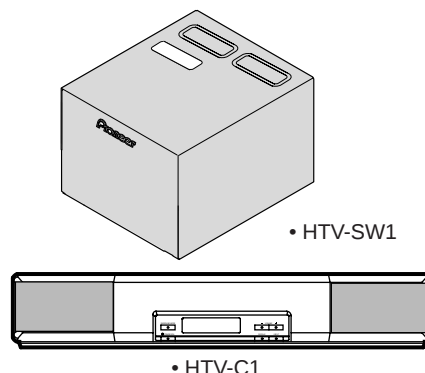


Service Manual

Pioneer



ORDER NO.
RRV2060

POWERED SUBWOOFER

HTV-SW1

CONTROL CENTER

HTV-C1

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	HTV-SW1	HTV-C1		
DDXJ	○	—	AC110–127V/220–230V/240V	With the voltage selector
ADXJ	—	○	AC power supplied from power transformer's secondary of other system component	—

- This product is a system component. This product does not function properly when independent; to avoid malfunctions, be sure to connect it to the prescribed system component, otherwise damage may result. The Powered Subwoofer HTV-SW1 is a part of the Hometheater System HTV-1.

1. Hometheater System
HTV-1
(service manual RRV2063)

Control Center
HTV-C1 (this service manual)

Powered Subwoofer
HTV-SW1 (this service manual)

Power Amp
HTV-A1 (this service manual)

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

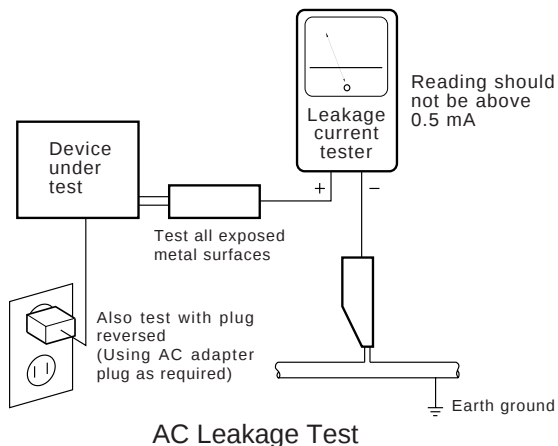
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

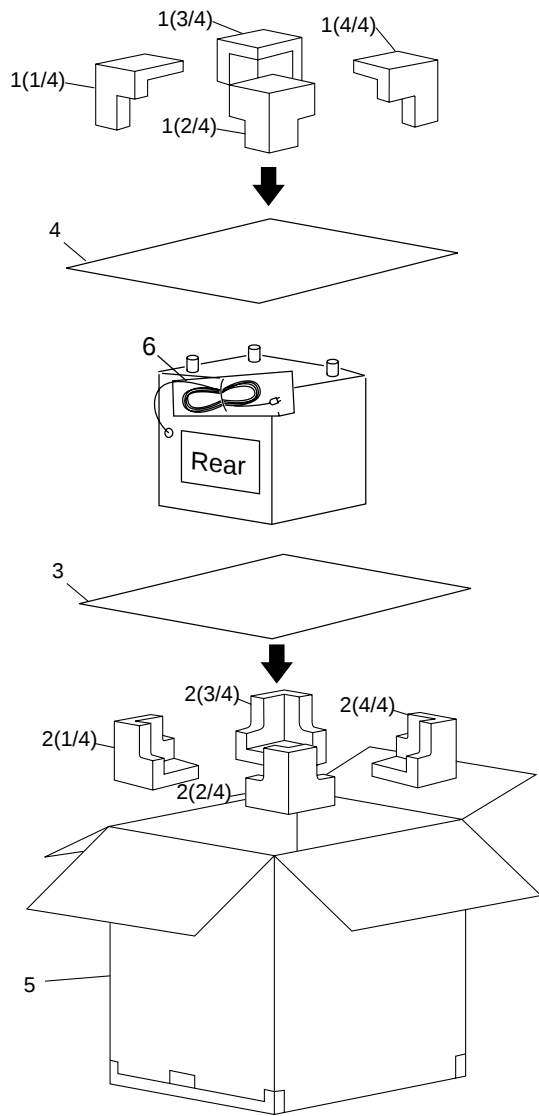
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES : ● Parts marked by “ NSP ” are generally unavailable because they are not in our Master Spare Parts List.
● The  mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.
● Screw adjacent to ▼ mark on the product are used for disassembly.

2.2 HTV-SW1

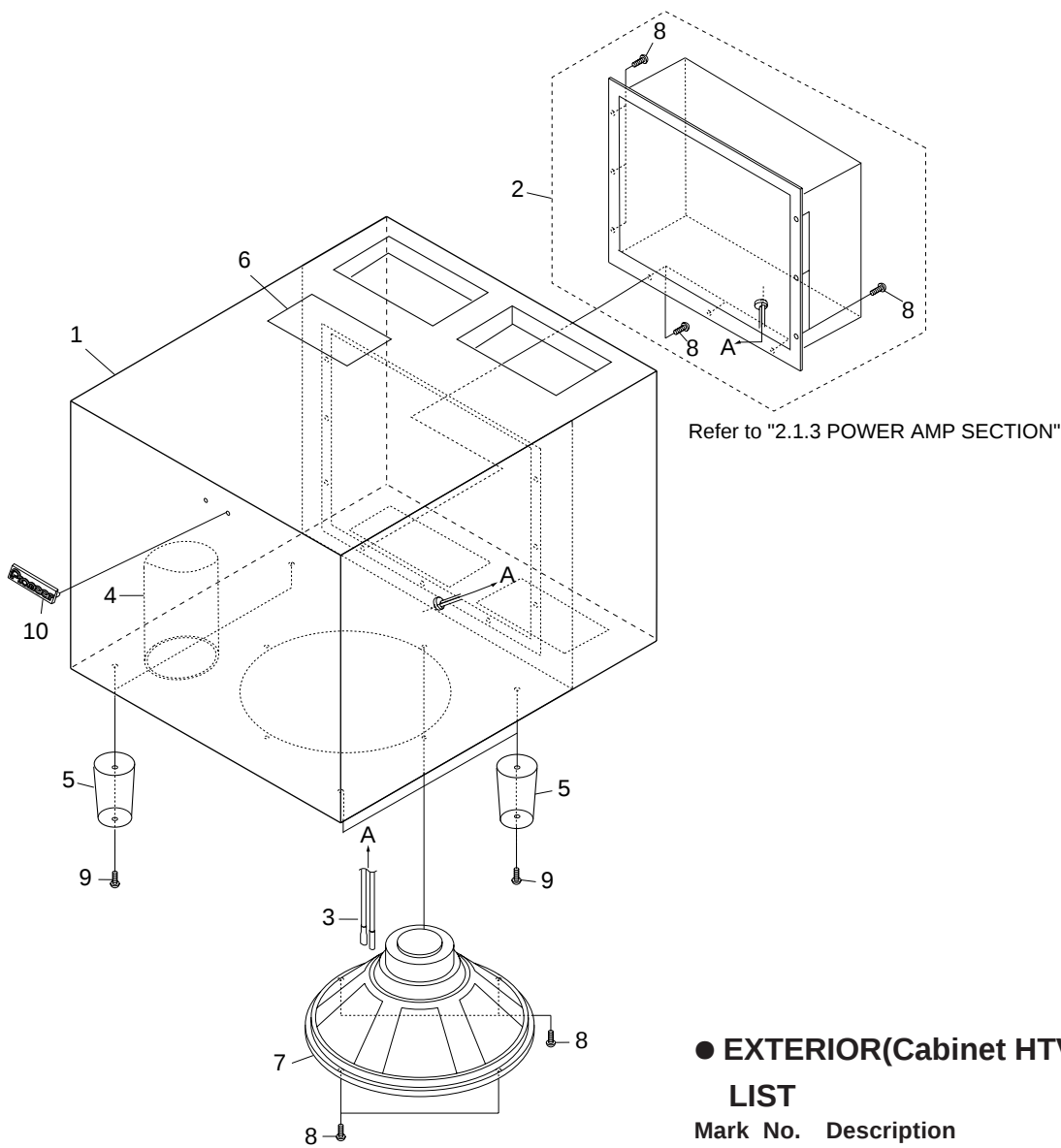
2.1.1 PACKING



● PACKING PARTS LIST(HTV-SW1)

Mark	No.	Description	Part No.
	1	Protector Top	SHA2140
	2	Protector Bottom	SHA2141
	3	Protection Sheet S6	SHC1726
	4	Protection Sheet S7	SHC1727
	5	Packing Case	SHG2124
NSP	6	Polyethylene Bag (0.03 × 115 × 270)	SHL1227

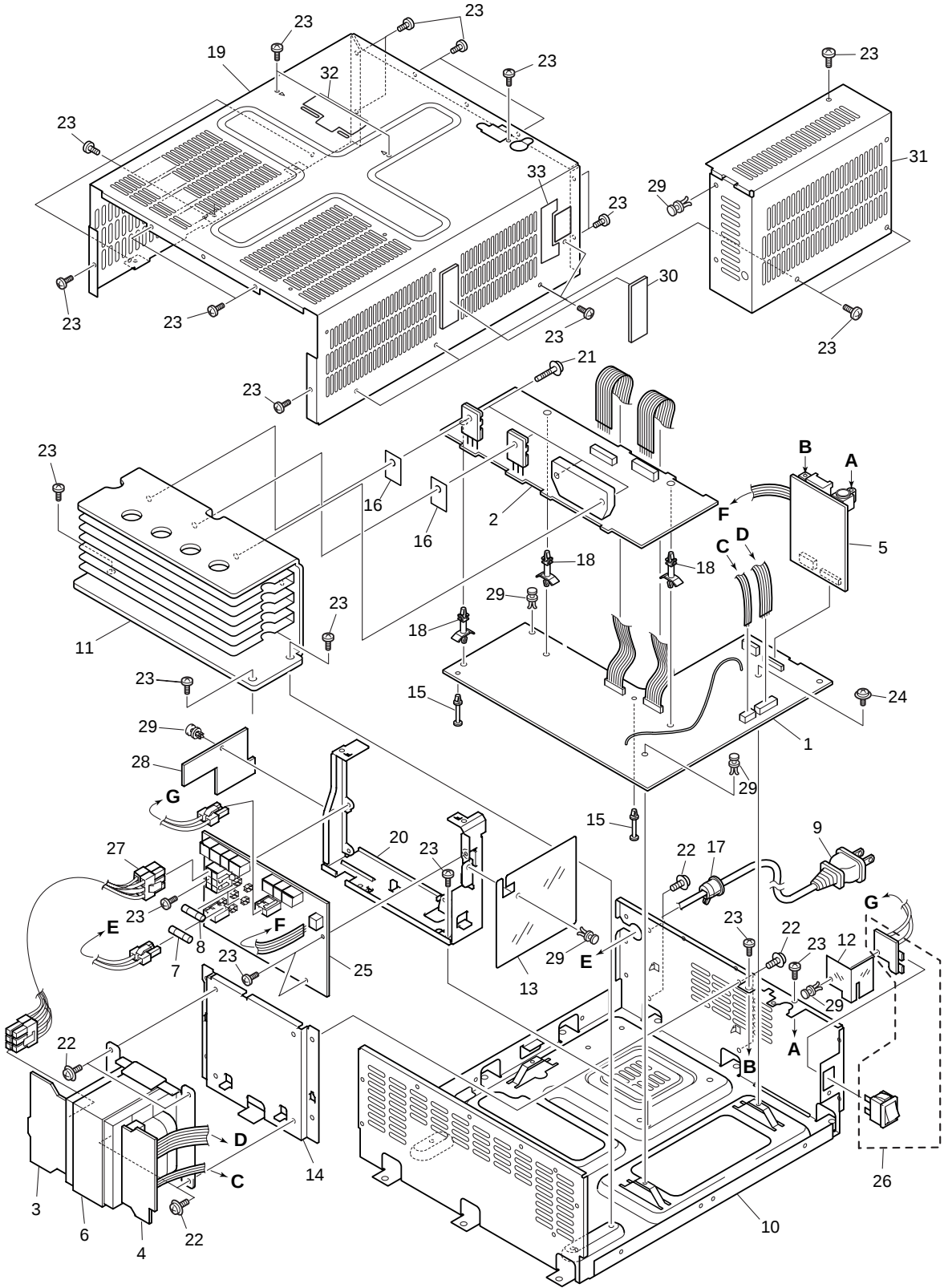
2.1.2 EXTERIOR (Cabinet HTV-SW1)



● EXTERIOR(Cabinet HTV-SW1) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	Cabinet	SMM1821
NSP	2	Power AMP	HTV-A1/DDXJ
	3	Connecting Cord	SDF1072
NSP	4	Paper Port tube	SMR1283
	5	Foot	SNK2274
NSP	6	CAUTION LABEL	SRR1012
	7	Speaker	Q20EU82-52F
	8	Screw	BYC40P200FZB
	9	Bind Tapping Screw	BYC40P300FZK
NSP	10	Logo 40	SAM1452

2.1.3 EXTERIOR (POWER AMP HTV-A1)

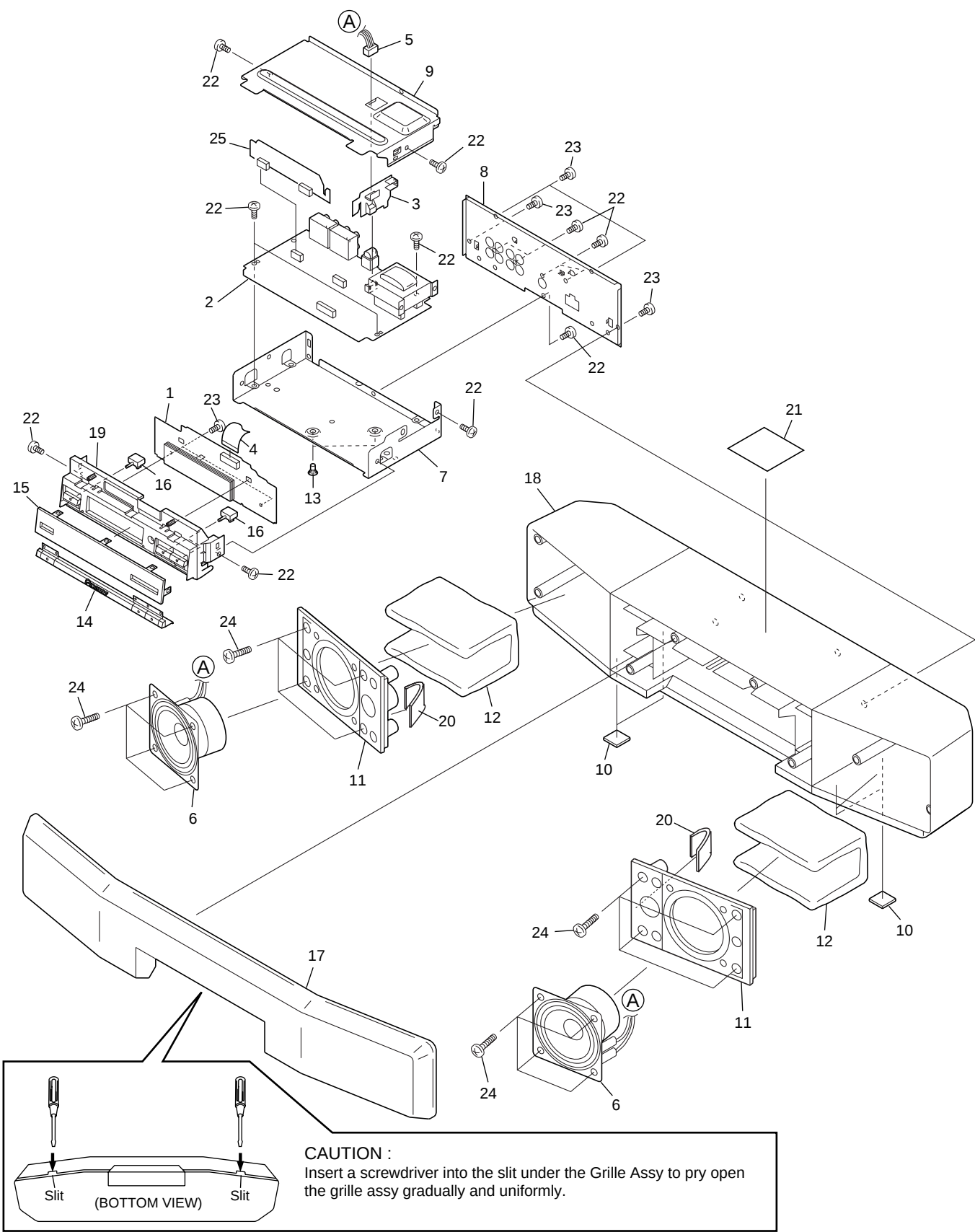


HTV-SW1, HTV-C1

● EXTERIOR(POWER AMP HTV-A1) PARTS LIST

Mark	No.	Description	Part No.
	1	AFPS ASSY	AWU7262
	2	PAMP ASSY	AWU7263
	3	PT PRI ASSY	AWU7264
	4	PT SEC ASSY	AWU7265
	5	JACK ASSY	AWU7257
	6	Power Transformer (T1)	ATS7228
	7	Fuse (FU1 : T3.15AL250V)	REK1027
	8	Fuse (FU2, 3 : T1.6AL250V)	REK1024
	9	AC Power Cord	VDG1058
NSP	10	Chassis	ANA7093
NSP	11	Heat Sink	ANH7079
	12	PW Barrier	AEC7157
	13	ST Barrier	AEC7155
	14	TRANS Frame	ANG7216
	15	Mini Card Spacer	AEC7143
	16	Mica Sheet	AEE7010
NSP	17	Strain Relief	CM-22B
	18	PCB Holder	PNW2174
	19	Bonnet Case	AZN7214
	20	PCB Stay	ANG7217
	21	Screw	ABA-258
	22	Screw	ASZ40P060FMC
	23	Screw	BBZ30P080FMC
	24	Screw	IBZ30P080FMC
	25	STANDBY PT Assy	AWU7267
	26	PW SWITCH Assy	AWU7259
NSP	27	Connector Assy 6P	ADX7245
	28	Cord Support Assy	• • • • •
	29	Push Rivet	AEC7149
	30	Cushion	AEB7123
NSP	31	Heat Protector	AEC7136
NSP	32	Volt Selector Label	AAX7667
	33	POWER SW Label	AAX7669

2.2.2 MAIN SECTION



● MAIN SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	DISPLAY Assy	AWU7260		16	Lens	AAK7551
	2	MAIN Assy	AWU7261		17	Grille Assy	AAS7001
	3	TERMINAL Assy	AWU7251	NSP	18	Rear Case	AMC7028
	4	21P FFC/30V	ADD7124		19	Sub Panel	AMD7003
	5	Cable Assy 4P	ADX7240		20	Acoustic Shield	AEB7130
	6	Speaker	D87DU61-51F	NSP	21	Founding Caution	AAX7660
NSP	7	PCB Bracket	ANA7068		22	Screw	BBZ30P080FMC
	8	Rear Panel	ANC7716		23	Screw	VPZ30P080FMC
NSP	9	Shield Cover	ANK7040		24	Screw	BPZ40P140FZK
	10	Cushion 3	AEB7110		25	INPUT LEV. Assy	AWU7252
NSP	11	Baffle	AMD7006				
NSP	12	Acoustic Absorbent	AMT7001				
	13	Card Spacer	DNK2769				
	14	Button	AAD7498				
	15	Display Panel	AAK7595				

