

SERVICE MANUAL

E Model



SPECIFICATIONS

Circuit system	OTL (output transformerless) circuit	Harmonic distortion	0.005 % or less (at 1 kHz, 4 ohms, 10 watts)
Inputs	Pulse power supply RCA pin jacks High level input connector	Input level adjustment range	0.2 – 4V
Outputs	Speaker terminals	Low-pass filter	80 Hz, -12 dB/oct
Speaker impedance	2 – 8 ohms (stereo) 4 – 8 ohms (when used as a bridging amplifier)	Power requirements	12 V DC car battery (negative ground)
Maximum output at 4 ohms	100 watts per channel 222 watts (monaural)	Power supply voltage	10.5 – 16V
Rated output (supply voltage at 14.4 V)	35 watts per channel (20 Hz – 20 kHz, 0.04 % THD, at 4 ohms) 40 watts per channel (20 Hz – 20 kHz, 0.1 % THD, at 2 ohms) Monaural: 80 watts (20 Hz – 20 kHz, 0.1 % THD, at 4 ohms)	Current drain	at rated output: 12 A (4 ohms, 35 watts x 2) at 10% THD: 14A
Frequency response	5Hz – 80kHz (+0 -3 dB)	Dimensions	Remote input: 1.5 mA Approx. 230 x 53 x 145 mm (w/h/d) not incl. projecting parts and controls
		Mass	Approx. 1.6 kg not incl. accessories
		Supplied accessories	Mounting screws (4) High level input cord (1) Protection cap (1)

Design and specifications are subject to change
without notice.

STEREO POWER AMPLIFIER



MICROFILM

SONY®

SECTION 1

GENERAL

This section is extracted from instruction manual.

Connections

Caution

- Before making any connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Be sure to use speakers with an adequate power rating. If you use small capacity speakers, they may be damaged.
- Do not connect the \ominus terminal of the speaker system to the car chassis, and do not connect the \ominus terminal of the right speaker with that of the left speaker.
- Install the input and output cords away from the power supply lead as running them close together can generate some interference noise.
- This unit is a high powered amplifier. Therefore, it may not perform to its full potential if used with the speaker cords supplied with the car.
- If your car is equipped with a computer system for navigation or some other purpose, do not remove the ground wire from the car battery. If you disconnect the wire, the computer memory may be erased. To avoid short circuits when making connections, disconnect the +12 V power supply lead until all the other leads have been connected.

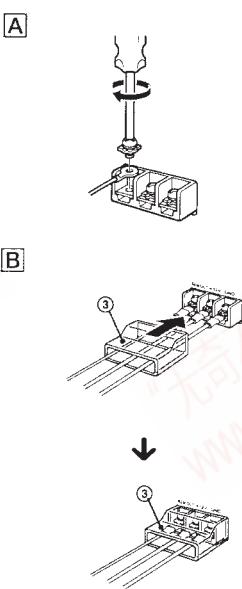
Make the terminal connections as illustrated A.

Note

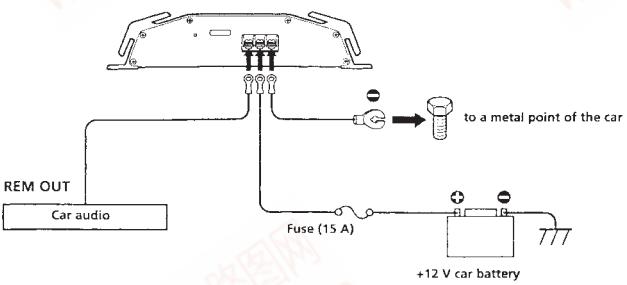
Tighten the screws firmly, but be careful not to apply too much force* as doing so may damage the screw.

* The torque value should be less than 1 N·m.

Pass the leads through the cap, connect the leads, then cover the terminals with the cap as illustrated B.



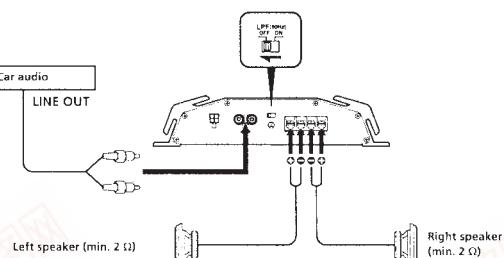
Power Connection Leads (not supplied)



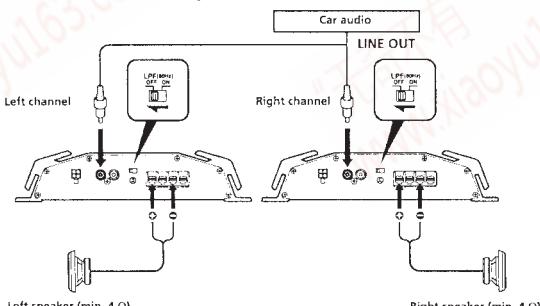
Notes on the power supply

- Connect the +12 V power supply lead only after all the other leads have been connected.
- Be sure to connect the ground lead of the unit securely to a metal point of the car. A loose connection may cause a malfunction of the amplifier.
- Be sure to connect the remote control lead of the car audio to the remote terminal.
- Use a power supply lead with a fuse attached (15 A).
- Place the fuse in the power supply lead as close as possible to the car battery.
- During full-power operation, a current of more than 15 A will run through the system. Therefore, make sure that the leads to be connected to the +12 V and GND terminals of this unit are larger than 14-Gauge (AWG-14) or have a sectional area of more than 2 mm².

