



**FUJII**  
**ELECTRIC**

**ROOM AIR CONDITIONER**

**RM-13CA**  
**RM-12HA**

# SERVICE MANUAL

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# S P E C I F I C A T I O N S

MODELS		RM-13CA	RM-12HA
COOLING CAPACITY	(kW)	3.55 - 3.65	3.40 - 3.50
HEATING CAPACITY	(kW)	—	3.65 - 3.75
HEATING METHOD		—	Reverse cycle

## ELECTRICAL DATA

POWER SOURCE	(V)	220 - 240		
FREQUENCY	(Hz)	50		
RUNNING CURRENT	(A)	COOLING	6.6 - 6.7	7.1 - 7.3
		HEATING	—	6.8 - 7.1
STARTING CURRENT	(A)	28		
INPUT WATTS	(kW)	COOLING	1.38 - 1.45	1.50 - 1.60
		HEATING	—	1.42 - 1.52
E.E.R.	(kW/kW)	COOLING	2.57 - 2.52	2.27 - 2.19
		HEATING	—	2.57 - 2.47
FUSE	(A)	15		

## COMPRESSOR

TYPE	Hermetic type, Permanent split condenser, 2 pole, Single phase, Induction motor			
CODE	806-194-45D 3 Leg 220 - 240V 50Hz		RH231VMHT 3 Leg 220 - 240V 50Hz	
REFRIGERANT	R-22	(g)	570	800

## FAN MOTOR

CODE	MFC-13ATT 220 - 240V 50Hz		MFC-13ATT 220 - 240V 50Hz
HIGH	(r.p.m.)	950 - 1,010	900 - 975
LOW	(r.p.m.)	770 - 840	725 - 800

## DIMENSIONS

H x W x D	(mm)	375 x 560 x 650	
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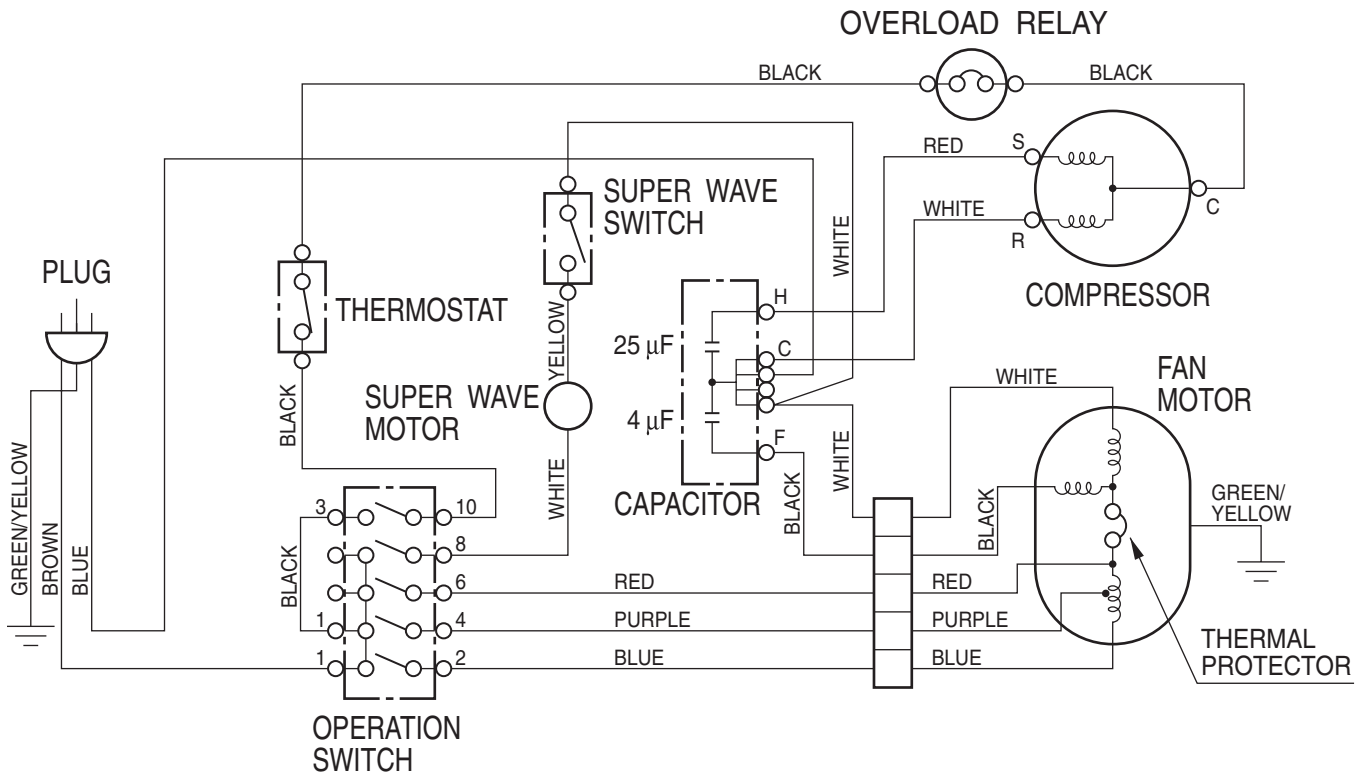
## WEIGHT

