

# XM-1002HX

SONY®

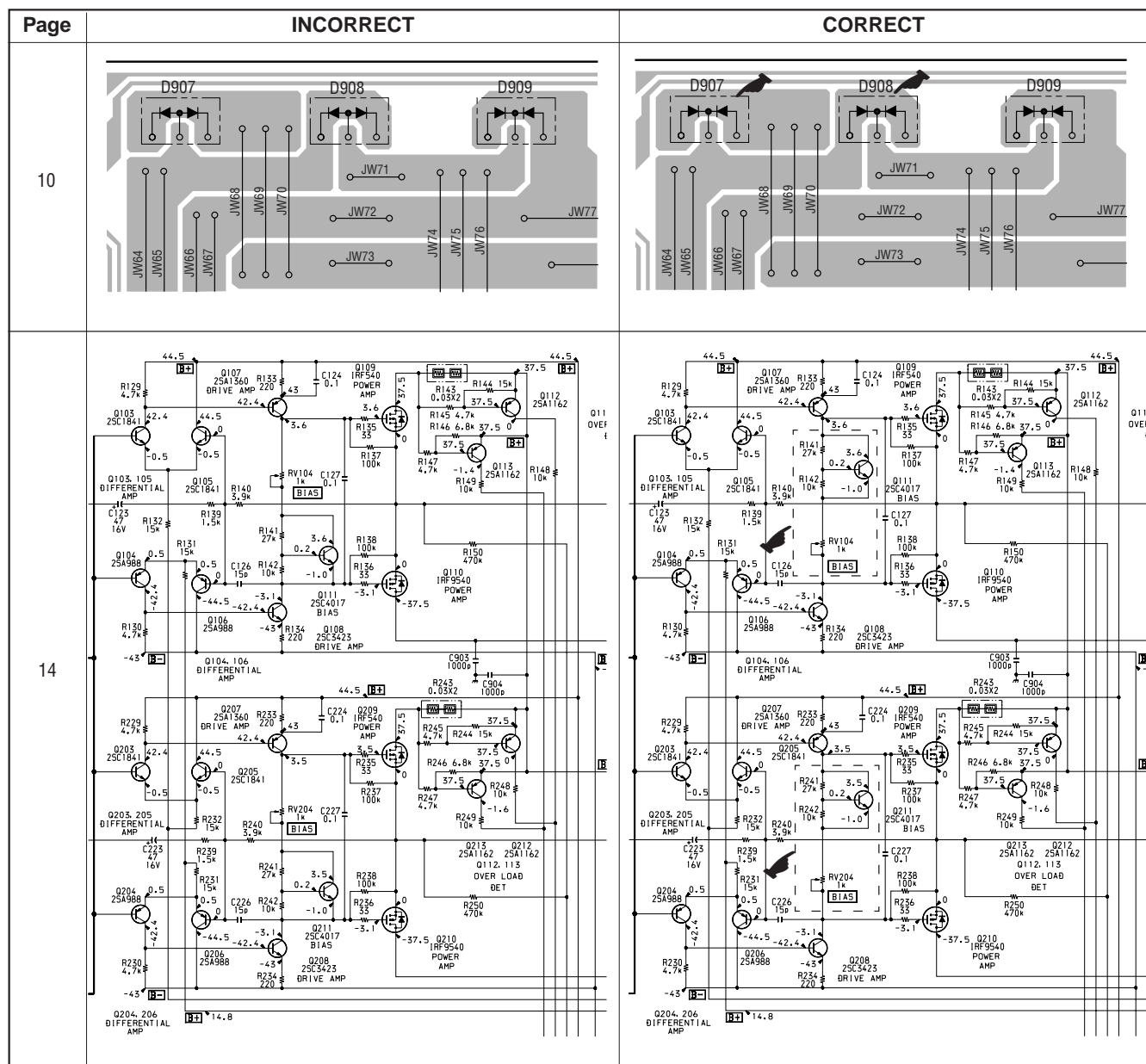
## SERVICE MANUAL

US Model  
Canadian Model  
AEP Model  
UK Model  
E Model

### CORRECTION - 1

Correct your Service Manual as shown below.

➤: Indicates corrected portion



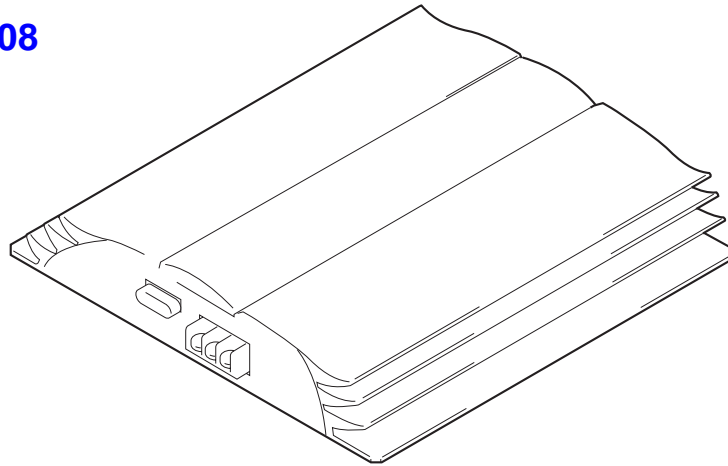
(SPM-99018)

# XM-1002HX

## SERVICE MANUAL

Ver 1.1 2001.08

US Model  
Canadian Model  
AEP Model  
UK Model  
E Model



### SPECIFICATIONS

#### AUDIO POWER SPECIFICATIONS (US model)

##### POWER OUTPUT AND TOTAL HARMONIC DISTORTION

100/50 watts per channel minimum continuous average power into 4 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.04% total harmonic distortion per Car Audio Ad Hoc Committee standards.

