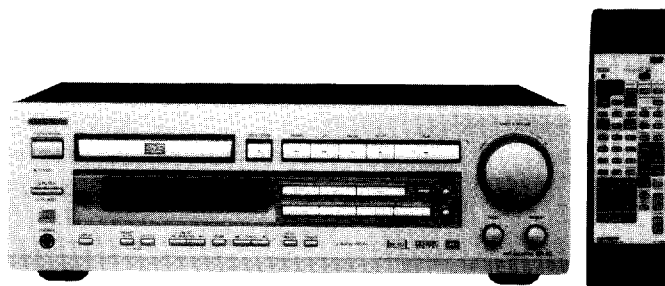


ONKYO® SERVICE MANUAL

DVD RECEIVER

DR-90



Black and Golden models

BUD	120V AC, 60Hz
BUP / BUPT	230V AC, 50Hz
BUWT	220-230V / 120V AC, 50/60Hz
GUPT	230V AV, 50Hz
GUWT	220-230V / 120V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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ONKYO®
AUDIO COMPONENTS

SPECIFICATIONS

AMPLIFIER SECTION

Power output (FTC)	All channels 55 watts per channel min. RMS. Into 6 ohms two channel driven. 1,000 Hz with no more than 0.2 % total harmonic distortion.	
Continuous power output (DIN)	All channels 50 watts per channel min. RMS. Into 6 ohms two channel driven. 1,000 Hz.	
Total Harmonic Distortion	0.2 % at rated power 0.2 % at 1 watt output	
IM Distortion	0.2 % at rated power 0.2 % at 1 watt output	
Damping Factor	60 at 8 ohms	
Input sensitivity and impedance		
	LINE (VIDEO 1, 2, TV, TAPE)	200mV, 50k ohms
	DIGITAL 2 (coaxial)	0.5 Vp-p, 75 ohms
	Composite (VIDEO 1, 2)	1 Vp-p, 75 ohms
	S-VIDEO (VIDEO 1)	Y: 1 Vp-p, 75 ohms C: 0.28 Vp-p, 75 ohms

REC OUT (TAPE, VIDEO 1)	200 mV, 2.2k ohms
PREOUT (Subwoofer, Center)	1 V, 2.2k ohms
Composite (Monitor out, VIDEO 1)	1 Vp-p, 75 ohms
S-VIDEO (Monitor out, VIDEO 1)	Y: 1 Vp-p, 75 ohms C: 0.28 Vp-p, 75 ohms
Component signal output (DVD out)	Y: 1.0 Vp-p, 75 ohms Negative sync. CB/CR: 0.7 Vp-p, 75 ohms
Frequency Response	20 to 30,000 Hz : +/-0.8 dB
Tone Control	Bass : +/-10 dB at 50 Hz Treble : +/-10 dB at 10,000 Hz
Signal to noise ratio	100 dB (IHF)
Muting	- ∞ dB
Component signal output	Y: 1.0 Vp-p, 75 ohms, Negative sync. CB, CR: 0.7 Vp-p, 75 ohms
Frequency response	4 Hz - 20k Hz (44.1k Hz), 4 Hz - 22k Hz (48k Hz), 4 Hz - 44k Hz (96k Hz)
Wow and flutter	Below threshold of measurability

DVD SECTION

Signal readout system	Optical non-contact
Linear velocity	3.49m/s (Single layer), 3.84 m/s (Dual layer)
Error correction system	Reed solomon product code
Signal system	Standard NSTC
Video output	1.0 Vp-p, 75 ohms, Negative sync.
S Video output	Y: 1.0 Vp-p, 75 ohms C: 0.286 Vp-p, 75 ohms

GENERAL

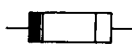
Power supply rating	AC 120 V, 60 Hz AC 230V, 50 Hz AC 220-230 V and 120 V switchable, 50/60 Hz
Power consumption	3.0 A
Dimensions (W x H x D)	435 x 145 x 414 mm 171/8" x 511/16" x 165/16"
Weight	10.8 kg (23.8 lbs.)

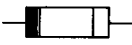
TUNER SECTION

Tuning range	FM: 87.50 to 108.00M Hz (50k Hz steps)	
	U.S.A. & Canadian models:	AM: 530 to 1710k Hz (10k Hz steps)
	European & Australian models:	AM: 522 to 1611k Hz (9k Hz steps)
	Worldwide models:	AM: 531 to 1620k Hz (9k Hz steps)
		AM: 530 to 1710k Hz (10k Hz steps)
Usable sensitivity	FM: Mono	0.9 μ V (75 ohms DIN)
	Stereo	17.2 dBf, 2.0 μ V (75 ohms IHF) 23 μ V (75 ohms DIN)
	AM:	30 μ V
50 dB Quieting	FM: Mono	17.2 dBf, 2.0 μ V (75 ohms)
	Stereo	37.2 dBf, 20.0 μ V (75 ohms)
Capture ratio	FM: 2.0 dB	
Image rejection ratio		
	U.S.A. & Canadian models:	FM: 40 dB
	Other area models:	FM: 85 dB
	AM: 40 dB	
IF rejection ratio	FM: 90 dB	
	AM: 40 dB	
Signal to noise ratio	FM: Mono	73 dB, IHF
	Stereo	67 dB, IHF
	AM: 40 dB	
Alternate channel Att. (+/-400k Hz)	FM: Mono	55 dB, IHF
Selectivity	FM: 50 dB, DIN	
AM suppression ratio	FM: 50 dB	
Harmonic distortion	FM: Mono	0.2%
	Stereo	0.3 %
	AM:	0.7 %
Frequency response	FM: 30 to 15,000 Hz (+/- 1.0 dB)	
Stereo separation	FM: 45 dB at 1,000 Hz 35 dB at 100 to 10,000 Hz	
Stereo threshold	FM: 17.2 dBf, 20 μ V (75 ohms)	

SERVICE SAFETY PRECAUTIONS

1. Replacing the fuse

 This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

 Ce symbol indique le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que fusibles de meme type. Ce dernier est la qu le present symbol est appse.

Circuit No.	Part No.	Description
F9011	252163	4A-UL/T-237 <D,WT>
F9022	252074	2A-SE-EAK <P,WT,PT>
F9033	252163	4A-UL/T-237 <D>
	252075	2.5A-SE-EAK <P,PT>
F9301	252163	4A-UL/T-237 <D>
	252077	4A-SE-EAK <WT,PT>

NOTE: <D>: 120 V model only
<P>: 230 V model only
<WT>: Worldwide model only
<PT>: Asian model only

2. Erasing all the programmed functions

1. Press MEMORY
2. Within 5 seconds, press and hold POWER ON, then press and hold MEMORY at the same time until the SENDING/LEARNED indicator goes off.

3. Safety check out

(Only U. S. A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel. Specifications: 3.3M ohm +/- 10% at 500 V.

4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to change the back-up system. The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

5. Setting the AM tuning step frequency

(Worldwide models only)

Worldwide models are equipped with a switch that controls the AM band tuning steps. Please set this switch to match the AM band tuning step frequency in your area.

U. S. A. and Canada: 10 kHz

Other areas : 9 kHz

6. Changing the AM band step

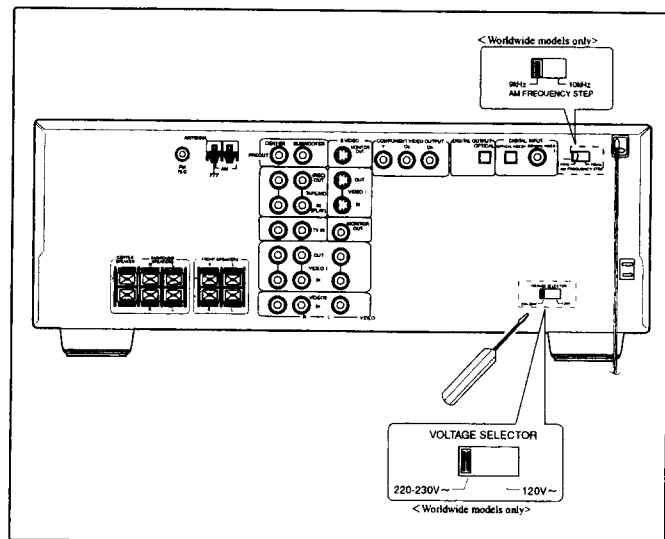
With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

	to 10 kHz	to 9 kHz
R7079	1.5k ohm	22k ohm



7. Setting the Voltage selector (Worldwide models only)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit.

1. Determine the proper voltage for your area: 220-230V or 120V.
2. If the preset voltage is not correct for your area, insert a screw-driver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left (220-230V), whichever is appropriate.



OPERATING INSTRUCTIONS SAFETY PRECAUTIONS

	WARNING RISK OF ELECTRIC SHOCK DO NOT OPEN	
AVIS	RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR	
WARNING : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PART INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



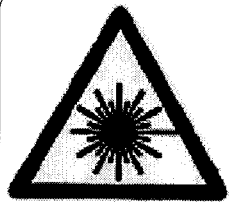
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

CAUTION : TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION : POUR EVITER LES CHOC ELECTRIQUE, INTRODUIRE LA LAME LA PLUS LARGE DA LA FICHE DANS LA BORNE CORRESPONDANTE DA LA PRISE ET POUSSER JUSQU' AU FOND.

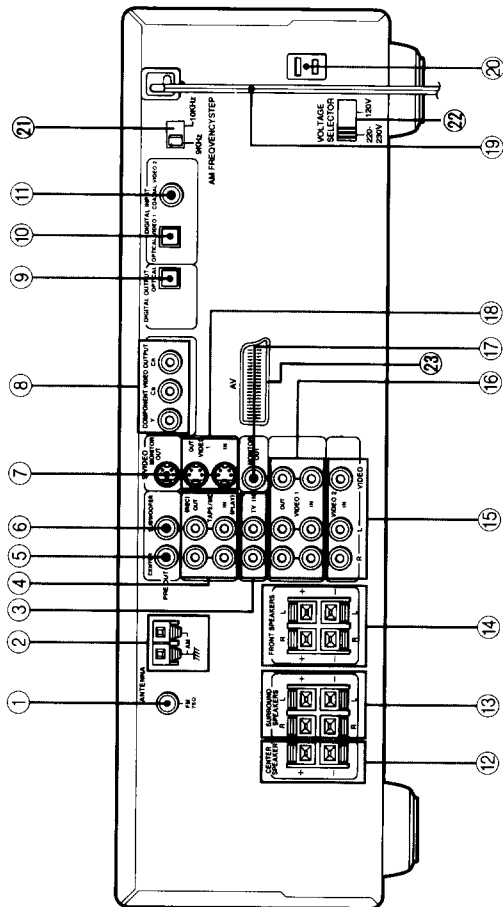
LASER BEAM CAUTION LABEL

 <p>WAVE LENGTH: 650nm MAX LASER POWER: 5mW 波 長 : 650nm 最大レーザー出力 : 0.5mW 981764190</p>	<p>CAUTION - VISIBILE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. DO NOT STARE INTO BEAM.</p>
	<p>ADVARSEL - LASESTRÅLING VED ÅBNING NÅR SIKKERHEDSÅBRYTEREN ER UDE AF FUNKTION. SE IKKE IND I STRÅLEN.</p>
	<p>ADVARSEL - LASESTRÅLING NÅR DEKSEL ÅBNES OG SIKKERHEDSGLASEN BRÆTTES. STER IKKE IND I STRÅLEN.</p>
	<p>WARNING - DRYTLIG LASERSTRÅLING NÅR DEKSEL ÅBNES OCH SPÄRRAR ÄR UTKOPPLAGD. STERR IKKE IND I STRÅLEN.</p>
	<p>VARO! - AVATTIASSA JA SUOJALUKKUS OHEITETTÄSSÄ SALET ALTIIN LASER-SÄTELYLLE. ÄLÄ TÄUKÖTÄ SÄTEELYÄ.</p>
	<p>注意 - ここを覗くと有害レーザー光が出ます。 目へ直射光を照射しないでください。</p>

When the power supply is being turned on, you may not remove this laser cautions label, radiation of a laser may be received.

Pickup Head consists of a laser diode that is very susceptible to external static electricity. Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity. And also, the LSI and IC are same as above.

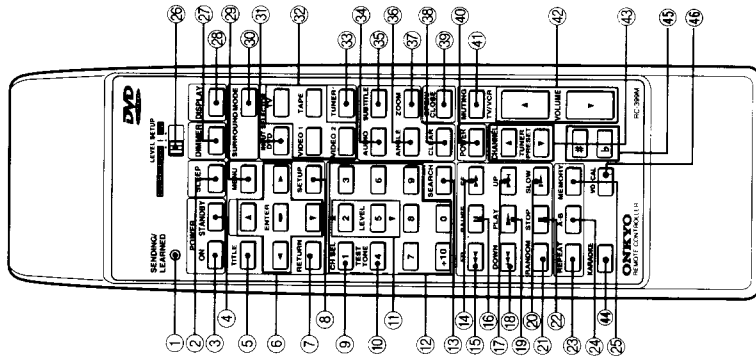
REAR PANEL VIEW



- ① FM ANTENNA connector
- ② AM ANTENNA connector
- ③ TV IN jacks
- ④ TAPE/MD IN(PLAY)/OUT(REC) jacks
- ⑤ PRE OUT CENTER jack
- ⑥ PRE OUT SUBWOOFER jack
- ⑦ S-VIDEO MONITOR OUT jack
- ⑧ COMPONENT VIDEO OUTPUT Y/Cb/Cr jacks
- ⑨ DIGITAL OUTPUT OPTICAL jacks
- ⑩ VIDEO 1 DIGITAL INPUT OPTICAL jack
- ⑪ VIDEO 2 DIGITAL INPUT COAXIAL jack
- ⑫ CENTER SPEAKER connectors
- ⑬ SURROUND SPEAKERS connectors
- ⑭ FRONT SPEAKERS connectors
- ⑮ VIDEO 2 IN jacks
- ⑯ VIDEO 1 OUT/IN jacks
- ⑰ MONITOR OUT jack
- ⑱ VIDEO 1 (S video) OUT/IN j
- ⑲ Power cord
- ⑳ AC outlet
- ㉑ AM FREQUENCY STEP switch *
- ㉒ VOLTAGE SELECTOR *1
- ㉓ SCART connector *2

*1: UWT only
*2: UP only

REMOTE CONTROLLER VIEW



- ① SENDING/LEARNED indicator
- ② SLEEP button
- ③ POWER ON button
- ④ POWER STANDBY button
- ⑤ TITLE button
- ⑥ ▲▼◀▶ ENTER buttons
- ⑦ DOLBY PRO LOGIC indicator
- ⑧ DTS indicator
- ⑨ DSP indicator
- ⑩ TEST TONE button
- ⑪ LEVEL ▲▼ buttons
- ⑫ Number buttons
- ⑬ SEARCH button
- ⑭ FF(▶▶) button
- ⑮ FR(◀◀) button
- ⑯ PAUSE(⏸) button
- ⑰ UP(▶) button
- ⑱ DOWN(◀) button
- ⑲ PLAY(▶) button
- ⑳ SLOW(▶) button
- ㉑ RANDOM button
- ㉒ STOP(■) button
- ㉓ REPEAT button
- ㉔ A-B button
- ㉕ MEMORY button
- ㉖ DVD RECEIVER/LEVEL SETUP/TV switch
- ㉗ DIMMER button
- ㉘ DISPLAY button
- ㉙ MENU button
- ㉚ SURROUND MODE button
- ㉛ INPUT SELECTOR DVD button*
- ㉜ INPUT SELECTOR TV/TAPE/VIDEO 1/ VIDEO 2/ button
- ㉝ INPUT SELECTOR TUNER button
- ㉞ AUDIO button
- ㉟ SUBTITLE button
- ㊱ ANGLE button
- ㊲ ZOOM button
- ㊳ CLEAR button
- ㊴ OPEN/CLOSE button
- ㊵ POWER button
- ㊶ MUTING/TV/VCR button
- ㊷ VOLUME ▲▼ buttons
- ㊸ CHANNEL TUNER PRESET ▲▼ buttons
- ㊹ KARAOKE button * UWT only
- ㊺ # (sharp) and b (flat) buttons * UWT only
- ㊻ VOCAL button * UWT only

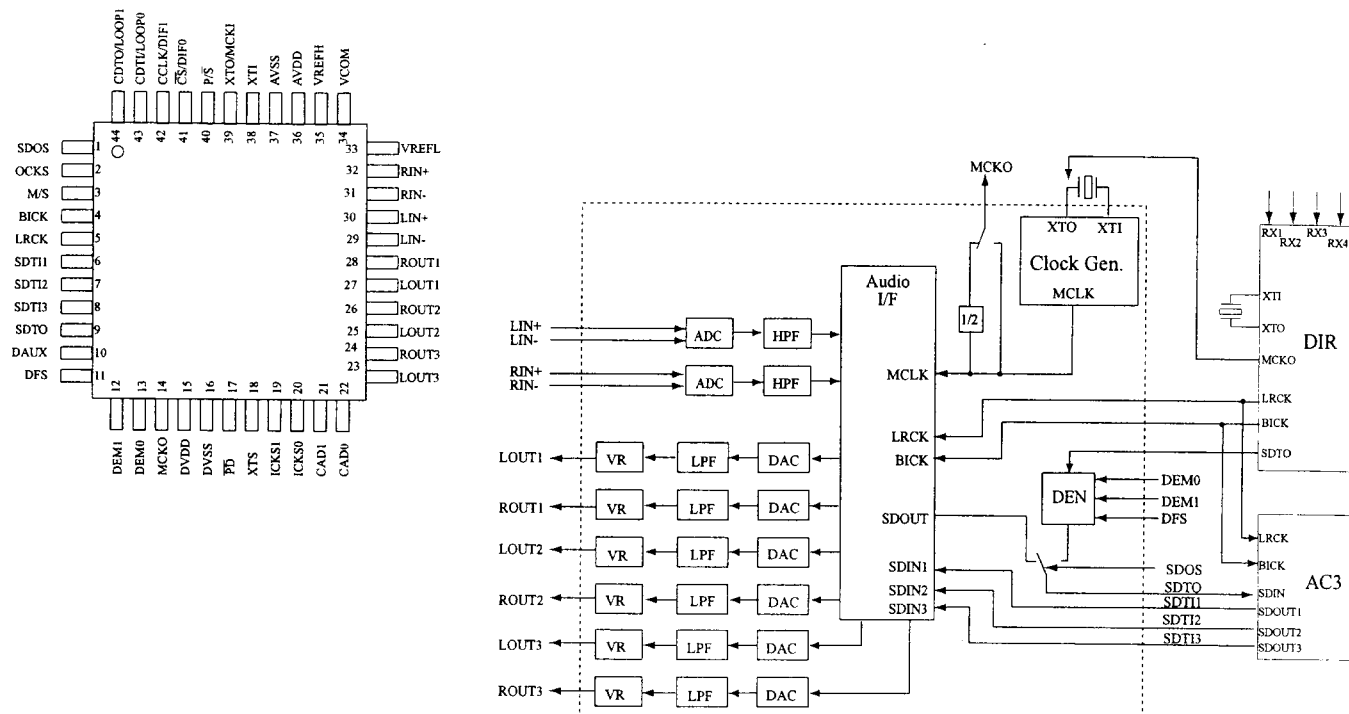
MICROPROCESSOR TIRMINAL DESCRIPTION

μPD780208GF (Microprocessor)