GROSS WEIGHT	(kg)	46	48
NET WEIGHT	(kg)	41	43

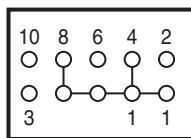
MOISTURE REMOVAL	( ℓ /hr)	1.5	0.95 - 1.10
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# CIRCUIT DIAGRAM

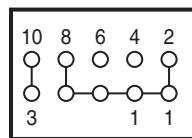
Model : RM-13CA



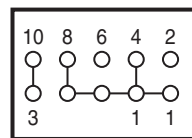
## OPERATION SWITCH INTERNAL CONNECTIONS



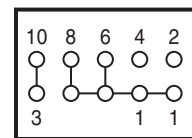
FAN



SUPER QUIET

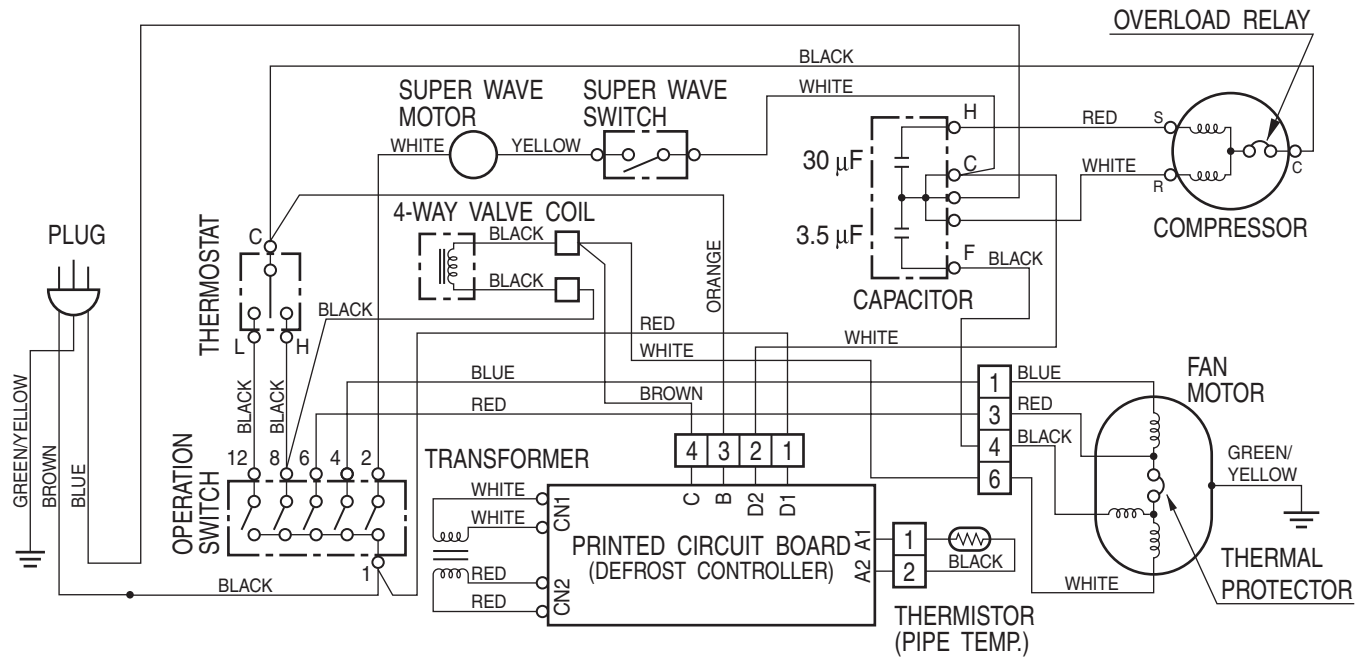


NORMAL

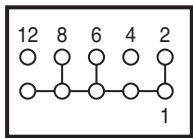


HIGH POWER

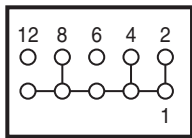
**Model : RM-12HA**



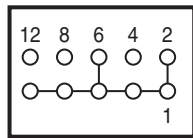
**OPERATION SWITCH INTERNAL CONNECTIONS**



