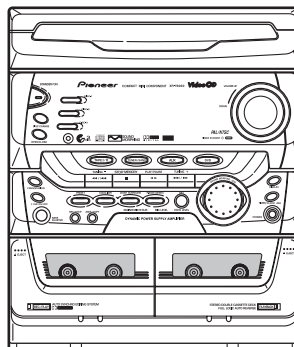


# Service Manual

Pioneer



•XR-A9700DV

ORDER NO.  
RRV2221

STEREO DVD CASSETTE DECK RECEIVER

# XR-A9700DV XR-VS100D

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

Type	Model		Power Requirement	Region No.	The voltage can be converted by the following method.
	XR-A9700DV	XR-VS100D			
KUCXJ	○	—	AC120V	1	_____
DBXJ	—	○	AC110-127V/220-230V/240V	3	With the voltage selector
DLXJ/NC	—	○	AC110-127V/220-230V/240V	3	With the voltage selector
DDXJ/RA	—	○	AC110-127V/220-230V/240V	1	With the voltage selector
DDXJ/RB	—	○	AC110-127V/220-230V/240V	2	With the voltage selector

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 PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936  
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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.

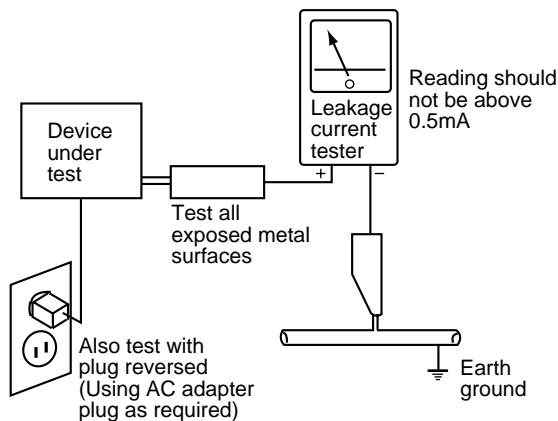
**(FOR USA MODEL ONLY)**

## 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 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

**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  $\Delta$  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.

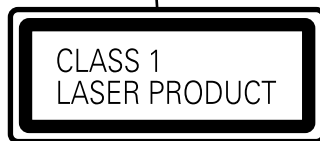
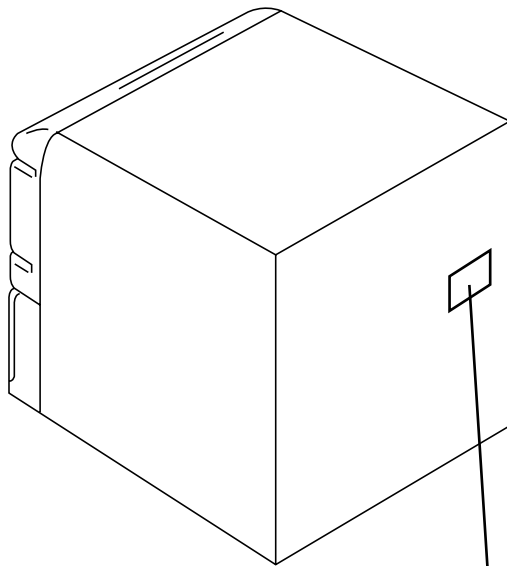
IMPORTANT

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1. SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW  
 WAVELENGTH : 655 nm  
 FOR CD : MAXIMUM OUTPUT POWER : 5mW  
 WAVELENGTH : 785 nm

**LABEL CHECK (For DLXJ/NC Type)**



Printed on the Rear Panel

Additional Laser Caution

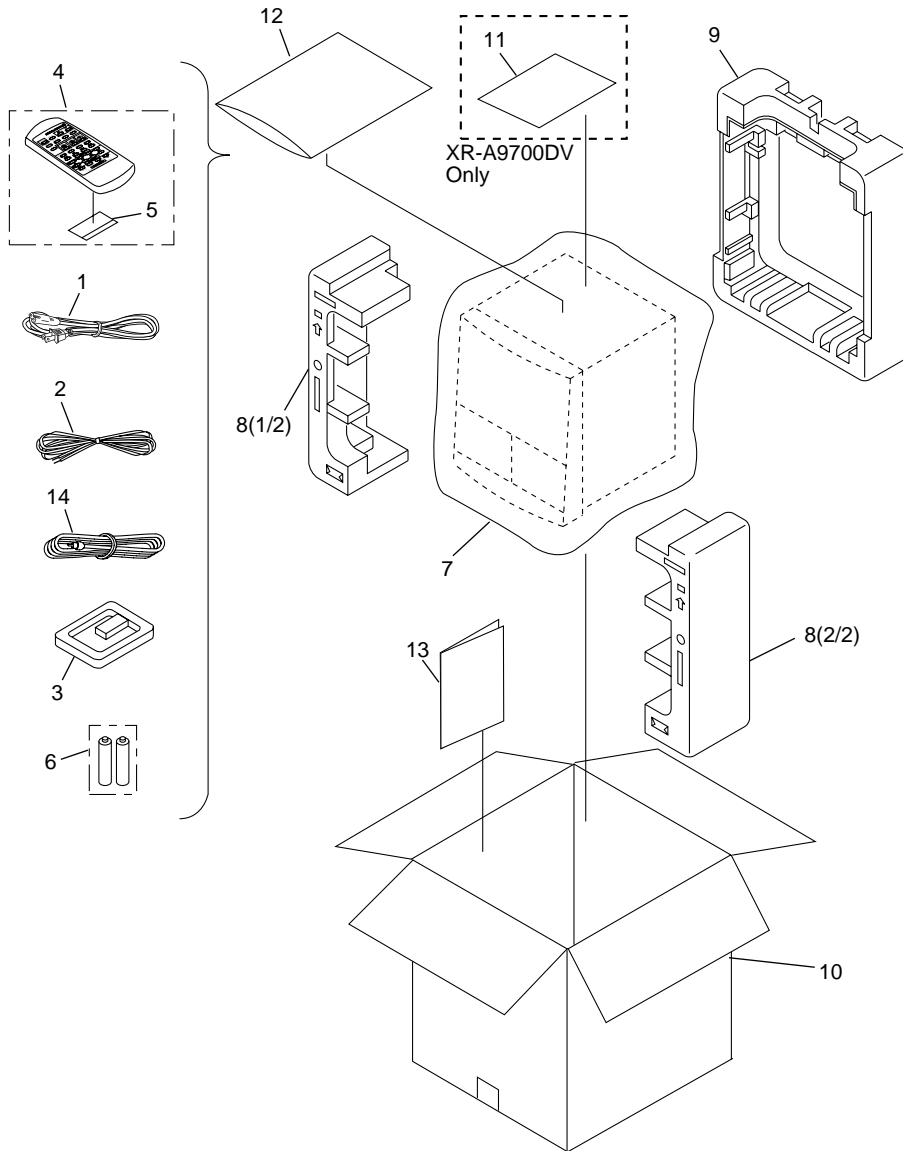
1. Inside detection switch (S201 on the SMEB assy) and loading-status detection switch (S9503 on the MOTOR assy) are detected by the microprocessor (IC11 in the DVDM assy).
  - To permit the laser diode to oscillate, it is required to set the inside detection switch for the inside position (S201 : ON) and to set the loading-status detection switch for the clamp position (the center terminal of S9503 is shorted to +5V). The 655 nm laser diode for DVD oscillation will continue if pin 19 of IC1 is shorted to +5V (fault condition) in the DVDM assy. The 785 nm laser diode for CD oscillates if pin 20 of IC1 is shorted to +5V in the DVDM assy. In the test mode \*, the laser diode oscillates when microprocessor detects a PLAY signal, or when the PLAY key is pressed (S5931 ON in the DISPLAY assy), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

\* : See page 76.

## 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  $\Delta$  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.
  - Screws adjacent to  $\blacktriangledown$  mark on the product are used for disassembly.

### 2.1 PACKING



**(1) PACKING PARTS LIST**

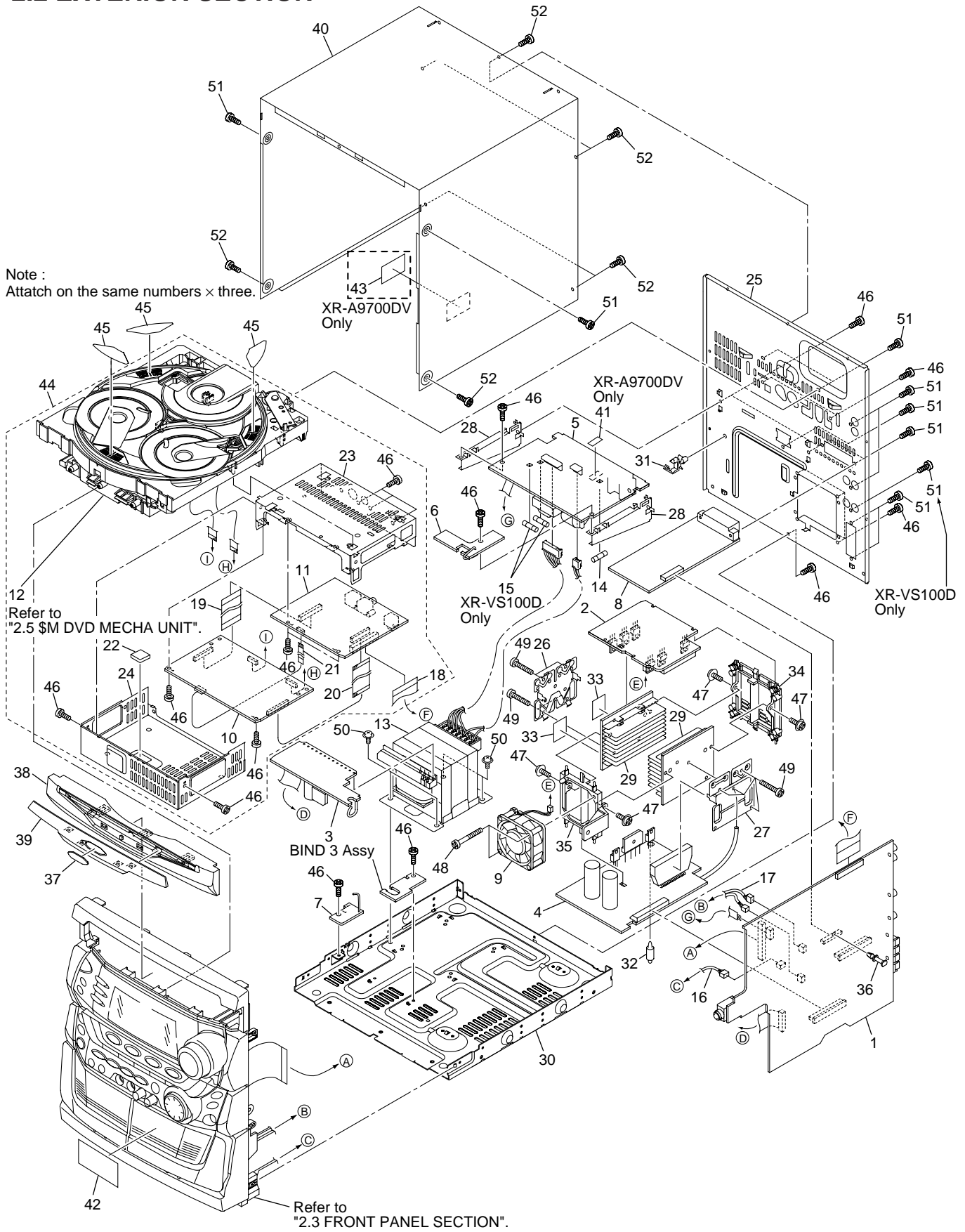
Mark	No.	Description	Part No.
△	1	Power Cord	See Contrast table (2)
	2	FM Antenna	ADH7004
	3	AM Loop Antenna	XTB3001
	4	Remote Control Unit	See Contrast table (2)
	5	Battery Cover	AZA7204
NSP	6	Dry Cell Battery (R6P, AA)	VEM-013
	7	Packing Sheet	AHG7049
	8	Front Pad	AHA7271
	9	Rear Pad	AHA7272
	10	Packing Case	See Contrast table (2)
NSP	11	Warranty Card	See Contrast table (2)
	12	Polyethylene Bag (0.03 × 230 × 340)	Z21-038
	13	Operating Instructions	See Contrast table (2)
	14	Video Cord (L=1.5m)	VDE1034

**(2) CONTRAST TABLE**

XR-A9700DV/KUCXJ, XR-VS100D/DBXJ, DLXJ/NC, DDXJ/RA and DDXJ/RB are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.					Remarks
			XR-A9700DV	XR-VS100D				
			KUCXJ	DBXJ	DLXJ/NC	DDXJ/RA	DDXJ/RB	
△    NSP	1	Power Cord	ADG7022	ADG1158	ADG1154	ADG1158	ADG1158	
	4	Remote Control Unit (CU-XR062)	AZN7800	Not used	Not used	Not used	Not used	
	4	Remote Control Unit (CU-XR063)	Not used	AZN7801	AZN7801	AZN7801	AZN7801	
	10	Packing Case	AHD7794	AHD7807	AHD7808	AHD7807	AHD7807	
	11	Warranty Card	ARY7033	Not used	Not used	Not used	Not used	
	13	Operating Instructions (English/French)	ARE7240	Not used	Not used	Not used	Not used	
	13	Operating Instructions (English/Chinese)	Not used	ARE7243	ARE7243	ARE7243	ARE7243	

2.2 EXTERIOR SECTION



**(1) EXTERIOR SECTION PARTS LIST**

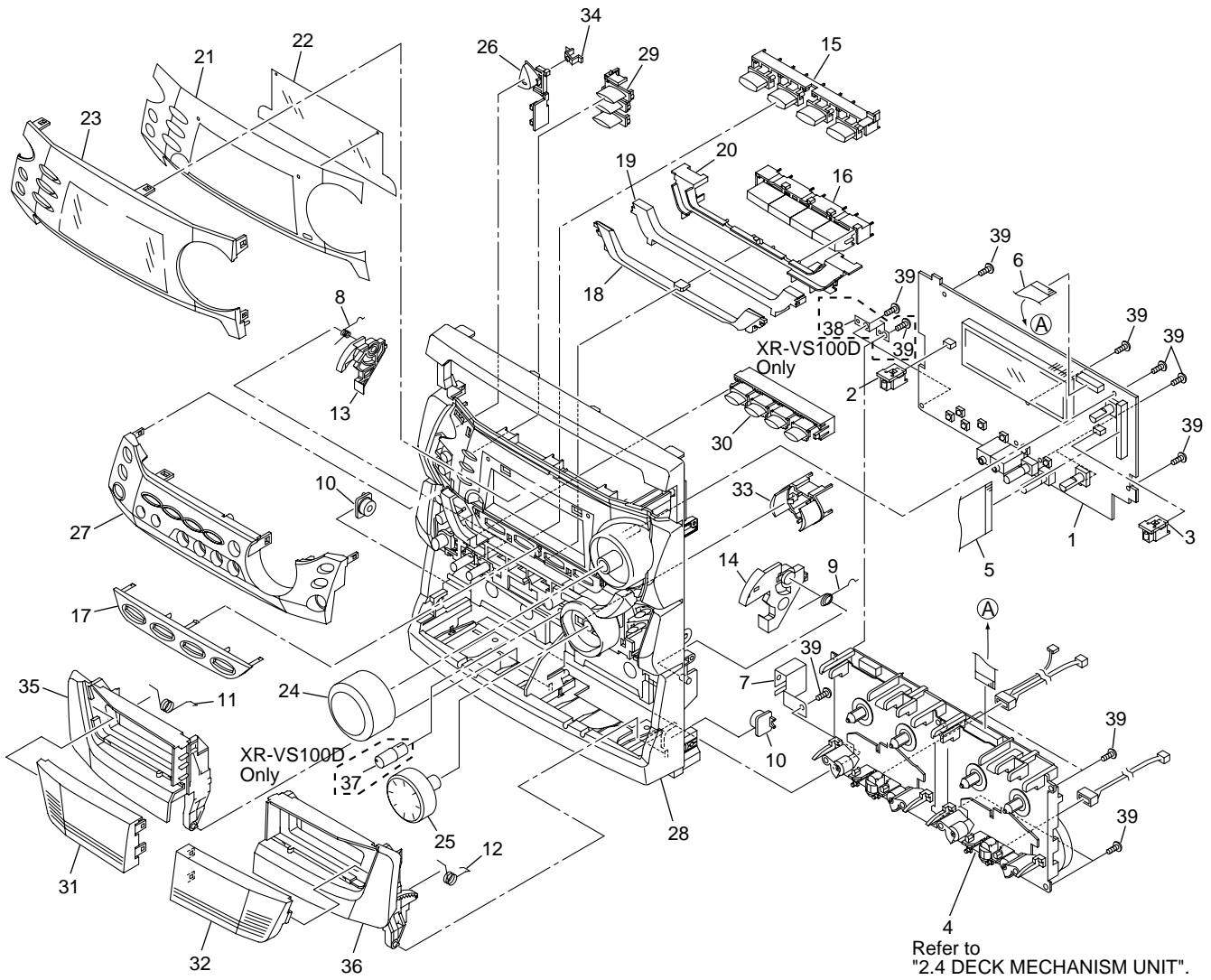
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	AF Assy	See Contrast table (2)		27	Power PAC Holder	ANG7109
	2	REGULATOR Assy	AWU7506		28	PCB Bracket	ANG7263
	3	SECONDARY Assy	AWU7507		29	Heat Sink	ANH7058
	4	POWER Assy	See Contrast table (2)	NSP	30	Chassis	XNA3003
	5	PRIMARY Assy	See Contrast table (2)		31	Wire Clip	AEC7222
	6	BIND 1 Assy	AWU7527		32	PCB Holder	AEC7223
	7	BIND 2 Assy	AWU7528		33	Sheet	AEE7018
	8	FM/AM TUNER Module	AXQ7065		34	Mold B	AMR7006
	9	DC Fan Motor	AXM7014		35	Mold A	AMR7274
	10	DVDM Assy	AWX7500		36	Card Spacer	XEC3008
	11	CONNECT Assy	See Contrast table (2)		37	DVD Badge	AAM7007
NSP	12	\$M DVD Mecha Unit	AXA7083		38	Tray Cap	AAK7698
△	13	Power Transformer (T1)	See Contrast table (2)		39	Tray Cap Panel	AAK7699
△	14	Fuse (FU1)	See Contrast table (2)		40	Bonnet Case	AZN7817
△	15	Fuse (FU2, FU3 : T3.15A)	See Contrast table (2)	NSP	41	Fuse Card	See Contrast table (2)
	16	Connector Assy 3P (AF CN2303 ↔ DECK)	ADE7045	NSP	42	Getter	See Contrast table (2)
	17	Connector Assy 5P (AF CN2301, CN2302 ↔ DECK)	ADE7046	NSP	43	65 Label	See Contrast table (2)
	18	32P Flexible Cable/60V (CONNECT CN103 ↔ AF CN5104)	ADD7194		44	\$M DVD Mecha.	See Contrast table (2)
	19	32P Flexible Cable/30V (CONNECT CN101 ↔ DVDM CN80)	ADD7195		45	Disc Label	XAX3127
	20	27P Flexible Cable/30V (CONNECT CN102 ↔ DVDM CN20)	ADD7196		46	Screw	BBZ30P080FMC
	21	7P Flexible Cable/30V (CONNECT CN105 ↔ DVDM CN6)	ADD7197		47	Screw	ABA1021
	22	Radiation Sheet	AEB7173		48	Screw	BPZ30P350FZK
	23	DVD Base	ANG7262		49	Screw	BBZ30P180FMC
	24	DVD Shield	ANK7066		50	Screw	ASZ40P060FMC
	25	Rear Panel	See Contrast table (2)		51	Screw	BPZ30P100FZK
	26	Holder	ANG7009		52	Screw	VBT30P080FZK

**(2) CONTRAST TABLE**

XR-A9700DV/KUCXJ, XR-VS100D/DBXJ, DLXJ/NC, DDXJ/RA and DDXJ/RB are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.					Remarks
			XR-A9700DV	XR-VS100D				
			KUCXJ	DBXJ	DLXJ/NC	DDXJ/RA	DDXJ/RB	
	1	AF Assy	AWU7514	AWU7505	AWU7505	AWU7505	AWU7505	
	4	POWER Assy	AWU7538	AWU7510	AWU7510	AWU7510	AWU7510	
	5	PRIMARY Assy	AWU7516	AWU7509	AWU7509	AWU7509	AWU7509	
	11	CONNECT Assy	AWX7499	AWX7498	AWX7498	AWX7498	AWX7498	
△	13	Power Transformer (T1)	ATS7267	ATS7266	ATS7266	ATS7266	ATS7266	
△	14	Fuse (FU1 : 8A)	REK1086	Not used	Not used	Not used	Not used	
△	14	Fuse (FU1 : T6.3A)	Not used	REK1030	REK1030	REK1030	REK1030	
△	15	Fuse (FU2, FU3 : T3.15A)	Not used	REK1027	REK1027	REK1027	REK1027	
	25	Rear Panel	ANC7867	ANC7869	ANC7872	ANC7870	ANC7871	
NSP	41	Fuse Card	AAX2332	Not used	Not used	Not used	Not used	
NSP	42	Getter	AAX7745	AAX7747	AAX7747	AAX7747	AAX7747	
	43	65 Label	ARW7050	Not used	Not used	Not used	Not used	
NSP	44	\$M DVD Mecha.	AXA7085	AXA7084	AXA7084	AXA7084	AXA7084	

### 2.3 FRONT PANEL SECTION





**(1) FRONT PANEL SECTION PARTS LIST**

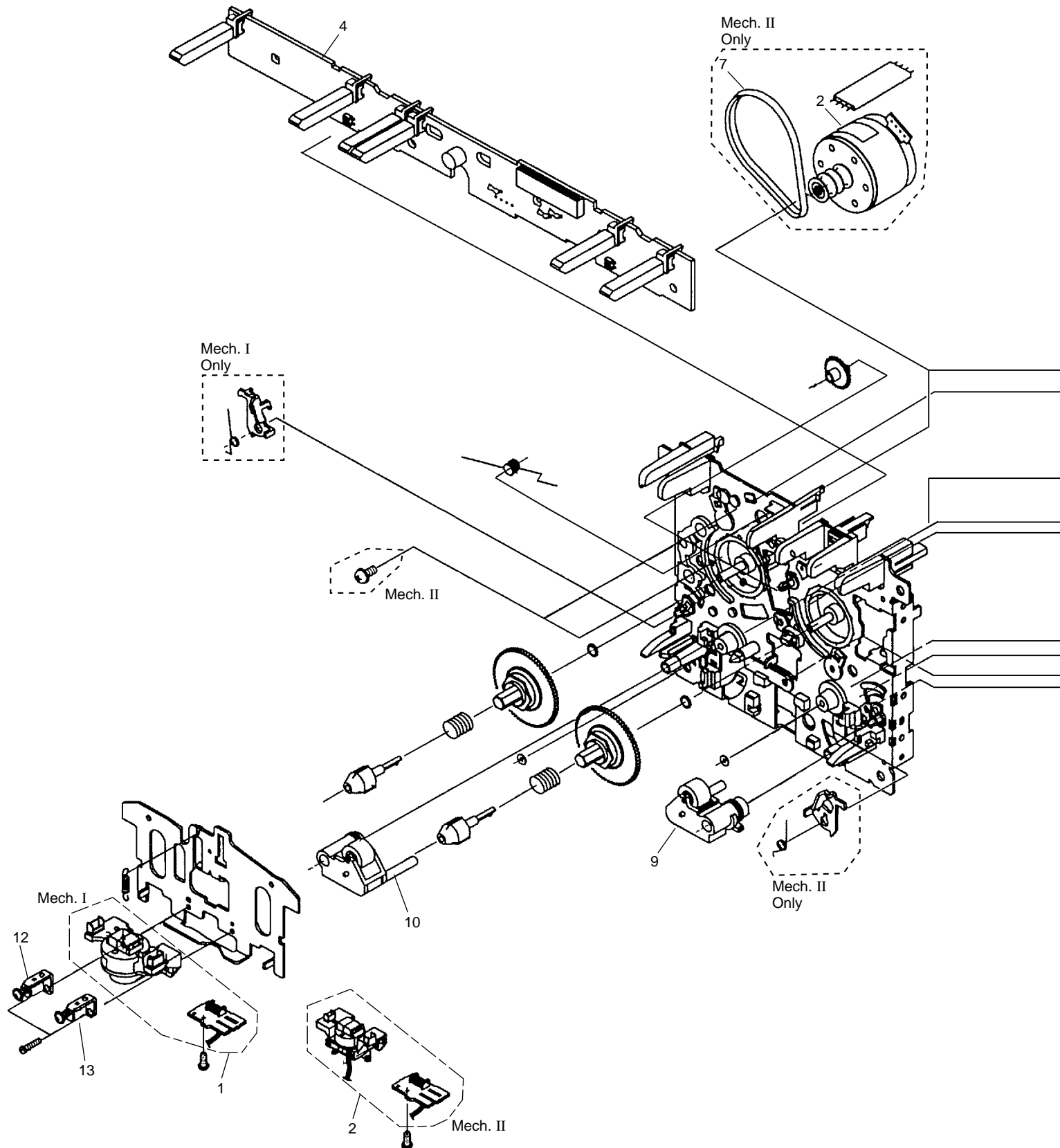
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	DISPLAY Assy	See Contrast table (2)	20	Reflector		AAK7704
	2	LED 1 Assy	AWU7511	21	FL Cover		AAK7705
	3	LED 2 Assy	AWU7512	22	FL Fileter		AAK7706
	4	DECK Mechanism Unit	XYM3010	23	Display Panel		See Contrast table (2)
	5	39P Flat Flexible Cable/60V (DISPLAY CN5501 ↔ AF CN5105)	ADD7192	24	Volume Knob		XAA3013
	6	17P Flat Flexible Cable/60V (DISPLAY CN2901 ↔ DECK)	ADD7193	25	JOG Knob		XAA3014
	7	Eart Plate B	XNG3023	26	Power Button		AAD7566
	8	Ratch Spring_L	ABH7130	27	Sub Panel		See Contrast table (2)
	9	Ratch Spring_R	ABH7131	28	Front Panel		See Contrast table (2)
	10	Damper Assy	AXA7052	29	CD Button		XAD3028
	11	Door Spring_L	XBH3001	30	SC Button		XAD3029
	12	Door Spring_R	XBH3002	31	Deck Lens L		XAK3086
	13	Ratch Mold_L	XMR3001	32	Deck Lens R		XAK3087
	14	Ratch Mold_R	XMR3002	33	JOG Lens		XAK3096
	15	Function Button	AAD7550	34	ST Lens		XAK3123
	16	Play Button	AAD7551	35	Deck Door_L		XAN3015
	17	Function Panel	AAK7701	36	Deck Door_R		XAN3016
	18	DVD Lens	AAK7702	37	MIC Knob		See Contrast table (2)
	19	LT Conductor	AAK7703	38	Earth Plate A		See Contrast table (2)
				39	Screw		BPZ30P100FZK

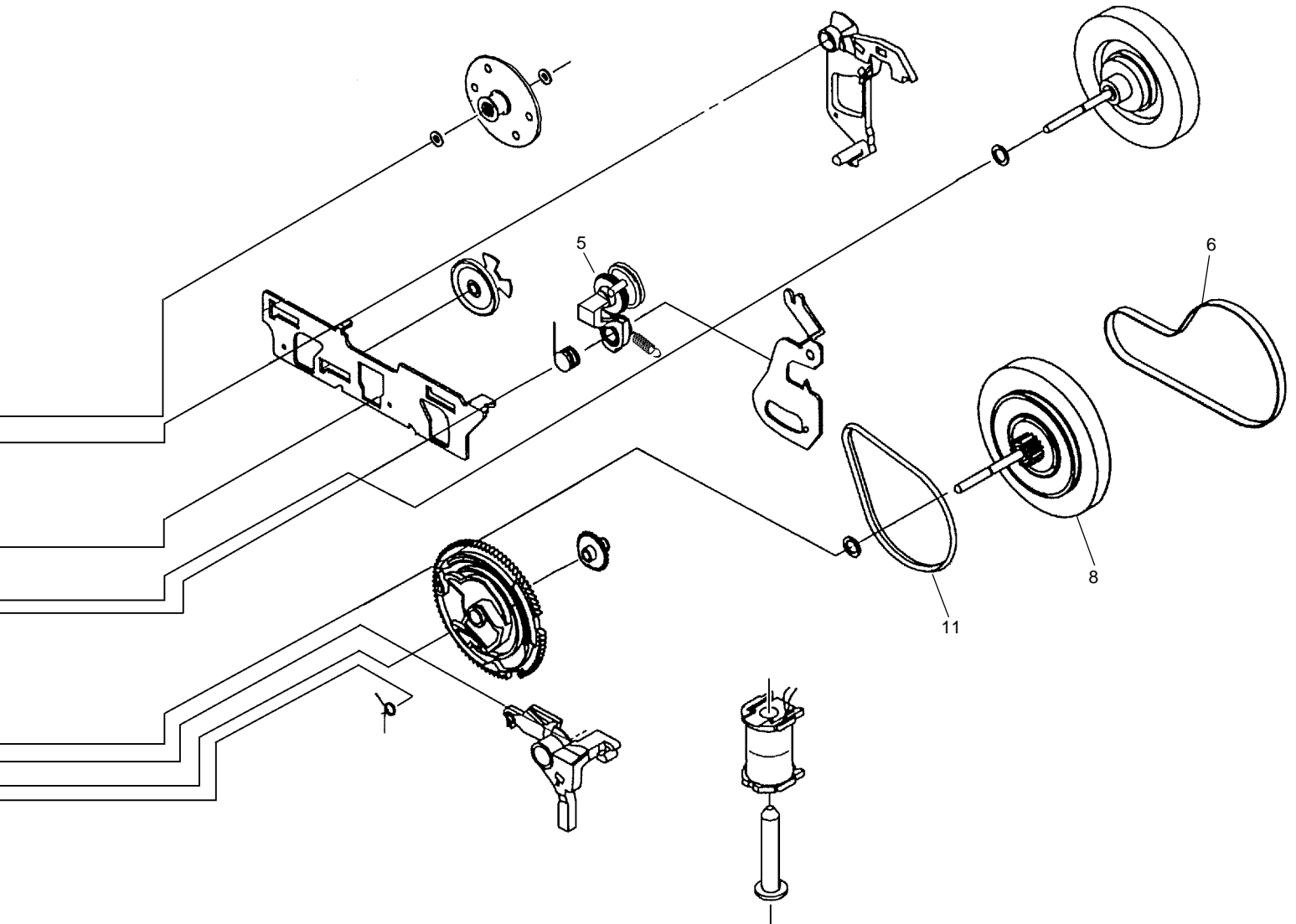
**(2) CONTRAST TABLE**

XR-A9700DV/KUCXJ, XR-VS100D/DBXJ, DLXJ/NC, DDXJ/RA and DDXJ/RB are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.					Remarks
			XR-A9700DV	XR-VS100D				
			KUCXJ	DBXJ	DLXJ/NC	DDXJ/RA	DDXJ/RB	
	1	DISPLAY Assy	AWU7515	AWU7508	AWU7508	AWU7508	AWU7508	
	23	Display Panel	AAK7722	AAK7723	AAK7723	AAK7723	AAK7723	
	27	Sub Panel	AAK7700	AAK7707	AAK7707	AAK7707	AAK7707	
	28	Front Panel	AMB7650	AMB7651	AMB7651	AMB7651	AMB7651	
	37	MIC Knob	Not used	XAB3007	XAB3007	XAB3007	XAB3007	
	38	Earth Plate A	Not used	XNG3018	XNG3018	XNG3018	XNG3018	

## 2.4 DECK MECHANISM UNIT

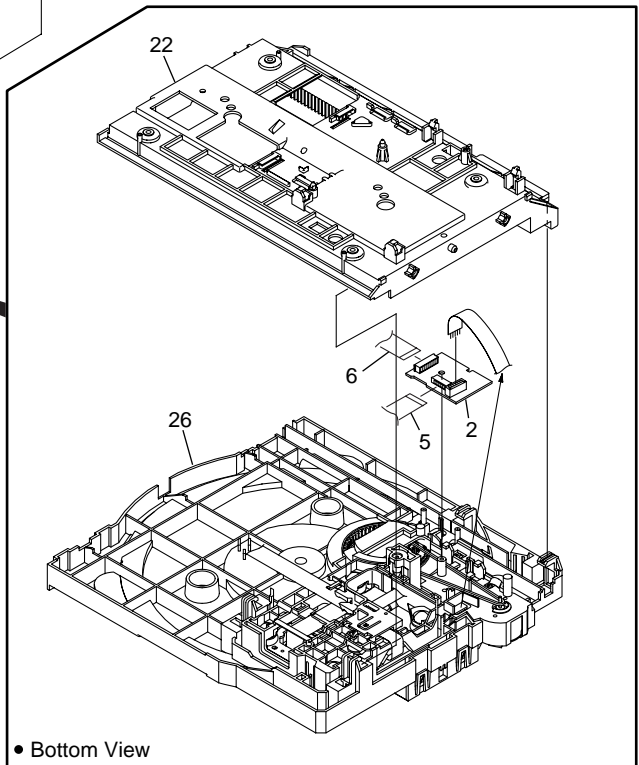
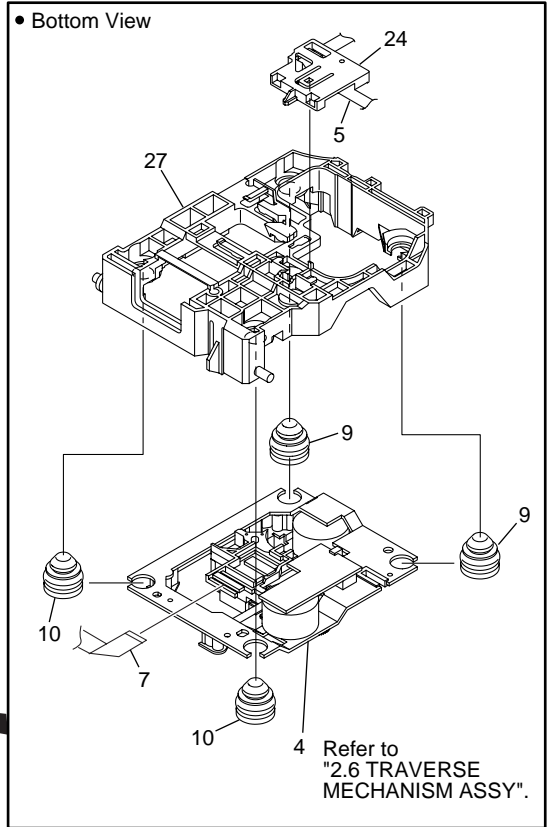
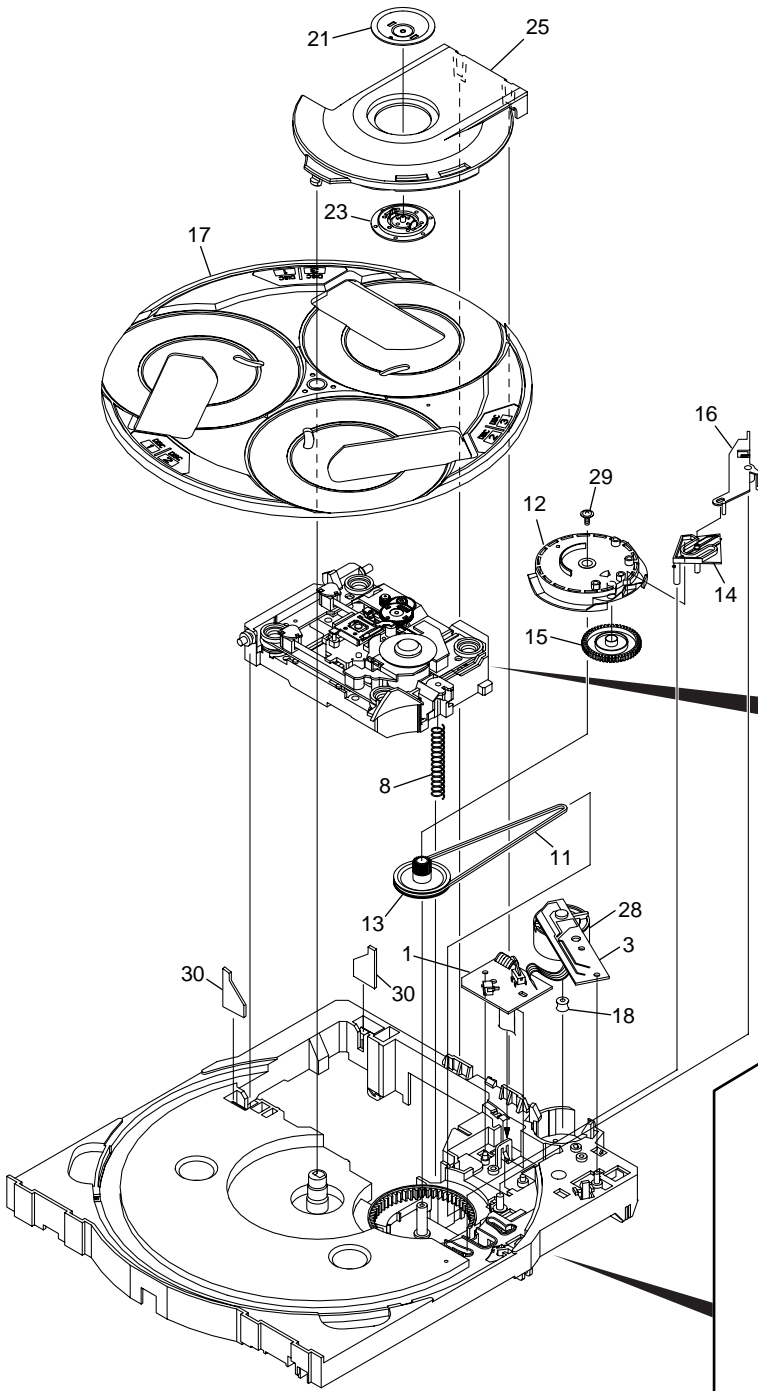




● DECK MECHANISM UNIT PARTS LIST

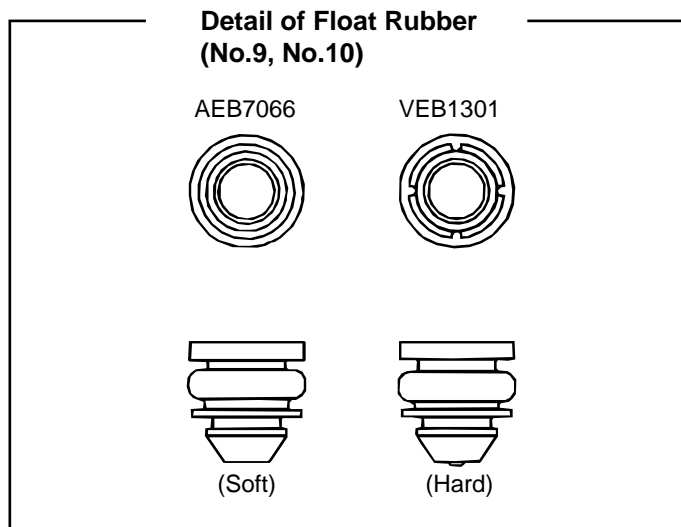
Mark	No.	Description	Part No.
	1	Plate HD BLK (Mech. I)	F513-846
	2	Plate HD BLK (Mech. II)	F513-847
	3	Motor Main BLK (Mech. II only)	F525-329
	4	PCB Control BLK	F567-630
	5	Clutch Assy BLK	F522-049
	6	Main Belt	FF19N-11
	7	Joint Belt 113 (Mech. II only)	FF19P-11
	8	Clutch Assy BLK (Mech. I)	FR25B-11
	8	Clutch Assy BLK (Mech. II)	FR24Y-11
	9	Roller Pinch BLK R	F514-129
	10	Roller Pinch BLK L	F514-130
	11	F/R Belt	FF19S-11
	12	Plate Base BLK	F512-127
	13	Plate Base BLK	F512-128

2.5 \$M DVD MECHA UNIT



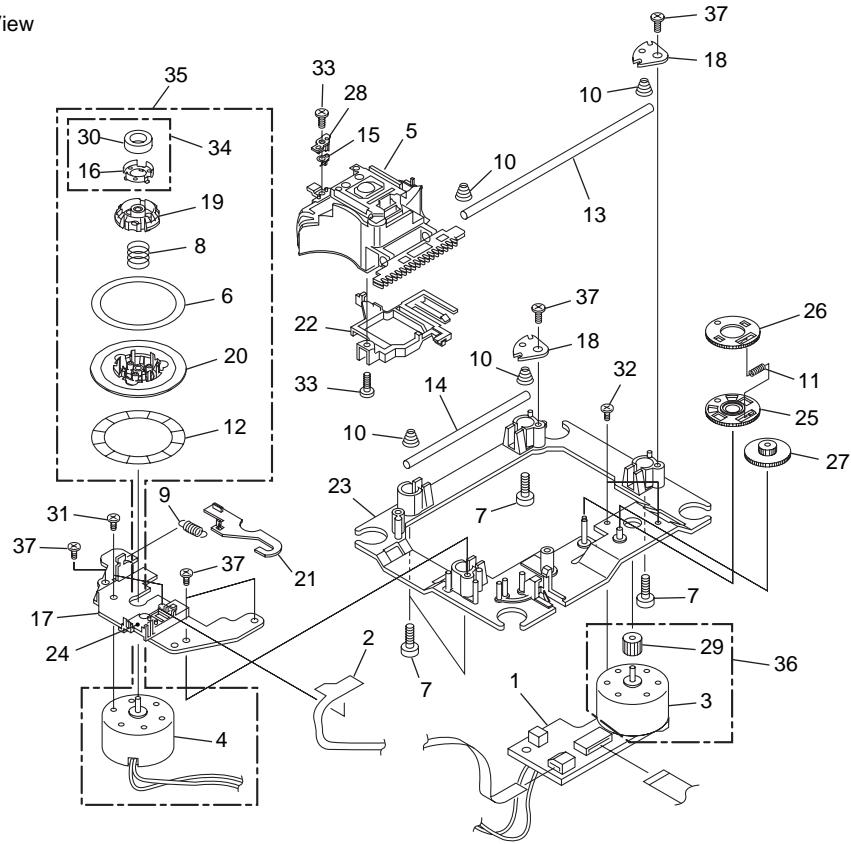
● \$M DVD MECHA UNIT PARTS LIST

Mark	No.	Description	Part No.
NSP	1	SW Assy	VWG2002
NSP	2	TRADE Assy	VWG2003
NSP	3	MOTOR Assy	VWG2004
	4	TRAVERSE Mechanism Assy-S	VXX2653
	5	Flexible Cable (8P) (TRADE CN9001 ↔ SMEB CN202)	VDA1715
	6	Flexible Cable (13P) (TRADE CN9002 ↔ DVDM CN3)	ADD7199
	7	Flexible Cable (24P) (Pickup Assy ↔ DVDM CN4)	ADD7198
	8	Servo Spring	ABH7126
	9	Float Rubber C	VEB1301
	10	Float Rubber B	AEB7066
	11	Belt	AEB7072
	12	Main Cam	ANW7093
	13	Gear Pulley	ANW7094
	14	Lock Lever	ANW7095
	15	Planet Gear	ANW7096
	16	Actuator	ANW7097
	17	Rotary Tray	ANW7113
	18	Motor Pulley	PNW1634
	19	•••••	
	20	•••••	
	21	Clamper Plate	VNE2162
	22	Mecha Base	XNW3011
	23	Clamper	VNL1738
	24	FFC Holder	VNL1803
	25	Clamper Holder	VNL1804
	26	Loading Tray	XNW3002
	27	Servo Base	XNW3010
	28	Slider Motor (LOADING)	VXM1033
	29	Screw	IPZ30P080FMC
	30	Shaft Press Rubber	VEB1300



2.6 TRAVERSE MECHANISM ASSY-S

● Top View



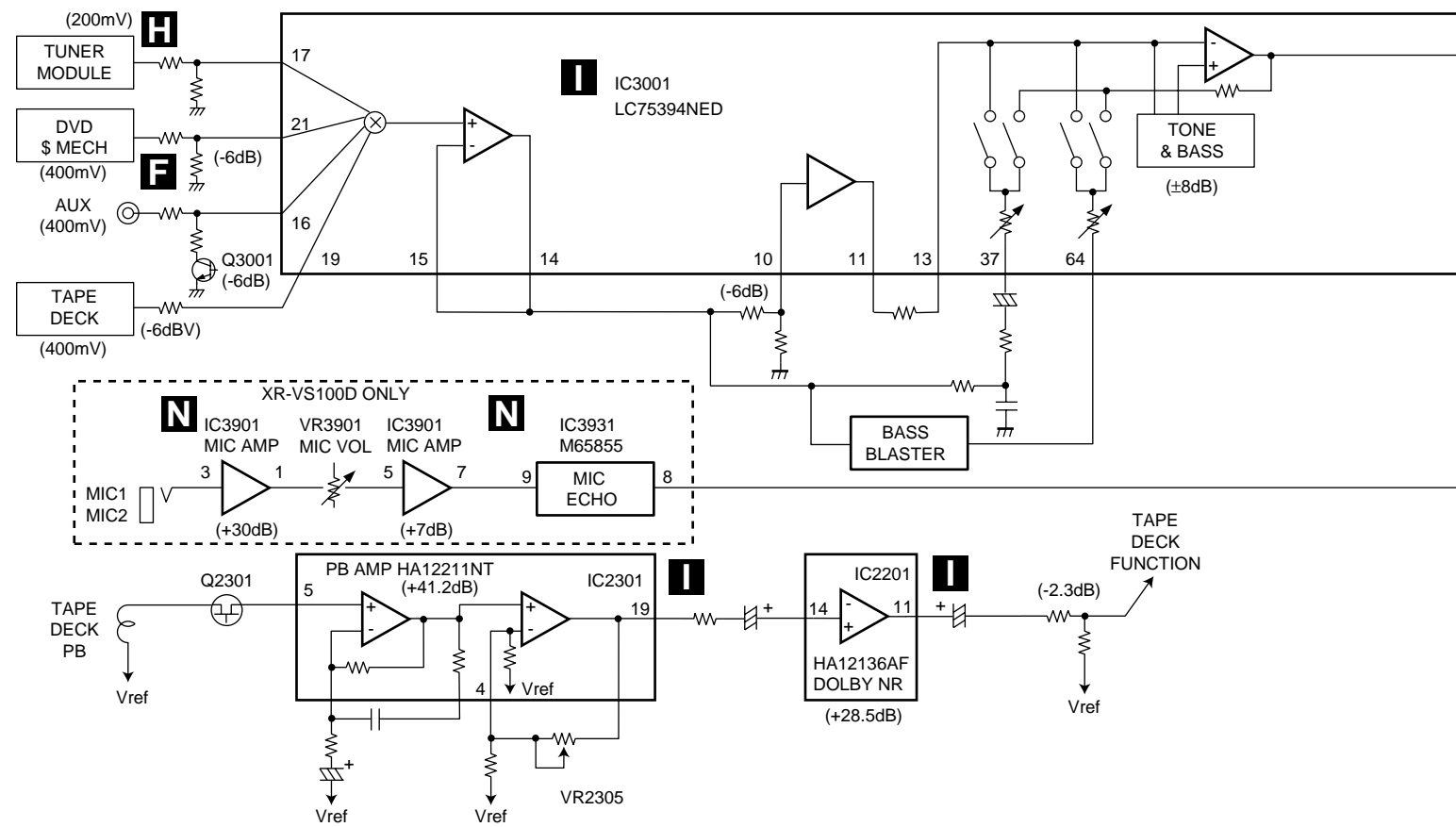
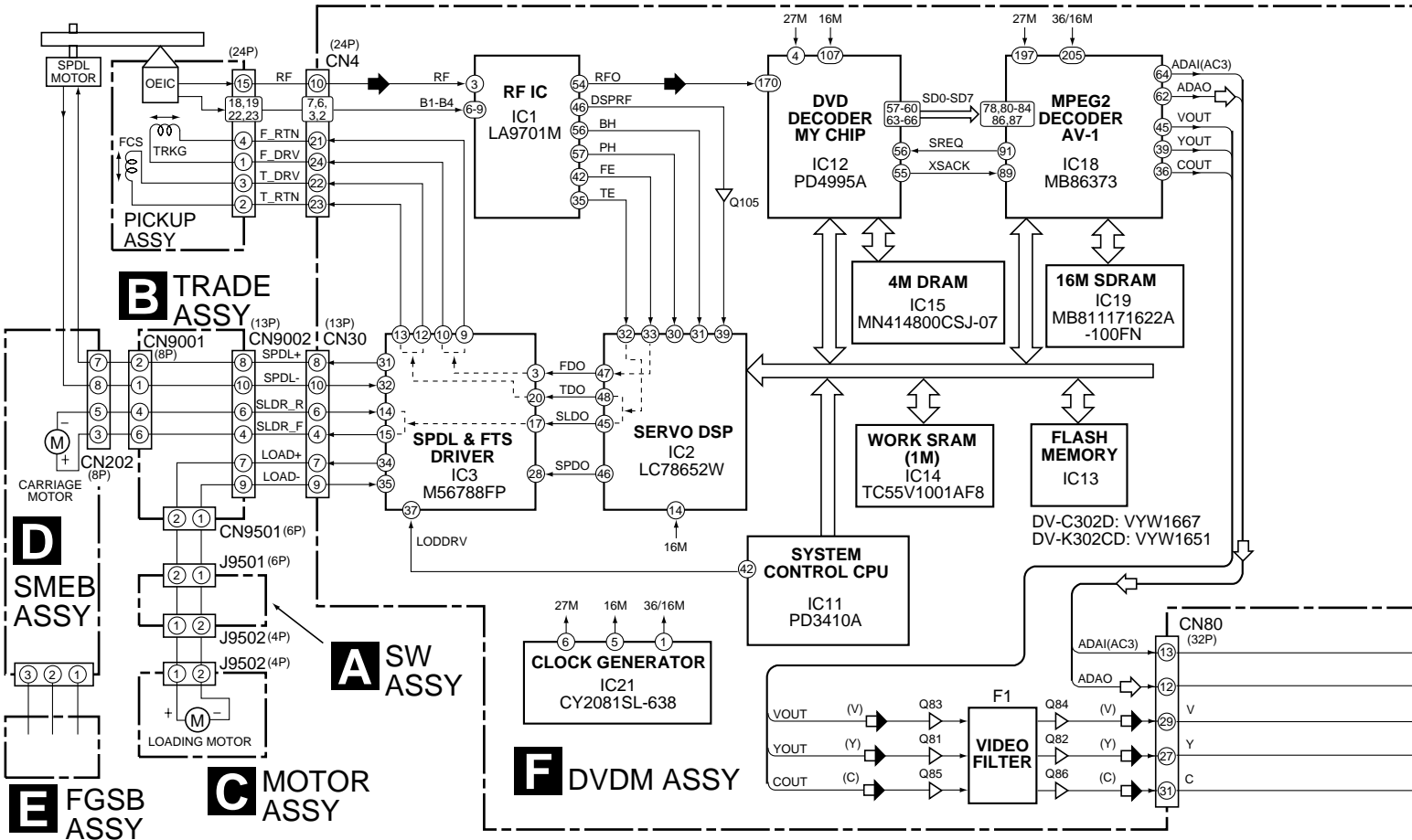
● TRAVERSE MECHANISM ASSY-S PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	SMEB Assy	VWG2048		21	Hook	VNL1770
NSP	2	FGSB Assy	VWG2009		22	FFC Holder	VNL1802
NSP	3	Motor	VXM1079		23	Mechanism Base	VNL1806
NSP	4	Motor	VXM1078		24	FG Holder	VNL1807
NSP	△ 5	Pickup Assy	VWY1055		25	Gear A	VNL1808
	6	Table Sheet	DEC2040		26	Gear B	VNL1809
	7	Screw	VBA1058		27	Gear C	VNL1810
	8	Centering Spring	VBH1278		28	Slider	VNL1811
	9	Hook Spring	VBH1317		29	Gear D	VNL1814
	10	Skew Spring	VBH1303	NSP	30	Magnet	VYM1024
	11	Gear Spring	VBH1308		31	Screw	JFZ17P025FZK
NSP	12	Reflected Sheet	VEC1959		32	Screw	JGZ17P028FMC
	13	Guide Bar	VLL1504		33	Screw	VBA1051
	14	Sub-guide Bar	VLL1505		34	Magnet Holder Assy	VXX2507
	15	Hold Spring	VNC1017		35	Spindle Motor Assy	VXX2649
NSP	16	Magnet Holder	VNE2070		36	Carriage Motor Assy	VXX2650
NSP	17	Motor Base	VNE2154	NSP	37	Screw	PBA1069
NSP	18	Cover	VNE2155				
NSP	19	Centering Ring	VNL1746				
NSP	20	Disc Table	VNL1747				

