

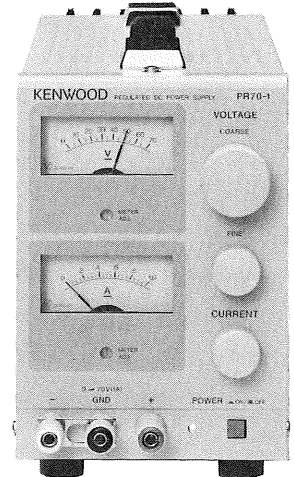
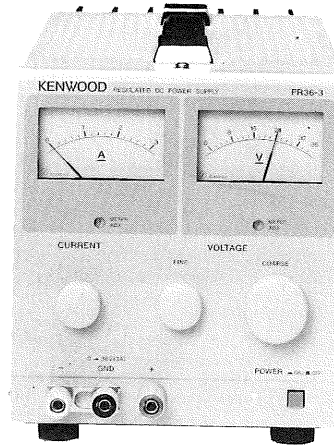
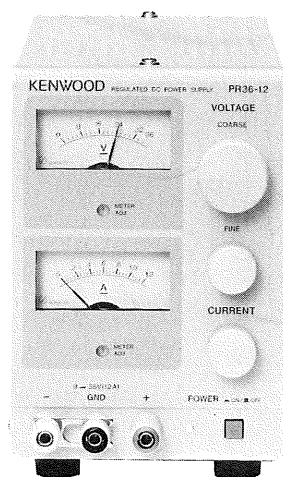
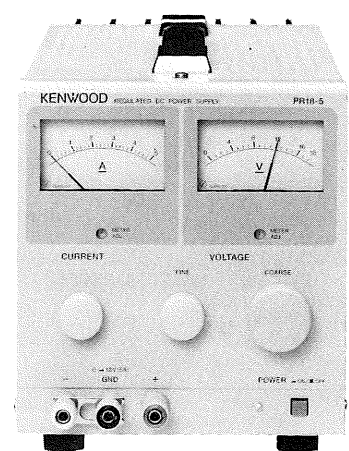
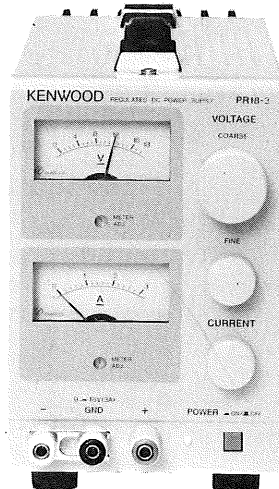
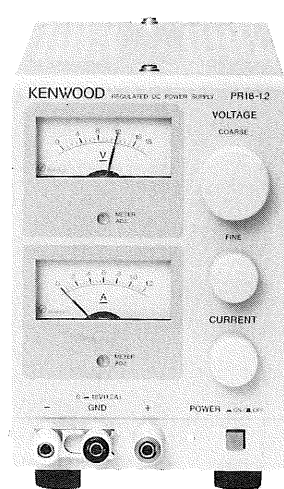
REGULATED DC POWER SUPPLY

PR18-1.2 PR18-3 PR18-5  
PR36-1.2 PR36-3  
PR70-1

## SERVICE MANUAL

S/No. 2080001 ~

KENWOOD CORPORATION



KENWOOD

## **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.

## **CONTENTS**

ADJUSTMENT .....	3
PARTS LIST .....	4
SCHEMATIC DIAGRAM.....	13
P.C. BOARD .....	19

# 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 scope sufficiently (more than 30 minutes) before starting.

Before calibrating the scope, check the power supply voltage.

## TEST EQUIPMENT REQUIRED

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

Multimeter 45 FLUKE

## PREPARATION FOR ADJUSTMENT

### Control Settings

The control settings listed below must be used for each adjustment procedure.

Exceptions to these settings will be noted as they occur. After completing a adjustment, return the controls to the following settings.

NAME OF KNOBS	POSITION
COARSE FINE CURRENT	Fully Clockwise

Item	Adjustment VR	Procedure	Refer to Table 1.
CV	VR1 (V. ADJ)	Turn VR1 clockwise to adjust the to the output voltage setting, then turn the FINE control to adjust to the rated voltage. (Before this adjustment, set VR1 to VR3 to the fully counterclockwise positions.)	
CC	VR2 (A. ADJ)	Connect a load and turn VR2 to adjust CC to the output current setting.	
A meter	VR3 (AM. CAL)	Set the load for the rated current, and adjust the swing of the ammeter of the main unit with VR3.	

Model	Specifications	Output voltage setting	Output current setting
		[V]	[A]
PR18-1.2	18.5	18.5	1.28
PR18-3			3.19
PR18-5			5.3
PR36-1.2	37	37	1.28
PR36-3			3.19
PR70-1	72	72	1.06

Table 1

# PARTS LIST

## PR18-1.2 UNIT Y86-1380-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1236-08	COVER
	A10-1466-08	CHASSIS
	A63-0007-08	FRONT PANEL
	B31-0755-08	METER;VOLT
	B31-0756-08	METER;CURRENT
	B40-2737-24	SERIAL NO. PLATE
	B42-3731-08	MASTER/SLAVE LABEL
	B42-3735-08	FUSE RATING LABEL
	B63-0017-08	INSTRUCTION MANUAL;JAPANESE
	B63-0018-08	INSTRUCTION MANUAL;ENGLISH
	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
	E38-0396-08	WIRE ASS'Y;AC SWITCH TO AC IN
	E38-0397-08	WIRE ASS'Y;AC SWITCH TO ...V
	E38-0398-08	WIRE ASS'Y;AC CHANGING,WHITE
	E38-0399-08	WIRE ASS'Y;AC CHANGING,BLACK
	E38-0402-08	WIRE ASS'Y;CN7 TO POWER TRANS.
	E38-0404-08	WIRE ASS'Y;CN14 TO +-OUT
	E38-0406-08	WIRE ASS'Y;CN14 TO V/A METER
	E38-0407-08	WIRE ASS'Y;GRAY
	E38-0408-08	WIRE ASS'Y;GREEN
	E38-0409-08	WIRE ASS'Y;GRAY
	E38-0410-08	WIRE ASS'Y;CN1 TO POWER TRANS.
	E38-0412-08	WIRE ASS'Y;CN2
	F01-0884-08	HEAT SINK
	F05-8013-05	FUSE(5X20MM) T800MA/250V
	F05-8015-05	FUSE(6X30MM) 0.8A
	F29-0515-08	INSULATOR;FOR Q6
	F51-0007-08	FUSE 1.5A/125V
	H10-2853-08	FOAMED STYRENE PAD (FRONT)
	H10-2854-08	FOAMED STYRENE PAD (REAR)
	H10-2855-06	FOAMED STYRENE PAD (RA)
	H10-2858-08	STYRENE PAD;154X205X30MM
	H20-1734-08	VINYL COVER
	H53-0006-08	CARTON BOX
	J02-0529-08	LEG
	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
	J21-4721-08	BRACKET;FOR METER
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J30-0634-08	SPACER;FOR AC CHANGING UNIT
	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
	J61-0408-05	WIRE WRAPPING BAND
	K21-0907-04	KNOB;COARSE
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BOTTON,ORANGE;POWER
	L01-9953-08	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
	N09-0789-08	SCREW,SENS PAN HD M3X10
	N09-0797-08	SCREW,SENS TAPTITE 3X10
	N14-0404-04	FLANGE NUT M3
	N89-3006-41	SCREW, BINDING TAPTITE 3X6
	N89-3010-41	SCREW, BINDING TAPTITE 3X10
	S40-2533-08	PUSH SWITCH;POWER
C02	C90-3018-08	CAP. ELECTRO 1 105°C 100V
VR01	R29-3503-08	VOLUME
VR02	R29-1503-08	VOLUME
VR03	R29-3504-08	VOLUME

## PR18-1.2 AMP/ETC. UNIT W02-2092-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0395-08	WIRE ASS'Y;Z1 TO Z2
	E38-0400-08	WIRE ASS'Y;CN5
	E40-7140-08	PIN CONNECTOR 3P
	E40-7141-08	PIN CONNECTOR 2P
	E40-7142-08	PIN CONNECTOR 1P
	J13-0518-08	FUSE HOLDER;FOR 6X30MM
	J13-0519-08	FUSE HOLDER;FOR 5X20MM
	J73-0133-28	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(10MM)
C1	C90-3023-08	CAP. ELECTRO 470 105°C 35V
C2	CF92V1H102K	CAP. POLYESTER 1000P 10% 50V
C3	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C4	CF92V1H472K	CAP. POLYESTER 4700P 10% 50V
C5	CF92V1H103K	CAP. POLYESTER 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2E224K	CAP. POLYESTER 0.22 10% 250V
C9	NO USE	
C10	C90-3021-08	CAP. ELECTRO 2200 105°C 35V
C11	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C22	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3046-08	CAP. ELECTRO 100 105°C 50V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7221-08	PIN CONNECTOR 12P
CN3	NO USE	
CN4	E40-7126-08	PIN CONNECTOR 2P
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6	NO USE	
CN7	E40-7220-08	PIN CONNECTOR 4P
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
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D01	ERA15-01	DIODE
IC1	UPC151C	IC,OP AMP
IC2	UPC151C	IC,OP AMP
IC3	UPC1093J	IC,VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC,TERMINAL FIXED VOLTAGE REG.
LED01	B30-0984-08	LED,RED
Q1	2SC1815(GR)	TR. SI, NPN
Q2	2SC1815(GR)	TR. SI, NPN
Q3	2SC1815(GR)	TR. SI, NPN
Q6	2SD1148(O)	TR. SI, NPN
Q7	NO USE	
Q8	2SC3421(Y)	TR. SI, NPN
R1	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R2	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R3	RD14BB2E302J	RES. CARBON 3K 5% 1/4W
R4	RD14BB2E510J	RES. CARBON 51 5% 1/4W
R5	RD14BB2E682J	RES. CARBON 6.8K 5% 1/4W
R6	RD14BB2E273J	RES. CARBON 27K 5% 1/4W
R7	RN14BK2E5101F	RES. METAL FILM 5.1K 1% 1/4W
R8	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R9	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R10	RD14BB2E513J	RES. CARBON 51K 5% 1/4W
R11	NO USE	
R12	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R13	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R14	NO USE	

# PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION
R15	RD14BB2E511J	RES. CARBON 510 5% 1/4W
R16	RD14BB2E512J	RES. CARBON 5.1K 5% 1/4W
R19	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R20	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R21	RN14BK2E1603F	RES. METAL FILM 160K 1% 1/4W
R22	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R23	RN14BK2E0101F	RES. METAL FILM 9.1K 1% 1/4W
R24	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
R25	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R26	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R27	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R28	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R29	RS14GB3D152J	RES. METAL FILM 1.5K 5% 2W
R40	RN14BK2E1800F	RES. METAL FILM 180 1% 1/4W
R43	R92-0150-05	JUMPING RES. ZERO OHM(10MH)
R44	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R45	RD14DB2H202J	RES. CARBON 2K 5% 1/2W
R67	RS14GB3DR43J	RES. METAL FILM 0.43 5% 2W
RY1	S76-0604-08	RELAY
SW2	S31-1512-08	MASTER/SLAVE SWITCH
VR1	R12-1565-08	RES. SEMI FIXED 2KB
VR2	R12-3568-08	RES. SEMI FIXED 30KB
VR3	R12-0597-08	RES. SEMI FIXED 100 B
ZD1	HZS6A	DIODE, ZENER 5.75V

## PR18-3 UNIT Y86-1390-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1237-08	CASE
	A10-1467-08	CHASSIS
	A63-0008-08	FRONT PANEL
	B31-0754-08	METER;CURRENT
	B31-0755-08	METER;VOLT
	B40-2737-24	SERIAL NO. PLATE
	B42-3731-08	MASTER/SLAVE LABEL
	B42-3733-08	FUSE RATING LABEL
	B63-0017-08	INSTRUCTION MANUAL;JAPANESE
	B63-0018-08	INSTRUCTION MANUAL;ENGLISH
	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
	E38-0396-08	WIRE ASS'Y;AC SWITCH TO AC IN
	E38-0397-08	WIRE ASS'Y;AC SWITCH TO ...V
	E38-0398-08	WIRE ASS'Y;AC CHANGING,WHITE
	E38-0399-08	WIRE ASS'Y;AC CHANGING,BLACK
	E38-0403-08	WIRE ASS'Y;CN7 TO POWER TRANS.
	E38-0404-08	WIRE ASS'Y;CN14 TO +-OUT
	E38-0406-08	WIRE ASS'Y;CN14 TO V/A METER
	E38-0407-08	WIRE ASS'Y;GRAY
	E38-0408-08	WIRE ASS'Y;GREEN
	E38-0409-08	WIRE ASS'Y;GRAY
	E38-0411-08	WIRE ASS'Y;CN1 TO POWER TRANS.
	E38-0412-08	WIRE ASS'Y;CN2
	F01-0885-08	HEAT SINK
	F05-2021-05	FUSE(5X20MM) 2A/250V
	F05-2023-05	FUSE(6X30MM) 2A/250V
	F29-0515-08	INSULATOR;FOR Q6
	F29-0517-08	INSULATOR;FOR Q6/Q11
	F51-0009-08	FUSE(6X30MM) 3A/125V
	H10-0007-08	CARTON BOX
	H10-2853-08	FOAMED STYRENE PAD (FRONT)
	H10-2854-08	FOAMED STYRENE PAD (REAR)
	H20-1734-08	VINYL COVER
	J02-0529-08	LEG
	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
	J21-4721-08	BRACKET;FOR METER
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J29-0519-08	BRACKET;FOR P.C.B
	J30-0634-08	SPACER;FOR AC CHANGING UNIT
	J30-0635-08	VOLUME SPACER;FOR VR01
	J42-0083-05	BUSHING;FOR 2-CORE AC CORD
	J42-0085-05	BUSHING;FOR 3-CORE AC CORD
	J61-0408-05	WIRE WRAPPING BAND
	K01-0411-05	HANDLE
	K21-0907-04	KNOB;COARSE
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BOTTON,ORANGE;POWER
	L01-9952-08	POWER TRANSFORMER
	N09-0718-05	SCREW,SEMS PAN HD M3X6
	N09-0757-05	SCREW,SEMS BINDING TAPTITE 3X6
	N09-0776-05	SCREW,SEMS PAN HD M5X10
	N09-0777-05	SCREW,SEMS PAN HD M4X6
	N09-0789-08	SCREW,SEMS PAN HD M3X10
	N09-0797-08	SCREW,SEMS TAPTITE 3X10
	N14-0404-04	FLANGE NUT M3
	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
C02	C90-3018-08	CAP. ELECTRO 1 105°C 100V
VR01	R29-3503-08	VOLUME
VR02	R29-1503-08	VOLUME
VR03	R29-3504-08	VOLUME

# PARTS LIST

## PR18-3 AMP/ETC. UNIT

### W02-2096-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E38-0393-08	WIRE ASS'Y;X1 TO X2
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0395-08	WIRE ASS'Y;Z1 TO Z2
	E38-0400-08	WIRE ASS'Y;CN5
	E38-0401-08	WIRE ASS'Y;CN6
	E38-0405-08	WIRE ASS'Y;CN8
	E40-7140-08	PIN CONNECTOR 3P
	E40-7141-08	PIN CONNECTOR 2P
	E40-7142-08	PIN CONNECTOR 1P
	J13-0518-08	FUSE HOLDER;FOR 6X30MM
	J13-0519-08	FUSE HOLDER;FOR 5X20MM
	J73-0133-28	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(10MM)
C1	C90-3019-08	CAP. ELECTRO 1000 105°C 35V
C2	CF92V1H102K	CAP. POLYESTER 1000P 10% 50V
C3	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C4	CF92V1H472K	CAP. POLYESTER 4700P 10% 50V
C5	CF92V1H103K	CAP. POLYESTER 0.01 10% 50V
C6		NO USE
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2E224K	CAP. POLYESTER 0.22 10% 250V
C9		NO USE
C10	C90-3021-08	CAP. ELECTRO 2200 105°C 35V
C11	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C22	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02		NO USE
C03	C90-3046-08	CAP. ELECTRO 100 105°C 50V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7221-08	PIN CONNECTOR 12P
CN3		NO USE
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
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
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D01	30D1	DIODE
IC1	UPC151C	IC,OP AMP
IC2	UPC151C	IC,OP AMP
IC3	UPC1093J	IC,VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC,TERMINAL FIXED VOLTAGE REG.
LED01	B30-0984-08	LED,RED
Q1	2SC1815(GR)	TR. SI, NPN
Q2	2SC1815(GR)	TR. SI, NPN
Q3	2SC1815(GR)	TR. SI, NPN
Q6	2SD1148(O)	TR. SI, NPN
Q7	2SC2238(Y)	TR. SI, NPN
Q8	2SC34521(Y)	
Q9	2SC1815(GR)	TR. SI, NPN
Q10	2SC1815(GR)	TR. SI, NPN
Q11A	2SD1148(O)	TR. SI, NPN
Q11B	2SD1148(O)	TR. SI, NPN
Q11C	2SD1148(O)	TR. SI, NPN
R1	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R2	RD14BB2E123J	RES. CARBON 12K 5% 1/4W

REF. NO	PARTS NO	NAME & DESCRIPTION
R3	RD14BB2E302J	RES. CARBON 3K 5% 1/4W
R4	RD14BB2E510J	RES. CARBON 51 5% 1/4W
R5	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R6	RD14BB2E273J	RES. CARBON 27K 5% 1/4W
R7	RN14BK2E5101F	RES. METAL FILM 5.1K 1% 1/4W
R8	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R9	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R10	RD14BB2E511J	RES. CARBON 510 5% 1/4W
R11		NO USE
R12	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R13	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R14		NO USE
R15	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R16	RD14BB2E512J	RES. CARBON 5.1K 5% 1/4W
R19	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R20	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R21	RN14BK2E3303F	RES. METAL FILM 330K 1% 1/4W
R22	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R23	RN14BK2E9101F	RES. METAL FILM 9.1K 1% 1/4W
R24	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
R25	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R26	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R27	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R28	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R29	RS14GB3D152J	RES. METAL FILM 1.5K 5% 2W
R30	RS14AB3AR33J	RES. METAL FILM 0.33 5% 1W
R34	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R35	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R36	RD14BB2E302J	RES. CARBON 3K 5% 1/4W
R37	RD14BB2E510J	RES. CARBON 51 5% 1/4W
R38	RD14BB2E133J	RES. CARBON 13K 5% 1/4W
R39	RD14BB2E273J	RES. CARBON 27K 5% 1/4W
R40	RN14BK2E51R0F	RES. METAL FILM 51.0 1% 1/4W
R43	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R44	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R45	RD14DB2H202J	RES. CARBON 2K 5% 1/2W
R67	RS14GB3DR15J	RES. METAL FILM 0.15 5% 2W
R70	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R32A	RS14AB3AR33J	RES. METAL FILM 0.33 5% 1W
R32B	RS14AB3AR33J	RES. METAL FILM 0.33 5% 1W
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	RELAY
SW2	S31-1512-08	MASTER/SLAVE SWITCH
VR1	R12-1565-08	RES. SEMI FIXED 2KB
VR2	R12-5547-08	RES. SEMI FIXED 100KB
VR3	R12-0597-08	RES. SEMI FIXED 100 B
ZD1	HZS6A	DIODE, ZENER 5.75V

# PARTS LIST

## PR18-5 UNIT Y86-1400-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1238-08	COVER
	A10-1468-08	CHASSIS
	A63-0009-08	FRONT PANEL
	B31-0757-08	METER;VOLT
	B31-0758-08	METER;CURRENT
	B40-2737-24	SERIAL NO. PLATE
	B42-3731-08	MASTER/SLAVE LABEL
	B42-3738-08	FUSE RATING LABEL
	B63-0017-08	INSTRUCTION MANUAL;JAPANESE
	B63-0018-08	INSTRUCTION MANUAL;ENGLISH
	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
	E38-0396-08	WIRE ASS'Y;AC SWITCH TO AC IN
	E38-0397-08	WIRE ASS'Y;AC SWITCH TO ...V
	E38-0398-08	WIRE ASS'Y;AC CHANGING,WHITE
	E38-0399-08	WIRE ASS'Y;AC CHANGING,BLACK
	E38-0403-08	WIRE ASS'Y;CN7 TO POWER TRANS.
	E38-0404-08	WIRE ASS'Y;CN14 TO +-OUT
	E38-0406-08	WIRE ASS'Y;CN14 TO V/A METER
	E38-0407-08	WIRE ASS'Y;GRAY
	E38-0408-08	WIRE ASS'Y;GREEN
	E38-0409-08	WIRE ASS'Y;GRAY
	E38-0411-08	WIRE ASS'Y;CN1 TO POWER TRANS.
	E38-0412-08	WIRE ASS'Y;CN2
	F01-0886-08	HEAT SINK
	F05-3022-08	FUSE
	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
	H10-0008-08	CARTON BOX
	H10-2856-08	FOAMED STYRENE PAD (FRONT)
	H10-2857-08	FOAMED STYRENE PAD (REAR)
	H20-1734-08	VINYL COVER
	J02-0529-08	LEG
	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
	J21-4724-08	BRACKET;FOR METER
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J30-0634-08	SPACER;FOR AC CHANGING UNIT
	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
	J61-0408-05	WIRE WRAPPING BAND
	K01-0411-05	HANDLE
	K21-0907-04	KNOB;COARSE
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BOTTON,ORANGE;POWER
	L01-9965-08	POWER TRANSFORMER
	N09-0718-05	SCREW,SENS PAN HD M3X6
	N09-0757-05	SCREW,SENS BINDING TAPTITE 3X6
	N09-0776-05	SCREW,SENS PAN HD M5X10
	N09-0777-05	SCREW,SENS PAN HD M4X6
	N09-0789-08	SCREW,SENS PAN HD M3X10
	N09-0797-08	SCREW,SENS TAPTITE 3X10
	N14-0404-04	FLANGE NUT M3
	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
C02	C90-3018-08	CAP. ELECTRO 1 105°C 100V
VRO1	R29-3503-08	VOLUME
VRO2	R29-1503-08	VOLUME
VRO3	R29-3504-08	VOLUME

