

FUJI
ELECTRIC

ROOM AIR CONDITIONER

RM-13CA
RM-12HA

SERVICE MANUAL

C O N T E N T S

SPECIFICATIONS	1
CIRCUIT DIAGRAM	2
MICROCOMPUTER CONTROL CIRCUIT	4
PRINTED CIRCUIT BOARD LAYOUTS	5
DISASSEMBLY ILLUSTRATION	6
PARTS LIST	10

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	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	15	

COMPRESSOR

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

FAN MOTOR

CODE		MFC-13ATT	MFC-13ATT
		220 - 240V	220 - 240V
		50Hz	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	
-----------	------	-----------------	--

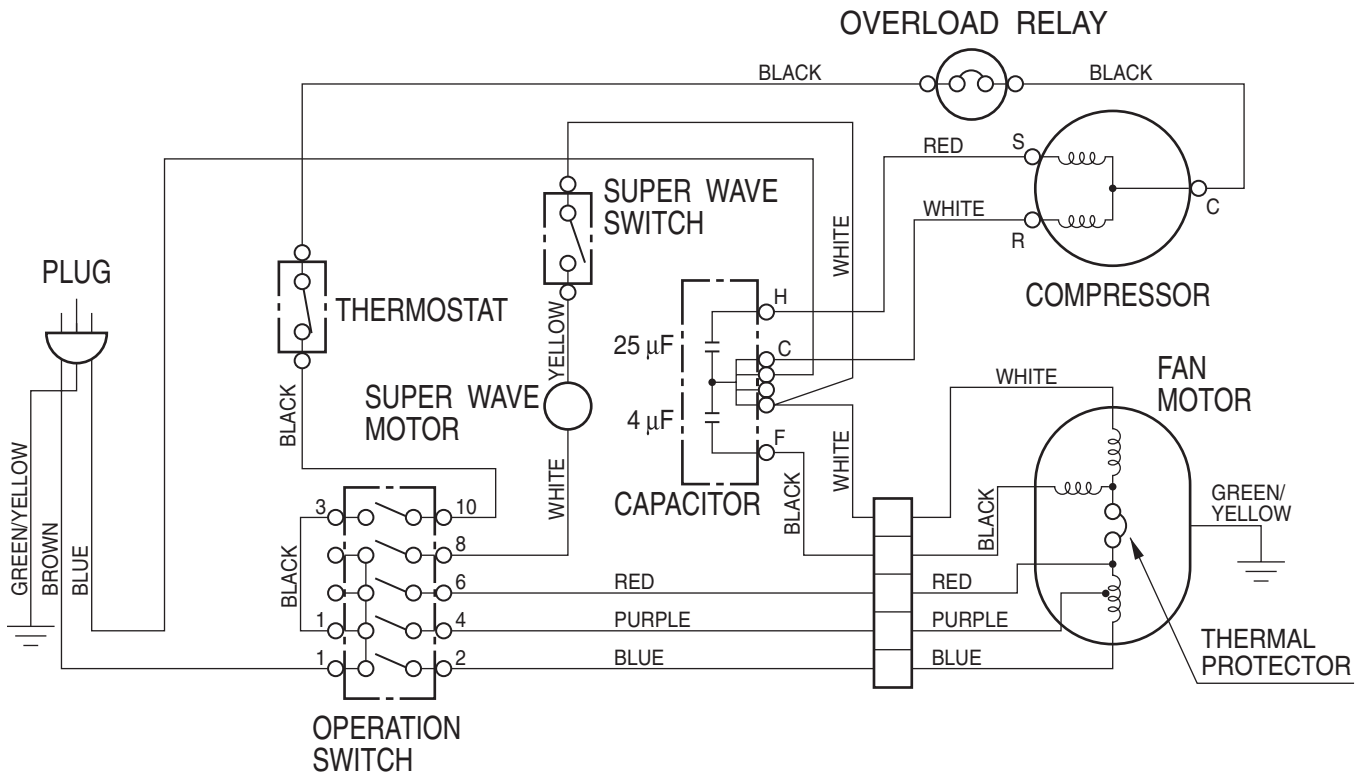
WEIGHT

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

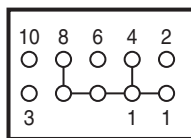
MOISTURE REMOVAL	(ℓ/hr)	1.5	0.95 - 1.10
------------------	--------	-----	-------------