PIN No.	TERMINAL	I/O	DESCRIPTION
1	VDD	I	Power supply pin (+5V)
2	EXLT	O	Latch output data pin of 74HC595
3	FSWSCK		Serial data output pin to function switch
4	FSWSCK	O	Serial clock output pin to function switch
5	FSWSLT	O	Serial latch output pin to function switch
6	VOLSLT	O	Serial latch output pin to electric volume
7	PLLDO/VOLCK	O	Serial data output pin to PLL/VOLUME/74HC595
8	PLLCK/VOLCK	O	Serial clock output pin to PLL/VOLUME/74HC595
9	PLLCE	O	Serial data output pin of the PLL
10	RESET	I	Reset pin
11	X2	O	Master clock output pin (5MHz)
12	X1	I	Master clock input pin (5MHz)
13	GND	-	To connect the ground pin
14	XT2	-	Not used
15	HPIN	I	Detection input pin when the headphones are inserted
16	+5V	I	Power supply pin (+5V)
17	DSPSCK/KARA	O	Serial clock output pin to AK4110 and DSP(CS4926)
18	DSPSDO/KARA	O	Serial data output pin to AK4110 and DSP(CS4926)
19	DSPSDI/KARA	I	Serial data input pin from the AK4110
20	DVCS	I	Chip select input pin from the microprocessor of DVD
21	STBX	O	Standby signal output pin to the microprocessor of DVD
22	DVCK	I	Serial clock input pin from the microprocessor of DVD
23	DVDO	O	Serial data output pin to the microprocessor of DVD
24	DVDI	I	Serial data input pin from the microprocessor of DVD
25	GND	I	Ground pin of the A/D port
26	DIRCS	O	Chip select output pin for DIR(AK4110)
27	DVDPOFF	I	Power down control input pin from the microprocessor of DVD
28	BAND	I	Initializing input pin for other model
29	ECHO	I	Operation key input pin
30-33	K3-K0	I	Operation key input pins
34	+5V	I	Power supply pin for A/D
35	+5V	I	Reference voltage input pin for A/D
36	NC	-	Not used
37	POFF	I	Power failure detect input pin
38	RDSSCK	I	Signal input pin from RDS decoder
39	REMIN	I	Signal input pin for remote controller
40	GND	I	Ground pin
41	AMUT	O	Muting control signal output pin for amplifier section
42	TUMUT	O	Muting control signal output pin for tuner section
43	DSPCS	O	Chip select output pin for DSP CS4926
44	ABOOT/INT	I/O	AUTOBOOT/INTREQ input/output pin
45	EXOE	O	Enable output signal pin for port expander
46	+5V	I	Power supply (+5V)
47	DIRPD	O	Power down control output pin for AK4110
48	ERF	I	ERF signal input pin from AK4110
49	FS96	O	Detection control output signal of 96KHz. H: 96KHz input
50	AUTO	I	AUTO signal input pin for AK4110
51	DSPRST	O	Reset signal output pin to DSP CS4926
52	CODECPD	O	Power down control output pin for CODEC IC (AK4526)
53	KARACS	O	Chip select signal output pin for DSP CS4926
54	CFGGAIN	O	Muting control signal, when add the front output and subwoofer output
55	KARARST	O	Reset signal output pin to KARAOKE DSP
56	RDSDATA	I	Data input pin from RDS decoder
57	RDSSIG	I	Detector input pin of RDS broadcast
58	DTSDEC	-	Not used
59	VOLGAIN	I	DIR control select input pin
60	SD	I	Broadcast detection input pin
61	STEREO	I	FM stereo broadcast detection input pin
62	PROTECT	I	Detection input pin for protection circuit
63	DVDPOWER	O	Control output pin for DVD power supply
64	ENC1	I	Volume control input pin for rotary encoder
65	ENC2	I	Volume control input pin for rotary encoder
66	MODEL	I	Selecting model input pin.
67	KARAON	I	Setting time pin for DIR lock
68	NC	-	Not used
69	NC	-	Not used
70-78	P18	O	Segment output pins
79	VFL	-	Power supply pin for FL tube
80-88	P9	O	Segment output pins
89-100	I2G-I1G	O	Grid output pins

IC BLOCK DIAGRAM

AK4526 (Multi-channel audio CODEC)



No.	Pin name	I/O	Function
1	SDOS	I	SDTO Source select pin "L": Internal ADC output, "H": DAUX input
2	OCKS	I	MCKO Clock frequency select pin "L": MCLK, "H": MCLK/2. Ored with serial control register if $P/\bar{S} = "L"$.
3	M/\bar{S}	I	Audio data master/slave mode select pin "L": Slave mode, "H": Master mode.
4	BICK	I/O	Audio serial data clock pin
5	LRCK	I/O	input/output channel clock pin
6	SDTI1	I	DAC1 audio serial data input pin
7	SDTI2	I	DAC2 audio serial data input pin
8	SDTI3	I	DAC3 audio serial data input pin
9	SDTO	O	Audio serial data output pin
10	DAUX	I	AUX audio serial data input pin
11	DFS	I	Double speed sampling mode pin. "L": Normal speed, H: Double speed, the ADC is powered down.
12	DEM1	I	De-emphasis pin
13	DEM0	I	De-emphasis pin
14	MCKO	O	Master clock output pin
15	DVDD	-	Digital power supply pin
16	DVSS	-	Digital ground pin
17	PD	I	Power-down & reset pin. When "L", the AK4526A is powered-down and the control registers are reset to default state.
18	XTS	I	X'tal oscillator select/test mode pin. "H": X'tal oscillator selected, L: External clock source selected.
19	ICKS1	I	Input clock select 1 pin
20	ICKS0	I	Input clock select 0 pin
21	CAD1	I	Chip address pin. Used during the serial control mode.
22	CAD0	I	Chip address pin. Used during the serial control mode.
23	LOUT3	O	Lch #3 analog output pin
24	ROUT3	O	Rch #3 analog output pin
25	LOUT2	O	Lch #2 analog output pin
26	ROUT2	O	Rch #2 analog output pin
27	LOUT1	O	Lch #1 analog output pin
28	ROUT1	O	Rch #1 analog output pin
29	LIN-	I	Lch analog negative input pin
30	LIN+	I	Lch analog positive input pin
31	RIN-	I	Rch analog negative input pin
32	RIN+	I	Rch analog positive input pin
33	VREFL	I	Negative voltage reference input pin, AVSS
34	VCOM	O	Common voltage output pin, AVSS
35	VREFH	I	Positive voltage reference input pin, AVDD
36	AVDD	-	Analog power supply pin
37	AVSS	-	Analog ground pin
38	XTI	I	x'tal input pin
39	XTO	O	X'tal output pin
40	P/ \bar{S}	I	Parallel/serial select pin. "L": Serial control mode, H: Parallel control mode.
41	\bar{CS}	I	Chip select pin in serial mode
42	CCLK	I	Control data clock pin in serial mode
43	CDTI	I	Control data input pin in serial mode
44	CDTO	O	Control data output pin in serial mode

ELECTRICAL PARTS LIST

Power amplifier circuit PC board (NAAF-6651)

CIRCUIT No.	PART No.	DESCRIPTION
Q5102	222116	STK407-090E
Q5302	222117	STK408-090E
Q9203	222780075	78M07HF
Q9204	222790075	79M07HF
Q9301	222780565	78M56
Q9305	22278033DNEC	MPC2933HF
Q9306	222780094JRC	7809FA(NJM7809FA)
Transistors		
Q5101, Q5201,	2211732 or	2SC1845-F or
Q5301, Q5401,	2211733	2SC1845-E
Q5501, Q5602		
Q5103, Q5303,	2213640	DTC123JS
Q5403		
Q5603	2211792 or	2SA992-F or
	2211793	2SA992-E
Q9205	2211455	2SA1015-GR
Q9307	2213640	DTC123JS
Diodes		
D5101, D5301,	223163 or	1SS133 or
D5401, D9302,	223205	1SS270A
D9310, D9303		
D9201	22380022F or	RBV402 or
	22380285F	RS403M
D9205, D9206,	22380260 or	RL1N4003 or
D9304-D9309	22380035	GP104003E
D9207	224472704	MTZJ27D, Zener diode
D9301	224470623	MTZJ6.2C, Zener diode
Coils		
L5101, L5201,	231176S	S-1.3C, S coil <D>
L5301, L5401,		
L5501		
Resistors		
R5109, R5209,	443521004	10 ohm±5%, 1/2W, Metal oxide
R5309, R5409,		
R5509		
R5114, R5214,	443521014	100 ohm±5%, 1/2W, Metal oxide
R5314, R5414		
R9203	443522204	22 ohm±5%, 1/2W, Metal oxide
R5112	443523914	390 ohm±5%, 1/2W, Metal oxide
R5212	443523914	390 ohm±5%, 1/2W, Metal oxide
R9201, R9202	453530104	1 ohm±5%, 1/2W, Metal
R9303	453530224	2.2 ohm±5%, 1/2W, Metal
R9306, R9307	453532294	0.22 ohm±5%, 1/2W, Metal
R9309	453534794	0.47 ohm±5%, 1/2W, Metal
R5110, R5210,	453630474	4.7 ohm±5%, 1W, Metal
R5310, R5410,	453630474	4.7 ohm±5%, 1W, Metal
R5510		
R5105	452732294F	0.22 ohm±5%, 2W, Metal
R5205	452732294F	0.22 ohm±5%, 2W, Metal
R5305	452732294F	0.22 ohm±5%, 2W, Metal
R5405	452732294F	0.22 ohm±5%, 2W, Metal
R5505	452732294F	0.22 ohm±5%, 2W, Metal
Relays		
RL5101, RL5301,	25065563 or	NRL-2P5A-DC24-129
RL9301	25065517	NRL-2P5A-DC24-098
RL5401	25065574	NRL-1P5A-DC24-134
Capacitors		
C9103, C9104	3504354	8200 μ F, 50V, Erect.
C9203, C9204	354752229S	2200 μ F, 25V, Erect.
C9303	354746829S	6800 μ F, 16V, Erect.
C9305	354741029S	1000 μ F, 16V, Erect.
C9313	354753329S	3300 μ F, 25V, Erect.
Plugs		
P5104A	25055711	NPLG-15P667
P5105A	25055806	NPLG-17P762
Sockets		
P7001B	25050974 or	NSCT-34P761 or
	25051841	NSCT-34P1628
JL9105A	25051087	NSCT-3P874, Wire holder
JL9108A	25051087	NSCT-3P874, Wire holder <WT,PT>
JL9102A	25051108	NSCT-4P895, Wire holder
JL9107A	25051108	NSCT-4P895, Wire holder
JL9103A	25051110	NSCT-6P897, Wire holder

CIRCUIT No.	PART No.	DESCRIPTION
CN801	2002A392815	NSAS-28P0742
Terminal		
P5101	25060293	NTM-4PDM1224
P5301	25060287	NTM-6PDM1218
Others		
Q9203A	27160145-1	RAD-51, Radiator
Q9203B	82143010	3P+10FN(BC), Tapping screw
Q9204A	27160145-1	RAD-51, Radiator
Q9204B	82143010	3P+10FN(BC), Tapping screw
Q9305A	27160211	Heat sink
Q9305B	82143010	3P+10FN(BC), Tapping screw
Q9306A	27160211	Heat sink
Q9306B	82143010	3P+10FN(BC), Tapping screw
D9303A	27160211-1	Heat sink
D9303B	82143010	3P+10FN(BC), Tapping screw
Power supply circuit PC board (NAPS-6652)		
Transistor		
Q9501	2213640	DTC123JS
Diodes		
D9501, D9502,	22380260 or	RL1N4003 or
D9503, D9504	22380035	GP104003E
D9505	223163 or	1SS133 or
	223205	1SS270A
Capacitors		
C9001	3500196S	△ RE275V-103M, IS capacitor
C9002	3500196S	△ RE275V-103M, IS capacitor
Resistor		
R9501	453530824	8.2 ohm±5%, 1/2W, Metal
R9001	43L533355	△ RC1/2GFKUL-3.3M, Solid <D>
Relays		
RL9001	25065583	△ NRL-1P5A-DC12-139, Relay
RL9001 or	25065508	△ NRL-1P10A-DC12-093
Switches		
S9001	25035702	△ NPS-121-L665P, Push switch
S9002	25065437	△ NSS-22157P, Slide switch <WT,PT>
Transformers		
T9002	2301381	△ NPT-1358D <D>
T9002	2301382	△ NPT-1358P <P,PT>
T9002	2301383	△ NPT-1358DG <WT>
Fuse holders		
F9011A, F9011B	25050065	YSH403T <D,WT>
F9022A, F9022B	25050065	YSH403T <P,WT,PT>
F9033A, F9033B	25050065	YSH403T <D,P,PT>
F9301C	29361732A	T4AL250V, Fuse label <P,WT,PT>
F9033C	29360467	4A/125V, Fuse label <D>
Sockets		
JL9105B	25051087	NSCT-3P874
P9002	25051637	△ NSCT-2P1424
P9002	25051990	NSCT-2P1777 <D>
Plug		
P9001A	25055675	△ NPLG-2P631
Other		
P9013	2069943153UL	Crimp AS <WT>
F9033C	29360467	4A/125V, Fuse label
Regulated DC Power supply circuit PC board (NAPS-6653)		
ICs		
Q9201	222780125NEC	78M12HF(MPC78M12HF)
Q9202	222790125	79M12HF
Q9302	222780054JRC	7805FA(NJM7805FA)
Q9304	222780055	78M05HF
Transistors		
Q9303	2202176	2SB1370-F
Q9308	2211643 or	2SA965-O or
Q9308 or	2211644	2SA965-Y
Resistors		
R9304	453532294	0.22 ohm±5%, 1/2W, Metal
R9305	443521004	10 ohm±5%, 1/2W, Metal oxide
R9308	453532294	0.22 ohm±5%, 1/2W, Metal
Others		
Q9201A	27160453	Heat sink
Q9201B, Q9202B	82143010	3P+10FN(BC), Tapping screw
Q9302B, Q9303B		

CIRCUIT No.	PART No.	DESCRIPTION	CIRCUIT No.	PART No.	DESCRIPTION
Power diode PC board (NAETC-6654)					
Diode					
D9101	22380038F or 22380274	RBV602 or DIODE RS603M	Q1011 Q4002, Q4003 Q4003, Q3205, Q4653	2213143R0 2214374R0 2214530R0	2SC2712-O 2SA1162-Y RN2402
Sockets					
JL9101B	25051108	NSCT-4P895, Wire holder	Q1001, Q1002, Q3203, Q3204, Q4162, Q4352, Q4452, Q4552, Q4552	2215410R0	RN1441
JL9102B	25051108	NSCT-4P895, Wire holder			
Power transformer PC board (NAETC-6655)					
Sockets					
JL9104A, JL9104B	25051107	NSCT-3P894, Wire holder			
JL9101A	25051108	NSCT-4P895, Wire holder	Q4221	2214530R0	RN2402
JL9103B	25051110	NSCT-6P897, Wire holder	Q3222, Q3223	2215410R0	RN1441
Fuse holder					
F9301A, F9301B	25050065	YSH403T, Fuse holder	<WT,PT>	D4651	223234R0 or 223233R0
Others					
F9301C	29361732A	T4AL250V, Fuse label			
Video select circuit PC board (NADV-6659)					
ICs					
Q1405, Q1406	222740005R00	74HC00(TC74HC00AF)	<P>	P1001A P1001Aor P1001Aor P5104B P5105B	25052211 25050695 25050847 25051528 25051240
Q1407, Q1408, Q1205, Q1206	22241228R0	TC74HC4053FP	<P>		NSCT-15P2108, Socket NSCT-15P499 NSCT-15P642 NSCT-17P1315, Socket NSCT-15P1030, Socket
Q1215-Q1217	22241368R0	NJM2279M			
Q1401	22240051R0	NJM2068M	<P>	P3101A P3102A	2002A391635 2002A392035
Transistors					
Q1201-Q1204	2215915R0	HN1A01F-GR			
Q1207, Q1208	2214470R0	RN1402	<P>	P3001	25045552
Q1209, Q1210	2215925R0	HN1C01F-GR	<D, WT, PT>	P3002	25045552
Q1211, Q1212,	2215915R0	HN1A01F-GR		P3003	25045549
Q1218-Q1220	2215925R0	HN1C01F-GR	<P>	Tone volume PC board (NAETC-6661)	
Q1221	2211504	2SA950-Y	<P>	Resistors	
Q1222	2214490R0	RN1404	<P>	R4181	5104356
Q1223	2213145R0	2SC2712-GR	<D, WT>	R4182	5104356
Q1402	2214490R0	RN1404	<P>	Socket AS	
Q1403, Q1404	2214540R2	RN2403	<P>	P4601	2009990566UL
Diodes					
D1201, D1202,	223234R0 or	1SS352 or		DSP circuit PC board (NADG-6662)	
D1205-D1206	223233R0	1SS355		ICs	
D1203-D1204,	22380035 or	GP104003E or	<P>	Q4101, Q4301,	22241383R0
D1207	22380260	RL1N4003	<P>	Q8002, Q8003, Q4501, Q3701	NJM4565M-D
Coils					
L1201	230921R0	BLM21B222SPT, Choke	<D, WT, PT>	Q8001	22241341R3
L1202-L1211	230921R0	BLM21B222SPT, Choke coil		Q8101	22241338R0
LC blocks					
Z1202-Z1205	3030041	Y-5(8.00MHz), LC block		Q8201	22241340R9
Plugs					
JL1206A	25055629	NPLG-8P591, Plug	<D, WT, PT>	Q8203, Q8204	22274574ER00
P1207	25055707	NPLG-11P663, Plug		Q8205	22274244ER00
Jack					
P1201	25045339	NPJ-4PDYE190, Video Jack		Q8206	222740005R00
Sockets					
CN301	25051937	NSCT-13P1724, Socket		Q8207	22240935R0
P1202	25051568	NSCT-12P1355, Socket	<D, WT, PT>	Q8401	22241131R3
P1202	25051748	NSCT-8P1535, Socket	<P>	Q8901	22278033DR0NEC
P1204	25051750	NSCT-4P1537, Socket	<P>		
P1205	25052274	NSCT-4P2171, Socket	<P>	Q3703, Q3704	2215410R0
P1207A	25051236	NSCT-11P1026, Socket		Q3705	2214530R0
P1401A	25052213	NSCT-17P2110, Socket	<P>	Diodes	
Others					
Input selector/ Tone control/ Master volume PC board (NAAF-6660)					
ICs					
Q3001	22240881	TC9273N-010		D8021-D8028	223234R0 or 223233R0
Q4001	22241371	TC9482N		Coils	
Q3010, Q3201, Q3202, Q3206, Q3207, Q4151, Q4152, Q4351, Q4551	22241383R0	NJM4565M-D		L8001, L8002	231237M022R0
				L8101-L8103, L8201, L8202, L8221	231237M022R0
				Resonator	
				X8101	3010323R0
				X8201	3010324R0
				Sockets	
				P7002A	25052278R0
				CN901B	25052275R0
				Plug	
				P8011B	25055967R0
					NPLG-7P920