#### Other Specifications

Circuit system OTL (output transformerless) circuit

Pulse power supply

Inputs RCA pin jacks  
High level input connector

Outputs Speaker terminals  
Through out pin jacks

Speaker impedance  
1\* – 8  $\Omega$  (stereo)  
2\* – 8  $\Omega$  (when used as a bridging amplifier)

#### Maximum outputs (HI-CURRENT/HI-VOLTAGE)

120/230 W x 2 (at 4  $\Omega$ )  
380/580 W (monaural) at 4  $\Omega$

#### Rated outputs (HI-CURRENT/HI-VOLTAGE) (supply voltage at 14.4 V)

50/100 W x 2 (20 Hz – 20 kHz, 0.04% THD,  
at 4  $\Omega$ )  
70/140 W x 2 (20 Hz – 20 kHz, 0.1% THD,  
at 2  $\Omega$ )  
140/280 W (monaural) (20 Hz – 20 kHz, 0.1% THD,  
at 4  $\Omega$ )

#### Frequency response

5 Hz – 50 kHz ( $^{+0.5}_{-3}$  dB)

#### Harmonic distortion

0.005% or less (at 1kHz, 4  $\Omega$ )

#### Input level adjustment range

0.2 – 4.0 V (RCA pin jacks)  
0.4 – 8.0 V (High level input)

High-pass filter 50 – 200 Hz, –12 dB/oct

Low-pass filter 50 – 200 Hz, –12 dB/oct

Low boost 0 – 10 dB (40 Hz)

Power requirements 12 V DC car battery (negative ground)

Power supply voltage  
10.5 – 16 V

Current drain  
at rated output : 26 A  
(4 HI-VOL TAGE mode)  
Remote input : 2 mA

Dimensions  
Approx. 258 x 50 x 320 mm  
(10  $\frac{1}{4}$  x 2 x 12  $\frac{3}{8}$  in.)

Mass  
Approx. 3.3 kg (7 lb, 4 oz.) not incl. accessories

#### Supplied accessories

Mounting screws (4),  
Terminal cap (1)

Design and specifications are subject to change without notice.

\* HI-CURRENT only

## STEREO POWER AMPLIFIER

9-925-785-12

2001H0400-1

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**Sony Corporation**

e Vehicle Company

Shinagawa Tec Service Manual Production Group

# SONY®

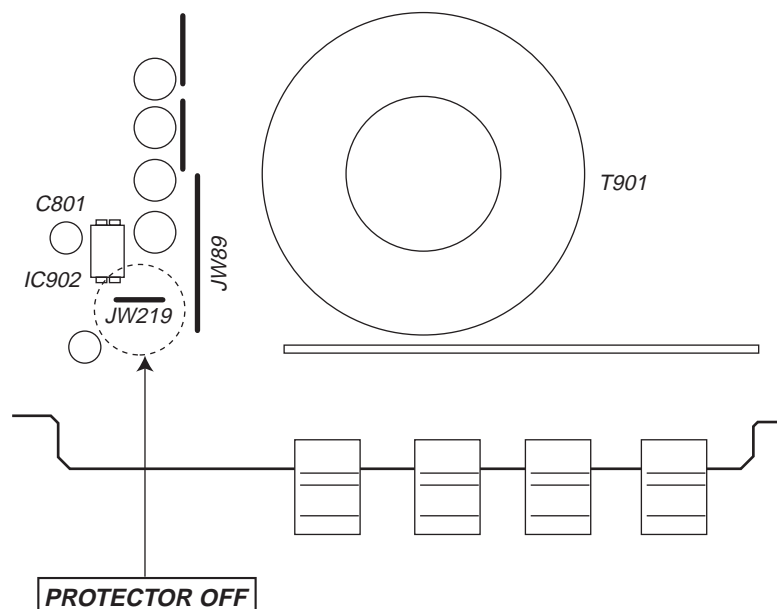
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## SECTION 1 SERVICING NOTE

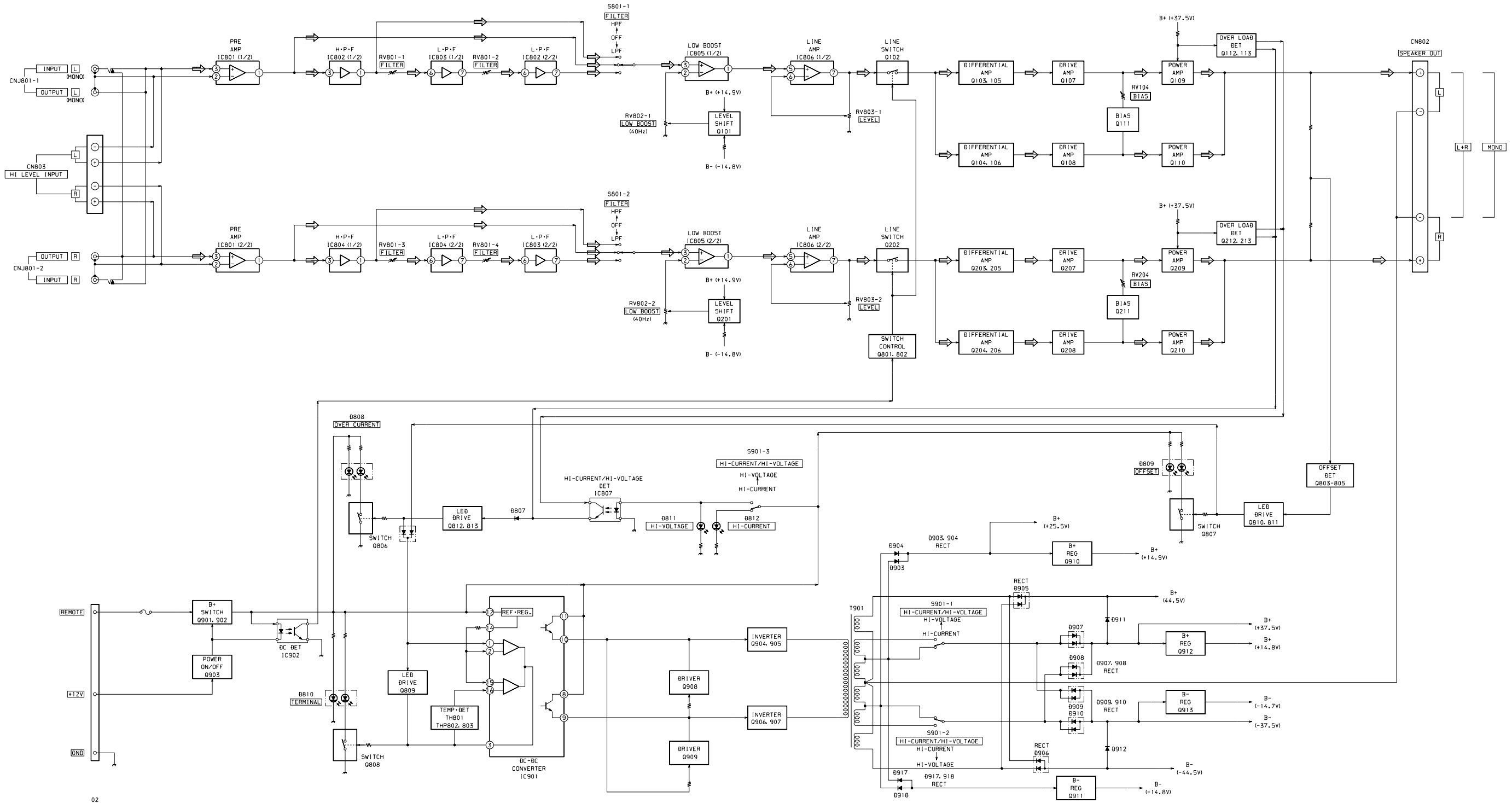
### CANCELLING THE PROTECTOR DURING SERVICING

