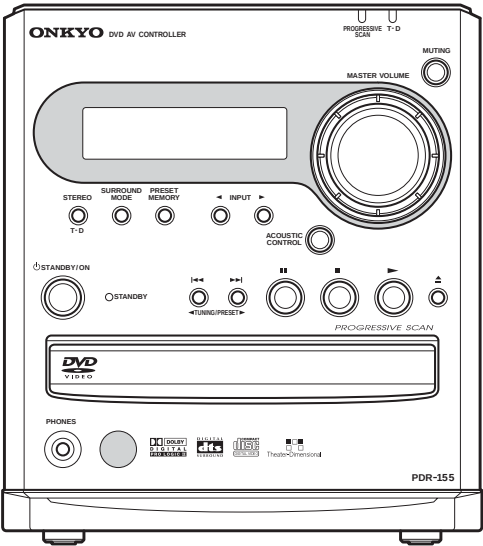
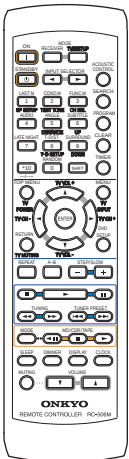


ONKYO SERVICE MANUAL

DVD AV CONTROLLER MODEL PDR-155



Silver model



RC-506M

SUPP	230-240V AC, 50Hz
SUDT, SUDS	120V AC, 60Hz
SUGT, SUGQ	220-230V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

THE MARK  FOUND ON SOME COMPONENT PARTS INDICATES THE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK.

WHEN REPLACING, BE SURE TO USE PARTS OF IDENTICAL DESIGNATION.

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.

SPECIFICATIONS-1

PDR-155 (DVD AV Controller)

Input/Impedance

Digital TV: OPTICAL -21~ -15 dB
 Analog TV/LINE, MD/TAPE, CDR/VIDEO: RCA L/R (200 mV/50 k Ω)

Nominal output/Impedance

REC OUT (MD/TAPE, CDR/VIDEO): 200 mV/2.2 k Ω
 MULTI CH OUTPUT (Front L/R, Surround L/R, Center, Subwoofer): 1 V/470 Ω
 Frequency response Front, Surround: 120 Hz to 20 kHz, +1/ -3 dB (STEREO mode)
 Subwoofer: 20 Hz to 120 Hz, + 1/-6 dB (STEREO mode)

Signal-to-noise ratio (S/N): more than 100 dB

Harmonic distortion: less than 0.08%

Acoustic controls

- 1: +10 dB (82 Hz) subwoofer
- 2: +10 dB (82 Hz) subwoofer
 +6 dB (10,000 Hz) front

Muting : -60 dB

TUNER SECTION

FM

Tuning range : 87.50 to 108.00 MHz (50 kHz steps)
 Usable sensitivity Mono: 11.2 dBf, 1.0 μ V (75 Ω)
 Stereo: 17.2 dBf, 2.0 μ V (75 Ω)
 Capture ratio: 2.0 dB
 Image rejection ratio South America: 40 dB
 Others: 85 dB
 IF rejection ratio: 90 dB
 Signal-to-noise ratio Mono: 73 dB
 Stereo: 67 dB
 Alternate channel att.: 55 dB
 AM suppression ratio: 50 dB
 Harmonic distortion (1 kHz) Mono: 0.2%
 Stereo: 0.3%
 Frequency response: 30 to 15,000 Hz, $\pm$ 1.0 dB
 Stereo separation: 45 dB (1 kHz) 30 dB (100 to 10,000 Hz)
 Muting level: 17.2 dBf
 Antenna impedance: 75 Ω

AM

Tuning range: South America: 530 to 1710 kHz (10 kHz steps)
 Others: 522 to 1611 kHz (9 kHz steps)
 Usable sensitivity: 30 μ V
 Image rejection ratio: 40 dB
 IF rejection ratio: 40 dB
 Signal-to-noise ratio: 40 dB
 Harmonic distortion (400 Hz): 0.7%
 Clock precision: monthly error, $\pm$ 30 seconds (25 $^{\circ}$ C)

SPECIFICATIONS-2

DVD SECTION

Signal readout system: PAL/AUTO color television system

Laser: Semiconductor laser, wavelength 650 nm (DVD)/780 nm (CD)

Digital audio frequency response

DVD linear audio: 48 kHz sampling 4 Hz - 22 kHz

96 kHz sampling 4 Hz - 44 kHz

CD audio: 4 Hz - 20 kHz

Signal-to-noise ratio (digital audio): More than 100 dB

Audio dynamic range (digital audio): More than 96 dB

Harmonic distortion (digital audio): Less than 0.01%

Wow and flutter Measuring limit [$\pm 0.001\%$ (W. PEAK)] or less

Operating conditions

Temperature: 5°C to 35°C

Operation status: Horizontal

Connectors

Video output: 1.0V (p-p), 75 Ω , negative synch, pin jack x 1

S VIDEO: (Y) 1.0V (p-p), 75 Ω , negative synch, mini DIN4 pin jack x1

(C) 0.286V (p-p), 75 Ω

COMPONENT: (Y) 1.0V (p-p), 75 Ω

(PR), (PB) 0.7V (p-p), 75 Ω , COMPONENT jacks x 3

AUDIO OUTPUT (optical): -22.5 dBm x 2

AUDIO OUTPUT (analog): 2.0V (rms), 470 Ω , pin jacks (L, R) x 2

GENERAL

Power Supply South America, Taiwan: AC120 V, 60 Hz

Hong Kong, Other Asian area: AC220~230 V, 50/60 Hz

Power Consumption: 33 W

Power Consumption (standby mode): 2.5 W

Dimensions (W x H x D): 155 mm x 172.5 mm x 289.5 mm

Weight: 3.5 kg (7.7 lbs.)

SPECIFICATIONS-3

SWA-155X (subwoofer)

INPUT: RCA L/R/C/SL/SR/ subwoofer (500 mV/47k Ω)

AMPLIFIER SECTION

Power Output (FTC) Front, Sound: 15 W x 5 (1kHz, 6 Ω /EIAJ)
 Subwoofer: 25 W (100 Hz, 3 Ω /EIAJ)
Total harmonic distortion: 0.1% (Output: 5 W)
Signal-to-noise ratio: 100dB (STEREO: IHF A0.5V input)

SPEAKER SECTION

Type: J'DRIVE system, 16 cm OMF cone

GENERAL

Power Supply South America, Taiwan: AC120V, 60 Hz
 Hong Kong, Other Asian area: AC220~230V, 50/60 Hz
 Europe area: AC230-240V, 50Hz

Power Consumption: 65 W

Dimensions (W x H x D): 185 mm x 299 mm x 312 mm

Weight: 8 kg

Others: Magnetic shielding (EIAJ)

D-M7 (speaker)

Type: 8 cm OMF cone (One for each)

Dimensions (W x H x D): 102 mm x 210 mm x 142 mm

Weight: Each 1.1 kg

Others: Magnetic shielding (EIAJ)

D-M3 (speaker)

Type: 8 cm OMF cone (One for each)

Dimensions (W x H x D): 85 mm x 120 mm x 112 mm

Weight: Each 0.6 kg

Others: Magnetic shielding (EIAJ)

RC-506M (remote controller)

Transmitter: Infrared

Signal range: Approx. 16 ft., 5 meters

Power supply: Two "AA" batteries (1.5V x 2)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES-1

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

SERVICE WARNING : DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICKUP BLOCK.

Laser Diode Properties

CD

Wavelength: 780 nm

Laser output: 0.14 mW

DVD

Wavelength: 650 nm

Laser output: 0.43 mW

WARNING

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN

AVIS
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR



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.

LASER WARNING

This unit contains a semiconductor laser system and is classified as a "CLASS 1 LASER PRODUCT". So, to use this model properly, read this Instruction Manual carefully. In case of any trouble, please contact the store where you purchased the unit. To prevent being exposed to the laser beam, do not try to open the enclosure.

DANGER:

VISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. DO NOT STARE INTO BEAM.

CAUTION:

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

The label on the right is applied on the rear panel except for USA and Canadian models.

**"CLASS 1 LASER
PRODUCT"**

1. This unit is a CLASS 1 LASER PRODUCT and employs a laser inside the cabinet.
2. To prevent the laser from being exposed, do not remove the cover. Refer servicing to qualified personnel.

LASER BEAM CAUTION LABEL



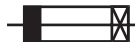
WAVE LENGTH: 650nm
MAX LASER POWER: 0.5mW
波 長 : 650nm
最大レーザー出力 : 0.5mW

98764160

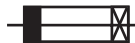


SERVICE PROCEDURE

1. Replacing the fuses



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



Ce symbole indique que le fusible utilise est e lent. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce demier est indique la qu le present symbol est apposse.

REF. NO.	PART NO.	DESCRIPTION
F9001	252158 or	1.6A-UL/T-237
	252252	1.6A-T/UL-ST2 <UDT,UDS>
	2520069 or	0.8A-SE-EAK FSBFUSE
	252270	800MA-SE-TL250V
		<UGQ,UGT,UPP>
F9501	252077 or	4A-SE-EAK
	252277	4A-SE-TL250V

2. 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 terminal GND on the back panel. Specifications: More than 10M ohm at 500V

SERVICE PROCEDURES-2

INITIALIZING

Factory-shipped condition

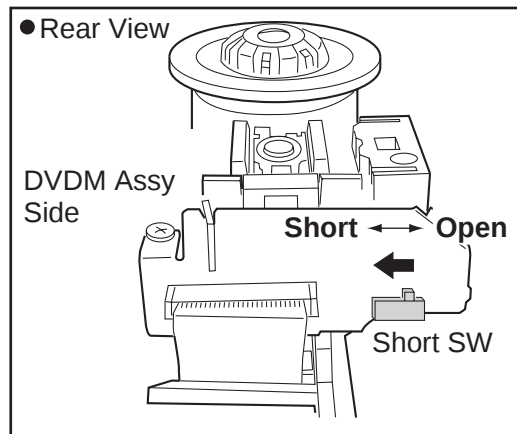
Push button "ON" (Mechanical SW)

Press the [STOP] and [STANDBY] same time.

Push button "STANDBY".

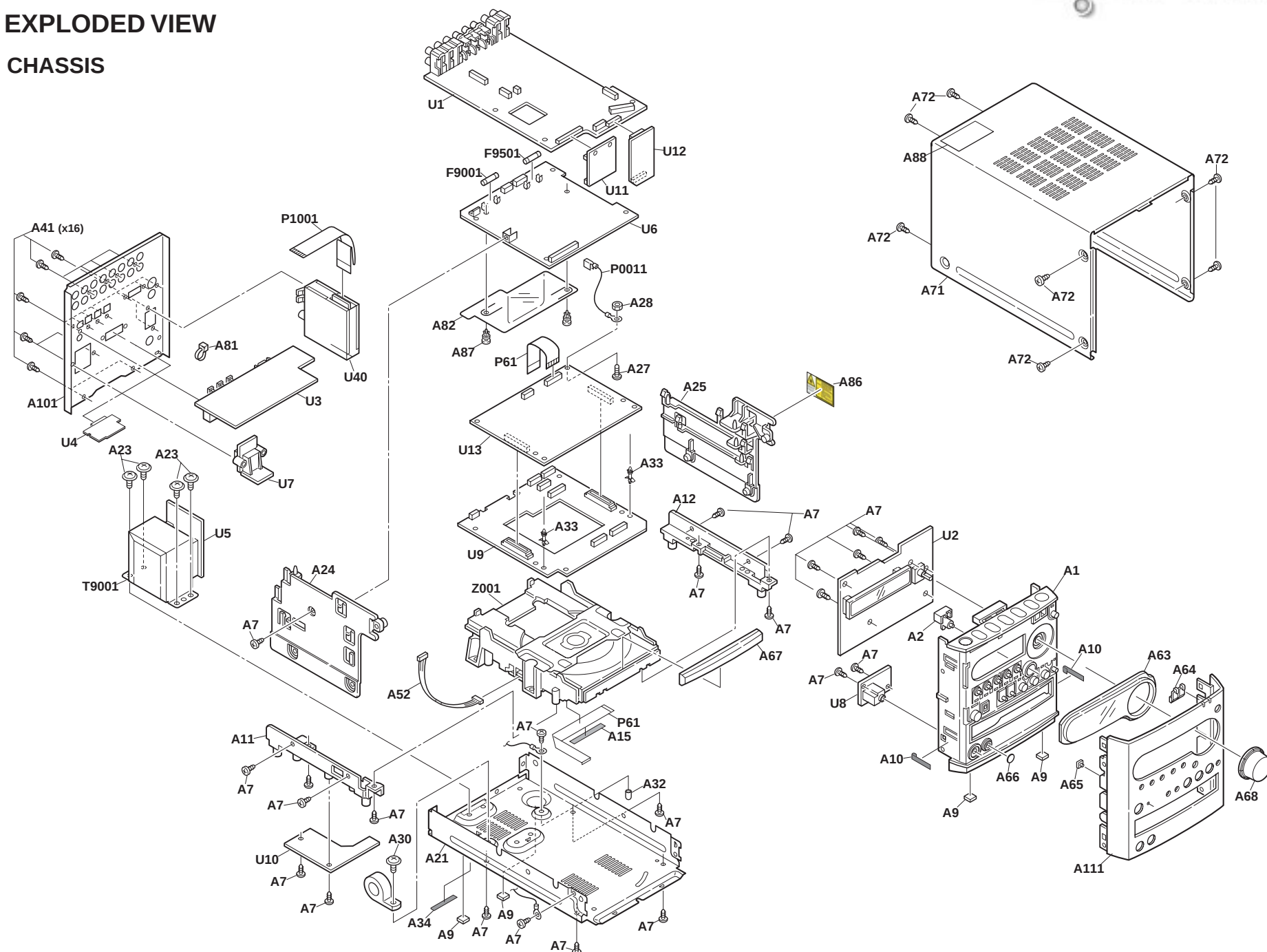
Remove the solder of Laser Diode shorting

- 1-1 Connect Pickup and DVD main circuit PC board by FFC(3 pcs).
- 1-2 Fix it with the DVD Mechanism
- 1-3 Remove the solder of Laser Diode shorting on Pickup.
- 1-4 Connect total unit of DVD Mechanism (DVD Main PCB + Mechanism) to output terminal.



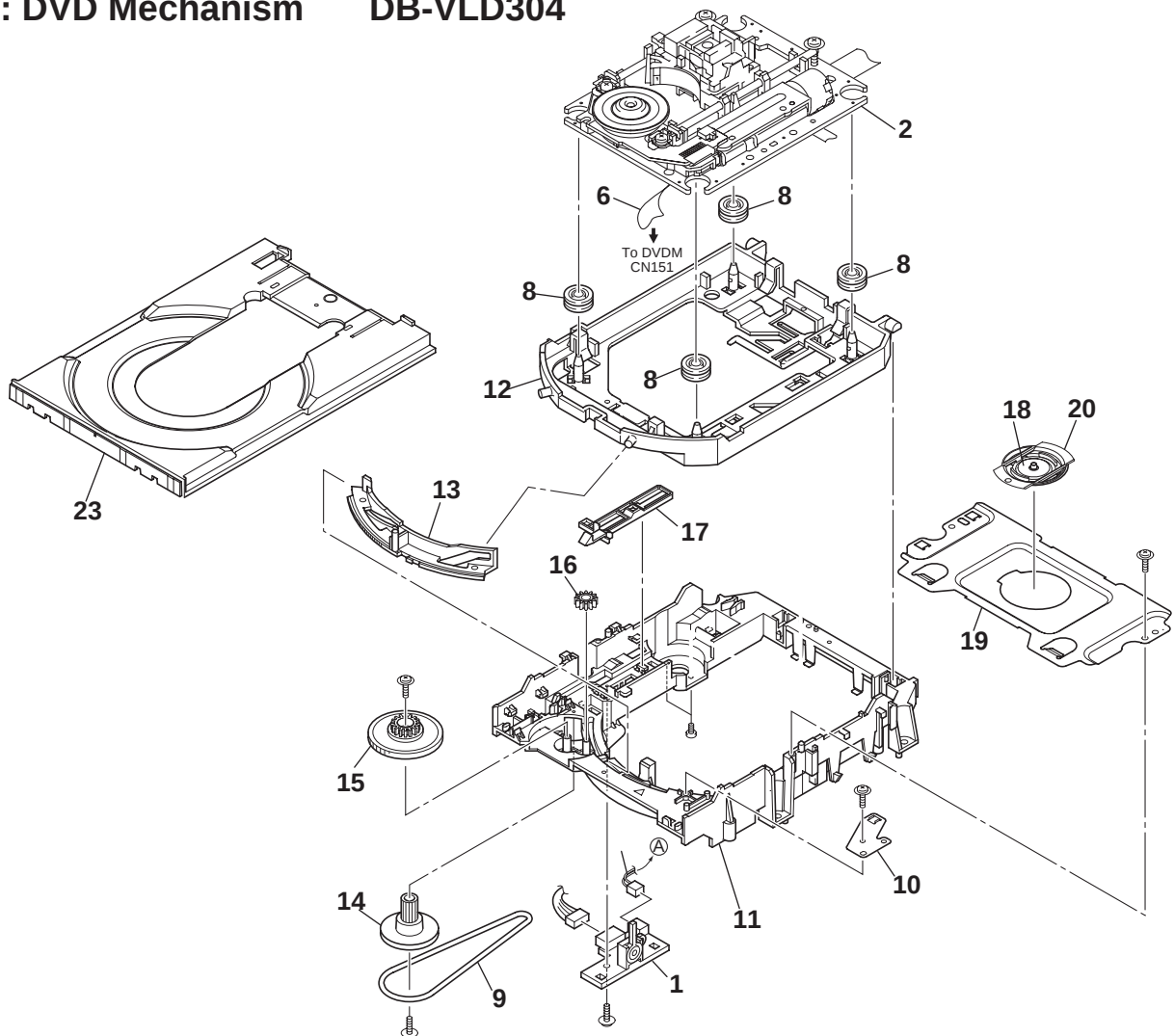
EXPLODED VIEW

CHASSIS



EXPLODED VIEW (LOADING MECHANISM) / PARTS LIST

Z001 : DVD Mechanism DB-VLD304

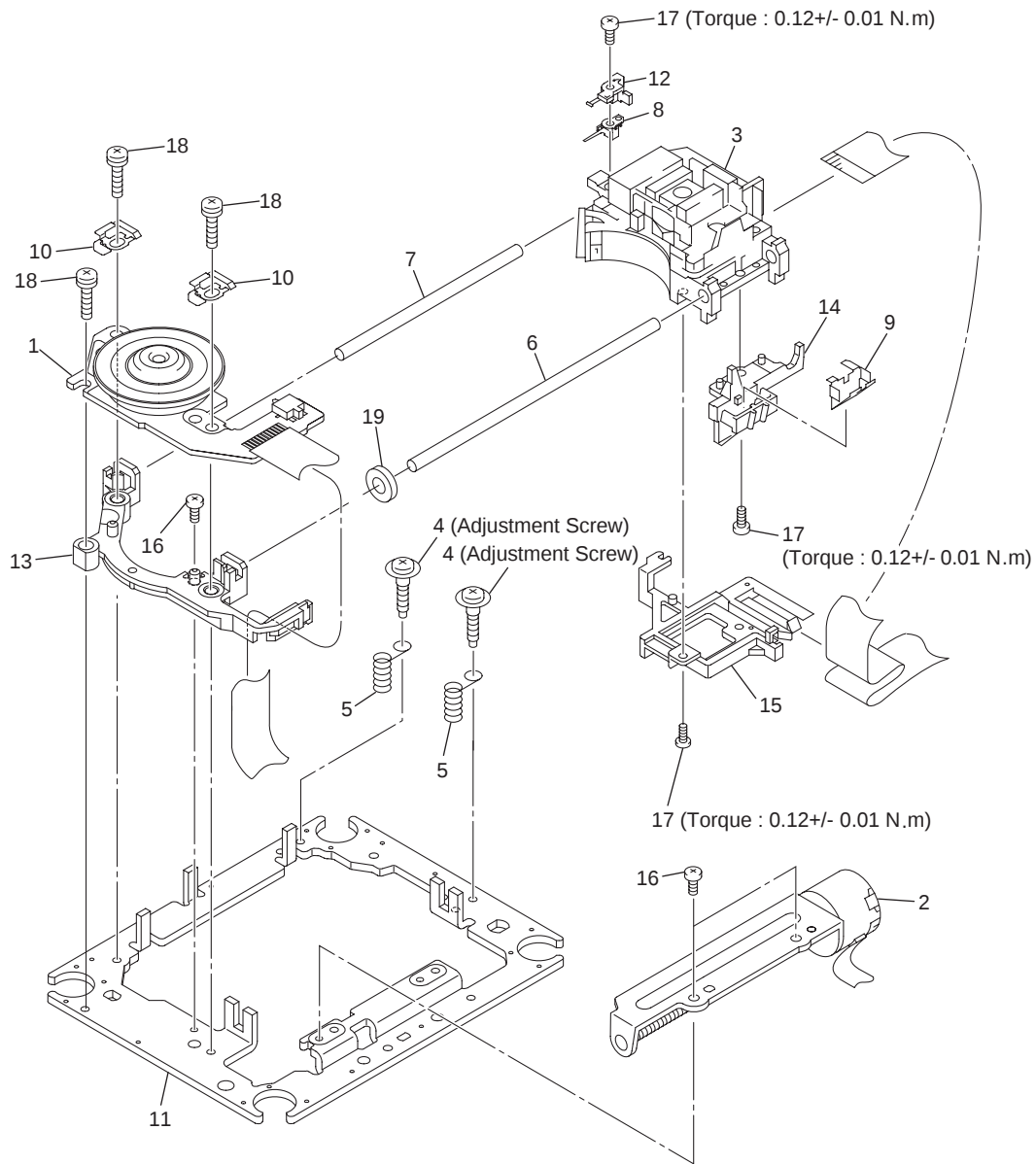


Parts list

REF.NO	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	VKN1790	Loading PC board assy	12	VNL1918	Float base DVD
2	VXX2782	Traverse mechanism assy	13	VNL1919	Drive cam
6	VDA1864	FFC 26P	14	VNL1921	Gear pulley
8	VEB1327	Rubber	15	VNL1922	Loading gear
9	VEB1328	Belt	16	VNL1923	Drive gear
10	VNE2253	Stabilizer	17	VNL1925	Lever switch
11	VNL1917	Loading base	18	VNE2251	Clamber plate
			19	VNE2252	Bridge
			20	VNL1924	Clamber
			23	VNL1920	Tray

EXPLODED VIEW / PARTS LIST

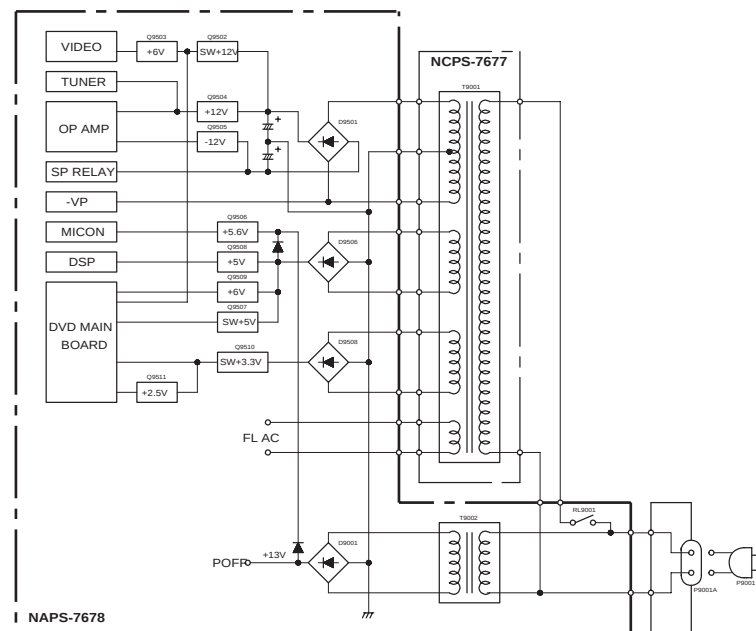
TRAVERSE MECHANISM ASSY



PARTS LIST

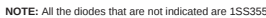
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Spindle Motor	VXM1088 (or VXM1089)	NSP	9	Joint Spring	VNC1019
	2	Stepping Motor (CARRIAGE)	VXM1090 (or VXM1091)		10	Support Spring	VNC1020
	3	Pickup Assy-S	OXX8003		11	Mechanism Chassis	VNE2248
					12	Slider	VNL1811
					13	Spacer	VNL1913
	4	Skew Screw	VBA1080		14	Joint	VNL1914
	5	Skew Spring	VBH1335		15	FFC Holder	VNL1915
	6	Guide Bar	VLL1514		16	Screw	BBZ20P050FZK
	7	Sub Guide Bar	VLL1515	17	Screw	OBA8009	
	8	Hold Spring	VNC1017	18	Screw	PMA26P100FMC	
				19	Damper Sheet	VEB1335	
				NSP : Not service part			

www.denom.com



South America, Taiwan : AC120V, 60Hz
Hong Kong, Other Asia area: AC220-230V, 50/60Hz

U1: DSP CIRCUIT PC BOARD

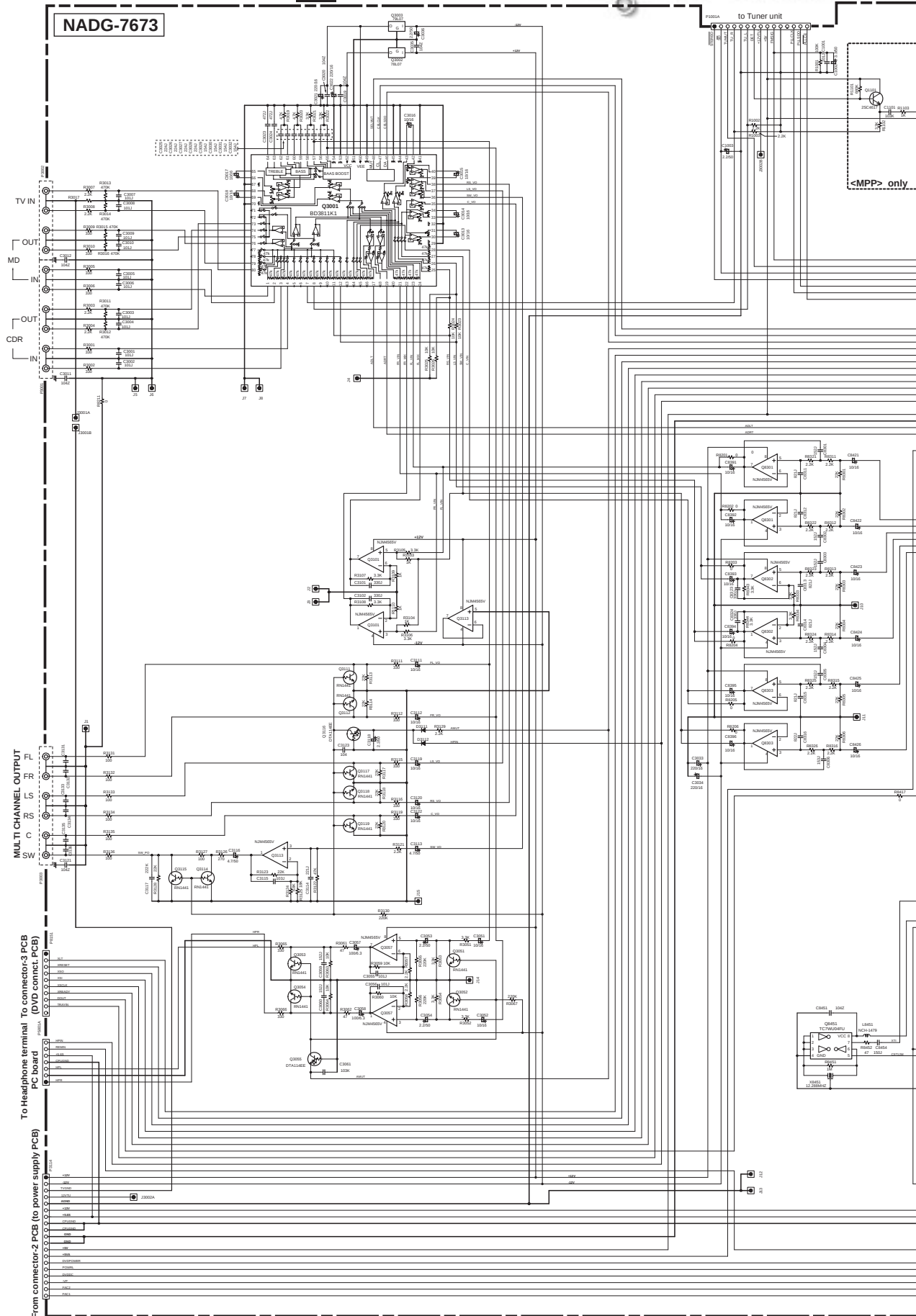


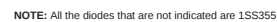
U2: Display circuit PC board

SCHEMATIC DIAGRAM

U1: DSP CIRCUIT PC BOARD

Free Schematics

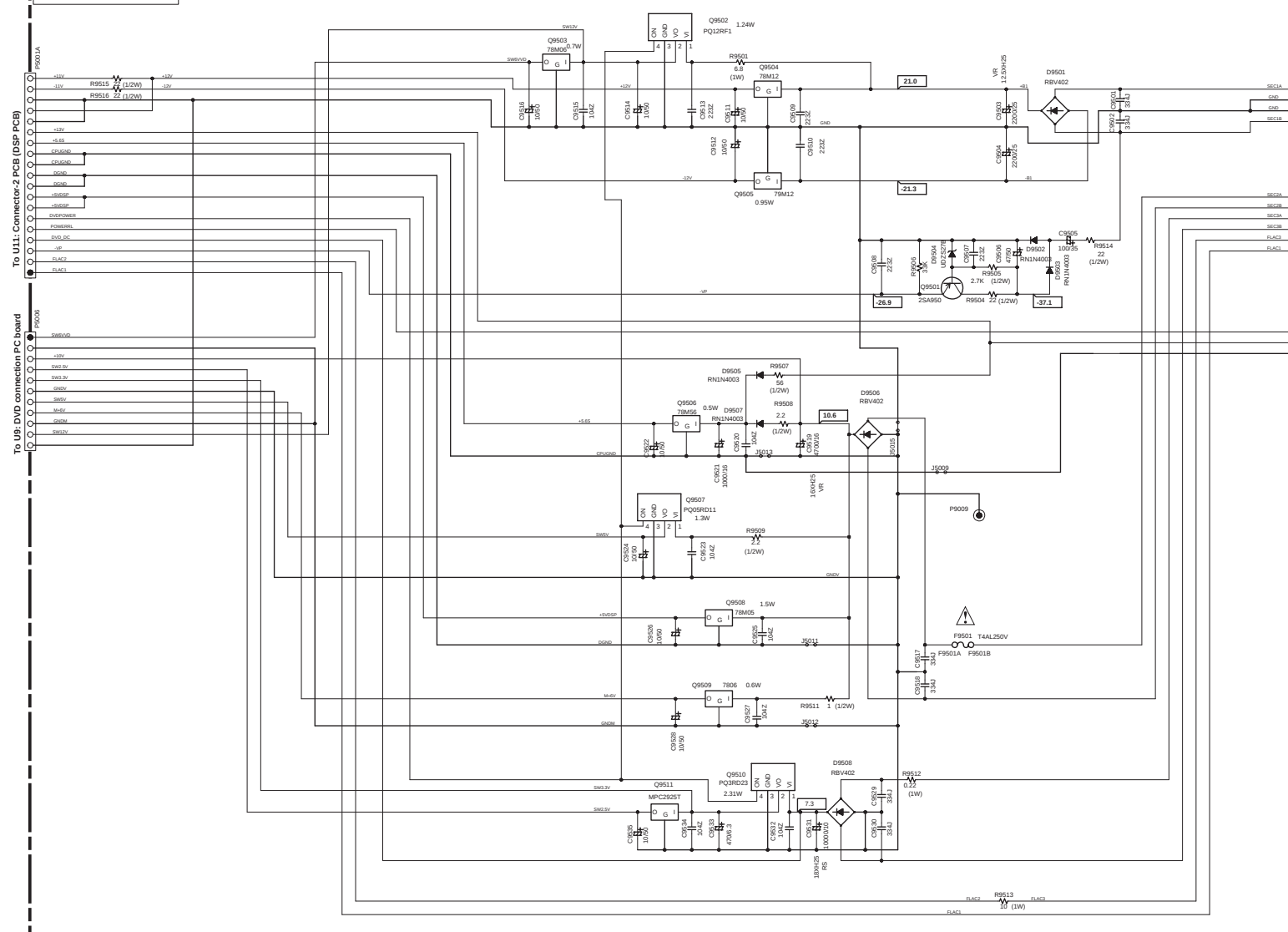




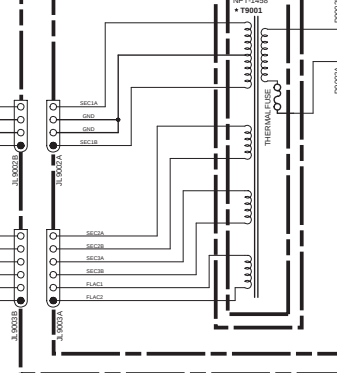
SCHEMATIC DIAGRAM

U6: POWER SUPPLY PC BOARD

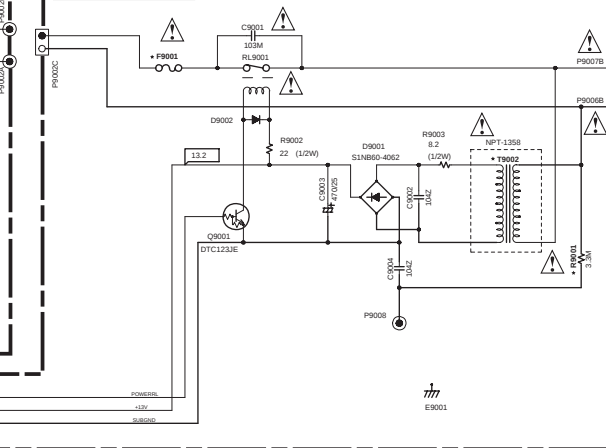
NAPS-7678

U5: POWER TRANSFORMER
PC BOARD

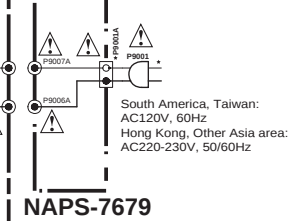
NAPS-7677



NAPS-7678

U7: INLET TERMINAL
PC BOARD

NAPS-7679



South America, Taiwan:
AC120V, 60Hz
Hong Kong, Other Asia area:
AC220-230V, 50/60Hz