## PR18-5 AMP/ETC. UNIT W02-2097-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E38-0393-08	WIRE ASS'Y;X1 TO X2
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0395-08	WIRE ASS'Y;Z1 TO Z2
	E38-0400-08	WIRE ASS'Y;CN5
	E38-0401-08	WIRE ASS'Y;CN6
	E38-0405-08	WIRE ASS'Y;CN8
	E40-7140-08	PIN CONNECTOR 3P
	E40-7141-08	PIN CONNECTOR 2P
	E40-7142-08	PIN CONNECTOR 1P
	J13-0518-08	FUSE HOLDER;FOR 6X30MM
	J13-0519-08	FUSE HOLDER;FOR 5X20MM
	J73-0133-28	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(-10MM)
C1	C90-3019-08	CAP. ELECTRO 1000 105°C 35V
C2	CF92V1H102K	CAP. POLYESTER 1000P 10% 50V
C3	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C4	CF92V1H472K	CAP. POLYESTER 4700P 10% 50V
C5	CF92V1H103K	CAP. POLYESTER 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2E224K	CAP. POLYESTER 0.22 10% 250V
C9	NO USE	
C10	C90-3024-08	CAP. ELECTRO 3300 105°C 35V
C11	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C22	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3046-08	CAP. ELECTRO 100 105°C 50V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7221-08	PIN CONNECTOR 12P
CN3	NO USE	
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
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
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
DO1	30D1	DIODE
IC1	UPC151C	IC,OP AMP
IC2	UPC151C	IC,OP AMP
IC3	UPC1093J	IC,VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC,TERMINAL FIXED VOLTAGE REG.
LED01	B30-0984-08	LED,RED
Q1	2SC1815(GR)	TR. SI, NPN
Q2	2SC1815(GR)	TR. SI, NPN
Q3	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
Q11A	2SD1148(O)	TR. SI, NPN
Q11B	2SD1148(O)	TR. SI, NPN
Q11C	2SD1148(O)	TR. SI, NPN

# PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION			
R1	RD14BB2E122J	RES. CARBON	1.2K	5%	1/4W
R2	RD14BB2E123J	RES. CARBON	12K	5%	1/4W
R3	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R4	RD14BB2E510J	RES. CARBON	51	5%	1/4W
R5	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R6	RD14BB2E273J	RES. CARBON	27K	5%	1/4W
R7	RN14BK2E5101F	RES. METAL FILM	5.1K	1%	1/4W
R8	RD14BB2E202J	RES. CARBON	2K	5%	1/4W
R9	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R10	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R11	NO USE				
R12	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R13	RD14BB2E202J	RES. CARBON	2K	5%	1/4W
R14	NO USE				
R15	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R16	RD14BB2E512J	RES. CARBON	5.1K	5%	1/4W
R19	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R20	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R21	RN14BK2E3303F	RES. METAL FILM	330K	1%	1/4W
R22	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R23	RN14BK2E9101F	RES. METAL FILM	9.1K	1%	1/4W
R24	RN14BK2E3001F	RES. METAL FILM	3K	1%	1/4W
R25	RD14DB2H122J	RES. CARBON	1.2K	5%	1/2W
R26	RD14DB2H122J	RES. CARBON	1.2K	5%	1/2W
R27	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R28	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R29	RS14GB3D152J	RES. METAL FILM	1.5K	5%	2W
R30	RS14AB3AR33J	RES. METAL FILM	0.33	5%	1W
R31	NO USE				
R32	RS14AB3AR33J	RES. METAL FILM	0.33	5%	1W
R33	NO USE				
R34	RD14BB2E122J	RES. CARBON	1.2K	5%	1/4W
R35	RD14BB2E123J	RES. CARBON	12K	5%	1/4W
R36	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R37	RD14BB2E510J	RES. CARBON	51	5%	1/4W
R38	RD14BB2E133J	RES. CARBON	13K	5%	1/4W
R39	RD14BB2E273J	RES. CARBON	27K	5%	1/4W
R40	RN14BK2E51R0F	RES. METAL FILM	51.0	1%	1/4W
R43	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R44	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R45	RD14DB2H202J	RES. CARBON	2K	5%	1/2W
R67	RS14GB3DR12J	RES. METAL FILM	0.12	5%	2W
R70	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R32A	RS14AB3AR33J	RES. METAL FILM	0.33	5%	1W
R32B	RS14AB3AR33J	RES. METAL FILM	0.33	5%	1W
R32C	RS14AB3AR33J	RES. METAL FILM	0.33	5%	1W
RY1	S76-0604-08	RELAY			
RY2	S76-0604-08	RELAY			
SW2	S31-1512-08	MASTER/SLAVE SWITCH			
VR1	R12-1565-08	RES. SEMI FIXED	2KB		
VR2	R12-5547-08	RES. SEMI FIXED	100KB		
VR3	R12-0597-08	RES. SEMI FIXED	100 B		
ZD1	HZS6A	DIODE, ZENER	5.75V		

## PR36-1.2 UNIT Y86-1410-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1236-08	COVER
	A10-1466-08	CHASSIS
	A63-0010-08	FRONT PANEL
	B31-0756-08	METER;CURRENT
	B31-0759-08	METER;VOLT
	B40-2737-24	SERIAL NO. PLATE
	B42-3731-08	MASTER/SLAVE LABEL
	B42-3740-08	FUSE RATING LABEL
	B63-0017-08	INSTRUCTION MANUAL;JAPANESE
	B63-0018-08	INSTRUCTION MANUAL;ENGLISH
	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
	E38-0396-08	WIRE ASS'Y;AC SWITCH TO AC IN
	E38-0397-08	WIRE ASS'Y;AC SWITCH TO ...V
	E38-0398-08	WIRE ASS'Y;AC CHANGING,WHITE
	E38-0399-08	WIRE ASS'Y;AC CHANGING,BLACK
	E38-0403-08	WIRE ASS'Y;CN7 TO POWER TRANS.
	E38-0404-08	WIRE ASS'Y;CN14 TO +-OUT
	E38-0406-08	WIRE ASS'Y;CN14 TO V/A METER
	E38-0407-08	WIRE ASS'Y;GRAY
	E38-0408-08	WIRE ASS'Y;GREEN
	E38-0409-08	WIRE ASS'Y;GRAY
	E38-0410-08	WIRE ASS'Y;CN1 TO POWER TRANS.
	E38-0412-08	WIRE ASS'Y;CN2
	F01-0884-08	HEAT SINK
	F05-1521-05	FUSE(6X30MM) 1.5A/250V
	F29-0517-08	INSULATOR;FOR Q6/Q11
	F50-0003-08	FUSE(5X20MM) 1.5A/250V
	F51-0008-08	FUSE(6X30MM) 2.5A/125V
	H10-0008-08	CARTON BOX
	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
	J02-0529-08	LEG
	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
	J21-4721-08	BRACKET;FOR METER
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J30-0634-08	SPACER;FOR AC CHANGING UNIT
	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
	J61-0408-05	WIRE WRAPPING BAND
	K21-0907-04	KNOB;COARSE
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BOTTON,ORANGE;POWER
	L01-9963-08	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
	N09-0789-08	SCREW,SENS PAN HD M3X10
	N09-0797-08	SCREW,SENS TAPTITE 3X10
	N14-0404-04	FLANGE NUT M3
	N89-3006-41	SCREW, BINDING TAPTITE 3X6
	N89-3010-41	SCREW, BINDING TAPTITE 3X10
	S40-2533-08	PUSH SWITCH;POWER
C02	C90-3018-08	CAP. ELECTRO 1 105°C 100V
VR01	R29-3503-08	VOLUME
VR02	R29-1503-08	VOLUME
VR03	R29-3504-08	VOLUME



# PARTS LIST

## PR36-1.2 AMP/ETC. UNIT W02-2098-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0395-08	WIRE ASS'Y;Z1 TO Z2
	E38-0400-08	WIRE ASS'Y;CN5
	E40-7140-08	PIN CONNECTOR 3P
	E40-7141-08	PIN CONNECTOR 2P
	E40-7142-08	PIN CONNECTOR 1P
	J13-0518-08	FUSE HOLDER;FOR 6X30MM
	J13-0519-08	FUSE HOLDER;FOR 5X20MM
	J73-0133-28	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(10MM)
C1	C90-3023-08	CAP. ELECTRO 470 105°C 35V
C2	CF92V1H102K	CAP. POLYESTER 1000P 10% 50V
C3	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C4	CF92V1H472K	CAP. POLYESTER 4700P 10% 50V
C5	CF92V1H103K	CAP. POLYESTER 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2E224K	CAP. POLYESTER 0.22 10% 250V
C9	NO USE	
C10	C90-3025-08	CAP. ELECTRO 1000 105°C 63V
C11	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C22	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3046-08	CAP. ELECTRO 100 105°C 50V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7221-08	PIN CONNECTOR 12P
CN3	NO USE	
CN4	E40-7126-08	PIN CONNECTOR 2P
CN5	E40-7219-08	PIN CONNECTOR 3P
CN6	NO USE	
CN7	E40-7220-08	PIN CONNECTOR 4P
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
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D01	ERA15-01	DIODE
IC1	UPC151C	IC, OP AMP
IC2	UPC151C	IC, OP AMP
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.
LED01	B30-0984-08	LED, RED
Q1	2SC1815(GR)	TR. SI, NPN
Q2	2SC1815(GR)	TR. SI, NPN
Q3	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
R1	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R2	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R3	RD14BB2E302J	RES. CARBON 3K 5% 1/4W
R4	RD14BB2E513J	RES. CARBON 51K 5% 1/4W
R5	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R6	RD14BB2E273J	RES. CARBON 27K 5% 1/4W
R7	RN14BK2E2401F	RES. METAL FILM 2.4K 1% 1/4W
R8	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R9	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R10	RD14BB2E513J	RES. CARBON 51K 5% 1/4W