Cut JW219 on the amplifier board to cancel the protector.  
After servicing always be sure to return JW219 to its original state.



SECTION 5  
DIAGRAMS

5-1. BLOCK DIAGRAM



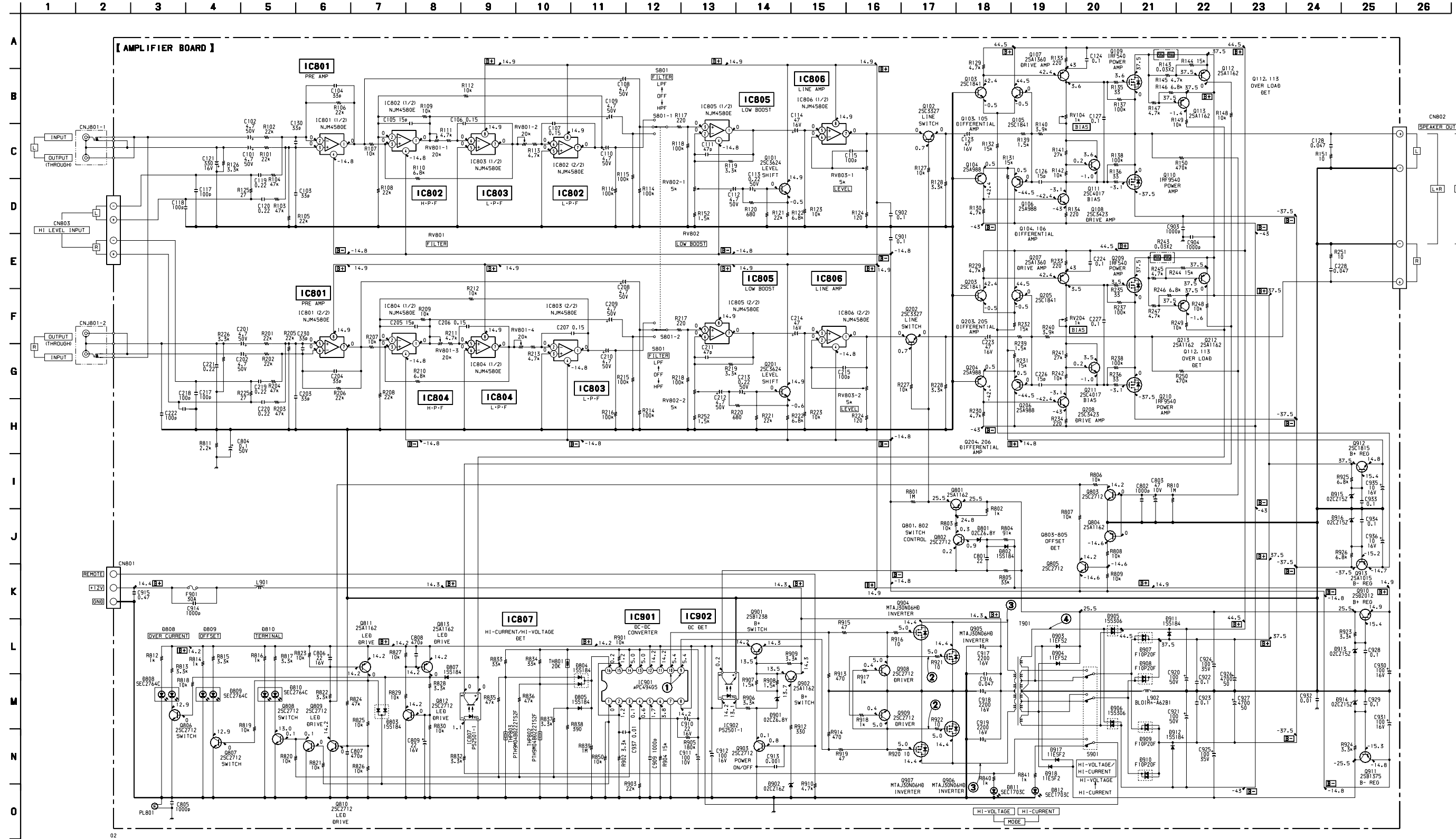
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• Signal path.  
➡

5-3. SCHEMATIC DIAGRAM

Refer to page 9 for Waveforms.