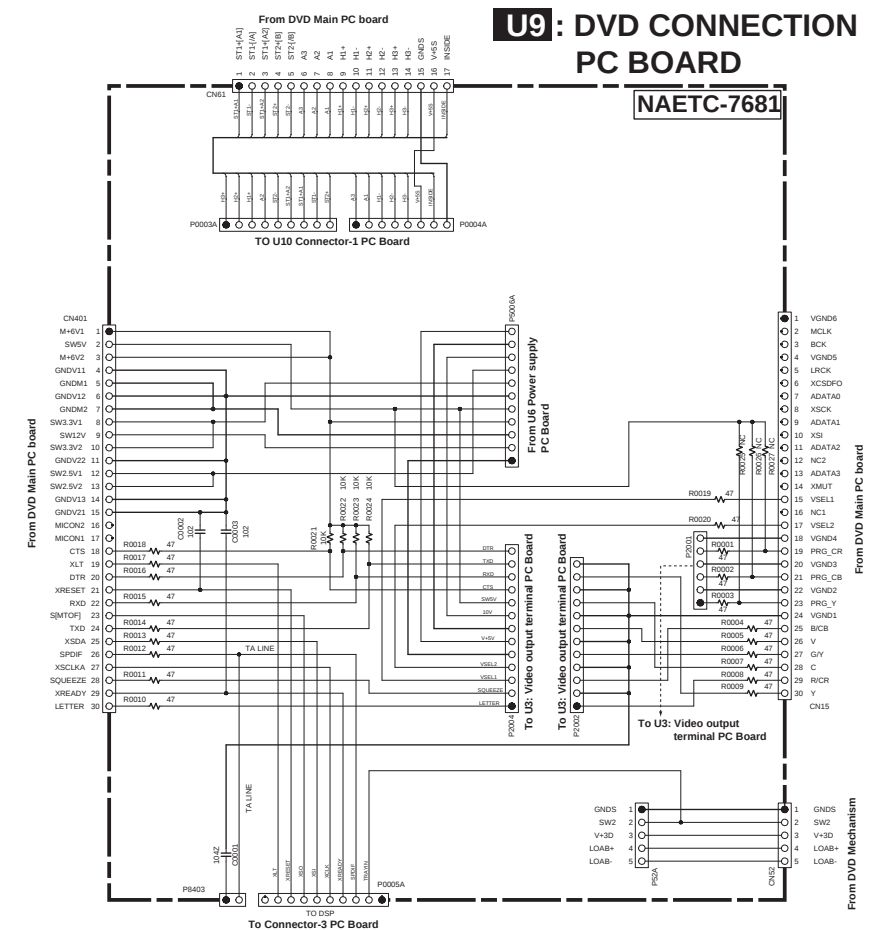
	U3J2N	UD54P	UGQ3P	UGR6P	UGT3P
	AS-JA	AS-UC-2	AS-BS	AS-CCEE	AS-CEE
P9001	AS-JA	AS-UC-2	AS-BS	AS-CCEE	AS-CEE
T9001	NPT-1458J	NPT-1458D	NPT-1458G	NPT-1458G	NPT-1458P
T9002	NPT-1358J	NPT-1358D	NPT-1358G	NPT-1358G	NPT-1358P
F9001	1.6A/125V	1.6A/125V	800mA/250V	800mA/250V	800mA/250V
F9001	1.6A/125V	1.6A/125V	800mA/250V	800mA/250V	800mA/250V
F9001A	25056027	25056006	25056027	25056027	25056027

NOTE

- THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH ) IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS () ARE IN μ F/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
- EX) 030 $\rightarrow$ 3pF 330 $\rightarrow$ 33pF 331 $\rightarrow$ 330pF 333 $\rightarrow$ 0.033uF
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX)  PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

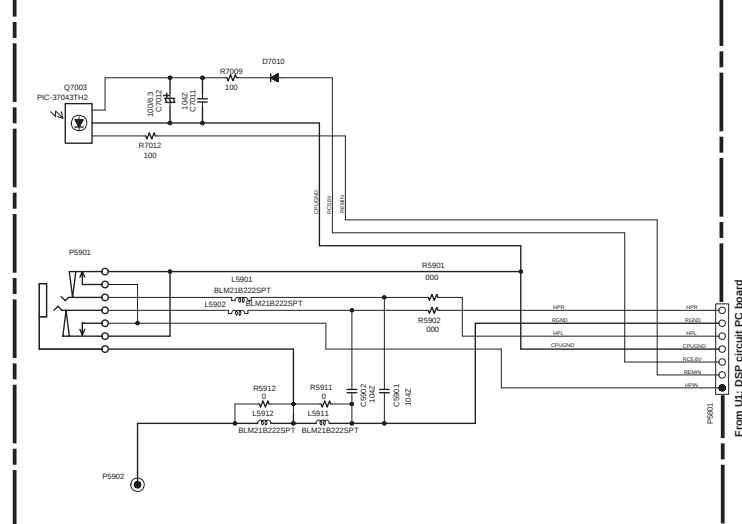
U9: DVD CONNECTION
PC BOARD

NAETC-7681

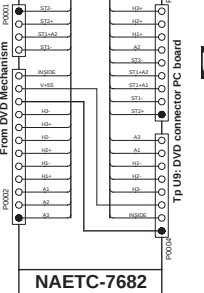


U8: HEADPHONE TERMINAL PC BOARD

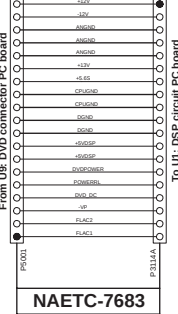
NAETC-7680

U10: CONNECTOR-1
PC BOARD

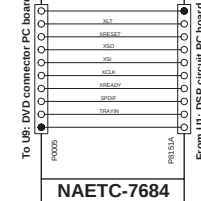
NAETC-7682

U11: CONNECTOR-2
PC BOARD

NAETC-7683

U12: CONNECTOR-3
PC BOARD

NAETC-7684

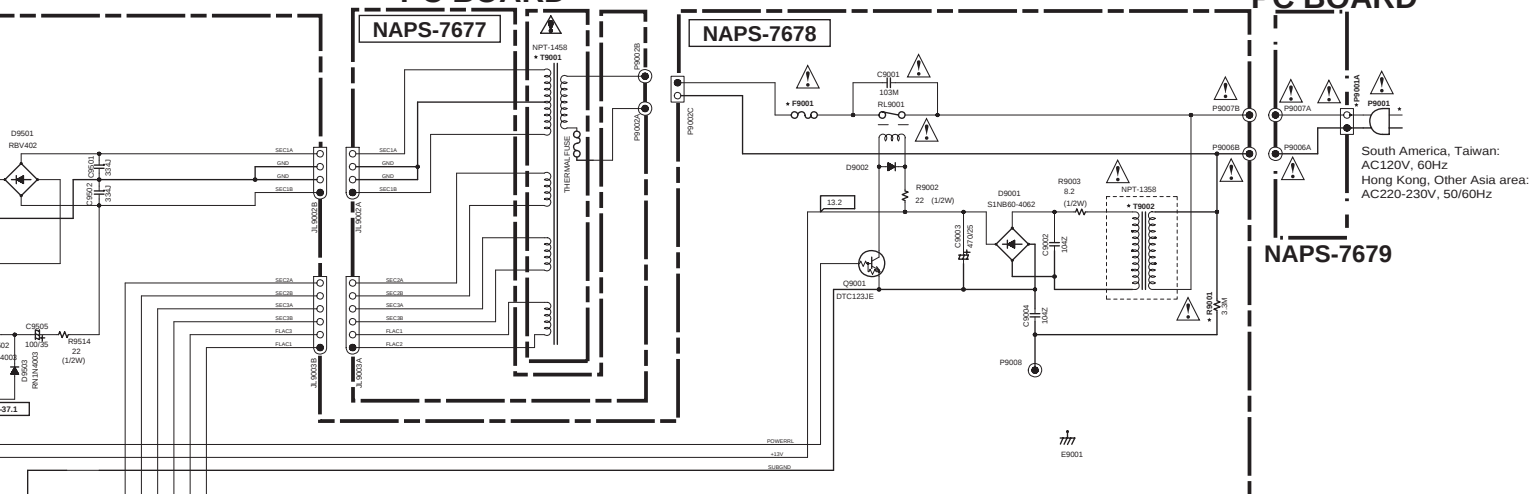


D

5



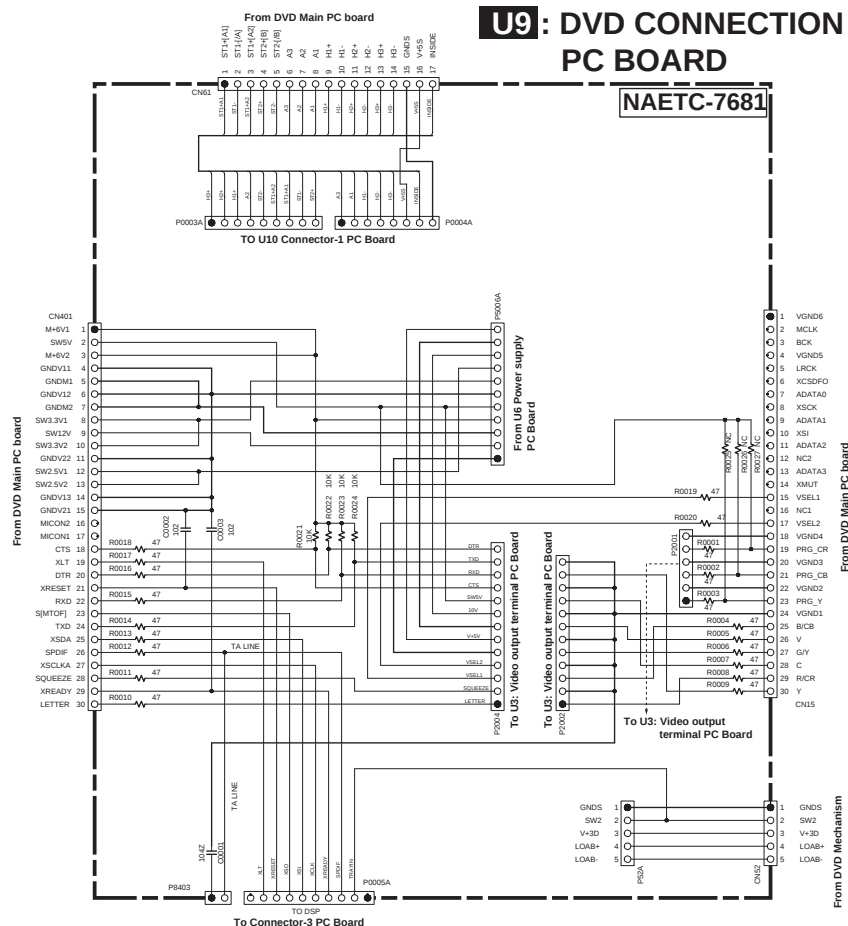
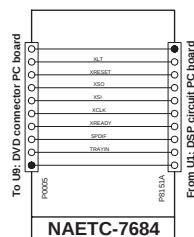
From U9: DVD connector PC board

**U5: POWER TRANSFORMER
PC BOARD****U7: INLET TERMINAL
PC BOARD**

	UJ32N	UDS4P UDT3P	UGQ3P	UGR6P	UGT3P UPP2P
P9001	AS-JA	AS-UC-2	AS-BS	AS-CCEE	AS-CEE
T9001	NPT-1458J	NPT-1458D	NPT-1458G	NPT-1458G	NPT-1458P
T9002	NPT-1358J	NPT-1358D	NPT-1358G	NPT-1358G	NPT-1358P
F9001	1.6A/125V	1.6A/125V	800mAL250V	800mAL250V	800mAL250V
R9001	NONE	3.3M	NONE	NONE	NONE
P9001A	25056027	25056006	25056027	25056027	25056027

NOTE

- THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH IS DCVOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS () ARE IN uF/W.
- ALL CAPACITORS ARE IN pF/50VW UNLESS OTHERWISE NOTED.
- EX) 030+3pF 330+33pF 331+330pF 333+0.033uF
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX) PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

**U9: DVD CONNECTION
PC BOARD****U12: CONNECTOR-3
PC BOARD**

ECTOR-2
ARD

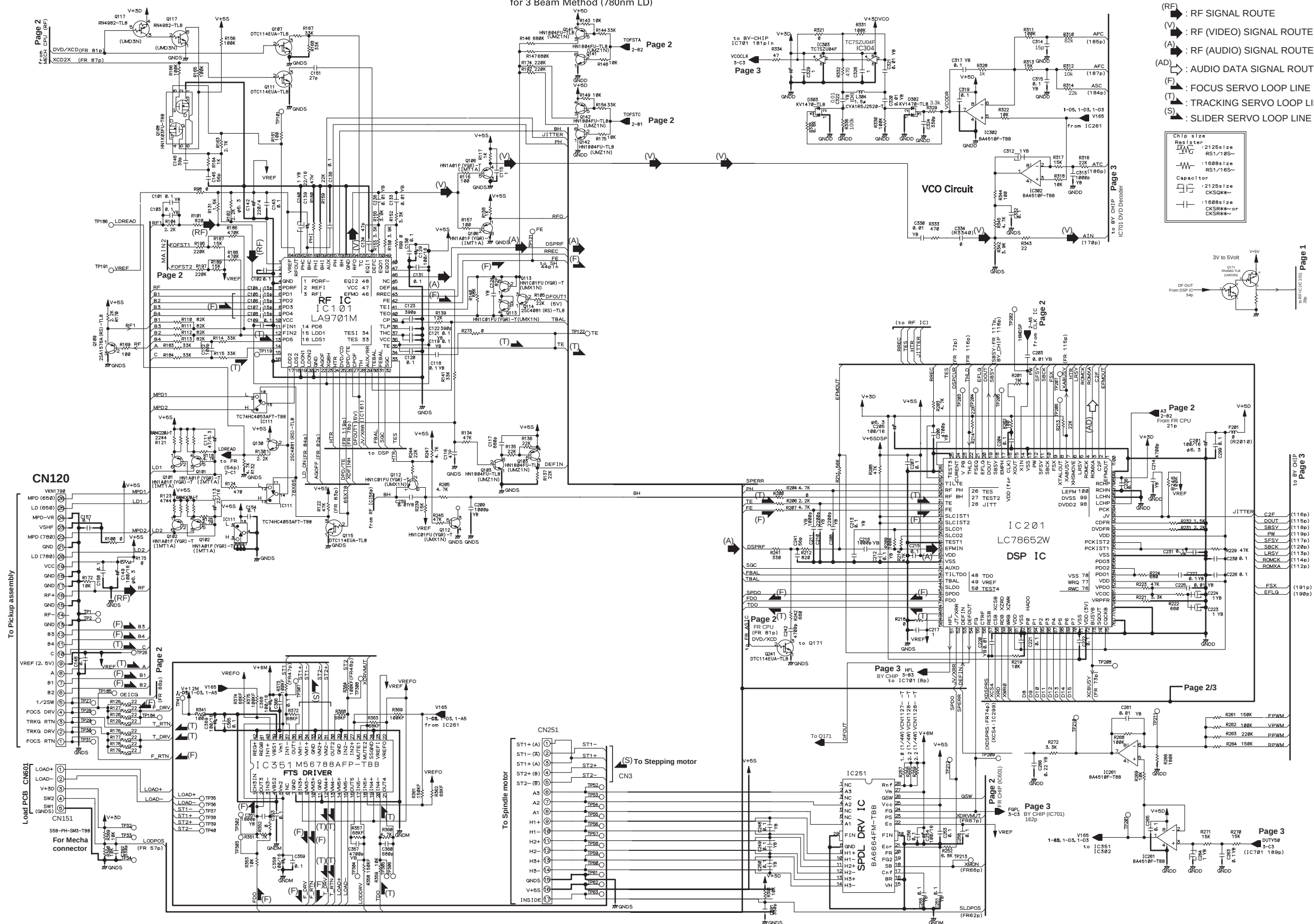
To U1: DSP circuit PC board

G



配線図(MRage D)AGRAM (Page 1)

U13 : MAIN 面路基板 PCB OF ABS DB-VPB311

Tracking Error Offset SW
for 3 Beam Method (780nm LD)

Schematic Diagram (Page 2)

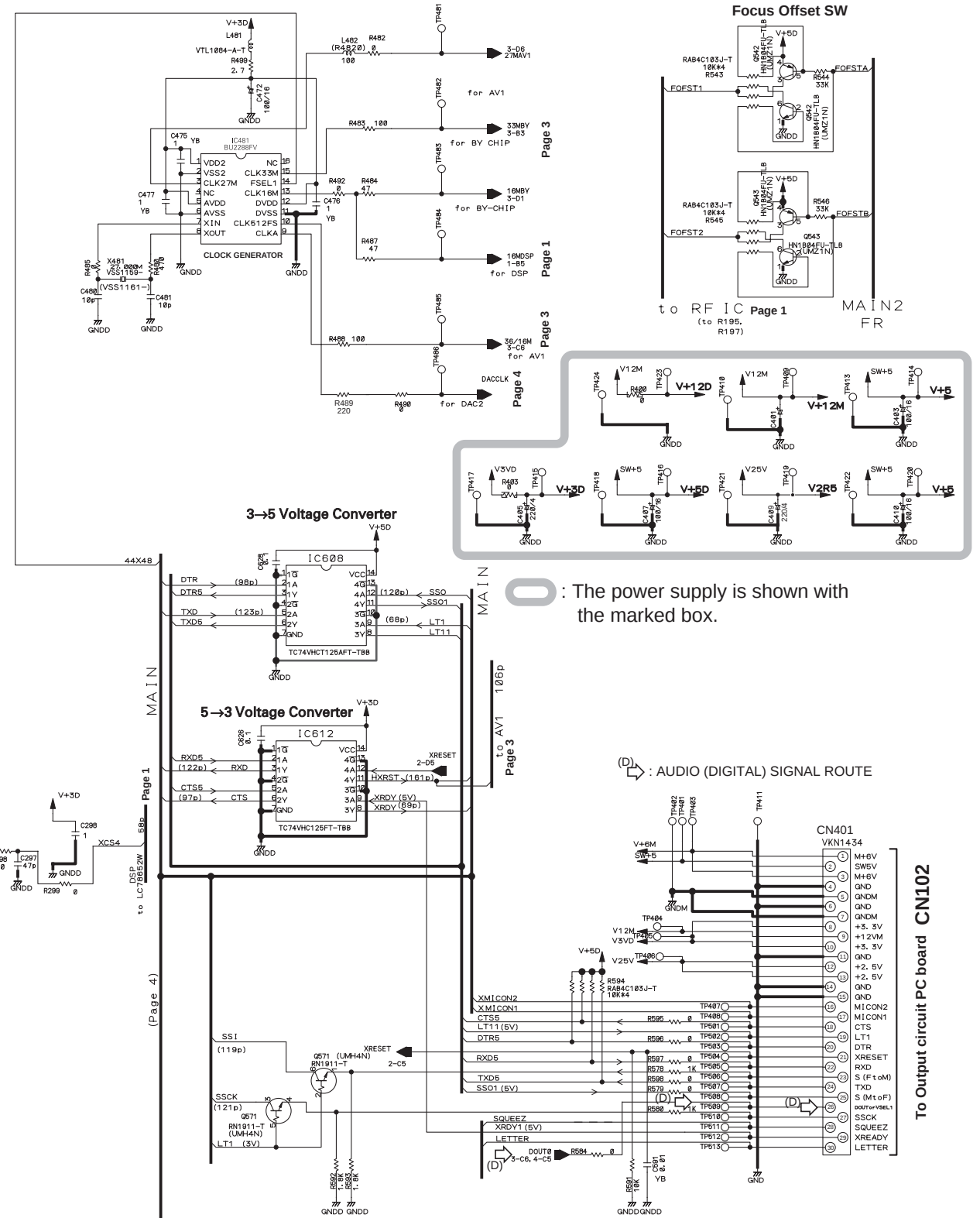
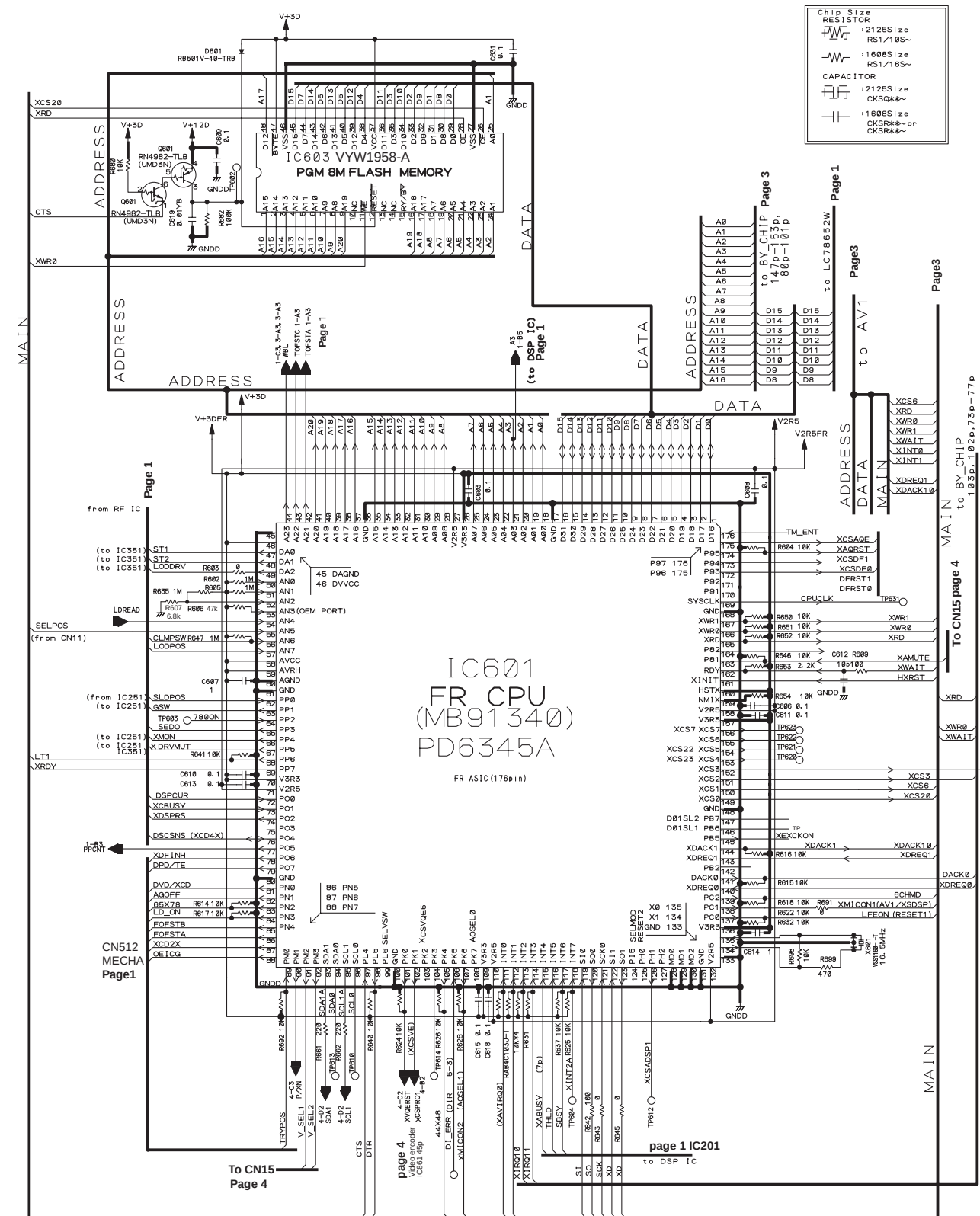
U13 : DVD MAIN BOARD PCB-VP30 BOARD DB-VPB311

A

B

C

D



53 練図 (Page 3)

U13 : DVD 回路基板 DB-VPB311

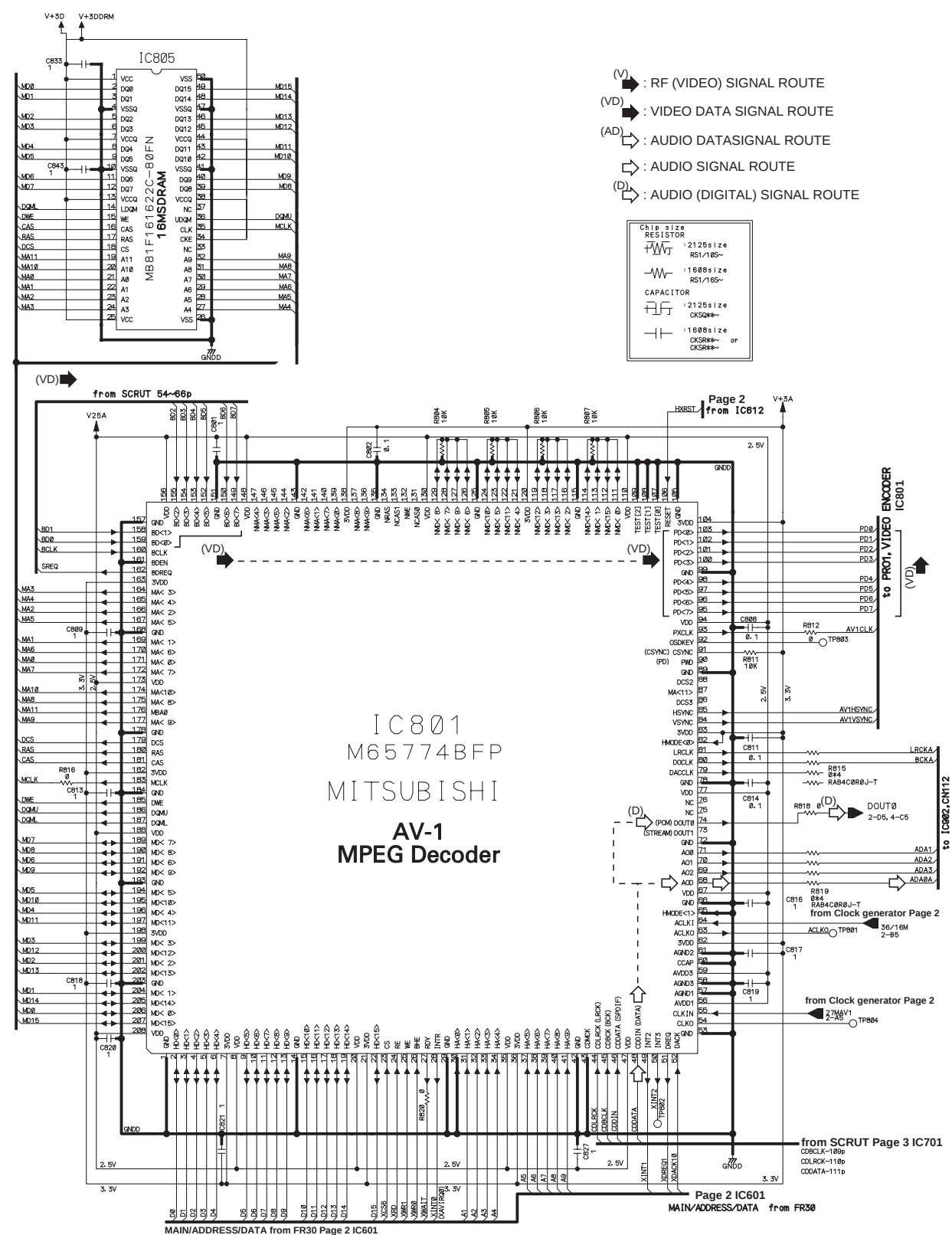
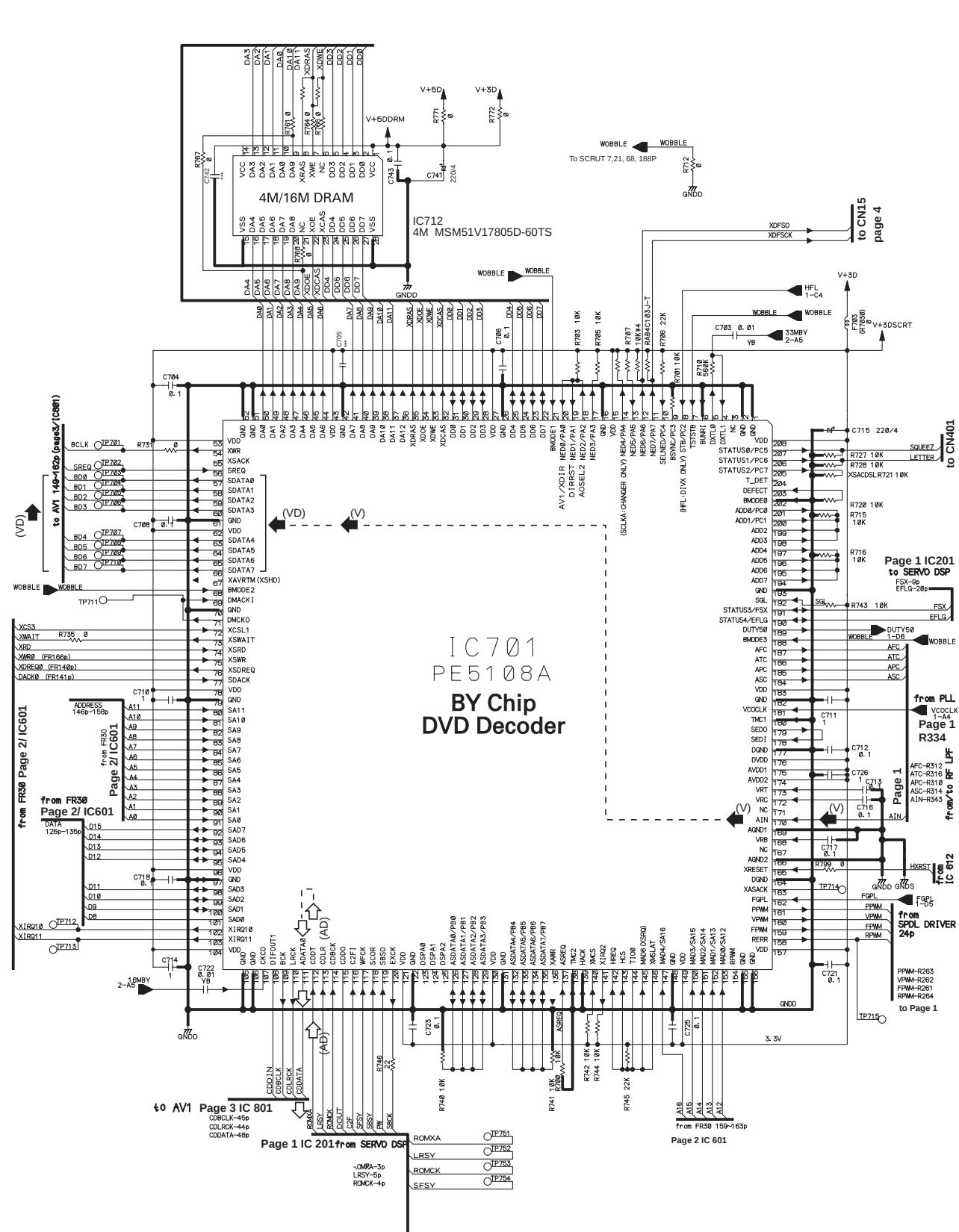
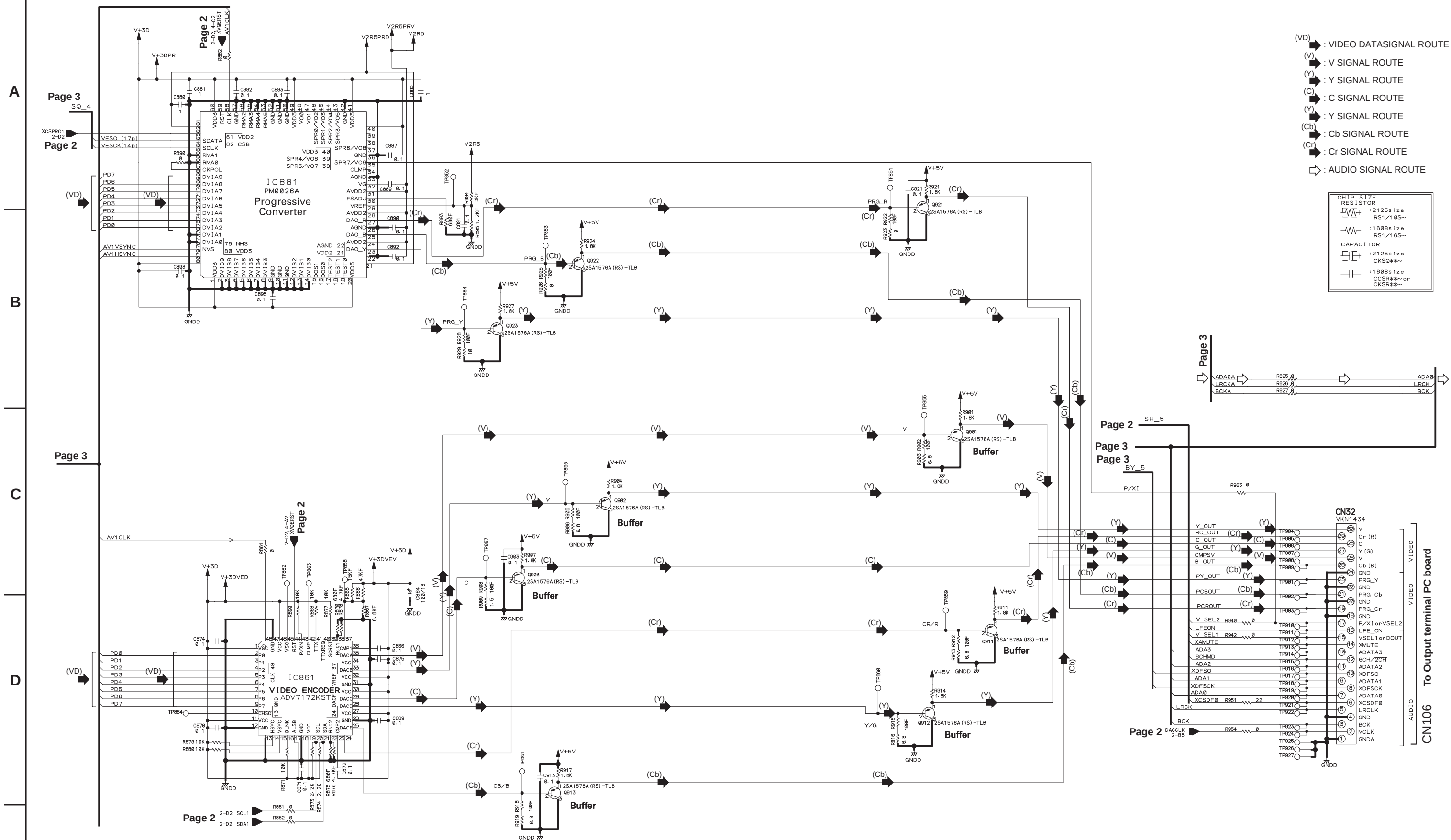


図 4 DIAGRAM (Page 4)

U13 : DVD 網路卡 DB-VPB311



U13 : MAIN CIRCUIT PC BOARD DB-VPB311



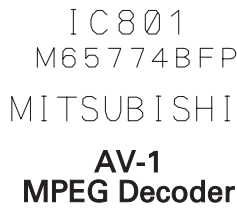
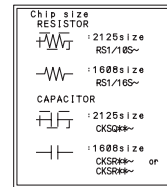
C

