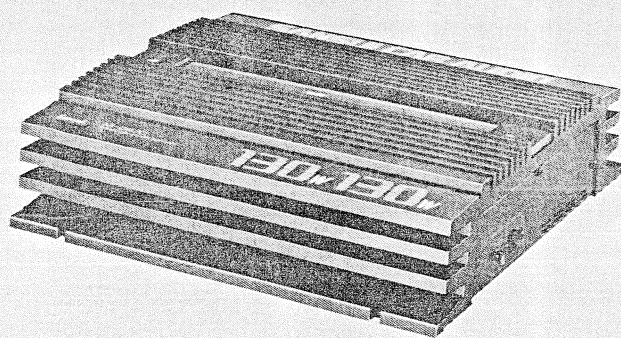


SERVICE MANUAL

STEREO HIGH POWER AMPLIFIER

SANSUI SM-X700



•SPECIFICATIONS

Maximum output power (1kHz, 10% total harmonic distortion)	110 watts per channel into 4 ohms
Load impedance	4 ohms
Input sensitivity and impedance	100mV/10 kohms
Signal to noise ratio (A network)	100 dB
Frequency response	5 Hz to 100 kHz +3 dB, -3 dB
Power requirements	DC 12.0V (Usable: 10.8 ~ 15.6V) Rated: 14.4V negative ground
Current consumption	30A Maximum
Dimensions	320 mm (12-5/8") W 79 mm (3-1/8") H 280 mm (11-1/16") D
Weight	7.25 kg (16 lbs) net

* Design and specifications subject to changes without notice for improvements.



SANSUI ELECTRIC CO., LTD.

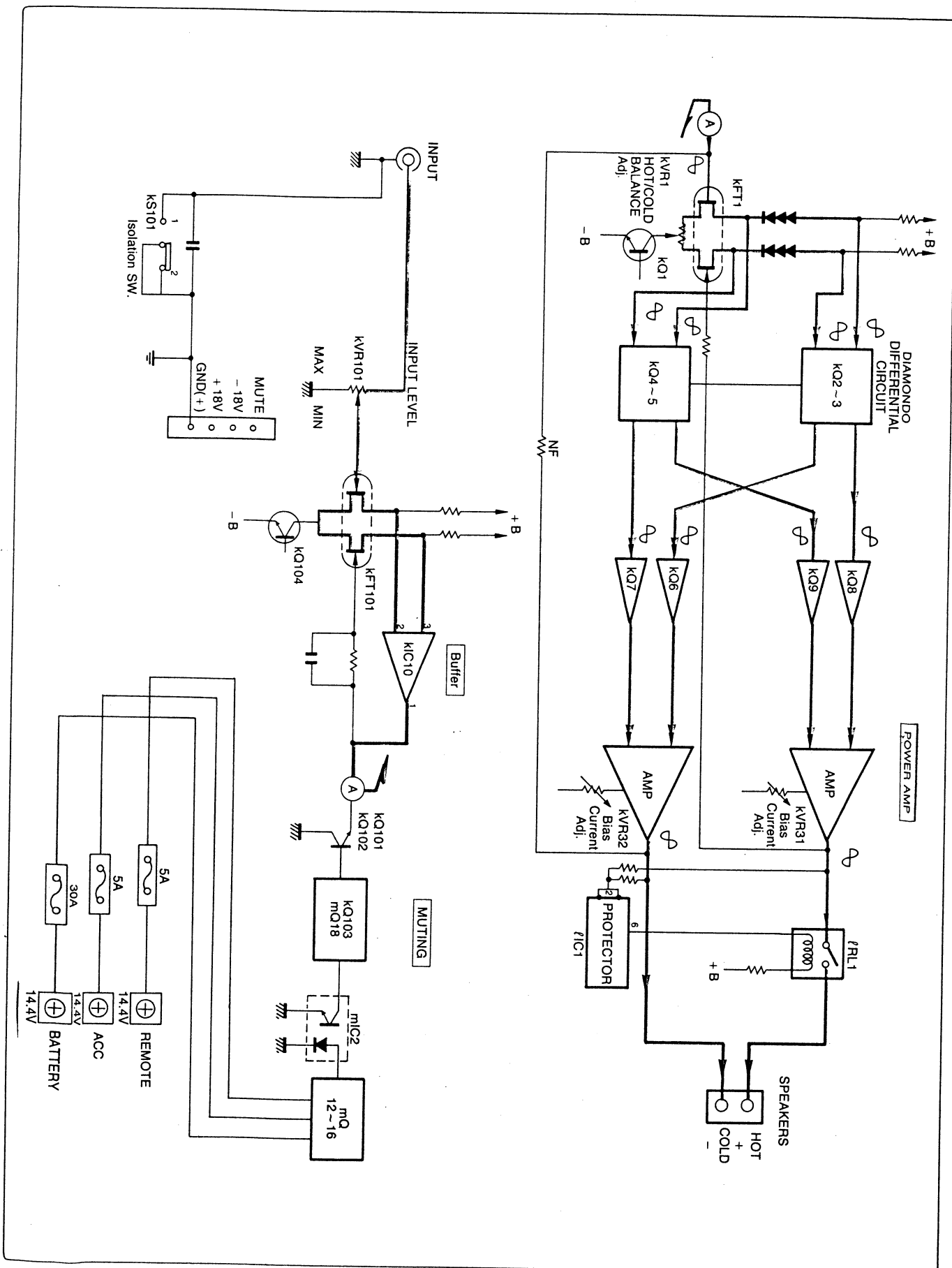
NOTE

1. Some printed circuit boards are not supplied as the assembled.
To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
2. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on February 1983.
3. Abbreviations in this service manual are as follows.

