

KENWOOD

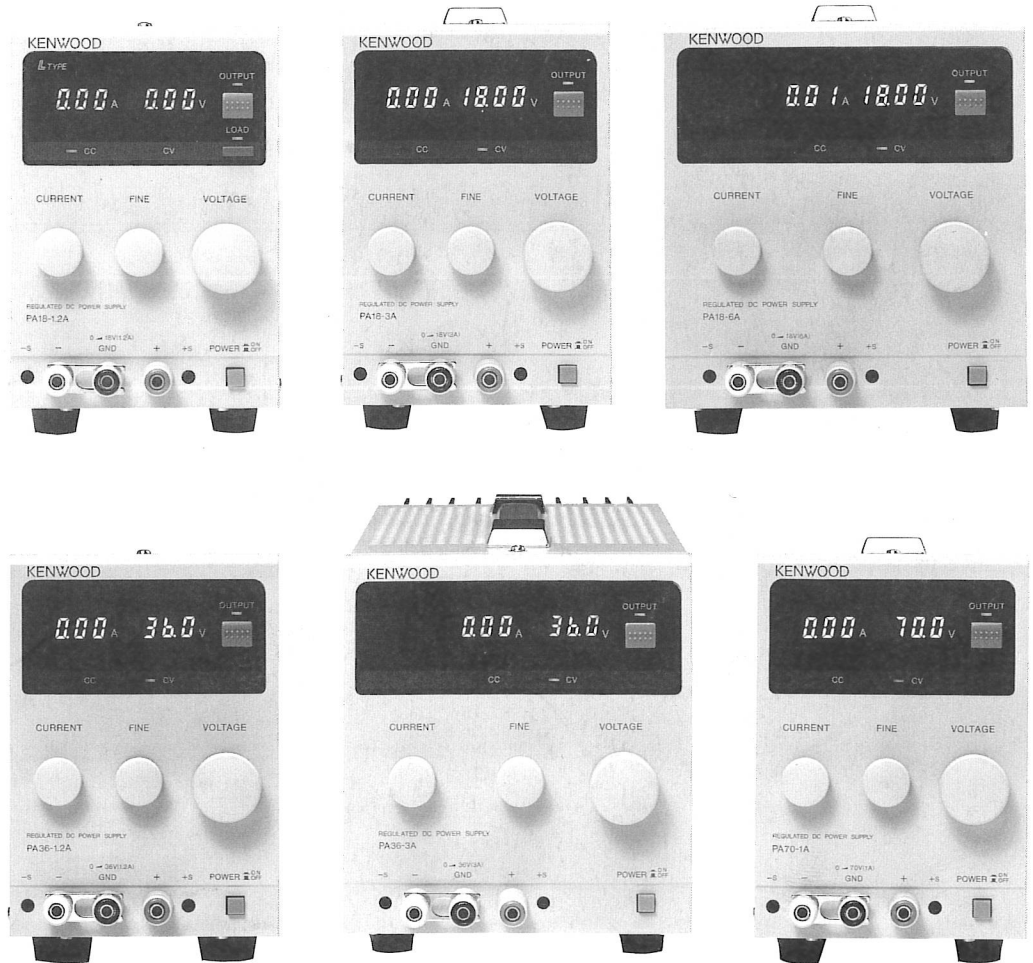
REGULATED DC POWER SUPPLY

PA18-1.2A PA18-3A
PA18-6A PA36-1.2A
PA36-3A PA70-1A

OPTION
EXTERNAL I/O UNIT
OP-13A

SERVICE MANUAL

KENWOOD CORPORATION



WARNING

The following instructions are for use by qualified personnel only. To avoid electric shock, do not perform any servicing other than contained in the operating instructions unless you are qualified to do so.

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ADJUSTMENT

To obtain the best performance, periodically calibrate the unit. Sometimes, only one mode need be calibrated, while at other times, all modes should be calibrated. When one mode is calibrated, it must be noted that the other modes may be affected. When calibrating all modes, perform the calibration in the specified sequence.

The following calibration required an accurate measuring instrument and an insulated adjusting flat blade screwdriver. If they are not available, contact your dealer. For optimum adjustment, turn the power on and warm up the unit sufficiently (more than 30 minutes) before starting.

Before calibrating the unit, check the power supply voltage.

TEST EQUIPMENT REQUIRED

The following instrument or their equivalent should be used for making adjustment.

Multimeter 45 Fluke

Item	Adjustment VR	P.C.B.	Procedure
V. OFF	VR4	PA18-1.2A W02-2274-08	Set the COARSE and FINE potentiometers on the front panel to the minimum positions, and adjust VR4 so that the output Voltage reads 0.000 V.
A. OFF	VR5	PA18-3A W02-2276-08	
Output voltage (V. ADJ)	VR1	PA18-6A W02-2278-08	Set the COARSE and FINE potentiometers so the maximum positions, and adjust VR1 to read the rated output voltage.
Output current (A. ADJ)	VR2	PA36-1.2A W02-2279-08	
CV	VR1 VR2	PA36-3A W02-2280-08	<ul style="list-style-type: none"> Set the multimeter to 19.00 V, and adjust VR1 (CV_L) on the digital panel meter so that the voltage reads 19.00 V. With the PA36-1.2A, PA36-3A and PA70-1A the output voltages of which are above 19 V, use the similar procedure as above but adjust VR2 (CV_H). With the PA18-1.2A, PA18-3A and PA18-6A set the Power switch ON/OFF and adjust to 18.5 V.
CC	VR3	PA70-1A W02-2281-08	

TOP
↑

Specifications Model	Output voltage setting	Output current setting
	[V]	[A]
PA18-1.2A	18.5	1.28
PA18-3A		3.19
PA18-6A		6.38
PA36-1.2A	37	1.28
PA36-3A		3.19
PA70-1A	72	1.06

Table 1

PARTS LIST

PA18-1.2A

Y86-1920-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1236-08	COVER
	A63-0119-08	FRONT PANEL
	B11-0525-08	FILTER
	B40-2737-24	SERIAL NO. PLATE
	B42-3734-08	RATING:AC100V 50/60HZ 45W
	B42-3735-08	FUSE RATING LABEL
	B42-3749-08	RATING:AC120V 50/60HZ 45W
	B42-3750-08	RATING:AC220V 50/60HZ 45W
	B42-3751-08	RATING:AC240V 50/60HZ 45W
	B42-3752-08	RATING:AC120V 60HZ 45W
	B42-3885-08	EXTERNAL CONTROL LABEL
	B63-0175-00	INSTRUCTION MANUAL;JAPANESE
	B63-0176-00	INSTRUCTION MANUAL;ENGLISH
	E12-0401-15	SENSOR PLUG
	E21-0670-03	TERMINAL,RED
	E21-0671-03	TERMINAL,BLACK
	E21-0672-03	TERMINAL,WHITE
	E29-0506-04	SHORTING BAR
	E29-0542-08	LUG;M3
	E30-0027-35	UL/GSA POWER CORD
	E30-0545-05	JIS POWER CORD
	E30-0571-15	SAA POWER CORD
	E30-1815-05	CEE POWER CORD
	E30-1867-05	BS POWER CORD
	F01-0884-08	HEAT SINK
	F05-8013-08	FUSE(5X20MM) 0.8A/250V
	F05-8015-08	FUSE(6X32MM) 0.8A/250V
	F11-1243-08	SHIELD CASE
	F29-0515-08	INSULATOR;FOR Q6
	F51-0007-08	FUSE(6X30) 1.5A/125V
	H10-2853-08	FOAMED STYRENE PAD (FRONT)
	H10-2854-08	FOAMED STYRENE PAD (REAR)
	H10-2855-08	STYRENE PAD;83X115X30MM
	H10-2858-08	STYRENE PAD;154X205X30MM
	H20-1734-08	VINYL COVER
	H53-0118-08	CARTON BOX
	J02-0529-08	FOOT
	J19-1671-08	CLAMPER;FOR 2-CORE AC CORD
	J19-1672-08	CLAMPER;FOR 3-CORE AC CORD
	J21-4720-08	BRACKET;FOR P.C.B
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J29-0516-08	BRACKET;FOR EXT. CONTROL BOARD
	J30-0532-08	VOLUME SPACER
	J30-0635-08	VOLUME SPACER;FOR VRO1
	J42-0083-05	BUSHING;FOR 2-CORE AC CORD
	J61-0408-05	WIRE WRAPPING BAND
	K21-0907-14	KNOB
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BUTTON,ORANGE;POWER
	K27-0557-04	BUTTON,RED;OUTPUT
	L07-1522-08	POWER TRANSFORMER
	N09-0718-05	SCREW,SEMS PAN HD M3X6
	N09-0720-05	SCREW,SEMS PAN HD M4X10
	N09-0757-05	SCREW,SEMS BINDING TAPTITE 3X6
	N09-0789-05	SCREW,SEMS PAN HD M3X10
	N09-0797-08	SCREW,SEMS TAPTITE 3X10
	N14-0404-04	FLANGE NUT M3
	N32-3006-41	SCREW,FLAT HD M3X6
	N89-3006-41	SCREW,BINDING TAPTITE 3X6
	N89-3010-41	SCREW,BINDING TAPTITE 3X10
	N89-3012-41	SCREW,BINDING TAPTITE 3X12
	S40-2533-08	PUSH SWITCH;POWER
	W02-2274-08	AMP UNIT
	W02-2275-08	EXT. CONTROL UNIT
	W02-2303-08	D.P.M. UNIT
VRO1	R29-3503-08	VOLUME 10K
VRO2	R29-1508-08	VOLUME 1K
VRO3	R29-3504-08	VOLUME 10K

PA18-1.2A AMP UNIT

W02-2274-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E18-0162-08	SENSING TERMINAL
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E40-7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)
	E40-7142-08	PIN CONNECTOR 1P(LINE VOLTAGE)
	E40-7171-08	PIN CONNECTOR 2P
	J13-0518-08	FUSE CLIP;FOR 6X30MM
	J73-0260-08	PCB (UNMOUNTED)
	R02-0150-05	JUMPING RES. ZERO OHM(10MM)
	R02-1061-05	JUMPING RES. ZERO OHM(5MM)
C1	C90-3023-08	CAP. ELECTRO 470 105°C 35V
C2	CQ92M1H222K	CAP. MYLAR 2200P 10% 50V
C3	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C4	CQ92M1H472K	CAP. MYLAR 4700P 10% 50V
C5	CQ92M1H103K	CAP. MYLAR 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V
C9	NO USE	
C10	C90-3021-08	CAP. ELECTRO 2200 105°C 35V
C11	CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V
C12	C90-3033-08	CAP. ELECTRO 220 105°C 25V
C13	C90-3033-08	CAP. ELECTRO 220 105°C 25V
C14	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C15	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C16	NO USE	
C17	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C18	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C19	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C20	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C21	NO USE	
C22	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C26	C90-3174-08	CAP. ELECTRO 10 1% 50V
C27	NO USE	
C28	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C29	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C30	NO USE	
C31	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C32	CF93AN1J10K	CAP. POLYESTER 1P 10% 63V
CN1	E40-7184-08	PIN CONNECTOR 5P
CN2	E40-7327-08	PIN CONNECTOR 12P
CN3	E40-7328-08	PIN CONNECTOR 15P
CN4	E40-7126-08	PIN CONNECTOR 2P
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6	NO USE	
CN7	E40-7228-08	PIN CONNECTOR 4P
CN11	E40-7332-08	PIN CONNECTOR 4P
CN12	E40-7333-08	PIN CONNECTOR 2P
CN13	E40-7333-08	PIN CONNECTOR 2P
CN14	E40-7333-08	PIN CONNECTOR 2P
CN20	E40-3240-05	PIN CONNECTOR 5P
CNGP1	E40-7333-08	PIN CONNECTOR 2P
C01	C90-3018-08	CAP. ELECTRO 1 105°C 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3041-08	CAP. ELECTRO 2.2 105°C 50V
D1	1B4B42	DIODE,STACK
D2	ERA15-01	DIODE
D3	1SS270A	DIODE
D4	1SS270A	DIODE
D5	1SS270A	DIODE
D6	1SS270A	DIODE
D7	1SS270A	DIODE
D8	NO USE	
D9	D3SB60	DIODE,STACK
D10	NO USE	
D11	1B4B42	DIODE,STACK
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D24	1SS270A	DIODE
D25	1SS270A	DIODE
D26	NO USE	
D27	ERA15-01	DIODE
D28	ERA15-01	DIODE
D29	ERA15-01	DIODE
D30	ERA15-01	DIODE
D31	ERA15-01	DIODE
D32	ERA15-01	DIODE
D33	ERA15-01	DIODE
D34	1SS270A	DIODE
D37	ERA15-01	DIODE

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
D38	1SS270A	DIODE	RY1	S76-0604-08	RELAY
D39	ERA15-01	DIODE	RY2	NO USE	
			RY3	S76-0604-08	RELAY
D01	ERA15-01	DIODE	RY4	S76-0630-08	RELAY
			SW2	S31-1512-08	MASTER/SLAVE SWITCH
IC1	UPC151C	IC, OP AMP	VR1	R12-1564-08	RES. SENI FIXED 1KB
IC2	UPC151C	IC, OP AMP	VR2	R12-3568-08	RES. SENI FIXED 30KB
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR	VR3	NO USE	
IC4	UPC78N05H	IC, 3-TERMINAL REGULATOR	VR4	R12-3567-08	RES. SENI FIXED 10KB
IC5	UPC79N05H	IC, 3-TERMINAL REGULATOR	VR5	R12-3567-08	RES. SENI FIXED 10KB
IC6	UPC1093J	IC, VARIABLE SHUNT REGULATOR			
IC7	LM607CN	IC, OP AMP			
IC8	UPC1093J	IC, VARIABLE SHUNT REGULATOR			
IC9	HA178L12A	IC, TERMINAL, FIXED VOLTAGE REG.			
Q1	2SC1815(GR)	TR. SI, NPN			
Q2	2SC1815(GR)	TR. SI, NPN			
Q3	2SC1815(GR)	TR. SI, NPN			
Q4	2SC1815(GR)	TR. SI, NPN			
Q5	2SC1815(GR)	TR. SI, NPN			
Q6	2SD1148(O)	TR. SI, NPN			
Q7	NO USE				
Q8	2SC3421(Y)	TR. SI, NPN			
Q13	2SC1815(GR)	TR. SI, NPN			
Q17	DTA143EF	TR. DIGITAL			
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R3	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R4	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R5	RD14BB2C682J	RES. CARBON 6.8K 5% 1/6W			
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R7	RN14BK2C5101F	RES. METAL FILM 5.1K 1% 1/6W			
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R10	RD14BB2C472J	RES. CARBON 4.7K 5% 1/6W			
R11	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R12	NO USE				
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W			
R15	RD14BB2C511J	RES. CARBON 510 5% 1/6W			
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W			
R17	NO USE				
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R21	RN14BK2C1603F	RES. METAL FILM 160K 1% 1/6W			
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R23	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R24	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R29	RS14GB3D152J	RES. METAL FILM 1.5K 5% 2W			
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R45	RD14DB2H202J	RES. CARBON 2K 5% 1/2W			
R51	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W			
R52	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R53	RD14BB2C911J	RES. CARBON 910 5% 1/6W			
R54	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R55	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R56	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R57	NO USE				
R58	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R59	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R60	RD14BB2C511J	RES. CARBON 510 5% 1/6W			
R61	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R62	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R63	NO USE				
R64	RN14BK2C1802F	RES. METAL FILM 18K 1% 1/6W			
R67	RS14GB3DR43J	RES. METAL FILM 0.43 5% 2W			
R68	RD14BB2C333J	RES. CARBON 33K 5% 1/6W			
R69	RD14BB2C821J	RES. CARBON 820 5% 1/6W			
R74	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R75	RD14DB2H202J	RES. CARBON 2K 5% 1/2W			
R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W			
R86	RS14GB3A102J	RES. METAL FILM 1K 5% 1W			
R87	RS14GB3A102J	RES. METAL FILM 1K 5% 1W			
R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W			
R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R94	RD14BB2C100J	RES. CARBON 10 5% 1/6W			
R95	NO USE				
R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W			
R01	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W			
RTH1	100D-5	THERMISTER			