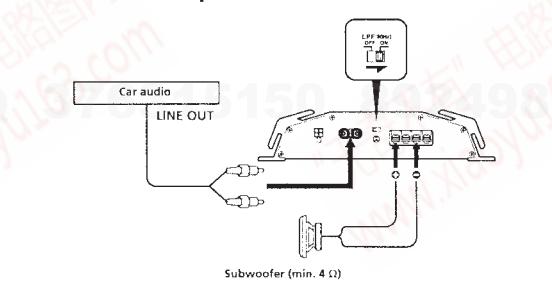
2-Speaker System



As a Monaural Amplifier



As a Monaural Amplifier for a Subwoofer

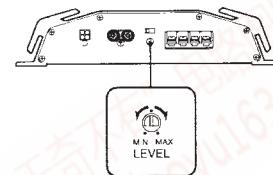


Notes

If you wish to use a subwoofer as the monaural speaker, connect the speaker as illustrated above. The output signals to the subwoofer will be a combination of both the right and left output signals.

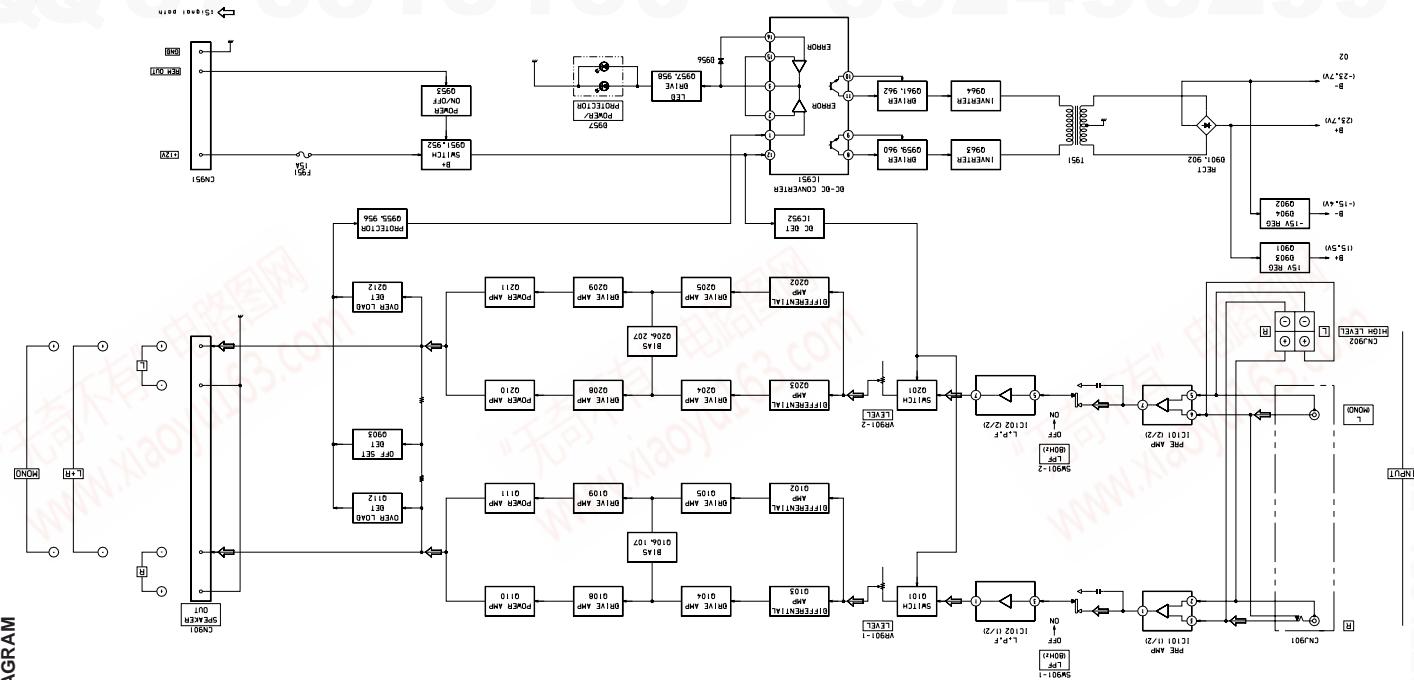
Level Adjustment Control

The input level can be adjusted with this control when using source equipment made by other manufacturers. Turn it to MAX when the output level of the car audio seems low.



SECTION 2 DIAGRAMS

2-1. BLOCK DIAGRAM



Precautions

This unit is designed for negative ground 12 V DC operation only.

• Use speakers with an impedance of 2 to 8 ohms (4 to 8 ohms when used as a bridging amplifier).

• Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers.

• Avoid installing the unit where it is exposed to direct sunlight or hot air from the heater — it would be exposed to rain or moisture.

— it would be subject to dust or dirt.

• If your car is parked in direct sunlight and there is a considerable rise in temperature inside the car, allow the unit to cool down before use.

• When installing the unit horizontally, be sure not to cover the fins with the floor carpet etc.