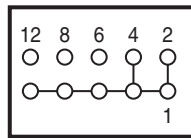
WARM  
HIGH POWER



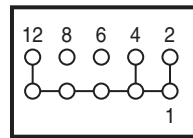
WARM  
SUPER QUIET



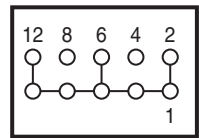
HIGH FAN



LOW FAN



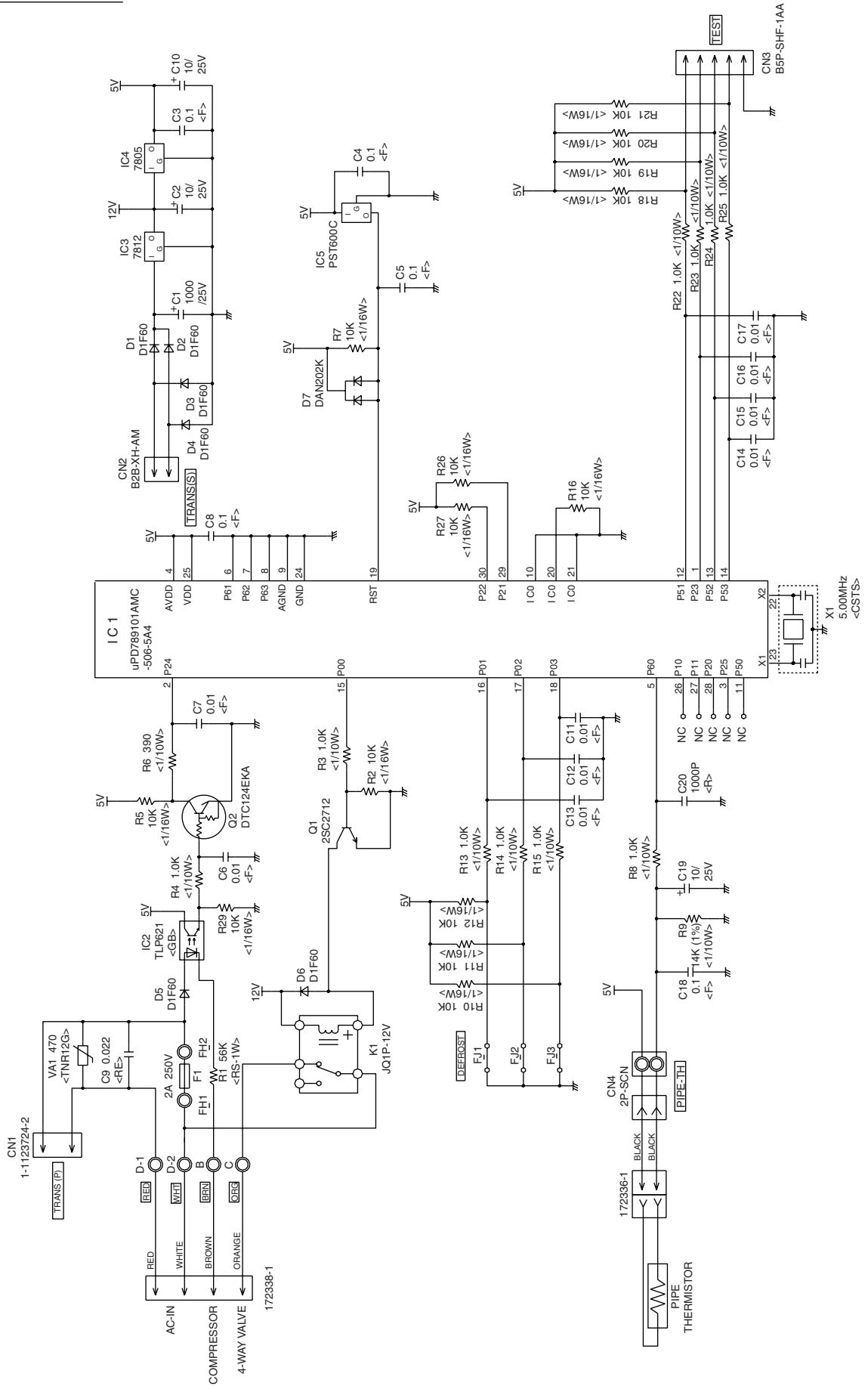
COOL  
SUPER QUIET



COOL  
HIGH POWER