3. SCHEMATIC DIAGRAM

3.1 HTV-A1

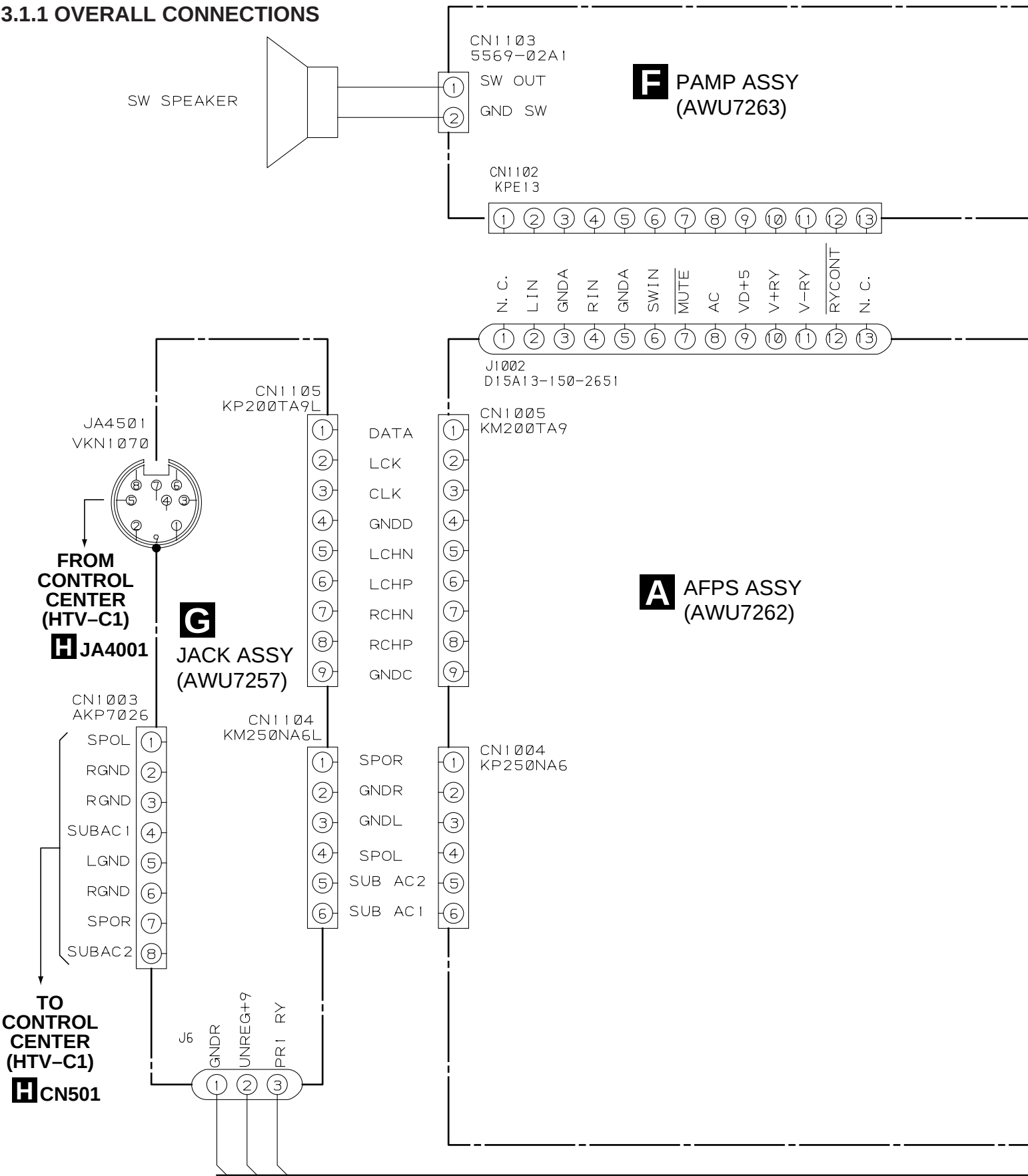
3.1.1 OVERALL CONNECTIONS

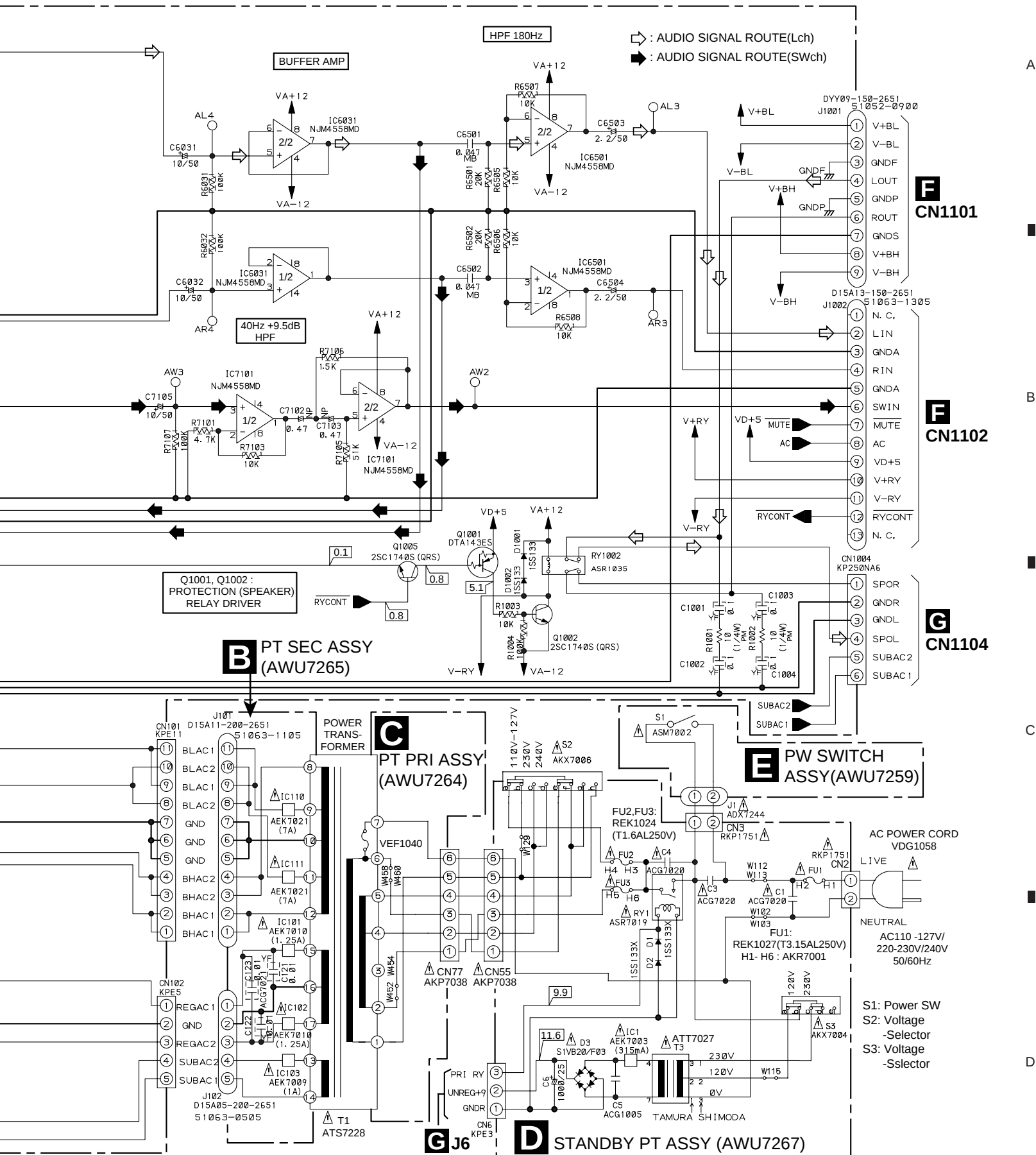
A

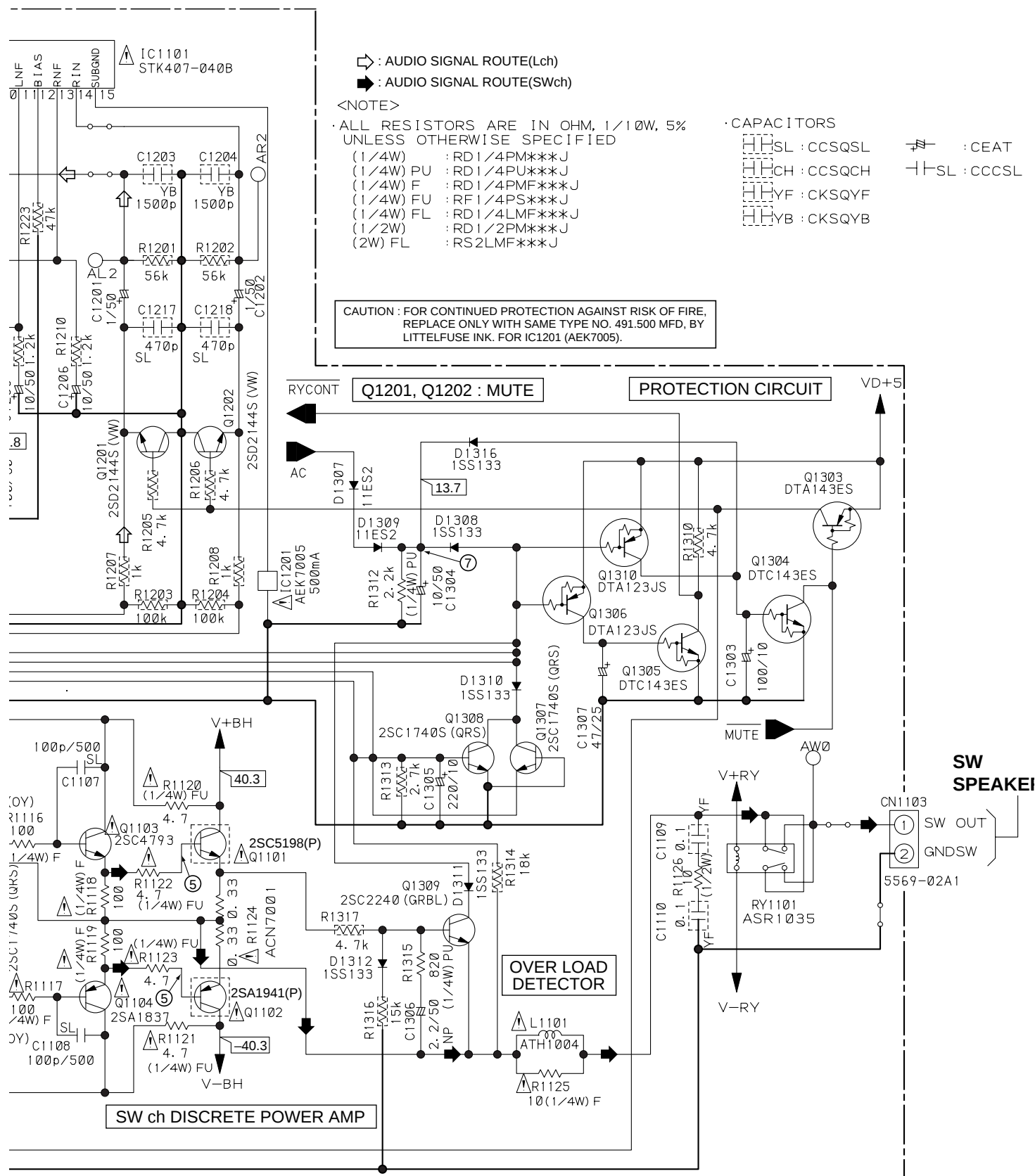
B

C

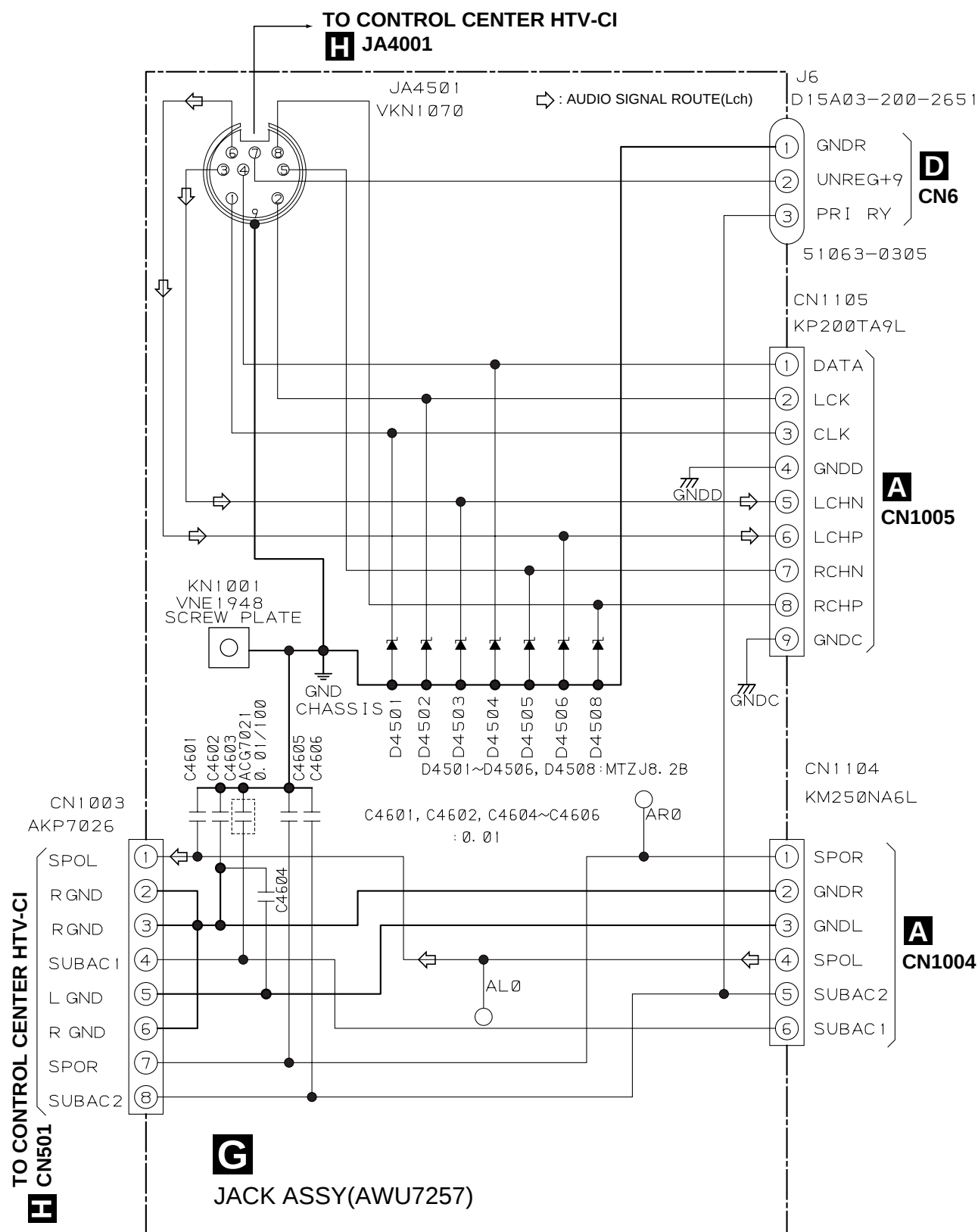
D





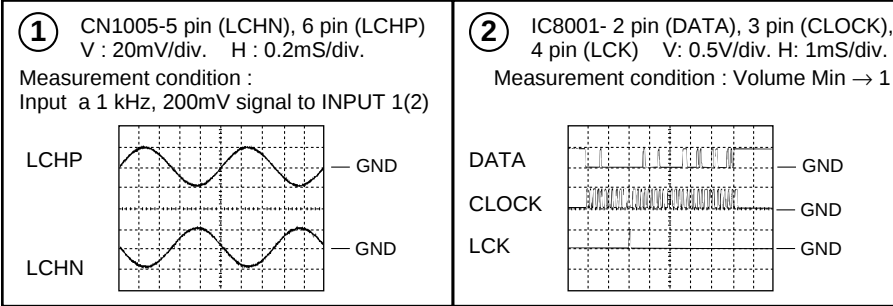


3.1.4 JACK ASSY

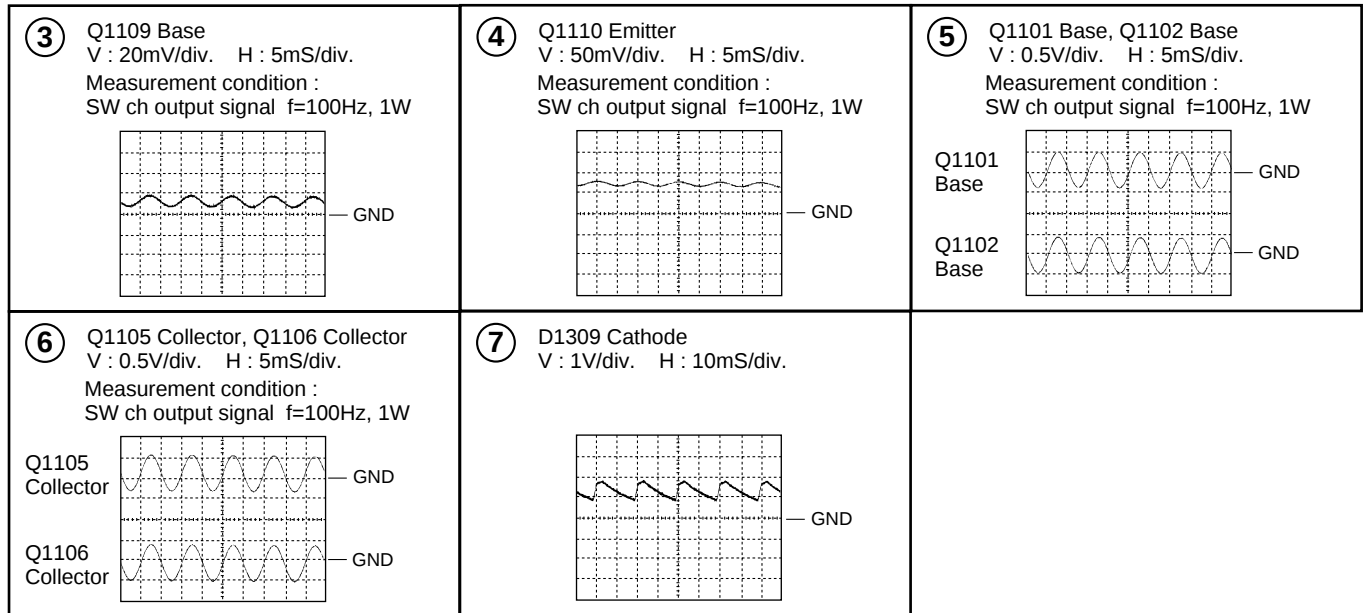


Note: The encircled numbers denote measuring point in the schematic diagram.