• If this unit is placed too close to the car radio, interference may occur. In this case, relocate the amplifier away from the car radio.

• If no power is being supplied to the cassette player or tuner, check the connections.

• This power amplifier employs a protection circuit* to protect the transistors and speakers if the amplifier malfunctions. Do not attempt to test the protection circuits by covering the heat sink or connecting improper loads.

• Do not use the unit with a weak battery as its optimum performance depends on a good power supply.

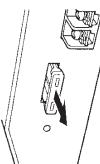
*For safety reasons, keep your car audio volume moderate so you can still hear sounds outside your car.

Fuse Replacement

If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

Warning

When replacing the fuse, be sure to use one matching the amperage stated above the fuse holder. Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.



* Protection circuit that operates with a protection circuit

that operates in the following cases:

— when the unit overheated and when the speakers generate a short circuit.

— when the color of the POWER PROTECTOR indicator will change from green to red, and the unit will shut down.

If this happens, turn off the connected equipment, take out the cassette tape or disc, and determine the cause of the short circuit. After the short circuit is removed, wait until the unit cools down before use.

POWER PROTECTOR INDICATOR

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Installation

Before Installation

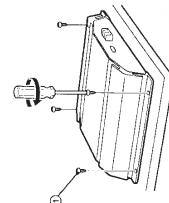
• Mount the unit either inside the trunk or under the seat.

• Choose the mounting location carefully so the unit will not interfere with the normal movements of the driver and it will not be exposed to direct sunlight or hot air from the heater.

• Do not install the unit under the floor carpet, where the heat dissipation from the unit will be considerably impaired.

First, place the unit where you plan to install it, and mark the positions of the four screw holes on the mounting board (not supplied). Then drill a 3 mm pilot hole at each mark and mount the unit onto the board with the supplied mounting screws. The mounting screws are all 15 mm long, so make sure that the mounting board is thicker than 15 mm.

Mount the unit as illustrated.



Dual Mode System (with a Bridged Subwoofer)

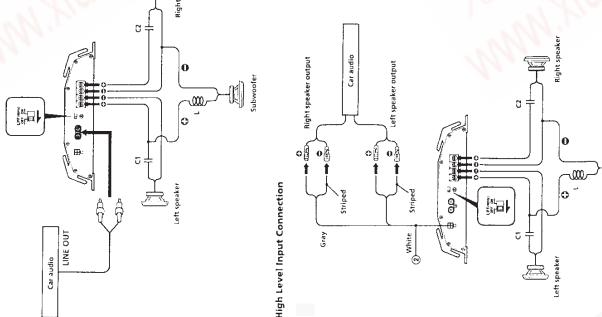


Table of crossover values for 6 dB active (4 ohms)		
Crossover	Frequency	Gain (dB)
IC101-1	1.2	-1.2
IC101-2	1.2	-1.2
IC101-3	1.2	-1.2
IC101-4	1.2	-1.2
IC101-5	2.1	-1.9
IC101-6	2.1	-1.9
IC101-7	3.1	-2.0
IC101-8	3.1	-2.0
IC101-9	4.1	-2.0
IC101-10	4.1	-2.0