C I R C U I T D I A G R A M

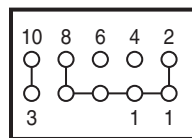
Model : RM-13CA



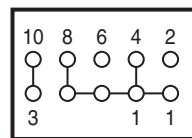
O P E R A T I O N S W I T C H I N T E R N A L C O N N E C T I O N S



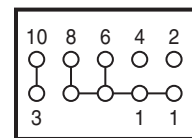
FAN



SUPER QUIET

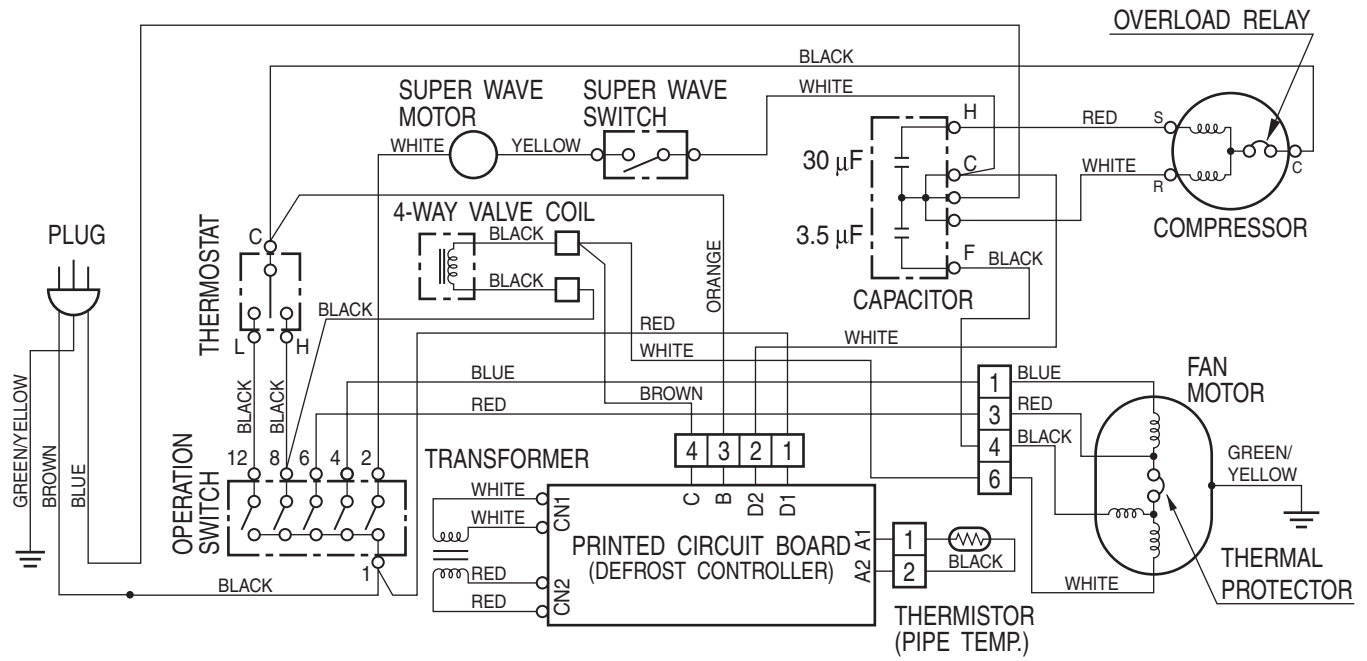


NORMAL

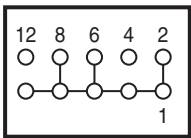


