STEREO
POWER AMPLIFIER
ALPHA III

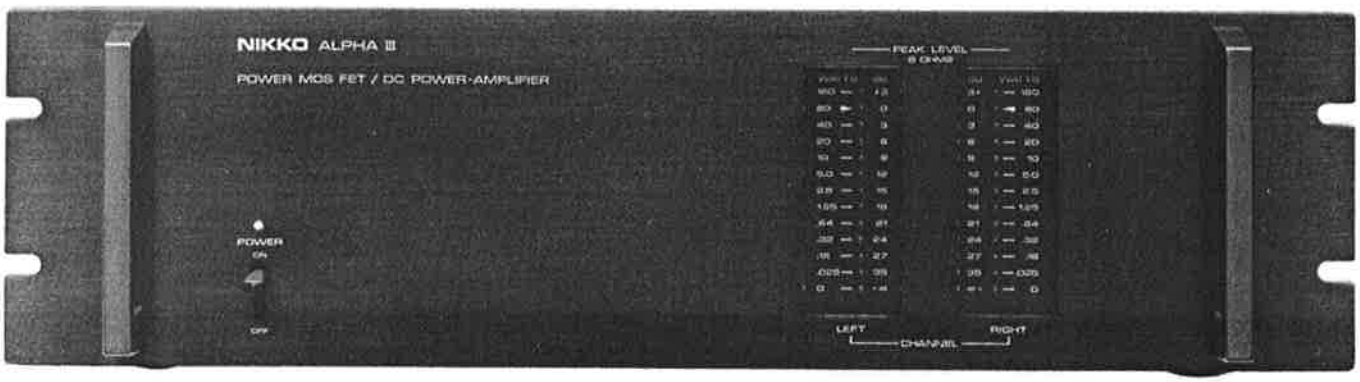
SERVICE MANUAL

TYPE AND VOLTAGE

W-TYPE UL and CSA type	120V AC
E-TYPE NK-STD type	220/240V AC
N-TYPE DEMKO and SEMKO type	
D-TYPE DIN type	

NIKKO

CONTENTS



BLOCK DIAGRAM

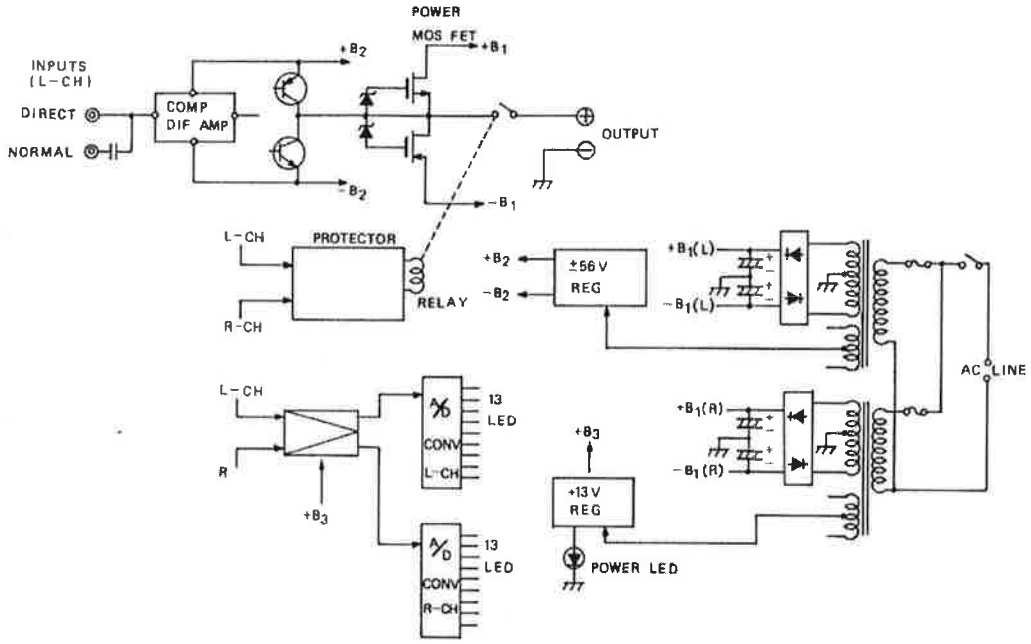


Figure 4. Block Diagram

DISASSEMBLY

WARNING: When service is required, DO NOT alter or change any wiring or circuitry in this unit.
Any modification other than the manufacturer's original may alter the specifications, such as distortion, stability, etc.

CABINET COVER REMOVAL

Remove four tapping screws from the top of the metal cover. Remove four screws from both sides of the metal cover.

BOTTOM PLATE REMOVAL

Remove ten tapping screws from the bottom of the unit.

FRONT PANEL REMOVAL

1. Disconnect LED SOCKET (1A) from the LED mounted on the front panel by pulling it backward. (Photo 1)
2. Remove POWER switch knob from the front of the unit.
3. Remove six tapping screws (no.1–6) (Photo 2) and lift the panel away from the unit.

-- To reassemble, reverse the procedure.

LEVEL INDICATOR ASSEMBLY REMOVAL

1. Disconnect connector (2A) deliberately in order not to break the regurator/protector PC board. (Photo 2).
2. Remove the front panel.
   (Read "FRONT PANEL REMOVAL")
3. Remove four tapping screws (no.1–4) (Photo 3) and lift the panel away from the unit.

-- To reassemble, reverse the procedure.

REGULATOR/PROTECTOR PART REPLACEMENT

1. Disconnect LED socket (1A) (Photo 1).
   (Read "Step 1, FRONT PANEL REMOVAL")

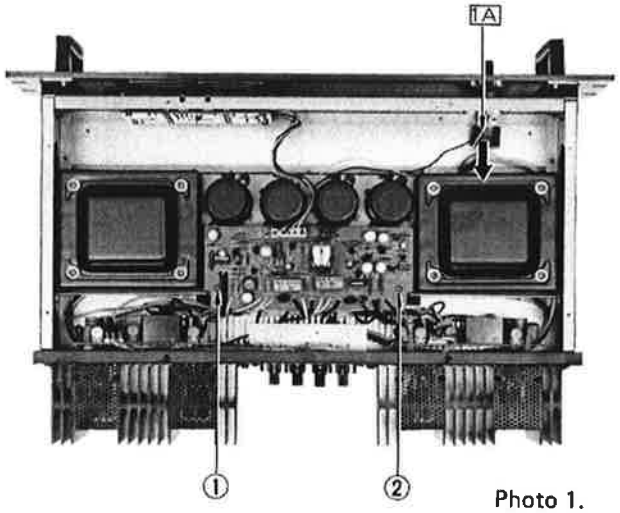


Photo 1.

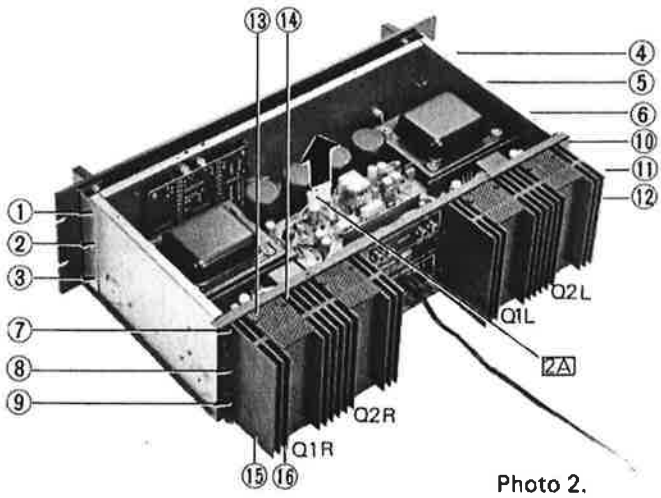


Photo 2.

SPECIFICATIONS

Semiconductors:	
IC's	3
Bipolar Transistors	18
FET's	4
Diodes	23
Zener Diodes	7
LED's	27
Continuous Power Output (min. RMS. 8ohms, both channels driven, 20Hz to 20kHz, < 0.008% THD)	80watts
Input Sensitivity (8ohms, 1kHz, 80watts output)	1V
Input Impedance (1kHz)	50kohms
Damping Factor (8ohms, both channels driven, 1kHz)	80
Signal to Noise Ratio (IHF A network)	115dB
Slew Rate	40V/μs
Mute Time	2 ~ 5s

Power Input:	
W-Type	120V AC, 60Hz
E-Type,N-Type,D-Type	220 or 240V AC, 50Hz
Power Consumption:	
W-Type	400watts (500VA)
E-Type,N-Type,D-Type	580watts
Dimensions:	
Width	19in. (492mm)
Height	5-7/8in. (130.5mm)
Depth	12-7/8in. (325mm)
Weight	35.2lbs. (16kg)

Specification subject to change without notice.

DEVICE DESCRIPTION

The ALPHA III employs four power MOS FETs (2SK134, 2SJ49), which have the ideal characteristics of a power amplification device as follows:

1. Superior high frequency performance (figure 1)

2. Good breakdown capability
   The output characteristic curves at different case temperatures (shown in figure 2) indicate that when gate-to-source voltage (Vgs) is constant, the increase of a case temperature causes the decrease of drain current (Id), therefore current concentration is at a minimum. For this reason, power MOS FETs have higher safe-area ratings than bipolar transistors. (figure 3)

3. High input impedance
   Power MOS FETs can be driven by less power owing to their high input impedance, therefore the driver stage can be simplified.