PARTS LIST

PA18-3A Y86-1930-00

REF. NO	PARTS NO	NAME & DESCRIPTION
A01-1237-08		CASE
A63-0120-08		FRONT PANEL
B11-0525-08		FILTER
B40-2737-24		SERIAL NO. PLATE
B42-3733-08		FUSE RATING LABEL
B42-3885-08		EXTERNAL CONTROL LABEL
B42-6035-08		RATING:AC100V 50/60HZ 100W
B42-6036-08		RATING:AC120V 50/60HZ 100W
B42-6037-08		RATING:AC220V 50/60HZ 100W
B42-6038-08		RATING:AC240V 50/60HZ 100W
B42-6039-08		RATING:AC120V 60HZ 100W
B63-0175-00		INSTRUCTION MANUAL; JAPANESE
B63-0176-00		INSTRUCTION MANUAL; ENGLISH
E12-0401-15		SENSOR PLUG
E21-0670-03		TERMINAL, RED
E21-0671-03		TERMINAL, BLACK
E21-0672-03		TERMINAL, WHITE
E28-0506-04		SHORTING BAR
E28-0542-08		LUG; M3
E30-0027-35	UL/CSA	POWER CORD
E30-0545-05	JIS	POWER CORD
E30-0571-15	SAA	POWER CORD
E30-1815-05	CEE	POWER CORD
E30-1867-05	BS	POWER CORD
F01-0885-08		HEAT SINK
F05-2021-08		FUSE(5X20MM) 2A/250V
F05-2023-05		FUSE(6X32MM) 2A/250V
F11-1243-08		SHIELD CASE
F29-0515-08		INSULATOR; FOR Q6
F29-0517-08		INSULATOR; FOR Q6/Q11
F51-0009-08		FUSE(6X30MM) 3A/125V
H10-2853-08		FOAMED STYRENE PAD (FRONT)
H10-2854-08		FOAMED STYRENE PAD (REAR)
H20-1734-08		VINYL COVER
H53-0119-08		CARTON BOX
J02-0529-08		FOOT
J19-1671-08		CLAMPER; FOR 2-CORE AC CORD
J19-1672-08		CLAMPER; FOR 3-CORE AC CORD
J21-4720-08		BRACKET; FOR P. C. B
J21-4758-08		BRACKET; FOR AC CORD BUSHING
J29-0516-08		BRACKET; FOR EXT. CONTROL BOARD
J29-0519-08		BRACKET; FOR P. C. B
J30-0532-08		VOLUME SPACER
J30-0635-08		VOLUME SPACER; FOR VRO1
J42-0083-05		BUSHING; FOR 2-CORE AC CORD
K01-0417-05		HANDLE
K21-0907-14		KNOB
K21-0911-04		KNOB; FINE/CURRENT
K27-0509-04		PUSH BUTTON, ORANGE; POWER
K27-0557-04		BUTTON, RED; OUTPUT
L07-1523-08		POWER TRANSFORMER
N09-0718-05		SCREW, SEMS PAN HD M3X6
N09-0720-05		SCREW, SEMS PAN HD M4X10
N09-0757-05		SCREW, SEMS BINDING TAPTITE 3X6
N09-0777-05		SCREW, SEMS PAN HD M4X6
N09-0789-05		SCREW, SEMS PAN HD M3X10
N09-0797-08		SCREW, SEMS TAPTITE 3X10
N14-0404-04		FLANGE NUT M3
N32-3006-41		SCREW, FLAT HD M3X6
N89-3006-41		SCREW, BINDING TAPTITE 3X6
N89-3012-41		SCREW, BINDING TAPTITE 3X12
S40-2533-08		PUSH SWITCH; POWER
W02-2275-08		EXT. CONTROL UNIT
W02-2276-08		AMP UNIT
W02-2303-08		D. P. M. UNIT
VRO1	R29-3503-08	VOLUME 10K
VRO2	R29-1508-08	VOLUME 1K
VRO3	R29-3504-08	VOLUME 10K

PA18-3A AMP UNIT W02-2276-08

REF. NO	PARTS NO	NAME & DESCRIPTION
E18-0162-08		SENSING TERMINAL
E21-0674-08		EXTERNAL OUTPUT TERMINAL
E40-7141-08		PIN CONNECTOR 2P(LINE VOLTAGE)
E40-7142-08		PIN CONNECTOR 1P(LINE VOLTAGE)
E40-7171-08		PIN CONNECTOR 2P
J13-0518-08		FUSE CLIP; FOR 6X30MM
J73-0260-08		PCB (UNMOUNTED)
R02-0150-05		JUMPING RES. ZERO OHM(10MM)
R02-1061-05		JUMPING RES. ZERO OHM(5MM)
C1	C90-3019-08	CAP. ELECTRO 1000 105°C 35V
C2	C992M1H222K	CAP. MYLAR 2200P 10% 50V
C3	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C4	C992M1H472K	CAP. MYLAR 4700P 10% 50V
C5	C992M1H103K	CAP. MYLAR 0.01 10% 50V
C6		NO USE
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V
C9		NO USE
C10	C90-3021-08	CAP. ELECTRO 2200 105°C 35V
C11	CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V
C12	C90-3033-08	CAP. ELECTRO 220 105°C 25V
C13	C90-3033-08	CAP. ELECTRO 220 105°C 25V
C14	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C15	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C16		NO USE
C17	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C18	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C19	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C20	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C21		NO USE
C22	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C26	C90-3174-08	CAP. ELECTRO 10 1% 50V
C27		NO USE
C28	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C29	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C30		NO USE
C31	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C32	CF93AN1J1R0K	CAP. POLYESTER 1P 10% 63V
GN1	E40-7184-08	PIN CONNECTOR 5P
GN2	E40-7327-08	PIN CONNECTOR 12P
GN3	E40-7328-08	PIN CONNECTOR 15P
GN4	E40-7126-08	PIN CONNECTOR 2P
GN5	E40-7219-08	PIN CONNECTOR 3P
GN6	E40-7219-08	PIN CONNECTOR 3P
GN7	E40-7229-08	PIN CONNECTOR 4P
GN8	E40-7229-08	PIN CONNECTOR 4P
GN11	E40-7332-08	PIN CONNECTOR 4P
GN12	E40-7333-08	PIN CONNECTOR 2P
GN13	E40-7333-08	PIN CONNECTOR 2P
GN14	E40-7333-08	PIN CONNECTOR 2P
GN20	E40-3240-05	PIN CONNECTOR 5P
CNGP1	E40-7333-08	PIN CONNECTOR 2P
C01	C90-3018-08	CAP. ELECTRO 1 105°C 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02		NO USE
C03	C90-3041-08	CAP. ELECTRO 2.2 105°C 50V
D1	1B4B42	DIODE, STACK
D2	ERA15-01	DIODE
D3	1SS270A	DIODE
D4	1SS270A	DIODE
D5	1SS270A	DIODE
D6	1SS270A	DIODE
D7	1SS270A	DIODE
D8		NO USE
D9	D10XB40	DIODE, STACK
D10	ERA15-01	DIODE
D11	1B4B42	DIODE, STACK
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D24	1SS270A	DIODE
D25	1SS270A	DIODE
D26		NO USE
D27	ERA15-01	DIODE
D28	ERA15-01	DIODE
D29	ERA15-01	DIODE
D30	ERA15-01	DIODE
D31	ERA15-01	DIODE
D32	ERA15-01	DIODE
D33	ERA15-01	DIODE
D34	1SS270A	DIODE

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
D37	ERA15-01	DIODE	R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W
D38	ISS270A	DIODE	R86	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
D39	ERA15-01	DIODE	R87	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
D01	30D1	DIODE	R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
IC1	UPC151C	IC, OP AMP	R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
IC2	UPC151C	IC, OP AMP	R94	RD14BB2C100J	RES. CARBON 10 5% 1/6W
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R95	NO USE	
IC4	UPC78N05H	IC, 3-TERMINAL REGULATOR	R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
IC5	UPC79N05H	IC, 3-TERMINAL REGULATOR	R32A	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
IC6	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R32B	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
IC7	LM607CN	IC, OP AMP	R01	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
IC8	UPC1093J	IC, VARIABLE SHUNT REGULATOR	RTH1	100D-5	THERMISTER
IC9	NA178L12A	IC, TERMINAL FIXED VOLTAGE REG.	RY1	S76-0604-08	RELAY
Q1	2SC1815 (GR)	TR. SI, NPN	RY2	S76-0604-08	RELAY
Q2	2SC1815 (GR)	TR. SI, NPN	RY3	S76-0604-08	RELAY
Q3	2SC1815 (GR)	TR. SI, NPN	RY4	S76-0630-08	RELAY
Q4	2SC1815 (GR)	TR. SI, NPN	SW2	S31-1512-08	MASTER/SLAVE SWITCH
Q5	2SC1815 (GR)	TR. SI, NPN	VR1	R12-1564-08	RES. SEMI FIXED 1KB
Q6	2SD1148 (0)	TR. SI, NPN	VR2	R12-5547-08	RES. SEMI FIXED 100KB
Q7	2SC2238 (Y)	TR. SI, NPN	VR3	NO USE	
Q8	2SC3421 (Y)	TR. SI, NPN	VR4	R12-3567-08	RES. SEMI FIXED 10KB
Q9	2SC1815 (GR)	TR. SI, NPN	VR5	R12-3567-08	RES. SEMI FIXED 10KB
Q10	2SC1815 (GR)	TR. SI, NPN			
Q13	2SC1815 (GR)	TR. SI, NPN			
Q17	DTA143EF	TR. DIGITAL			
Q11A	2SD1148 (0)	TR. SI, NPN			
Q11B	2SD1148 (0)	TR. SI, NPN			
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R3	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R4	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R5	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R7	RN14BK2C5101F	RES. METAL FILM 5.1K 1% 1/6W			
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R10	RD14BB2C511J	RES. CARBON 510 5% 1/6W			
R11	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R12	NO USE				
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W			
R15	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W			
R17	NO USE				
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R21	RN14BK2C3303F	RES. METAL FILM 330K 1% 1/6W			
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R23	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R24	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R29	RS14GB3D152J	RES. METAL FILM 1.5K 5% 2W			
R30	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R34	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R35	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R36	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R37	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R38	RD14BB2C133J	RES. CARBON 13K 5% 1/6W			
R39	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R43	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R45	RD14DB2H202J	RES. CARBON 2K 5% 1/2W			
R51	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W			
R52	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R53	RD14BB2C911J	RES. CARBON 910 5% 1/6W			
R54	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R55	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R56	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R57	NO USE				
R58	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R59	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R60	RD14BB2C511J	RES. CARBON 510 5% 1/6W			
R61	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R62	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R63	NO USE				
R64	RN14BK2C7500F	RES. METAL FILM 750 1% 1/6W			
R67	RS14GB3DR15J	RES. METAL FILM 0.15 5% 2W			
R68	RD14BB2C333J	RES. CARBON 33K 5% 1/6W			
R74	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R75	RD14DB2H202J	RES. CARBON 2K 5% 1/2W			

PARTS LIST

PA18-6A Y86-1940-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1238-08	COVER
	A63-0121-08	FRONT PANEL
	B11-0528-08	FILTER
	B40-2737-24	SERIAL NO. PLATE
	B42-3738-08	FUSE RATING LABEL
	B42-3885-08	EXTERNAL CONTROL LABEL
	B42-6040-08	RATING:AC100V 50/60HZ 200W
	B42-6041-08	RATING:AC120V 50/60HZ 200W
	B42-6042-08	RATING:AC220V 50/60HZ 200W
	B42-6043-08	RATING:AC240V 50/60HZ 200W
	B42-6044-08	RATING:AC120V 60HZ 200W
	B63-0175-00	INSTRUCTION MANUAL;JAPANESE
	B63-0176-00	INSTRUCTION MANUAL;ENGLISH
	F12-0401-15	SENSOR PLUG
	E21-0670-03	TERMINAL,RED
	E21-0671-03	TERMINAL,BLACK
	E21-0672-03	TERMINAL,WHITE
	E29-0506-04	SHORTING BAR
	E29-0542-08	LUG;M3
	E30-0027-35	UL/GSA POWER CORD
	E30-0545-05	JIS POWER CORD
	E30-0571-15	SAA POWER CORD
	E30-1815-05	CEE POWER CORD
	E30-1867-05	BS POWER CORD
	F01-0886-08	HEAT SINK
	F05-3022-05	FUSE(6X32MM) 3A/250V
	F11-1244-08	SHIELD CASE
	F29-0517-08	INSULATOR;FOR Q6/Q11
	F29-0518-08	INSULATOR;FOR Q11A/Q11B/Q11C
	F50-0004-08	FUSE(5X20MM) 3A/250V
	F51-0010-08	FUSE(6X30MM) 5A/125V
	H10-2856-08	FOAMED STYRENE PAD (FRONT)
	H10-2857-08	FOAMED STYRENE PAD (REAR)
	H20-1734-08	VINYL COVER
	H53-0120-08	CARTON BOX
	J02-0529-08	FOOT
	J19-1671-08	CLAMPER;FOR 2-CORE AC CORD
	J19-1672-08	CLAMPER;FOR 3-CORE AC CORD
	J21-4720-08	BRACKET;FOR P. C. B
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J29-0516-08	BRACKET;FOR EXT. CONTROL BOARD
	J30-0532-08	VOLUME SPACER
	J30-0635-08	VOLUME SPACER;FOR VRO1
	J42-0083-05	BUSHING;FOR 2-CORE AC CORD
	J42-0085-05	BUSHING;FOR 3-CORE AC CORD
	K01-0417-05	HANDLE
	K21-0907-14	KNOB
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BUTTON,ORANGE;POWER
	K27-0557-04	BUTTON,RED;OUTPUT
	L07-1524-08	POWER TRANSFORMER
	N09-0718-05	SCREW,SEMS PAN HD M3X6
	N09-0720-05	SCREW,SEMS PAN HD M4X10
	N09-0757-05	SCREW,SEMS BINDING TAPTITE 3X6
	N09-0777-05	SCREW,SEMS PAN HD M4X6
	N09-0789-05	SCREW,SEMS PAN HD M3X10
	N09-0797-08	SCREW,SEMS TAPTITE 3X10
	N14-0404-04	FLANGE NUT M3
	N32-3006-41	SCREW,FLAT HD M3X6
	N89-3006-41	SCREW,BINDING TAPTITE 3X6
	N89-3012-41	SCREW,BINDING TAPTITE 3X12
	S40-2533-08	PUSH SWITCH;POWER
	W02-2275-08	EXT. CONTROL UNIT
	W02-2278-08	AMP UNIT
	W02-2304-08	D. P. M. UNIT
VRO1	R29-3503-08	VOLUME 10K
VRO2	R29-1508-08	VOLUME 1K
VRO3	R29-3504-08	VOLUME 10K

PA18-6A AMP UNIT W02-2278-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E18-0162-08	SENSING TERMINAL
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E40-7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)
	E40-7142-08	PIN CONNECTOR 1P(LINE VOLTAGE)
	E40-7171-08	PIN CONNECTOR 2P
	J13-0518-08	FUSE CLIP;FOR 6X30MM
	J73-0260-08	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(10MM)
	R92-1061-05	JUMPING RES. ZERO OHM(5MM)
C1	C90-3019-08	CAP. ELECTRO 1000 105'C 35V
C2	C092M1H472K	CAP. NYLAR 4700P 10% 50V
C3	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C4	C092M1H472K	CAP. NYLAR 4700P 10% 50V
C5	C092M1H103K	CAP. NYLAR 0.01 10% 50V
C6		NO USE
C7	C90-3020-08	CAP. ELECTRO 100 105'C 25V
C8	CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V
C9		NO USE
C10	C90-4501-08	CAP. ELECTRO 6800 35V
C11	CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V
C12	C90-3033-08	CAP. ELECTRO 220 105'C 25V
C13	C90-3033-08	CAP. ELECTRO 220 105'C 25V
C14	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C15	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C16		NO USE
C17	C90-3034-08	CAP. ELECTRO 100 105'C 16V
C18	C90-3034-08	CAP. ELECTRO 100 105'C 16V
C19	C90-3022-08	CAP. ELECTRO 4.7 105'C 50V
C20	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C21		NO USE
C22	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C26	C90-3174-08	CAP. ELECTRO 10 1% 50V
C27	CK45B1H471K	CAP. CERAMIC 470P 10% 50V
C28	C90-3020-08	CAP. ELECTRO 100 105'C 25V
C29	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C30	C90-4502-08	CAP. ELECTRO 1000 35V
C31	C90-3020-08	CAP. ELECTRO 100 105'C 25V
C32	CF93AN1J104K	CAP. POLYESTER 1P 10% 63V
CN1	E40-7184-08	PIN CONNECTOR 5P
CN2	E40-7327-08	PIN CONNECTOR 12P
CN3	E40-7328-08	PIN CONNECTOR 15P
CN4		NO USE
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6	E40-7219-08	PIN CONNECTOR 3P
CN7	E40-7469-08	PIN CONNECTOR 4P
CN8	E40-7469-08	PIN CONNECTOR 4P
CN11	E40-7332-08	PIN CONNECTOR 4P
CN12	E40-7333-08	PIN CONNECTOR 2P
CN13	E40-7333-08	PIN CONNECTOR 2P
CN14	E40-7333-08	PIN CONNECTOR 2P
CN20	E40-3240-05	PIN CONNECTOR 5P
CNGP	E40-7333-08	PIN CONNECTOR 2P
CNGP1	E40-7333-08	PIN CONNECTOR 2P
C01	C90-3018-08	CAP. ELECTRO 1 105'C 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02		NO USE
C03	C90-3041-08	CAP. ELECTRO 2.2 105'C 50V
D1	1B4B42	DIODE,STACK
D2	ERA15-01	DIODE
D3	1SS270A	DIODE
D4	1SS270A	DIODE
D5	1SS270A	DIODE
D6	1SS270A	DIODE
D7	1SS270A	DIODE
D8		NO USE
D9	D15XB40	DIODE,STACK
D10	ERA15-01	DIODE
D11	1B4B42	DIODE,STACK
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D24	1SS270A	DIODE
D25	1SS270A	DIODE
D26		NO USE
D27	ERA15-01	DIODE
D28	ERA15-01	DIODE
D29	ERA15-01	DIODE
D30	ERA15-01	DIODE
D31	ERA15-01	DIODE
D32	ERA15-01	DIODE
D33	ERA15-01	DIODE
D34	1SS270A	DIODE
D35		NO USE