# MICROCOMPUTER CONTROL CIRCUIT

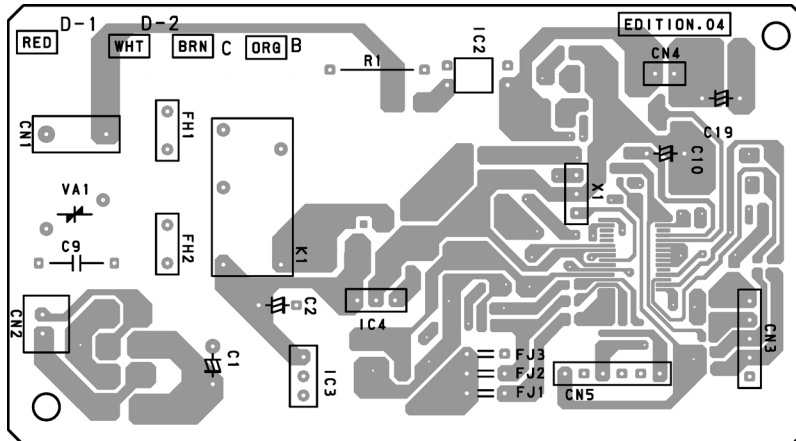
Model : RM-12HA



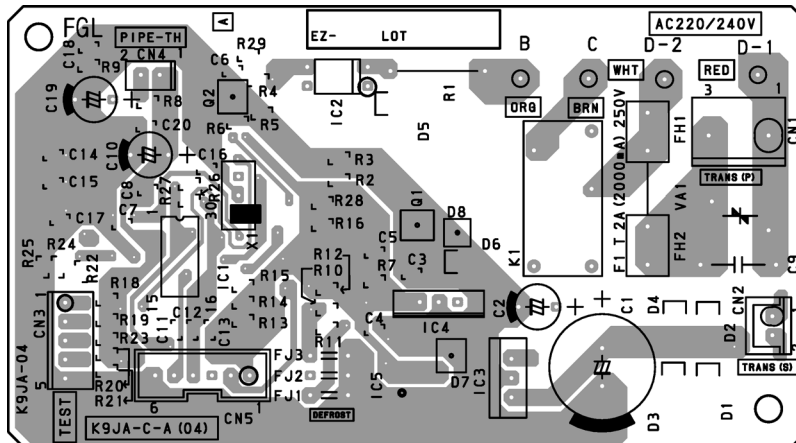
# PRINTED CIRCUIT BOARD LAYOUTS

Model : RM-12HA

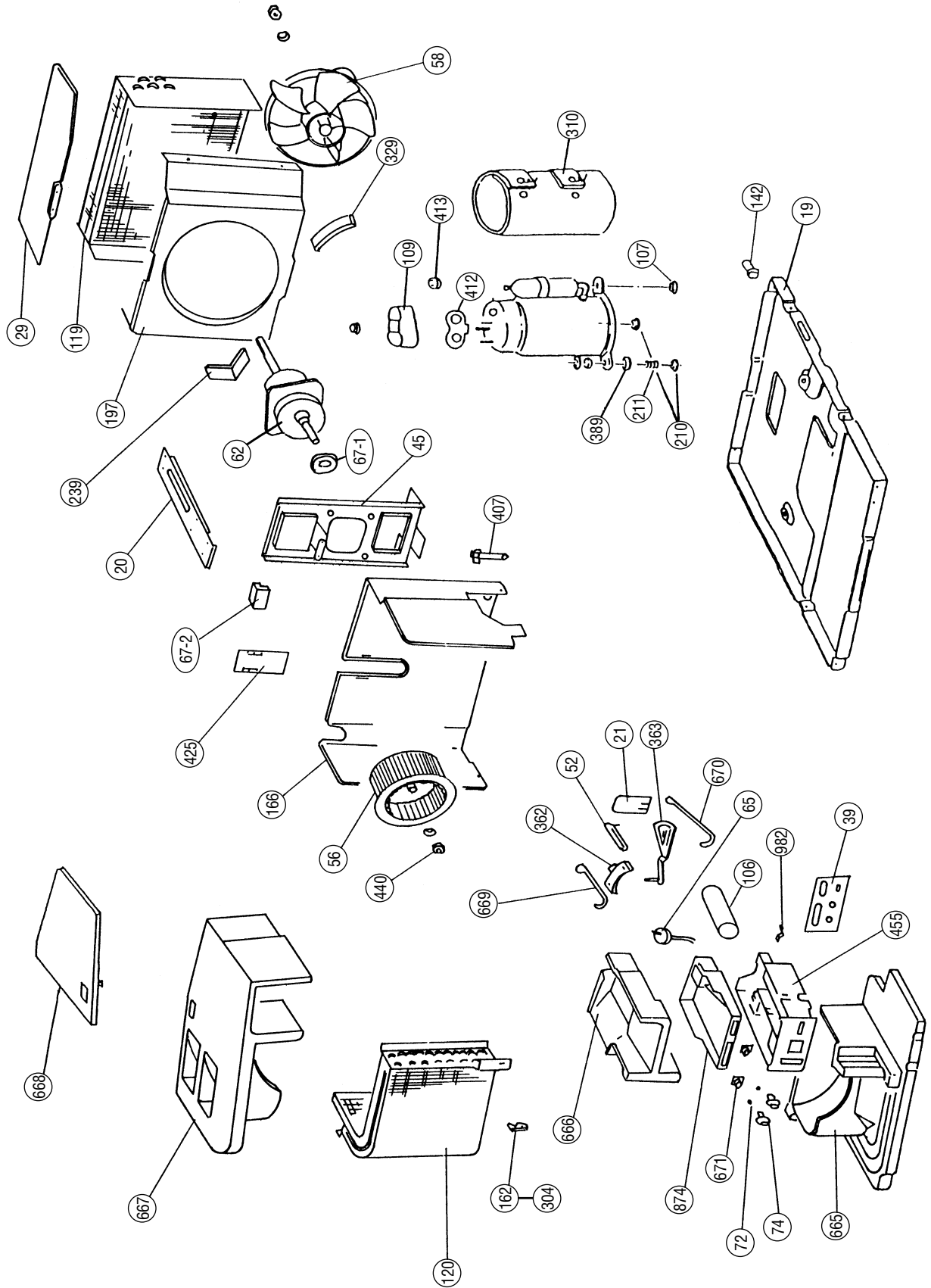
(Viewed from the component side)