•Abbreviations List

C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R. : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R. : Array Resistor	G.C. : Gimmic Capacitor
C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor,	V.R. : Variable Resistor
Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic	Chip R. : Chip Resistor
Capacitor	Chip C. : Chip Capacitor
E.B. : Bi-Polar Electrolytic	
Capacitor	

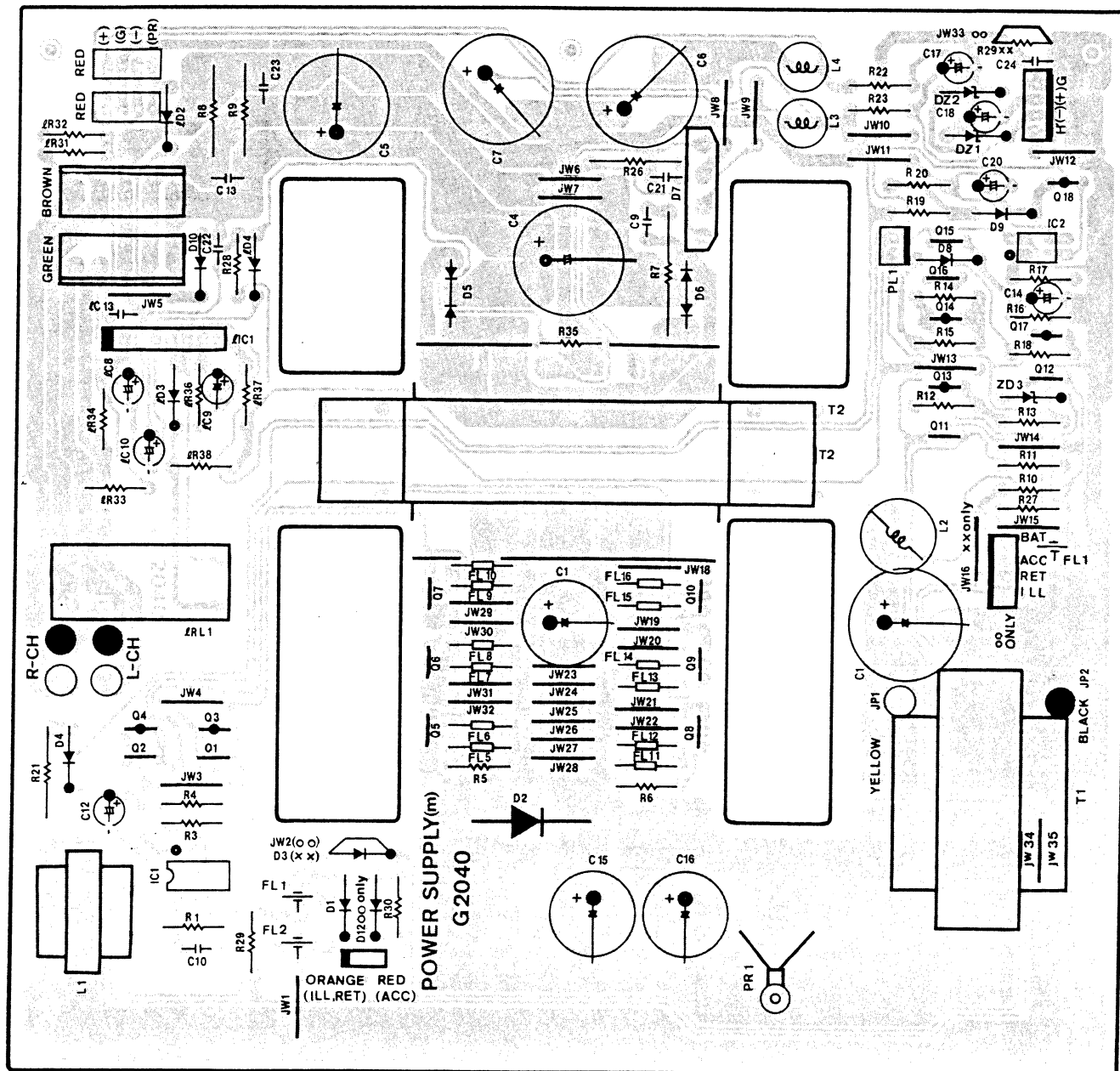
1. BLOCK DIAGRAM



2. PARTS LOCATION ON BOARD

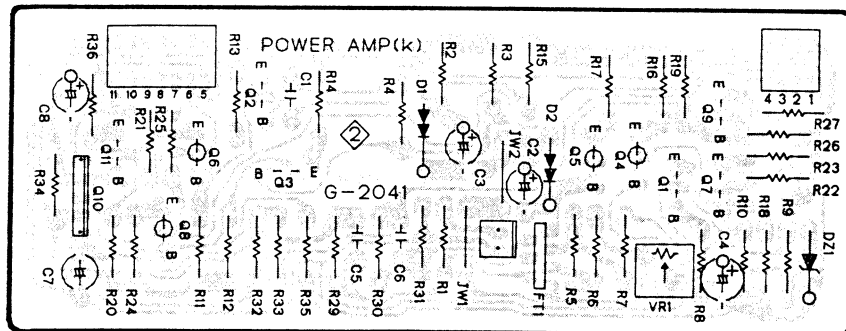