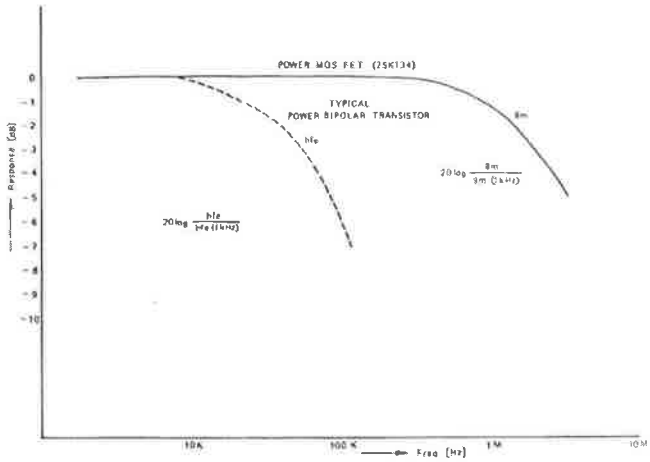


Figure 1. Frequency Response

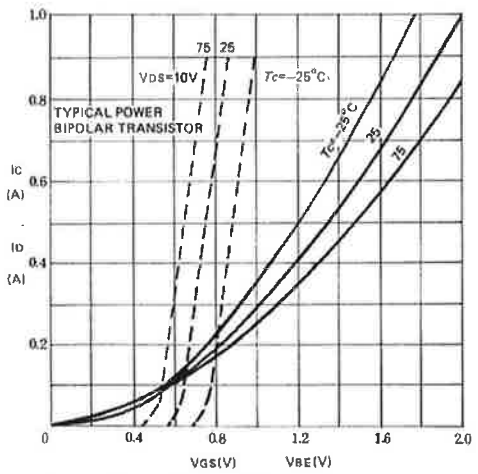


Figure 2. Output Characteristic

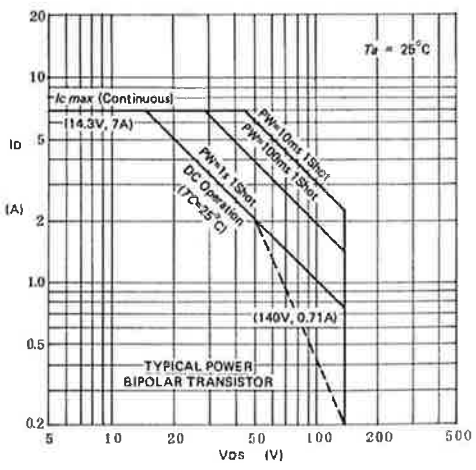


Figure 3. Area of Safe Operation

2. Disconnect connector (2A) (Photo 1).
(Read "Step 1. LEVEL INDICATOR ASSEMBLY REMOVAL")
3. Remove two tapping screws (no. 1,2) (Photo 1) and lift the front of the regulator/protector PC board for service. (Photo 4)

– To reassemble, reverse the procedure.

MAIN AMP PC BOARD PARTS REPLACEMENT (LEFT CHANNEL ONLY)

1. Remove six tapping screws (no.7–12) (Photo 2) and tip the back plate assembly down as indicated in Photo 4.
2. The main amp PC board is mounted in place by four plastic pins. Lift the top of the PC board up for service.

– To reassemble, reverse the procedure.

POWER FET REMOVAL (Q1R ONLY)

1. Remove four tapping screws (no.13–16) (Photo 2) and remove the power FET cover.
2. Remove two screws holding the power FET and pull it out power transistor socket.

– To reassemble, reverse the procedure.

NOTE: When power FET is replaced, spread the power FET (and heat sink) with thermally conductive silicon grease.

POWER SUPPLY CIRCUIT PARTS REPLACEMENT

The power supply circuit PC board is mounted in position by three plastic pins. Lift the rear of the PC board up for service.

POWER TRANSFORMER REMOVAL (LEFT CHANNEL ONLY)

1. Disconnect all wires from the power transformer.

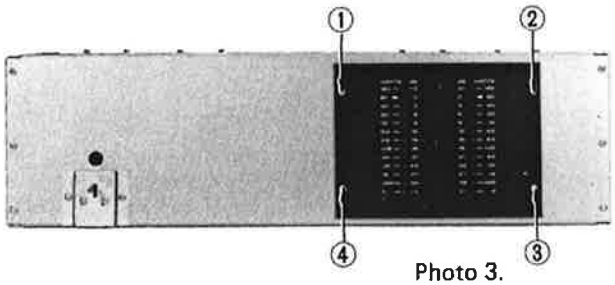


Photo 3.

2. Remove four nuts (no.1–4) (Photo 5) and lift the power transformer up and out of chassis.

– To reassemble, reverse the procedure.

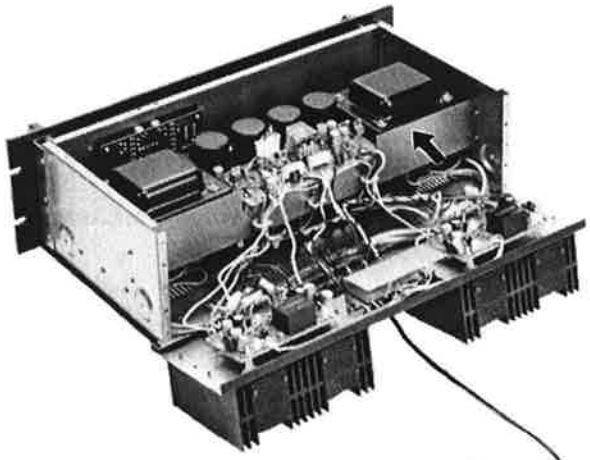


Photo 4.

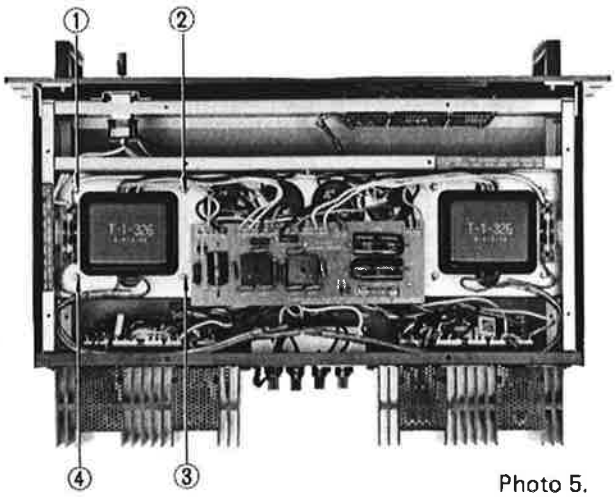


Photo 5.

ALIGNMENT

TEST EQUIPMENT

Alllow a minimum of 10 minutes warm-up for test equipment.
Maintain rated line voltage.
Audio Frequency Generator
Distortion Meter
Oscilloscope
AC Voltmeter
DC Voltmeter
2–Dummy Load Resistor, 8 ohm, 250W
Connect 8 ohm dummy load resistors to left and right channel speaker terminals of the amplifier while except performing the protection circuit check.

LEFT [RIGHT] CHANNEL MAIN AMP DC BALANCE ADJUSTMENT

NOTE: See illustration, Figure 5, for test equipment hook-up.

1. Connect DC voltmeter to test points 10 and 11 on left [right] channel main amp PC board.
2. Connect shorting pin plug to left [right] channel DIRECT input terminal. Adjust potentiometer R712 [R712] for a 0±20 mV DC voltmeter reading.
3. Disconnect shorting pin plug from left [right] channel DIRECT input terminal. With left [right] channel input terminal open-circuited, adjust potentiometer R703 [R703] for a 0±20 mV DC voltmeter reading.
4. Repeat steps 2 and 3 until both the reading become 0±10 mV.
5. Remove shorting pin plug. Remove DC voltmeter.

MUTE TIME CHECK

Relay must operate two to six second later after AC power is turned on.

LEFT [RIGHT] CHANNEL MAIN AMP IDLING CURRENT ADJUSTMENT

NOTE: See illustration, Figure 6, for test equipment hook-up.

1. Connect DC voltmeter to test points 9 and 10 on left [right]

channel main amp PC board.

2. With no signal applied to left [right] channel terminals, adjust potentiometer R721 [R721] for a 44.4 mV DC voltmeter reading.
3. Remove DC voltmeter.

POWER DISPLAY CIRCUIT ADJUSTMENT

NOTE: See illustration, Figure 7, for test equipment hook-up.

1. Connect AC voltmeter, oscilloscope and distortion meter to left [right] speaker terminals. Connect generator to left [right] DIRECT input terminal.
2. Set generator frequency to 1 kHz. Set generator output for a 25.3V AC voltmeter reading. Adjust potentiometer R831 [R832] so that the lamp of 80W lights steadily.
3. Remove AC voltmeter, oscilloscope, distortion meter and generator.
4. The power level indicator characteristic is shown in Figure 8.

PROTECTION CIRCUIT CHECK

NOTE: See illustration, Figure 7, for test equipment hook-up.

1. Connect AC voltmeter to left [right] speaker terminals. Connect generator to left [right] DIRECT input terminal.
2. Set generator frequency to 20 kHz. Set generator output for a 3.0V AC voltmeter reading.
   Short left [right] speaker terminals; Relay's contacts should open.
3. Set generator frequency to 15 Hz. Set generator output for a 25.3V AC voltmeter reading; Relay's contacts still close. Change generator frequency to 7 to 3 Hz; Relay's contanct should open.
4. Remove all test equipment.

