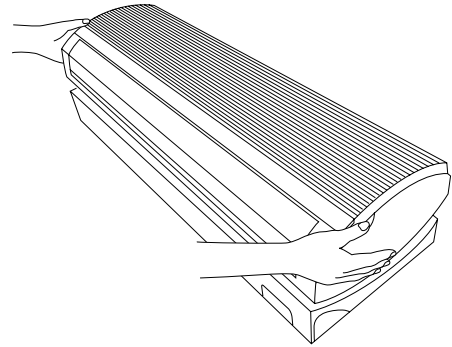


## DISASSEMBLING PROCEDURE FOR INDOOR UNIT

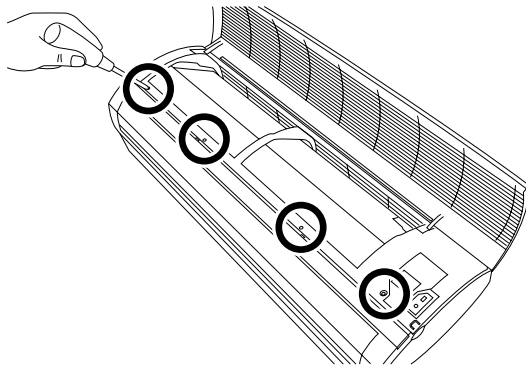
**CAUTION : DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING**



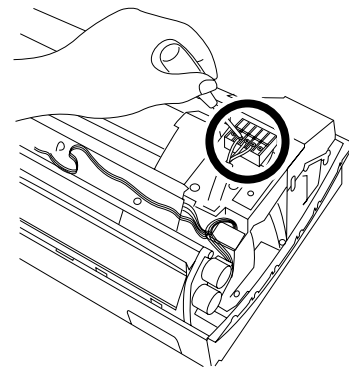
1. Open the open panel, and remove 2 air filters.



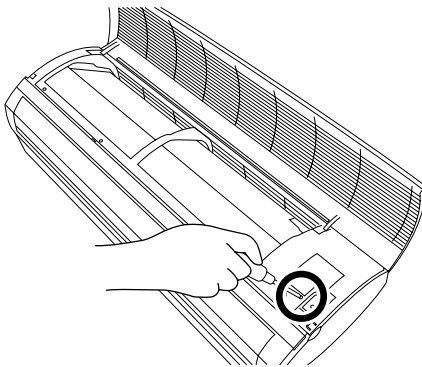
5. Pull the front panel up.



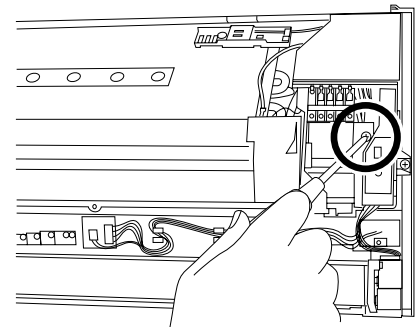
2. Remove 4 screws fixing the front panel.



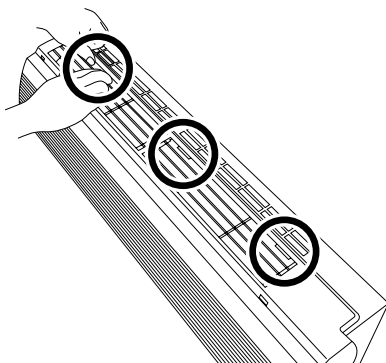
6. Remove the unit-to-unit wiring from the terminal board.



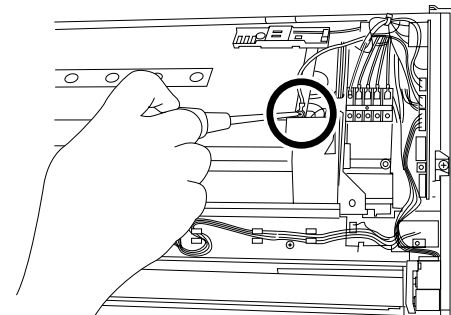
3. Remove the screw fixing the cord clamp.  
**Note: During reassembly, install the holder after installing the front panel. This will make it easier to assemble the front pane.**



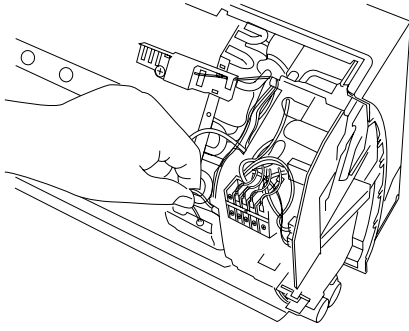
7. Remove a screw fixing the control box cover, and remove it.



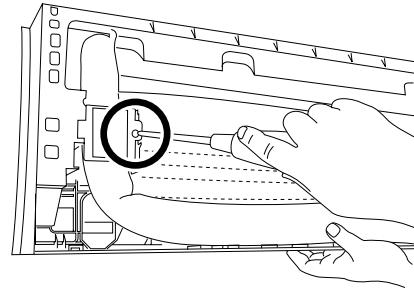
4. Close the open panel. Pushing the nail of the front pane.



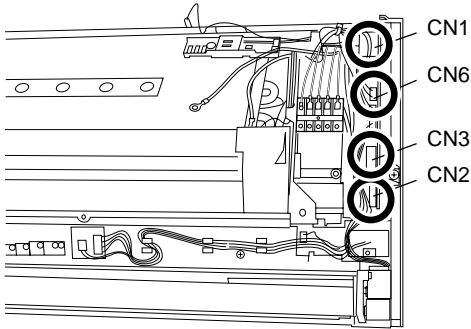
8. Remove a screw fixing the ground wire.  
**Note: During reassembly, take care for the direction of the lead wire.**



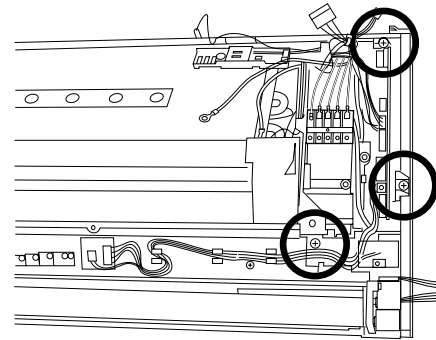
9. Remove the thermostat of the evaporator.



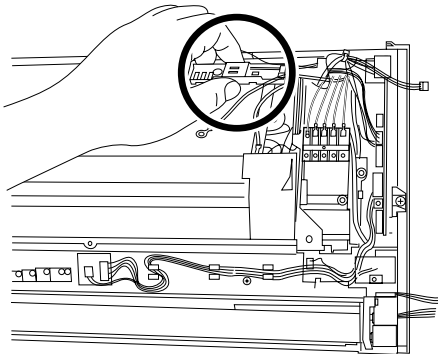
13. Remove the screw fixing the pipe holder.



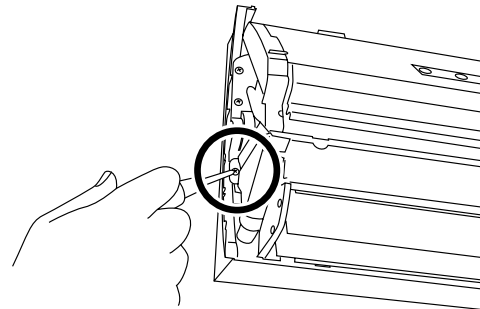
10. Remove 4 connectors.



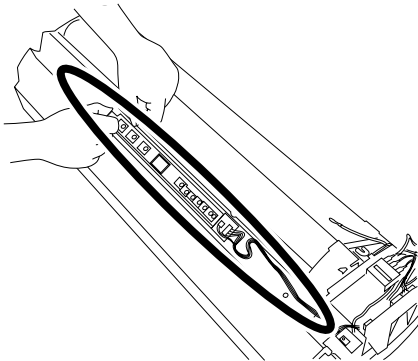
14. Remove 3 screws fixing the control box, and remove the control box.



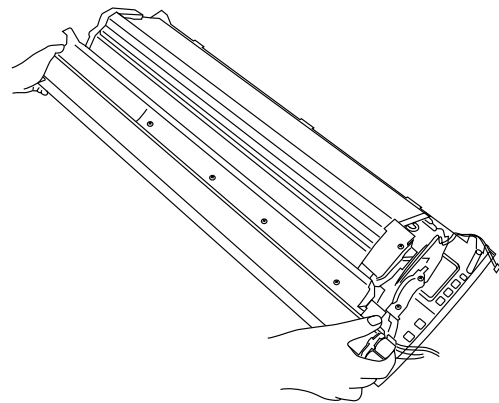
11. Remove the thermistor holder from the evaporator.



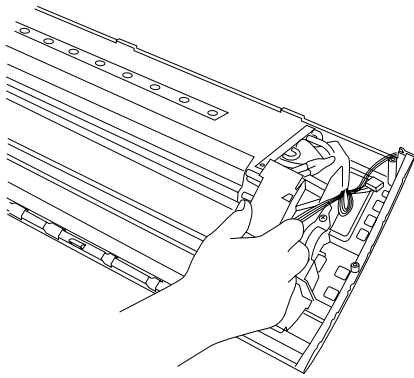
15. Remove a screw fixing the drain pan.



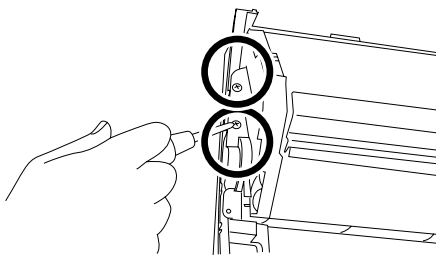
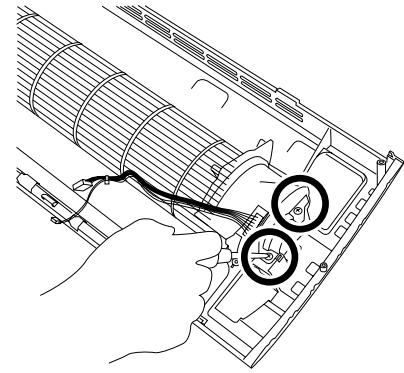
12. Remove the display from the drain pan.