NOTE: THE COMPONENT IDENTIFIED BY MARK Δ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT No.	PART No.	DESCRIPTION	CIRCUIT No.	PART No.	DESCRIPTION
Display circuit PC board (NADIS-6663)			MIC. Jacks PC board (NAAF-6666)		
	ICs			IC	
Q7001	22241370R0	MPD780208GF-046-3BA <D,P>	Q7451	22240051R0	NJM2068M <WT,PT>
Q7001	22241417R0	MPD78P0208GF(DR- <WT,PT>		Jacks	
Q7201	222745955R0	74HC595F	P7451, P7452	25045510	YKB22-5011, MIC. <WT,PT>
Q7301	22241297R0	BU1923F <P>	P7451, P7452	25045574	YKB22-5176, MIC.<G> <WT,PT>
Q7401	22241383R0	NJM4565M-D <WT,PT>		Plugs	
	Transistors		JL7401B	25055626	NPLG-5P588 <WT,PT>
Q7002	2214490R0	RN1404	JL9108B	25055624	NPLG-3P586 <WT,PT>
Q7004	2213144R0	2SC2712-Y		Headphone terminal PC board (NAETC-6667)	
	Diodes			Coils	
D7001-D7006	223234R0 or 223233R0	1SS352 or 1SS355	L7501-L7504	230921R0	BLM21B222SPT, Choke coil
D7007	224490560R0	UDZ5.6B, Zener		Jack	
D7008	223163 or 223205	1SS133 or 1SS270A	P7501	25045514	YKB26-5005
D7009,D7201, D7301	223234R0 or 223233R0	1SS352 or 1SS355 <D,WT>		25055385	YKB26-5153 <G>
D7301	223234R0 or 223233R0	1SS352 <P>	JL7501B	25051089	NSCT-5P876, Wire holder
	Coils			Digital input/output circuit PC board (NADG-6668)	
L7001-L7003	231237K220R0	NCH-1477, Choke coil		IC	
L7004	230921R0	BLM21B222SPT, Choke coil	Q1101	222740046R00	74HCU04(TC74HCU04F)
L8401, L8402	231237M022R0	NCH-1471, Choke coil <WT>		Transistor	
	Resistors		Q1103	24120031	TOTX178A, Photo transistor
R7025	5104393	N11RL10KB17Z, Variable R.	Q1102	24120037	TORX178A, Photo coupler
R7025	5104469	N11RL10KB17Z, Variable R. <WT,PT>		Coils	
R7082	49163104411	RM1/10IJ-100K*11, R Network	L1101, L1103, L1104, L1105	230921R0	BLM21B222SPT, Choke coil
R7083	49163104415	RM1/10IJ-100K*15, R Network	L1102	231237M022R0	NCH-1471, Choke coil
R7401,R7402	5104469	N11RL10KB17Z, Variable(MIC) <WT,PT>		Switch	
	Resonator		S1101	25065414	NSS-22155, Slide switch <WT>
X7001	3010242	CST5.00MGW		Jack	
X7301	3010321	HC-49/U034.332MHz <P>	P1101	25045548	NPJ-1PDOR369, Pin jack
	Plugs			Socket AS	
P3101B	25055968R0	NPLG-8P921	P8011A	2009990552UL	NSAS-14P0732 <WT,PT>
P3102B	25055970R0	NPLG-10P923	P8011A	2009990556UL	NSAS-13P0739 <D,P>
	Sockets			Video component circuit PC board (NADV-6669)	
P8011B	25051088	NSCT-4P875		Transistors	
P7001A	25052267	NSCT-34P2164, 34P-FFC	Q1501	2214490R0	RN1404 <D, WT, PT>
P7002B	25052259	NSCT-26P2156	Q1502,Q1503	2214540R0	RN2403 <D, WT, PT>
JL7551A	25051087	NSCT-3P874	Q1504-Q1506	2215925R0	HN1C01F-GR <D, WT, PT>
JL7401A	25051089	NSCT-5P876 <WT,PT>		Coil	
JL7501A	25051089	NSCT-5P876	L1501-L1506	230921R0	BLM21B222SPT, Choke c <D, WT, PT>
CN602	25051895	NSCT-13P1682		Jack	
JL7401B	25055626	NPLG-5P588 <WT,PT>	P1501	25045588	NPJ-3PDRBG399, Pin jack <D, WT, PT>
	Switches			Socket	
S7102	25035652	NPS-111-S604	JL1206B	25051092	NSCT-8P879, Wire holder <D, WT, PT>
S7103	25035652	NPS-111-S604, KARAOK <WT,PT>		SCART block PC board (NAVD-6670)	
S7104-S7108, S7110-S7117, S7119-S7126, S7128-S7130 S7118	25035652	NPS-111-S604, RE-EQ		ICs	
	Holder		Q1607, Q1608	22241290R0	TC7S66FU <P>
E7003	27191082	(FL), Holder		Transistors	
	FL tube		Q1601-Q1606	2215925R0	HN1C01F-GR <P>
Q7003	212200	12-BT-115GNK		Diodes	
	Remote sensor		D1601-D1606	223266R0	1SS226 <P>
U7001	241329	PIC-26043TH2	D1651	223234R0 or 223233R0	1SS352 or 1SS355 <P>
	LED			Coils	
D7601	225370	SLR-342VRTB7, Standby	L1601-L1603	230921R0	BLM21B222SPT, Choke c <P>
	Switch		L1604	230921R0	BLM21B222SPT, Choke <P>
S7601	25035652	NPS-111-S604		Sockets	
	Others		P1401B	25052250	NSCT-17P2147 <P>
JL7601B	25051088	NSCT-4P875, Wire holder	P1601	25052135	YKF41-5018, RGB <P>
	Rotary encoder PC board (NASW-6665)			Plug	
	Rotary encoder		P1651B	25055963R0	NPLG-3P916 <P>
S7551	25065575	EC16B2425		NOTE:	
	Socket			<D> : 120V model only	
JL7551B	25051087	NSCT-3P874, Wire holder		<P> : 230V model only	
				<WT> : Worldwide model only	
				<PT> : Asian model only	
				 : Black color model	
				<G> : Gold color model	

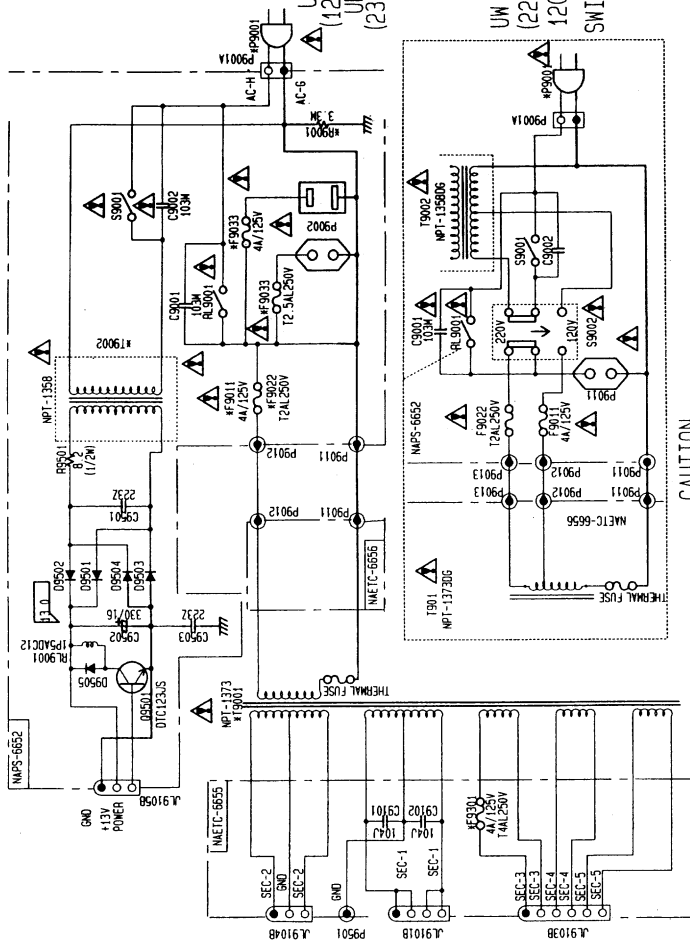
TEST MODE

1. Turn POWER button on.
2. Press and hold down TV button, then press DISPLAY and STANDBY/ON buttons at the same time.
3. Setting "TEST-" on the FL tube is displayed.
4. TV key is set up the test up and TAPE/MD key is set up the test down.
 - a. All displayed
 - b. Displayed "BA987654321"
 - c. Displayed odd number of FL tube segment.
 - d. Displayed "Good bye". (<P>type is only displayed "RDS".)
5. During "TEST-" on the FL tube is displayed, press VIDEO1, VIDEO2 or DVD button to set the unit to the test mode shown below.

D22F K113(D0)	Got out of the test mode.
D22F K114(D1)	Got the "TEST-1-00".
D22F K115(D2)	Got the "TEST-2-00".
D22F K116(D3)	Got the "TEST-3-00".
D22F K118(D5)	Set the lowest digit of the step No. "1" and keep the status.
D22F K119(D6)	Set the lowest digit of the step No. "2" and keep the status.
D22F K120(D7)	Set the lowest digit of the step No. "3" and keep the status.
D22F K121(D8)	Set the lowest digit of the step No. "4" and keep the status.
D22F K122(D9)	Set the lowest digit of the step No. "5" and keep the status.
D22F K123(DA)	Set the lowest digit of the step No. "6" and keep the status.
D22F K124(DB)	Set the lowest digit of the step No. "7" and keep the status.
D22F K125(DC)	Set the lowest digit of the step No. "8" and keep the status.
D22F K126(DD)	Set the lowest digit of the step No. "9" and keep the status.
D22F K127(DE)	Set the lowest digit of the step No. "0" and keep the status.
D22F K128(DF)	Increase the second digit of the step No..
D26D K30(1D)	Step up the one by one.
D26D K31(1E)	Step down the one by one.

TEST No.	INPUT SEL	DIGITAL /ANALOG	BYPASS/ DSP	Listening Mode	VIDEO input	Master Volume	Speaker set up	Karaoke <WT>only	Muting	Level control	Remarks
TEST-1- -00	TV	ANALOG	DSP	DSP Thru	VIDEO1	MAX	L/L/L/Y	OFF	OFF	ALL 0dB	Protect
TEST-1- -01	TV	ANALOG	DSP	DSP Thru	VIDEO1	MAX	L/L/L/Y	Thru	OFF	ALL 0dB	Protect
TEST-2- -00	TV	ANALOG	BYPASS	-	VIDEO1	MAX	L/L/L/N	OFF	OFF	ALL 0dB	
TEST-2- -01	TV	ANALOG	BYPASS	-	VIDEO1	49	L/L/L/N	OFF	OFF	ALL 0dB	
TEST-2- -02	TV	ANALOG	DSP	DSP Thru	VIDEO1	MAX	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -03	TV	ANALOG	DSP	DSP Thru	VIDEO1	MAX	L/L/L/Y	OFF	OFF	ALL 0dB	CSRL=OFF
TEST-2- -04	TV	ANALOG	DSP	DSP Thru	VIDEO1	49	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -05	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -06	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	S/S/S/Y	OFF	ON	ALL 0dB	
TEST-2- -07	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/S/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -08	TV	ANALOG	DSP	DSP Thru	VIDEO1	MIN	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -09	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/S/L/N	OFF	OFF	0dB except SW	Config gain
TEST-2- -10	VIDEO2	COAXIAL	DSP	DSP Thru	VIDEO2	49	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -11	VIDEO1	COAXIAL	DSP	DSP Thru	VIDEO1	49	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -12	VIDEO2	COAXIAL	DSP	Automatic	VIDEO2	49	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -13	VIDEO2	COAXIAL	DSP	Automatic	VIDEO2	MAX	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -14	VIDEO2	COAXIAL	DSP	DSP Thru	VIDEO2	MAX	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-2- -15	VIDEO2	COAXIAL	DSP	DSP Thru	VIDEO2	37	L/L/L/Y	OFF	OFF	ALL -∞dB	DSP bypass
TEST-2- -16	TV	ANALOG	DSP	DSP Thru	VIDEO1	55	L/L/L/Y	LR thru	OFF	ALL 0dB	
TEST-2- -17	TV	ANALOG	DSP	DSP Thru	VIDEO1	55	L/L/L/Y	Mic thru	OFF	ALL 0dB	
TEST-2- -18	TV	ANALOG	DSP	DSP Thru	VIDEO1	55	L/L/L/Y	Echo only	OFF	ALL 0dB	Echo max.
TEST-3- -00	FM	ANALOG	DSP	-	VIDEO1	49	L/L/L/Y	OFF	OFF	ALL 0dB	
TEST-3- -01	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/L/L/Y	OFF	OFF	0dB except L	
TEST-3- -02	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/L/L/Y	OFF	OFF	0dB except R	
TEST-3- -03	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/L/L/Y	OFF	OFF	0dB except C	
TEST-3- -04	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/L/L/Y	OFF	OFF	0dB except LS	
TEST-3- -05	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/L/L/Y	OFF	OFF	0dB except RS	
TEST-3- -06	TV	ANALOG	DSP	DSP Thru	VIDEO1	37	L/L/L/Y	OFF	OFF	0dB except SW	
TEST-4- -06	DVD	BITSTREAM	DSP	Automatic	DVD	49	L/L/L/Y	OFF	OFF	ALL 0dB	
ST OFF	DVD	AUTO	AUTO	STEREO	DVD	MIN	L/L/L/N	OFF	OFF	ALL 0dB	Initialized

SCHEMATIC DIAGRAM



NMP5-6552 - NAE1C-6555		IP TYPE		UNIT TIP	
ID TYPE	IP TYPE	UNIT TIP	ID TYPE	IP TYPE	UNIT TIP
19001	NP1-13730	NP1-13730	NP1-13730	NP1-13730	NP1-13730
19002	NP1-13580	NP1-13580	NP1-13580	NP1-13580	NP1-13580
19003	AS-1022418	AS-CEE	AS-CEE	AS-CEE	AS-CEE
19004	4A/125V	NO	NO	4A/125V	4A/125V
19005	4A/125V	NO	NO	4A/125V	4A/125V
19006	4A/125V	NO	NO	4A/125V	4A/125V
19007	4A/125V	NO	NO	4A/125V	4A/125V
19008	4A/125V	NO	NO	4A/125V	4A/125V
19009	4A/125V	NO	NO	4A/125V	4A/125V
19010	4A/125V	NO	NO	4A/125V	4A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

ATTENTION
AFIN D'ASSURER LA PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNiquement PAR UN FUSIBLE DE MEME TYPE ET CALIBRATION CORRESPONDANTE.

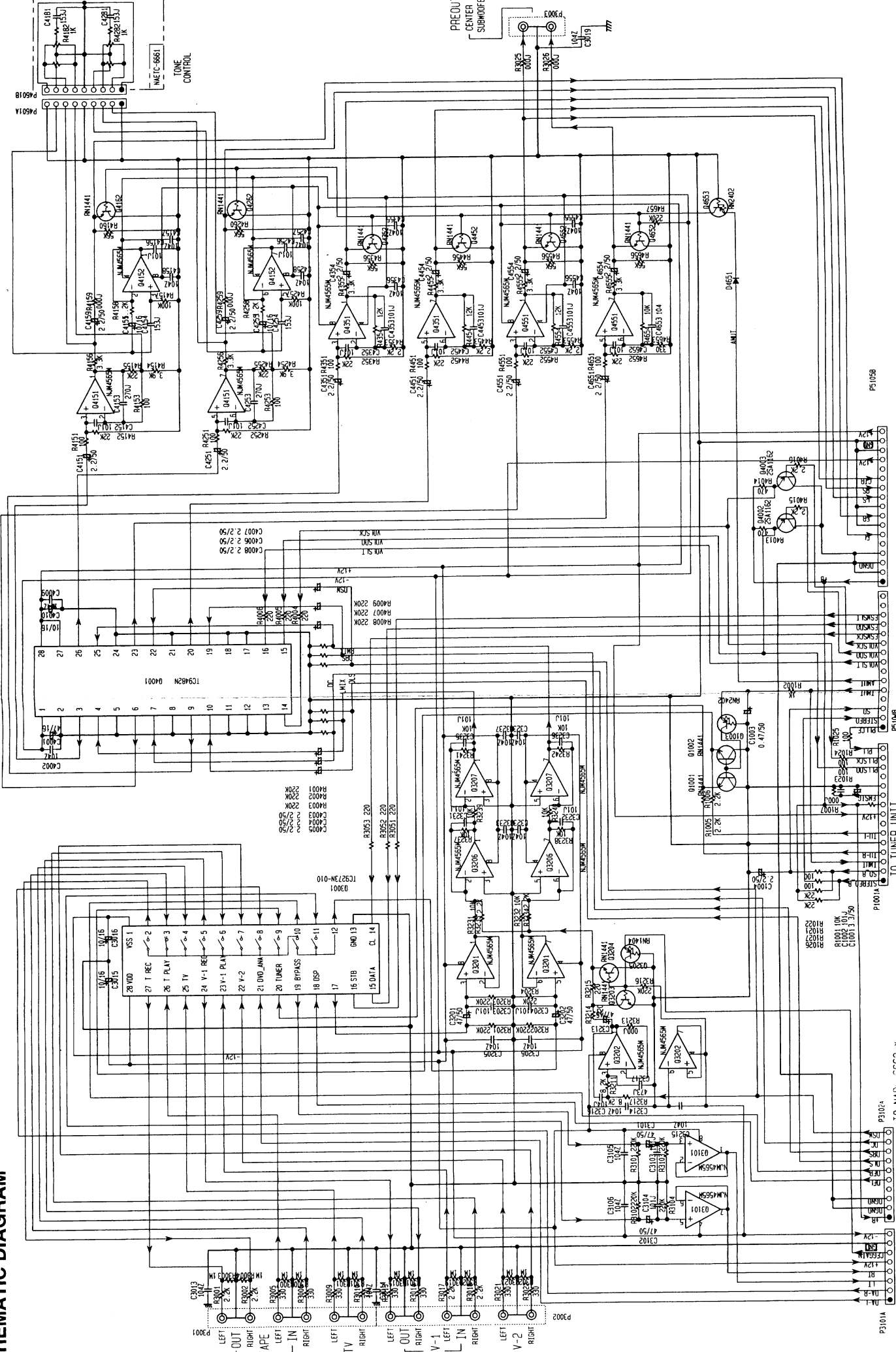
THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE. FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING REFER TO THE MARKING ADJACENT TO THE SYMBOL.

NOTE

- THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE MEASURED WITH VOLTMETER IS DC VOLTAGE (NO INPUT SIGNAL).
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-OR UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-OR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS ARE IN $\mu F/WV$.
- ALL CAPACITORS ARE IN PF/50V UNLESS OTHERWISE NOTED.
- EX: 030-50PF 330-50V 331-500V 333-0.033uF
- ALL RESISTORS ARE IN OHMS /WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX: PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

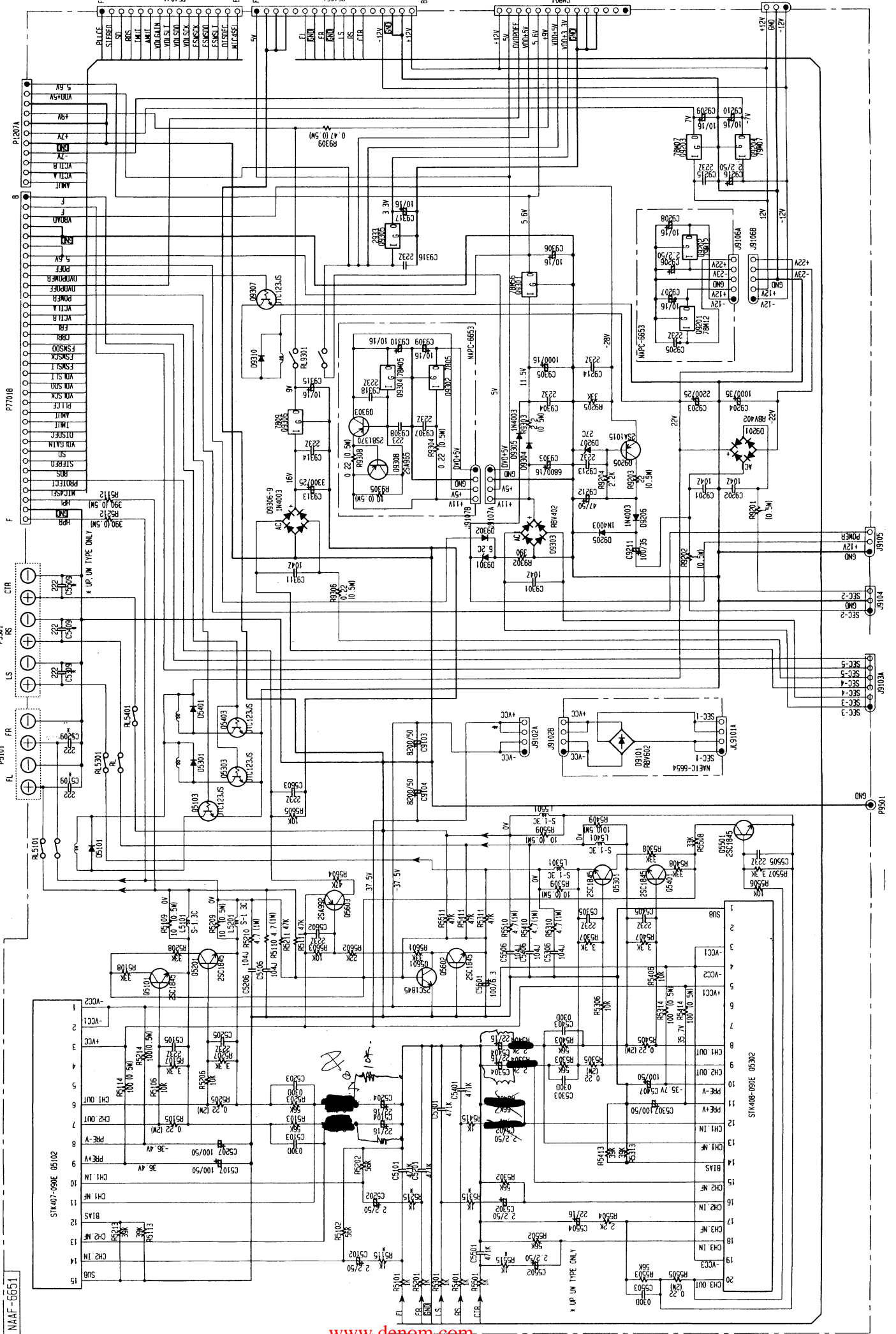
CE SYMBOLE INDIQUE QUE LE FUSIBLE UTILISE EST A LENT. E POUR UNE PROTECTION PERMANENTE, N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DERNIER EST INDIQUE LA OÙ LE PRESENT SYMBOLE EST APPRIS.