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION
D36	EK03	DIODE	R68	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
D37	ERA15-01	DIODE	R74	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
D38	1SS270A	DIODE	R75	RD14DB2H202J	RES. CARBON 2K 5% 1/2W
D39	ERA15-01	DIODE	R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W
D01	30D1	DIODE	R86	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
IC1	UPC151C	IC, OP AMP	R87	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
IC2	UPC151C	IC, OP AMP	R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
IC4	UPC78N05H	IC, 3-TERMINAL REGULATOR	R94	RD14BB2C100J	RES. CARBON 10 5% 1/6W
IC5	UPC79N05H	IC, 3-TERMINAL REGULATOR	R95	NO USE	
IC6	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
IC7	LM607CN	IC, OP AMP	R32A	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
IC8	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R32B	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
IC9	HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.	R32C	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W
Q1	2SC1815(GR)	TR. SI, NPN	R01	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
Q2	2SC1815(GR)	TR. SI, NPN	RTH1	100D-5	THERMISTOR
Q3	2SC1815(GR)	TR. SI, NPN	RY1	S76-0604-08	RELAY
Q4	2SC1815(GR)	TR. SI, NPN	RY2	S76-0604-08	RELAY
Q5	2SC1815(GR)	TR. SI, NPN	RY3	S76-0604-08	RELAY
Q6	2SD1148(O)	TR. SI, NPN	RY4	S76-0630-08	RELAY
Q7	2SC2238(Y)	TR. SI, NPN	SW2	S31-1512-08	MASTER/SLAVE SWITCH
Q8	2SC3421(Y)	TR. SI, NPN	VR1	R12-1564-08	RES. SEMI FIXED 1KB
Q9	2SC1815(GR)	TR. SI, NPN	VR2	R12-5547-08	RES. SEMI FIXED 100KB
Q10	2SC1815(GR)	TR. SI, NPN	VR3	NO USE	
Q11	2SD1148(O)	TR. SI, NPN	VR4	R12-3567-08	RES. SEMI FIXED 10KB
Q12	NO USE		VR5	R12-3567-08	RES. SEMI FIXED 10KB
Q13	2SC1815(GR)	TR. SI, NPN			
Q17	DTA143EF	TR. DIGITAL			
Q11A	2SD1148(O)	TR. SI, NPN			
Q11B	2SD1148(O)	TR. SI, NPN			
Q11C	2SD1148(O)	TR. SI, NPN			
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R3	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R4	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R5	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R7	RN14BK2C5101F	RES. METAL FILM 5.1K 1% 1/6W			
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R10	RD14BB2C121J	RES. CARBON 120 5% 1/6W			
R11	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R12	NO USE				
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W			
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W			
R15	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W			
R17	NO USE				
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W			
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R21	RN14BK2C3903F	RES. METAL FILM 390K 1% 1/6W			
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R23	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R24	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W			
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R29	RS14GB3D152J	RES. METAL FILM 1.5K 5% 2W			
R30	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R31	NO USE				
R32	RS14GB3AR33J	RES. METAL FILM 0.33 5% 1W			
R33	NO USE				
R34	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W			
R35	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R36	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R37	RD14BB2C510J	RES. CARBON 51 5% 1/6W			
R38	RD14BB2C123J	RES. CARBON 12K 5% 1/6W			
R39	RD14BB2C273J	RES. CARBON 27K 5% 1/6W			
R43	RD14BB2C103J	RES. CARBON 10K 5% 1/6W			
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R45	RD14DB2H202J	RES. CARBON 2K 5% 1/2W			
R51	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W			
R52	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W			
R53	RD14BB2C911J	RES. CARBON 910 5% 1/6W			
R54	RD14BB2C101J	RES. CARBON 100 5% 1/6W			
R55	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R56	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R57	NO USE				
R58	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R59	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W			
R60	RD14BB2C511J	RES. CARBON 510 5% 1/6W			
R61	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W			
R62	RD14BB2C302J	RES. CARBON 3K 5% 1/6W			
R63	NO USE				
R64	RN14BK2C7500F	RES. METAL FILM 750 1% 1/6W			
R67	RS14GB3DR10J	RES. METAL FILM 0.1 5% 2W			

PARTS LIST

PA36-1.2A

Y86-1950-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1236-08	COVER
	AG3-0122-08	FRONT PANEL
	B11-0525-08	FILTER
	B40-2737-24	SERIAL NO. PLATE
	B42-3740-08	FUSE RATING LABEL
	B42-3885-08	EXTERNAL CONTROL LABEL
	B42-6025-08	RATING:AC100V 50/60HZ 73W
	B42-6026-08	RATING:AC120V 50/60HZ 73W
	B42-6027-08	RATING:AC220V 50/60HZ 73W
	B42-6028-08	RATING:AC240V 50/60HZ 73W
	B42-6029-08	RATING:AC120V 60HZ 73W
	B63-0175-00	INSTRUCTION MANUAL;JAPANESE
	B63-0176-00	INSTRUCTION MANUAL;ENGLISH
	E12-0401-15	SENSOR PLUG
	E21-0670-03	TERMINAL,RED
	E21-0671-03	TERMINAL,BLACK
	E21-0672-03	TERMINAL,WHITE
	E20-0506-04	SHORTING BAR
	E29-0542-08	LUG;#3
	E30-0027-35	UL/GSA POWER CORD
	E30-0545-05	JIS POWER CORD
	E30-0571-15	SAA POWER CORD
	E30-1815-05	CEE POWER CORD
	E30-1867-05	BS POWER CORD
	F01-0884-08	HEAT SINK
	F05-1521-08	FUSE(6X32MM) 1.5A/250V
	F11-1243-08	SHIELD CASE
	F29-0517-08	INSULATOR;FOR Q6/Q11
	F50-0003-08	FUSE(5X20MM) 1.5A/250V
	F51-0008-08	FUSE(6X30MM) 2.5A/125V
	H10-2853-08	FOAMED STYRENE PAD (FRONT)
	H10-2854-08	FOAMED STYRENE PAD (REAR)
	H10-2855-08	STYRENE PAD;83X115X30MM
	H10-2858-08	STYRENE PAD;154X205X30MM
	H20-1734-08	VINYL COVER
	H53-0121-08	CARTON BOX
	J02-0529-08	FOOT
	J19-1671-08	CLAMPER;FOR 2-CORE AC CORD
	J19-1672-08	CLAMPER;FOR 3-CORE AC CORD
	J21-4720-08	BRACKET;FOR P.C.B
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J29-0516-08	BRACKET;FOR EXT. CONTROL BOARD
	J30-0532-08	VOLUME SPACER
	J30-0635-08	VOLUME SPACER;FOR VRO1
	J42-0083-05	BUSHING;FOR 2-CORE AC CORD
	K21-0907-14	KNOB
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BUTTON,ORANGE;POWER
	K27-0557-04	BUTTON,RED;OUTPUT
	L07-1525-08	POWER TRANSFORMER
	N09-0718-05	SCREW,SEMS PAN HD #3X6
	N09-0720-05	SCREW,SEMS PAN HD #4X10
	N09-0757-05	SCREW,SEMS BINDING TAPTITE 3X6
	N09-0789-05	SCREW,SEMS PAN HD #3X10
	N09-0797-08	SCREW,SEMS TAPTITE 3X10
	N14-0404-04	FLANGE NUT #3
	N32-3006-41	SCREW,FLAT HD #3X6
	N89-3006-41	SCREW,BINDING TAPTITE 3X6
	N89-3010-41	SCREW,BINDING TAPTITE 3X10
	N89-3012-41	SCREW,BINDING TAPTITE 3X12
	S40-2533-08	PUSH SWITCH;POWER
	W02-2275-08	EXT. CONTROL UNIT
	W02-2279-08	AMP UNIT
	W02-2303-08	D.P.M. UNIT
VRO1	R29-3503-08	VOLUME 10K
VRO2	R29-1508-08	VOLUME 1K
VRO3	R29-3504-08	VOLUME 10K

PA36-1.2A AMP UNIT

W02-2279-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E18-0162-08	SENSING TERMINAL
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E40-7141-08	PIN CONNECTOR 2P(LINE VOLTAGE)
	E40-7142-08	PIN CONNECTOR 1P(LINE VOLTAGE)
	E40-7171-08	PIN CONNECTOR 2P
	J13-0518-08	FUSE CLIP;FOR 6X30MM
	J73-0260-08	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(10MM)
	R92-1061-05	JUMPING RES. ZERO OHM(5MM)
C1	C90-3023-08	CAP. ELECTRO 470 105°C 35V
C2	CQ92M1H222K	CAP. MYLAR 2200P 10% 50V
C3	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C4	CQ92M1H472K	CAP. MYLAR 4700P 10% 50V
C5	CQ92M1H103K	CAP. MYLAR 0.01 10% 50V
C6		NO USE
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V
C9		NO USE
C10	C90-3025-08	CAP. ELECTRO 1000 105°C 63V
C11	CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V
C12	C90-3033-08	CAP. ELECTRO 220 105°C 25V
C13	C90-3033-08	CAP. ELECTRO 220 105°C 25V
G14	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
G15	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C16		NO USE
C17	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C18	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C19	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C20	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C21		NO USE
C22	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C26	C90-3174-08	CAP. ELECTRO 10 1% 50V
C27		NO USE
C28	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C29	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C30		NO USE
C31	C90-3046-08	CAP. ELECTRO 100 105°C 50V
C32	CF93AN1J10K	CAP. POLYESTER 1P 10% 63V
CN1	E40-7184-08	PIN CONNECTOR 5P
CN2	E40-7327-08	PIN CONNECTOR 12P
CN3	E40-7328-08	PIN CONNECTOR 15P
CN4	E40-7126-08	PIN CONNECTOR 2P
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6		NO USE
CN7	E40-7229-08	PIN CONNECTOR 4P
CN11	E40-7332-08	PIN CONNECTOR 4P
CN12	E40-7333-08	PIN CONNECTOR 2P
CN13	E40-7333-08	PIN CONNECTOR 2P
CN14	E40-7333-08	PIN CONNECTOR 2P
CN20	E40-3240-05	PIN CONNECTOR 5P
CNGP	E40-7333-08	PIN CONNECTOR 2P
CNGP1	E40-7333-08	PIN CONNECTOR 2P
C01	C90-3018-08	CAP. ELECTRO 1 105°C 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02		NO USE
C03	C90-3041-08	CAP. ELECTRO 2.2 105°C 50V
D1	1B4B42	DIODE,STACK
D2	ERA15-01	DIODE
D3	1SS270A	DIODE
D4	1SS270A	DIODE
D5	1SS270A	DIODE
D6	1SS270A	DIODE
D7	1SS270A	DIODE
D8		NO USE
D9	D3SB60	DIODE,STACK
D10	ERA15-01	DIODE
D11	1B4B42	DIODE,STACK
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D24	1SS270A	DIODE
D25	1SS270A	DIODE
D26		NO USE
D27	ERA15-01	DIODE
D28	ERA15-01	DIODE
D29	ERA15-01	DIODE
D30	ERA15-01	DIODE
D31	ERA15-01	DIODE
D32	ERA15-01	DIODE
D33	ERA15-01	DIODE
D34	1SS270A	DIODE
D37	ERA15-01	DIODE

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
D38	1SS270A	DIODE
D39	ERA15-01	DIODE
D01	ERA15-01	DIODE
IC1	UPC151C	IC, OP AMP
IC2	UPC151C	IC, OP AMP
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC4	UPC78N05H	IC, 3-TERMINAL REGULATOR
IC5	UPC79N05H	IC, 3-TERMINAL REGULATOR
IC6	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC7	LM607CN	IC, OP AMP
IC8	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.
Q1	2SC1815 (GR)	TR. SI, NPN
Q2	2SC1815 (GR)	TR. SI, NPN
Q3	2SC1815 (GR)	TR. SI, NPN
Q4	2SC1815 (GR)	TR. SI, NPN
Q5	2SC1815 (GR)	TR. SI, NPN
Q6	2SD1148 (O)	TR. SI, NPN
Q7	2SC2238 (Y)	TR. SI, NPN
Q8	2SC3421 (Y)	TR. SI, NPN
Q9	2SC1815 (GR)	TR. SI, NPN
Q10	2SC1815 (GR)	TR. SI, NPN
Q11	2SD1148 (O)	TR. SI, NPN
Q12	NO USE	
Q13	2SC1815 (GR)	TR. SI, NPN
Q17	DTA143EF	TR. DIGITAL
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R3	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R4	RD14BB2C510J	RES. CARBON 51 5% 1/6W
R5	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R7	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R10	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R11	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R12	NO USE	
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W
R15	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W
R17	NO USE	
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R21	RN14BK2C2703F	RES. METAL FILM 270K 1% 1/6W
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R23	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W
R24	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R29	RS14GB3D392J	RES. METAL FILM 3.9K 5% 2W
R30	RS14GB3AR47J	RES. METAL FILM 0.47 5% 1W
R31	NO USE	
R32	RS14GB3AR47J	RES. METAL FILM 0.47 5% 1W
R33	NO USE	
R34	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R35	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R36	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R37	RD14BB2C510J	RES. CARBON 51 5% 1/6W
R38	RD14BB2C333J	RES. CARBON 33K 5% 1/6W
R39	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R43	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R45	RD14DB2H822J	RES. CARBON 8.2K 5% 1/2W
R51	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W
R52	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W
R53	RD14BB2C911J	RES. CARBON 910 5% 1/6W
R54	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R55	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R56	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R57	NO USE	
R58	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R59	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R60	RD14BB2C511J	RES. CARBON 510 5% 1/6W
R61	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W
R62	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R63	NO USE	
R64	RN14BK2C8201F	RES. METAL FILM 8.2K 1% 1/6W
R67	RS14GB3DR22J	RES. METAL FILM 0.22 5% 2W
R68	RD14BB2C333J	RES. CARBON 33K 5% 1/6W
R74	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R75	RD14DB2H822J	RES. CARBON 8.2K 5% 1/2W
R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W

REF. NO	PARTS NO	NAME & DESCRIPTION
R86	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
R87	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R94	RD14BB2C510J	RES. CARBON 51 5% 1/6W
R95	NO USE	
R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
R01	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
RTH1	100D-5	THERMISTER
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	RELAY
RY3	S76-0604-08	RELAY
RY4	S76-0630-08	RELAY
SW2	S31-1512-08	MASTER/SLAVE SWITCH
VR1	R12-1564-08	RES. SEMI FIXED 1KB
VR2	R12-5547-08	RES. SEMI FIXED 100KB
VR3	NO USE	
VR4	R12-3567-08	RES. SEMI FIXED 10KB
VR5	R12-3567-08	RES. SEMI FIXED 10KB

PARTS LIST

PA36-3A Y86-1960-00

REF. NO	PARTS NO	NAME & DESCRIPTION
A01-1238-08		COVER
A63-0123-08		FRONT PANEL
B11-0528-08		FILTER
B40-2737-24		SERIAL NO. PLATE
B42-3738-08		FUSE RATING LABEL
B42-3885-08		EXTERNAL CONTROL LABEL
B42-6045-08		RATING:AC100V 50/60HZ 170W
B42-6046-08		RATING:AC120V 50/60HZ 170W
B42-6047-08		RATING:AC220V 50/60HZ 170W
B42-6048-08		RATING:AC240V 50/60HZ 170W
B42-6049-08		RATING:AC120V 60HZ 170W
B63-0175-00		INSTRUCTION MANUAL:JAPANESE
B63-0176-00		INSTRUCTION MANUAL:ENGLISH
E12-0401-15		SENSOR PLUG
E21-0670-03		TERMINAL,RED
E21-0671-03		TERMINAL,BLACK
E21-0672-03		TERMINAL,WHITE
E29-0506-04		SHORTING BAR
E29-0542-08		LUG:M3
E30-0027-35		UL/CSA POWER CORD
E30-0545-05		JIS POWER CORD
E30-0571-15		SAA POWER CORD
E30-1815-05		CEE POWER CORD
E30-1867-05		BS POWER CORD
F01-0886-08		HEAT SINK
F05-3022-05		FUSE(6X32MM) 3A/250V
F11-1244-08		SHIELD CASE
F29-0517-08		INSULATOR;FOR Q6/Q11
F29-0518-08		INSULATOR;FOR Q11A/Q11B/Q11C
F50-0004-08		FUSE(5X20MM) 3A/250V
F51-0010-08		FUSE(6X30MM) 5A/125V
H10-2856-08		FOAMED STYRENE PAD (FRONT)
H10-2857-08		FOAMED STYRENE PAD (REAR)
H20-1734-08		VINYL COVER
H53-0122-08		CARTON BOX
J02-0529-08		FOOT
J19-1671-08		CLAMPER;FOR 2-CORE AC CORD
J19-1672-08		CLAMPER;FOR 3-CORE AC CORD
J21-4720-08		BRACKET;FOR P.C.B
J21-4758-08		BRACKET;FOR AC CORD BUSHING
J29-0516-08		BRACKET;FOR EXT. CONTROL BOARD
J30-0532-08		VOLUME SPACER
J30-0635-08		VOLUME SPACER;FOR YR01
J42-0083-05		BUSHING;FOR 2-CORE AC CORD
K01-0417-05		HANDLE
K21-0907-14		KNOB
K21-0911-04		KNOB;FINE/CURRENT
K27-0509-04		PUSH BUTTON,ORANGE:POWER
K27-0557-04		BUTTON,RED:OUTPUT
L07-1526-08		POWER TRANSFORMER
N09-0718-05		SCREW,SEMS PAN HD M3X6
N09-0720-05		SCREW,SEMS PAN HD M4X10
N09-0757-05		SCREW,SEMS BINDING TAPTITE 3X6
N09-0777-05		SCREW,SEMS PAN HD M4X6
N09-0789-05		SCREW,SEMS PAN HD M3X10
N09-0797-08		SCREW,SEMS TAPTITE 3X10
N14-0404-04		FLANGE NUT M3
N32-3006-41		SCREW,FLAT HD M3X6
N89-3006-41		SCREW,BINDING TAPTITE 3X6
N89-3012-41		SCREW,BINDING TAPTITE 3X12
S40-2533-08		PUSH SWITCH:POWER
W02-2275-08		EXT. CONTROL UNIT
W02-2280-08		AMP UNIT
W02-2303-08		D.P.M. UNIT
VR01	R29-3503-08	VOLUME 10K
VR02	R29-1508-08	VOLUME 1K
VR03	R29-3504-08	VOLUME 10K