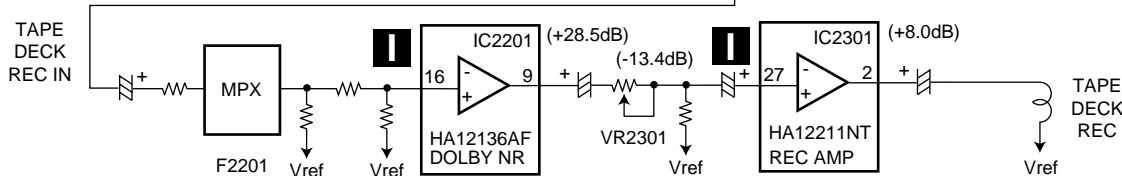
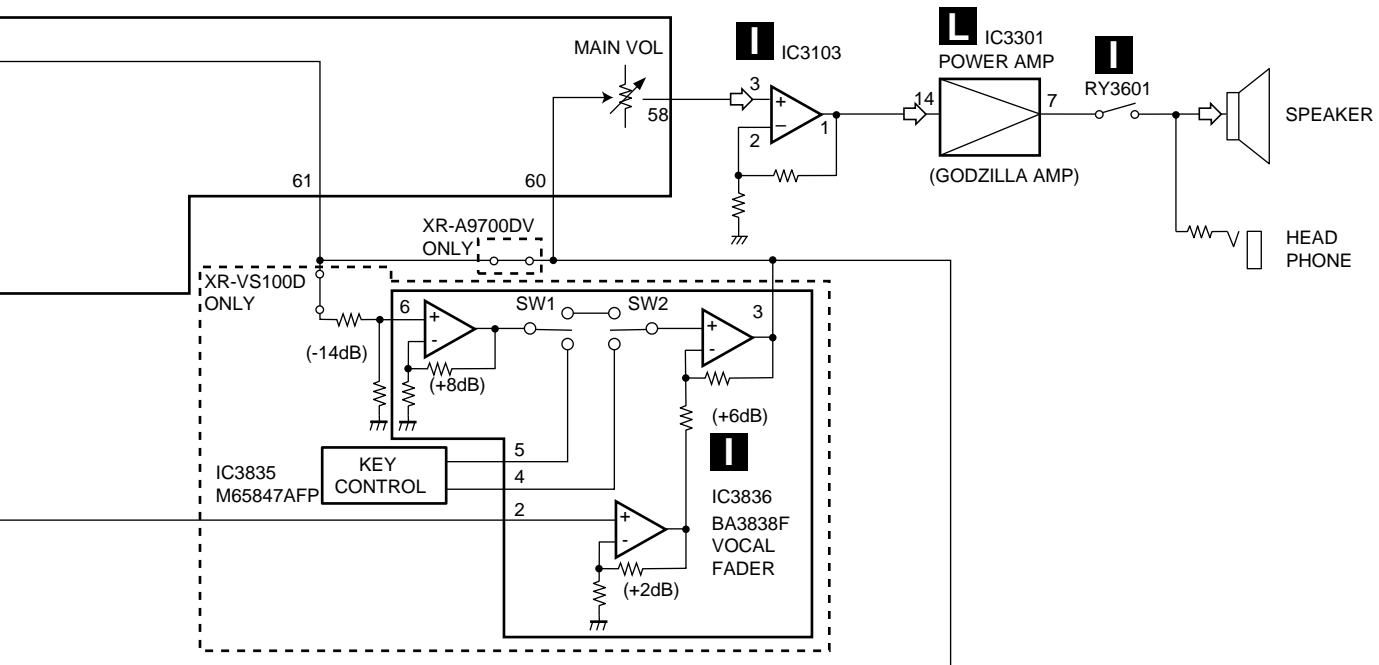
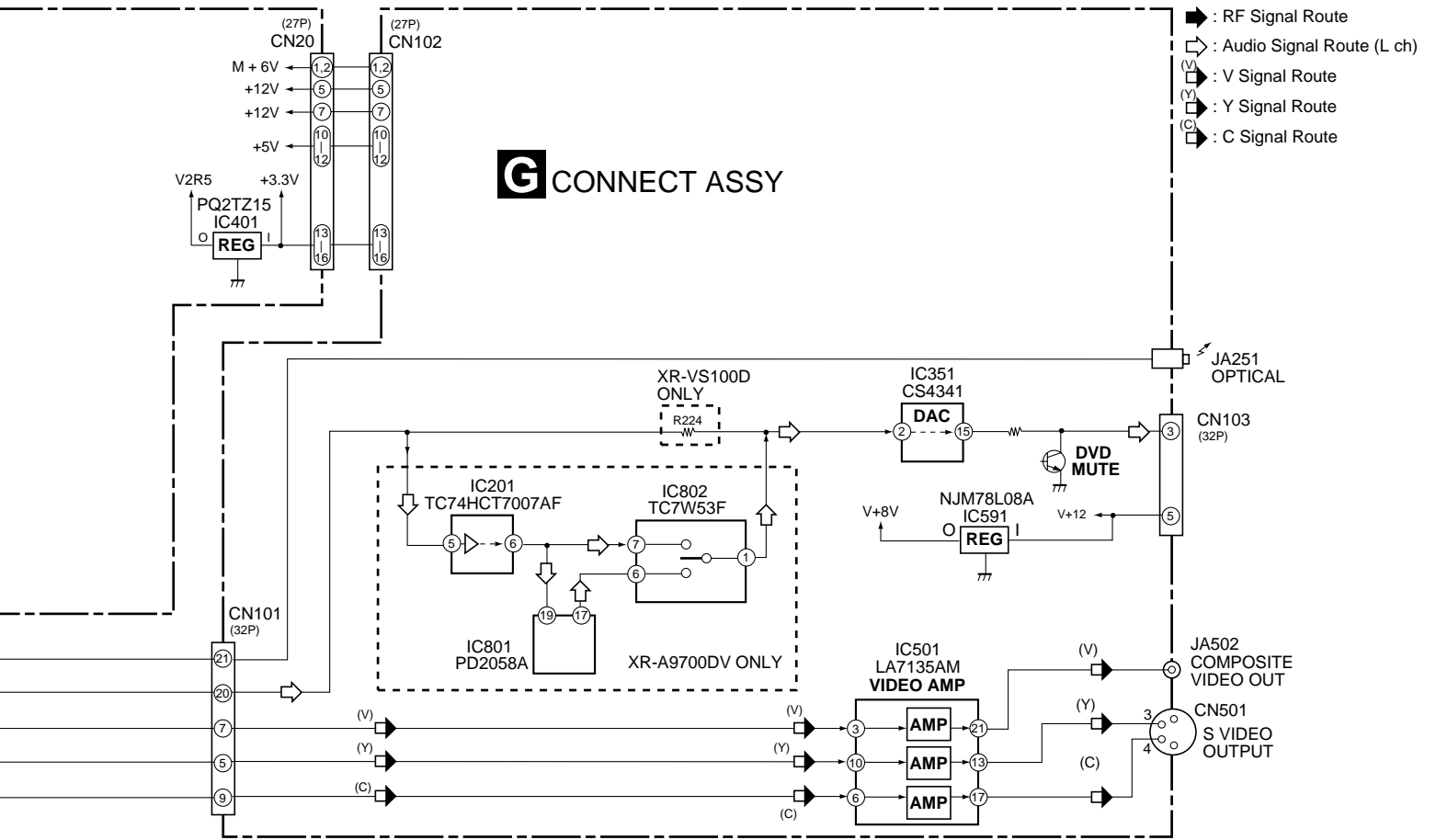


### 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

#### 3.1 BLOCK DIAGRAM

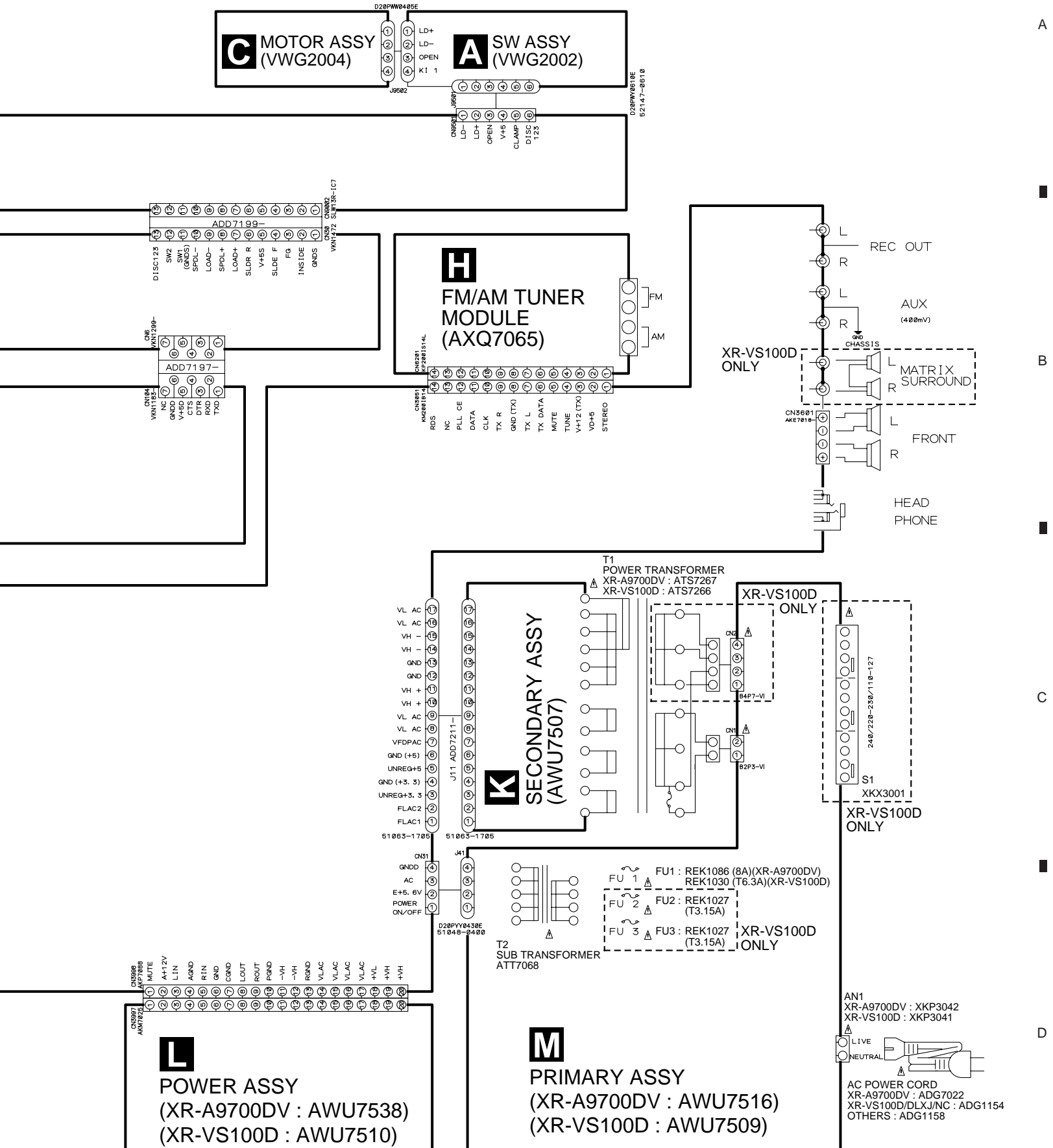






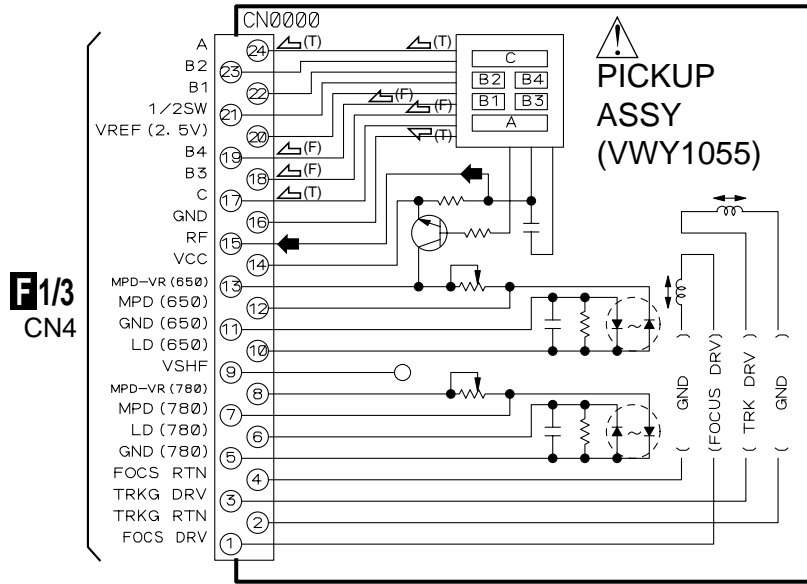


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



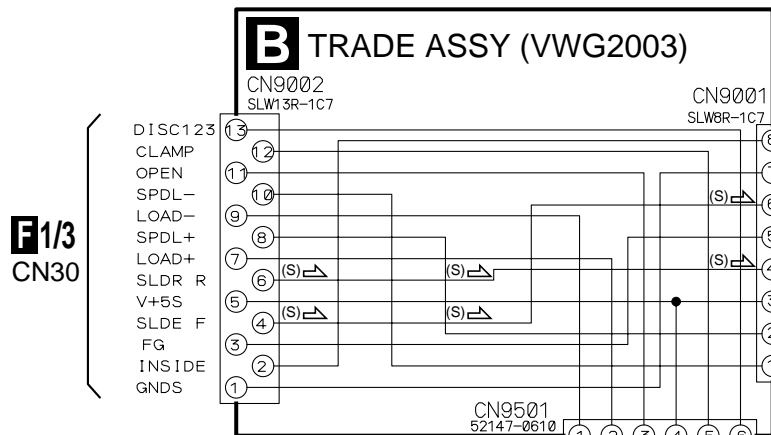
3.3 SW, TRADE, MOTOR, SMEB and FGSB ASSYS

A



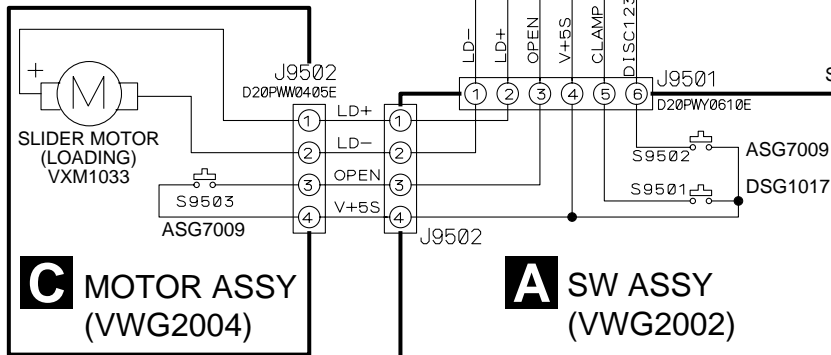
F1/3  
CN4

B

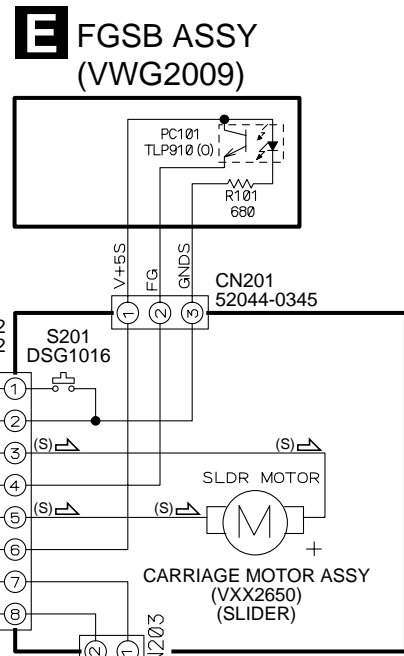


F1/3  
CN30

C



D



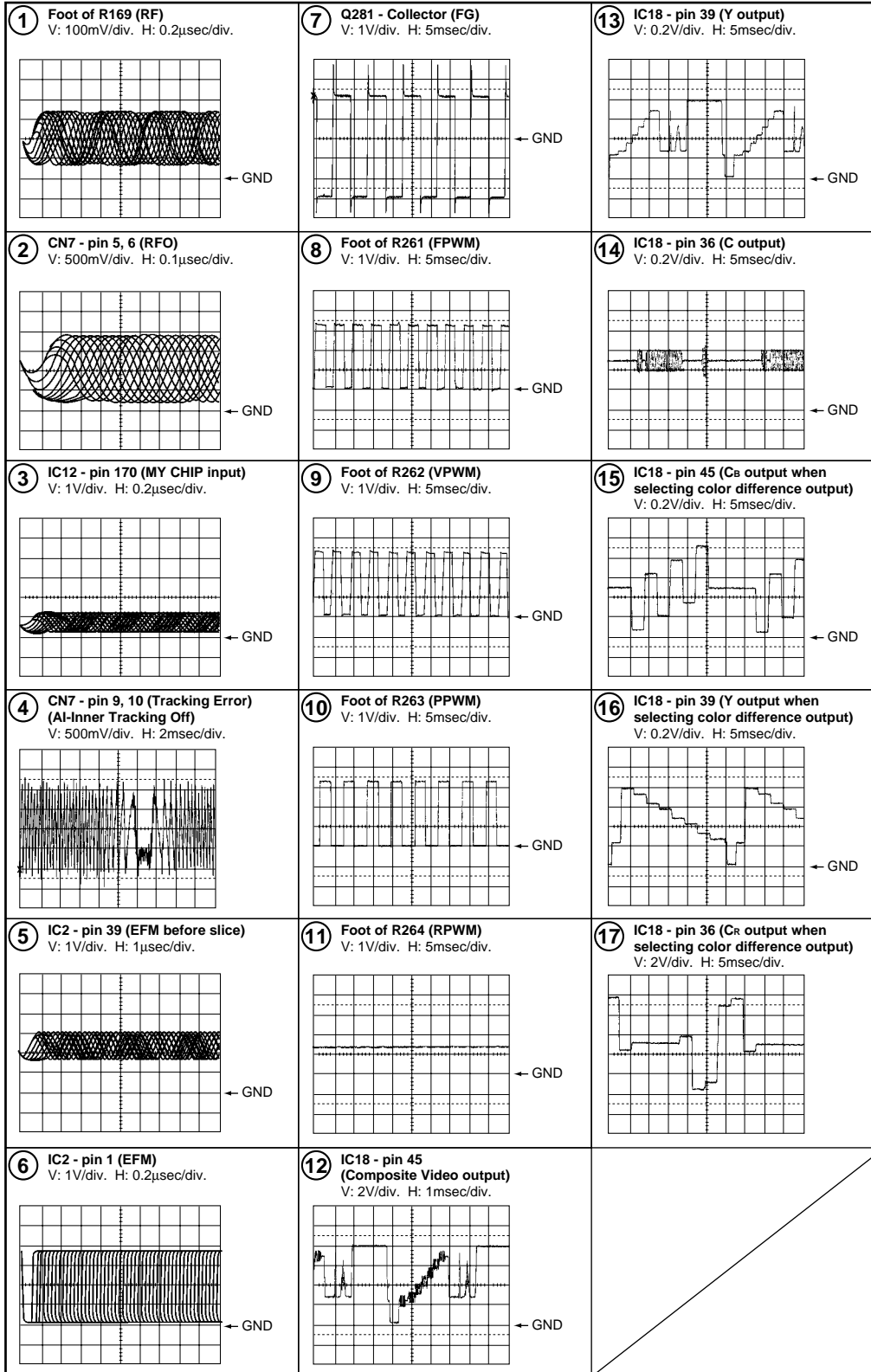
**D** SMEB ASSY (VWG2048)

**SPINDLE MOTOR ASSY (VXX2649)**

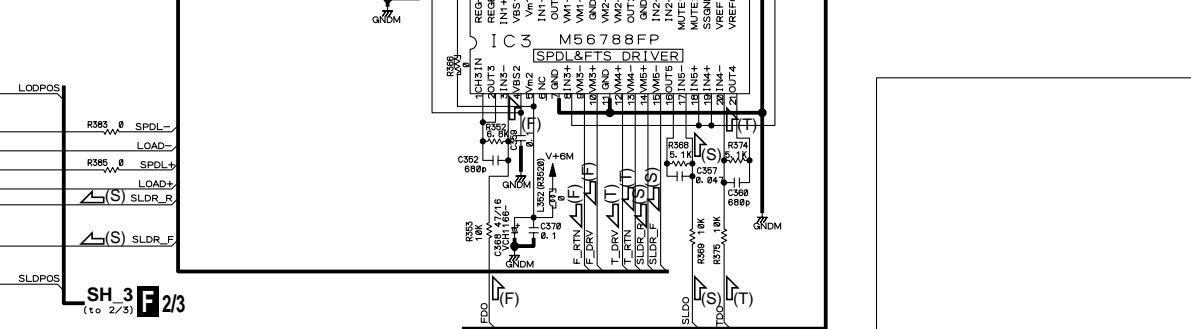
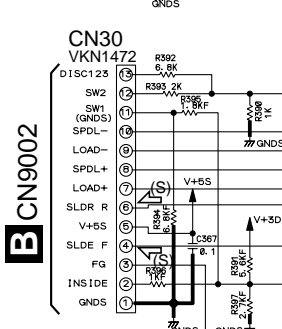
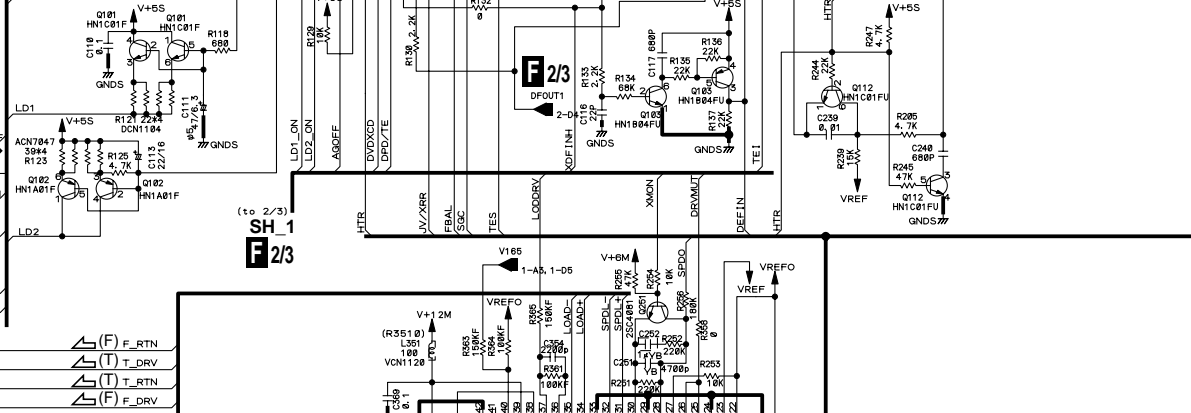
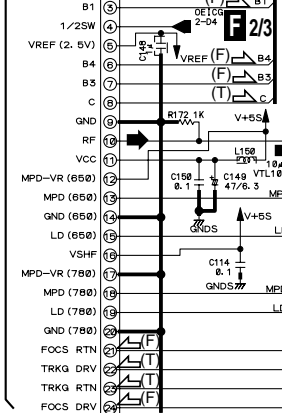
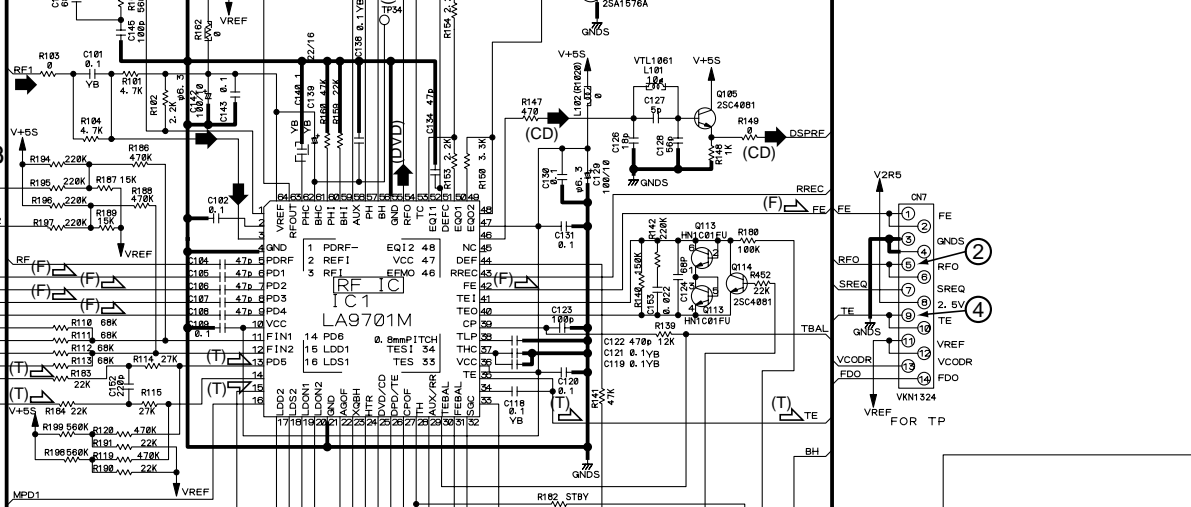
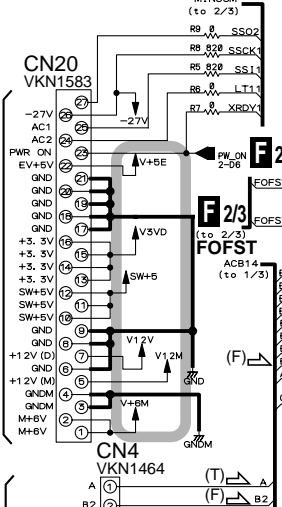
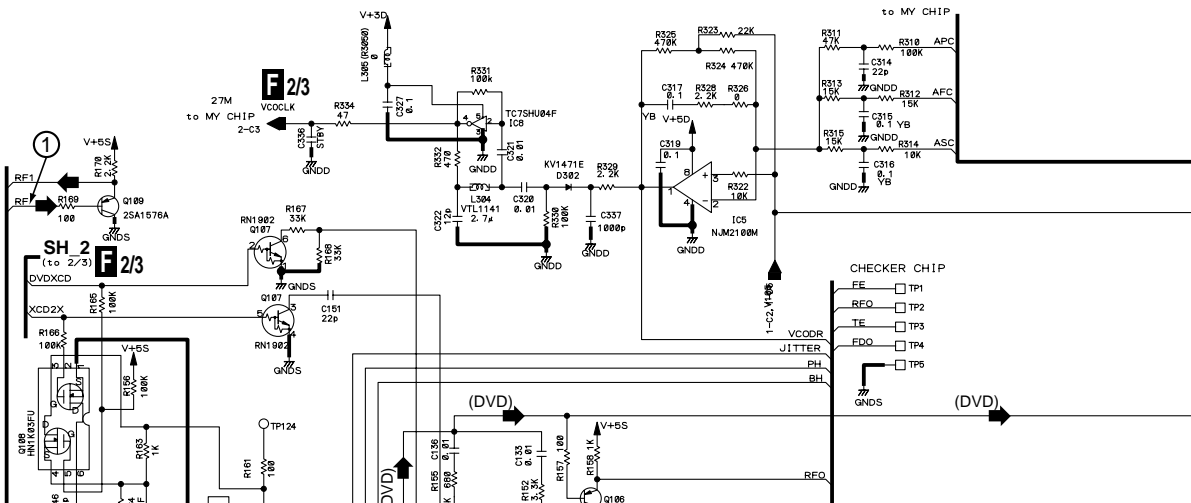
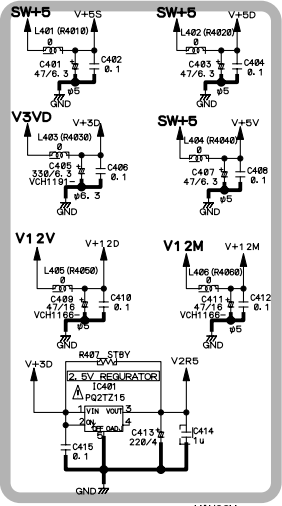
**WAVEFORMS for DVDM ASSY**

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

Measurement condition : No. 1 to 4 and 6 to 11 : Disc MA1, Title 1-chp 1  
 No. 5 : CD, ABEX-784 Track 1  
 No. 12 to 14 : MJK1, Title 1-chp 4  
 No. 15 to 17 : MJK1, Title 1-chp 5



3.4 DVDM ASSY (1/3)



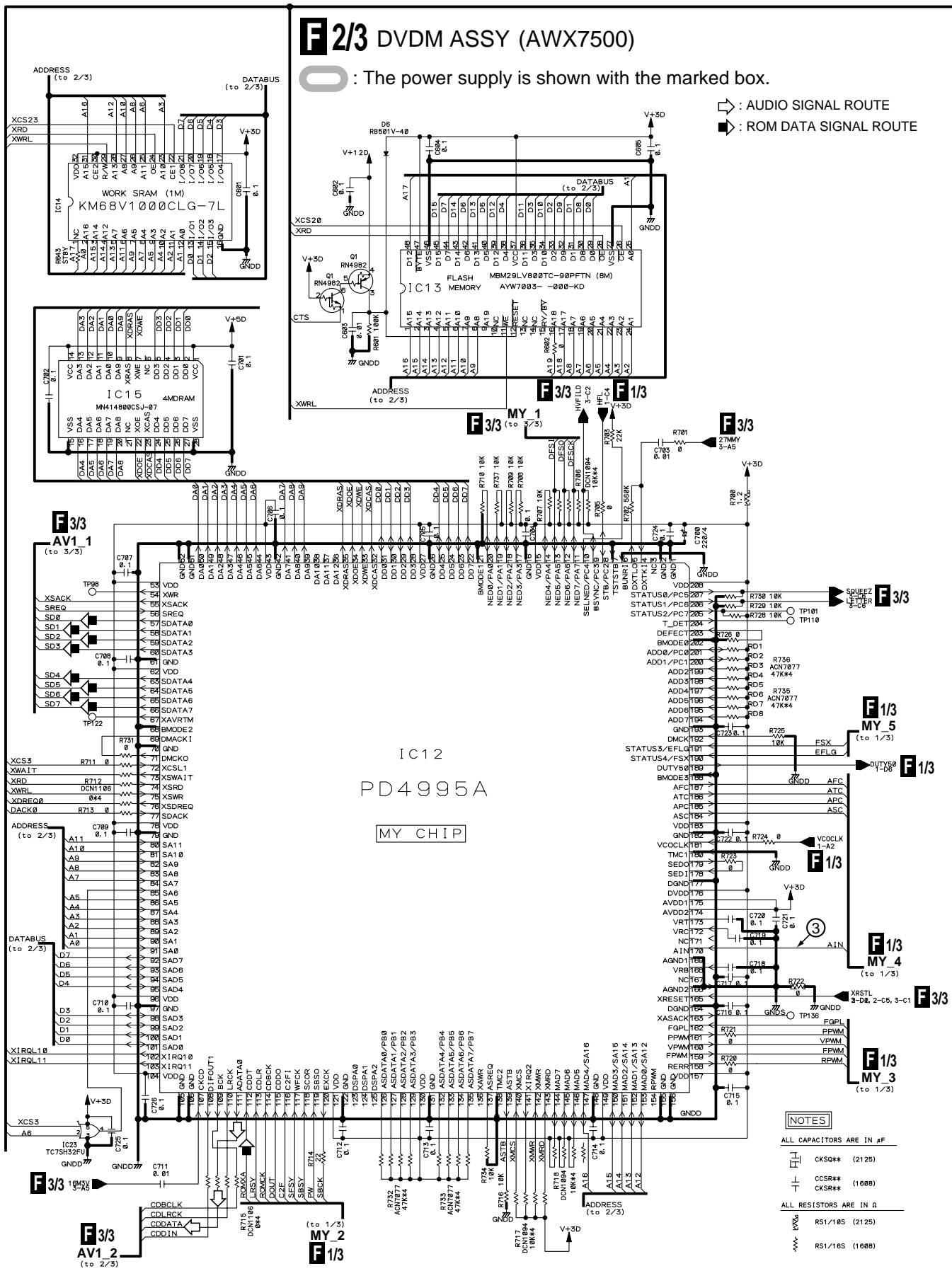


3.5 DVDM ASSY (2/3)

2/3 DVDM ASSY (AWX7500)

The power supply is shown with the marked box.

AUDIO SIGNAL ROUTE
ROM DATA SIGNAL ROUTE



- NOTES
ALL CAPACITORS ARE IN nF
CKS0\*\* (2125)
CCSR\*\* (1688)
CKSR\*\*
ALL RESISTORS ARE IN Ohm
RS1/18S (2125)
RS1/18S (1688)





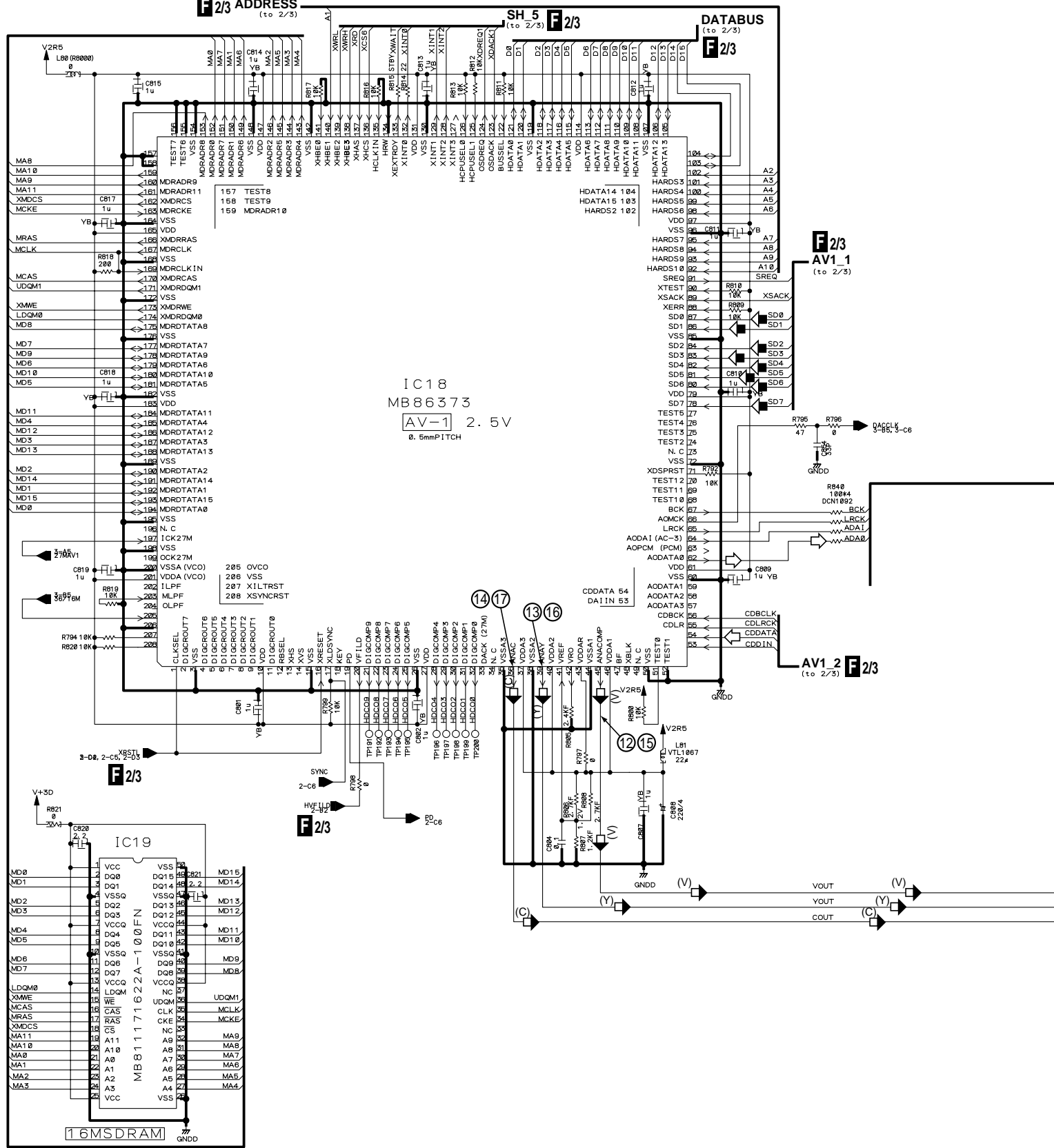
**3.6 DVDM ASSY (3/3)**

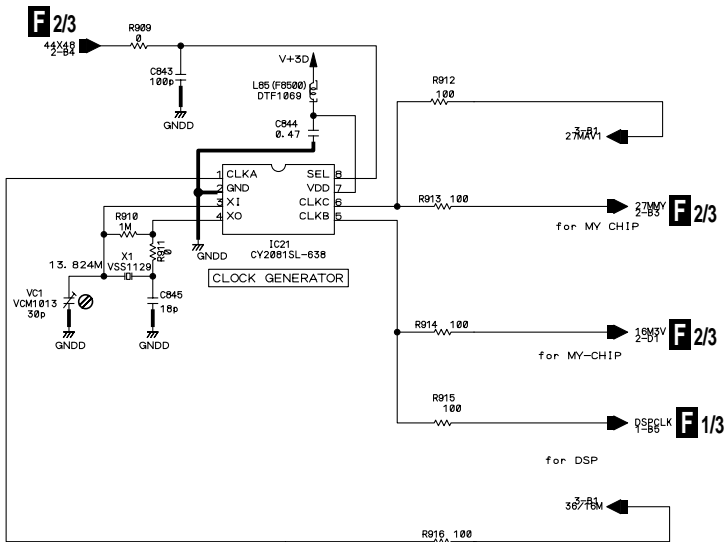
**F 3/3 DVDM ASSY (AWX7500)**

**F 2/3 ADDRESS**  
 (to 2/3)

**SH 5 F 2/3**  
 (to 2/3)

**DATABUS F 2/3**  
 (to 2/3)

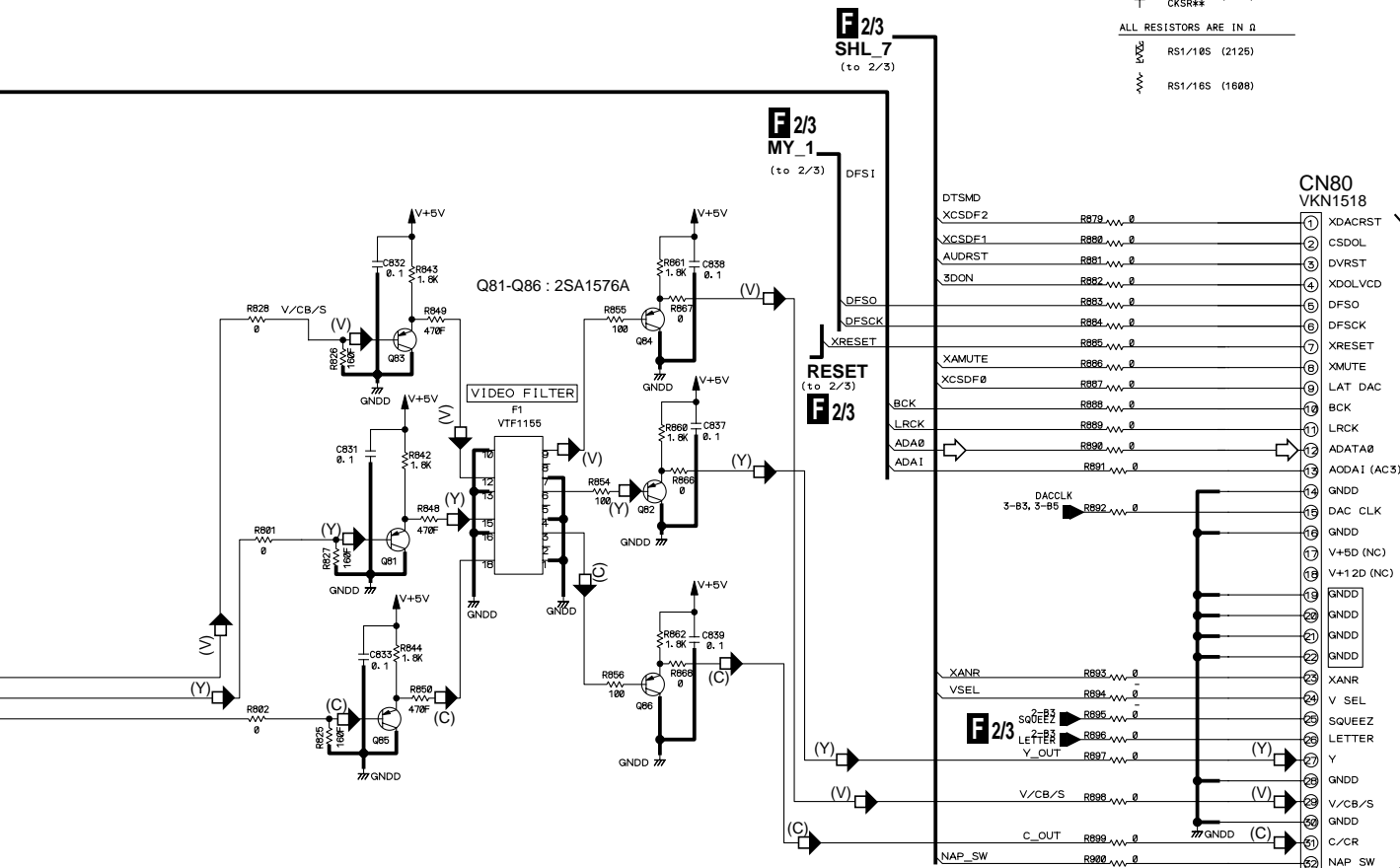




- ◁ : AUDIO SIGNAL ROUTE
- ▷ : ROM DATA SIGNAL ROUTE
- (V) : V SIGNAL ROUTE
- (Y) : Y SIGNAL ROUTE
- (C) : C SIGNAL ROUTE

NOTES

- ALL CAPACITORS ARE IN  $\mu$ F
- CK50\*\* (2125)
  - ⊕ CCSR\*\* (1608)
  - ⊕ CKSR\*\* (1608)
- ALL RESISTORS ARE IN  $\Omega$
- ⊞ RS1/10S (2125)
  - ⊞ RS1/16S (1608)



- F 2/3 IR (to 2/3)
- SEL\_IR R901 0 — NO CONNECTION
  - IR R902 0 — NO CONNECTION

# XR-A9700DV, XR-VS100D

## 3.7 CONNECT ASSY

### **G** CONNECT ASSY (XR-A9700DV : AWX7499) (XR-VS100D : AWX7498)

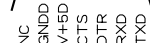
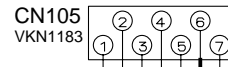
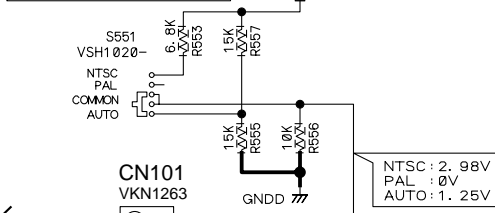
DOWN LOAD

**F 2/3** CN8

FOR DOWN LOAD

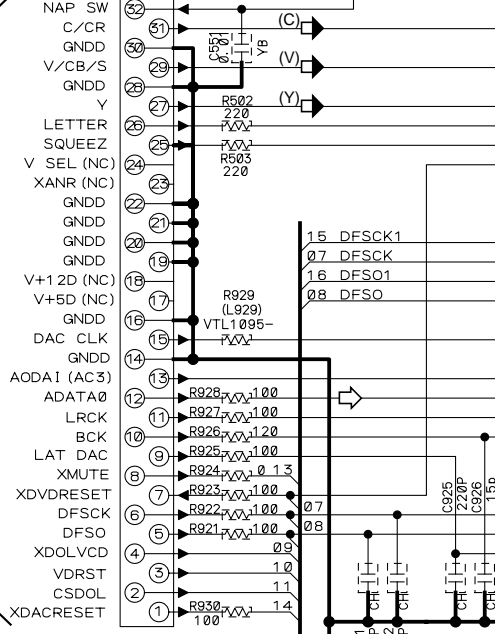
A

NTSC/PAL SW



B

**F 3/3** CN80



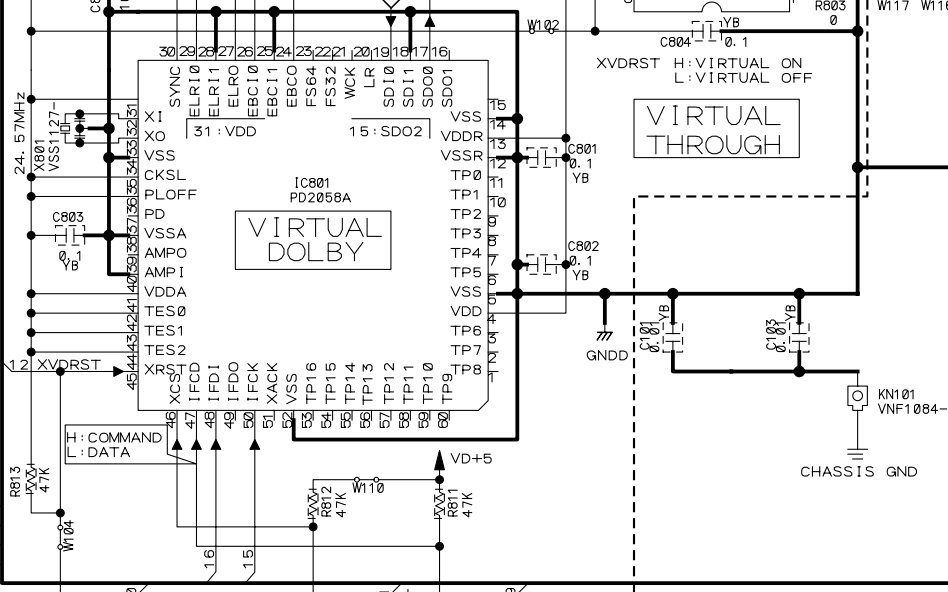
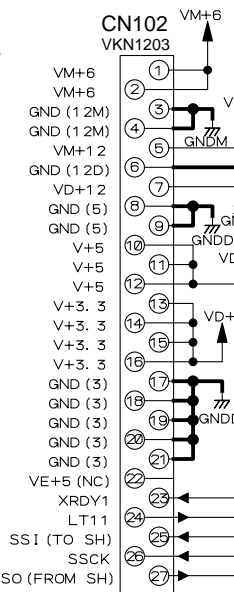
XR-VS100D ONLY

XR-A9700DV ONLY

XR-A9700DV ONLY

C

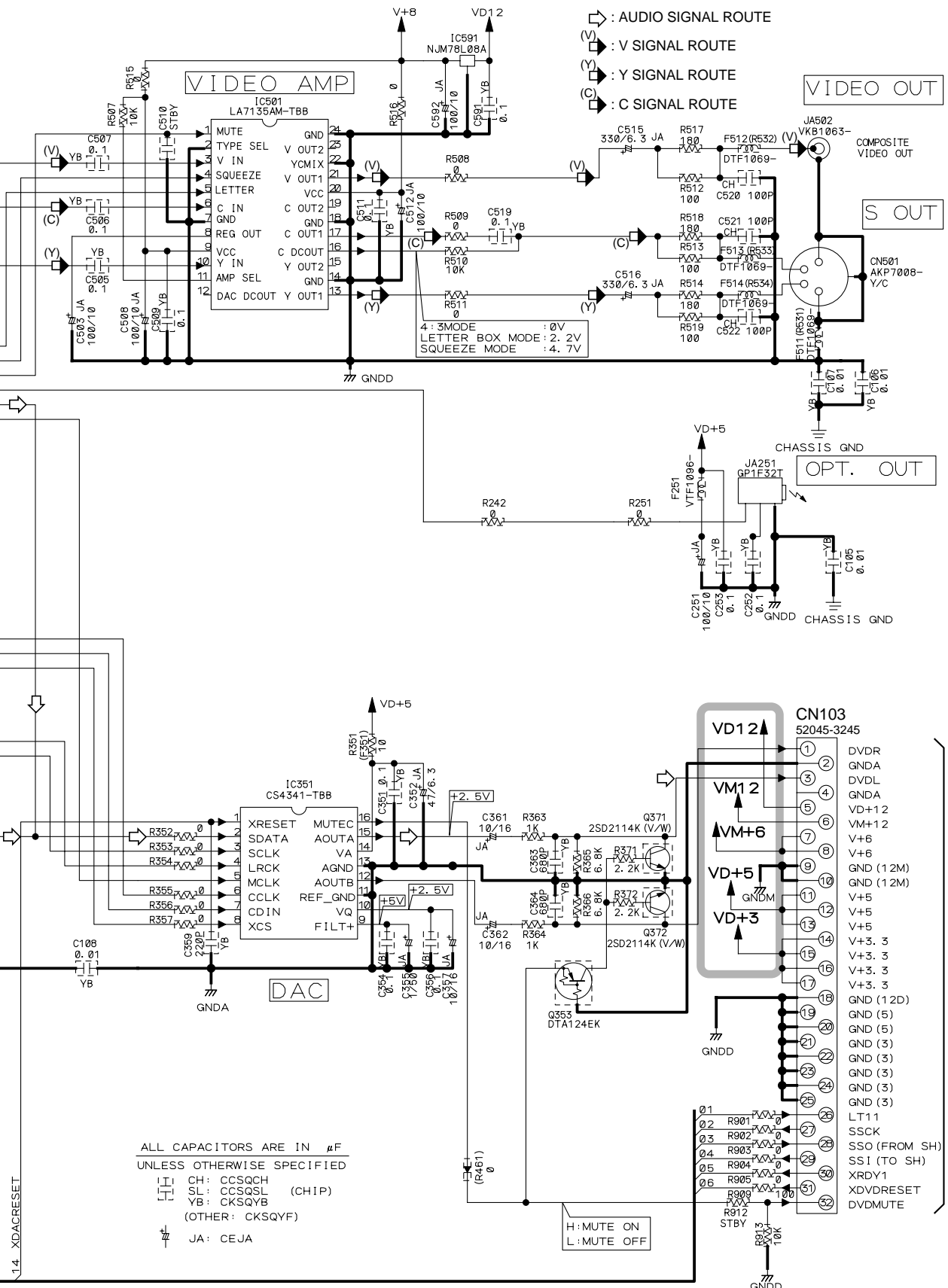
**F 1/3** CN20



NOTES

ALL RESISTORS ARE IN Ω  
1/10 W (CHIP)



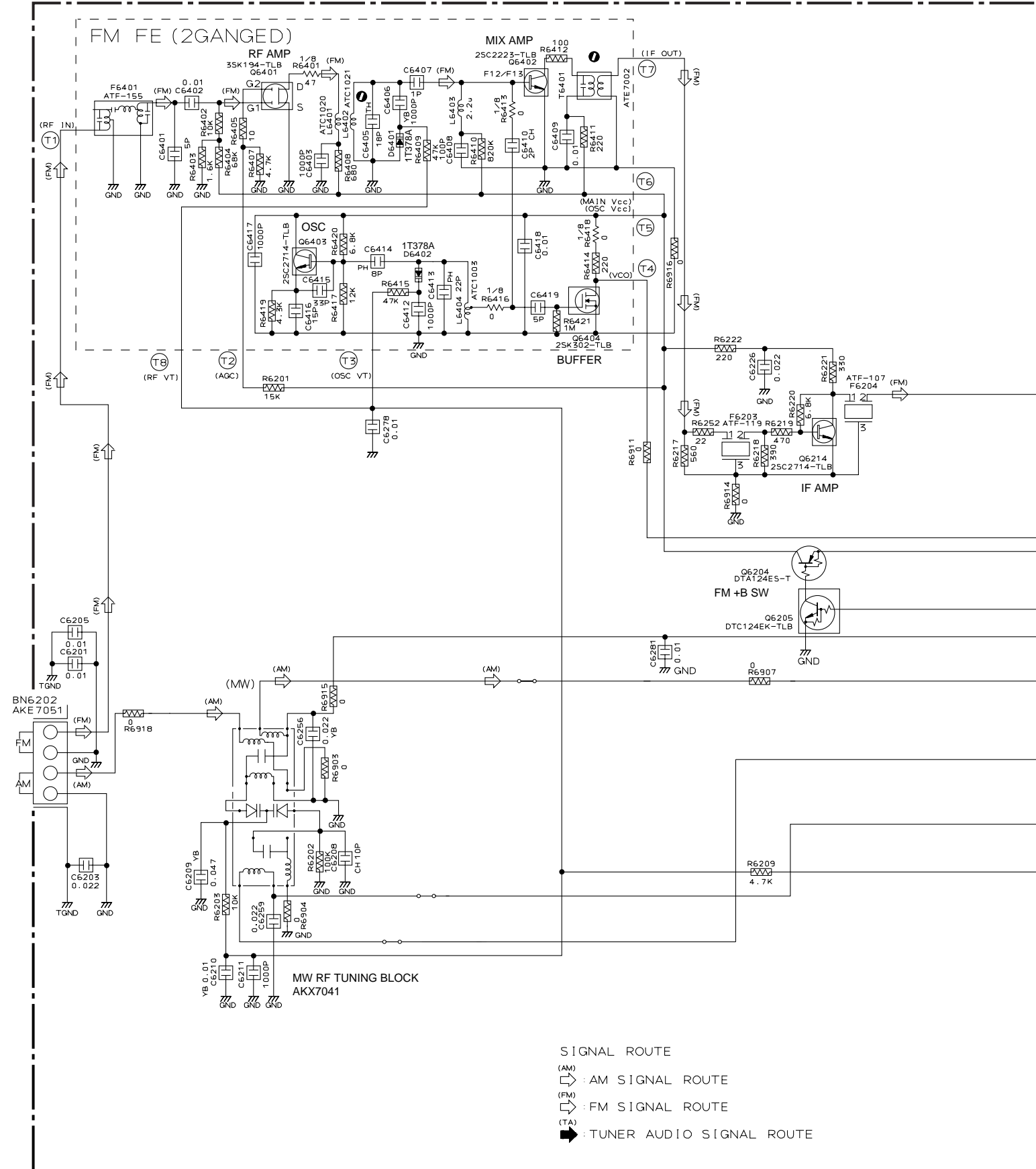


: The power supply is shown with the marked box.