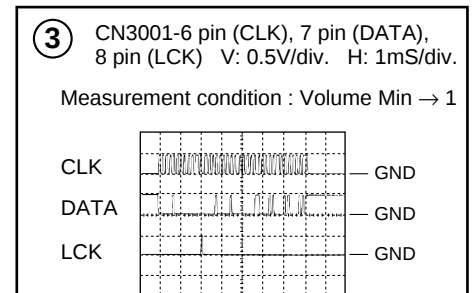
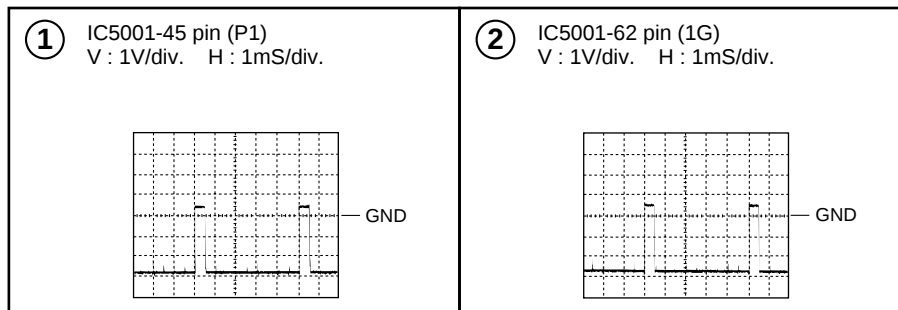
A Waveforms (HTV-A1)



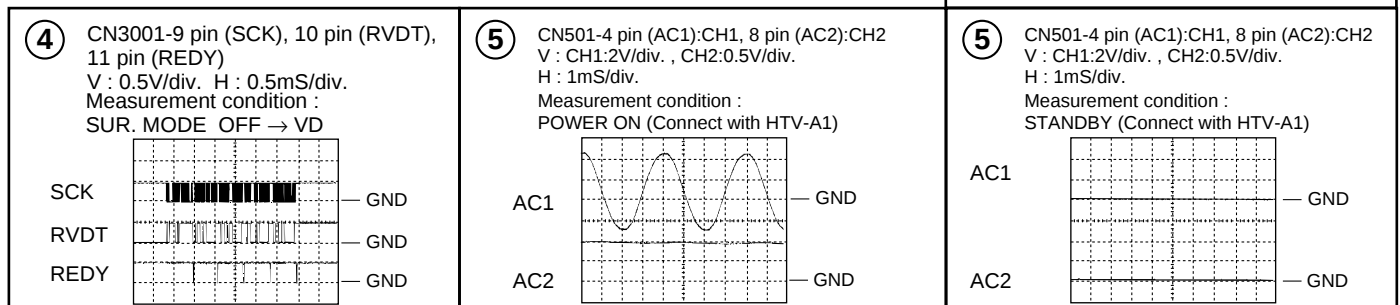
F Waveforms (HTV-A1)



K Waveforms (HTV-C1)

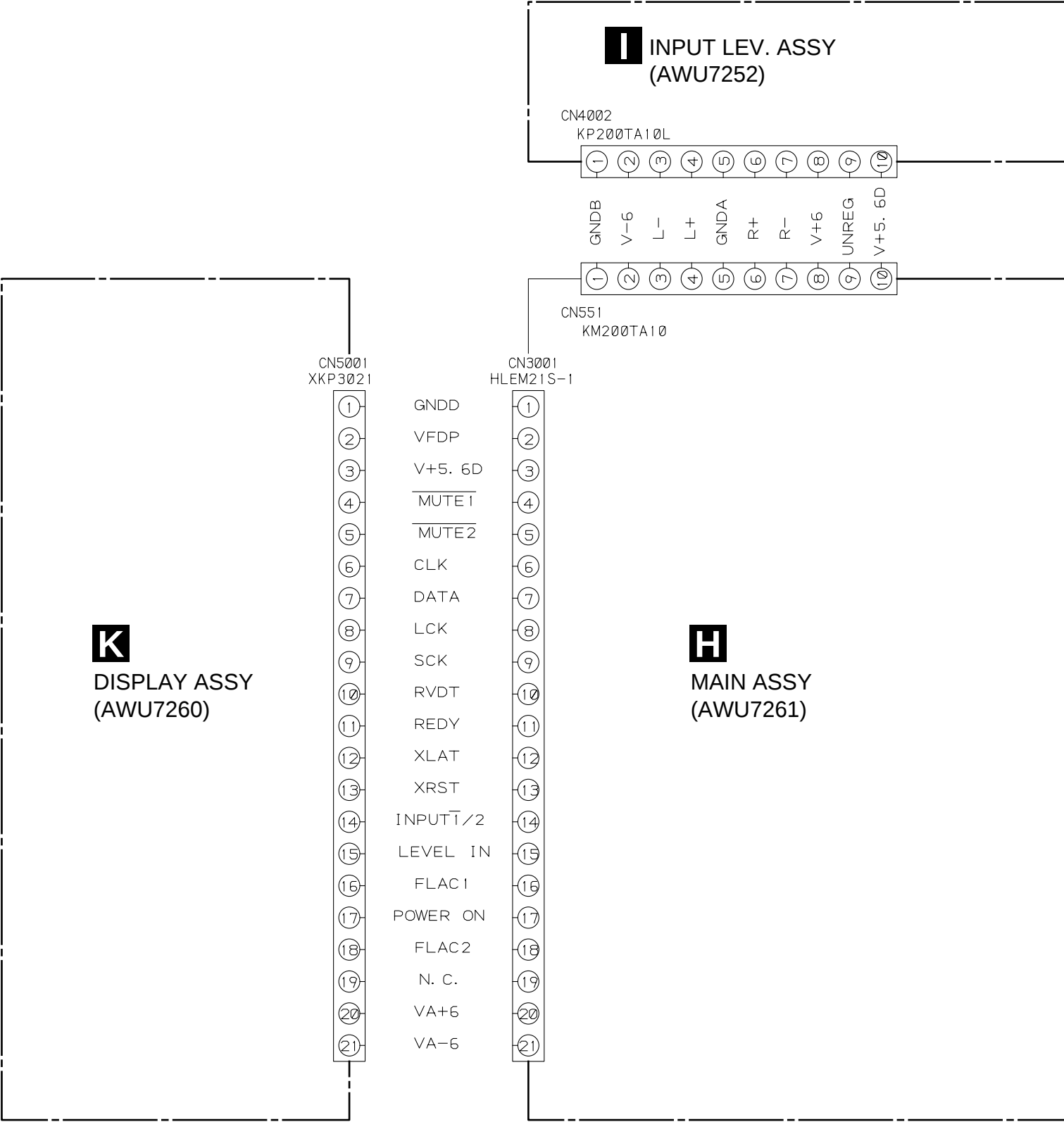


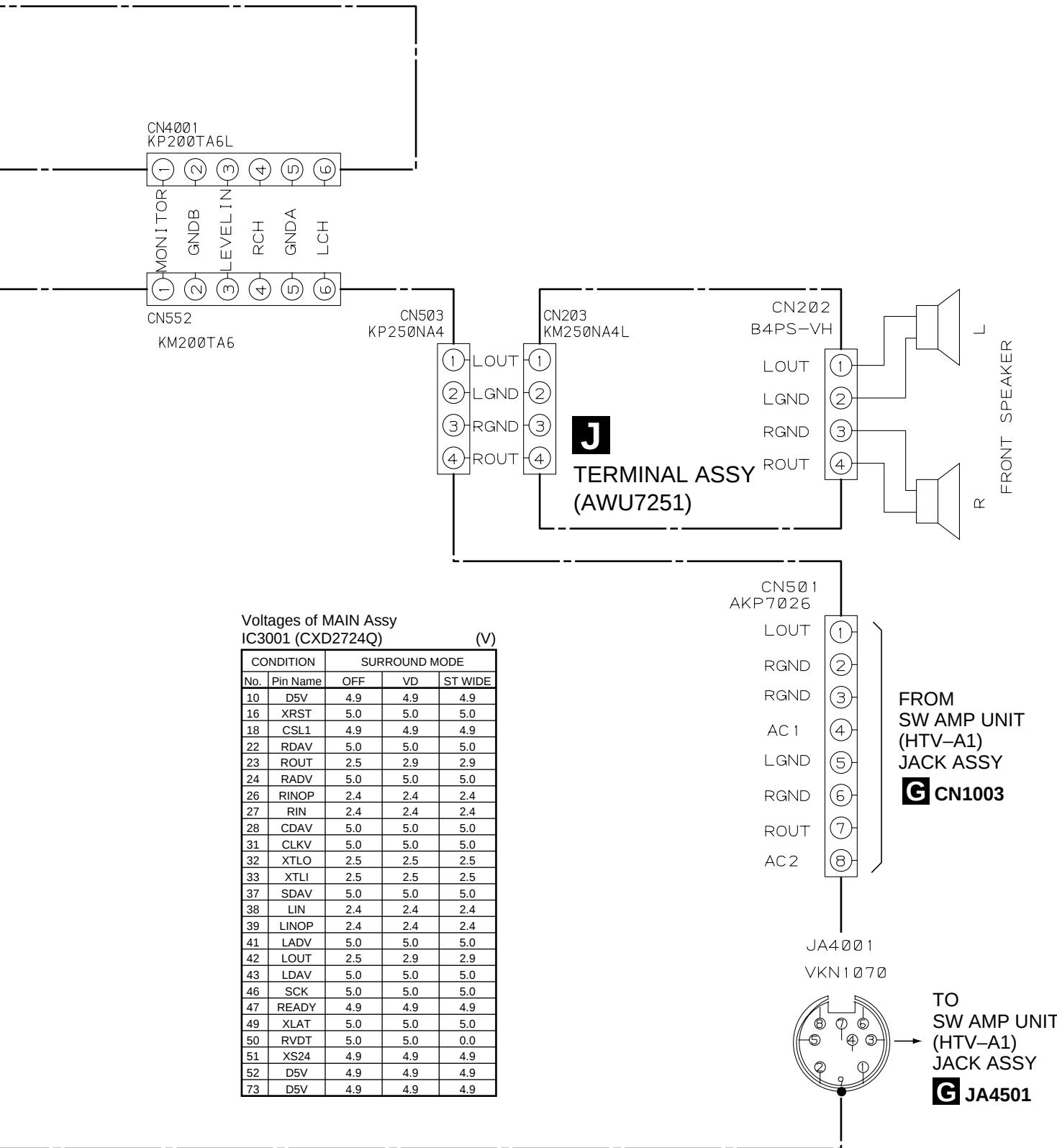
H Waveforms (HTV-C1)



3.2 HTV-C1

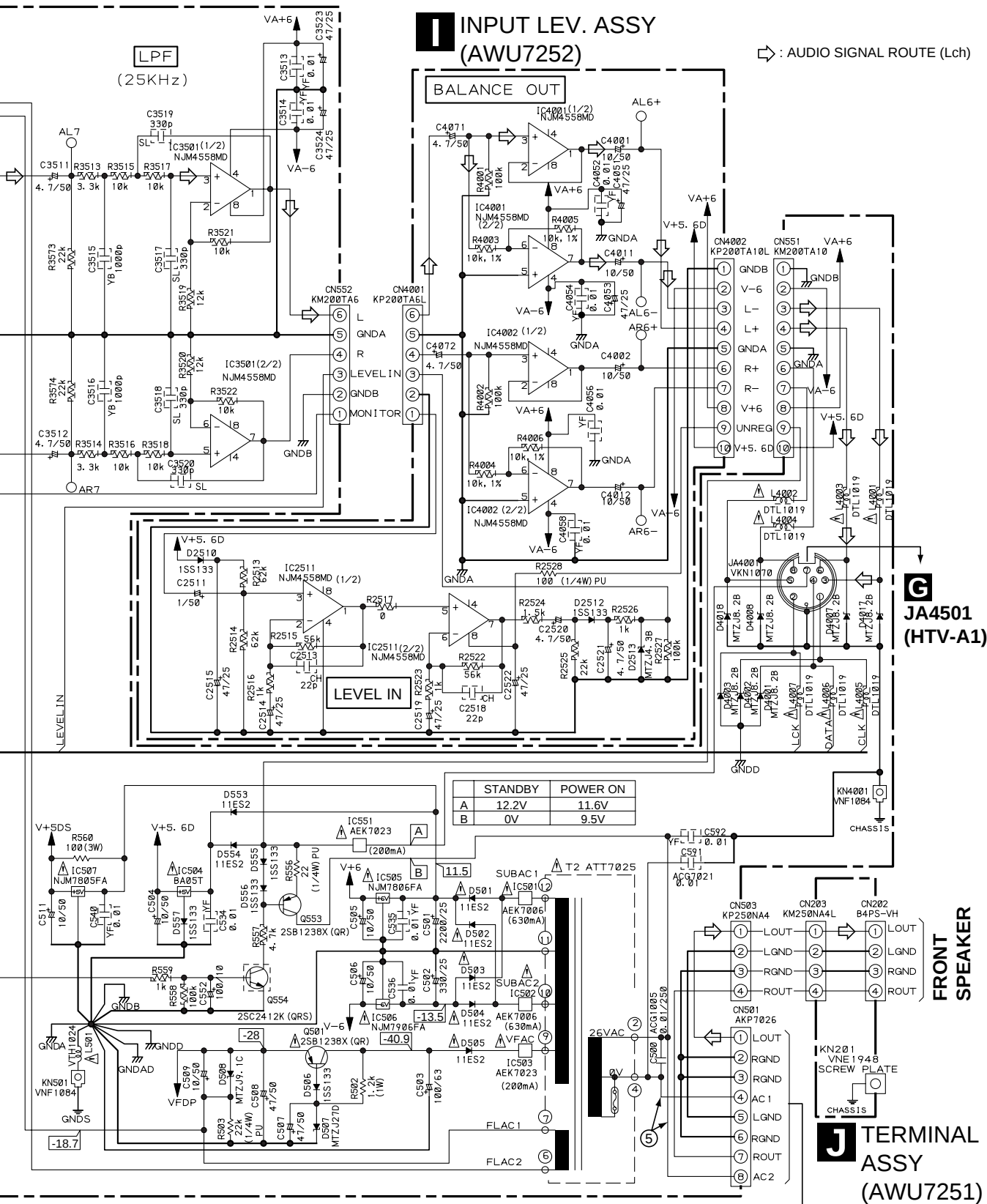
3.2.1 OVERALL CONNECTIONS





I INPUT LEV. ASSY (AWU7252)

⇨ : AUDIO SIGNAL ROUTE (Lch)