PA36-3A AMP UNIT W02-2280-08

REF. NO	PARTS NO	NAME & DESCRIPTION
E18-0162-08		SENSING TERMINAL
E21-0674-08		EXTERNAL OUTPUT TERMINAL
E40-7141-08		PIN CONNECTOR 2P(LINE VOLTAGE)
E40-7142-08		PIN CONNECTOR 1P(LINE VOLTAGE)
E40-7171-08		PIN CONNECTOR 2P
J13-0518-08		FUSE CLIP;FOR 6X30MM
J73-0260-08		PCB (UNMOUNTED)
R92-0150-05		JUMPING RES. ZERO OHM(10MM)
R92-1061-05		JUMPING RES. ZERO OHM(5MM)
C1	C90-3019-08	CAP. ELECTRO 1000 105°C 35V
C2	CQ92M1H103K	CAP. NYLAR 0.01 10% 50V
C3	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C4	CQ92M1H472K	CAP. NYLAR 4700P 10% 50V
C5	CQ92M1H103K	CAP. NYLAR 0.01 10% 50V
C6		NO USE
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2ER22K	CAP. POLYESTER 0.22P 10% 250V
C9		NO USE
C10	C90-4503-08	CAP. ELECTRO 2200 63V
C11	CF93AN1JR22K	CAP. POLYESTER 0.22P 10% 63V
C12	C90-3033-08	CAP. ELECTRO 220 105°C 25V
C13	C90-3033-08	CAP. ELECTRO 220 105°C 25V
C14	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C15	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C16		NO USE
C17	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C18	C90-3034-08	CAP. ELECTRO 100 105°C 16V
C19	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C20	CF93AN1J104K	CAP. POLYESTER 0.1 10% 63V
C21		NO USE
C22	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C26	C90-3174-08	CAP. ELECTRO 10 1% 50V
C27	CQ92M1H472K	CAP. NYLAR 4700P 10% 50V
C28	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C29	C91-2559-08	CAP. CERAMIC 0.1 0.25P 50V
C30		NO USE
C31	C90-3046-08	CAP. ELECTRO 100 105°C 50V
C32	CF93AN1J1R0K	CAP. POLYESTER 1P 10% 63V
CN1	E40-7184-08	PIN CONNECTOR 5P
CN2	E40-7327-08	PIN CONNECTOR 12P
CN3	E40-7328-08	PIN CONNECTOR 15P
CN4	E40-7126-08	PIN CONNECTOR 2P
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6	E40-7219-08	PIN CONNECTOR 3P
CN7	E40-7220-08	PIN CONNECTOR 4P
CN8	E40-7220-08	PIN CONNECTOR 4P
CN11	E40-7332-08	PIN CONNECTOR 4P
CN12	E40-7333-08	PIN CONNECTOR 2P
CN13	E40-7333-08	PIN CONNECTOR 2P
CN14	E40-7333-08	PIN CONNECTOR 2P
CN20	E40-3240-05	PIN CONNECTOR 5P
CNGP	E40-7333-08	PIN CONNECTOR 2P
CNGP1	E40-7333-08	PIN CONNECTOR 2P
C01	C90-3018-08	CAP. ELECTRO 1 105°C 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02		NO USE
C03	C90-3041-08	CAP. ELECTRO 2.2 105°C 50V
D1	1B4B42	DIODE,STACK
D2	ERA15-01	DIODE
D3	1SS270A	DIODE
D4	1SS270A	DIODE
D5	1SS270A	DIODE
D6	1SS270A	DIODE
D7	1SS270A	DIODE
D8		NO USE
D9	D10XB40	DIODE,STACK
D10	ERA15-01	DIODE
D11	1B4B42	DIODE,STACK
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D24	1SS270A	DIODE
D25	1SS270A	DIODE
D26		NO USE
D27	ERA15-01	DIODE
D28	ERA15-01	DIODE
D29	ERA15-01	DIODE
D30	ERA15-01	DIODE
D31	ERA15-01	DIODE
D32	ERA15-01	DIODE
D33	ERA15-01	DIODE
D34	1SS270A	DIODE

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
D37	ERA15-01	DIODE
D38	1SS270A	DIODE
D39	ERA15-01	DIODE
D01	30D1	DIODE
IC1	UPC151C	IC, OP AMP
IC2	UPC151C	IC, OP AMP
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC4	UPC78N05H	IC, 3-TERMINAL REGULATOR
IC5	UPC79N05H	IC, 3-TERMINAL REGULATOR
IC6	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC7	LM607CN	IC, OP AMP
IC8	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.
Q1	2SC1815(GR)	TR. SI, NPN
Q2	2SC1815(GR)	TR. SI, NPN
Q3	2SC1815(GR)	TR. SI, NPN
Q4	2SC1815(GR)	TR. SI, NPN
Q5	2SC1815(GR)	TR. SI, NPN
Q6	2SD1148(O)	TR. SI, NPN
Q7	2SC2238(Y)	TR. SI, NPN
Q8	2SC3421(Y)	TR. SI, NPN
Q9	2SC1815(GR)	TR. SI, NPN
Q10	2SC1815(GR)	TR. SI, NPN
Q11	2SD1148(O)	TR. SI, NPN
Q12	NO USE	
Q13	2SC1815(GR)	TR. SI, NPN
Q17	DTA143EF	TR. DIGITAL
Q11A	2SD1148(O)	TR. SI, NPN
Q11B	2SD1148(O)	TR. SI, NPN
Q11C	2SD1148(O)	TR. SI, NPN
R1	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R2	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R3	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R4	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R5	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R6	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R7	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W
R8	RD14BB2C202J	RES. CARBON 2K 5% 1/6W
R9	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R10	RD14BB2C242J	RES. CARBON 2.4K 5% 1/6W
R11	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R12	NO USE	
R13	RD14BB2C202J	RES. CARBON 2K 5% 1/6W
R14	RD14BB2C152J	RES. CARBON 1.5K 5% 1/6W
R15	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R16	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W
R17	NO USE	
R18	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R19	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R20	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R21	RN14BK2C3303F	RES. METAL FILM 330K 1% 1/6W
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R23	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W
R24	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W
R27	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R29	RS14GB3D392J	RES. METAL FILM 3.9K 5% 2W
R30	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R31	NO USE	
R32	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R33	NO USE	
R34	RD14BB2C122J	RES. CARBON 1.2K 5% 1/6W
R35	RD14BB2C123J	RES. CARBON 12K 5% 1/6W
R36	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R37	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R38	RD14BB2C333J	RES. CARBON 33K 5% 1/6W
R39	RD14BB2C273J	RES. CARBON 27K 5% 1/6W
R43	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R44	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R45	RD14DB2H822J	RES. CARBON 8.2K 5% 1/2W
R51	RN14BK2C2401F	RES. METAL FILM 2.4K 1% 1/6W
R52	RN14BK2C3001F	RES. METAL FILM 3K 1% 1/6W
R53	RD14BB2C911J	RES. CARBON 910 5% 1/6W
R54	RD14BB2C101J	RES. CARBON 100 5% 1/6W
R55	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R56	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R57	NO USE	
R58	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R59	RN14BK2C5102F	RES. METAL FILM 51K 1% 1/6W
R60	RD14BB2C511J	RES. CARBON 510 5% 1/6W
R61	RN14BK2C9101F	RES. METAL FILM 9.1K 1% 1/6W
R62	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R63	NO USE	
R64	RN14BK2C7500F	RES. METAL FILM 750 1% 1/6W
R67	RS14GB3DR15J	RES. METAL FILM 0.15 5% 2W
R68	RD14BB2C333J	RES. CARBON 33K 5% 1/6W

REF. NO	PARTS NO	NAME & DESCRIPTION
R74	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R75	RD14DB2H822J	RES. CARBON 8.2K 5% 1/2W
R85	RD14DB2H101J	RES. CARBON 100 5% 1/2W
R86	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
R87	RS14GB3A102J	RES. METAL FILM 1K 5% 1W
R88	RD14BB2C104J	RES. CARBON 100K 5% 1/6W
R91	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R94	RD14BB2C513J	RES. CARBON 51K 5% 1/6W
R95	NO USE	
R96	RD14BB2C912J	RES. CARBON 9.1K 5% 1/6W
R32A	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R32B	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R32C	RS14GB3AR51J	RES. METAL FILM 0.51 5% 1W
R01	RN14BK2C1003F	RES. METAL FILM 100K 1% 1/6W
RTH1	100D-5	THERMISTER
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	RELAY
RY3	S76-0604-08	RELAY
RY4	S76-0630-08	RELAY
SW2	S3J-1512-08	MASTER/SLAVE SWITCH
VR1	R12-1564-08	RES. SEMI FIXED 1KB
VR2	R12-5547-08	RES. SEMI FIXED 100KB
VR3	NO USE	
VR4	R12-3567-08	RES. SEMI FIXED 10KB
VR5	R12-3567-08	RES. SEMI FIXED 10KB

PARTS LIST

PA70-1A Y86-1970-00

REF. NO	PARTS NO	NAME & DESCRIPTION
A01-1237-08		CASE
A63-0124-08		FRONT PANEL
B11-0525-08		FILTER
B40-2737-24		SERIAL NO. PLATE
B42-3733-08		FUSE RATING LABEL
B42-3885-08		EXTERNAL CONTROL LABEL
B42-6050-08		RATING;AC100V 50/60HZ 110W
B42-6051-08		RATING;AC120V 50/60HZ 110W
B42-6052-08		RATING;AC220V 50/60HZ 110W
B42-6053-08		RATING;AC240V 50/60HZ 110W
B42-6054-08		RATING;AC120V 60HZ 110W
B63-0175-00		INSTRUCTION MANUAL;JAPANESE
B63-0176-00		INSTRUCTION MANUAL;ENGLISH
E12-0401-15		SENSOR PLUG
E21-0670-03		TERMINAL,RED
E21-0671-03		TERMINAL,BLACK
E21-0672-03		TERMINAL,WHITE
E29-0506-04		SHORTING BAR
E29-0542-08		LUG;M3
E30-0027-35		UL/CSA POWER CORD
E30-0545-05		JIS POWER CORD
E30-0571-15		SAA POWER CORD
E30-1815-05		GEE POWER CORD
E30-1867-05		BS POWER CORD
F01-0885-08		HEAT SINK
F05-2021-08		FUSE(5X20MM) 2A/250V
F05-2023-05		FUSE(6X32MM) 2A/250V
F11-1243-08		SHIELD CASE
F29-0517-08		INSULATOR;FOR Q6/Q11
F29-0518-08		INSULATOR;FOR Q11A/Q11B/Q11C
F51-0009-08		FUSE(6X30MM) 3A/125V
H10-2853-08		FOAMED STYRENE PAD (FRONT)
H10-2854-08		FOAMED STYRENE PAD (REAR)
H20-1734-08		VINYL COVER
H53-0123-08		CARTON BOX
J02-0529-08		FOOT
J19-1671-08		CLAMPER;FOR 2-CORE AC CORD
J19-1672-08		CLAMPER;FOR 3-CORE AC CORD
J21-4720-08		BRACKET;FOR P.C.B
J21-4758-08		BRACKET;FOR AC CORD BUSHING
J29-0516-08		BRACKET;FOR EXT. CONTROL BOARD
J29-0519-08		BRACKET;FOR P.C.B
J30-0532-08		VOLUME SPACER
J30-0635-08		VOLUME SPACER;FOR VR01
J42-0083-05		BUSHING;FOR 2-CORE AC CORD
K01-0417-05		HANDLE
K21-0907-14		KNOB
K21-0911-04		KNOB;FINE/CURRENT
K27-0509-04		PUSH BUTTON,ORANGE;POWER
K27-0557-04		BUTTON,RED;OUTPUT
L07-1527-08		POWER TRANSFORMER
N09-0718-05		SCREW,SENS PAN HD M3X6
N09-0720-05		SCREW,SENS PAN HD M4X10
N09-0757-05		SCREW,SENS BINDING TAPTITE 3X6
N09-0777-05		SCREW,SENS PAN HD M4X6
N09-0789-05		SCREW,SENS PAN HD M3X10
N09-0797-08		SCREW,SENS TAPTITE 3X10
N14-0404-04		FLANGE NUT M3
N32-3006-41		SCREW,FLAT HD M3X6
N89-3006-41		SCREW,BINDING TAPTITE 3X6
N89-3012-41		SCREW,BINDING TAPTITE 3X12
S40-2533-08		PUSH SWITCH;POWER
W02-2275-08		EXT. CONTROL UNIT
W02-2281-08		AMP UNIT
W02-2303-08		D.P.N. UNIT
VR01 R29-3503-08		VOLUME 10K
VR02 R29-1508-08		VOLUME 1K
VR03 R29-3504-08		VOLUME 10K

PA70-1A AMP UNIT W02-2281-08

REF. NO	PARTS NO	NAME & DESCRIPTION
E18-0162-08		SENSING TERMINAL
E21-0674-08		EXTERNAL OUTPUT TERMINAL
E40-7141-08		PIN CONNECTOR 2P(LINE VOLTAGE)
E40-7142-08		PIN CONNECTOR 1P(LINE VOLTAGE)
E40-7171-08		PIN CONNECTOR 2P
J13-0518-08		FUSE CLIP;FOR 6X30MM
J73-0260-08		PCB (UNMOUNTED)
R92-0150-05		JUMPING RES. ZERO OHM(10MM)
R92-1061-05		JUMPING RES. ZERO OHM(5MM)
C1 C90-3023-08		CAP. ELECTRO 470 105°C 35V
C2 CQ92M1H222K		CAP. MYLAR 2200P 10% 50V
C3 C91-2559-08		CAP. CERAMIC 0.1 0.25P 50V
C4 CQ92M1H472K		CAP. MYLAR 4700P 10% 50V
C5 CQ92M1H103K		CAP. MYLAR 0.01 10% 50V
C6 NO USE		
C7 C90-3020-08		CAP. ELECTRO 100 105°C 25V
C8 CF93AN2ER22K		CAP. POLYESTER 0.22P 10% 250V
C9 NO USE		
C10 C90-3039-08		CAP. ELECTRO 330 105°C 160V
C11 CF93AN1JR22K		CAP. POLYESTER 0.22P 10% 63V
C12 C90-3033-08		CAP. ELECTRO 220 105°C 25V
C13 C90-3033-08		CAP. ELECTRO 220 105°C 25V
C14 CF93AN1J104K		CAP. POLYESTER 0.1 10% 63V
C15 CF93AN1J104K		CAP. POLYESTER 0.1 10% 63V
C16 NO USE		
C17 C90-3034-08		CAP. ELECTRO 100 105°C 16V
C18 C90-3034-08		CAP. ELECTRO 100 105°C 16V
C19 C90-3022-08		CAP. ELECTRO 4.7 105°C 50V
C20 CF93AN1J104K		CAP. POLYESTER 0.1 10% 63V
C21 NO USE		
C22 C91-2559-08		CAP. CERAMIC 0.1 0.25P 50V
C26 C90-4504-08		CAP. ELECTRO 10 100V
C27 NO USE		
C28 C90-3020-08		CAP. ELECTRO 100 105°C 25V
C29 C91-2559-08		CAP. CERAMIC 0.1 0.25P 50V
C30 NO USE		
C31 C90-3048-08		CAP. ELECTRO 100 105°C 100V
C32 CF93AN1J104K		CAP. POLYESTER 1P 10% 63V
C101 C91-2588-08		CAP. CERAMIC 0.1 10% 630V
CN1 E40-7184-08		PIN CONNECTOR 5P
CN2 E40-7327-08		PIN CONNECTOR 12P
CN3 E40-7328-08		PIN CONNECTOR 15P
CN4 E40-7126-08		PIN CONNECTOR 2P
CN5 E40-7219-08		PIN CONNECTOR 3P
CN6 E40-7219-08		PIN CONNECTOR 3P
CN7 E40-7229-08		PIN CONNECTOR 4P
CN11 E40-7332-08		PIN CONNECTOR 4P
CN12 E40-7333-08		PIN CONNECTOR 2P
CN13 E40-7333-08		PIN CONNECTOR 2P
CN14 E40-7333-08		PIN CONNECTOR 2P
CN20 E40-3240-05		PIN CONNECTOR 5P
CNGP E40-7333-08		PIN CONNECTOR 2P
CNGP1 E40-7333-08		PIN CONNECTOR 2P
C01 C90-3038-08		CAP. ELECTRO 1 105°C 100V
C01 C91-1323-08		CAP. CERAMIC 0.1 20% 250V
C02 NO USE		
C03 C90-3047-08		CAP. ELECTRO 2.2 105°C 100V
D1 1B4B42		DIODE,STACK
D2 ERA15-01		DIODE
D3 1SS270A		DIODE
D4 1SS270A		DIODE
D5 1SS270A		DIODE
D6 1SS270A		DIODE
D7 1SS270A		DIODE
D8 NO USE		
D9 D3SH60		DIODE,STACK
D10 ERA15-01		DIODE
D11 1B4B42		DIODE,STACK
D14 1SS270A		DIODE
D15 1SS270A		DIODE
D16 1SS270A		DIODE
D24 1SS270A		DIODE
D25 1SS270A		DIODE
D26 NO USE		
D27 ERA15-01		DIODE
D28 ERA15-01		DIODE
D29 ERA15-01		DIODE
D30 ERA15-01		DIODE
D31 ERA15-01		DIODE
D32 ERA15-01		DIODE
D33 ERA15-01		DIODE