5



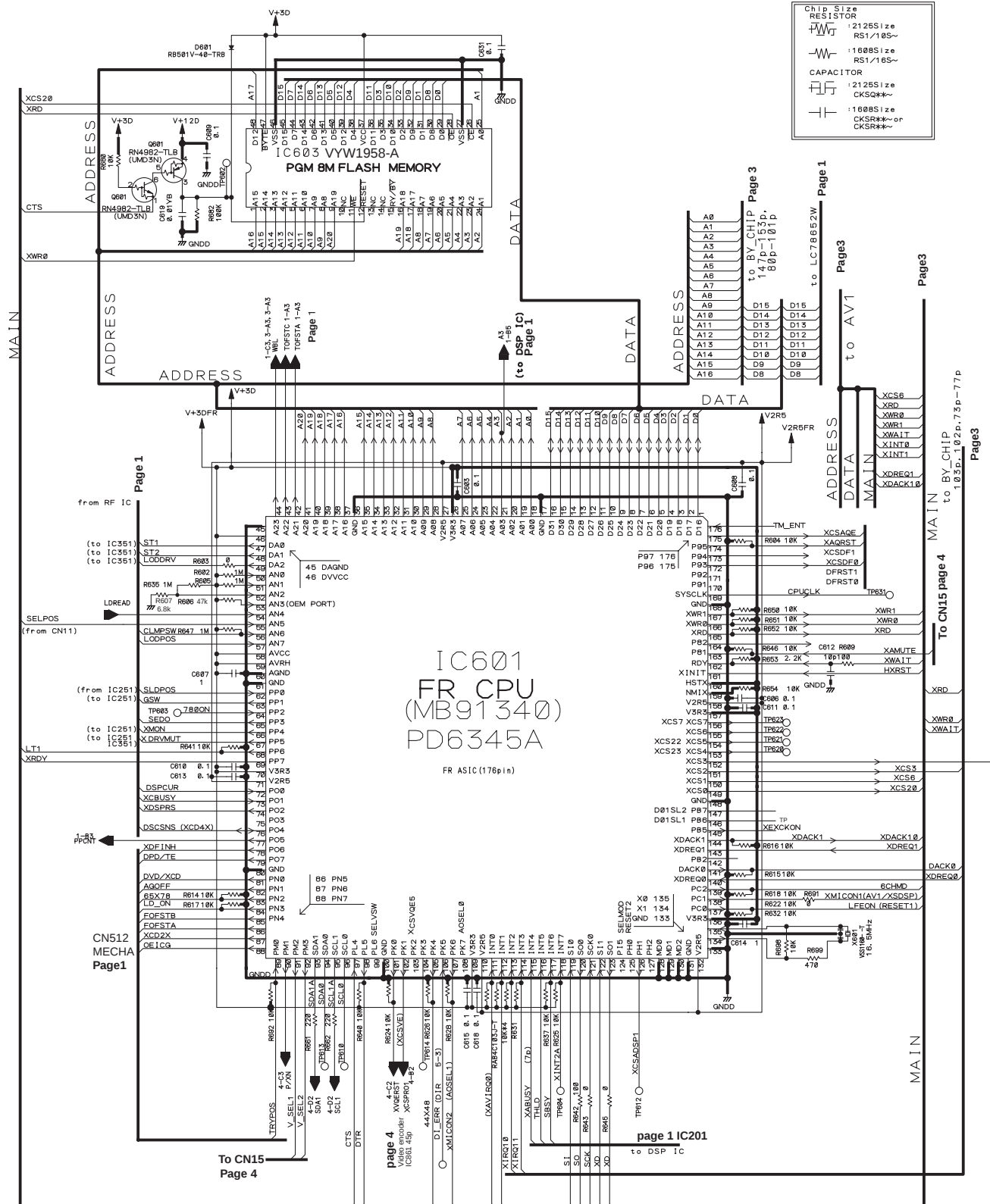
U13 : DVD MAIN CIRCUIT PC BOARD DB-VPB311





SCHEMATIC DIAGRAM (Page 2)

U13 : DVD MAIN CIRCUIT PC BOARD DB-VPB311



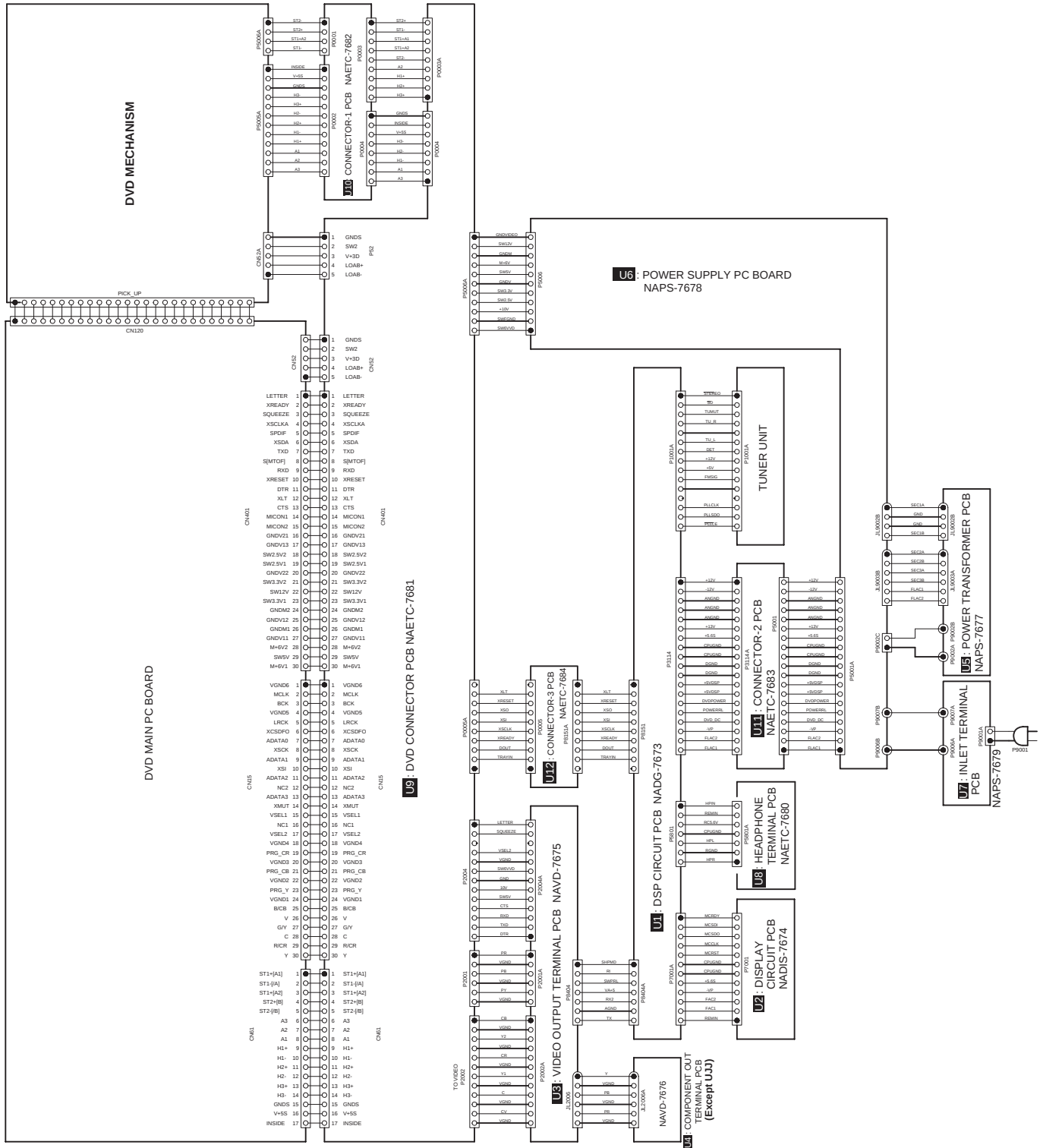


U13 : DVD MAIN CIRCUIT PC BOARD DB-VPB311





CONNECTION DIAGRAM (PART-2)

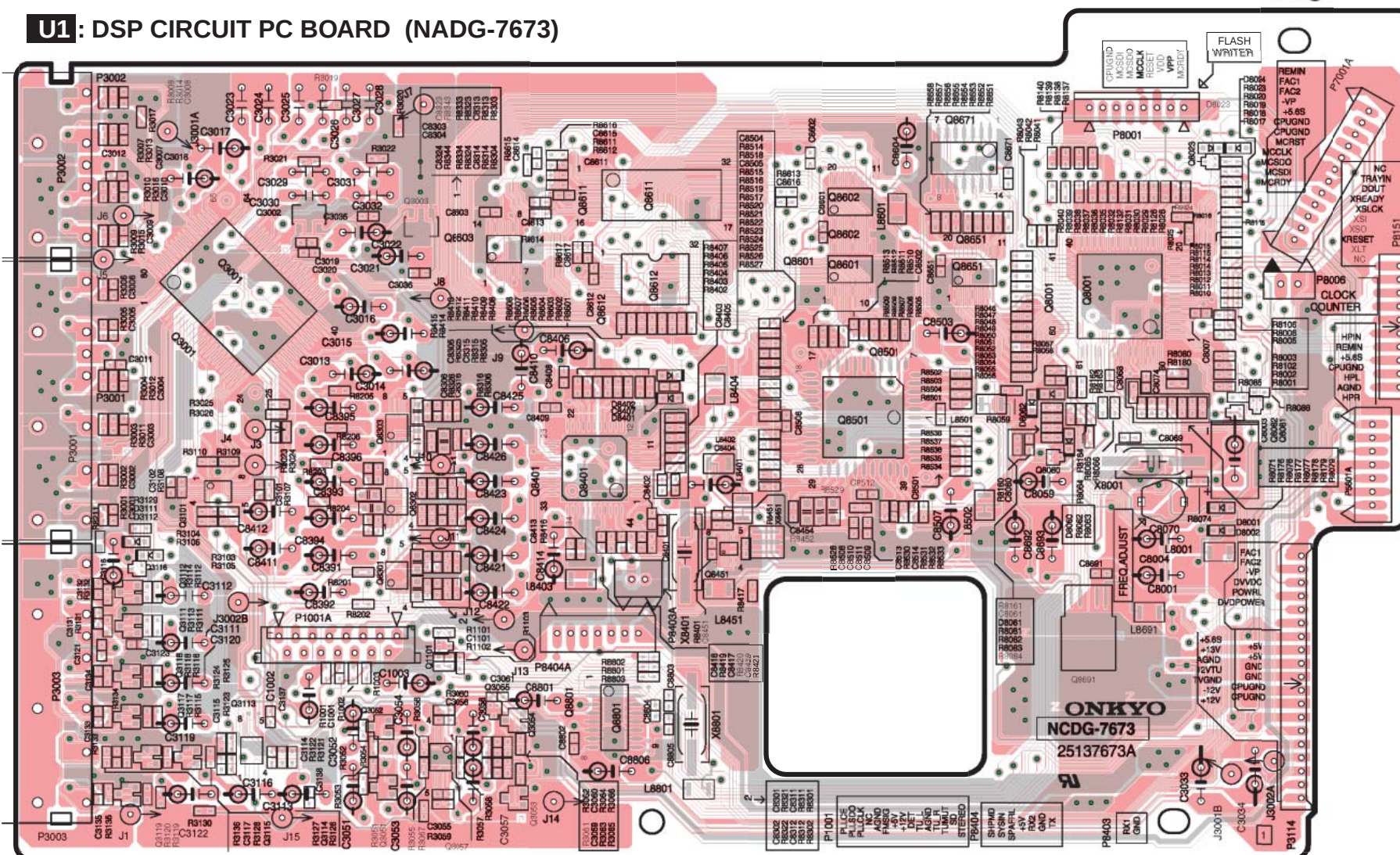


A B C D E

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE VIEW

■ : Component side
■ : Soldering side

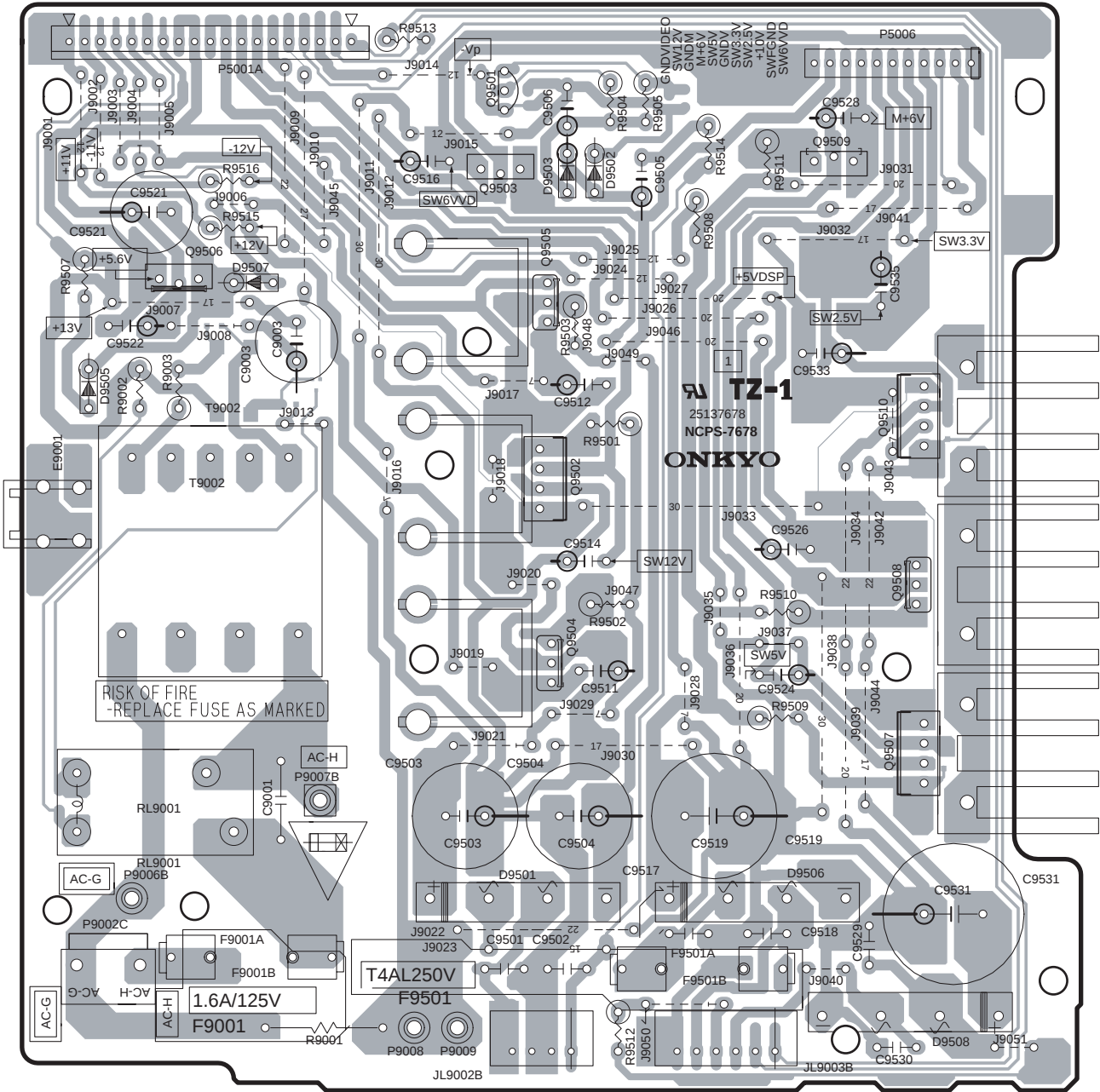
1 U1: DSP CIRCUIT PC BOARD (NADG-7673)



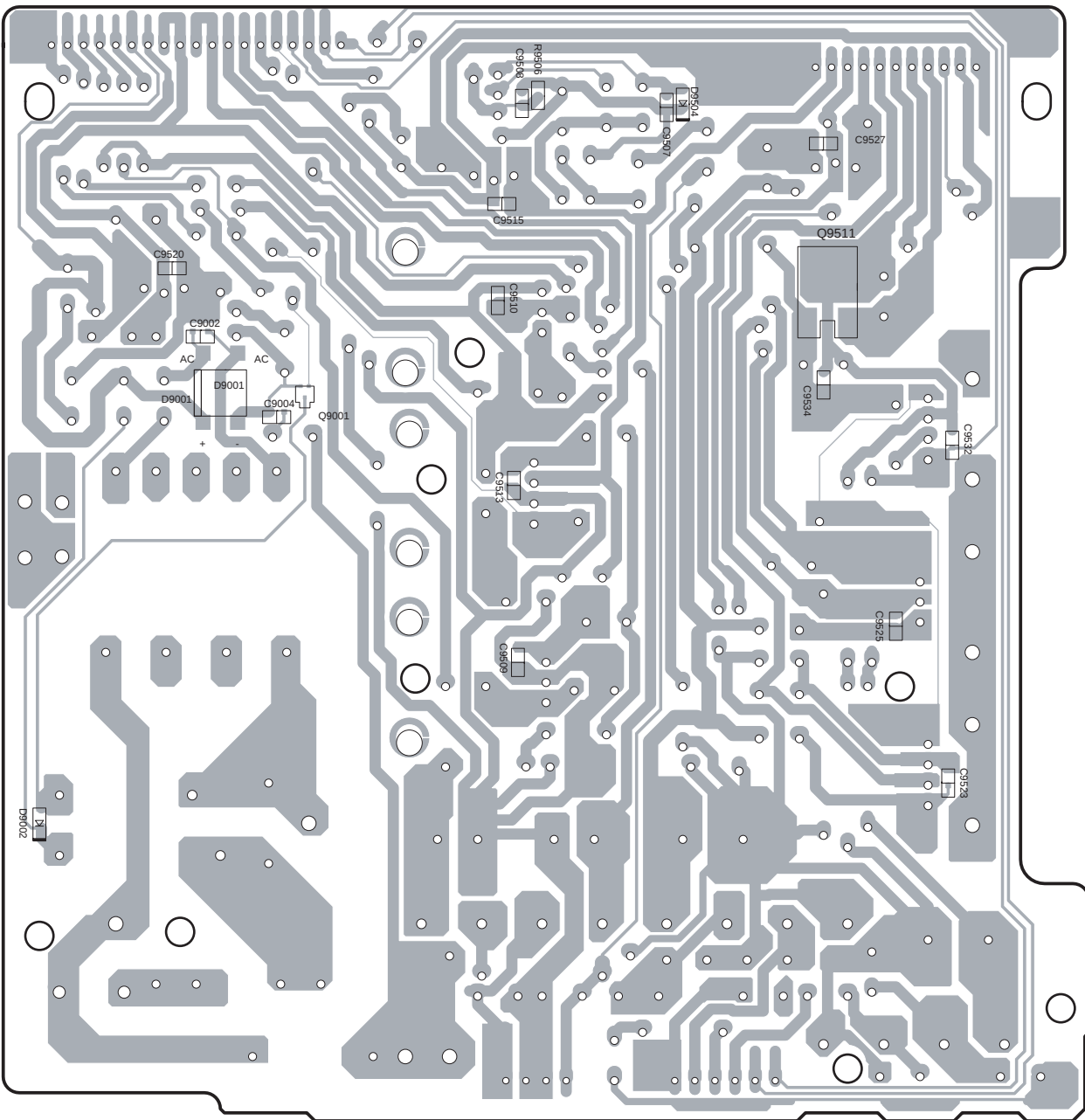
Soldering side view

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE

U6: POWER SUPPLY PC BOARD (NAPS-7678)



U6: POWER SUPPLY PC BOARD (NAPS-7678)



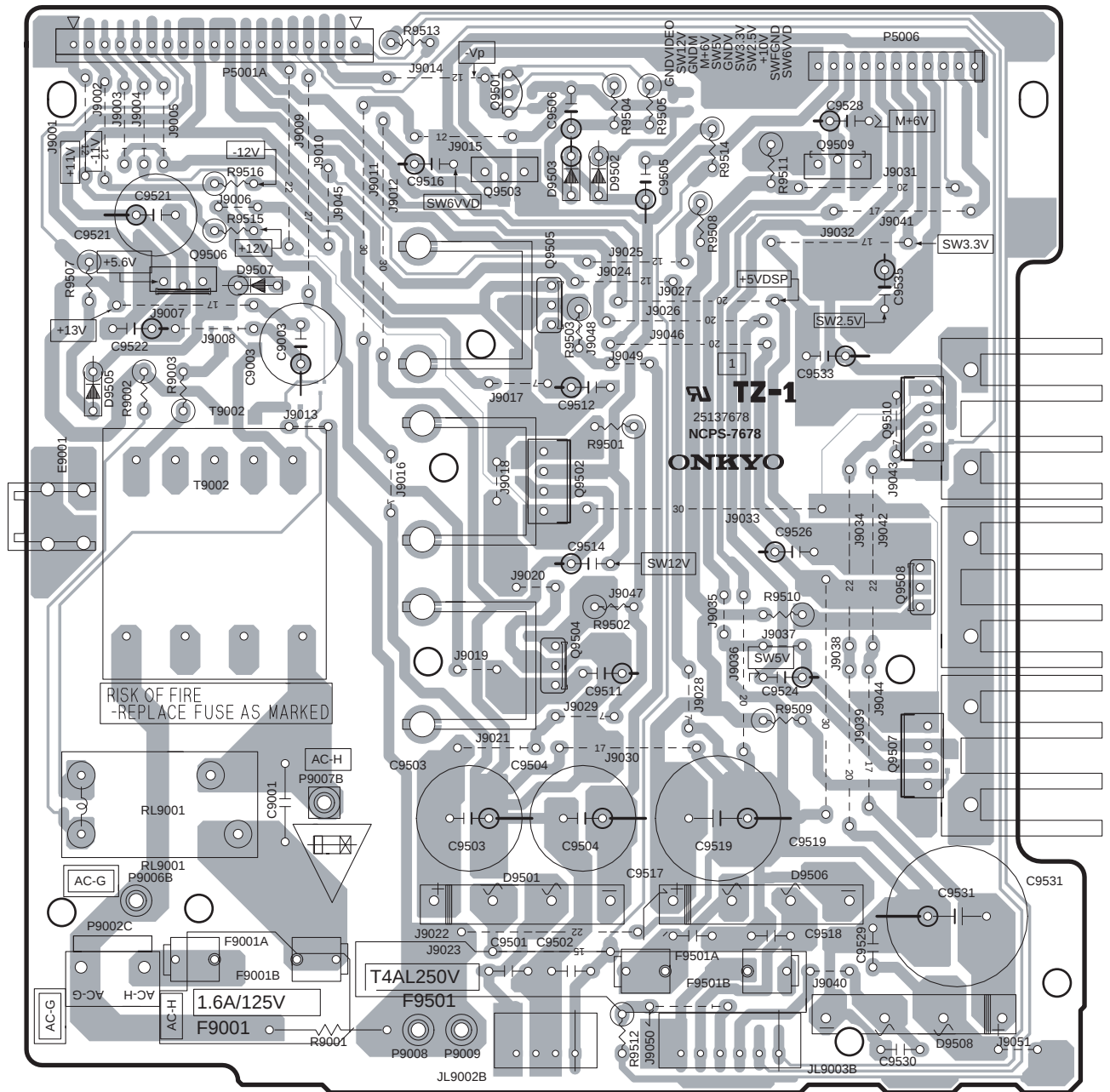
C

5

www.denom.com

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE

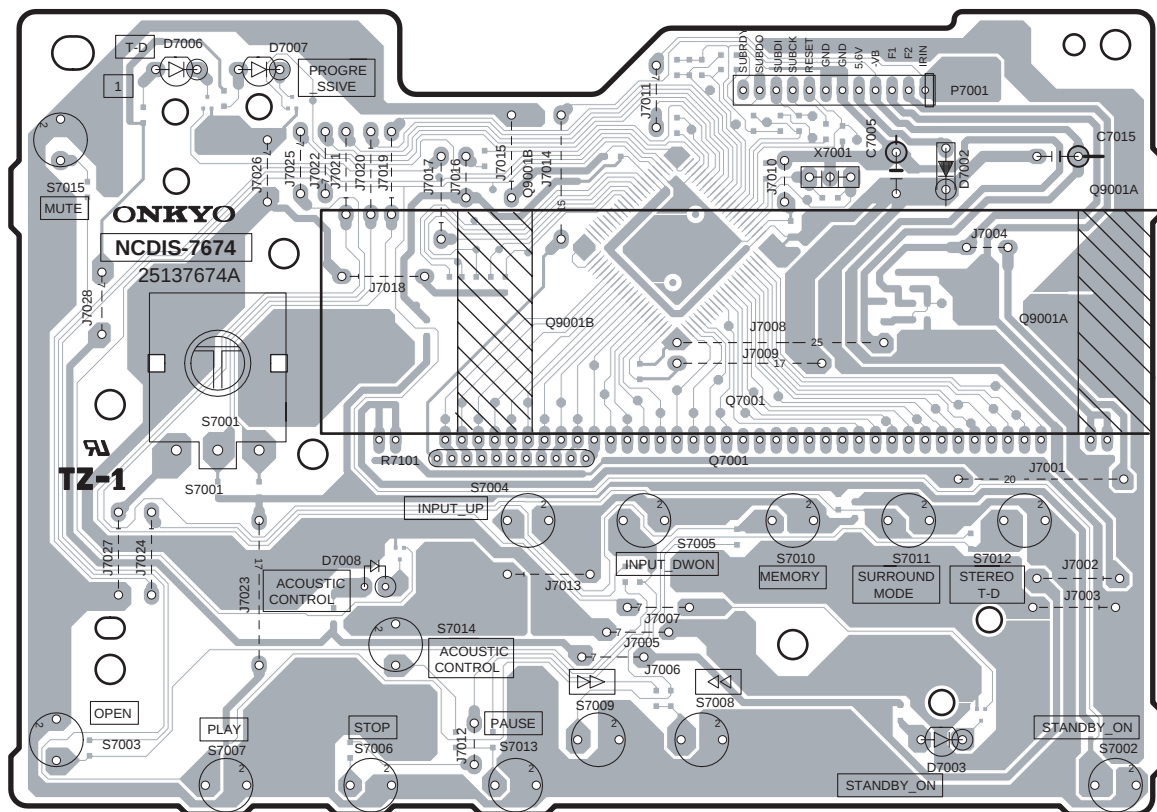
U6: POWER SUPPLY PC BOARD (NAPS-7678)



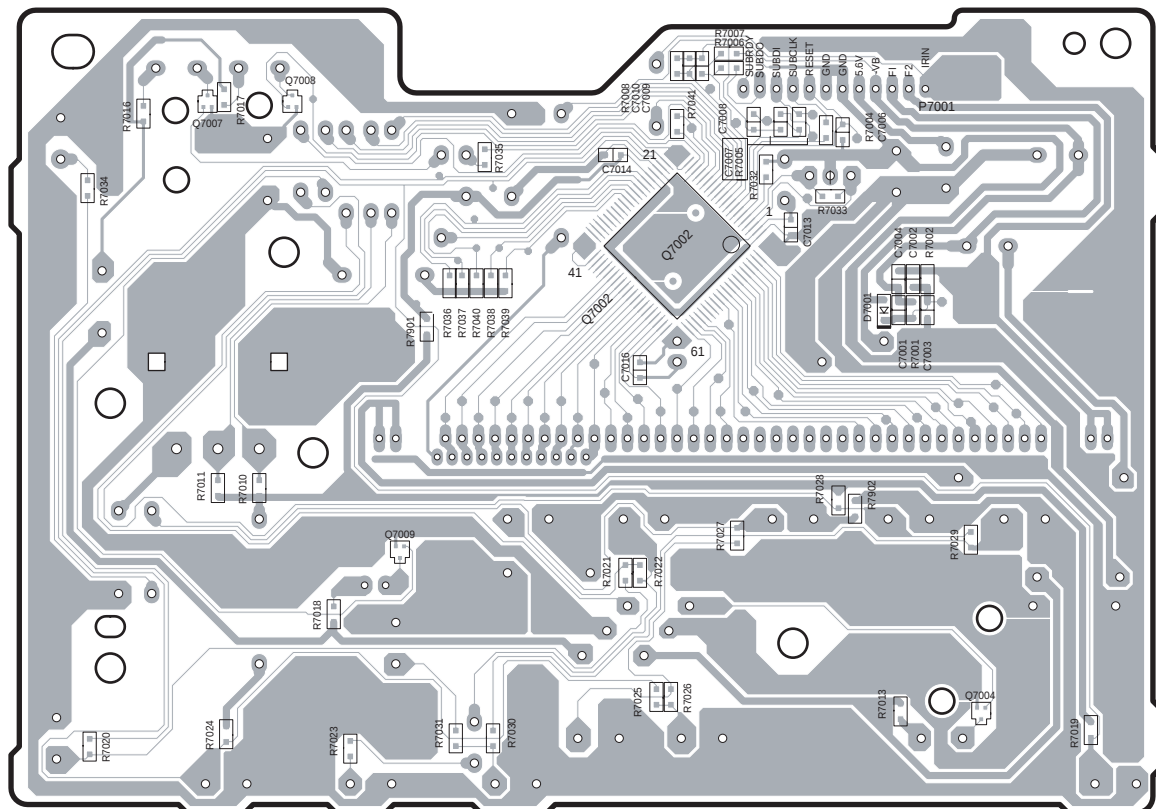
Component side

Free Schematics

U2: DISPLAY CIRCUIT PC BOARD (NADIS-7674)



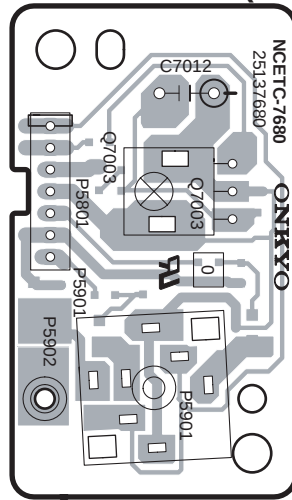
Component side view



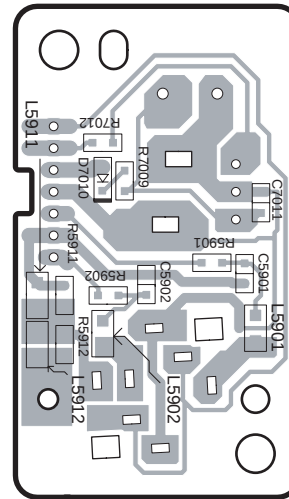
Soldering side view

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE

U8 : HEADPHONE TERMINAL PC BOARD (NAETC-7680)

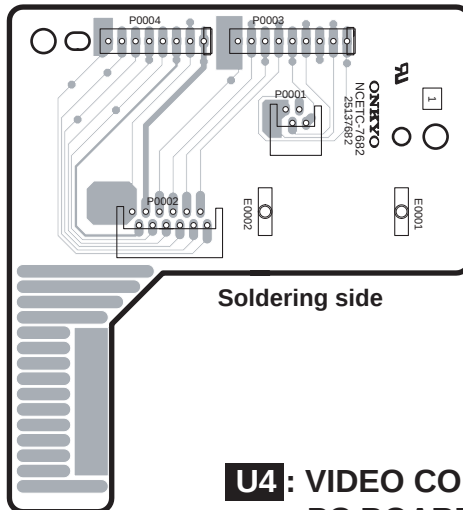


Component side



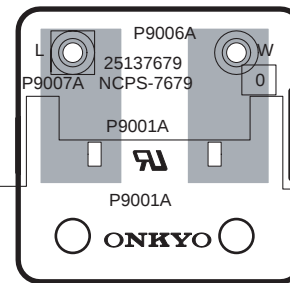
Soldering side

U10 : CONNECTOR -2 PC BOARD (NAETC-7682)



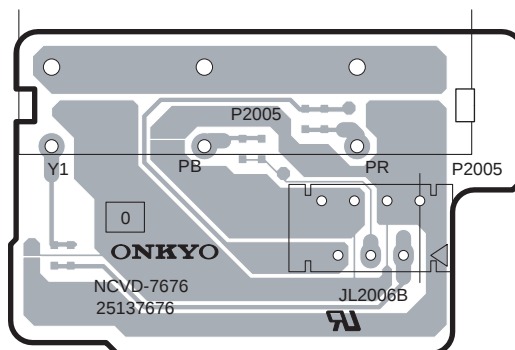
Soldering side

U7 : INLET TERMINAL PC BOARD (NAPS-7679)

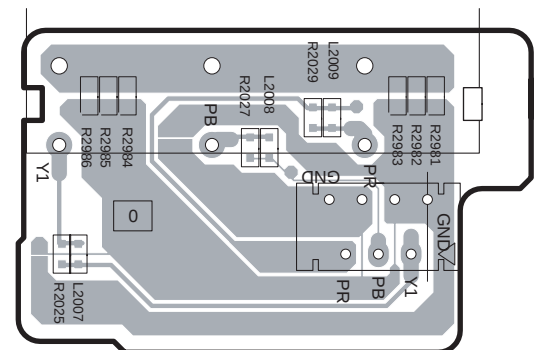


Soldering side

U4 : VIDEO COMPONENT OUTPUT TERMINAL PC BOARD (NAVD-7676) (Except UJJ)



Component side



Soldering side

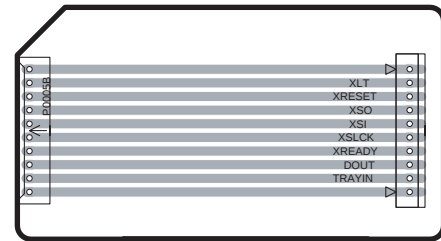
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE

1

U12 : CONNECTOR PC BOARD-3 NAETC-7684



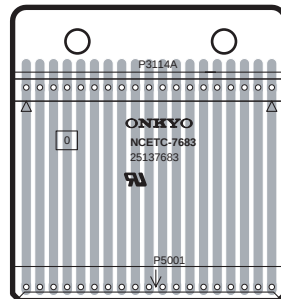
Component side view



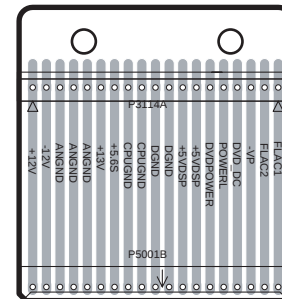
Soldering side view

2

U11 : CONNECTOR-2 PC BOARD NAETC-7683



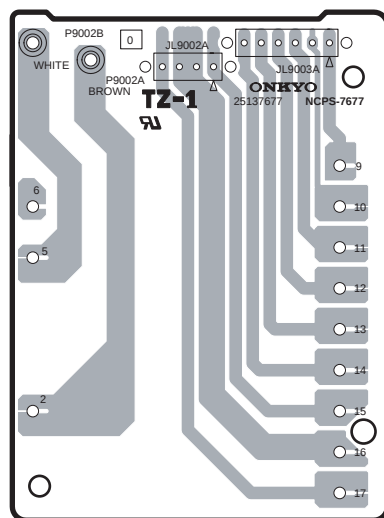
Component side view



Soldering side view

3

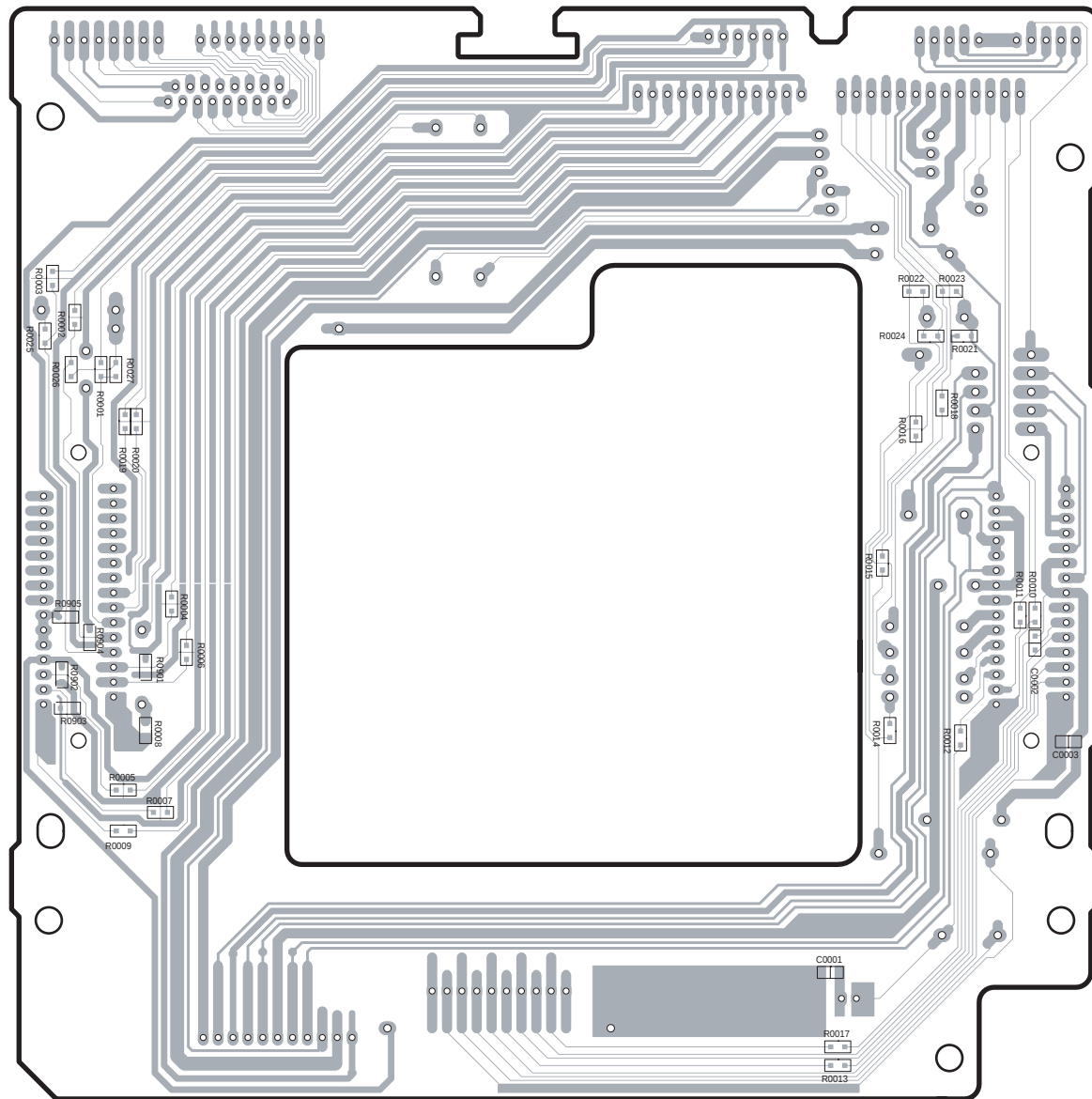
U5 : POWER TRANSFORMER PC BOARD NAPS-7677