2-1. G-2040 Power Supply Board

Pattern Side

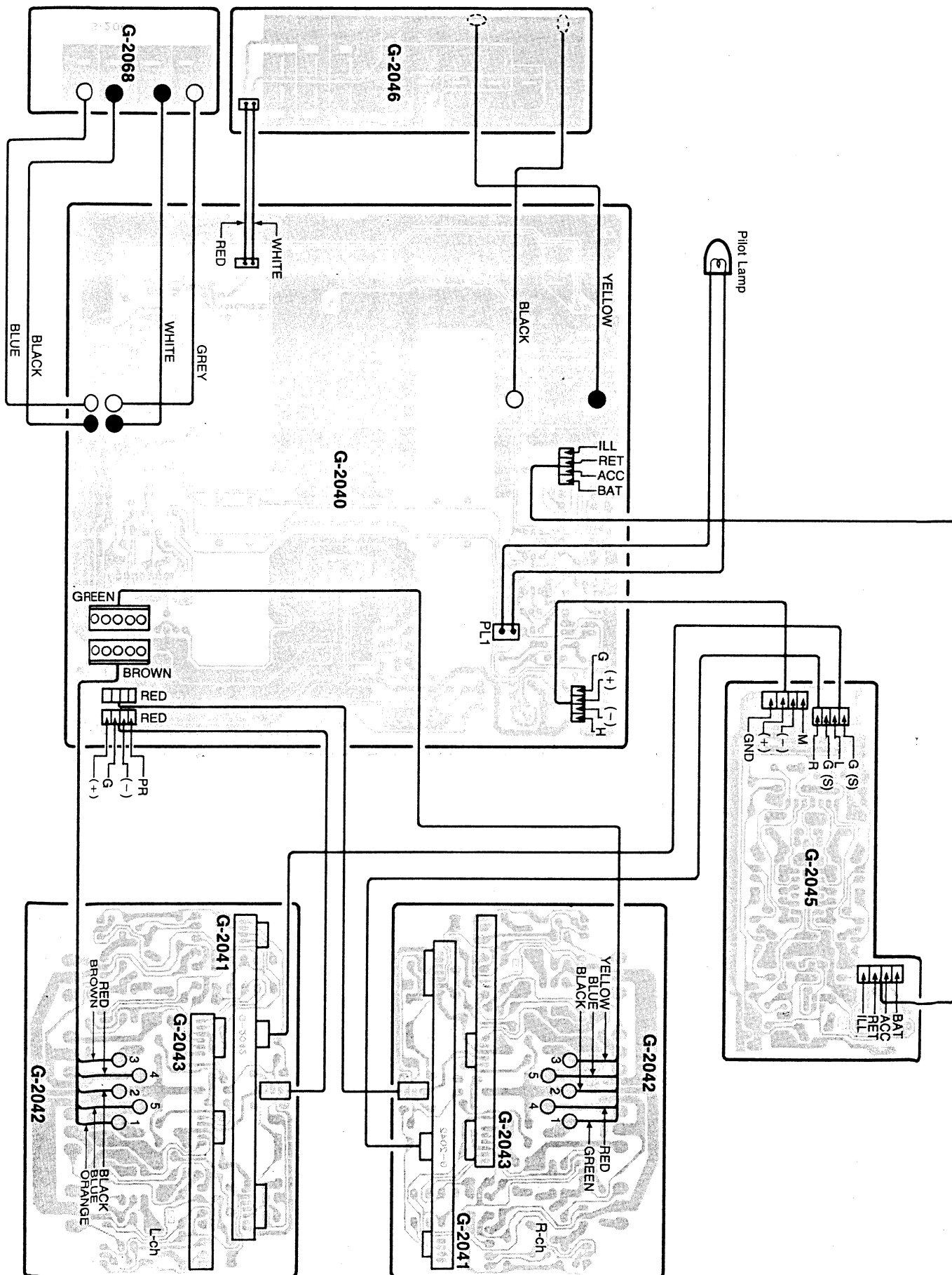


2-2. G-2041 Driver Amp Board

Pattern Side

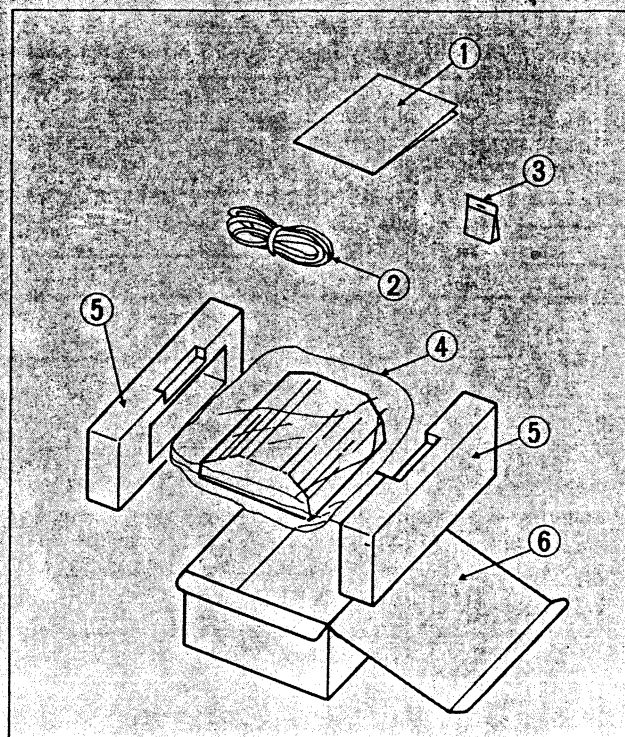


9. WIRING DIAGRAM



10. PACKING LIST

Parts No.	Stock No.	Description
1	49019000	Operating Instruction
2	48668000	Cord Ass'y 1 (BATTERY, GND)
3	67064500	Mounting Screw Ass'y
4	27113900	Vinyl Bag
5	67064800	Styrofoam Packing
6	67065000	Carton Case



SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:
SANSUI ELECTRONICS G.M.B.H.:

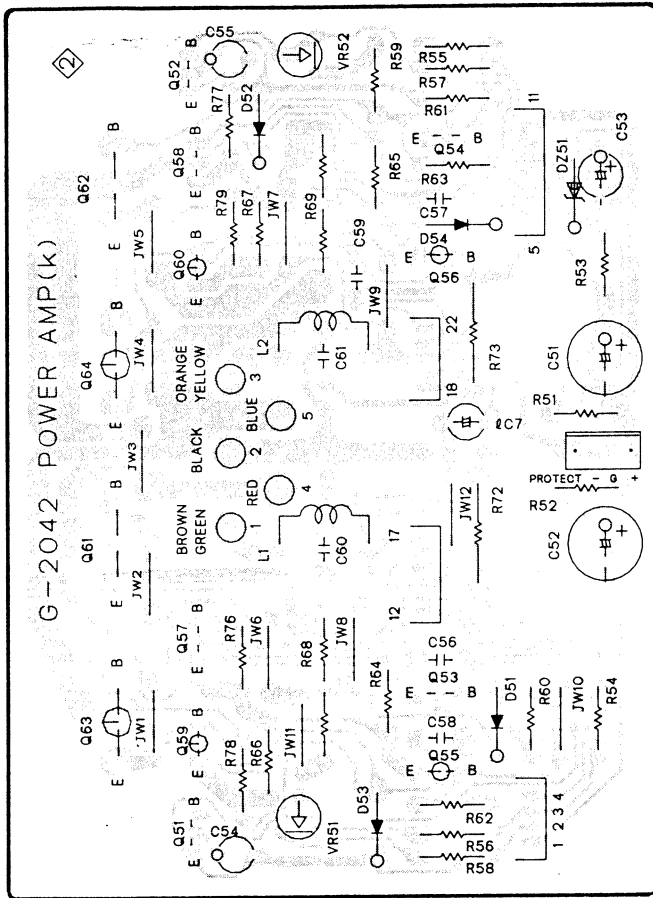
14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan
 PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)
 1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.
 17150 South Margay Ave. Carson, California 90746 U.S.A.
 3036 Koapaka Street, Honolulu, Hawaii 96819 U.S.A.
 Unit 10A, Lyon Industrial Estate, Rockware Avenue, Greenford, Middx UB6, OAA, England
 Pau Ehrlich Strasse 8, 6074 Rödermark 2, West Germany

(SM1-338)