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION	REF. NO	PARTS NO	NAME & DESCRIPTION			
D34	1SS270A	DIODE	R67	RS14GB3DR22J	RES. METAL FILM	0.22	5%	2W
D37	ERA15-01	DIODE	R68	RD14BB2C333J	RES. CARBON	33K	5%	1/6W
D38	1SS270A	DIODE	R74	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
D39	ERA15-01	DIODE	R75	RD14DB2H303J	RES. CARBON	30K	5%	1/2W
D01	ERA15-01	DIODE	R85	RD14DB2H101J	RES. CARBON	100	5%	1/2W
IC1	UPC151C	IC, OP AMP	R86	RS14GB3A102J	RES. METAL FILM	1K	5%	1W
IC2	UPC151C	IC, OP AMP	R87	RS14GB3A102J	RES. METAL FILM	1K	5%	1W
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R88	RD14BB2C104J	RES. CARBON	100K	5%	1/6W
IC4	UPC78N05H	IC, 3-TERMINAL REGULATOR	R91	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
IC5	UPC79N05H	IC, 3-TERMINAL REGULATOR	R94	RD14BB2C101J	RES. CARBON	100	5%	1/6W
IC6	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R95	NO USE				
IC7	LMG07CN	IC, OP AMP	R96	RD14BB2C912J	RES. CARBON	9.1K	5%	1/6W
IC8	UPC1093J	IC, VARIABLE SHUNT REGULATOR	R32A	RS14GB3A1R5J	RES. METAL FILM	1.5	5%	1W
IC9	HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.	R32B	RS14GB3A1R5J	RES. METAL FILM	1.5	5%	1W
			R32C	RS14GB3A1R5J	RES. METAL FILM	1.5	5%	1W
Q1	2SC1815 (GR)	TR. SI, NPN	R01	RN14BK2C1003F	RES. METAL FILM	100K	1%	1/6W
Q2	2SC1815 (GR)	TR. SI, NPN	RTH1	100D-5	THERMISTER			
Q3	2SC1815 (GR)	TR. SI, NPN	RY1	S76-0604-08	RELAY			
Q4	2SC1815 (GR)	TR. SI, NPN	RY2	S76-0604-08	RELAY			
Q5	2SC1815 (GR)	TR. SI, NPN	RY3	S76-0604-08	RELAY			
Q6	2SD1148 (O)	TR. SI, NPN	RY4	S76-0630-08	RELAY			
Q7	2SC2238 (Y)	TR. SI, NPN	SW2	S31-1512-08	MASTER/SLAVE SWITCH			
Q8	2SC3421 (Y)	TR. SI, NPN	VR1	R12-1564-08	RES. SEMI FIXED	1KB		
Q9	2SC1815 (GR)	TR. SI, NPN	VR2	R12-5547-08	RES. SEMI FIXED	100KB		
Q10	2SC1815 (GR)	TR. SI, NPN	VR3	NO USE				
Q11	2SD1148 (O)	TR. SI, NPN	VR4	R12-3567-08	RES. SEMI FIXED	10KB		
Q12	NO USE		VR5	R12-3567-08	RES. SEMI FIXED	10KB		
Q13	2SC1815 (GR)	TR. SI, NPN						
Q17	DTA143EF	TR. DIGITAL						
Q11A	2SD1148 (O)	TR. SI, NPN						
Q11B	2SD1148 (O)	TR. SI, NPN						
Q11C	2SD1148 (O)	TR. SI, NPN						
R1	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W			
R2	RD14BB2C123J	RES. CARBON	12K	5%	1/6W			
R3	RD14BB2C102J	RES. CARBON	1K	5%	1/6W			
R4	RD14BB2C510J	RES. CARBON	51	5%	1/6W			
R5	RD14BB2C303J	RES. CARBON	30K	5%	1/6W			
R6	RD14BB2C273J	RES. CARBON	27K	5%	1/6W			
R7	RN14BK2C1001F	RES. METAL FILM	1K	1%	1/6W			
R8	RD14BB2C202J	RES. CARBON	2K	5%	1/6W			
R9	RD14BB2C102J	RES. CARBON	1K	5%	1/6W			
R10	RD14BB2C123J	RES. CARBON	12K	5%	1/6W			
R11	RD14BB2C513J	RES. CARBON	51K	5%	1/6W			
R12	NO USE							
R13	RD14BB2C202J	RES. CARBON	2K	5%	1/6W			
R14	RD14BB2C152J	RES. CARBON	1.5K	5%	1/6W			
R15	RD14BB2C102J	RES. CARBON	1K	5%	1/6W			
R16	RD14BB2C512J	RES. CARBON	5.1K	5%	1/6W			
R17	NO USE							
R18	RD14BB2C513J	RES. CARBON	51K	5%	1/6W			
R19	RD14BB2C103J	RES. CARBON	10K	5%	1/6W			
R20	RD14BB2C102J	RES. CARBON	1K	5%	1/6W			
R21	RN14BK2C3303F	RES. METAL FILM	330K	1%	1/6W			
R22	RD14BB2C102J	RES. CARBON	1K	5%	1/6W			
R23	RN14BK2C9101F	RES. METAL FILM	9.1K	1%	1/6W			
R24	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W			
R27	RD14BB2C102J	RES. CARBON	1K	5%	1/6W			
R28	RD14BB2C103J	RES. CARBON	10K	5%	1/6W			
R29	RS14GB3D123J	RES. METAL FILM	12K	5%	2W			
R30	RS14GB3A1R5J	RES. METAL FILM	1.5	5%	1W			
R31	NO USE							
R32	RS14GB3A1R5J	RES. METAL FILM	1.5	5%	1W			
R33	NO USE							
R34	RD14BB2C122J	RES. CARBON	1.2K	5%	1/6W			
R35	RD14BB2C123J	RES. CARBON	12K	5%	1/6W			
R36	RD14BB2C102J	RES. CARBON	1K	5%	1/6W			
R37	RD14BB2C510J	RES. CARBON	51	5%	1/6W			
R38	RD14BB2C753J	RES. CARBON	75K	5%	1/6W			
R39	RD14BB2C273J	RES. CARBON	27K	5%	1/6W			
R43	RD14BB2C103J	RES. CARBON	10K	5%	1/6W			
R44	RD14BB2C101J	RES. CARBON	100	5%	1/6W			
R45	RD14DB2H303J	RES. CARBON	30K	5%	1/2W			
R51	RN14BK2C2401F	RES. METAL FILM	2.4K	1%	1/6W			
R52	RN14BK2C3001F	RES. METAL FILM	3K	1%	1/6W			
R53	RD14BB2C911J	RES. CARBON	910	5%	1/6W			
R54	RD14BB2C101J	RES. CARBON	100	5%	1/6W			
R55	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W			
R56	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W			
R57	NO USE							
R58	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W			
R59	RN14BK2C5102F	RES. METAL FILM	51K	1%	1/6W			
R60	RD14BB2C511J	RES. CARBON	510	5%	1/6W			
R61	RN14BK2C9101F	RES. METAL FILM	9.1K	1%	1/6W			
R62	RD14BB2C302J	RES. CARBON	3K	5%	1/6W			
R63	NO USE							
R64	RN14BK2C8201F	RES. METAL FILM	8.2K	1%	1/6W			

PARTS LIST

PA70-1A EXT. CONTROL UNIT W02-2275-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E29-0544-08	EXTERNAL CONTROL TERMINAL
	J73-0261-08	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM (10MM)
C1	CK45F1H472K	CAP. CERAMIC 4700P 10% 50V
CN19	E40-7328-08	PIN CONNECTOR 15P
CN20	E40-7333-08	PIN CONNECTOR 2P
D13	1S2270A	DIODE
Q12	2SC1815(GR)	TR. SI, NPN
R41	RD14BB2E512J	RES. CARBON 5.1K 5% 1/4W
R47	RD14BB2E622J	RES. CARBON 6.2K 5% 1/4W
R77	RN14BK2E1002F	RES. METAL FILM 10K 1% 1/4W
R78	RN14BK2E1002F	RES. METAL FILM 10K 1% 1/4W
SW3	S62-0169-08	M/S SWITCH
SW4	S62-0169-08	M/S SWITCH
SW5	S62-0169-08	M/S SWITCH
SW6	S62-0169-08	M/S SWITCH
SW7	S62-0168-08	M/S SWITCH

PA18-1.2A/3A PA36-1.2A/3A PA70-1A DIGITAL PANEL METER UNIT W02-2303-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E38-0546-08	WIRE ASS'Y: 24P JUMPER
	J61-0532-08	PCB SUPPORT
	N09-4501-08	SCREW, PAN HD TAPPING 3.5X6
C1	CE04EW1E4R7M	CAP. ELECTRO 100 20% 25V
C2	CE04EW1E4R7M	CAP. ELECTRO 4.7 20% 25V
C3	CK45F1H104Z	CAP. CERAMIC 0.1 20% 50V
C4	CK45F1H104Z	CAP. CERAMIC 0.1 20% 50V
C5	CK45F1H104Z	CAP. CERAMIC 0.1 20% 50V
C6	CQ92M1H104K	CAP. NYLAR 0.1 10% 50V
C7	CQ92M1H104K	CAP. NYLAR 0.1 10% 50V
C8	CQ92M1H104K	CAP. NYLAR 0.1 10% 50V
C9	CQ92M1H104K	CAP. NYLAR 0.1 10% 50V
C10	CQ92M1H104K	CAP. NYLAR 0.1 10% 50V
C11	CQ92M1H104K	CAP. NYLAR 0.1 10% 50V
C12	CK45F1H104Z	CAP. CERAMIC 0.1 20% 50V
C13	CE04EW1E4R7M	CAP. ELECTRO 4.7 20% 25V
C14	CE04EW1E4R7M	CAP. ELECTRO 4.7 20% 25V
C15	CE04EW1E4R7M	CAP. ELECTRO 4.7 20% 25V
C16	CK45F1H104Z	CAP. CERAMIC 0.1 20% 50V
C17	CK45F1H104Z	CAP. CERAMIC 0.1 20% 50V
C18	CK45F1H104Z	CAP. CERAMIC 0.1 20% 50V
C19	CK45B1H471K	CAP. CERAMIC 470P 10% 50V
C120	CK45B1H471K	CAP. CERAMIC 470P 10% 50V
C121	CK45B1H471K	CAP. CERAMIC 470P 10% 50V
C122	CK45B1H471K	CAP. CERAMIC 470P 10% 50V
CN1	E40-7315-08	PIN CONNECTOR 12P
D1	1S1588	DIODE
IC1	MC14433P	IC, 3-1/2 DIGIT A/D CONVERTER
IC2	MC14433P	IC, 3-1/2 DIGIT A/D CONVERTER
IC3	TC4066BP	IC, QUAD BILATERAL SWITCH
IC4	TC74HC4511AP	IC, BCD 7 LATCH/DECODER/DRIVER
IC5	TC74HC4511AP	IC, BCD 7 LATCH/DECODER/DRIVER
IC6	MC1413P	IC, PERIPHERAL DRIVER ARRAY
IC7	TC74HC74AP	IC, DUAL D-FLIP FLOP
IC8	TC74HC10AP	IC, TRIPLE 3-INPUT NAND GATE
IC9	TC74HC14AP	IC, HEX SCHMITT INVERTER
JP1	R92-0150-05	JUMPING RES. ZERO OHM (10MM)
L1	B30-0972-05	LED, RED
L2	B30-0972-05	LED, RED
L3	B30-0973-05	LED, GREEN
LE1	B30-0974-05	LED, 7-SEGMENTS
LE2	B30-0974-05	LED, 7-SEGMENTS
LE3	B30-0974-05	LED, 7-SEGMENTS
LE4	B30-0974-05	LED, 7-SEGMENTS
LE5	B30-0974-05	LED, 7-SEGMENTS
LE6	B30-0974-05	LED, 7-SEGMENTS
LE7	B30-0974-05	LED, 7-SEGMENTS
PC1	PC817	IC, PHOTO COUPLER
R1	RN14BK2E1303F	RES. METAL FILM 130K 1% 1/4W
R2	RN14BK2E7501F	RES. METAL FILM 7.5K 1% 1/4W
R3	RN14BK2E4702F	RES. METAL FILM 47K 1% 1/4W
R4	RN14BK2E4701F	RES. METAL FILM 4.7K 1% 1/4W
R5	RN14BK2E2001F	RES. METAL FILM 2K 1% 1/4W
R6	RN14BK2E1001F	RES. METAL FILM 1K 1% 1/4W
R7	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
R8	RN14BK2E2001F	RES. METAL FILM 2K 1% 1/4W
R11	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R12	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R13	RD14BB2E512J	RES. CARBON 5.1K 5% 1/4W
R14	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W
R15	RN14BK2E5103F	RES. METAL FILM 510K 1% 1/4W
R16	RN14BK2E3003F	RES. METAL FILM 300K 1% 1/4W
R17	RN14BK2E5103F	RES. METAL FILM 510K 1% 1/4W
R20	R92-1061-05	JUMPING RES. ZERO OHM (5MM)
R21	RD14BB2C821J	RES. CARBON 820 5% 1/6W
R22	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R23	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R24	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R25	RD14BB2C224J	RES. CARBON 220K 5% 1/6W
R26	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R27	RD14BB2E364J	RES. CARBON 360K 5% 1/4W
R28	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R29	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R30	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R31	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R129	RD14BB2C102J	RES. CARBON 1K 5% 1/6W
R130	RD14BB2C103J	RES. CARBON 10K 5% 1/6W

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION			
R131	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R132	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R18A	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R18B	RD14BB2E122J	RES. CARBON	1.2K	5%	1/4W
R19A	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R19B	RD14BB2E122J	RES. CARBON	1.2K	5%	1/4W
RA1	R90-1129-08	RES. NETWORK	4X330		
RA2	R90-1129-08	RES. NETWORK	4X330		
RA3	R90-1129-08	RES. NETWORK	4X330		
RA4	R90-1129-08	RES. NETWORK	4X330		
SW1	S74-0601-08	TACT SWITCH			
TR1	DTA114EFX	TR. DIGITAL			
VR1	R12-1566-08	RES. SEMI FIXED 1K			
VR2	R12-1566-08	RES. SEMI FIXED 1K			
VR3	R12-1566-08	RES. SEMI FIXED 1K			
ZD1	TL431CLPB	IC, 3-TERMINAL SHUNT REGULATOR			

PA18-6A DIGITAL PANEL METER UNIT W02-2304-08

REF. NO	PARTS NO	NAME & DESCRIPTION			
	E38-0546-08	WIRE ASS'Y: 24P JUMPER			
	J61-0532-08	PCB SUPPORT			
	N09-4501-08	SCREW, PAN HD TAPPING 3.5X6			
C1	CE04EW1E101N	CAP. ELECTRO	100	20%	10V
C2	CE04EW1E4R7M	CAP. ELECTRO	4.7	20%	25V
C3	CK45F1H104Z	CAP. CERAMIC	0.1	20%	50V
C4	CK45F1H104Z	CAP. CERAMIC	0.1	20%	50V
C5	CK45F1H104Z	CAP. CERAMIC	0.1	20%	50V
C6	CQ92M1H104K	CAP. MYLAR	0.1	10%	50V
C7	CQ92M1H104K	CAP. MYLAR	0.1	10%	50V
C8	CQ92M1H104K	CAP. MYLAR	0.1	10%	50V
C9	CQ92M1H104K	CAP. MYLAR	0.1	10%	50V
C10	CQ92M1H104K	CAP. MYLAR	0.1	10%	50V
C11	CQ92M1H104K	CAP. MYLAR	0.1	10%	50V
C12	CK45F1H104Z	CAP. CERAMIC	0.1	20%	50V
C13	CE04EW1E4R7M	CAP. ELECTRO	4.7	20%	25V
C14	CE04EW1E4R7M	CAP. ELECTRO	4.7	20%	25V
C15	CE04EW1E4R7M	CAP. ELECTRO	4.7	20%	25V
C16	CK45F1H104Z	CAP. CERAMIC	0.1	20%	50V
C17	CK45F1H104Z	CAP. CERAMIC	0.1	20%	50V
C18	CK45F1H104Z	CAP. CERAMIC	0.1	20%	50V
C19	CK45B1H471K	CAP. CERAMIC	470P	10%	50V
C120	CK45B1H471K	CAP. CERAMIC	470P	10%	50V
C121	CK45B1H471K	CAP. CERAMIC	470P	10%	50V
C122	CK45B1H471K	CAP. CERAMIC	470P	10%	50V
CN1	E40-7315-08	PIN CONNECTOR	12P		
D1	1S1588	DIODE			
IC1	MC14433P	IC, 3-1/2 DIGIT A/D CONVERTER			
IC2	MC14433P	IC, 3-1/2 DIGIT A/D CONVERTER			
IC3	TC4066BP	IC, QUAD BILATERAL SWITCH			
IC4	TC74HC4511AP	IC, BCD 7 LATCH/DECODER/DRIVER			
IC5	TC74HC4511AP	IC, BCD 7 LATCH/DECODER/DRIVER			
IC6	MC1413P	IC, PERIPHERAL DRIVER ARRAY			
IC7	TC74HC74AP	IC, DUAL D-FLIP FLOP			
IC8	TC74HC10AP	IC, TRIPLE 3-INPUT NAND GATE			
IC9	TC74HC14AP	IC, HEX SCHMITT INVERTER			
L1	B30-0972-05	LED, RED			
L2	B30-0972-05	LED, RED			
L3	B30-0973-05	LED, GREEN			
LE1	B30-0974-05	LED, 7-SEGMENTS			
LE2	B30-0974-05	LED, 7-SEGMENTS			
LE3	B30-0974-05	LED, 7-SEGMENTS			
LE4	B30-0974-05	LED, 7-SEGMENTS			
LE5	B30-0974-05	LED, 7-SEGMENTS			
LE6	B30-0974-05	LED, 7-SEGMENTS			
LE7	B30-0974-05	LED, 7-SEGMENTS			
PC1	PC817	IC, PHOTO COUPLER			
R1	RN14BK2E1303F	RES. METAL FILM	130K	1%	1/4W
R2	RN14BK2E7501F	RES. METAL FILM	7.5K	1%	1/4W
R3	RN14BK2E4702F	RES. METAL FILM	47K	1%	1/4W
R4	RN14BK2E4701F	RES. METAL FILM	4.7K	1%	1/4W
R5	RN14BK2E2001F	RES. METAL FILM	2K	1%	1/4W
R6	RN14BK2E1001F	RES. METAL FILM	1K	1%	1/4W
R7	RN14BK2E3001F	RES. METAL FILM	3K	1%	1/4W
R8	RN14BK2E2001F	RES. METAL FILM	2K	1%	1/4W
R9	RN14BK2E1002F	RES. METAL FILM	10K	1%	1/4W
R10	RN14BK2E2401F	RES. METAL FILM	2.4K	1%	1/4W
R11	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R12	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R13	RD14BB2E512J	RES. CARBON	5.1K	5%	1/4W
R14	RN14BK2E3003F	RES. METAL FILM	300K	1%	1/4W
R15	RN14BK2E5103F	RES. METAL FILM	510K	1%	1/4W
R16	RN14BK2E3003F	RES. METAL FILM	300K	1%	1/4W
R17	RN14BK2E5103F	RES. METAL FILM	510K	1%	1/4W
R20	R92-1061-05	JUMPING RES.	ZERO OHM (5MM)		
R21	RD14BB2C821J	RES. CARBON	820	5%	1/6W
R22	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R23	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R24	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R25	RD14BB2C224J	RES. CARBON	220K	5%	1/6W
R26	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R27	RD14BB2E364J	RES. CARBON	360K	5%	1/4W
R28	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R29	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R30	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R31	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R129	RD14BB2C102J	RES. CARBON	1K	5%	1/6W
R130	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R131	RD14BB2C103J	RES. CARBON	10K	5%	1/6W
R132	RD14BB2C102J	RES. CARBON	1K	5%	1/6W

PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
R18A	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R18B	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R19A	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R19B	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
RA1	R90-1129-08	RES. NETWORK 4X330
RA2	R90-1129-08	RES. NETWORK 4X330
RA3	R90-1129-08	RES. NETWORK 4X330
RA4	R90-1129-08	RES. NETWORK 4X330
SW1	S74-0601-08	TACT SWITCH
TR1	DTA114EFX	TR. DIGITAL
VR1	R12-1566-08	RES. SEMI FIXED 1K
VR2	R12-1566-08	RES. SEMI FIXED 1K
VR3	R12-1566-08	RES. SEMI FIXED 1K
ZD1	TL431CLPB	IC, 3-TERMINAL SHUNT REGULATOR

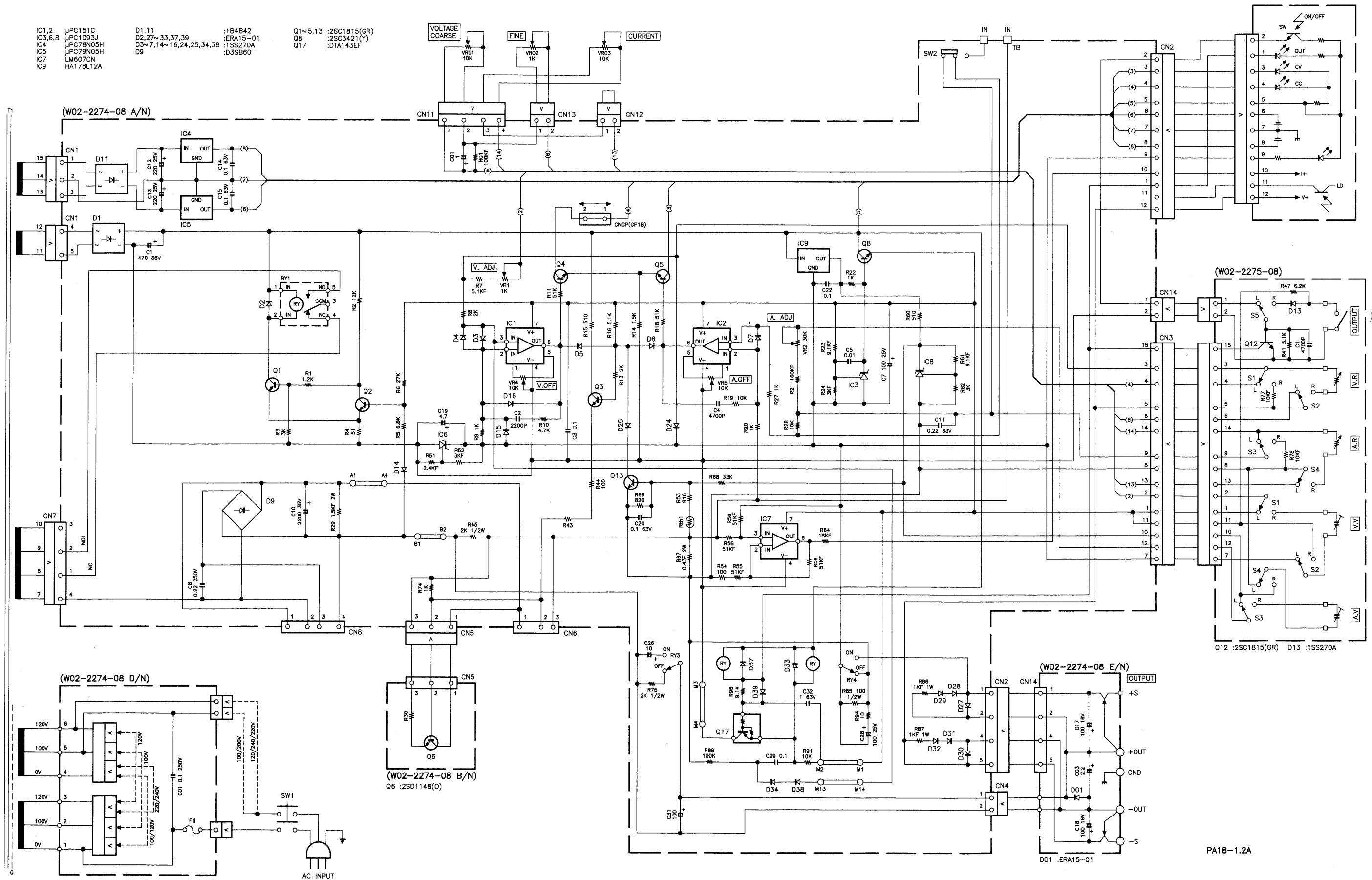
OP-13A

Y87-2880-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	B42-3918-08	LABEL, GP-1B
	B63-0157-00	INSTRUCTION MANUAL
	E29-0544-08	EXTERNAL CONTROL TERMINAL
	J73-3914-08	PCB (UNMOUNTED)
	R92-1061-05	JUMPING RES. ZERO OHM (5MM)
CN1	E40-7328-08	PIN CONNECTOR 15P
CN2	E40-7333-08	PIN CONNECTOR 2P
D1	1SS270A	DIODE
D2	1SS270A	DIODE
PC1	TLP521-3	IC, PHOTO COUPLER
Q	ZSC1815(GR)	TR. SI, NPN
R1	RD14BB2C561J	RES. CARBON 560 5% 1/6W
R2	RD14BB2C512J	RES. CARBON 5.1K 5% 1/6W
R3	RD14BB2C153J	RES. CARBON 15K 5% 1/6W
R4	RD14BB2C302J	RES. CARBON 3K 5% 1/6W
R5	RD14BB2C103J	RES. CARBON 10K 5% 1/6W
R6	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
SW1	S62-0169-08	M/S SWITCH
SW2	S62-0169-08	M/S SWITCH
SW3	S62-0170-08	R/L SWITCH

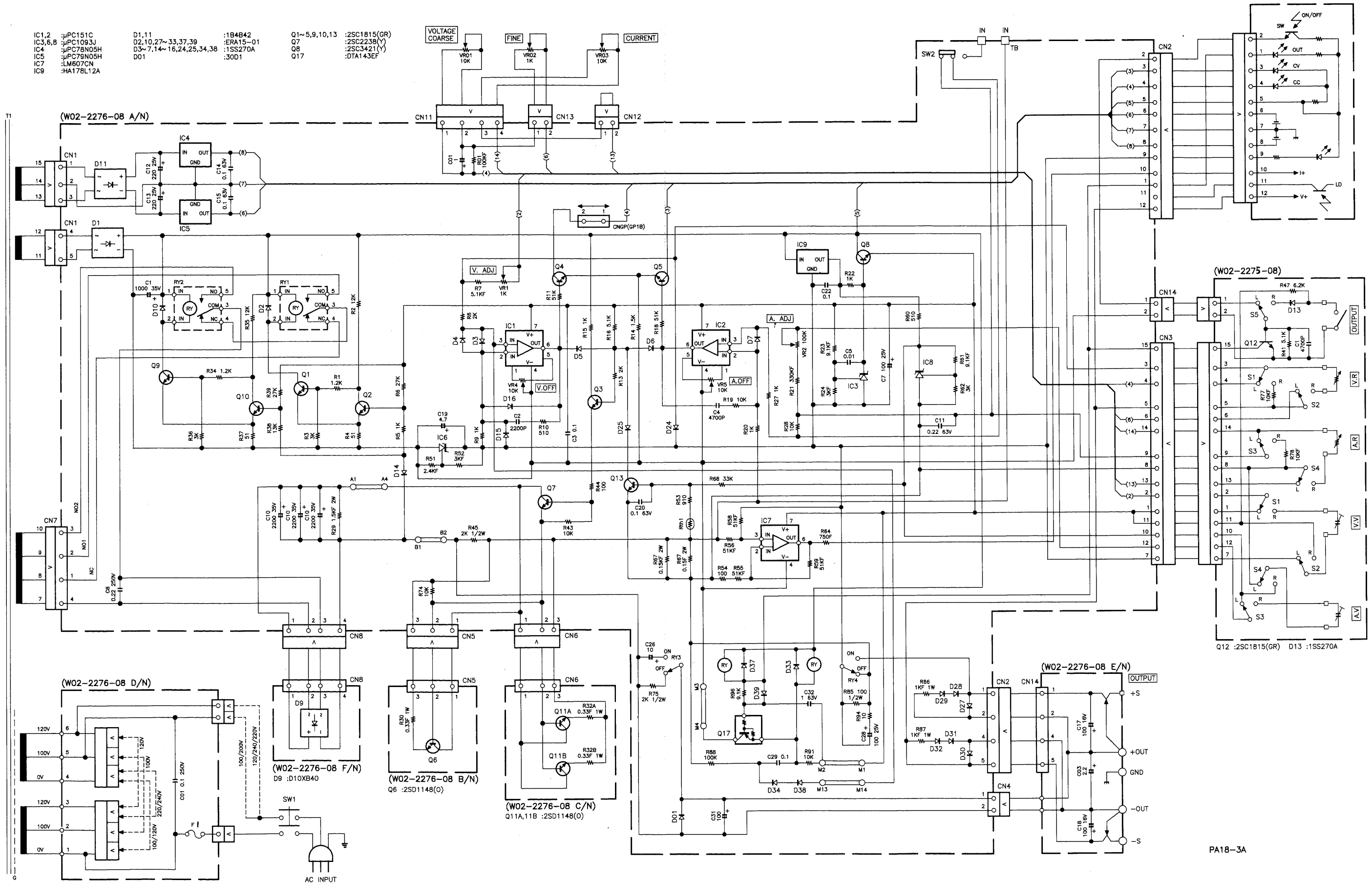
SCHEMATIC DIAGRAM PA18-1.2A

- | | | |
|--------------------|----------------------------------|-----------------------|
| IC1,2 : μPC151C | D1,11 : 1B4B42 | Q1~5,13 : 2SC1815(GR) |
| IC3,6,8 : μPC1093J | D2,27~33,37,39 : ERA15-01 | Q8 : 2SC3421(Y) |
| IC4 : μPC79N05H | D3~7,14~16,24,25,34,38 : 1SS270A | Q17 : DTA143EF |
| IC5 : μPC79N05H | D9 : 1SS270A | |
| IC7 : LM607CN | | |
| IC9 : HA176L12A | | |

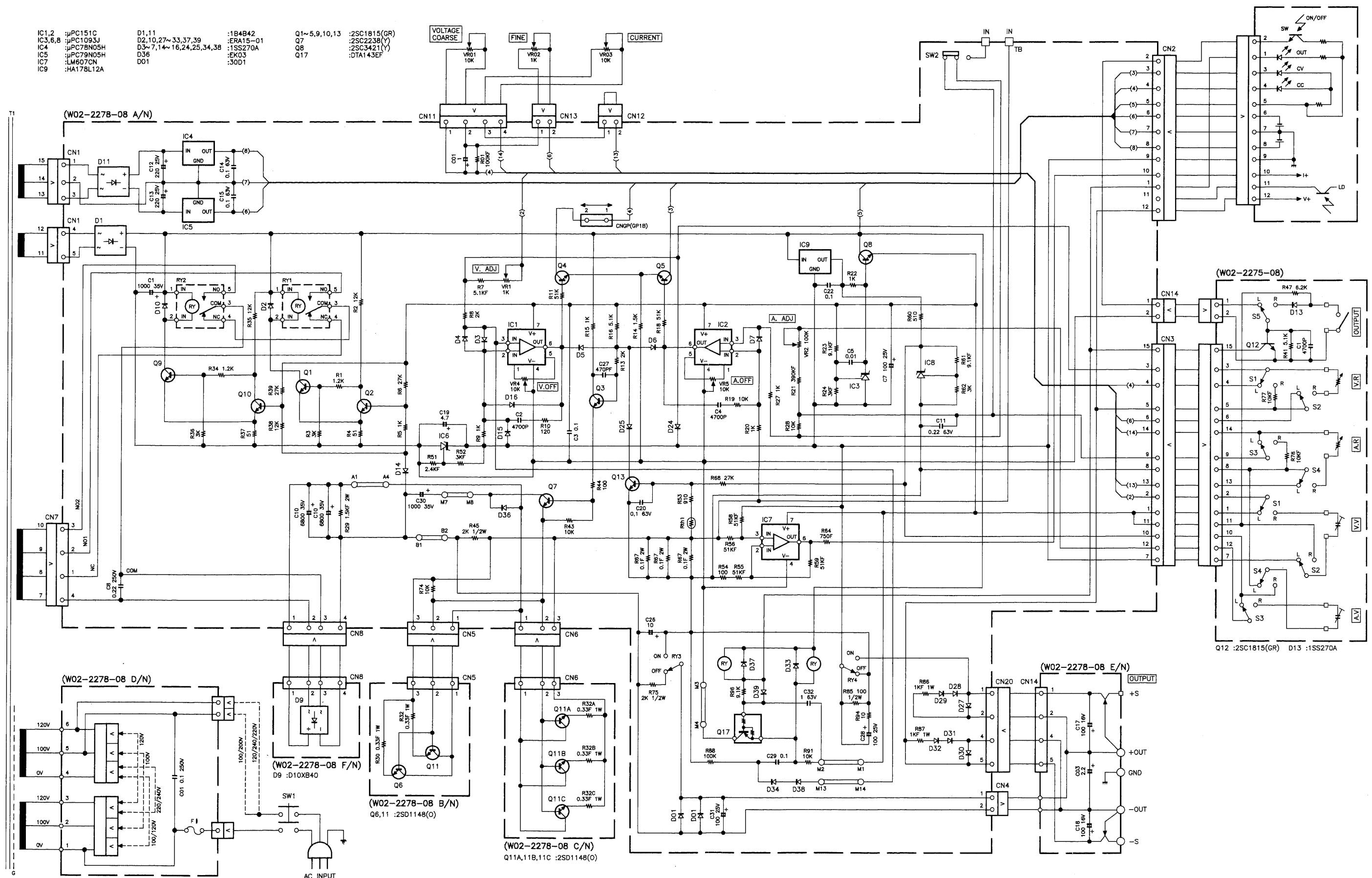


SCHEMATIC DIAGRAM PA18-3A

- | | | | | | |
|---------|------------|------------------------|-----------|--------------|--------------|
| IC1,2 | :μPC151C | D1,11 | :1B4B42 | Q1~5,9,10,13 | :2SC1815(GR) |
| IC3,6,8 | :μPC1093J | D2,10,27~33,37,39 | :ERA15-01 | Q7 | :2SC2238(V) |
| IC4 | :μPC78N05H | D3~7,14~16,24,25,34,38 | :1SS270A | Q8 | :2SC3421(Y) |
| IC5 | :μPC78N05H | D01 | :30D1 | Q17 | :DTA143EF |
| IC7 | :LM607CN | | | | |
| IC9 | :HA178L12A | | | | |



SCHEMATIC DIAGRAM PA18-6A

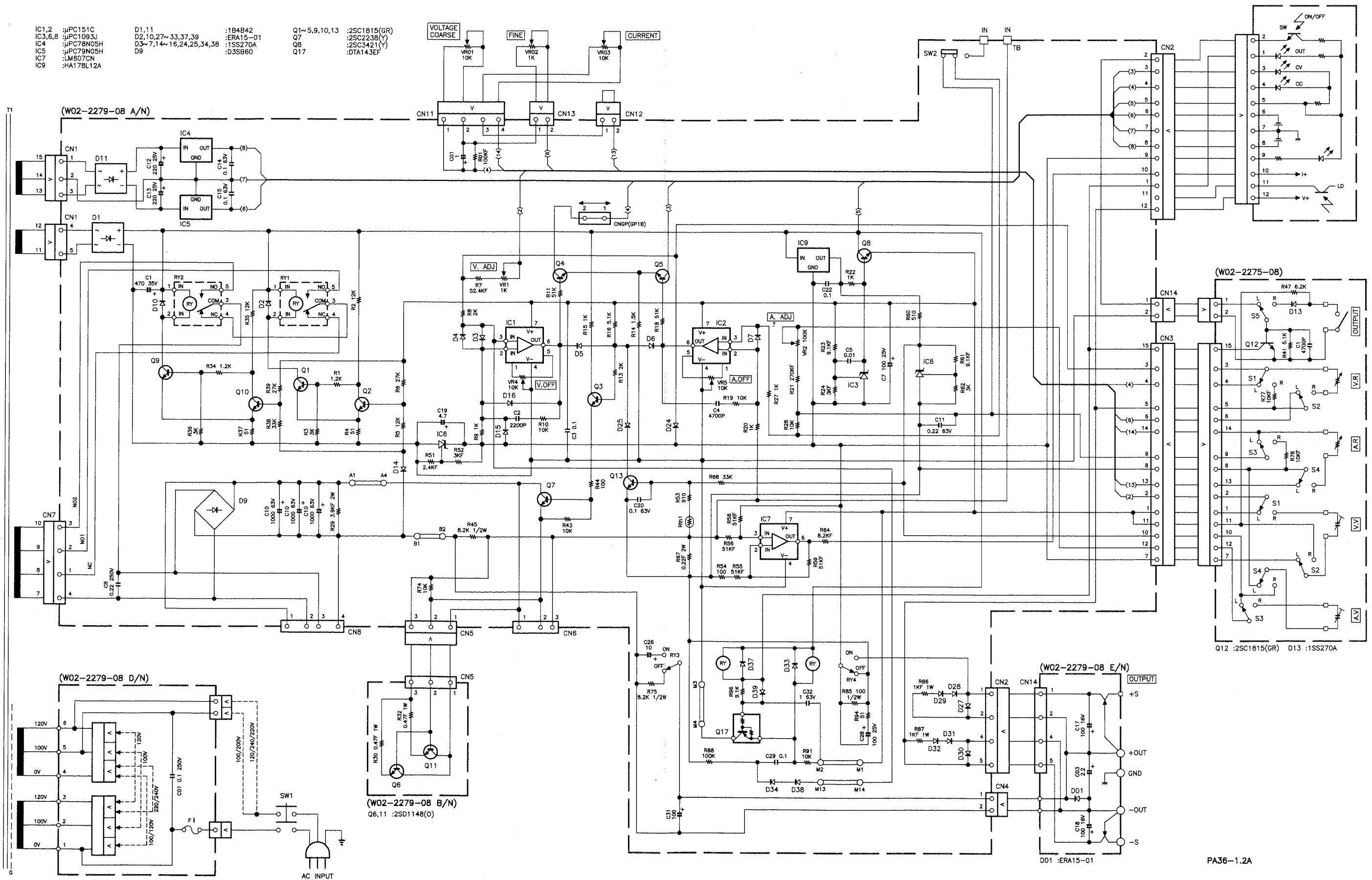


- | | | |
|--------------------|----------------------------------|----------------------------|
| IC1,2 : μPC151C | D1,11 : 1B4B42 | Q1~5,9,10,13 : 2SC1815(GR) |
| IC3,6,8 : μPC1093J | D2,10,27~33,37,39 : ERA15-01 | Q7 : 2SC2238(Y) |
| IC4 : μPC79N05H | D3~7,14~16,24,25,34,38 : 1SS270A | Q8 : 2SC3421(Y) |
| IC5 : μPC79N05H | D36 : EK03 | Q17 : DTA143EF |
| IC7 : LM507CN | D01 : 3D01 | |
| IC9 : HA178L12A | | |