2/3  
CN5104



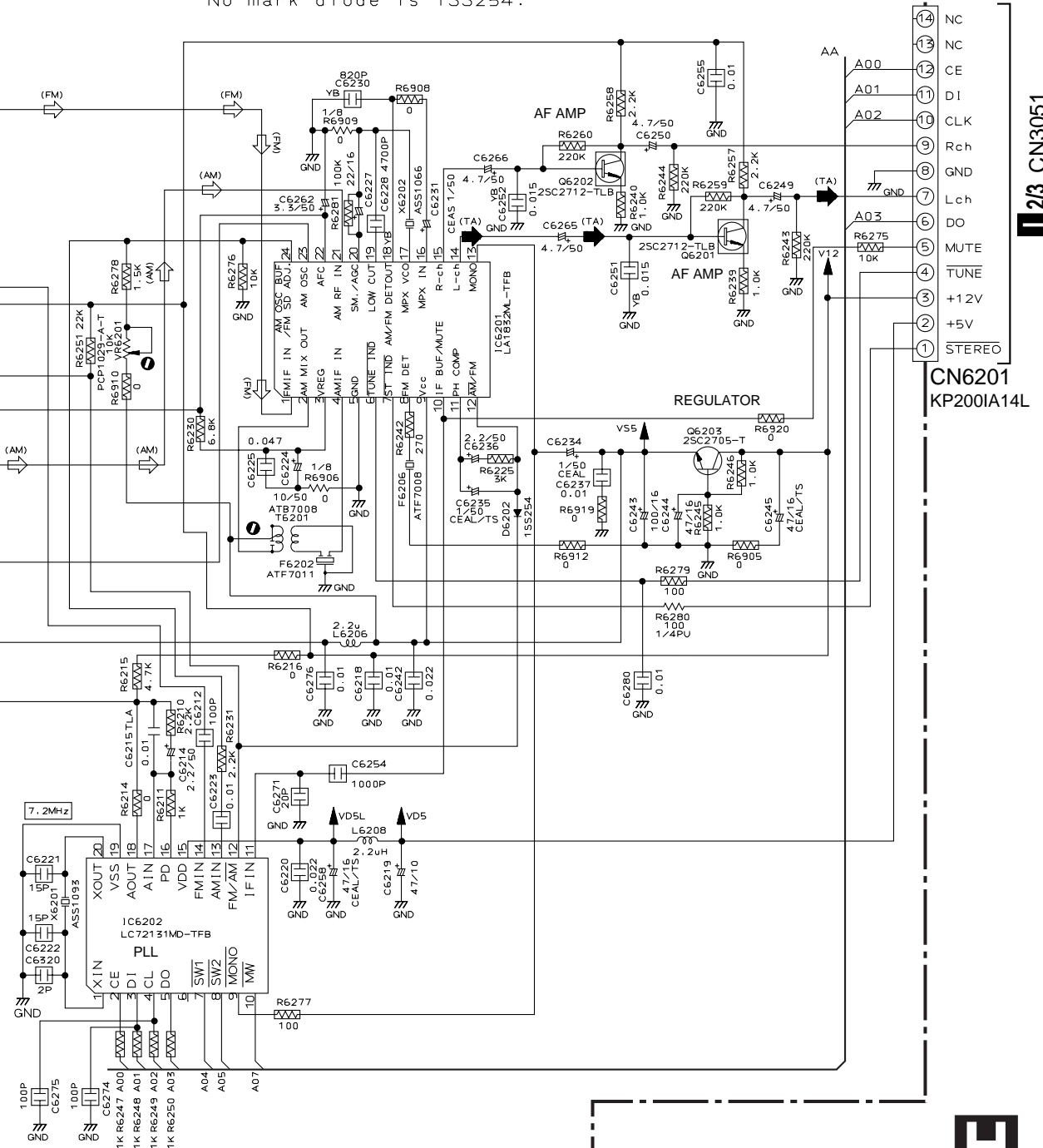
3.8 FM/AM TUNER MODULE



# FM/AM TUNER MODULE (AXQ7065)

## Notes

- RESISTORS**  
Indicated in  $\Omega$ ,  $1/10W \pm 5\%$  Tolerance unless otherwise noted K:K $\Omega$ , M:M $\Omega$ .
- CAPACITORS**  
Indicated in Capacity ( $\mu F$ )/VOLTAGE (V) unless otherwise noted P:PF.
- DIODES**  
No mark diode is 1SS254.



2/3 CN3051

CN6201  
KP200IA14L

**3.9 AF ASSY (1/3)**

**1/3 AF ASSY**  
 (XR-A9700DV : AWU7514)  
 (XR-VS100D : AWU7505)

(PB) : DECK PB SIGNAL ROUTE  
 (REC) : DECK REC SIGNAL ROUTE

**NOTES**

ALL CAPACITORS ARE IN  $\mu\text{F}$  UNLESS OTHERWISE SPECIFIED  
 HA : C0HA  
 TL : C6TLA  
 M : C0MBA  
 YB : C0KCYF  
 (OTHER : C0KCYF)

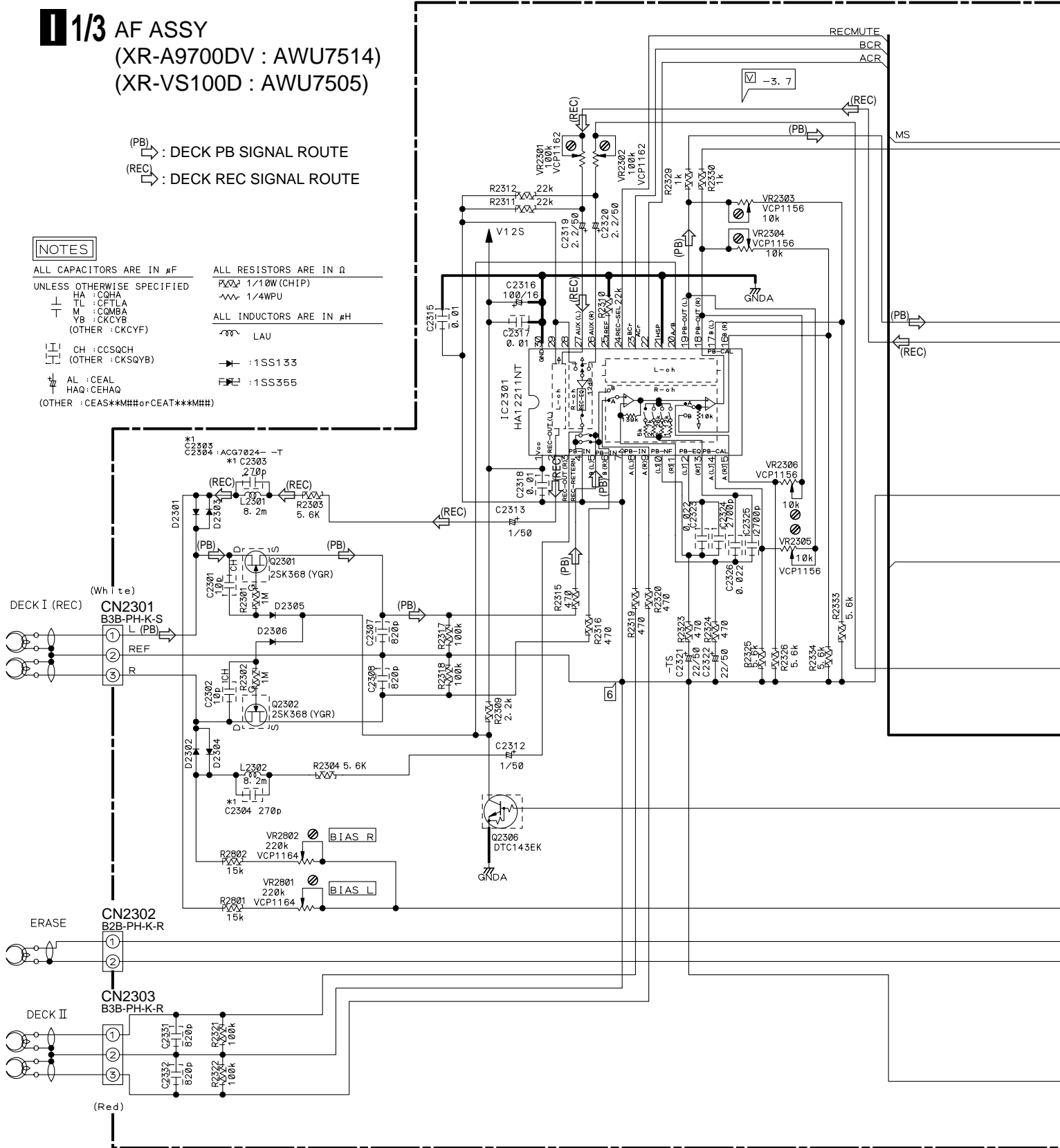
ALL RESISTORS ARE IN  $\Omega$  UNLESS OTHERWISE SPECIFIED  
 $\text{P}\Omega$  : 1/10W(CHIP)  
 $\text{W}$  : 1/4WPU

ALL INDUCTORS ARE IN  $\mu\text{H}$   
 LAU

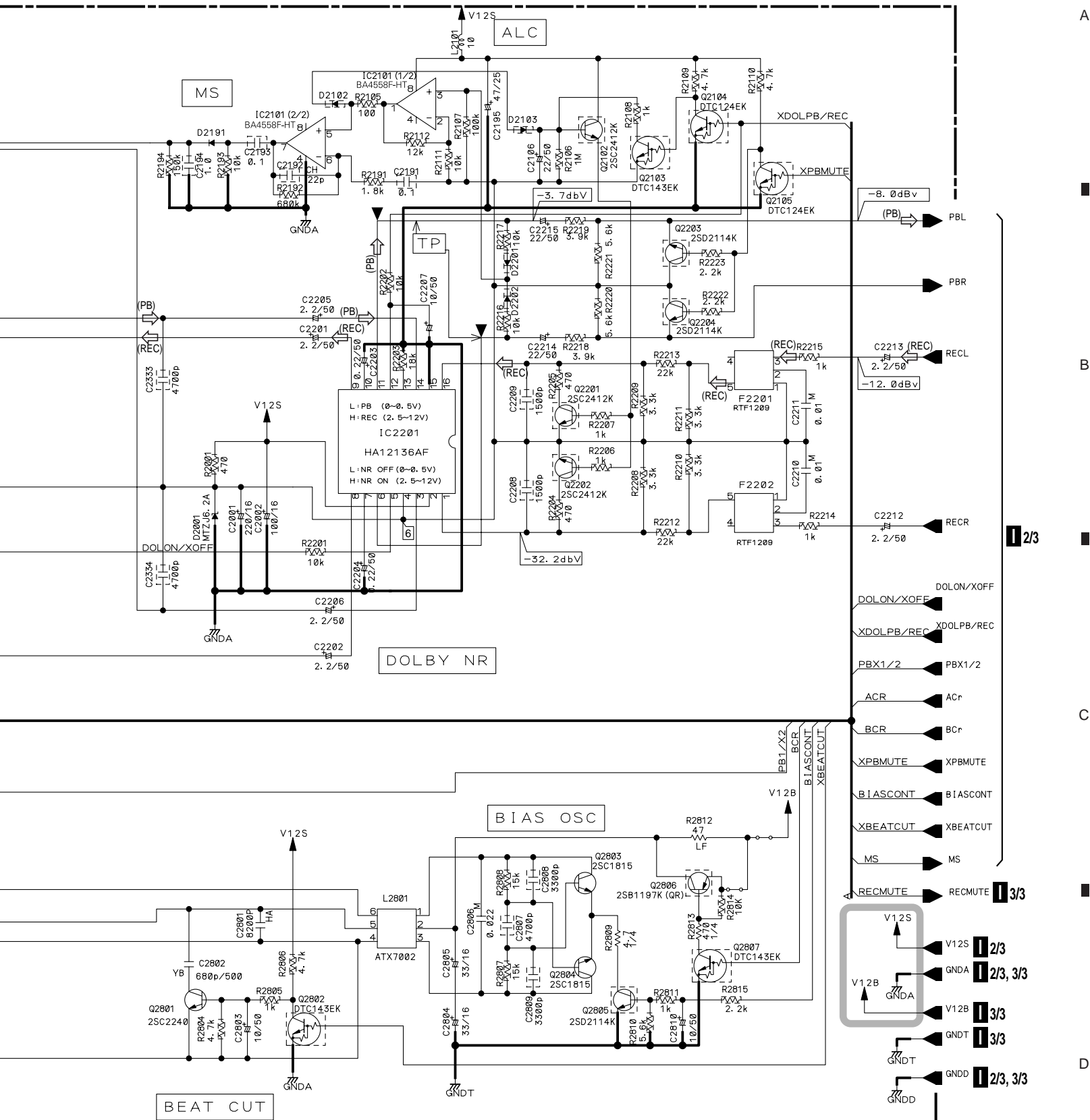
CH : C0CSQCH  
 (OTHER : C0KSQVB)


AL : CEAL  
 HAQ : CEHAQ  
 (OTHER : CEAS\*\*M# or CEAT\*\*M#)

1SS133  
 1SS355







 : The power supply is shown with the marked box.

# XR-A9700DV, XR-VS100D

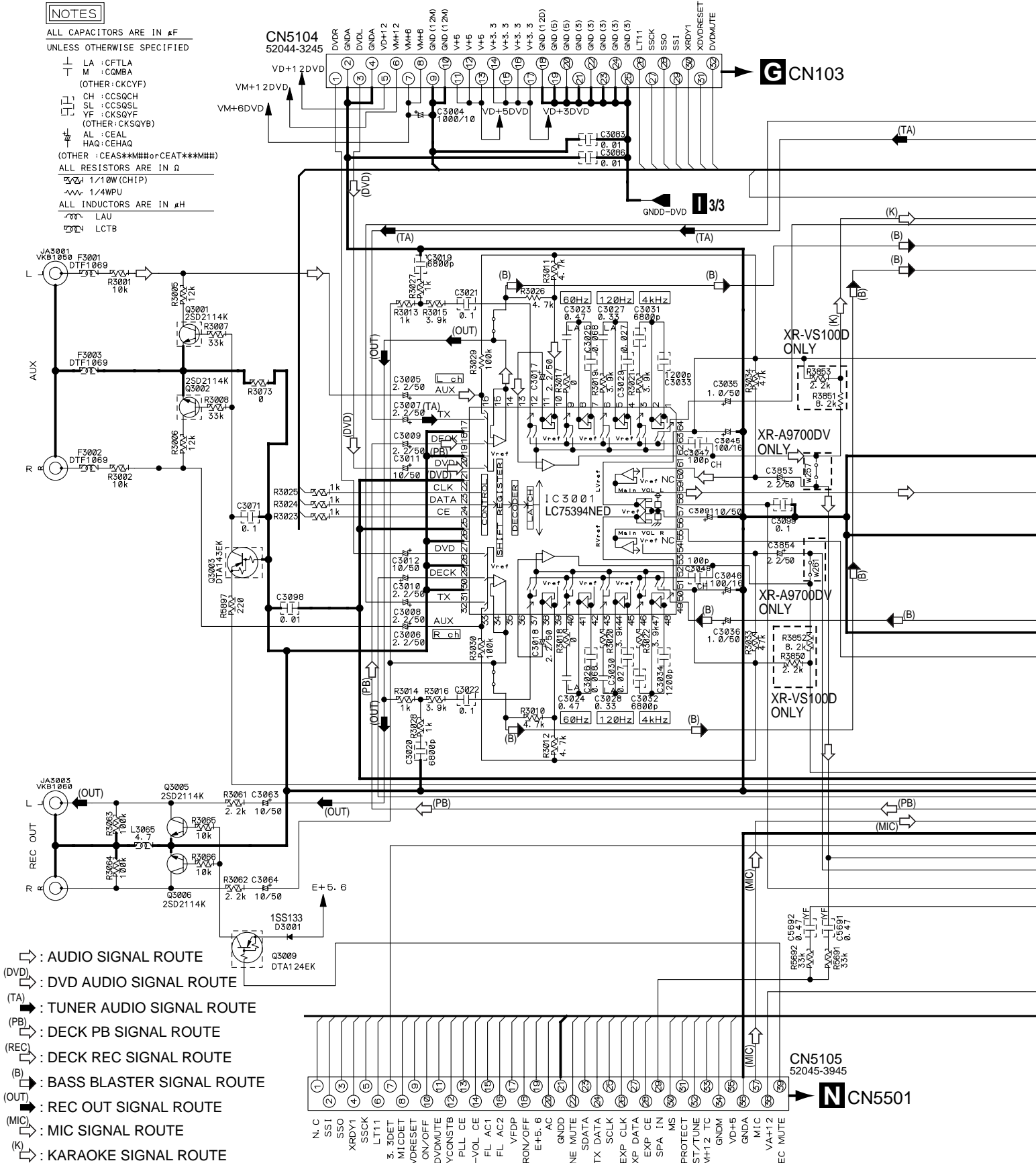
## 3.10 AF ASSY (2/3)

**2/3** AF ASSY (XR-A9700DV : AWU7514)  
(XR-VS100D : AWU7505)

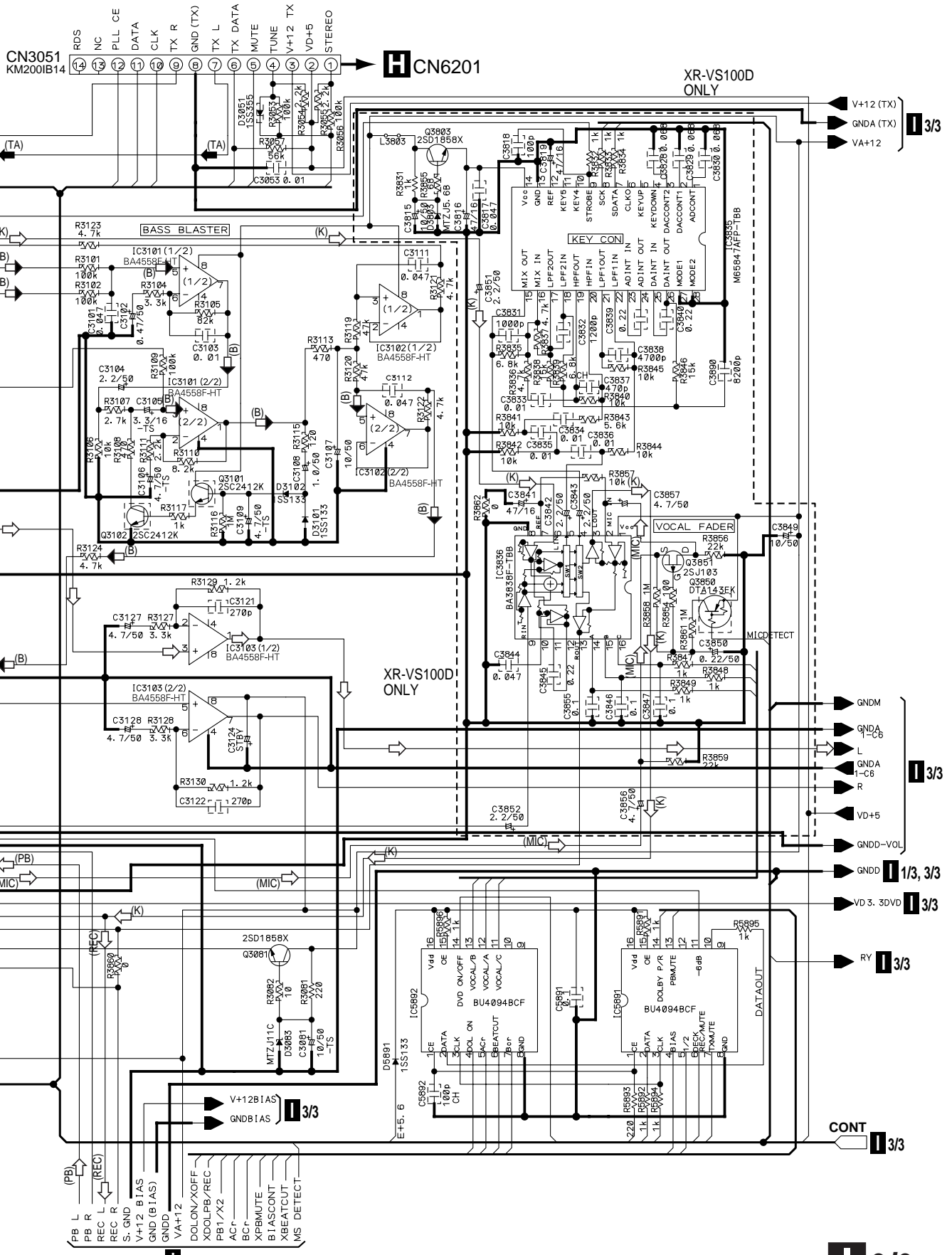
**NOTES**

ALL CAPACITORS ARE IN  $\mu$ F  
UNLESS OTHERWISE SPECIFIED

- LA : CFTLA  
M : COMBA  
(OTHER : CKCYF)
- CH : CCSQCH  
SL : CCSQSL  
VF : CKSQVF  
(OTHER : CKSQVB)
- AL : CEAL  
HAQ : CEHAQ  
(OTHER : CEAS\*MMH# or CEAT\*\*\*MMH#)
- ALL RESISTORS ARE IN  $\Omega$
- $\nabla$  1/10W (CHIP)
- $\sim$  1/4WPU
- ALL INDUCTORS ARE IN  $\mu$ H
- LAU
- LCTB



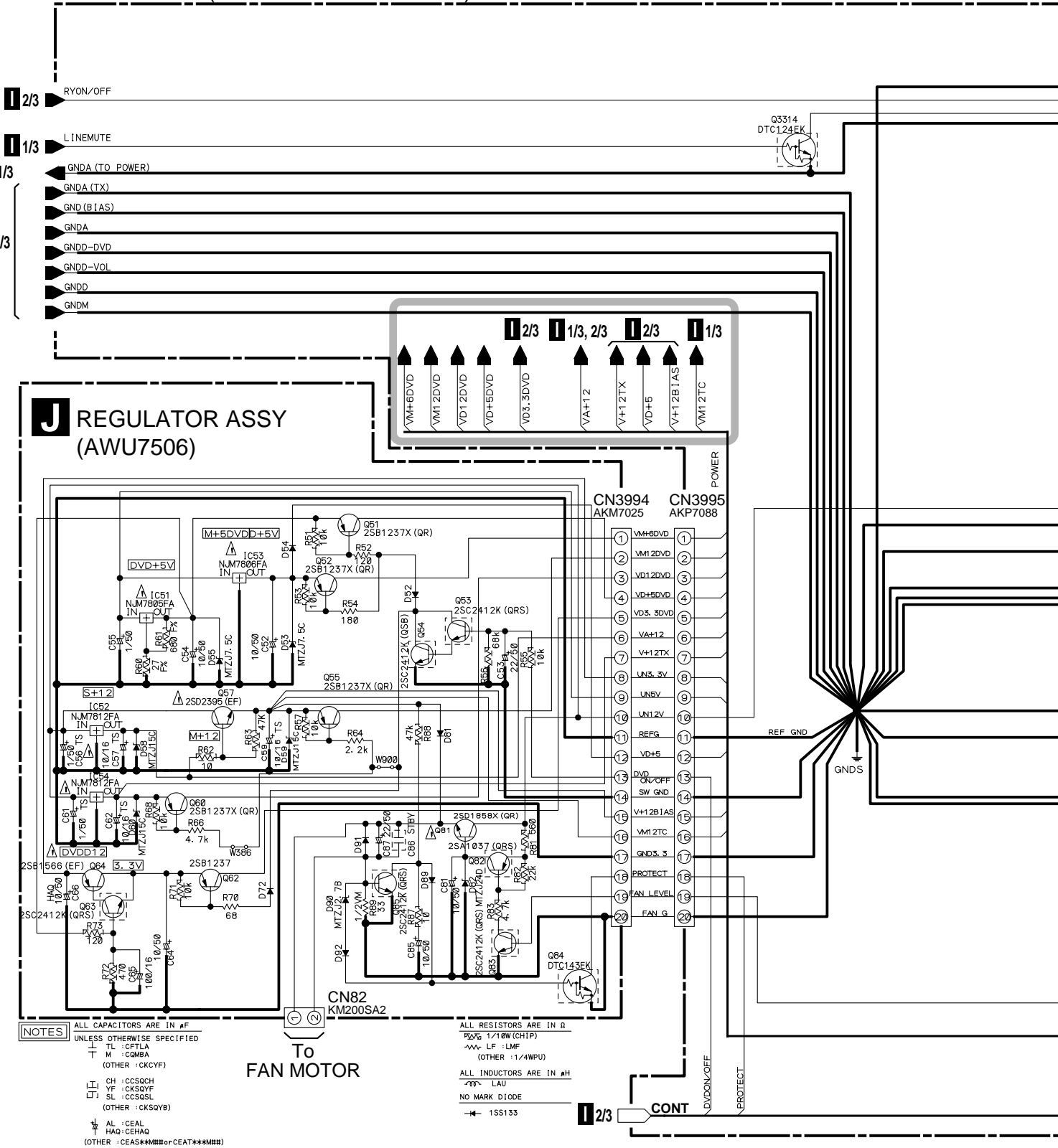
- (A) : AUDIO SIGNAL ROUTE
- (DVD) : DVD AUDIO SIGNAL ROUTE
- (TA) : TUNER AUDIO SIGNAL ROUTE
- (PB) : DECK PB SIGNAL ROUTE
- (REC) : DECK REC SIGNAL ROUTE
- (B) : BASS BLASTER SIGNAL ROUTE
- (OUT) : REC OUT SIGNAL ROUTE
- (MIC) : MIC SIGNAL ROUTE
- (K) : KARAOKE SIGNAL ROUTE



3.11 AF (3/3), REGULATOR and SECONDARY ASSYS

**3/3** AF ASSY (XR-A9700DV : AWU7514)  
(XR-VS100D : AWU7505)

⇨ : AUDIO SIGNAL ROUTE

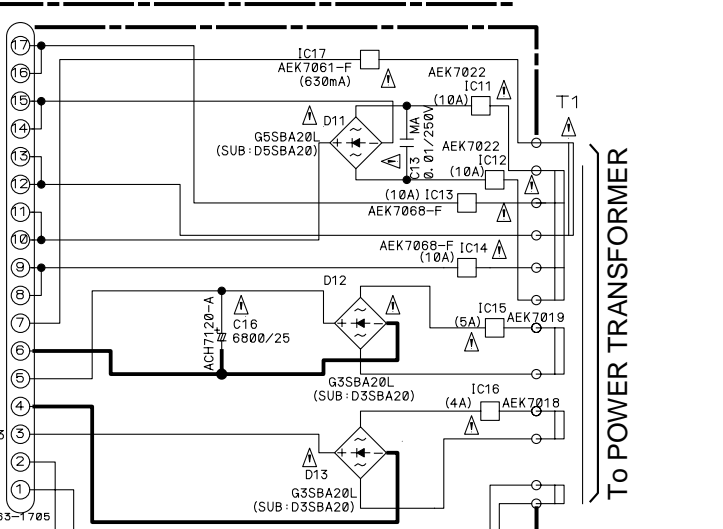
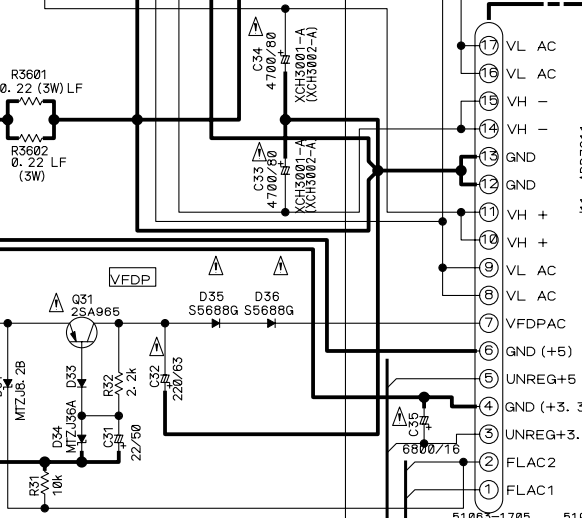
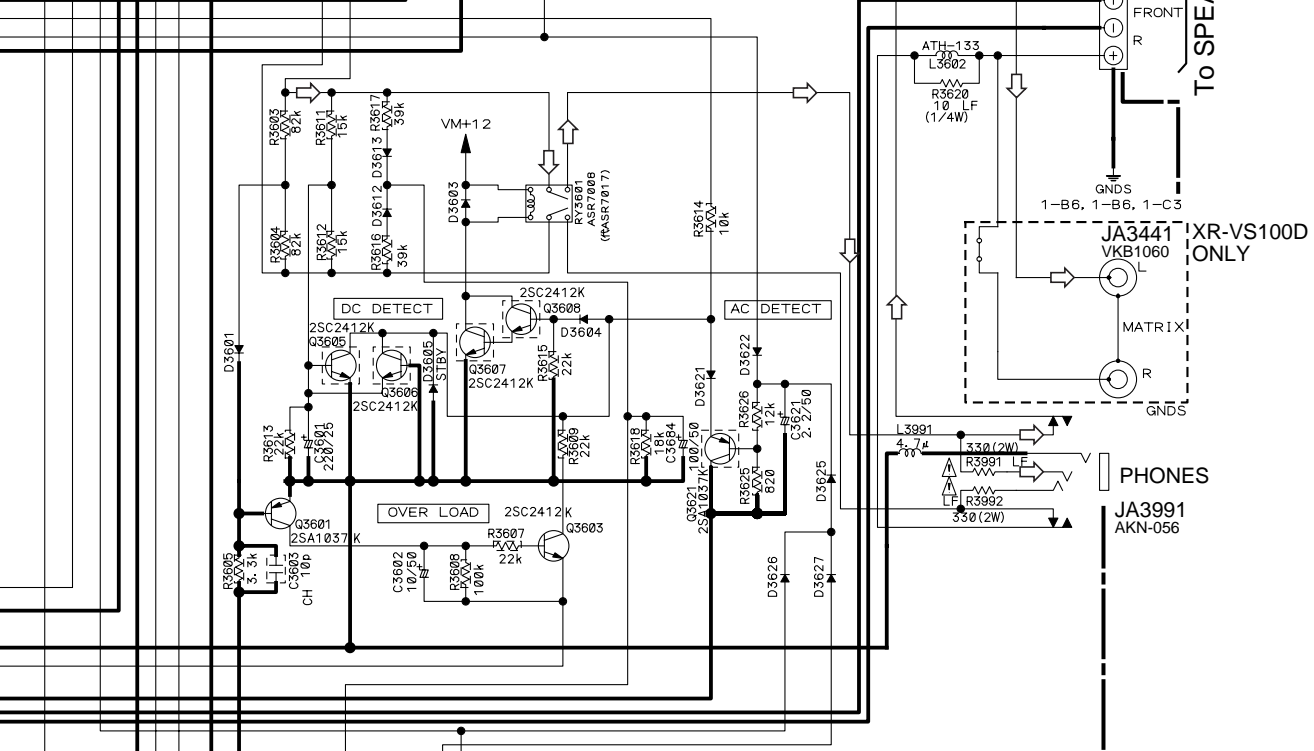
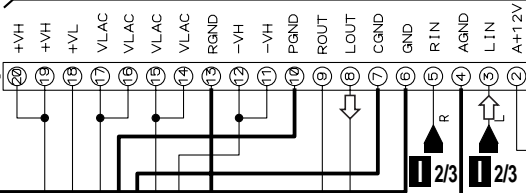


: The power supply is shown with the marked box.

CN3997

CN3998  
AKP7088

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491004 MFD, BY LITTELFUSE INK. FOR IC16 (AEK7018).  
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.360 MFD, BY LITTELFUSE INK. FOR IC17 (AEK7061).



**K SECONDARY ASSY (AWU7507)**

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 MFD, BY LITTELFUSE INK. FOR IC11 AND IC12 (AEK7022).  
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010F MFD, BY LITTELFUSE INK. FOR IC13 AND IC14 (AEK7068).  
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY LITTELFUSE INK. FOR IC15 (AEK7019).

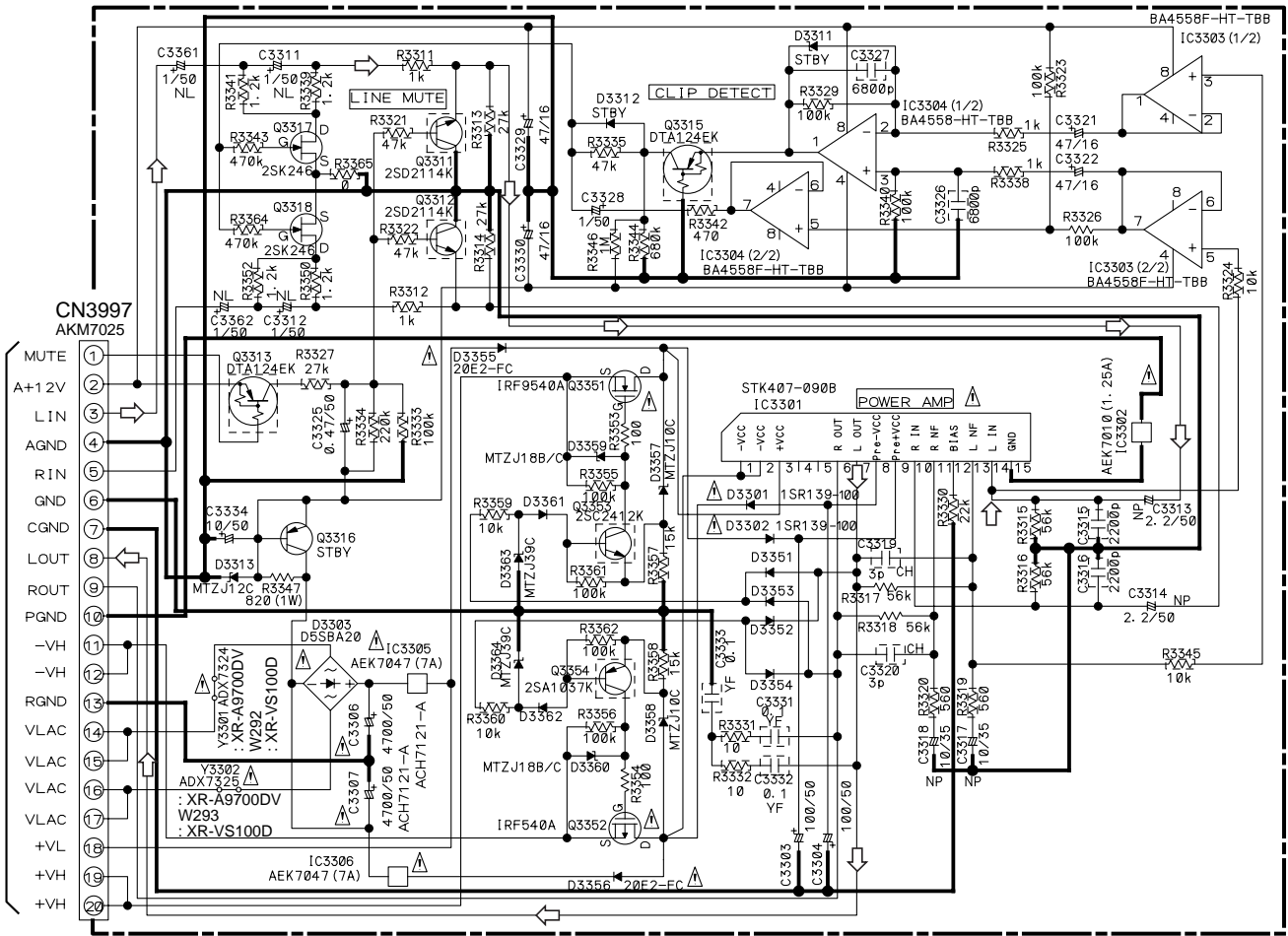
VFD

M J41

**3.12 POWER and PRIMARY ASSYS**

**POWER ASSY (XR-A9700DV : AWU7538)  
 (XR-VS100D : AWU7510)**

A



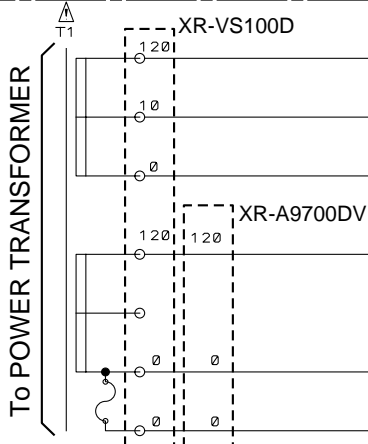
B

**3/3 CN3998**

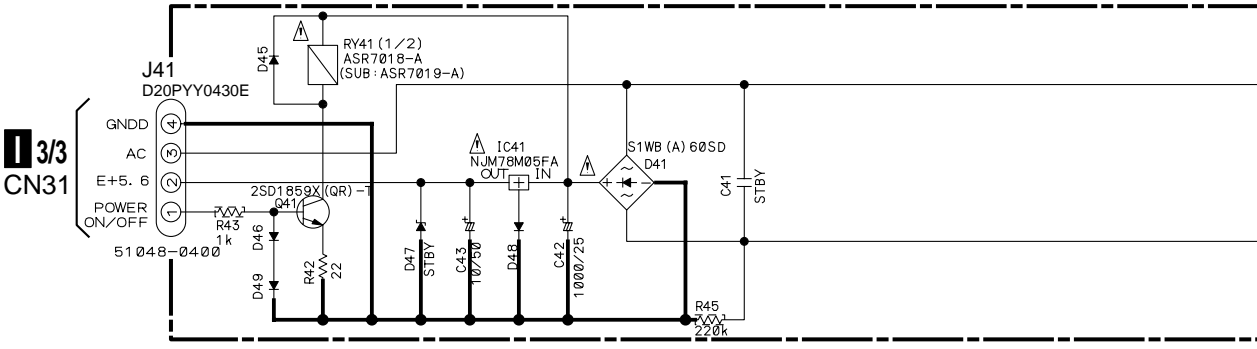
C

**CAUTION :** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 4911.25 MFD, BY LITTELFUSE INK. FOR IC3302 (AEK7010).

**CAUTION :** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR IC3305 AND IC3306 (AEK7047).



D



⇨ : AUDIO SIGNAL ROUTE

NOTES

ALL CAPACITORS ARE IN  $\mu$ F  
 UNLESS OTHERWISE SPECIFIED  
 TL : CFTLA  
 T M : CGMBA  
 (OTHER : CKCYF)

CH : CCSQCH  
 YF : CKSQYF  
 SL : CCSQSL  
 (OTHER : CKSQYB)

AL : CEAL  
 HAQ : CEHAQ  
 (OTHER : CEAS\*\*\*M##orCEAT\*\*\*M##)

ALL RESISTORS ARE IN  $\Omega$   
 $\square$  1/10W(CHIP)  
 $\sim$  1/4WPU

ALL INDUCTORS ARE IN  $\mu$ H  
 LAU

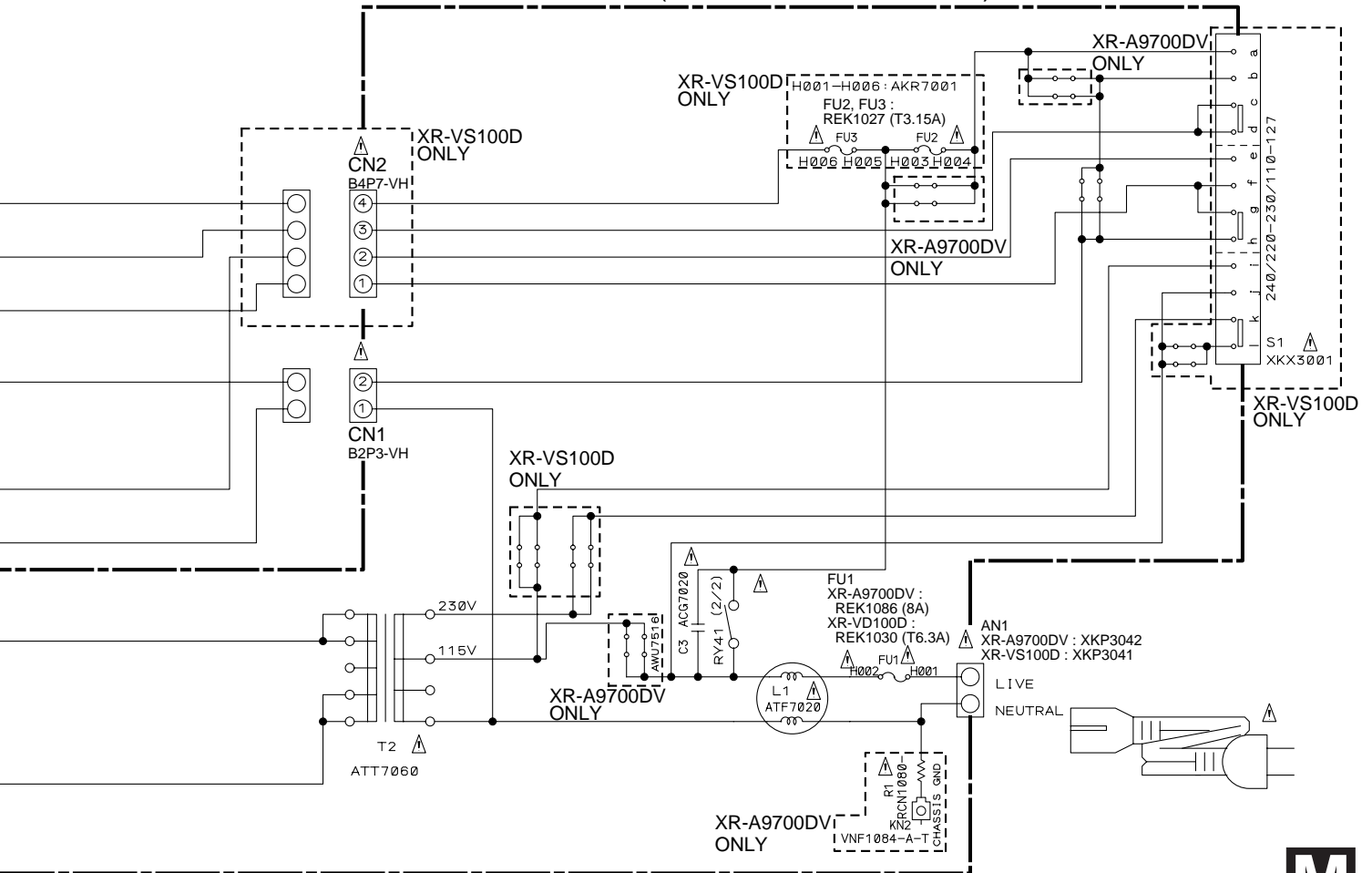
NO MARK DIODE

1SS133

• NOTE FOR FUSE REPLACEMENT

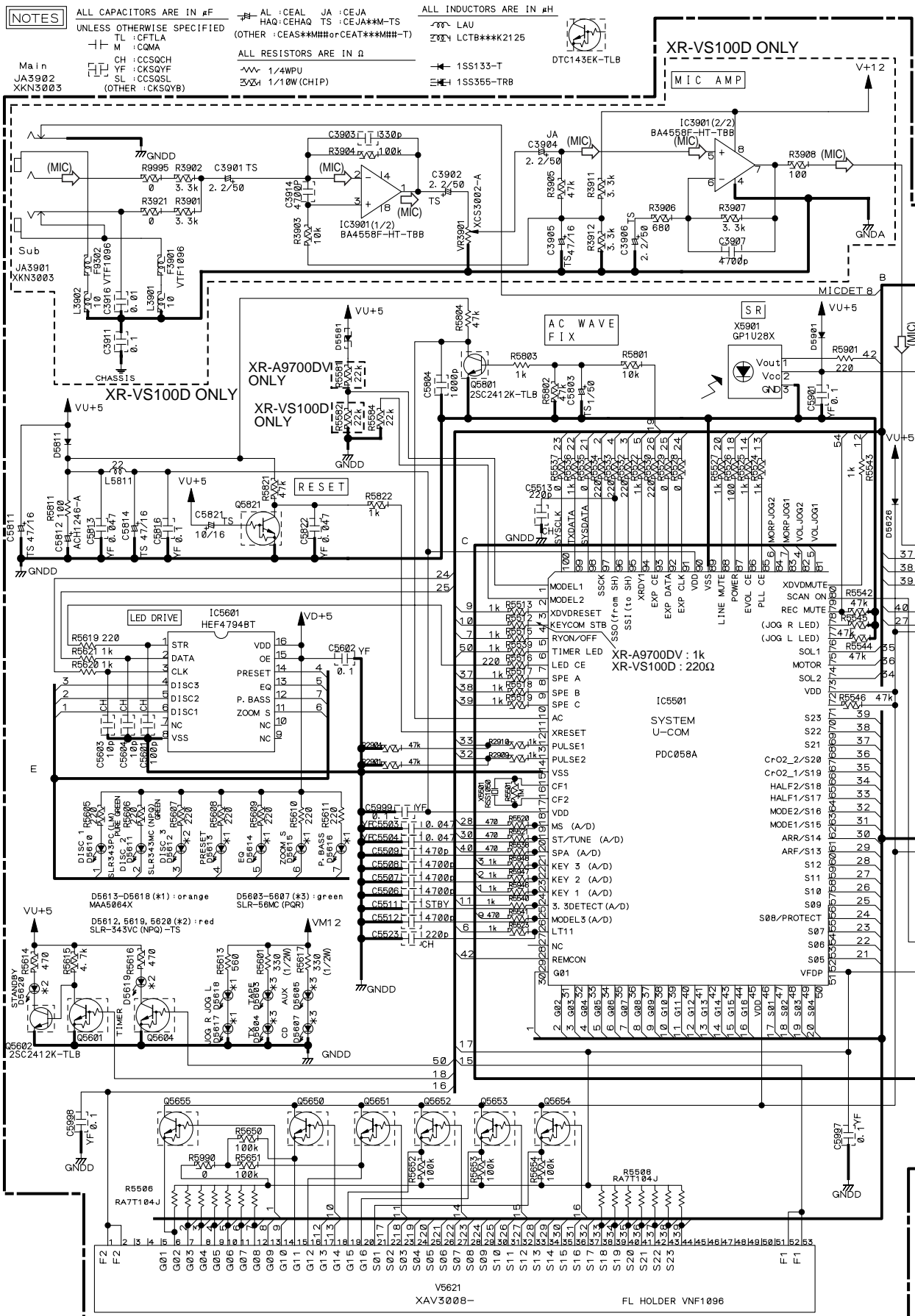
**CAUTION** -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.  
 REPLACE WITH SAME TYPE AND RATINGS ONLY.