Refer to page 9 for IC Block Diagrams.



# AMPLIFIER

## SECTION 7 ELECTRICAL PARTS LIST

### 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.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- 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.

- SEMICONDUCTORS  
In each case, u :  $\mu$  , for example :  
uA.... :  $\mu$  A.... , uPA.... :  $\mu$  PA....  
uPB.... :  $\mu$  PB.... , uPC.... :  $\mu$  PC....  
uPD.... :  $\mu$  PD....
- CAPACITORS  
uF :  $\mu$  F
- COILS  
uH :  $\mu$  H
- Abbreviation  
G : German

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3313-748-A	AMPLIFIER BOARD, COMPLETE *****		C214	1-126-008-51	ELECT 47uF	20% 16V
		< CAPACITOR >		C215	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C101	1-126-047-11	ELECT 4.7uF	20% 50V	C217	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C102	1-126-047-11	ELECT 4.7uF	20% 50V	C218	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C103	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C219	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C104	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C220	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C105	1-163-231-11	CERAMIC CHIP 15PF	5% 50V	C221	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C106	1-136-167-00	FILM 0.15uF	5% 50V	C222	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C107	1-136-167-00	FILM 0.15uF	5% 50V	C223	1-126-008-11	ELECT 47uF	20% 16V
C108	1-126-047-11	ELECT 4.7uF	20% 50V	C224	1-104-999-11	MYLAR 0.1uF	10% 200V
C109	1-126-047-11	ELECT 4.7uF	20% 50V	C226	1-102-951-00	CERAMIC 15PF	5% 50V
C110	1-126-047-11	ELECT 4.7uF	20% 50V	C227	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C111	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C228	1-106-383-00	MYLAR 0.047uF	5% 200V
C112	1-126-047-11	ELECT 4.7uF	20% 50V	C230	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C113	1-126-957-11	ELECT 0.22uF	20% 50V	C801	1-124-282-00	ELECT 22uF	20% 16V
C114	1-126-008-11	ELECT 47uF	20% 16V	C802	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C115	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C803	1-126-967-11	ELECT 47uF	20% 10V
C117	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C804	1-126-956-11	ELECT 0.1uF	20% 50V
C118	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C805	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C119	1-164-222-11	CERAMIC CHIP 0.22uF	25V	C806	1-128-551-11	ELECT 22uF	20% 25V
C120	1-164-222-11	CERAMIC CHIP 0.22uF	25V	C807	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C121	1-104-661-11	ELECT 330uF	20% 16V	C808	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C123	1-126-008-11	ELECT 47uF	20% 16V	C809	1-128-551-11	ELECT 22uF	20% 25V
C124	1-104-999-11	MYLAR 0.1uF	10% 200V	C901	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C126	1-102-951-00	CERAMIC 15PF	5% 50V	C902	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C127	1-165-319-11	CERAMIC CHIP 0.1uF	50V	C903	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C128	1-106-383-00	MYLAR 0.047uF	5% 200V	C904	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C130	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C909	1-106-343-00	MYLAR 1000PF	5% 200V
C201	1-126-047-11	ELECT 4.7uF	20% 50V	C910	1-128-551-11	ELECT 22uF	20% 25V
C202	1-126-047-11	ELECT 4.7uF	20% 50V	C911	1-126-933-11	ELECT 100uF	20% 10V
C203	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C912	1-126-933-11	ELECT 100uF	20% 16V
C204	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C913	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C205	1-163-231-11	CERAMIC CHIP 15PF	5% 50V	C914	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V
C206	1-136-167-00	FILM 0.15uF	5% 50V	C915	1-136-173-00	FILM 0.47uF	5% 50V
C207	1-136-167-00	FILM 0.15uF	5% 50V	C916	1-106-383-00	MYLAR 0.047uF	5% 200V
C208	1-126-047-11	ELECT 4.7uF	20% 50V	C917	1-111-044-11	ELECT 2200uF	20% 16V
C209	1-126-047-11	ELECT 4.7uF	20% 50V	C918	1-111-044-11	ELECT 2200uF	20% 16V
C210	1-126-047-11	ELECT 4.7uF	20% 50V	C919	1-111-044-11	ELECT 2200uF	20% 16V
C211	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C920	1-126-052-11	ELECT 100uF	20% 50V
C212	1-126-047-11	ELECT 4.7uF	20% 50V	C921	1-126-052-11	ELECT 100uF	20% 50V