SCHEMATIC DIAGRAM

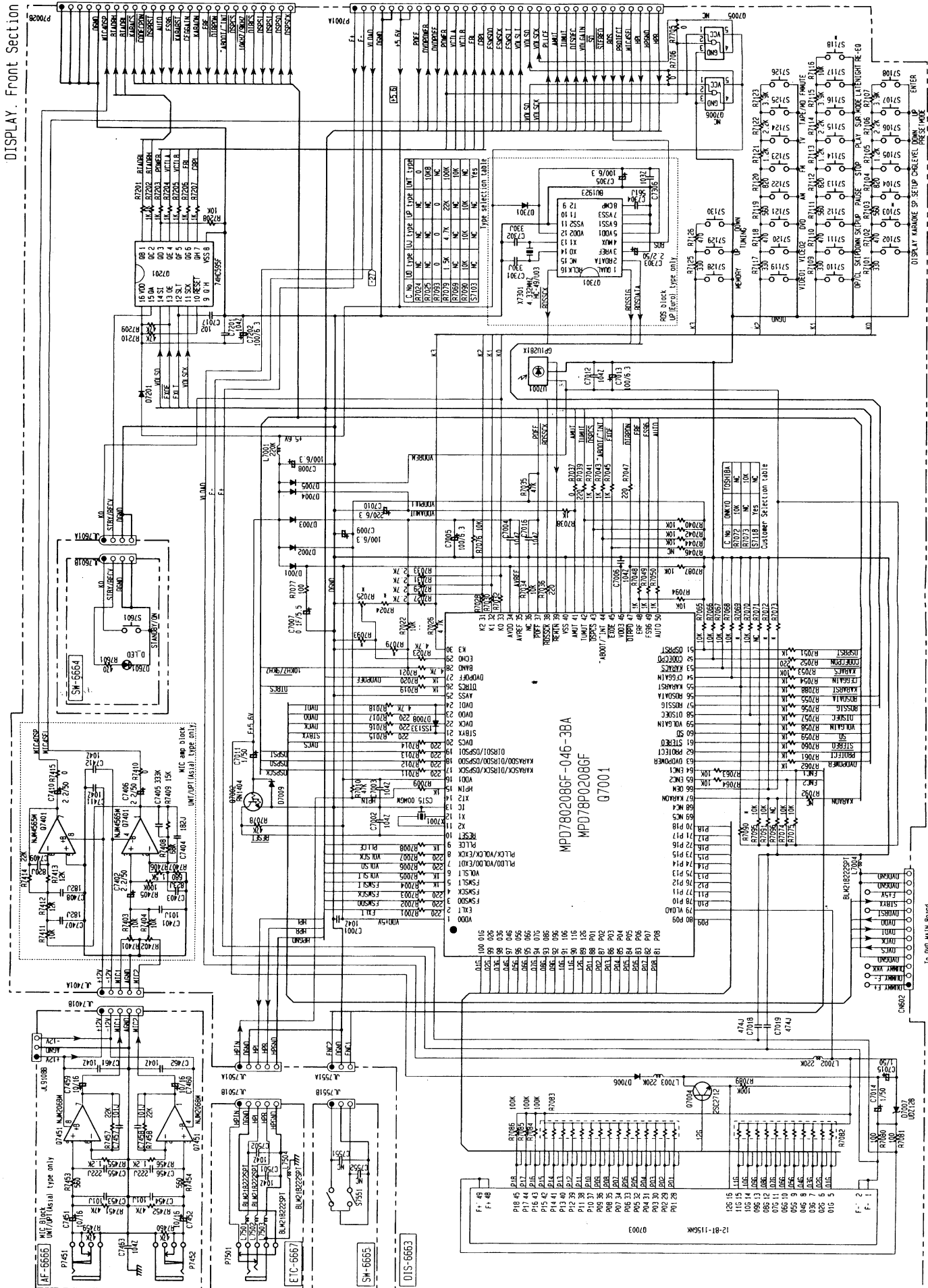


SCHEMATIC DIAGRAM

MAAF-6651



SCHEMATIC DIAGRAM



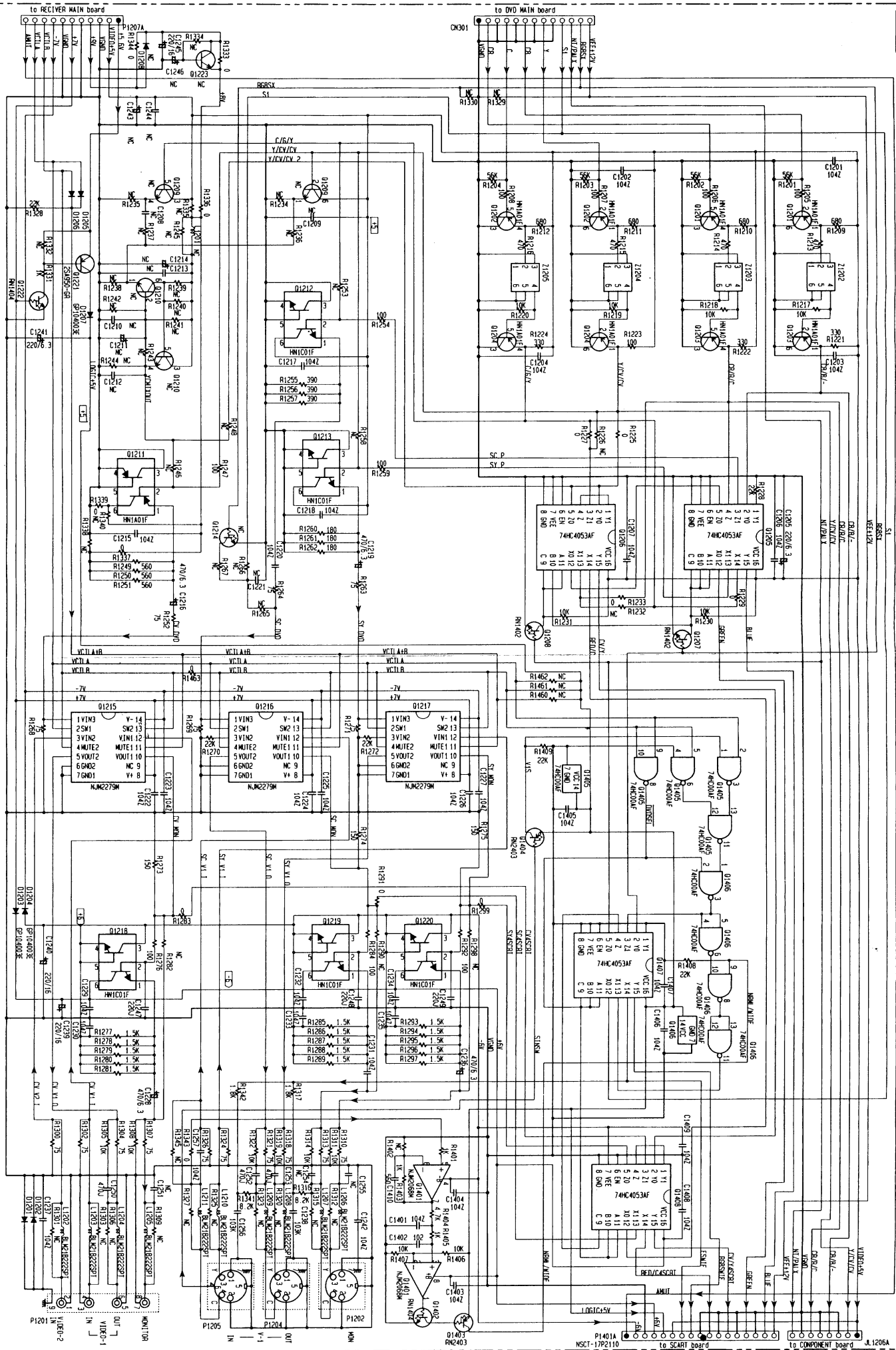
TO OSP Board

TO RECEIVER MAIN Board

A B C D E F G

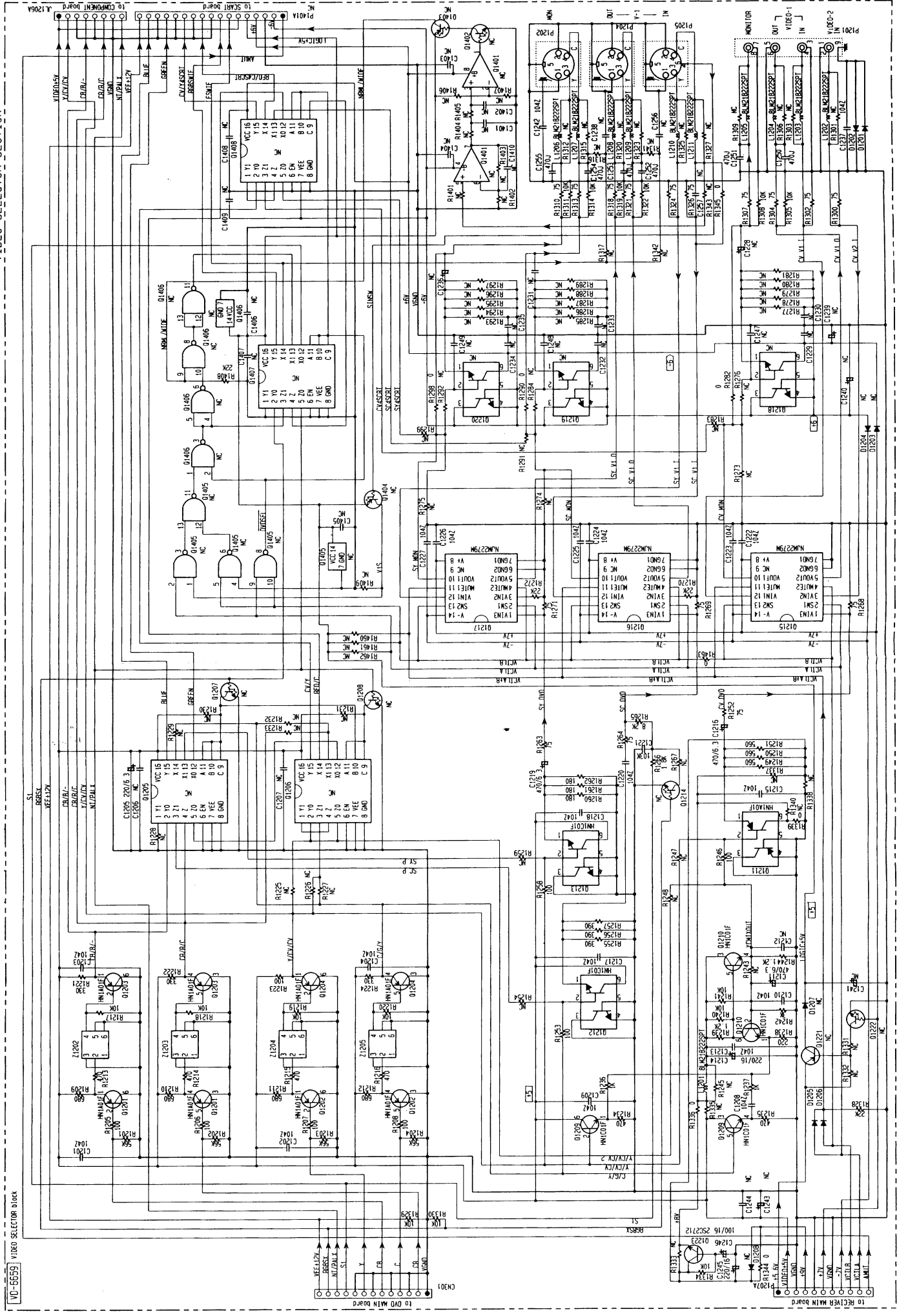
DISPLAY Front Section

VD-6559 VIDEO SELECTOR BOARD



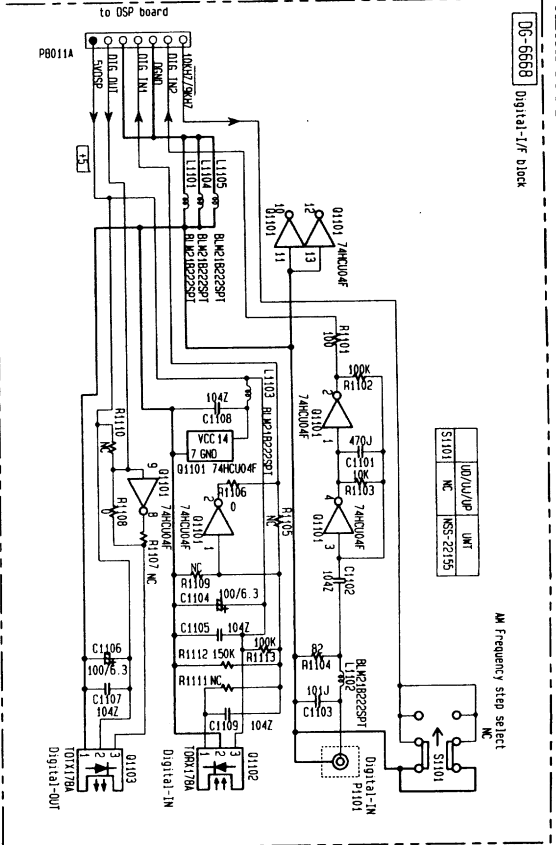
SCHEMATIC DIAGRAM <UD, UWT, UPT> only

VIDEO SELECTOR SECTION

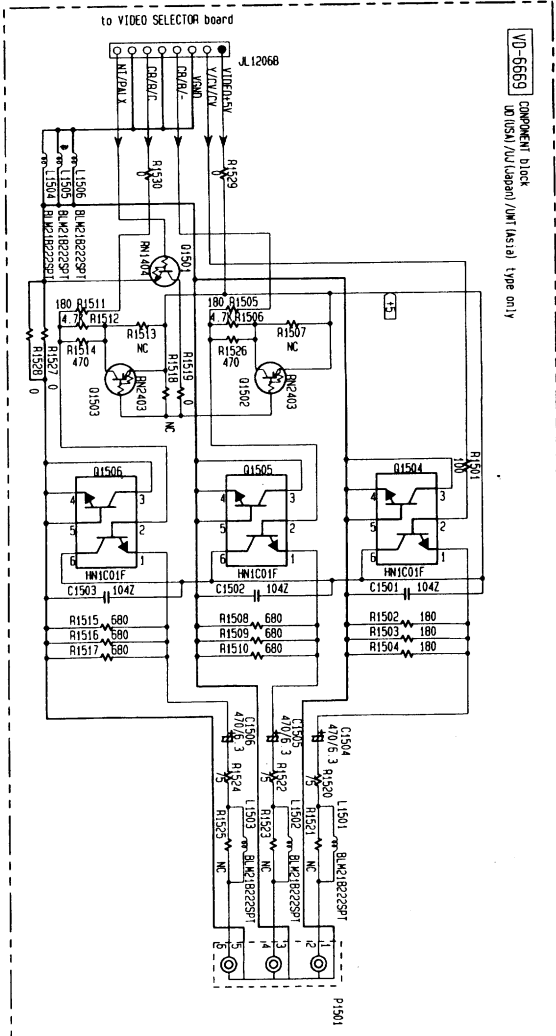


SCHEMATIC DIAGRAM

DG-6668 Digital-1/F block

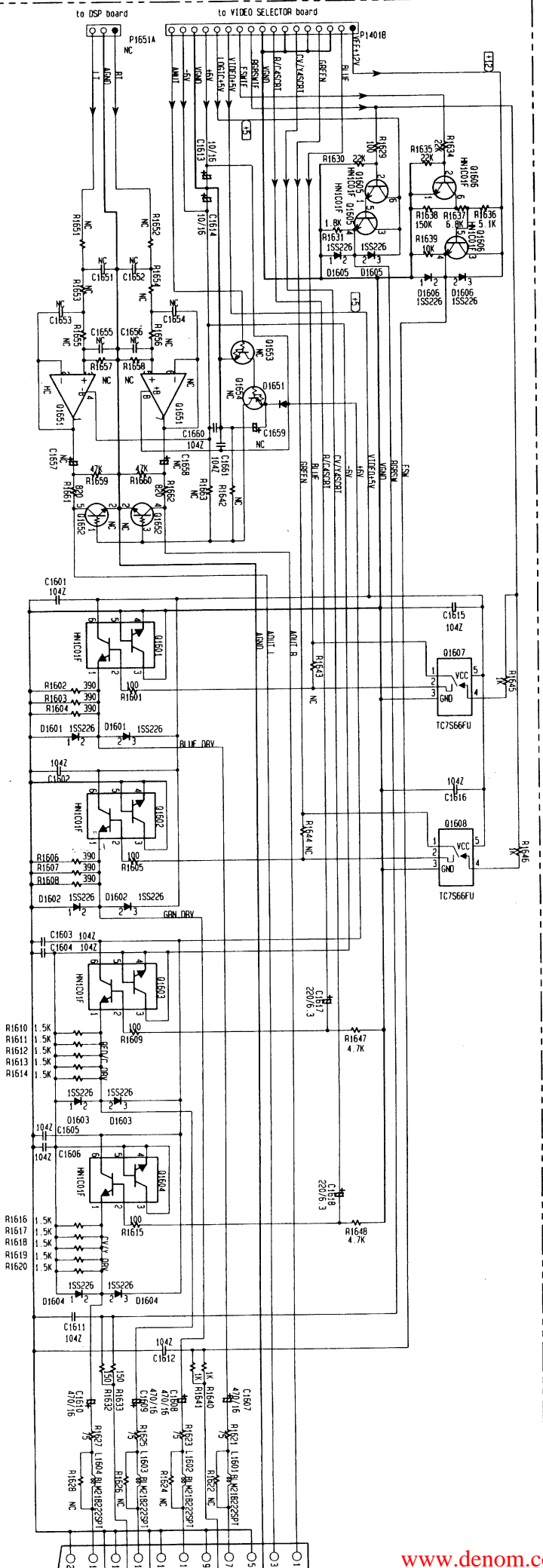


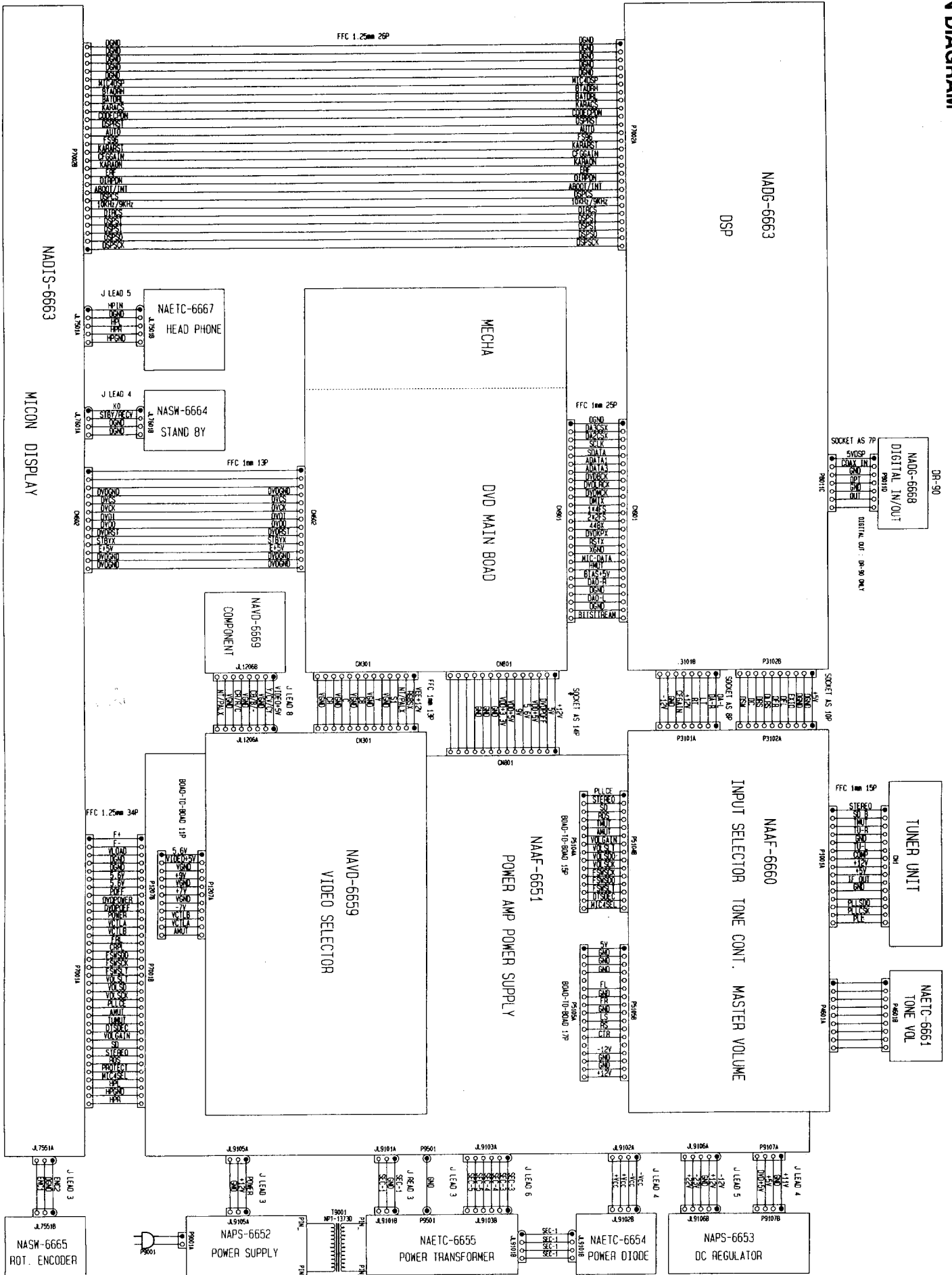
U0-6669 Component block



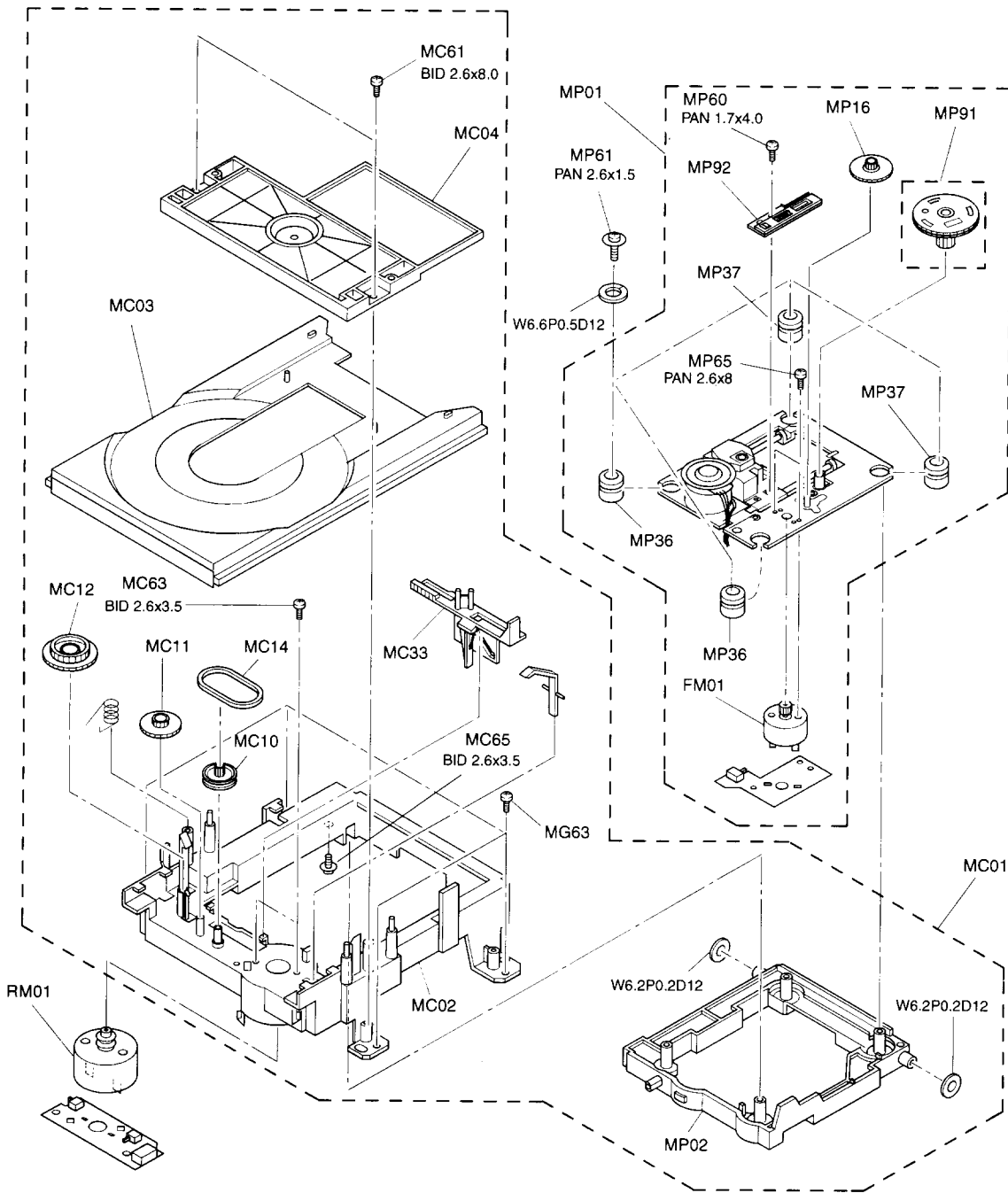
D-1/F COMPONENT, SCART SECTION

U0-6670 SCART block





MECHANISM ASSEMBLY



MECHANICAL PARTS LIST

Ref.No.	Cord	Description
MP01	79070415	MECHA ASSY-PU
MP36	79070417	RUBBER,DUMPER,FRONT
MP37	79070418	RUBBER,DUMPER,REAR
MP91	79070419	GEAR ASSY,KIT,B
MP92	79070420	GEAR ASSY,RACK
FM01	79070421	MOTOR ASSY,FEED, DC
MP16	79070422	GEAR A
RM01	79070427	MOTOR ASSY,LOADING, DC
MC14	79070428	BELT,LOAD
MC01	79070416	CHASSIS ASSY,MECHANISM

PARTS LIST (Main PC board)

LOCATION NUMBER	PART NUMBER	DESCRIPTI ON	LOCATION NUMBER	PART NUMBER	DESCRIPTION		
Integrated circuits							
IC201	NSP	79040154	IC	TC203G08AF-0103(Z)	IC616 NSP 79040007	IC	TC7S08F
IC202	NSP	79010145	IC	NN514800AJ-G0T	IC617 NSP 79040087	IC	TC7W241FU
IC301	NSP	79040122	IC	MD36710X	IC901 NSP 79040151	IC	PCM1727E
IC302	NSP	79040063	IC	HY57V16160ATC-10	IC902 NSP 79040119	IC	TC7SH86F
IC305	NSP	79040063	IC	HY57V16160ATC-10	IC903 NSP 79040102	IC	NJM2370U50
IC306	NSP	79040096	IC	ADV7170KS	IC904 NSP 79040087	IC	TC7W241FU
IC307	NSP	79040130	IC	NJU6321PE-TE1	Transistors		
IC308	NSP	79040011	IC	TC7W04F	Q501 NSP 79050036	Transistor, Chip	2SA1832-GR
IC311	NSP	79040013	IC	TC7W74F	Q502 NSP 79050042	Transistor, Chip	2SC2883-Y
IC312	NSP	79040119	IC	TC7SH86F	Q503 NSP 79050014	Transistor, Chip	HN1C03F
IC313	NSP	79040119	IC	TC7SH86F	Q601 NSP 79050031	Transistor, Chip	DTA114EKA
IC314	NSP	79040119	IC	TC7SH86F	Miscellaneous		
IC501	NSP	79040152	IC	TA1293F	X301 NSP 79089003	Oscillator	SMD49.27MHz
IC502	NSP	79040149	IC	TC9453F	X501 NSP 79089021	Ceramic Oscillator	22.58MHz
IC503	NSP	79040148	IC	V53C16128HK-30	X601 NSP 79089022	Ceramic Oscillator	9.00MHz
IC504	NSP	79040150	IC	KA3032			
IC506	NSP	79040006	IC	TC7S04F	EU01	79083019	PC Board Assy Main PCB
IC508	NSP	79040066	IC	UPC29L33T	NSP : Not spear part		
IC601	NSP	79040158	IC	TMP94CS40AF-4401			
IC602	NSP	79040041	IC	PST591-IDT			
IC607	NSP	79040007	IC	TC7S08F			
IC613	NSP	79040070	IC	S-2401AFJ-TB			
IC614	NSP	79040148	IC	V53C16128HK-30			
IC615	NSP	79040153	IC	MBM29F800BA55TN			

1. REPLACEMENT OF MECHANICAL PARTS

Cabinet Replacement

1-1. Top Cover

1. Remove the top cover.

1-2. Clamper Stray

<Removal>

1. Remove two screws(1).
2. Release two claws and remove the clamper stay(2).

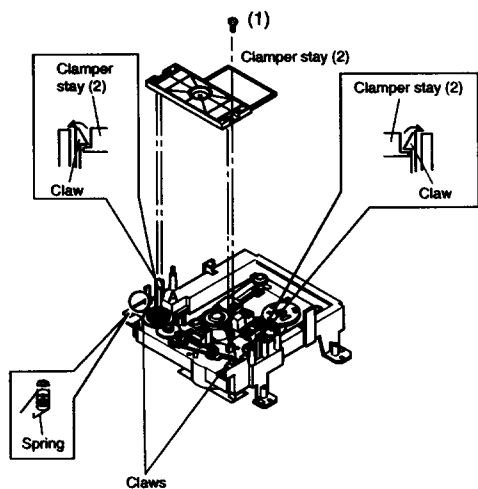


Fig. 1-1

<Mounting>

3. The spring for tray side pressure is inserted into the portion "A".
4. By referring to Fig 1-2, insert the spring normally and mount the clamper stay.

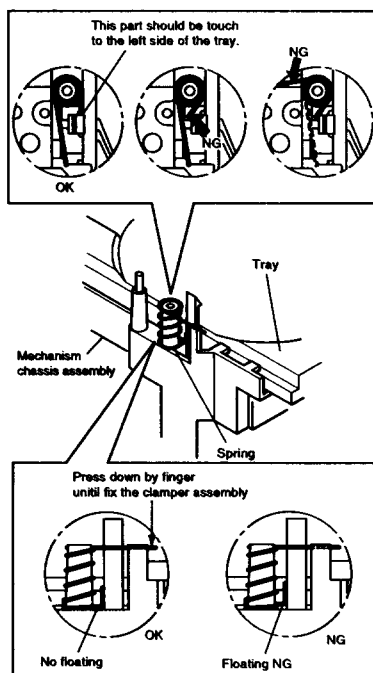


Fig. 1-2

1-3. Toray Eject

1. Slide the slider(2) of the mechanism chassis assembly (1) with a screwdriver, etc. in the arrow direction, so that the tray(3) is ejected.

Note:

Take care not to damage the pickup and other parts.

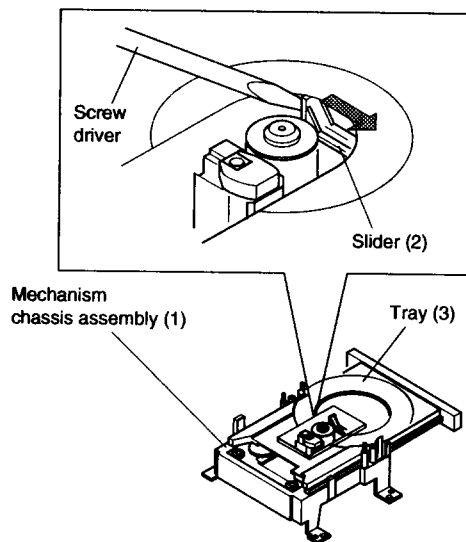