HIGH POWER

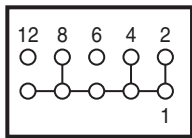
Model : RM-12HA



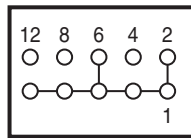
OPERATION SWITCH INTERNAL CONNECTIONS



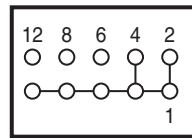
WARM
HIGH POWER



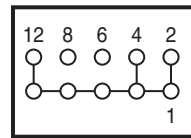
WARM
SUPER QUIET



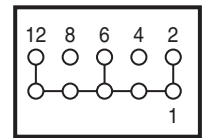
HIGH FAN



LOW FAN



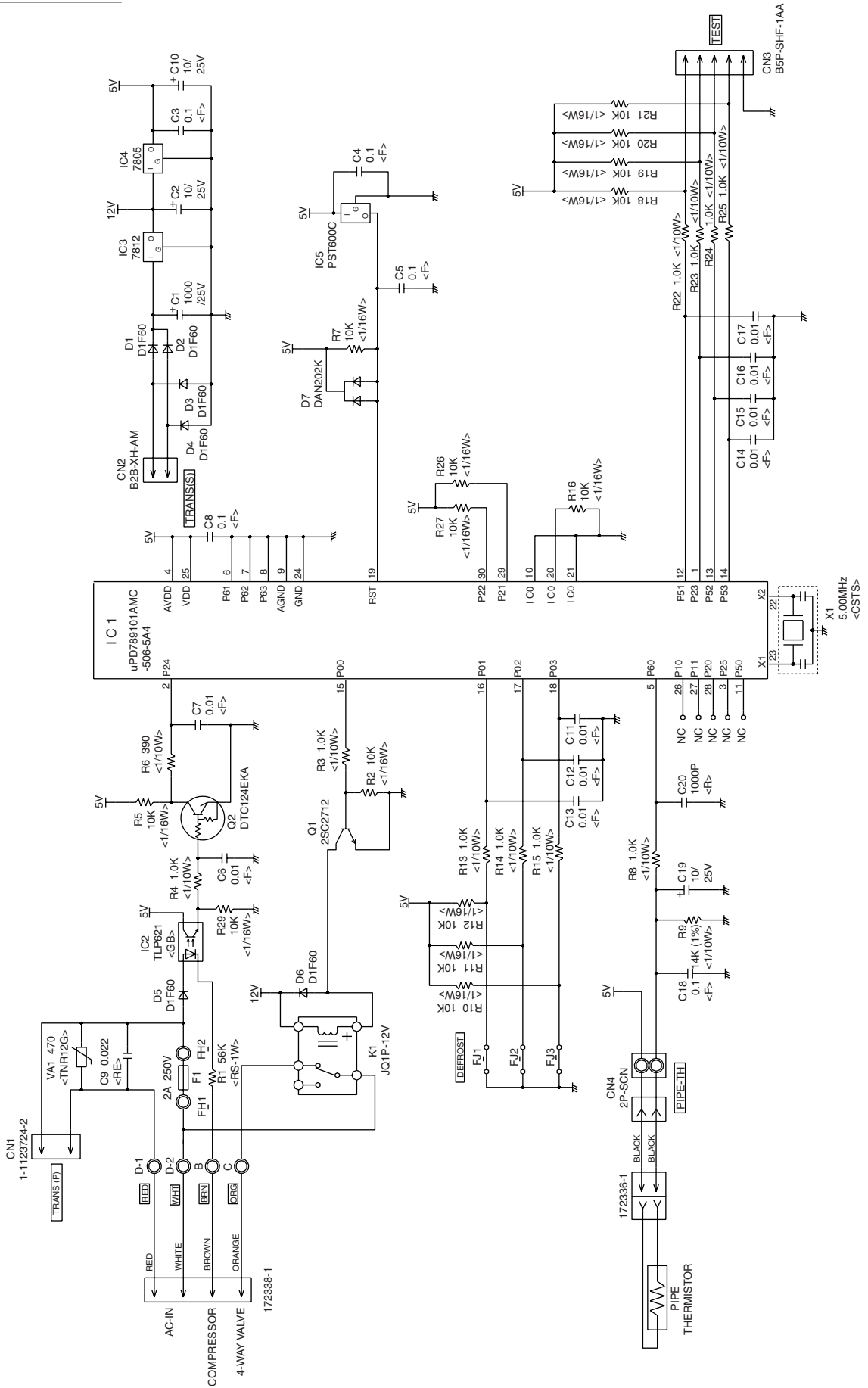
COOL
SUPER QUIET



COOL
HIGH POWER

MICROCOMPUTER CONTROL CIRCUIT

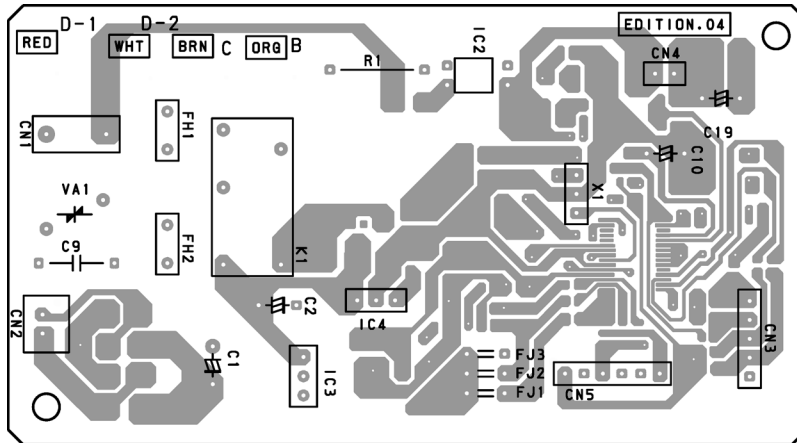
Model : RM-12HA



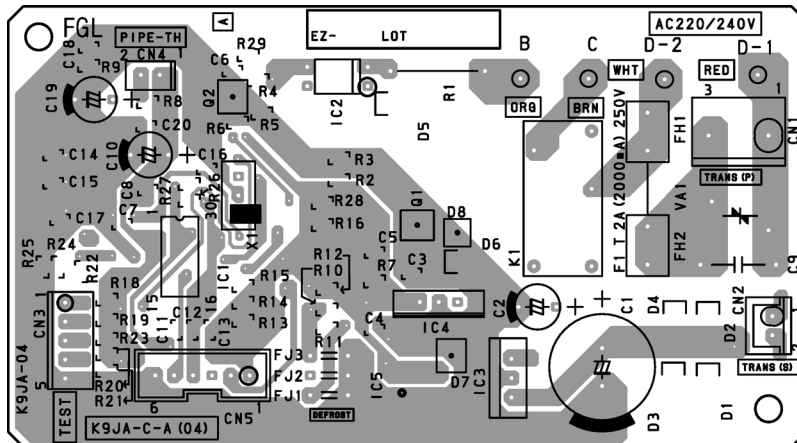
PRINTED CIRCUIT BOARD LAYOUTS

Model : RM-12HA

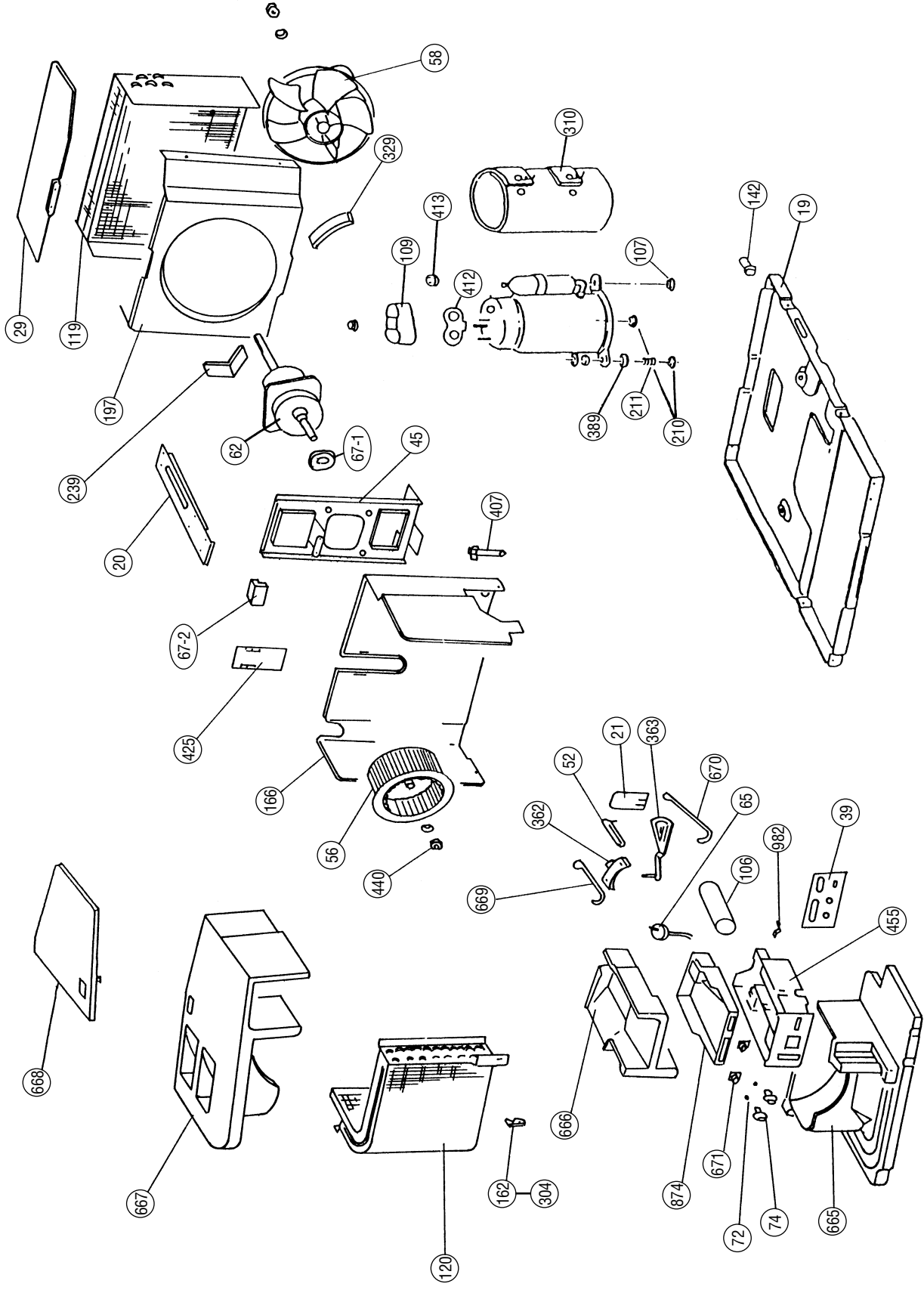
(Viewed from the component side)