Soldering side view

4

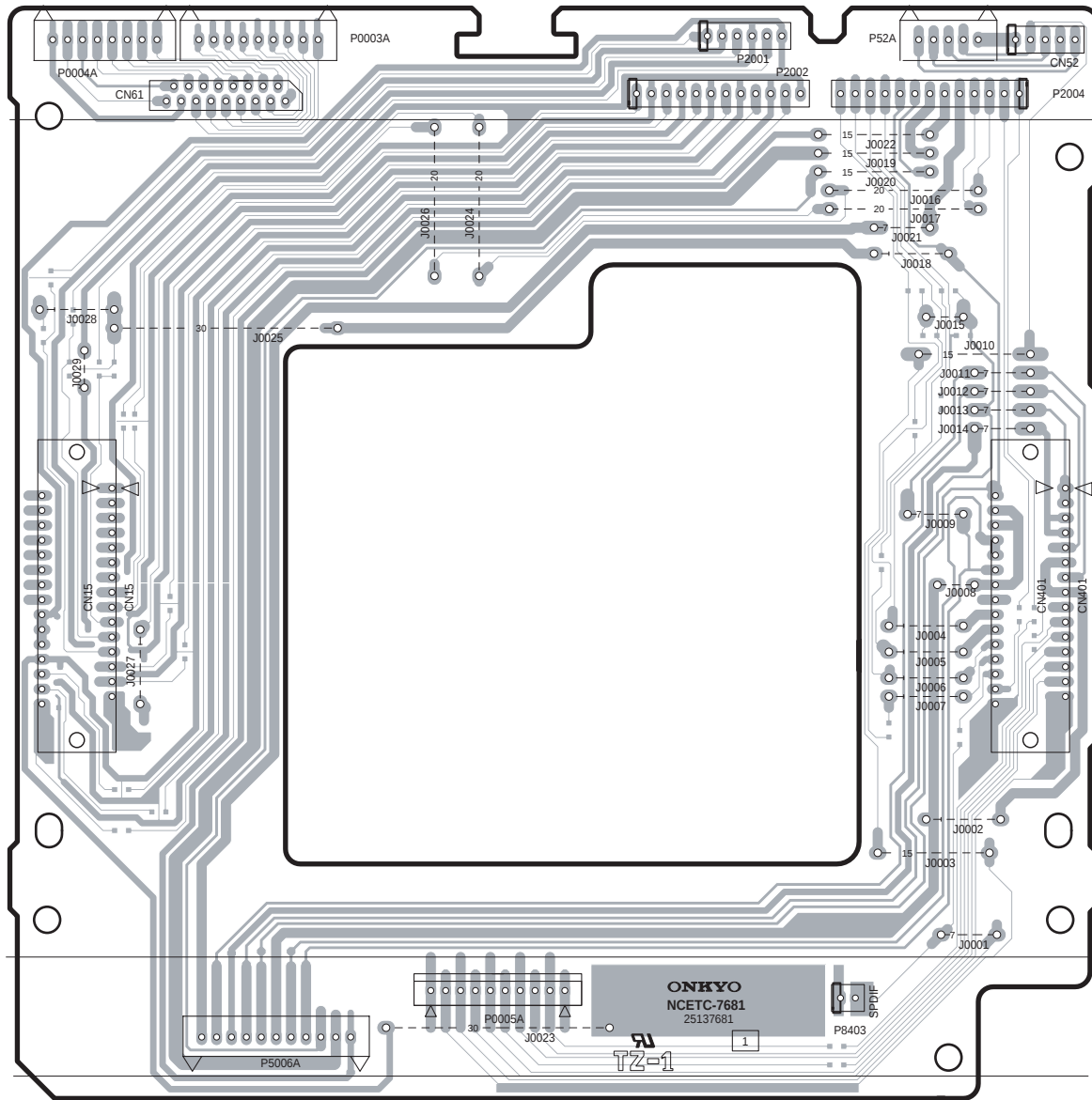
5



Soldering side

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING

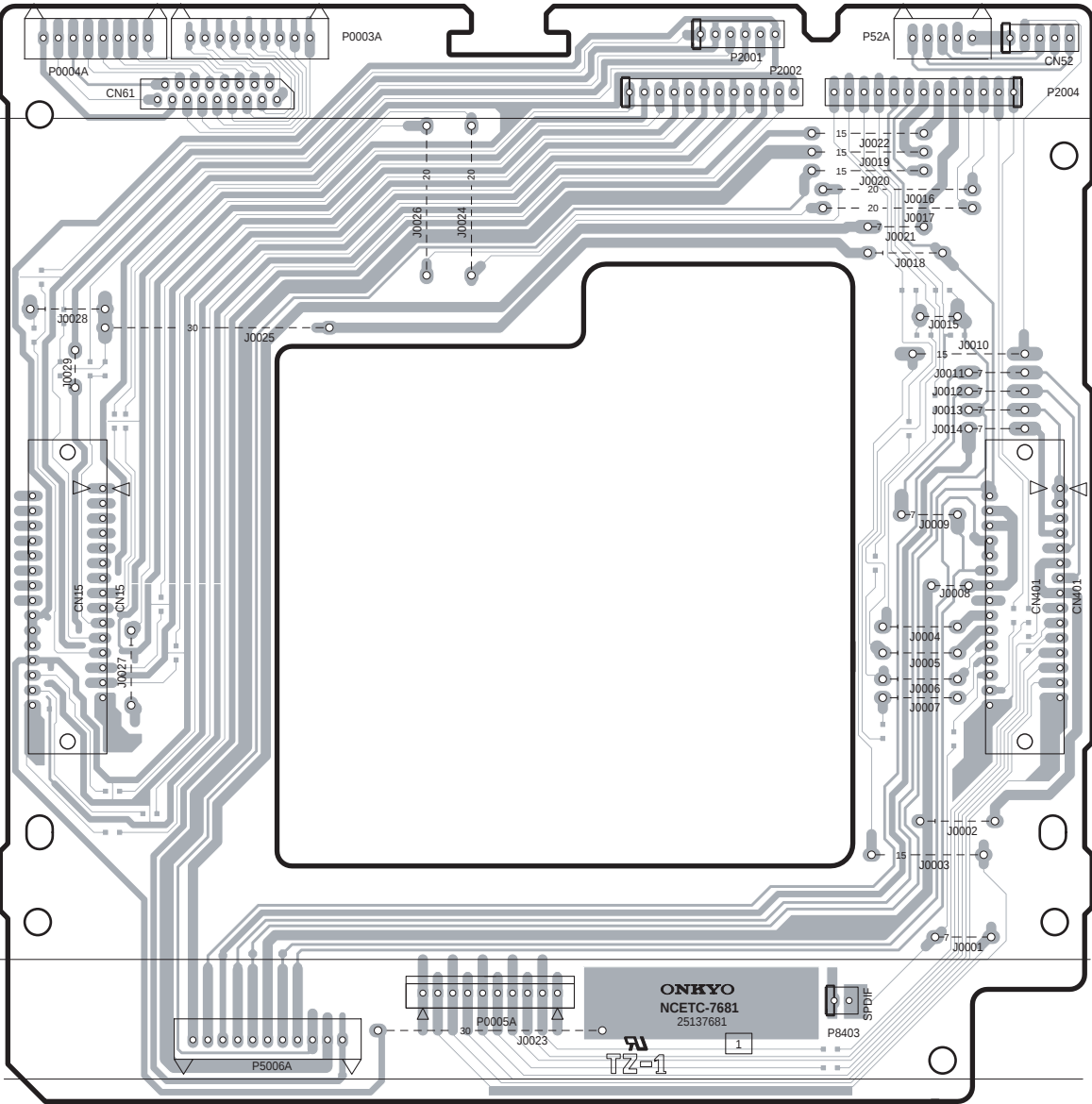
**U9: CONNECTION TERMINAL
PC BOARD (NAETC-7681)**



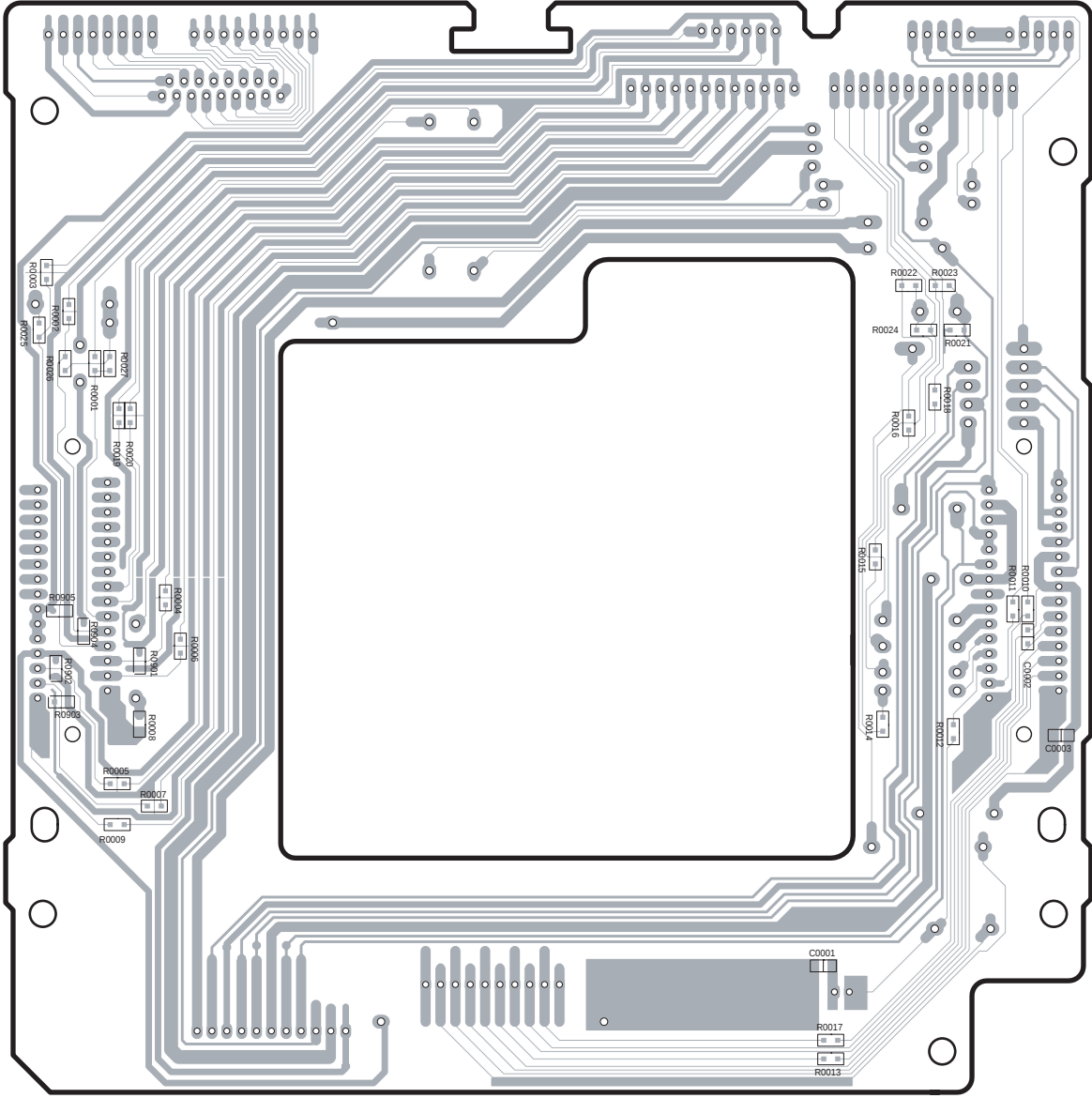
Component side

A B C D E F G
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING

1 **U9: CONNECTION TERMINAL**
PC BOARD (NAETC-7681)



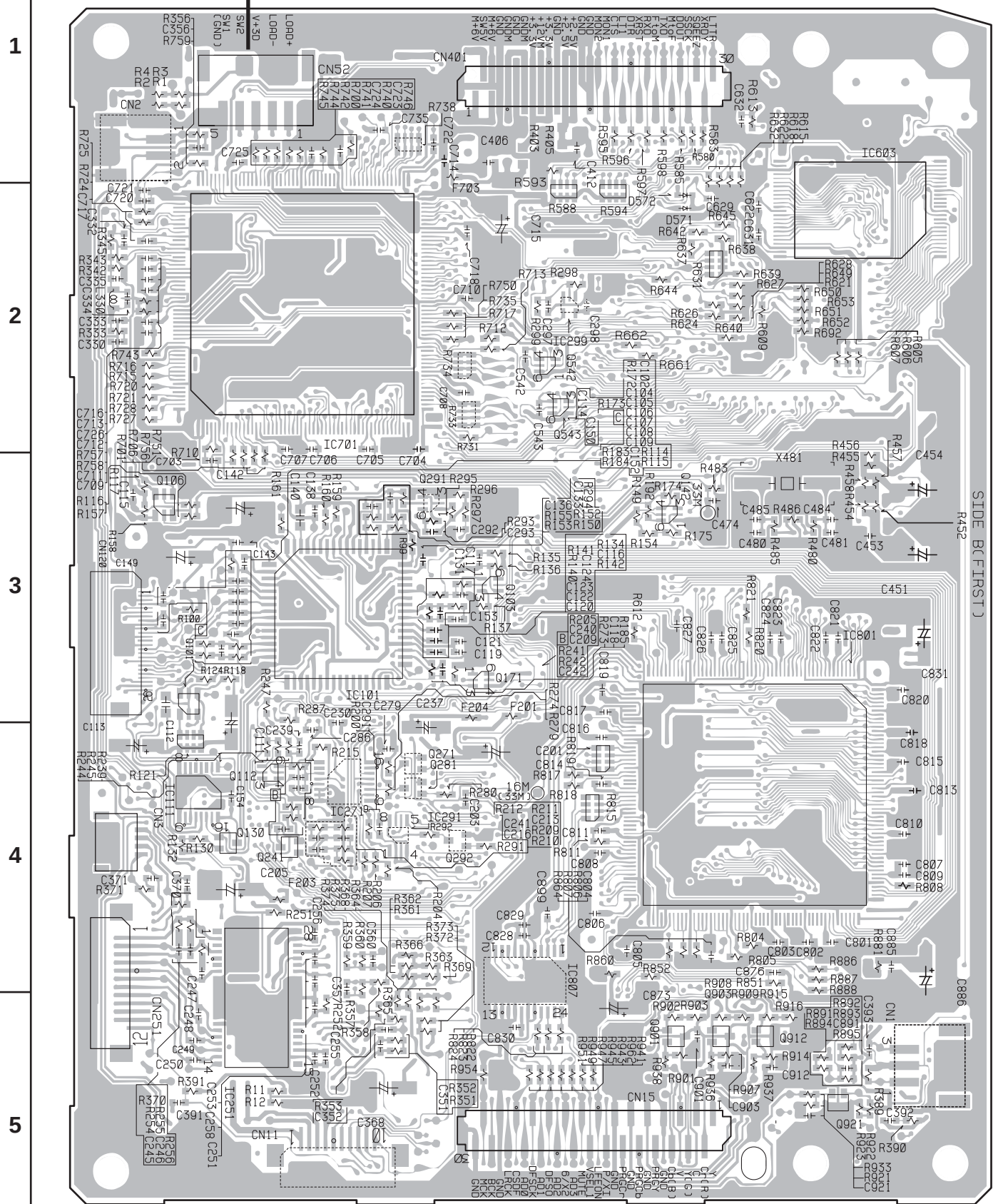
Component side



Soldering side

PRINTED CIRCUIT BOARD VIEW

U13: DVD MAIN CIRCUIT PC BOARD DB-VPB311



SIDE B

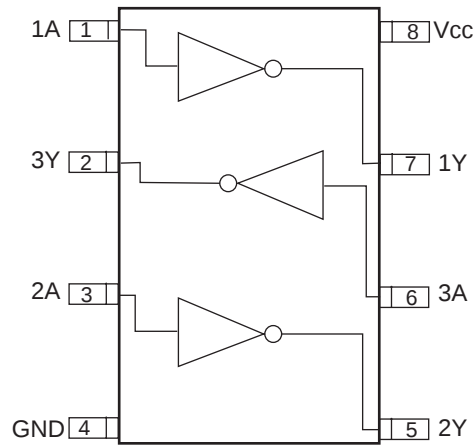
U13: DVD MAIN CIRCUIT PC BOARD DB-VPB311



IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

Q8481 : TC7WU04FU (BUFFER)

BLOCK DIAGRAM



TRUTH TABLE

A	Y
L	H
H	L

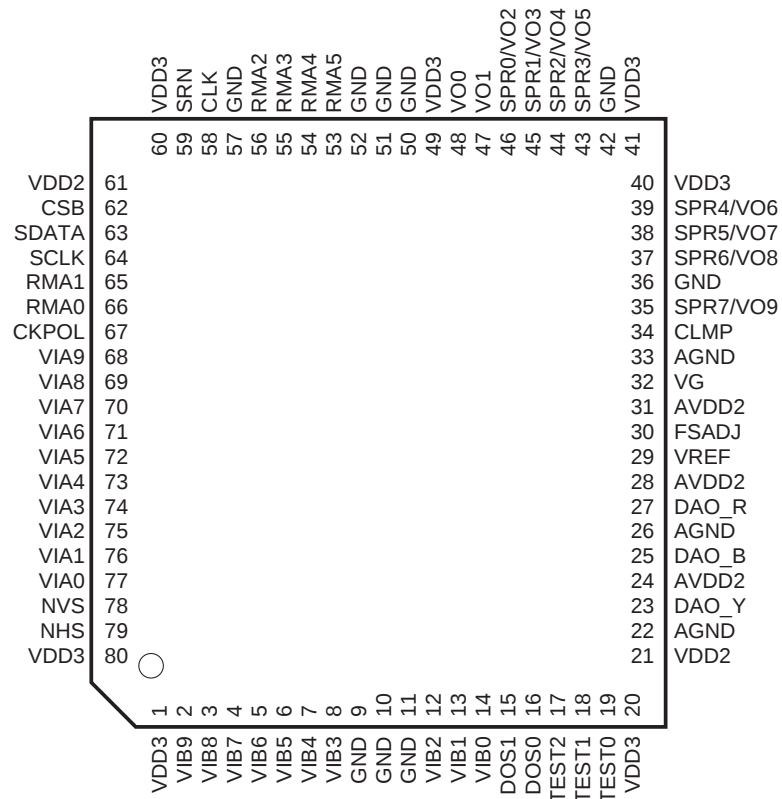
Triple 2-Channel multiplexer / demultiplexer



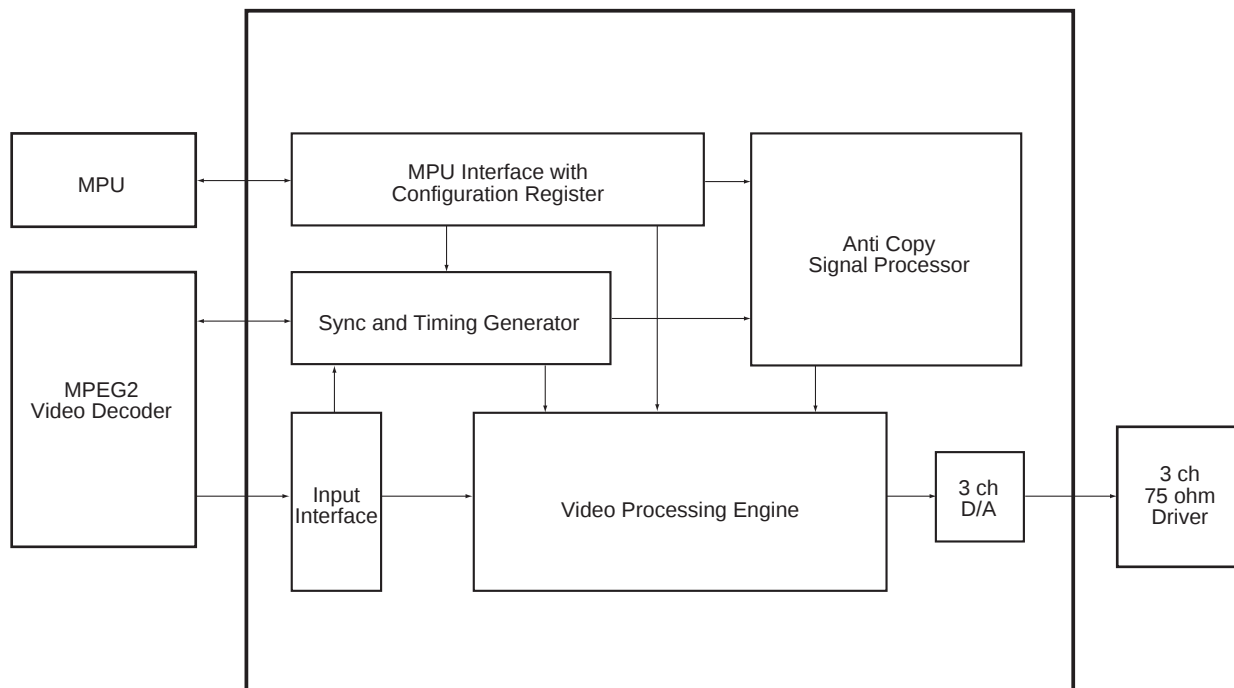
IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

IC881 : PM0026A Progressive Converter

Pin Layout



Block Diagram



IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

Pin Function-1

No.	Pin Name	I/O	Pin Functio
1	VDD3	–	VDD (3.3V) for IO
2	VIB9	I	(MSB) Video data B input
3	VIB8		
4	VIB7		
5	VIB6		
6	VIB5		
7	VIB4		
8	VIB3		
9	GND	–	Digital ground
10	GND		
11	GND		
12	VIB2	I	Video data B input (LSB)
13	VIB1		
14	VIB0		
15	DOS1	I	Test input pins (ground)
16	DOS0		
17	TEST2		
18	TEST1		
19	TEST0		
20	VDD3	–	VDD (3.3V) for IO
21	VDD2		VDD (2.5V) for Core
22	AGND	–	Ground for DAC
23	DAO_Y	O	Analog video output (Y)
24	AVDD2	–	VDD (2.5V) for DAC
25	DAO_B	O	Analog video output (Cb)
26	AGND	–	Ground for DAC
27	DAO_R	O	Analog video output (Cr)
28	AVDD2	–	VDD (2.5V) for DAC
29	VREF	I	DAC reference voltage input
30	FSADJ	I/O	Resistor connection pin for maximum amplitude setting of DAC
31	AVDD2	–	VDD (2.5V) for DAC
32	VG	O	Reactance connection pin for gate voltage compensation of DAC current cell
33	AGND	–	Ground for DAC
34	CLMP	O	Clamp pulse output
35	SPR7/VO9	O	Serial and parallel conversion (MSB) / Video data output (MSB)
36	GND	–	Digital ground
37	SPR6/VO8	O	Serial and parallel conversion / Video data output
38	SPR5/VO7		
39	SPR4/VO6		
40	VDD3	–	VDD (3.3V) for IO

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

Pin Function-2

No.	Pin Name	I/O	Pin Function
41	VDD3	–	VDD (3.3V) for IO
42	GND	–	Digital ground
43	SPR3/VO5	O	Serial and parallel conversion / video data output (LSB)
44	SPR2/VO4		
45	SPR1/VO3		
46	SPR0/VO2		
47	VO1		
48	VO0		
49	VDD3	–	VDD (3.3V) for IO
50	GND	–	Digital ground
51	GND		
52	GND		
53	RMA5	I	Resgister monitor address input (MSB)
54	RMA4		
55	RMA3		
56	RMA2		
57	GND	–	Digital ground
58	CLK	I	27 MHz system clock input
59	SRN	I	System reset input
60	VDD3	–	VDD (3.3V) for IO
61	VDD2	–	VDD (2.5V) for Core
62	CSB	I	Chip select input of MPU serial interface
63	SDATA	I	Data input of MPU serial interface
64	SCLK	I	Clock input of MPU serial interface
65	RMA1	I	Register monitor address input (LSB)
66	RMA0		
67	CKPOL	–	Polarity setting input of internal system clock
68	VIA9	I	Video data A input (MSB)
69	VIA8		
70	VIA7		
71	VIA6		
72	VIA5		
73	VIA4		
74	VIA3		
75	VIA2		
76	VIA1		
77	VIA0		
78	NVS	I/O	Vertical sync. input/output
79	NHS		Horizontal sync. input/output
80	VDD3	–	VDD (3.3V) for IO

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

IC601 : PD6345A FR CPU

Pin Function-1

No.	Mark	Pin Name	I/O	Pin Function
1	P20/D16	D0	I/O	Data bus input/output
2	P21/D17	D1		
3	P22/D18	D2		
4	P23/D19	D3		
5	P24/D20	D4		
6	P25/D21	D5		
7	P26/D22	D6		
8	P27/D23	D7		
9	P30/D24	D8		
10	P31/D25	D9		
11	P32/D26	D10		
12	P33/D27	D11		
13	P34/D28	D12		
14	P35/D29	D13		
15	P36/D30	D14		
16	P37/D31	D15		
17	VSS	GND		Ground
18	P40/A00	A0	O	Address bus output
19	P41/A01	A1		
20	P42/A02	A2		
21	P43/A03	A3		
22	P44/A04	A4		
23	P45/A05	A5		
24	P46/A06	A6		
25	P47/A07	A7		
26	VCC3	V+3.3D		Power supply
27	VCC2	V+2.5D		Power supply
28	P50/A08	A8	O	Address bus output
29	P51/A09	A9		
30	P52/A10	A10		
31	P53/A11	A11		
32	P54/A12	A12		
33	P55/A13	A13		
34	P56/A14	A14		
35	P57/A15	A15		
36	VSS	GND		Ground
37	P60/A16	A16	O	Address bus output
38	P61/A17	A17		
39	P62/A18	A18		
40	P63/A19	A19		
41	P64/A20	A20		
42	P65/A21	TOFSTA	O	Tracking offset injection -A for servo
43	P66/A22	TOFSTC	O	Tracking offset injection -C for servo
44	P67/A23	WBL	O	For Wobble detection corresponding to DVD R/W (main)
45	DAVS	GND		Ground
46	DAVC	V+3.3D		Power supply
47	DA0	STEP1	I	For stepping motor control
48	DA1	STEP2	I	
49	DA2	LODRV	I	Loading, door and select motor drive

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

Pin Function-2

No.	Mark	Pin Name	I/O	Pin Function
50	AN0	STEP 2	I	For stepper control 2 For offset cancel of D/A output
51	AN1	STEP 1	I	For stepper control 1 For offset cancel of D/A output
52	AN2	NAP SW	I	Rear panel H/M/L=M/A/P
53	AN3	XOEM	I	OEM model protection input
54	AN4	LD CUR	I	Input for LD current value indication
55	AN5	SELPOS	I	Tray selector input of microchanger
56	AN6	CLAMPS	I	Clamp position SW input
57	AN7	LODPOS	I	Loading clamp position SW input
58	AVCC	V+3.3D	—	Power supply
59	AVRH	V+3.3D	—	Power supply
60	AVSS/AVRI	GND	—	Ground
61	VSS	GND	—	Ground
62	PP0/ATGX	SLDPOS	I	SW input of slider inside position
63	PP1/FRCK	GSW	O	Gain up at ACBR (at ACBR: H, others: L)
64	PP2/IN0	780ON	I	ON/OFF control signal of 780nm laser diode
65	PP3/IN1	SEDO	O	Tray rotation drive output
66	PP4/IN2	XMON	O	Mute of DRV (spindle motor ON: H)
67	PP5/IN3	XDRVMUT	O	FTS driver mute output
68	PP6	LT1	O	Communication response to the FL controller
69	PP7	XRDY	I	Communication request from the FL controller
70	VCC3	V+3.3D	—	Power supply
71	VCC2	V+2.5D	—	Power supply
72	PO0/OC0	XCURDET	I	Actuator current detection input Servo OFF for "L" 300ms
73	PO1/OC1	XCBUSY	I	Busy signal of command process Command acceptable : "L"
74	PO2/OC2	DSPT		Servo DSP reset
75	PO3/OC3	BCA		BCA read signal (at BCA read: H) (Not used)
76	PO4/OC4	DSCSNS/ XCD4X	I/O	Disc detection pulse "L": Disc exist Correspond to fourth speed CD playback ("L": Fourth speed)
77	PO5/OC5	PPCNT	O	Switch of TZC in WBL traversal (at PP: H)
78	PO6/OC6	XDFINH	O	Defect signal control (DEFECT ON: Hi-Z; OFF: "L")
79	PO7/OC7	DPD/TE	O	H=1 beam, L=3 beams
80	VSS	GND	—	Ground
81	PN0/AIN0	DVD/XCD	O	RF EQ switching signal at DVD/CD "H": DVD, "L": CD
82	PN1/BIN0	AGOFF	O	"H": Turn off AGC of RFIC
83	PN2/AIN1	650X780	O	780nm/650nm switching signal
84	PN3/BIN1	LD ON	O	ON/OFF control signal of laser diode
85	PN4/AIN2	FOFST2	O	Focus offset adjustment 1 (Tri-value control "H", "L", Hi-Z)
86	PN5/BIN2	FOFST1	O	Focus offset adjustment 2 (Tri-value control "H", "L", Hi-Z)
87	PN6/AIN3	XCD2X	O	For VCD double speed playback
88	PN7/BIN3	OEICG	O	"H": Gain of OEIC up to 6dB
89	PM0/ZIN0	TRYPOS	I	Count input of disc number
90	PM1/ZIN1	N/XP SW	O	Video encoder control port (NTSC/PAL)
91	PM2/ZIN2	V SEL	O	(Composite, S) / (YCbCr) or (RGB) switch
92	PM3/ZIN3	V SEL2	O	(Composite) of skirt terminal / (S) switch
93	PL0/SDA1	SDAI		12C control lines
94	PL1/SDA0	SDAO		
95	PL2/SCL1	SCII		
96	PL3/SCL0	SCIO		
97	PL4	CTS	I	RS-232C clear to send input
98	PL5	DTR	O	RS-232C clear to send output
99	PL6/UC0	-	—	
100	VSS	GND	—	Ground

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

Pin Function-3

No.	Mark	Pin Name	I/O	Pin Function
101	PK0/TIN0	XVQEST	O	VQE3 reset signal
102	PK1/TIN1	XCSPR1	—	Serial communication enable of the progressive converter IC
103	PK2/TIN2	XCSVQ5	—	Serial communication enable of VQE5 IC
104	PK3/TIN3	N.C.	—	N.C.
105	PK4/TOT0	44X48	O	DAC and DASP supply clock fs 44/48 selection
106	PK5/TOT1	DIERR	I	DIR reception error (unlock signal) input
107	PK6/TOT2	XMICON2 AOSEL1	O	Mic center MIX signal for multi CH AV-1/audio DSP switch (front L/R data)
108	PK7/TOT3	AOSEL0	—	AV1 output AOD and AO0 switch
109	VCC3	V+3.3D	—	Power supply
110	VCC2	V+2.5D	—	Power supply
111	PJ0/INT0	XINT0	I	
112	PJ1/INT1	XINT1	I	
113	PJ2/INT2	XIRQ10	I	MY chip interrupt #0
114	PJ3/INT3	XIRQ11	I	MY chip interrupt #1
115	PJ4/INT4	XABUSY	I	Busy signal of DSP process operation "L"
116	PJ5/INT5	THLD	I	Playback speed monitoring signal
117	PJ6/INT6	SBSY	I	Sync. signal of subcode block (period SO+SI "H")
118	PJ7/INT7	N.C.	I	N.C.
119	PI0/SI0	SSI	I	Serial bus data input
120	PI1/SO0	SSO	O	Serial bus data output
121	PI2/SCK0	SSCK	I	Serial bus clock input
122	PI3/SI1	RXD	I	RS-232C RXD
123	PI4/SO1	TXD	O	RS-232C TXD
124	PI5/SCK1	SELMOD	—	Audio DSP mode switch
125	PH0/SI2	RESET2	O	Reset for DSP 2
126	PH1/SO2	XCSAD1P	O	CS for DSP 2
127	PH2/SCK2	XCSSPD	—	Latch signal of serial/parallel IC for generating audio DSP control signal
128	MD0	GND	—	Ground
129	MD1	GND	—	
130	MD2	GND	—	
131	VSS	GND	—	Ground
132	VCC2	V+2.5D	—	Power supply
133	VSS	GND	—	Ground
134	X1	EXTAL	O	
135	X0	XTAL	I	
136	VCC3	V+3.3D	—	Power supply
137	PC0/DREQ2	LFEON RESET1	O	Select Mix to front L/R of LFE element DSP 1 reset
138	PC1/DACK2	XMICON1 AV1/XSDSP	O	Mic front L/R MIX signal for 2 ch AV-1/servo DSP switch
139	PC2/DEOP2	6CHMD	O	DAC output 2 ch/6 ch switch (—XDVRST2)
140	PB0/DREQ0	XDREQ0	I	DMA response output to BY Chip
141	PB1/DACK0	DACK0	O	DMA request input from BY Chip
142	PB2/DEOP0	N.C.	—	N.C.
143	PB3/DREQ1	XDREQ1	I	DMA response output to AV-1 Chip
144	PB4/DACK1	XDACK1	O	DMA request input from AV-1 Chip
145	PB5/DEOP1	XEXCKON	O	ON/OFF switch of DSP external clock
146	PB6/IOWRX	DOISEI1	O	Digital output switch 1 of audio DSP (AV-1. DSP and GND)
147	PB7/IORDX	DOISEI2	O	Digital output switch 2 of audio DSP (AV-1. DSP and GND)
148	VSS	GND	—	Ground
149	PA0/CSOX	XCS20	O	Chip select output to Flash ROM
150	PA1/CS1X	XCS6	O	AV-1 Chip select