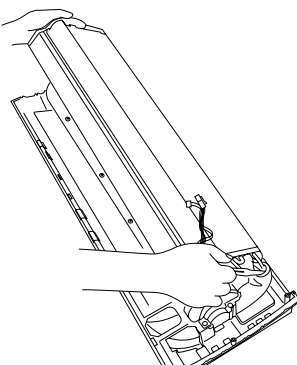
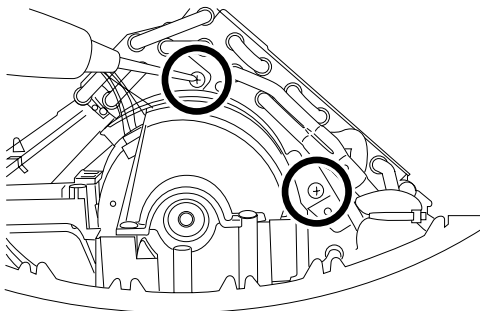
16. Pull drain pan toward you.



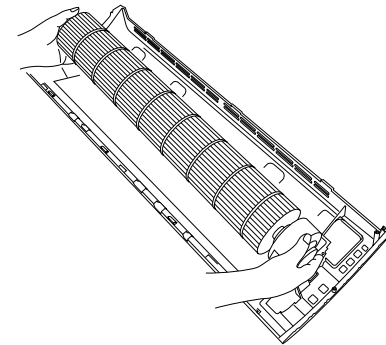
17. Remove the drain cover from the evaporator.  
**Note:** During reassembly, verify that the dew on the pipe is led to the drain pan.



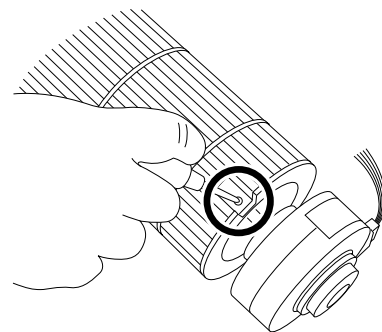
18. Remove 4 screws fixing the evaporator.



19. Remove the evaporator from the cabinet.



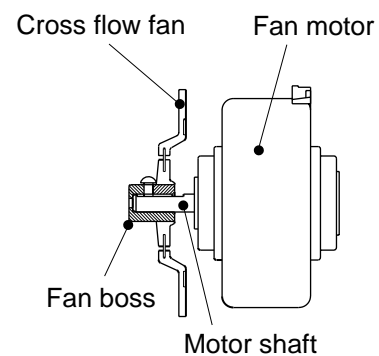
20. Remove 2 screws fixing the motor cover, and pull up the fan.



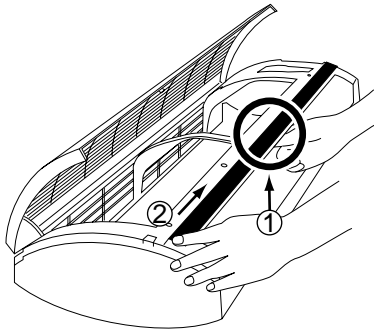
21. Loosen a screw fixing fan.

**[Cautionary points for assembling the fan]**

- When inserting the motor shaft into the metal fan boss, take care to prevent injuring the inner surface of the metal fan boss.
- Before fastening the motor shaft and fan, insert the motor shaft into contact with the bottom of the metal fan boss.

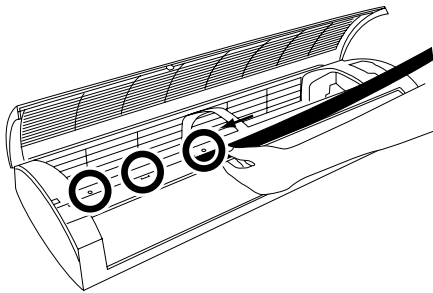


**How to remove the display cover**

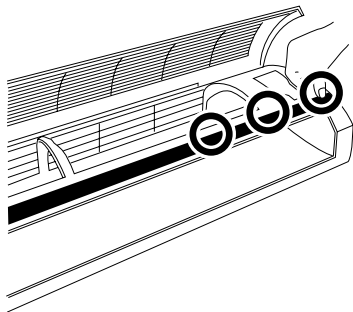


1. Push the center of display cover from the back.
2. Slide the display cover to the right.

**How to assemble the display cover**

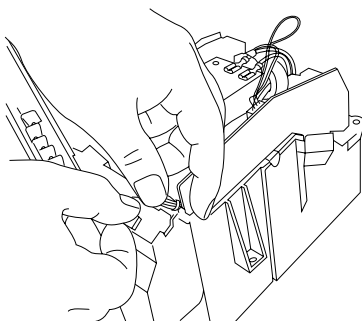


1. Slide the left end of the display cover through 3 hooks on the front panel along the guide from the center of the front panel.

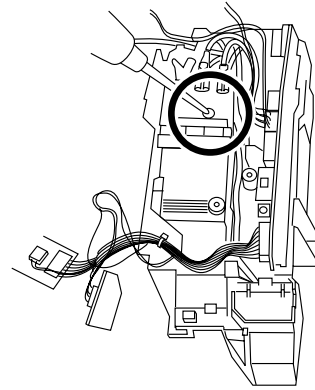


2. After the left half is inseted completely, press the display cover and snap in the 3 hooks on the right.

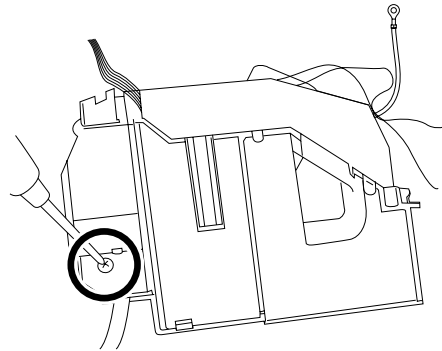
**How to remove the control box.**



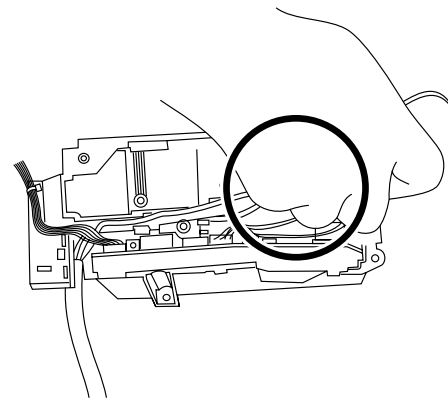
1. Remove the photo detector unit.  
 (Press and spread the upper hook, and the photo detector unit will be ready for removal.)



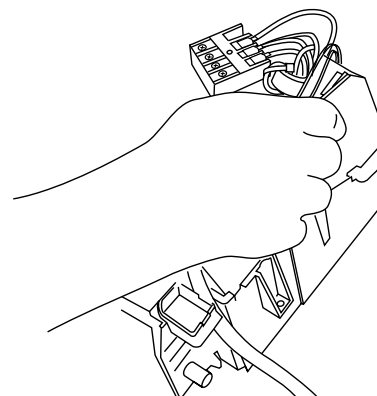
2. Remove the screw fixing the terminal board.



3. Remove a screw fixing the cord holder.

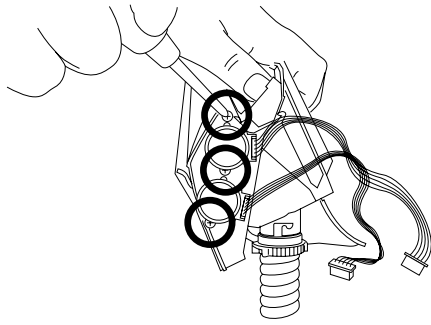


4. Remove 2 screws fixing the board (transformer).

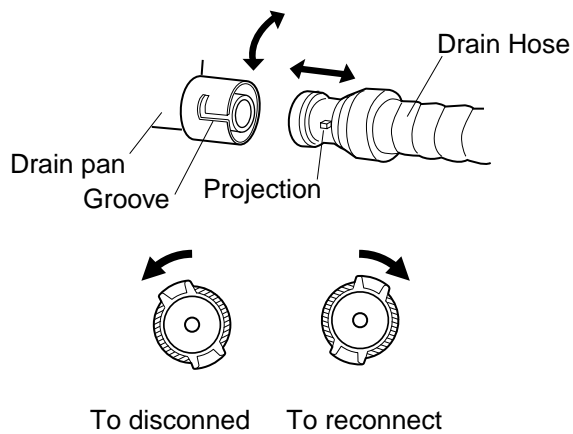


5. Pull the board.

**Drain pan and related**



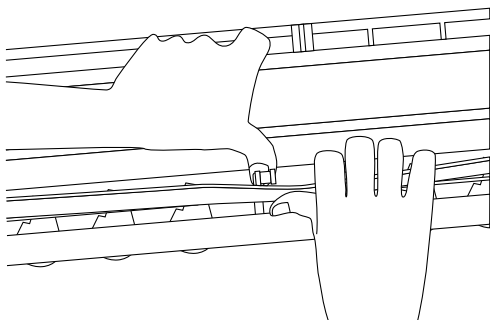
1. Remove 3 screws fixing motors.



2. Turn the cap area of the drain hose counterclockwise, and remove it from the drain pan.  
 During installation, turn the drain hose to the state of the "engagement position".  
 After reinstallation, verify that it is securely fastened.

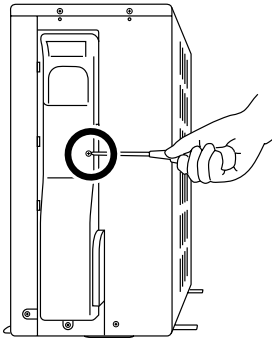
**How to remove the horizontal louver**

Slightly pull down the hinge area, defelect thge louver, and unhook it from the hinge. Remove the shaft from each of the left and right sides.