3.2.3 DISPLAY ASSY

A

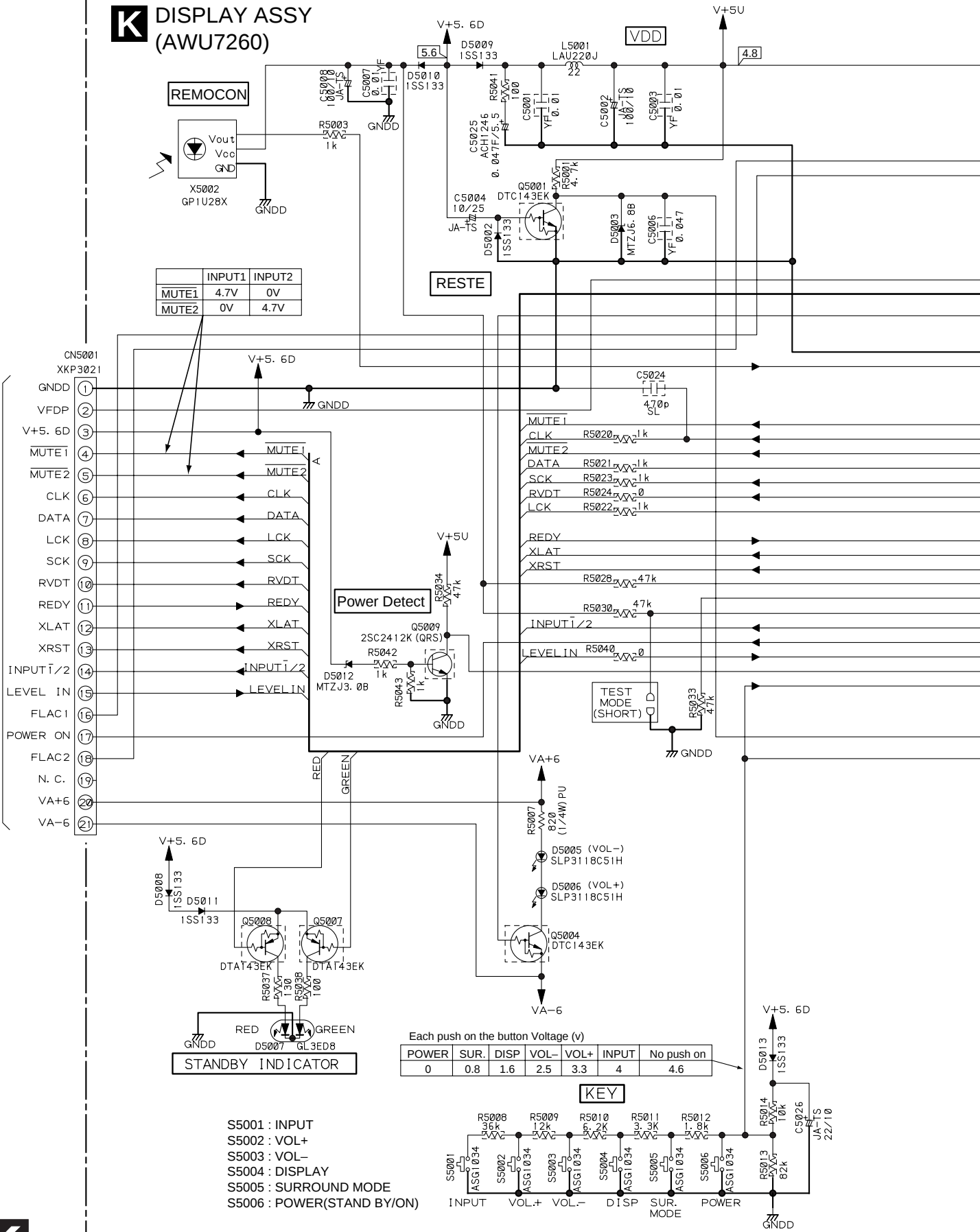
B

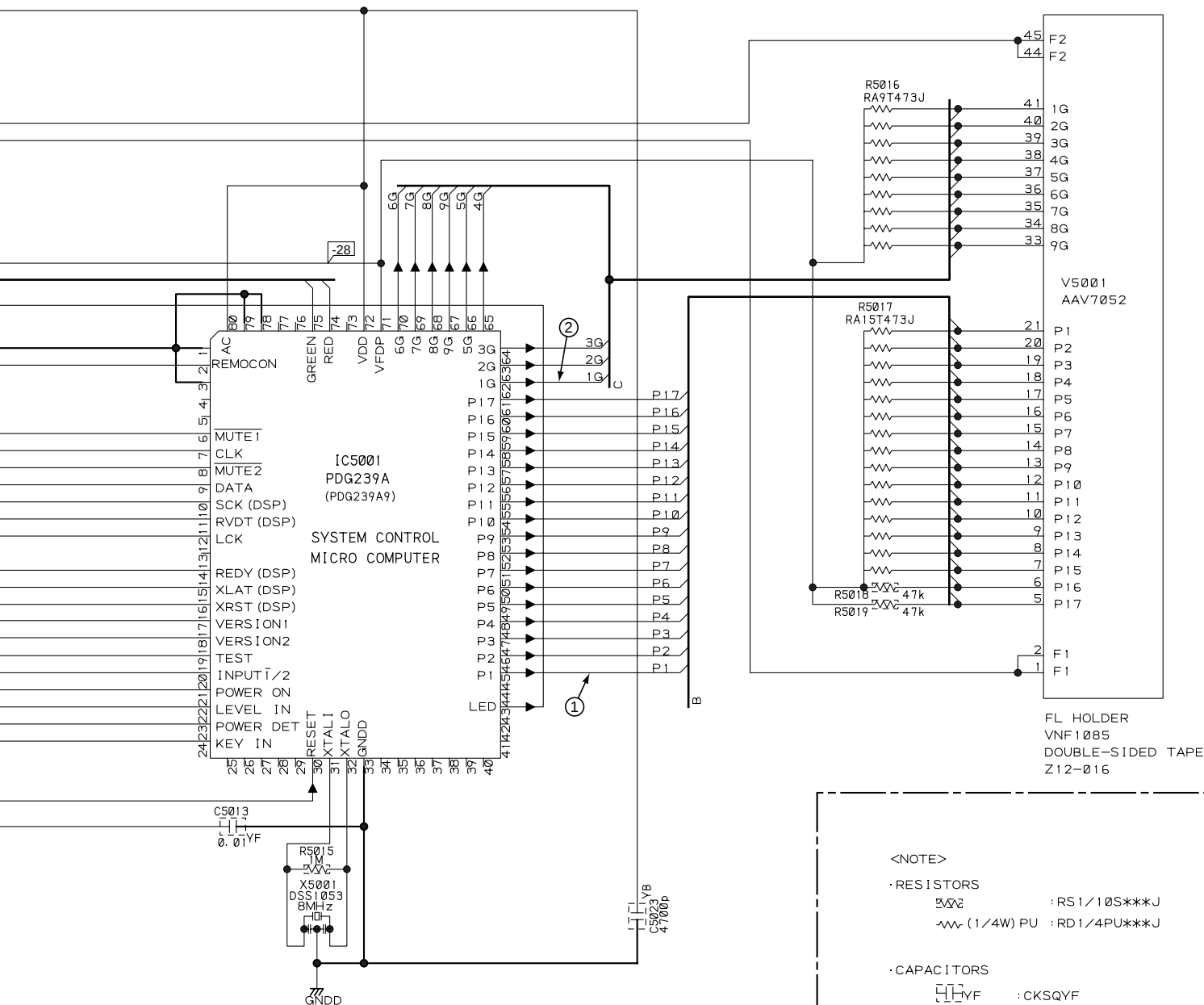
C

D

HCN3001

K DISPLAY ASSY (AWU7260)





- In regard to the voltage at pin 22 of IC5001 (LEVEL IN)
 - This terminal monitors the input signal level for operation of the automatic standby mode.
 - When INPUT key (INPUT 2) is selected and -46dB V (about 5mV rms) is applied as input (input to both channels, freq. $\approx$ 1kHz), this terminal rises to about 0.8V DC (in case of both channels, -40 dB V, about 0.8V DC) and POWER ON is effected.

<NOTE>

RESISTORS

:RS1/10S***J

~W (1/4W) PU : RD 1/4PU***J

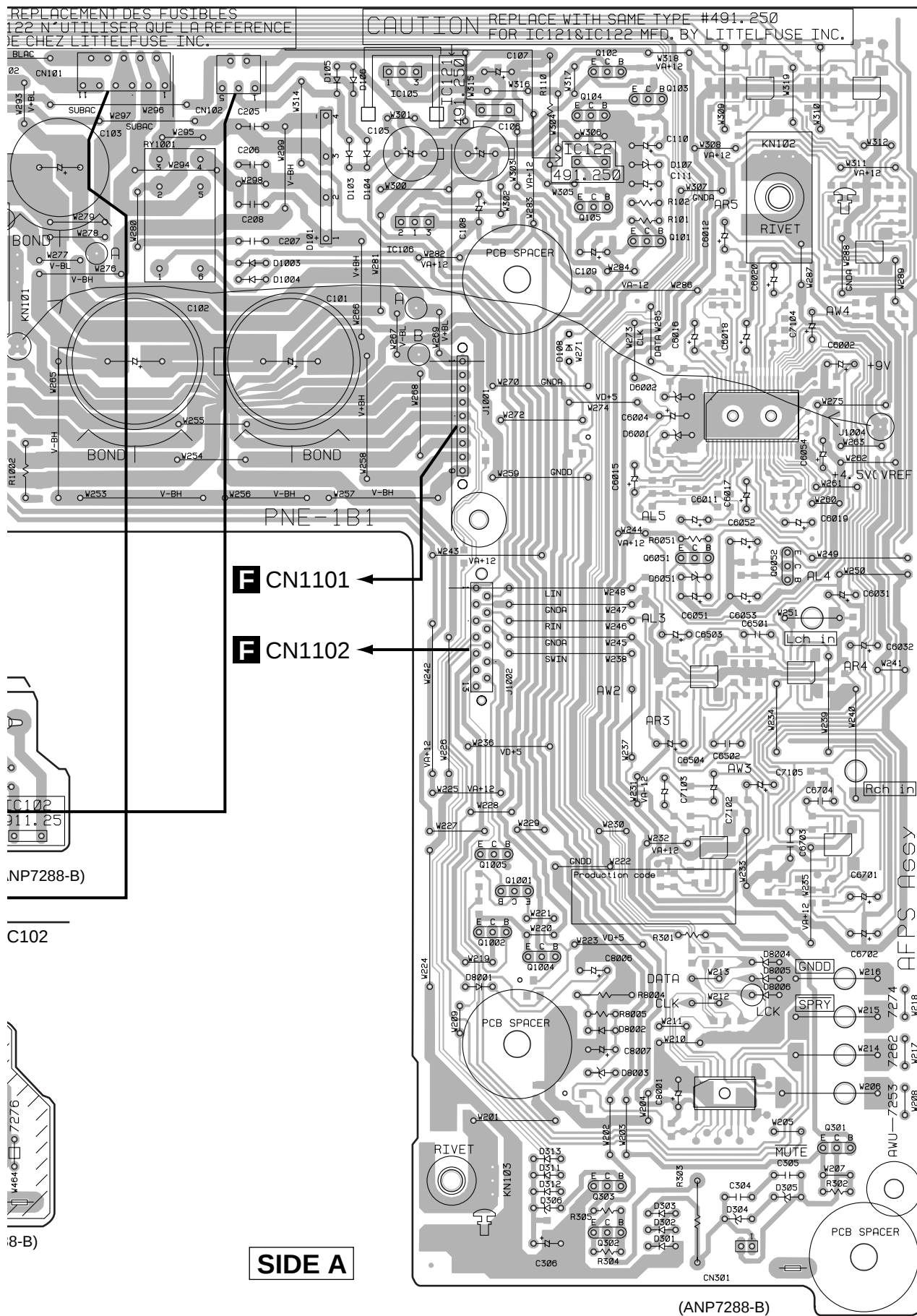
• CAPACITORS

HH_{YF} : CKSQYF

HH_{YB} : CKSQYB

4HSL : CCSQSL

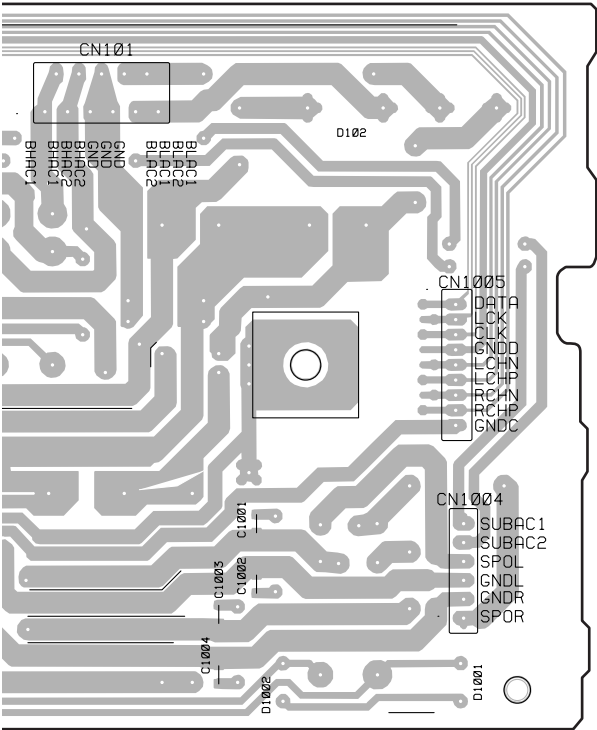
— JA-TS : CEAT



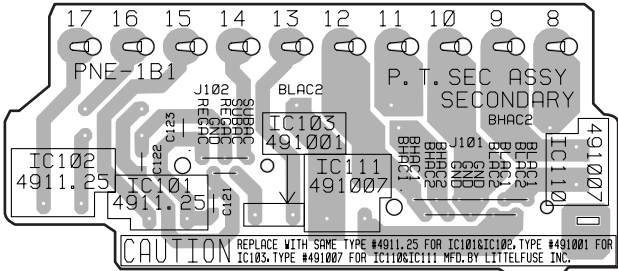
A



(ANP7288-B)

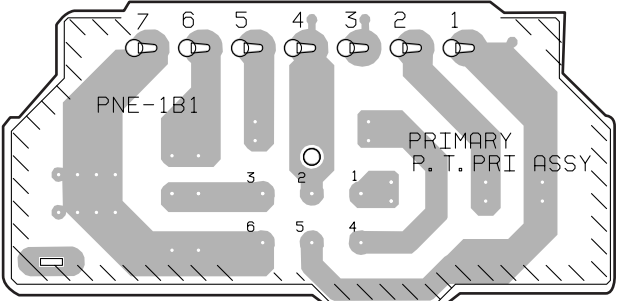


B PT SEC ASSY



(ANP7288-B)

C PT PRI ASSY



(ANP7288-B)

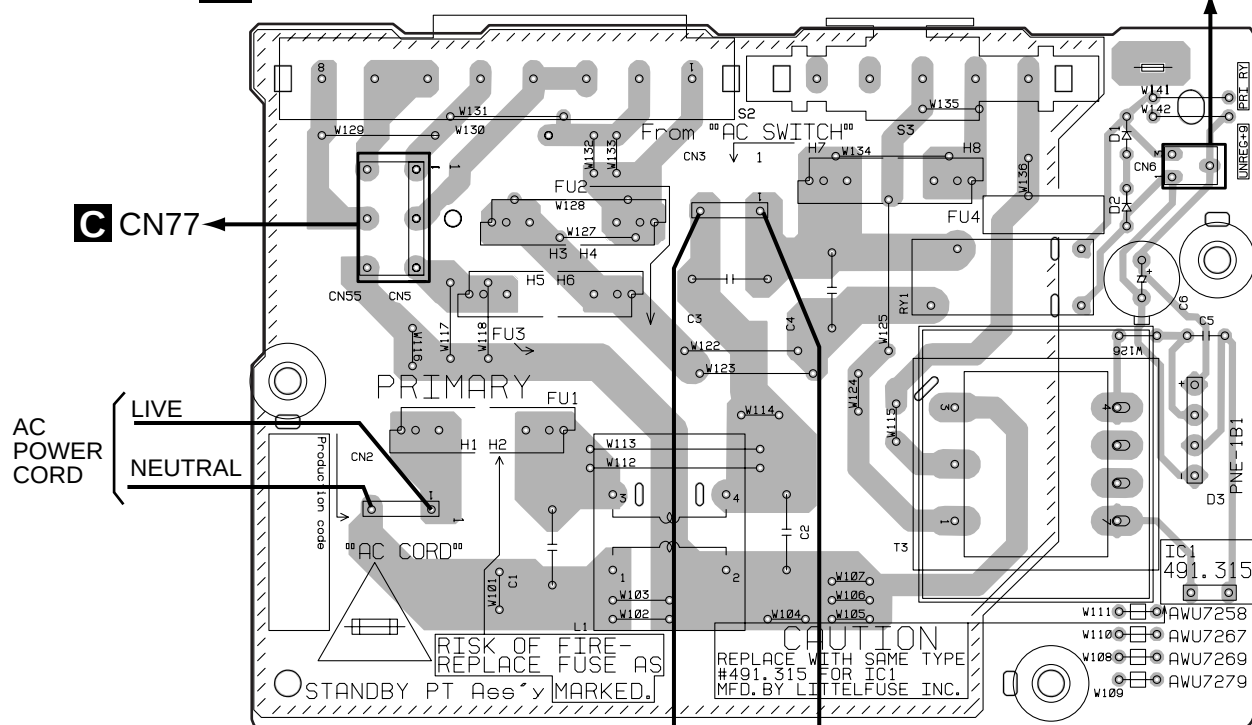
SIDE B

4.1.2 STANDBY PT, PW SWITCH ASSY

D STANDBY PT ASSY

SIDE A

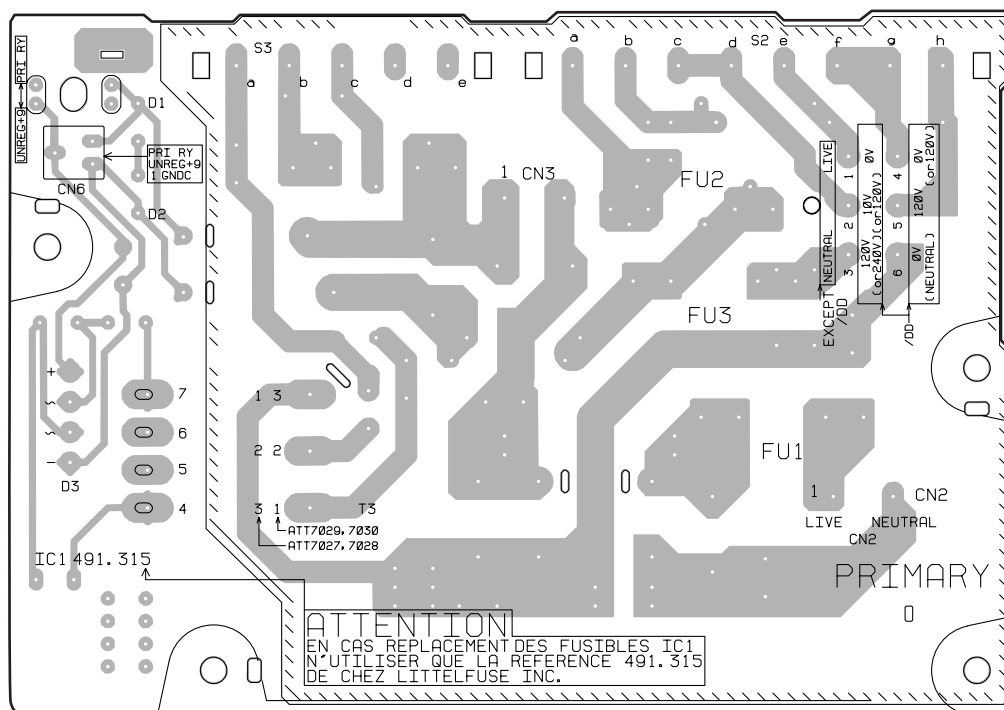
G J6



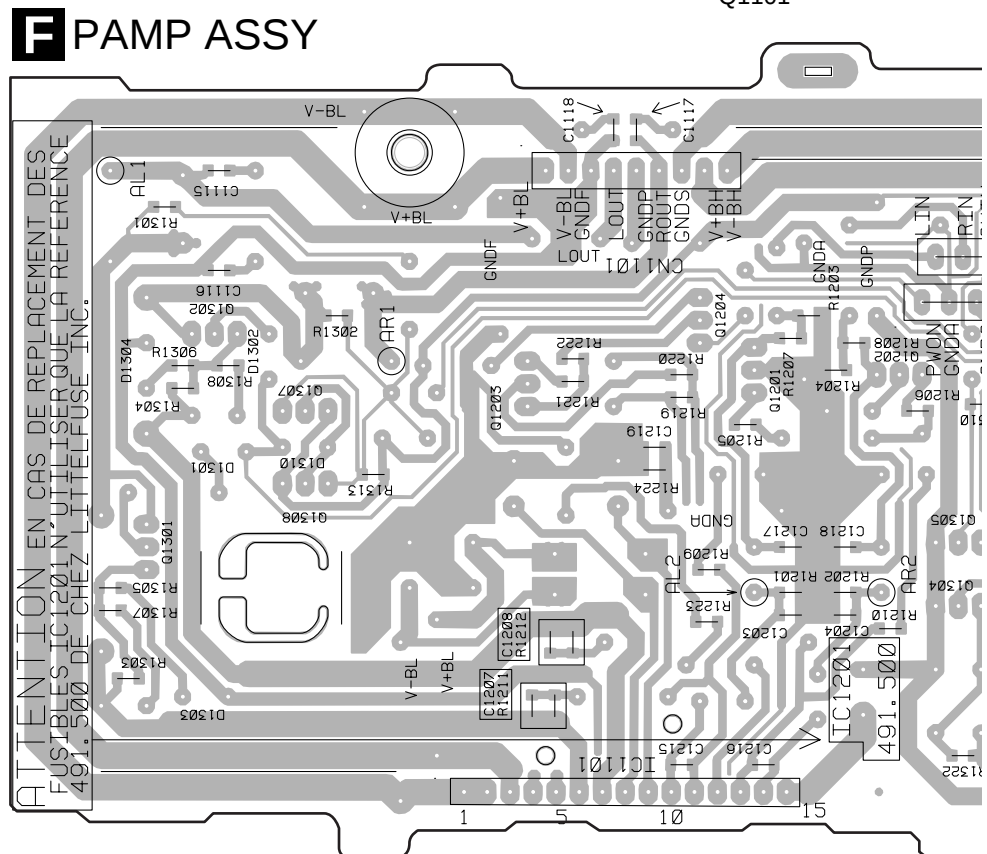
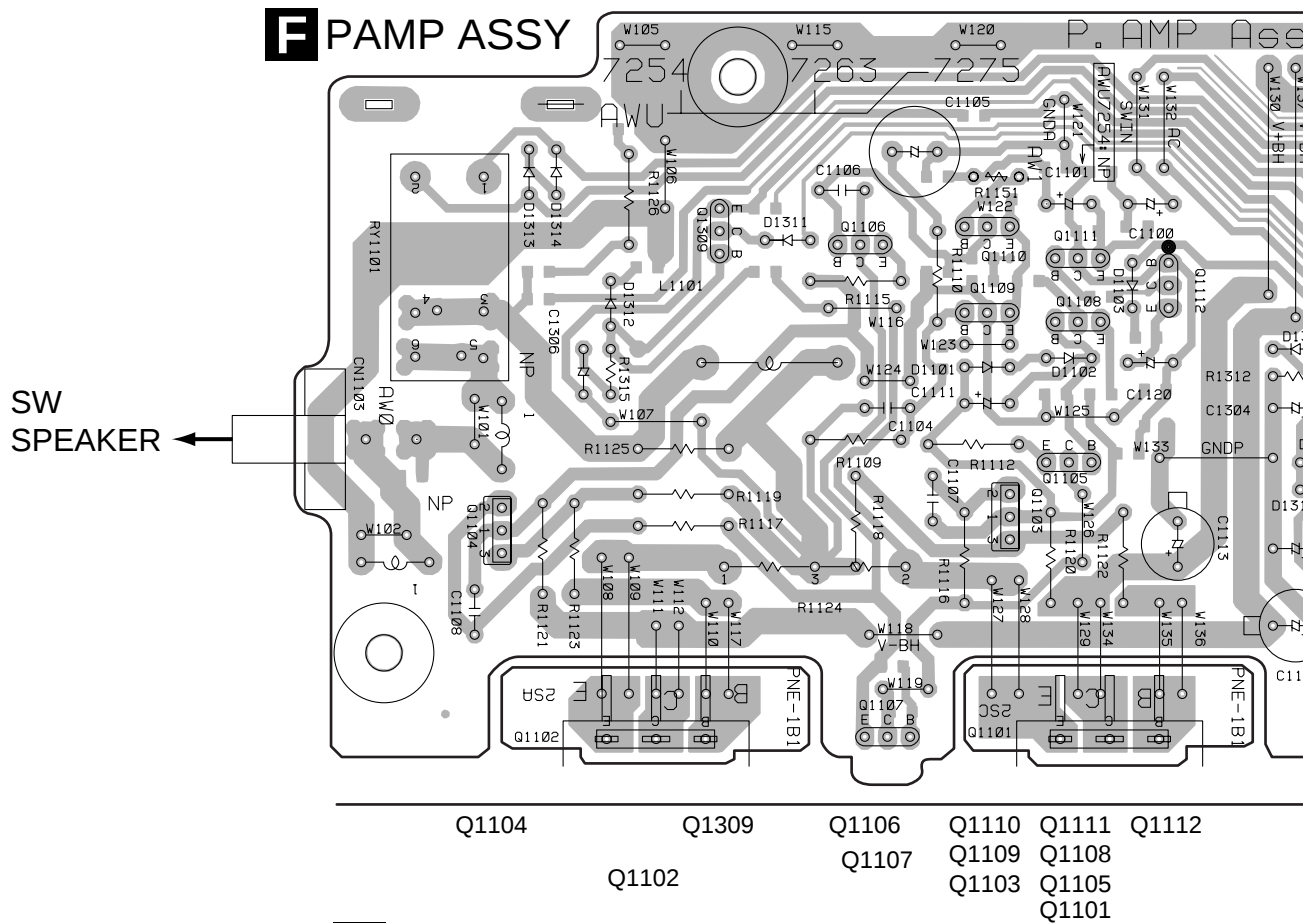
E PW SWITCH ASSY