**M** PRIMARY ASSY (XR-A9700DV : AWU7516)  
 (XR-VS100D : AWU7509)



# XR-A9700DV, XR-VS100D

## 3.13 DISPLAY, LED 1 and LED 2 ASSYS



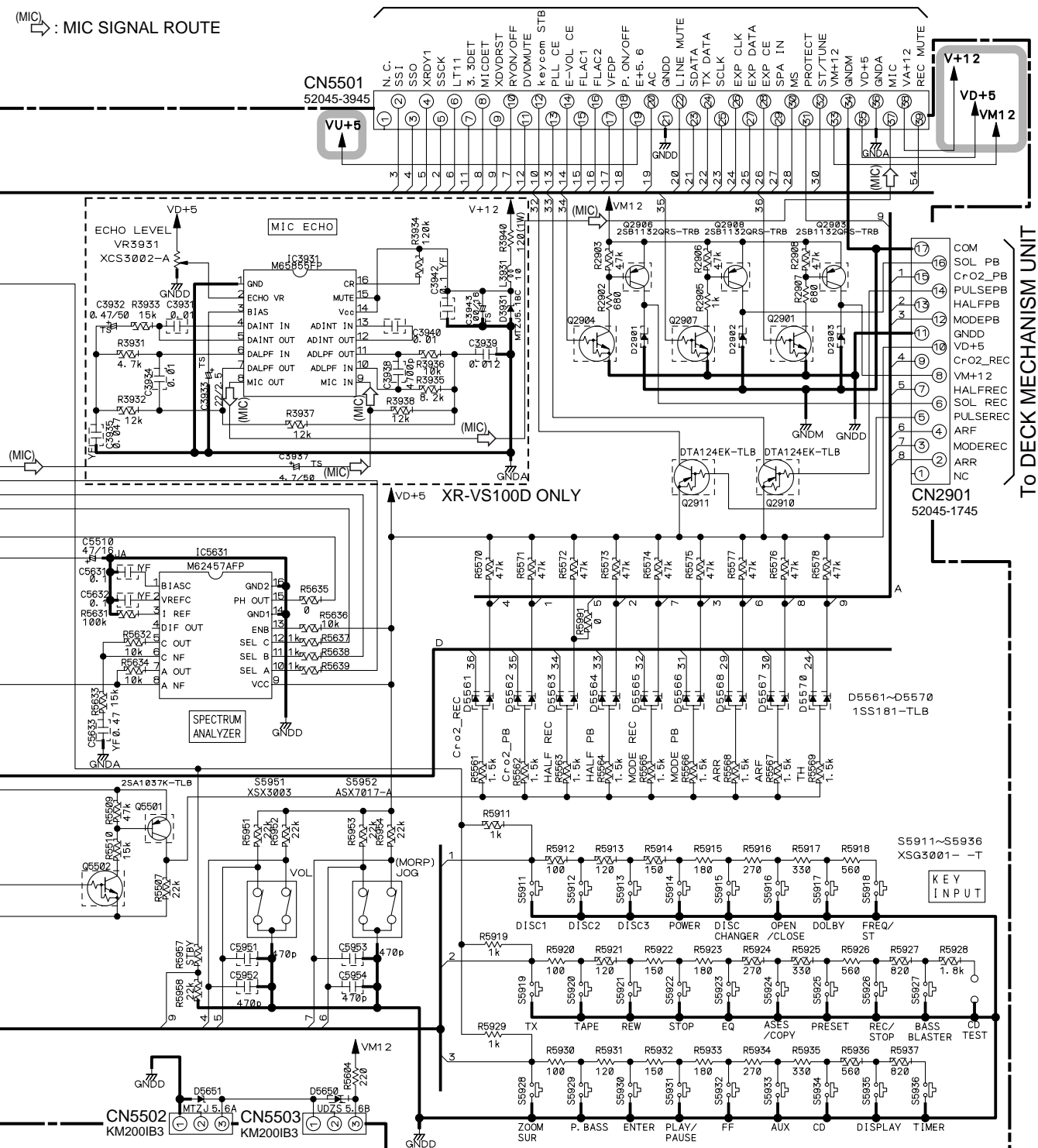


**N** DISPLAY ASSY (XR-A9700DV : AWU7515)  
 (XR-VS100D : AWU7508)

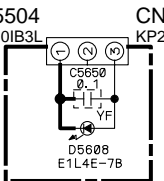
**O** : The power supply is shown with the marked box.

(MIC) : MIC SIGNAL ROUTE

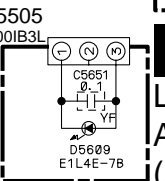
**1/2/3** CN5105



**O** LED 1 ASSY (AWU7511)



**P** LED 2 ASSY (AWU7512)



- S5911 : DISC 1
- S5912 : DISC 2
- S5913 : DISC 3
- S5914 : STANDBY/ON
- S5915 : DISC CHANGE
- S5916 : OPEN/CLOSE
- S5917 : NR ON/OFF
- S5918 : FREQ/STATION
- S5919 : TUNER/BAND
- S5920 : TAPE I/II
- S5921 : (TUNING-)
- S5922 : (STOP/ST.MEMORY)
- S5923 : EQUALIZER
- S5924 : ASES/COPY
- S5925 : PRESET
- S5926 : REC/STOP
- S5927 : BASS BLASTER
- S5928 : ZOOM SURROUND
- S5929 : P.BASS (DEMO)
- S5930 : SET
- S5931 : (PLAY/PAUSE)
- S5932 : (TUNING+)
- S5933 : AUX
- S5934 : DVD/CD
- S5935 : DISPLAY
- S5936 : TIMER/CLOCK ADJ
- S5951 : VOLUME
- S5952 : SOUND MORPHING JOG

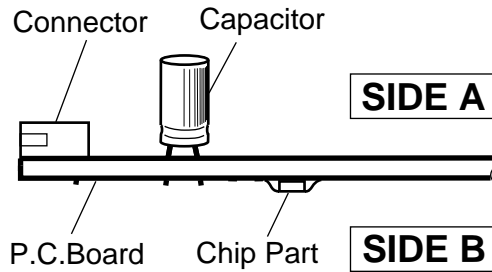
# 4. PCB CONNECTION DIAGRAM

## NOTE FOR PCB DIAGRAMS :

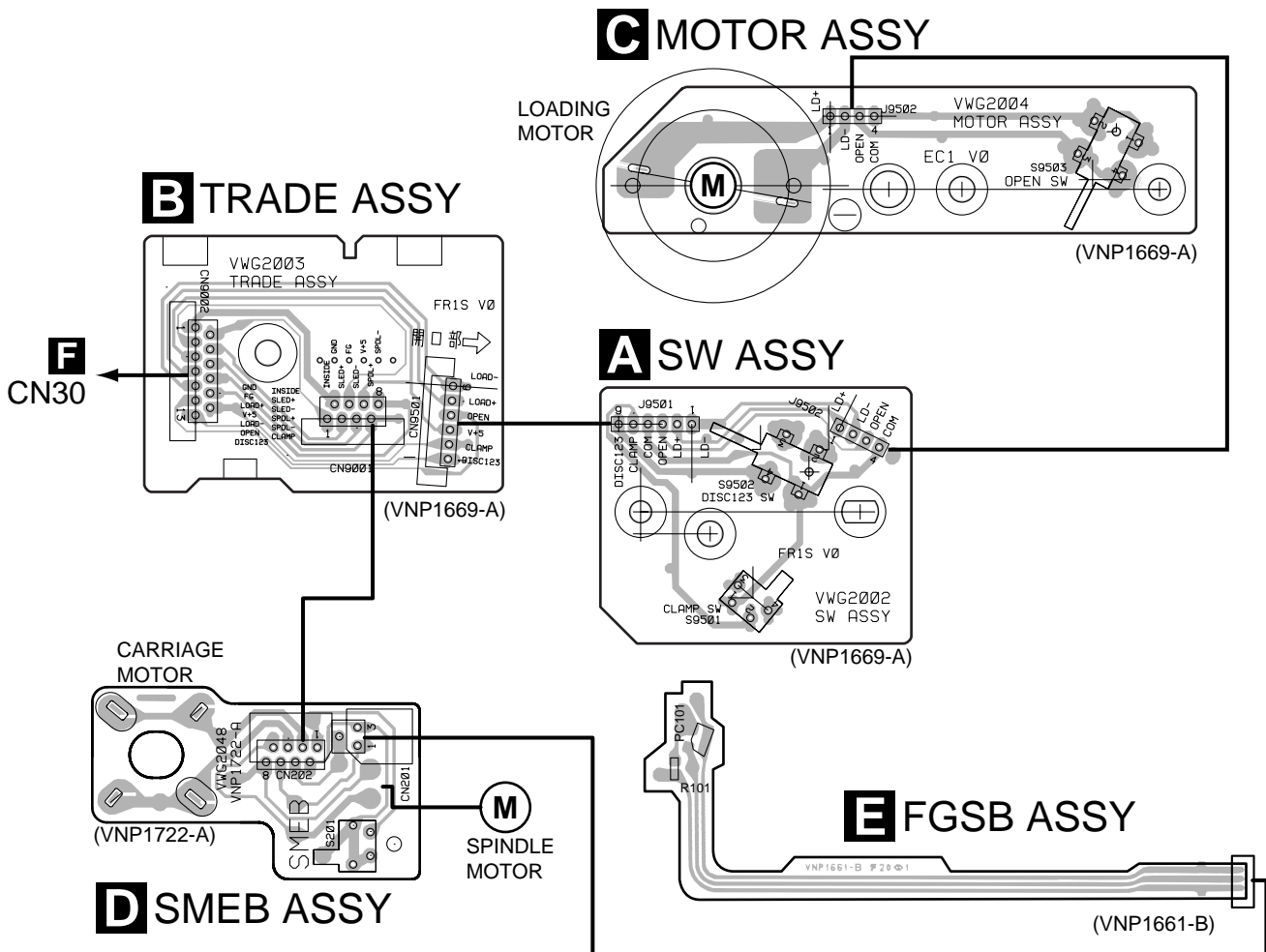
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
4. View point of PCB diagrams.



## 4.1 SW, TRADE, MOTOR, SMEB and FGSB ASSYS



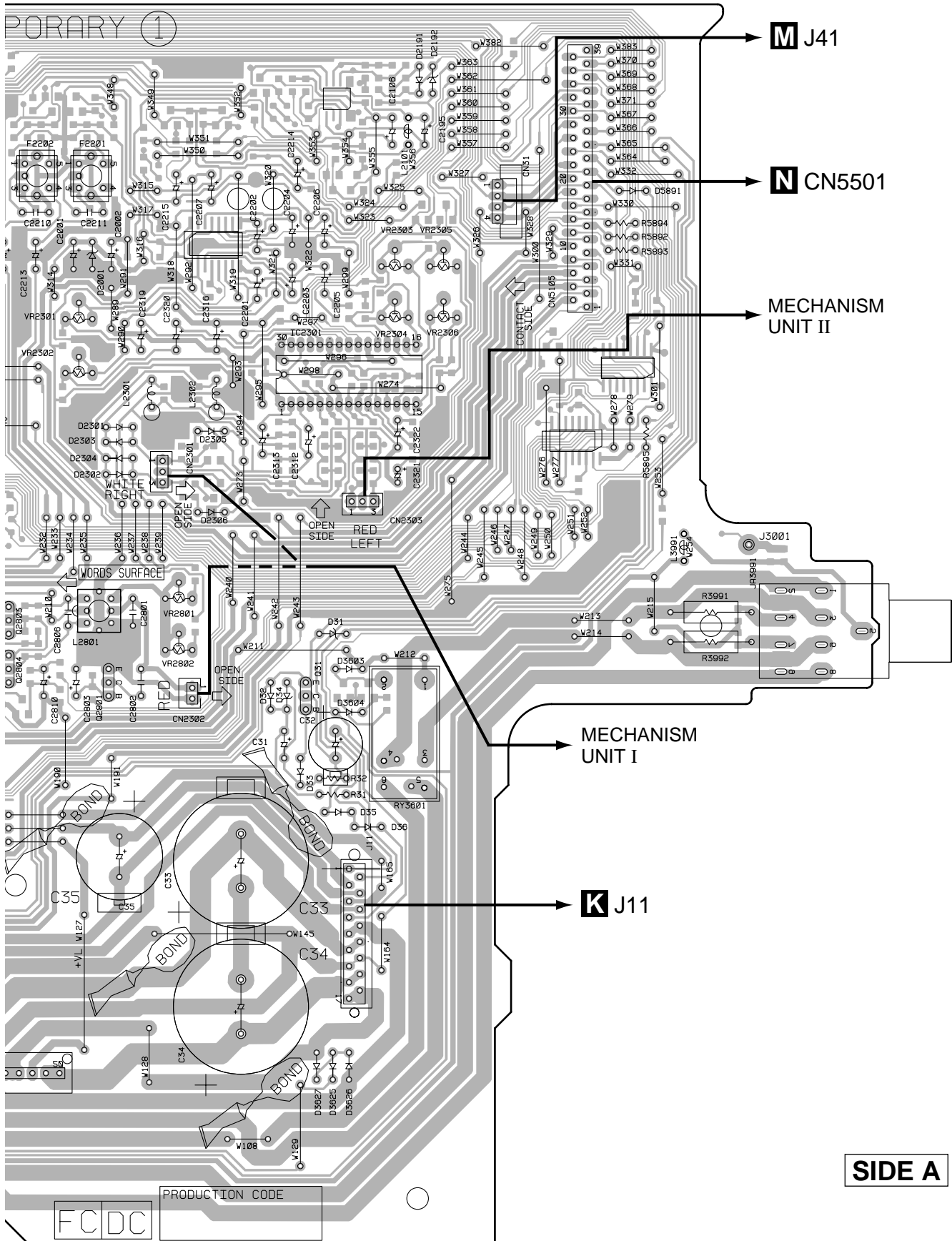








11



A  
B  
C  
D

VR2301 VR2801 VR2303-VR2306  
 VR2302 VR2802  
 2803 Q2801 IC2301  
 2804 Q31

(ANP7333-C)



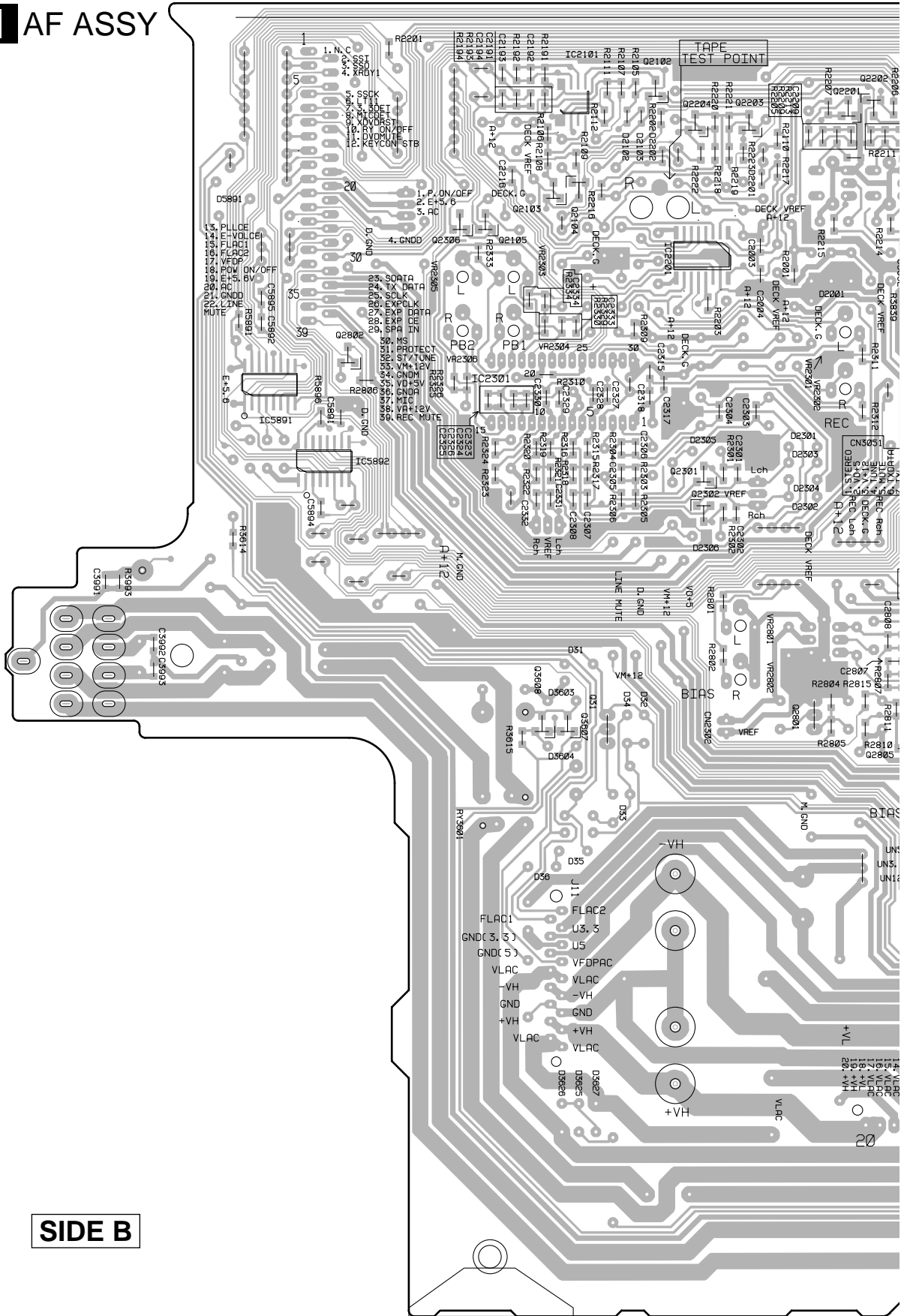
AF ASSY

A

B

C

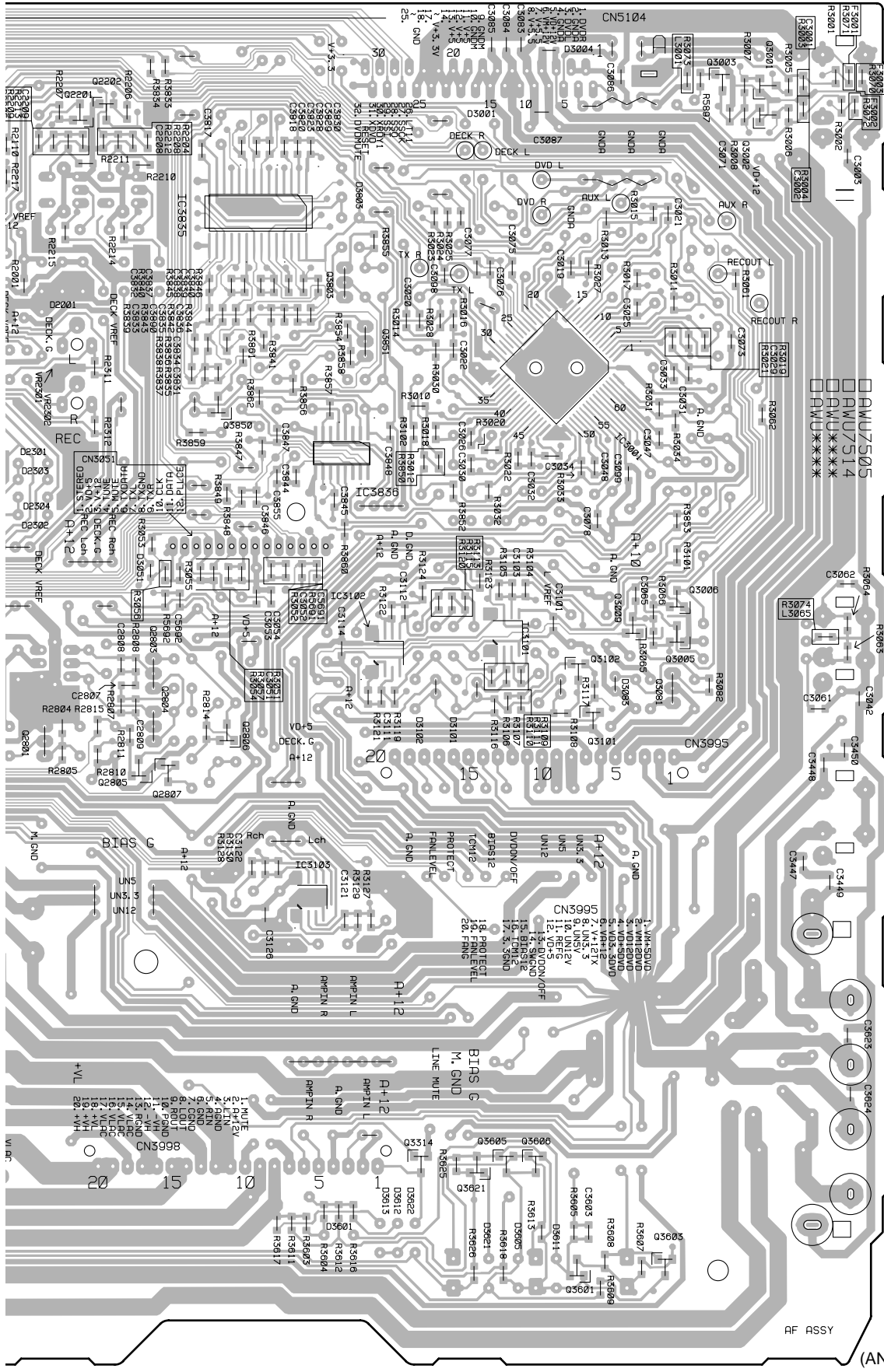
D



SIDE B

- IC5891 IC5892
- Q2802 Q2306
- IC2101 Q2103-Q2105 Q3608 Q3607 Q31
- Q2204 Q2203 IC2201 Q2301 Q2302
- Q2201 Q22





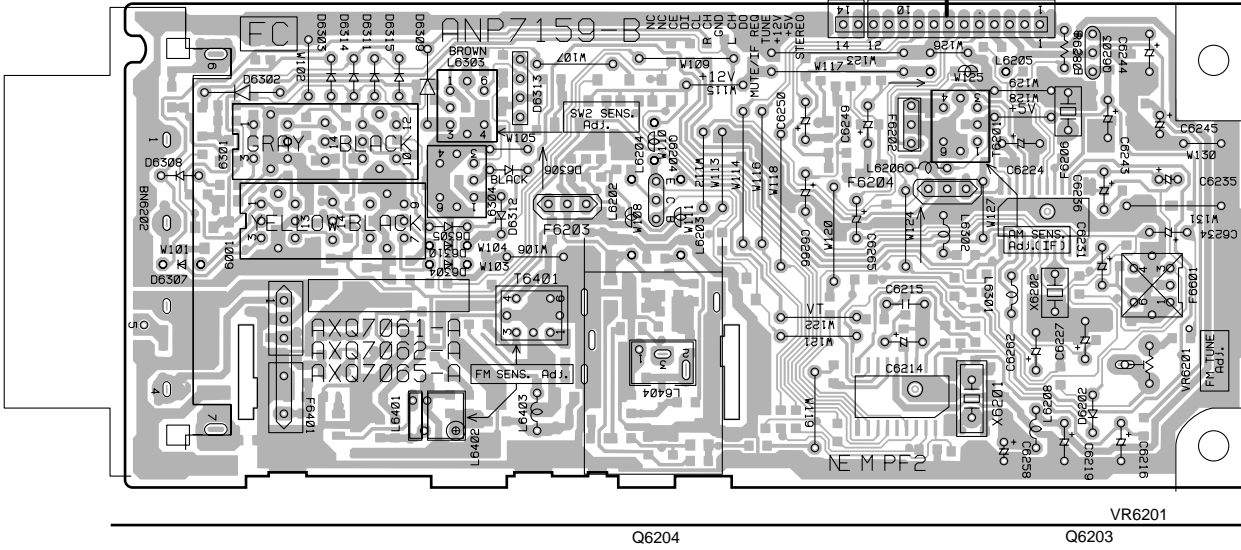
(ANP7333-C)

Q2201	Q2202	IC3835	Q3803	Q3851	IC3001	Q3001-Q3003
		Q3850	IC3836	Q3314	IC3101	Q3009
		Q2804-Q2807	IC3102		Q3621	Q3006
			IC3103		Q3605	Q3008
					Q3606	Q3101
					Q3607	Q3081
					Q3608	Q3603

**4.5 FM/AM TUNER MODULE**

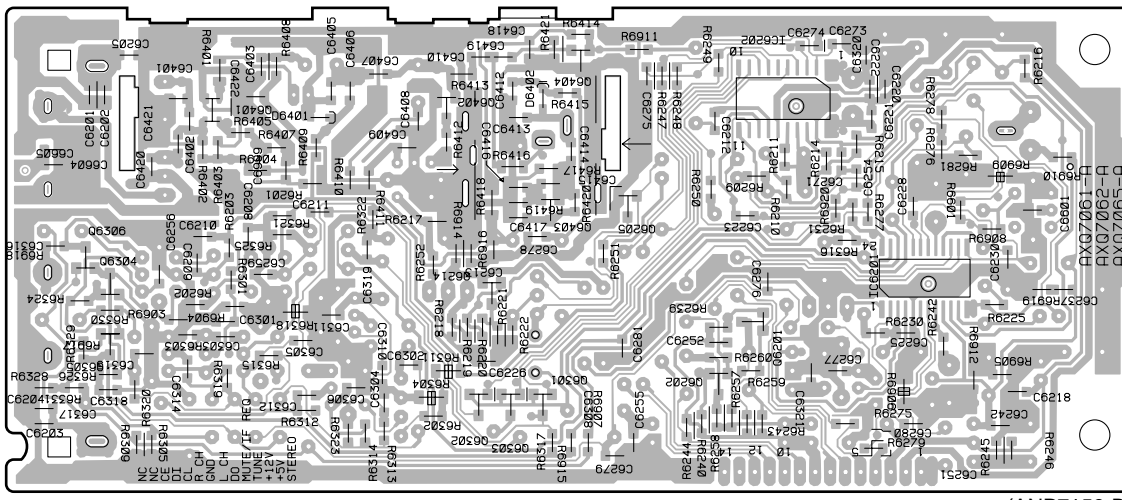
**H FM/AM TUNER MODULE**

**I CN3051**



**SIDE A**

**H FM/AM TUNER MODULE**



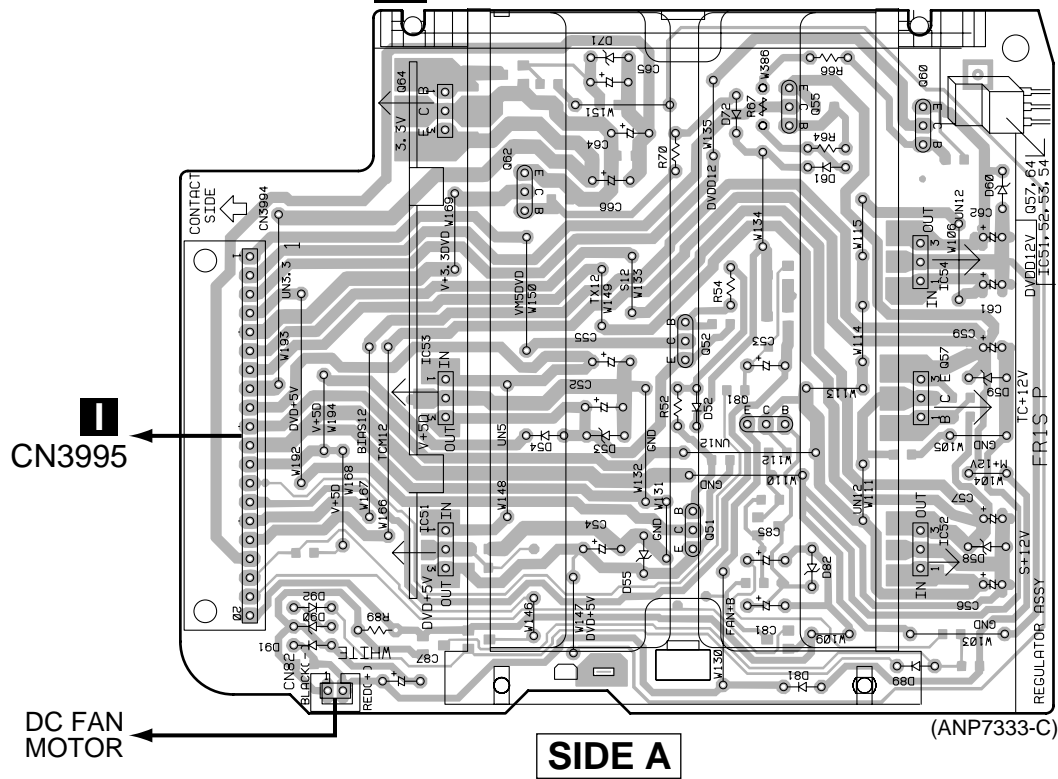
(ANP7159-B)

**SIDE B**



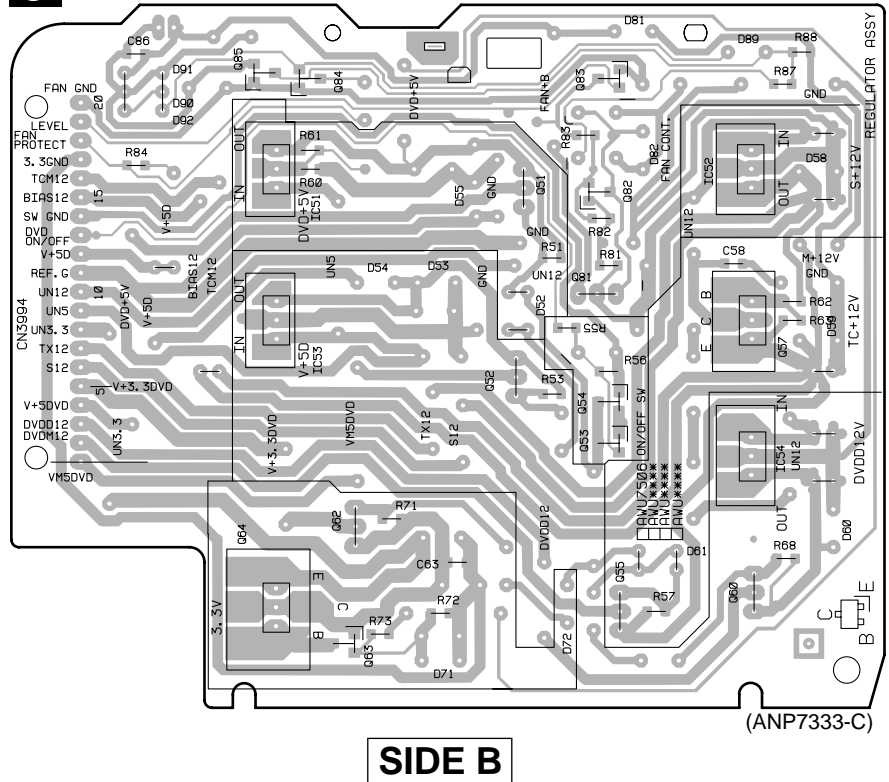
4.6 REGULATOR ASSY

**J** REGULATOR ASSY



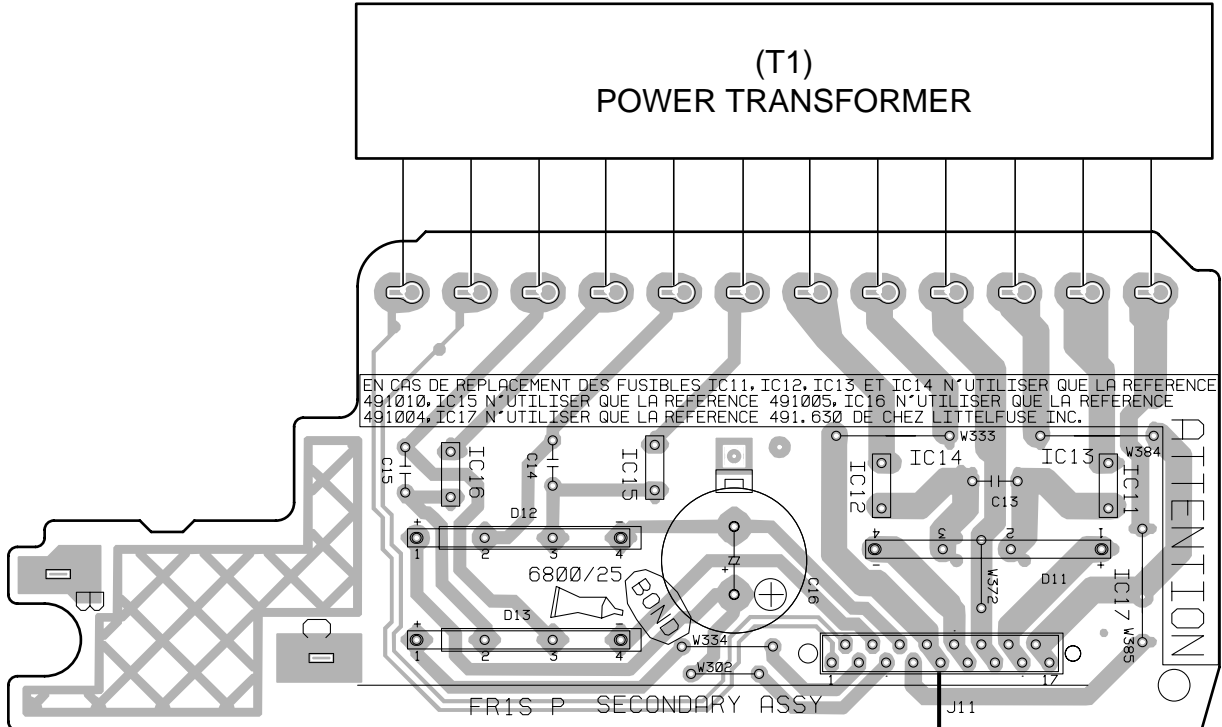
- Q64
- Q62
- Q55
- Q52
- Q81
- Q51
- Q60
- IC54
- Q57
- Q52

**J** REGULATOR ASSY



- Q85
- Q84
- Q81
- Q54
- Q53
- Q64
- Q63
- IC51
- IC52
- Q57
- IC53
- Q55
- Q60

**4.7 SECONDARY ASSY**



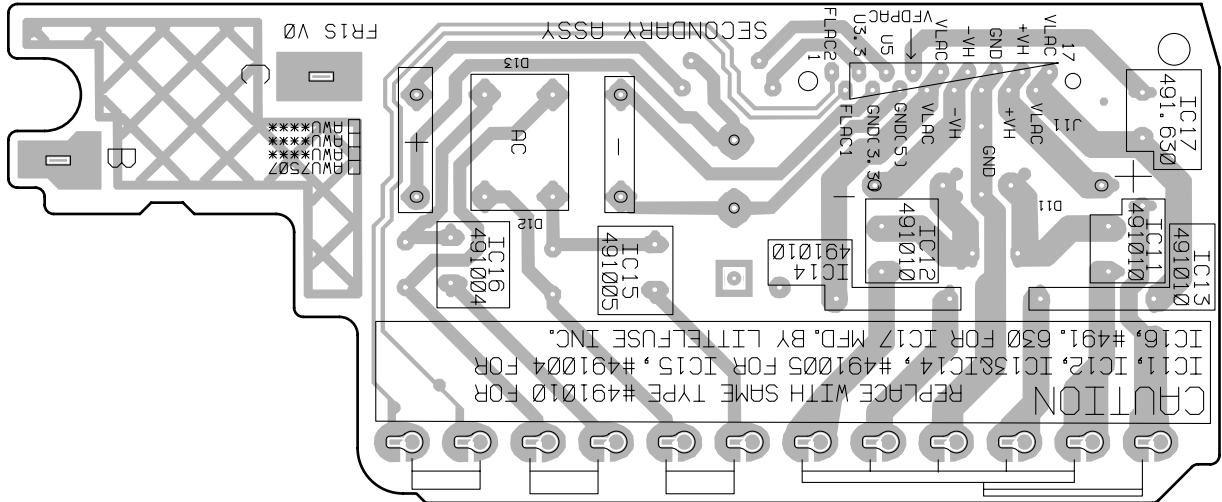
**K SECONDARY ASSY**

**L**  
**J11**

IC16 IC15 IC12 IC11

**SIDE A**

**K SECONDARY ASSY**

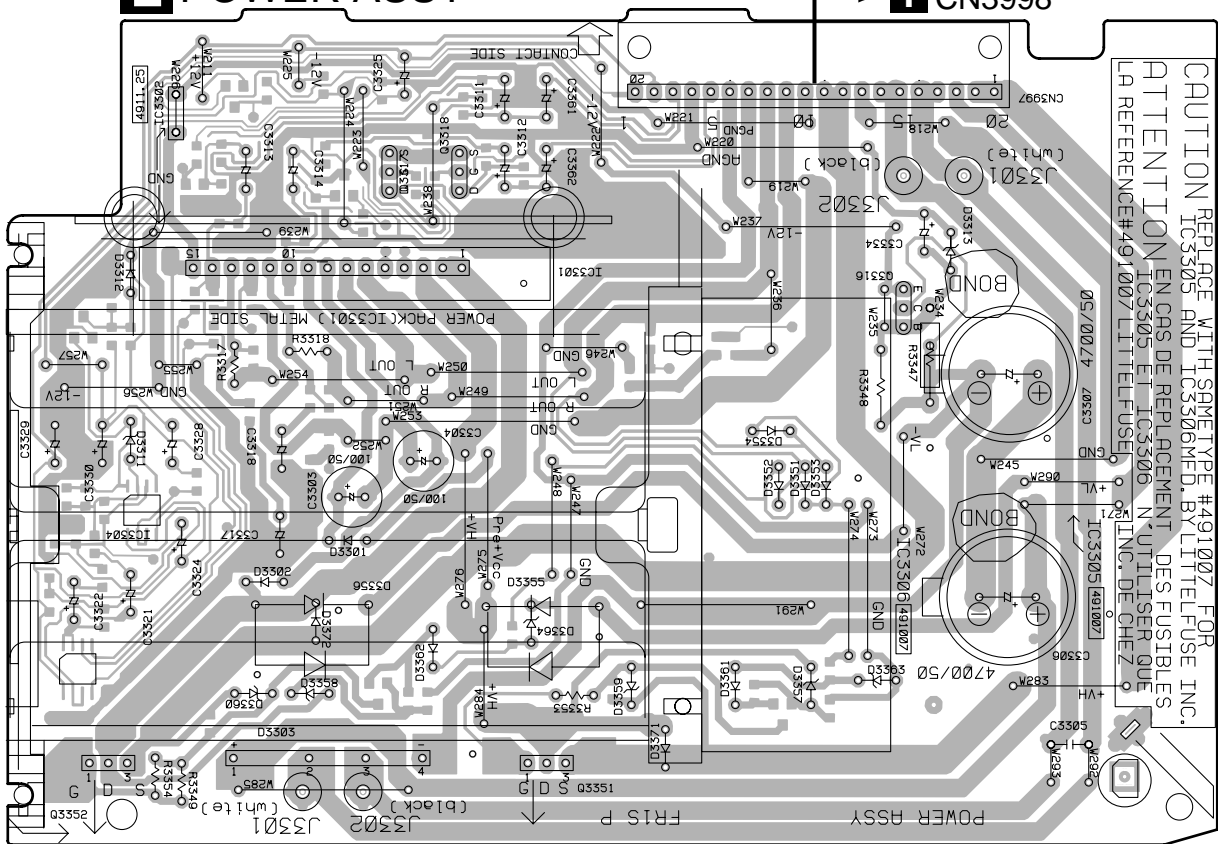


**SIDE B**



4.8 POWER ASSY

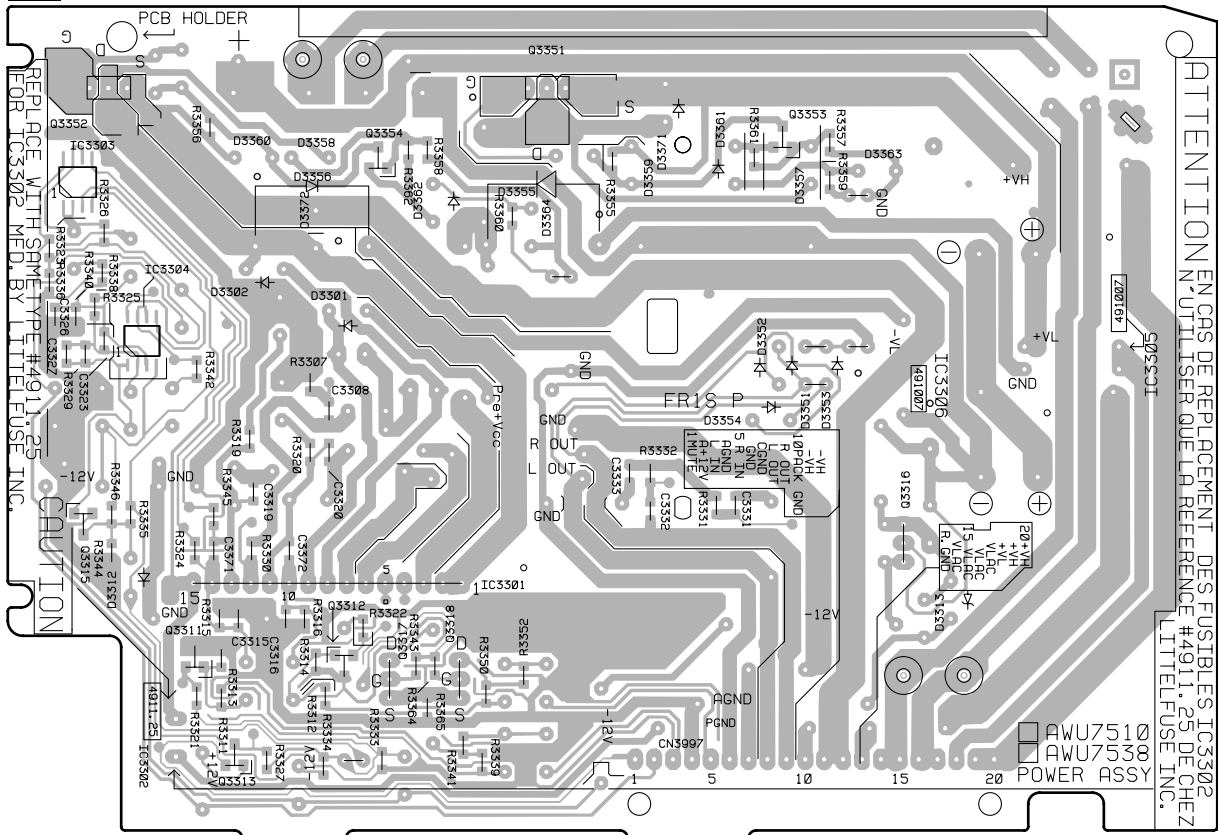
POWER ASSY



SIDE A

(ANP7334-B)

POWER ASSY



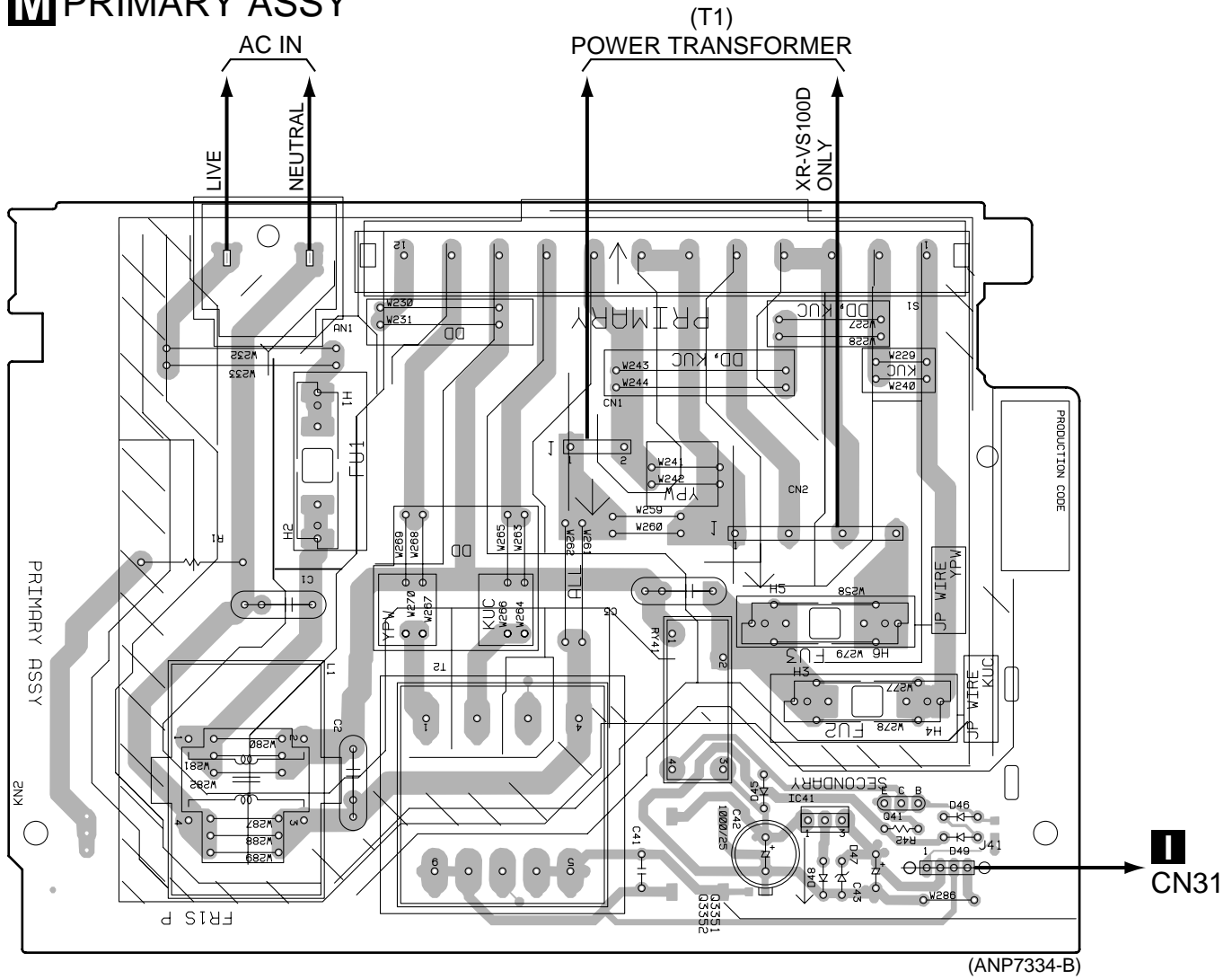
SIDE B

(ANP7334-B)

- A IC3302
- Q3317 Q3318
- IC3301 Q3316
- IC3304 IC3305
- IC3306
- Q3351
- Q3352
- B
- C IC3303 Q3353
- Q3354 Q3357
- Q3315
- D Q3311 Q3312
- Q3317 Q3318
- Q3313

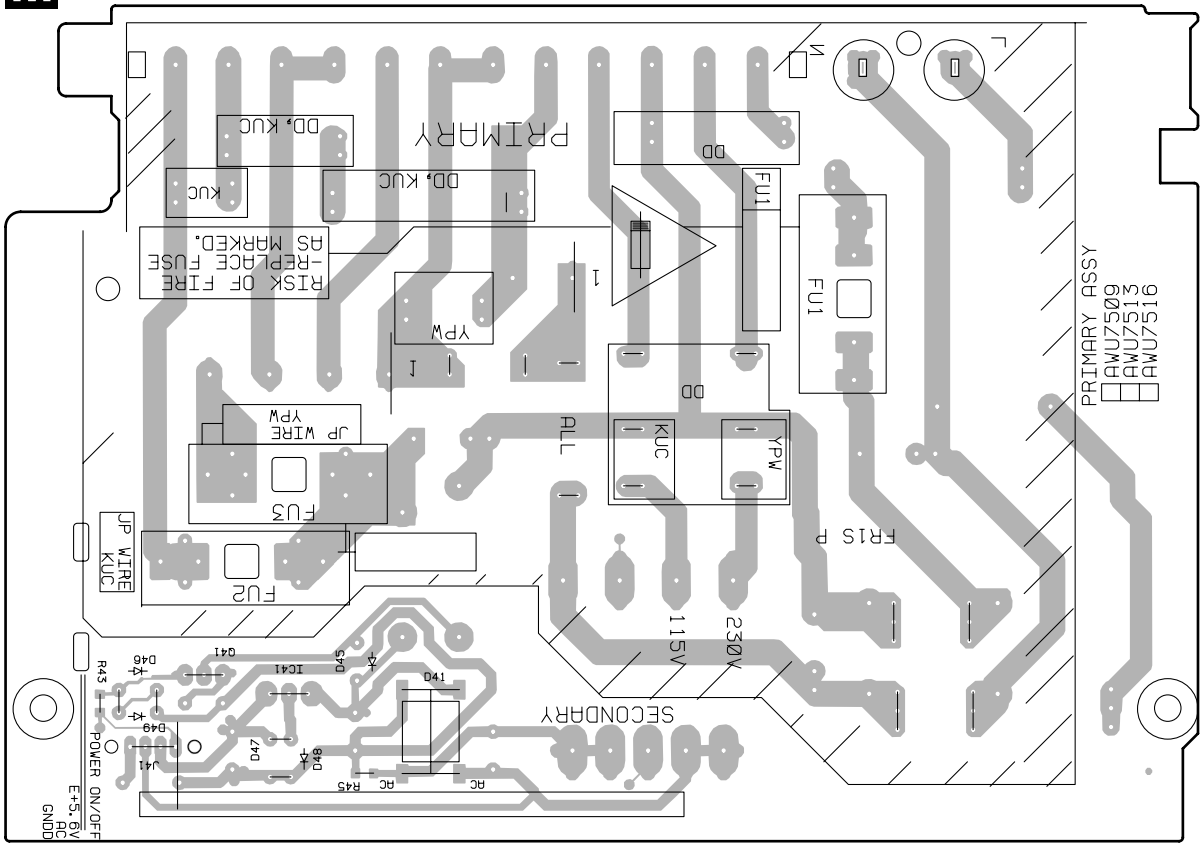
### 4.9 PRIMARY ASSY

## M PRIMARY ASSY



SIDE A

# M PRIMARY ASSY

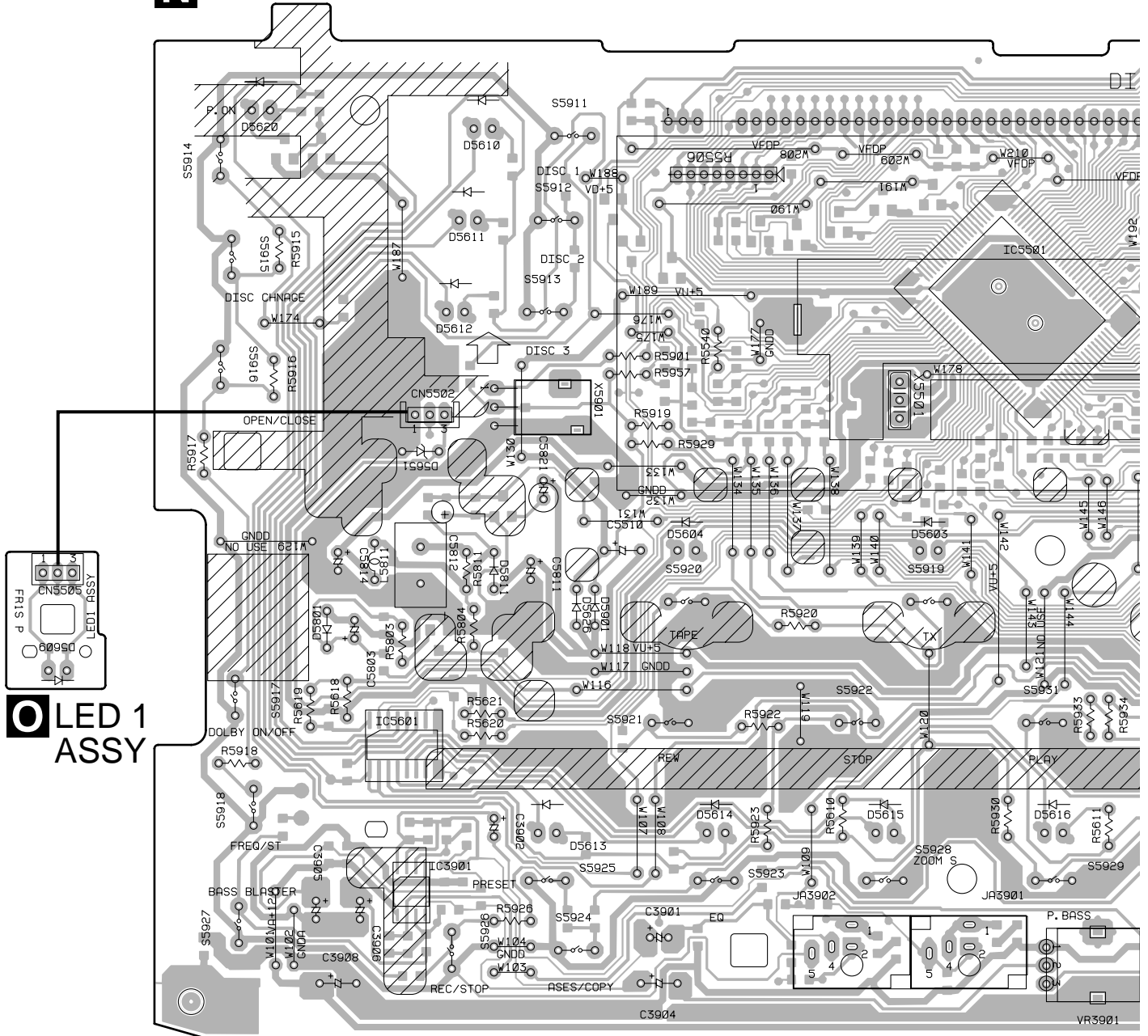


(ANP7334-B)