C213	1-126-957-11	ELECT 0.22uF	20% 50V	C922	1-104-999-11	MYLAR 0.1uF	10% 200V
				C923	1-104-999-11	MYLAR 0.1uF	10% 200V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C924	1-126-052-11	ELECT	100uF 20% 35V	IC802	8-759-711-82	IC NJM4580E	
C925	1-126-052-11	ELECT	100uF 20% 35V	IC803	8-759-711-82	IC NJM4580E	
C926	1-119-761-11	ELECT	4700uF 20% 50V	IC804	8-759-711-82	IC NJM4580E	
C927	1-119-761-11	ELECT	4700uF 20% 50V	IC805	8-759-711-82	IC NJM4580E	
C928	1-165-319-11	CERAMIC CHIP	0.1uF 50V	IC806	8-759-711-82	IC NJM4580E	
C929	1-165-319-11	CERAMIC CHIP	0.1uF 50V	IC807	8-719-156-72	PHOTO COUPLER PS2501-1KA	
C930	1-126-009-11	ELECT	100uF 20% 16V	IC901	8-759-144-88	IC UPC494GS	
C931	1-126-009-11	ELECT	100uF 20% 16V	IC902	8-719-156-72	PHOTO COUPLER PS2501-1KA	
C932	1-164-232-11	CERAMIC CHIP	0.01uF 50V			< JUMPER RESISTOR >	
C933	1-165-319-11	CERAMIC CHIP	0.1uF 50V				
C934	1-165-319-11	CERAMIC CHIP	0.1uF 50V	JR1	1-216-296-00	CONDUCTOR, CHIP	
C935	1-126-157-11	ELECT	10uF 20% 16V	JR2	1-216-295-00	CONDUCTOR, CHIP	
C936	1-126-157-11	ELECT	10uF 20% 16V	JR3	1-216-295-00	CONDUCTOR, CHIP	
C937	1-164-232-11	CERAMIC CHIP	0.01uF 50V			< COIL >	
		< CONNECTOR >		L901	1-419-851-11	INDUCTOR 50uH	
CN801	1-537-477-21	TERMINAL BOARD (3P) (REMOTE, +12V, GND)		L902	1-410-396-71	INDUCTOR 0.45uH	
CN802	1-537-478-21	TERMINAL BOARD (4P) (SPEAKER OUT)				< PILOT LAMP >	
CN803	1-784-904-11	CONNECTOR 4P (HI LEVEL INPUT)					
CN804	1-537-479-11	TERMINAL		PL801	1-518-540-00	LAMP, PILOT	
CN805	1-537-479-11	TERMINAL				< TRANSISTOR >	
		< JACK >		Q101	8-729-422-29	TRANSISTOR 2SD601A-S	
CNJ801	1-779-078-51	JACK, PIN 4P (OUTPUT THROUGH, INPUT)		Q102	8-729-203-48	TRANSISTOR 2SC3327-A	
		< DIODE >		Q103	8-729-184-53	TRANSISTOR 2SC1845-EA	
D801	8-719-025-34	DIODE 02CZ6.8-TE85L		Q104	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
D802	8-719-801-78	DIODE 1SS184		Q105	8-729-184-53	TRANSISTOR 2SC1845-EA	
D803	8-719-801-78	DIODE 1SS184		Q106	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
D804	8-719-801-78	DIODE 1SS184		Q107	8-729-209-18	TRANSISTOR 2SA1360-Y	
D805	8-719-801-78	DIODE 1SS184		Q108	8-729-203-45	TRANSISTOR 2SC3423-O	
D807	8-719-801-78	DIODE 1SS184		Q109	8-729-038-52	TRANSISTOR IRF540(H)	
D808	8-719-070-01	LED SEC2764C (OVER CURRENT)		Q110	8-729-038-01	TRANSISTOR IRF9540(H)	
D809	8-719-070-01	LED SEC2764C (OFFSET)		Q111	8-729-954-51	TRANSISTOR 2SC1545	
D810	8-719-070-01	LED SEC2764C (TERMINAL)		Q112	8-729-216-21	TRANSISTOR 2SA1162-Y	
D811	8-719-070-01	LED SEC2764C (MODE HI-VOLTAGE)		Q113	8-729-216-21	TRANSISTOR 2SA1162-Y	
D812	8-719-070-01	LED SEC2764C (MODE HI-CURRENT)		Q201	8-729-422-29	TRANSISTOR 2SD601A-S	
D901	8-719-025-34	DIODE 02CZ6.8-TE85L		Q202	8-729-203-48	TRANSISTOR 2SC3327-A	
D902	8-719-025-50	DIODE 02CZ16-TE85L		Q203	8-729-184-53	TRANSISTOR 2SC1845-EA	
D903	8-719-987-67	DIODE 11EFS2		Q204	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
D904	8-719-987-67	DIODE 11EFS2		Q205	8-729-184-53	TRANSISTOR 2SC1845-EA	
D905	8-719-054-55	DIODE 1SS306(TE85L)		Q206	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
D906	8-719-054-55	DIODE 1SS306(TE85L)		Q207	8-729-209-18	TRANSISTOR 2SA1360-Y	
D907	8-719-210-30	DIODE F10P20F(R)		Q208	8-729-203-45	TRANSISTOR 2SC3423-O	
D908	8-719-210-30	DIODE F10P20F(R)		Q209	8-729-038-52	TRANSISTOR IRF540(H)	
D909	8-719-210-30	DIODE F10P20F(R)		Q210	8-729-038-01	TRANSISTOR IRF9540(H)	
D910	8-719-210-30	DIODE F10P20F(R)		Q211	8-729-954-51	TRANSISTOR 2SC1545	
D911	8-719-801-78	DIODE 1SS184		Q212	8-729-216-21	TRANSISTOR 2SA1162-Y	
D912	8-719-801-78	DIODE 1SS184		Q213	8-729-216-21	TRANSISTOR 2SA1162-Y	
D913	8-719-025-49	DIODE 02CZ15-TE85L		Q801	8-729-216-21	TRANSISTOR 2SA1162-Y	
D914	8-719-025-49	DIODE 02CZ15-TE85L		Q802	8-729-230-49	TRANSISTOR 2SC2712-YG	
D915	8-719-025-49	DIODE 02CZ15-TE85L		Q803	8-729-230-49	TRANSISTOR 2SC2712-YG	
D916	8-719-025-49	DIODE 02CZ15-TE85L		Q804	8-729-216-21	TRANSISTOR 2SA1162-Y	
D917	8-719-987-67	DIODE 11EFS2		Q805	8-729-230-49	TRANSISTOR 2SC2712-YG	
D918	8-719-987-67	DIODE 11EFS2		Q806	8-729-230-49	TRANSISTOR 2SC2712-YG	
		< IC >		Q807	8-729-230-49	TRANSISTOR 2SC2712-YG	
IC801	8-759-711-82	IC NJM4580E		Q808	8-729-230-49	TRANSISTOR 2SC2712-YG	
				Q809	8-729-230-49	TRANSISTOR 2SC2712-YG	