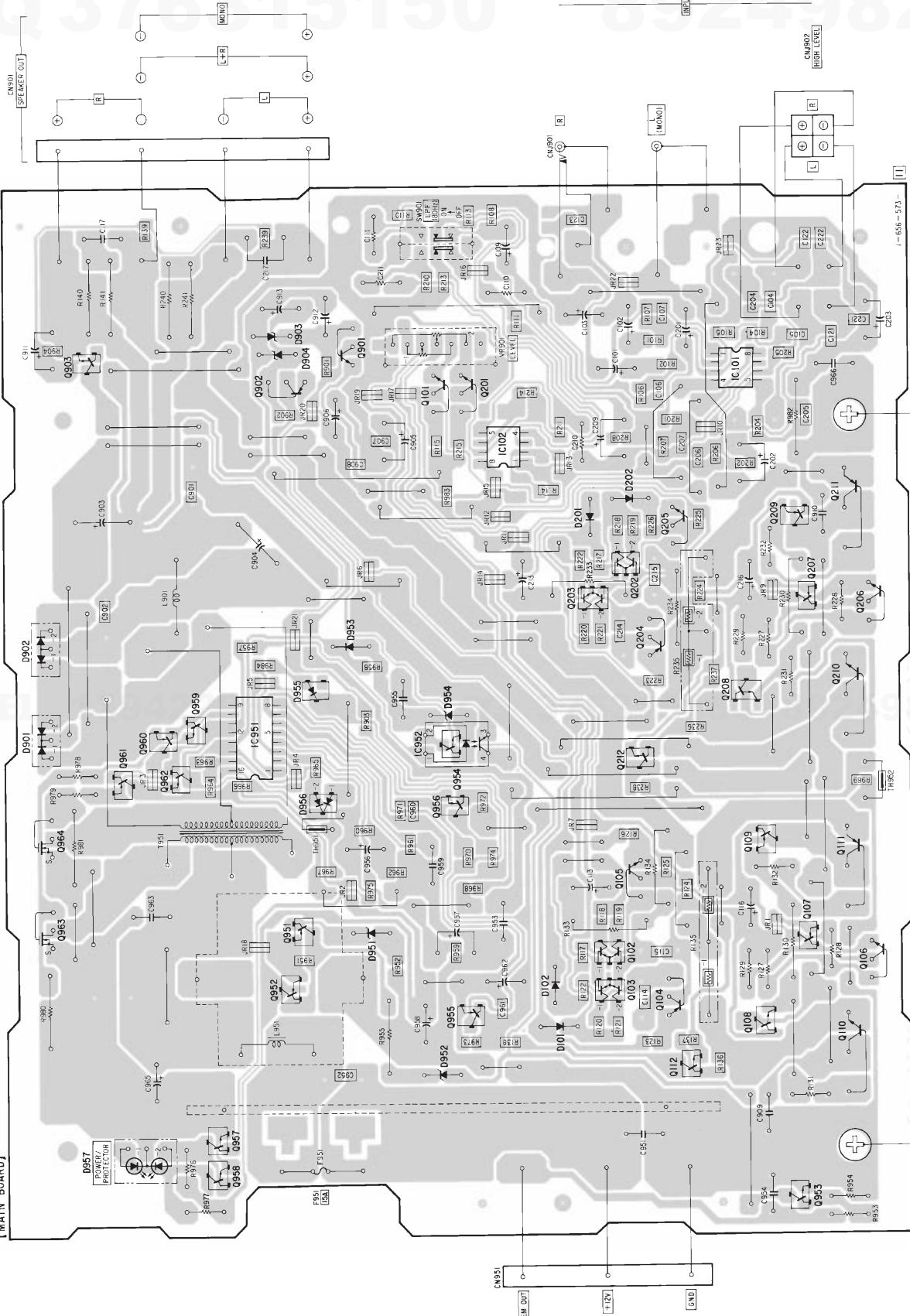
- When using passive crossover networks in a speaker system, care must be taken so the speaker system's impedance should not be lower than that of the suitable impedance for this unit.
- When you are installing a 12-decibel/octave system in your car, the following points must be considered: a 12-decibel/octave system where both a crock and a capacitor are used in series to form a circuit, you can increase the value of the capacitor to increase the current. There is going to be an increase in frequencies around the crossover frequency. If audio signals continue to be fed into the crossover frequency area, it may cause the amplifier to become abnormally hot or the fuse to blow. Also, if the speaker is disconnected, a large current will be formed in the crossover circuit, causing damage to the amplifier. Therefore, make sure that a speaker is connected to such a circuit at all times.

2-2. PRINTED WIRING BOARD

Semiconductor

Location	Ref. No.	Location	
D101	F-4	D102	F-4
D201	F-8	D202	G-9
D901	A-6		
D902	A-7	D903	C-10
D904	D-10	D951	D-4
D952	E-3		
D953	D-7		
D954	E-7		
D955	D-7		
D956	D-6		
D957	B-2		
IC101	H-10		
IC102	F-9		
IC351	C-6		
IC352	E-6		
Q101	E-10		
Q102	G-4		
Q103	G-4		
Q104	G-4		
Q105	G-5		
Q106	I-4		
Q107	I-4		
Q108	H-4		
Q109	H-5		
Q110	I-3		
Q111	I-5		
Q112	G-3		
Q201	G-10		
Q202	G-8		
Q203	F-8		
Q204	G-7		
Q205	G-8		
Q206	I-8		
Q207	I-8		
Q208	H-7		
Q209	H-8		
Q210	I-7		
Q211	I-9		
Q212	G-2		
Q301	D-10		
Q302	D-10		
Q303	B-10		
Q351	D-4		
Q352	D-4		
Q353	H-2		
Q354	E-6		
Q355	E-4		
Q356	E-6		
Q357	C-2		
Q358	C-2		
Q359	C-2		
Q360	B-2		
Q361	B-2		
Q362	C-6		
Q363	A-4		
Q364	A-5		

[MAIN BOARD]