Fig. 1-3

1-4. Tray Panel Removal

1. Eject the tray(3).
2. Twist the tray panel(4) a little in the arrow A direction with the tray(3) hole by hand to release two claws and lift up tray panel (4) in the arrow B direction, then the tray panel(4) is removed.

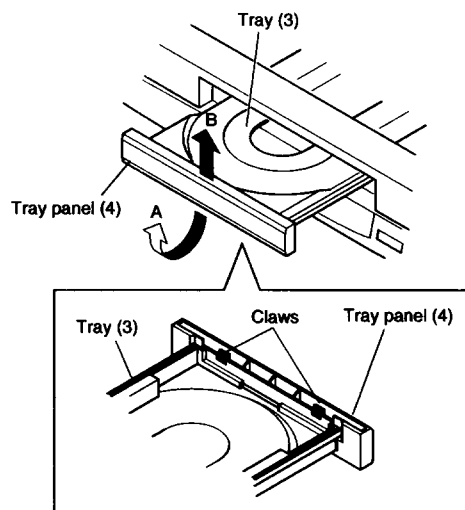


Fig. 1-4

Note

Insert the tray(3) with the front side of the pickup mechanism assembly descended. (The slider position to the left side.)

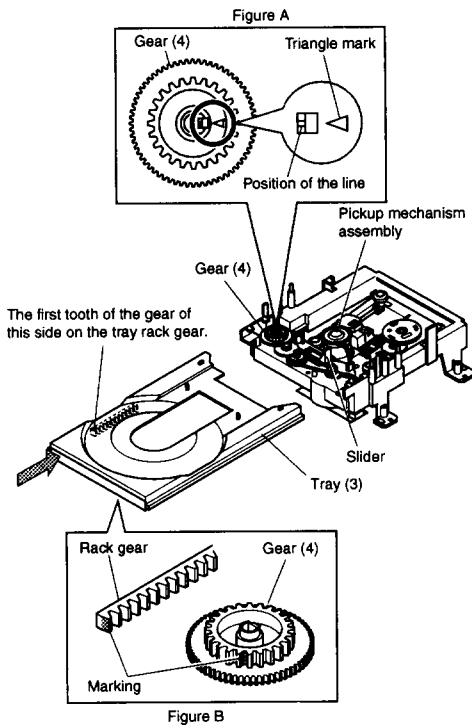


Fig. 1-5

1-5. PC Board Replacement

1. Before removing the main PC board, be sure to short-circuit the laser diode output land. After replacing, open the land as it was after inserting the flexible cables.
2. Remove six flexible cables and remove one connector.
3. Remove four screws.
4. Release two claws and remove the main PC board.

Mechanism Parts**2-1. Loading Belt**

1. Remove the gear(1) by releasing the claw.
2. Remove the gear(2).
3. Remove the gear(3) and the loading belt(4).
4. Replace the loading belt(4) with a new one.
5. when mounting, perform the reverse order of the removal.

Note:

When mounting the loading belt(4), twisting and attaching of a grease, etc. not allowed.

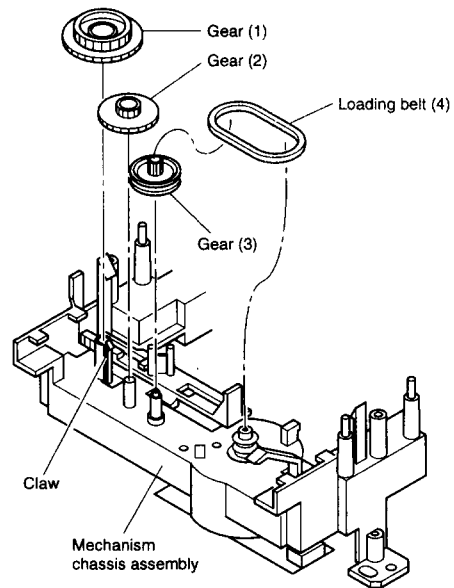


Fig. 2-1

2-2. Loading Motor

1. Remove the loading belt.
2. Remove two screw(1) and two claws. Then remove the loading motor(2)(with the loading motor PC board(3) attached).
3. Desolder the terminal section of the loading motor(2)
4. Replace the loading motor(2) with a new one.
5. When mounting, perform the reverse order of the removal.

Note:

When replacing the loading motor, meet the polarity phase of the terminals.

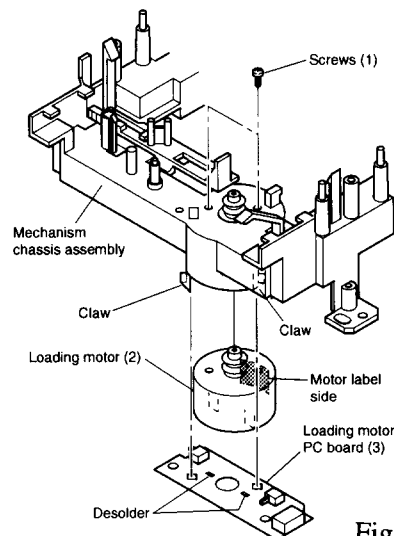


Fig. 2-2

2-3. Sub Chassis (with a pickup mechanism)

1. Turn the mechanism chassis assembly (1) upside down.
2. Remove one screw (2) and release the boss "A" from the claw. Then remove the sub chassis (3) (with the pickup mechanism) by sliding in the arrow direction.
3. When mounting, perform the reverse order of the removal.

Note:

- When mounting the sub chassis (3) (with the pickup mechanism), first, insert the boss "C" along the groove of the cam slider up/down cam (4) and next, the boss "B" and "A".
- The boss "A" and "B" may be used with washers. (one or two washers are used to prevent from the thrust rattling. In some cases, no washer is used.) When the washer(s) is used, be sure to assemble as it was without losing.

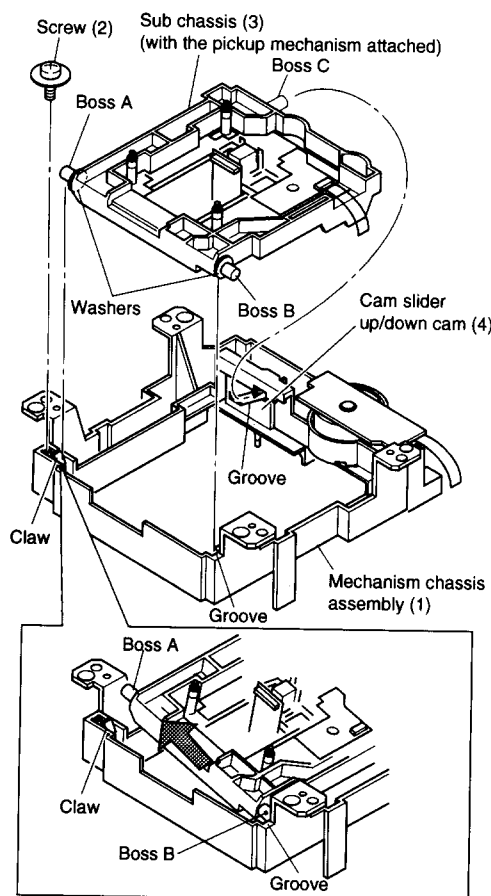


Fig. 2-3

2-4. Pickup Mechanism Assembly

<Removal>

1. Remove four screws (1) and four washers (2) and then remove the pickup mechanism assembly (3).

<Mounting>

1. Replace the pickup mechanism assembly (3) with a new one.
2. When mounting perform the reverse order of the removal.

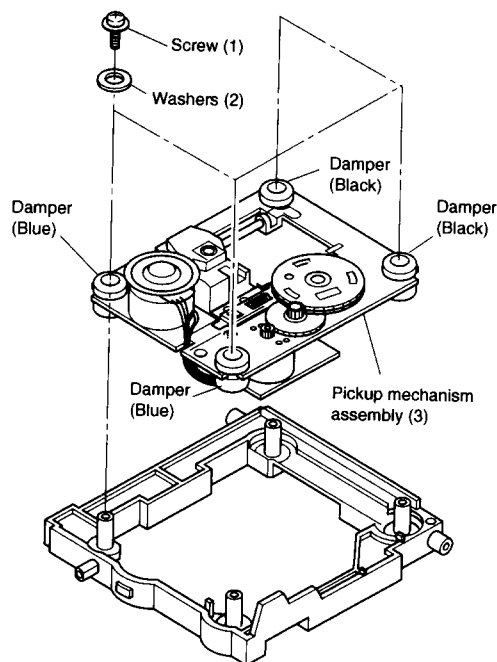


Fig. 2-4-1

Note:

- The damper's color differs when used for the front side and the rear.
- When mounting the pickup mechanism assembly (2) with the screws (1), push the pickup mechanism assembly (2) downward being caught and tighten the screws (1) after placing the washer with the damper bent.

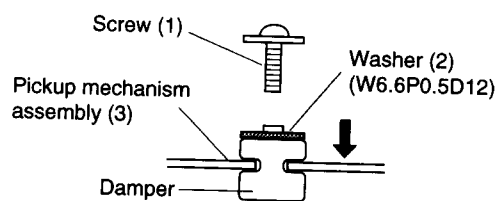


Fig. 2-4-2

2-5. Gear B Assembly, Gear A and Rack Gear Assembly

<Removal>

1. Release one claw and remove the gear B assembly (1).
2. Remove the gear A (2).
3. Remove one screw (3) and remove the rack gear assembly (4).