## SIDE B

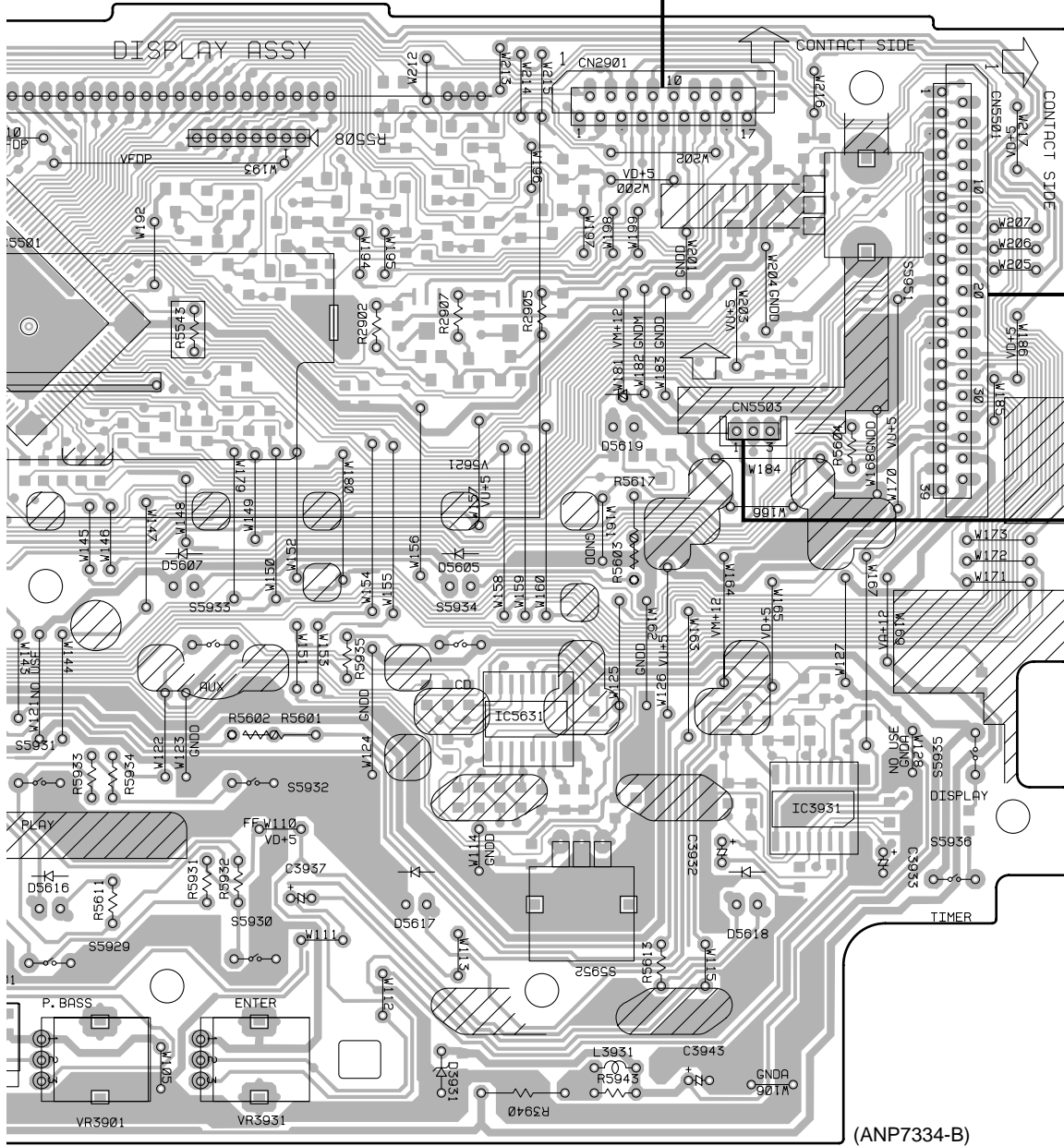
### 4.10 DISPLAY, LED 1 and LED 2 ASSYS

#### **N** DISPLAY ASSY

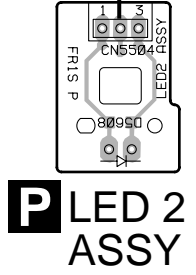




DECK MECHANISM UNIT



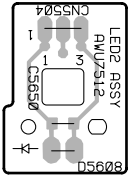
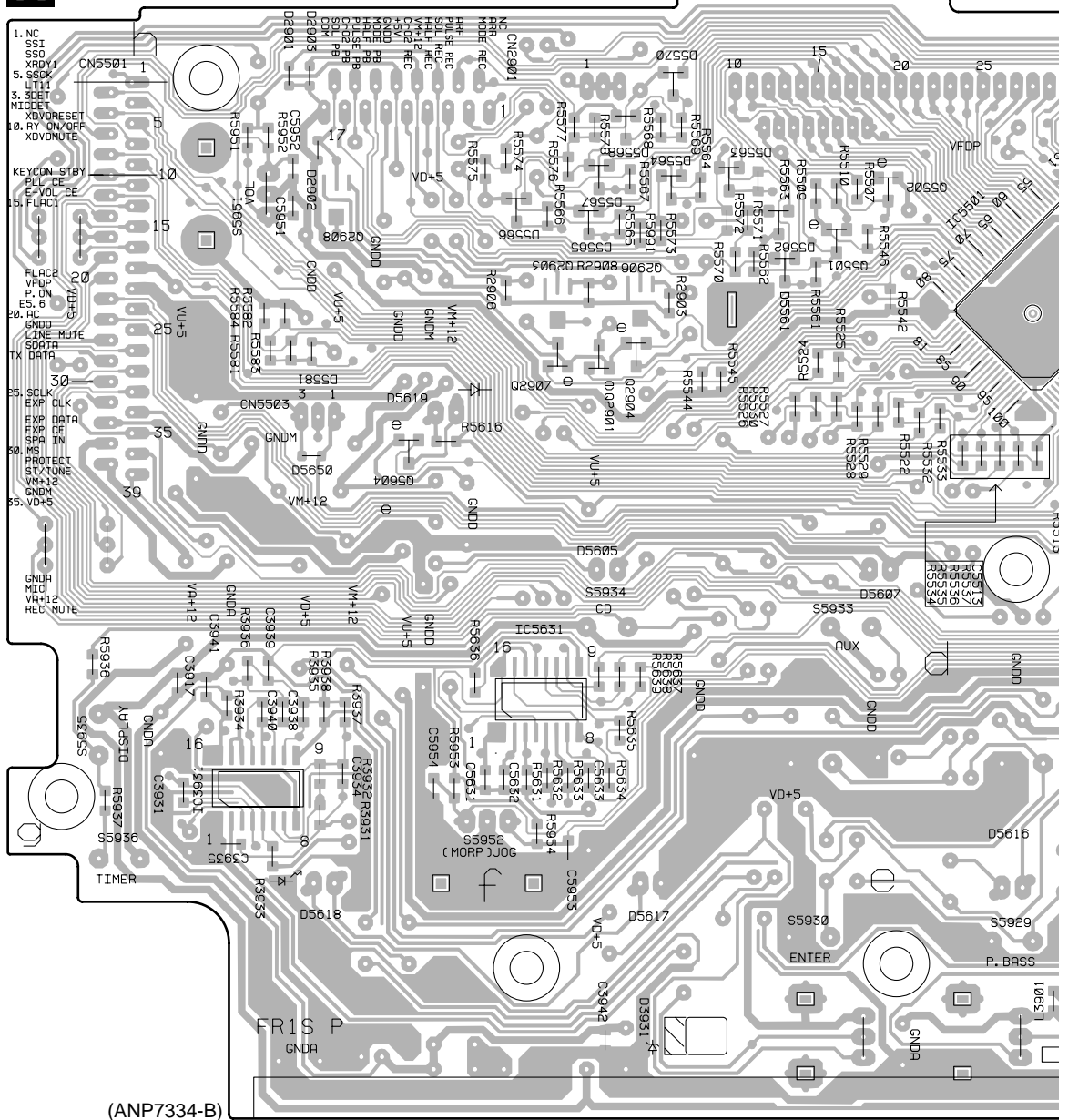
CN5105



SIDE A

(ANP7334-B)

# N DISPLAY ASSY

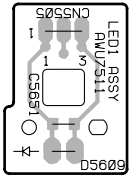
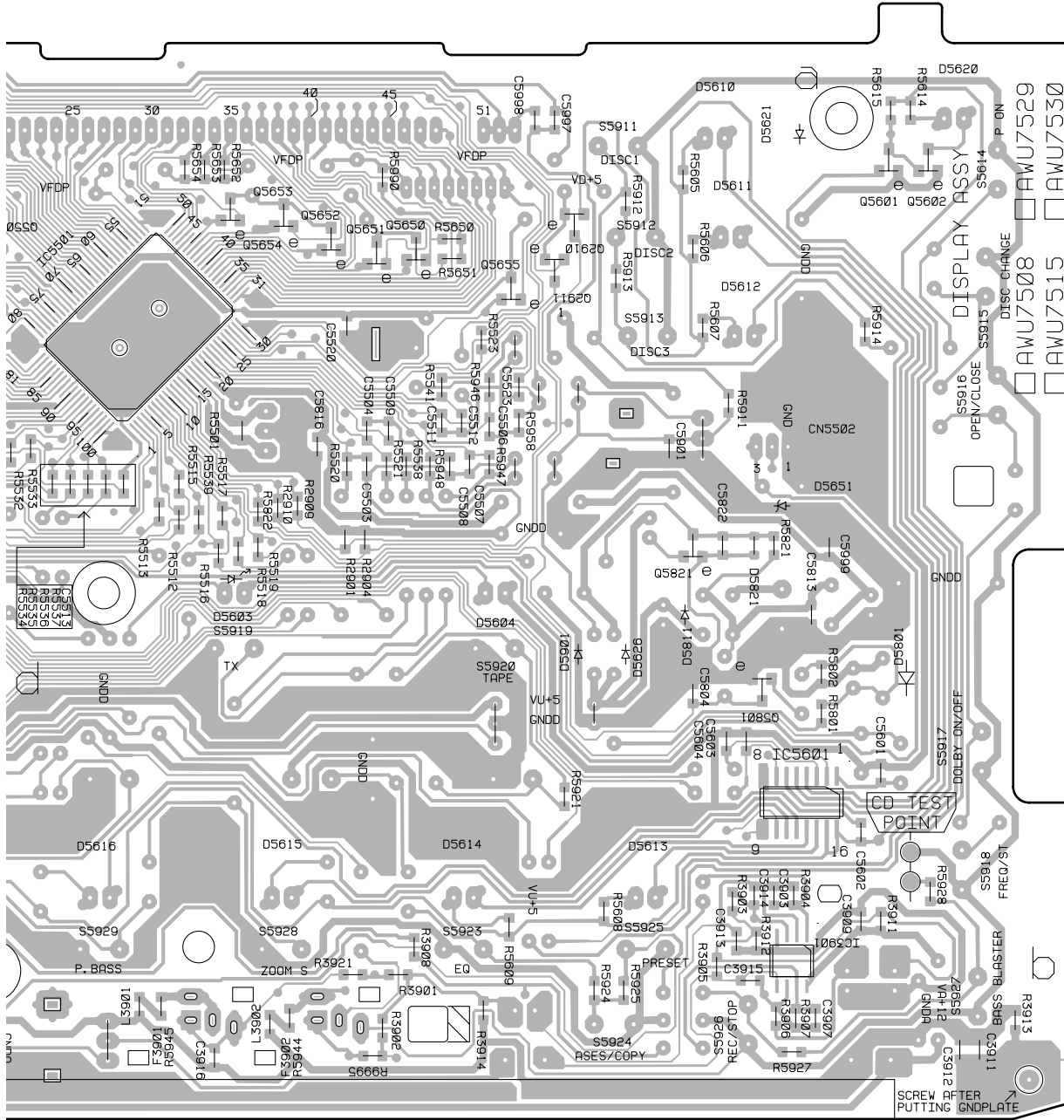


P LED 2 ASSY

SIDE B

IC3931	Q5604	Q2907	Q2901	Q2904	Q5501	IC5501
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**LED 1 ASSY**

IC5501

Q5650-Q5653 Q5655

Q2910

Q5821 Q5801

Q5601 Q5602

IC5601  
IC3901



## 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 Ω → 56 × 10<sup>1</sup> → 561 ..... RD1/4PU 5 6 1 J  
 47k Ω → 47 × 10<sup>3</sup> → 473 ..... RD1/4PU 4 7 3 J  
 0.5 Ω → R50 ..... RN2H R 5 0 K  
 1 Ω → 1R0 ..... RS1P 1 R 0 K

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

5.62k Ω → 562 × 10<sup>1</sup> → 5621 ..... RN1/4PC 5 6 2 1 F

### ■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.					Remarks
		XR-A9700DV	XR-VS100D				
		KUCXJ	DBXJ	DLXJ/NC	DDXJ/RA	DDXJ/RB	
NSP	\$M DVD MECHA	AXA7085	AXA7084	AXA7084	AXA7084	AXA7084	
	└─ DVDM ASSY	AWX7500	AWX7500	AWX7500	AWX7500	AWX7500	
	└─ CONNECT ASSY	AWX7499	AWX7498	AWX7498	AWX7498	AWX7498	
NSP	\$M DVD MECHA UNIT	AXA7083	AXA7083	AXA7083	AXA7083	AXA7083	
NSP	└─ \$M MECHA PCB ASSY	VWM1878	VWM1878	VWM1878	VWM1878	VWM1878	
NSP	└─ SW ASSY	VWG2002	VWG2002	VWG2002	VWG2002	VWG2002	
NSP	└─ TRADE ASSY	VWG2003	VWG2003	VWG2003	VWG2003	VWG2003	
NSP	└─ MOTOR ASSY	VWG2004	VWG2004	VWG2004	VWG2004	VWG2004	
NSP	└─ TRAVERSE MECHA ASSY	VWT1161	VWT1161	VWT1161	VWT1161	VWT1161	
NSP	└─ SMEB ASSY	VWG2048	VWG2048	VWG2048	VWG2048	VWG2048	
NSP	└─ FGSB ASSY	VWG2009	VWG2009	VWG2009	VWG2009	VWG2009	
	FM/AM TUNER MODULE	AXQ7065	AXQ7065	AXQ7065	AXQ7065	AXQ7065	
NSP	MAIN ASSY	AWM7482	AWM7481	AWM7481	AWM7481	AWM7481	
	└─ AF ASSY	AWU7514	AWU7505	AWU7505	AWU7505	AWU7505	
	└─ REGULATOR ASSY	AWU7506	AWU7506	AWU7506	AWU7506	AWU7506	
	└─ SECONDARY ASSY	AWU7507	AWU7507	AWU7507	AWU7507	AWU7507	
NSP	COMPLEX ASSY	AWM7485	AWM7483	AWM7483	AWM7483	AWM7483	
	└─ POWER ASSY	AWU7538	AWU7510	AWU7510	AWU7510	AWU7510	
	└─ PRIMARY ASSY	AWU7516	AWU7509	AWU7509	AWU7509	AWU7509	
	└─ DISPLAY ASSY	AWU7515	AWU7508	AWU7508	AWU7508	AWU7508	
	└─ LED 1 ASSY	AWU7511	AWU7511	AWU7511	AWU7511	AWU7511	
	└─ LED 2 ASSY	AWU7512	AWU7512	AWU7512	AWU7512	AWU7512	
	└─ BIND 1 ASSY	AWU7527	AWU7527	AWU7527	AWU7527	AWU7527	
	└─ BIND 2 ASSY	AWU7528	AWU7528	AWU7528	AWU7528	AWU7528	

### ■ CONTRAST OF PCB ASSEMBLIES

#### **G** CONNECT ASSY

AWX7499 and AWX7498 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWX7499	AWX7498	
	IC201	TC74HCT7007AF	Not used	
	IC801	PD2058A	Not used	
	IC802	TC4W53F	Not used	
	Q811-Q813	DTC124EK	Not used	
	C201	CKSQYB103K50	Not used	
	C202, C805	CEJA101M10	Not used	
	C801-C804	CKSQYB104K25	Not used	
	R201, R801-R804	RS1/10S0R0J	Not used	
	R202, R204, R208, R210, R212	RS1/10S221J	Not used	
	R224	Not used	RS1/10S0R0J	
	R811-R813	RS1/10S473J	Not used	
	X801 CERAMIC RESONATOR (24MHz)	VSS1127	Not used	

**AF ASSY**

AWU7514 and AWU7505 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7514	AWU7505	
	IC3835	Not used	M65847AFP	
	IC3836	Not used	BA3838F	
	Q3803	Not used	2SD1858X	
	Q3850	Not used	DTA143EK	
	Q3851	Not used	2SJ103	
	D3803	Not used	MTZJ5.6B	
	C3815, C3849	Not used	CEAT100M50	
	C3816, C3819, C3841	Not used	CEAT470M16	
	C3817, C3844	Not used	CKSQYB473K50	
	C3818	Not used	CCSQCH101J50	
	C3828-C3830	Not used	CKSQYB683K25	
	C3831	Not used	CKSQYB102K50	
	C3832	Not used	CKSQYB122K50	
	C3833-C3836	Not used	CKSQYB103K50	
	C3837	Not used	CCSQCH471J50	
	C3838	Not used	CKSQYB472K50	
	C3839, C3840, C3845	Not used	CKSQYB224K16	
	C3842, C3843, C3851, C3852	Not used	CEAT2R2M50	
	C3846, C3847, C3855	Not used	CKSQYB104K25	
	C3850	Not used	CEATR22M50	
	C3856, C3857	Not used	CEAT4R7M50	
	C3890	Not used	CKSQYB822K50	
	R3831, R3832	Not used	RS1/4PU102J	
	R3835, R3839	Not used	RS1/10S682J	
	R3836, R3837	Not used	RS1/10S472J	
	R3838, R3846	Not used	RS1/10S153J	
	R3840-R3842, R3844, R3845, R3857	Not used	RS1/10S103J	
	R3843	Not used	RS1/10S562J	
	R3833, R3834, R3847-R3849	Not used	RS1/10S102J	
	R3850, R3853	Not used	RS1/10S222J	
	R3851	Not used	RD1/4PU822J	
	R3852	Not used	RS1/10S822J	
	R3854	Not used	RS1/10S101J	
	R3855	Not used	RS1/10S680J	
	R3856, R3859	Not used	RS1/10S223J	
	R3858, R3861	Not used	RS1/10S105J	
	R3862	Not used	RS1/10S0R0J	
	JA3441 2P PIN JACK	Not used	VKB1060	

**POWER ASSY**

AWU7538 and AWU7510 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7538	AWU7510	
NSP	Y3301 JUMPER WIRE	ADX7324	Not used	
NSP	Y3302 JUMPER WIRE	ADX7325	Not used	
	PCB BINDER	VEF1040	Not used	

# XR-A9700DV, XR-VS100D

## **M** PRIMARY ASSY

AWU7516 and AWU7509 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7516	AWU7509	
△	S1 VOLTAGE SELECTOR	Not used	XKX3001	
△	R1 (2.2MΩ, 1/2W)	RCN1080	Not used	
△	AN1 1P AC INLET	XKP3042	XKP3041	
△	CN2 KE CONNECTOR 4P	Not used	B4P7-VH	
	H3-H6 FUSE CLIP	Not used	AKR7001	
	KN2 EARTH METAL FITTING	VNF1084	Not used	

## **N** DISPLAY ASSY

AWU7515 and AWU7508 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWU7515	AWU7508	
	IC3901	Not used	BA4558F	
	IC3931	Not used	M65855FP	
	D3931	Not used	MTZJ5.1B	
	F3901, F3902 CHIP SOLID INDUCTOR	Not used	VTF1096	
	L3901, L3902	Not used	LCTB100K2125	
	L3931	Not used	LAU100J	
	C3901, C3902, C3904, C3906	Not used	CEJA2R2M50	
	C3903	Not used	CKSQYB331K50	
	C3905	Not used	CEJA470M16	
	C3907, C3938	Not used	CKSQYB472K50	
	C3911, C3942	Not used	CKSQYB104Z25	
	C3931, C3934, C3940	Not used	CKSQYB103K50	
	C3932	Not used	CEJAR47M50	
	C3933	Not used	CEJA220M25	
	C3935	Not used	CKSQYF473Z50	
	C3937	Not used	CEJA4R7M50	
	C3939	Not used	CKSQYB123K50	
	C3943	Not used	CEJA101M16	
	R3901, R3902, R3907, R3911, R3912	Not used	RS1/10S332J	
	R3903, R3936	Not used	RS1/10S103J	
	R3904	Not used	RS1/10S104J	
	R3905	Not used	RS1/10S473J	
	R3906	Not used	RS1/10S681J	
	R3908	Not used	RS1/10S101J	
	R3921, R9995	Not used	RS1/10S0R0J	
	R3931	Not used	RS1/10S472J	
	R3932, R3937, R3938	Not used	RS1/10S123J	
	R3933	Not used	RS1/10S153J	
	R3934	Not used	RS1/10S124J	
	R3935	Not used	RS1/10S822J	
	R3940	Not used	RS1LMF121J	
	R5512	RS1/10S102J	RS1/10S221J	
	R5581	RS1/10S223J	Not used	
	R5582	Not used	RS1/10S223J	
	VR3901, VR3931	Not used	XCS3002	
	JA3901, JA3902	Not used	XKN3003	

**Mark No. Description Part No. Mark No. Description Part No.**  
**PCB PARTS LIST FOR XR-A9700DV/KUCXJ UNLESS OTHERWISE NOTED**

**A SW ASSY**

**SWITCHES**

S9502		ASG7009	IC15	MN414800CSJ-07
S9501		DSG1017	IC5,IC7	NJM2100M

**OTHERS**

J9501	JUMPER WIRE 6P	D20PWY0610E	IC11	PD3410A
			IC12	PD4995A
			IC401	PQ2TZ15

**B TRADE ASSY**

**OTHERS**

CN9501	6P JUMPER CONNECTOR	52147-0610	IC23	TC7SH32FU
CN9002	FFC CONNECTOR 13P	SLW13R-1C7	IC8	TC7SHU04F
CN9001	FFC CONNECTOR 8P	SLW8R-1C7	Q106,Q109,Q81-Q86	2SA1576A
			Q105,Q114,Q251	2SC4081
			Q102	HN1A01F

**C MOTOR ASSY**

**SWITCH**

S9503		ASG7009	Q103,Q281,Q6,Q7	HN1B04FU
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**OTHERS**

J9502	JUMPER WIRE 4P	D20PWW0405E	Q101	HN1C01F
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**D SMEB ASSY**

**SWITCH**

S201		DSG1016	Q112,Q113	HN1C01FU
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**OTHERS**

CN201	3P FFC CONNECTOR	52044-0345	Q108	HN1K03FU
CN202	8P FFC CONNECTOR	VKN1212	Q107	RN1902
	PC BOARD SMEB	VNP1722		

**E FGSB ASSY**

**SEMICONDUCTOR**

PC101		TLP910(O)	Q3	RN1911
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**RESISTORS**

All Resistors		RS1/10S□□□J	Q1	RN4982
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**F DVDM ASSY**

**SEMICONDUCTORS**

IC13		AYW7003	D302	KV1471E
IC21		CY2081SL-638	D6	RB501V-40
IC14		KM68V1000CLG-7L		
IC1		LA9701M		
IC2		LC78652W		
IC3		M56788FP		
IC19		MB811171622A-100FN		
IC18		MB86373		
IC16		MC74VHC541DT		
IC17		MC74VHCT541ADT		

**COILS AND FILTERS**

F8500	CHIP BEAD			DTF1069
F1	VIDEO FILTER			VTF1155
L101,L150,L330	CHIP COIL (10μH)			VTL1061
L81	CHIP COIL (22μH)			VTL1067
L304	CHIP COIL (2.7μH)			VTL1141

**CAPACITORS**

C123,C145,C282,C283,C613				CCSRCH101J50
C627,C629,C843				CCSRCH101J50
C322				CCSRCH120J50
C206,C210,C211				CCSRCH151J50
C126,C333,C845				CCSRCH180J50
C116,C151,C314				CCSRCH220J50
C152				CCSRCH221J50
C854				CCSRCH330J50
C209				CCSRCH331J50
C104-C108,C134,C236				CCSRCH470J50
C122,C208				CCSRCH471J50
C128,C335				CCSRCH560J50
C127,C334				CCSRCH5R0C50
C124,C146				CCSRCH680J50
C117,C240,C352,C360				CCSRCH681J25

C129,C142				CEV101M10
C113,C139				CEV220M16
C413,C700,C808				CEV221M4
C111,C149,C205,C207,C401				CEV470M6R3
C403,C407				CEV470M6R3

C140,C223,C224,C252,C264				CKSQYB105K10
C312,C801,C802,C807				CKSQYB105K10
C809-C815,C817-C819				CKSQYB105K10
C229				CKSQYB224K16
C148,C217,C414				CKSQYF105Z16

C216,C313,C337				CKSRYB102K50
C133,C136,C203,C220,C225				CKSRYB103K50
C239,C320,C321,C603,C625				CKSRYB103K50
C703,C711				CKSRYB103K50
C101,C102,C114,C118,C119				CKSRYB104K16

# XR-A9700DV, XR-VS100D

Mark	No.	Description	Part No.
	C121,C138,C204,C212,C213 C227,C228,C231,C263 C315-C317,C332,C804 C281,C354 C153,C266		CKSRYB104K16 CKSRYB104K16 CKSRYB104K16 CKSRYB222K50 CKSRYB223K25
	C214,C251,C261 C357 C330 C109,C110,C120,C130,C131 C143,C150,C202,C215		CKSRYB472K50 CKSRYB473K16 CKSRYB682K50 CKSRYF104Z16 CKSRYF104Z16
	C221,C222,C226,C230,C235 C265,C319,C327,C359,C367 C369,C370,C402,C404,C406 C408,C410,C412,C415 C601,C602,C604-C612		CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16
	C614,C615,C617-C623,C626 C701,C702,C704-C710 C712-C726,C831-C833 C837-C839 C820,C821 (2.2μF)		CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16 VCG1030
	C299,C844 (0.47μF) C368,C409,C411 (47μF/6.3V) C405 (330μF) VC1 (30pF)		VCG1032 VCH1166 VCH1191 VCM1013

## RESISTORS

R123 (39Ω × 4) R732,R733,R735,R736 (47Ω × 4) R632,R840 (100Ω × 4) R608,R609,R613,R624,R627 (10kΩ × 4)	ACN7047 ACN7077 DCN1092 DCN1094
R629,R631,R633,R634,R638 (10kΩ × 4) R654,R657,R658,R662,R706 (10kΩ × 4) R717,R718 (10kΩ × 4)	DCN1094 DCN1094 DCN1094
R121,R663 (22Ω × 4) R712,R715 (0Ω × 4) R1020,R162,R2010,R2020,R2030 R2040,R3050,R3520,R366,R4010 R4020,R4030,R4040,R4050,R4060	DCN1104 DCN1106 RS1/10S0R0J RS1/10S0R0J RS1/10S0R0J
R685,R722,R8000,R821 R202 R700 R396 R361,R364	RS1/10S0R0J RS1/10S101J RS1/10S1R2J RS1/16S1001F RS1/16S1003F
R807 R363,R365 R825-R827 R395 R805	RS1/16S1201F RS1/16S1503F RS1/16S1600F RS1/16S1801F RS1/16S2401F
R397,R806,R808 R848-R850 R164 R391 R394	RS1/16S2701F RS1/16S4700F RS1/16S5600F RS1/16S5601F RS1/16S6801F
R3510 Other Resistors	VCN1120 RS1/16S□□□□J

Mark	No.	Description	Part No.
<b>OTHERS</b>			
	X2	CHIP CERALOCK (20MHz)	DSS1110
		FLEXIBLE CABLE 07P	VDA1681
	CN6	7P FFC CONNECTOR	VKN1299
	CN7	B TO B CONNECTOR 14P	VKN1324
	CN4	24P FFC CONNECTOR	VKN1464
	CN30	13P FFC CONNECTOR	VKN1472
	CN80	32P FFC CONNECTOR	VKN1518
	CN20	27P FFC CONNECTOR	VKN1583
		BARCODE LABEL	VRW1773
	X1	CRYSTAL (13.824MHz)	VSS1129

## **G** CONNECT ASSY

### SEMICONDUCTORS

IC351	CS4341
IC501	LA7135AM
IC591	NJM78L08A
IC801	PD2058A
IC802	TC4W53F
IC201	TC74HCT7007AF
Q371,Q372	2SD2114K
Q353	DTA124EK
Q811-Q813	DTC124EK

### COIL AND FILTERS

F511-F514	CHIP BEAD	DTF1069
F251	CHIP SOLID INDUCTOR	VTF1096
L929	CHIP BEAD	VTL1095

### SWITCH

S551	VSH1020
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### CAPACITORS

C520-C522,C927,C928	CCSQCH101J50
C926	CCSQCH150J50
C359,C925	CCSQCH221J50
C921,C922	CCSQCH470J50
C357,C361,C362	CEJA100M16
C202,C251,C503,C508,C512	CEJA101M10
C592,C805	CEJA101M10
C355	CEJA1R0M50
C515,C516	CEJA331M6R3
C352	CEJA470M6R3
C101,C103,C105-C108,C201	CKSQYB103K50
C551	CKSQYB103K50
C252,C253,C351,C354,C356	CKSQYB104K25
C505-C507,C509,C511,C519	CKSQYB104K25
C591,C801-C804	CKSQYB104K25
C363,C364	CKSQYB681K50

### RESISTORS

All Resistors	RS1/10S□□□□J
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Mark	No.	Description	Part No.
<b>OTHERS</b>			
	X801	CERAMIC RESONATOR (24MHz)	VSS1127
	CN103	32P FFC CONNECTOR	52045-3245
	CN501	4P MINI DIN SOCKET	AKP7008
	JA251	OPTICAL LINK OUT	GP1F32T
	JA502	1P PIN JACK	VKB1063
	CN104	7P FFC CONNECTOR	VKN1183
	CN102	27P FFC CONNECTOR	VKN1203
	CN105	7P FFC CONNECTOR	VKN1211
	CN101	32P FFC CONNECTOR	VKN1263
	KN101	EARTH METAL FITTING	VNF1084

**H FM/AM TUNER MODULE SEMICONDUCTORS**

IC6201	LA1832ML
IC6202	LC72131MD
Q6402	2SC2223
Q6203	2SC2705
Q6201,Q6202	2SC2712
Q6214,Q6403	2SC2714
Q6404	2SK302
Q6401	3SK194
Q6204	DTA124ES
Q6205	DTC124EK
D6202	1SS254
D6401,D6402	1T378A

**COILS AND FILTERS**

L6404	FM COIL	ATC1003
L6401	FM RF COIL	ATC1020
L6402	FM RF COIL	ATC1021
F6204	FM CERAMIC FILTER	ATF-107
F6203	FM CERAMIC FILTER	ATF-119
F6401	FM BAND PASS FILTER	ATF-155
F6206	FM CERAMIC DISCRIMINATOR	ATF7008
F6202	AM CERAMIC FILTER	ATF7011
L6206,L6208,L6403		LAU2R2J

**TRANSFORMERS**

T6201	AM IF TRANS.	ATB7008
T6401	FM CONNECT TRANS.	ATE7002

**CAPACITORS**

C6208	CCSQCH100D50
C6212,C6274,C6275,C6408	CCSQCH101J50
C6412	CCSQCH102J50
C6221,C6222,C6416	CCSQCH150J50
C6271	CCSQCH200J50
C6415	CCSQCH330J50
C6406	CCSQCH331J50
C6401,C6419	CCSQCH5R0C50
C6407	CCSQCK1R0C50
C6410	CCSQCK2R0C50
C6413	CCSQRH180J50
C6414	CCSQRH8R0D50
C6405	CCSQTH150J50
C6234,C6235	CEAL1R0M50
C6245	CEAL470M16

Mark	No.	Description	Part No.
	C6224		CEAT100M50
	C6243		CEAT101M16
	C6231		CEAT1R0M50
	C6227		CEAT220M25
	C6214,C6236		CEAT2R2M50
	C6262		CEAT3R3M50
	C6219		CEAT470M10
	C6244		CEAT470M16
	C6249,C6250,C6265,C6266		CEAT4R7M50
	C6258		CEJA470M16
	C6215		CFTLA103J50
	C6211,C6254,C6403,C6417		CKSQYB102K50
	C6201,C6205,C6210,C6237,C6276		CKSQYB103K50
	C6278,C6280,C6281,C6402,C6409		CKSQYB103K50
	C6418		CKSQYB103K50
	C6251,C6252		CKSQYB153K50
	C6203,C6259		CKSQYB223K50
	C6228		CKSQYB472K50
	C6209		CKSQYB473K50
	C6230		CKSQYB821K50
	C6218,C6223,C6255		CKSQYF103Z50
	C6220,C6226,C6242,C6256		CKSQYF223Z50
	C6225		CKSQYF473Z50

**RESISTORS**

R6280	RD1/4PU101J
R6413,R6416,R6418,R6906,R6909	RS1/8S0R0J
R6401	RS1/8S470J
VR6201 (10kΩ)	PCP1029
Other Resistors	RS1/10S□□□□

**OTHERS**

BN6202	4P ANTENNA TERMINAL	AKE7051
X6202	CERAMIC RESONATOR (456kHz)	ASS1066
X6201	CRYSTAL RESONATOR (7.2000MHZ)	ASS1093
CN6201	14P SOCKET MW RF TUNING BLOCK	KP200IA14L AXX7041

**I AF ASSY SEMICONDUCTORS**

IC2101,IC3101-IC3103	BA4558F-HT
IC5891,IC5892	BU4094BCF
IC2201	HA12136AF
IC2301	HA12211NT
IC3001	LC75394NED
Q3601,Q3621	2SA1037K
Q31	2SA965
Q2806	2SB1197K
Q2803,Q2804	2SC1815
Q2801	2SC2240
Q2102,Q2201,Q2202,Q3101,Q3102	2SC2412K
Q3603,Q3605-Q3608	2SC2412K
Q3081	2SD1858X
Q2203,Q2204,Q2805,Q3001,Q3002	2SD2114K
Q3005,Q3006	2SD2114K
Q2301,Q2302	2SK368
Q3009	DTA124EK
Q3003	DTA143EK
Q2104,Q2105,Q3314	DTC124EK
Q2103,Q2306,Q2802,Q2807	DTC143EK

# XR-A9700DV, XR-VS100D

Mark	No.	Description	Part No.
	D2191, D2301-D2306, D3001		1SS133
	D3101, D3102, D33, D3601		1SS133
	D3603, D3604, D3612, D3613		1SS133
	D3621, D3622, D3625-D3627, D5891		1SS133
	D2102, D2103, D2201, D2202, D3051		1SS355
	D3083	MTZJ11C	
	D34	MTZJ36A	
	D2001	MTZJ6.2A	
	D31	MTZJ8.2B	
△	D35, D36	S5688G	

## COILS AND FILTERS

L3601, L3602	AF CHOKE COIL	ATH-133
L2801	OSC COIL	ATX7002
F3001-F3003	CHIP BEAD	DTF1069
L2101		LAU100J
L3991		LAU4R7J
L3065		LCTB4R7K2125
L2301, L2302		LTA822J
F2201, F2202	MPX FILTER	RTF1209

## RELAYS

RY3601	ASR7008
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## CAPACITORS

C2303, C2304 (270pF)	ACG7024
C2301, C2302, C3603	CCSQCH100D50
C3047, C3048, C5892	CCSQCH101J50
C2192	CCSQCH220J50
C2207, C2803, C2810, C3011, C3012	CEAT100M50
C3063, C3064, C3081, C3091, C3107	CEAT100M50
C3602	CEAT100M50
C2002, C2316, C3045, C3046	CEAT101M16
C3684	CEAT101M50
C3004	CEAT102M10
C2312, C2313, C3035, C3036, C3108	CEAT1R0M50
C2106, C2214, C2215, C2321, C2322	CEAT220M50
C31	CEAT220M50
C2001	CEAT221M16
C3601	CEAT221M25
C32	CEAT221M63
C2201, C2202, C2205, C2206	CEAT2R2M50
C2212, C2213, C2319, C2320	CEAT2R2M50
C3005-C3010, C3017, C3018, C3104	CEAT2R2M50
C3621, C3853, C3854	CEAT2R2M50
C2804, C2805	CEAT330M16
C3105	CEAT3R3M50
C2195	CEAT470M25
C3106, C3109, C3127, C3128	CEAT4R7M50
C35	CEAT682M16
C2203, C2204	CEATR22M50
C3102	CEATR47M50
C3027, C3028	CFTLA334J50
C3023, C3024	CFTLA474J50
C2802	CKCYB681K2H
C2315, C2317, C2318, C3053, C3083	CKSQYB103K50
C3086, C3098, C3103	CKSQYB103K50
C2191, C2193, C3021, C3022, C3071	CKSQYB104K25
C3099, C5891	CKSQYB104K25
C2194	CKSQYB105K10

Mark	No.	Description	Part No.
	C3033, C3034		CKSQYB122K50
	C2208, C2209		CKSQYB152K50
	C2323, C2326		CKSQYB223K50
	C3121, C3122		CKSQYB271K50
	C2324, C2325		CKSQYB272K50
	C3029, C3030		CKSQYB273K50
	C2808, C2809		CKSQYB332K50
	C2333, C2334, C2807		CKSQYB472K50
	C3111, C3112		CKSQYB473K25
	C3101		CKSQYB473K50

C3019, C3020, C3031, C3032		CKSQYB682K50
C3025, C3026		CKSQYB683K25
C2307, C2308, C2331, C2332		CKSQYB821K50
C5691, C5692		CKSQYF474Z16
C2801		CQHA822J2A
C2210, C2211		CQMB103J50
C2806		CQMB223J50
△ C33, C34 (4700μF/80V)		XCH3001

## RESISTORS

R2812	RD1/2LMF470J
R3619, R3620	RD1/4LMF100J
R5892, R5894, R5895	RD1/4PU102J
R31	RD1/4PU103J
R3029	RD1/4PU104J
R3081, R5893	RD1/4PU221J
R32	RD1/4PU222J
R2813	RD1/4PU471J
R3026	RD1/4PU472J
R2809	RD1/4PU473J
△ R3991, R3992	RS2LMF331J
R3601, R3602	RS3LMFR22J
VR2303-VR2306 (10kΩ)	VCP1156
VR2301, VR2302 (100kΩ)	VCP1162
VR2801, VR2802 (220kΩ)	VCP1164
Other Resistors	RS1/10S□□□J

## OTHERS

CN5104	17P CABLE HOLDER	51063-1705
CN5105	32P FFC CONNECTOR	52044-3245
CN31	39P FFC CONNECTOR	52045-3945
CN3601	4P JUMPER CONNECTOR	52147-0410
	4P SPEAKER TERMINAL	AKE7018
JA3991	HEADPHONE JACK	AKN-056
CN3995, CN3998	20P SOCKET	AKP7088
CN2303	KR CONNECTOR	B3B-PH-K-R
CN2301	KR CONNECTOR 3P	B3B-PH-K-S
CN3051	14P PLUG	KM200IB14
JA3001	2P PIN JACK	VKB1050
JA3003	2P PIN JACK	VKB1060
J3001	BOARD IN WIRE	DB007NS0

Mark	No.	Description	Part No.
<b>J REGULATOR ASSY</b>			
<b>SEMICONDUCTORS</b>			
△	IC51		NJM7805FA
△	IC53		NJM7806FA
△	IC52,IC54		NJM7812FA
	Q82		2SA1037K
	Q51,Q52,Q55,Q60,Q62		2SB1237X
△	Q64		2SB1566
	Q53,Q54,Q63,Q83,Q85		2SC2412K
△	Q81		2SD1858X
△	Q57		2SD2395
	Q84		DTC143EK
	D52,D54,D72,D81,D89		1SS133
	D91,D92		1SS133
	D58-D60		MTZJ15C
	D90		MTZJ2.7B
	D82		MTZJ24D
	D53,D55		MTZJ7.5C
<b>CAPACITORS</b>			
	C52,C54,C64,C81,C85		CEAT100M50
	C65		CEAT101M16
	C55		CEAT1R0M50
	C53,C87		CEAT220M50
	C66		CEHAT100M50
	C57,C59,C62		CEJA100M16
	C56,C61		CEJA1R0M50
<b>RESISTORS</b>			
	R89		RD1/2VM330J
	R52		RD1/4PU121J
	R54		RD1/4PU181J
	R64		RD1/4PU222J
	R66		RD1/4PU472J
	R70		RD1/4PU680J
	R60		RS1/10S27R0F
	R61		RS1/10S6800F
	Other Resistors		RS1/10S□□□□
<b>OTHERS</b>			
	CN3994 20P PLUG		AKM7025

**K SECONDARY ASSY**

Mark	No.	Description	Part No.
<b>SEMICONDUCTORS</b>			
△	IC16 (4A)		AEK7018
△	IC15 (5A)		AEK7019
△	IC11,IC12 (10A)		AEK7022
△	IC17 (630mA)		AEK7061
△	IC13,IC14 (10A)		AEK7068
△	D12,D13		G3SBA20L
△	D11		G5SBA20L
<b>CAPACITORS</b>			
△	C16 (6800μF/25V)		ACH7120
△	C13		CQMA103K2E
<b>OTHERS</b>			
	17P CABLE HOLDER PCB BINDER		51063-1705 VEF1040

Mark	No.	Description	Part No.
<b>L POWER ASSY</b>			
<b>SEMICONDUCTORS</b>			
△	IC3302 (1.25A)		AEK7010
△	IC3305,IC3306 (7A)		AEK7047
	IC3303,IC3304		BA4558F-HT
△	IC3301		STK407-090B
	Q3354		2SA1037K
	Q3353		2SC2412K
	Q3311,Q3312		2SD2114K
	Q3317,Q3318		2SK246
	Q3313,Q3315		DTA124EK
△	Q3352		IRF540A
△	Q3351		IRF9540A
△	D3301,D3302		1SR139-100
	D3351-D3354,D3361,D3362		1SS133
△	D3355,D3356		20E2-FC
△	D3303		D5SBA20(B)
	D3357,D3358		MTZJ10C
	D3313		MTZJ12C
	D3359,D3360		MTZJ18B
	D3363,D3364		MTZJ39C
<b>CAPACITORS</b>			
△	C3306,C3307 (4700μF/50V)		ACH7121
	C3319,C3320		CCSQCJ3R0C50
	C3311,C3312,C3361,C3362		CEANL1R0M50
	C3317,C3318		CEANP100M35
	C3313,C3314		CEANP2R2M50
	C3334		CEAT100M50
	C3303,C3304		CEAT101M50
	C3328		CEAT1R0M50
	C3321,C3322,C3329,C3330		CEAT470M25
	C3325		CEATR47M50
	C3315,C3316		CKSQYB222K50
	C3326,C3327		CKSQYB682K50
	C3331-C3333		CKSQYF104Z50
<b>RESISTORS</b>			
	R3353,R3354		RD1/4PU101J
	R3317,R3318		RD1/4PU563J
	R3347		RS1LMF821J
	Other Resistors		RS1/10S□□□□
<b>OTHERS</b>			
	CN3997 20P PLUG PCB BINDER		AKM7025 VEF1040

**M PRIMARY ASSY**

Mark	No.	Description	Part No.
<b>SEMICONDUCTORS</b>			
△	IC41		NJM78M05FA
	Q41		2SD1859X
	D45,D46,D48,D49		1SS133
△	D41		S1WB(A)60SD
<b>COIL</b>			
△	L1	LINE FILTER	ATF7020
<b>TRANSFORMER</b>			
△	T2		ATT7060
<b>RELAY</b>			
△	RY41		ASR7018

# XR-A9700DV, XR-VS100D

Mark	No.	Description	Part No.
<b>CAPACITORS</b>			
△	C3	(10000pF/AC250V)	ACG7020
	C43		CEAT100M50
	C42		CEAT102M25
<b>RESISTORS</b>			
△	R1	(2.2MΩ, 1/2W)	RCN1080
	R42		RD1/4PU220J
	Other Resistors		RS1/10S□□□□
<b>OTHERS</b>			
	41	4P CABLE HOLDER	51048-0400
	H1,H2	FUSE CLIP	AKR7001
△	CN1	2P VH CONNECTOR	B2P3-VH
	J41	JUMPER WIRE 4P	D20PYY0430E
	KN2	EARTH METAL FITTING	VNF1084
△	AN1	1P AC INLET	XKP3042

## **N** DISPLAY ASSY SEMICONDUCTORS

IC5601	HEF4794BT
IC5631	M62457AFP
IC5501	PDC058A
Q5501	2SA1037K
Q2903,Q2906,Q2908	2SB1132
Q5602,Q5801	2SC2412K
Q2910,Q2911	DTA124EK
Q2901,Q2904,Q2907,Q5502,Q5601	DTC143EK
Q5604,Q5650-Q5655,Q5821	DTC143EK
D5626,D5811,D5901	1SS133
D5561-D5568,D5570	1SS181
D2901-D2903,D5581	1SS355
D5613-D5618	MAA5064X
D5651	MTZJ5.6A
D5611	SLR-343MC(NPQ)
D5610	SLR-343PC(LM)
D5612,D5619,D5620	SLR-343VC(NPQ)
D5603-D5605,D5607	SLR-56MC(PQR)
D5650	UDZS5.6B

## COIL

L5811	LAU220J
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## SWITCHES

S5952	ASX7017
S5911-S5936	XSG3001
S5951	XSX3003

## CAPACITORS

C5812 (0.047F/5.5V)	ACH1246
C5603,C5604	CCSQCH100D50
C5601	CCSQCH101J50
C5513,C5523	CCSQCH221J50
C5821	CEJA100M16
C5803	CEJA1R0M50
C5510,C5811,C5814	CEJA470M16
C5804	CKSQYB102K50
C3916	CKSQYB103K50
C5509,C5951-C5954	CKSQYB471K50
C3914,C5506-C5508,C5512	CKSQYB472K50
C5602,C5631,C5632,C5816,C5901	CKSQYF104Z25
C5997-C5999	CKSQYF104Z25
C5503,C5504,C5813,C5822	CKSQYF473Z50
C5633	CKSQYF474Z16

Mark	No.	Description	Part No.
<b>RESISTORS</b>			
	R5506,R5508		RA7T104J
	R5601,R5617		RD1/2PM331J
	R5811,R5920,R5930		RD1/4PU101J
	R2905,R5540,R5543,R5620,R5621		RD1/4PU102J
	R5803,R5919,R5929		RD1/4PU102J
	R5931		RD1/4PU121J
	R5922,R5932		RD1/4PU151J
	R5915,R5923,R5933		RD1/4PU181J
	R5604,R5610,R5611,R5619,R5901		RD1/4PU221J
	R5916,R5934		RD1/4PU271J
	R5917,R5935		RD1/4PU331J
	R5804		RD1/4PU473J
	R5613,R5918,R5926		RD1/4PU561J
	R2902,R2907		RD1/4PU681J
	Other Resistors		RS1/10S□□□□

## OTHERS

X5501	CERAMIC RESONATOR (6MHz)	RSS1050
CN2901	17P FFC CONNECTOR	52045-1745
CN5501	39P FFC CONNECTOR	52045-3945
X5901	REMOTE RECEIVER UNIT	GP1U28X
CN5502,CN5503	3P PLUG	KM200IB3
	FL HOLDER	VNF1096
V5621	FL TUBE	XAV3008

## **O** LED 1 ASSY SEMICONDUCTOR

D5608	E1L4E-7B(123)
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## CAPACITOR

C5650	CKSQYB104K25
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## OTHERS

CN5504	3P SOCKET	KP200IB3L
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## **P** LED 2 ASSY SEMICONDUCTOR

D5609	E1L4E-7B(123)
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## CAPACITOR

C5651	CKSQYB104K25
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## OTHERS

CN5505	3P SOCKET	KP200IB3L
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## BIND 1 ASSY

### OTHERS

PCB BINDER	VEF1040
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## BIND 2 ASSY

### OTHERS

PCB BINDER	VEF1040
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## 6. ADJUSTMENT

### 6.1 TUNER SECTION

#### ■ FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	FM SG (1kHz, ± 75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Front End Sensitivity	98	0 to 30	98MHz	L6402 T6401	Adjust so that the DC voltage between the IC6201 - pin 20 and GND becomes at maximum level.
2	TUNED IND. Lighting Level	98	18 ± 2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. strats to light up.

Note:

Before adjusting, make sure there is no gap between L6401 and L6402. If there is a gap between them, bring them into contact with each other first, and then make adjustments.

#### ■ AM Tuner Section

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dBμV/m)			
1	Front End Sensitivity	999 (*1)	35 to 45	999kHz (*1)	T6201	Adjust so that the DC voltage between the IC6201 - pin 20 and GND becomes at maximum level.

Note (\*1) : For the area using 10kHz step, frequency should be 1000kHz.

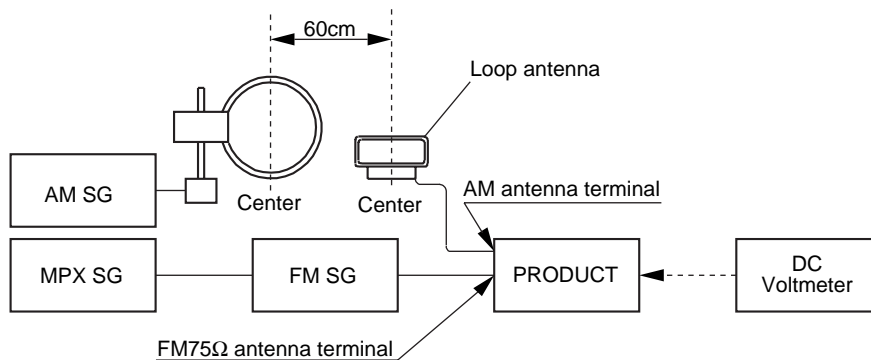


Fig.1 AM and FM Adjustment Wiring Diagram

#### FM/AM TUNER MODULE

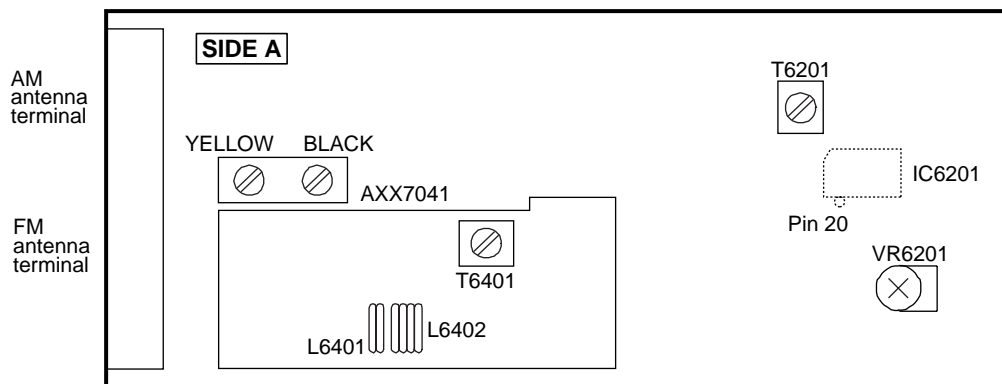


Fig.2 Adjustment Point

## 6.2 CASSETTE DECK SECTION

• Adjustment points and test points are shown in Fig.3, Fig.5 and Fig.7.