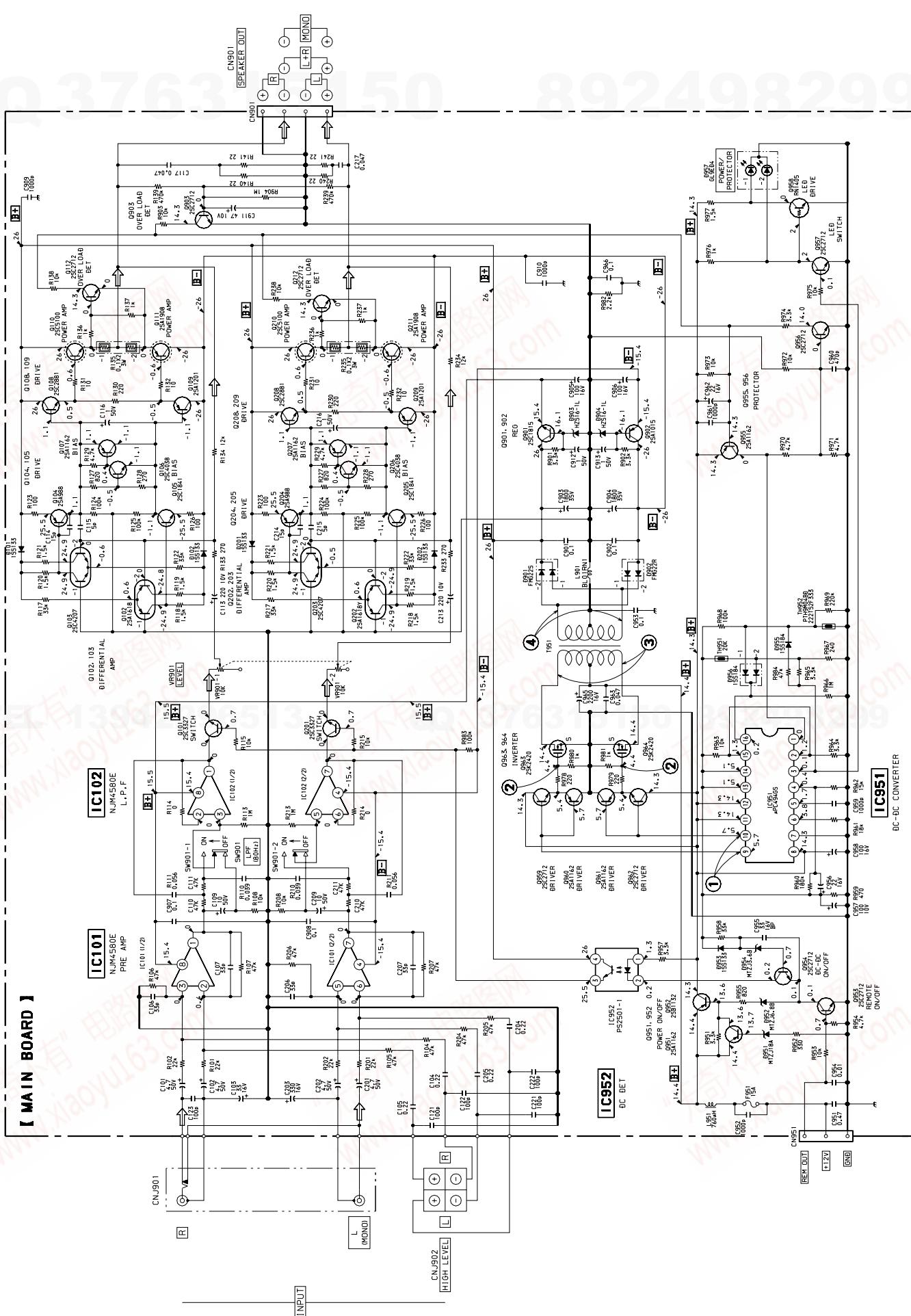
Note:

-  parts extracted from the component side.
-  Pattern on the side which is seen.

2-3. SCHEMATIC DIAGRAM • Refer to page 9 for Notes. • Refer to page 9 for IC Block Diagram. • Refer to page 9 for Waveforms.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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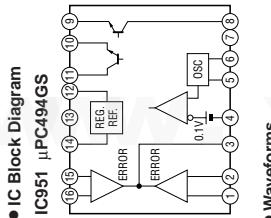
A MAIN BOARD



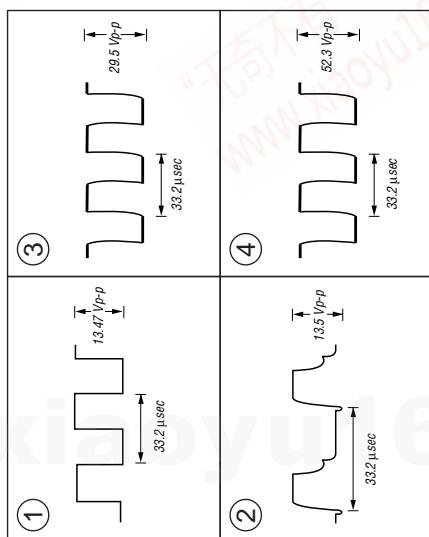
SECTION 3 EXPLODED VIEW

NOTE :

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.