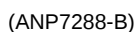
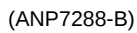
D STANDBY PT ASSY

SIDE B

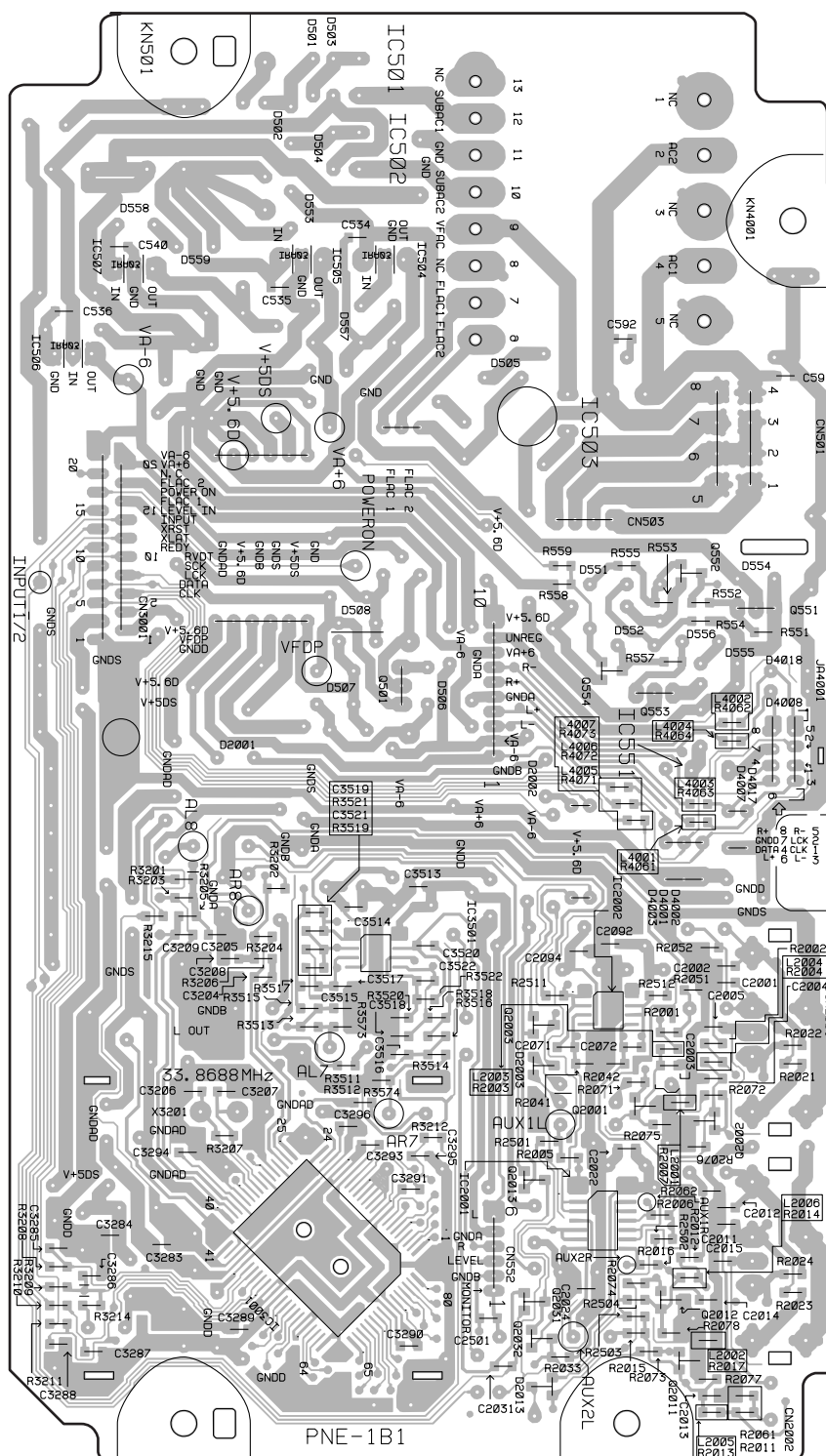


4.1.4 PAMP ASSY



D

SIDE B



(ANP7287-A)

Q552

Q554

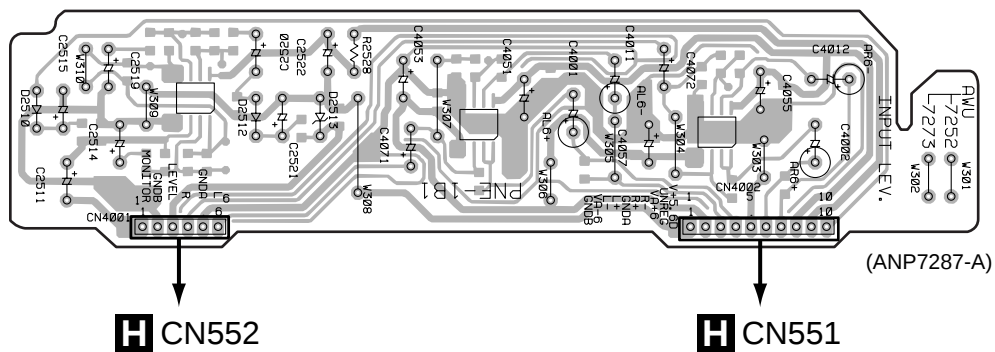
IC3501
IC2002
Q2003

	Q2001	Q2002
Q2001		
Q2002		

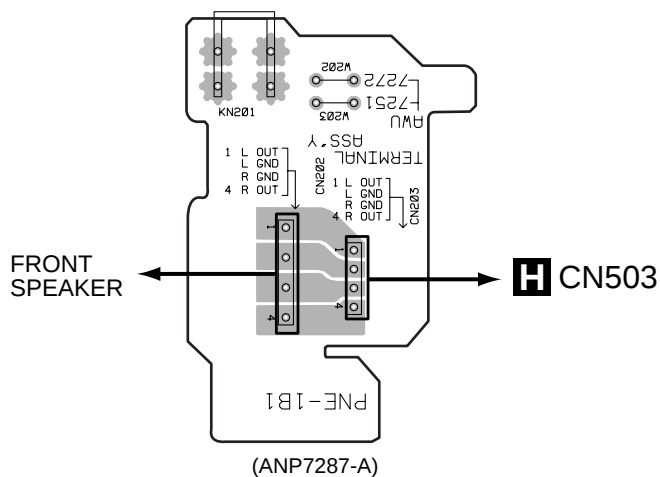
IC2001	
IC3001	
Q2031	Q2012
Q2032	Q2011

4.2.2 INPUT LEV., TERMINAL and DISPLAY ASSY

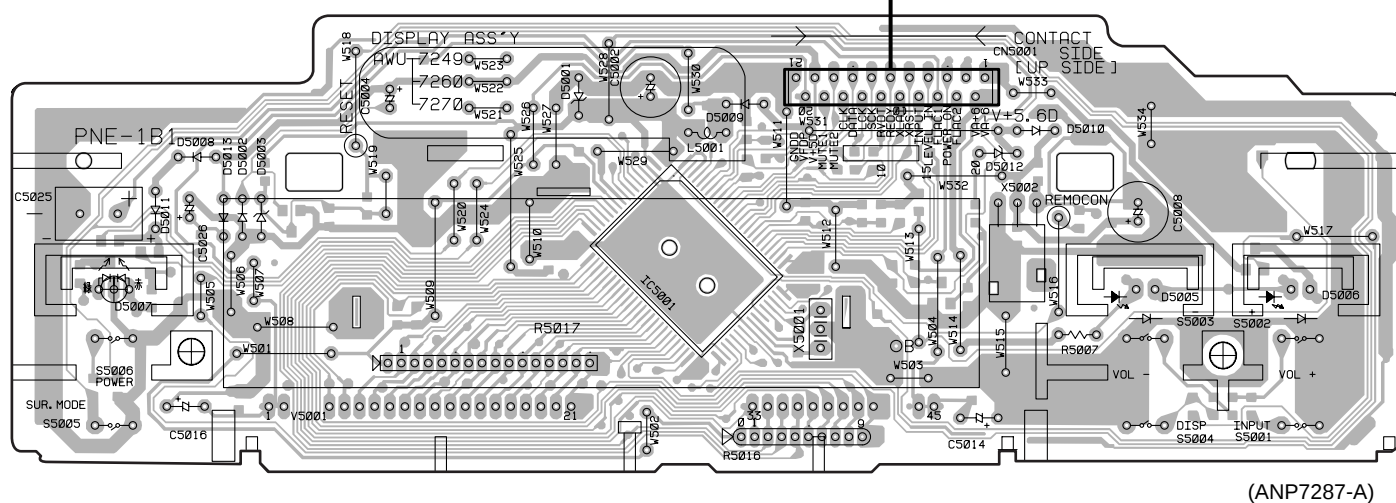
INPUT LEV. ASSY

SIDE A

J TERMINAL ASSY

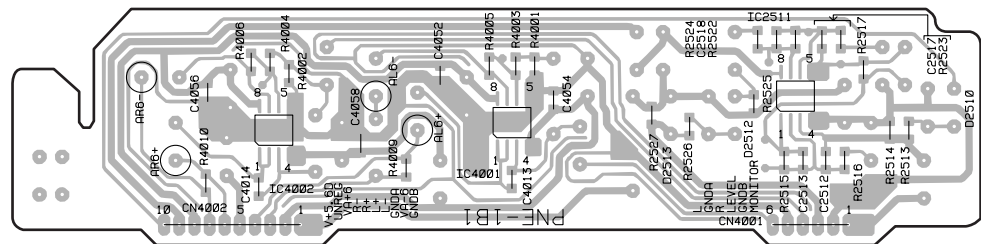


K DISPLAY ASSY

H CN3001

I INPUT LEV. ASSY

SIDE B



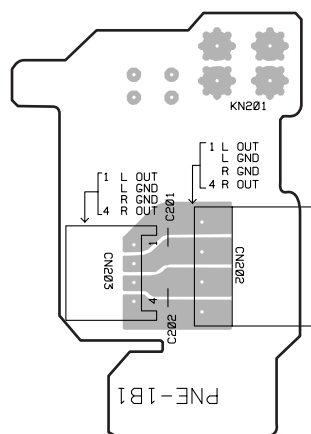
(ANP7287-A)

IC4002

IC4001

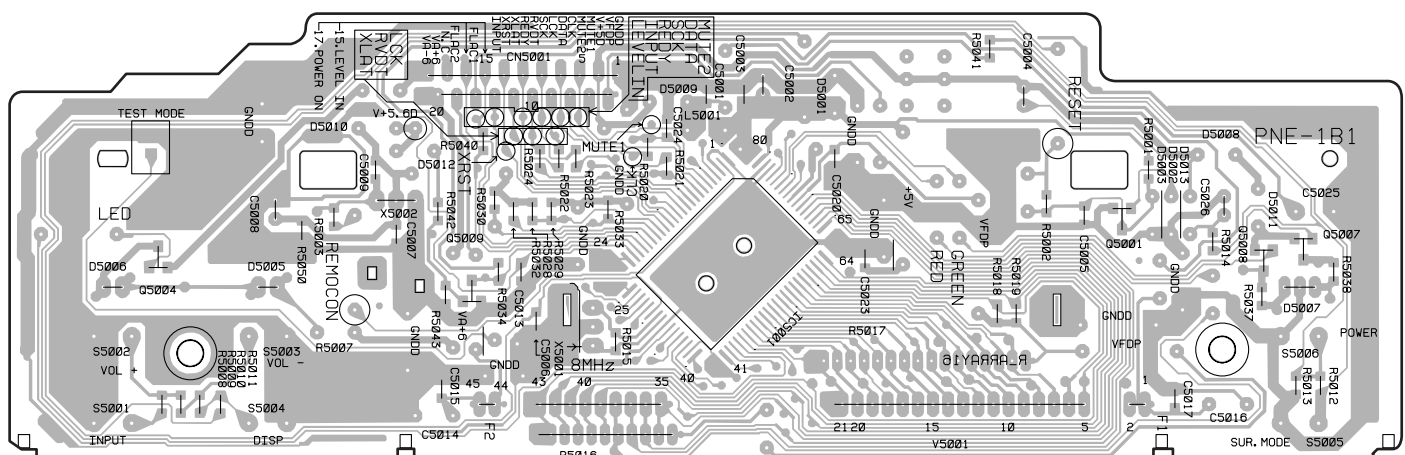
IC2511

J TERMINAL ASSY



(ANP7287-A)

K DISPLAY ASSY



(ANP7287-A)

Q5004

Q5009

IC5001

Q5001

Q5008 Q5007

5. PCB PARTS LIST

NOTES : ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.

● The Δ mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by $J = 5\%$, and $K = 10\%$).

$560\ \Omega \rightarrow 56 \times 10^1 \rightarrow 561$ RD1/4PU $\begin{bmatrix} 5 & 6 & 1 \end{bmatrix} J$

$47k\ \Omega \rightarrow 47 \times 10^3 \rightarrow 473$ RD1/4PU $\begin{bmatrix} 4 & 7 & 3 \end{bmatrix} J$

$0.5\ \Omega \rightarrow R50$ RN2H $\begin{bmatrix} R & 5 & 0 \end{bmatrix} K$

$1\ \Omega \rightarrow 1R0$ RS1P $\begin{bmatrix} 1 & R & 0 \end{bmatrix} K$

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

$5.62k\ \Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ RN1/4PC $\begin{bmatrix} 5 & 6 & 2 & 1 \end{bmatrix} F$

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
------	-----	-------------	----------	------	-----	-------------	----------

5.1 HTV-A1

LIST OF PCB ASSEMBLIES

MOTHER ASSY	AWM7419
└ AFPS ASSY	AWU7262
└ PAMP ASSY	AWU7263
└ PT PRI ASSY	AWU7264
└ PT SEC ASSY	AWU7265
└ JACK ASSY	AWU7257
SUB ASSY	AWX7293
└ STANDBY PT ASSY	AWU7267
└ PW SWITCH ASSY	AWU7259

A AFPS ASSY

SEMICONDUCTORS

Δ	IC121,IC122 (250mA)	AEK7002
	IC8001	BU2092F
	IC6001	M62419FP
	IC4501-IC4503,IC6031	NJM4558MD
	IC6501,IC6701	NJM4558MD
	IC7101	NJM4558MD
Δ	IC105	NJM7812FA
Δ	IC106	NJM7912FA
	Q1002,Q1005	2SC1740S
Δ	Q6051,Q6052	2SC1740S
Δ	Q101	2SD1858X
	Q1001	DTA143ES
	Q8001	DTC124EK
Δ	D103-D106	11ES2
	D1001,D1002,D8001,D8002	1SS133
Δ	D101	D3SBA20(B)
Δ	D102	D5SBA20(B)
	D6051	MTZJ10B
	D8003	MTZJ2.7B
	D107	MTZJ5.6B

RELAY

RY1002	ASR1035
--------	---------

CAPACITORS

Δ	C101,C102 (4700 μ F/63V)	ACH7007
Δ	C103,C104 (3300 μ F/50V)	ACH7056
	C6013,C6014	CCSQCH470J50
	C7102,C7103	CEANPR47M50
	C6011,C6012,C6015-C6018	CEAT100M50

C6031,C6032,C6051,C6053	CEAT100M50
C6701,C6702,C7104,C7105,C8006	CEAT100M50
C6004	CEAT101M10
C6052	CEAT101M16
C105	CEAT102M25
C6054	CEAT221M10
C6503,C6504	CEAT2R2M50
C106	CEAT471M25
C107-C109,C111,C8001,C8007	CEAT470M25
C6019,C6020	CEAT4R7M50
C8003-C8005	CKSQYB102K50
C6029,C6030	CKSQYB104K25
C6027,C6028	CKSQYB221K50
C6005,C6006	CKSQYB472K50
C6021,C6022,C6025,C6026	CKSQYB682K50
C6023,C6024	CKSQYB683K25
C4501-C4506,C6001,C6003,C8002	CKSQYF103Z50
C1001-C1004,C216,C217	CKSQYF104Z50
C6060	CKSQYF473Z50
C205-C208	CQMA223K2E
C6704	CQMBA104J50
C6501,C6502,C6703	CQMBA473J50

RESISTORS

R8004	RD1/2PM222J
R1001,R1002	RD1/4PM100J
R101	RD1/4PU182J
R102	RD1/4PU220J
R8005	RD1/4PU273J
R6051	RD1/4PU821J
R4505-R4512	RS1/10S1001F
Δ R110	RS3LMF151J
Other Resistors	RS1/10S□□□J