# AMPLIFIER

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q810	8-729-230-49	TRANSISTOR 2SC2712-YG		R139	1-249-419-11	CARBON 1.5K 5%	1/4W
Q811	8-729-216-21	TRANSISTOR 2SA1162-Y		R140	1-249-424-11	CARBON 3.9K 5%	1/4W
Q812	8-729-230-49	TRANSISTOR 2SC2712-YG		R141	1-216-685-11	METAL CHIP 27K 0.5%	1/10W
Q813	8-729-216-21	TRANSISTOR 2SA1162-Y		R142	1-208-462-11	RES,CHIP 10K 2%	1/10W
Q901	8-729-041-38	TRANSISTOR 2SB1241TV2Q		R143	1-240-179-11	METAL PLATE 0.03X2 5W	
Q902	8-729-216-21	TRANSISTOR 2SA1162-Y		R144	1-208-810-11	RES,CHIP 15K 2%	1/10W
Q903	8-729-230-49	TRANSISTOR 2SC2712-YG		R145	1-208-453-11	RES,CHIP 4.7K 2%	1/10W
Q904	8-729-030-73	TRANSISTOR MTAJ30N06HD		R146	1-216-671-11	METAL CHIP 6.8K 0.5%	1/10W
Q905	8-729-030-73	TRANSISTOR MTAJ30N06HD		R147	1-208-453-11	RES,CHIP 4.7K 2%	1/10W
Q906	8-729-030-73	TRANSISTOR MTAJ30N06HD		R148	1-208-510-11	RES,CHIP 10K 2%	1/8W
Q907	8-729-030-73	TRANSISTOR MTAJ30N06HD		R149	1-208-510-11	RES,CHIP 10K 2%	1/8W
Q908	8-729-230-49	TRANSISTOR 2SC2712-YG		R150	1-208-550-11	RES,CHIP 470K 2%	1/10W
Q909	8-729-230-49	TRANSISTOR 2SC2712-YG		R151	1-215-857-11	METAL OXIDE 10 5%	1W
Q910	8-729-209-15	TRANSISTOR 2SD2012		R152	1-216-202-00	RES,CHIP 1.5K 2%	1/8W
Q911	8-729-141-83	TRANSISTOR 2SB1094-LK		R201	1-208-518-11	RES,CHIP 22K 2%	1/10W
Q912	8-729-119-78	TRANSISTOR 2SC403SP-51		R202	1-208-518-11	RES,CHIP 22K 2%	1/10W
Q913	8-729-173-38	TRANSISTOR 2SA733-K		R203	1-208-526-11	RES,CHIP 47K 2%	1/10W
< RESISTOR >				R204	1-208-526-11	RES,CHIP 47K 2%	1/10W
R101	1-208-518-11	RES,CHIP 22K 2%	1/10W	R205	1-208-518-11	RES,CHIP 22K 2%	1/10W
R102	1-208-518-11	RES,CHIP 22K 2%	1/10W	R206	1-208-518-11	RES,CHIP 22K 2%	1/10W
R103	1-208-526-11	RES,CHIP 47K 2%	1/10W	R207	1-208-462-11	RES,CHIP 10K 2%	1/10W
R104	1-208-526-11	RES,CHIP 47K 2%	1/10W	R208	1-208-518-11	RES,CHIP 22K 2%	1/10W
R105	1-208-518-11	RES,CHIP 22K 2%	1/10W	R209	1-208-462-11	RES,CHIP 10K 2%	1/10W
R106	1-208-518-11	RES,CHIP 22K 2%	1/10W	R210	1-216-671-11	METAL CHIP 6.8K 0.5%	1/10W
R107	1-208-462-11	RES,CHIP 10K 2%	1/10W	R211	1-208-453-11	RES,CHIP 4.7K 2%	1/10W
R108	1-208-518-11	RES,CHIP 22K 2%	1/10W	R212	1-208-462-11	RES,CHIP 10K 2%	1/10W
R109	1-208-462-11	RES,CHIP 10K 2%	1/10W	R213	1-208-453-11	RES,CHIP 4.7K 2%	1/10W
R110	1-216-671-11	METAL CHIP 6.8K 0.5%	1/10W	R214	1-208-534-11	RES,CHIP 100K 2%	1/10W
R111	1-208-453-11	RES,CHIP 4.7K 2%	1/10W	R215	1-208-534-11	RES,CHIP 100K 2%	1/10W
R112	1-208-462-11	RES,CHIP 10K 2%	1/10W	R216	1-208-534-11	RES,CHIP 100K 2%	1/10W
R113	1-208-453-11	RES,CHIP 4.7K 2%	1/10W	R217	1-216-635-11	METAL CHIP 220 0.5%	1/10W
R114	1-208-534-11	RES,CHIP 100K 2%	1/10W	R218	1-208-534-11	RES,CHIP 100K 2%	1/10W
R115	1-208-534-11	RES,CHIP 100K 2%	1/10W	R219	1-208-449-11	RES,CHIP 3.3K 2%	1/10W
R116	1-208-534-11	RES,CHIP 100K 2%	1/10W	R220	1-216-647-11	METAL CHIP 680 0.5%	1/10W
R117	1-216-635-11	METAL CHIP 220 0.5%	1/10W	R221	1-208-518-11	RES,CHIP 22K 2%	1/10W
R118	1-208-534-11	RES,CHIP 100K 2%	1/10W	R222	1-208-506-11	RES,CHIP 6.8K 2%	1/8W
R119	1-208-449-11	RES,CHIP 3.3K 2%	1/10W	R223	1-208-462-11	RES,CHIP 10K 2%	1/10W
R120	1-216-647-11	METAL CHIP 680 0.5%	1/10W	R224	1-208-760-11	RES,CHIP 120 2%	1/10W
R121	1-208-518-11	RES,CHIP 22K 2%	1/10W	R225	1-216-471-11	METAL OXIDE 27 5%	3W F
R122	1-208-506-11	RES,CHIP 6.8K 2%	1/8W	R226	1-208-437-11	RES,CHIP 1K 2%	1/10W
R123	1-208-462-11	RES,CHIP 10K 2%	1/10W	R227	1-208-510-11	RES,CHIP 10K 2%	1/8W
R124	1-208-760-11	RES,CHIP 120 2%	1/10W	R228	1-208-449-11	RES,CHIP 3.3K 2%	1/10W
R125	1-216-471-11	METAL OXIDE 27 5%	3W F	R229	1-208-453-11	RES,CHIP 4.7K 2%	1/10W
R126	1-216-210-00	RES,CHIP 3.3K 2%	1/8W	R230	1-208-453-11	RES,CHIP 4.7K 2%	1/10W
R127	1-208-510-11	RES,CHIP 10K 2%	1/8W	R231	1-208-810-11	RES,CHIP 15K 2%	1/10W
R128	1-208-449-11	RES,CHIP 3.3K 2%	1/10W	R232	1-208-810-11	RES,CHIP 15K 2%	1/10W
R129	1-208-453-11	RES,CHIP 4.7K 2%	1/10W	R233	1-216-635-11	METAL CHIP 220 0.5%	1/10W
R130	1-208-453-11	RES,CHIP 4.7K 2%	1/10W	R234	1-216-635-11	METAL CHIP 220 0.5%	1/10W
R131	1-208-810-11	RES,CHIP 15K 2%	1/10W	R235	1-208-401-11	RES,CHIP 33 2%	1/8W
R132	1-208-810-11	RES,CHIP 15K 2%	1/10W	R236	1-208-401-11	RES,CHIP 33 2%	1/8W
R133	1-216-635-11	METAL CHIP 220 0.5%	1/10W	R237	1-208-534-11	RES,CHIP 100K 2%	1/10W
R134	1-216-635-11	METAL CHIP 220 0.5%	1/10W	R238	1-208-534-11	RES,CHIP 100K 2%	1/10W
R135	1-208-401-11	RES,CHIP 33 2%	1/8W	R239	1-249-419-11	CARBON 1.5K 5%	1/4W
R136	1-208-401-11	RES,CHIP 33 2%	1/8W	R240	1-249-424-11	CARBON 3.9K 5%	1/4W
R137	1-208-534-11	RES,CHIP 100K 2%	1/10W	R241	1-216-685-11	METAL CHIP 27K 0.5%	1/10W
R138	1-208-534-11	RES,CHIP 100K 2%	1/10W	R242	1-208-462-11	RES,CHIP 10K 2%	1/10W
				R243	1-240-179-11	METAL PLATE 0.03X2 5W	