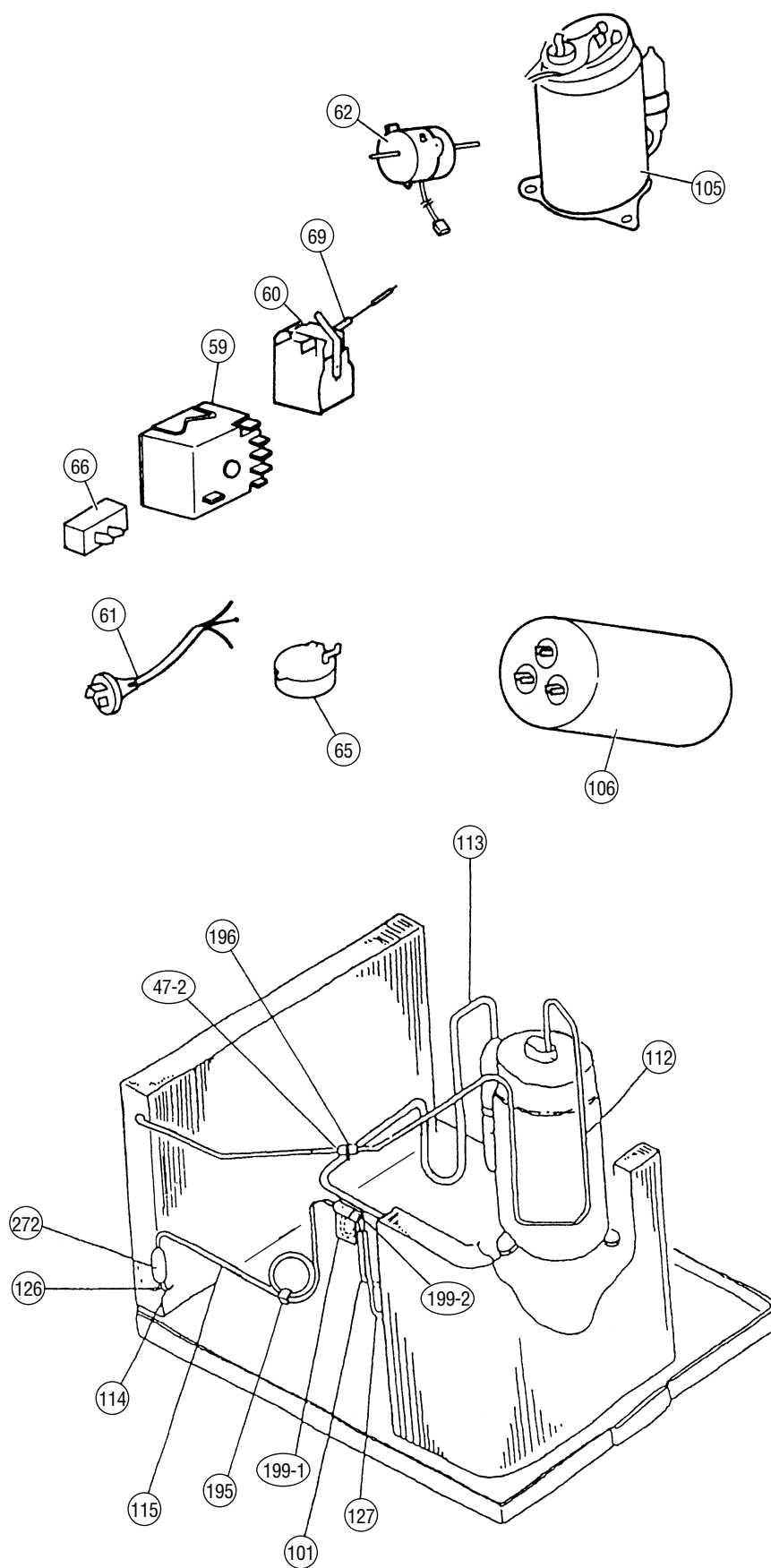
(Viewed from the solder side)