**FOR OUTDOOR UNIT [AU-A09BE/A09BE-C/A12BE, AE-A09BE/A09BE-C/A12BE]**

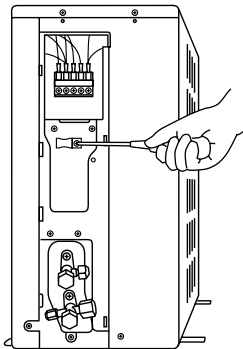
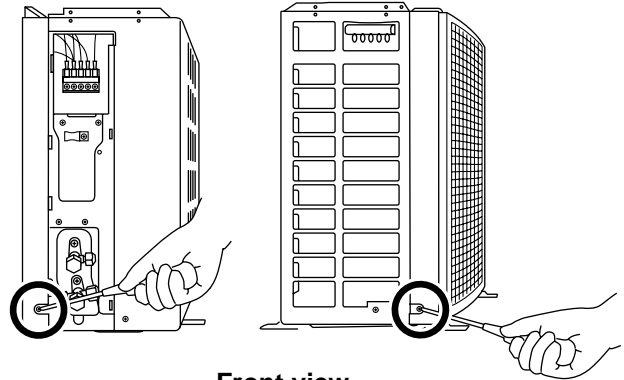
**CAUTION : DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING**



1. Loose a screw fixing the side cover.

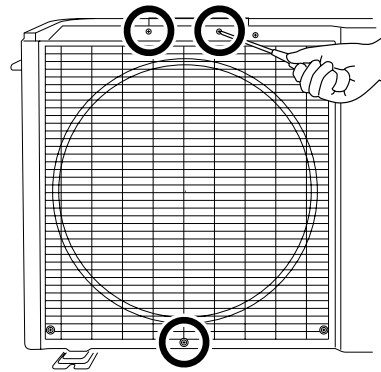
Right side view

Left side view

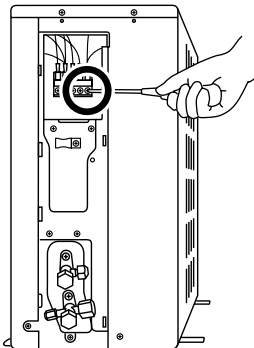


2. Loose a screw fixing the cord clamp.

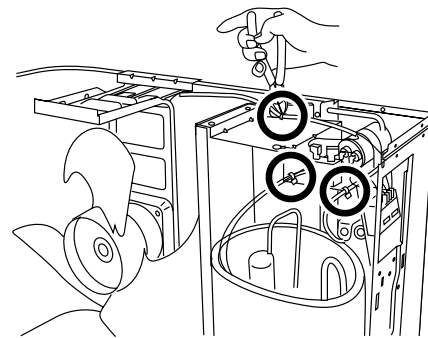
Front view



5. Loose 5 screws fixing the front panel.



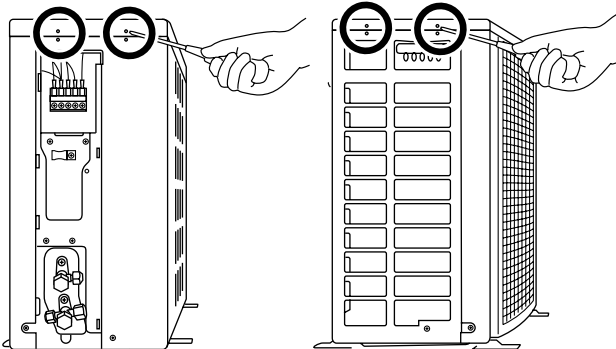
3. Loose the unit-to-unit cord.



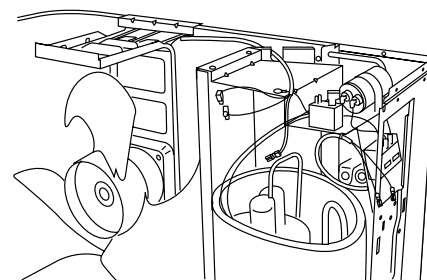
6. Cut 3 nylon bands.

Right side view

Left side view



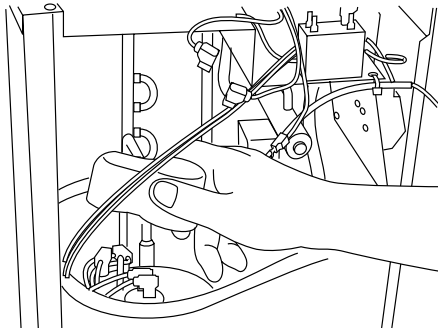
4. Loose 4 screws fixing the top panel.



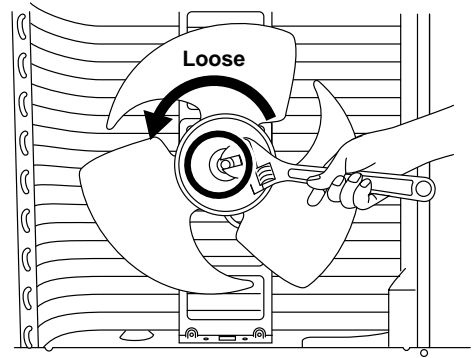
7. Remove 5 terminals. [AE-A09BE/A09BE-C/A12BE]  
 Remove 3 terminals. [AU-A09BE/A09BE-C/A12BE]

	AE-A09BE/A09BE-C/A12BE	AU-A09BE/A09BE-C/A12BE
Fan motor	3	3
Reverse valve	2	0

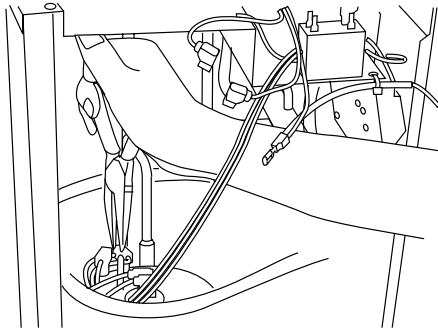
**DISASSEMBLING PROCEDURE OF THE FAN**



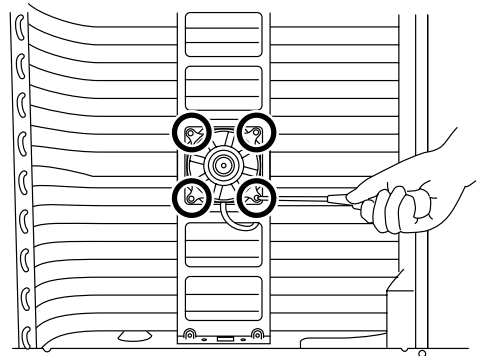
8. Remove the terminal cover.



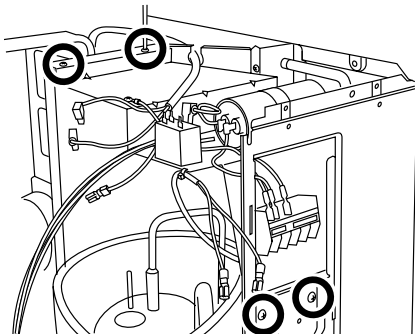
1. Loose the fan nut and fan can take out.



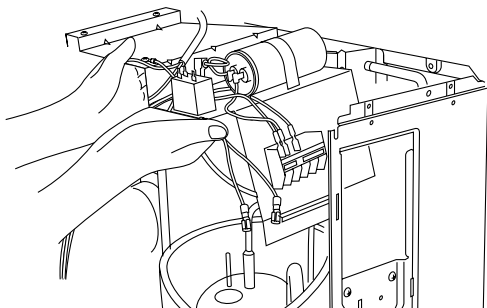
9. Remove 3 terminals.



2. Fan motor is secured by 4 screws.



10. Loose 4 screws fixing the control box.



11. Take out the control box.

## FOR OUTDOOR UNIT MODEL AE-A07BE/A07BE-C AND AU-A07BE/A07BE-C

**CAUTION: DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING**

- ① Remove the four (4) screws holding the terminal cover and right side cover. Then take them out.
- ② Remove the three (3) screws holding the left side cover and take it out.
- ③ Remove the another screws holding the cabinet and take it out.

NOTE: Number as shown in following figure is the moval order.