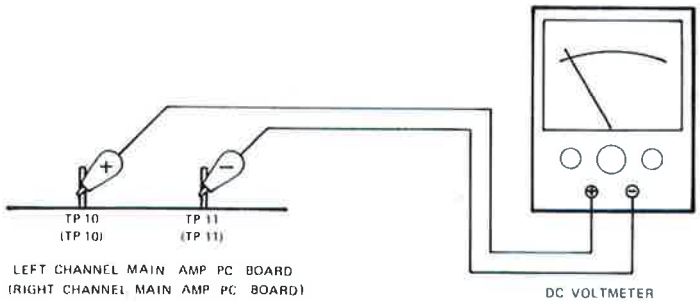


Figure 5. Test Equipment Hook-up

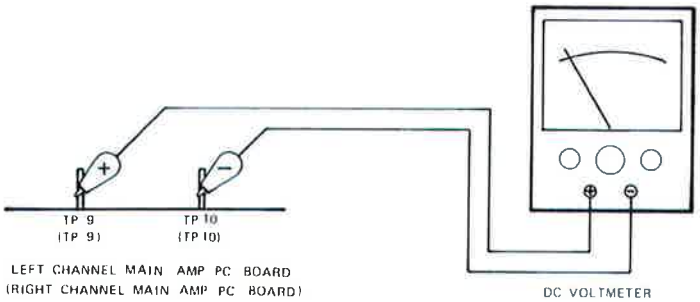


Figure 6. Test Equipment Hook-up

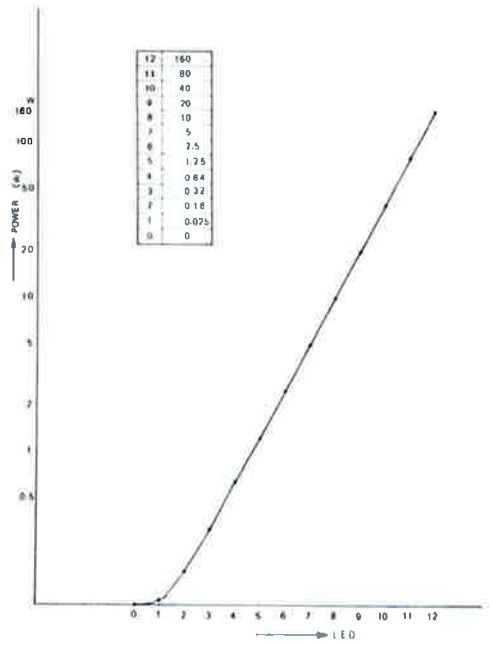


Figure 8. LED Power Level Indicator Characteristic

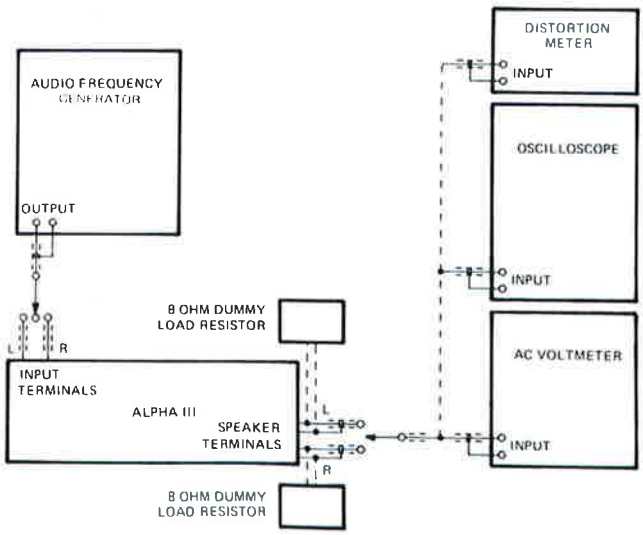
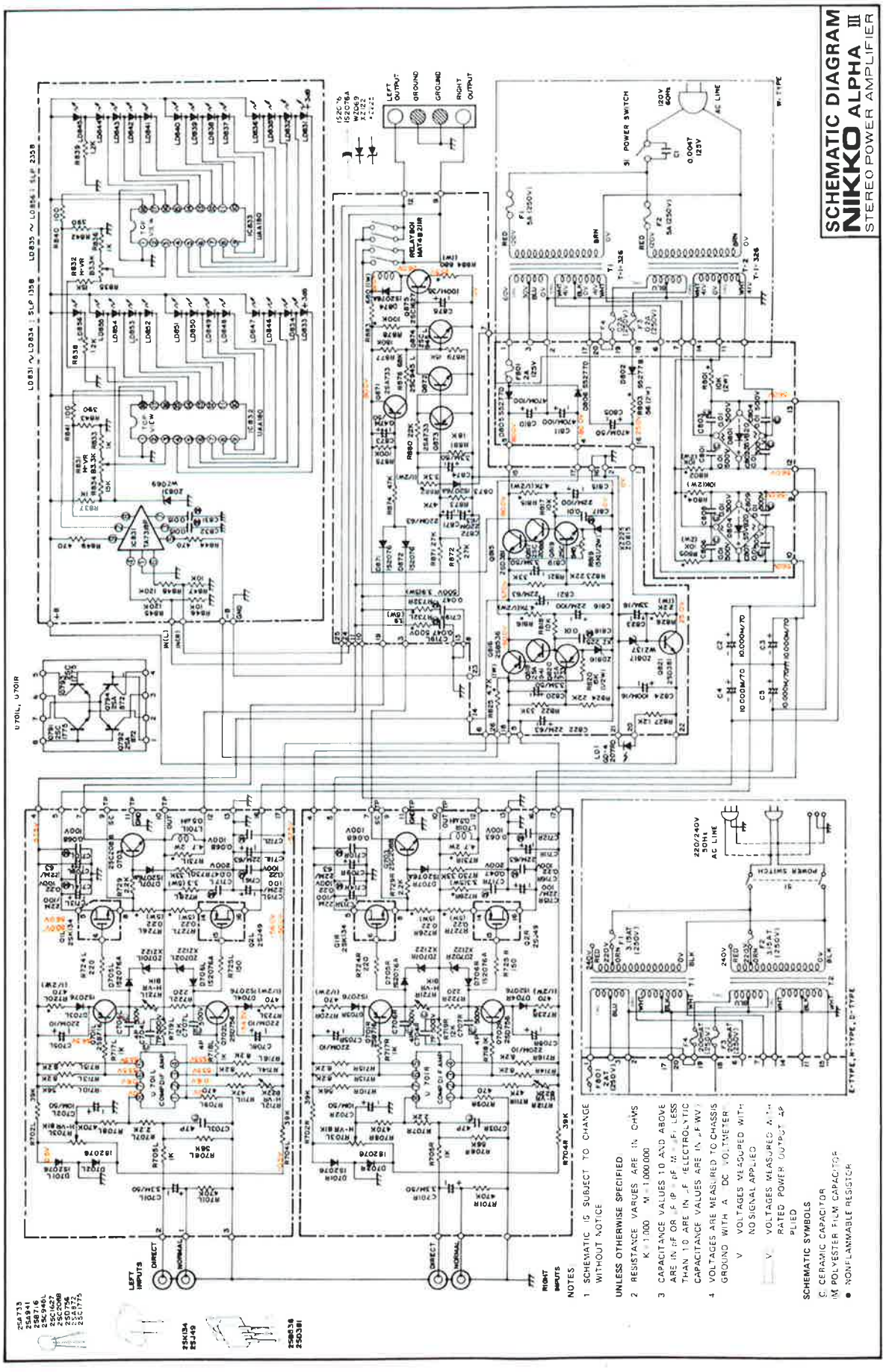


Figure 7. Test Equipment Hook-up

SCHEMATIC DIAGRAM



2SA733
2SA941
2SB716
2SC945L
2SC1627
2SC2088
2SD756
2SA872
2SC1775

2SK134
2SJ49

2SB536
2SD381

LEFT INPUTS

DIRECT

NORMAL

RIGHT INPUTS

U701L, U701R

LD831 ~ LD834 : SLP 135B LD835 ~ LD856 : SLP 235B

IS2076
IS2076A
WZ069
XZ122
XZ225

LEFT OUTPUT
GROUND
GROUND
RIGHT OUTPUT

W- TYPE

NOTES:

1. SCHEMATIC IS SUBJECT TO CHANGE WITHOUT NOTICE.

UNLESS OTHERWISE SPECIFIED:

2. RESISTANCE VARUES ARE IN OHMS. K = 1,000 ; M = 1,000,000
3. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pF OR μF (P = pF, M = μF), LESS THAN 1.0 ARE IN μF. (ELECTROLYTIC CAPACITANCE VALUES ARE IN μF/WV.)
4. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "DC VOLTMETER".
   V : VOLTAGES MEASURED WITH NO SIGNAL APPLIED.
   [V] : VOLTAGES MEASURED WITH RATED POWER OUTPUT APPLIED.

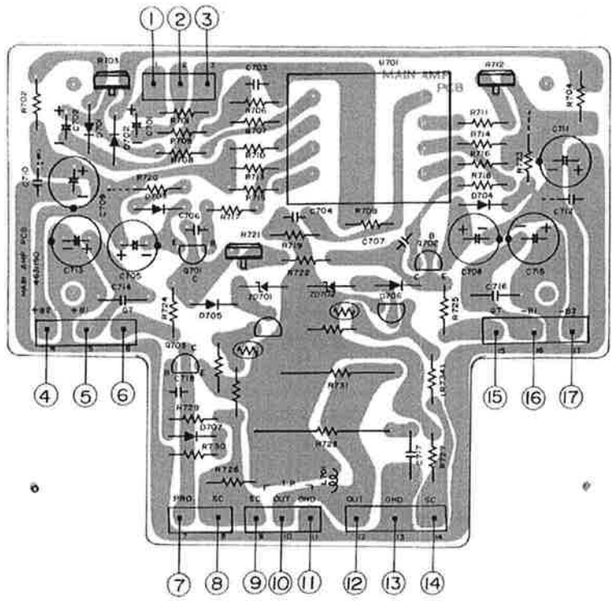
SCHEMATIC SYMBOLS:

Ⓒ CERAMIC CAPACITOR
Ⓜ POLYESTER FILM CAPACITOR
● NONFLAMMABLE RESISTOR

E-TYPE, N-TYPE, D-TYPE

SCHEMATIC DIAGRAM
NIKKO ALPHA III
STEREO POWER AMPLIFIER

PC BOARDS



LEFT CHANNEL

① To L, NORMAL, INPUT TERMINAL
② To L, DIRECT, INPUT TERMINAL
③ To L(GROUND), INPUT TERMINAL
④ To 14 , REGULATOR/PROTECTOR PC BOARD
⑤ To + , C2(10000MF, 70WV)
To DRAIN, Q1L(2SK134)
⑥ To GATE, Q1L(2SK134)
⑦ To 9 , REGULATOR/PROTECTOR PC BOARD
⑧ To SOURCE, Q1L(2SK134)
⑨ ⑩ ⑪
TEST POINTS
⑫ To 11 , REGULATOR/PROTECTOR PC BOARD
⑬ To BUS BAR
⑭ To SOURCE, Q2L(2SJ49)
⑮ To GATE, Q2L(2SJ49)
⑯ To − , C4(10000MF, 70WV)
To DRAIN, Q2L(2SJ49)
⑰ To 18 , REGULATOR/PROTECTOR PC BOARD

RIGHT CHANNEL

① To R, NORMAL, INPUT TERMINAL
② To R, DIRECT, INPUT TERMINAL
③ To R(GROUND), INPUT TERMINAL
④ To 16 , REGULATOR/PROTECTOR PC BOARD
⑤ To + , C3(10000MF, 70WV)
To DRAIN, Q1R(2SK134)
⑥ To GATE, Q1R(2SK134)
⑦ To 3 , REGULATOR/PROTECTOR PC BOARD
⑧ To SOURCE, Q1R(2SK134)
⑨ ⑩ ⑪
TEST POINTS
⑫ To 10 , REGULATOR/PROTECTOR PC BOARD
⑬ To BUS BAR
⑭ To SOURCE, Q2R(2SJ49)
⑮ To GATE, Q2R(2SJ49)
⑯ To − , C5(10000MF, 70WV)
To DRAIN, Q2R(2SJ49)
⑰ To 5 , REGULATOR/PROTECTOR PC BOARD