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

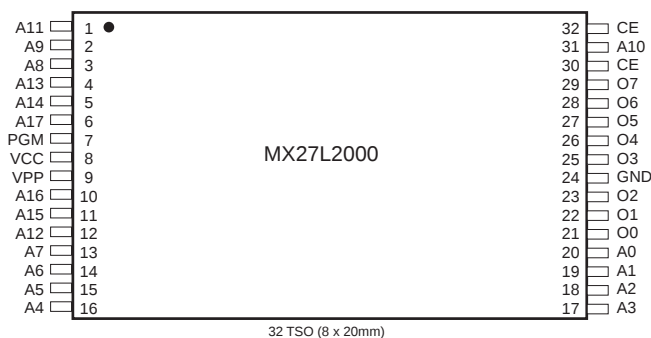
Pin Function-4

No.	Mark	Pin Name	I/O	Pin Function
151	PA2/CS2X	XCS3	O	Chip select of PD4995A (MY Chip)
152	PA3/CS3X	XCS4	O	Chip select of servo DSP
153	PA4/CS4X	XCS23	O	Chip select output to SRAM (1M)
154	PA5/CS5X	N.C.	O	N.C.
155	PA6/CS6X	N.C.	O	N.C.
156	PA7/CS7X	N.C.	O	N.C.
157	VCC3	V+3.3D	—	Power supply
158	VCC2	V+2.5D	—	Power supply
159	NMIX	-	—	V+3.3D fixed
160	HSTX	-	—	V+2.5D fixed
161	INITX	XINIT	I	
162	P80/RDY	RDY	I	
163	P81/BGRNTX	XAMUTE	I	Final stage mute of 2 ch audio output
164	P82/BRQ	XMMUTE	O	Audio multi channel mute
165	P83/RDX	XRD	O	
166	P84/WR0X	XWR0	O	
167	P85/WR1X	XWR1	O	
168	VSS	GND	—	Ground
169	P90/SYCLK	SYCLK	O	
170	P91	DFRST	—	DAC reset (for front L/R)
171	P92/MCLK	DFRST1	—	DAC reset (for center, surround and LFE)
172	P93	XCSDF0	O	DAC chip select (←XLAT3)
173	P94/LBAX	XCSDF1	O	DAC chip select for center, surround and LFE
174	P95/BAAX	XAQRST	O	AQE reset
175	P96	XCSAQE	O	AQE chip select
176	P97/WEX	TM ENT	I	Test mode entry

IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

Q8611 : MX27L2000 (2M BIT (256Kx8) CMOS EPROM

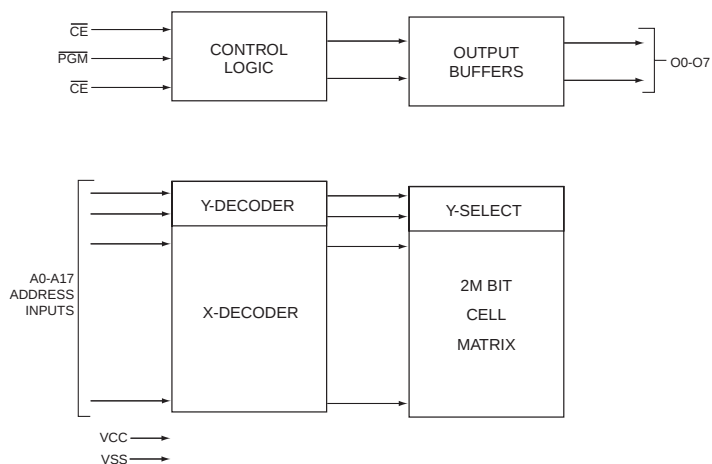
PIN LAYOUT



PIN DESCRIPTION

SYMBOL	PIN NAME
A0-A17	Address Input
O0-O7	Data input/ Output
CE	Chip Enable Input
OE	Output Enable Input
PGM	Programmable Enable Input
VPP	Program Supply Voltage
NC	No Internal Connection
VCC	Power Supply Pin (+5V)
GND	Ground Pin

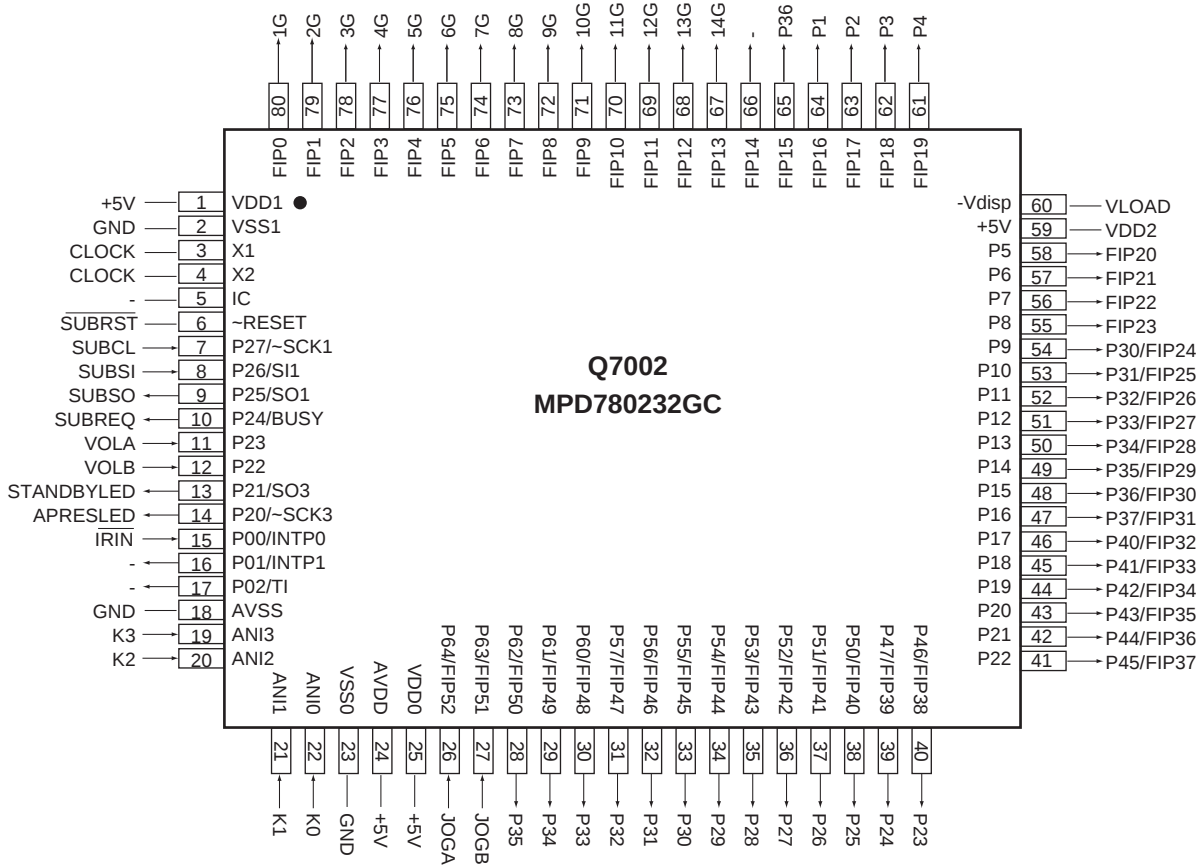
BLOCK DIAGRAM



MICROPROCESSOR TERMINAL DESCRIPTION

Q7002 : MPD780232GC Sub microprocessor

PIN LAYOUT





MICROPROCESSOR TERMINAL DESCRIPTION

Q7002 : MPD780232GC Sub microprocessor

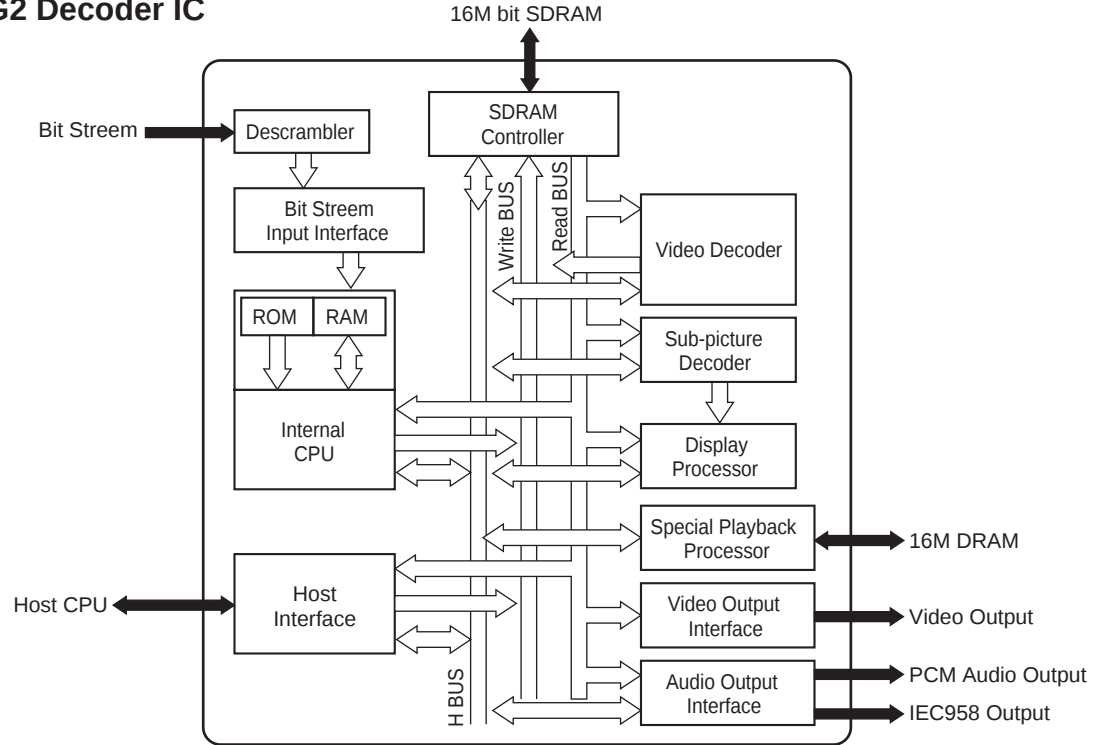
No.	NAME	SIGNAL NAME	I/O	ACTION	DESCRIPTION
1	VDD1	+5V	–	H	Power supply (to connect to +5V)
2	VSS1	GND	–	H	Ground terminal
3	X1	CLOCK	–	H	System clock oscillator connection pin
4	X2	CLOCK	–	H	System clock oscillator connection pin
5	IC		–	H	Power supply terminal for writing of flash ROM
6	RESET	SUBRST	–	H	Reset signal pin from main microprocessor
7	P27/~SCK1	SUBCL	I	H	Main microcomputer communication and flash ROM write-in clock input terminal.
8	P26/SI1	SUBSI	I	H	Main microcomputer communication and flash ROM write-in clock input terminal.
9	P25/SO1	SUBSO	O	H	Main microcomputer communication and flash ROM write-in clock output terminal.
10	P24/BUSY	SUBREQ	O	H	Communicate output pin to main microprocessor
11	P23	VOLA	I	H	Rotary encoder A for volume control plus input pin
12	P22	VOLB	I	H	Rotary encoder B for volume control plus input pin
13	P21/SO3	STANDBYLED	O	H	Standby LED control output pin
14	P20/~SCK3	APRESLED	O	H	Acoustic Presence LED control output pin
15	P00/INTP0	IRIN	I	H	Remote control signal control input pin
16	P01/INTP1		O		Open pin
17	P02/TI		O		Open pin
18	AVSS	GND	–	H	Ground pin for A/D converter
19	ANI3	K3	I	H	Key input pin
20	ANI2	K2	I	H	Key input pin
21	ANI1	K1	I	H	Key input pin
22	ANI0	K0	I	H	Key input pin
23	VSS0	GND	–	H	Ground pin (To connect to the ground)
24	AVDD	+5V	–	H	Power supply pin for A/D converter
25	VDD0	+5V	–	H	Power supply pin (+5V)
26	P64/FIP52	JOGA	I	H	Rotary encoder pulse A input pin (For jog dial)
27	P63/FIP51	JOGB	I	H	Rotary encoder pulse B input pin (For jog dial)
28	P62/FIP50	P35	O	H	FL segment 35 output pin
29	P61/FIP49	P34	O	H	FL segment 34 output pin
30	P60/FIP48	P33	O	H	FL segment 33 output pin
31	P57/FIP47	P32	O	H	FL segment 32 output pin
32	P56/FIP46	P31	O	H	FL segment 31 output pin
33	P55/FIP45	P30	O	H	FL segment 30 output pin
34	P54/FIP44	P29	O	H	FL segment 29 output pin
35	P53/FIP43	P28	O	H	FL segment 28 output pin
36	P52/FIP42	P27	O	H	FL segment 27 output pin
37	P51/FIP41	P26	O	H	FL segment 26 output pin
38	P50/FIP40	P25	O	H	FL segment 25 output pin
39	P47/FIP39	P24	O	H	FL segment 24 output pin
40	P46/FIP38	P23	O	H	FL segment 23 output pin
41	P45/FIP37	P22	O	H	FL segment 22 output pin
42	P44/FIP36	P21	O	H	FL segment 21 output pin
43	P43/FIP35	P20	O	H	FL segment 20 output pin
44	P42/FIP34	P19	O	H	FL segment 19 output pin
45	P41/FIP33	P18	O	H	FL segment 18 output pin
46	P40/FIP32	P17	O	H	FL segment 17 output pin
47	P37/FIP31	P16	O	H	FL segment 16 output pin
48	P36/FIP30	P15	O	H	FL segment 15 output pin
49	P35/FIP29	P14	O	H	FL segment 14 output pin
50	P34/FIP28	P13	O	H	FL segment 13 output pin
51	P33/FIP27	P12	O	H	FL segment 12 output pin
52	P32/FIP26	P11	O	H	FL segment 11 output pin
53	P31/FIP25	P10	O	H	FL segment 10 output pin
54	P30/FIP24	P9	O	H	FL segment 9 output pin
55	FIP23	P8	O	H	FL segment 8 output pin
56	FIP22	P7	O	H	FL segment 7 output pin
57	FIP21	P6	O	H	FL segment 6 output pin
58	FIP20	P5	O	H	FL segment 5 output pin
59	VDD2	+5V	–	H	Power supply pin (+5V)
60	VLOAD	-Vdisp	–	H	Negative power supply pin
61	FIP19	P4	O	H	FL segment 4 output pin
62	FIP18	P3	O	H	FL segment 3 output pin
63	FIP17	P2	O	H	FL segment 2 output pin
64	FIP16	P1	O	H	FL segment 1 output pin
65	FIP15	P36	O	H	FL segment 36 output pin
66	FIP14		O		Open pin
67	FIP13	14G	O	H	FL grid 14 output pin
68	FIP12	13G	O	H	FL grid 13 output pin
69	FIP11	12G	O	H	FL grid 12 output pin
70	FIP10	11G	O	H	FL grid 11 output pin
71	FIP9	10G	O	H	FL grid 10 output pin

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

IC801 : M65774BFP

MPEG2 Decoder IC

Block Diagram



Pin Function-1

No.	Pin Name	I/O	Pin Function	No	Pin Name	I/O	Pin Function
1	GND		Ground	21	5VDD	I	5V power supply
2	HD0	I/O	Data input and output port	22	HD15	I/O	Data input and output port
3	HD1			23	CS	I	Chip select signal input
4	HD2			24	RE	I	Read Enable signal input
5	HD3			25	WE	I	Write Enable signal input
6	HD4			26	BHE	I	Byte High Enable signal input
7	5VDD	I	5V power supply	27	RYD	O	Acknowledge signal which is indicated the finish of data reading or writing via the host bus
8	VDD	I	Power supply	28	INTR	O	Interrupt request signal against to the external CPU from M65773FP
9	HD5	I/O	Data input and output	29	GND	I	Ground
10	HD6			30	HA0	I	Address input port
11	HD7			31	HA1		
12	HD8			32	HA2		
13	HD9			33	HA3		
14	GND	I	Ground	34	HA4		
15	HD10	I/O	Data input and output port	35	VDD	I	Power supply
16	HD11			36	5VDD	I	5V power supply
17	HD12			37	HA5	I	Address input port
18	HD13			38	HA6		
19	HD14			39	HA7		
20	VDD	I	Power supply	40	HA8		

IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

Pin Function-2

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
41	HA9	I	Address input port	83	VDD	I	Power supply
42	GND	I	Ground	84	VSYNC	O	Vertical sync. signal output
43	CDMCK	I	Connect to ground	85	HSYNC	O	Horizontal sync. signal output
44	CDLRCK	I	L/R clock input from CDDSP	86	PICSTR		
45	CDBCK	I	PCM bit clock input from CDDSP	87	MBSTR		
46	CDDATA	I	Digital audio interface input	88	MBDAT		
47	VDD	I	Power supply	89	GND	I	Ground
48	CDDIN	I	PCM audio data input from CDDSP	90	PWD	O	Phase comparator output for external sync. operation
49	INT2	O	Interrupt request signal against to the external CPU from M65773FP	91	CSYNC	I	Composite SYNC signal input
50	INT3			92	OSDKEY	O	OSD key flag output
51	DREQ	O	DMA request signal for OSD bitmap transfer	93	XCL	O	Pixel clock (27MHz free-running clock)
52	DACK	I	DMA acknowledge signal for OSD bitmap transfer	94	VDD	I	Power supply
53	GND	I	Ground	95	PD7	O	Digital pixel data
54	CLKO	O	27MHz clock output	96	PD6		
55	CLKIN	I	System clock input	97	PD5		
56	AVDD1	I	Analog power supply	98	PD4		
57	AGND1	I	Analog ground	99	GND	I	Ground
58	AGND3			100	PD3	O	Digital pixel data
59	AVDD3	I	Analog power supply	101	PD2		
60	CCAP	I	Connect to ground	102	PD1		
61	AGND2	I	Analog ground	103	PD0		
62	AVDD2	I	Analog power supply	104	VDD	I	Power supply
63	ACLKO	—	Open	105	GND	I	Ground
64	ACLKI	I	Audio clock input	106	RESET	I	Hardware reset input
65	HMODE1	I	Setting pin of host interface operating mode	107	TEST0	I	Connect to ground normally
66	GND	I	Ground	108	TEST1		
67	VDD	I	Power supply	109	TEST2		
68	AOD	O	PCM output of audio data	110	VDD	I	Power supply
69	AO2			111	NMD0	I/O	Data transfer line with DRAM
70	AO1			112	NMD15		
71	AO0			113	NMD1		
72	GND	I	Ground	114	NMD14		
73	DOUT1	O	Digital audio interface output	115	GND	I	Ground
74	DOUT0			116	NMD2	I/O	Data transfer line with DRAM
75	SDA	—	Open	117	NMD13		
76	SCL	—	Open	118	NMD3		
77	VDD	I	Power supply	119	NMD12		
78	GND	I	Ground	120	VDD	I	Power supply
79	DACCLK	O	Over-sampling operating clock output	121	NMD4	I/O	Data transfer line with DRAM
80	DOCLK	O	PCM bit clock output	122	NMD11		
81	LRCLK	O	Clock output for discriminating the channel (L/R) of PCM audio data	123	NMD5		
82	HMODE0	I	Setting pin of host interface operating mode	124	NMD10		

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

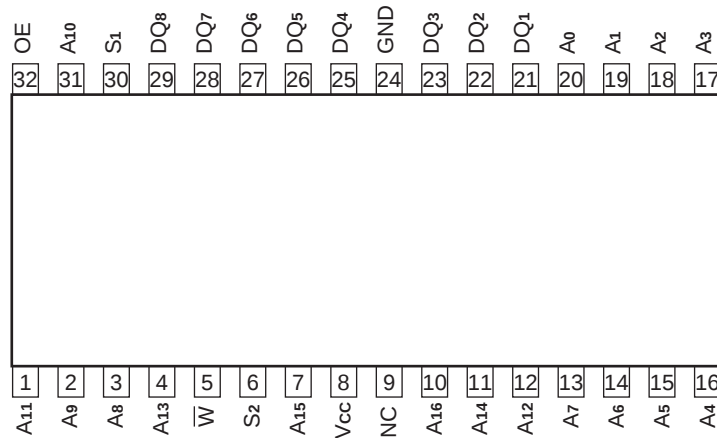
Pin Function-3

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
125	GND	I	Ground	167	MA5	O	Address line with SDRAM
126	NMD6	I/O	Data transfer line with DRAM		GND	I	Ground
127	NMD9			169	MA1	O	Address line with SDRAM
128	NMD7			170	MA6		
129	NMD8			171	MA0		
130	VDD	I	Power supply	172	MA7		
131	NCAS0	O	CAS (Column Address Strobe) control line of DRAM	173	VDD	I	Power supply
132	NWE	O	WE control of DRAM	174	MA10	O	Address line with SDRAM
133	NOAS	O	CAS (Column Address Strobe) control line of DRAM	175	MA8		
134	NCAS1	O	RAS (Row Address Strobe) control line of DRAM	176	MA11		
135	GND	I	Ground	177	MA9		
136	NMA9	O	Address line with DRAM	178	GND	I	Ground
137	NMA8			179	DCS	O	Chip select of SDRAM
138	VDD	I	Power supply	180	RAS	O	RAS (Row Address Strobe) control line of SDRAM
139	NMA0	O	Address line with DRAM	181	CAS	O	CAS (Column Address Strobe) control line of SDRAM
140	NMA7			182	VDD	I	Power supply
141	NMA1			183	MCLK		Operation clock of SDRAM
142	NMA6			184	GND	I	Ground
143	GND	I	Ground	185	DWE	O	WE control line of SDRAM
144	NMA2	O	Address line with DRAM	186	DQMU	O	DQM control line of SDRAM Use for mask of upper byte output.
145	NMA5			187	DQML	O	DQM control line of SDRAM Use for mask of lower byte output.
146	NMA3			188	VDD	I	Power supply
147	NMA4			189	MD7	I/O	Data transfer line with SDRAM
148	VDD	I	Power supply	190	MD8		
149	BD7	I	Bit stream input port	191	MD6		
150	BD6	I		192	MD9		
151	GND	I	Ground	193	GND	I	Ground
152	BD5	I	Bit stream input port	194	MD5	I/O	Data transfer line with SDRAM
153	BD4			195	MD1		
154	BD3			196	MD		
155	BD2			197	MD10		
156	VDD	I	Power supply	198	VDD	I	Power supply
157	GND	I	Ground	199	MD3	I/O	Data transfer line with SDRAM
158	BD1	I	Bit stream input port	200	MD12		
159	BD0	I		201	MD2		
160	BCLK	I	Strobe signal (clock) of BD port	202	MD13		
161	BDEN	I	Indicates the effective or invalid data which is sampled from BD port	203	GND	I	Ground
162	BDREQ	O	Output permission signal against to the device (channel decoder) which connecting to BD port	204	MD1	I/O	Data transfer line with SDRAM
163	VDD	I	Power supply	205	MD14		
164	MA3	O	Address line with SDRAM	206	MD0		
165	MA4			207	MD15		
166	MA2			208	VDD	I	Power supply

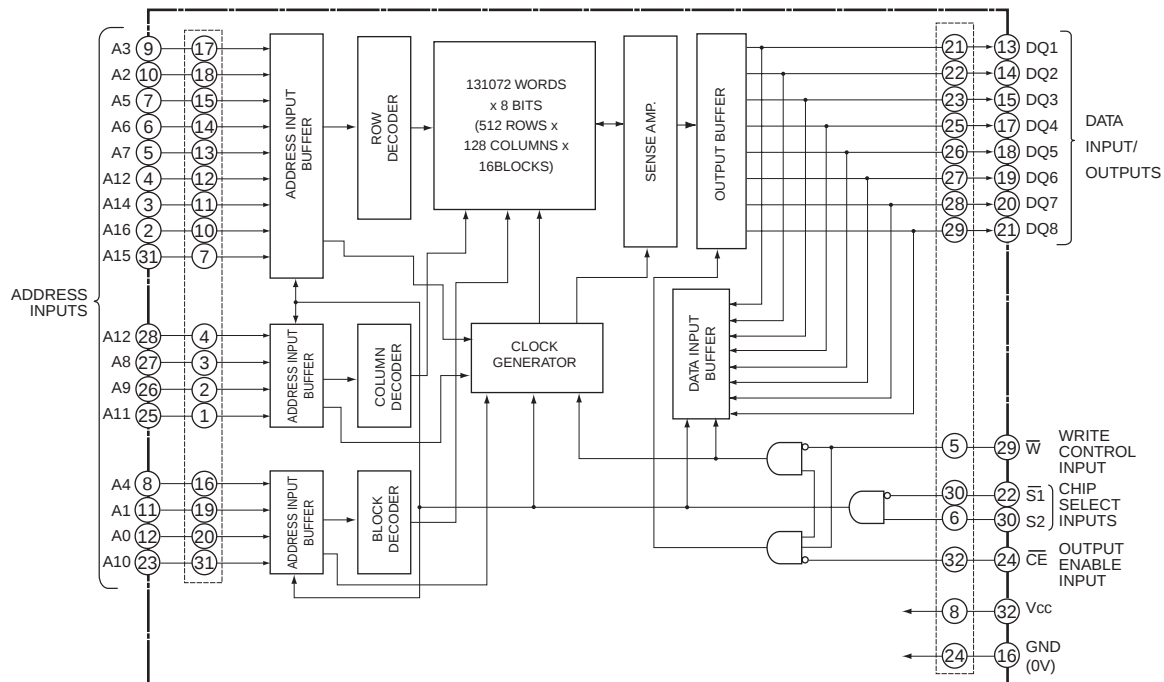
IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

Q8612 : M5M5V108DKV-70H (131072 x 8 Bit CMOS STATIC RAM)

PIN CONFIGURATION



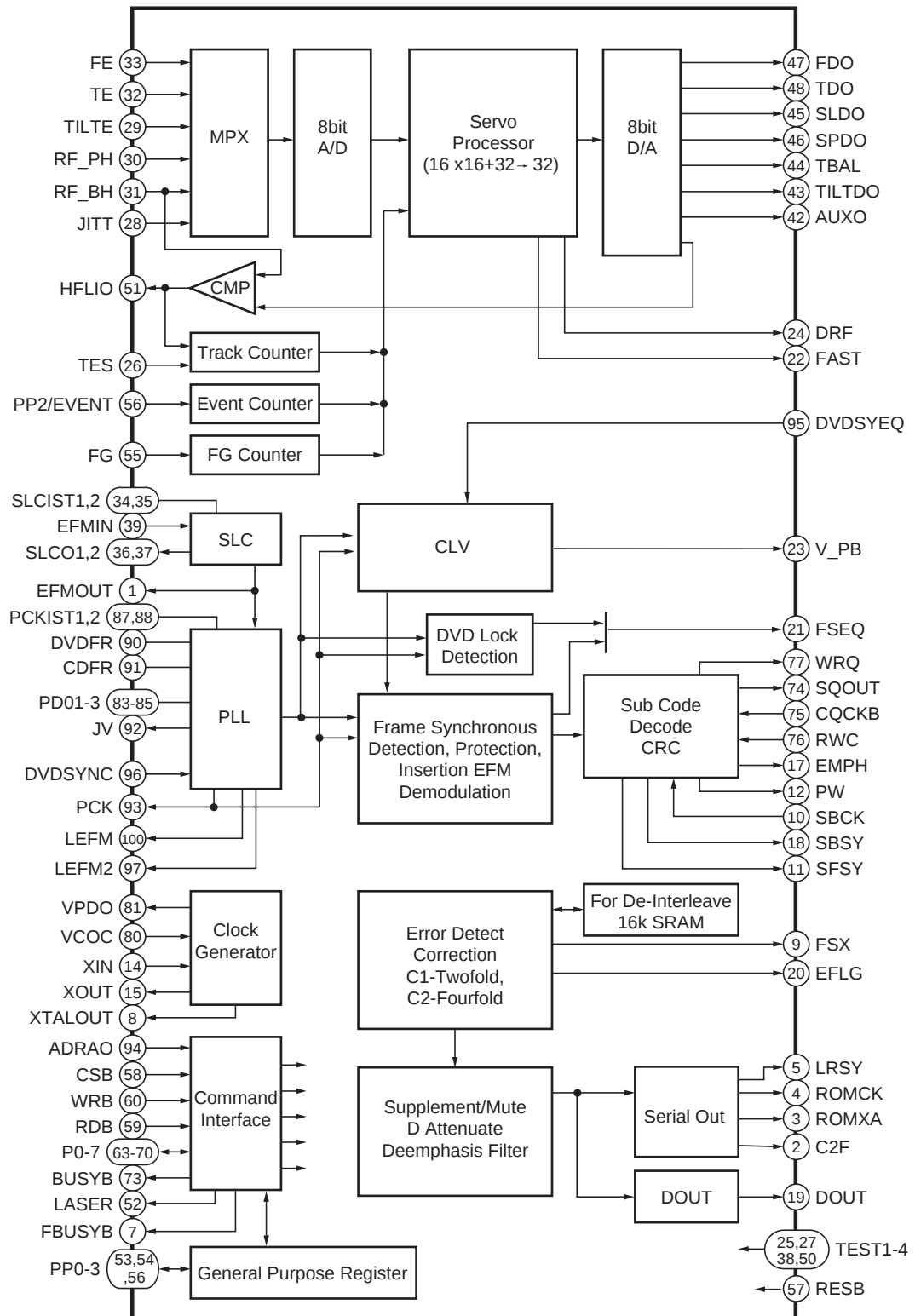
BLOCK DIAGRAM



IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

IC201 : LC78652W Servo DSP IC

Block Diagram



IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

LC78652W-2

Pin Function

No.	Pin Name	I/O	Pin 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

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

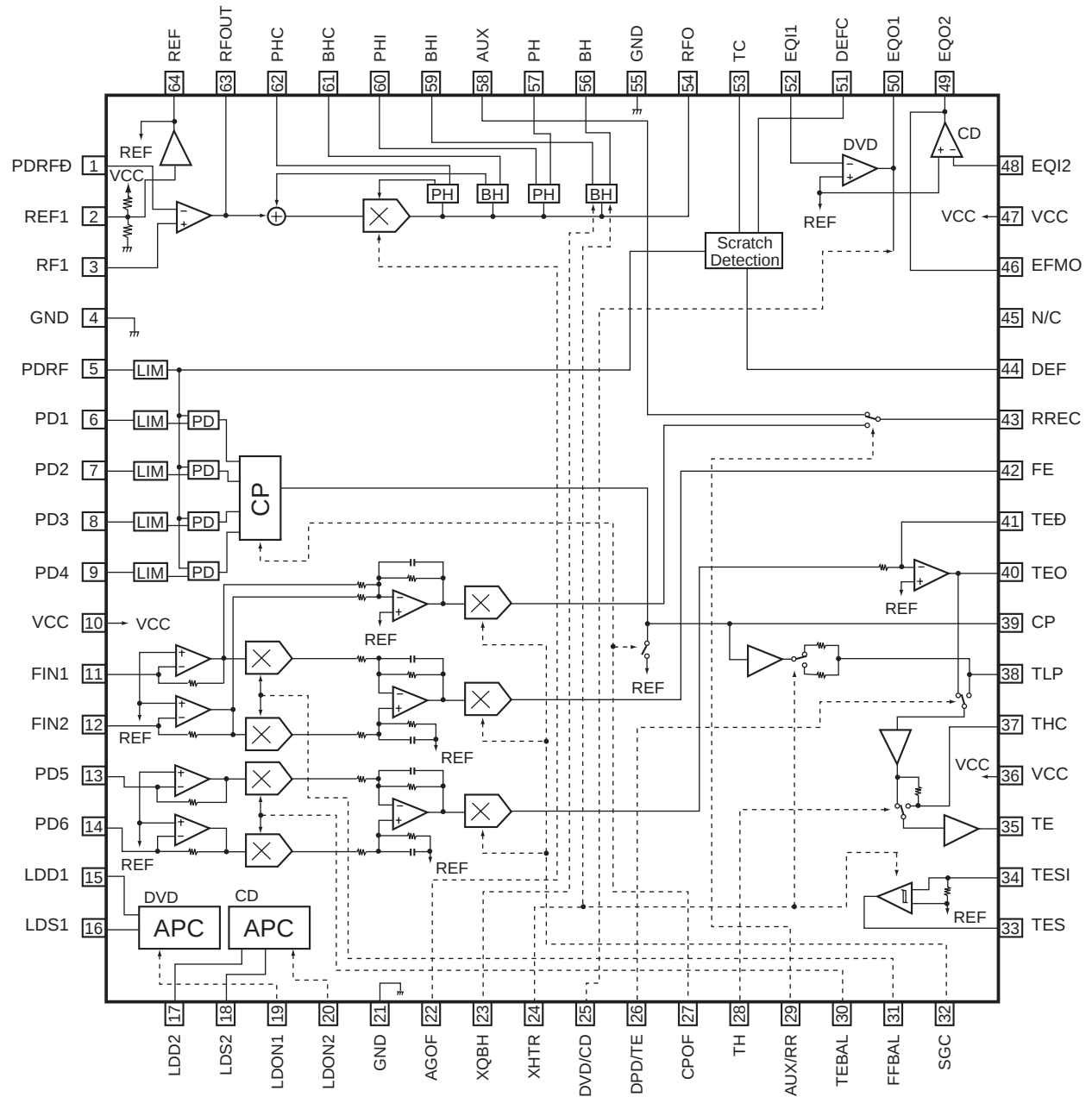
LC78652W-3

No.	Pin Name	I/O	Pin Function
51	FLIO	I/O	Mirror detection signals 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	IO	PLL filter connection pin 2 for EFM playback
85	PDO3	IO	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