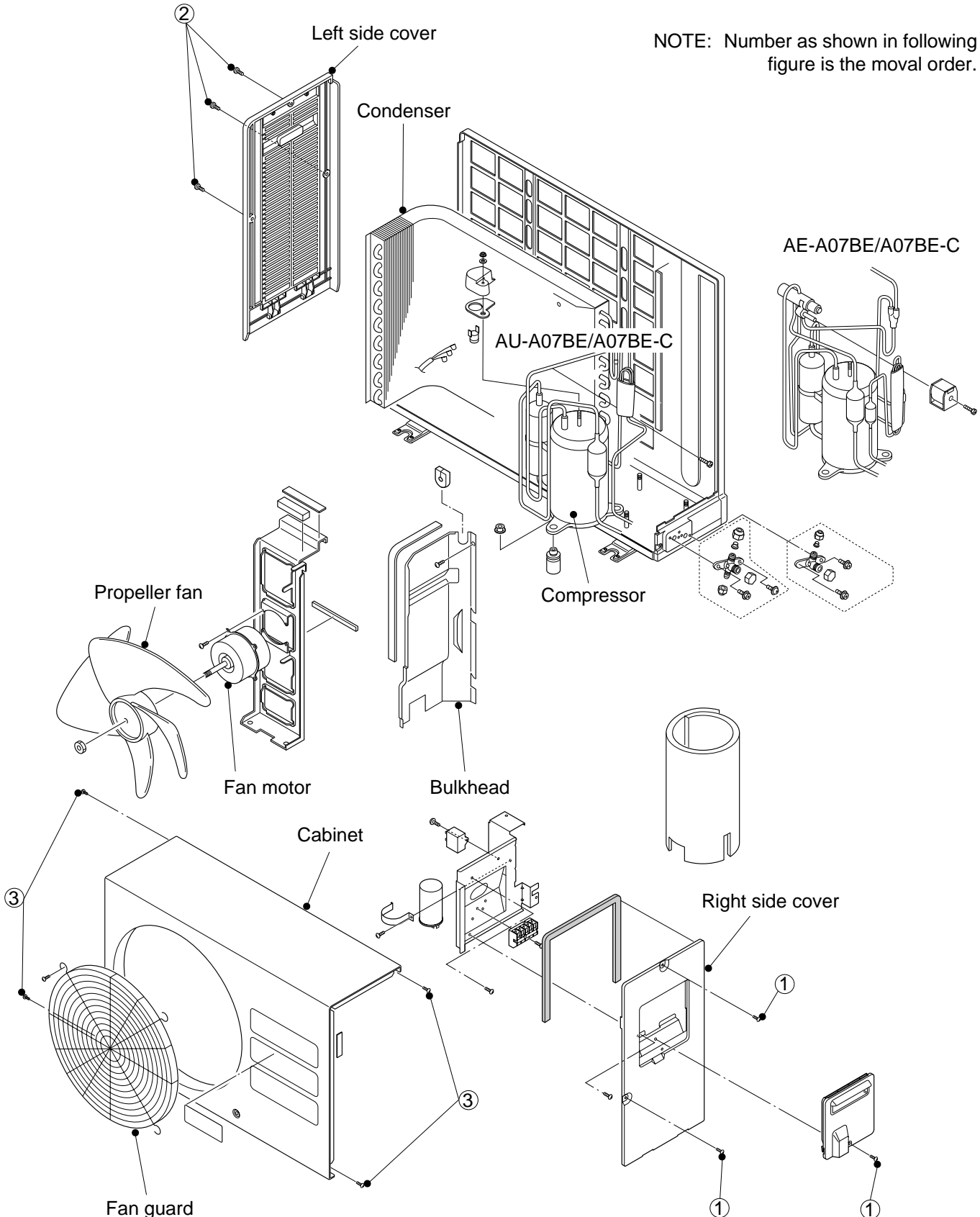


Fig. D-1. OUTDOOR UNIT



**REPLACEMENT PARTS LIST [AH/AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]**

REF. NO.	PART NO.	DESCRIPTION	QTY	CODE
<b>CABINET AND UNIT PARTS</b>				
1- 1	CMOT-A397JBKZ	Fan motor sub assembly	1	BG
1- 2	PGUMSA046JBEO	Damper rubber	1	AD
1- 3	CHLD-A067JBK0	Bearing assembly	1	AL
1- 4	DCHS-A399JBKZ	Cabinet assembly[except for AY-A12BE, AH-A12BE]	1	BD
1- 4	DCHS-A401JBKZ	Cabinet assembly [AY-A12BE, AH-A12BE]	1	BC
1- 5	NFANCA089JBEEZ	Cross flow fan	1	BD
1- 6	DSRA-A234JBKZ	Drain pan sub assembly	1	BB
1- 7	CMOTLA915JBEZ	Fan motor	1	BK
1- 8	MJNTPA082JBFA	Louver link	2	AC
1- 9	MLOV-A299JBFA	Vertical louver	12	AC
1-10	MLOV-A297JBFA	Horizontal louver A	1	AK
1-11	MLOV-A298JBFA	Horizontal louver B	1	AK
1-12	QW-VZE022JBZZ	Fan motor wire	1	AM
1-13	LHLD-A197JBFP	Louver holder	2	AX
1-14	NBRG-A026JBFA	Louver bushing	2	AB
1-15	LHLD-A476JBFZ	Display cover	1	AK
1-16	PHOS-A025JBEO	Drain hose	1	AL
1-17	PPACGA010JBEO	O ring	1	AB
1-18	PGID-A097JBFZ	Drain cover	2	AF
1-19	RMOT-A061JBEO	Louver motor	2	AS
1-20	PGUMMA110JBEO	Drain cap	1	AD
1-21	CWAK-C108JBKZ	Front panel assembly[AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	BK
1-21	CWAK-C109JBKZ	Front panel assembly[AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	BL
1-22	PPLT-A212JBFZ	Side cover R	1	AL
1-23	PPLT-A213JBFZ	Side cover L	1	AL
1-24	PCOV-A637JBRA	Display cover	1	BC
1-25	PFILMA145JBEA	Air filter	2	AL
1-26	DHLD-A010JBKZ	Tube holder assembly	1	AK
1-27	HPNL-A520JBFB	Open panel	1	AR
1-28	TSPC-D666JBRA	Name label [AH-A07BE]	1	AF
1-28	TSPC-E055JBRA	Name label [AH-A07BE-C]	1	AF
1-28	TSPC-D662JBRA	Name label [AH-A09BE]	1	AE
1-28	TSPC-E056JBRA	Name label [AH-A09BE-C]	1	AC
1-28	TSPC-D667JBRA	Name label [AH-A12BE]	1	AE
1-28	TSPC-D663JBRA	Name label [AY-A07BE]	1	AC
1-28	TSPC-E053JBRA	Name label [AY-A07BE-C]	1	AC
1-28	TSPC-D658JBRA	Name label [AY-A09BE]	1	AC
1-28	TSPC-E054JBRA	Name label [AY-A09BE-C]	1	AD
1-28	TSPC-D664JBRA	Name label [AY-A12BE]	1	AC
1-29	PFPPB901JBEZ	Cabinet insulator[except for AY-A12BE, AH-A12BE]	1	AH
1-30	QW-VZE013JBZZ	Lead wire (upper)	1	AG
1-31	GWAK-A257JBFA	Front panel	1	AX
1-32	PCOV-A614JBFZ	Drain cover	1	AG
1-33	TLACB408JBRZ	Wiring diagram [AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AC
1-33	TLACB413JBRZ	Wiring diagram [AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AC
1-34	QW-VZD893JBZZ	Lead wire (lower)	2	AG
1-35	LHLD-A303JBFA	Tube cover	1	AD
1-36	PSEL-C125JBEZ	Panel insulator	1	AF
1-37	HDEC-B108JBEZ	Sheet	2	AF
1-38	HDEC-B112JBEZ	Sheet	1	AN
1-39	PSEL-C055JBEZ	Evaporator seal [AH-A12BE, AH-A12BE]	1	AC
1-40	PSHE-A126JBEO	Evaporator seal	1	AG
1-41	LSPR-A007JBEO	Seet spring	2	AD
1-42	PSEL-C136JBEZ	Insulator [AY-A12BE, AH-A12BE]	1	AC
1-43	PFPPB962JBEZ	Insulator	1	AC
1-44	PFPPB967JBEZ	Insulator	1	AC

**CONTROL BOX PARTS**

2- 1	RTHM-A300JBEO	Thermistor	1	AP
2- 2	PBOX-A342JBFZ	Control box	1	AQ
2- 3	PBOX-A341JBFZ	Terminal cover	1	AH
2- 4	LHLD-A500JBFZ	Thermistor holder	1	AC
2- 5	PCOV-A300JBF0	Thermistor holder cover	1	AB
2- 6	HPNLCA776JBFA	Control box cover	1	AG
2- 7	HPNLCA777JBFA	Control panel	1	AD
2- 8	PCOV-A618JBFA	LED holder	1	AE
2- 9	PCOV-A640JBFA	LED holder B	1	AK
2-10	DPWBFA212JBKZ	Control board unit [AH-A07BE/A07BE-C]	1	BK
2-10	DPWBFA209JBKZ	Control board unit [AH-A09BE/A09BE-C]	1	BK
2-10	DPWBFA213JBKZ	Electric control board [AH-A12BE]	1	BK
2-10	DPWBFA210JBKZ	Control board unit [AY-A07BE/A07BE-C]	1	BL
2-10	DPWBFA208JBKZ	Control board unit [AY-A09BE/A09BE-C]	1	BL
2-10	DPWBFA211JBKZ	Control board unit [AY-A12BE]	1	BL
2-11	QACC-A158JBEO	Power supply cord	1	AT
2-12	QTANZA002JBZZ	Terminal board(3 pin)	1	AN
2-13	QTANZA002JBZZ	Terminal board(3 pin)[AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AN
2-13	QTANZA003JBZZ	Terminal board(5 pin)[AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AR

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
2-14	PCOV-A609JBWZ	Control box cover	1	AC
2-15	PCOV-A611JBWZ	Control box cover	1	AF
2-16	PCOV-A610JBWZ	Terminal cover	1	AE
2-17	VHLGPIU28RR-1	Photo detector unit (IC201)	1	AK
2-18	QFS-GA027JBEO	Fuse 3A 250V	1	AD
2-19	RH-IXA664JBZZ	Microcomputer (IC1)	1	AU
2-29	RH-IZA149JBEO	Integrated circuit (IC2)	1	AE
2-21	RIC--A022BDE0	Integrated circuit (IC3)	1	AE
2-22	RIC--A025BDE0	Integrated circuit(IC4,IC5) [AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	2	AE
2-23	VHIBR24C01A-6	E <sup>2</sup> PROM (IC6)	1	AF
2-24	RH-IZA140JBEO	Integrated circuit (IC7)	1	AE
2-25	RH-VZA020JBEO	Varistor (CNR1,CNR2,CNR3)[AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	3	AE
2-25	RH-VZA020JBEO	Varistor (CNR3) [AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AE
2-26	RRLYDA010JBZZ	Relay (RY1)	1	AH
2-27	RTRN-A291JBZZ	Transformer	1	AS
2-28	RH-VXA002JBZZ	Varistor (NR)	1	AF
2-29	VHRS201D01/-6	Solid state relay (SSR1)	1	AK
2-30	VHPGL6ZE27+-6	LED <GREEN> (LED4 ~ LED7)	4	AG
2-31	VHPGL6ZR27+-6	LED <RED> (LED2)	1	AF
2-32	VHPGL6ZS27+-6	LED <ORANGE> (LED3)	1	AF

### CYCLE PARTS

3- 1	CPIPCA678JBKZ	Pipe assembly [except for AH-A12BE, AY-A12BE]	1	BG
3- 1	CPIPCA679JBKZ	Pipe assembly [AH-A12BE, AY-A12BE]	1	BH
3- 2	PSEN-A004JBK0	Flare nut assembly(1/4")	1	AE
3- 3	PSEN-A005JBK0	Flare nut assembly(3/8") [except for AH-A12BE, AY-A12BE]	1	AG
3- 3	PSEN-A016JBK0	Flare nut assembly (1/2") [AH-A12BE, AY-A12BE]	1	AR
3- 4	PVLV-0341JBEO	Flare union (1/4")	1	AG
3- 5	PVLV-0342JBEO	Flare union (3/8") [except for AH-A12BE, AY-A12BE]	1	AH
3- 5	PVLV-0406JBEO	Flare union (1/2") [AH-A12BE, AY-A12BE]	1	AK
3- 6	DEVA-A121JBKZ	Evaporator assembly [AH-A09BE/A09BE-C, AY-A09BE/A09BE-C]	1	BS
3- 6	DEVA-A122JBKZ	Evaporator assembly [AH-A12BE, AY-A12BE]	1	BT
3- 6	DEVA-A123JBKZ	Evaporator assembly [AH-A07BE/A07BE-C, AY-A07BE/A07BE-C]	1	BR

### ACCESSORY PARTS

4- 1	CRMC-A530JBEZ	Remote controller [AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AZ
4- 1	CRMC-A531JBEZ	Remote controller [AH-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AZ
4- 2	UBATUA027JBE0	Battery pack	1	AE
4- 3	LHLD-A477JBFA	Cord holder (for covering the terminal board of indoor unit)	1	AE
4- 4	XTTSD40P16000	Tapping screw (for fixing the cord holder)	1	AA
4- 5	LX-NZA207JBEZ	Special nut (for fixing long screw steadily)	9	AE
4- 6	LPFT-A029JBF0	Drain hose adpater [AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE]	1	AD
4- 7	PPLTNA058JBWZ	Mounting plate	1	AS
4- 8	XTTSD45P30000	Long screw	8	AA
4- 9	TINSEA266JBRZ	Operation manual	1	AM
4-10	TINS-A670JBRZ	Installation manual	1	AE
4-11	TINS-A671JBRZ	Installation manual	1	AE
4-12	LX-BZA106JBE0	Special screw (for hanging remote controller)	1	AE