Figure 9. Main Amp PC Board (Bottom View)

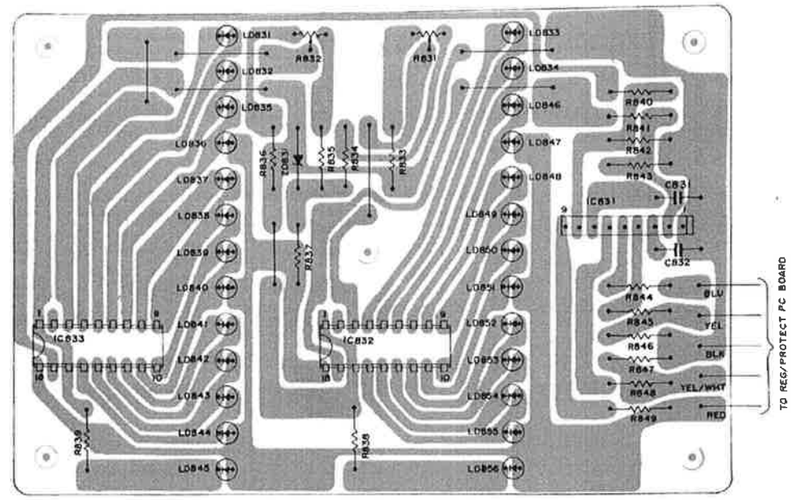
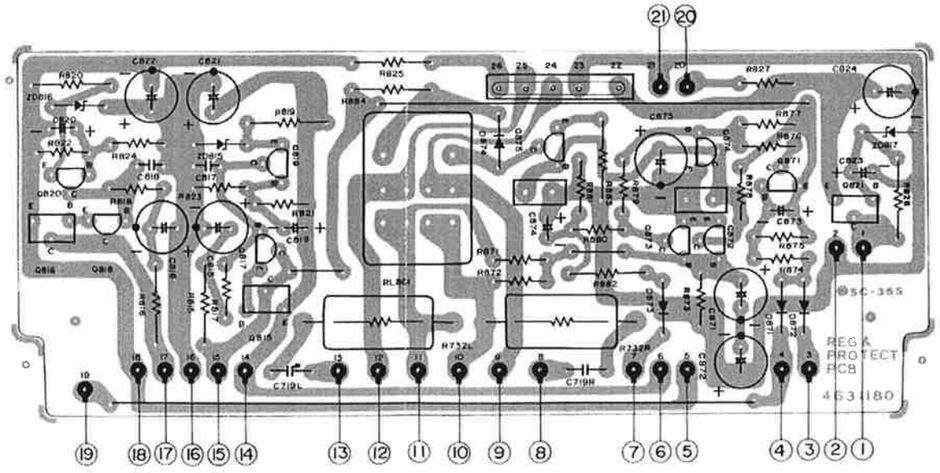
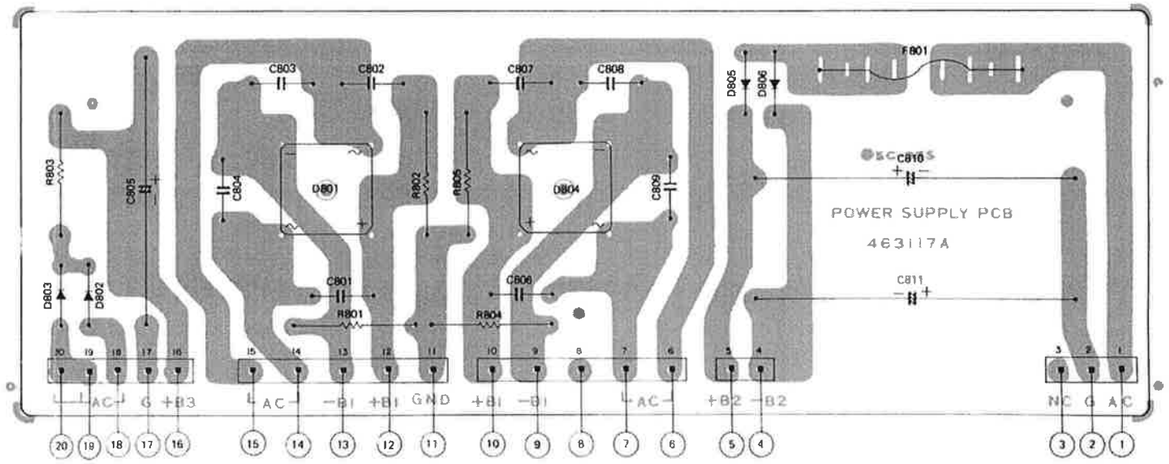


Figure 10. Level Indicator PC Board (Bottom View)



① To 16 , POWER SUPPLY PC BOARD
② To RIGHT CHANNEL BUS
③ To 7 , RIGHT CHANNEL MAIN AMP PC BOARD
⑤ To 17 , RIGHT CHANNEL MAIN AMP PC BOARD
⑥ To 4 , RIGHT CHANNEL MAIN AMP PC BOARD
⑦ To 20 , POWER SUPPLY PC BOARD
⑧ To R − , SPEAKER TERMINAL
⑨ To R + , SPEAKER TERMINAL
⑩ To 12 , RIGHT CHANNEL MAIN AMP PC BOARD
⑪ To 12 ,LEFT CHANNEL MAIN AMP PC BOARD
⑫ To L + , SPEAKER TERMINAL
⑬ To L − , SPEAKER TERMINAL
⑭ To 4 , LEFT CHANNEL MAIN AMP PC BOARD
⑮ To 5 , POWER SUPPLY PC BOARD
⑯ To LEFT CHANNEL BUS
⑰ To 4 , POWER SUPPLY PC BOARD
⑱ To 17 , LEFT CHANNEL MAIN AMP PC BOARD
⑲ To 7 , LEFT CHANNEL MAIN AMP PC BOARD
⑳ ㉑ To LED SOCKET
㉒ ㉓ ㉔ ㉕ ㉖ To LEVEL INDICATOR PC BOARD

Figure 11. Regurator/Protector PC Board (Bottom View)



① To RIGHT CHANNEL POWER TRANSFORMER (ORG)
② To RIGHT CHANNEL BUS
③ To RIGHT CHANNEL POWER TRANSFORMER (BLU)
④ To 17 , REGULATOR/ PROTECTOR PC BOARD
⑤ To 15 , REGULATOR/ PROTECTOR PC BOARD
⑥ ⑦ To RIGHT CHANNEL POWER TRANSFORMER (WHT)
⑨ To − , C5(10000MF, 70WV)
⑩ To + , C3(10000MF, 70WV)
⑪ To LEFT CHANNEL BUS
⑫ To + , C2(10000MF, 70WV)
⑬ To − , C4(10000MF, 70WV)
⑭ ⑮ To LEFT CHANNEL POWER TRANSFORMER (WHT)
⑯ To 1 , REGULATOR/PROTECTOR PC BOARD
⑰ To LEFT CHANNEL BUS
⑱ To FUSE HOLDER
⑲ To FUSE HOLDER
⑳ To 7 , REGULATOR/ PROTECTOR PC BOARD

Figure 12. Power Supply PC Board (Bottom View)

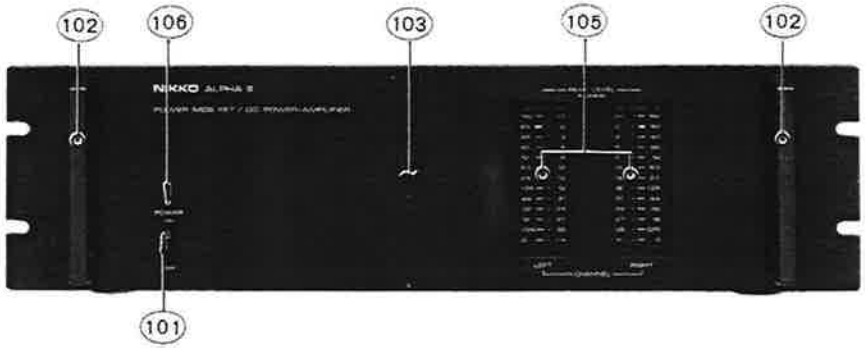


Photo 6.

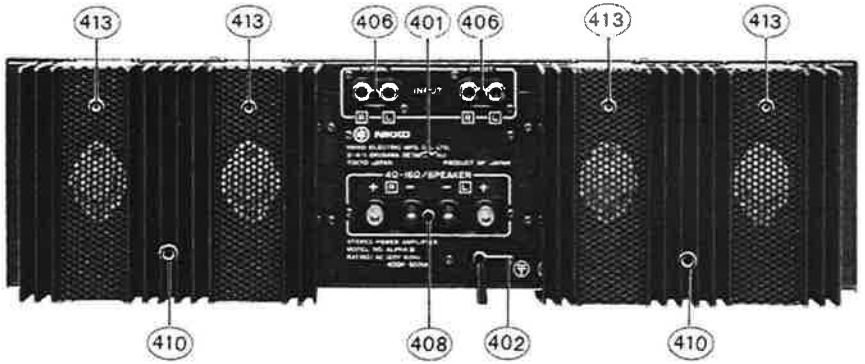


Photo 7.

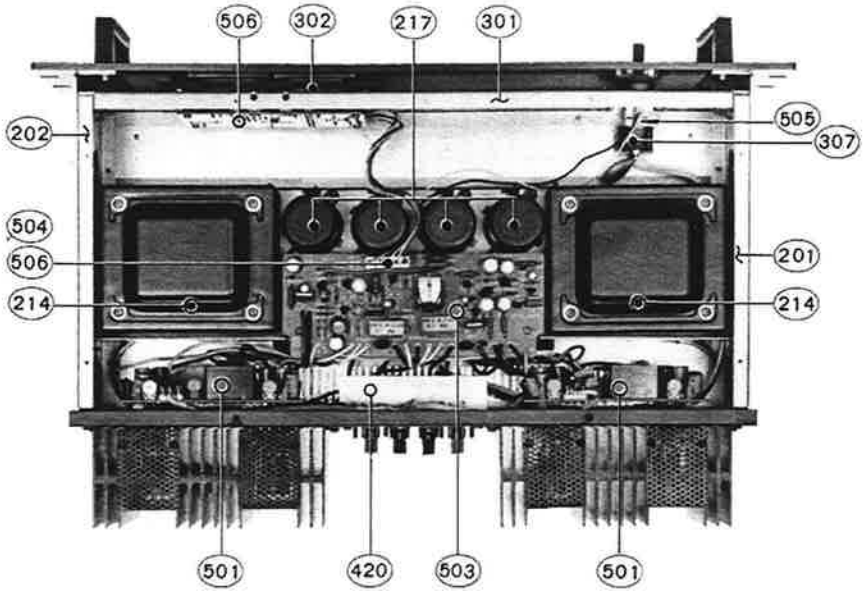


Photo 8.