OTHERS

	CABLE HOLDER (9P)	51052-0900
	CABLE HOLDER (13P)	51063-1305
J1002	JUMPER WIRE	D15A13-150-2651
J1004	BOARD IN WIRE	DB020NDO
CN1005	9P PLUG	KM200TA9
CN1004	SOCKET 6-P	KP250NA6
CN101	CONNECTOR (11P)	KPE11
CN102	CONNECTOR (5P)	KPE5
KN101	EARTH METAL FITTING	VNF1084

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
B PT SEC ASSY							
SEMICONDUCTORS							
△	IC103 (1A)		AEK7009	△	Q1108		2SA970
△	IC101,IC102 (1.25A)		AEK7010		Q1109,Q1110		2SA992
△	IC110,IC111 (7A)		AEK7021		Q1107		2SC1740S
CAPACITORS					Q1301,Q1302,Q1307,Q1308		2SC1740S
	C123 (0.01μF)		ACG7021		Q1309		2SC2240
	C121,C122		CKSQYF103Z50				
OTHERS				△	Q1106		2SC2705
	CABLE HOLDER (5P)		51063-0505	△	Q1103		2SC4793
	CABLE HOLDER (11P)		51063-1105	△	Q1101		2SC5198(P)
J102	JUMPER WIRE		D15A05-200-2651		Q1111,Q1201,Q1202		2SD2144S
J101	JUMPER WIRE		D15A11-200-2651		Q1306,Q1310		DTA123JS
C PT PRI ASSY					Q1112,Q1303		DTA143ES
OTHERS					Q1304,Q1305		DTC143ES
△	CN77	6P CONNECTOR	AKP7038		D1307,D1309		11ES2
	PCB BINDER		VEF1040		D1101-D1103,D1301-D1304,		1SS133
					D1308,D1310-D1312,D1316		1SS133
D STANDBY PT ASSY				COILS			
SEMICONDUCTORS					L1201,L1202 AF CHOKE COIL		ATH-133
△	IC1 (315mA)		AEK7003		L1101 AF CHOKE COIL		ATH1004
	D1,D2		1SS133X	RELAY			
△	D3		S1VB20/F03		RY1101		ASR1035
TRANSFORMER				CAPACITORS			
△	T3		ATT7027		C1107,C1108		CCCSL101K2H
RELAY					C1104		CCCSL120K2H
△	RY1		ASR7019		C1106		CCCSL5R0C2H
CAPACITORS					C1207,C1208		CCSQSL3R0C50
△	C5 (0.01μF/AC250V)		ACG1005		C1217,C1218		CCSQSL471J50
	C1,C3,C4 (1000pF/AC250V)		ACG7020		C1103		CCSQSL681J50
	C6		CEAT102M25		C1101		CEAT100M50
OTHERS					C1211,C1212		CEAT101M50
△	CN55	6P CONNECTOR	AKP7038		C1105		CEANP101M50
	H1-H6 FUSE CLIP		AKR7001		C1306		CEANP2R2M50
	CN6 CONNECTOR (3P)		KPE3		C1100,C1205,C1206,C1209		CEAT100M50
△	CN2,CN3 AC CORD SOCKET		RKP1751		C1210,C1304		CEAT100M50
△	S3 VOLTAGE SELECTOR		AKX7004		C1111,C1303		CEAT101M10
					C1201,C1202		CEAT1R0M50
△	S2 VOLTAGE SELECTOR		AKX7006		C1120		CEAT220M50
	PCB BINDER		VEF1040		C1305		CEAT221M10
E PW SWITCH ASSY					C1307		CEAT470M25
SWITCH					C1203,C1204		CKSQYB152K50
△	S1		ASM7002		C1102		CKSQYB223K50
OTHERS					C1109,C1110,C1219		CKSQYF104Z50
△	J1	CONNECTOR ASSY 2P	ADX7244	RESISTORS			
F PAMP ASSY				△	R1124 (0.33Ω,5W)		ACN7001
SEMICONDUCTORS					R1126		RD1/2PM100J
△	IC1201 (500mA)		AEK7005	△	R1217,R1218		RD1/4LMF101J
△	IC1101		STK407-040B		R1109		RD1/4PM104J
	Q1105		2SA1145		R1110		RD1/4PM112J
△	Q1104		2SA1837	△	R1125,R1215,R1216		RD1/4PMF100J
△	Q1102		2SA1941(P)	△	R1116-R1119		RD1/4PMF101J
				△	R1112		RD1/4PMF680J
					R1312		RD1/4PU222J
					R1315		RD1/4PU821J
				△	R1115		RF1/4PS101J
				△	R1120-R1123		RF1/4PS4R7J
					R1213,R1214		RS2LMFR22J
					Other Resistors		RS1/10S□□□□
OTHERS				OTHERS			
	CN1103	2P CONNECTOR	5569-02A1		CN1103	2P CONNECTOR	5569-02A1
	CN1101	9P JUMPER CONNECTOR	KPD9		CN1101	9P JUMPER CONNECTOR	KPD9
	CN1102	CONNECTOR (13P)	KPE13		CN1102	CONNECTOR (13P)	KPE13

HTV-SW1, HTV-C1

Mark	No.	Description	Part No.
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G JACK ASSY SEMICONDUCTORS

D4501-D4506,D4508	MTZJ8.2B
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CAPACITORS

C4603 (0.01μF/100V)	ACG7021
C4601,C4602,C4604-C4606	CKCYF103Z50

OTHERS

CN1003	8P CONNECTOR	51063-0305
J6	JUMPER WIRE	AKP7026
CN1104	PLUG 6-P	D15A03-200-2651
CN1105	9P SOCKET	KM250NA6L
		KP200TA9L

PCB BINDER	VEF1040
I/O JACK	VKN1070
SCREW PLATE	VNE1948

5.2 HTV-C1

LIST OF PCB ASSEMBLIES

COMPLEX ASSY	AWM7418
DISPLAY ASSY	AWU7260
MAIN ASSY	AWU7261
TERMINAL ASSY	AWU7251
INPUT LEV. ASSY	AWU7252

H MAIN ASSY SEMICONDUCTORS

△ IC501,IC502 (630mA)	AEK7006
△ IC503,IC551 (200mA)	AEK7023
△ IC504	BA05T
IC2001	BU4066BCF
IC3001	CXD2724Q

△ IC2002,IC3501	NJM4558MD
△ IC507	NJM7805FA
△ IC505	NJM7806FA
△ IC506	NJM7906FA
△ Q501	2SB1238X

Q553	2SB1238X
Q2001,Q2002,Q2011,Q2012,Q554	2SC2412K
Q2031	DTA124EK
Q2003,Q2013	DTA143EK
Q2032	DTC124EK

△ D501-D505	11ES2
D553,D554	11ES2
D2001,D2002,D506,D555-D557	1SS133
D2003,D2013	DAP202K
D507	MTZJ27D

D4001-D4003,D4007,D4008	MTZJ8.2B
D4017,D4018	MTZJ8.2B
D508	MTZJ9.1C

COILS

L4001-L4007 CHIP BEAD FILTER	DTL1019
L2501	LAU1R0J
L3203	LFA220J
L3202	LFA6R8J
L501 FERRITE BEAD	VTH1024
L2001- L2006 CHIP BEADS	VTL1096

Mark	No.	Description	Part No.
------	-----	-------------	----------

TRANSFORMER

△ T2	ATT7025
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CAPACITORS

C500 (0.01μF/AC250V)	ACG1005
C591 (0.01μF/100V)	ACG7021
C3204,C3209,C3285-C3288,C3295	CCSQCH101J50
C3206,C3207	CCSQCH120J50
C3517-C3520	CCSQSL331J50

C2021,C2023,C504-C506,C509	CEAT100M50
C511	CEAT100M50
C552	CEAT101M10
C503	CEAT101M63
C501	CEAT222M25

C502	CEAT331M25
C3201-C3203,C3523,C3524	CEAT470M25
C507,C508	CEAT470M50
C3282,C3292	CEAT471M6R3
C3511,C3512	CEAT4R7M50

C2031,C3296,C3515,C3516	CKSQYB102K50
C3205,C3208	CKSQYB331K50
C2005,C2015,C2022,C2024	CKSQYF103Z50
C3283,C3284,C3289-C3291	CKSQYF103Z50
C3293,C3294,C3513,C3514	CKSQYF103Z50

C534-C536,C540,C592	CKSQYF103Z50
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RESISTORS

R556	RD1/4PU220J
R503	RD1/4PU223J
R502	RS1LMF122J
R560	RS3LMF101J
Other Resistors	RS1/10S□□□J

OTHERS

CN2001,CN2002 PIN JACK (4P)	AKB7015
CN501 8P CONNECTOR	AKP7026
X3201 CRYSTAL RESONATOR (33.8688MHz)	ASS7000
CN3001 FFC CONNECTOR 21P	HLEM21S-1

CN551 10P PLUG	KM200TA10
CN552 6P PLUG	KM200TA6
CN503 SOCKET 4-P	KP250NA4
I/O JACK	VKN1070
KN4001,KN501	VNF1084
EARTH METAL FITTING	

I INPUT LEV. ASSY

SEMICONDUCTORS

IC2511,IC4001,IC4002	NJM4558MD
D2510,D2512	1SS133
D2513	MTZJ4.3B

CAPACITORS

C2513,C2518	CCSQCH220J50
C4001,C4002,C4011,C4012	CEAT100M50
C2511	CEAT1R0M50
C2514,C2515,C2519,C2522,C4051	CEAT470M25
C4053	CEAT470M25
C2520,C2521,C4071,C4072	CEAT4R7M50
C4052,C4054,C4056,C4058	CKSQYF103Z50

RESISTORS

R2528	RD1/4PU101J
R4003-R4006	RS1/10S1002F
Other Resistors	RS1/10S□□□J

Mark	No.	Description	Part No.
------	-----	-------------	----------

OTHERS

CN4002	10P SOCKET	KP200TA10L
CN4001	6P SOCKET	KP200TA6L

J TERMINAL ASSY**OTHERS**

CN203	4-P PLUG	KM250NA4L
KN201	SCREW PLATE	VNE1948

K DISPLAY ASSY**SEMICONDUCTORS**

IC5001	PDG239A
Q5009	2SC2412K
Q5007,Q5008	DTA143EK
Q5001,Q5004	DTC143EK
D5002,D5008-D5011,D5013	1SS133
D5007	GL3ED8
D5012	MTZJ3.0B
D5003	MTZJ6.8B
D5005,D5006	SLP3118C51H

COIL

L5001	LAU220J
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SWITCHES

S5001-S5006	ASG1034
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CAPACITORS

C5025 (0.047F/5.5V)	ACH1246
C5024	CCSQSL471J50
C5004	CEJA100M25
C5002,C5008	CEJA101M10
C5026	CEJA220M10
C5023	CKSQYB472K50
C5001,C5003,C5007,C5013	CKSQYF103Z50
C5006	CKSQYF473Z50

RESISTORS

R5017	RA15T473J
R5016	RA9T473J
R5007	RD1/4PU821J
Other Resistors	RS1/10S□□□J

OTHERS

V5001	FL TUBE	AAV7052
X5001	CERAMIC RESONATOR (8MHz)	DSS1053
	REMOTE RECEIVER UNIT	GP1U28X
	FL HOLDER	VNF1085
CN5001	FFC CONNECTOR 21P	XKP3021

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

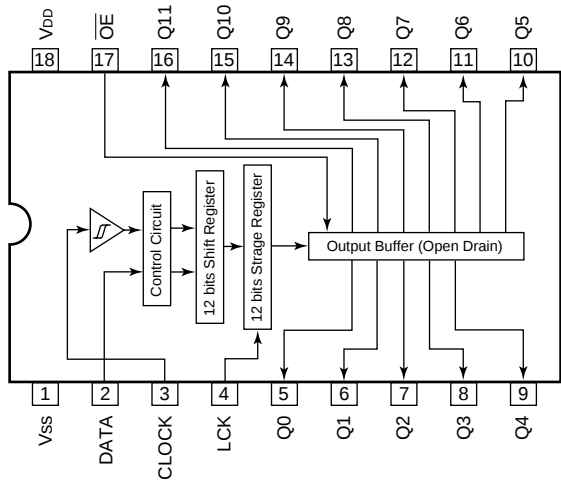
7.1 PARTS

7.1.1 IC

- BU2092F (IC8001: AFPS ASSY)
- Serial In/Parallel Out Driver

● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

● Block Diagram



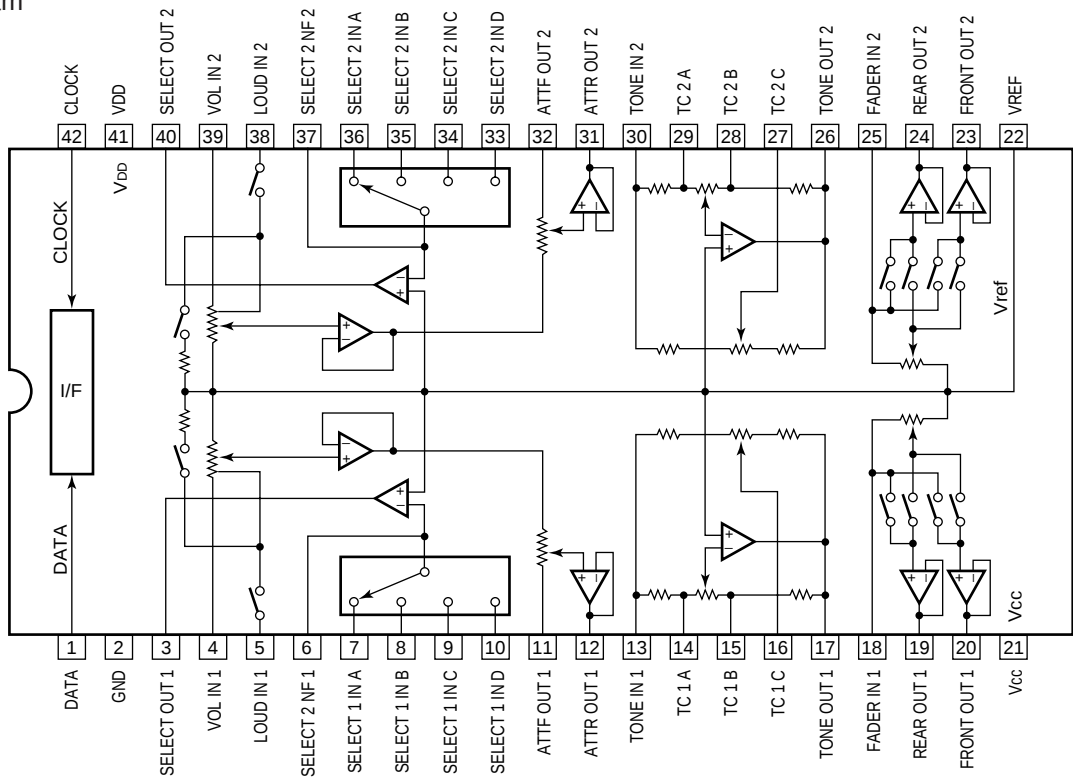
● Pin Function

No.	Name	I/O	Description						
1	Vss	–	GND						
2	DATA	I	Serial data input						
3	CLOCK	I	Shift lock for data ($\overline{L}$)						
4	LCK	I	Lutch clock for data ($\overline{L}$)						
5 16	Q0 Q11	O	Parallel data output (Nch Open Drain FET) <table border="1"><tr><td>Lutch Data</td><td>L</td><td>H</td></tr><tr><td>Output FET</td><td>ON</td><td>OFF</td></tr></table>	Lutch Data	L	H	Output FET	ON	OFF
Lutch Data	L	H							
Output FET	ON	OFF							
17	$\overline{OE}$	I	Output enable (H: output, FET: OFF)						
18	VDD	–	Power supply						

- M62419FP (IC6001: AFPS ASSY)

● Electronic Volume Control with Tone Function

● Block Diagram



● Pin Function

No.	Name	Description
1	DATA	Control data input terminal. Data are entered synchronized to CLOCK.
2	GND	Ground terminal
3	SELECT OUT1	Output terminals of the input selector switch
4	VOL IN1	Input terminals of the volume control section
5	LOUD IN1	Frequency characteristic setting terminal of the loudness section
6	SELECT2 NF1	Each input gain is adjusted by the resistor connected between this terminal and the SELECT OUT terminal and the resistor added between IN A and IN D.
7	SELECT1 IN A	Input terminal for channel 1 of the input selector switch section
8	SELECT1 IN B	
9	SELECT1 IN C	
10	SELECT1 IN D	
11	ATTF OUT1	Output terminals of the volume control section (initial stage). Connect by C connection to the VREF terminal 22 for reduction of the switching noise.
12	ATTR OUT1	Output terminals of the volume control section (last stage)
13	TONE IN1	Input terminals of the tone control section
14	TC1 A	Frequency characteristic setting terminals of the tone control section for channel 1
15	TC1 B	
16	TC1 C	
17	TONE OUT1	Output terminals of the tone control section
18	FADER IN1	Input terminals of the fader volume control section
19	REAR OUT1	Output terminals of the fader volume control section (rear)
20	FRONT OUT1	Output terminals of the fader volume control section (front)
21	Vcc	Analog power supply terminal
22	DATA	IC signal ground. Impress 1/2 VCC.
23	FRONT OUT2	Output terminals of the fader volume control section (front)

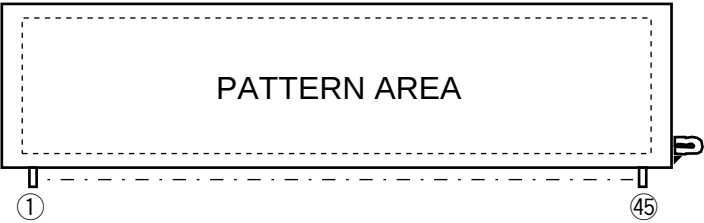
No.	Name	Description
24	REAR OUT2	Output terminals of the fader volume control section (rear)
25	FADER IN2	Input terminals of the fader volume control section
26	TONE OUT2	Output terminals of the tone control section
27	TC2 C	Frequency characteristic setting terminals of the tone control section for channel 2
28	TC2 B	
29	TC2 A	
30	TONE IN2	Input terminals of the tone control section
31	ATTR OUT2	Output terminals of the volume control section (last stage)
32	ATTF OUT2	Output terminals of the volume control section (initial stage). Connect by C connection to the VREF terminal 22 for reduction of the switching noise.
33	SELECT2 IN D	Input terminal for channel 2 of the input selector switch section
34	SELECT2 IN C	
35	SELECT2 IN B	
36	SELECT2 IN A	
37	SELECT2 NF2	Each input gain is adjusted by the resistor connected between this terminal and the SELECT OUT terminal and the resistor added between IN A and IN D.
38	LOUD IN2	Frequency characteristic setting terminal of the loudness section
39	VOL IN2	Input terminals of the volume control section
40	SELECT OUT1	Output terminals of the input selector switch
41	VDD	Digital power supply terminal
42	CLOCK	Clock input terminal for serial data transfer

7.1.2 DISPLAY

■ AAV7052 (V5001: DISPLAY ASSY)