### ■ Mechanical Adjustment

• Test tape : NCT-111 (3kHz, 30min).

#### 1. Tape Speed Adjustment

No.	Mode	Test Tape	Adjusting Points	Measurement Points	Adjustment Procedure	Remarks
1	Deck I PLAY	NCT-111 (Playback : 3kHz)	ADJ. VR on CASSETTE MECHA (Fig. 3)	TAPE TEST POINT (Rch) (AF Assy)	Press the PLAY SW and adjust so that the reading becomes $3000\text{Hz} \pm 20\text{Hz}$ . Confirm that wow & flutter level is below 0.3% (in the reverse direction, confirm that the reading is within 2940Hz to 3090Hz).	

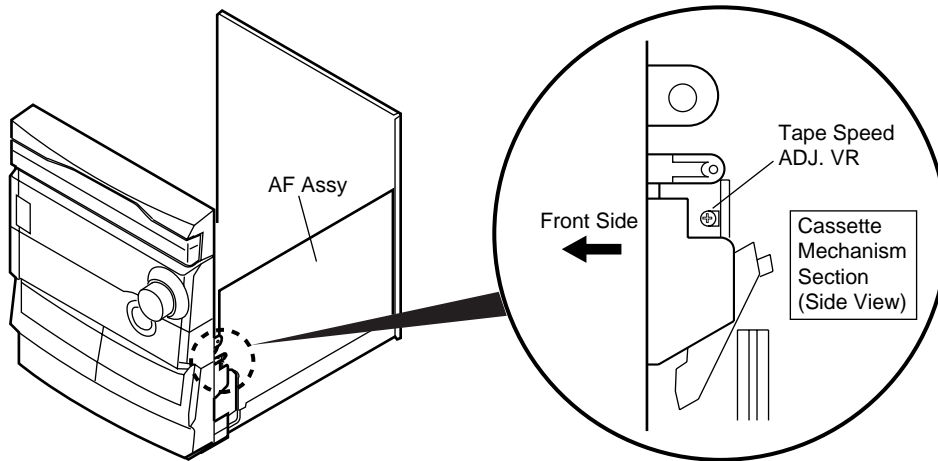


Fig.3 Tape Speed ADJ. Point

### ■ Electrical Adjustment

#### Check the following before starting.

- (1) Confirm that the tape speed adjustment has been completed.
- (2) Clean the heads and demagnetize them using a head eraser.
- (3) Set the measurement level to 0 dBV = 1 Vrms.
- (4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.  
STD-331E : For playback check  
STD-633 : Normal blank tape
- (5) Provide yourself with the following measuring devices:
  - AC millivoltmeter
  - Low-frequency oscillator
  - Attenuator
  - Oscilloscope
- (6) Adjust both right and left channels unless otherwise specified.
- (7) Turn the DOLBY NR switch off unless otherwise specified.
- (8) Warm up the unit for several minutes before adjustment.  
In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
- (9) Always follow the indicated adjustment order.  
Otherwise, a complete adjustment may not be achieved.

#### Playback Adjustment (Decks I and II)

- (1) Head Azimuth Adjustment
- (2) Playback Level Adjustment

#### Recording Adjustment (Deck I)

- (1) Bias Oscillation Frequency Adjustment
- (2) Recording Bias Adjustment
- (3) Recording Level Adjustment.
- (4) ALC Operation Check

\* As the reference recording level is 250nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160nwb/m). When adjusting, pay careful attention to the type of tape used.

*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.  
"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.*

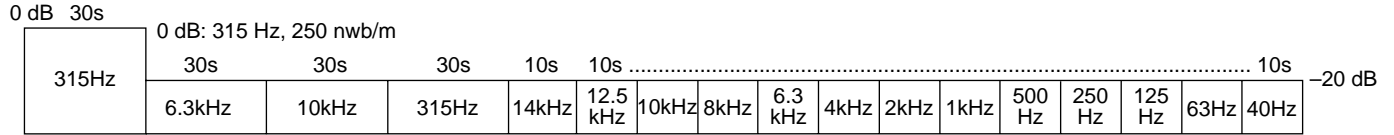


Fig.4 STD-331E Test Tape

**■ Playback Adjustment**

**(1) Head Azimuth Adjustment**

• Do not switch between forward and reverse operation with the screwdriver inserted.

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 10kHz, -20dB)	Deck I	Head azimuth adjustment screw (Fig. 5)	TAPE TEST POINT (L, Rch) (AF Assy)	Max. playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.
			Deck II				

**(2) Playback Level Adjustment**

• Since this adjustment determines playback dolby NR level, perform it carefully.

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 315Hz, 0dB)	Deck I	VR2303 (L ch) VR2304 (R ch)	TAPE TEST POINT (L, Rch) (AF Assy)	- 3.7dBV ± 2dB	
			Deck II	VR2305 (L ch) VR2306 (R ch)			

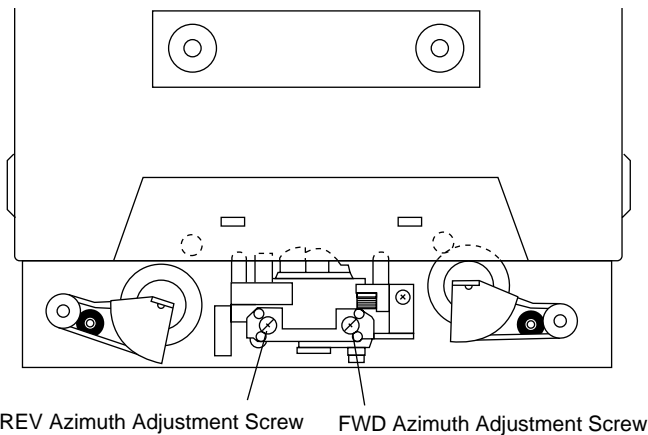
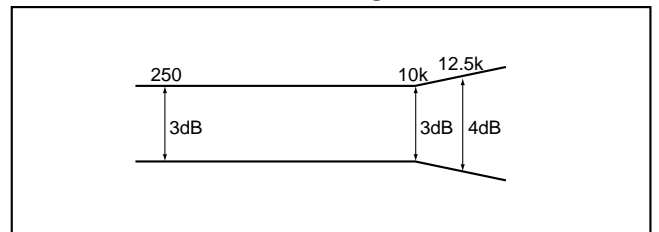


Fig. 5 Head Azimuth Adjustment Screw

**PLAYBACK**



**RECORDING**

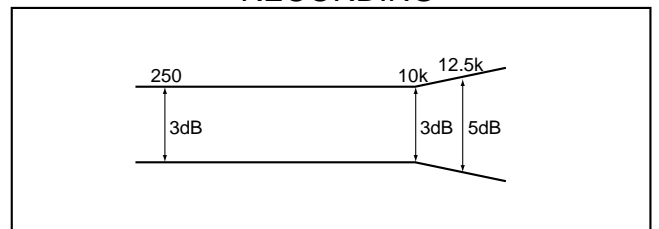


Fig. 6 Frequency Characteristics

## ■ Recording Adjustment

### (1) Bias Oscillation Frequency Adjustment

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Load the STD-633 test tape and set the recording mode.	Deck II	_____	Between (A) point Fig. 7 and GND	Oscillation frequency to be 105.0kHz ± 2kHz.	If the REC/STOP button for four seconds while the power is in STANDBY mode, the frequency will decrease 2 to 3 kHz.
			Deck I	L2801 (AF Assy)			

### (2) Recording Bias Adjustment

• Since this adjustment affects recording bias, prevent distortion from increasing due to underbias.

Step	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315 Hz signal to the AUX terminal and set the input selector to AUX.	Deck II	_____	TAPE TEST POINT (L, Rch) (AF Assy)	- 26dBV	
			Deck I	Input signal level			
2	REC → PLAY	Load the STD-633 test tape and record/playback the 315Hz and 10kHz signals (see the Note below)	Deck II	_____	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat adjustment until playback level of the 10kHz signal is within 0 ± 0.5 dB from that of the 315Hz signal.	
			Deck I	VR2801 (L ch) VR2802 (R ch)			

Note : Set the 10 kHz input signal level to the same value as the 315 Hz input signal level of step 1.

### (3) Recording Level Adjustment

Step	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315 Hz signal to the AUX terminal and set the input selector to AUX.	Deck II	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	- 7.7 dBV ± 0.5dB	
			Deck I				
2	REC → PLAY	Load the STD-633 test tape and record/playback the 315Hz signal.	Deck II	_____	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat recording, playback and adjustment until playback level of the 315 Hz signal becomes - 7.7 dBV.	
			Deck I	VR2301 (L ch) VR2302 (R ch)			

### (4) ALC Operation Check

Step	Mode	Input Signal/Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315 Hz signal to the AUX terminal and set the input selector to AUX.	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	- 8.2 dBV	
2			Set to a level + 10dB above the input level at step 1.		Confirm that the reading is - 2.2 ± 2.5 dBV.	



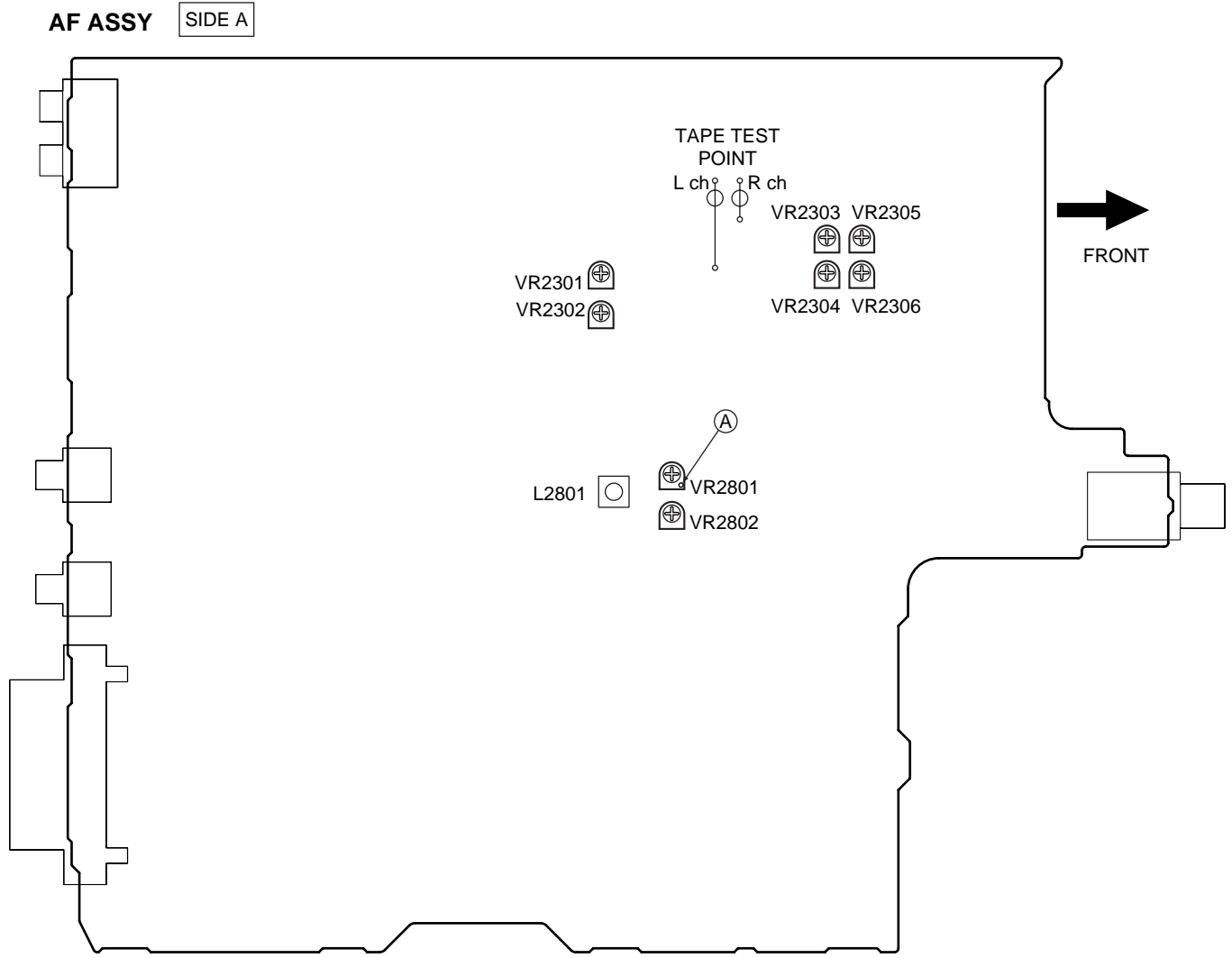


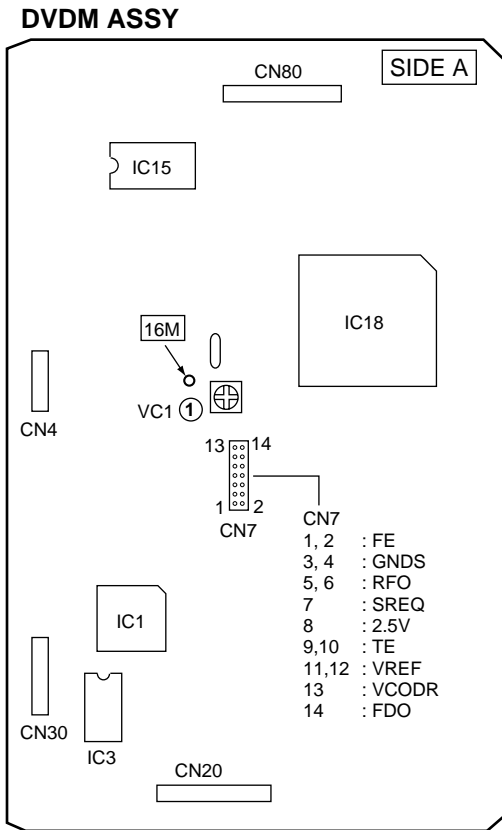
Fig.7 Adjustment and Measurement Points

## 6.3 DVD SECTION

### 6.3.1 ADJUSTMENT ITEMS AND LOCATION

**Note :** When the Traverse mechanism adjustment is not properly adjusted, jitter, error rate and play ability are defective.  
The noise may come out by the case.

#### ■ Adjustment Points (PCB Part)

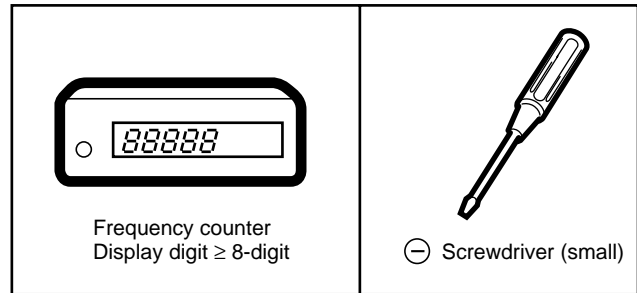


#### ■ Adjustment Items

[Electrical Part]

- ① Master Clock Adjustment

### 6.3.2 JIGS AND MEASURING INSTRUMENTS



### 6.3.3 NECESSARY ADJUSTMENT POINTS

When

Adjustment Points

#### ■ EXCHANGE PCB ASSY

Exchange board  
DVDM ASSY



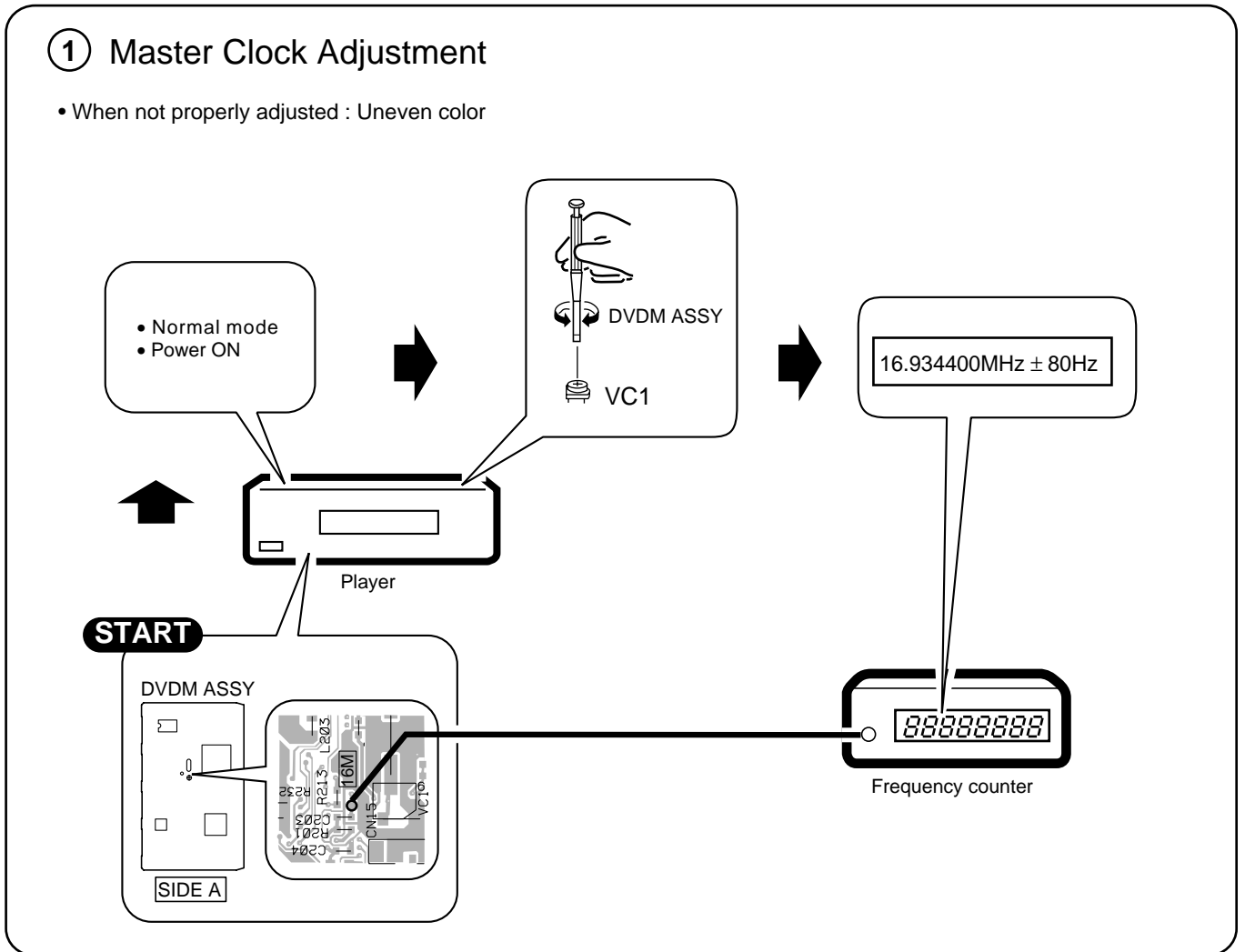
Mechanical point	_____
Electric point	_____

Note : ① is adjusted already.

### 6.3.4 ELECTRICAL ADJUSTMENT

#### ① Master Clock Adjustment

- When not properly adjusted : Uneven color



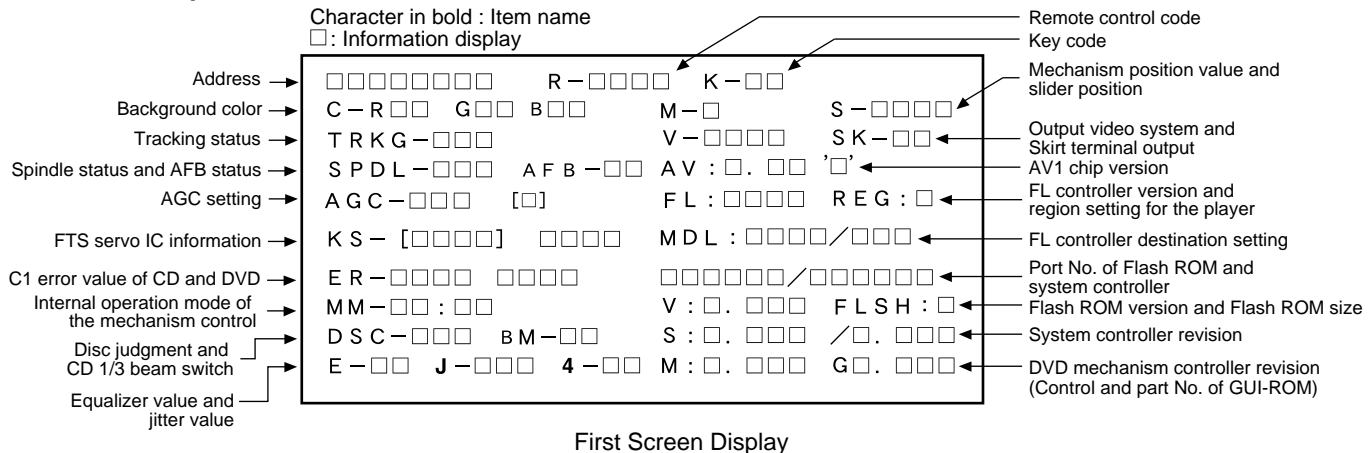
## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 TEST MODE SCREEN DISPLAY

Consecutive double-OSD display is supported during test mode. The screen is composed 10 lines with a maximum of 32 characters per line. It can't be used with the debugging display mode together.

##### • Screen Composition



##### Caution :

The first screen and second screen switch by pressing [DISPLAY] key of the remote control unit.

It is only a version display part on the lower right of the screen those contents of display change.

ATB : ON/OFF information display and AGC manual setting display deleted with the second generation.

The displays of Tilt error value, Tilt servo status and pickup DVD/CLD display deleted with the third generation becomes LD part is deleted.

##### • Description of Each Item on the Display

###### (1) Address indication

The address being traced is displayed in number.

DVD : ID indication (hexadecimal number, 8 digits)  
[ \* \* \* \* \* \* \* \* ]

CD : A-TIME (min. sec.) [ 0 0 0 0 \* \* \* \* ]

(Note : For DVDs, decimal-number indication is possible.)

###### (2) Code indication of the remote control unit

[R - \* \* \* \* ]

The code for the key pressed on the remote control unit, which is received by the FL controller, is displayed while the key is pressed. In the case of the double code, the second code will be displayed.

###### (3) Key code indication for the main unit [K - \* \* ]

The code for the key pressed on the main unit, which is received by the system controller, is displayed while the key is pressed.

###### (4) Background color indication [C - R \* \* G \* \* B \* \* ]

###### (5) Tracking status [TRKG - \* \* \* ]

Tracking on [ON ]  
Tracking off [OFF ]

###### (6) ① Spindle status [SPDL - \* \* \* ]

Spindle accelerator and brake, free-running [A/B]  
FG servo [FG]  
Rough, velocity phase servo [SRV]  
Offset addition, rough, velocity phase servo [O\_S]

###### ② AFB status [AFB - \* \* \* ]

ON [ON ]  
OFF [OFF ]

###### (7) Mechanism position value [M - \* ]

Position code [1] to [3]

###### (8) Slider position [S - \* \* \* \* ]

CD TOC area [IN ]  
CD active area [CD ]

###### (9) AGC setting [AGC - \* \* \* ]

AGC on [AGC-ON]  
AGC off [AGC-OFF]

**(10) Output video system [V - \* \* \* \*]**

NTSC system	[NTSC]
PAL system	[PAL ]
Auto-setting	[AUTO]

**Skirt terminal output [SK - \* \*]**

VIDEO	[00]
S-VIDEO	[01]
RGB	[02]

\* : Display only the model which can do the output setting of skirt terminal.

**(11) FTS servo IC information**

DSP coefficient indication [KS - [ \* \* \* \* ] \* \* \* \* ]  
 Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

**(12) Error rate indication**

- ① C1 error value of CD [ER - C1 \* \* \* \* ]  
 ② C1 error value of DVD [ER - \* \* \* \* \* \* \* \* ]

**(13) Internal operation mode of mechanism controller**

[MM - \* \* : \* \*]

Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

**(14) ① Disk sensing [DSC - \* \* \*]**

The type of discs loaded is displayed.  
 [DVD], [CD ], [VCD], [ ]

**② CD 1/3 beam switch [BM - \* \*]****(15) ① Equalizer value [E - \* \*]****② Jitter value [J - \* \*]**

Make the jitter four times, and renew it in every one second.  
 [4 - \* \*]  
 CD is effective only in the jitter value.

**(16) Version of the AV-1 chip [ AV : \* . \* \* ' \* ]****(17) ① Version of the FL controller**

[FL : \* \* \* \*]

**② Region setting of the player [REG : \* ]**

Setting value [1] to [6]

**(18) Destination setting of the FL controller**

[MDL : \* \* \* \* / \* \* \* \* ]

For characters in front represent the type of model :  
 There characters that follow represent the destination code.  
 J : /J, K : /KU, /KC, /KU/KC, R : /RAM, /RL, /RD, /LB,  
 WY : /WY

**(19) The part number of the flash ROM and system controller [ \* \* \* \* \* \* / \* \* \* \* \* \* \* \* ]**

- ① Part number of the flash ROM <Front>  
 (Example) VYW1536-A → W1536A  
 (Example) PD6256A9 → 6256A9  
 ② Part number of the system controller <Rear>  
 (Example) PD3381T1 → 3381T1

**(20) ① Version of the flash ROM [V : \* . \* \* \*]****② Flash ROM size [FLSH = \*]****(21) Revision of the system controller**

[S : \* . \* \* \* / \* . \* \* \*]

- ① Revision number of the external ROM part (flash ROM) of the system controller <Front>  
 ② Revision of the internal ROM part of the system controller <Rear>

**(22) Revision of the DVD mechanism controller**

[M : \* . \* \* \*]

Revision number of the external ROM part (flash ROM) of the DVD mechanism controller

**(23) Control and part numbers of the GUI-ROM**

[GUI : \* \* \* \*]

No GUI model displays as " — / — ".

OEM model displays the part number of GUI-ROM [GUI : \* \* \* \*]

## 7.1.2 TROUBLE SHOOTING

### XR-A9700DV, XR-VS100D microcomputer troubleshooting

Symptom of problem	Thought cause	Check method
<ul style="list-style-type: none"> <li>The power supply does not enter though the power supply outlet is put, standby LED lit even if the POWER key is pushed.</li> </ul>	<ul style="list-style-type: none"> <li>The microcomputer is not reset.</li> </ul>	<ul style="list-style-type: none"> <li>Whether terminal RESET (12Pin) is "H" is confirmed. The operation of the RESET circuit is confirmed if not becoming "H".</li> </ul>
	<ul style="list-style-type: none"> <li>The AC pulse is not input.</li> </ul>	<ul style="list-style-type: none"> <li>Whether the AC pulse is input to AC input terminal (11Pin) is confirmed. If the AC pulse is not input, the AC pulse generation circuit is confirmed.</li> </ul>
	<ul style="list-style-type: none"> <li>The oscillation circuit of the microcomputer does not oscillate.</li> </ul>	<ul style="list-style-type: none"> <li>The microcomputer or the oscillation circuit is broken. The microcomputer or the oscillation circuit is exchanged.</li> </ul>
<ul style="list-style-type: none"> <li>It enters the state of POWER OFF soon even in case of the POWER ON.</li> </ul>	<ul style="list-style-type: none"> <li>The PROTECT input does not become "H".</li> </ul>	<ul style="list-style-type: none"> <li>Whether "H" is input to PROTECT input (55Pin) when "H" is output to the terminal of SCAN ON is confirmed. If "H" is not input, diode D5570 etc. are confirmed.</li> </ul>
	<ul style="list-style-type: none"> <li>If the function is DVD, the 3.3DETECT input is 2.9V or less.</li> </ul>	<ul style="list-style-type: none"> <li>If the voltage of the 3.3DETECT (25Pin) terminal of the microcomputer is 2.9V or less, the voltage is adjusted to 2.9V or more.</li> </ul>
<ul style="list-style-type: none"> <li>DVD does not operate at all.</li> <li>Time is not displayed in FL DISPLAY at the DVD function.</li> </ul>	<ul style="list-style-type: none"> <li>It does not communicate with the DVD microcomputer.</li> </ul>	<ul style="list-style-type: none"> <li>Whether terminal (27Pin,94-97Pin) for the communication with the DVD microcomputer does the communication operation is confirmed. If the communication operation is not done, whether the FFC cable etc. are disconnected is confirmed.</li> <li>Whether "H" is output to terminal DVDRESET (3Pin) is confirmed.</li> </ul>
<ul style="list-style-type: none"> <li>KEY is not accepted at all.</li> </ul>	<ul style="list-style-type: none"> <li>It is recognized that other KEY has already been pushed.</li> </ul>	<ul style="list-style-type: none"> <li>When KEY is not pushed, whether KEY input terminal (22Pin,23Pin,24Pin) is 5V is confirmed. If the KEY input terminal is not 5V, whether KEY SW on the line breaks is confirmed.</li> </ul>
<ul style="list-style-type: none"> <li>The Spectrum analyzer display does not displayed.</li> </ul>	<ul style="list-style-type: none"> <li>The Spectrum analyzer input is not input.</li> </ul>	<ul style="list-style-type: none"> <li>Whether Spectrum analyzer input terminal (21Pin) is 0.3V or more is confirmed. Whether DISPLAY MODE is DISP6 when it is 0.3V or more is confirmed. Whether Spectrum analyzer IC control terminal (8-10Pin) was changeable when it is 0.3V or less is confirmed. If it was changeable, whether Spectrum analyzer IC breaks is confirmed.</li> </ul>

### 7.1.3 ERROR CODE

#### Error codes that are displayed on the FL display without using the remote control unit

FL Display	Possible causes	Operation of the unit
AV1 VER	AV-1 chip is not a match with the program of system controller	The sound may not out with the specific audio.
CPU AERR	CPU address error (Hardware is unusual.)	No operation
DMA AERR	DMA address error (Hardware is unusual.)	No operation
FLASH ID	Difference in versions of the internal ROM of the system controller and of the flash ROM, or bus line failure or reverse installation	No operation
FLASH WR	Write protect error of the flash ROM	No operation
FLASH SI	Difference in part number of the flash ROM (When the ROM which could't be used was used.) Or size error of the flash ROM (Use 4 or 8 M-bit.)	No operation
FLASH SU	Check sum error of the flash ROM (It exceeds the regular size.) or reverse installation (Hardware is unusual.)	No operation
ILLGAL	The system controller fetched a code other than an operation code (Hardware is unusual.)	No operation
RESERVE	Undefined interrupt (Hardware is unusual.)	No operation
SLOT	Inappropriate slot command issued (Hardware is unusual.)	No operation

#### Error codes that are displayed on the FL display by using the remote control unit (Mechanism controller error)

To display: ESC + DISPLAY + DISPLAY; Location of the display:



At the two digits of six digit display part at center of the FL display

To display the error history: ESC + DISPLAY + One shot; Location of the display: TV screen

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
11	Search timeout	Search could not be complete within 7 seconds.	Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan.	CD : Stops, DVD: Continues operation
12	Search retry error	A search could not be completed after 3 retries, search backup was executed 4 times, or in a case of timeout (6 seconds) while the unit was tracing 11 tracks or more beyond the target while the search operation was converging.	Backup against slider skip was executed 4 times during a search, or slider skip twice resulted in starting from the read-in point.	CD: Stops, DVD: Continues operation
19	Tracing timeout while converging	Timeout (10.5 seconds) while tracing at the stage of convergence of a search.		Stop
1B	Index 0 search error		During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed.	Stop
22	Timeout of slider inner circumference	Inside switch could not ON within 3 seconds.		Stop
23	Timeout of slider outer circumference	Inside switch could not OFF within 2 seconds.		Stop
33	No FOK pulse during playback CLVA	When the focus was deviated continuously 20 times.		Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times), then opens. If the same error persists after one retry, the tray opens. (No FOK pulse)
38	Disc-type-sensing error	If normal starting was impossible in the following three cases, disc-type sensing will be retried if other errors occur excepting C5 error. However, when the focus error "33" was occurred continuously 3 times, it is finished as "38 error" at the moment: (1) startup with the first disc-type-sensing result, (2) forced startup with another disc by designating the disc type, (3) forced startup with the original disc by designating the disc type.		Open

# XR-A9700DV, XR-VS100D

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
39	SGC converge timeout	SGC could not converge during detects the peak		Open
41	Spindle timeout	The unit did not enter Stop mode within 10 seconds of issuance of a Stop command.		Stop
48	Spindle FG transition timeout	<p>The spindle could not converge into within <math>\pm 12\%</math> of the target FG rotation speed within 10 seconds after spindle kick.</p> <p>The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds.</p> <p>The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops.</p> <p>DVD: 5 to 9 mS , CD: 40 to 60 mS</p>		Stops. (FG timeout)
49	Spindle PLL transition timeout	<p>After the second times after startup, it doesn't become the number of the target rotation within five seconds.</p> <p>Detects the abnormal high-speed or low-speed rotations.</p> <p>DVD: 5 to 9 mS , CD: 40 to 60 mS</p>		Stops. ("73" is displayed during starting process.)
4A	Spindle lock timeout	Spindle could not lock more than 1.5 seconds before start the AFB.		Stops. ("73" is displayed during starting process.)
51	Auto sequence timeout of peak detection	ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent.		Stop
52	Auto sequence timeout of focus jump down	ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent.		Stop
53	Auto sequence timeout of focus jump up	ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent.		Stop
54	Auto sequence timeout of play AGC	ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent.		Stop
55	Auto sequence timeout of disc-type-sensing	ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent.		Stop
56	Auto sequence timeout of ATB2	ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent.		Stop
57	Auto sequence timeout of tracking servo ON	ABUSY did not return within 500 mS after the TSON (tracking servo ON) command was sent.		Stop
58	Auto sequence timeout of ATB1	ABUSY did not return within 200 mS after the TBL (external ATB) command was sent.		Stop
59	Auto sequence timeout of focus gain adjustment	ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent.		Stop
5A	Auto sequence timeout of tracking gain adjustment	ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent.		Stop
5B	Auto sequence timeout of offset adjustment	ABUSY did not return within 1 second after the CMDAVE (offset adjustment) command was sent.		Stop
5C	Auto sequence timeout of modulation factor measurement	ABUSY did not return within 200 mS after the ADJMIR (modulation factor measurement) command was sent.		Stop
5D	Auto sequence timeout of auto focus bias	ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent.		Stop
5F	Auto sequence already busy	A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent.		Stop
62	Pause retry error	Pause mode could not be restored within three retries after it had been released.		Continues operation



FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
71	ID can not read during tracing	An ID could not be read for 1 second or more.		Stop
72	Subcode check failure during playback		No frame could be read for 3 seconds or more.	Stop
73	ID can not read at the startup	An ID could not be read within 1 second after the AFB adjustment had been finished.		Opens (ID readout failure)
74	Subcode check failure during startup		No subcode could be read within 3 seconds after AFB adjustment had been finished.	Opens (Subcode readout failure).
81	Timeout for reading TOC of the mechanism controller		TOC readout took 30 seconds or more.	Stop
82	Timeout for reading TOC of the system controller		Reading TOC of the system controller took 30 seconds or more.	Stop
97	Switching error at currousel loading	Clamping could not be completed during loading.		Retry clamp operation
9A	Stop error of currousel tray	Currousel tray rotation could not be completed within 10 seconds.		Stop
9B	Push error of currousel tray	Push in the tray from the loading tray open state.		Close the tray
9C	Pull error of currousel tray	Pull out the tray from the loading tray close state.		Open the tray
9D	Stop error of currousel loading tray	Loading tray movement could not be completed within 10 seconds.		Open the tray
9E	Abnormal error of currousel switch	Tray switch error was detected with the currousel tray.		Stop (Initialize the mechanism in the mechanism controller.)
9F	Currousel initialize error	Initialization could not be achieved with the currousel tray.		Turn off the power instantly (no indication on the FL display and no writing to flash memory.)
A1	Communication timeout of DSP command	A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 $\mu$ S).		No operation
A2	Communication timeout for reading DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 200 $\mu$ S) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address.		No operation
A3	Communication timeout for writing DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 1024 mS) before and after the coefficient write command was issued to DSP.		No operation
A4	Communication timeout for continuously writing DSP coefficient	Command Busy (XCBUSY) was in force for 200 $\mu$ S during continuous coefficient writing, or before and after a continuous write command was issued to DSP.		No operation
B1	Timeout error for backup	In the tracing state during the backup sequence, codes could not be read for 1 second or more. In the backup sequence, tracking ON sequence of the servo DSP could not be completed even if more than 500 mS after the tracking ON command was issued.		Stops
B2	Retry error for backup	Tracing impossible after retring the tracking ON for 3 times in the backup sequence.		Stops
B3	Retry error for trace	During tracing, runaway was detected after three iterations of backup operations for detecting runaway.		Stops
C3	Detection of tracking overcurrent	During playback, the overcurrent detection port was at L for 300 ms or more continuously.		Stops (the mechanical controller operates independently).

# XR-A9700DV, XR-VS100D

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
(C5)	Short-circuit test corresponding error	While the power was on, the overcurrent detection port was at L for 40 ms or more continuously.		Turns off the power instantly (No indication on the FL display and no writing to flash memory)
E3	Violation against digital copy guard			Stops
F5	Tray being pushed	The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force.		Closes
F8	Loading timeout	Loading, unloading or clamping could not be completed within a specified time (about 5 seconds).		Reverses the loading direction. If timeout is repeated upon retry, the unit stops.
FC	Focus	The following error occurred eight times. (1) Focus ON sequence could not be completed even if more than two seconds after the focus ON command (to the servo DSP) was sent. (2) Focus IN sequence was finished, actually focus IN was not completed.		Stops wherever possible then opens (stops in the case of side B).

## Error codes that are displayed on the FL display by using the remote control unit

### (Device error)

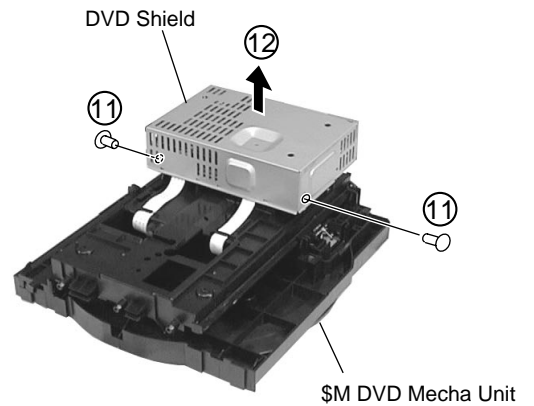
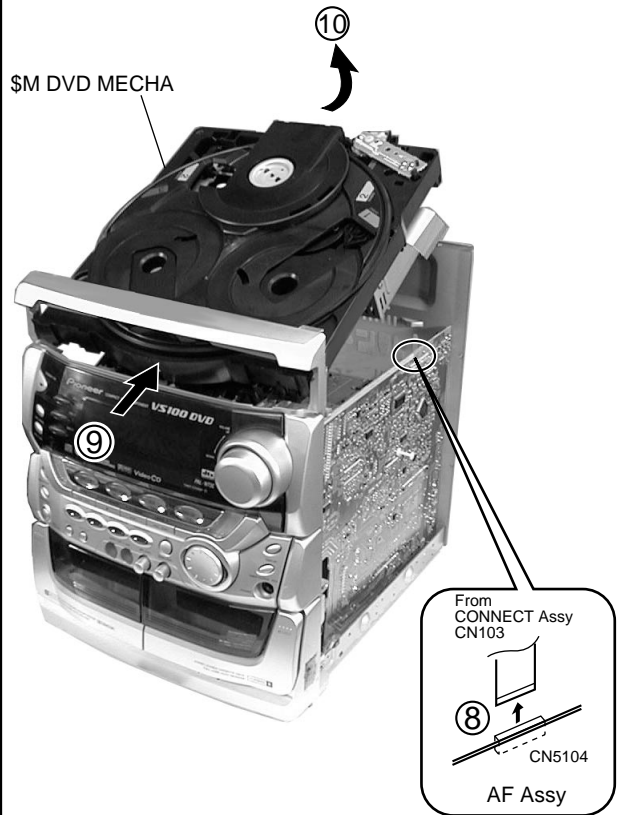
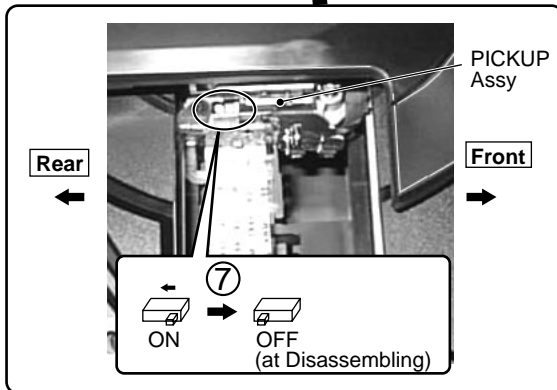
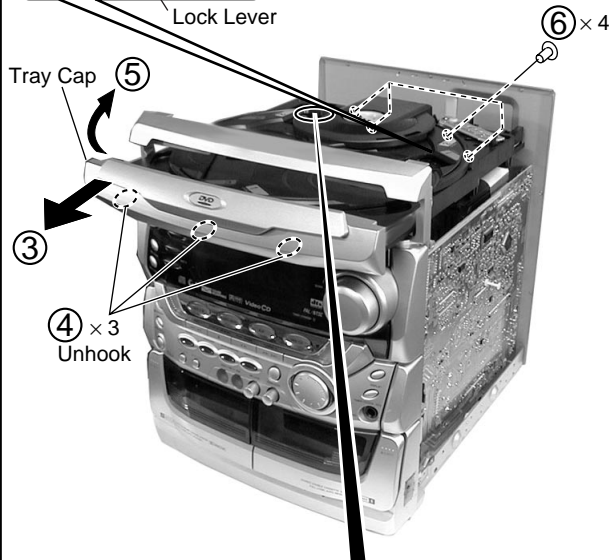
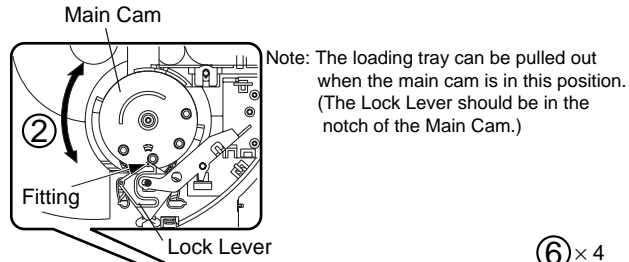
To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of left of the FL display

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
bit3=1 08 etc.	AV1 access error (read, write NG)			No operation or it becomes debugging indication if the power is able to ON.
bit2=1 04 etc.	MY CHIP access error			
bit1=1 01 etc.	SRAM access error			

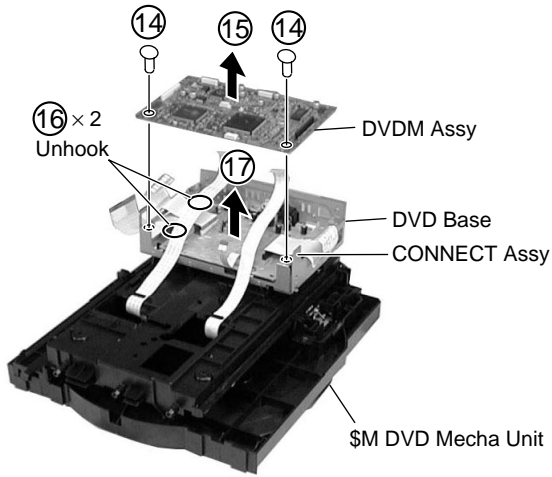
### 7.1.4 DISASSEMBLY

#### ■ DVDM ASSY

① Remove a Bonnet (Nine screws).



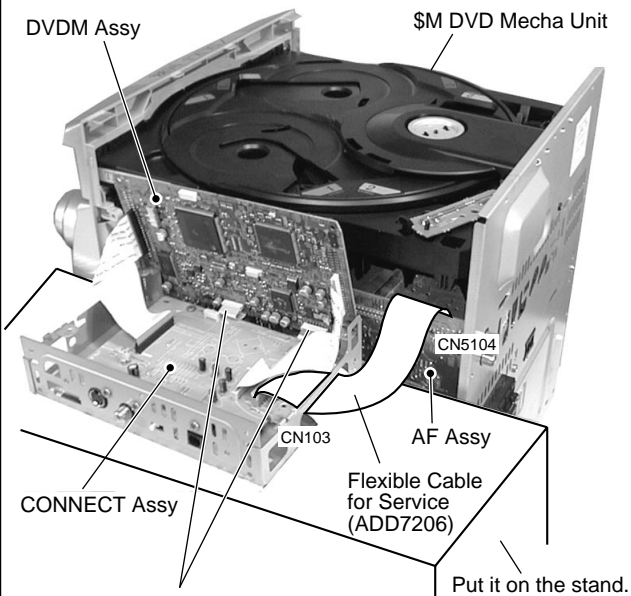
⑬ Release the All Connectors from DVDM Assy.



⑱ Return the \$M DVD Mecha Unit only to the body.

⑲ Connect the connectors which disconnecting from the connectors as step 13 excepting CN6. But, connectors CN103 on the CONNECT Assy and CN5104 on the AF Assy are replaced the flexible cable for service (ADD7206).

⑳ Perform the wiring as follows, and perform the diagnosis.



The two FFC cable of \$M DVD Mecha Unit interferes with Loading Tray when it is movable. Please fixes the FFC cable to AF Assy with the tape so as not to interfere.

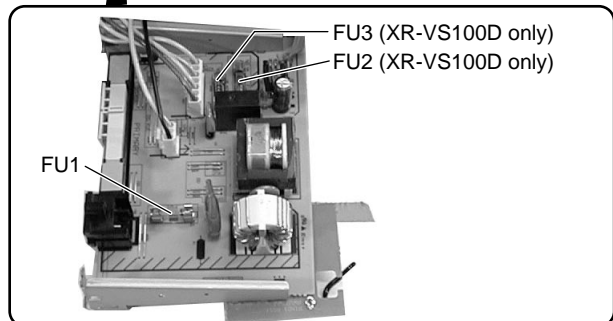
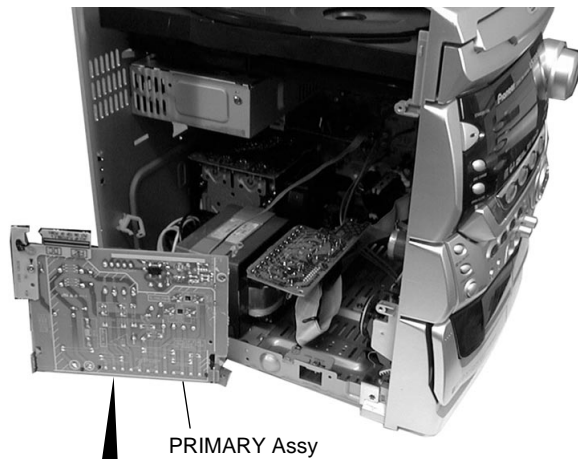
Put it on the stand.

## ■ HOW TO EXCHANGE THE FUSE (PRIMARY ASSY)

① Remove a Bonnet (Nine screws).



③ Remove a PRIMARY Assy.



**DIAGNOSIS of AF, REGULATOR, SECONDARY and POWER ASSYS**

① Remove a Bonnet (Nine screws). and remove \$M DVD Mecha.

②

② x 2

②

② (XR-VS100D Only)

② x 4

② x 4

↓

FM/AM TUNER Module

④

Rear Panel

③

④ Please be useless in this case and remove FM/AM TUNER Module.

↓

AF Assy

REGULATOR Assy

SECONDARY Assy

↓

Diagnosis

↓

Put the Insulation Sheet

⑤

POWER Assy

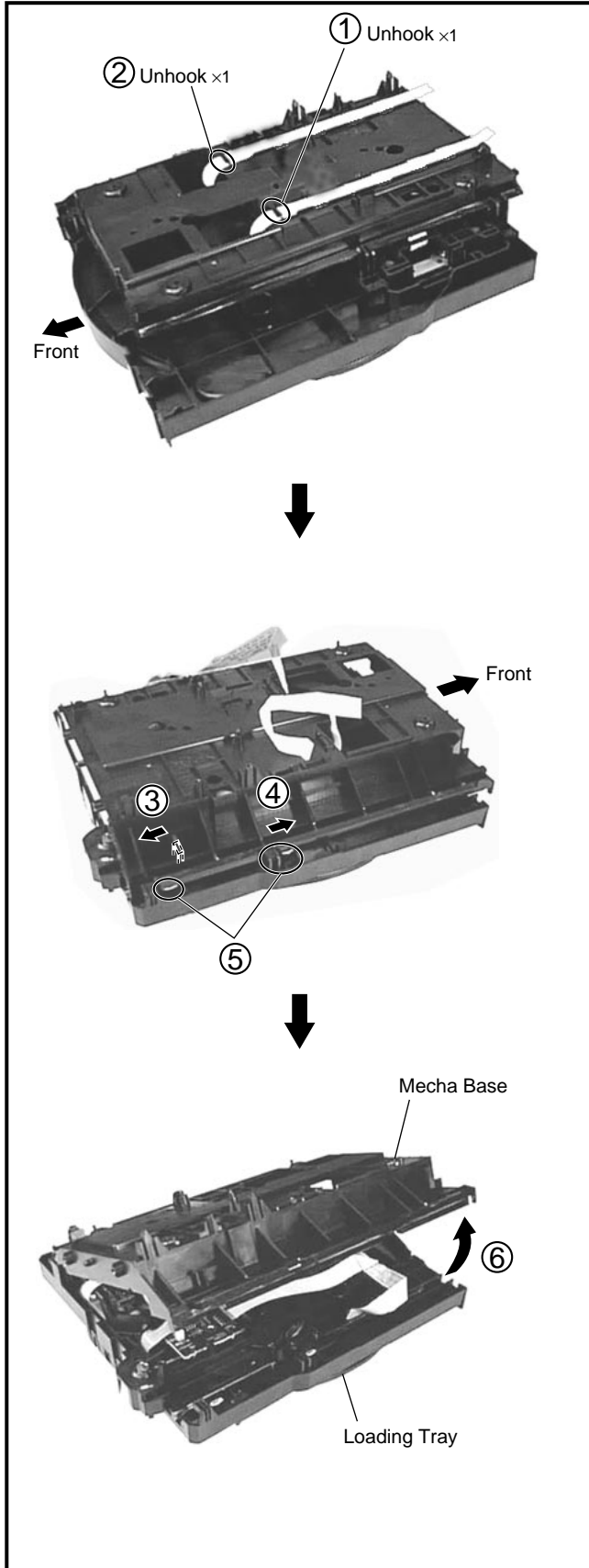
The product operates even if \$M DVD Mecha. is not connected. If \$M DVD Mecha. is connected, stand where it is put and FFC cable for Service (ADD7206) are necessary.