Q12 : 2SC1815(GR) D13 : 1SS270A

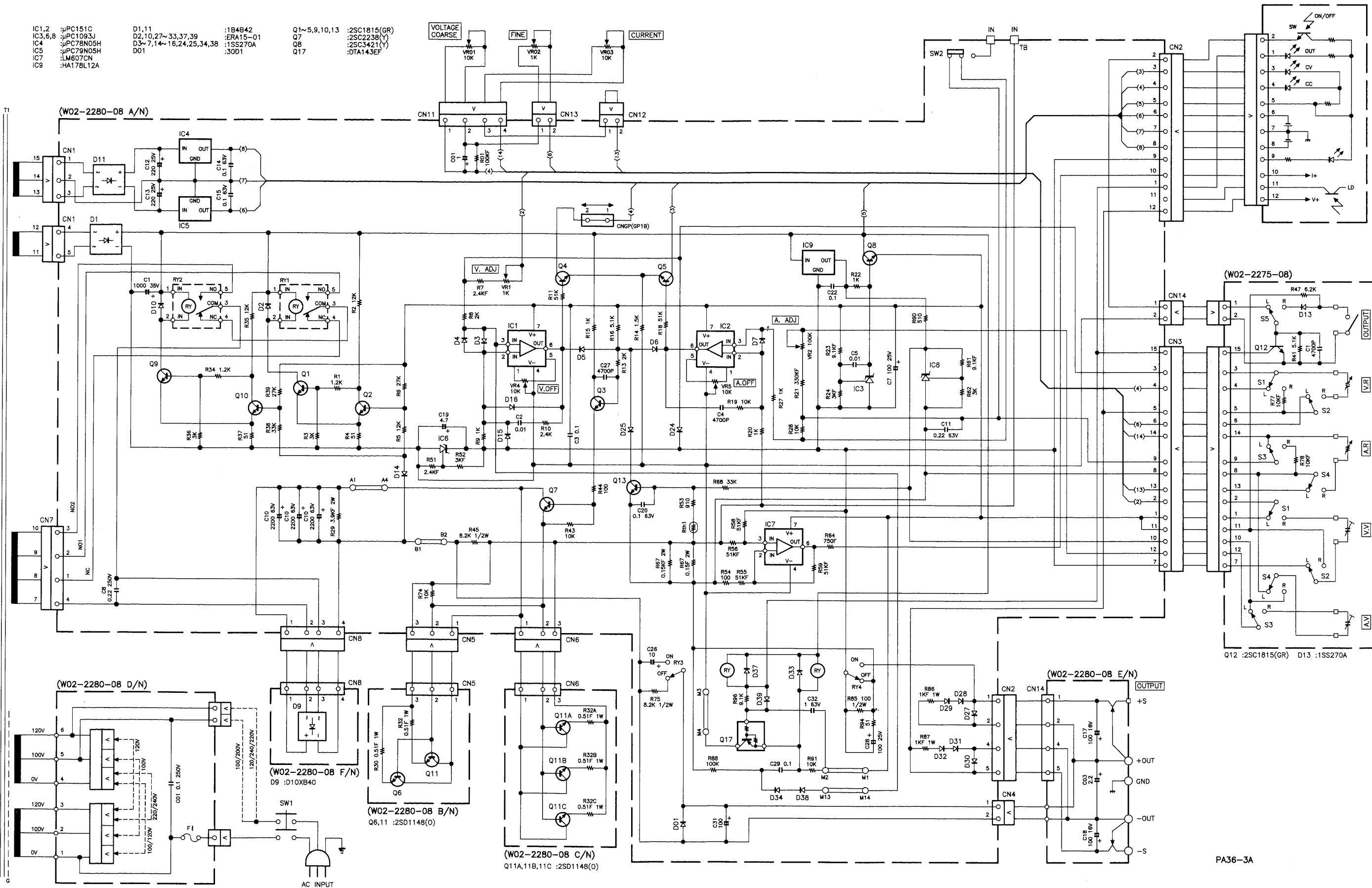
SCHEMATIC DIAGRAM PA36-1.2A

- | | | | | | |
|---------|------------|------------------------|-----------|--------------|--------------|
| IC1,2 | :μPC151C | D1,11 | :1B4B42 | Q1~5,9,10,13 | :2SC1815(GR) |
| IC3,6,8 | :μPC1093J | D2,10,27~33,37,39 | :ERA15-01 | Q7 | :2SC2238(Y) |
| IC4 | :μPC79N05H | D3~7,14~16,24,25,34,38 | :1SS270A | Q8 | :2SC3421(Y) |
| IC5 | :μPC79N05H | D9 | :D3SB60 | Q17 | :DTA143EF |
| IC7 | :LM607CN | | | | |
| IC9 | :HA176L12A | | | | |



SCHEMATIC DIAGRAM PA36-3A

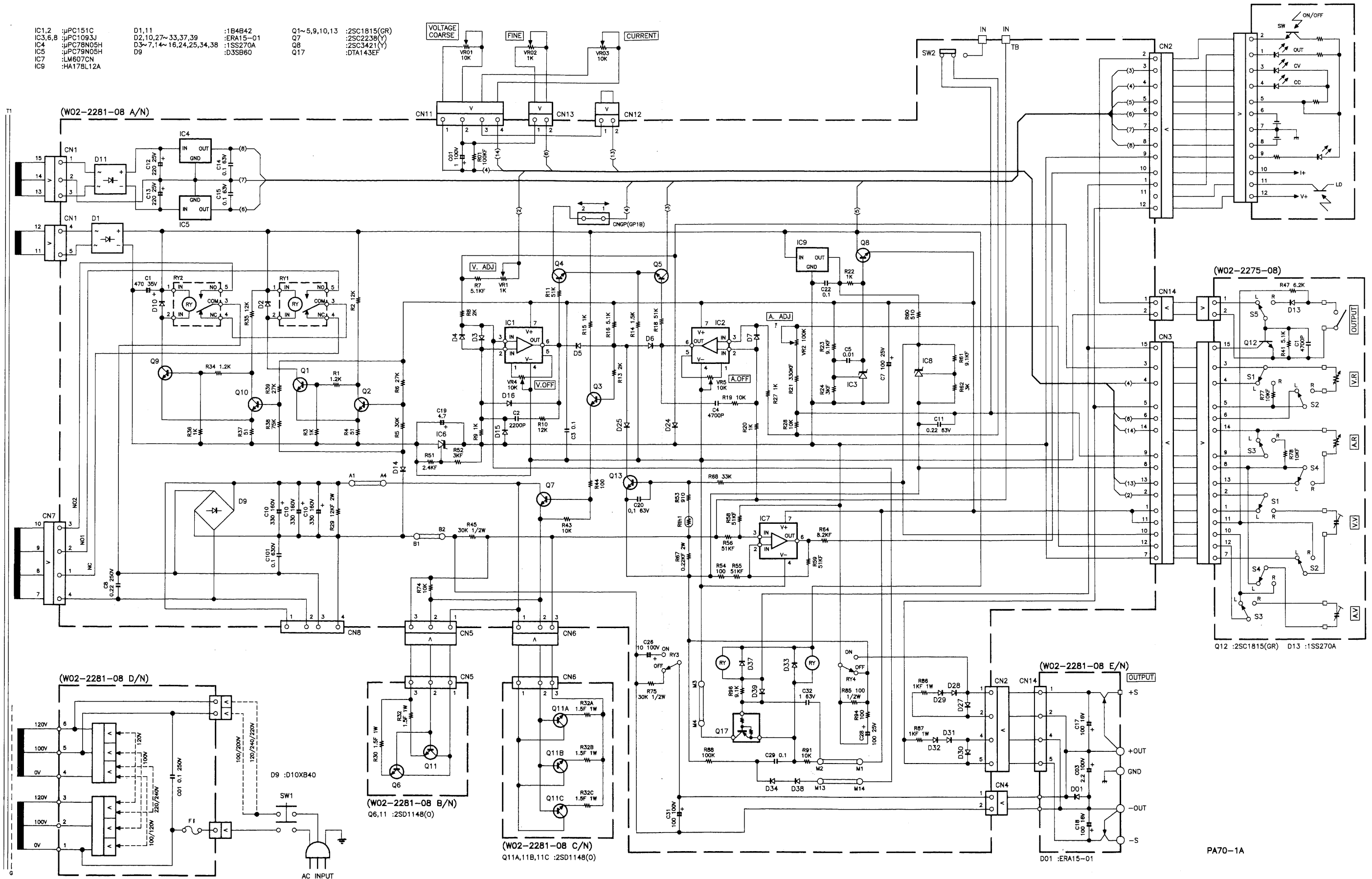
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|---------|------------|------------------------|-----------|--------------|--------------|
| IC1,2 | :μPC151C | D1,11 | :1B4B42 | Q1~5,9,10,13 | :2SC1815(GR) |
| IC3,5,8 | :μPC1093J | D2,10,27~33,37,39 | :ERA15~01 | Q7 | :2SC2238(Y) |
| IC4 | :μPC78N05H | D3~7,14~16,24,25,34,38 | :1SS270A | Q8 | :2SC3421(Y) |
| IC5 | :μPC79N05H | D01 | :3001 | Q17 | :DTA143EF |
| IC7 | :LM607CN | | | | |
| IC9 | :HA178L12A | | | | |



PA36-3A

SCHEMATIC DIAGRAM PA70-1A

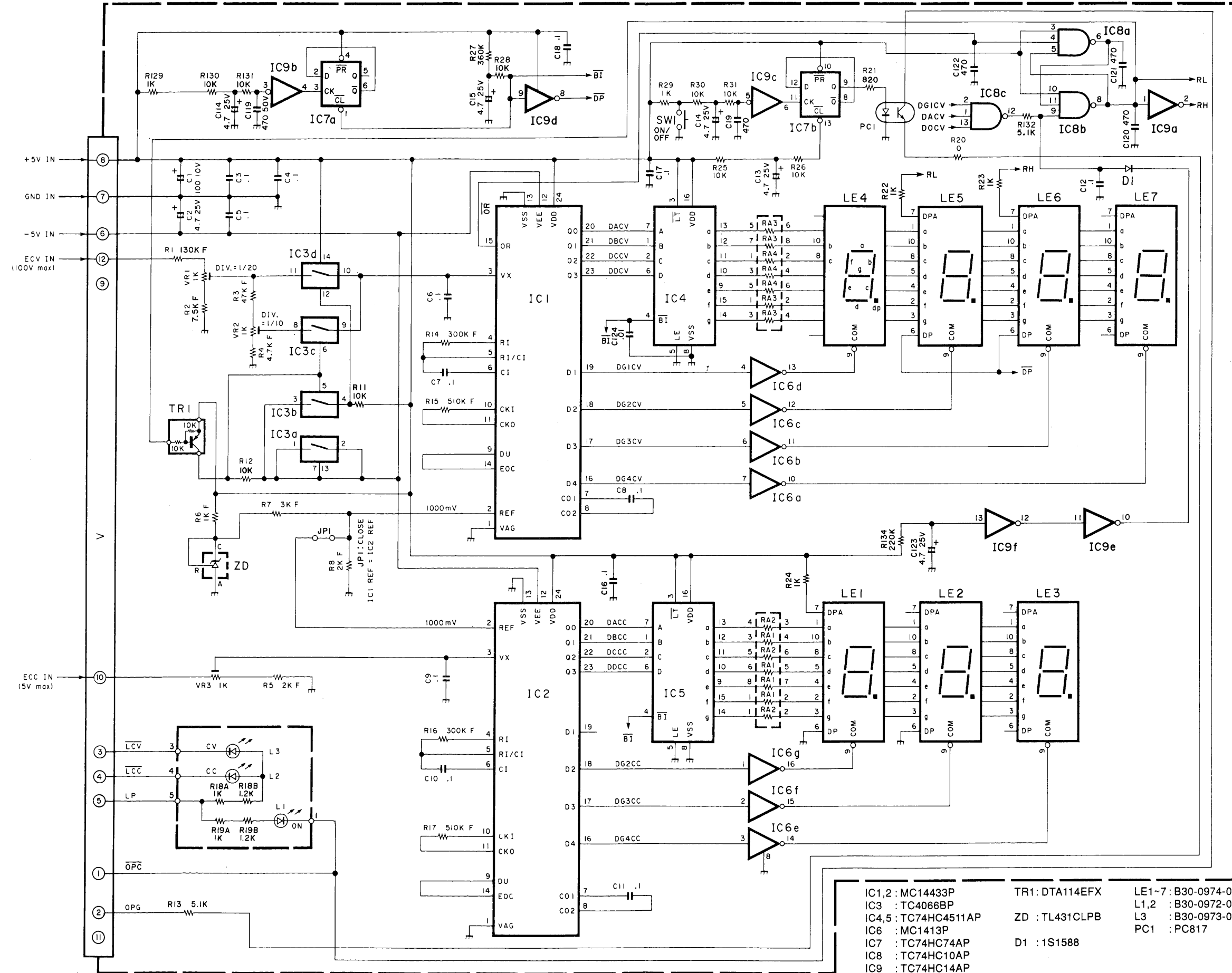
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|---------|------------|------------------------|-----------|--------------|--------------|
| IC1,2 | :μPC151C | D1,11 | :1B4B42 | Q1~5,9,10,13 | :2SC1815(GR) |
| IC3,6,8 | :μPC1093J | D2,10,27~33,37,39 | :ERA15-01 | Q7 | :2SC2238(Y) |
| IC4 | :μPC78N05H | D3~7,14~16,24,25,34,38 | :1SS270A | Q8 | :2SC3421(Y) |
| IC5 | :μPC79N05H | D9 | :D3SB60 | Q17 | :DTA143EF |
| IC7 | :LM607CN | | | | |
| IC9 | :HA17BL2A | | | | |



PA70-1A

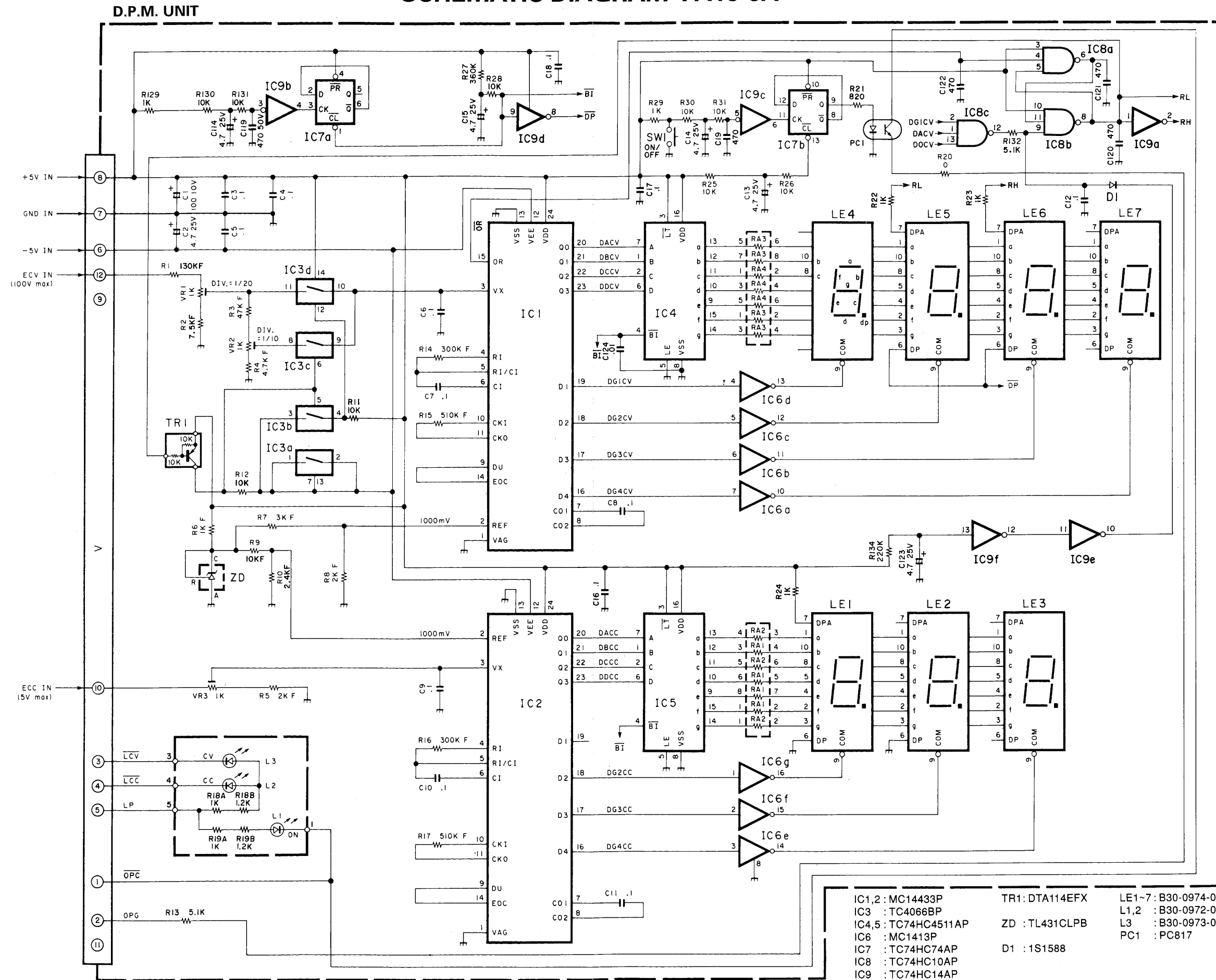
SCHEMATIC DIAGRAM PA18-1.2A/3A/PA36-1.2A/3A/PA70-1A