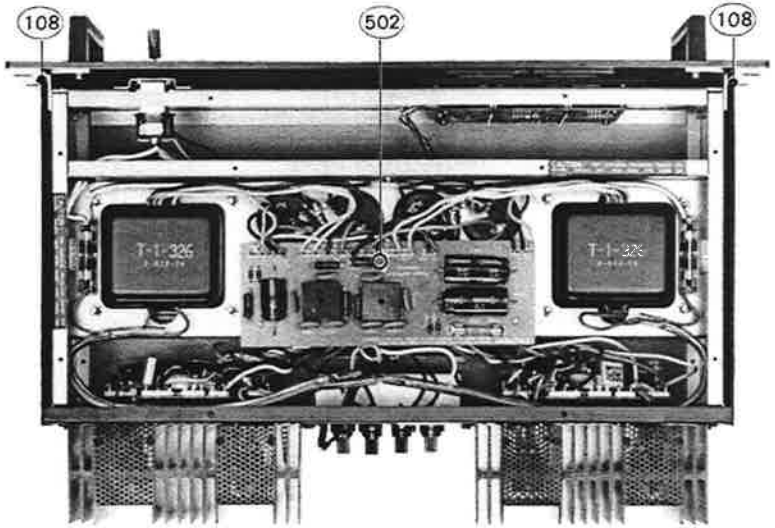


Photo 9.

PARTS LIST

NOTES:

1. ★ The KEY NUMBER (#) marked with a (★) on parts list relate to numbers of three digits with a (◯). (Photo 6 – 9).

2. + Numberals in file indicate the quantity of parts used in one type.

3. ++
   - FET: Field effect transistor
   - IC: Integrated circuit
   - VR: Volume control (Variable resistor)
   - RES: Carbon film fixed resistor
   - MO-RES: Metal oxide film fixed resistor
   - CEM-RES: Cemented wirewound fixed resistor
   - NF: Nonflamable
   - C-CAP: Ceramic capacitor
   - E-CAP: Aluminium electrolytic capacitor
   - M-CAP: Polyester film capacitor
   - S-CAP: Polystyrene film capacitor.
   - T-CAP: Tantalum electrolytic capacitor
   - BP-CAP: Bipolar electrolytic capacitor

   E-CAP, T-CAP and BP-CAP values (1 x 10uf) are in (1) uF, (10) WV.

4. Assemblies and parts are subject to change without notice.

5. Parts ordering procedure:

   A. DO NOT USE THE "KEY" NUMBER AND "SYMBOL" NUMBER. (these are control # for the factory only.)

   B. Include in any order.
      a. Part number.
      b. Part description.
      c. Model number.

      (any of the above lacking from an order may delay shipment of that order.)

KEY NO.	SYMBOL NO.	TYPE+ (W:type-u E:type-n N:type-d D:type-g)	DESCRIPTION++	PART NO.
			PACKING MATERIALS & ACCESSORIES	
001		1 1 1 1	Carton	9825390
002		2 2 2 2	Pad	9840670
003		1 1 1 1	Sack, polyethylene cloth	9640660
004		1 1 1 1	Dryer, SILICA GEL	9690010
005		1 1 1 1	Sack (#13), polyethylene cloth	9640320
006a		1 – – –	Manual (E), instruction	960240E
006b			Manual (SEI), instruction	960261F
006c		– 1 1 –	Manual (KI, instruction	960241K
006d		– – – 1	Manual (G), instruction	960242G
007		1 1 1 1	Cloth, polishing	9690040
008		1 1 1 1	Cord 2T-1 (NK), phono pin plug	962014A
			CABINET ASSEMBLY	
101a		1 1 1 1	Knob, tab type, 15GL-8LS–POWER ≪GOLD MODEL≫	7841110
★101b		1 1 1 1	Knob, tab type, 15BK-8LS–POWER ≪BLACK MODEL≫	7841120
102a		1 1 1 1	Handle(100G)– ≪GOLD MODEL≫	7890180
★102b		1 1 1 1	Handle(100B)– ≪BLACK MODEL≫	7490190
103a		1 1 1 1	Panel(G), front– ≪GOLD MODEL≫	7884080
★103b		1 1 1 –	Panel(BW), front– ≪BLACK MODEL≫	7884100
103c		– – – 1	Panel(BY), front– ≪BLACK MODEL≫	
104		1 1 1 1	Cloth.DUST COV–for power switch	7001760
★105		2 2 2 2	Window, LED display smoka	7802310
★106		1 1 1 1	LED, GD-4-207RD–POWER	506001S
107		1 1 1 1	Holder, LED	7903060
★108		2 2 2 2	Bracket, panel	7031250
109		6 6 6 6	Screw, PTS 3φx 8	814308S
110		4 4 4 4	Screw, PMS 5φx 14	810514S
111		4 4 4 4	Washer, TW(I) 5φ	893405U
112a		1 – – –	Cover, metal	7820780
112b		– 1 1 1	Cover (D), metal	7820790
113		4 4 4 4	Screw, TFTS 4φx 10 BLK	887410W
114		4 4 4 4	Washer, W 4φBLK	893104W
115		4 4 4 4	Screw, PTS 3φx 6 BLK	814306W
116		1 1 1 1	Plate, bottom	7324650
117		10101010	Screw, PTS 3φx 6	814306S
118		4 4 4 4	Foot (TG)	7401350
119		4 4 4 4	Screw, PTS 3φx 8	814308S
			CHASSIS ASSEMBLY	
★201		1 1 1 1	Angle, left side	7226250
★202		1 1 1 1	Angle, right side	7226240
203		10101010	Screw, PTS 3φx 6	814306S
★204		1 1 1 1	Chassis	7325080
205		2 2 2 2	Lug, solder	4400000
206		1 1 1 1	Screw, PTS 3φx 6	814306S
207		1 1 1 1	Washer, TW(I) 3φ	893403U
208		1 1 1 1	Stay–for REG/PROTECT PCB	7032050
209		2 2 2 2	Screw, PTS 3φx 6	814306S
210		3 3 3 3	Clip(43), wire	7401340
211		1 1 1 1	Bushing, snap plastic	7401090
212		1 1 1 1	Bushing(43), snap plastic	7401100
213		4 4 4 4	Spacer, rubber–for POWER SUPPLY PCB	4581590
★214a		2 – – –	Transformer, power, T-1-326– 120V only	1103260
214b		– 2 2 –	Transformer, power, T-1-327– 220/240V	1103270
215		4 4 4 4	Nut, 1N 4φ	892014S
216		4 4 4 4	Washer, TW(I) 4φ	893404U
★217	C3~C6	4 4 4 4	E-CAP 70R10000uf	212950S
218		8 8 8 8	Screw, BLTS 3φx 6	874306S
219		2 2 2 2	Bus Bar	7050470
220		2 2 2 2	Strip(4P WP), wire wrap terminal	4400100
221		2 2 2 2	Screw, PTS 3φx 6	814306S
222		2 2 2 2	Washer, TW(I) 3φ	893403U
223a	F1,F2	2 – – –	Fuse, 5 amp (250V)	4700540
224a		2 – – –	Holder, fuse	4581840
225a		2 – – –	Screw, PTS 3φx 8	814308S
223b	F1,F2	– 2 2 2	Fuse, midget, 3.15 amp (250V)–time-lag	4720390
224b		– 2 2 2	Holder, midget fuse	4581430
225b		– 2 2 2	Screw, PTS 3φx 6	814308S
			(Front Plate Assembly)	
226		6 6 6 6	Screw, PTS 3φx 6 (Back Plate Assembly)	814306S
227		6 6 6 6	Screw, PTS 3φx 6 BLK	814306W

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KEY NO.	SYMBOL NO.	TYPE+ W-type u E-type n N-type d D-type g	DESCRIPTION++	PART NO.
			(RET/PROTECT PCB)	
229		2 2 2 2	Screw. PTS 3ϕx 6	814306S
			(POWER SUPPLY PCB)	
229		3 3 3 3	Supporter, PC board. LCBS-4	7401540

FRONT PLATE ASSEMBLY

★301		1 1 1 1	Plate, front	7325090
★302		1 1 1 1	Panel, LED display plastic. PCB HOLD	7870360
303		4 4 4 4	Screw. PTS 3ϕx 8	814308S
			(LEVEL IND PCB)	
304		5 5 5 5	Screw. PTS 3ϕx 10	814310S
305		1 1 1 1	Bracket, lever switch	7031260
306		2 2 2 2	Screw. PTS 3ϕx 6	814306S
★307	S1	1 – – –	Switch, lever. PJ4AA–POWER	4025410
308	S1	– 1 1 1	Switch, lever. SY02-80DV–POWER	4025150
309		2 2 2 2	Screw. PMS 3ϕx 6	810306S
310	C1	1 – – –	C-CAP 0.0047uf AC125V	239472C
311		1 – – –	Cover(23ϕ), C-CAP	7400980
312a	F3,F4	2 – – –	Fuse, 0.2amp (250V)	4700670
313a		2 – – –	Holder, fuse	4581840
314a		2 – – –	Screw. PTS 3ϕ x 8	814308S
312b	F3,F4	– 2 2 2	Fuse, midget 0.2amp (250V)—time-lag	4720440
313b		– 2 2 2	Holder, midget fuse	4581430
314b		– 2 2 2	Screw. PTS 3ϕ x 6	814308S