↓

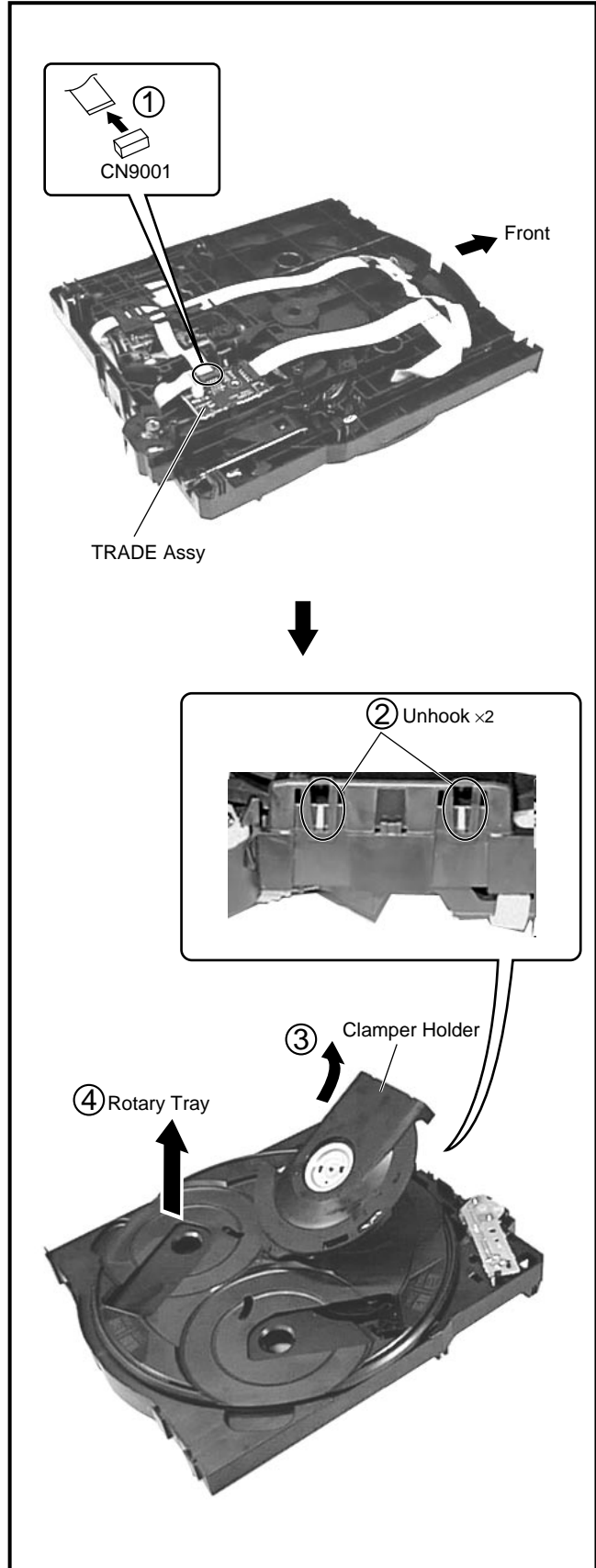
Diagnosis

■ \$M DVD MECHA UNIT ADDITIONAL TO JOB

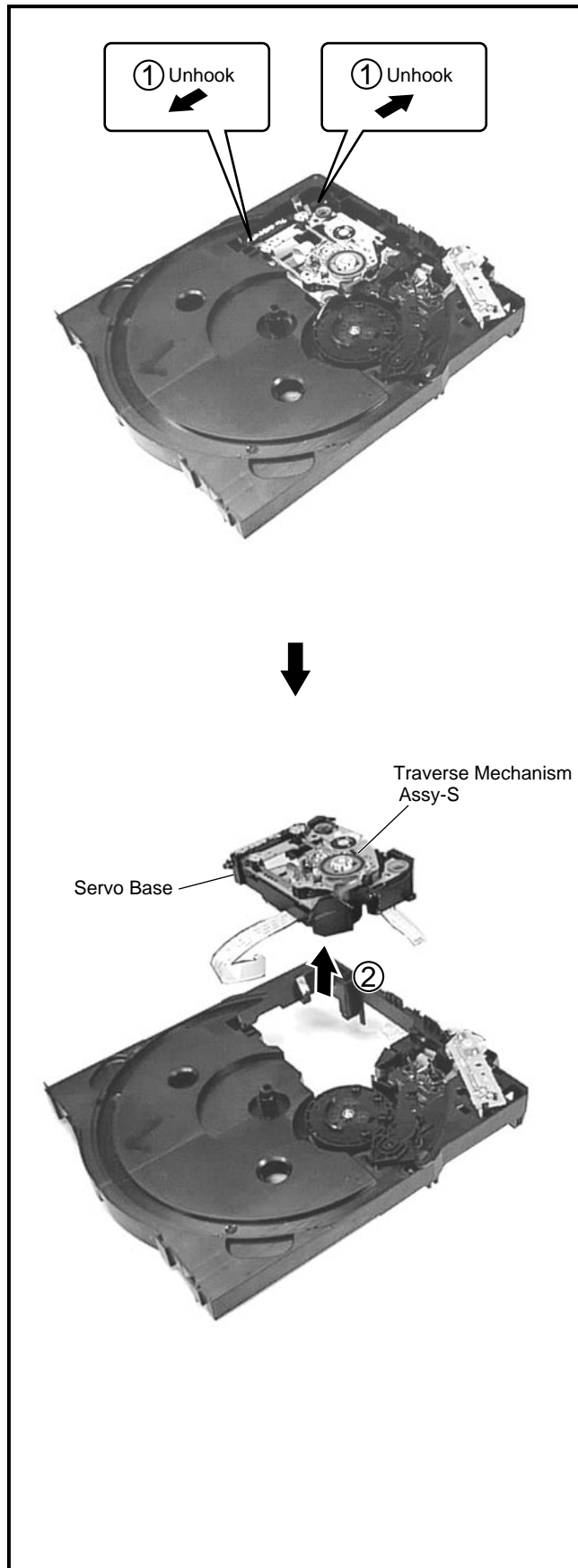
● Mecha Base (Bottom View)



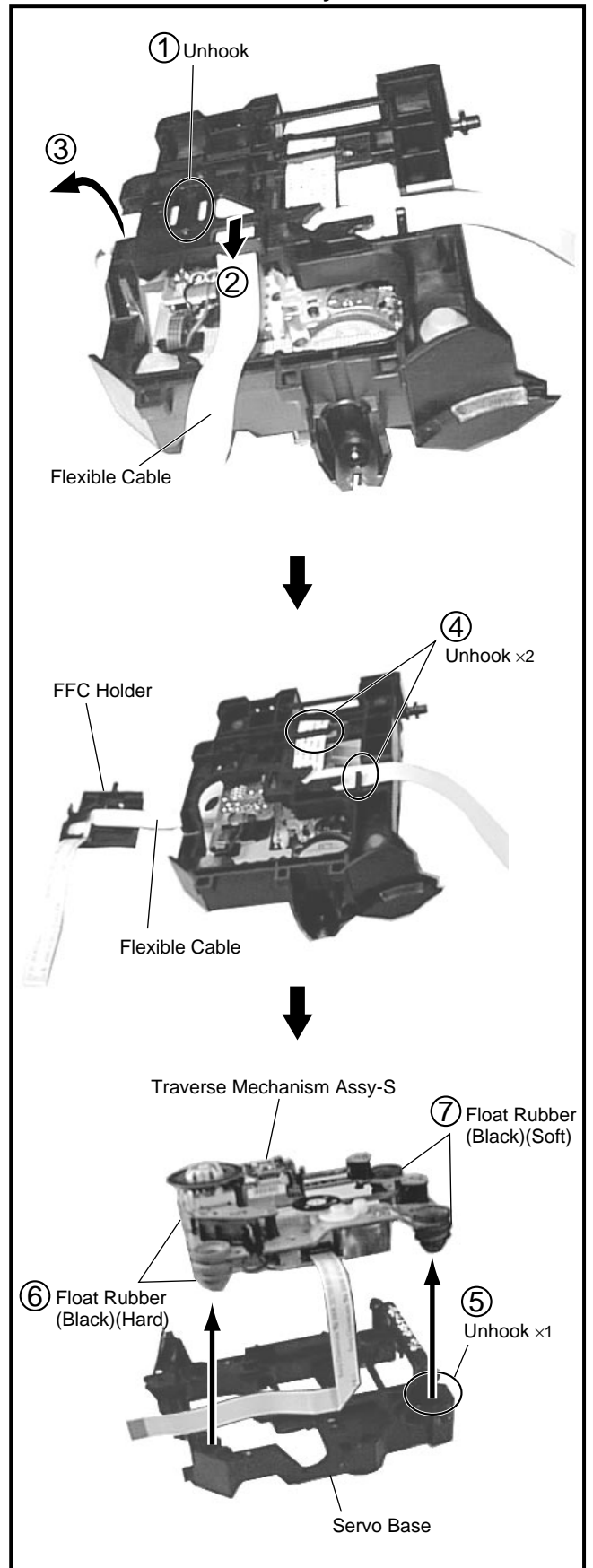
● Clamper Holder



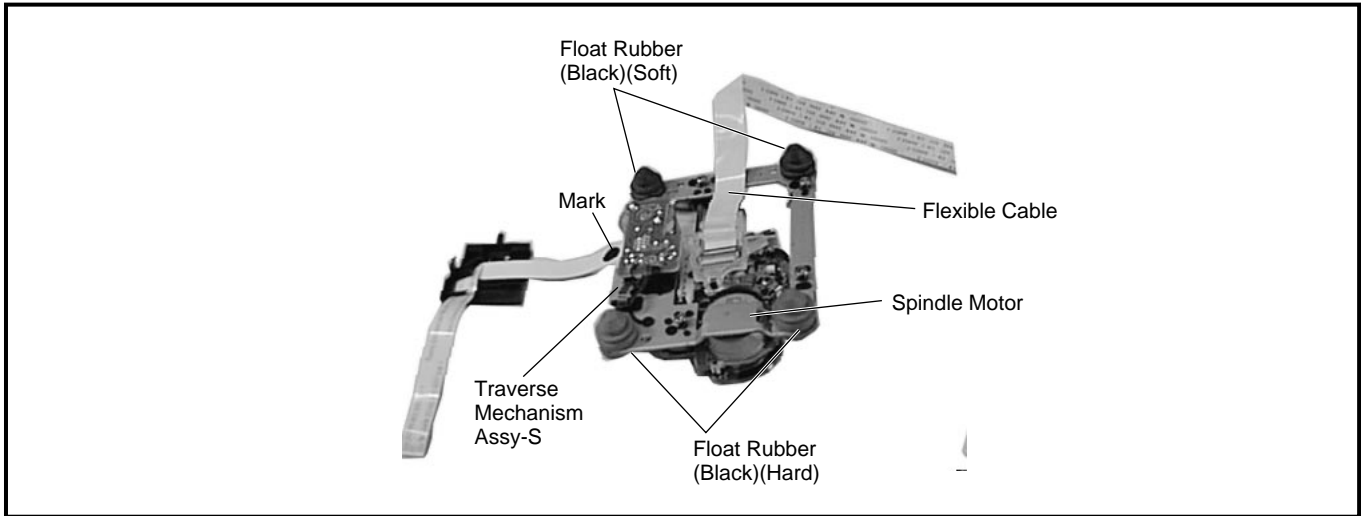
● Servo Base



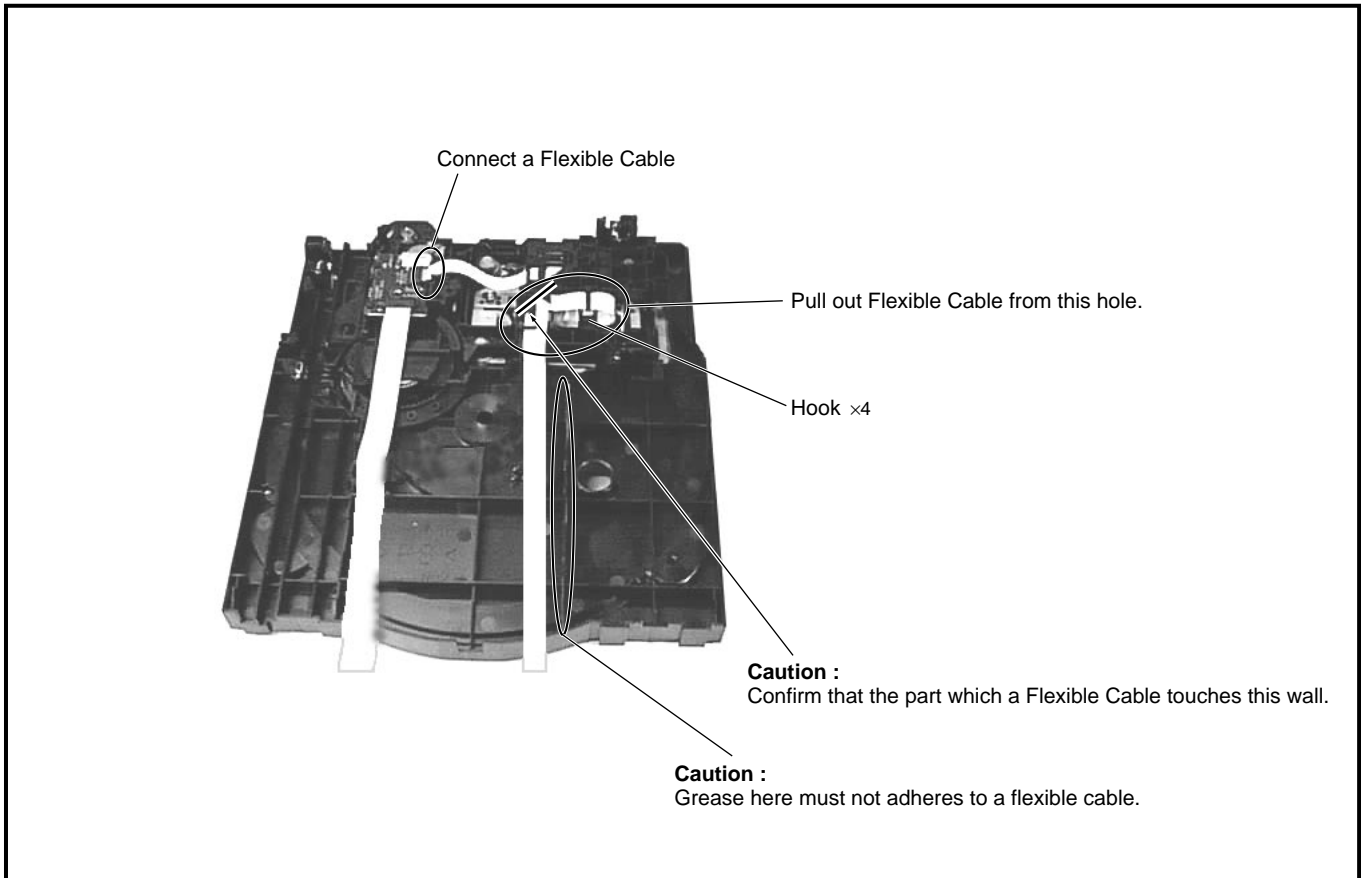
● Traverse Mechanism Assy-S



● Style the Flexible Cable and Float Rubber Position in the Traverse Mechanism Assy-S

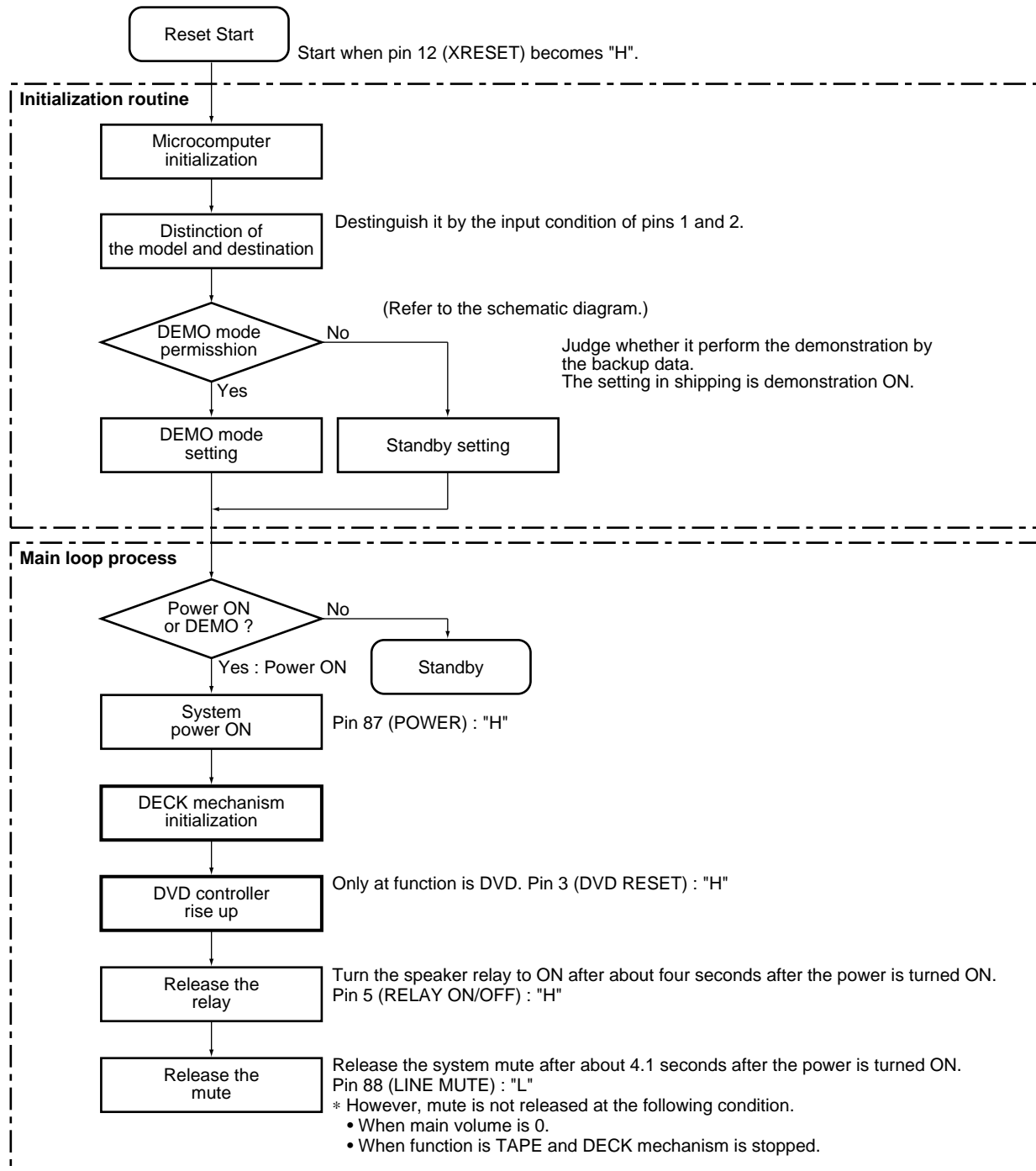


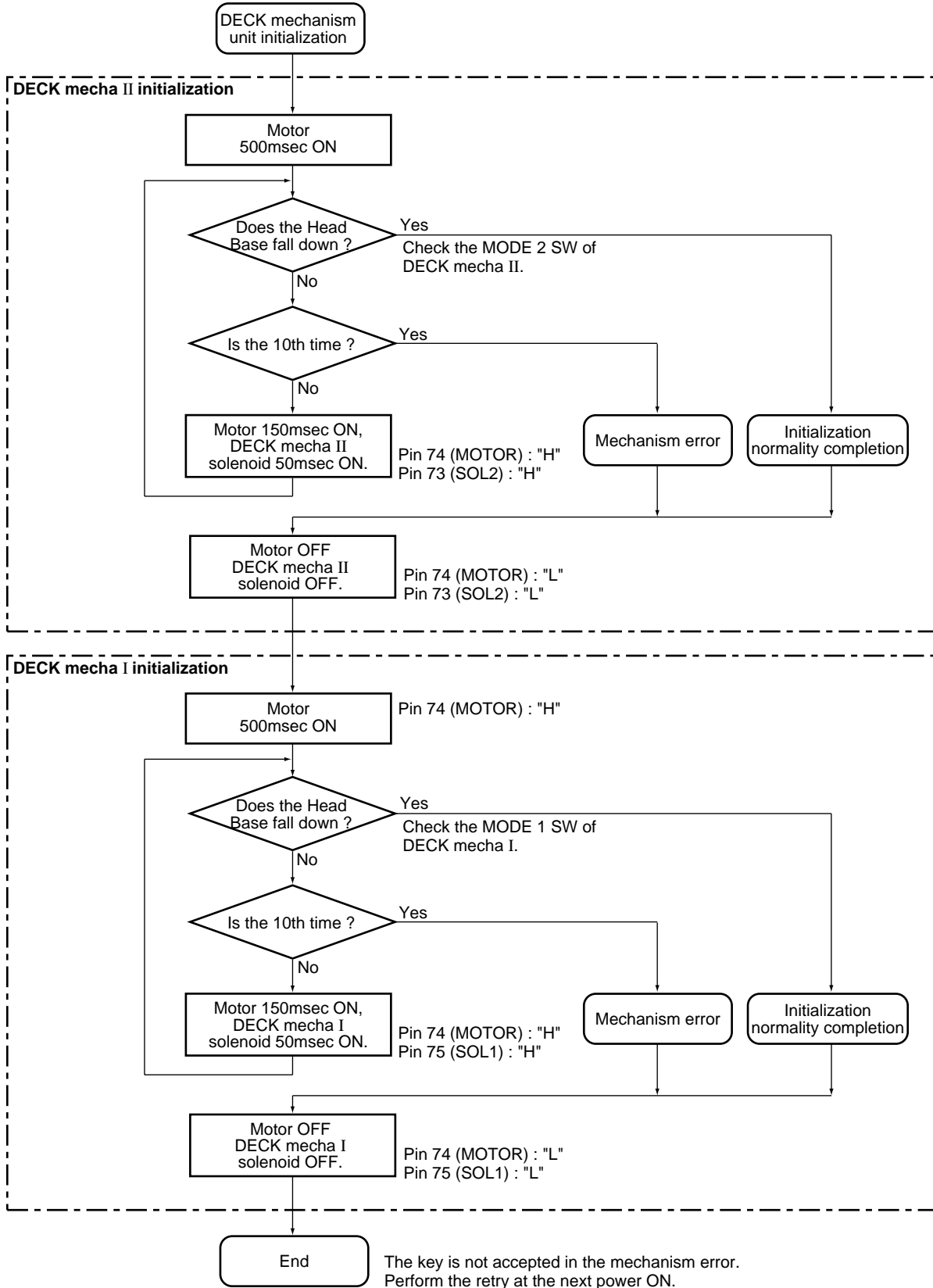
● Style the Flexible Cable in the \$M MECHA DVD Assy and Preparation before Installing the Mecha Base





### 7.1.5 POWER ON SEQUENCE





## 7.2 PARTS

### 7.2.1 IC

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

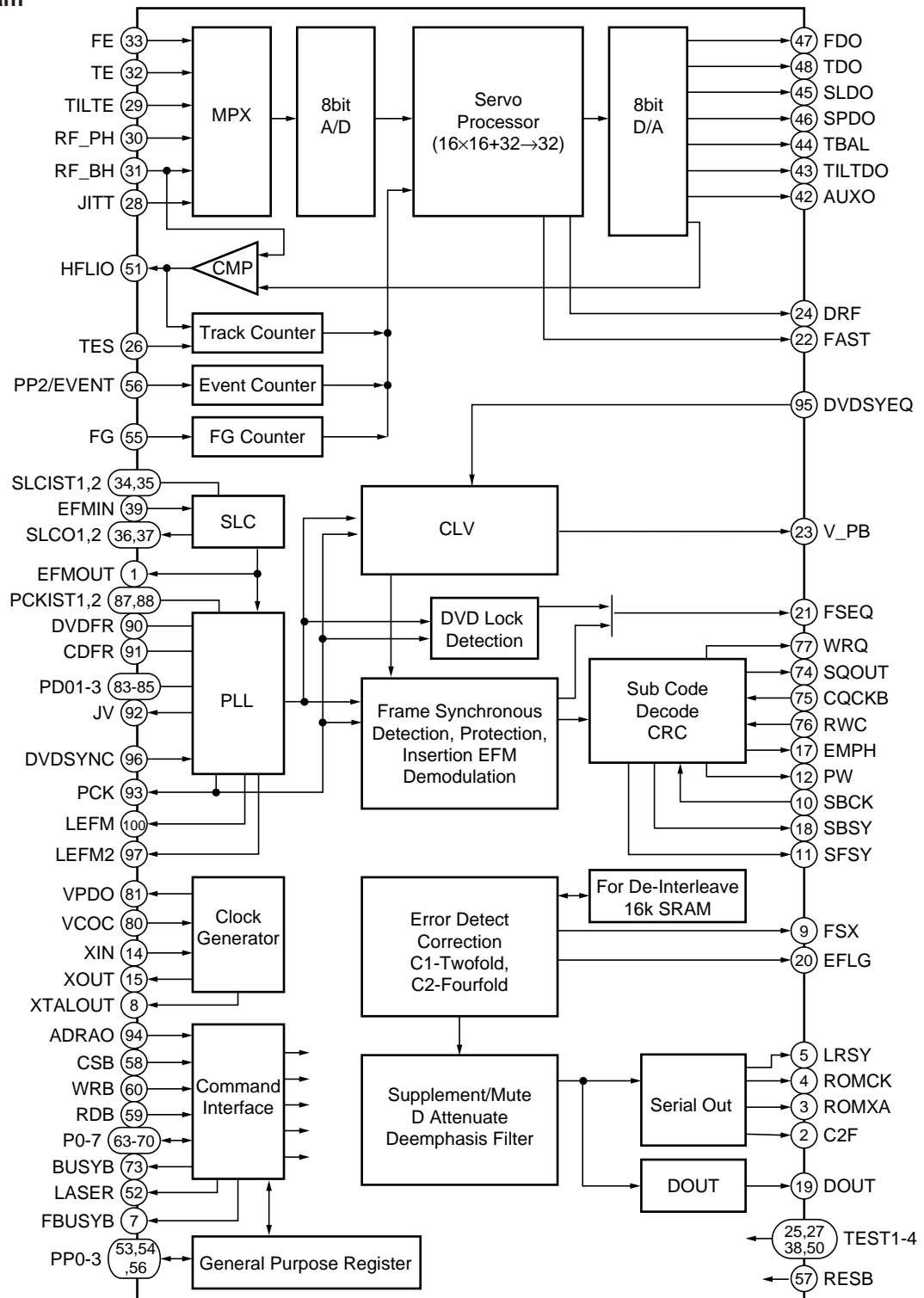
● **List of IC**

LC78652W, PD3410A, MB86373, CS4341, PD2058A, M65855FP, PDC058A, HEF4794BT, M62457AFP

■ **LC78652W (DVDM ASSY : IC2)**

• DSP IC

● **Block Diagram**



# XR-A9700DV, XR-VS100D

## ●Pin Function

No.	Pin Name	I/O	Function
1	EFMOUT	O	Output the state that was binary-stated value EFM
2	C2F	O	C2 flag output
3	ROMXA	O	CD-ROM data output
4	ROMCK	O	Shift clock output for CD-ROM data output
5	LRSY	O	L/R clock output for CD-ROM data output
6	PP3	I/O	General-purpose port input/output / DVD sync. signal input      N ch-OD output
7	FBUSYB	O	Busy signal output of DSP process operation      N ch-OD output
8	XTALOUT	O	External system clock output
9	FSX	O	CD 1 frame sync. signal output
10	SBCK	I	Subcode reading out clock input
11	SFSY	O	Frame sync. signal output of subcode
12	PW	O	Subcode P, Q, R, S, T, U, V and W output
13	VSS	-	GND pin
14	XIN	I	Connect a crystal resonator (16.9344MHz)
15	XOUT	O	Connect a crystal resonator
16	DVDD1	-	3.3V power supply of the oscillation circuit
17	EMPH	O	Monitor pin of the deemphasis
18	SBSY	O	Sync. signal output of the subcode block
19	DOUT	O	Audio EIAJ data output
20	EFLG	O	Error correction state monitor of the error correction C1 and C2
21	FSEQ	O	Detection monitor of the CD/DVD frame sync. signal
22	FAST	O	Playback speed monitor      N ch-OD output
23	V_PB	O	Monitor output of the rough servo/CLV control
24	DRF	O	In focus monitor
25	TEST3	I	Test input 3
26	TES	I	Tracking error signal input
27	TEST2	I	Test input 2
28	JITT	I	Jitter quantity detecting signal input of EFM PLL
29	TILTE	I	Tilt error signal input
30	RF_PH	I	RF peak hold signal input
31	RF_BH	I	RF bottom hold signal input
32	TE	I	Tracking error signal input
33	FE	I	Focus error signal input
34	SLCIST1	-	Current setting pin 1 of the constant current charge pump for SLC
35	SLCIST2	-	Current setting pin 2 of the constant current charge pump for SLC
36	SLCO1	O	Control output 1 for SLC
37	SLCO2	O	Control output 2 for SLC
38	TEST1	I	Test input 1
39	EFMIN	I	EFM/EFM + input
40	AVDD	-	5V power supply of A/D and D/A for servo
41	AVSS	-	GND of A/D and D/A for servo
42	AUXO	O	DA auxiliary output
43	TILTDO	O	Tilt control signal output
44	TBAL	O	Tracking balance control signal output
45	SLDO	O	Sled control signal output
46	SPDO	O	Spindle control signal output
47	FDO	O	Focus control signal output
48	TDO	O	Tracking control signal output
49	VREF	-	Reference level of D/A for servo
50	TEST4	I	Test input 4

No.	Pin Name	I/O	Pin Function
51	HFLIO	I/O	Mirror detection signal input/output
52	LASER	O	Output pin for laser ON/OFF control
53	PP0/DVD_CDB	I/O	General-purpose port input/output / Disc discrimination signal output
54	PP1/CRCERRB	I/O	General-purpose port input/output / Subcode CRC result signal output
55	FG	I	FG counter input
56	PP2/EVENT	I/O	General-purpose port input/output / Event counter input
57	RESB	I	Reset input
58	CSB	I	Chip select input
59	RDB	I	Internal state reading signal input
60	WRB	I	Command / data writing signal input
61	DVDD2	-	5V power supply
62	VSS	-	GND
63	P0	I/O	Command / data input/output
64	P1		
65	P2		
66	P3		
67	P4		
68	P5		
69	P6		
70	P7		
71	VSS	-	GND
72	DVDD1	-	3.3V power supply for internal
73	BUSYB	O	Busy signal output of command process
74	SQOUT	O	Serial output of subcode Q
75	CQCKB	I	Shift clock input for subcode Q data output
76	RWC	I	Update permission input of subcode Q
77	WRQ	O	Read out ready monitor of subcode Q
78	AVSS	-	PLL GND for internal system clock
79	VRPFR	-	VCO oscillation range setting of PLL for system clock
80	VCOC	I	Connect a PLL filter for system clock
81	VPDO	O	
82	AVDD	-	PLL 5V power supply for system clock
83	PDO1	I/O	PLL filter connection pin 1 for EFM playback
84	PDO2	I/O	PLL filter connection pin 2 for EFM playback
85	PDO3	I/O	PLL filter connection pin 3 for EFM playback
86	AVSS	-	PLL GND for EFM playback
87	PCKIST1	-	Current setting 1 of PLL constant current charge pump for EFM playback
88	PCKIST2	-	Current setting 2 of PLL constant current charge pump for EFM playback
89	AVDD	-	PLL 5V power supply for EFM playback
90	DVDFR	-	VCO oscillation range setting of PLL for EFM playback 1
91	CDFR	-	VCO oscillation range setting of PLL for EFM playback 2
92	JV	O	Jitter output of PLL clock for EFM playback
93	PCK	O	Bit clock output for EFM playback
94	ADRAO	I	Address input
95	DVDSYEQ	I	DVD synchronize pulse input
96	DVDSYNC	I	DVD synchronous signal input
97	LEFM2	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 2
98	DVDD1	-	3.3V power supply for I/O
99	VSS	-	GND
100	LEFM	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 1

## ■ PD3410A (DVDM ASSY : IC11)

### • System Control IC

### • Pin Function

No.	Mark	Pin Name	I/O	Function
1	XCS3/XCASL	XCS3	O	PD4995A (MY CHIP) chip select signal output
2	GND	GND	-	GND
3	CK	HCPUCK	O	
4	VCC	V+3D	-	V+3D
5	PICLK	-	I/O	N.C.
6	PIDATA	-	I/O	N.C.
7	GND	GND	-	GND
8	PORTH0	-	O	N.C.
9	PORTH1	-	O	N.C.
10	PORTH2	-	O	N.C.
11	PORTH3	V_SEL2	O	Composite/S switching signal output of the skirt terminal
12	VCC	V+3D	-	V+3D
13	PORTH4	-	O	N.C.
14	PORTH5	-	O	N.C.
15	PORTH6	-	O	N.C.
16	PORTH7	-	O	N.C.
17	GND	GND	-	GND
18	EXTAL	EXTAL	I	Connect a ceramic resonator
19	XTAL	XTAL	O	
20	VCC	V+3D	-	V+3D
21	PORTG0	XCSDFO	O	DAC chip select signal output
22	PORTG1	-	O	N.C.
23	PORTG2	-	O	N.C.
24	PORTG3	-	O	N.C.
25	PORTG4	-	O	N.C.
26	GND	GND	-	GND
27	PORTG5	-	O	N.C.
28	PORTG6	-	O	N.C.
29	PORTG7	XAMUTE	O	Last stage mute signal output of the audio
30	PORTF0	44X48	O	DAC 44/48 FS switching signal output
31	PORTF1	-	I	N.C.
32	PORTF2	3DON	O	3D audio ON/bypass switching signal output
33	VCC	V+3D	-	V+3D
34	PORTF3	-	O	N.C.
35	PORTF4	-	O	N.C.
36	PORTF5	-	O	N.C.

No.	Mark	Pin Name	I/O	Function
37	PORTF6	XANR	O	Analog NR ON/OFF switching signal output
38	PORTF7	XCSVE	O	Serial communication enable signal output of the video encoder
39	GND	GND	-	GND
40	AVSS	GND	-	GND
41	AVCC	V+3D	-	V+3D
42	OUTA_P	LODRV	O	Loading drive output
43	VREF	V+3D	-	V+3D
44	OUTB_P	TEI	O	Tracking offset signal output
45	AVSS	GND	-	GND
46	AVSS	GND	-	GND
47	PORTE0	V_SEL	O	Component/composite switching signal output
48	PORTE1	-	I	PDC016A (Graphic IC)
49	PORTE2	-	I	
50	PORTE3	FOFST1	I/O	Focus offset adjustment output 1
51	PORTE4	FOFST2	I/O	Focus offset adjustment output 2
52	PORTE5	XDFINH	I/O	Defect shunt signal output
53	PORTE6	DVD/XCD	O	DVD/CD switching signal output
54	PORTE7	LD1_ON	O	650 nm laser diode ON signal output
55	PORTD0	LD2_ON	O	780 nm laser diode ON signal output
56	VCC	V+3D	-	V+3D
57	PORTD1	DPD/TE	O	1 beam/3 beams switching signal output
58	PORTD2	AGOFF	O	AGC ON/OFF switching signal output of RF IC
59	PORTD3	XCD2X	O	Signal output for switching the double speed playback
60	PORTD4	OEICG	O	OEIC gain switching signal output
61	GND	GND	-	GND
62	PORTD5	XMON	O	ON/OFF switching signal output of the spindle motor control output
63	PORTD6	-	O	
64	PORTD7	-	I	N.C.
65	PORTJ0	XDRVMUT	O	Driver mute output
66	PORTJ1	-	O	N.C.
67	PORTJ2	-	O	N.C.
68	PORTJ3	-	I	N.C.
69	VCC	V+3D	-	V+3D
70	PORTJ4	TM_ENT	I	Test mode input
71	PORTJ5	-	O	N.C.
72	PORTJ6	VSEL_SW	I	Component/composite SW input
73	PORTJ7	-	I	N.C.
74	PB0/TIOCA2	XCBUSY	I	Command busy input
75	PB1/TIOCB2	XABUSY	I	Auto-sequence busy input
76	PB2/TIOCA3	XINT2	I	Interrupt input 2 (AV-1)
77	VCC	V+3D	-	V+3D
78	PB3/TIOCB3	LT1	O	Communication response signal output to the FL controller
79	PB4/TIOCA4	SBSY	I	Subcode block sync. input
80	XMTEST	-	I	V+3D
81	XCPUMD	-	I	V+3D
82	XRES	XRESET	I	Reset input

# XR-A9700DV, XR-VS100D

No.	Mark	Pin Name	I/O	Function
83	GND	GND	–	GND
84	AN0	LODPOS	I	Loading position input
85	AN1	SLDPOS	I	Slider position input
86	AN2	–	I	N.C.
87	AN3	NAP_SW	I	NTSC/AUTO/PAL SW input
88	AN4		I	
89	AN5		I	
90	AN6		I	
91	AN7	–	I	
92	Avref	V+3D	–	V+3D
93	AVCC	V+3D	–	V+3D
94	AVSS	GND	–	GND
95	PB5/TIOCB4	–	I	N.C.
96	PB6/TIOCX4/TCLKC	C2F	I	C2 error input
97	PB7/TIOXB4/TCLKD	XRDY	I	Communication request input from the FL controller
98	PB8/RxD0	SSI	I	Serial data input (FL controller)
99	PB9/TxD0	SSO	O	Serial data output (FL controller, DAC)
100	VCC	V+3D	–	V+3D
101	PB10/RxD1	RXD	I	Data input of the RS-232C
102	PB11/TxD1	TXD	O	Data output of the RS-232C
103	PB12/XIRQ4/SCK0	SSCK	I/O	Serial clock output (FL controller, DAC)
104	PB13/XIRQ5/SCK1	XIRQL10	I	Interrupt input 1 (MY CHIP)
105	GND	GND	–	GND
106	PB14/XIRQ6	XIRQL11	I	Interrupt input 2 (MY CHIP)
107	PB15/XIRQ7	XINT0	I	Interrupt input 0 (AV-1)
108	PA0/XCS4/TIOCA0	XCS4	O	Servo DSP chip select signal output
109	PA1/XCS5/XRAS	N.C.	O	Non connection
110	PA2/XCS6/TIOCB0	XCS6	O	AV-1 chip select signal output
111	XWAIT	XWAIT	I	Wait signal input
112	XWRL	XWRL	O	Write pulse output L
113	GND	GND	–	GND
114	XWRH	XWRH	O	Write pulse output H
115	XRD	XRD	O	Read pulse output
116	PA7/XBACK	XCURDET	I	Over-current detection signal input
117	PA8/XBREQ	CTS	I	RS-232C transfer permit input
118	PA9/XAH/XIRQOUT/ XADTRG	DTR	O	RS-232C transfer permit output
119	PA10/DPL/TIOCA1	XINT1	I	Interrupt input 1 (AV-1)
120	PA11/DPH/TIOCB1	THLD	I	Tracking hold signal input
121	VCC	V+3D	–	V+3D
122	PA12/XIRQ0/DACK0/ TCLKA	DACK0	O	DMA response output (MY CHIP)
123	PA13/XIRQ1/ XDREQ0/TCLKB	XDREQ0	I	DMA request input (MY CHIP)
124	PA14/XIRQ2/XDACK1	XDACK1	O	DMA response output (AV-1)
125	PA15/XIRQ3/XDREQ1	XDREQ1	I	DMA request input (AV-1)
126	AD0	D0	I/O	Data bus 0

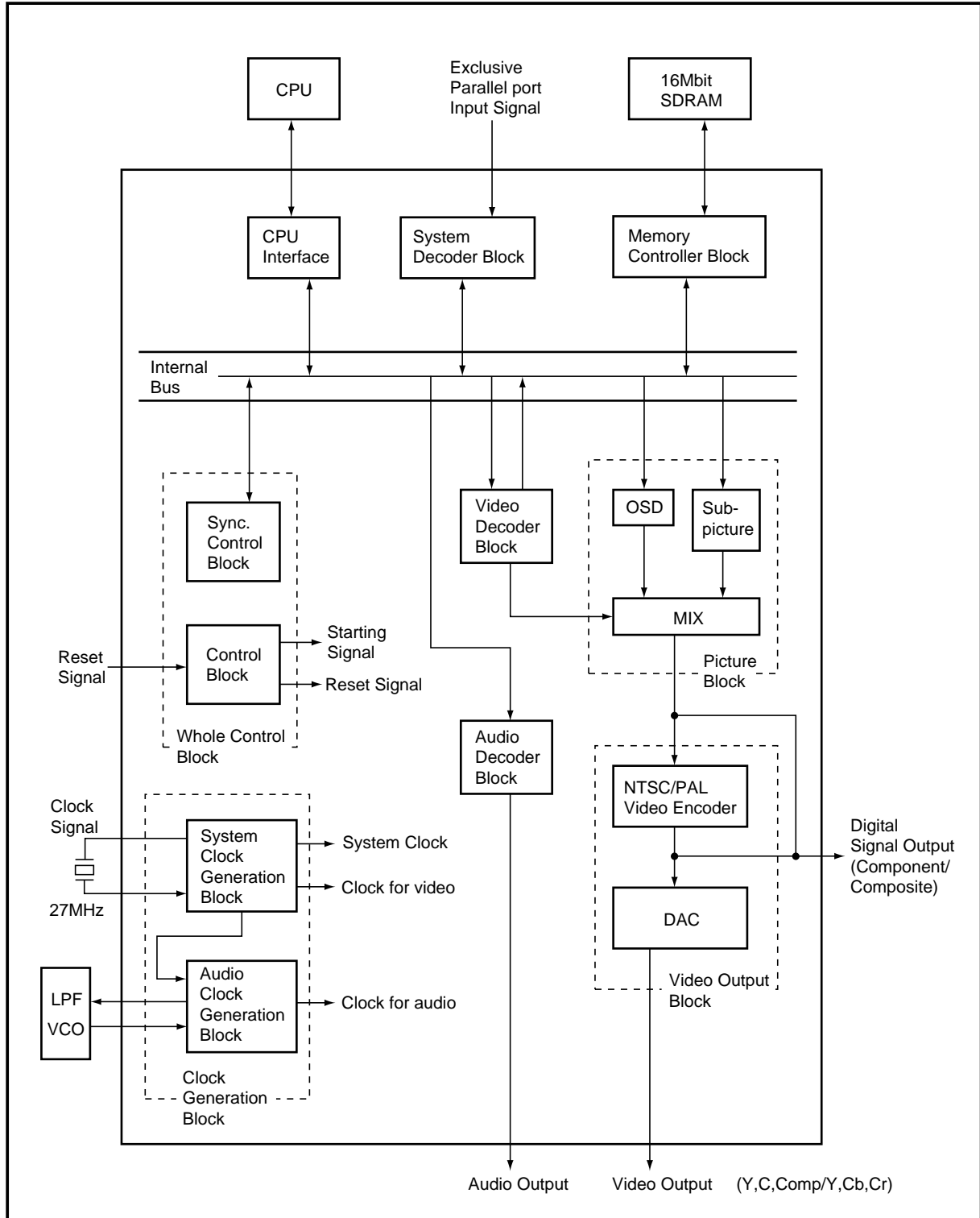


No.	Mark	Pin Name	I/O	Function
127	GND	GND	–	GND
128	AD1	D1	I/O	Data bus 1
129	AD2	D2	I/O	Data bus 2
130	AD3	D3	I/O	Data bus 3
131	AD4	D4	I/O	Data bus 4
132	AD5	D5	I/O	Data bus 5
133	AD6	D6	I/O	Data bus 6
134	VCC	V+3D	–	V+3D
135	AD7	D7	I/O	Data bus 7
136	AD8	D8	I/O	Data bus 8
137	AD9	D9	I/O	Data bus 9
138	AD10	D10	I/O	Data bus 10
139	GND	GND	–	GND
140	AD11	D11	I/O	Data bus 11
141	AD12	D12	I/O	Data bus 12
142	AD13	D13	I/O	Data bus 13
143	AD14	D14	I/O	Data bus 14
144	VCC	V+3D	–	V+3D
145	AD15	D15	I/O	Data bus 15
146	A0 (XHBS)	A0	O	Address bus 0
147	A1	A1	O	Address bus 1
148	A2	A2	O	Address bus 2
149	GND	GND	–	GND
150	A3	A3	O	Address bus 3
151	A4	A4	O	Address bus 4
152	A5	A5	O	Address bus 5
153	A6	A6	O	Address bus 6
154	A7	A7	O	Address bus 7
155	A8	A8	O	Address bus 8
156	A9	A9	O	Address bus 9
157	A10	A10	O	Address bus 10
158	A11	A11	O	Address bus 11
159	A12	A12	O	Address bus 12
160	A13	A13	O	Address bus 13
161	A14	A14	O	Address bus 14
162	A15	A15	O	Address bus 15
163	A16	A16	O	Address bus 16
164	A17	A17	O	Address bus 17
165	VCC	V+3D	–	V+3D
166	A18	A18	O	Address bus 18
167	A19	A19	O	Address bus 19
168	A20	A20	O	Address bus 20
169	A21	A21	O	N.C.
170	XNMI	XNMI	I	V+3D
171	GND	GND	–	GND
172	XCS10	–	O	N.C.
173	XCS20	XCS20	O	Chip select signal output of the flash ROM
174	XCS22	–	O	N.C.
175	XCS23	XCS23	O	Chip select signal output of the SRAM
176	XCS2	–	O	N.C.