D.P.M. UNIT



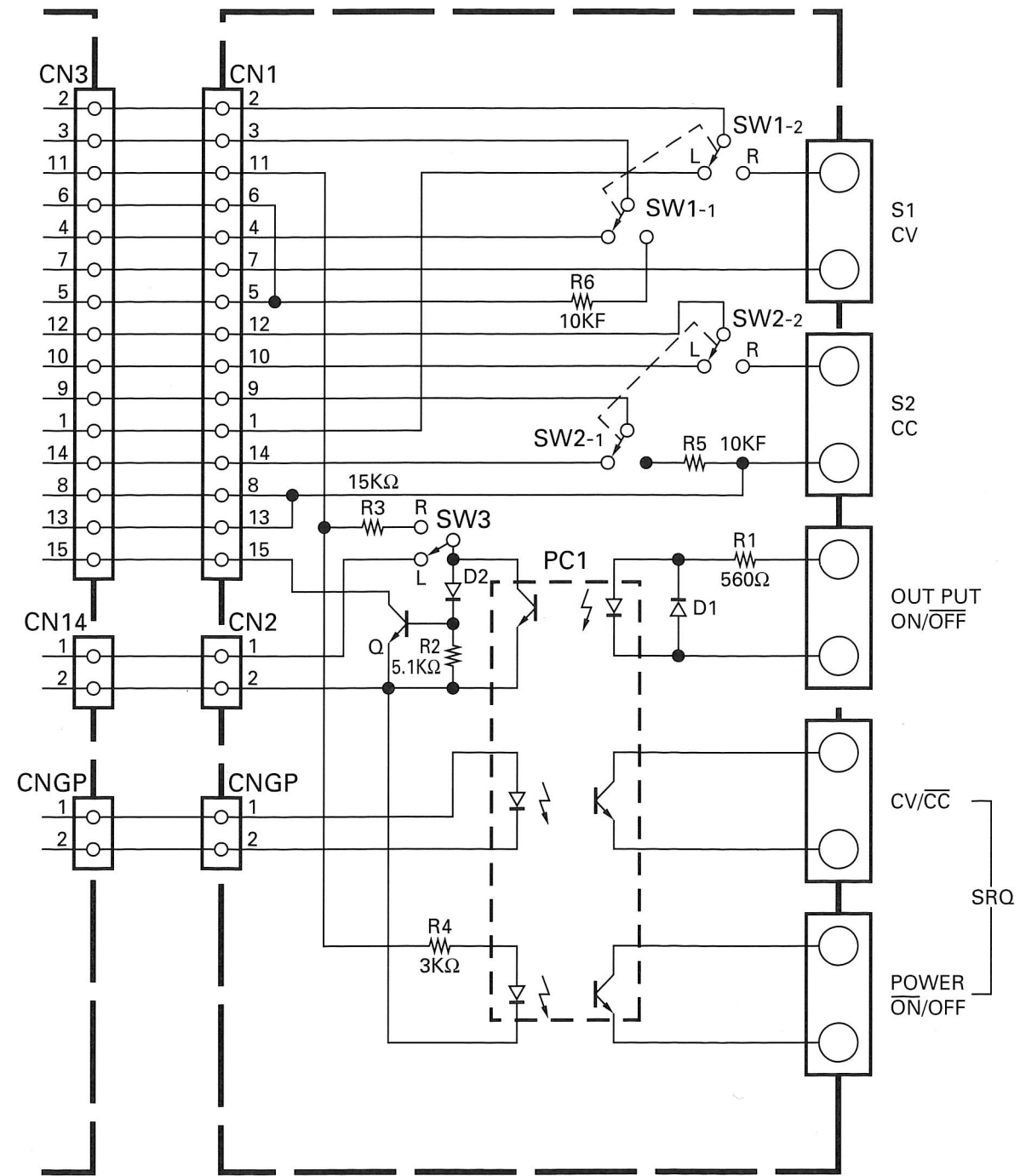
- | | | |
|----------------------|-----------------|---------------------|
| IC1,2 : MC14433P | TR1 : DTA114EFX | LE1~7 : B30-0974-05 |
| IC3 : TC4066BP | ZD : TL431CLPB | L1,2 : B30-0972-05 |
| IC4,5 : TC74HC4511AP | D1 : 1S1588 | L3 : B30-0973-05 |
| IC6 : MC1413P | | PC1 : PC817 |
| IC7 : TC74HC74AP | | |
| IC8 : TC74HC10AP | | |
| IC9 : TC74HC14AP | | |

SCHEMATIC DIAGRAM PA18-6A



- | | | |
|----------------------|-----------------|---------------------|
| IC1,2 : MC14433P | TR1 : DTA114EFX | LE1~7 : B30-0974-05 |
| IC3 : TC4066BP | ZD : TL431CLPB | L1,2 : B30-0972-05 |
| IC4,5 : TC74HC4511AP | D1 : 1S1588 | L3 : B30-0973-05 |
| IC6 : MC1413P | | PC1 : PC817 |
| IC7 : TC74HC74AP | | |
| IC8 : TC74HC10AP | | |
| IC9 : TC74HC14AP | | |

SCHEMATIC DIAGRAM (OPTION OP-13A)



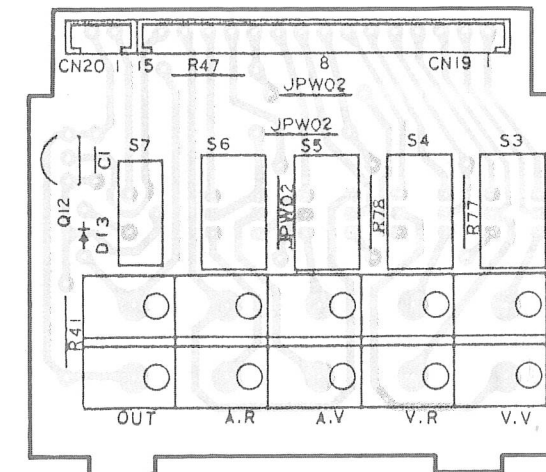
PC1 : TLP521-3 Q : 2SC1815 (GR) D1, 2 : 1S1588

OP-13A

P.C. BOARD

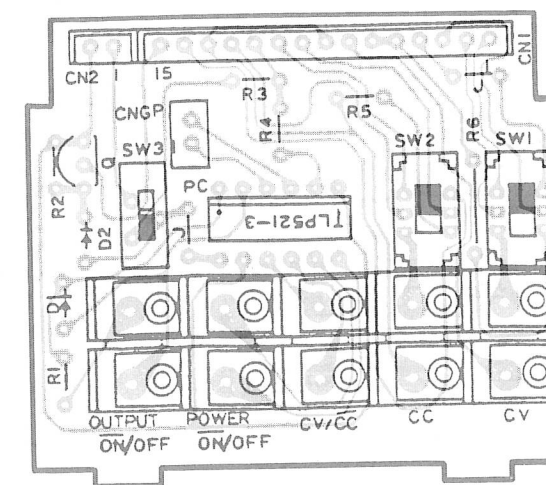
EXT. CONTROL UNIT

Pattern side view



OP-13A UNIT (Y87-2880-00)

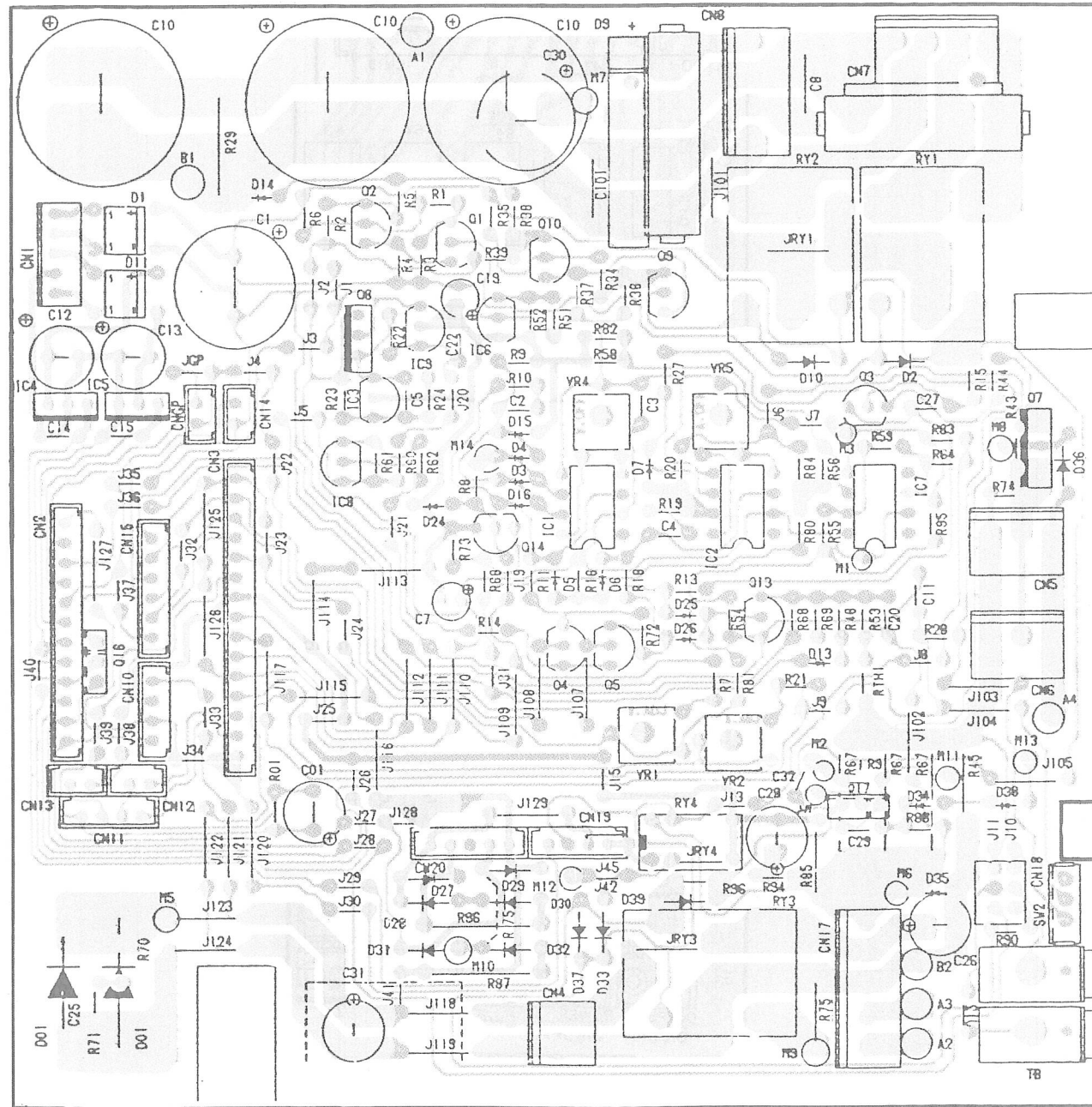
Pattern side view



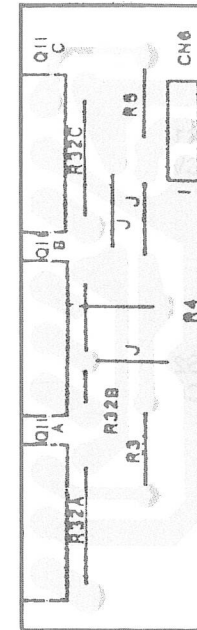
P.C. BOARD

AMP UNIT

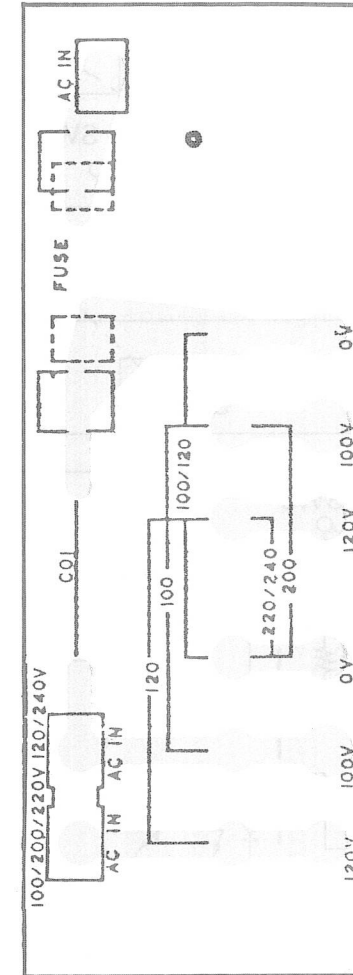
Pattern side view



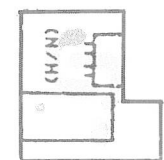
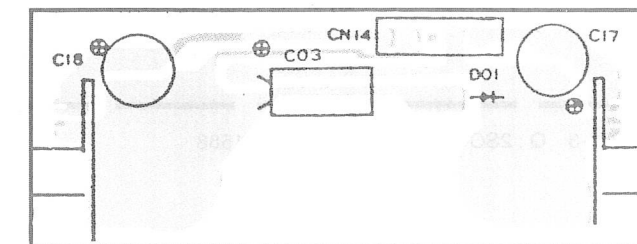
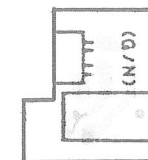
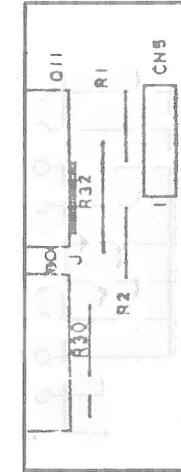
Pattern side view



Pattern side view

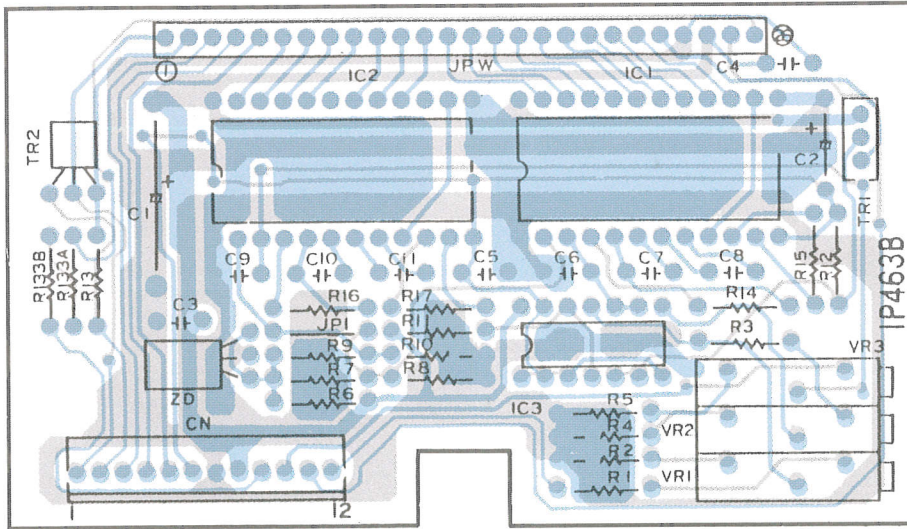
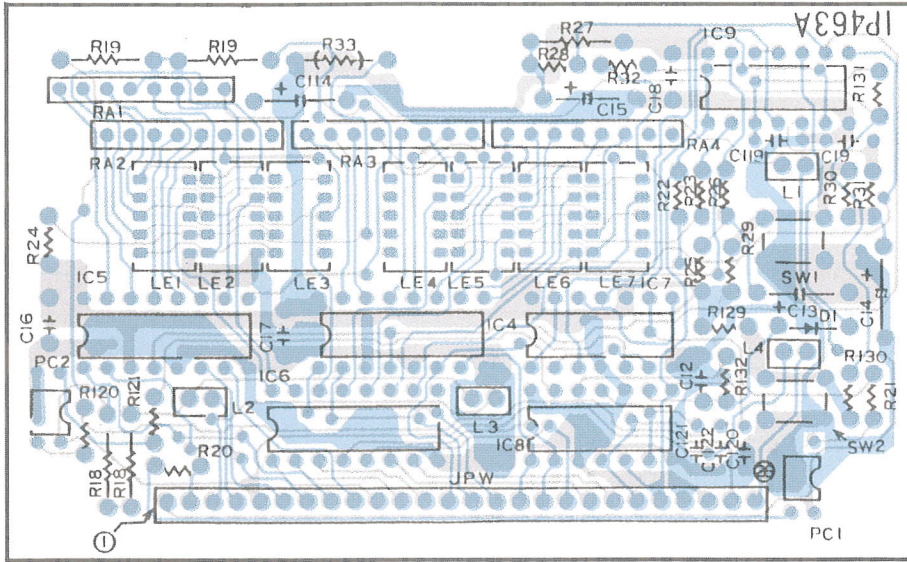


Pattern side view



P.C. BOARD

D.P.M. UNIT



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