### SCREWS

5- 1	LX-BZA075JBE0	Special screw (for earth)	1	AA
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### PACKING PARTS

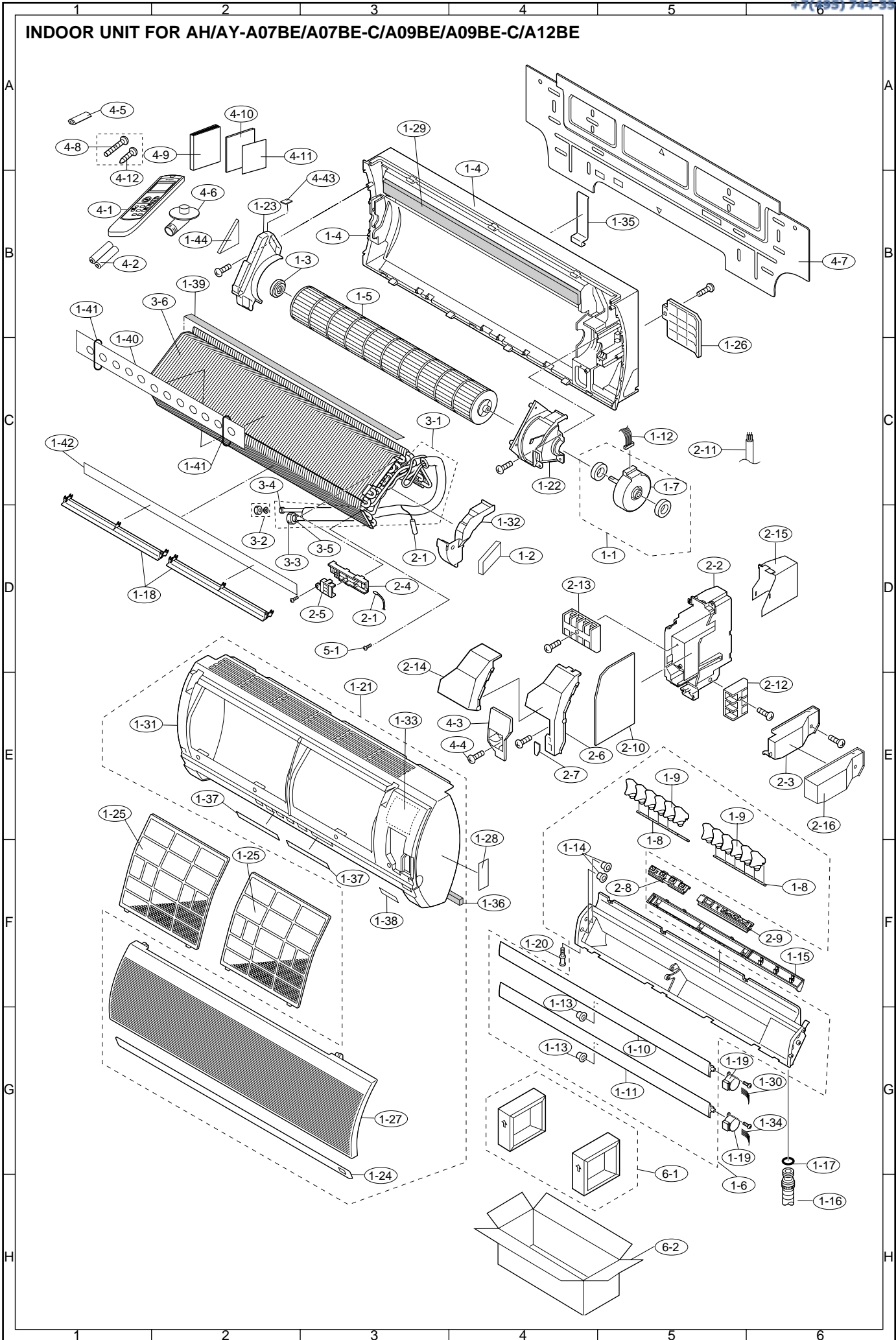
6- 1	CPADBA038JBKZ	Packing pad assembly	1	AK
6- 2	SPAKCA750JBEZ	Packing case [AH-A07BE]	1	AR
6- 2	SPAKCA976JBEZ	Packing case [AH-A07BE-C]	1	AQ
6- 2	SPAKCA749JBEZ	Packing case [AH-A09BE]	1	AR
6- 2	SPAKCA975JBEZ	Packing case [AH-A09BE-C]	1	AQ
6- 2	SPAKCA751JBEZ	Packing case [AH-A12BE]	1	AR
6- 2	SPAKCA974JBEZ	Packing case [AY-A07BE-C]	1	AQ
6- 2	SPAKCA746JBEZ	Packing case [AY-A09BE]	1	AR
6- 2	SPAKCA973JBEZ	Packing case [AY-A09BE-C]	1	AQ
6- 2	SPAKCA748JBEZ	Packing case [AY-A12BE]	1	AR

### HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

**INDOOR UNIT FOR AH/AY-A07BE/A07BE-C/A09BE/A09BE-C/A12BE**



**REPLACEMENT PARTS LIST [AU-A07BE/A07BE-C]**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
<b>CABINET AND UNIT PARTS</b>				
1- 1	LBSHCA022JBF0	Bushing	1	AE
1- 2	CMOTLA592JBE0	Fan motor	1	BP
1- 3	NFANPA020JBEA	Propeller fan	1	AW
1- 4	PANGKA044JBY0	Motor angle ssembly	1	AK
1- 5	PSKR-A094JBP0	Bulkhead [AU-A07BE]	1	AG
1- 5	PSKR-A106JBP0	Bulkhead [AU-A07BE-C]	1	AM
1- 6	GPLTPA014JBFA	Left side cover	1	AR
1- 7	CFTA-A266JBKZ	Terminal cover ass'y [AU-A07BE]	1	AU
1- 7	CFTA-A276JBKZ	Terminal cover ass'y [AU-A07BE-C]	1	AU
1- 8	PBOX-A351JBWZ	Control box	1	AK
1- 9	GCAB-A105JBTA	Cabinet	1	BA
1-10	GGADFA030JBEA	Fan guard	1	AY
1-11	PSEL-C147JBEZ	Seal	1	AC
1-12	PSPF-A777JBEZ	Compressor cover [AU-A07BE]	1	AT
1-12	PSPF-A695JBE0	Compressor cover [AU-A07BE-C]	1	AZ
1-13	PSEL-A345JBE0	Cabinet seal	1	AK
1-14	TSPC-D665JBRZ	Name label [AU-A07BE]	1	AG
1-14	TSPC-E042JBRZ	Name label [AU-A07BE-C]	1	AF
1-15	TLABBA029JBRA	SHARP badge	1	AD
1-16	CCHS-A751JBTA	Base pan assembly [AU-A07BE]	1	BC
1-16	CCHS-A636JBTA	Base pan assembly [AU-A07BE-C]	1	BF
1-17	PSPF-A277JBE0	Angle seal	1	AK
1-18	PSEL-A347JBE0	Angle seal	2	AK
1-19	PSEL-A344JBE0	Consensor seal	2	AK
1-20	CPLT-A058JBKZ	Side cover ass'y	1	AW
1-21	GPLTMA058JBTA	Side cover R	1	AU
1-22	PSEL-C141JBEZ	Insulator	1	AU
1-23	PSEL-C142JBEZ	Insulator	1	AU
1-24	PSEL-C144JBEZ	Insulator	1	AD
1-25	PSEL-C071JBEZ	Aluminum tape	1	AC
1-26	TLABCB412JBRZ	Wiring diagram [AU-A07BE]	1	AC
1-26	TLABCB573JBRZ	Wiring diagram [AU-A07BE-C]	1	AF
1-27	PSEL-C152JBEZ	Insulator	1	AE
1-28	PSEL-C145JBEZ	Insulator	1	AC

**CONTROL BOX PARTS**

2- 1	RHOG-A186JBZZ	Protector [AU-A07BE]	1	AT
2- 2	LBNDKA062JBW0	Capacitor clamp	1	AD
2- 3	QW-IZA014JBZZ	Compressor cord [AU-A07BE]	1	AN
2- 3	QW-IZA028JBZZ	Compressor cord [AU-A07BE-C]	1	AP
2- 4	RC-HZA316JBE0	Running capacitor [AU-A07BE]	1	AY
2- 4	RC-HZA301JBE0	Running capacitor [AU-A07BE-C]	1	AX
2- 5	RC-HZA419JBZZ	Fan motor capacitor	1	AP
2- 6	QTANZA002JBZZ	Terminal board	1	AN
2- 7	LHLD-0261JBM0	Cord holder	1	AB

**CYCLE PARTS**

3- 1	FCMPRA106JBKZ	Compressor ass'y(Including for Ref.No.2-1)[AU-A07BE]	1	CC
3- 1	FCMPRA129JBKZ	Compressor ass'y	1	CC
3- 1-1	PCMPRA334JBEZ	Compressor [AU-A07BE]	1	CB
3- 1-1	PCMPRA369JBEZ	Compressor [AU-A07BE-C]	1	CB
3- 1-2	PSEL-B379JBE0	Terminal gasket [AU-A07BE]	1	AN
3- 1-2	PSEL-B172JBE0	Terminal gasket [AU-A07BE-C]	1	AD
3- 1-3	PSEL-B380JBE0	Gasket washer [AU-A07BE]	1	AG
3- 1-3	PSEL-B722JBE0	Gasket washer [AU-A07BE-C]	1	AE
3- 1-4	PCOV-A628JBEZ	Terminal cover [AU-A07BE]	1	AK
3- 1-4	PCOV-A378JBEZ	Terminal cover [AU-A07BE-C]	1	AH
3- 1-5	GLEG-A097JBE0	Compressor cushion [AU-A07BE]	3	AF
3- 1-5	GLEG-A085JBE0	Compressor cushion [AU-A07BE-C]	3	AK
3- 1-6	LX-NZA164JBE0	Special nut [AU-A07BE]	1	AE
3- 1-6	LX-NZA152JBE0	Special nut [AU-A07BE-C]	1	AD
3- 2	PCON-A458JBPZ	Condenser [AU-A07BE]	1	BS
3- 2	PCON-A477JBPZ	Condenser [AU-A07BE-C]	1	BS
3- 3	DVLV-A189JBK0	2 Way valve unit	1	BA
3- 4	PSEN-A004JBK0	Flare nut ass'y 1/4"	1	AE
3- 5	LX-NZA081JBE0	Valve cap	2	AG
3- 6	PGUMSA205JBE0	Damper rubber	1	AC
3- 7	DVLV-A212JBK0	3 way valve unit	1	BB
3- 8	PSEN-A005JBK0	Flare nut assembly 3/8"	1	AG
3- 9	LX-NZA034JBE0	Service cap	1	AD
3-10	PCPY-A777JBPZ	Capillary tube	1	AG
3-11	PGUMS0147JBE0	Damper rubber	1	AE
3-12	LX-NZA026JBE0	Special nut	3	AC
3-13	PGUM-0034JBE0	Damper rubber [AU-A07BE-C]	2	AF