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

IC101 : LA9701M RF Amplifier

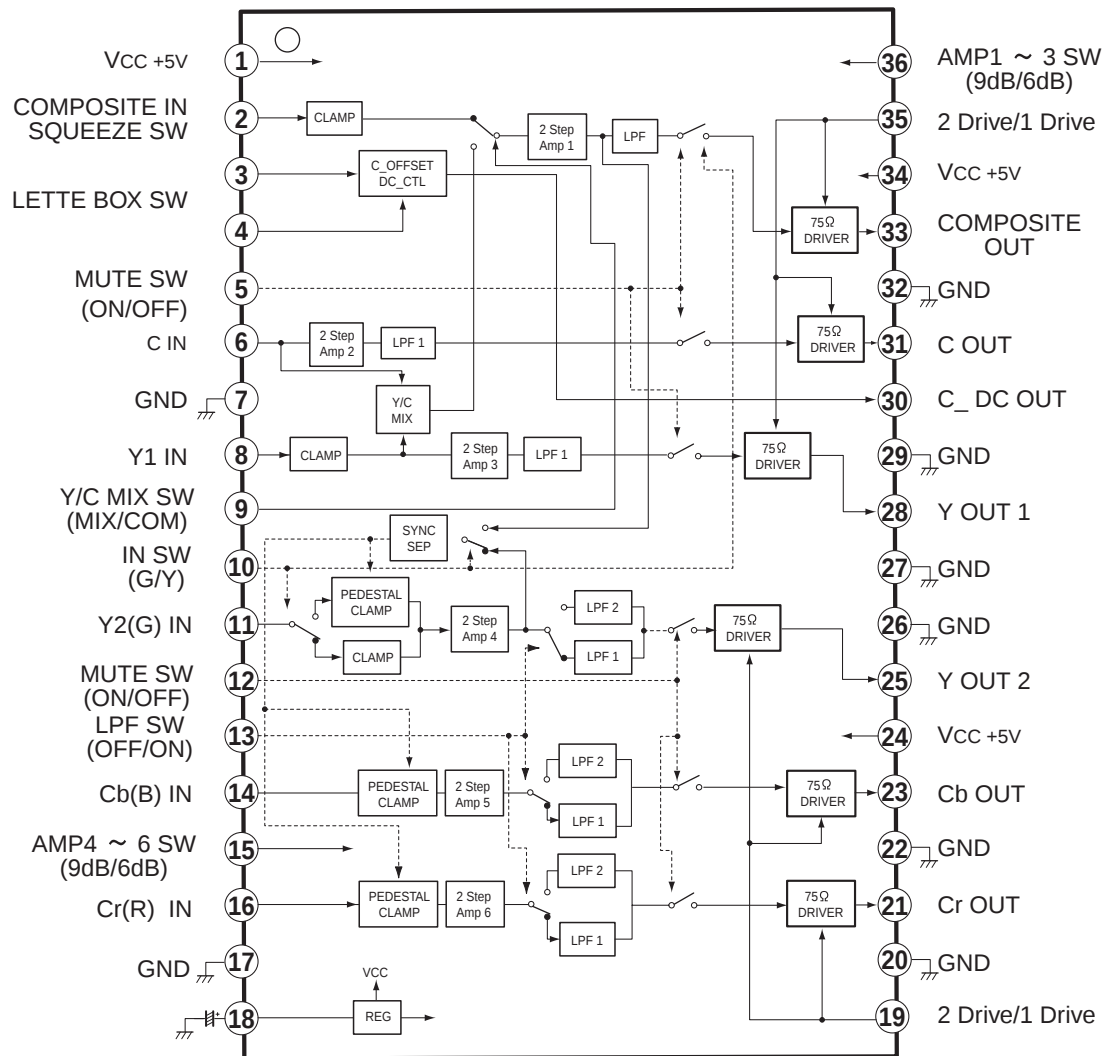
Block Diagram



IC BLOCK DIAGRAM/TERMINAL DESCRIPTION

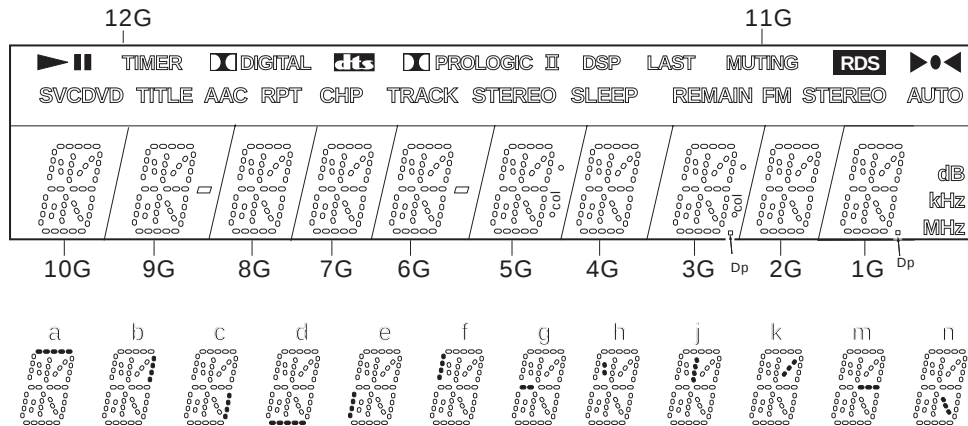
Q2002 : LA73054 (6-CHANNEL VIDEO DRIVER)

Block Diagram



FL TUBE VIEW

Q7001 : HNV-12SS12T



PIN CONNECTION

Pin No.	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	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	F 2	F 2	N P	N P	1 G	2 G	3 G	4 G	5 G	6 G	7 G	8 G	9 G	1 0 G	1 1 G	1 2 G	X N	X N	X N	X N	X N	X N	X N	P 1	P 2	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P 1 0	P 1 1	P 1 2	P 1 3	P 1 4	P 1 5	P 1 6	P 1 7	P 1 8	N P	N P	F 1	F 1

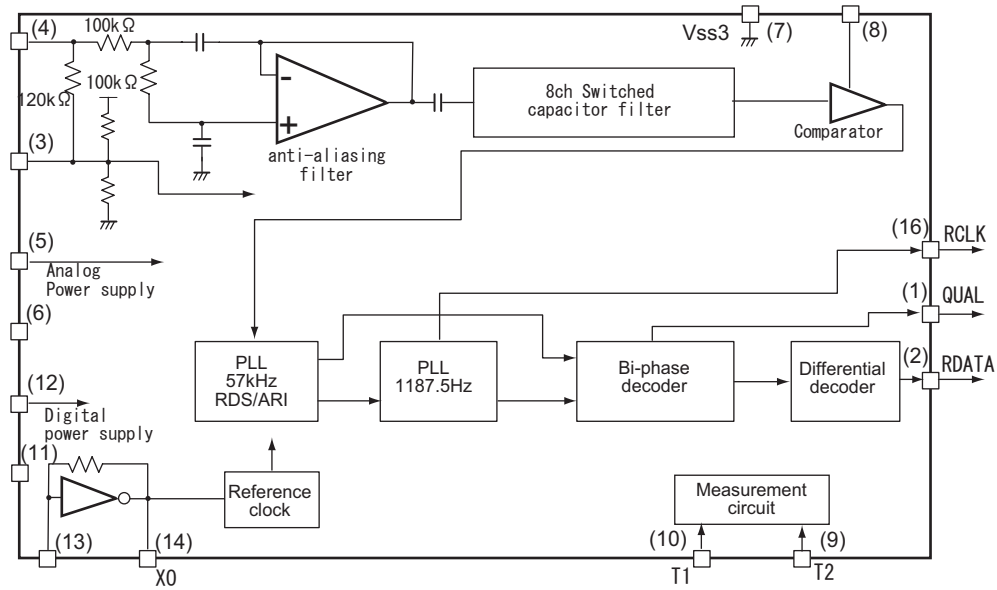
- 1) F1,F2 ----- Filament
- 2) NP ----- No pin
- 3) P1 - P35 --- Plate
- 4) 1G - 16G --- Grid

ANODE CONNECTION

	12G	11G	10	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	▶	TRACK	a	a	a	a	a	a	a	a	a	a
P2		PROLOGIC	j	j	j	j	j	j	j	j	j	j
P3	S	II	h	h	h	h	h	h	h	h	h	h
P4	V	STEREO	k	k	k	k	k	k	k	k	k	k
P5	C	DSP	b	b	b	b	b	b	b	b	b	b
P6	D	SLEEP	f	f	f	f	f	f	f	f	f	f
P7	DV	LAST	g	g	g	g	g	g	g	g	g	g
P8	TIMER	REMAIN	m	m	m	m	m	m	m	m	m	m
P9	TITLE	MUTING	c	c	c	c	c	c	c	c	c	c
P10	FM	FM STEREO	e	e	e	e	e	e	e	e	e	e
P11	DIGITAL	RDS	n	n	n	n	n	n	n	n	n	n
P12	AAC	AUTO	r	r	r	r	r	r	r	r	r	r
P13	▶ ◀		p	p	p	p	p	p	p	p	p	p
P14	RPT	•	d	d	d	d	d	d	d	d	d	d
P15	CHP	-	-	◻	-	-	◻	Col	-	Dp	-	Dp
P16	-	-	-	-	-	-	-	-	-	Col	-	dB
P17	-	-	-	-	-	-	-	-	-	-	-	kHz
P18	-	-	-	-	-	-	-	-	-	-	-	MHz

IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

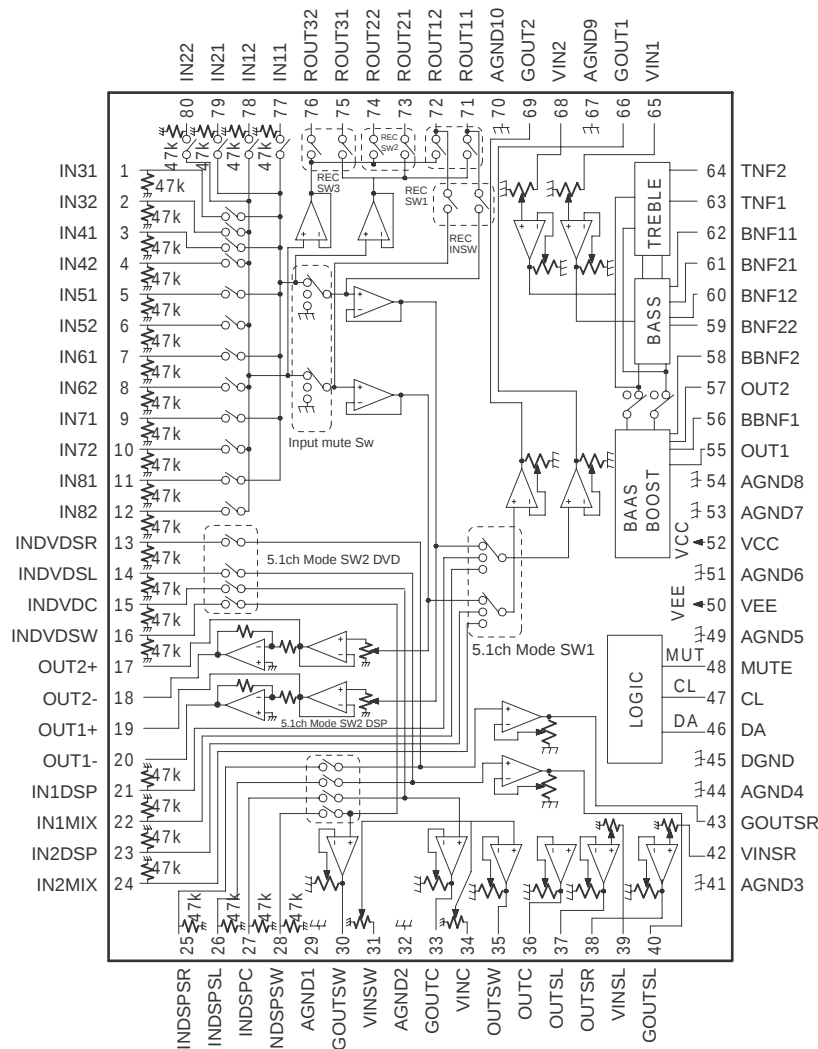
Q8801 : BU1923F (RDS decoder) <UPP> only



ICBLOCK DIAGRAM/ TERMINAL DESCRIPTION

Q3001: BD3811K1 (6ch Volume with 8ch input selector)

BLOCK DIAGRAM



TERMINAL DESCRIPTION

No.	Terminal	Description
1	IN31	1ch input terminal 3
2	IN32	2ch input terminal 3
3	IN41	1ch input terminal 4
4	IN42	2ch input terminal 4
5	IN51	1ch input terminal 5
6	IN52	2ch input terminal 5
7	IN61	1ch input terminal 6
8	IN62	2ch input terminal 6
9	IN71	1ch input terminal 7
10	IN72	2ch input terminal 7
11	IN81	1ch input terminal 8
12	IN82	2ch input terminal 8
13	INDVDSR	DVD surround Rch input terminal
14	INDVDSL	DVD surround Lch input terminal
15	INDVDC	DVD center input terminal
16	INDVDSW	DVD sub woofer input terminal
17	OUT2(+)	2ch (+) A/D output terminal
18	OUT2(-)	2ch (-) A/D output terminal
19	OUT1(+)	1ch (+) A/D output terminal
20	OUT1(-)	1ch (-) A/D output terminal
21	IN1DSP	1ch DSP input terminal
22	IN1MIX	1ch DSP MIX input terminal
23	IN2DSP	2ch DSP input terminal
24	IN2MIX	2ch DSP MIX input terminal
25	INDSPSR	DSP surround Rch input terminal

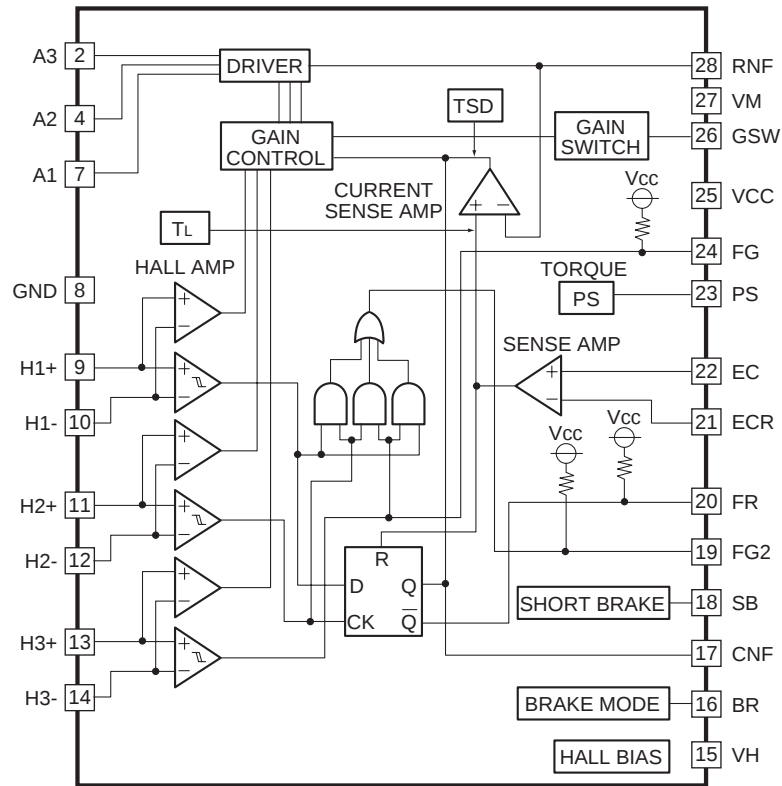
No.	Terminal	Description
26	INDSPSL	DSP surround Lch input terminal
27	INDSPC	DSP center input terminal
28	INDSPSW	DSP sub woofer input terminal
29	AGND1	Analog ground terminal
30	GOUTSW	Sub woofer input gain output terminal
31	VINSW	Sub woofer volume input terminal
32	AGND2	Analog ground terminal
33	GOUTC	Center input gain out put terminal
34	VINC	Center volume input terminal
35	OUTSW	Sub woofer output terminal
36	OUTC	Center output terminal
37	OUTSL	Surround Lch output terminal
38	OUTSR	Surround Rch output terminal
39	VINSL	Surround Lch volume input terminal
40	GOUTSL	Surround Lch input gain output terminal
41	AGND3	Analog ground terminal
42	VINSR	Surround Rch volume input terminal
43	GOUTSR	Surround Rch input gain output terminal
44	AGND4	Analog ground terminal
45	DGND	Ground terminal for comparator
46	DA	Serial data and latch input terminal
47	CL	Serial clock input terminal
48	MUTE	Mute terminal
49	AGND5	Analog ground terminal
50	VEE	(-) Power supply terminal
51	AGND6	Analog ground terminal
52	VCC	(+) Power supply terminal
53	AGND7	Analog ground terminal
54	AGND8	Analog ground terminal
55	OUT1	1ch output terminal
56	BBNF1	1ch bass boost filter terminal
57	OUT2	2ch output terminal
58	BBNF2	2ch bass boost filter terminal
59	BNF22	2ch bass filter terminal 2
60	BNF12	2ch bass filter terminal 1
61	AGND4	1ch bass filter terminal 2
62	BNF11	1ch bass filter terminal 1
63	TNF1	1ch treble filter terminal 1
64	TNF2	2ch treble filter terminal 1
65	VIN1	1ch(Lch) volume input terminal
66	GOUT1	1ch(Lch) input gain output terminal
67	AGND9	Analog ground terminal
68	VIN2	2ch(Rch) volume input terminal
69	GOUT2	2ch(Rch) input gain output terminal
70	AGND10	Analog ground terminal
71	ROUT11	1ch recording input/output terminal 1
72	ROUT12	2ch recording input/output terminal 1
73	ROUT21	1ch recording output terminal 2
74	ROUT22	2ch recording output terminal 2
75	ROUT31	1ch recording output terminal 3
76	ROUT32	2ch recording output terminal 3
77	IN11	1ch input terminal 1
78	IN12	2ch input terminal 1
79	IN21	1ch input terminal 2
80	IN22	2ch input terminal 2

IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

IC251 : BA6664FM

Three-phase Motor Driver

Block Diagram



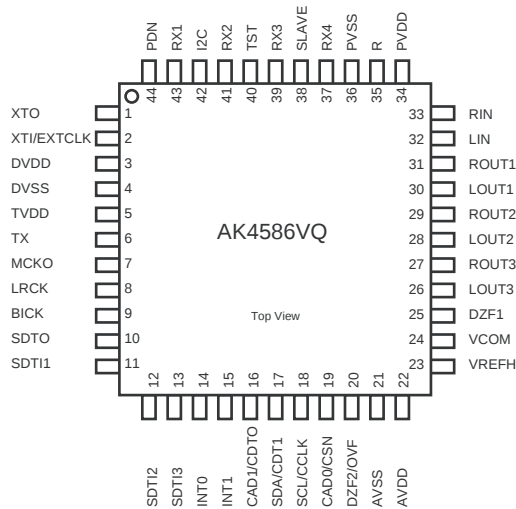
Block Diagram

No.	Pin Name	Pin Function	No.	Pin Name	Pin Function
1	N.C.	N.C.	16	BR	Brake mode switching pin
2	A3	Output pin	17	CNF	Capacitor connection pin for phase compensation
3	N.C.	N.C.	18	SB	Short brake pin
4	A2	Output pin	19	FG2	FG 3-phase mix signal output pin
5	N.C.	N.C.	20	FR	Rotation detecting pin
6	N.C.	N.C.	21	ECR	Control reference pin of output voltage
7	A1	Output pin	22	EC	Output voltage control pin
8	GND	GND pin	23	PS	Power save pin
9	H1+	Hall signal input pins	24	FG	FG signal output pin
10	H1-		25	VCC	Power supply pin
11	H2+		26	GSW	Gain switching pin
12	H2-		27	VM	Motor power pin
13	H3+		28	RNF	Resistor connection pin for output current detection
14	H3-		FIN	FIN	GND
15	VH	Hall bias pin			

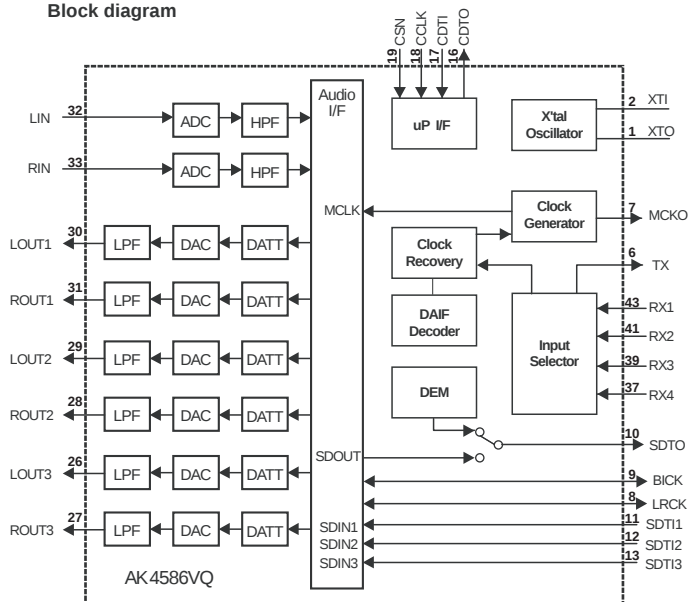
IC BLOCK DIAGRAM/ TERMINAL DESCRIPTION

Q8401: AK4586VQ (96kHz 6ch CODEC)

Pin Layout



Block diagram



Block diagram

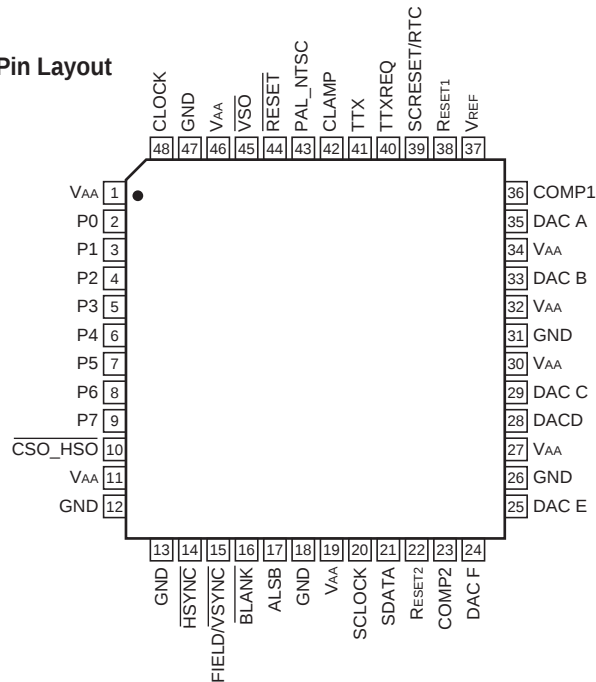
Terminal description

No.	Name	I/O	Description
1	XTO	O	Crystal oscillator output pin
2	XTI	I	Crystal oscillator input pin
3	EXTCLK	I	Master clock input pin
4	TVDD	-	Power supply pin for output buffer. 2.7V to 5.5V
4	DVSS	-	Digital ground pin
5	DVDD	-	Power supply pin for digital section. 4.5V to 5.5V
6	TX	O	Transmitter channel output pin
7	MCKO	O	Master clock output pin
8	LRCK	I/O	Input/Output channel clock pin
9	BICK	I/O	Audio serial data clock pin
10	SDTO	O	Audio serial data output pin
11	SDTI1	I	Audio serial data input pin for DAC1
12	SDTI2	I	Audio serial data input pin for DAC2
13	SDTI3	I	Audio serial data input pin for DAC3
14	INT0	O	Interrupter pin 0
15	INT1	O	Interrupter pin 1
16	CDTO	O	Control data output pin (Serial mode)
16	CADI	I	Chip address pin 1 (Bus mode)
17	CDTI	I	Control data input pin (Serial mode)
17	SDA	I/O	Control data input/output pin (Bus mode)
18	CCLK	I	Control data clock pin (Serial mode)
18	SCL	I	Control data clock pin (Bus mode)
19	CSN	I	Chip select pin (Serial mode)
19	CAD0	I	Chip address pin 0 (Bus mode)
20	DZF2	O	Zero input detection pin 2
20	OVF	O	Overflow detection pin for analog input
21	AVSS	-	Analog ground pin
22	AVDD	-	Power supply pin for analog section. 4.5V to 5.5V
23	VREFH	I	Reference voltage input pin, AVDD
24	VCOM	O	Common voltage output pin, AVDD/2
25	DZF1	O	Zero input detection pin 1
26	LOUT3	O	DAC 3 left channel analog output pin
27	ROUT3	O	DAC 3 right channel analog output pin
28	LOUT2	O	DAC 2 left channel analog output pin
29	ROUT2	O	DAC 2 right channel analog output pin
30	LOUT1	O	DAC 1 left channel analog output pin
31	ROUT1	O	DAC 1 right channel analog output pin
32	LIN	I	Left channel analog input pin
33	RIN	I	Right channel analog input pin
34	PVDD	-	PLL power supply pin. 4.5V to 5.5V
35	R	-	External resistor connection pin
36	PVSS	-	PLL ground pin
37	RX4	I	Receiver channel input pin 4
38	SLAVE	I	Slave mode pin
39	RX3	I	Receiver channel input pin 3
40	TST	I	Test pin
41	RX2	I	Receiver channel input pin 2
42	I2C	I	Serial control mode select pin. Serial at H.
43	RX1	I	Receiver channel input pin 1
44	PDN	I	Power down and reset pin

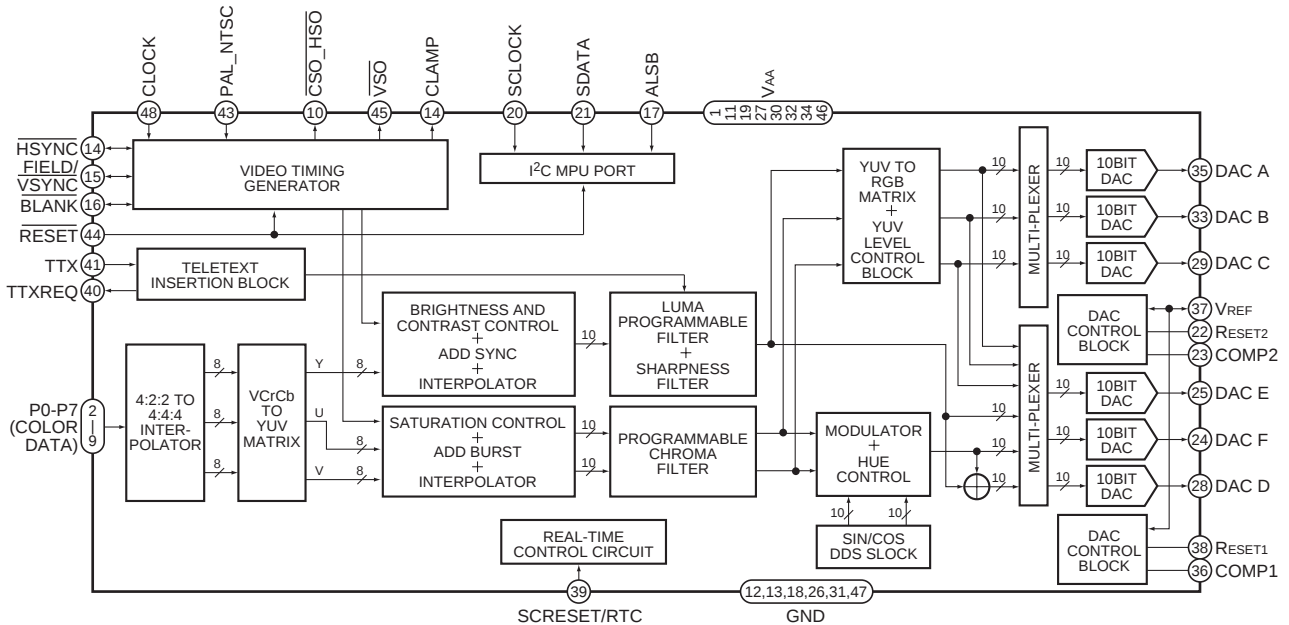
IC BLOCK DIAGRAM / TERMINAL DESCRIPTION

IC861 : ADV7172KST Video Encoder

Pin Layout



Block Diagram



Pin Function

No.	Name	I/O	Pin Function
1	VAA	P	Power Supply (+3V) to +5V
2	P0	I	8-bit 4 : 2 : 2 Multiplexed YCrCb Pixel Port (P7-P0) P0 represents the LSB
3	P1		
4	P2		
5	P3		

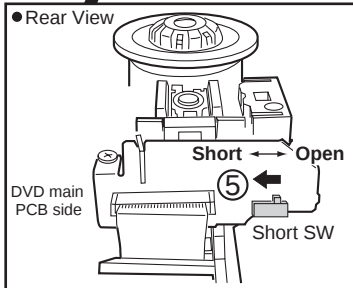
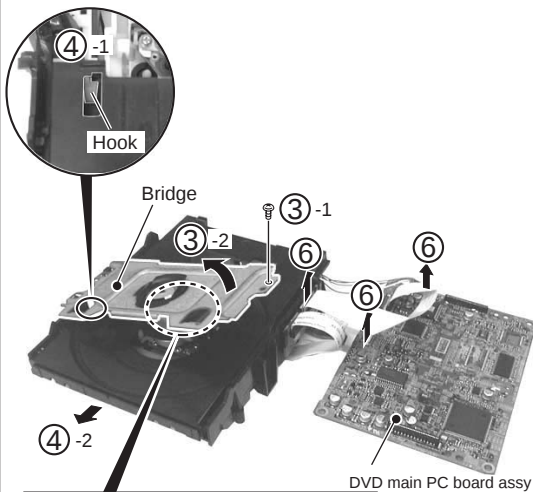
ICs BLOCK DIAGRAM / TERMINAL DESCRIPTION

Pin Function

No.	Name	I/O	Pin Function
6	P4	I	8-bit 4 : 2 : 2 Multiplexed YCrCb Pixel Port (P7-P0) P0 represents the LSB
7	P5		
8	P6		
9	P7		
10	CSO_HSO	O	Dual function CSO or HSO TTL Output Sync Signal
11	VAA	P	Power Supply (+3V to +5V)
12	GND	G	Ground Pin
13	GND	G	Ground Pin
14	HSYNC	I/O	HSYNC (Models 1 and 2) Control Signal. This pin may be configured to output (Master Mode) or as an input and accept (Slave Mode) Sync signals.
15	FIELD/VS YNC	I/O	Dual Function FIELD (Mode1) and VS YNC (Mode2) Control Signal. This pin may be configured to output (Master Mode) or as an input (Slave Mode) and accept these control signals.
16	BLANK	I/O	Video Blanking Control Signal. The pixel inputs are ignored when this is logic level "0". This signal is optional.
17	ALSB	I	TTL Address Input. This signal sets up the LSB of the MPU address.
18	GND	G	Ground Pin
19	VAA	P	Power Supply (+3V to +5V)
20	SCLOCK	I	MPU Port Serial Interface Clock Input
21	SDATA	I/O	MPU Port Serial Data Input/Output
22	RSET2	I	A 600 ohm resistor connected from this pin to GND is used to control full-scale amplitudes of the Video Signals from DACs D, E and F (the "small" DACs).
23	COMP2	O	Compensation Pin for DACs D, E and F. Connect a 0.1mF Capacitor from COMP to VAA.
24	DAC F	O	RED/S-Video C/V Analog Output. This DAC is capable of providing 8.66 mA output.
25	DAC E	O	BLUE/S-Video Y/U Analog Output. This DAC is capable of providing 8.66 mA output.
26	GND	G	Ground Pin
27	VAA	P	Power Supply (+3V to +5V)
28	DAC D	O	GREEN/Composite/Y Analog Output. This DAC is capable of providing 8.66 mA output.
29	DAC C	O	RED/S-Video C/V Analog Output. This DAC is capable of providing 34.66 mA output.
30	VAA	P	Power Supply (+3V to +5V)
31	GND	G	Ground Pin
32	VAA	P	Power Supply (+3V to +5V)
33	DAC B	O	BLUE/S-Video Y/U Analog Output. This DAC is capable of providing 34.66 mA output.
34	VAA	P	Power Supply (+3V to +5V)
35	DAC A	O	GREEN/Composite/Y Analog Output. This DAC is capable of providing 34.66 mA output.
36	COMP1	O	Compensation Pin for DACs A, B and C. Connect a 0.1mF Capacitor from COMP to VAA. For Optimum Dynamic Performance in Low Power Mode, the value of the COMP1 capacitor can be lowered to as low as 2.2mF.
37	VREF	I/O	Voltage Reference Input for DACs or Voltage Reference Output (1.235V)
38	RSET1	I	A 150 ohm resistor connected from this pin to GND is used to control full-scale amplitudes of the Video Signals from DACs A, B and C (the "large" DACs).
39	SCRESET/RTC	I	This pin can be configured as an input by setting MR42 and MR41 of Mode Resistor 4. It can be configured as a subcarrier reset pin, in which case a high to low transition on this pin will reset the subcarrier phase to Field 0. Alternatively it may be configured as a Real-Time Control (RTCF) Input.
40	TTXREQ	O	Teletext Data Request input signal used to control teletext data transfer.
41	TTX	O	Teletext Data Input Pin.
42	CLAMP	O	TTL Output Signal to external circuitry to enable clamping of all video signals.
43	PAL_NTSC	I	Input signal to select PAL or NTSC mode of operation, pin set to Logic "1" selects PAL.
44	RESET	I	The input resets the on-chip timing generator and sets the ADV7172KST into default mode. This is NTSC operation, Timing Slave Mode 0, DACs A, B and C powered OFF, DACs D, E and F powered ON, Composite and S-Video out.
45	VSO	O	VSO TTL Output Sync Signal
46	VAA	P	Power Supply (+3V to +5V)
47	GND	G	Ground Pin
48	CLOCK	I	TTL Clock Input. Requires a stable 27 MHz reference clock for standard operation. Alternatively, a 24.52 MHz (NTSC) or 29.5 MHz (PAL) can be used for square pixel operation.

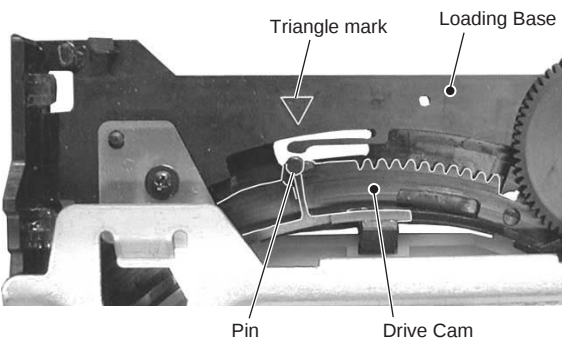
Disassembly of the Traverse Mechanism Assy-1

- ① Remove the top cover and Tray Panel.
- ② Remove the Tray panel and Front Panel.
- ③ Remove the Bridge (Screw1).
- ④ Pull out the Tray and remove it while unhooking a Hook.
- ⑤ Turn the Short SW to Short side.
- ⑥ Remove three connectors.



Caution in the tray insertion

In the Tray insertion, insert it after matching a triangle mark of the Loading Base and a position of pin of the Drive Cam.



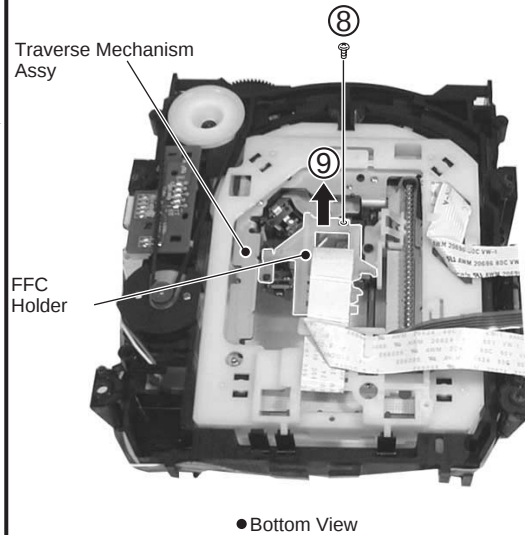
- ⑦ Remove the Loading Mechanism Assy (Screws 4).

- ⑧ Remove a screw.

Cautions:

Screw is locked with Silicone Adhesive.
Please lock it with Silicone Adhesive when installs it.

- ⑨ Remove the FFC Holder with the state which Flexible Cable was attached.