(1986.11.M) <Stock No. 36528000>

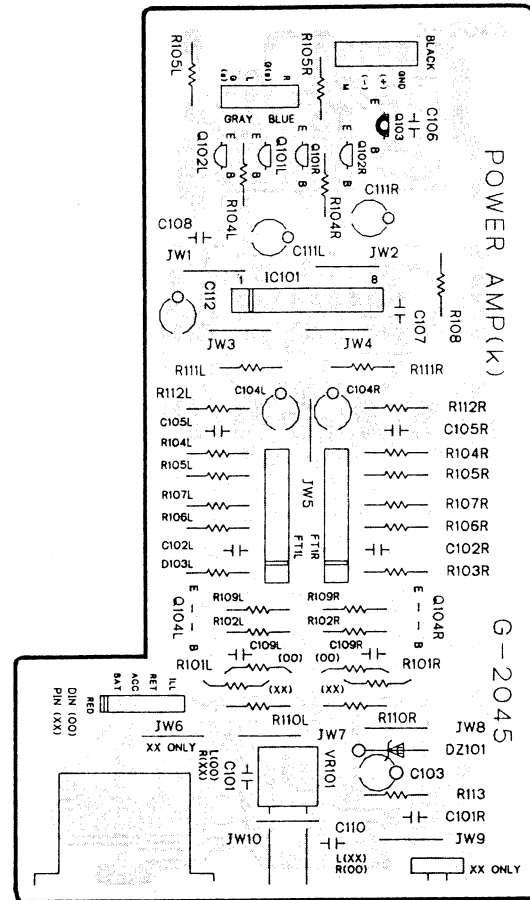
2-3. G-2042 Power Amp Board

Pattern Side



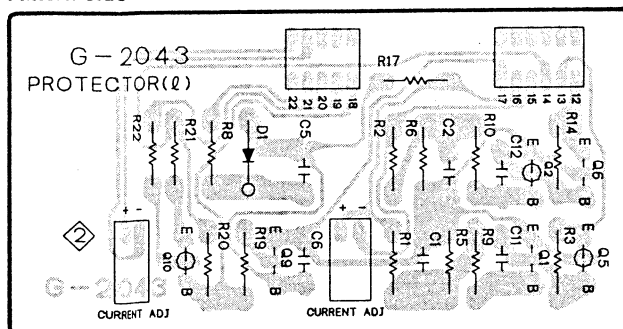
2-6. G-2045 Buffer Amp Board

Pattern Side



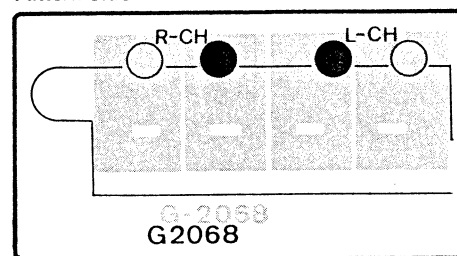
2-4. G-2043 Protector Board

Pattern Side



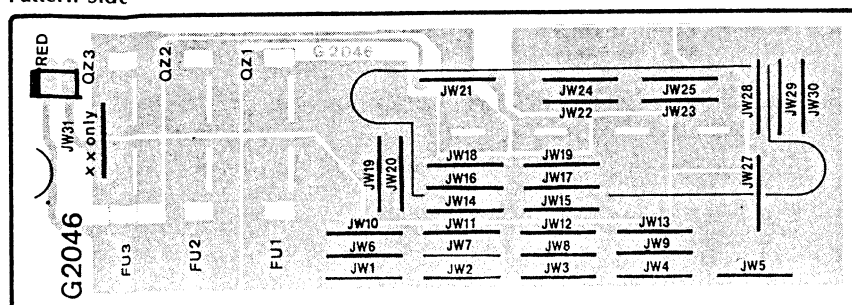
2-7. G-2068 Speakers Terminal Board

Pattern Side

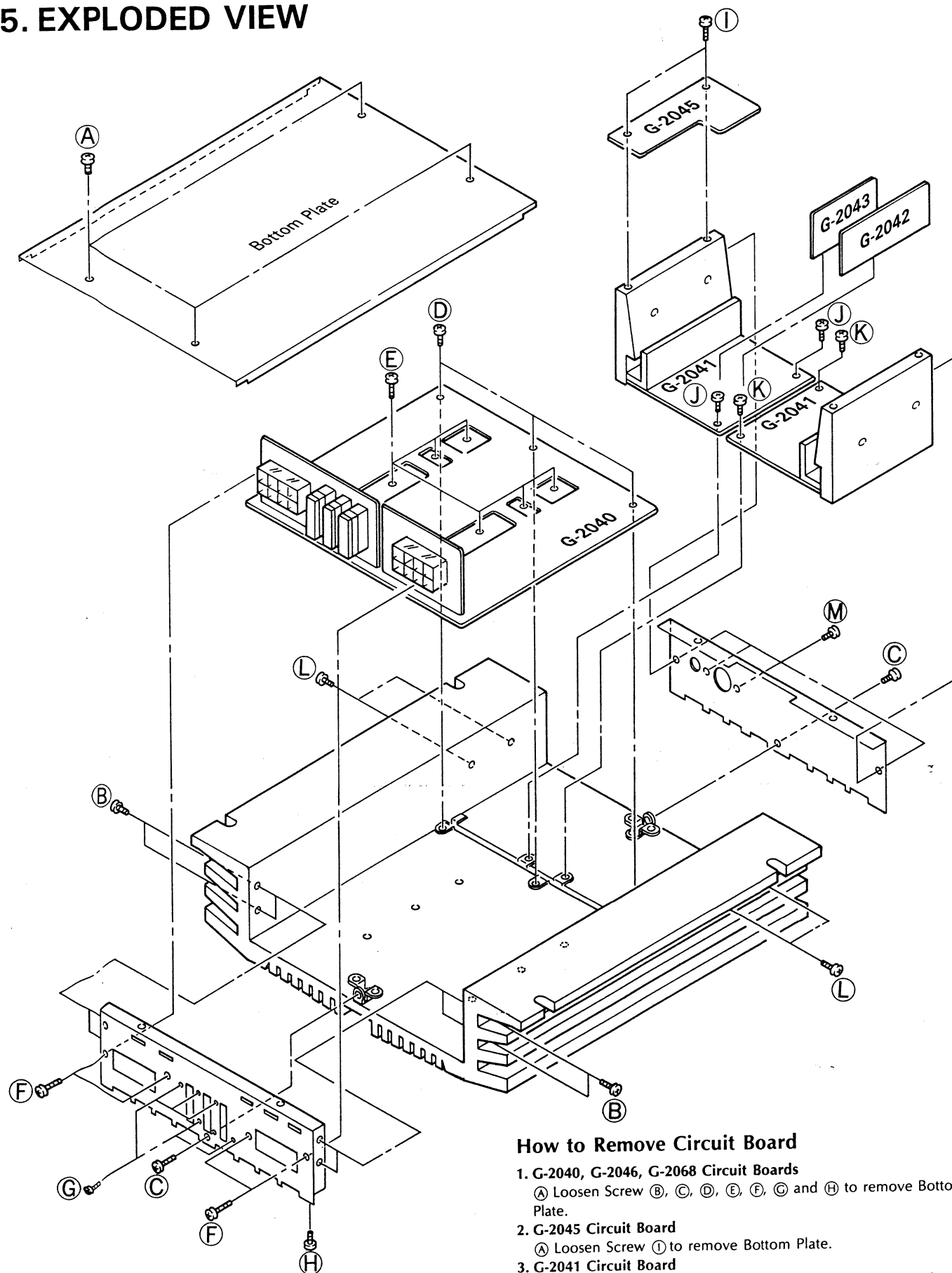


2-5. G-2046 Power Terminal Board

Pattern Side



5. EXPLODED VIEW

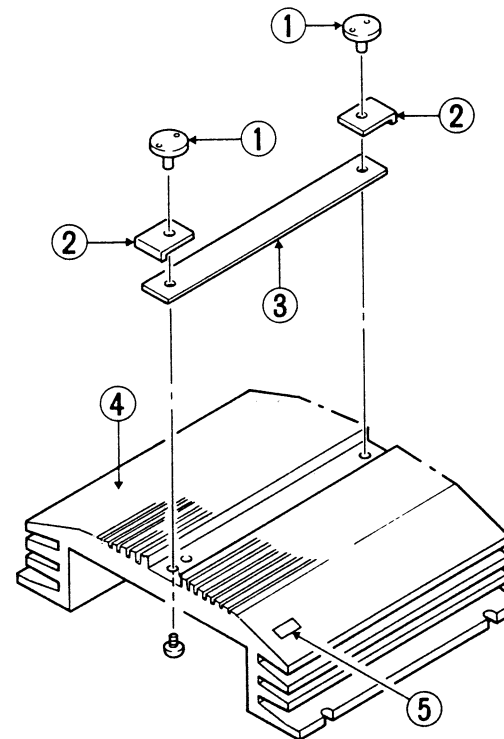


How to Remove Circuit Board

1. G-2040, G-2046, G-2068 Circuit Boards
 A Loosen Screw B, C, D, E, F, G and H to remove Bottom Plate.
2. G-2045 Circuit Board
 A Loosen Screw ① to remove Bottom Plate.
3. G-2041 Circuit Board
 A Loosen Screw ①, ②, K, L and M to remove Bottom Plate.