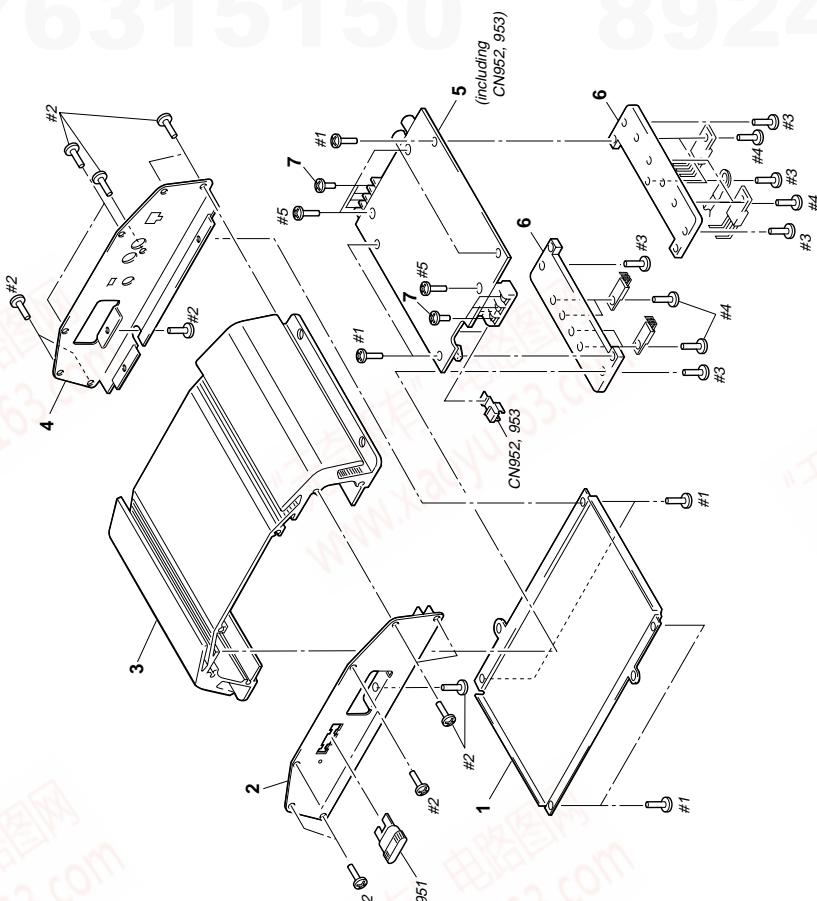
• Waveforms



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- % : indicates tolerance.
- **B+** : B+ Line.
- **B-** : B- Line.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from REM OUT(+12V/GND terminal CN951).

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a 10M Ω (input impedance) 10M Ω . Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
* 1	3-913-009-01	PLATE, BOTTOM	* 6	3-365-420-01	HEAT SINK (SUB)
* 2	3-009-584-41	PANEL (FRONT)	7	3-912-432-01	SCREW M4X8
* 3	3-009-591-11	HEAT SINK	CN952	1-537-479-11	TERMINAL (FOR F951)
* 4	3-031-112-01	PANEL (REAR)	CN953	1-537-479-11	TERMINAL (FOR F951)
* 5	A-3317-297-A	MAIN BOARD, COMPLETE	F951	1-532-982-11	FUSE (BLADE TYPE) (AUTO FUSE) (15A)

Ref. No.	Part No.	Description
* 6	3-365-420-01	HEAT SINK (SUB)
7	3-912-432-01	SCREW M4X8
CN952	1-537-479-11	TERMINAL (FOR F951)
CN953	1-537-479-11	TERMINAL (FOR F951)
F951	1-532-982-11	FUSE (BLADE TYPE) (AUTO FUSE) (15A)

SECTION 4 ELECTRICAL PARTS LIST

MAIN

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

• RESISTORS

All resistors are in ohms

METAL : Metal-film resistor

METAL OXIDE :Metal oxide-film resistor

F : nonflammable

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• SEMICONDUCTORSIn each case, u : μ , for example :uA.... : μ A.... , uPA.... : μ PA....uPB.... : μ PB.... , uPC.... : μ PC....uPD.... : μ PD....**• CAPACITORS**uF : μ F**• COILS**uH : μ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark								
*	A-3317-297-A	MAIN BOARD, COMPLETE	*****			C904	1-110-609-11	ELECT	1800uF	20%	35V						
< CAPACITOR >																	
C101	1-126-047-81	ELECT	4.7uF	20%	50V	C905	1-126-023-11	ELECT	100uF	20%	16V						
C102	1-126-047-81	ELECT	4.7uF	20%	50V	C906	1-126-023-11	ELECT	100uF	20%	16V						
C103	1-126-021-11	ELECT	33uF	20%	16V	C907	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V						
C104	1-163-081-00	CERAMIC CHIP	0.22uF		25V	C908	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V						
C105	1-163-081-00	CERAMIC CHIP	0.22uF		25V	C909	1-130-471-00	MYLAR	0.001uF	5%	50V						
C106	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	C910	1-130-471-00	MYLAR	0.001uF	5%	50V						
C107	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	C911	1-104-664-11	ELECT	47uF	20%	10V						
C109	1-126-059-11	ELECT	10uF	20%	50V	C912	1-126-044-11	ELECT	1uF	20%	50V						
C110	1-249-465-11	CARBON	47K	5%	1/4W	C913	1-126-044-11	ELECT	1uF	20%	50V						
C111	1-249-465-11	CARBON	47K	5%	1/4W	C951	1-136-173-00	FILM	0.47uF	5%	50V						