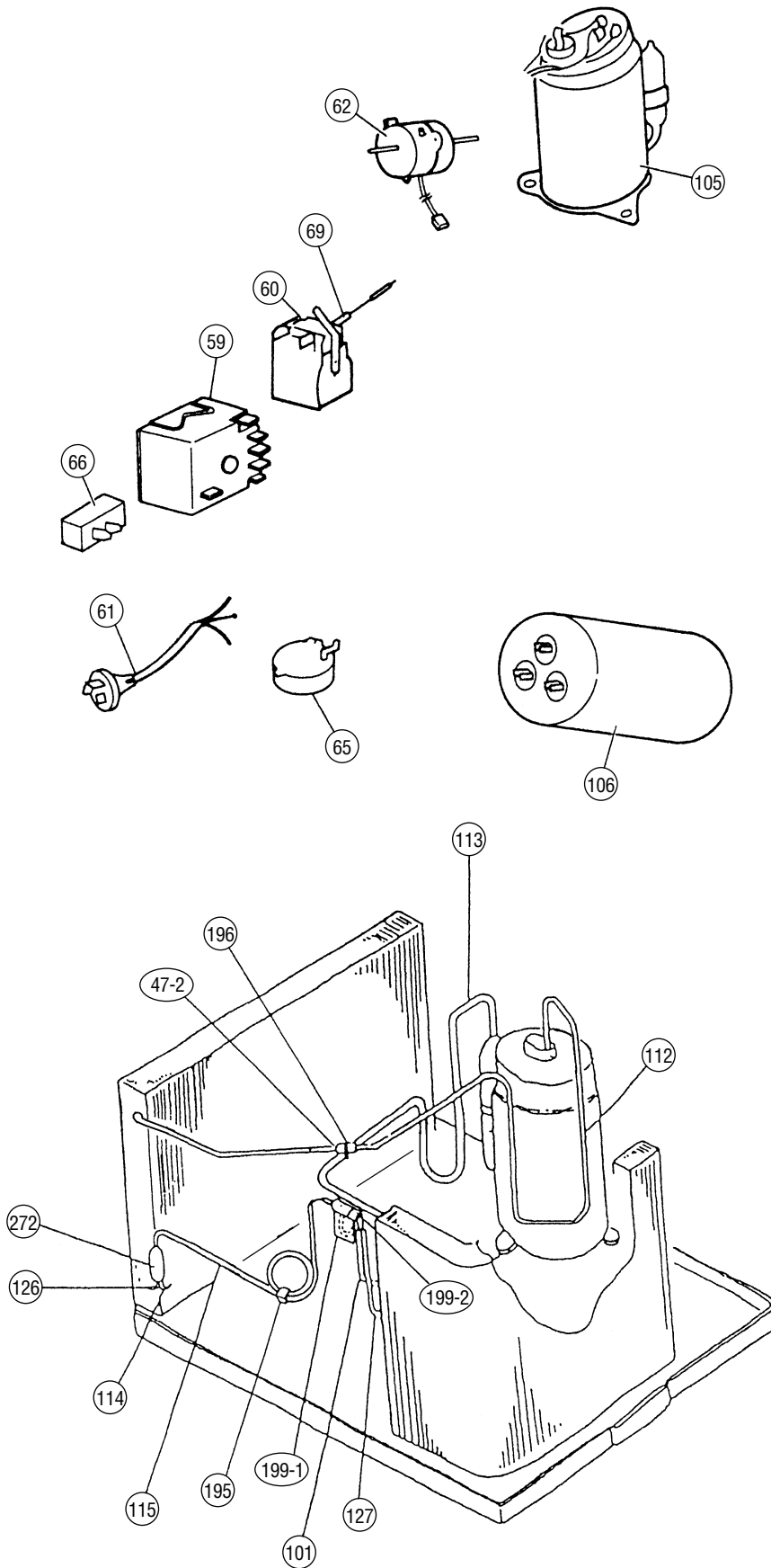
(Viewed from the solder side)