REF. NO	PARTS NO	NAME & DESCRIPTION
R11	NO USE	
R12	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R13	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R14	NO USE	
R15	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R16	RD14BB2E512J	RES. CARBON 5.1K 5% 1/4W
R19	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R20	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R21	RN14BK2E3303F	RES. METAL FILM 330K 1% 1/4W
R22	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R23	RN14BK2E9101F	RES. METAL FILM 9.1K 1% 1/4W
R24	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
R25	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R26	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R27	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R28	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R29	RS14GB3D392J	RES. METAL FILM 3.9K 5% 2W
R30	RS14AB3AR47J	RES. METAL FILM 0.47 5% 1W
R31	NO USE	
R32	RS14AB3AR47J	RES. METAL FILM 0.47 5% 1W
R33	NO USE	
R34	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R35	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R36	RD14BB2E302J	RES. CARBON 3K 5% 1/4W
R37	RD14BB2E513J	RES. CARBON 51K 5% 1/4W
R38	RD14BB2E333J	RES. CARBON 33K 5% 1/4W
R39	RD14BB2E273J	RES. CARBON 27K 5% 1/4W
R40	RN14BK2E51R0F	RES. METAL FILM 51.0 1% 1/4W
R43	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R44	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R45	RD14DB2H822J	RES. CARBON 8.2K 5% 1/2W
R67	RS14GB3DR22J	RES. METAL FILM 0.22 5% 2W
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	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	R12-0597-08	RES. SEMI FIXED 100 B
ZD1	HZS6A	DIODE, ZENER 5.75V

# PARTS LIST

## PR36-3 UNIT Y86-1420-00

REF. NO	PARTS NO	NAME & DESCRIPTION
	A01-1238-08	COVER
	A10-1468-08	CHASSIS
	A63-0011-08	FRONT PANEL
	B31-0760-08	METER;VOLT
	B31-0761-08	METER;CURRENT
	B40-2737-24	SERIAL NO. PLATE
	B42-3731-08	MASTER/SLAVE LABEL
	B42-3738-08	FUSE RATING LABEL
	B63-0017-08	INSTRUCTION MANUAL;JAPANESE
	B63-0018-08	INSTRUCTION MANUAL;ENGLISH
	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
	E38-0396-08	WIRE ASS'Y;AC SWITCH TO AC IN
	E38-0397-08	WIRE ASS'Y;AC SWITCH TO ...V
	E38-0398-08	WIRE ASS'Y;AC CHANGING,WHITE
	E38-0399-08	WIRE ASS'Y;AC CHANGING,BLACK
	E38-0403-08	WIRE ASS'Y;CN7 TO POWER TRANS.
	E38-0404-08	WIRE ASS'Y;CN14 TO +-OUT
	E38-0406-08	WIRE ASS'Y;CN14 TO V/A METER
	E38-0407-08	WIRE ASS'Y;GRAY
	E38-0408-08	WIRE ASS'Y;GREEN
	E38-0409-08	WIRE ASS'Y;GRAY
	E38-0411-08	WIRE ASS'Y;CN1 TO POWER TRANS.
	E38-0412-08	WIRE ASS'Y;CN2
	F01-0886-08	HEAT SINK
	F05-3022-08	FUSE
	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
	H10-0010-08	CARTON BOX
	H10-2856-08	FOAMED STYRENE PAD (FRONT)
	H10-2857-08	FOAMED STYRENE PAD (REAR)
	H20-1734-08	VINYL COVER
	J02-0529-08	LEG
	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
	J21-4724-08	BRACKET;FOR METER
	J21-4758-08	BRACKET;FOR AC CORD BUSHING
	J30-0634-08	SPACER;FOR AC CHANGING UNIT
	J30-0635-08	VOLUME SPACER;FOR VR01
	J42-0083-05	BUSHING;FOR 2-CORE AC CORD
	J42-0085-05	BUSHING;FOR 3-CORE AC CORD
	J61-0408-05	WIRE WRAPPING BAND
	K01-0411-05	HANDLE
	K21-0907-04	KNOB;COARSE
	K21-0911-04	KNOB;FINE/CURRENT
	K27-0509-04	PUSH BOTTON,ORANGE;POWER
	L01-9966-08	POWER TRANSFORMER
	N09-0718-05	SCREW,SEMS PAN HD M3X6
	N09-0757-05	SCREW,SEMS BINDING TAPTITE 3X6
	N09-0776-05	SCREW,SEMS PAN HD M5X10
	N09-0777-05	SCREW,SEMS PAN HD M4X6
	N09-0789-08	SCREW,SEMS PAN HD M3X10
	N09-0797-08	SCREW,SEMS TAPTITE 3X10
	N14-0404-04	FLANGE NUT M3
	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
C02	C90-3018-08	CAP. ELECTRO 1 105°C 100V
VR01	R29-3503-08	VOLUME
VR02	R29-1503-08	VOLUME
VR03	R29-3504-08	VOLUME

## PR36-3 AMP/ETC. UNIT W02-2099-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E38-0393-08	WIRE ASS'Y;X1 TO X2
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0395-08	WIRE ASS'Y;Z1 TO Z2
	E38-0400-08	WIRE ASS'Y;CN5
	E38-0401-08	WIRE ASS'Y;CN6
	E38-0405-08	WIRE ASS'Y;CN8
	E40-7140-08	PIN CONNECTOR 3P
	E40-7141-08	PIN CONNECTOR 2P
	E40-7142-08	PIN CONNECTOR 1P
	J13-0518-08	FUSE HOLDER;FOR 6X30MM
	J13-0519-08	FUSE HOLDER;FOR 5X20MM
	J73-0133-28	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM(10MM)
C1	C90-3019-08	CAP. ELECTRO 1000 105°C 35V
C2	CF92V1H102K	CAP. POLYESTER 1000P 10% 50V
C3	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C4	CF92V1H472K	CAP. POLYESTER 4700P 10% 50V
C5	CF92V1H103K	CAP. POLYESTER 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2E224K	CAP. POLYESTER 0.22 10% 250V
C9	NO USE	
C10	C90-3042-08	CAP. ELECTRO 2200 105°C 63V
C11	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C22	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3046-08	CAP. ELECTRO 100 105°C 50V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7221-08	PIN CONNECTOR 12P
CN3	NO USE	
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
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
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D01	30D1	DIODE
IC1	UPC151C	IC,OP AMP
IC2	UPC151C	IC,OP AMP
IC3	UPC1093J	IC,VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC,TERMINAL FIXED VOLTAGE REG.
LED01	B30-0984-08	LED,RED
Q1	2SC1815(GR)	TR. SI, NPN
Q2	2SC1815(GR)	TR. SI, NPN
Q3	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
Q11A	2SD1148(O)	TR. SI, NPN
Q11B	2SD1148(O)	TR. SI, NPN
Q11C	2SD1148(O)	TR. SI, NPN

# PARTS LIST

REF. NO	PARTS NO	NAME & DESCRIPTION			
R1	RD14BB2E122J	RES. CARBON	1.2K	5%	1/4W
R2	RD14BB2E123J	RES. CARBON	12K	5%	1/4W
R3	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R4	RD14BB2E510J	RES. CARBON	51	5%	1/4W
R5	RD14BB2E123J	RES. CARBON	12K	5%	1/4W
R6	RD14BB2E273J	RES. CARBON	27K	5%	1/4W
R7	RN14BK2E2401F	RES. METAL FILM	2.4K	1%	1/4W
R8	RD14BB2E202J	RES. CARBON	2K	5%	1/4W
R9	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R10	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R11	NO USE				
R12	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R13	RD14BB2E202J	RES. CARBON	2K	5%	1/4W
R14	NO USE				
R15	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R16	RD14BB2E512J	RES. CARBON	5.1K	5%	1/4W
R19	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R20	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R21	RN14BK2E3403F				
R22	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R23	RN14BK2E9101F	RES. METAL FILM	9.1K	1%	1/4W
R24	RN14BK2E3001F	RES. METAL FILM	3K	1%	1/4W
R25	RD14DB2H122J	RES. CARBON	1.2K	5%	1/2W
R26	RD14DB2H122J	RES. CARBON	1.2K	5%	1/2W
R27	RD14BB2E102J	RES. CARBON	1K	5%	1/4W
R28	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R29	RS14GB3D392J	RES. METAL FILM	3.9K	5%	2W
R30	RS14AB3AR51J	RES. METAL FILM	0.51	5%	1W
R31	NO USE				
R32	RS14AB3AR51J	RES. METAL FILM	0.51	5%	1W
R33	NO USE				
R34	RD14BB2E122J	RES. CARBON	1.2K	5%	1/4W
R35	RD14BB2E123J	RES. CARBON	12K	5%	1/4W
R36	RD14BB2E302J	RES. CARBON	3K	5%	1/4W
R37	RD14BB2E510J	RES. CARBON	51	5%	1/4W
R38	RD14BB2E333J	RES. CARBON	33K	5%	1/4W
R39	RD14BB2E273J	RES. CARBON	27K	5%	1/4W
R40	RN14BK2E51R0F	RES. METAL FILM	51.0	1%	1/4W
R43	RD14BB2E103J	RES. CARBON	10K	5%	1/4W
R44	RD14BB2E101J	RES. CARBON	100	5%	1/4W
R45	RD14DB2H822J	RES. CARBON	8.2K	5%	1/2W
R67	RS14GB3DR15J	RES. METAL FILM	0.15	5%	2W
R32A	RS14AB3A1R5J	RES. METAL FILM	1.5	5%	1W
R32B	RS14AB3A1R5J	RES. METAL FILM	1.5	5%	1W
R32C	RS14AB3A1R5J	RES. METAL FILM	1.5	5%	1W
RY1	S76-0604-08	RELAY			
RY2	S76-0604-08	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	R12-0597-08	RES. SEMI FIXED	100 B		
ZD1	HZS6A	DIODE, ZENER	5.75V		