■ FL INDICATOR TUBE

• Pin Assignment

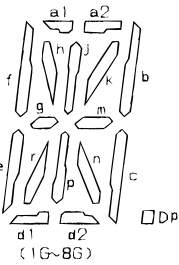
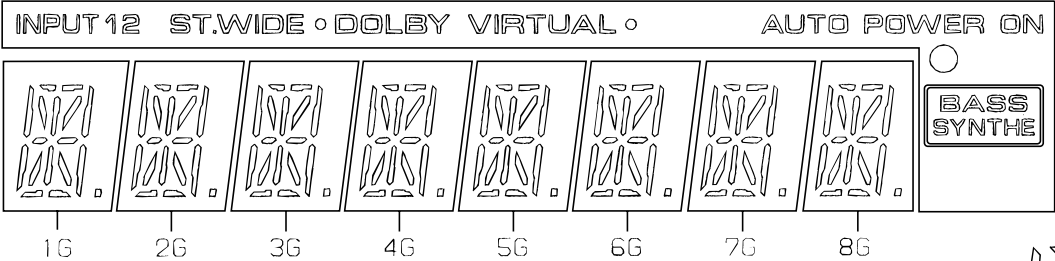


• Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CONNECTION	F	F	N	N	1	1	1	1	1	1	1	P	P	P	P	P	P	P	P	N	N	N	N	N	N	N	N	N	N	N	N	N	9	8	7	6	5	4	3	2	1	N	N	F	F

- NOTE 1) F1,F2 ----- Filament
2) NP -----No pin
3) NX ----- No extend pin
4) DL ----- Datum Line
5) 1G - 9G ----- Grid

• Grid Assignment



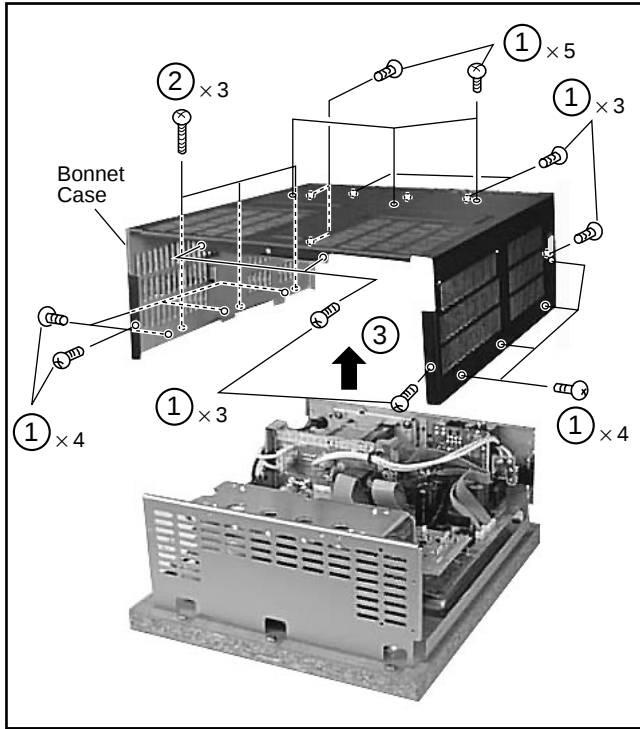
• Anode Connection

	1G - 8G	9G		1G - 8G	9G
P1	a1	INPUT	P10	c	BASS SYNTHE
P2	a2	1	P11	e	—
P3	h	2	P12	r	—
P4	j	ST.WIDE	P13	p	—
P5	k	°DOLBY VIRTUAL °	P14	n	—
P6	b	AUTO	P15	d1	—
P7	f	POWER	P16	d2	—
P8	m	ON	P17	Dp	—
P9	g	○			

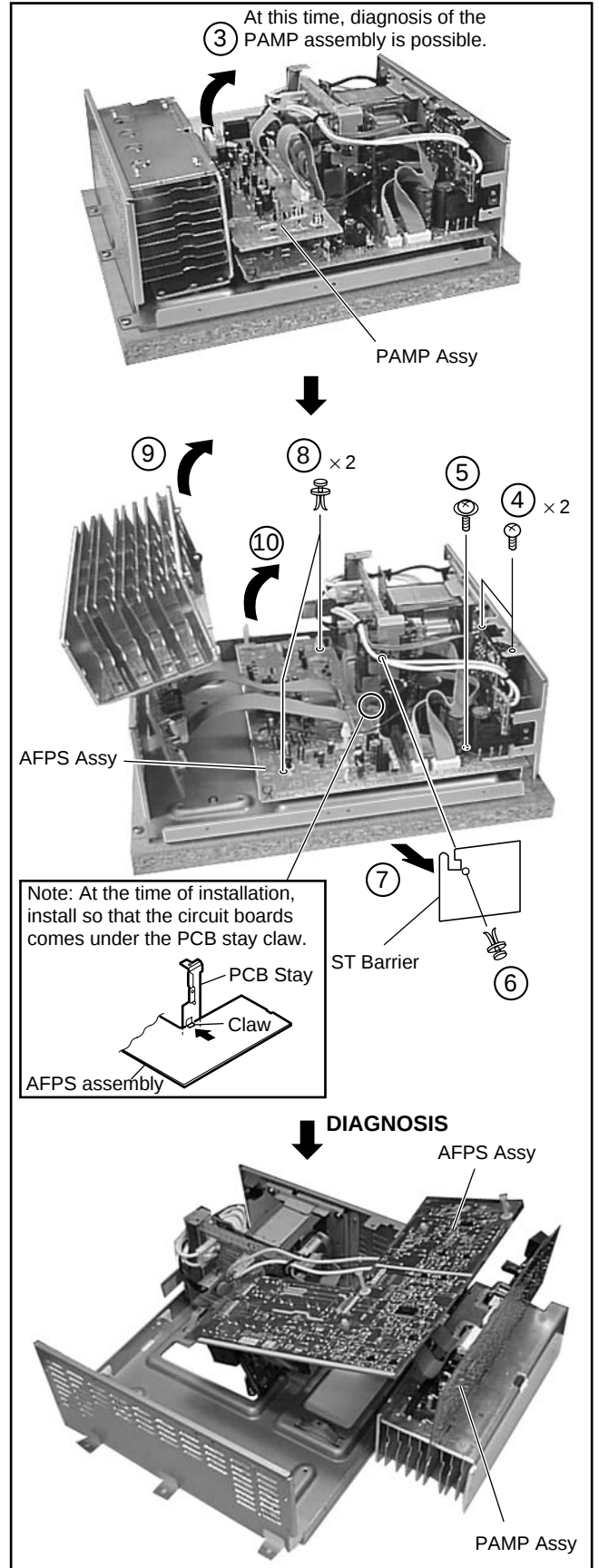
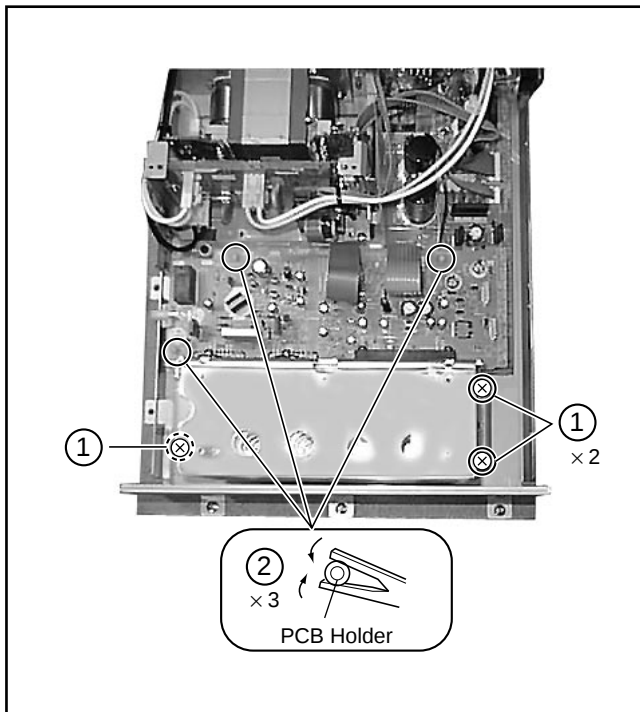
7.2 DIAGNOSIS

7.2.1 DISASSEMBLY (HTV-A1)

■ BONNET CASE



■ **AFPS ASSY**



7.2.2 INDEPENDENT OPERATION DIAGNOSIS METHOD(HTV-A1)

In principle, the HTV-1 system operates only as a combination of HTV-C1 and HTV-A1, but analysis from the electronic volume control (M62419FP) on is possible according to the following method.

Note: The white numbers in black circles in the drawing correspond to the following step numbers.

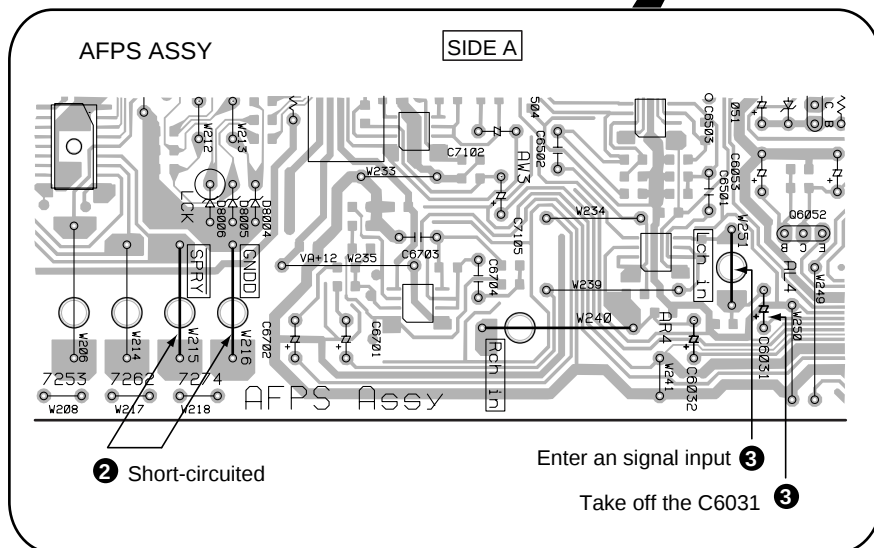
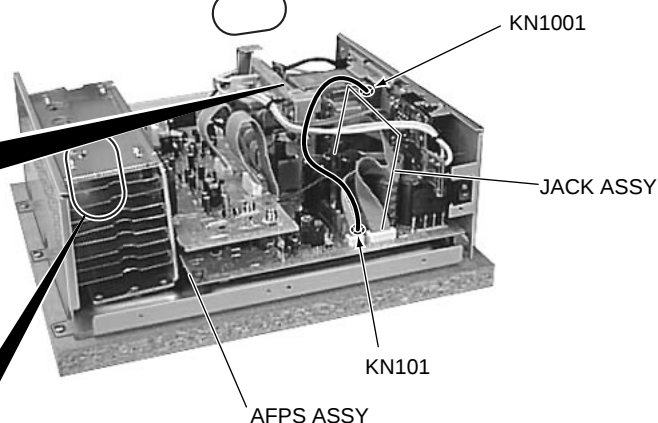
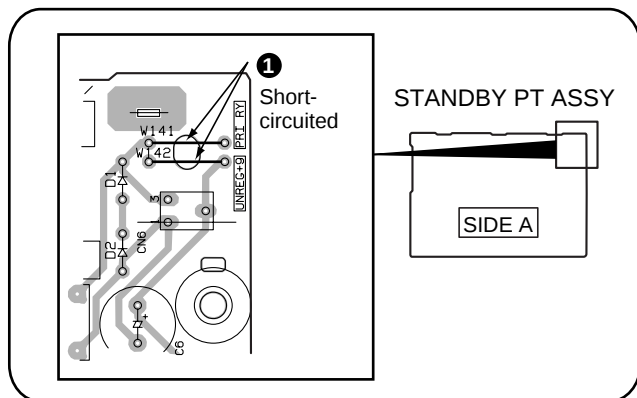
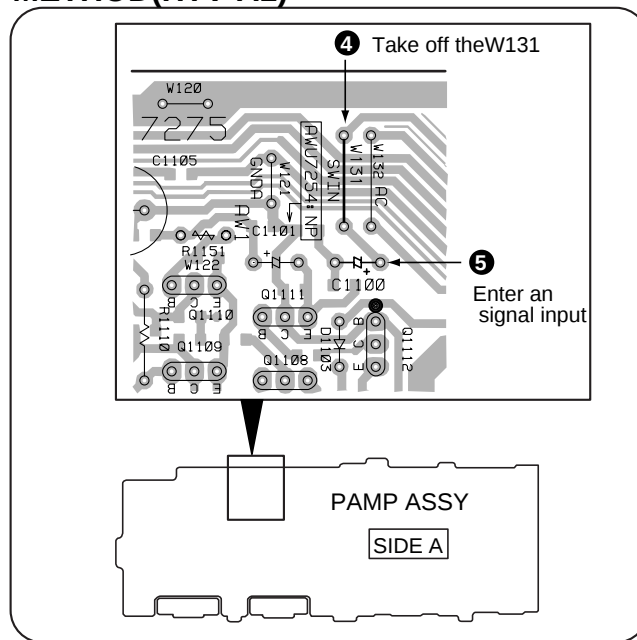
- ❶ Short-circuit W141 (PRIRY) and W142 (UNREG+9) in the TANDBY PT assembly.
- ❷ Short-circuit W215 (SPRY) and W216 (GNDD) in the AFPS assembly.

[At the time of L/Rch analysis]

- ❸ Disconnect C6031 in the AFPS assembly and apply the signal to W251 (L ch IN). [In case of the right channel, disconnect C6023 and apply the signal to W240 (R ch IN).]
- As the gain from L ch IN to L ch SP OUT is about 37 dB (freq. = 1 kHz), input of 40 mVrms to L ch IN results in output of 1 W (2.83 Vrms/8 Ω) at L ch SP OUT.

[At the time of SWch analysis]

- ❹ Disconnect W131 (SW IN) in the PAMP assembly.
- ❺ Apply the signal to the plus pole of CI100.
- As the gain from CI100 to SWch is about 38 dB (freq. = 100 Hz), input of 36 mVrms to CI100 results in output of 1 W (2.83 Vrms/8 Ω) at SWch SP OUT.



Caution items for diagnosis of the AFPS assembly after removal from the chassis

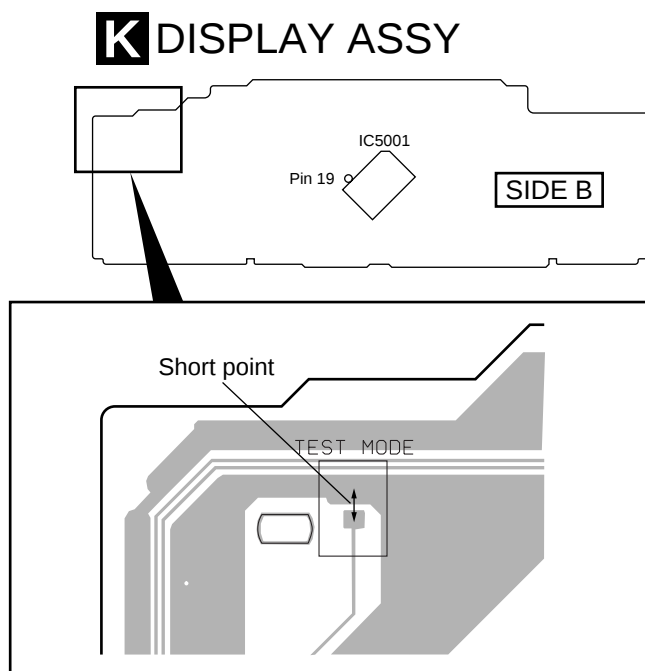
The assembly operates only when the earth fittings KN101 (AFPS assembly) and KN1001 (JACK assembly) are connected. For diagnosis with the AFPS assembly removed from the chassis, perform diagnosis with these earth fittings short-circuited.

7.3 TEST MODE (HTV-C1)

7.3.1 Entry into Test Mode

There are the following two methods for entry into test mode.

- (1) Reception of the command "A55F" by remote control.
- (2) Short-circuit the TEST MODE point (pin 19 of IC5001 and GND) on the copper foil side of the DISPLAY assembly.
Connect the power cable to an outlet.



- At the time of entry into test mode, FL displays "TEST 1" for 1 second.
- The LED flashes during test mode.
- At this time, the VOLUME setting becomes 10.
- The SURROUND mode becomes DOLBY VIRTUAL ON.

7.3.2 Test Mode Operation

FL segment check

Press the DISPLAY key. → The operations (1) to (5) are switched sequentially.

- (1) FL, LED all lit
- (2) FL, LED all not lit
- (3) (Segment check 1) Display of "ABCDEFGH"
- (4) (Segment check 2) Display of "IJKLMNOP"
- (5) Normal display

1. Confirmation of the Automatic Standby Function

- (1) Press the INPUT key. →

The power is switched off and automatic standby mode is entered. The standby indicator lights orange. (This condition is reached when 5 minutes without a signal have passed during power ON.)

- (2) Apply an input signal to the INPUT terminal. →

AUTO POWER ON (This operates only with input to the selected INPUT terminal.)

- In regard to the automatic standby mode
- Automatic standby mode always is reached during POWER ON.
- Standby condition is reached when the input signal disappears for 5 minutes (input level of INPUT 1 (2): 49 dB V, LEVEL IN voltage: 0.6 V DC). At this time, the standby indicator lights orange.
- POWER ON occurs when an input signal is entered in this condition (a signal of -46dB V to INPUT 1 (2)).
- When the power is switched off with the STANDBY/ON key on the unit or with the power key of the remote control unit, this function does not operate and the standby indicator lights red.

2. DSP Check

Press the SURR. MODE key. → DSP check mode is entered.

DSP check mode

A test tone is put out at the time of DOLBY VIRTUAL condition. Test tone output is repeated in the order of LEFT → CENTER → RIGHT → SURROUND.

Confirm that DSP operates normally at the time of SURROUND output.

Press the SURROUND MODE key twice. → DSP check mode is canceled. FL and LED display normally.

- Keys other than the specified ones operate normally.

7.3.3. Test Mode Cancellation

During power ON, set the STANDBY/OFF key to OFF or disconnect the power cable from the outlet.