BACK PLATE ASSEMBLY

★401a		1 – – –	Plate (W), back	7325100
401b		– 1 1 –	Plate (EN), back	7325110
401c		– – – 1	Plate (D), back	
★402a		1 – – –	Cord, AC line. DP-70	606009A
402b		– 1 1 1	Cord, AC line. CEE-2T	600510A
403a		1 – – –	Stopper, cord. SR-3P-4	7400620
403b		– 1 1 1	Stopper, cord. SR-4N-4	7400690
404a		1 – – –	Bracket (UL), cord stopper	7029300
404b		– 1 1 1	Bracket (EH), cord stopper	7029800
405		2 2 2 2	Screw. PTS 3ϕx 6 BLK	814306W
★406		2 2 2 2	Terminal, pin jack. WP-2P(CE)-- NORMAL/DIRECT INPUT	4442010
407		4 4 4 4	Screw. PMS 3ϕx 8 BLK	814308W
★408		1 1 1 1	Terminal, speaker. SCW-4P(NK)	4450480
409		2 2 2 2	Screw. PTS 3ϕx 10 BLK	814310W
★410		2 2 2 2	Heat Sink	7480330
411		8 8 8 8	Screw. PTS 3ϕx 8	814308W
412		8 8 8 8	Washer. W 3ϕ	893103S
★413		4 4 4 4	Cover, power FET	7226280
414		16161616	Screw. PTS 3ϕx 6	814306W
415	Q1L,Q1R	2 2 2 2	Power FET. 2SK134	516027S
416	Q2L,Q2R	2 2 2 2	Power FET. 2SJ49	517002S
417		4 4 4 4	Socket, power transistor	4510080
418		8 8 8 8	Screw. PMS 3ϕx 16	810316S

KEY NO.	SYMBOL NO.	TYPE+ W-type u E-type n N-type d D-type g	DESCRIPTION++	PART NO.
419		8 8 8 8	Washer. TW(I) 3ϕ	893403U
★420		1 1 1 1	Plate, shield	7032020
421		2 2 2 2	Screw. PTS 3ϕx 6	814306W
422		2 2 2 2	Lug(A4), solder	4400110
423		4 4 4 4	Bushing, plastic snap	7401090
424		4 4 4 4	Clip(43), wire	7401340
			(MAIN AMP PCB)	
425		8 8 8 8	Supportor (LCBS-9), PCB	7401310

MAIN AMP PC BOARD—Left Channel Only

★501a		1 – – –	PC Board, complete. MAIN AMP PCB ASSY	9430700
501b		– 1 1 –	PC Board, complete .MAIN AMP PCB ASSY	
501c		– – – 1	PC Board, complete. MAIN AMP PCB ASSY	
	C701L	1 1 1 1	E-CAP 50R3.3uf CE-NUM	211513A
	C702L	1 1 1 1	E-CAP 50R10uf	211520Q
	C703L	1 1 1 1	C-CAP 47pf 10% 50V SL	232470K
	C704L	1 1 1 1	C-CAP 7pf ±0.5pf 50V SL	234709D
	C705L	1 1 1 1	E-CAP 10R220uf CE-NUM	211132A
	C706L	1 1 1 1	C-CAP 4pf ±0.5pf 500V SL	234409D
	C707L	1 1 1 1	C-CAP 4pf ±0.5pf 500V SL	234409D
	C708L	1 1 1 1	E-CAP 10R220uf CE-NUM	211132A
	C709L	1 1 1 1	E-CAP 63R22uf	211622Q
	C710L	1 1 1 1	M-CAP 0.068uf 10% 100V	226683K
	C711L	1 1 1 1	E-CAP 63R22uf	211622Q
	C712L	1 1 1 1	M-CAP 0.068uf 10% 100V	226683K
	C713L	1 1 1 1	E-CAP 100R22uf	211822Q
	C714L	1 1 1 1	M-CAP 0.22uf 10% 100V	226224K
	C715L	1 1 1 1	E-CAP 100R22uf	211822Q
	C716L	1 1 1 1	M-CAP 0.22uf 10% 100V	226224K
	C717L	1 1 1 1	M-CAP 0.047uf 10% 200V	272473K
		1 1 1 1	C-CAP 10pf 10% 500V	234100K
	D701L ~D704L	4 4 4 4	Diode. 1S2076—light blue	501019S
	D705L ~D707L	3 3 3 3	Diode. 1S2076A—navy blue	501020S
	L701L	1 1 1 1	Coil, 0.5uh	1210900
	Q701L	1 1 1 1	Transistor. 2SB716(D,E)	511102S
	Q702L	1 1 1 1	Transistor. 2SD756(D,E)	513102S
	Q703L	1 1 1 1	Transistor. 2SC2088(BL)	511023S
	R701L	1 1 1 1	RES 470kohm 5% 1/4W	328474J
	R702L	1 1 1 1	RES 39kohm 5% 1/4W	328393J
	R703L	1 1 1 1	Potentiometer. B1kohm–HVR-RVA-0911H	4300910
	R704L	1 1 1 1	RES 39kohm 5% 1/4W	328393J
	R705L	1 1 1 1	RES 1kohm 5% 1/4W	328102J
	R706L	1 1 1 1	RES 56kohm 5% 1/4W	328563J
	R707L	1 1 1 1	RES 2.2kohm 5% 1/4W	328222J
	R708L	1 1 1 1	RES 470kohm 5% 1/4W	328474J
	R709L	1 1 1 1	RES 470ohm 5% 1/4W	328471J
	R710L	1 1 1 1	RES 56kohm 5% 1/4W	328563J
	R711L	1 1 1 1	RES 47kohm 5% 1/4W	328473J
	R712L	1 1 1 1	Potentiometer. B22kohm–HVR-	

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KEY NO.	SYMBOL NO.	TYPE+ W-type N-type E-type D-type	DESCRIPTION++	PART NO.
			RVA-0911H	4300990
	R713L	1 1 1 1	RES 8.2kohm 5% 1/4W	328822J
	R714L	1 1 1 1	RES 8.2kohm 5% 1/4W	328822J
	R715L	1 1 1 1	RES 8.2kohm 5% 1/4W	328822J
	R716L	1 1 1 1	RES 8.2kohm 5% 1/4W	328822J
	R717L	1 1 1 1	RES 1kohm 5% 1/4W	328102J
	R718L	1 1 1 1	RES 1kohm 5% 1/4W	328102J
	R719L	1 1 1 1	RES 12kohm 5% 1/4W	328123J
	R720L	1 1 1 1	NF-MO-RES 470ohm 5% 1/2W	360471L
	R721L	1 1 1 1	Potentiometer. B1kohm-HVR-RVA-0911H	4300910
	R722L	1 1 1 1	RES 220ohm 5% 1/4W	328221J
	R723L	1 1 1 1	NF-MO-RES 470ohm 5% 1/2W	360471L
	R724L	1 1 1 1	RES 220ohm 5% 1/4W	328221J
	R725L	1 1 1 1	RES 150ohm 5% 1/4W	328151J
	R726L	1 1 1 1	CEM-RES 0.22ohm 10% 5W	384229W
	R727L	1 1 1 1	CEM-RES 0.22ohm 10% 5W	384229W
	R728L	1 1 1 1	CEM-RES 3.3ohm 10% 5W	384338K
	R729L	1 1 1 1	RES 2.2kohm 5% 1/4W	328222J
	R730	1 1 1 1	RES 33kohm 5% 1/4W	328333J
	R731L	1 1 1 1	NF-MO-RES 4.7ohm 5% 2W	362478L
	U701L	1 1 1 1	Amp. COMP DIF AMP ASSY	518068S
		(2 2 2 2)	Transistor. 2SC1775(E)	511016S
		(2 2 2 2)	Transistor. 2SA872(E)	510043S
	ZD701L	1 1 1 1	Zener Diode. XZ122	502020S
	ZD702L	1 1 1 1	Zener Diode. XZ122	502020S

POWER SUPPLY PC BOARD

★502a		1 – – –	PC Board, complete. POWER SUPPLY PCB ASSY	9450800
502b		– 1 1 1	PC Board, complete. POWER SUPPLY PCB ASSY	9450850
	C801 ~C804	4 4 4 4	C-CAP 0.01uf 100, –0% 500V	238103P
	C805	1 1 1 1	E-CAP 50T470uf	211535U
	C806 ~C809	4 4 4 4	C-CAP 0.01uf 100, –0% 500V	238103P
	C810	1 1 1 1	E-CAP 100T470uf	211835U
	C811	1 1 1 1	E-CAP 100T470uf	211835U
	D801	1 1 1 1	Diode, bridge. S5VB20	560042S
	D802	1 1 1 1	Diode. S5277B	560046S
	D803		–DELETED–	
	D804	1 1 1 1	Diode, bridge. S5VB20	560042S
	D805	1 1 1 1	Diode. S5277D	560047S
	D806	1 1 1 1	Diode. S5277D	560047S
	F801	1 – – –	Fuse. 2A(125V)	4700660
		2 – – –	Clip, fuse	7050420
	F801	– 1 1 1	Fuse, midget. 2AT(250V)–time-lag	4720370
		– 2 2 2	Clip, midget fuse	7050430
	R801	1 1 1 1	NF-MO-RES 10kohm 5% 2W	362103L
	R802	1 1 1 1	NF-MO-RES 10kohm 5% 2W	362103L
	R803	1 1 1 1	NF-MO-RES 56ohm 5% 2W	362560L
	R804	1 1 1 1	NF-MO-RES 10kohm 5% 2W	362103L
	R805	1 1 1 1	NF-MO-RES 10kohm 5% 2W	362103L