## PR70-1 UNIT Y86-1430-00

REF. NO	PARTS NO	NAME & DESCRIPTION			
	A01-1237-08	CASE			
	A10-1467-08	CHASSIS			
	A63-0012-08	FRONT PANEL			
	B31-0762-08	METER;VOLT			
	B31-0763-08	METER;CURRENT			
	B40-2737-24	SERIAL NO. PLATE			
	B42-3731-08	MASTER/SLAVE LABEL			
	B42-3733-08	FUSE RATING LABEL			
	B63-0017-08	INSTRUCTION MANUAL;JAPANESE			
	B63-0018-08	INSTRUCTION MANUAL;ENGLISH			
	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			
	E38-0396-08	WIRE ASS'Y;AC SWITCH TO AC IN			
	E38-0397-08	WIRE ASS'Y;AC SWITCH TO ...V			
	E38-0398-08	WIRE ASS'Y;AC CHANGING,WHITE			
	E38-0399-08	WIRE ASS'Y;AC CHANGING,BLACK			
	E38-0403-08	WIRE ASS'Y;CN7 TO POWER TRANS.			
	E38-0404-08	WIRE ASS'Y;CN14 TO +-OUT			
	E38-0406-08	WIRE ASS'Y;CN14 TO V/A METER			
	E38-0407-08	WIRE ASS'Y;GRAY			
	E38-0408-08	WIRE ASS'Y;GREEN			
	E38-0409-08	WIRE ASS'Y;GRAY			
	E38-0411-08	WIRE ASS'Y;CN1 TO POWER TRANS.			
	E38-0412-08	WIRE ASS'Y;CN2			
	F01-0885-08	HEAT SINK			
	F05-2021-05	FUSE(5X20MM) 2A/250V			
	F05-2023-05	FUSE(6X30MM) 2A/250V			
	F29-0517-08	INSULATOR;FOR Q6/Q11			
	F29-0518-08	INSULATOR;FOR Q11A/Q11B/Q11C			
	F51-0009-08	FUSE(6X30MM) 3A/125V			
	H10-0011-08	CARTON BOX			
	H10-2853-08	FOAMED STYRENE PAD (FRONT)			
	H10-2854-08	FOAMED STYRENE PAD (REAR)			
	H20-1734-08	VINYL COVER			
	J02-0529-08	LEG			
	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			
	J21-4721-08	BRACKET;FOR METER			
	J21-4758-08	BRACKET;FOR AC CORD BUSHING			
	J29-0519-08	BRACKET;FOR P.C.B			
	J30-0634-08	SPACER;FOR AC CHANGING UNIT			
	J30-0635-08	VOLUME SPACER;FOR VR01			
	J42-0083-05	BUSHING;FOR 2-CORE AC CORD			
	J42-0085-05	BUSHING;FOR 3-CORE AC CORD			
	J61-0408-05	WIRE WRAPPING BAND			
	K01-0411-05	HANDLE			
	K21-0907-04	KNOB;COARSE			
	K21-0911-04	KNOB;FINE/CURRENT			
	K27-0509-04	PUSH BOTTON,ORANGE;POWER			
	L01-9964-08	POWER TRANSFORMER			
	N09-0718-05	SCREW,SEMS PAN HD M3X6			
	N09-0757-05	SCREW,SEMS BINDING TAPTITE 3X6			
	N09-0776-05	SCREW,SEMS PAN HD M5X10			
	N09-0777-05	SCREW,SEMS PAN HD M4X6			
	N09-0789-08	SCREW,SEMS PAN HD M3X10			
	N09-0797-08	SCREW,SEMS TAPTITE 3X10			
	N14-0404-04	FLANGE NUT M3			
	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			
C02	C90-3038-08	CAP. ELECTRO 1 105° C 100V			
VR01	R29-3503-08	VOLUME			
VR02	R29-1503-08	VOLUME			
VR03	R29-3504-08	VOLUME			

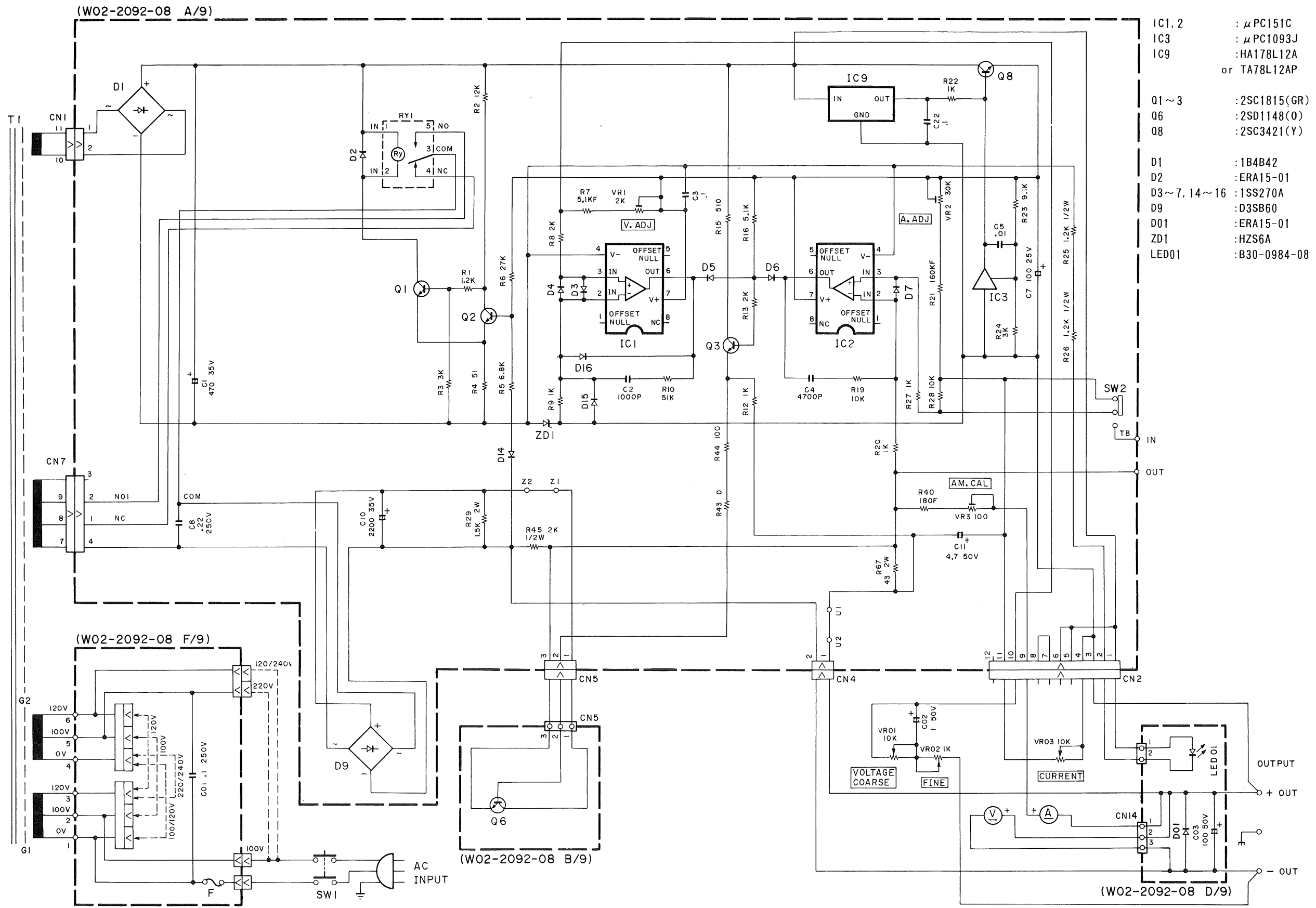
# PARTS LIST

## PR70-1 AMP/ETC. UNIT W02-2100-08

REF. NO	PARTS NO	NAME & DESCRIPTION
	E21-0674-08	EXTERNAL OUTPUT TERMINAL
	E38-0394-08	WIRE ASS'Y;U1 TO U2
	E38-0395-08	WIRE ASS'Y;Z1 TO Z2
	E38-0400-08	WIRE ASS'Y;CN5
	E38-0401-08	WIRE ASS'Y;CN6
	E40-7140-08	PIN CONNECTOR 3P
	E40-7141-08	PIN CONNECTOR 2P
	E40-7142-08	PIN CONNECTOR 1P
	J13-0518-08	FUSE HOLDER;FOR 6X30MM
	J13-0519-08	FUSE HOLDER;FOR 5X20MM
	J73-0133-28	PCB (UNMOUNTED)
	R92-0150-05	JUMPING RES. ZERO OHM (10MM)
C1	C90-3023-08	CAP. ELECTRO 470 105°C 35V
C2	CF92V1H102K	CAP. POLYESTER 1000P 10% 50V
C3	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C4	CF92V1H472K	CAP. POLYESTER 4700P 10% 50V
C5	CF92V1H103K	CAP. POLYESTER 0.01 10% 50V
C6	NO USE	
C7	C90-3020-08	CAP. ELECTRO 100 105°C 25V
C8	CF93AN2E224K	CAP. POLYESTER 0.22 10% 250V
C9	NO USE	
C10	C90-3039-08	CAP. ELECTRO 330 105°C 160V
C11	C90-3022-08	CAP. ELECTRO 4.7 105°C 50V
C22	C91-1315-05	CAP. CERAMIC 0.1 80/-10% 50V
C01	C91-1323-08	CAP. CERAMIC 0.1 20% 250V
C02	NO USE	
C03	C90-3048-08	CAP. ELECTRO 100 105°C 100V
CN1	E40-7218-08	PIN CONNECTOR 2P
CN2	E40-7221-08	PIN CONNECTOR 12P
CN3	NO USE	
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
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
D14	1SS270A	DIODE
D15	1SS270A	DIODE
D16	1SS270A	DIODE
D01	ERA15-01	DIODE
IC1	UPC151C	IC, OP AMP
IC2	UPC151C	IC, OP AMP
IC3	UPC1093J	IC, VARIABLE SHUNT REGULATOR
IC9	HA178L12A	IC, TERMINAL FIXED VOLTAGE REG.
LED01	B30-0984-08	LED, RED
Q1	2SC1815(GR)	TR. SI, NPN
Q2	2SC1815(GR)	TR. SI, NPN
Q3	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
Q11A	2SD1148(O)	TR. SI, NPN
Q11B	2SD1148(O)	TR. SI, NPN
Q11C	2SD1148(O)	TR. SI, NPN
R1	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R2	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R3	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R4	RD14BB2E510J	RES. CARBON 51 5% 1/4W
R5	RD14BB2E303J	RES. CARBON 30K 5% 1/4W
R6	RD14BB2E273J	RES. CARBON 27K 5% 1/4W