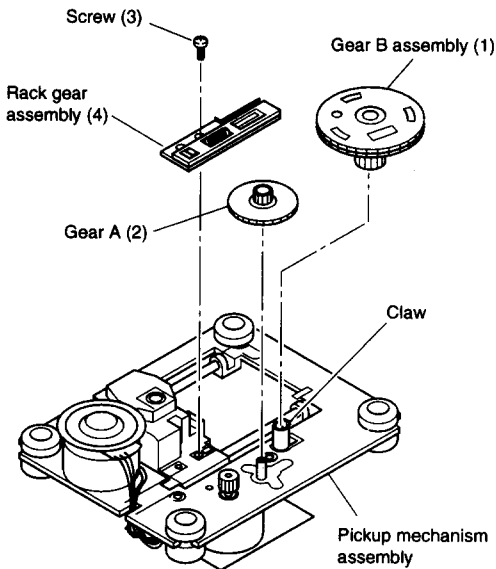


Fig. 2-5-1

<Mounting>

1. When mounting, perform the reverse order of the removal.
2. Mount the gear B assembly (1) by pushing the pickup head (5) to the disc motor side (arrow A direction) and shifting the upper gear of the rack gear assembly (4) in the arrow B direction.
3. Fit the positioning holes on the upper gear and lower gear of the gear B assembly (1) and mount on the pickup mechanism assembly with the phase matched. at this time, note that the phase of the gear B assembly (1) and the gear A (2) show's the status in the Fig. 2-5-3.

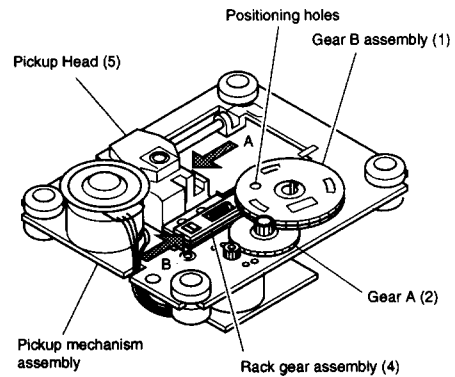


Fig. 2-5-2

Note:

- Mount the gear B assembly (1) and the gear a (2) with their gear teeth placed more than on tooth at least inside the shaded portion.

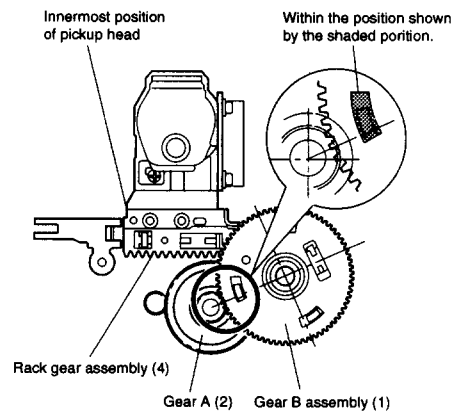


Fig. 2-5-3

2-6. Feed Motor

<Removal>

1. Remove the gear B assembly (1) and the gear A (2).
2. Remove two screws (1) and remove the feed motor (2) (with the feed motor PC board (3) attached.)
3. Desolder the terminals of the feed motor (2) and remove the feed motor PC board (3).

<Mounting>

1. Tighten the feed motor (2) on the pickup mechanism assembly with two screws (1).
2. Insert the feed motor PC board (3) with the positioning pin on the chassis matched and solder the terminals.
3. Perform the reverse order of the removal.

Note:

- after mounting, put the lead wires through the notch of the pickup mechanism assembly.
- when replacing the loading motor, meet the polarity phase of the terminals.

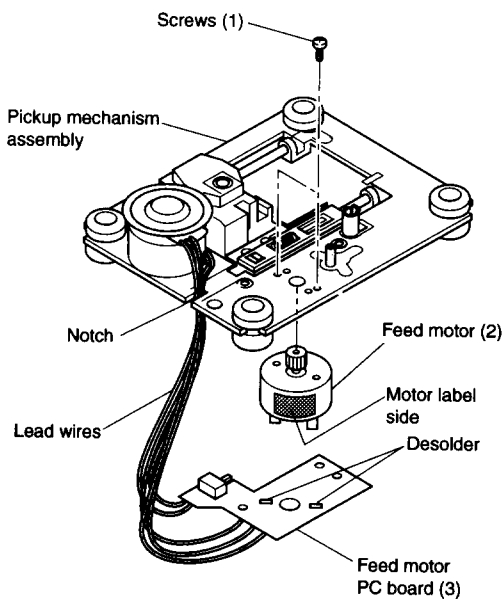


Fig. 2-6

3. TROUBLESHOOTING

3-1. Servo System

(1) Initial Operation after Power ON

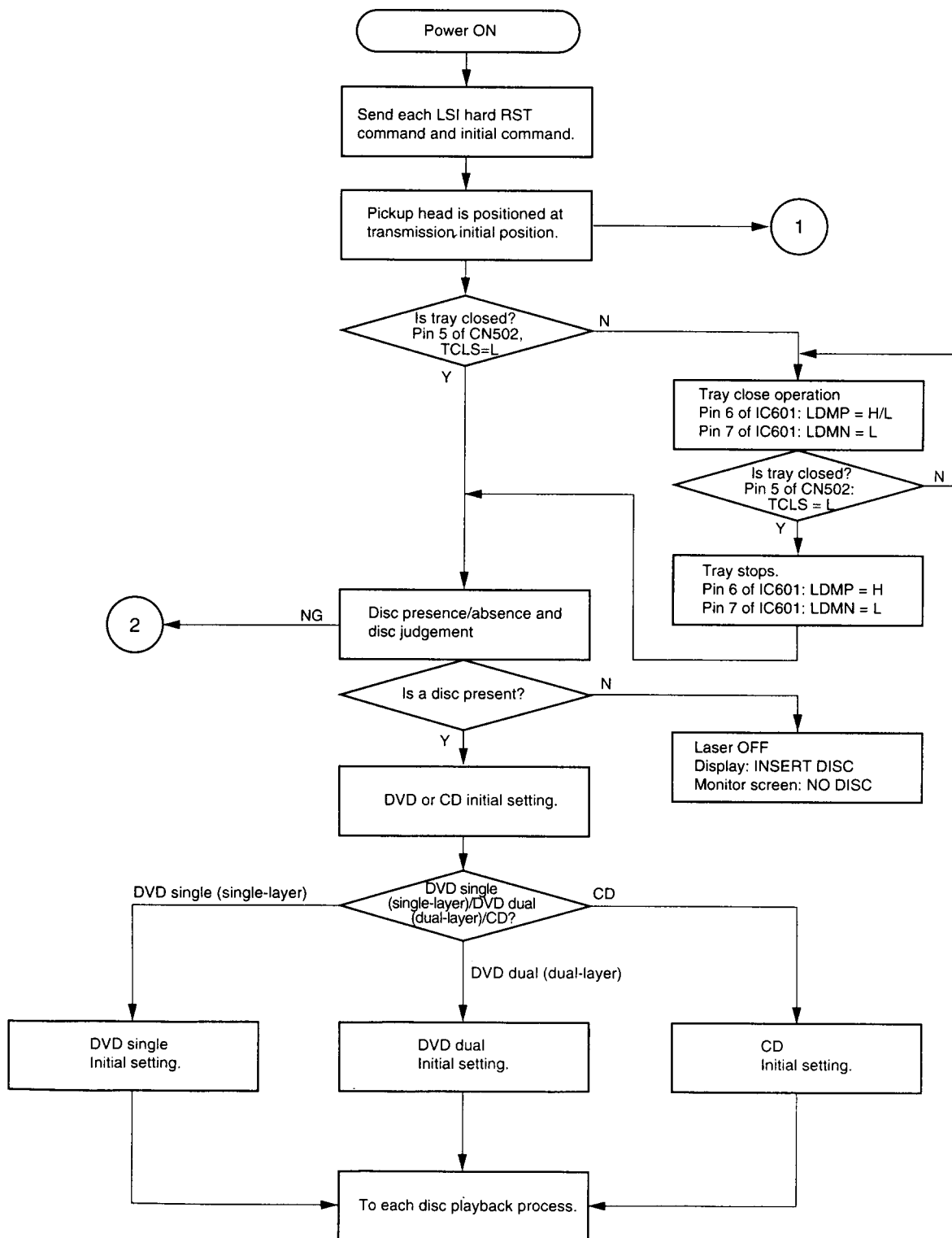


Fig.3-1

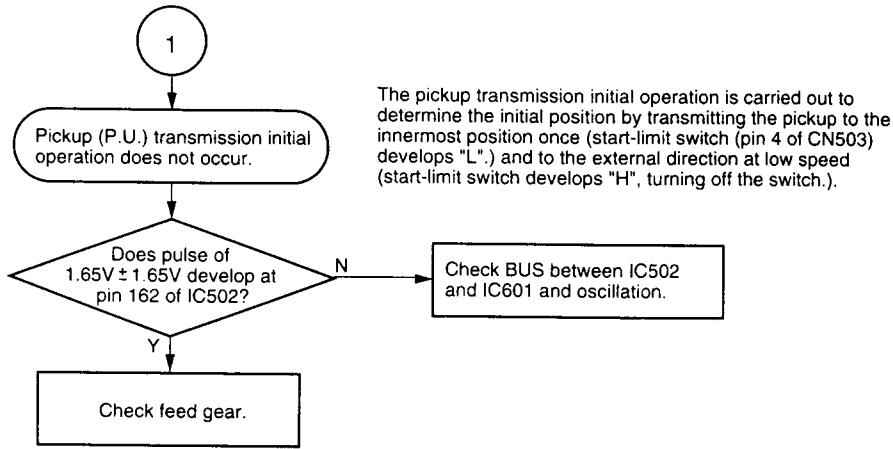


Fig. 3-2

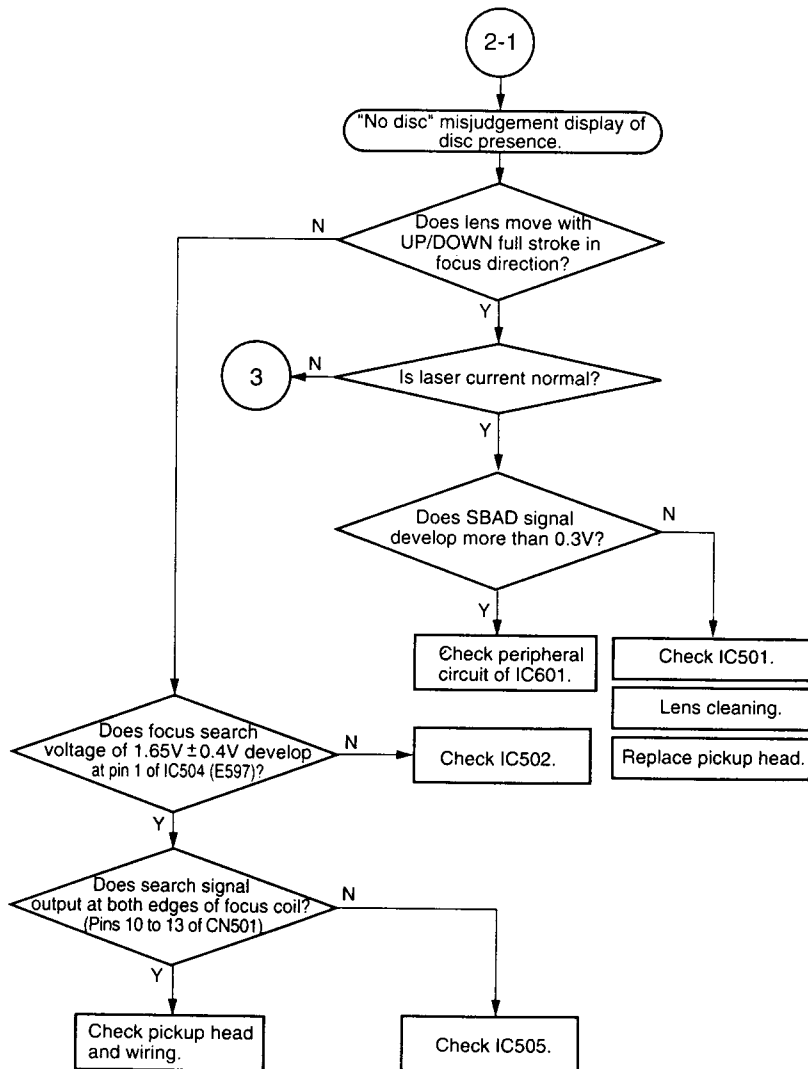


Fig. 3-3

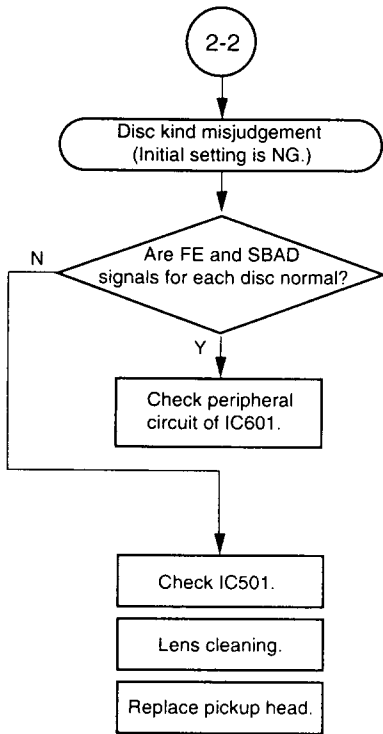


Fig. 3-4

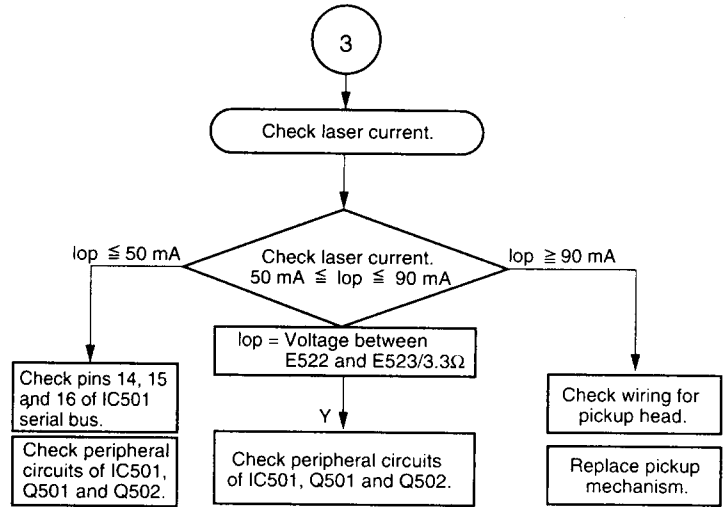


Fig. 3-5

**DVD single (single-layer) disc
detection waveform**

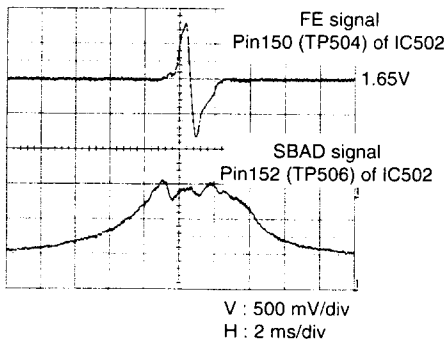


Fig. 3-6

**DVD dual (dual-layer) disc
detection waveform**

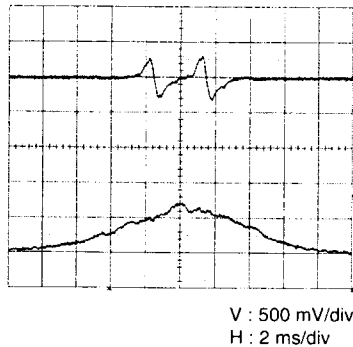


Fig. 3-7

**CD disc
detection waveform**

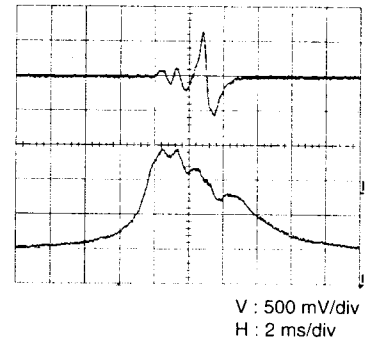


Fig. 3-8

(2) Picture appears (PLAY)