REGULATOR/PROTECTOR PC BOARD

★503a		1 – – –	PC Board, complete. REG/PROTECT PCB ASSY (W)	9450810
503b		– 1 1 –	PC Board, complete. REG/PROTECT PCB ASSY (EN)	
503C		– – – 1	PC Board, complete. REG/PROTECT PCB ASSY (D)	
	C719L	1 1 1 1	M-CAP 0.047uf 10% 200V	272473K
	C719R	1 1 1 1	M-CAP 0.047uf 10% 200V	272473K
	C815	1 1 1 1	E-CAP 100R22uf	211822Q
	C816	1 1 1 1	E-CAP 100R22uf	211822Q
	C817	1 1 1 1	M-CAP 0.01uf 10% 100V	226103K
	C818	1 1 1 1	M-CAP 0.01uf 10% 100V	226103K
	C819	1 1 1 1	E-CAP 50R3.3uf	211513Q
	C820	1 1 1 1	E-CAP 50R3.3uf	211513Q
	C821	1 1 1 1	E-CAP 63R22uf	211622Q
	C822	1 1 1 1	E-CAP 63R22uf	211622Q
	C823	1 1 1 1	E-CAP 16R22uf	211223Q
	C824	1 1 1 1	E-CAP 16R100uf	211223Q
	C871	1 1 1 1	E-CAP 63R220uf	211032Q
	C872	1 1 1 1	E-CAP 63R220uf	211032Q
	C873	1 1 1 1	E-CAP 50R0.47uf	211505Q
	C874	1 1 1 1	E-CAP 50R3.3uf	211513Q
	C875	1 1 1 1	E-CAP 35R100uf	211430Q
	D871	1 1 1 1	Diode. 1S2076–light blue	501019S
	D872	1 1 1 1	Diode. 1S2076–light blue	501019S
	D873	1 1 1 1	Diode. 1S2076A–navy blue	501020S
	D874	1 1 1 1	Diode. 1S2076A–navy blue	501020S
	Q815	1 1 1 1	Transistor. 2SD381(L,M)	510038S
	Q816	1 1 1 1	Transistor. 2SB536(L,M)	510039S
	Q817	1 1 1 1	Transistor. 2SC2088(BL)	510023S
	Q818	1 1 1 1	Transistor. 2SA941(BL)	510048S
	Q819	1 1 1 1	Transistor. 2SC945L(P,Q)	515077S
	Q820	1 1 1 1	Transistor. 2SC945L(P,Q)	515077S
	Q821	1 1 1 1	Transistor. 2SD381(L,M)	510038S
	Q871	1 1 1 1	Transistor. 2SA733(Q,R)	514074S
	Q872	1 1 1 1	Transistor. 2SC945L(P,Q)	515077S
	Q873	1 1 1 1	Transistor. 2SA733(Q,R)	514074S
	Q874	1 1 1 1	Transistor. 2SC945L(P,Q)	515077S
	Q875	1 1 1 1	Transistor. 2SC1627(Y)	511017S
	R732L	1 1 1 1	CEM-RES 3.9ohm 10% 5W	384398K
	R732R	1 1 1 1	CEM-RES 3.9ohm 10% 5W	384398K
	R815	1 1 1 1	NF-MO-RES 4.7kohm 5% 1/2W	360472L
	R816	1 1 1 1	NF-MO-RES 4.7kohm 5% 1/2W	360472L
	R817	1 1 1 1	RES 10kohm 5% 1/4W	328103J
	R818	1 1 1 1	RES 10kohm 5% 1/4W	328103J
	R819	1 1 1 1	NF-MO-RES 15kohm 5% 1/2W	360153L
	R820	1 1 1 1	RES 15kohm 5% 1/4W	328153J
	R821	1 1 1 1	RES 33kohm 5% 1/4W	328333J
	R822	1 1 1 1	RES 33kohm 5% 1/4W	328333J
	R823	1 1 1 1	RES 22kohm 5% 1/4W	328223J
	R824	1 1 1 1	RES 22kohm 5% 1/4W	328223J
	R825	1 1 1 1	NF-MO-RES 4.7kohm 5% 1W	361472L
	R826	1 1 1 1	NF-MO-RES 2.2kohm 5% 1W	361222L
	R827	1 1 1 1	RES 1.2kohm 5% 1/4W	328122J
	R871	1 1 1 1	RES 27kohm 5% 1/4W	328273J
	R872	1 1 1 1	RES 27kohm 5% 1/4W	328273J

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KEY NO.	SYMBOL NO.	TYPE+ W·type-u E·type-n N·type-d D·type-g	DESCRIPTION++	PART NO.
	R873	1 1 1 1	RES 47kohm 5% 1/4W	328473J
	R874	1 1 1 1	RES 47kohm 5% 1/4W	328473J
	R875	1 1 1 1	RES 100kohm 5% 1/4W	328104J
	R876	1 1 1 1	RES 68kohm 5% 1/4W	328683J
	R877	1 1 1 1	RES 180kohm 5% 1/4W	328184J
	R878	1 1 1 1	RES 100kohm 5% 1/4W	328104J
	R879	1 1 1 1	RES 15kohm 5% 1/4W	328153J
	R880	1 1 1 1	RES 22kohm 5% 1/4W	328223J
	R881	1 1 1 1	RES 18kohm 5% 1/4W	328183J
	R882	1 1 1 1	NF-MO-RES 3.3kohm 5% 1/2W	360332L
	R883	1 1 1 1	NF-MO-RES 680ohm 5% 1W	361681L
	R884	1 1 1 1	NF-MO-RES 680ohm 5% 1W	361681L
	RL801	1 1 1 1	Relay. MAT4B211R 24V	1700210
	ZD815	1 1 1 1	Zener Diode. XZ225	502036S
	ZD816	1 1 1 1	Zener Diode. XZ225	502036S
	ZD817	1 1 1 1	Zener Diode. WZ137	502037S
★504		1 1 1 1	Connector, 5-pin male—for LEVEL IND PCB	4570130
★505		1 1 1 1	Socket(3021-2-N), LED cable	4510090

LEVEL INDICATOR PC BOARD

★506a		1 1 1 1	PC Board, complete. LEVEL IND PCB ASSY	9492640
506b			PC Board, complete. LEVEL IND PCB ASSY	

KEY NO.	SYMBOL NO.	TYPE+ W·type-u E·type-n N·type-d D·type-g	DESCRIPTION++	PART NO.
	C831	1 1 1 1	M-CAP 0.015uf 10% 50V	222153K
	C832	1 1 1 1	M-CAP 0.015uf 10% 50V	222153K
	IC831	1 1 1 1	IC. TA7318P	518067S
	IC832	1 1 1 1	IC. UAA180	518066S
	IC833	1 1 1 1	IC. UAA180	518066S
	LD831 ~LD834 LD835 ~LD856	4 4 4 4 / 11111111	LED. SLP135B—red / LED. SLP235B—green	5060120 / 5060110
	R831	1 1 1 1	Potentiometer. B3.3kohm—HVR-RVA-0911H	4300940
	R832	1 1 1 1	Potentiometer. B3.3kohm—HVR-RVA-0911H	4300940
	R833	1 1 1 1	RES 1kohm 5% 1/4W	328102J
	R834	1 1 1 1	RES 15kohm 5% 1/4W	328153J
	R835	1 1 1 1	RES 15kohm 5% 1/4W	328153J
	R836	1 1 1 1	RES 1kohm 5% 1/5W	328102J
	R837	1 1 1 1	RES 1kohm 5% 1/4W	328102J
	R838	1 1 1 1	RES 1.2kohm 5% 1/4W	328122J
	R839	1 1 1 1	RES 1.2kohm 5% 1/4W	328122J
	R840	1 1 1 1	RES 100ohm 5% 1/4W	328101J
	R841	1 1 1 1	RES 390ohm 5% 1/4W	328391J
	R842	1 1 1 1	RES 390ohm 5% 1/4W	328391J
	R843	1 1 1 1	RES 390ohm 5% 1/4W	328391J
	R844	1 1 1 1	RES 470ohm 5% 1/4W	328471J
	R845	1 1 1 1	RES 120kohm 5% 1/4W	328124J
	R846	1 1 1 1	RES 10kohm 5% 1/4W	328103J
	R847	1 1 1 1	RES 10kohm 5% 1/4W	328103J
	R848	1 1 1 1	RES 120kohm 5% 1/4W	328124J
	ZD831	1 1 1 1	Zener Diode. WZ069	502035S
★506		1 1 1 1	Connector. 5-pin female—for REG/PROTECT PCB	4570200

SEMICONDUCTOR DATA

SEMICONDUCTOR DATA

1 NOTES Ge : Germanium
Si : Sillicon

A : Alloy
B : Base
D : Diffused
Dd : Double-diffused

Df : Drift-field
E : Epitaxial
G : Grown
J : Junction

M : Mesa
P : Planer
Pc : Point-contact
Td : Triple-diffused

TRANSISTORS

DEVICE TYPE	APPLICATIONS	STRUCTURE[1]	MAXIMUM RATINGS Absolute-Maximum Values: (T_A = 25°C unless otherwise specified)					ELECTRICAL CHARACTERISTICS Typical Values: (T_A = 25°C unless otherwise specified)												MANUFACTURER
			Collector-to-Base Voltage V_{CBO} (V)	Emitter-to-Base Voltage V_{EBO} (V)	Collector Current I_C (mA)	Collector Dissipation P_C (mW)	Junction Temperature T_J (°C)	Collector Cutoff Current I_{CBO} (uA)	V_{CB} (V)	Static Forward-Current Transfer Ratio h_{FE}	V_{CE} (V)	I_C (mA)	Collector-Emitter Saturation Voltage $V_{CE(sat)}$ (V)	I_C (mA)	I_B (mA)	Gain-Bandwidth Product f_T typ (MHz)	V_{CE} V_{CB}* (V)	I_E I_C* (mA)	Output Capacitance C_{ob} (pF)	Others	
2SA733(C,R)	AF	PNP Si-E	−50	−5	−100	250	125	−0.1	−40	60 ~ 600	−6	−1	−0.1	−30	−3	180	−6	10	12		NEC
2SA872(D,E)	AF: Low noise small signal	PNP Si-E	−90	−5	−50	300	125	−0.5	−75	250 ~ 800	−12	−2	−0.5	−10							HITACHI
2SA941(BL)	AF: Low noise	PNP Si-E	−120	−5	−50	300	125	−0.1	−120	350 ~ 700	−6	−2	−0.4	−10	−1	40	−5	0.1A	5.0 max		TOSHIBA
2SB536(L,M)	AF: Power amp.	PNP Si-E	−130	−5	−1.5A	20W (Tc=25°C)	150	−1.0	−120	60 ~ 160	−12	−2	−0.2 max	−1A	−0.1A	40	−5	−0.1A*	35		NEC
2SB716(D,E)	AF: Driver	PNP Si-E	−120	−5	−50	750	150	−0.5	−100	250 ~ 800	−12	2	−0.2 max	−10	−1	150	−12	−5*	1.8		HITACHI
2SC945L(P,Q)	AF: Low noise general amp.	NPN Si-E	60	5	100	250	125	0.1	60	135 ~ 400	6	1	0.15	100	10	250	6	10	3.5		NEC
2SC1627(O,Y)	AF: Voltage amp., Driver	NPN Si-E	80	5	300	800	150	0.1	75	70 ~ 240	12	50	0.5	200	10	100	10	−1	10		TOSHIBA
2SC1775(D,E)	AF: Low noise small signal	NPN Si-E	90	5	50	300	125	0.5	75	250 ~ 800	12	2	0.5	10	1.0						HITACHI
2SC2088(BL)	AF: Low noise	NPN Si-E	120	5	50	300	125	0.1	120	350 ~ 700	6	2	0.3	10	1	150	6	−1A	3.0 max		TOSHIBA
2SD818(L,M)	AF: Power amp.	NPN Si-E	130	5	1.5A	20W (Tc=25°C)	150	1	120	60 ~ 160	5	3A	2	1A	0.1A	45	5	0.1A*	25		NEC
2SD756(D,E)	AF: Driver	NPN Si-E	120	5	50	750	150	0.5	100	250 ~ 800	12	2	0.2 max	10	1	350	12	5*	1.6		HITACHI