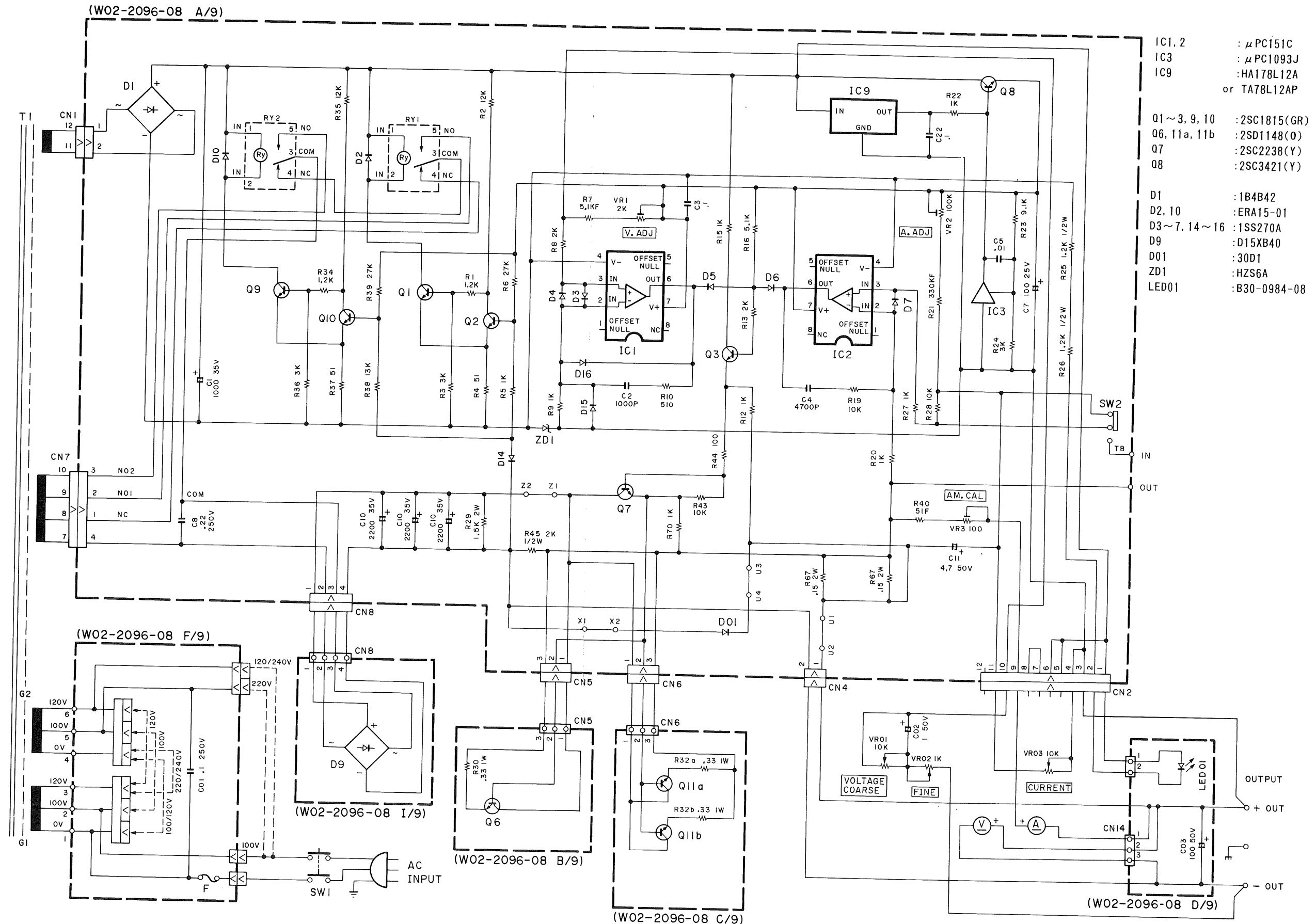
REF. NO	PARTS NO	NAME & DESCRIPTION
R7	RN14BK2E1001F	RES. METAL FILM 1K 1% 1/4W
R8	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R9	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R10	RD14BB2E243J	RES. CARBON 24K 5% 1/4W
R11	NO USE	
R12	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R13	RD14BB2E202J	RES. CARBON 2K 5% 1/4W
R14	NO USE	
R15	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R16	RD14BB2E512J	RES. CARBON 5.1K 5% 1/4W
R19	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R20	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R21	RN14BK2E3903F	RES. METAL FILM 390K 1% 1/4W
R22	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R23	RN14BK2E9101F	RES. METAL FILM 9.1K 1% 1/4W
R24	RN14BK2E3001F	RES. METAL FILM 3K 1% 1/4W
R25	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R26	RD14DB2H122J	RES. CARBON 1.2K 5% 1/2W
R27	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R28	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R29	RS14GB3D123J	RES. METAL FILM 12K 5% 2W
R30	RS14AB3A1R5J	RES. METAL FILM 1.5 5% 1W
R31	NO USE	
R32	RS14AB3A1R5J	RES. METAL FILM 1.5 5% 1W
R33	NO USE	
R34	RD14BB2E122J	RES. CARBON 1.2K 5% 1/4W
R35	RD14BB2E123J	RES. CARBON 12K 5% 1/4W
R36	RD14BB2E102J	RES. CARBON 1K 5% 1/4W
R37	RD14BB2E510J	RES. CARBON 51 5% 1/4W
R38	RD14BB2E753J	RES. CARBON 75K 5% 1/4W
R39	RD14BB2E273J	RES. CARBON 27K 5% 1/4W
R40	RN14BK2E51R0F	RES. METAL FILM 51.0 1% 1/4W
R43	RD14BB2E103J	RES. CARBON 10K 5% 1/4W
R44	RD14BB2E101J	RES. CARBON 100 5% 1/4W
R45	RD14DB2H303J	RES. CARBON 30K 5% 1/2W
R67	RS14GB3DR22J	RES. METAL FILM 0.22 5% 2W
R32A	RS14AB3A1R5J	RES. METAL FILM 1.5 5% 1W
R32B	RS14AB3A1R5J	RES. METAL FILM 1.5 5% 1W
R32C	RS14AB3A1R5J	RES. METAL FILM 1.5 5% 1W
RY1	S76-0604-08	RELAY
RY2	S76-0604-08	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	R12-0597-08	RES. SEMI FIXED 100 B
ZD1	HZS6A	DIODE, ZENER 5.75V

# PR18-1.2 SCHEMATIC DIAGRAM



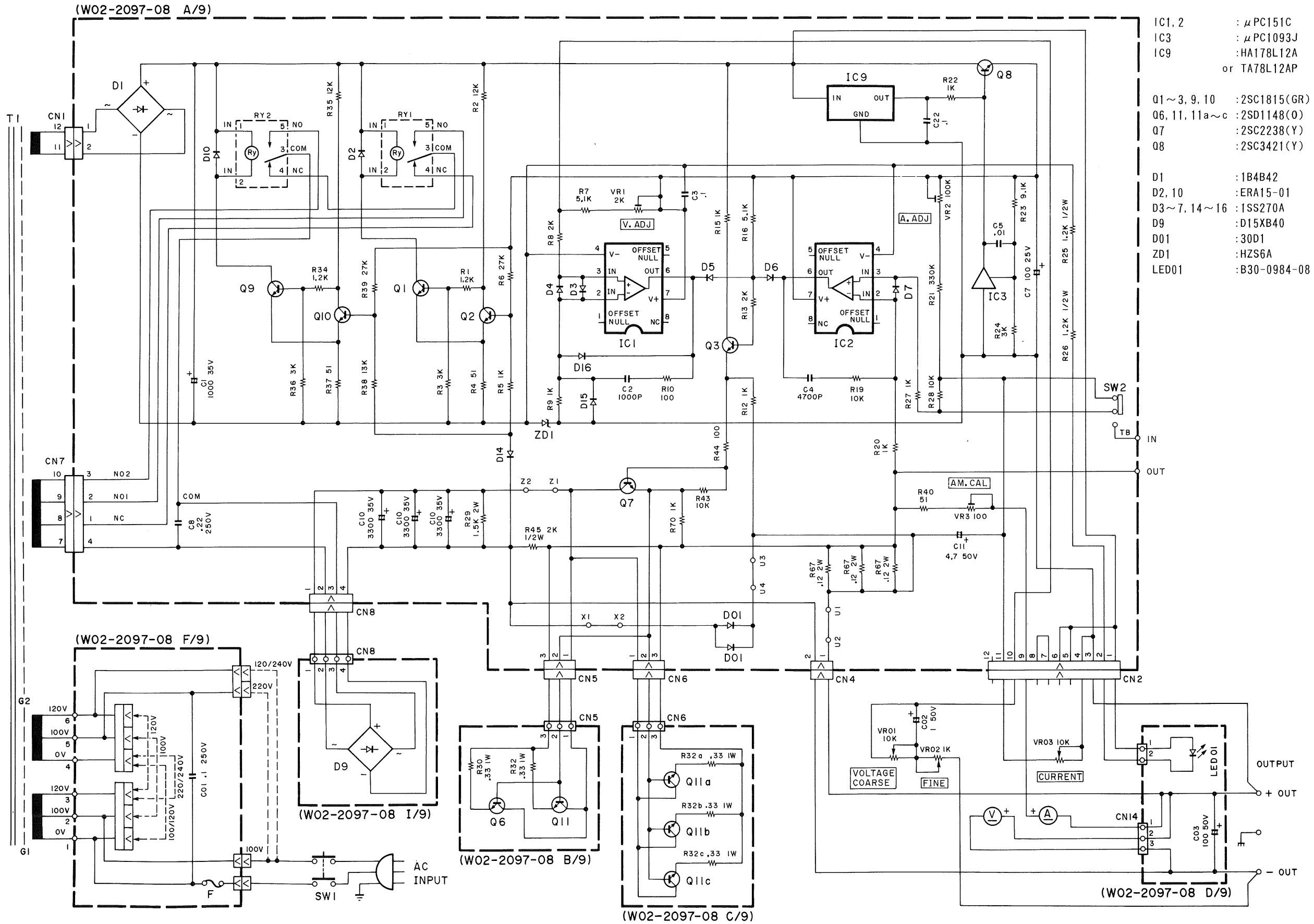
- IC1, 2 :  $\mu$ PC151C
- IC3 :  $\mu$ PC1093J
- IC9 : HA178L12A  
or TA78L12AP
- Q1 ~ 3 : 2SC1815(GR)
- Q6 : 2SD1148(O)
- Q8 : 2SC3421(Y)
- D1 : 1B4B42
- D2 : ERA15-01
- D3 ~ 7, 14 ~ 16 : 1SS270A
- D9 : D3SB60
- D01 : ERA15-01
- ZD1 : HZS6A
- LED01 : B30-0984-08