C113	1-124-995-11	ELECT	220uF	20%	10V	C952	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V						
C114	1-102-951-00	CERAMIC	15PF	5%	50V	C953	1-136-165-00	FILM	0.1uF	5%	50V						
C115	1-107-585-11	CERAMIC	5PF	0.25PF	500V	C954	1-130-483-00	MYLAR	0.01uF	5%	50V						
C116	1-126-044-11	ELECT	1uF	20%	50V	C955	1-107-716-11	ELECT	33uF	20%	16V						
C117	1-136-161-00	FILM	0.047uF	5%	50V	C956	1-126-006-11	ELECT	22uF	20%	16V						
C121	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C957	1-104-665-11	ELECT	100uF	20%	10V						
C122	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C958	1-126-023-11	ELECT	100uF	20%	16V						
C123	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C959	1-130-471-00	MYLAR	0.001uF	5%	50V						
C201	1-126-047-81	ELECT	4.7uF	20%	50V	C960	1-163-133-00	CERAMIC CHIP	470PF	5%	50V						
C202	1-126-047-81	ELECT	4.7uF	20%	50V	C961	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V						
C203	1-126-940-11	ELECT	330uF	20%	16V	C962	1-126-006-11	ELECT	22uF	20%	16V						
C204	1-163-081-00	CERAMIC CHIP	0.22uF		25V	C963	1-136-161-00	FILM	0.047uF	5%	50V						
C205	1-163-081-00	CERAMIC CHIP	0.22uF		25V	C965	1-126-768-11	ELECT	2200uF	20%	16V						
C206	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	C966	1-136-165-00	FILM	0.1uF	5%	50V						
C207	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	< CONNECTOR >											
C209	1-126-059-11	ELECT	10uF	20%	50V	CN901	1-537-478-11	TERMINAL BOARD (4P) (SPEAKER OUT)									
C210	1-249-465-11	CARBON	47K	5%	1/4W	CN951	1-537-477-11	TERMINAL BOARD (3P) (REM OUT/+12V/GND)									
C211	1-249-465-11	CARBON	47K	5%	1/4W	< JACK >											
C213	1-124-995-11	ELECT	220uF	20%	10V	CNJ901	1-770-068-81	JACK, PIN 2P (INPUT)									
C214	1-102-951-00	CERAMIC	15PF	5%	50V	* CNJ902	1-691-785-11	PIN, CONNECTOR (PC BOARD) 4P (INPUT)									
< DIODE >																	
C215	1-107-585-11	CERAMIC	5PF	0.25PF	500V	D101	8-719-991-33	DIODE	1SS133T-77								
C216	1-126-044-11	ELECT	1uF	20%	50V	D102	8-719-991-33	DIODE	1SS133T-77								
C217	1-136-161-00	FILM	0.047uF	5%	50V	D201	8-719-991-33	DIODE	1SS133T-77								
C221	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	D202	8-719-991-33	DIODE	1SS133T-77								
C222	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	D901	8-719-047-78	DIODE	FMG-22S								
C901	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V	D902	8-719-047-77	DIODE	FMG-22R								
C902	1-104-329-11	CERAMIC CHIP	0.1uF	10%	50V	D903	8-719-934-91	DIODE	HZS16-1LT2								
C903	1-110-609-11	ELECT	1800uF	20%	35V												