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
3-14	LBND-A046JBE0	Wire fixing band [AU-A07BE-C]	2	AE

**SCREWS, NUT AND WASHER**

4- 1	LX-WZA019JBE0	Special washer	1	AD
4- 2	LX-BZA078JBE0	Special screw	4	AB
4- 3	LX-BZA075JBE0	Special screw	1	AA
4- 4	LX-WZA019JBE0	Special washer	1	AB
4- 5	LX-NZA030JBE0	Special nut	1	AB
4- 6	LX-CZA038WRE0	Special screw	2	AA
4- 7	LX-BZA076JBE0	Special screw	6	AA
4- 8	XCPSD40P20000	Tapping screw	1	AA

**PACKING PARTS**

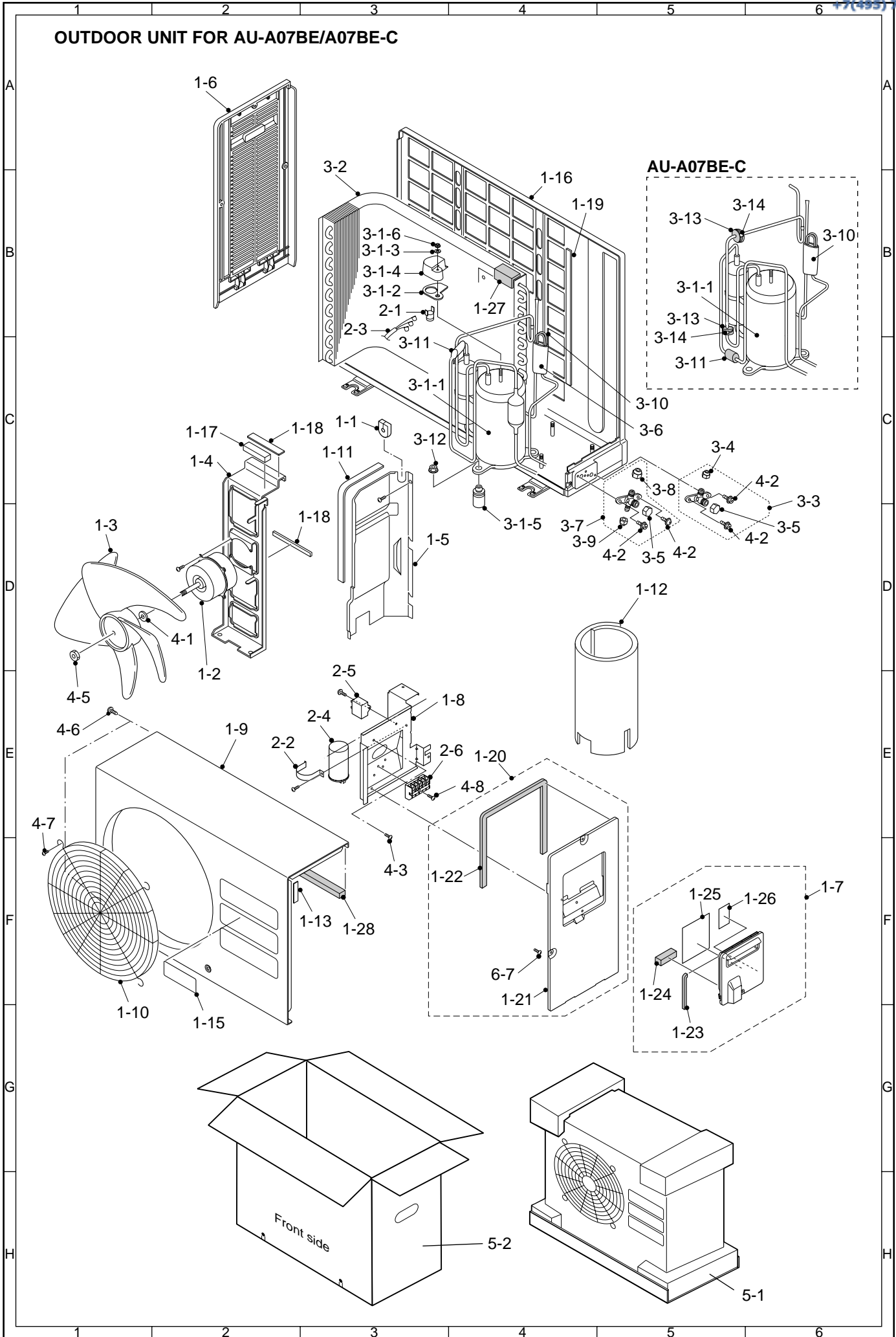
5- 1	CPADBA231YDK0	Bottom pad ass'y	1	AP
5- 2	SPAKCA713JBEZ	Packing case [AU-A07BE]	1	AX
5- 2	SPAKCA969JBEZ	Packing case [AU-A07BE-C]	1	AW

**HOW TO ORDER REPLACEMENT PARTS**

To have your order filled promptly and correctly, please furnish the following information.

- |                 |                |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO.    |
| 3. PART NO.     | 4. DESCRIPTION |

**OUTDOOR UNIT FOR AU-A07BE/A07BE-C**



## REPLACEMENT PARTS LIST [AE-A07BE/A07BE-C]

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
<b>CABINET AND UNIT PARTS</b>				
1- 1	PSEL-A345JBEO	Cabinet seal	1	AK
1- 2	CMOTLA592JBEO	Fan motor	1	BP
1- 3	NFANPA020JBEO	Propeller fan	1	AW
1- 4	PANGKA018JBPO	Fan motor angle	1	AP
1- 5	PSKR-0106JBPO	Bulkhead	1	AM
1- 6	GPLTPA014JBFA	Left side cover	1	AR
1- 7	CFATA-A261JBKZ	Terminal cover ass'y [AE-A07BE]	1	AS
1- 7	CFATA-A271JBKZ	Terminal cover ass'y [AE-A07BE-C]	1	AU
1- 8	PBOX-A351JBWZ	Control box	1	AK
1- 9	GCAB-A105JBTA	Cabinet	1	BA
1-10	GGADFA030JBEO	Fan guard	1	AY
1-11	PSEL-C147JBEO	Seal	1	AC
1-12	PSPF-A776JBEZ	Compressor cover [AE-A07BE]	1	AT
1-12	PSPF-A833JBEZ	Compressor cover [AE-A07BE-C]	1	AR
1-13	CPLT-A058JBKZ	Side cover ass'y	1	AW
1-14	TSPC-D660JBRZ	Name label [AE-A07BE]	1	AD
1-14	TSPC-E040JBRZ	Name label [AE-A07BE-C]	1	AD
1-15	TLABBA029JBRA	SHARP badge	1	AD
1-16	CCHS-A746JBTA	Base pan ass'y [AE-A07BE]	1	BF
1-16	CCHS-A636JBTA	Base pan ass'y [AE-A07BE-C]	1	BF
1-17	PSPF-A277JBEO	Angle seal	1	AK
1-18	PSEL-A347JBEO	Angle seal	2	AK
1-19	PSEL-A344JBEO	Condenser seal	1	AK
1-20	LBSHCA022JBF0	Bushing	1	AE
1-21	GPLTMA058JBTA	Side cover R	1	AV
1-22	PSEL-C141JBEZ	Insulator	1	AU
1-23	PSEL-C142JBEZ	Insulator	1	AU
1-24	PSEL-C144JBEZ	Insulator	1	AD
1-25	PSEL-C071JBEZ	Aluminum tape	1	AC
1-26	TLACB411JBRZ	Wiring diagram [AE-A07BE]	1	AC
1-26	TLACB572JBRZ	Wiring diagram [AE-A07BE-C]	1	AC
1-27	PSEL-C152JBEZ	Insulator	1	AE
1-28	PSEL-C145JBEZ	Insulator	1	AC
<b>CONTROL BOX PARTS</b>				
2- 1	RHOG-A186JBZZ	Protector	1	AT
2- 2	LBNDKA062JBW0	Capacitor clamp	1	AD
2- 3	QW-IZA014JBZZ	Compressor cord [AE-A07BE]	1	AN
2- 3	QW-IZA028JBZZ	Compressor cord [AE-A07BE-C]	1	AP
2- 4	RC-HZA316JBEO	Running capacitor [AE-A07BE]	1	AY
2- 4	RC-HZA301JBEO	Running capacitor [AE-A07BE-C]	1	AX
2- 5	RC-HZA419JBZZ	Fan motor capacitor	1	AP
2- 6	QTANZA003JBZZ	Terminal board	1	AR
2- 7	LHLD-0261JBM0	Cord holder	1	AB
<b>CYCLE PARTS</b>				
3- 1	FCMPRA106JBKZ	Compressor ass'y(Including for Ref.No.2-1) [AE-A07BE]	1	CC
3- 1	FCMPRA118JBKZ	Compressor ass'y(Including for Ref.No.2-1) [AE-A07BE-C]	1	CC
3- 1-1	PCMPRA334JBEZ	Compressor [AE-A07BE]	1	CB
3- 1-1	PCMPRA351JBEZ	Compressor [AE-A07BE-C]	1	CB
3- 1-2	PSEL-B379JBEO	Terminal gasket [AE-A07BE]	1	AN
3- 1-2	PSEL-B172JBEO	Terminal gasket [AE-A07BE-C]	1	AD
3- 1-3	PSEL-B380JBEO	Gasket washer [AE-A07BE]	1	AG
3- 1-3	PSEL-B722JBEO	Gasket washer [AE-A07BE-C]	1	AE
3- 1-4	PCOV-A628JBEZ	Terminal cover [AE-A07BE]	1	AK
3- 1-4	PCOV-A378JBEO	Terminal cover [AE-A07BE-C]	1	AH
3- 1-5	GLEG-A097JBEO	Compressor cushion [AE-A07BE]	3	AF
3- 1-5	GLEG-A085JBEO	Compressor cushion [AE-A07BE-C]	3	AK
3- 1-6	LX-NZA164JBEO	Special nut [AE-A07BE]	1	AE
3- 1-6	LX-NZA152JBEO	Special nut [AE-A07BE-C]	1	AD
3- 2	PCON-A457JBPZ	Condenser [AE-A07BE]	1	BS
3- 2	PCON-A476JBPZ	Condenser [AE-A07BE-C]	1	BS
3- 3	DVLV-A189JBK0	2 Way valve ass'y	1	BA
3- 4	PSEN-A004JBK0	Flare nut assembly 1/4"	1	AE
3- 5	LX-NZA033JBEO	Valve cap	2	AF
3- 6	PPIPBC449JBEO	Check valve	1	AM
3- 7	DVLV-A212JBK0	3 way valve unit	1	BB
3- 8	PSEN-A005JBK0	Flare nut assembly 3/8"	1	AG
3- 9	LX-NZA034JBEO	Service cap	1	AD
3-10	CCIL-A098JBEZ	Coil	1	AY
3-11	PCPY-A775JBPZ	Capillary tube [AE-A07BE]	1	AK
3-11	PCPY-A883JBPZ	Capillary tube [AE-A07BE-C]	1	AH
3-12	PCPY-A776JBPZ	Capillary tube [AE-A07BE]	1	AK
3-12	PCPY-A884JBPZ	Capillary tube [AE-A07BE-C]	1	AK