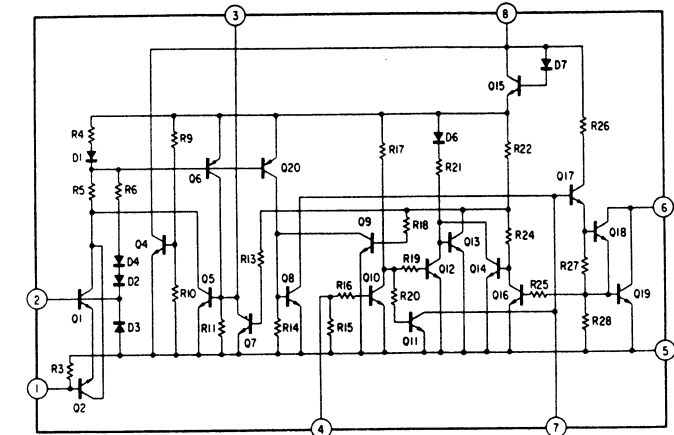
6. ACCESSORY LIST

Parts No.	Stock No.	Description
1	67063600	Dress Screw
2	67063500	Dress Washer
3	67060300	Light Plate
4	67064700	Bonnet
5	67061500	Badge

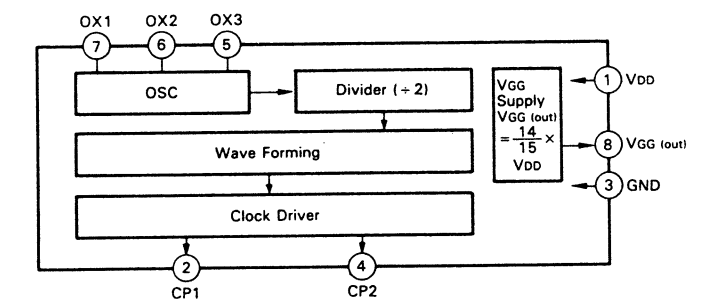


7. INTERIOR BLOCK DIAGRAM OF IC

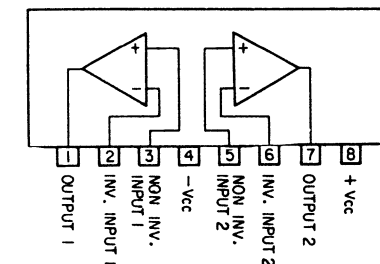
•μPC1237H (Protector)



•MN3102 (Clock Driver)



•M5219 (Pre Amp)



- Design and specifications subject to change without notice for improvement.
- La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



3-3. G-2042 Power Amp Board (Stock No. 01014601)

Parts No.	Stock No.	Description
•Transistor		
kQ51	48150601	2SD1200
kQ52	48150601	2SD1200
kQ53	46728301	2SC2705
kQ54	46728301	2SC2705
kQ55	46728201	2SA1145
kQ56	46728201	2SA1145
kQ57	46728901	2SC3298
kQ58	46728901	2SC3298
kQ59	46728801	2SA1306
kQ60	46728801	2SA1306
kQ61	48489401	2SC3284
kQ62	48489401	2SC3284
kQ63	48489301	2SA1303
kQ64	48489301	2SA1303
•Diode		
kD51	46727900	1S2091
kD52	46727900	1S2091
kD53	46727900	1S2091
kD54	46727900	1S2091
•Zener Diode		
kDZ51	03171500	RD22F
kR68	48585500	0.1 Ω X 2 2W Ce.R.
kR69	48585500	0.1 Ω X 2 2W Ce.R.
kC51	46304000	100 μ F 50V E.C.
kC52	46304000	100 μ F 50V E.C.
kC53	46297800	100 μ F 25V E.C.
kC54	46302400	1 μ F 50V E.C.
kC55	46302400	1 μ F 50V E.C.
kC60	46696800	0.047 μ F 50V F.C.
kC61	46696800	0.047 μ F 50V F.C.
KL1	46851900	0.8 μ H Inductor
or 46851901		0.82 μ H Filter Coil
KL2	46851900	0.8 μ H Inductor
or 46851901		0.82 μ H Filter Coil
kVR51	46738400	1k Ω S.V.R., Bias Adj.
kVR52	46738400	1k Ω S.V.R., Bias Adj.
IC7	48781700	33 μ F 25V E.B.

3-4. G-2043 Protector Board (Stock No. 01014701)

Parts No.	Stock No.	Description
•Transistor		
IQ1	46367101	2SC2603
IQ2	46367001	2SA1115
IQ5	46367001	2SA1115
IQ6	46367101	2SC2603
IQ9	46367101	2SC2603
IQ10	46367001	2SA1115
•Diode		
ID1	03117600	1S2473T77
or 46086000		1S1588TP-3

3-5. G-2045 Buffer Amp Board (Stock No. 01014801)

Parts No.	Stock No.	Description
•Transistor		
kQ101	48223100	DTC114TS
kQ102	48223100	DTC114TS
kQ103	46719800	DTA124ES
kQ104	46581701	2SC1845
•FET		
kFT101	48583300	μ PA68HA-L
or 48583301		μ PA68HA-M
•IC		
kIC101	46579100	M5219L
•Zener Diode		
kDZ101	46111700	05Z6.2-X
or 46111800		05Z6.2-Y
kC101	46692800	1000pF 50V F.C.
kC103	46292800	100 μ F 10V E.C.
kC104	46290300	100 μ F 6.3V E.C.
kC111	46302800	10 μ F 50V E.C.
kC112	46295300	100 μ F 16V E.C.
kC113	46691100	0.047 μ F 50V F.C.
kC114	46691100	0.047 μ F 50V F.C.
kVR101	48668910	10KBX2 V.R., INPUT LEVEL
KS101	46394000	Slide SW., ISOLATION
qZ33	48586600	Pin Jack Ass'y, INPUT

3-6. G-2046 Power Terminal Board

Parts No.	Stock No.	Description
qF1	48492800	Blade Fuse 30A BATT
qF2	48000200	Blade Fuse 5A ACC
qZ4	48585300	4P Terminal, REMOTE, ACC, BATTERY, GND.