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark	
D904	8-719-934-91	DIODE HZS16-1LT2		Q202	8-729-232-66	TRANSISTOR 2SA1618Y		
D951	8-719-110-48	DIODE RD18ES-B1		Q203	8-729-014-86	TRANSISTOR 2SC4207-YGR-TE85L		
D952	8-719-109-97	DIODE RD6.8ES-B2		Q204	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		
D953	8-719-991-33	DIODE 1SS133T-77		Q205	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		
D954	8-719-982-03	DIODE MTZJ-3.6A		Q206	8-729-902-11	TRANSISTOR 2SC2021-Q		
D955	8-719-801-78	DIODE 1SS184		Q207	8-729-230-46	TRANSISTOR 2SA1162-YG		
D956	8-719-801-78	DIODE 1SS184		Q208	8-729-207-82	TRANSISTOR 2SC3421-Y		
D957	8-719-989-31	LED GL9ED4 (POWER/PROTECTOR)		Q209	8-729-046-32	TRANSISTOR 2SA1201-Y(TERL.C)		
		< IC >		Q210	8-729-024-79	TRANSISTOR 2SC5100-P		
IC101	8-759-711-82	IC NJM4580E		Q211	8-729-024-76	TRANSISTOR 2SA1908-P		
IC102	8-759-711-82	IC NJM4580E		Q212	8-729-230-49	TRANSISTOR 2SC2712-YG		
IC951	8-759-144-88	IC uPC494GS		Q901	8-729-281-54	TRANSISTOR 2SC1815-BL		
IC952	8-719-156-73	PHOTO COUPLER PS2501-1LA		Q902	8-729-173-38	TRANSISTOR 2SA733-K		
		< JUMPER RESISTOR >		Q903	8-729-230-49	TRANSISTOR 2SC2712-YG		
JR1	1-216-295-00	METAL CHIP 0	5%	1/10W	Q951	8-729-230-46	TRANSISTOR 2SA1162-YG	
JR2	1-216-295-00	METAL CHIP 0	5%	1/10W	Q952	8-729-106-60	TRANSISTOR 2SB1115A-YQ	
JR3	1-216-296-00	METAL CHIP 0	5%	1/8W	Q953	8-729-230-49	TRANSISTOR 2SC2712-YG	
JR4	1-216-295-00	METAL CHIP 0	5%	1/10W	Q954	8-729-230-49	TRANSISTOR 2SC2712-YG	
JR5	1-216-295-00	METAL CHIP 0	5%	1/10W	Q955	8-729-230-46	TRANSISTOR 2SA1162-YG	
JR6	1-216-295-00	METAL CHIP 0	5%	1/10W	Q956	8-729-230-49	TRANSISTOR 2SC2712-YG	
JR7	1-216-295-00	METAL CHIP 0	5%	1/10W	Q957	8-729-230-49	TRANSISTOR 2SC2712-YG	
JR9	1-216-295-00	METAL CHIP 0	5%	1/10W	Q958	8-729-207-60	TRANSISTOR RN1405	
JR10	1-216-295-00	METAL CHIP 0	5%	1/10W	Q959	8-729-230-49	TRANSISTOR 2SC2712-YG	
JR11	1-216-295-00	METAL CHIP 0	5%	1/10W	Q960	8-729-230-46	TRANSISTOR 2SA1162-YG	
JR12	1-216-295-00	METAL CHIP 0	5%	1/10W	Q961	8-729-230-46	TRANSISTOR 2SA1162-YG	
JR13	1-216-295-00	METAL CHIP 0	5%	1/10W	Q962	8-729-230-49	TRANSISTOR 2SC2712-YG	
JR14	1-216-296-00	METAL CHIP 0	5%	1/8W	Q963	8-729-030-73	TRANSISTOR MTAJ30N06HD	
JR15	1-216-296-00	METAL CHIP 0	5%	1/8W	Q964	8-729-030-73	TRANSISTOR MTAJ30N06HD	
JR16	1-216-296-00	METAL CHIP 0	5%	1/8W			< RESISTOR >	
JR17	1-216-295-00	METAL CHIP 0	5%	1/10W	R101	1-208-518-61	RES,CHIP	22K 2% 1/10W
JR18	1-216-296-00	METAL CHIP 0	5%	1/8W	R102	1-208-518-61	RES,CHIP	22K 2% 1/10W
JR19	1-216-295-00	METAL CHIP 0	5%	1/10W	R104	1-208-526-61	RES,CHIP	47K 2% 1/10W
JR20	1-216-295-00	METAL CHIP 0	5%	1/10W	R105	1-208-526-61	RES,CHIP	47K 2% 1/10W
JR21	1-216-296-00	METAL CHIP 0	5%	1/8W	R106	1-208-526-61	RES,CHIP	47K 2% 1/10W
JR22	1-216-295-00	METAL CHIP 0	5%	1/10W	R107	1-208-526-61	RES,CHIP	47K 2% 1/10W
JR23	1-216-295-00	METAL CHIP 0	5%	1/10W	R108	1-208-510-61	RES,CHIP	10K 2% 1/8W
		< COIL >		R110	1-162-587-11	CERAMIC CHIP	0.039uF 10% 25V	
L901	1-410-396-71	INDUCTOR	0.45uH	R111	1-164-343-11	CERAMIC CHIP	0.056uF 10% 25V	
L951	1-424-301-11	COIL, CHOKE	760uH	R113	1-208-558-61	RES,CHIP	1M 2% 1/10W	
		< TRANSISTOR >		R114	1-216-295-00	METAL CHIP	0 5% 1/10W	
Q101	8-729-203-48	TRANSISTOR	2SC3327-A	R115	1-208-462-61	RES,CHIP	10K 2% 1/10W	
Q102	8-729-232-66	TRANSISTOR	2SA1618Y	R117	1-208-522-61	RES,CHIP	33K 2% 1/10W	
Q103	8-729-014-86	TRANSISTOR	2SC4207-YGR-TE85L	R118	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	
Q104	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	R119	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	
Q105	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	R120	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	
Q106	8-729-902-11	TRANSISTOR	2SC2021-Q	R121	1-208-441-61	RES,CHIP	1.5K 2% 1/10W	
Q107	8-729-230-46	TRANSISTOR	2SA1162-YG	R122	1-208-522-61	RES,CHIP	33K 2% 1/10W	
Q108	8-729-207-82	TRANSISTOR	2SC3421-Y	R123	1-208-365-61	RES,CHIP	100 2% 1/10W	
Q109	8-729-046-32	TRANSISTOR	2SA1201-Y(TERL.C)	R124	1-208-534-61	RES,CHIP	100K 2% 1/10W	
Q110	8-729-024-79	TRANSISTOR	2SC5100-P	R125	1-208-534-61	RES,CHIP	100K 2% 1/10W	
Q111	8-729-024-76	TRANSISTOR	2SA1908-P	R126	1-208-365-61	RES,CHIP	100 2% 1/10W	
Q112	8-729-230-49	TRANSISTOR	2SC2712-YG	R127	1-259-426-11	CARBON	820 5% 1/6W	
Q201	8-729-203-48	TRANSISTOR	2SC3327-A	R128	1-259-414-11	CARBON	270 5% 1/6W	
				R129	1-249-568-11	CARBON	4.7K 5% 1/4W	
				R130	1-247-704-11	CARBON	220 5% 1/4W	

MAIN

Ref. No.	Part No.	Description	Remark
ACCESSORIES & PACKING MATERIALS			

1-690-779-31	CORD (WITH CONNECTOR)		(FOR SPEAKER OUT)
3-013-264-01	COVER, 3P TERMINAL TABLE		(FOR REM OUT/ +12V/GND)
3-367-410-01	SCREW (DIA. 5X15), TAPPING		
3-865-193-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH, CHINESE)		

HARDWARE LIST			

#1	7-685-545-11	SCREW +BTP	3X6 TYPE2 N-S
#2	7-685-546-19	SCREW +BTP	3X8 TYPE2 N-S
#3	7-685-546-14	SCREW +BTP	3X8 TYPE2 N-S
#4	7-682-949-01	SCREW +PSW	3X10
#5	7-685-646-79	SCREW +P	3X8 TYPE4

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