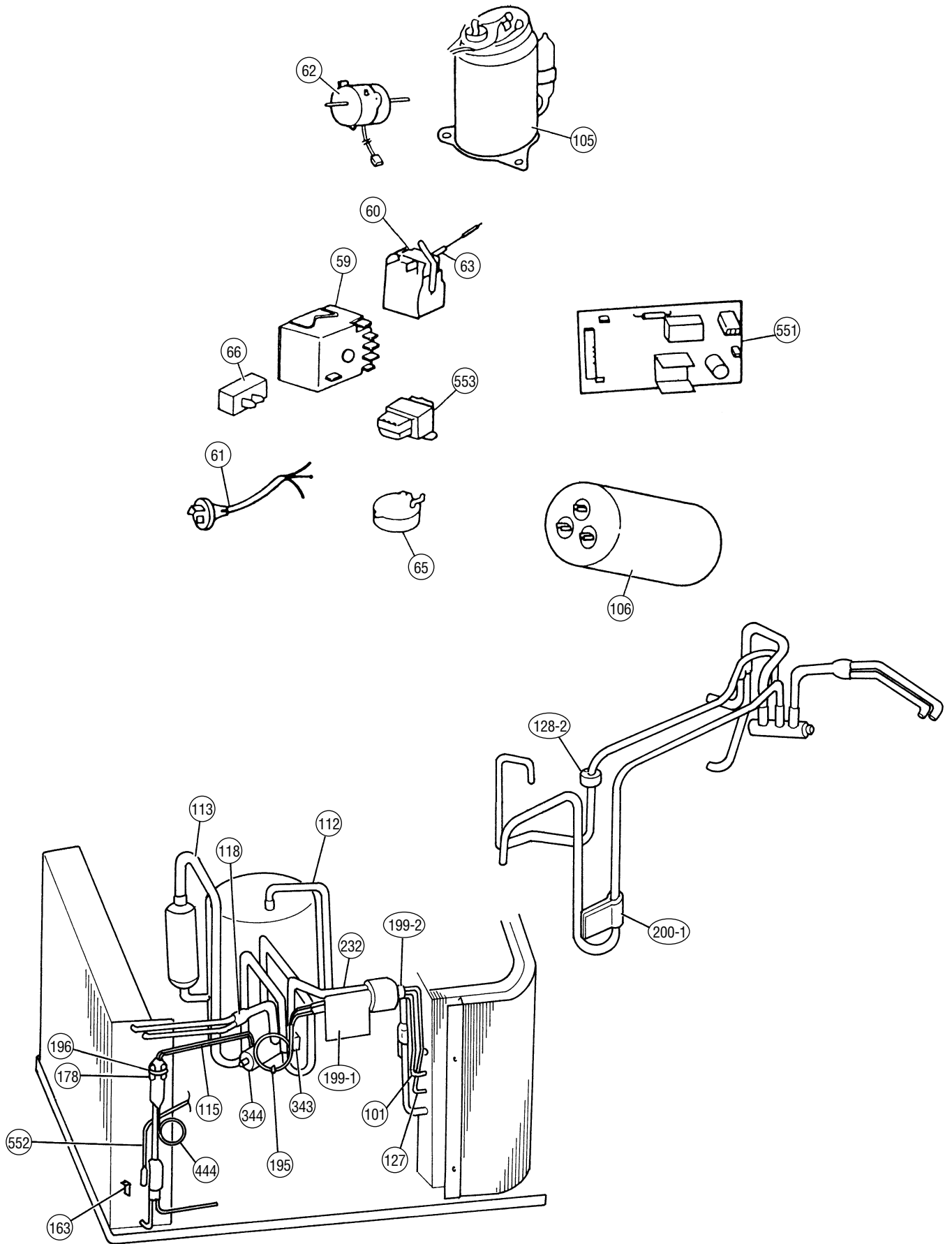
DISASSEMBLY ILLUSTRATION

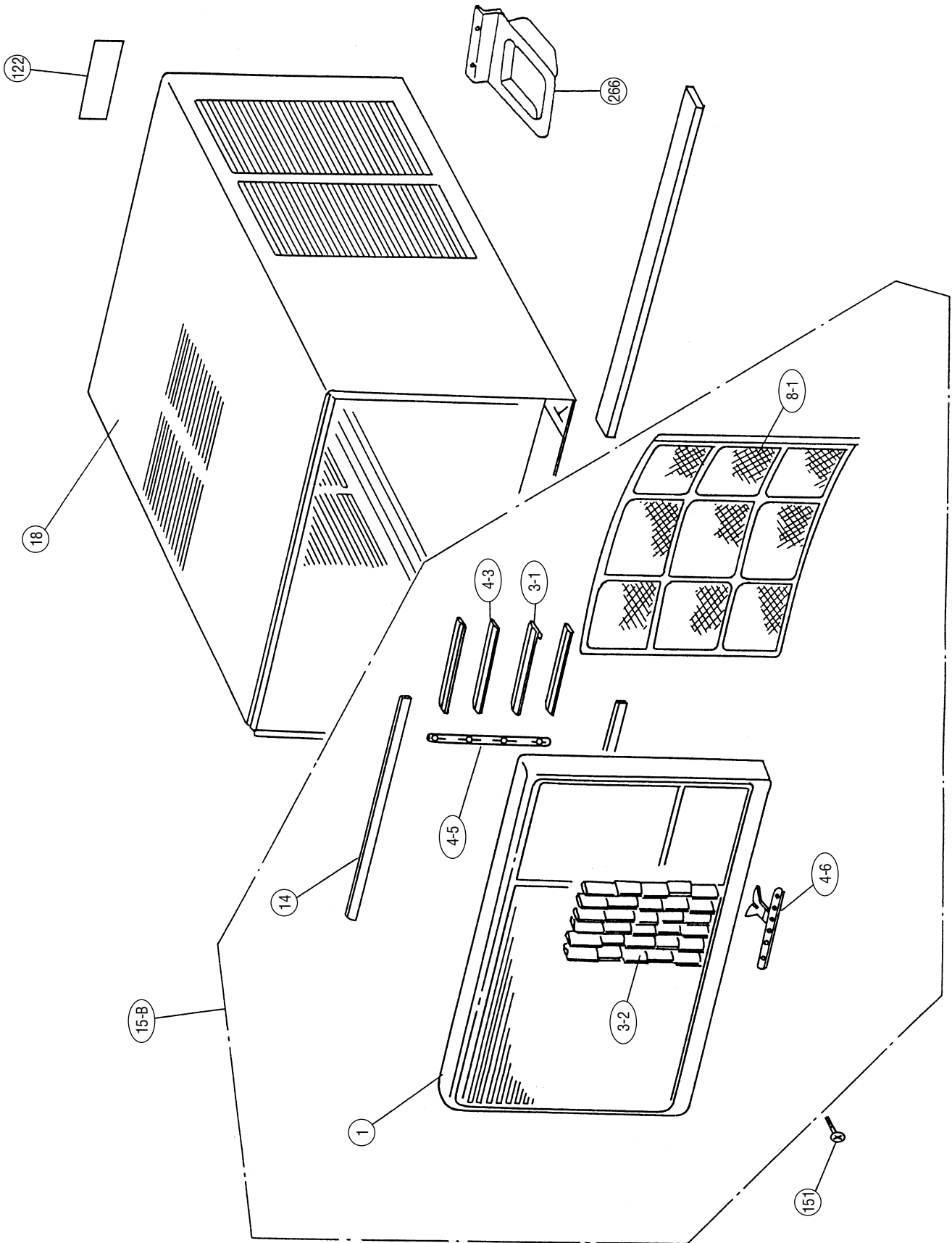


Model : RM-13CA



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