3-7. G-2068 Speakers Terminal Board

Parts No.	Stock No.	Description
	48585300	4P Terminal, SPEAKERS

3. PARTS LIST OF BOARD

3-1. G-2040 Power Supply Board (Stock No. 01014401)

Parts No.	Stock No.	Description
•IC		
IC1	46578600	μPC1237H
•Diode		
ID2	03117600	1S2473T77
	or 46086000	1S1588TP-3
ID4	03117600	1S2473T77
	or 46086000	1S1588TP-3
•Zener Diode		
IDZ1	46116200	05Z27-X
	or 46116300	05Z27-Y
	or 46116400	05Z27-Z
IC8	48782100	100μF 25V E.B.
IC9	46297500	22μF 25V E.C.
IC10	46302700	4.7μF 50V E.C.
IRL1	46737700	Relay,
•Transistor		
mQ1	46367101	2SC2603
mQ2	46367101	2SC2603
mQ3	46367001	2SA1115
mQ4	46367001	2SA1115
mQ11	46367101	2SC2603
mQ12	48109800	DTC143ES
mQ13	48370501	2SA1150
mQ14	46255100	2SB865
mQ15	46834300	DTC144ES
mQ16	46834300	DTC144ES
mQ17	48370501	2SA1150
mQ18	46834200	DTA144ES
•FET		
mQ5	48585100	2SK659
mQ6	48585100	2SK659
mQ7	48585100	2SK659
mQ8	48585100	2SK659
mQ9	48585100	2SK659
mQ10	48585100	2SK659
•IC		
mIC1	48585600	MN3102
•Diode		
md1	03117700	10E-2
md2	03115700	ERD03-02J
md3	03117600	1S2473D
	or 46086000	1S1588
md4	03117600	1S2473T77
	or 46086000	1S1588TP-3
md5	48585800	CTG-31S
md6	48585700	CTG-31R
md7	07193300	UB-152LFF
md8	03117600	1S2473T77
	or 46086000	1S1588TP-3
md9	03117600	1S2473T77
	or 46086000	1S1588TP-3
md10	03117600	1S2473T77
	or 46086000	1S1588TP-3
mPR1	48193100	D471TS Posistor
•Zener Diode		
mdZ1	03171100	RD18F
mdZ2	03171100	RD18F
mIC2	48585200	Photo Coupler TLP521-1
	or 48586801	PC-817 Photo Transistor
	or 48586802	PC-817 Photo Transistor
	or 48586803	PC-817 Photo Transistor
mR7	46911000	4.7kΩ 3W N.I.R.
mC1	48499300	2200μF 16V E.C.
mC2	46604700	1000μF 16V E.C.
mC3	48731100	2200μF 50V E.C.
mC4	48731100	2200μF 50V E.C.
mC7	48734700	1000μF 50V E.C.
mC8	48734700	1000μF 50V E.C.
mC9	46696800	0.047μF 50V F.C.
mC12	46292900	220μF 10V E.C.
mC13	46696800	0.047μF 50V F.C.

<G-2040>

Parts No.	Stock No.	Description
mC14	46295300	100μF 16V E.C.
mC15	46604700	1000μF 16V E.C.
mC16	46604700	1000μF 16V E.C.
mC17	46297800	100μF 25V E.C.
mC18	46297800	100μF 25V E.C.
mC20	46295300	100μF 16V E.C.
mC21	46281800	1000pF 50V F.C.
mC22	46696800	0.047μF 50V F.C.
mC23	46696800	0.047μF 50V F.C.
mC25	46295300	100μF 16V E.C.
mC26	46295100	33μF 16V E.C.
mPL1	48730900	Pilot Lamp 40mA 16V
mFL1	46271100	Filter
mFL2	48417600	Filter
mFL3	46271100	Filter
mL2	46273800	50UH Filter Coil
mL3	46090000	Inductor 1.0mH
mL4	46090000	Inductor 1.0mH
mL1	46533300	Choke Coil 3mH
mT1	48586100	Transformer
mT2	48586000	DD Transformer
mFL5	48493000	Inductor
mFL6	48493000	Inductor
mFL7	48493000	Inductor
mFL8	48493000	Inductor
mFL9	48493000	Inductor
mFL10	48493000	Inductor
mFL11	48493000	Inductor
mFL12	48493000	Inductor
mFL13	48493000	Inductor
mFL14	48493000	Inductor
mFL15	48493000	Inductor
mFL16	48493000	Inductor

3-2. G-2041 Driver Amp Board (Stock No. 01014501)

Parts No.	Stock No.	Description
•Transistor		
kQ1	46728301	2SC2705
kQ2	46581701	2SC1845
	or 46947401	2SC2459
kQ3	46581701	2SC1845
	or 46947401	2SC2459
kQ4	46581601	2SA992
	or 46947301	2SA1049
kQ5	46581601	2SA992
	or 46947301	2SA1049
kQ6	46728201	2SA1145
kQ7	46728301	2SC2705
kQ8	46728201	2SA1145
kQ9	46728301	2SC2705
kQ10	03067301	2SC2259
kQ11	46367101	2SC2603
•FET		
kFT1	46723601	2SK389-BL
	or 46723602	2SK389-V
	or 48785701	2SK389-BK
	or 48785702	2SK389-VK
kD1	03401700	MV103 Varistor
kD2	03401700	MV103 Varistor
•Zener Diode		
kDZ1	46111800	05Z6.2-Y
kC2	46302700	4.7μF 50V E.C.
kC3	46302700	4.7μF 50V E.C.
kC4	46292700	47μF 10V E.C.
kC7	48781900	10μF 35V E.B.
kC8	46302800	10μF 50V E.C.
kVR1	46737800	100Ω S.V.R., HOT/COLD Balance adj.