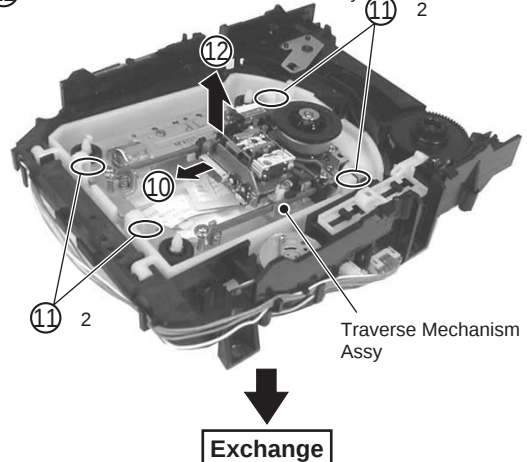
Pickup assy

When Removing The Traverse Mechanism Assy

- ⑩ Remove the Pickup Flexible Cable

- ⑪ Unhook (4)

- ⑫ Remove the Traverse Mechanism Assy



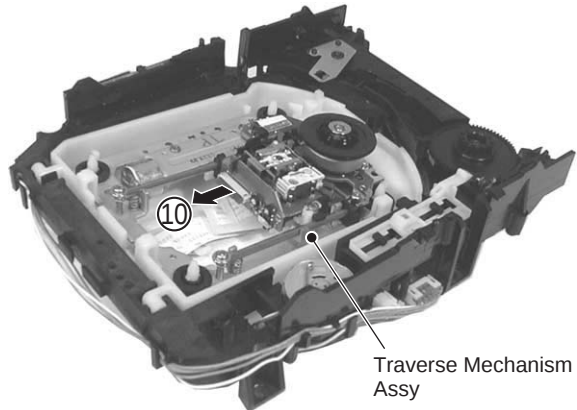
Next

Disassembly of the Traverse Mechanism Assy-2



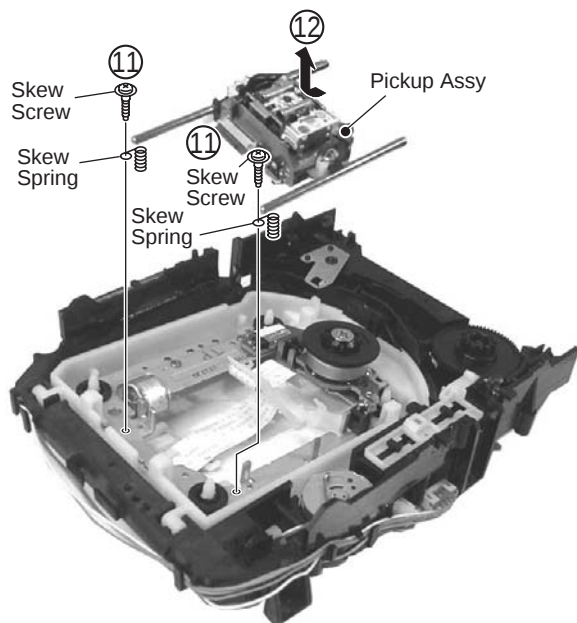
● When Removing The Pickup Assy

- ⑩ Remove the Pickup Flexible Cable.



- ⑪ Remove two Skew Screws and two Skew Springs.

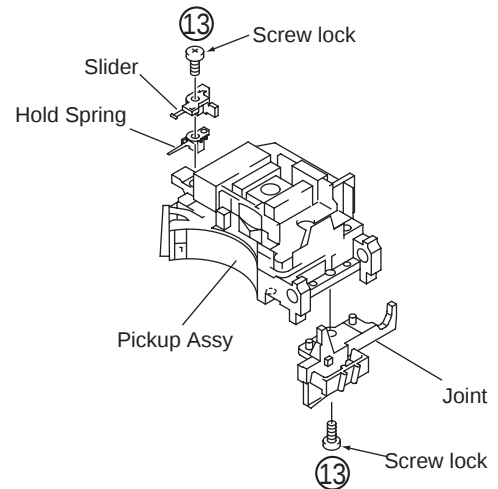
- ⑫ Remove the Pickup Assy.



- ⑬ Remove two screws.

Cautions:

Screw is locked with Screw Lock.
Please lock it with Screw Lock when installs it.

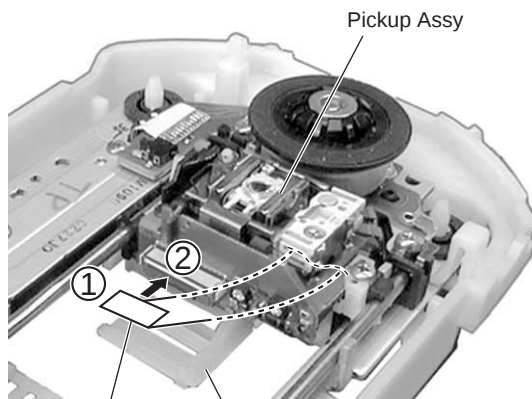


Exchange

Disassembly of the Traverse Mechanism Assy-3

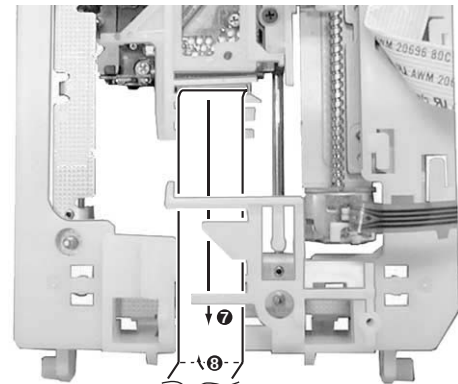
Styling the Pickup Flexible Cable

- ① Fold a edge of lining part of the Pickup Flexible Cable.
- ② Insert the Pickup Flexible Cable in connector, and lock it surely.



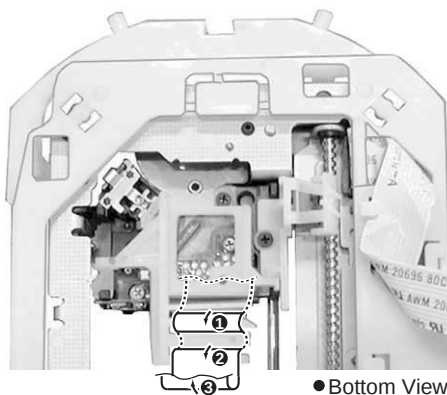
Caution:

Move the Pickup to the innermost of the disc.

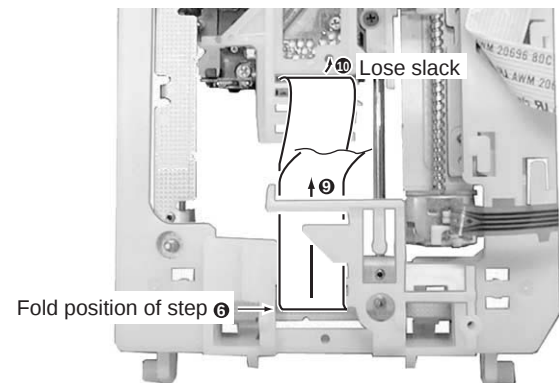


● Bottom View

- ③ Perform the styling as shown in figure below.

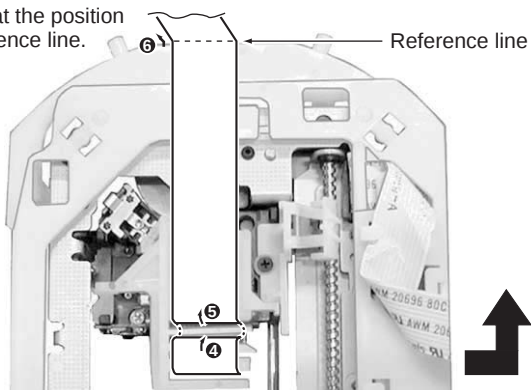


● Bottom View

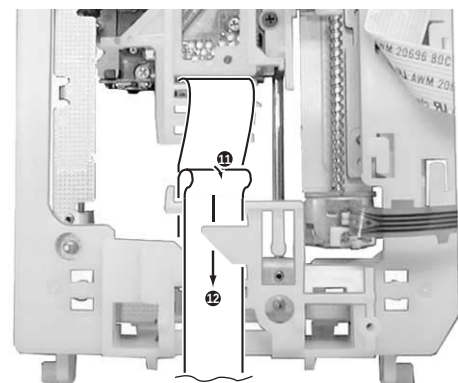


● Bottom View

Fold it at the position of reference line.



● Bottom View



● Bottom View

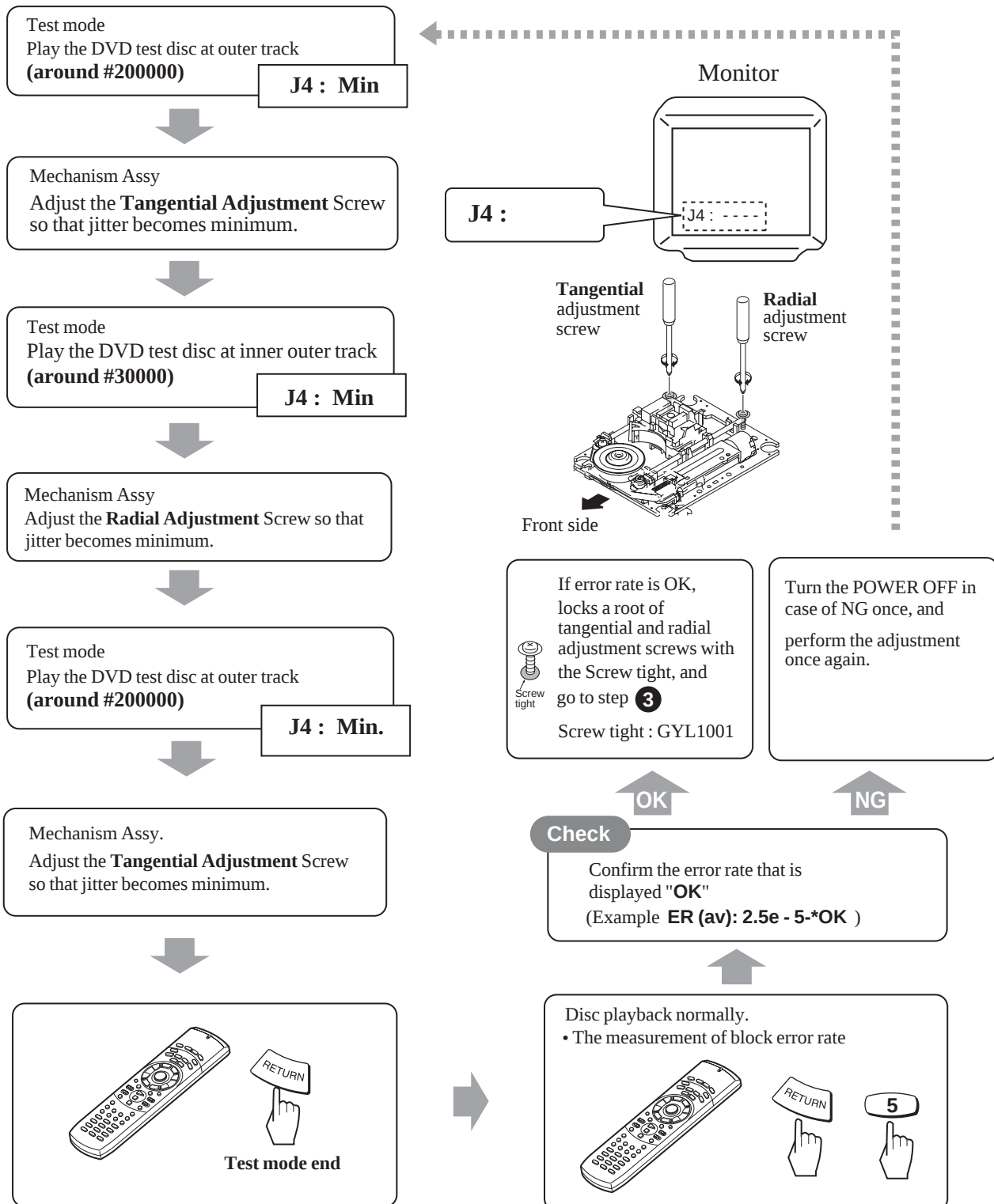
ADJUSTMENT PROCEDURES-4

ADJUSTMENT OF DVD MECHANISM-4

② DVD Jitter Adjustment

- Playback method of inner and outer address for the purpose is refer to "5. TEST MODE".

Use disc: GGV1025

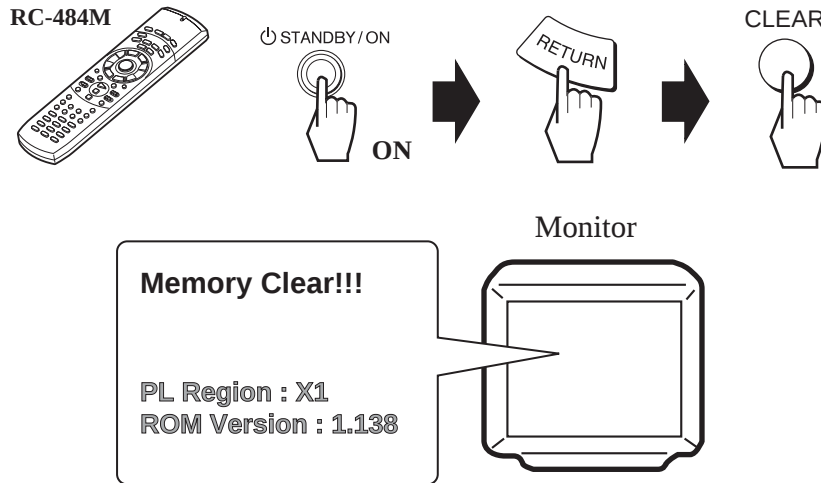


ADJUSTMENT PROCEDURES-5

ADJUSTMENT OF DVD MECHANISM-5

③ Initialize the Focus Sweep Setting

Purpose: To set the sweep which was correct with the individual Traverse mechanism.

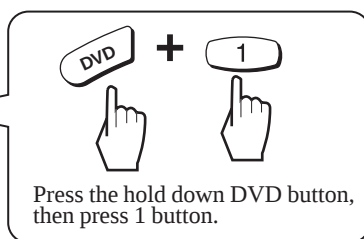
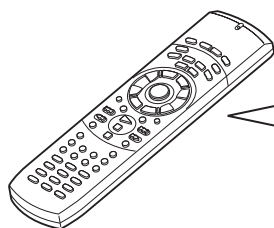


NOTE: When Change the mechanism or pickup mechanism, you must resetting the FOCUS SWEEP at no disc condition.

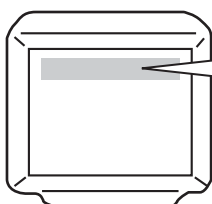
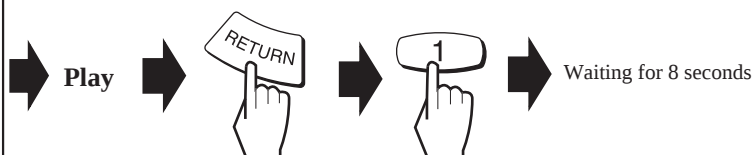
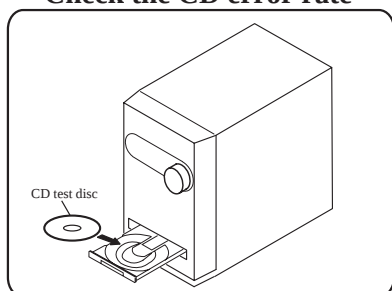
ADJUSTMENT PROCEDURES-6

CHECKING THE ERROR RATE

Setting remote controller



Check the CD error rate



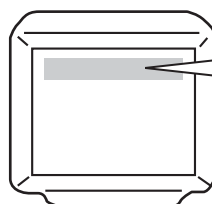
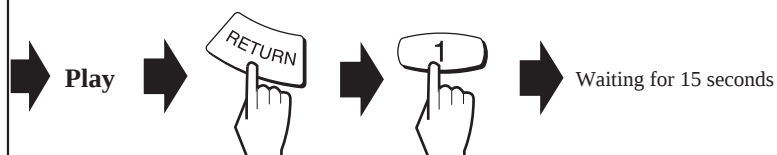
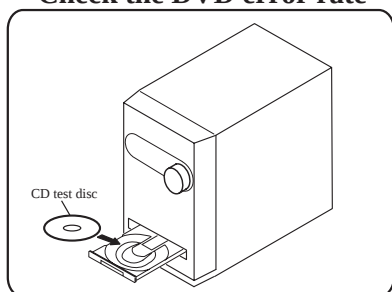
[Example]

ER C1 33

$$\text{CD error rate} = 33 / (7.35 \times 5 \times 1000) = 0.9 \times 10^{-3}$$

SPEC : CD error rate $\leq 3.26 \times 10^{-6}$

Check the DVD error rate



[Example]

ER (av) : 4.7e-5 * OK

$$\text{DVD error rate} = 4.7 \times 10^{-5}$$

SPEC : DVD error rate $\leq 8 \times 10^{-4}$

ADJUSTMENT PROCEDURES-1

ADJUSTMENT OF DVD MECHANISM-1

1. Adjustment items and location

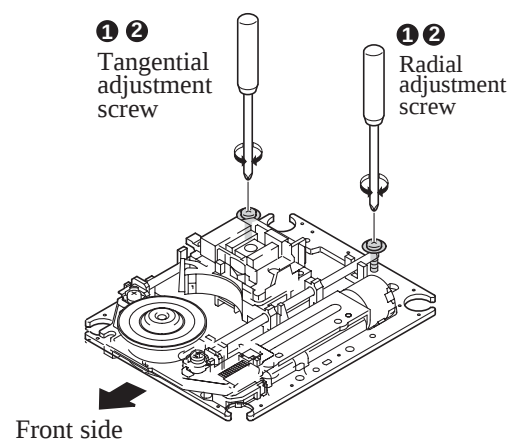
- ❶ Tangential and Radial Height Coarse Adjustment
- ❷ DVD Jitter Adjustment
- ❸ How to initialize the Focus Sweep Setting

[Electrical Part]

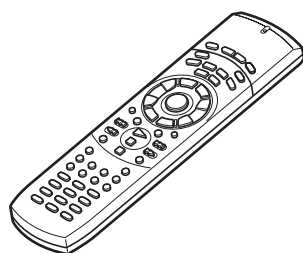
Electrical adjustments are not required.

Adjustment Points (Mechanism Part)

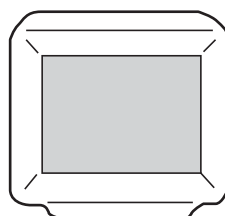
Cautions: After adjustment, lock all adjusted screws with screw tightening agent.



2. JIGs and measuring equipment



Remote controller
RC-484M
Part No. 24140484



TV monitor



DVD test disc
(GGV1025)



⊕ Screw driver (medium)



⊕ Precise screw driver

3. Necessary adjustment points

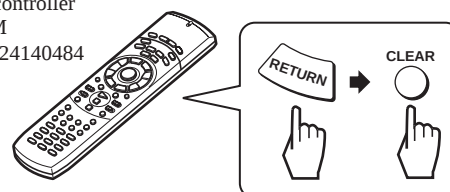
When		Adjustment Points	
Exchange Parts of Mechanism Assy Parts			
Pickup		Mechanical point	① ②* ③ After adjustment, screw locks with the Screw tight.
		Electric point	_____
Traverse Mechanism		Mechanical point	③ After adjustment, screw locks with the Screw tight.
		Electric point	_____
Spindle Motor		Mechanical point	②* ③ After adjustment, screw locks with the Screw tight.
		Electric point	_____
 Exchange of PCB Assy			
Exchange PC Board SSIB, LOAB, DVDM ASSY		Mechanical point	_____ After adjustment, screw locks with the Screw tight.
		Electric point	_____

* Purpose: To adjust individual Traverse Mechanism to it best sweep.

When you replace Pickup, Traverse Mechanism or Spindle Motor press RETURN and then press CLEAR at the last stage.

(It is necessary when you performed procedure ❷ adjustment.)

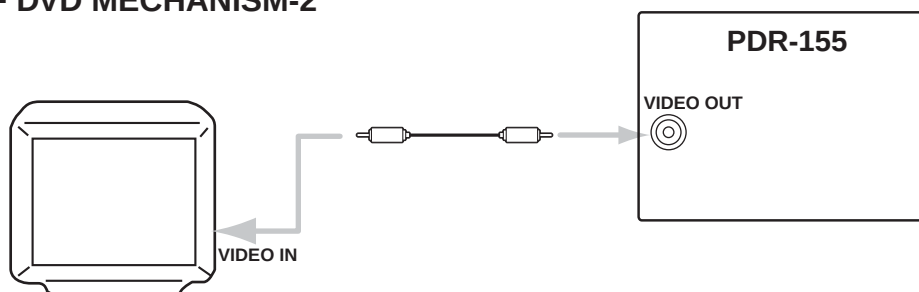
Remote controller
RC-484M
Part No. 24140484



ADJUSTMENT PROCEDURES-2

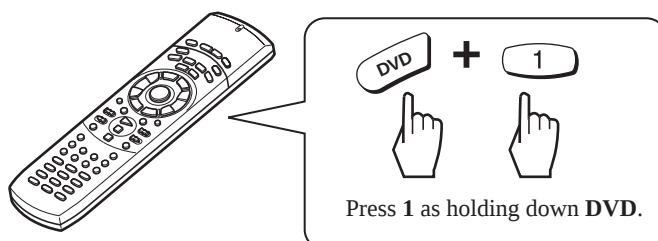
ADJUSTMENT OF DVD MECHANISM-2

A. Connection



B. Test mode

SETTING THE REMOTE CONTROLLER

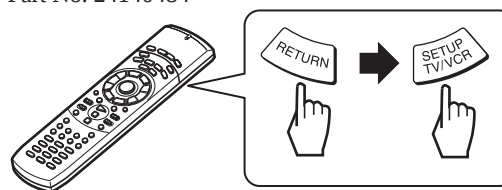


C: TEST MODE: ON

STANDBY ⏻ switch is ON.

Press "RETURN" and "SETUP TV/VCR" button of the remotecontroller (RC-484M)

Remote controller
RC-484M
Part No. 24140484



D: TEST MODE

Setting the test disc.

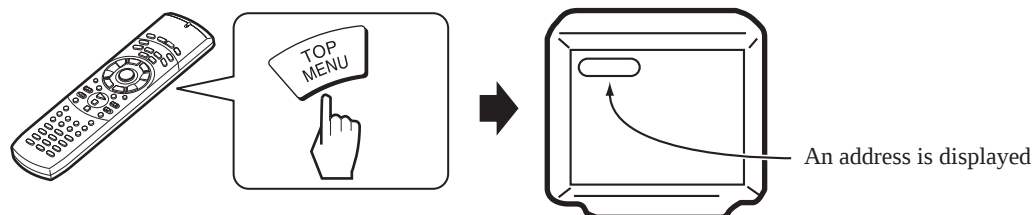
Display is "DISC-DVD" on the TV monitor.



ADJUSTMENT PROCEDURES-3

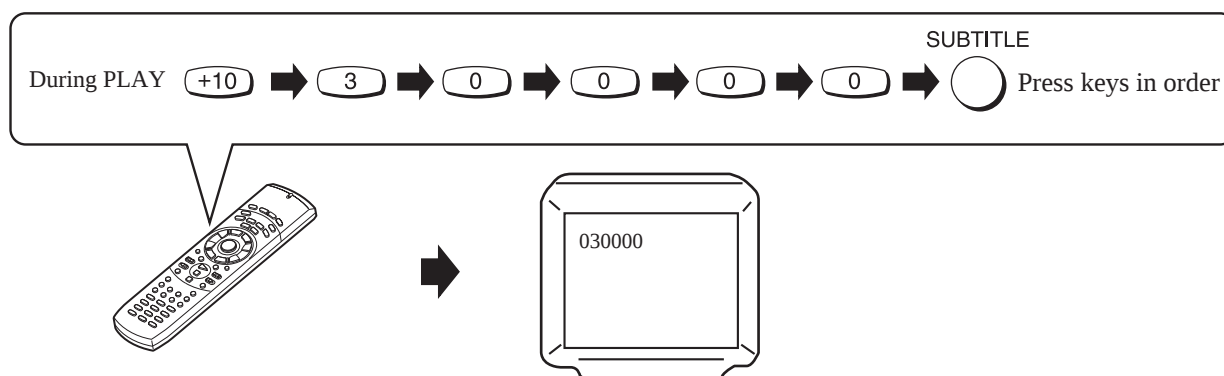
ADJUSTMENT OF DVD MECHANISM-3

TEST MODE: PLAY



< When playback with the target address of disc (DVD)>

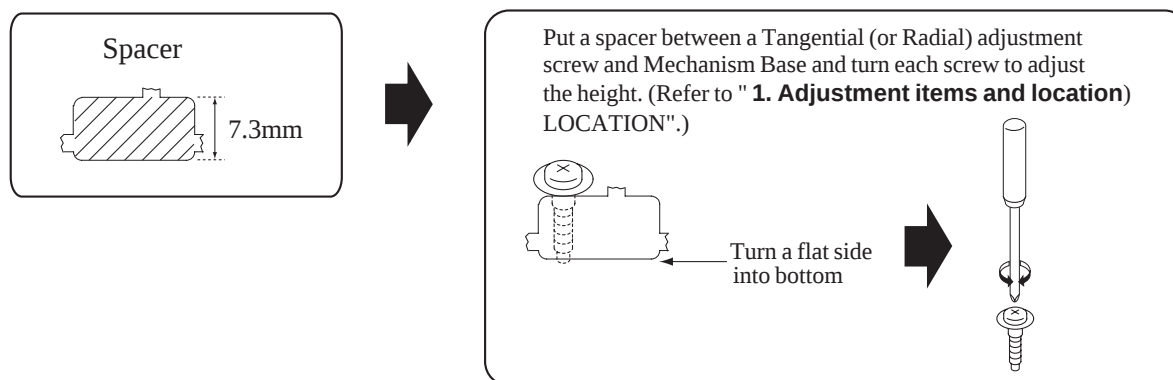
For example, when playback with # 30000



TEST MODE: OFF

Press the "STANDBY" key on the unit or
press the "RETURN" key on the remotecontroller.

① Tangential and Radial Height Coarse Adjustment



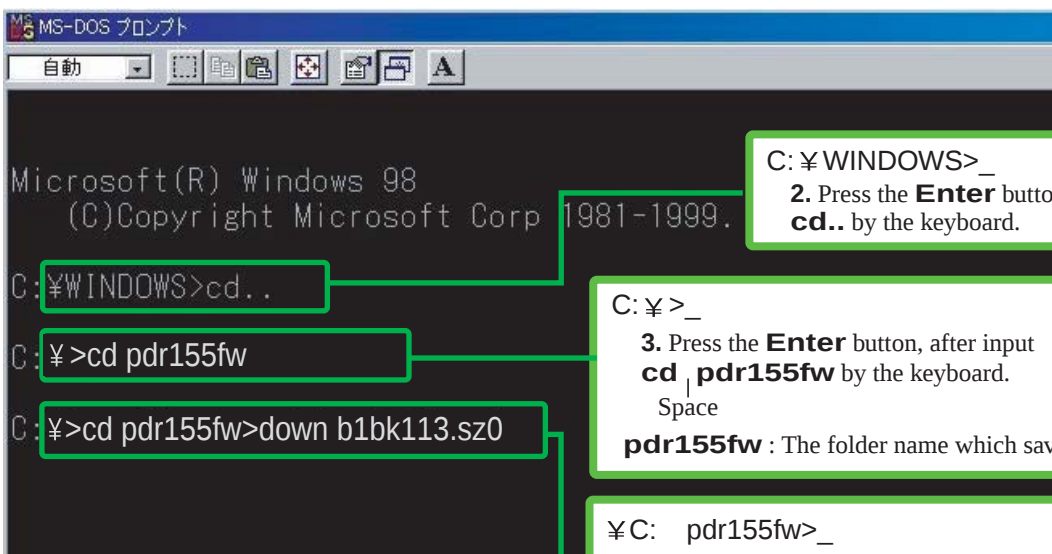
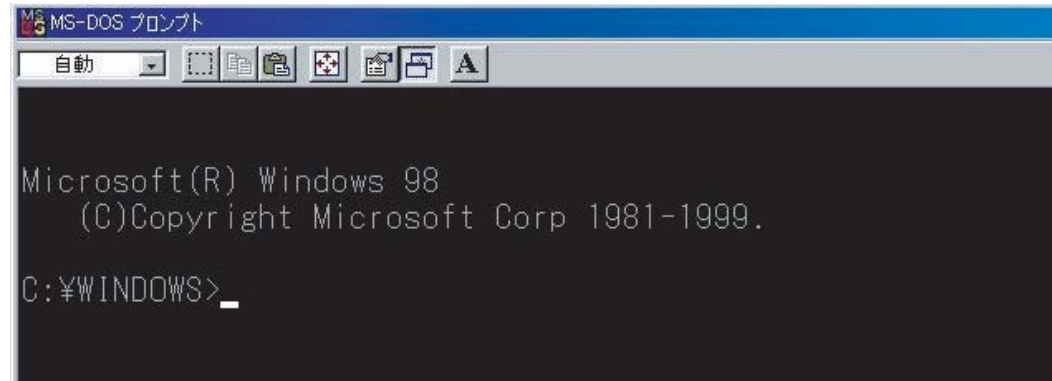
UPGRADE FIRMWARE-5

2 Download firmware

1. Start MS-DOS prompt using the start-up menu of PC.

Windows of MS DOS prompt

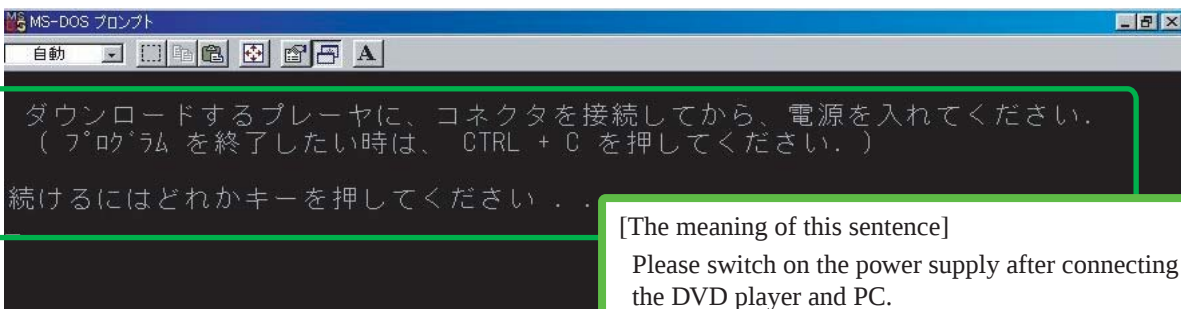
Example



C:\WINDOWS>_
2. Press the **Enter** button, after input **cd..** by the keyboard.

C:\>_
3. Press the **Enter** button, after input **cd pdr155fw** by the keyboard.
Space
pdr155fw : The folder name which saves the program file

¥C: pdr155fw>_
4. Press the **Enter** button, after input **down b1bk113.sz0** by the keyboard.
Space Zero
b1bk113.sz0 : The program file name
Ver. 1.138 The file name changes with firmware version.



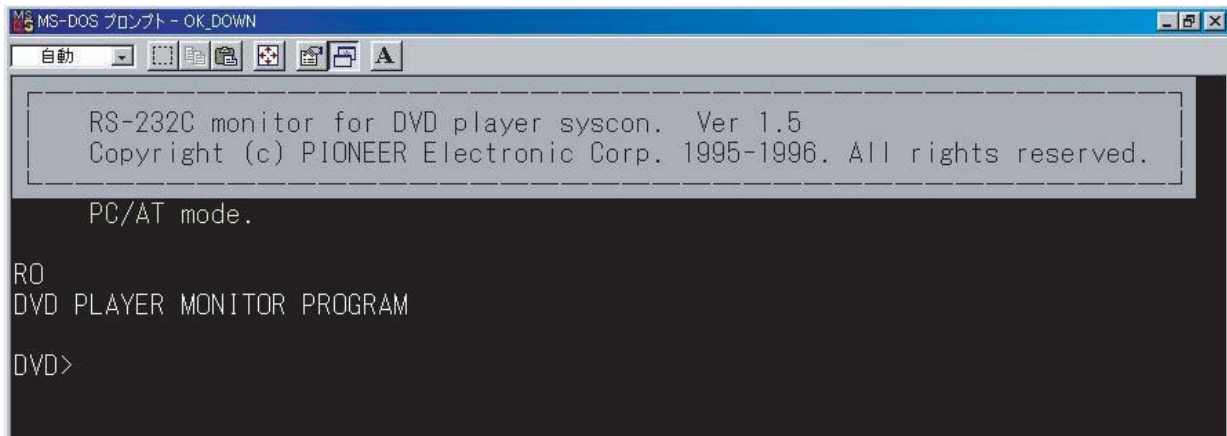
[The meaning of this sentence]

Please switch on the power supply after connecting the DVD player and PC.

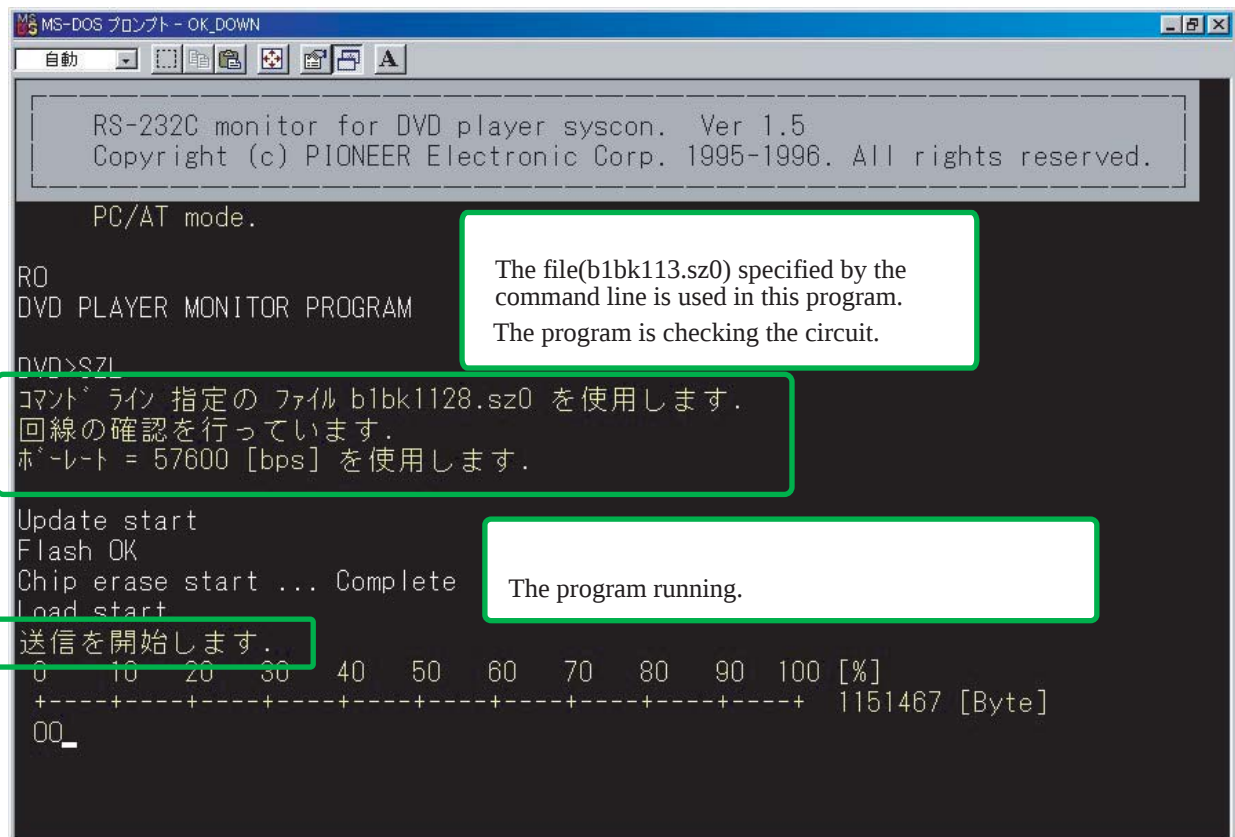
UPGRADE FIRMWARE-6

Download procedures

5. Connect the PC and set.
6. NO DISC. codition.
7. Turn ON the power supply switch of the unit.
8. Press the **Enter** key of PC.
9. Press the **Enter** button, and then input **MO** by the keyboard.