# AMPLIFIER

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R244	1-208-810-11	RES,CHIP	15K 2% 1/10W	R908	1-216-202-00	RES,CHIP	1.5K 2% 1/8W
R245	1-208-453-11	RES,CHIP	4.7K 2% 1/10W	R909	1-208-449-11	RES,CHIP	3.3K 2% 1/10W
R246	1-216-671-11	METAL CHIP	6.8K 0.5% 1/10W	R910	1-208-453-11	RES,CHIP	4.7K 2% 1/10W
R247	1-208-453-11	RES,CHIP	4.7K 2% 1/10W	R911	1-249-429-11	CARBON	10K 5% 1/4W
R248	1-208-510-11	RES,CHIP	10K 2% 1/8W	R912	1-208-474-11	RES,CHIP	330 2% 1/8W
R249	1-208-510-11	RES,CHIP	10K 2% 1/8W	R913	1-208-478-11	RES,CHIP	470 2% 1/8W
R250	1-208-550-11	RES,CHIP	470K 2% 1/10W	R914	1-208-478-11	RES,CHIP	470 2% 1/8W
R251	1-215-857-11	METAL OXIDE	10 5% 1W	R915	1-208-405-11	RES,CHIP	47 2% 1/8W
R252	1-216-202-00	RES,CHIP	1.5K 2% 1/8W	R916	1-216-150-00	RES,CHIP	10 2% 1/8W
R801	1-208-558-11	RES,CHIP	1M 2% 1/10W	R917	1-208-437-11	RES,CHIP	1K 2% 1/10W
R802	1-208-437-11	RES,CHIP	1K 2% 1/10W	R918	1-208-437-11	RES,CHIP	1K 2% 1/10W
R803	1-208-510-11	RES,CHIP	10K 2% 1/8W	R919	1-208-405-11	RES,CHIP	47 2% 1/8W
R804	1-216-698-11	METAL CHIP	91K 0.5% 1/10W	R920	1-216-150-00	RES,CHIP	10 2% 1/8W
R805	1-208-522-11	RES,CHIP	33K 2% 1/10W	R921	1-216-150-00	RES,CHIP	10 2% 1/8W
R806	1-208-462-11	RES,CHIP	10K 2% 1/10W	R922	1-216-150-00	RES,CHIP	10 2% 1/8W
R807	1-208-462-11	RES,CHIP	10K 2% 1/10W	R923	1-208-449-11	RES,CHIP	3.3K 2% 1/10W
R808	1-208-462-11	RES,CHIP	10K 2% 1/10W	R924	1-208-449-11	RES,CHIP	3.3K 2% 1/10W
R809	1-208-462-11	RES,CHIP	10K 2% 1/10W	R925	1-208-506-11	RES,CHIP	6.8K 2% 1/8W
R810	1-208-558-11	RES,CHIP	1M 2% 1/10W	R926	1-208-506-11	RES,CHIP	6.8K 2% 1/8W
R811	1-208-494-11	RES,CHIP	2.2K 2% 1/8W			< VARIABLE RESISTOR >	
R812	1-208-486-11	RES,CHIP	1K 2% 1/8W	RV104	1-241-761-11	RES, ADJ, CARBON 1K (BIAS)	
R813	1-216-210-00	RES,CHIP	3.3K 2% 1/8W	RV204	1-241-761-11	RES, ADJ, CARBON 1K (BIAS)	
R814	1-208-486-11	RES,CHIP	1K 2% 1/8W	RV801	1-225-647-11	RES, VAR 20K/20K/20K/20K (FILTER)	
R815	1-216-210-00	RES,CHIP	3.3K 2% 1/8W	RV802	1-225-648-11	RES, VAR 5K/5K (LOW BOOST)	
R816	1-208-486-11	RES,CHIP	1K 2% 1/8W	RV803	1-225-648-11	RES, VAR 5K/5K (LEVEL)	
R817	1-216-210-00	RES,CHIP	3.3K 2% 1/8W			< SWITCH >	
R818	1-208-462-11	RES,CHIP	10K 2% 1/10W	S801	1-572-185-11	SWITCH, SLIDE (FILTER)	
R819	1-208-462-11	RES,CHIP	10K 2% 1/10W	S901	1-771-387-11	SWITCH, TOGGLE (HI-CURRENT/HI-VOLTAGE)	
R820	1-208-462-11	RES,CHIP	10K 2% 1/10W			< TRANSFORMER >	
R821	1-208-462-11	RES,CHIP	10K 2% 1/10W	T901	1-431-882-11	TRANSFORMER, DC-DC CONVERTER	
R822	1-216-210-00	RES,CHIP	3.3K 2% 1/8W			< TRANSFORMER >	
R823	1-208-462-11	RES,CHIP	10K 2% 1/10W	TH801	1-808-877-11	THERMISTOR	
R824	1-216-238-00	RES,CHIP	47K 2% 1/8W	THP802	1-809-664-51	THERMISTOR, POSITIVE	
R825	1-208-462-11	RES,CHIP	10K 2% 1/10W	THP803	1-809-664-51	THERMISTOR, POSITIVE	
R826	1-208-462-11	RES,CHIP	10K 2% 1/10W	*****			