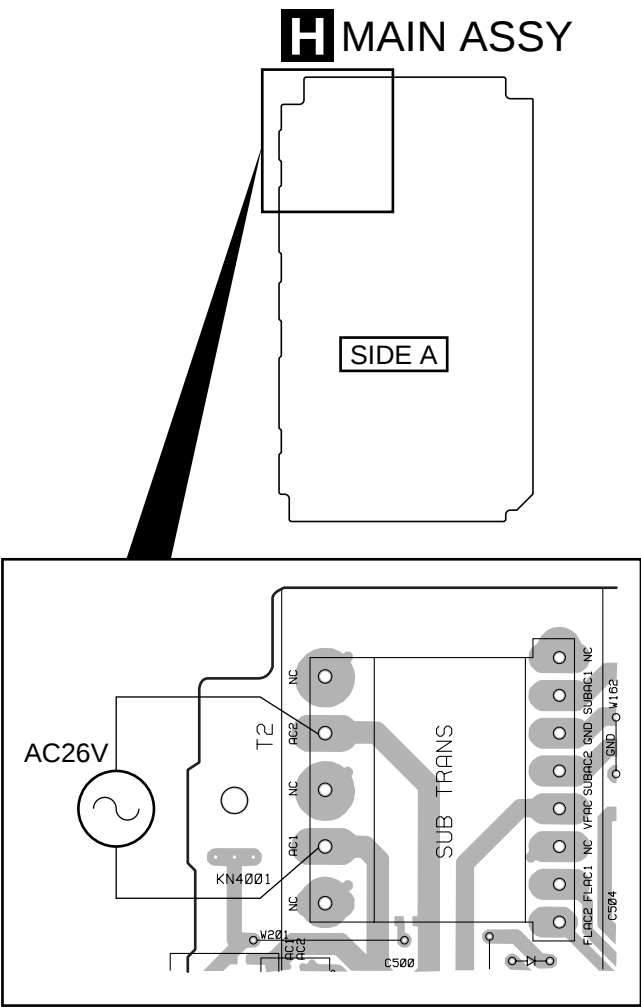
7.4 INDEPENDENT OPERATION DIAGNOSIS METHOD (HTV-C1)

- In principle, the HTV-1 system operates only as a combination of HTV-C1 and HTV-SW1, but operation is possible by applying AC 26 V at the input side (between AC1 and AC2) of the subtransformer (T2) in the MAIN assembly.
- In this case, it is not possible to check all functions (functions on the HTV-A1 side).
- The gain from the pin jack [(INPUT 1 (2))] to AL6+ (-) or AR6+ (-) is as shown below.

SURR. MODE	Gain (dB)
OFF	-3.0dB
VD (EFFECT +3)	-3.6dB
ST - WIDE	-3.5dB

- With input of -14 dBV (200mV rms) to INPUT 1 (2), -17 dBV appears at AL6+ (-), AR6+ (-) in case of SURR. OFF.

In case of independent operation, a DC component appears at AL6+ (-), AR6+ (-) depending on the signal level.



CAUTION :

• Caution and diagnosis method at the time of removal of the MAIN assembly from the chassis.

No operation occurs when the earth plates KN501 and KN4001 are not connected. When diagnosis is to be performed with the MAIN assembly removed from the chassis, short-circuit the earth plates KN501 and KN4001 before diagnosis.

EARTH METAL FITTING KN501and KN4001at the short-circuit

The diagram shows the MAIN ASSY with 'SIDE A' and 'T2' components. It highlights the locations of earth plates KN4001, KN501, and CN3001. A curved line with a downward arrow indicates a short-circuit connection between KN4001 and KN501. A downward arrow at the bottom points to the 'FRONT' of the assembly.

7.5 IN REGARD to the BACKUP FUNCTION (HTV-C1)

Even when disconnected from the main power supply, HTV-C1 keeps the following memory settings stored for about two weeks to one month because of the backup power supply.

When these settings are changed at the time of servicing, they will remain changed, so that caution is required. In this case, return to the factory settings is possible by switching the power supply off after entry into test mode.

■ Function for memorizing of settings

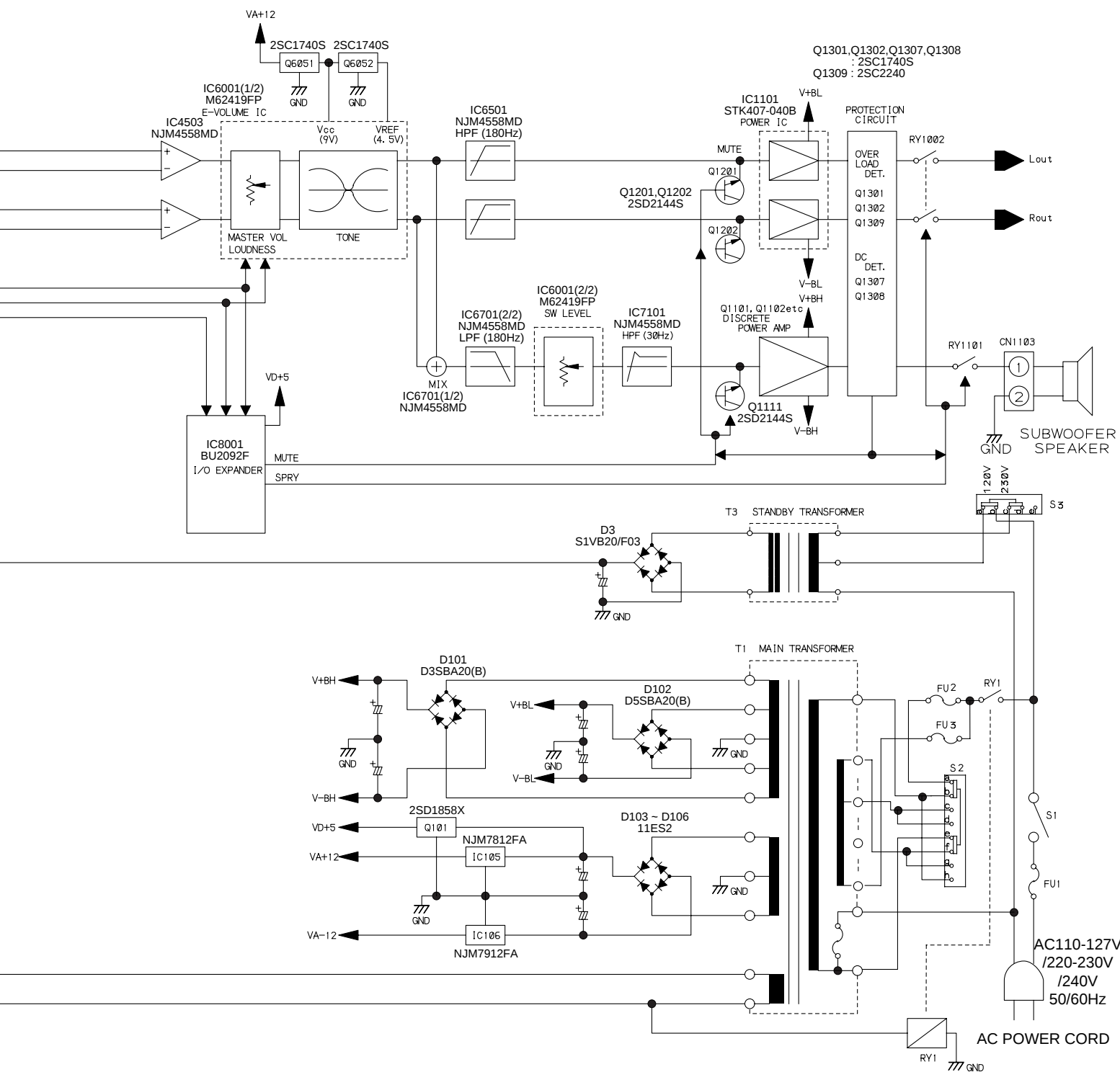
- * Input switching
- * Bass
- * Treble
- * Balance
- * SW level
- * Sound mode
- * Effect level
- * Loudness ON/OFF
- * Demonstration mode ON/OFF
- * Volume (only in case of demonstration mode OFF)

■ Settings at the time of shipping from the factory

- * Input switching: INPUT1
- * Bass: ± 2
- * Treble: ± 0
- * Balance: CENTER
- * SW level: +1
- * Surround mode: VIRTUAL DOLBY
- * Effect level: +3
- * Loudness: OFF
- * Demonstration mode: ON
- * Volume: MIN

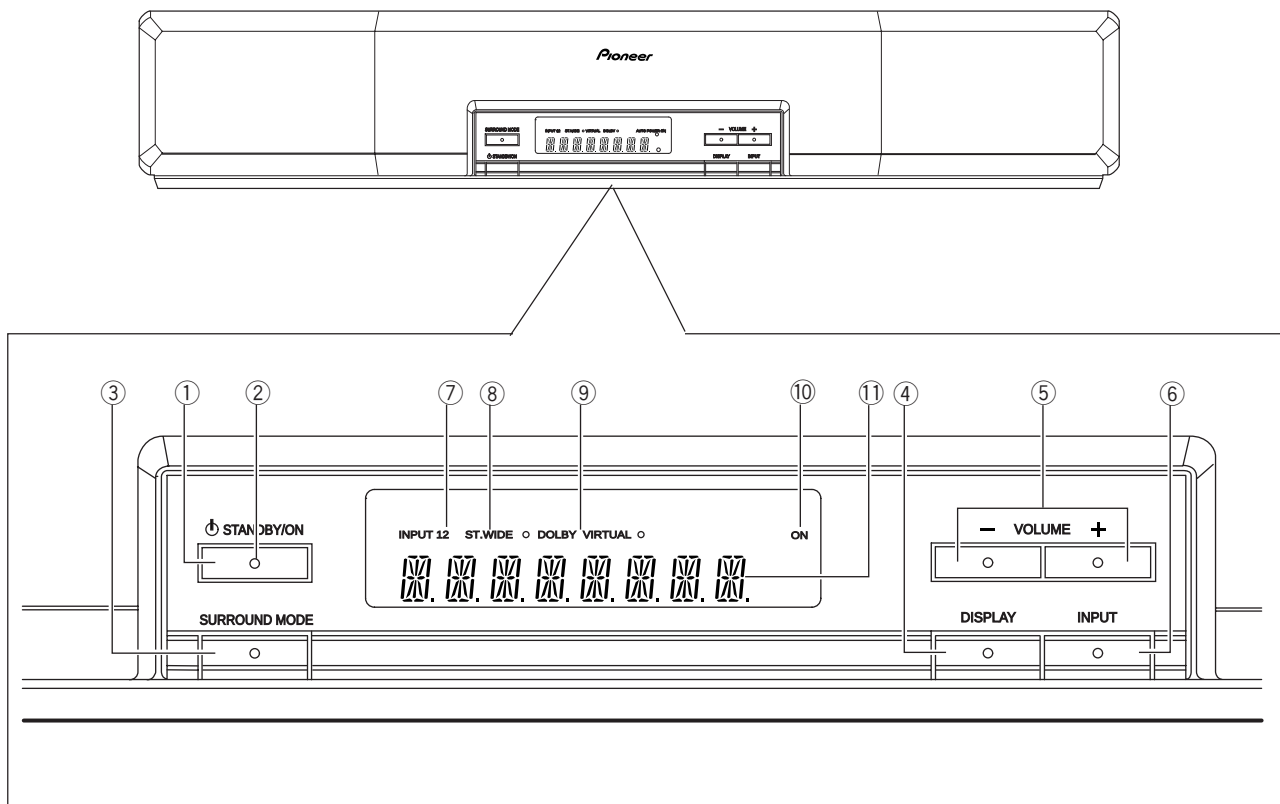


AMPLIFIER HTV-A1



8. PANEL FACILITIES AND SPECIFICATIONS

■ CONTROL CENTER (HTV-C1)



① **STANDBY/ON switch**

Turns the power ON/OFF (Standby).

② **STANDBY indicator** **Auto Standby function**

This unit features a function that automatically switches power ON or OFF (Standby) depending on whether a signal is input or not.

- When power is switched ON, if there is no input signal for 5 minutes, the unit automatically switches to Standby and the standby indicator lights orange.
- If a signal is input through the selected input jack when the indicator is lit orange (showing that the Auto Standby function is operating), power automatically switches ON.
- If you switch power OFF with the Standby switch in the main unit or the remote control (the Standby indicator lights red), the unit remains in the Standby mode even if a signal is input through the selected input jack.
- When power to the unit is ON, the indicator lights green.

③ **SURROUND MODE button**

Selects Surround Mode.

④ **DISPLAY button**

When pressed once, displays each setting in sequence for 2 seconds. When pressed again, switches to Dimmer Mode, changing the brightness of the display.

⑤ **VOLUME+, – buttons**

⑥ **INPUT button**

Selects the input device.

⑦ **INPUT 1, 2 indicator**

When the INPUT 1 terminal is selected, "1" is illuminated; when the INPUT 2 terminal is selected, "2" is illuminated.

⑧ **ST.WIDE indicator**

Lights up when Surround Mode is switched to "STEREO WIDE."

⑨ **DOLBY VIRTUAL indicator**

Lights up when Surround Mode is switched to "DOLBY VIRTUAL."

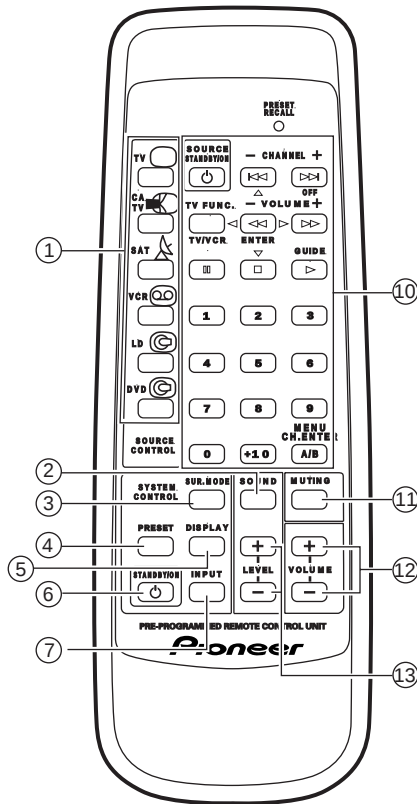
⑩ **Power ON indicator**

This lights when the Control Center standby switch is set to On. The indicator remains lit even if you switch the display OFF.

⑪ **Character display**

■ Remote Control Unit

Except Australian model



① SOURCE CONTROL buttons

Select the device to be operated.

② SOUND button

Selects the sound control function (BASS/TREBLE/BALANCE/S.W. LEVEL/EFFECT/LOUDNESS).

③ SUR.(surround) MODE button

Selects Surround Mode.

④ PRESET button

To preset other manufacturer's devices, press any one of the SOURCE CONTROL buttons together with this button.

⑤ DISPLAY button

When pressed once, displays each setting in sequence for 2 seconds. When pressed again, switches to Dimmer Mode, changing the brightness of the display.

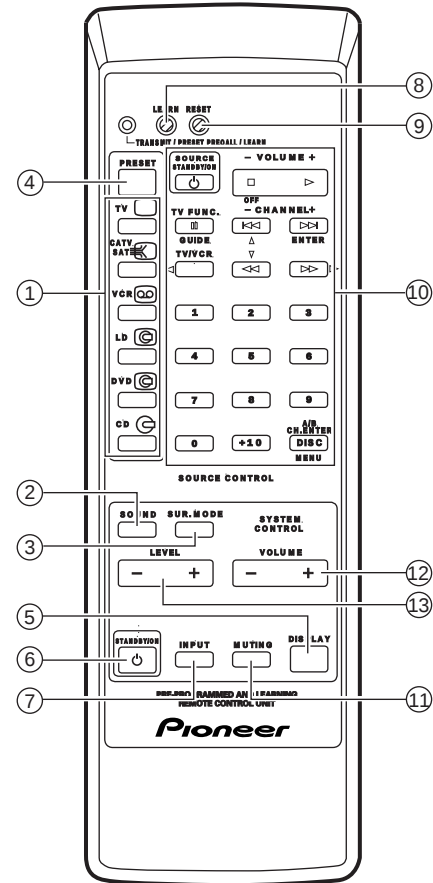
⑥ STANDBY/ON button

Turns the Home Theater System power ON/OFF (Standby).

⑦ INPUT button

Selects the input device.

Australian model



⑧ LEARN button (Australian model only)

Selects Learn Mode.

⑨ RESET button (Australian model only)

⑩ Other device operation buttons

Select the device to be operated with the SOURCE CONTROL buttons and then operate the device.

⑪ MUTING button

Press to mute the volume.

⑫ VOLUME +, – button(s)

Use to adjust the volume.

⑬ LEVEL +, – button(s)

Use to adjust the sound control mode selected with the SOUND button.

SPECIFICATIONS

HTV-1

Amplifier Section

Continuous power output (DIN)	
Front L/R	30 W + 30 W (1 kHz, THD 1%, 8Ω)
Subwoofer	60 W (100 Hz, THD 1%, 8Ω)
Continuous power output (RMS)	
Front L/R	40 W + 40 W (1 kHz, THD 10%, 8Ω)
Subwoofer	80 W (100 Hz, THD 10%, 8Ω)
Input (Sensitivity/Impedance)	
INPUT 1, 2	220 mV/70 kΩ

Speaker Section

Front L/R	8.7 cm cone type
Subwoofer	20 cm cone type

Miscellaneous

[Except Australian model]	
Power Requirements	AC 110-127/220-230/240 V (switchable), 50/60 Hz
Power Consumption	400 W
In Standby Condition	less than 3 W
[Australian model]	
Power Requirements	AC 240 V, 50/60 Hz
Power Consumption	350 W
In Standby Condition	less than 3 W
Dimensions	
Control center	610 (W) × 110 (H) × 166 (D) mm
Powered subwoofer	364 (W) × 360 (H) × 371 (D) mm
Weight (without package)	
Control center	3.8 kg
Powered subwoofer	13.5 kg

Furnished Parts

System cable A	1
System cable B	1
Audio cord	1
Mount kit	1
Dry Cell Batteries	
Except Australian model	size "AA" IEC R6P x 2
Australian model	size "AAA" IEC LR03 x 2
Remote Control Unit	1
Operating Instructions	1
Warranty card (Australian model only)	1

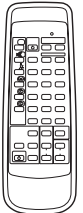
NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

Manufactured under license from Dolby Laboratories.
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Accessories

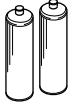
● Remote control unit

[Except Australian model] (CU-HT007)



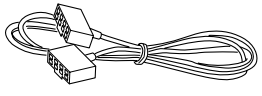
(AXD7186)

● Batteries (R6P, AA)

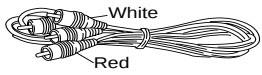


(VEM-013)

● System cable A (3m) (ADX7239)



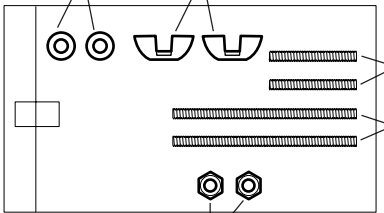
● Audio cord (VDE1052) (L= 1.5 m)



● Mount kit (AEA7021)

Washers x 2 (WB60FZK)

Wing nuts x 2 (NR60FZK)

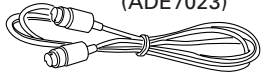


Bolts (S) x 2 (ABA7041)

Bolts (L) x 2 (ABA7042)

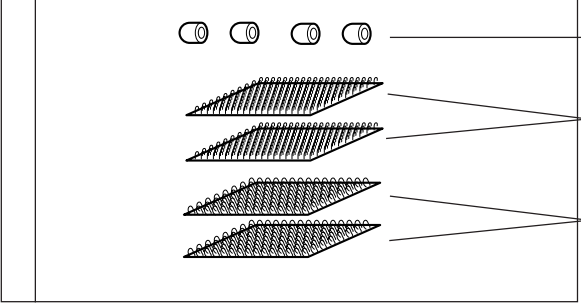
Nuts x 2 (NA60FZK)

● System cable B (3m) (ADE7023)



● Operating instructions

● Warranty card (Australian model only)



Bolt caps x 4 (AEB7111)

Velcro tapes (hooks) x 2 (AED7028)

Velcro tapes (loops) x 2 (AED7029)