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
3-13	PSRN-A040JBE0	Strainer	1	AN
3-14	PGUMSA234JBE0	Damper rubber	1	AK
3-15	PVLVXA030JBE0	Reverse valve	1	BC
3-16	LX-NZA026JBE0	Special nut	3	AC
3-17	PGUMSA033JBE0	Damper rubber	1	AH

**SCREWS, NUT AND WASHER**

4- 1	LX-WZA019JBE0	Special washer	1	AB
4- 2	LX-BZA078JBE0	Special screw	4	AB
4- 3	LX-BZA075JBE0	Special screw	1	AA
4- 4	LX-BZA127JBE0	Special screw	1	AC
4- 5	LX-NZA030JBE0	Special nut	1	AB
4- 6	LX-CZA038WRE0	Special screw	2	AA
4- 7	LX-BZA076JBE0	Special screw	6	AA
4- 8	XCPSD40P20000	Tapping screw	1	AA

**PACKING PARTS**

5- 1	CPADBA231YDK0	Bottom pad ass'y	1	AP
5- 2	SPAKCA709JBEZ	Packing case [AE-A07BE]	1	AX
5- 2	SPAKCA968JBEZ	Packing case [AE-A07BE-C]	1	AW

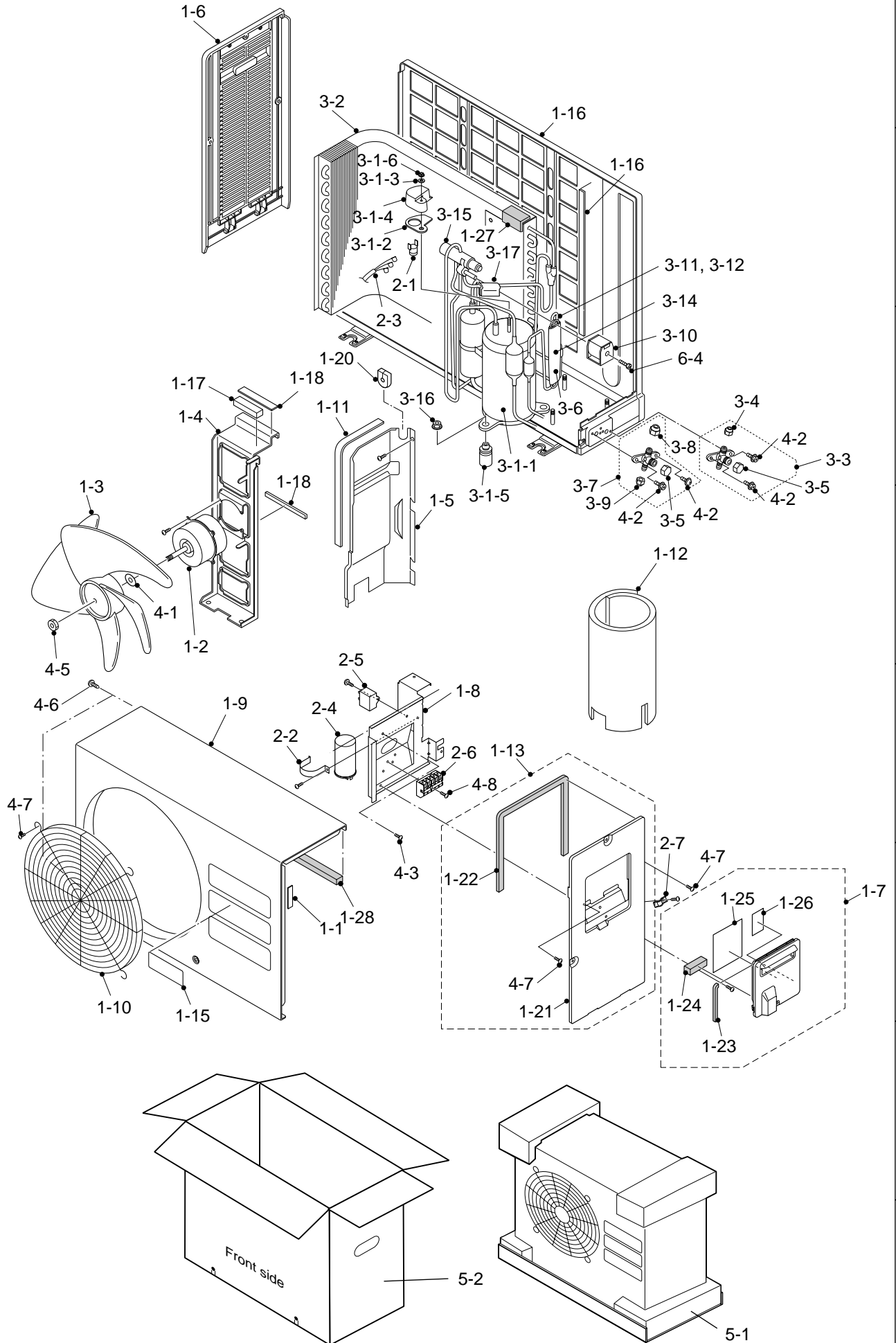
**HOW TO ORDER REPLACEMENT PARTS**

To have your order filled promptly and correctly, please furnish the following information.

- |                 |                |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO.    |
| 3. PART NO.     | 4. DESCRIPTION |



**OUTDOOR UNIT FOR AE-A07BE/A07BE-C**



**REPLACEMENT PARTS LIST**  
**[AU-A09BE/A09BE-C/A12BE, AE-A09BE/A09BE-C/A12BE]**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
<b>CABINET AND UNIT PARTS</b>				
1- 1	LBSHCA022JBEO	Bushing	1	AE
1- 2	CMOTLA916JBEZ	Fan motor [AU-A09BE/A09BE-C, AE-A09BE/A09BE-C]	1	BK
1- 2	CMOTLA917JBEZ	Fan motor [AU-A12BE, AE-A12BE]	1	BK
1- 3	NFANPA094JBEZ	Propeller fan	1	AK
1- 4	LANGKA124JBPZ	Fan motor angle	1	AK
1- 5	LANGKA123JBPZ	Fan motor angle sub [AE-A12BE]	1	AE
1- 5	LANGKA127JBPZ	Fan motor angle sub [AU-A12BE, AE-A09BE/A09BE-C]	1	AE
1- 5	LANGKA128JBPZ	Fan motor angle sub [AU-A09BE/A09BE-C]	1	AG
1- 6	PSKR-A220JBWZ	Bulkhead [AU-A12BE]	1	AG
1- 6	PSKR-A215JBWZ	Bulkhead [AU-A09BE/A09BE-C, AE-A09BE/A09BE-C/A12BE]	1	AR
1- 7	PFTA-A092JBFA	Side cover	1	AQ
1- 8	PCOV-A616JBPZ	Protect cover	1	AE
1- 9	GCAB-A195JBTA	Front panel	1	BC
1-10	GCAB-A204JBTA	Rear cabinet [AU-A09BE/A09BE-C, AE-A09BE/A09BE-C/A12BE]	1	BD
1-10	GCAB-A206JBTA	Rear cabinet [AU-A12BE]	1	BD
1-11	GCAB-A197JBTA	Top cover	1	AX
1-12	GGADFA037JBFA	Fan guard	1	AT
1-13	JHNDPA011JBFA	Holder	1	AS
1-14	PSPF-A800JBEZ	Compressor cover [AU-A09BE/A09BE-C]	1	AU
1-14	PSPF-A799JBEZ	Compressor cover [AU-A12BE]	1	AU
1-14	PSPF-A774JBEZ	Compressor cover [AE-A09BE]	1	AW
1-14	PSPF-A831JBEZ	Compressor cover [AE-A09BE-C]	1	AR
1-14	PSPF-A775JBEZ	Compressor cover [AE-A12BE]	1	AT
1-15	TSPC-D657JBRZ	Name Label [AE-A09BE]	1	AD
1-15	TSPC-E041JBRZ	Name Label [AE-A09BE-C]	1	AD
1-15	TSPC-D659JBRZ	Name Label [AE-A12BE]	1	AD
1-15	TSPC-D661JBRZ	Name Label [AU-A09BE]	1	AF
1-15	TSPC-E043JBRZ	Name Label [AU-A09BE-C]	1	AD
1-15	TSPC-D668JBRZ	Name Label [AU-A12BE]	1	AE
1-16	TLABBA149JBRZ	Sharp badge	1	AG
1-17	CCAB-A292JBKZ	Front panel ass'y	1	BE
1-18	CCAB-A293JBKZ	Rear cabinet ass'y[AU-A09BE/A09BE-C,AE-A09BE/A09BE-C/A12BE]	1	BE
1-18	CCAB-A295JBKZ	Rear cabinet ass'y [AU-A12BE]	1	BE
1-19	DCAB-A099JBKZ	Top cover ass'y [AU-A09BE]	1	AU
1-19	DCAB-A123JBKZ	Top cover ass'y [AU-A09BE-C]	1	AY
1-19	DCAB-A100JBKZ	Top cover ass'y [AU-A12BE]	1	AX
1-19	DCAB-A097JBKZ	Top cover ass'y [AE-A09BE]	1	AX
1-19	DCAB-A117JBKZ	Top cover ass'y [AE-A09BE-C]	1	AY
1-19	DCAB-A098JBKZ	Top cover ass'y [AE-A12BE]	1	AX
1-20	FFTA-A014JBKZ	Side cover ass'y	1	AT
1-21	CCHS-A747JBTA	Base pan ass'y [AU-A09BE, AE-A09BE]	1	BC
1-21	CCHS-A748JBTA	Base pan ass'y [AU-A09BE-C,AE-A09BE-C,AU-A12BE,AE-A12BE]	1	BD
1-23	PFPFPB911JBEZ	Motor angle cushion	1	AC
1-24	PSEL-C045JBEZ	Motor angle cushion	1	AB
1-25	PSEL-C051JBEZ	Side cover seal	1	AE
1-26	PSEL-C120JBEZ	Side cover seal	1	AC
1-27	PSEL-C121JBEZ	Side cover seal	1	AC
1-28	PSEL-C133JBEZ	Box insulator	1	AC
1-29	PSEL-C119JBEZ	Box insulator	1	AE
1-30	PSEL-C128JBEZ	Insulator	1	AD
1-31	PSEL-C048JBEZ	F.panel insulator	1	AC
1-32	PSEL-C049JBEZ	F.panel insulator	1	AC
1-33	PSEL-C050JBEZ	Bulkhead insulator	1	AG
1-34	PSEL-C072JBEZ	Insulator [AU-A09BE/A09BE-C, AE-A09BE/A09BE-C/A12BE]	1	AE
1-34	PSEL-C073JBEZ	Insulator [AU-A12BE]	1	AF
1-35	PSEL-C132JBEZ	F.panel insulator	1	AA