FIELD EFFECT TRANSISTORS

DEVICE TYPE	APPLICATIONS	STRUCTURE[1]	MAXIMUM RATINGS Absolute-Maximum Values (T_A = 25°C unless otherwise specified)					ELECTRICAL CHARACTERISTICS Typical Values (T_A = 25°C unless otherwise specified)																MANUFACTURER
			Gate-to-Drain Voltage V_{GDO} (V)	Gate-to-Source Voltage V_{GSO} (V)	Gate Current I_G (mA)	Drain Current I_D (mA)	Total Dissipation P_D (mW)	Channel Temperature T_{ch} (°C)	Gate Leak Current Test Conditions	Gate Leak Current I_{GSS} (mA)	Gate to Drain Breakdown Voltage Test Conditions	Gate to Drain Breakdown Voltage $V_{(BR)GDO}$ (V)	Drain Current Test Conditions	Drain Current I_{DSS} (mA)	Gate to Source Cutoff Voltage Test Conditions	Gate to Source Cutoff Voltage $V_{GS(off)}$ (V)	Forward Transfer Admittance Test Conditions	Forward Transfer Admittance |Yfs|	Feed Back Capacitance Test Conditions	Feed Back Capacitance C_{rss} (pF)	Power Gain (Common Source) Test Conditions	Power Gain (Common Source) G_{PS} (dB)	Noise Figure Test Conditions	Noise Figure NF (dB)	
2SJ49	AF: Power amp.	P-channel Si-MOS	V_{DSX} −140	V_{GSS} ±14		−7A	100W (Tc=25°C)	150							V_{DS}=−10V I_D=−10mA	−0.15 ~ −1.45	I_G=−100μA V_{DS}=0 I_G=−100μA V_{DS}=0	14S ~ 14S						HITACHI
2SK134	AF: Power amp.	N-channel Si-MOS	V_{DSX} 140	V_{GSS} ±14		7A	100W (Tc=25°C)	150							V_{DS}=10V I_D=100mA	0.15 ~ 1.45	I_G=100μA V_{DS}=0 I_G=−100μA V_{DS}=0	14S ~ 14S						HITACHI

DIODES, LED'S

DEVICE TYPE	APPLICATIONS	STRUCTURE[1]	MAXIMUM RATINGS Absolute-Maximum Values: (T_A = 25°C unless otherwise specified)									ELECTRICAL CHARACTERISTICS Typical Values (T_A = 25°C unless otherwise specified)							MANUFACTURER
			Reverse Surge Voltage V_{Rsurge} (V)	Peak Reverse Voltage V_{RM} (V)	Reverse Voltage V_R (V)	Peak Forward Voltage V_{FM} (V)	Peak Forward Current I_{FM} (mA)	Average Rectified Current Io (mA)	Forward Surge Current $I_{F\,surge}$ (A)	Junction Temperature T_J (°C)	Total Power Dissipation P_D (mW)	Forward Current I_{Fmin} (mA)	Forward Current Test Condition V_F (V)	Forward Voltage V_{Fmax} (V)	Forward Voltage Test Condition I_F (mA)	Reverse Current I_{Rmax} (μA)	Reverse Current Test Condition V_R (V)	Others	
1S2076	Various detector	Si-DJ		35	30		450	150	1	175	250			0.8	10	1	30		HITACHI
1S2076A	Various detector	Si-DJ		70	60		450	150	1	175	250			0.8	10	1	30		HITACHI
1S2778	Rectifier	Si-DJ		100			2.0A	1.0A	50A	150				1.2	1.0A	10	100		TOSHIBA
1S2779	Rectifier	Si-DJ		200			2.0A	1.0A	50A	150				1.2	1.0A	10	200		TOSHIBA
S3VB20	Rectifier	Si-DJ Bridge		200				3.5A (Ta=40°C)	200	150				1.05	3.0A (Tc=25°C)	10	200 (Tc=25°C)		SHINDENGEN
GD-4207RD	LED	GaP-J			3			I_F=50mA		100	100			1.7	20	100	3	10(I=L (IF=20mA)	STANLEY
SLP135B	LED	GaP			3			I_F=30mA			70			2.2	5	10	3	L=1000μcd/ft(IF=5mA)	SANYO
SLP236B	LED	GaP			3			I_F=30mA			70			2.8	20	10	3	L=2000μcd/ft (IF=20mA)	SANYO

ZENER DIODES

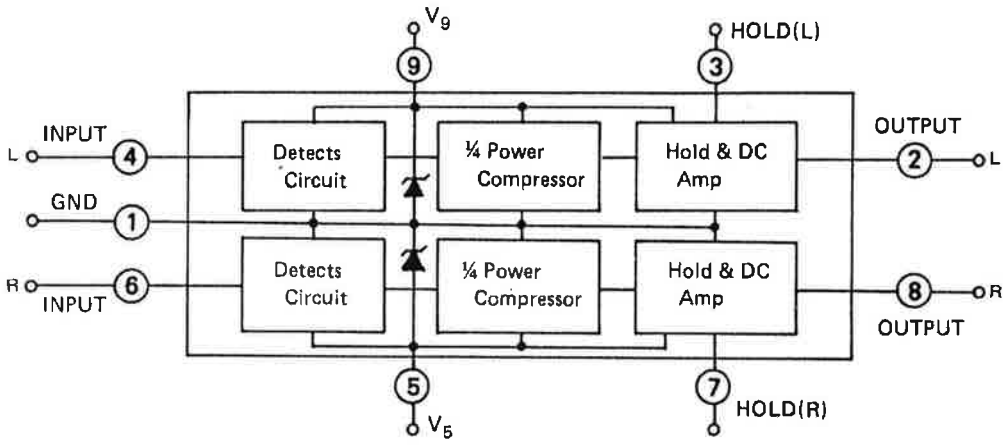
DEVICE TYPE	APPLICATIONS	STRUCTURE[1]	MAXIMUM RATINGS Absolute-Maximum Values (T_A = 25°C unless otherwise specified)			ELECTRICAL CHARACTERISTICS Typical Values: (T_A = 25°C unless otherwise specified)														MANUFACTURER
			Total Power Dissipation P_D (mW)	Zener Current I_Z (A)	Junction Temperature T_J (°C)	Zener Voltage V_Z MIN (V)	V_Z TYP (V)	V_Z MAX (V)	V_Z Test Conditions I_Z (mA)	Differential Resistance r_Z TYP (Ω)	r_Z MAX (Ω)	r_Z Test Conditions I_Z (mA)	Temperature Coefficient T_Z TYP (%/°C)	T_Z MAX (%/°C)	T_Z Test Conditions I_Z (mA)	Reverse Current I_Z MAX (μA)	Reverse Current Test Conditions V_R (V)	Others	
WZ069	Stabilized power supply	Si-DJ	500		175	6.5	6.9	7.3	10	10		10	0.041			1	2		JRC
WZ137	Stabilized power supply	Si-DJ	500		175	13.0	13.7	14.4	5	15		5				1	11		JRC
XZ122	Stabilized power supply	Si-DJ	500		175	11.9	12.2	12.6	5	15		5	0.069			1	10		JRC
XZ225	Stabilized power supply	Si-DJ	500		175	21.8	22.5	23.2	5	30		5	0.0845			1	20		JRC

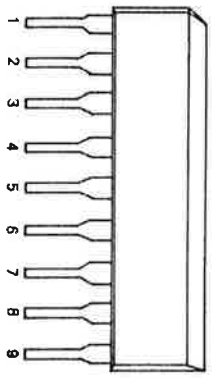
INTEGRATED CIRCUITS TA7318P

FUNCTION/MANUFACTURER

- **Dual Linear-to-Log Converter for Peak Power Indicator/Toshiba**

BLOCK DIAGRAM AND CONNECTION INFORMATION





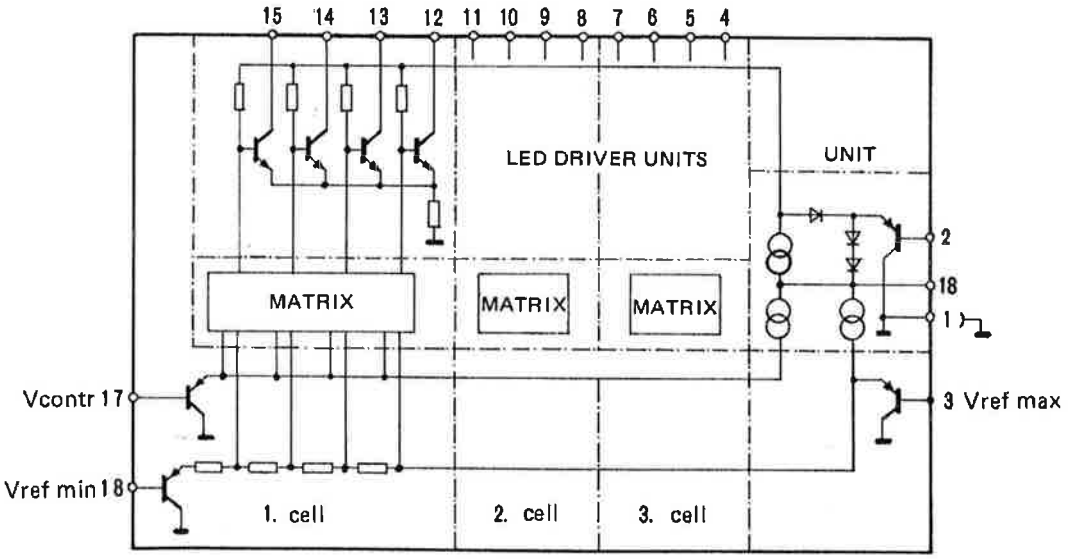
(SIDE VIEW)

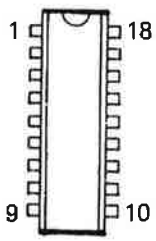
INTEGRATED CIRCUITS UAA180

FUNCTION/MANUFACTURER

- **Analog-to-Digital Converter; 12LED Driver/Siemens**

BLOCK DIAGRAM AND CONNECTION INFORMATION





(TOP VIEW)

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