# DISASSEMBLY ILLUSTRATION

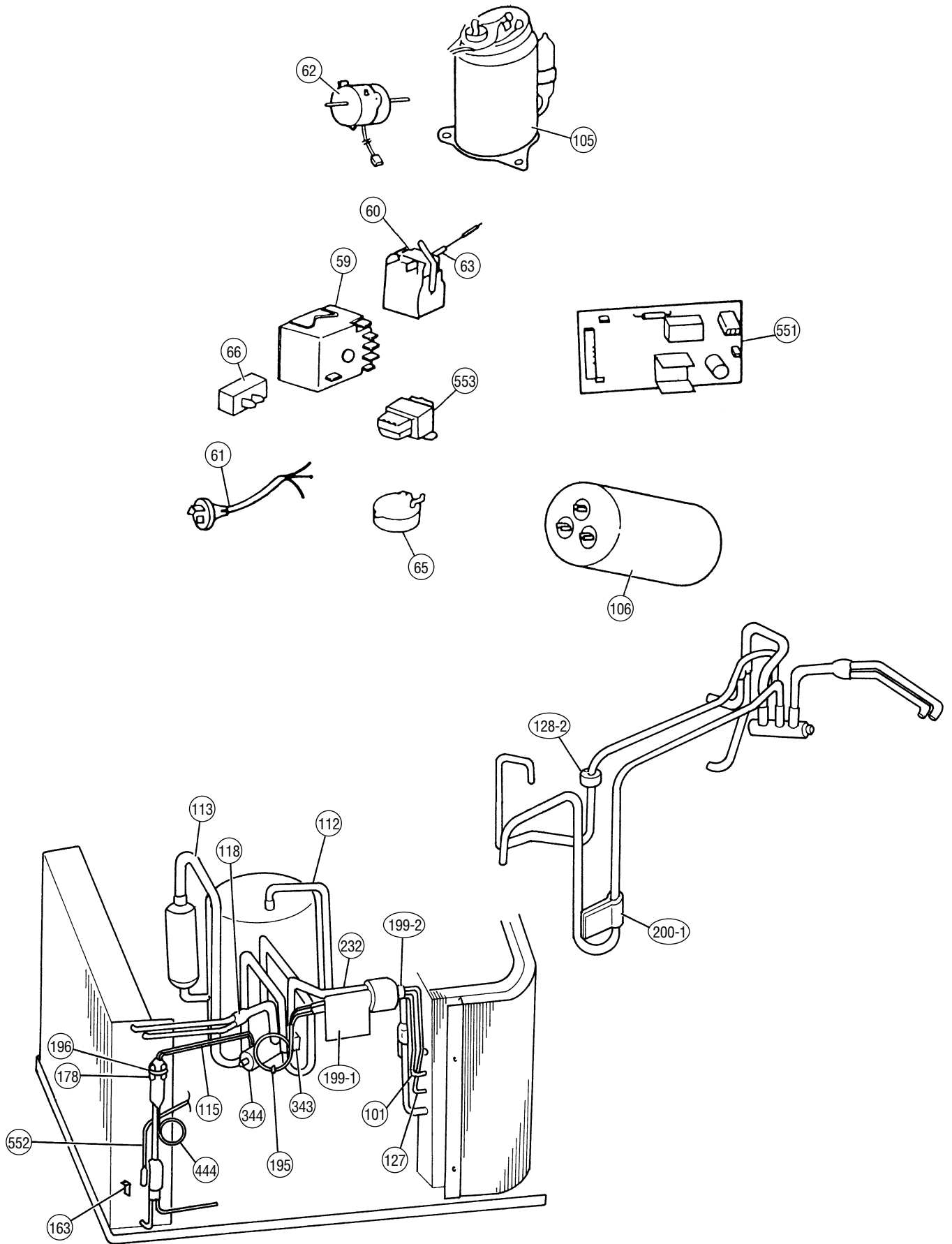


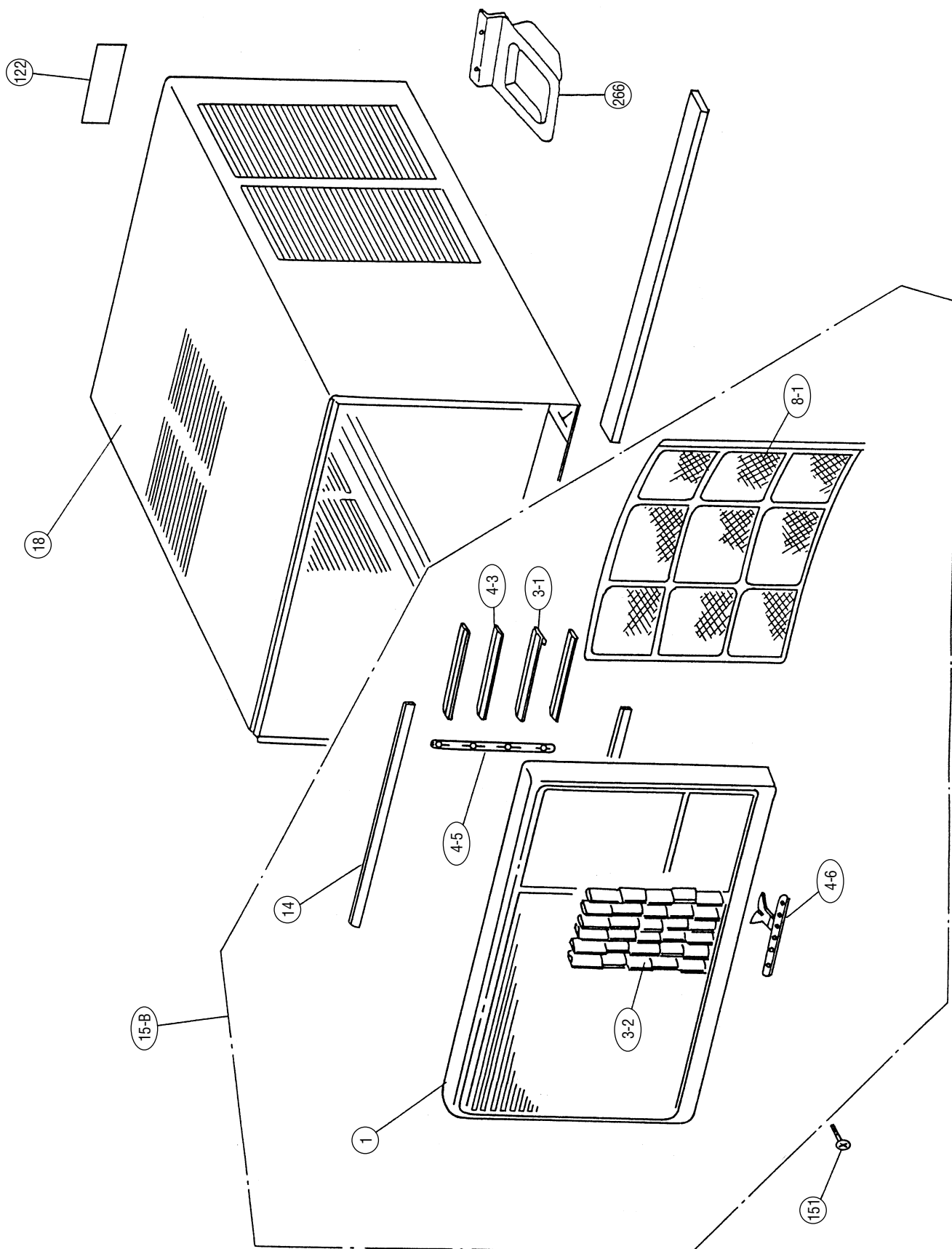
**Model : RM-13CA**





**Model : RM-12HA**





# PARTS LIST

## FRONT PANEL PARTS

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
1	Front panel	9356309027		4-6	Connecting Plate-B	9356315004	
3-1	Louver-A	9356311006		8-1	Filter Assy	9356310023	
3-2	Louver-C	9356313017		14	Rail (Front Panel)	9356317015	
4-3	Louver-B	9356312003		15-B	Front Panel Assy	9356661118	
4-5	Connecting Plate-A	9356314007					