■ MB86373 (DVDM ASSY : IC18)

- MPEG2 Decoder IC

• Block Diagram



## ● Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	CLKSEL	I	ON/OFF signal of PLL ("H" : ON, "L" : OFF)	27	VDD	-	2.5V power supply
2	DIGCPN7	O	Digital component signal output (MSB) Digital Y signal output (9-bit) (MSB)	28	DIGCOMP4	O	Digital composite signal output Digital C signal output
3	VSS	-	GND	29	DIGCOMP3		
4	DIGCPN6	O	Digital component signal output Digital Y signal output (9-bit)	30	DIGCOMP2		
5	DIGCPN5			31	DIGCOMP1		
6	DIGCPN4			32	DIGCOMP0		Digital composite signal output (LSB) Digital C signal output (LSB)
7	DIGCPN3			33	DACK		O
8	DIGCPN2			34	N.C.	-	Non connection
9	DIGCPN1	35	VSSA3	-	GND (D/A converter)		
10	VDD	-	2.5V power supply	36	ANAC	O	Analog color (C) output signal
11	DIGCPN0	O	Digital component signal output (LSB) Digital Y signal output (9-bit) (LSB)	37	VDDA3	-	2.5V power supply (for built-in D/A converter only)
12	RBSEL	O	Cb and Cr discrimination signal at the digital component signal output. LSB at the digital Y signal output.	38	VSSA2	-	GND (D/A converter)
13	XHS	O	Horizontal sync. output signal	39	ANAY	O	Analog luminance (Y) output signal
14	XVS	O	Vertical sync. output signal	40	VDDA2	-	2.5V power supply (for built-in D/A converter only)
15	VSS	-	GND	41	VREF	I	Reference voltage for D/A converter
16	XRESET	I	LSI reset signal	42	VRO	O	Internal current setting pin of D/A converter
17	XLDCSYNC	I	External sync. signal input (LD mode)	43	VDDA4	-	2.5V power supply (for built-in D/A converter only)
18	KEY	O	KEY signal for LD and OSD overlay (LD mode)	44	VSSA1	-	GND (D/A converter)
19	PD	O	Phase comparison result output signal of horizontal sync. (LD mode)	45	ANACOMP	O	Analog composite output signal
20	VFLD	O	Field discrimination signal at the digital signal output H : even field L : odd field	46	VDDA1	-	2.5V power supply (for built-in D/A converter only)
21	DIGCOMP9	O	Digital composite signal output (MSB) Digital C signal output (MSB)	47	BF	O	Burst flag signal
22	DIGCOMP8			48	XBLK	O	H/V composite blanking signal
23	DIGCOMP7			49	TEST4	O	Normally, set to "open".
24	DIGCOMP6			50	VSS	-	GND
25	DIGCOMP5			51	TEST0	I	Normally, set to "open".
26	VSS	-	GND	52	TEST1	I	"L" status normally

# XR-A9700DV, XR-VS100D

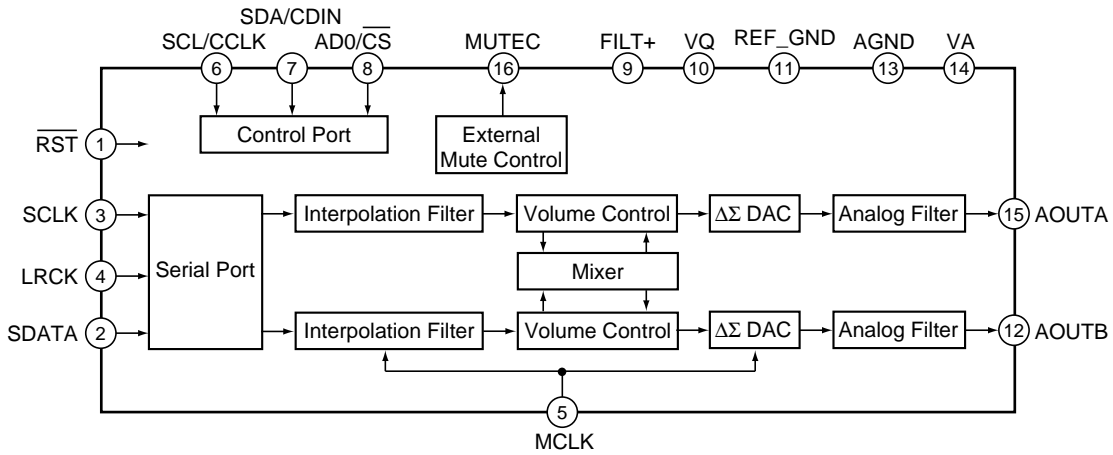
No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function		
53	DAIIN	I	Digital data input of external input (SPDIF)	92	HADRS10	I	CPU address bus signal (MSB)		
54	CDDATA	I	Audio data input of external input (correspond to CD)	93	HADRS9	I	CPU address bus signal		
55	CDLR	I	Data channel clock input of external input (correspond to CD)	94	HADRS8				
56	CDBCK	I	Data clock input of external input (correspond to CD)	95	HADRS7				
57	AODATA3	O	Audio decode data	96	VSS	-	GND		
58	AODATA2			97	VDD	-	2.5V power supply		
59	AODATA1			98	HADRS6	I	CPU address bus signal		
60	VSS	-	GND						
61	VDD	-	2.5V power supply						
62	AODATA0	O	Audio decode data	99	HADRS5				
63	AOPCM	O	Digital audio interface output (compression data)	100	HADRS4	I	CPU address bus signal (LSB)		
64	AODAI	O	Digital audio interface output (decode data)	101	HADRS3				
65	LRCK	O	Data channel clock for D/A and digital filter	102	HADRS2	I/O	CPU data bus signal		
66	AOMCK	O	Master clock for D/A and digital filter	103	HDATA15				
67	BCK	O	Bit clock for D/A and digital filter	104	HDATA14				
68	TEST2	I	Normally, set to "open".	105	HDATA13				
69	TEST3			106	HDATA12				
70	NC	-	Non connection	107	VSS	-	GND		
71	XDSPRST	I	Normally, set to "open".	108	HDATA11	I/O	CPU data bus signal		
72	VSS	-	GND	109	HDATA10				
73	TEST5	O	Normally, set to "open".	110	HDATA9				
74	NC	-	Normally, set to "open".	111	HDATA8				
75	NC			112	HDATA7				
76	NC			113	HDATA6				
77	NC	-	Normally, set to "open".	114	VDD	-	2.5V power supply		
78	SD7			I	Parallel data input	115	HDATA5	I/O	CPU data bus signal
79	VDD			-	2.5V power supply	116	HDATA4		
80	SD6	I	Parallel data input	117	HDATA3	I/O	CPU data bus signal		
81	SD5			118	HDATA2				
82	SD4			119	VSS			-	GND
83	SD3			120	HDATA1			I/O	CPU data bus signal
84	SD2	121	HDATA0	CPU data bus signal (LSB)					
85	VSS	-	GND	122	BUSSEL	I	Bus width selection signal (0 : 8-bit bus, 1 : 16-bit bus)		
86	SD1	I	Parallel data input	123	XOSDACK	I	OSD data acknowledge signal		
87	SD0			124	XOSDREQ	O	OSD data request signal		
88	XERR	I	Error input signal	125	HCPUSEL1	I	CPU selection signal (00 :SPARC, 01 :86 system, 10 :68 system, 11 :Reserve)		
89	XSACK	I	Acknowledge signal	126	HCPUSEL0				
90	XTEST	I	Set to "H" at normal use	127	XINT3	O	Interrupt request signal to the CPU		
91	SREQ	O	Data request signal	128	XINT2				
				129	XINT1				
				130	VSS	-	GND		

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function		
131	VDD	–	2.5V power supply	170	XMDRCAS	O	CAS signal for SDRAM		
132	XINT0	O	Interrupt request signal to CPU	171	XMDRDQM1	O	Input mask / output enable signal for SDRAM		
133	XEXTRDY	O	SPARC, 68 system : Ready signal to CPU 86 system : Acknowledge (ACK) signal to CPU	172	VSS	–	GND		
134	HRW	I	CPU read / write signal	173	XMDRWE	O	Write enable signal for SDRAM		
135	HCLKIN	I	Host clock input	174	XMDRDQM0	O	Input mask / output enable signal for SDRAM		
136	XHCS	I	LSI chip select signal	175	MDRDAT8	I/O	Data bus signal for SDRAM		
137	XHAS	I	SPARC, 68 system : CPU address strobe 86 system : CPU address status	176	VSS	–	GND		
138	XHBE3	I	CPU byte enable signal	177	MDRDAT7	I/O	Data bus signal for SDRAM		
139	XHBE2			178	MDRDAT9				
140	XHBE1			179	MDRDAT6				
141	XHBE0			180	MDRDAT10				
142	VSS	–	GND	181	MDRDAT5				
143	MDRADR4	O	Address signal for SDRAM	182	VSS	–	GND		
144	MDRADR3			183	VDD	–	2.5V power supply		
145	MDRADR5			184	MDRDAT11	I/O	Data bus signal for SDRAM		
146	MDRADR2			185	MDRDAT4				
147	VDD	–	2.5V power supply	186	MDRDAT12			I/O	Data bus signal for SDRAM
148	VSS	–	GND	187	MDRDAT3				
149	MDRADR6	O	Address signal for SDRAM	188	MDRDAT13				
150	MDRADR1			189	VSS	–	GND		
151	MDRADR7			190	MDRDAT2	I/O	Data bus signal for SDRAM		
152	MDRADR0			191	MDRDAT14				
153	MDRADR8	192	MDRDAT1						
154	VSS	–	GND	193	MDRDAT15				Data bus signal for SDRAM (MSB)
155	TEST6	I	"L" status normally	194	MDRDAT0	I/O	Data bus signal for SDRAM (LSB)		
156	TEST7			195	VSS	–	GND		
157	TEST8			196	N.C.	–	Non connection		
158	TEST9			197	ICK27M	I	System clock input		
159	MDRADR10	O	Address signal for SDRAM	198	VSS	–	GND		
160	MDRADR9			199	OCK27M	O	System clock output		
161	MDRADR11			200	VSSA(VCO)	–	GND (for VCO only)		
162	XMDRCS	O	Chip select signal for SDRAM	201	VDDA(VCO)	–	2.5V power supply (for VCO only)		
163	MDRCKE	O	Clock enable signal for SDRAM	202	ILPF	O	PLL block inverter output for audio		
164	VSS	–	GND	203	MLPF	I	PLL block inverter input for audio		
165	VDD	–	2.5V power supply	204	OLPF	O	Phase detector output for audio		
166	XMDRRAS	O	RAS signal for SDRAM	205	OVCO	I	VCO input for audio clock		
167	MDRCLK	O	Clock output signal for SDRAM	206	VSS	–	GND		
168	VSS	–	GND	207	XPLLST	I	PLL section reset signal		
169	MDRCLKIN	I	Clock input signal for SDRAM	208	XSYNCRST	I	SYNC reset signal		

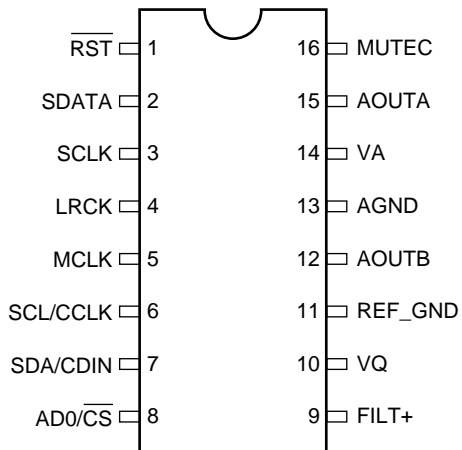
■ CS4341 (CONNECT ASSY : IC351)

• 24-bit, 96 kHz Stereo DAC with Volume Control IC

• Block Diagram



• Pin Arrangement



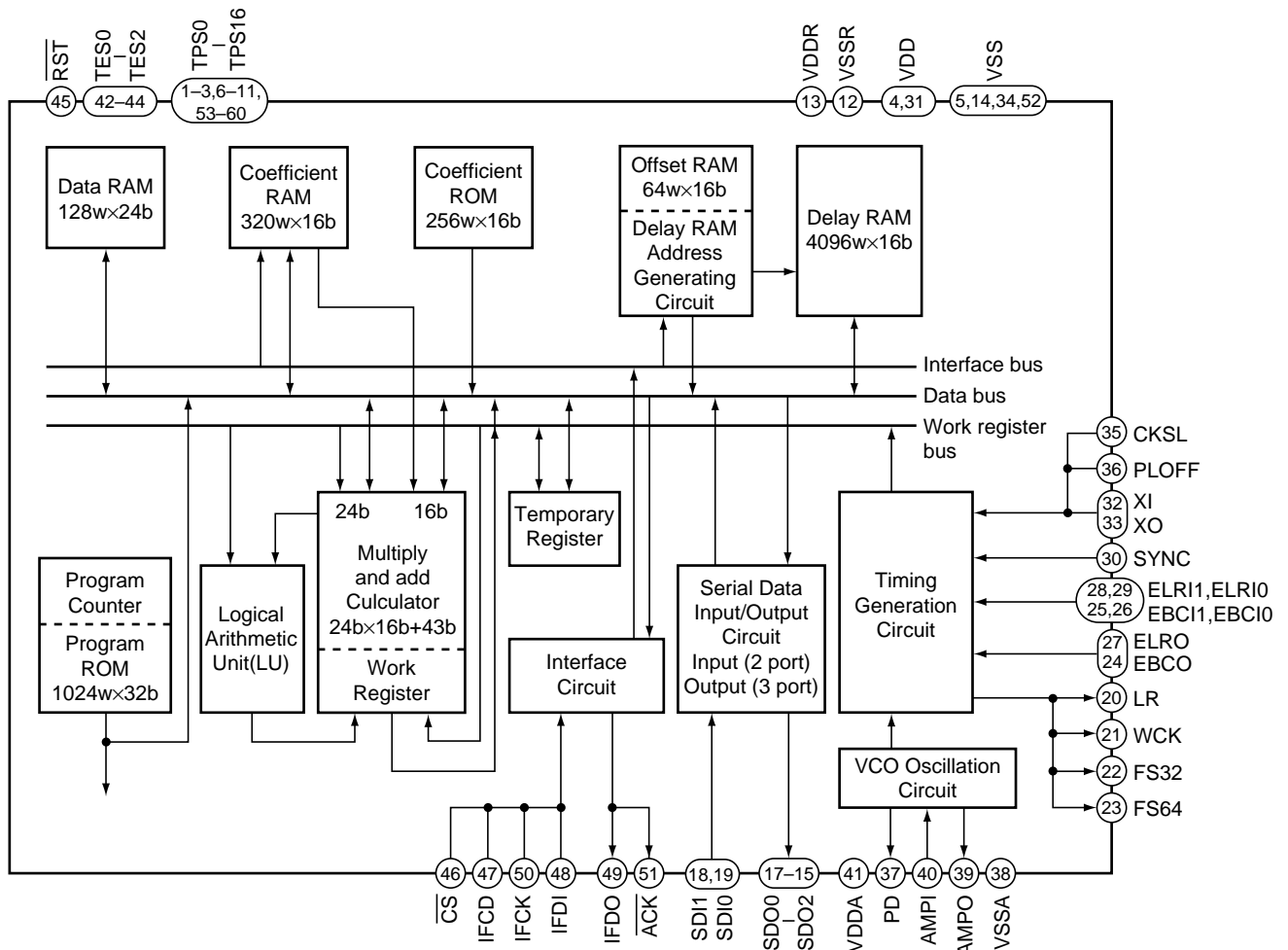
• Pin Function

No.	Pin Name	I/O	Function
1	RST	I	Reset
2	SDATA	I	Serial Data
3	SCLK	I	Serial Clock
4	LRCK	I	Left/Right Clock
5	MCLK	I	Master Clock
6	SCL/CCLK	I	Serial Control Interface Clock
7	SDA/CDIN	I/O	Serial Control Data I/O
8	AD0/CS	I	Address Bit/Chip Select
9	FILT+	O	Positive Voltage Reference
10	VQ	O	Quiescent Voltage
11	REF_GND	I	Reference Ground
12	AOUTB	O	Analog Output B
13	AGND	I	Analog Ground
14	VA	I	Analog Power
15	AOUTA	O	Analog Output A
16	MUTE	O	Mute Control

■ PD2058A (CONNECT ASSY : IC801)

• Digital Signal Processor for Audio

• Block Diagram



• Pin Function

No.	Pin Name	I/O	Function
1	TP8	O	Test data output pin Normally, use with open.
2	TP7		
3	TP6		
4	VDD	-	Power supply pin
5	VSS	-	Ground pin
6	TP5	O	Test data output pin Normally, use with open.
7	TP4		
8	TP3		
9	TP2		
10	TP1		
11	TP0		

# XR-A9700DV, XR-VS100D

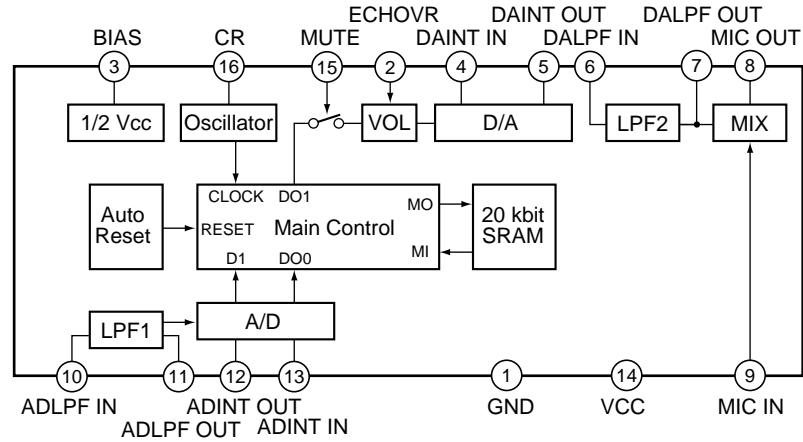
No.	Pin Name	I/O	Function	
12	VSSR	–	Ground pin for internal delay RAM (DLRAM)	
13	VDDR	–	Power supply pin for internal delay RAM (DLRAM)	
14	VSS	–	Ground pin	
15	SDO2	O	Serial data output pin Output data length is able to select the 24-bit or 16-bit by controlling the microprocessor.	
16	SDO1			
17	SDO0			
18	SDI1	I	Serial data input pin Input data length is able to select the 24-bit or 16-bit by controlling the microprocessor.	
19	SDI0			
20	LR	O	LR clock output pin (1 fs)	
21	WCK	O	Word clock output pin (2 fs)	
22	FS32	O	Bit clock output pin (32 fs)	
23	FS64	O	Bit clock output pin (64 fs)	
24	EBC0	I	Bit clock input pin Inputs shift clock for SDO0/1/2 data output.	
25	EBCI1	I	Bit clock input pin Inputs shift clock for SDI0/1 data input.	For SDI1 data input
26	EBCI0			For SDI0 data input
27	ELRO	I	LR clock input pin Inputs LR clock for SDO0/1/2 data output.	
28	ELRI1	I	LR clock input pin Inputs LR clock for SDI0/1 data input.	For SDI1 data input
29	ELRI0			For SDI0 data input
30	SYNC	I	Sync. signal input pin Turn the program counter into "0" forcibly by the edge of SYNC signal. Moreover, set the polarity by controlling the microprocessor.	
31	VDD	–	Power supply pin	
32	XI	I	Crystal oscillator connection pin / external clock input pin	
33	XO	O	Crystal oscillator connection pin	
34	VSS	–	Ground pin	
35	CKSL	I	Oscillation clock switch pin L : correspond to 384 fs H : correspond to 512 fs	
36	PLOFF	I	X'tal oscillation mode / VCO oscillation mode switch pin L :built-in VCO oscillation mode H :X'tal oscillation mode	
37	PD	O	Phase comparison data output pin	
38	VSSA	–	Analog ground pin	
39	AMPO	O	Amp. output pin for low-pass filter	
40	AMPI	I	Amp. input pin for low-pass filter	
41	VDDA	–	Analog power supply pin	
42	TES0	I	Test pin Normally, use for "H" or open.	
43	TES1			
44	TES2			
45	RST	I	Reset signal input pin	
46	CS	I	Chip select signal input pin When CS is L active, data is able to transfer from the microprocessor.	
47	IFCD	I	Command or data input mode selection pin from the microprocessor Recognize the command for "H" period and the data for "L" period.	
48	IFDI	I	Microprocessor data input pin Receive the command and data by LSB first.	
49	IFDO	O	Data output pin of data bus (DBUS) Transmit the data of data bus to the microprocessor by LSB first.	
50	IFCK	I	Shift clock input pin for microprocessor data	
51	ACK	O	Acknowledge signal output pin for microprocessor When parity of command and data is OK, outputs the acknowledge signal.	
52	VSS	–	Ground pin	
53	TP16	O	Test data output pin Normally, use with open.	
54	TP15			
55	TP14			
56	TP13			
57	TP12			
58	TP11			
59	TP10			
60	TP9			



■ M65855FP (DISPLAY ASSY : IC3931)

• Sound Processor

• Block Diagram



■ PDC058A (DISPLAY ASSY : IC5501)

• System Control Microcomputer

• Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	MODEL11	I	Model discrimination signal input 1	11	AC	-	AC pulse interruption input
2	MODEL12		Model discrimination signal input 2	12	XRESET	I	CPU reset input
3	XDVDRESET	O	Reset output of DVD microcomputer	13	REEL1	I	Pulse input 1 of DECK reel
4	KYC CE	O	Strobe output of keycom IC (M65847AFP)	14	REEL2		Pulse input 2 of DECK reel
5	RELAY	O	Relay ON/OFF signal output	15	VSS	-	Ground
6	TIMER LED	O	TIMER LED control signal output	16	CF1	-	
7	LED CE	O	Latch output for LED control IC (HEF4094)	17	CF2		
8	SPE A	O		18	VDD	-	Power supply
9	SPE B			19	MS	I	Deck MS signal input
10	SPE C			20	ST/TUNE	I	TUNER STEREO/TUNE input

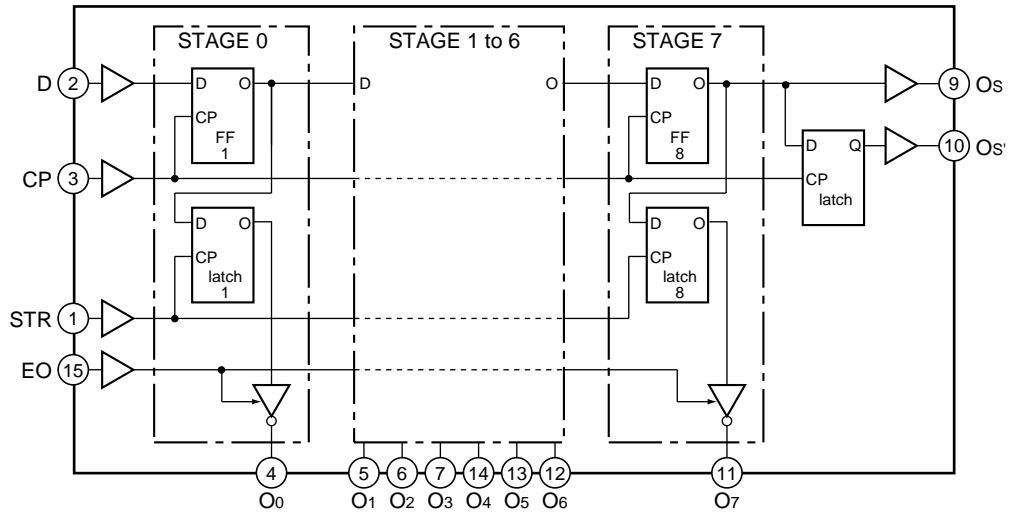
# XR-A9700DV, XR-VS100D

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function	
21	SPE-IN	I	Spectrum analyzer signal input	61	S14/ARR	I/O	Segment output 14 of FL display control /Deck ARR SW input	
22	KEY3	I	KEY signal 3 input (A/D)	62	S15/MODE1	I/O	Segment output 15 of FL display control /Deck mode SW1 input	
23	KEY2		KEY signal 2 input (A/D)	63	S16/MODE2	I/O	Segment output 16 of FL display control /Deck mode SW2 input	
24	KEY1		KEY signal 1 input (A/D)	64	S17/HALF1	I/O	Segment output 17 of FL display control /Deck half SW1 input	
25	3.3DETECT	I	DVD 3.3V detect signal input	65	S18/HALF2	I/O	Segment output 18 of FL display control /Deck half SW2 input	
26	N.C.	O	No connection	66	S19/CrO2_1	I/O	Segment output 19 of FL display control /Deck CrO2 SW1 input	
27	LT11	I	DVD microcomputer communication latch input	67	S20/CrO2_2	I/O	Segment output 20 of FL display control /Deck CrO2 SW2 input	
28	N.C.	O	No connection	68	S21	O	Segment output 21 to 23 of FL display control	
29	REMOCON	I	Remote control interruption signal input	69	S22			
30	G01	O	Grid output 1 to 16 of FL display control	70	S23			
31	G02			71	N.C.	I	No connection	
32	G03			72	VDD	-	Power supply	
33	G04			73	SOL2	O	Deck solenoid output 2	
34	G05			74	MOTOR	O	Deck motor output	
35	G06			75	SOL1	O	Deck solenoid output 1	
36	G07			76	N.C.	O	No connection	
37	G08			77	N.C.			
38	G09			78	REC MUTE	O	REC MUTE signal output	
39	G10			79	SCAN ON	O	Outputs for SW readin	
40	G11			80	DVD MUTE	I	DVD MUTE signal input	
41	G12			I		81	VOLJOG1	Pulse input for volume JOG 1 and 2
42	G13					82	VOLJOG2	
43	G14			I		83	MORP JOG1	Pulse input for sound morphing JOG a and 2
44	G15					84	MORP JOG2	
45	G16					85	PLL CE	Chip enable output of TUNER PLL
46	VDD	-	Power supply	86	EVOL CE	Chip enable output of Electric volume IC		
47	S01	O	Segment output 1 to 4 of FL display control	87	POWER	O	Main power output	
48	S02			88	LINE MUTE	O	Line mute output	
49	S03			89	VSS	-	Ground	
50	S04			90	VDD	-	Power supply	
51	VFDP	-		91	EXP CLK	O	Clock output for each IC (combine use with BU2092, BU4094BCF, M655847AFP)	
52	S05	O	Segment output 5 to 7 of FL display control	92	EXP DATA	O	Data output for EXP IC (combine use with BU2092, BU4094BCF, M655847AFP)	
53	S06			93	EXP CE	O	Chip enable output for EXP IC (BU4094BCF)	
54	S07			94	XRDY1	O	Communication READY signal output of DVD microcomputer	
55	S08/TH	I/O	Segment output 8 of FL display control /Protect input	95	SSI (SSO)	O	Communication data output of DVD microcomputer (outputs at AMP side)	
56	S09	I/O	Segment output 9 to 12 of FL display control	96	SSO (SSI)	I	Communication data input of DVD microcomputer (inputs at AMP side)	
57	S10			97	SSCK	O	Communication clock output of DVD microcomputer	
58	S11			98	SYSDATA	O	Tuner PLL data/Electric volume IC data output	
59	S12			99	TXDATA	I	Tuner data input	
60	S13/ARF			I/O	Segment output 13 of FL display control /Deck ARF SW input	100	SYSCLK	O

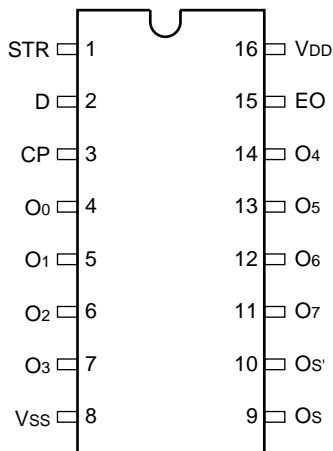
**HEF4794BT (DISPLAY ASSY : IC5601)**

• 8-Stage Shift-Store Register LED Driver

• Block Diagram



• Pin Arrangement



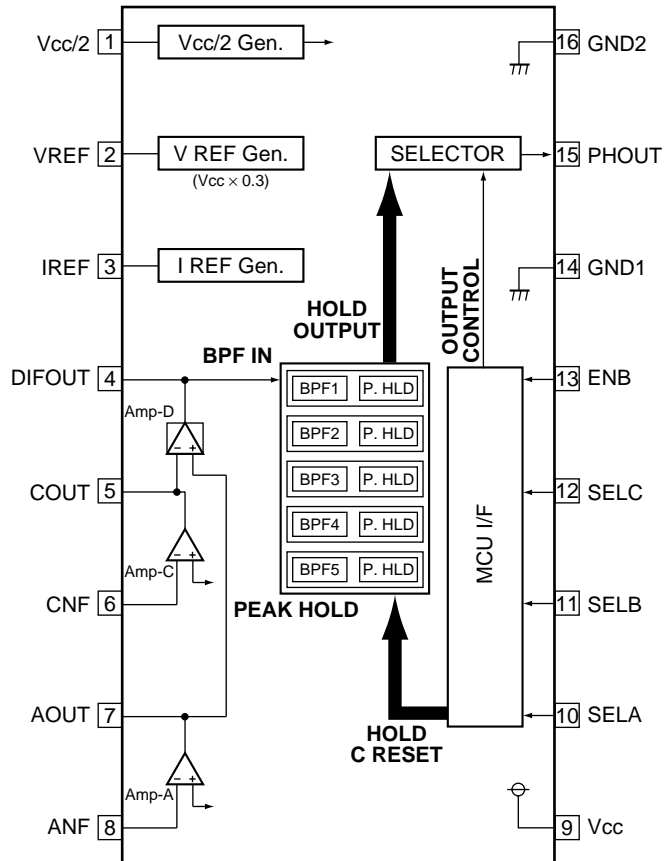
• Pin Function

No.	Pin Name	Function
1	STR	Strobe input
2	D	Data input
3	CP	Clock input
4	O <sub>0</sub>	Parallel outputs 0 to 3 (open drain)
5	O <sub>1</sub>	
6	O <sub>2</sub>	
7	O <sub>3</sub>	
8	V <sub>SS</sub>	Ground
9	O <sub>S</sub>	Serial outputs
10	O <sub>S'</sub>	
11	O <sub>7</sub>	Parallel output 7 (open drain)
12	O <sub>6</sub>	Parallel output 6 (open drain)
13	O <sub>5</sub>	Parallel output 5 (open drain)
14	O <sub>4</sub>	Parallel output 4 (open drain)
15	EO	Output enable input
16	V <sub>DD</sub>	Supply voltage

■ M62457AFP (DISPLAY ASSY : IC5631)

• Spectrum Analyzer

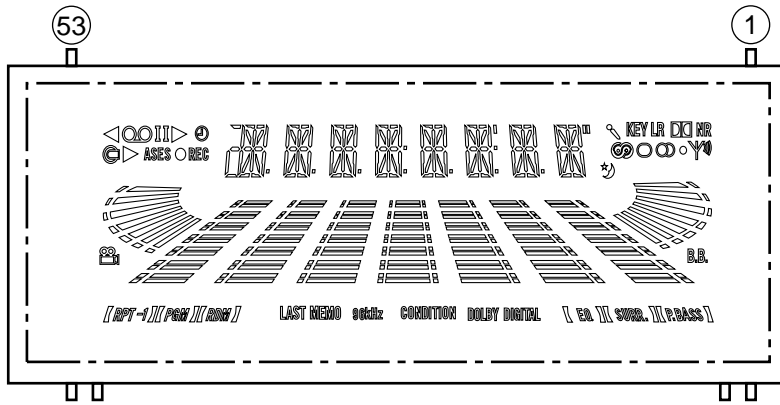
• Block Diagram



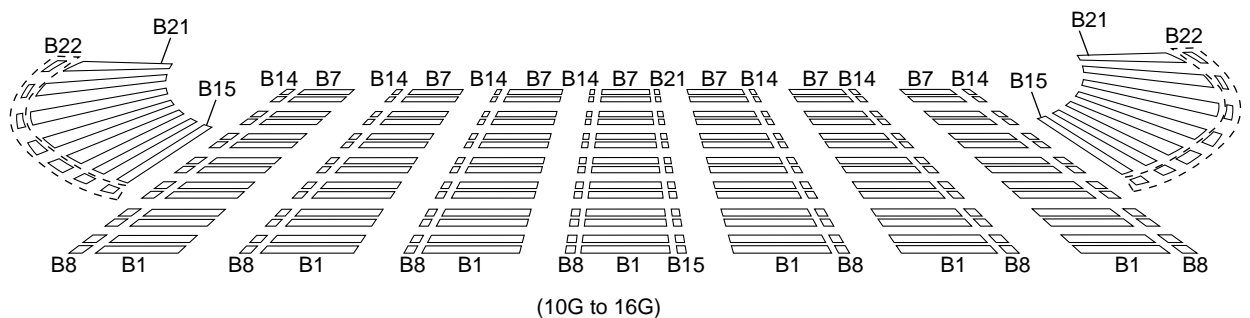
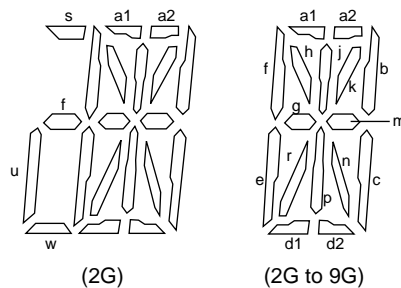
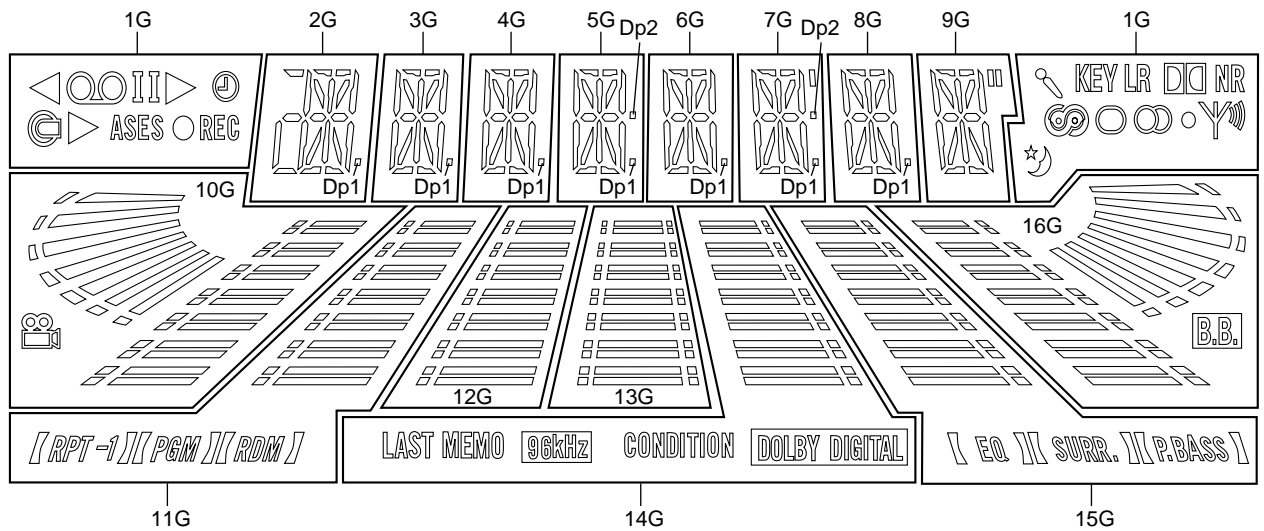
7.2.2 DISPLAY

■ XAV3008 (DISPLAY ASSY : V5621)

- FL Display
- Pin Assignment



• Grid Assignment



# XR-A9700DV, XR-VS100D

## • Pin Connection

Pin No.	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27
Connection	F2	F2	F2	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	P1	P2	P3	P4	P5	P6
Pin No.	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Connection	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	NX	NX	NX	NX	NP	NP	F1	F1	F1	

- NOTE
- 1) F1, F2..... Filament
  - 2) NP..... No pin
  - 3) NX..... No extend pin
  - 4) DL..... Datum Line
  - 5) 1G to 14G..... Grid
  - 6) Set view angle to 25.8° minimum at lower side.

## • Anode Connection

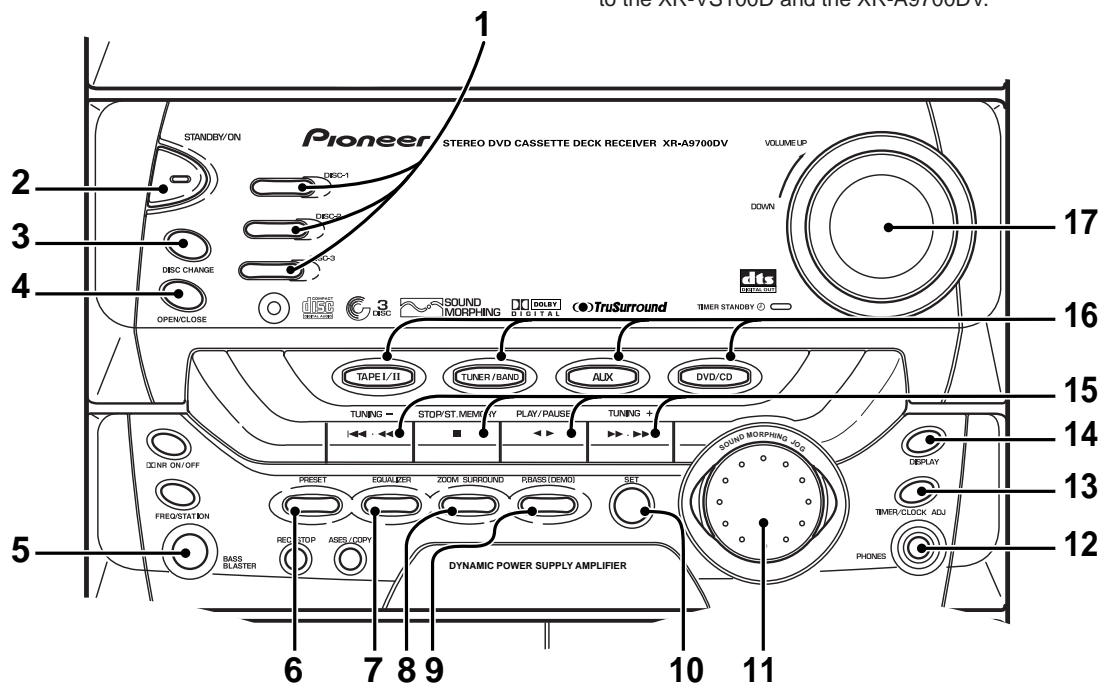
	1G	2G	3G,4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G
P1		a1	a1	a1	a1	a1	a1	a1		RPT	—	—	LAST MEMO	EQ	B.B.
P2		a2	a2	a2	a2	a2	a2	a2	B22	-1	—	—	96kHz	[ ]	B22
P3	I(RIGHT)	h	h	h	h	h	h	h	B21	[ ]	—	B21	CONDITION	SUPP.	B21
P4	▷(UPPER)	j	j	j	j	j	j	j	B20	PGM	—	B20	DOLBY DIGITAL	[ ]	B20
P5		k	k	k	k	k	k	k	B19	[ ]	—	B19	—	P.BASS	B19
P6		b	b	b	b	b	b	b	B18	RDM	—	B18	—	[ ]	B18
P7	▷(LOWER)	f	f	f	f	f	f	f	B18	[ ]	—	B18	—	—	B18
P8	ASES	g	g	g	g	g	g	g	B16	—	—	B16	—	—	B16
P9	○(LEFT)	m	m	m	m	m	m	m	B15	—	—	B15	—	—	B15
P10	REC	c	c	c	c	c	c	c	B8	B8	B8	B8	B8	B8	B8
P11		e	e	e	e	e	e	e	B1	B1	B1	B1	B1	B1	B1
P12	KEY	r	r	r	r	r	r	r	B9	B9	B9	B9	B9	B9	B9
P13	L	p	p	p	p	p	p	p	B2	B2	B2	B2	B2	B2	B2
P14	R	n	n	n	n	n	n	n	B10	B10	B10	B10	B10	B10	B10
P15	DI NR	d1	d1	d1	d1	d1	d1	d1	B3	B3	B3	B3	B3	B3	B3
P16		d2	d2	d2	d2	d2	d2	d2	B11	B11	B11	B11	B11	B11	B11
P17		dp1	dp1	dp1	dp1	dp1	dp1	dp1	B4	B4	B4	B4	B4	B4	B4
P18		—	—	dp2	—	dp2	—	—	B12	B12	B12	B12	B12	B12	B12
P19		—	—	—	—	∥	—	∥∥	B5	B5	B5	B5	B5	B5	B5
P20	○(RIGHT)	s	—	—	—	—	—	—	B13	B13	B13	B13	B13	B13	B13
P21		t	—	—	—	—	—	—	B6	B6	B6	B6	B6	B6	B6
P22	—	u	—	—	—	—	—	—	B14	B14	B14	B14	B14	B14	B14
P23	—	w	—	—	—	—	—	—	B7	B7	B7	B7	B7	B7	B7

## 8. PANEL FACILITIES AND SPECIFICATIONS

### 8.1 PANEL FACILITIES

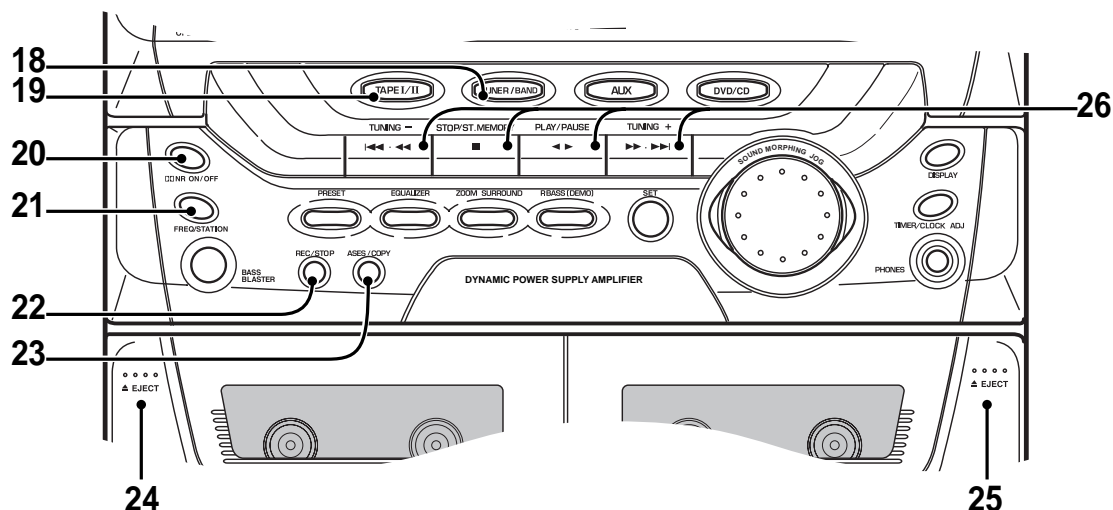
#### ■ Front Panel Section

Front panel shown is the XR-A9700DV. All controls are applicable to the XR-VS100D and the XR-A9700DV.



### Disc and amplifier section

- 1 **DISC-1,2,3 select buttons & indicators** – press to select discs in the player directly
- 2 **STANDBY/ON button** – press to switch the unit between standby and on.
- 3 **DISC CHANGE button** – press to select the next disc in the player
- 4 **OPEN/CLOSE button** – press to open and close the disc tray
- 5 **BASS BLASTER button** – switch on to boost the bass
- 6 **PRESET button** – press to switch between Preset sound modes (use the **S.M.JOG** dial for smooth adjustment)
- 7 **EQUALIZER button** – press to switch between Equalizer modes (use the **S.M.JOG** dial for smooth adjustment)
- 8 **ZOOM SURROUND button** – press to switch between Zoom Surround modes (use the **S.M.JOG** dial for smooth adjustment)
- 9 **P.BASS (DEMO) button** – press to switch between P.Bass modes (use the **S.M.JOG** dial for smooth adjustment)
- 10 **SET button** – use to enter timer settings made with the **S.M.JOG** dial
- 11 **SOUND MORPHING JOG (S.M.JOG)** – use to change Preset, Equalizer, Zoom Surround and P.Bass modes. Also used when setting the timer.
- 12 **PHONES jack (Headphones)** – plug in a pair of headphones to this jack
- 13 **TIMER / CLOCK ADJ button** – use to start setting the clock/timer
- 14 **DISPLAY button** – use to switch the display mode
- 15 **Control buttons** – use to control disc playback
- 16 **function select button (TAPE I/II, TUNER/BAND, AUX, DVD/CD)** – use to select the source function
- 17 **Volume control (VOLUME)** – use to adjust the volume of the source material

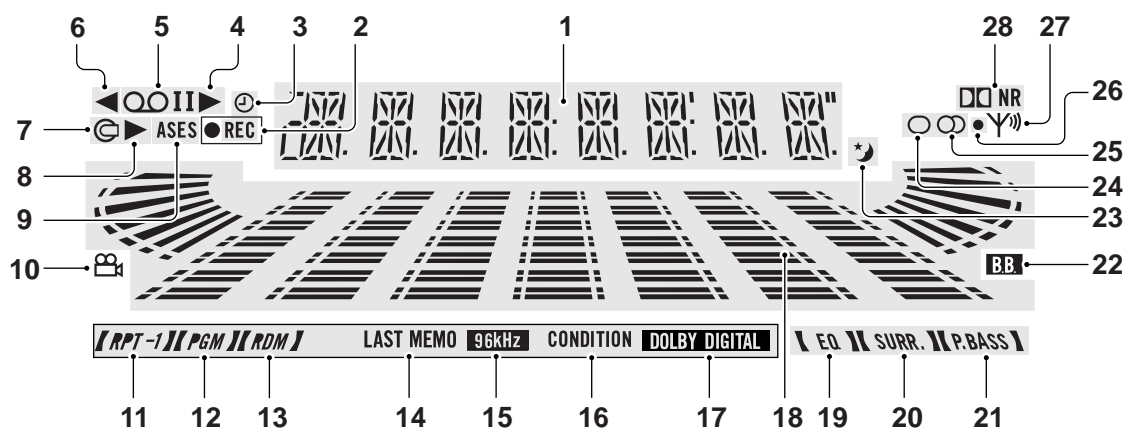


## Tuner and tape deck section

- 18 **TUNER/BAND function button** – press to switch to tuner function and to switch between AM and FM
- 19 **TAPE I/II function button** – press to switch to tape function and to switch between tape decks I and II.
- 20 **Dolby NR ON/OFF button** – press to switch Dolby Noise Reduction on/off
- 21 **FREQ / STATION button** – press to switch between tuning and preset station modes
- 22 **REC / STOP button** – press to start/stop tape recording
- 23 **ASES / COPY button** – press to start automatic CD/tape recording
- 24 **▲ EJECT (tape I)** – press to open the cassette door of deck I
- 25 **▲ EJECT (tape II)** – press to open the cassette door of deck II
- 26 **Control buttons** – use to control tape playback, for manual tuning and to change preset stations

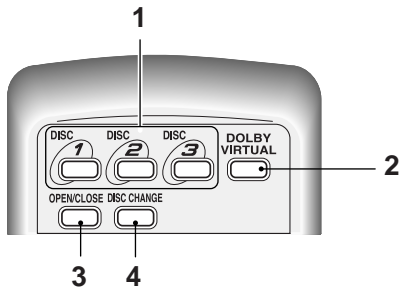


## ■ Display Section

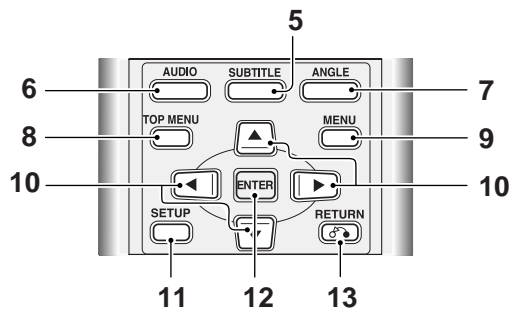


- 1 **Character display**
- 2 ● **REC** – lights when recording to tape
- 3 **Timer** – lights when either the record timer or the wake up timer has been set
- 4 ► – lights when the current tape direction is forwards
- 5 **Tape I, II** – indicates which tape deck is currently selected
- 6 ◀ – lights when the current tape direction is reverse
- 7 **Disc function** – lights when the function is set to CD/DVD/Video CD
- 8 ► – lights when a disc is playing
- 9 **ASES** – lights during automatic recording of a CD
- 10 **Angle** – lights during scenes on DVD discs that are recorded with multiple camera angles
- 11 **[RPT (-1)]** – highlights during repeat play mode (-1 lights when in single track repeat mode)
- 12 **[PGM]** – highlights during program playback mode
- 13 **[RDM]** – highlights during random playback mode
- 14 **LAST MEMO** – lights when a resume playback point was memorized for the loaded disc
- 15 **96kHz** – lights when a DVD disc is playing that contains 96kHz audio
- 16 **CONDITION** – lights when a DVD disc is loaded that has had preferences set for language, screen, etc.
- 17 **DOLBY DIGITAL** – lights when a Dolby Digital DVD disc is playing
- 18 **Sound morphing / sound level display**
- 19 **[EQ]** – highlights when EQ is active
- 20 **[SURR.]** – highlights when zoom surround is active
- 21 **[P.BASS]** – highlights when P.Bass is active
- 22 **B.B.** – lights when Bass Blaster is switched on
- 23 **Sleep timer** – lights when sleep timer has been set
- 24 **FM mono** – lights when the tuner is set to mono FM mode using the remote's **MONO** button
- 25 **FM stereo** – lights when the tuner is receiving a stereo FM broadcast in auto stereo mode
- 26 **Beat cut 2 indicator** – lights when beat cut is switched on for recording AM

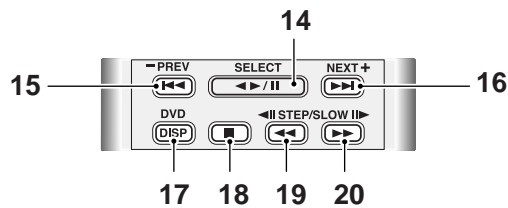
■ Remote Control Unit



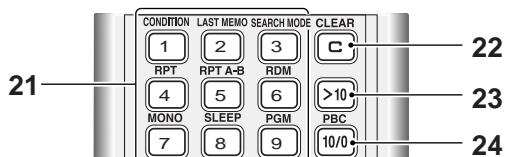
- 1 **DISC select buttons (1-3)** – Use to select discs in the player directly
- 2 **DOLBY VIRTUAL** – Press to switch on/off Dolby Virtual
- 3 **OPEN/CLOSE button** – press to open/close the disc tray
- 4 **DISC CHANGE button** – press to select the next disc in the player



- 5 **SUBTITLE** – press to switch the subtitle language of DVD discs during playback
- 6 **AUDIO** – press to switch the audio language of DVD discs, or the channel of CDs/Video CDs, during playback
- 7 **ANGLE** – press to switch camera angle on DVD discs recorded with multiple cameras angles
- 8 **TOP MENU** – press to display the top menu of a DVD disc
- 9 **MENU** – press to display the disc menu of a DVD disc
- 10 **Cursor buttons (◀▲▼▶)** – use to navigate the on-screen menus
- 11 **SETUP** – press to display the system setup menu for access to various sound, picture and language options
- 12 **ENTER** – use to select items from on-screen menus
- 13 **RETURN** – press to exit from a menu screen



- 14 **SELECT ◀▶/II** – press to start playing a disc or tape, or pause one already playing
- 15 **-PREV ◀◀** – use to skip back tracks/chapters on a disc or tape/switch menu screens on a Video CD PBC menu/tune to radio stations
- 16 **NEXT+ ▶▶** – use to skip forward tracks/chapters on a disc or tape/switch menu screens on a Video CD PBC menu/tune to radio stations
- 17 **DVD DISP** – press to display disc information on-screen
- 18 **■** – press to stop a disc or tape currently playing
- 19 **◀◀** – use to scan backward on a disc, or fast-rewind a tape  
**[shift] ◀II** – use for reverse frame-advance and slow motion reverse playback of a DVD disc
- 20 **▶▶** – use to scan forward on a disc, or fast-forward a tape  
**[shift] II▶** – use for frame advance and slow motion forward playback of a DVD or Video CD



**21 Number buttons**

**CONDITION ([shift] 1)** – press to memorize the current DVD disc preferences

**LAST MEMO ([shift] 2)** – press to memorize the current position on a DVD disc

**SEARCH MODE ([shift] 3)**– use to select the disc search mode (track, chapter, title or time)

**RPT ([shift] 4)** – use to select a repeat mode for discs

**RPT A-B ([shift] 5)** – press to mark the start and end points of a loop to repeat when playing discs

**RDM ([shift] 6)** – press to start random playback of tracks/discs loaded

**MONO ([shift] 7)** – press to listen to a stereo FM broadcast in mono (sound quality is usually improved)

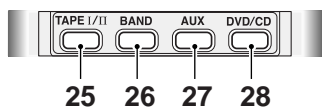
**SLEEP ([shift] 8)** – press to set up the sleep timer

**PGM ([shift] 9)** – press to start programming a playlist

**22 CLEAR** – press to clear or cancel various operations

**23 >10** – Use to select numbers over 10

**24 10/0** – use as zero or 10 when entering numbers  
**[shift] PBC** – press to switch Video CD playback control on or off

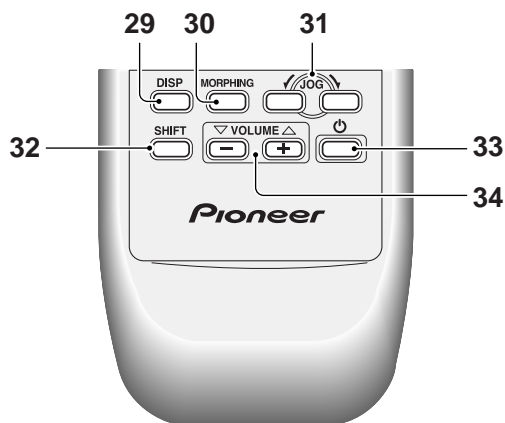


**25 TAPE I/II** – press to switch to the tape function and to switch between tape decks I and II

**26 BAND** – use to switch between FM and AM bands

**27 AUX** – press to switch the source to the auxiliary inputs

**28 DVD / CD** – press to switch the source to CD/DVD/ Video CD



**29 DISP** – press to switch the display mode

**30 MORPHING** – press to switch the sound morphing mode (adjust using the JOG buttons)

**31 JOG buttons** – use to adjust the sound morphing

**32 SHIFT** – use together with other buttons to access the [shift] functions

**33 STANDBY/ON button** – press to switch the unit between on and standby modes

**34 VOLUME buttons** – use to adjust the overall volume level

**8.2 SPECIFICATIONS**

**Continuous Average Power Output is 100 Watts\* per channel, min., at 6 ohms from 60 Hertz to 15,000 Hertz, with no more than 5.0%\*\* total harmonic distortion.**

\* Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.

\*\* Measured by Audio Spectrum Analyzer.

**Continuous Power Output**

XR-A9700DV (RMS) ..... 140 W + 140 W  
 XR-VS100D(RMS) ..... 140 W + 140 W  
 (1 kHz, T.H.D. 10 %, 6 Ω)

**FM tuner section**

Frequency Range ..... 87.5 MHz to 108 MHz  
 Antenna input ..... 75 Ω unbalanced

**AM tuner section**

Frequency Range  
 With 9 kHz step ..... 531 kHz to 1,602kHz  
 With 10 kHz step ..... 530 kHz to 1,700kHz  
 Antenna input ..... Loop antenna

**Disc section**

Digital audio characteristics ..... DVD fs: 96 kHz, 24 bit  
 Type ..... DVD system, Video CD system  
 and Compact Disc digital audio system  
 Frequency response ..... 4 Hz to 44 kHz  
 S/N ratio ..... 95 dB  
 Dynamic range ..... 95 dB  
 Total harmonic distortion ..... 0.005 %  
 Wow and Flutter ..... Limit of measurement  
 (±0.001 % W.PEAK) or less (EIAJ)

**Cassette deck section**

Systems ..... 4 track, 2-channel stereo  
 Heads ..... Recording/playback head x 1  
 ..... Playback head x 1  
 ..... Erase head x 1  
 Motor ..... DC servo motor x 1  
 Tape types  
 ..... TYPE I (Normal) tape / TYPE II (HIGH/CrO2) tape

**Miscellaneous**

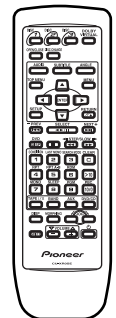
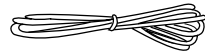
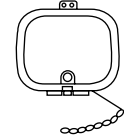
Power Requirements  
 US and Canadian models ..... AC 120V, 60 Hz  
 Australian models ..... AC 240V, 50/60 Hz  
 Power Consumption  
 US and Canadian models ..... 170 W  
 Australian models ..... 870 W  
 Power Consumption in standby mode ..... 1 W  
 Dimensions  
 ..... 10-5/8 (W) x 12-5/8 (H) x 13-3/8 (D) inch  
 ..... 270 (W) x 320 (H) x 339 (D) mm  
 Weight (without package) ..... 9.3 kg (20.5lbs)

**Accessories**

Operating instructions ..... 1  
 Remote control unit ..... 1  
 Size AA/R6P dry cell batteries ..... 2  
 FM antenna ..... 1  
 AM loop antenna ..... 1  
 Power Cord ..... 1  
 Video Cord ..... 1

**Note:** Specifications and design subject to possible modification without notice, due to improvement.

**Accessories**

<p>① Remote Control Unit × 1                  [XR-A9700DV : CU-XR062 (AZN7800)]                  [XR-VS100D : CU-XR063 (AZN7801)]</p>	<p>② FM Antenna × 1                  (ADH7004)</p>	<p>③ AM Loop Antenna × 1                  (XTB3001)</p>
		
<p>④ AA/R6P Dry Cell Batteries × 2                  (VEM-013)</p>	<p>⑤ Power Cord × 1                  (XR-A9700DV : ADG7022)                  (XR-VS100D/DLXJ/NC Type : ADG1154)                  (Other Types : ADG1158)</p>	<p>⑥ Video Cord × 1                  (VDE1034)                  (L=1.5m)                  Yellow</p>