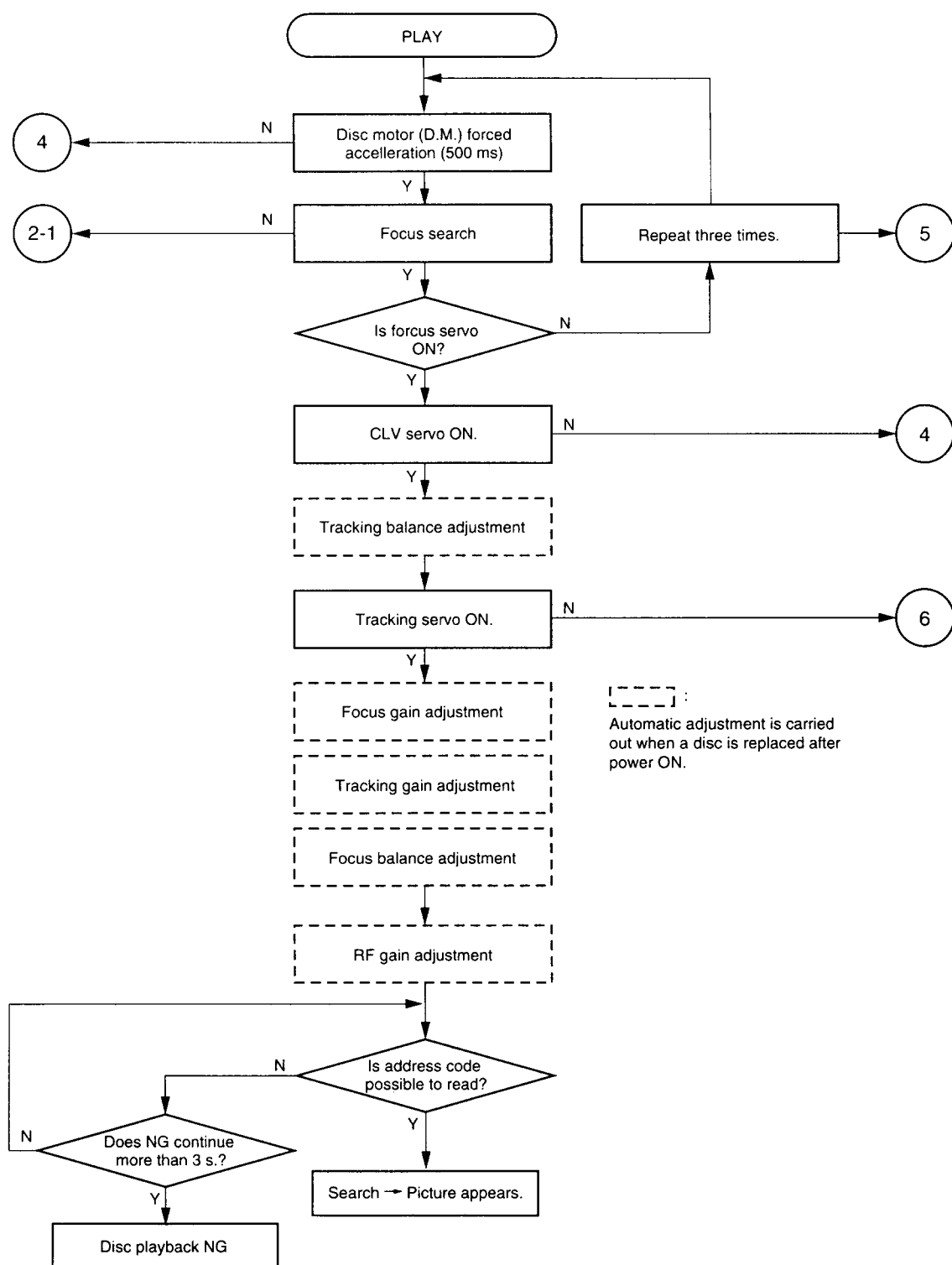


Fig. 3-9

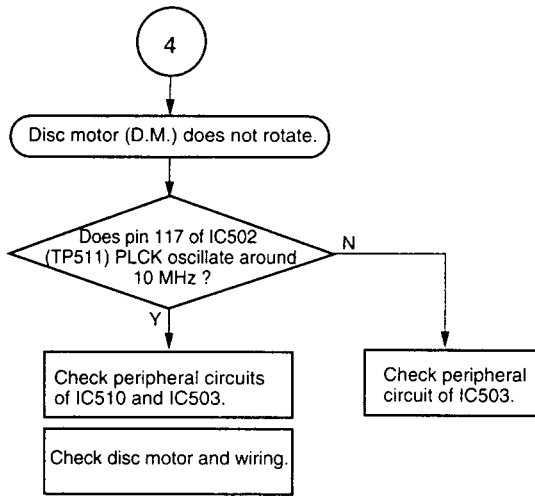


Fig. 3-10

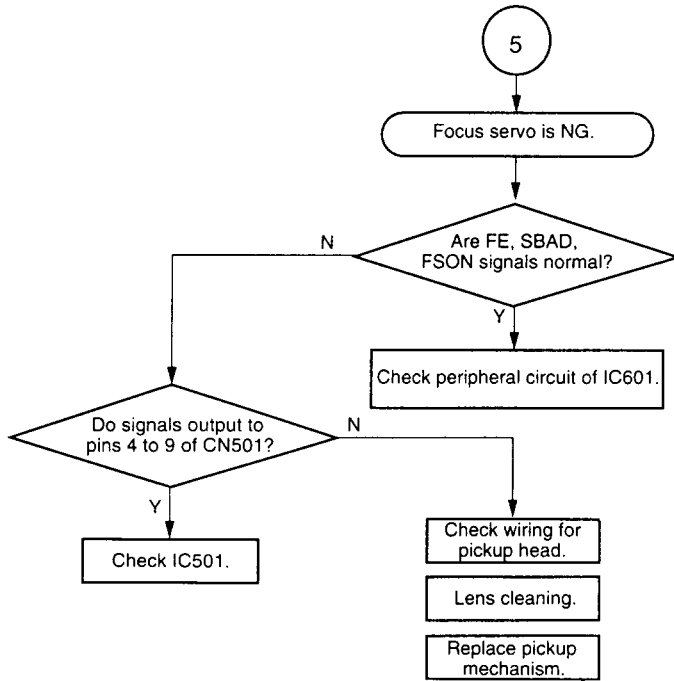


Fig. 3-11

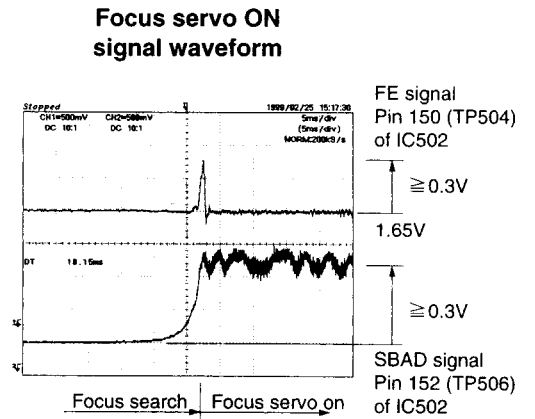


Fig.3-12

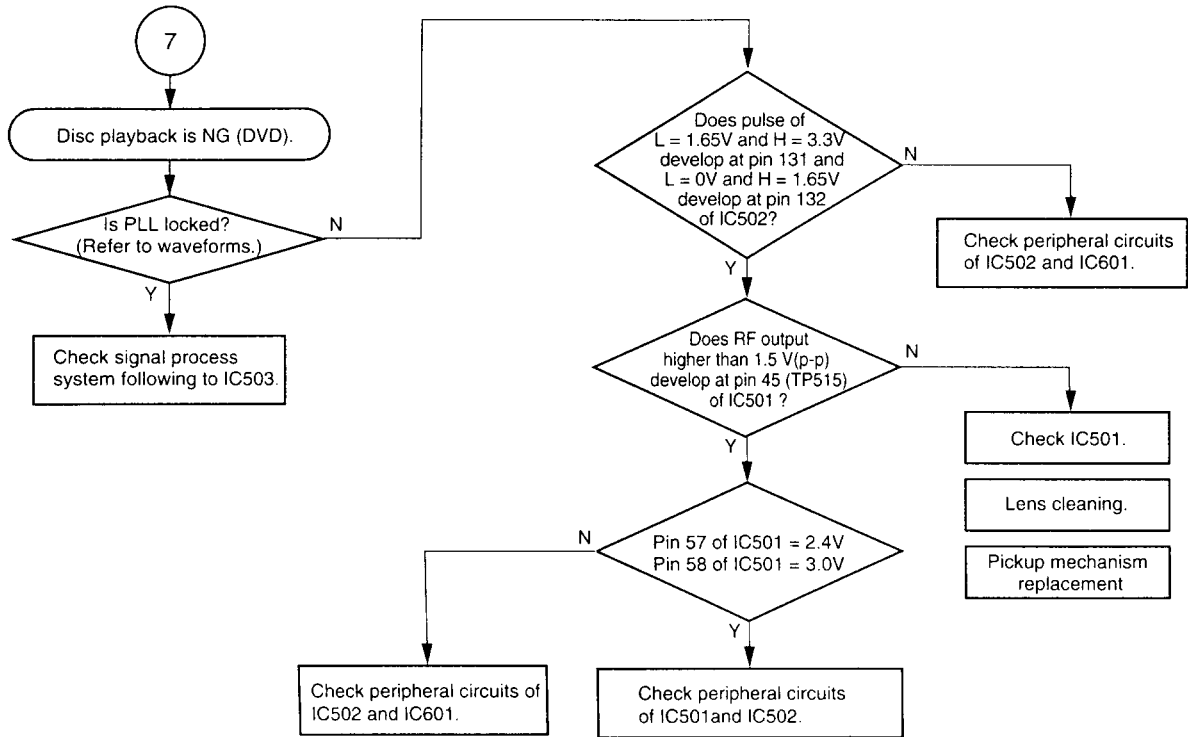


Fig. 3-16

PLL works as a servo loop to generate a clock signal for reading RF signal binary data. With the PLL locked, the eye pattern is identified clearly when triggered with the read clock PLCK.

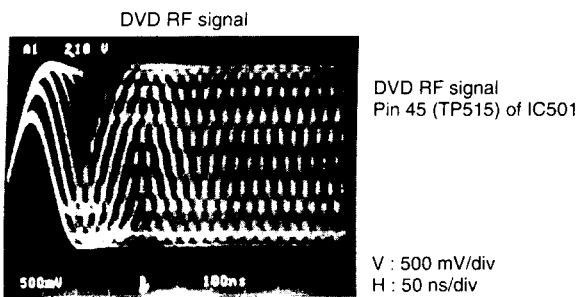


Fig. 3-17

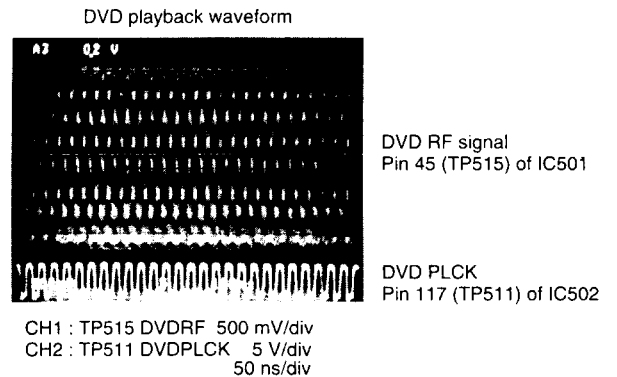


Fig. 3-19

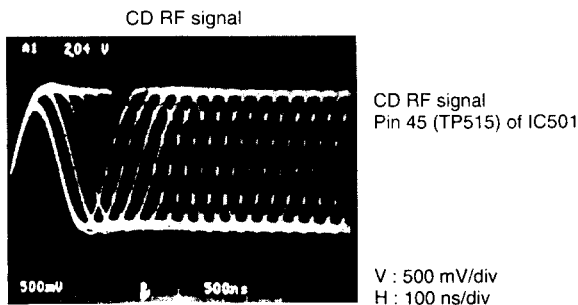


Fig.3-18

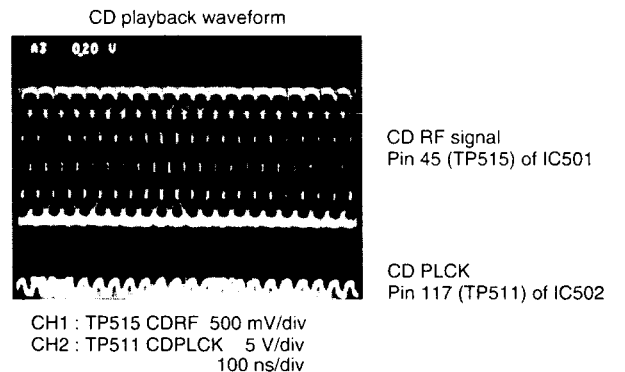
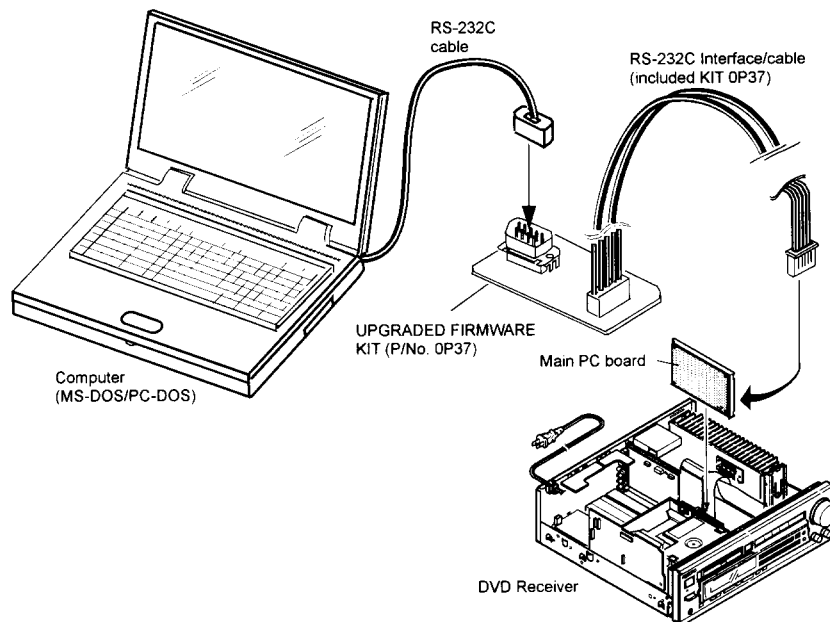


Fig. 3-20

When Replaced ROM ICs or Upgraded Firmware

1. When replaced the following ROM ICs, it is necessary to write the data into the new IC615 (firmware).
2. When the firmware is upgraded, rewriting the new firmware into IC615 may be requested for servicing.
3. Connect a computer to the main PC board of the DVD receiver with using UPGRADED FIRMWARE KIT (P/No. 0P37)
4. Writing operation.
Refer to the instruction attached to the data floppy disc.



NOTE:

The firmware floppy disc is not available as service parts.
 Nobody can rewrite the default data and other information in IC613.
 For more information, consult ONKYO service office in your area.
 Please order IC613(P/No.79040070) explaining your region cord if you need spare parts IC613.

1. Writing of data in main PC board

1-1. Writing of firmware (all destinations) in main PC board

- 1-1-1. A main PC board is installed in the set. The power supply is turned on and you puts it into the state of STANDBY.
- 1-1-2. Connect a computer to the main PC board of the DVD receiver with using UPGRADED FIRMWARE KIT. (P/No. 0P37)
- 1-1-3. The program for the writing is executed with the personal computer.

<Screen>

00000000000000000000000000000000

ALL CHECK SUM (Send: 0xF8AC340E vs Receive: 0xF8AC340E)-----0000

Continue? [Y/N]

It is confirmed that end of ALL CHECK SUM is "0000". (Write is again, except for this)

2. Confirmation of content of writing (all destinations)

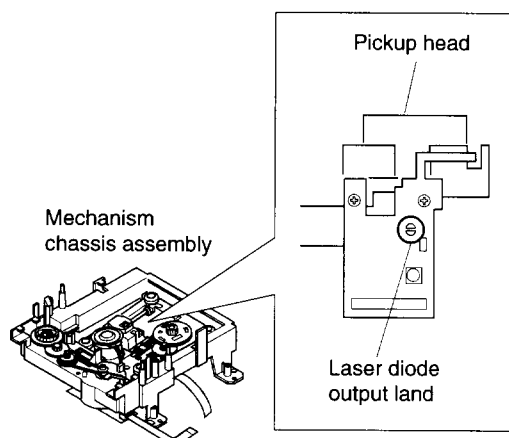
- 2-1. The "DVD" key and the "STANDBY/ON" key are pushed at the same time in the state of No Disc.
- 2-2. It is confirmed that the display of monitor is as follows.

ROM1	Version V*.*** -R?
ROM2	Version V*.*** -R1
OSD	Eng/Fre/Spa
VCD	xx BUZZER xx
A. 3D	xx RANDOMxx
KARA	xx DTS xx
VOCAL	xx DIMMER xx
V. 3D	xx V-FMT xx
JOG	xx MPEG-A xx

*.***: Version
?: Region code: UD=1,
UWT/UPT=3, UP=2
xx : Display of setting level

3. The solder short circuit for the laser element protection is removed.

- 3-1. The outlet is put and the mechanism tray is opened.
- 3-2. The outlet is removed and pulling out and the solder short circuit are removed.
- 3-3. The outlet is put and the tray is closed.



4. Display confirmation of FL tube.

All lighting of the FL tube only while "UP" is being pushed when "UP" key is pushed while pushing "STOP" key to the main body key.

5. Setting of the first setup screen mode

- 5-1. The "DVD" key and the "STOP" key on the main body key are pushed at the same time in the state of No Disc.
- 5-2. It is confirmed that the Setup screen goes out, and the character of "First Setup ON" has come out in lower right.
- 5-3. The "VIDEO1" key and the "STANDBY/ON" key on the main body key are pushed at the same time in the state of No disc.
It is confirmed that the display of FL tube is "CLEAR", and become to the standby mode.
- 5-4. The power supply is turned off, and the AC cord is pulled out.

Factory setting confirmation

"SETUP" as follows each setting of the screen is confirmed.

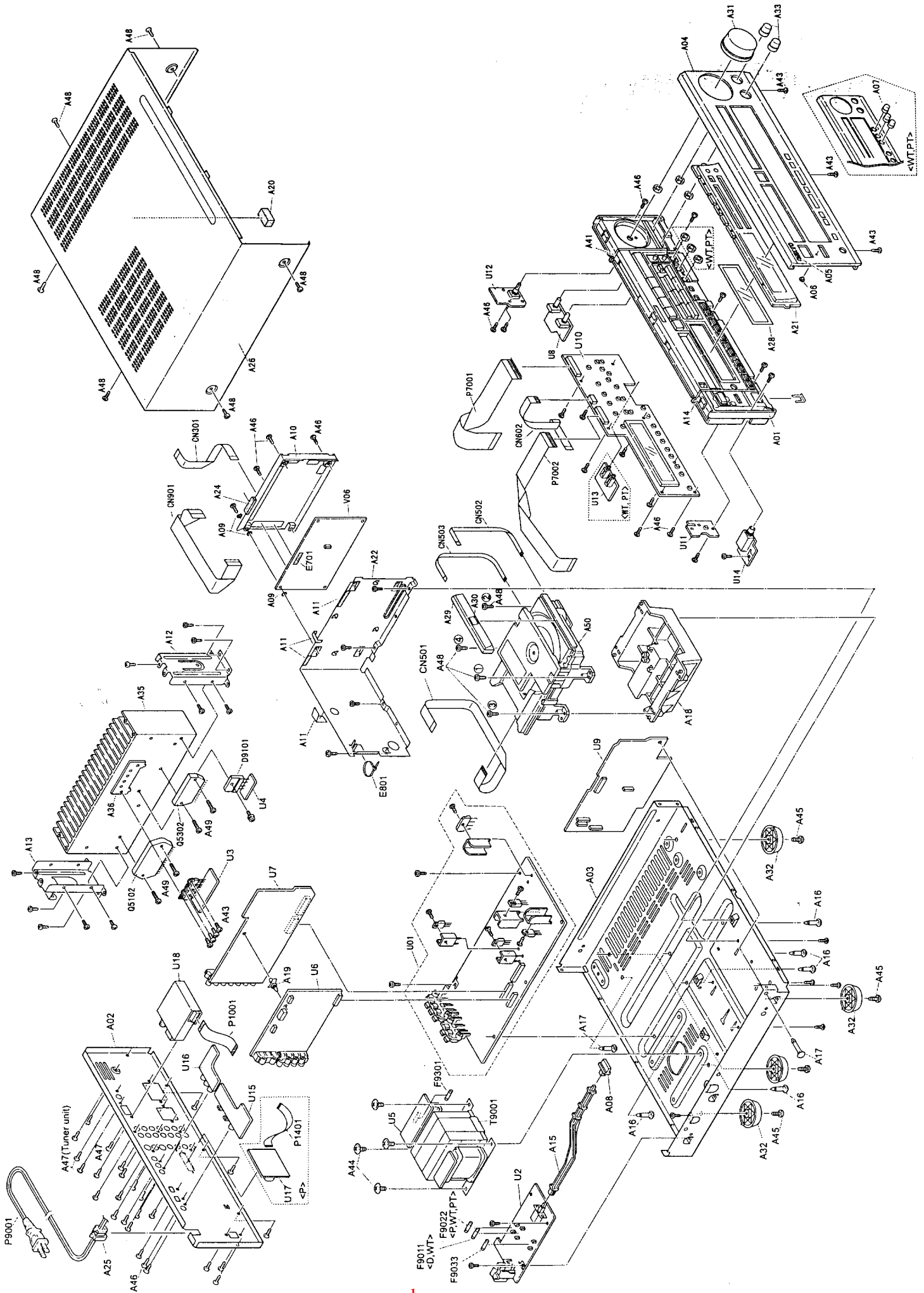
Setting	UD	UJ	UP	UWT/UPT
OSD	ENG/FRE/SPA	ENG/JAP	ENG/FRE/SP A/ GER/ITA	ENG/CHI/ MLY
VCR	On	On	Off	On
A. 3D	Off	Off	Off	Off
KARA	Off	Off	Off	Off
VOCAL	Setup	Setup	Setup	Setup
V. 3D	Off	Off	Off	Off
JOG	Off	Off	Off	Off
BUZZER	Off	Off	Off	Off
RANDOM	On	On	On	On
DTS	On	On	On	On
DIMMER	3typ	3typ	3typ	3typ
V-FMT	NTSC	NTSC	P/N	P/N
MOEG-A	On	On	On	On

Table 1

Setting	UD	UJ	UP	UWT/UPT
LANGUAGE				
On-Screen language	ENG	JPN	ENG	ENG
Disc Menu language	ENG	JPN	ENG	ENG
Audio language	ENG	ENG	ENG	ENG
Subtitle language	---	JPN	---	---
PICTURE				
TV Sharp	4:3LB	4:3LB	4:3LB	4:3LB
Black level	ENH.	ENH.	Normal	ENH.
PAL/Auto	-	-	Auto	Auto
Video out select	-	-	Video	-
AUDIO				
Audio out select	Noemal	Bitstream	96k Sound	96k Sound
Dynamic range control	On	On	On	On
Karaoke Vocal	Off	Off	Off	Off
Extend audio features	Off	Off	Off	Off
DISPLAY				
On-Screen display	On	On	On	On
OSD Background color	Blue	Blue	Blue	Blue
Extend subtitle features	Off	Off	Off	Off
Screen saver	On	On	On	On
OPERATION				
Pause/Still	Auto	Auto	Auto	Auto
Parental lock	Off	Off	Off	Off
Title stop	Off	Off	Off	Off
PBC	On	On	-	On