R827	1-208-462-11	RES,CHIP	10K 2% 1/10W			MISCELLANEOUS	
R828	1-208-449-11	RES,CHIP	3.3K 2% 1/10W			*****	
R829	1-208-510-11	RES,CHIP	10K 2% 1/8W	CN804	1-537-479-11	TERMINAL	
R830	1-208-462-11	RES,CHIP	10K 2% 1/10W	CN805	1-537-479-11	TERMINAL	
R832	1-216-210-00	RES,CHIP	3.3K 2% 1/8W	D907	8-719-210-30	DIODE F10P20F(R)	
R833	1-208-522-11	RES,CHIP	33K 2% 1/10W	D908	8-719-210-30	DIODE F10P20F(R)	
R834	1-208-522-11	RES,CHIP	33K 2% 1/10W	D909	8-719-210-30	DIODE F10P20F(R)	
R835	1-208-526-11	RES,CHIP	47K 2% 1/10W	D910	8-719-210-30	DIODE F10P20F(R)	
R836	1-208-526-11	RES,CHIP	47K 2% 1/10W	F901	1-532-947-11	FUSE (BLADE TYPE) (AUTO FUSE) (30A)	
R837	1-208-449-11	RES,CHIP	3.3K 2% 1/10W	Q109	8-729-038-52	TRANSISTOR IRF540(H)	
R838	1-208-772-11	RES,CHIP	390 2% 1/10W	Q110	8-729-038-01	TRANSISTOR IRF9540(H)	
R839	1-208-558-11	RES,CHIP	1M 2% 1/10W	Q209	8-729-038-52	TRANSISTOR IRF540(H)	
R840	1-208-486-11	RES,CHIP	1K 2% 1/8W	Q210	8-729-038-01	TRANSISTOR IRF9540(H)	
R841	1-208-486-11	RES,CHIP	1K 2% 1/8W	Q904	8-729-030-73	TRANSISTOR MTAJ30N06HD	
R850	1-208-462-11	RES,CHIP	10K 2% 1/10W	Q905	8-729-030-73	TRANSISTOR MTAJ30N06HD	
R901	1-208-462-11	RES,CHIP	10K 2% 1/10W	Q906	8-729-030-73	TRANSISTOR MTAJ30N06HD	
R902	1-208-449-11	RES,CHIP	3.3K 2% 1/10W	Q907	8-729-030-73	TRANSISTOR MTAJ30N06HD	
R903	1-208-518-11	RES,CHIP	22K 2% 1/10W				
R904	1-208-810-11	RES,CHIP	15K 2% 1/10W				
R905	1-216-103-00	METAL CHIP	180K 5% 1/10W				
R906	1-216-210-00	RES,CHIP	3.3K 2% 1/8W				
R907	1-216-202-00	RES,CHIP	1.5K 2% 1/8W				

# XM-1002HX

Ver 1.1

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
THP802	1-809-664-51	THERMISTOR, POSITIVE	
THP803	1-809-664-51	THERMISTOR, POSITIVE	

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## ACCESSORIES & PACKING MATERIALS

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3-013-264-01	COVER, 3P TERMINAL TABLE	
3-367-410-01	SCREW (DIA. 5X15), TAPPING	
3-701-639-00	BAG, POLYETHYLENE	
3-862-334-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (AEP,UK,E)	
3-862-334-21	MANUAL, INSTRUCTION (GERMAN, ITALIAN) (AEP,UK,G,E)	
3-862-334-31	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (AEP,UK,E)	
3-862-334-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH) (AEP,UK,E)	
3-862-334-51	MANUAL, INSTRUCTION (RUSSIAN,GREEK) (AEP,UK,E)	
3-862-334-61	MANUAL, INSTRUCTION (ENGLISH,FRENCH) (US,Canadian)	

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## HARDWARE LIST

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#1	7-685-544-14	SCREW +BTP 3X5 TYPE2 N-S
#2	7-685-546-19	SCREW +BTP 3X8 TYPE2 N-S
#3	7-685-646-79	SCREW +P 3X8 TYPE2 N-S
#4	7-685-649-79	SCREW +P 3X14 TYPE2 N-S
#5	7-685-144-11	SCREW +P 3X5 TYPE2 N-S
#6	7-682-949-01	SCREW +PSW 3X10
#7	7-685-660-79	SCREW +P 4X10 TYPE2 N-S
#8	7-685-645-79	SCREW +P 3X6 TYPE2 N-S
#9	3-912-431-11	SCREW M 4X8 (P)