4. ADJUSTMENTS

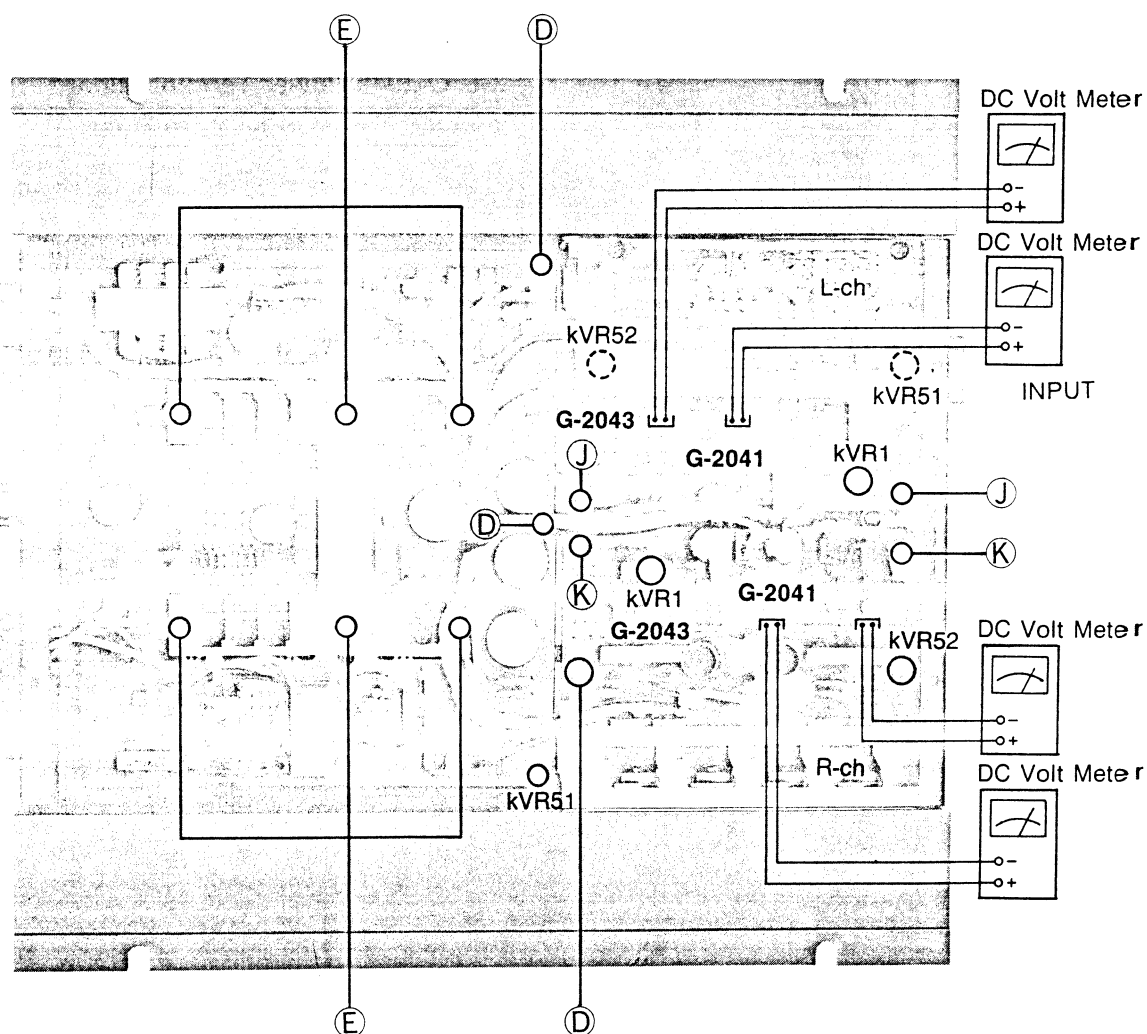
4-1. Driver Amp Board G-4041 & Power Amp Board G-2042 Adjustment

Condition: 1. Room Temperature $18^{\circ}\text{C} \sim 28^{\circ}\text{C}$ ($65^{\circ}\text{F} \sim 83^{\circ}\text{F}$)
 2. Test Equipment DC Volt Meter

3. For this adjustment, run the unit for more than 15 minutes after the power is switched ON.
 4. Before turning ON POWER Switch set kVR51, 52 little counter-clockwise.

STEP	SUBJECT	MESURE OUTPUT	ADJUST	ADJUST FOR
1	Hot/Cold Balance Adj. <L-ch>	DC Voltage between Speaker Terminals HOT and COLD. <L-ch>	kVR1 G-2041	DC $0\text{mV} \pm 5\text{mV}$
2	Hot/Cold Balance Adj. <R-ch>	DC Voltage between Speaker Terminals HOT and COLD. <R-ch>	kVR1 G-2041	DC $0\text{mV} \pm 5\text{mV}$
3	Bias Current Adj. <Hot Side Amp. of L-ch>	DC Voltage between Emitters of power transistors (kQ62 & kQ64). <L-ch>	kVR52 <L-ch> G-2042	DC 5mV
4	Bias Current Adj. <Cold Side Amp. of L-ch>	DC Voltage between Emitters of power transistors (kQ61 & kQ63). <L-ch>	kVR51 <L-ch> G-2042	DC 5mV
5	Bias Current Adj. <Hot Side Amp. of R-ch>	DC Voltage between Emitters of power transistors (kQ62 & kQ64). <R-ch>	kVR52 <R-ch> G-2042	DC 5mV
6	Bias Current Adj. <Cold Side Amp. of R-ch>	DC Voltage between Emitters of power transistors (kQ61 & kQ63). <R-ch>	kVR51 <R-ch> G-2042	DC 5mV

4-2. Bottom View



NOTE

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2. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on February 1983.
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C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor,	V.R. : Variable Resistor
Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic	Chip R. : Chip Resistor
Capacitor	Chip C. : Chip Capacitor
E.B. : Bi-Polar Electrolytic	
Capacitor	