# PR18-3 SCHEMATIC DIAGRAM



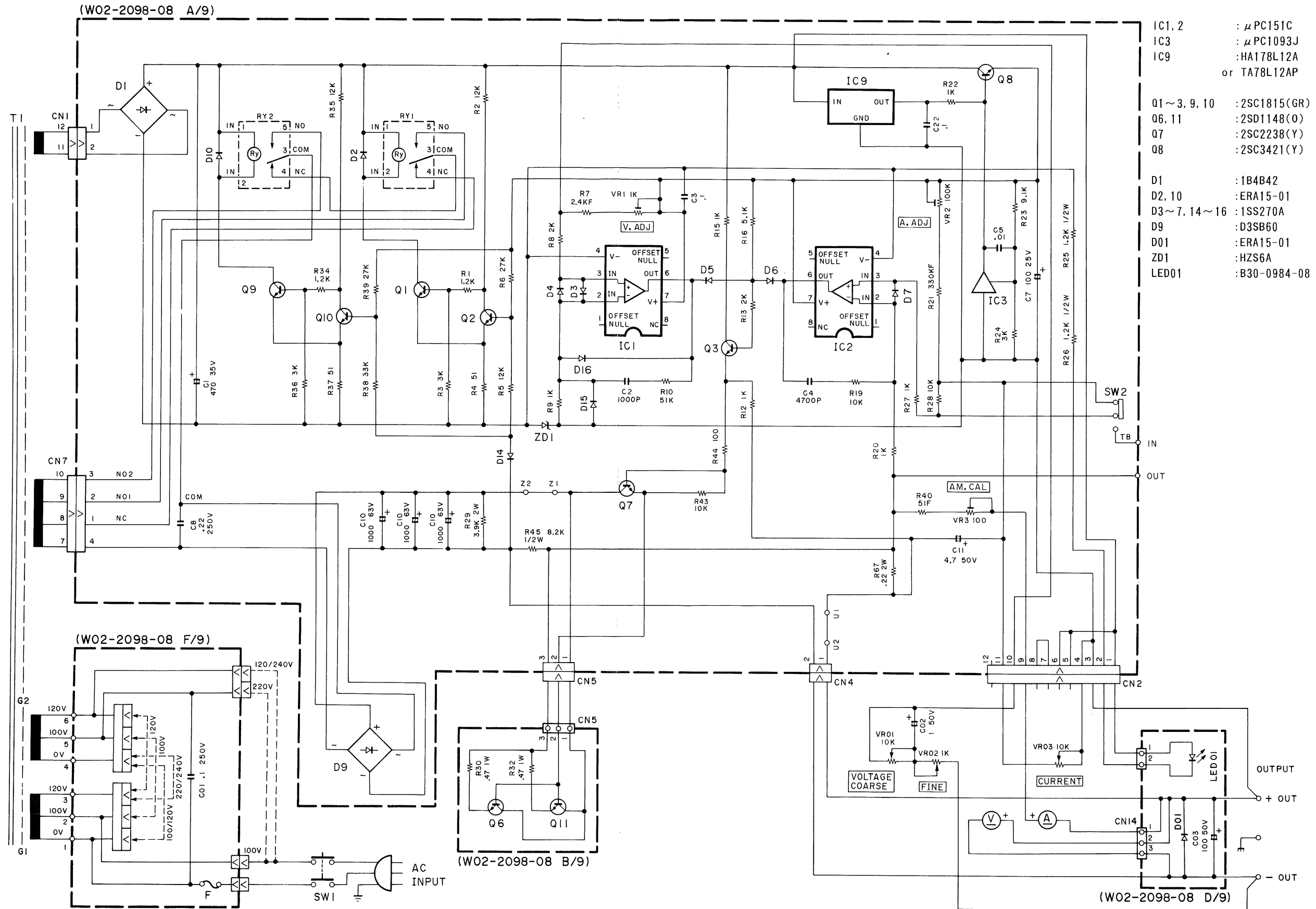
- IC1, 2 :  $\mu$ PC151C
- IC3 :  $\mu$ PC1093J
- IC9 : HA178L12A  
or TA78L12AP
- Q1~3, 9, 10 : 2SC1815(GR)
- Q6, 11a, 11b : 2SD1148(O)
- Q7 : 2SC2238(Y)
- Q8 : 2SC3421(Y)
- D1 : 1B4B42
- D2, 10 : ERA15-01
- D3~7, 14~16 : 1SS270A
- D9 : D15XB40
- D01 : 30D1
- ZD1 : HZS6A
- LED01 : B30-0984-08

# PR18-5 SCHEMATIC DIAGRAM



- IC1, 2 :  $\mu$ PC151C
- IC3 :  $\mu$ PC1093J
- IC9 : HA178L12A  
or TA78L12AP
- Q1~3, 9, 10 : 2SC1815(GR)
- Q6, 11, 11a~c : 2SD1148(O)
- Q7 : 2SC2238(Y)
- Q8 : 2SC3421(Y)
- D1 : 1B4B42
- D2, 10 : ERA15-01
- D3~7, 14~16 : 1SS270A
- D9 : D15XB40
- D01 : 30D1
- ZD1 : HZS6A
- LED01 : B30-0984-08

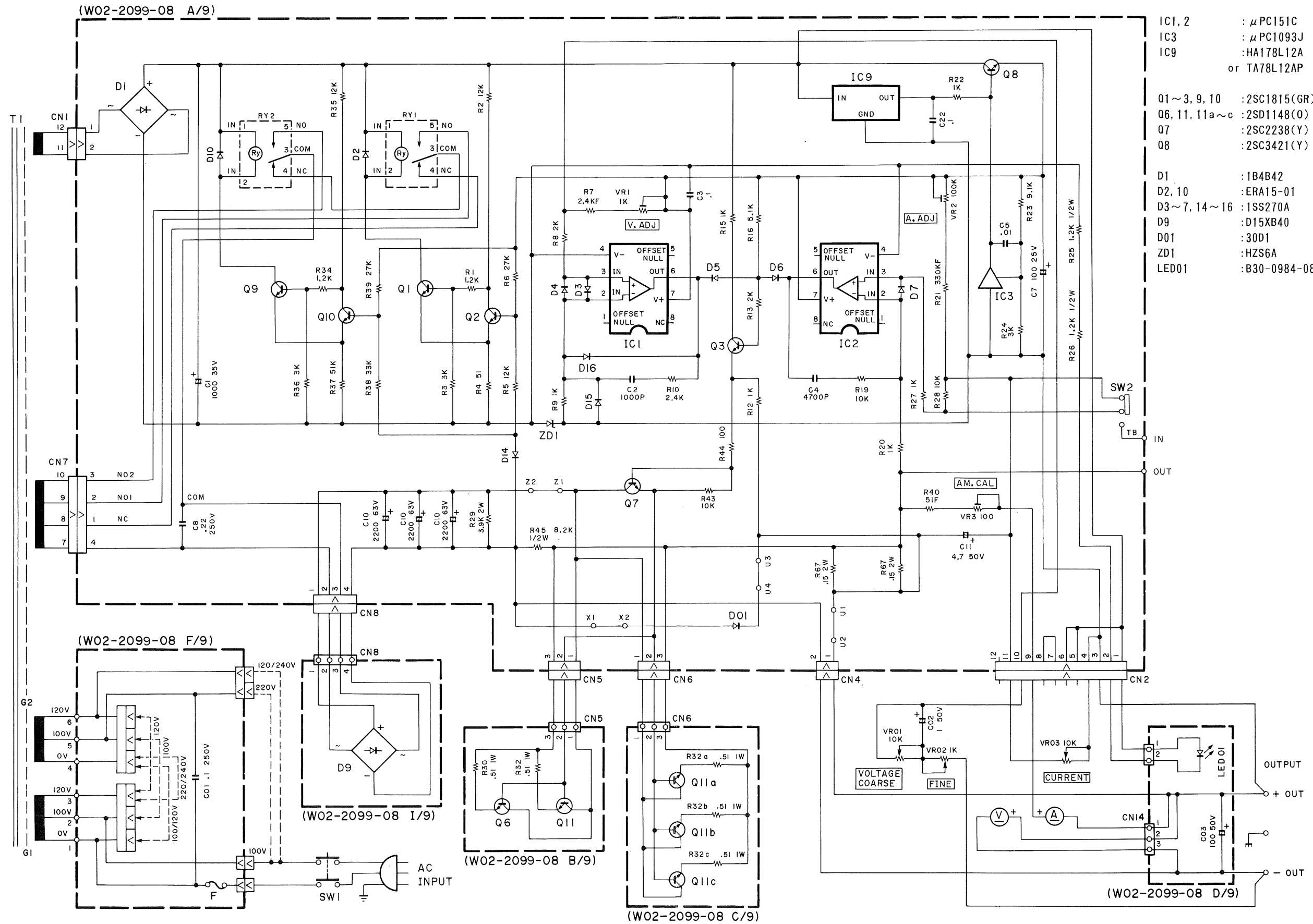
# PR36-1.2 SCHEMATIC DIAGRAM



- IC1, 2 :  $\mu$ PC151C
- IC3 :  $\mu$ PC1093J
- IC9 : HA178L12A  
or TA78L12AP
- Q1~3, 9, 10 : 2SC1815(GR)
- Q6, 11 : 2SD1148(O)
- Q7 : 2SC2238(Y)
- Q8 : 2SC3421(Y)
- D1 : 1B4B42
- D2, 10 : ERA15-01
- D3~7, 14~16 : 1SS270A
- D9 : D3SB60
- D01 : ERA15-01
- ZD1 : HZS6A
- LED01 : B30-0984-08