## CABINET & CHASSIS PARTS

Ref. No.	Description	Part No.		Ord. Q'ty	Ref. No.	Description	Part No.		Ord. Q'ty
		RM-13CA	RM-12HA				RM-13CA	RM-12HA	
18	Cabinet Assy	9356293012	9356293012		163	Thermo. Spring-A	—	313728262708	
19	Base Assy	9356288087	9356288094		166	Separate Wall	9356294002	9356294002	
20	Supporter-C	9356298000	9356298000		178	Capillary Holder	—	313818274809	
21	Exhaust Air Damper	9356336009	9356336009		195	Clamp SKB-100	313361275805	313361275805	
29	Supporter-B	9356297003	9356297003		196	Clamp SKB-150	313035356905	313035356905	
39	Switch Panel	9356351040	9358219041		197	Wind Guide Board	9356295009	9356295009	
45	Motor Fixing Table	9356299007	9356299007		199-1	BR Sheet	313612108209	313612108209	
47-2	Rubber (Discharge Pipe)	313185159802	—		199-2	BR Sheet	313816108200	313816108200	
52	Louver Arm	313658122104	313658122104		200-1	BR Sheet-B	—	9351990022	
56	Sirocco Fan Assy	9356350005	9356350005		210	Rubber Seat-B (For Comp.)	313199081504	9355473002	
58	Propeller Fan Assy	9356349009	9356349009		211	Mounting Spring-A (For Comp.)	313917113706	9355475006	
59	Operation Switch	9703097010	9351214029		232	Outline Pipe (Evaporator) Assy	—	9358213001	
60	Thermostat	9900065027	9354392007		239	Water Seal Plate	9357196008	9357196008	
61	Power Cord Assy	9358309032	9358309049		266	Drain Boat	—	313681252701	
62	Fan Motor Assy	9601257028	9601257028		272	Strainer	9350203024	—	
63	Protection Tube-B	—	313152149608		304	Thermostat Fixture-B	—	313349051500	
65	Jet Vane Motor	9370014037	9370014037		310	Compressor Cover	9357990002	9358031001	
66	Jet Vane Switch	9354272002	9354272002		329	Sealant (Wind Guide Board)	9357223001	9357223001	
67-1	Rubber-A (Vibration-proof)	9369300004	9369300004		343	Solenoid Coil	—	9704061041	
67-2	Rubber-B (Vibration-proof)	9356354003	9356354003		344	4-Way Valve	—	9307556012	
69	Protection Tube (Thermostat)	313310060308	—		362	Guide Plate	9356337006	9356337006	
72	Knob Spring (Thermostat Knob)	313008061010	313008061010		363	Moving Plate	9356338003	9356338003	
74	Operation Knob	9356352016	9356352023		389	Rubber Seat-C (For Comp.)	313728081608	9355474009	
101	Inlet Pipe-A (Evaporator) Assy	9358000014	9358000014		407	Clip No. 1259	313739340109	313739340109	
105	Compressor Assy	9355831000	9355471008		412	Terminal Gasket (For Comp.)	9351121006	9355477000	
106	Running Capacitor	9703127250	9703127243		413	Overload Relay	9355436007	—	
107	Rubber Seat-A (For Comp.)	313199081401	9355472005		425	Separate Wall Cover	9356326000	9356326000	
109	Terminal Cover (For Comp.)	9351120009	9355476003		440	Special Nut	0700005084	0700005084	
112	Discharge Pipe	9357991009	9358211007		444	Capillary Assy	—	9358204016	
113	Suction Pipe Assy	9357997018	9358212004		455	Control Box	9356339017	9356339017	
114	Air Duct Pipe-E	313252257206	—		551	Defrost Cont. PCB Assy	—	9703103018	
115	Capillary Tube	9357992006	9358221006		552	Thermistor Assy	—	9701330027	
118	Inlet Pipe (Cond.)	—	9358215005		553	Power Transformer	—	9701821013	
119	Condenser Assy	9357300016	9358203026		665	Casing-Under	9356330007	9356330007	
120	Evaporator Assy	9356324013	9356324013		666	Casing-Middle, Painted	9356329001	9356329001	
122	Emblem-B (Rear)	9362013000	9357303000		667	Casing-Top, Painted	9356328004	9356328004	
126	Condensing Pipe	9356662009	—		668	Reinforcement (Casing)-C	9356296006	9356296006	
127	Inlet Pipe-B (Evaporator) Assy	9358001011	9358001011		669	Operation Wire-A	9356333008	9356333008	
128-2	Counter Weight	—	313202086308		670	Operation Wire-B	9356334005	9356334005	
142	Drain Pipe	9351746018	—		671	Slide Lever	9356335019	9356335019	
151	Front Panel Screw	313306389909	313306389909		874	Control Box Cover	9356332018	9356332018	
162	Thermostat Holder	9356355000	—		982	Cord Clamp	9358065006	9358065006	

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

**DEFROST CONT. PCB ASSEMBLY (Ref. No.551)**

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC uPD789101AMC-506-5A4	9703119019		R3,4,8,13-15,	Res. Metal 1/10W 1kohm+-5%	0201010747	
IC2	Photo Coupler TLP621(D4)-GB	0000117074		22-25			
IC3	IC NJM7812FA	0100462104		R6	Res. Metal 1/10W 390ohm+-5%	0200212647	
IC4	IC NJM7805FA	0100462081		R9	Res. Metal 1/10W 14kohm+-5%	0200104157	
IC5	IC PST600CMTR	0101461120		VA1	Varistor TNR10V471K	0000361224	
Q1	Xstr 2SC2712	0000781053		K1	Relay JQ1P-10V	9701794010	
Q2	Xstr DTC124EKA	0000936033		X1	Ceramic Resonator	9702840013	
D1-6	Diode D1F60	0000208024			CSTS0500MG03-T		
D7	Diode DAN202K	0000684019		F1	Fuse BET 2A-250V	0600222550	
C1	Cap. Elec. 25V 1000uF	0300213278		FH1,2	Fuse Holder PFC5000-0502	0500158072	
C2,10,19	Cap. Elec. 25V 10uF	0300004258		CN1	Plug, PCB 1-1123724-2	0501321512	
C3-5,8,18	Cap. Ceramic 25V 0.1uF	0301102885		CN2	Plug, PCB B2B-XH-AM	0500005321	
C6,7,11-17	Cap. Ceramic 50V 0.01uF	0300277218		CN3	Plug, PCB B5P-SHF-1AA	0500006069	
C9	Cap. Plastic 275V 0.022uF	0300304037		CN4,A-1,2	Wire w/Connector	9700052012	
C20	Cap. Ceramic 50V 1000pF	0300277096			2P-SCN 172336-1		
R1	Res. Metal 1W 560kohm+-5%	0201106662		C,B,D-1,2	Wire w/Connector	9700051015	
R2,5,7,10-12, 16,18-21, 26,27,29	Res. Metal 1/10W 10kohm+-5%	0200307015			172338-1 170072-1		



MANUFACTURER :

**Fuji Denki Sosetsu Co., Ltd.**

Tokyo, Japan



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