Table 2

LOADED VIEW

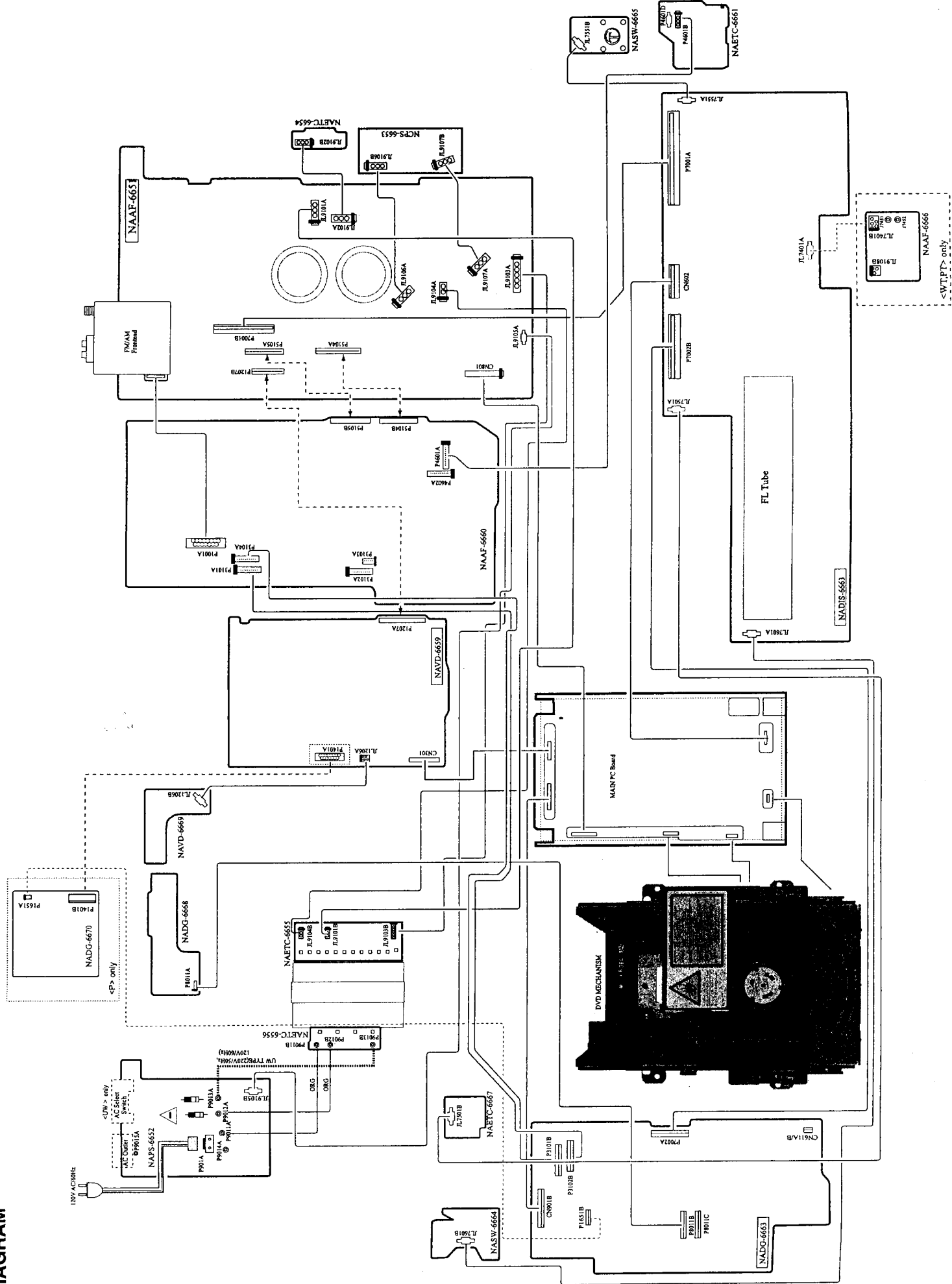


PARTS LIST

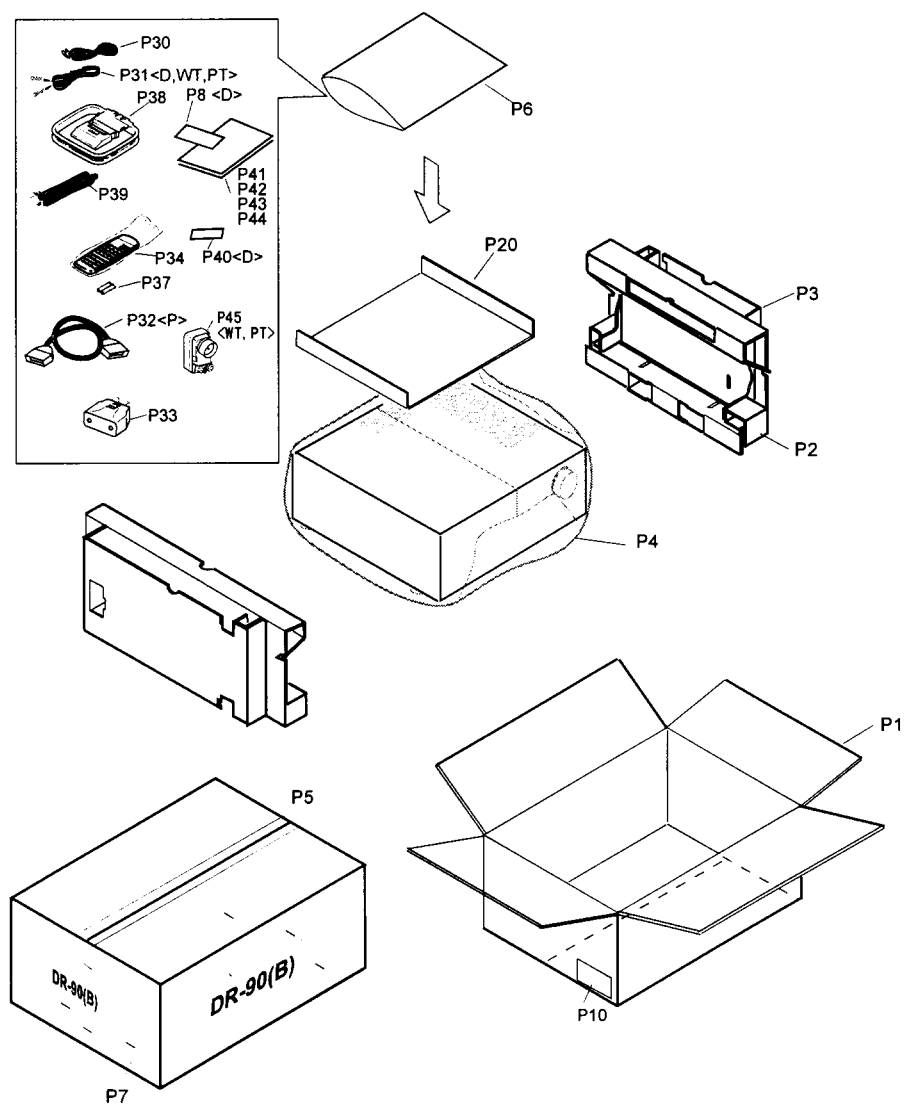
REF. No.	PART No.	DESCRIPTION	REF. No.	PART No.	DESCRIPTION
A01	27111126B	Front bracket 	E801	260208	Binder, (Clamper UL)
	27111125B	Front bracket <G>	F9011	252163	△ Fuse, 4A-UL/T-237 <D, WT>
A02	27122628	Rear panel <D>	F9022	252074	△ Fuse, 2A-SE-EAK <P, WT, PT>
	27122629	Rear panel <P>	F9033	252163	△ Fuse, 4A-UL/T-237 <D>
	27122630	Rear panel <WT>		252075	△ Fuse, 2.5A-SE-EAK <P, PT>
	27122665	Rear panel <PT>	F9301	252163	△ Fuse, 4A-UL/T-237 <D>
A03	27100377A	Chassis		252077	△ Fuse, 4A-SE-EAK <WT, P,PT>
A04	27212115	Front panel 	P1001	2047151012	Flexible flat cable, NCFC7-151012
	27212147	Front panel 	P1401	2047171512	Flexible flat cable, NCFC7-171512 <P>
	27212151	Front panel 	P7001	2047343512	Flexible flat cable, NCFC7-343512
	27212150	Front panel <G>	P7002	2047263012	Flexible flat cable, NCFC7-263012
A09	27270262	Spacer M506RS	P9001	253294HDK	△ AC cord, AS-UC-2#18 with ferrite core <D>
A05	28135244	Badge 		253237HIT	△ AC cord, AS-CEE <WT, PT>
	28135245	Badge <G>		253237HIT	△ AC cord, AS-CEE <P>
A06	28198778	Facet	T9001	2301419	△ Power transformer, NPT-1373P <P, PT>
A07	28325452	(MIC), Knob 		2301421	△ Power transformer, NPT-1373DG <WT>
	28325495	(MIC), Knob <G>		2301418	△ Power transformer, NPT-1373D <D>
A08	28325497A	(POW), Knob 	U1	1H407551-1A	Power amplifier circuit PC board ass'y, <D>
	28325499A	(POW), Power <G>		1H407551-1C	Power amplifier circuit PC board ass'y, <P>
A10	27225143	Shield case		1H407551-1D	Power amplifier circuit PC board ass'y, <WT>
A11	29110083	Tape(Cloth tape-16U)		1H407551-1E	Power amplifier circuit PC board ass'y, <PT>
A12	27141744	(F), Retainer	U2	1H407552-1A	Power supply circuit PC board ass'y, <D>
A13	27141745	(R), Retainer		1H407552-1C	Power supply circuit PC board ass'y, <P>
A15	27273188A	(POW), Joint		1H407552-1D	Power supply circuit PC board ass'y, <WT>
A16	27190511	KGLS-16RF, Holder		1H407552-1E	Power supply circuit PC board ass'y, <PT>
A17	27190657	KGLS-18RF, Holder		1H407553-1A	Regulated DC Power supply circuit PC board ass'y, <D>
A18	27191081	(DVD), Holder		1H407553-1C	Regulated DC Power supply circuit PC board ass'y, <P>
A19	27190009	KGLS-4S, Holder		1H407553-1D	Regulated DC Power supply circuit PC board ass'y, <WT>
A20	28140926	t 10x25x10, Cushion, Top cover		1H407553-1E	Regulated DC Power supply circuit PC board ass'y, <PT>
A21	28133389	Back plate 	U3	1H407553-1A	Regulated DC Power supply circuit PC board ass'y, <D>
A21	28133388	Back plate <G>		1H407553-1C	Regulated DC Power supply circuit PC board ass'y, <P>
A22	27130826A	Bracket (Shield)		1H407553-1D	Regulated DC Power supply circuit PC board ass'y, <WT>
A24	28141402	Cushion (10 x 10 30)		1H407553-1E	Regulated DC Power supply circuit PC board ass'y, <PT>
A25	27300750	△ S-RELIEF #2271,Bushing	U4	1H407554-1A	Power diode PC board ass'y, <D>
A26	28184762	Top cover 		1H407554-1C	Power diode PC board ass'y, <P>
	28184761	Top cover <G>		1H407554-1D	Power diode PC board ass'y, <WT>
A28	28191855A	Clear plate 		1H407554-1E	Power diode PC board ass'y, <PT>
	28191854A	Clear plate <G>	U5	1H407555-1A	Power transformer PC board ass'y, <D>
A29	28148413A	(DVD), Door 		1H407555-1C	Power transformer PC board ass'y, <P>
	28148412A	(DVD), Door <G>		1H407555-1D	Power transformer PC board ass'y, <WT>
A30	27262641	(DVD), Plate 		1H407555-1E	Power transformer PC board ass'y, <PT>
A30	27262640A	(DVD), Plate <G>	U6	1H407559-1A	Video select circuit PC board ass'y, <D>
A31	28325681	(VOL), Knob 		1H407559-1C	Video select circuit PC board ass'y, <P>
A31	28325680	(VOL), Knob <G>		1H407559-1D	Video select circuit PC board ass'y, <WT>
A32	27175384A	Leg AS		1H407559-1E	Video select circuit PC board ass'y, <PT>
A33	28325329	(TONE), Knob 		1H407559-1A	Video select circuit PC board ass'y, <D>
A33	28325685	(TONE), Knob <G>		1H407559-1C	Video select circuit PC board ass'y, <P>
A35	27160454	Heat sink		1H407559-1D	Video select circuit PC board ass'y, <WT>
A36	27160453	Heat sink (S)		1H407559-1E	Video select circuit PC board ass'y, <PT>
A41	29110146A	(CU),Tape		1H407559-1A	Video select circuit PC board ass'y, <D>
A42	801433	3SMS8W.SW+14B(BC)		1H407559-1C	Video select circuit PC board ass'y, <P>
A43	801525	3TTB+8B(BC)		1H407559-1D	Video select circuit PC board ass'y, <WT>
A44	830440089	4TTC+8C(BC)		1H407559-1E	Video select circuit PC board ass'y, <PT>
A45	837440169	4TTT+16C(BC)		1H407559-1A	Video select circuit PC board ass'y, <D>
A46	838130088	3TTB+8B		1H407559-1C	Video select circuit PC board ass'y, <P>
A47	838430068	3TTB+6B(BC), Screw		1H407559-1D	Video select circuit PC board ass'y, <WT>
A48	838430088	3TTB+8B(BC) 		1H407559-1E	Video select circuit PC board ass'y, <PT>
	838930088	3TTB+8B(BC) <G>		1H407559-1A	Video select circuit PC board ass'y, <D>
A49	838430167	3TTB+16S(BC)		1H407559-1C	Video select circuit PC board ass'y, <P>
Q5102	222116	STK407-090E		1H407559-1D	Video select circuit PC board ass'y, <WT>
► Q5302	222117	STK408-090E		1H407559-1E	Video select circuit PC board ass'y, <PT>
D9101	22380038F or	RBV602 or		1H407559-1A	Video select circuit PC board ass'y, <D>
	22380274	DIODE RS603M		1H407559-1C	Video select circuit PC board ass'y, <P>
A50	24801002	SD-2109K2-ZX, DVD Mechanism		1H407559-1D	Video select circuit PC board ass'y, <WT>
E701	29362526	Label (ROM No.)		1H407559-1E	Video select circuit PC board ass'y, <PT>
CN301	2045131512	Flexible flat cable, NCFC5-131512		1H407559-1A	Video select circuit PC board ass'y, <D>
CN501	2042184012	Flexible flat cable, NCFC2-184012		1H407559-1C	Video select circuit PC board ass'y, <P>
▼ CN502	2047062012	Flexible flat cable, NCFC7-062012		1H407559-1D	Video select circuit PC board ass'y, <WT>
CN503	2045082012	Flexible flat cable, NCFC5-082012		1H407559-1E	Video select circuit PC board ass'y, <PT>
CN602	2045132012	Flexible flat cable, NCFC5-132012		1H407559-1A	Video select circuit PC board ass'y, <D>
CN901	2044120092	Flexible flat cable, NCFC4-120092 <D>		1H407559-1C	Video select circuit PC board ass'y, <P>
	2045253012	Flexible flat cable, NCFC5-253012 <P, WT, PT>		1H407559-1D	Video select circuit PC board ass'y, <WT>

REF. No.	PART No.	DESCRIPTION		REF. No.	PART No.	DESCRIPTION	
U7	1H407560-1A	Input selector/ Tone control/ Master volume PC board ass'y, NAAF-6660-1A	<D>	U15	1H407568-1A	Digital input/output circuit PC board NADG-6668-1A	<D>
	1H407560-1C	Input selector/ Tone control/ Master volume PC board ass'y, NAAF-6660-1C	<P>		1H407568-1C	Digital input/output circuit PC board NADG-6668-1C	<P>
	1H407560-1D	Input selector/ Tone control/ Master volume PC board ass'y, NAAF-6660-1D	<WT>		1H407568-1D	Digital input/output circuit PC board NADG-6668-1D	<WT>
	1H407560-1E	Input selector/ Tone control/ Master volume PC board ass'y, NAAF-6660-1E	<PT>	U16	1H407569-1A	Video component circuit PC board ass'y, NADV-6669-1A	<D>
U8	1H407561-1A	Tone volume PC board ass'y, NAETC-6661-1A	<D>		1H407569-1C	Video component circuit PC board ass'y, NADV-6669-1C	<P>
	1H407561-1C	Tone volume PC board ass'y, NAETC-6661-1C	<P>		1H407569-1D	Video component circuit PC board ass'y, NADV-6669-1D	<WT>
	1H407561-1D	Tone volume PC board ass'y, NAETC-6661-1D	<WT>		1H407569-1E	Video component circuit PC board ass'y, NADV-6669-1E	<PT>
	1H407561-1E	Tone volume PC board ass'y, NAETC-6661-1E	<PT>	U17	1H407570-1C	SCART block PC board ass'y, NAVD-6670-1C	<P>
U9	1H407562-1A	DSP circuit PC board ass'y, NADG-6662-1A	<D>	U18	240134	Tuner unit, TFCE1U114A	<D>
	1H407562-1C	DSP circuit PC board ass'y, NADG-6662-1C	<P>		240135	Tuner unit, TFCE1E512A	<P, WT, PT>
	1H407562-1D	DSP circuit PC board ass'y, NADG-6662-1D	<WT/PT>	V06	24150006	Main PC board ass'y, SD-20B1	<D>
	1H407562-1E	DSP circuit PC board ass'y, NADG-6662-1E	<PT>		24150010	Main PC board ass'y, SD-20C2	<P, WT, PT>
U10	1H407563-1A	Display circuit PC board ass'y, NADIS-6663-1A	<D>	NOTE:			
	1H407563-1C	Display circuit PC board ass'y, NADIS-6663-1C	<P>	<D> : 120V model only			
	1H407563-1D	Display circuit PC board ass'y, NADIS-6663-1D	<B,WT>	<P> : 230V model only			
	1H407563-1E	Display circuit PC board ass'y, NADIS-6663-1E	<B,PT>	<WT> : Worldwide model only			
	1H407563-1F	Display circuit PC board ass'y, NADIS-6663-1F	<G,WT>	<PT> : Asian model only			
	1H407563-1G	Display circuit PC board ass'y, NADIS-6663-1G	<G,PT>	 : Black color model			
U11	1H407564-1A	Standby switch PC board ass'y, NASW-6664-1A	<D>	<G> : Gold color model			
	1H407564-1C	Standby switch PC board ass'y, NASW-6664-1C	<P>				
	1H407564-1D	Standby switch PC board ass'y, NASW-6664-1D	<WT>				
	1H407564-1E	Standby switch PC board ass'y, NASW-6664-1E	<PT>				
U12	1H407565-1A	Rotary encoder PC board ass'y, NASW-6665-1A	<D>				
	1H407565-1C	Rotary encoder PC board ass'y, NASW-6665-1C	<P>				
	1H407565-1D	Rotary encoder PC board ass'y, NASW-6665-1D	<WT>				
	1H407565-1E	Rotary encoder PC board ass'y, NASW-6665-1E	<PT>				
U13	1H407566-1D	MIC. Jacks PC board ass'y, NAAF-6666-1D	<WT>				
	1H407566-1E	MIC. Jacks PC board ass'y, NAAF-6666-1E	<PT>				
U14	1H407567-1A	Headphone terminal PC board ass'y, NAETC-6667-1A	<D>				
	1H407567-1C	Headphone terminal PC board ass'y, NAETC-6667-1C	<P>				
	1H407567-1D	Headphone terminal PC board ass'y, NAETC-6667-1D	<WT>				
	1H407567-1E	Headphone terminal PC board ass'y, NAETC-6667-1E	<PT>				

IRING DIAGRAM



PACKING VIEW



PARTS LIST

REF. No.	PART No.	DESCRIPTION	REF. No.	PART No.	DESCRIPTION
P1	29053477A	Carton box 			
P1	29053512	Carton box 			
P1	29053528	Carton box 			
P1	29053527	Carton box <G>			
P2	29091890-1	Pad			
P3	29091891-1	Pad, (Small)			
P4	29095847	Sheet (for set)			
P5	29110141	Tape, W50L100			
P6	29100097-1A	Poly bag, 350*250			
P7	282320	Staple			
P8	29365083	Warranty card			
P20	29095868	Sheet (Carton)			
	29095867	Sheet			
P30	292142	FM antenna			
	292116	FM antenna			
	292115	FM antenna			
P31	2010360	TPX3000, Cord AS			
P32	2010368	YAF11-0697, RGB cord			
	25065462	YAE21-0237, FM adapter			
P33	25055040	CV PLUG CV-K-2, Plug			
P34	24140399	RC-399M, Remote control unit			
	24140400	RC-400M, Remote control unit			
P37	3010054	UM-3, Battery			
P38	232140	NMA-3057, AM loop antenna			
			P39	2010359 or 2010359TAIDA or 2010359HAYA	RCA pin cord AS, RCA-3P(YWR)
			P40	29095866	(ONKYO), Sheet
			P41	29342736	E. Instruction manual
				29342815	E. Instruction manual
				29342816	E. Instruction manual
			P42	29342810	U2FS, Instruction manual
				29342817	T. Instruction manual
			P43	29342811	U2GD, Instruction manual
			P44	29342812	U2SWI, Instruction manual
			P10	29362492	Label UPC
					NOTE:
					<D> : 120V model only
					<P> : 230V model only
					<WT> : Worldwide model only
					<PT> : Asian model only
					 : Black color model
					<G> : Gold color model