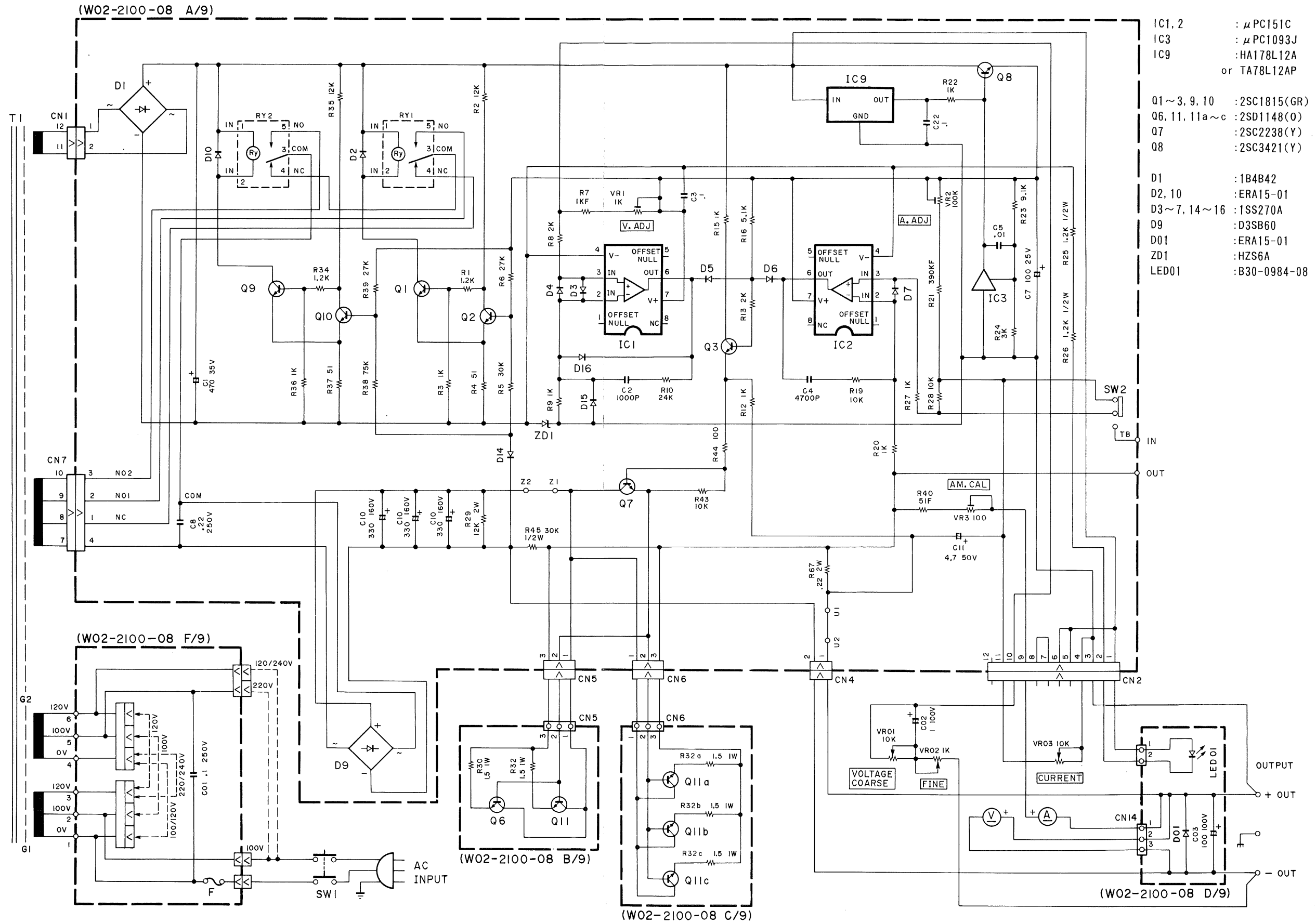


# PR36-3 SCHEMATIC DIAGRAM



- IC1, 2 :  $\mu$ PC151C
- IC3 :  $\mu$ PC1093J
- IC9 : HA178L12A or TA78L12AP
- Q1 ~ 3, 9, 10 : 2SC1815(GR)
- Q6, 11, 11a ~ c : 2SD1148(O)
- Q7 : 2SC2238(Y)
- Q8 : 2SC3421(Y)
- D1 : 1B4B42
- D2, 10 : ERA15-01
- D3 ~ 7, 14 ~ 16 : 1SS270A
- D9 : D15XB40
- D01 : 30D1
- ZD1 : HZS6A
- LED01 : B30-0984-08

# PR70-1 SCHEMATIC DIAGRAM

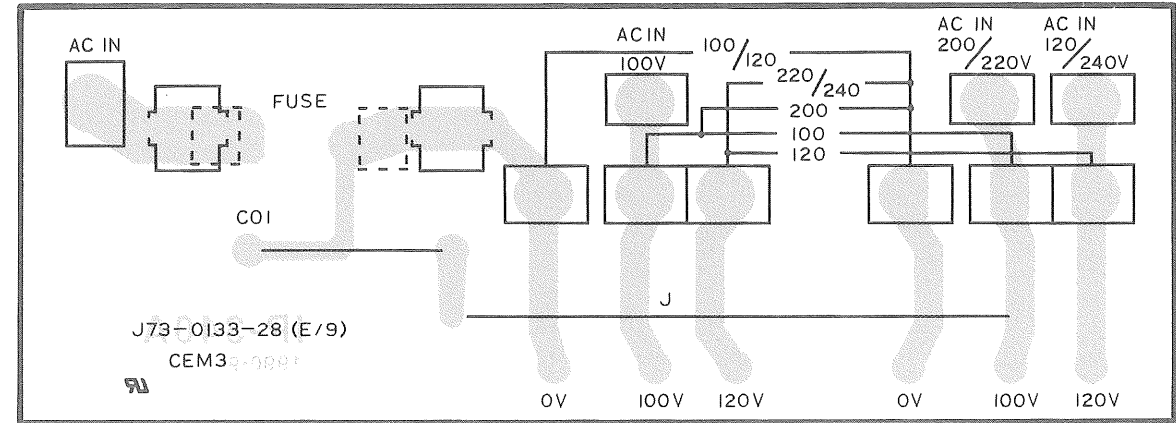
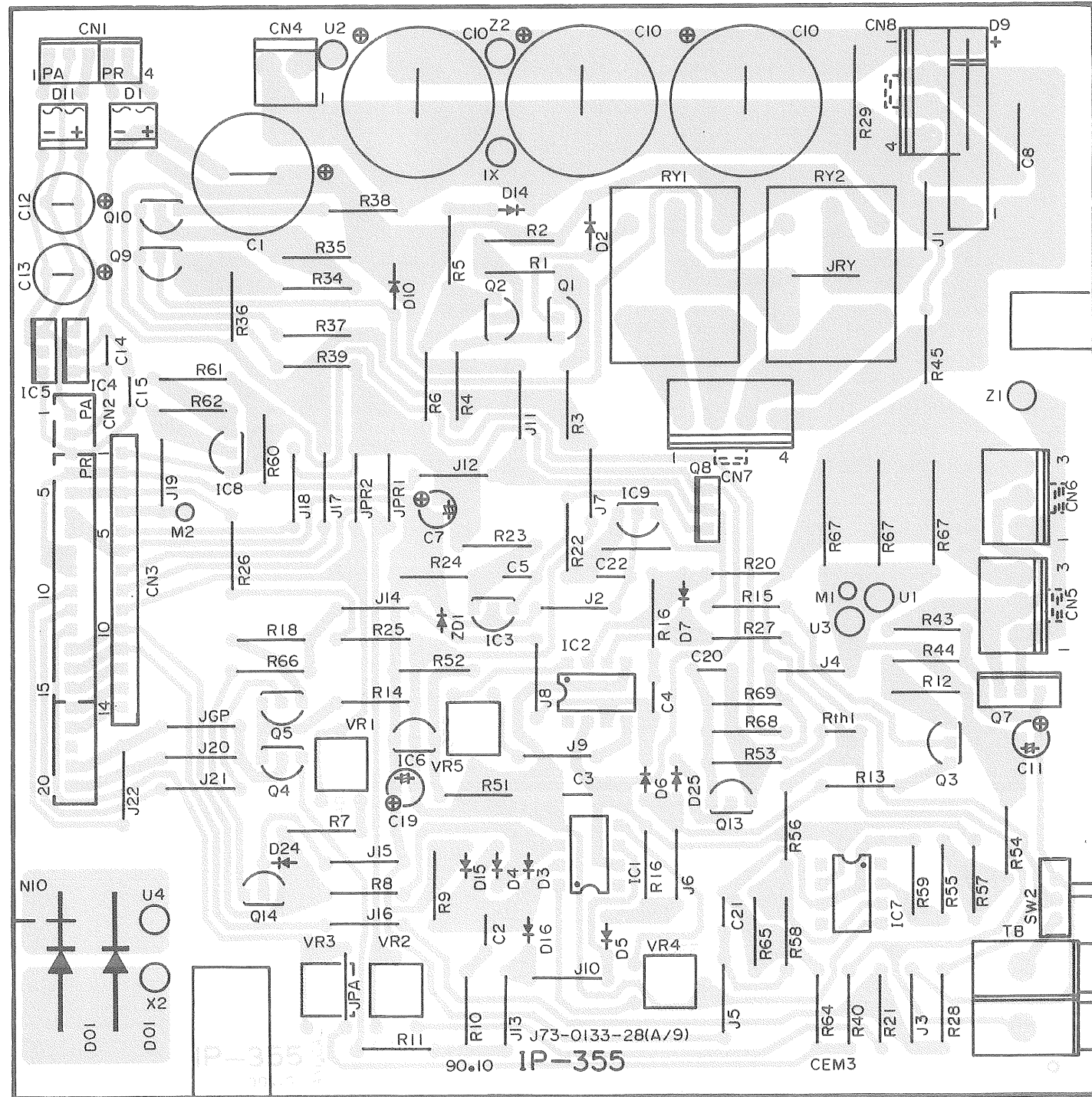


- IC1, 2 :  $\mu$ PC151C
- IC3 :  $\mu$ PC1093J
- IC9 : HA178L12A  
or TA78L12AP
- Q1 ~ 3, 9, 10 : 2SC1815(GR)
- Q6, 11, 11a ~ c : 2SD1148(O)
- Q7 : 2SC2238(Y)
- Q8 : 2SC3421(Y)
- D1 : 1B4B42
- D2, 10 : ERA15-01
- D3 ~ 7, 14 ~ 16 : 1SS270A
- D9 : D3SB60
- D01 : ERA15-01
- ZD1 : HZS6A
- LED01 : B30-0984-08

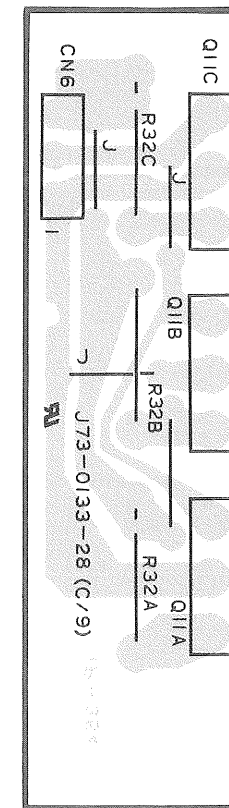
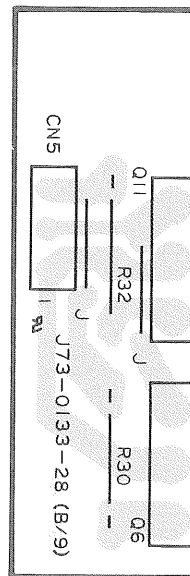
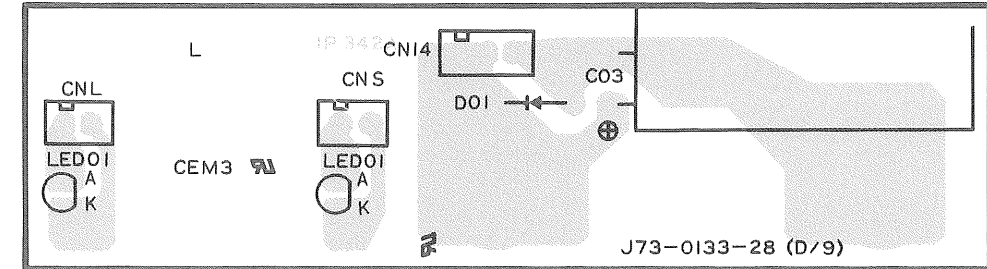
# P.C. BOARD

## AMP/ETC. UNIT

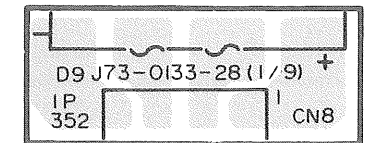
Pattern side view



Pattern side view



Pattern side view



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