**CONTROL BOX PARTS**

2- 1	QW-IZA013JBZZ	Compressor cord [AU-A09BE, AE-A09BE]	1	AP
2- 1	QW-IZA029JBZZ	Compressor cord [AU-A09BE-C, AE-A09BE-C]	1	AQ
2- 1	QW-IZA015JBZZ	Compressor cord [AU-A12BE, AE-A12BE]	1	AL
2- 2	RC-HZA389JBE0	Running capacitor [AU-A09BE/A12BE, AE-A09BE/A12BE]	1	BC
2- 2	RC-HZA301JBE0	Running capacitor [AU-A09BE-C, AE-A09BE-C]	1	AX
2- 3	RC-HZA419JBZZ	Fan motor capacitor [AU-A09BE/A09BE-C,AE-A09BE/A09BE-C]	1	AP
2- 3	RC-HZA308JBZZ	Fan motor capacitor [AU-A12BE, AE-A12BE]	1	AM
2- 4	QTANZA002JBZZ	Terminal board [AU-A09BE/A09BE-C/A12BE]	1	AN
2- 4	QTANZA003JBZZ	Terminal board [AE-A09BE/A09BE-C/A12BE]	1	AR
2- 5	LHLD-0261JBM0	Cord holder	1	AB
2- 6	TLABCB407JBRZ	Wiring diagram [AE-A09BE]	1	AC
2- 6	TLABCB574JBRZ	Wiring diagram [AE-A09BE-C]	1	AD
2- 6	TLABCB409JBRZ	Wiring diagram [AE-A12BE]	1	AC
2- 6	TLABCB410JBRZ	Wiring diagram [AU-A09BE]	1	AC
2- 6	TLABCB575JBRZ	Wiring diagram [AU-A09BE-C]	1	AG
2- 6	TLABCB414JBRZ	Wiring diagram [AU-A12BE]	1	AC

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
2- 7	LBNDKA062JBW0	Capacitor clamp	1	AD
2- 8	PBOX-A350JBWZ	Control box	1	AM
2- 9	CCIL-A098JBEZ	Coil [AE-A09BE/A12BE]	1	AY
2-10	RHOG-A185JBEZ	Overload relay [AU-A09BE, AE-A09BE]	1	AT

### CYCLE PARTS

3- 1	FCMPRA104JBKZ	Compressor ass'y [AU-A09BE, AE-A09BE]	1	CD
3- 1	FCMPRA128JBKZ	Compressor ass'y [AU-A09BE-C]	1	CC
3- 1	FCMPRA116JBKZ	Compressor ass'y [AE-A09BE-C]	1	AY
3- 1	FCMPRA105JBKZ	Compressor ass'y [AU-A12BE, AE-A12BE]	1	CE
3- 1-1	PCMPRA333JBEZ	Compressor [AU-A09BE, AE-A09BE]	1	CC
3- 1-1	PCMPRA363JBEZ	Compressor [AU-A09BE-C]	1	CC
3- 1-1	PCMPRA226JBE0	Compressor [AE-A09BE-C]	1	CF
3- 1-1	PCMPRA231JBE0	Compressor [AU-A12BE, AE-A12BE]	1	CG
3- 1-2	PCOV-A378JBEO	Terminal cover [AU-A09BE-C/A12BE, AE-A09BE-C/A12BE]	1	AH
3- 1-2	PCOV-A628JBEZ	Terminal cover [AU-A09BE, AE-A09BE]	1	AK
3- 1-3	PSEL-B379JBEO	Terminal gasket [AU-A09BE, AE-A09BE]	1	AN
3- 1-3	PSEL-B172JBEO	Terminal gasket [AU-A09BE-C/A12BE, AE-A09BE-C/A12BE]	1	AD
3- 1-4	PSEL-B380JBEO	Gasket washer [AU-A09BE, AE-A09BE]	1	AG
3- 1-4	PSEL-B722JBEO	Gasket washer [AU-A09BE-C/A12BE, AE-A09BE-C/A12BE]	1	AE
3- 1-5	GLEG-A097JBEO	Compressor cushion [AU-A09BE, AE-A09BE]	3	AF
3- 1-5	GLEG-A085JBEO	Compressor cushion [AU-A09BE-C/A12BE, AE-A09BE-C/A12BE]	3	AK
3- 1-6	LX-NZA164JBEO	Special nut [AU-A09BE, AE-A09BE]	1	AE
3- 1-6	LX-NZA152JBEO	Special nut [AU-A09BE-C/A12BE, AE-A09BE-C/A12BE]	1	AD
3- 2	PCON-A445JBPZ	Condenser [AE-A12BE]	1	BS
3- 2	PCON-A455JBPZ	Condenser [AE-A09BE/A09BE-C]	1	BT
3- 2	PCON-A459JBPZ	Condenser [AU-A12BE]	1	BU
3- 2	PCON-A451JBPZ	Condenser [AU-A09BE/A09BE-C]	1	BS
3- 3	DVLV-A461JBKZ	3way valve unit [AU-A09BE/A09BE-C, AE-A09BE/A09BE-C]	1	AY
3- 3	DVLV-A466JBKZ	3way valve unit [AU-A12BE, AE-A12BE]	1	BA
3- 4	DVLV-A462JBKZ	2way valve tube assy	1	AW
3- 5	PSEN-A004JBK0	Flare nut ass'y	1	AE
3- 6	PSEN-A005JBK0	Flare nut ass'y [AU-A09BE/A09BE-C, AE-A09BE/A09BE-C]	1	AG
3- 6	PSEN-A016JBEO	Flare nut ass'y [AU-A12BE, AE-A12BE]	1	AR
3- 7	PGUMSA297JBEO	Damper rubber [AU-A09BE/A09BE-C/A12BE]	1	AC
3- 8	PVLVXA030JBEO	Reverse valve [AE-A09BE/A09BE-C]	1	BC
3- 8	PVLVXA039JBEO	Reverse valve [AE-A12BE]	1	BD
3- 9	CVLV-A576JBKZ	Reverse valve ass'y [AE-A09BE]	1	BW
3- 9	CVLV-A622JBKZ	Reverse valve ass'y [AE-A09BE-C]	1	BN
3- 9	CVLV-A577JBKZ	Reverse valve ass'y [AE-A12BE]	1	BW
3-10	DCPY-A228JBKZ	Capillary tube ass'y [AE-A09BE]	1	BF
3-10	DCPY-A260JBKZ	Capillary tube ass'y [AE-A09BE-C]	1	AR
3-10	DCPY-A229JBKZ	Capillary tube ass'y [AE-A12BE]	1	BF
3-10	DCPY-A230JBKZ	Capillary tube ass'y [AU-A09BE/A09BE-C]	1	BF
3-10	DCPY-A231JBKZ	Capillary tube ass'y [AU-A12BE]	1	BF
3-11	LX-NZA026JBEO	Special nut	3	AC
3-12	LX-BZA072JBEO	Special screw	4	AB

### SCREWS AND NUTS

4- 1	XCPSD40P20000	Tapping screw	1	AA
4- 2	LX-BZA076JBEO	Special screw	8	AA
4- 3	LX-BZA166JBEO	Special screw	1	AB
4- 4	LX-NZA135JBEO	Special nut	1	AC
4- 5	LX-NZA091JBEO	Special screw	31	AA
4- 6	XTTSD40P14000	Tapping screw	1	AA
4- 7	XCTSD40P12000	Tapping screw	2	AA
4- 8	LX-BZA075JBEO	Special screw	1	AA

### PACKING PARTS

5- 1	CPADBA031JBKZ	Bottom pad assembly	1	AS
5- 2	SPAKCA706JBEZ	Packing case [AE-A09BE]	1	AX
5- 2	SPAKCA965JBEZ	Packing case [AE-A09BE-C]	1	AY
5- 2	SPAKCA708JBEZ	Packing case [AE-A12BE]	1	AX
5- 2	SPAKCA716JBEZ	Packing case [AU-A09BE]	1	AX
5- 2	SPAKCA966JBEZ	Packing case [AU-A09BE-C]	1	AX
5- 2	SPAKCA717JBEZ	Packing case [AU-A12BE]	1	AX

### HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

**OUTDOOR UNIT FOR AU-A09BE/A09BE-C/A12BE, AE-A09BE/A09BE-C/A12BE**