10. Press **ENTER** button, after input file number (**.SZL**) by the keyboard.
Press **ENTER**.



FL Display

ROM ERASE

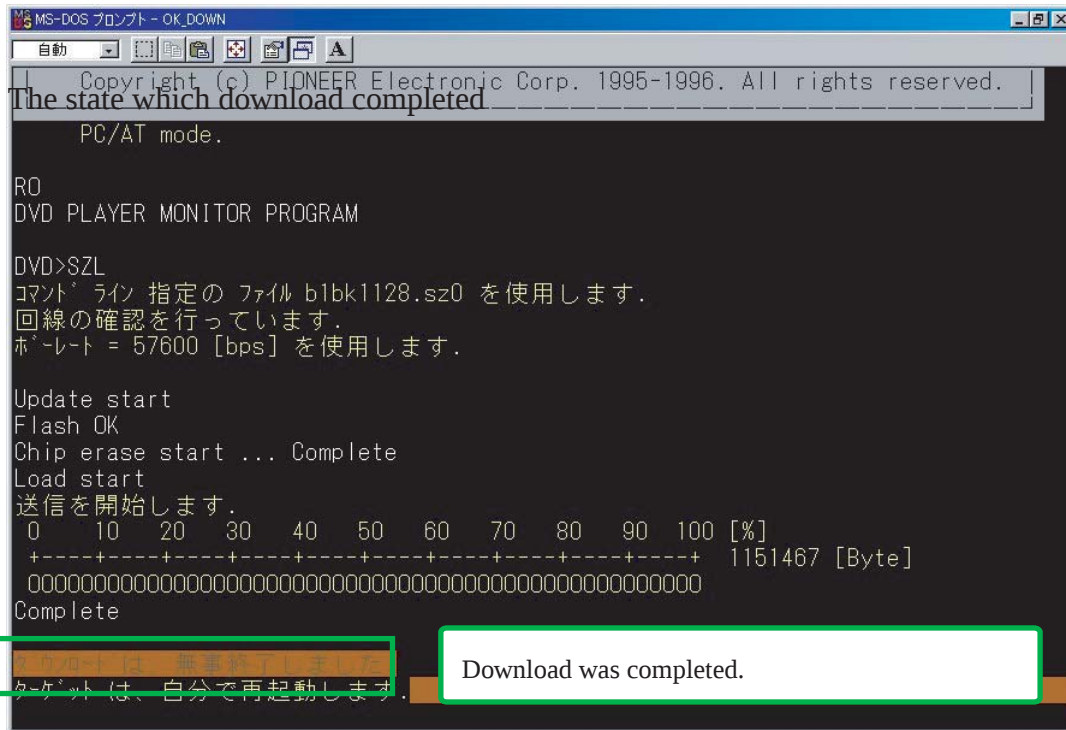


LOADING

UPGRADE FIRMWARE-7

Download procedures

Completed download view



```
MS-DOS プロンプト - OK_DOWN
Copyright (c) PIONEER Electronic Corp. 1995-1996. All rights reserved.
The state which download completed.
PC/AT mode.

RO
DVD PLAYER MONITOR PROGRAM

DVD>SZL
コマンドライン 指定の ファイル b1bk1128.sz0 を使用します。
回線の確認を行っています。
ボーレート = 57600 [bps] を使用します。

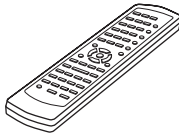
Update start
Flash OK
Chip erase start ... Complete
Load start
送信を開始します。
0 10 20 30 40 50 60 70 80 90 100 [%]
+-----+-----+-----+-----+-----+-----+-----+-----+ 1151467 [Byte]
000000000000000000000000000000000000000000000000000000000000000000
Complete

ダウンロードは、無事終了しました。
ターゲットは、自分で再起動します。
```

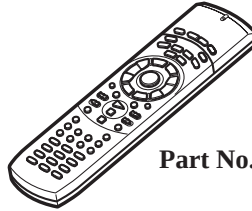
UPGRADE FIRMWARE-1

Prepares for upgrade firmware

REMOTE CONTROLLER for UPGRADE



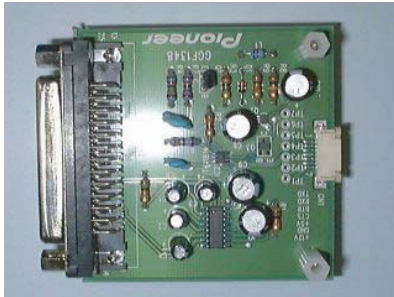
Part No. 24140506
(RC-506M)



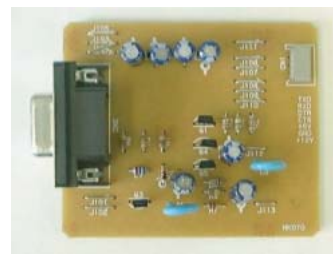
Part No. 24140484
(RC-484M)

INTERFACE JIG

Part No. GGF1348

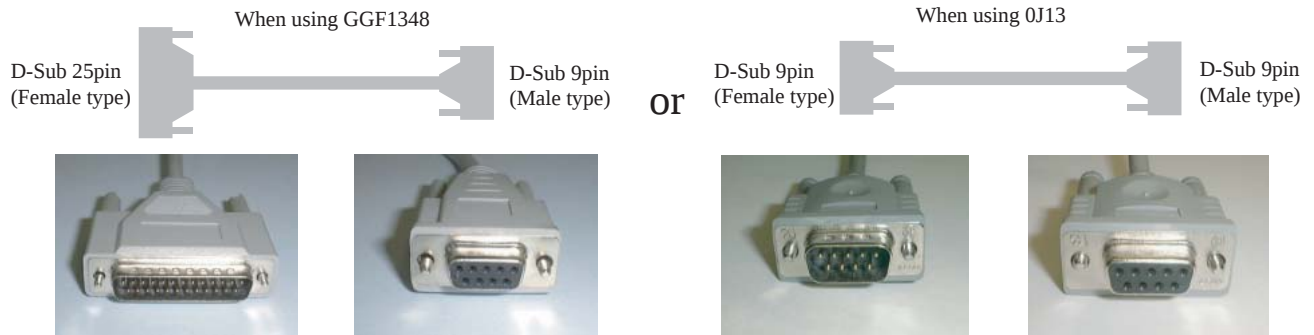


Part No. 0J13



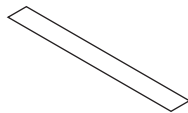
OR

RS-232C Cable (Straight type Cable)



Flexible flat cable

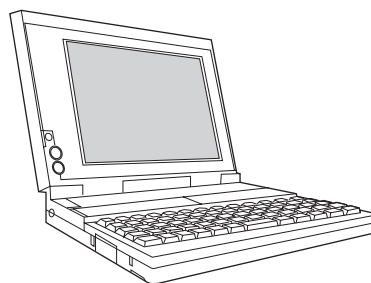
Part No.:GGD1231 or 0F001



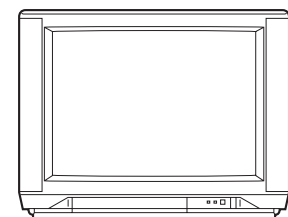
Video cable



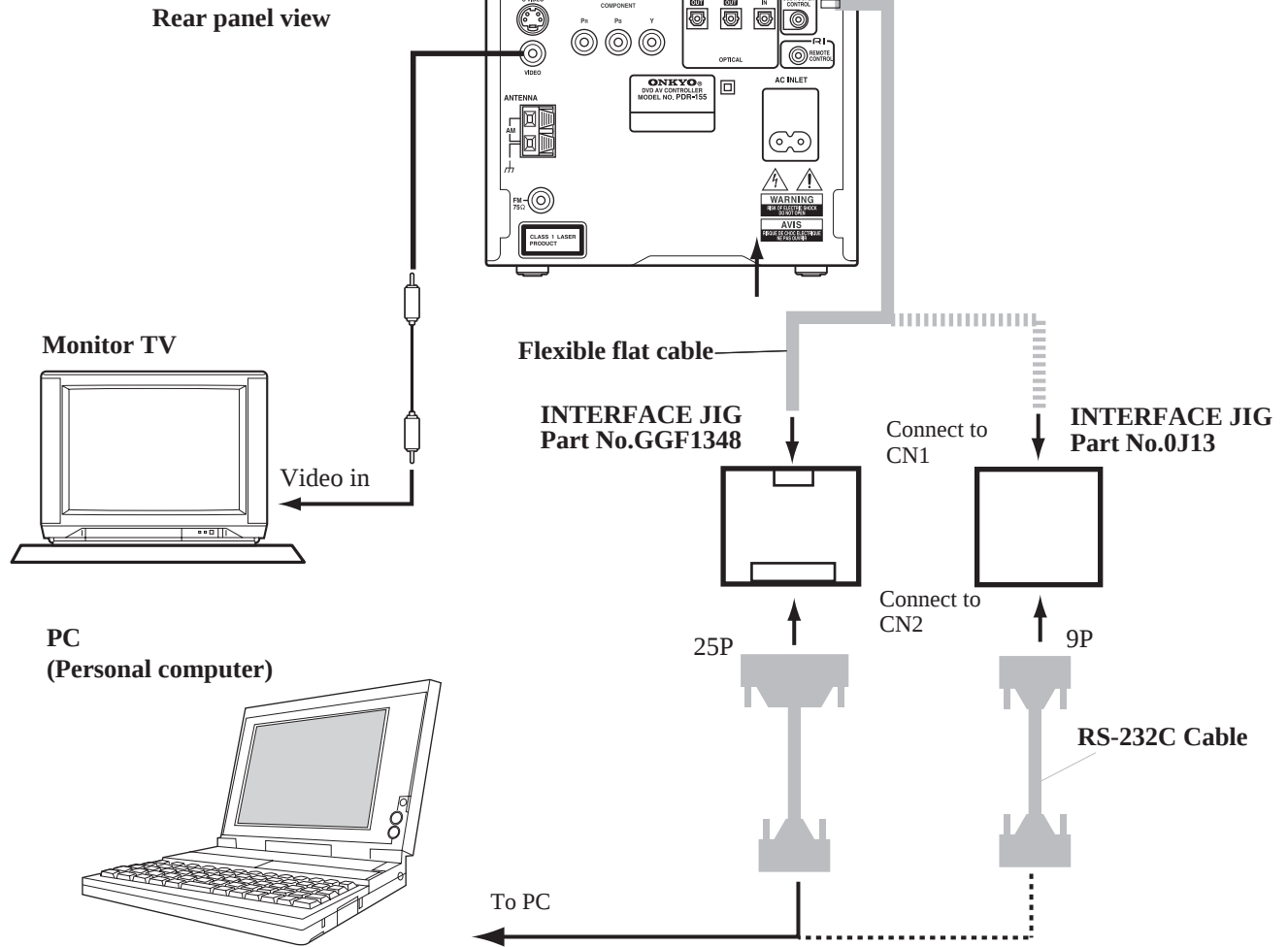
PC (Personal computer)



Monitor TV



UPGRADE FIRMWARE-2 Connections



Prepare the file required for rewriting of the firmware.

Build the folder to C drive of the hard disk of PC,
and put in the file required for the same folder.

The required file

NOTE: This is one example.

1. ok_down.exe

Rewriting tools

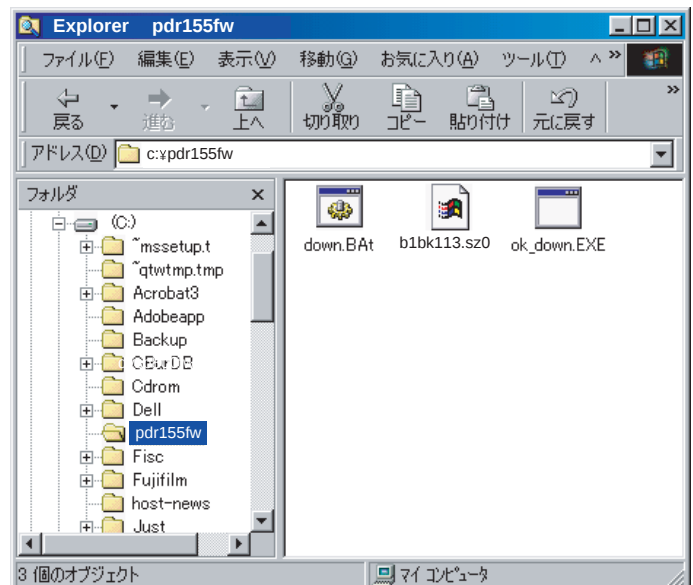
2. down.bat

Rewriting tools

3. b1dk113.sz0

firmware program

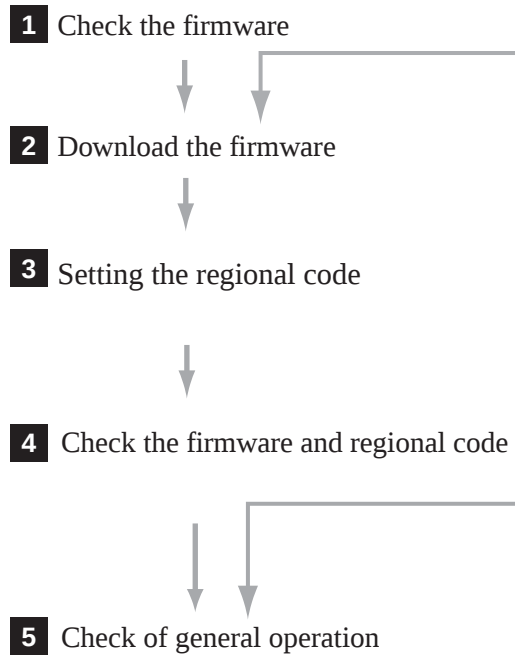
The file name changes with versions of the firmware.



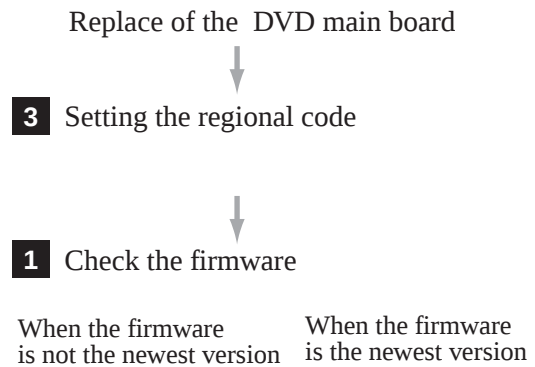
UPGRADE FIRMWARE-3

Flow chart

In the case of upgrade firmware



In the case of replace of the DVD main board



UPGRADE FIRMWARE-4

1 Check the firmware

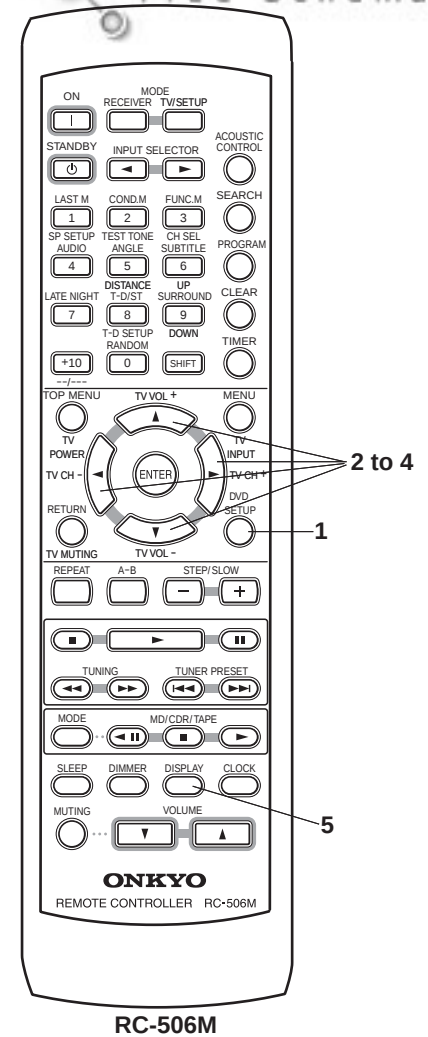
Please operate it by remote controller (RC-506M).

Power ON the unit.

FL tube indicate "NO DISC" condition.

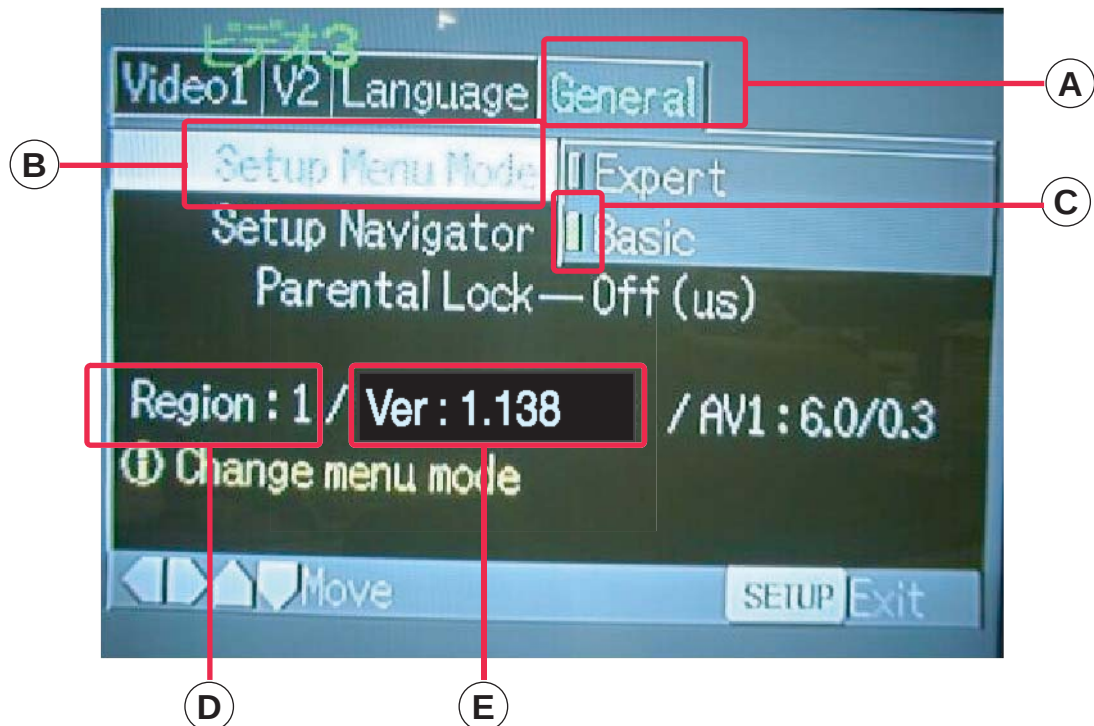
(Ex: Open the tray, then close the tray again.)

1. Press the **DVD SETUP** button by the remotecontroller (RC-506M).
2. Operate cursor button and select **General** menu.
Refer to (A)
3. Operate cursor button and select **Setup Menu mode**.
Refer to (B)
4. Operate cursor button and set as the state of **Basic**.
Refer to (C)
5. Press **DISPLAY** button.
6. Confirm the Region cord and the firmware version.
Refer to (D) (E)

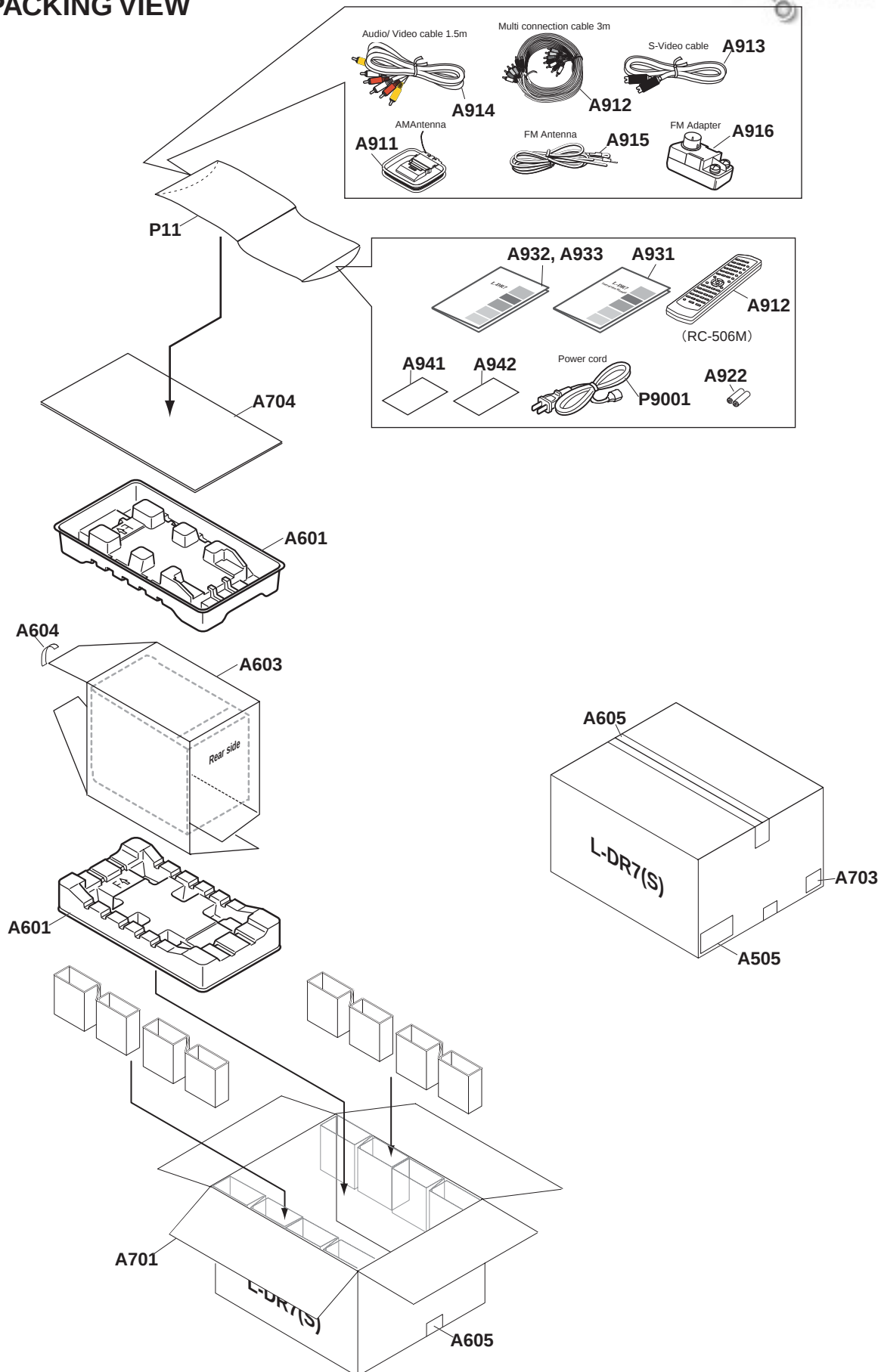


RC-506M

TV monitor view



PACKING VIEW



EXPLODED VIEW PARTS LIST

<DT3P> : 120V AC Regional code 3 TV system NTSC
 <GQ3P> : Hong Kong
 <GT3P> : 220-230V AC Regional code 3 TV system PAL
 <DS4P> : 120V AC Regional code 4 TV system PAL
 <PP2P> : 230-240V AC Regional code 2 TV system PAL
 ! : Safety part

REF. NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
A1	F BRACKET		27111308A	
A2	KNOB	(A) AS	28326041	
A7	SCREW	3TTB+8B	838130088	
A9	CUSHION		28141489	
A10	TAPE	(CU)	29110168	
A11	HOLDER	(ML)	27191182	
A12	HOLDER	(MR)	27191183	
A15	TAPE	TAPE(CROSS-16U)	29110083	
A21	CHASSIS		27100427	
A23	SCREW	4TTC+6C(BC)	830440069	
A24	HOLDER	(PL)	27191180	
A25	HOLDER	(PR)	27191181B	
A27	SCREW	3P+10FN(BC)	82143010	
A28	NUT	N-3FN(BC)	863430	
A30	SCREW	4TTC+8C(BC)	830440089	
A32	CAP	(SCREW)	28330135A	
A33	HOLDER		27191154	
A34	CUSHION	t5×40×4	28141518	
A41	SCREW	3TTB+8B(BC)	838430088	
P52	SOCKET-AS	NSAS-10P0119	2002391020UL	
P61	FFC	NCFC5-170512	2045170512	
A63	CLEAR PLT		28191980	
A64	FACET	(P)	28198954	
A65	FACET		28198938	
A66	CLEAR PLT	(RE)	28191895	
A67	DOOR		28148530	
A68	KNOB	(VOL)	28326038A	
A71	COVER		28184851	
A72	SCREW	3TTB+8B(UN)	838930088	
A81	WIRE TIE	BINDER(CLAMPER)UL	260208	
A82	ISO PLT	(A)	28175290	
A86	LABEL(DVD2)		29362648	
A87	RIVET	P-RIVET NRP-345	880009	
A88	LABEL	(COVER)	29363312	
A101	REAR PANEL	<DT3P>	27123049	
A101	REAR PANEL	<GQ3P, GT3P,>	27123051	
A101	REAR PANEL	<DS4P>	27123052	
A101	REAR PANEL	<PP2P>	27123085	
A111	F PANEL	Except <PP2P>	27212461A	
A111	F PANEL	<PP2P>	27212478	
F9001	FUSE	1.6A-UL/T-237 <DT3P, DS4P>	252158	!
F9001 or	FUSE	1.6A-T/UL-ST2 <DT3P, DS4P>	252252	!
F9001	FUSE	0.8A-SE-EAK FSBFUSE	252069	!
F9001 or	FUSE	<GQ3P, GT3P, PP2P> 800MA-SE-TL250V <GQ3P, GT3P, PP2P>	252270	!
F9501	FUSE	4A-SE-EAK FUSE	252077	!
F9501 or	FUSE	4A-SE-TL250V	252277	!
P0011	CRIMP AS		2063A14070	
P1001	FFC	NCFC7-152012	2047152012	
T9001	P TRANS	NPT-1458D <DT3P, DS4P>	2301667	!
T9001	P TRANS	NPT-1458G <GQ3P, GT3P>	2301668	!
T9001	P TRANS	NPT-1458P <PP2P>	2301680	!
U1	DSP Circuit PC board assy	NADG-7673-1B <DT3P, GQ3P, GT3P>	1A960573-1B	
U1	DSP Circuit PC board assy	NADG-7673-1C <DS4P>	1A960573-1C	
U1	DSP Circuit PC board assy	NADG-7673-1D <PP2P>	1A960573-1D	
U2	Display circuit PC board assy	NADIS-7674-1B <DT3P, DS4P>	1A960574-1B	
U2	Display circuit PC board assy	NADIS-7674-1C <GQ3P, GT3P>	1A960574-1C	
U2	Display circuit PC board assy	NADIS-7674-1D <PP2P>	1A960574-1D	
U3	Output terminal PC board assy	NAVD-7675-1B <DT3P, DS4P>	1A960575-1B	
U3	Output terminal PC board assy	NAVD-7675-1C <GQ3P, GT3P>	1A960575-1C	
U3	Output terminal PC board assy	NAVD-7675-1D <PP2P>	1A960575-1D	

U4	Video output terminal PC board assy	NAVD-7676-1B <DT3P, DS4P>	1A960576-1B	DENOM.com Free Schematics
U4	Video output terminal PC board assy	NAVD-7676-1C <GQ3P, GT3P>	1A960576-1C	
U4	Video output terminal PC board assy	NAVD-7676-1D <PP2P>	1A960576-1D	
U5	Power transformer PC board assy	NAPS-7677-1B <DT3P, DS4P>	1A960577-1B	
U5	Power transformer PC board assy	NAPS-7677-1C <GQ3P, GT3P>	1A960577-1C	
U5	Power transformer PC board assy	NAPS-7677-1D <PP2P>	1A960577-1D	
U6	Power supply circuit PC board assy	NAPS-7678-1B <DT3P, DS4P>	1A960578-1B	
U6	Power supply circuit PC board assy	NAPS-7678-1C <GQ3P, GT3P>	1A960578-1C	
U6	Power supply circuit PC board assy	NAPS-7678-1D <PP2P>	1A960578-1D	
U7	Inlet terminal PC board assy	NAPS-7679-1B <DT3P, DS4P>	1A960579-1B	
U7	Inlet terminal PC board assy	NAPS-7679-1C <GQ3P, GT3P>	1A960579-1C	
U7	Inlet terminal PC board assy	NAPS-7679-1D <PP2P>	1A960579-1D	
U8	Headphone terminal PC board assy	NAETC-7680-1B <DT3P, DS4P>	1A960580-1B	
U8	Headphone terminal PC board assy	NAETC-7680-1C <GQ3P, GT3P>	1A960580-1C	
U8	Headphone terminal PC board assy	NAETC-7680-1D <PP2P>	1A960580-1D	
U9	Connection Terminal PC board assy	NAETC-7681-1B <DT3P, DS4P>	1A960581-1B	
U9	Connection Terminal PC board assy	NAETC-7681-1C <GQ3P, GT3P>	1A960581-1C	
U9	Connection Terminal PC board assy	NAETC-7681-1D <PP2P>	1A960581-1D	
U10	Connector PC board_1	NAETC-7682-1B <DT3P, DS4P>	1A960582-1B	
U10	Connector PC board_1	NAETC-7682-1C <GQ3P, GT3P>	1A960582-1C	
U10	Connector PC board_1	NAETC-7682-1D <PP2P>	1A960582-1D	
U11	Connector PC board_2	NAETC-7683-1B <DT3P, DS4P>	1A960583-1B	
U11	Connector PC board_2	NAETC-7683-1C <GQ3P, GT3P>	1A960583-1C	
U11	Connector PC board_2	NAETC-7683-1D <PP2P>	1A960583-1D	
U12	Connector PC board_3	NAETC-7684-1B <DT3P, DS4P>	1A960584-1B	
U12	Connector PC board_3	NAETC-7684-1C <GQ3P, GT3P>	1A960584-1C	
U12	Connector PC board_3	NAETC-7684-1D <PP2P>	1A960584-1D	
U13	DVD Main circuit PC board assy	DB-VPB311/XJ	24150031	
U40	TUNER UNIT	TFCE1E512A Except <DS4P> , <PP2P>	240135	
U40	TUNER UNIT	TFCE1U114B <DS4P>	240134A	
Z001	DVD Mechanism assy	DB-VLD304	24801015	

PACKING PARTS LIST

REF. NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
A505	LABEL	<DT3P>	29363230	
A505	LABEL	<GT3P>	29363232	
A505	LABEL	<DS4P>	29363231	
A505	LABEL	<PP2P>	29363333	
A601	PAD	(UP)	29092077	
A603	SHEET	800*600RGK-3274-1P4	29095864	
A604	TAPE	NITTO NO.29	29110149	
A605	PP TAPE	W48 OPP TAPE	29110148	
A701	CARTON		29053977	
A703	EAN LABEL		29363253	
A704	PAD	(SIDE)	29092082	
A705	POLY BAG	350*250	29100097-1A	
A911	ANT COIL	NMA-3057	232140	
A912	CORD AS	AS-3M	2010407	
A913	CORD AS	(S CORD)	2010380	
A913 or	CORD AS	TPX3000	2010360	
A914	PIN CORD AS	RCA-3P(YWR)	2010359TES	
A915	FM-ANT-AS	P-Type Except <DS4P>	292116	N
A915	FM ANT AS	D-Type <DS4P>	292189	
A916	FM ADPTER	YAE21-0237 Except <PP2P>	25065462	
A921	REMO CON	RC-506M	24140506	
A922	BATTERY	UM-3	3010054	
A931	INS MANUAL	E(L-DR7)	29343430A	
A932	INS MANUAL	Ct <DT3P, GQ3P, GT3P>	29343431	
A932	INS MANUAL	U2FG <PP2P>	29343463	
A933	INS MANUAL	Cs <GQ3P, GT3P>	29343432	
A933	INS MANUAL	U2SI <PP2P>	29343464	
A941	INST SHEET	U9 (L-DR-7)	29355414	
A942	INST SHEET	U10 (DR-L50) Except <PP2P>	29355417	
P9001	AC CORD	AC-UC-2 <DT3P, DS4P>	253296HIT	!
P9001	AC CORD	AS-CEE <GT3P, PP2P>	253299HIT	!
P9001	AC CORD	AS-BS <GQ3P>	253353KAW	!

PRINTED CIRCUIT BOARD PARTS LIST



<DT3P> : 120V AC Regional code 3 TV system NTSC
 <GQ3P> : Hong Kong
 <GT3P> : 220-230V AC Regional code 3 TV system PAL
 <DS4P> : 120V AC Regional code 4 TV system PAL
 <PP2P> : 230-240V AC Regional code 2 TV system PAL
 ! : Safety part

U1: DSP CIRCUIT PC BOARD (NAAR-7673-1B/-1C/1D)

PCB	CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7673	C1002	VR C	CE04W50V-3.3M(VR)	394680337	
7673	C1003	VR C	CE04W50V-2.2M(VR)	394680227	
7673	C3013	VX C	CE04W16V-10M(VX)	393341007	
7673	C3014	VX C	CE04W16V-10M(VX)	393341007	
7673	C3015	VX C	CE04W16V-10M(VX)	393341007	
7673	C3016	VX C	CE04W16V-10M(VX)	393341007	
7673	C3017	VX C	CE04W16V-10M(VX)	393341007	
7673	C3018	VX C	CE04W16V-10M(VX)	393341007	
7673	C3021	VR C	CE04W16V-220M(VR)	394642217	
7673	C3022	VR C	CE04W16V-220M(VR)	394642217	
7673	C3023	MY C	MY92-50V-472J	371124724	
7673	C3024	MY C	MY92-50V-472J	371124724	
7673	C3025	MMT C	MMT50V-224J	375522244	
7673	C3026	MMT C	MMT50V-224J	375522244	
7673	C3027	MMT C	MMT50V-224J	375522244	
7673	C3028	MMT C	MMT50V-224J	375522244	
7673	C3029	MMT C	MMT50V-154J	375521544	
7673	C3030	MMT C	MMT50V-154J	375521544	
7673	C3031	MMT C	MMT50V-154J	375521544	
7673	C3032	MMT C	MMT50V-154J	375521544	
7673	C3033	VR C	CE04W16V-220M(VR)	394642217	
7673	C3034	VR C	CE04W16V-220M(VR)	394642217	
7673	C3051	VX C	CE04W16V-10M(VX)	393341007	
7673	C3052	VX C	CE04W16V-10M(VX)	393341007	
7673	C3053	VX C	CE04W50V-2.2M(VX)	393380227	
7673	C3054	VX C	CE04W50V-2.2M(VX)	393380227	
7673	C3057	VX C	CE04W6.3V-100M(VX)	393321017	
7673	C3058	VX C	CE04W6.3V-100M(VX)	393321017	
7673	C3111	VX C	CE04W16V-10M(VX)	393341007	
7673	C3112	VX C	CE04W16V-10M(VX)	393341007	
7673	C3113	VX C	CE04W50V-4.7M(VX)	393380477	
7673	C3116	VX C	CE04W50V-4.7M(VX)	393380477	
7673	C3118	VR C	CE04W50V-2.2M(VR)	394680227	
7673	C3119	VX C	CE04W16V-10M(VX)	393341007	
7673	C3120	VX C	CE04W16V-10M(VX)	393341007	
7673	C3122	VX C	CE04W16V-10M(VX)	393341007	
7673	C8001	VR C	CE04W6.3V-100M(VR)	394621017	
7673	C8003	EDL C	FMC0H104Z	3000120	
7673	C8004	VR C	CE04W6.3V-100M(VR)	394621017	
7673	C8059	VR C	CE04W50V-1M(VR)	394680107	
7673	C8070	TRIMMER	NTC-45P10	3060011	
7673	C8306	ECHU C	ECHU16V-153J	373041534R2	
7673	C8316	ECHU C	ECHU16V-822J	373048224R2	
7673	C8404	VR C	CE04W6.3V-220M(VR)	394622217	
7673	C8406	VR C	CE04W6.3V-220M(VR)	394622217	
7673	C8410	VR C	CE04W16V-22M(VR)	394642207	
7673	C8411	VX C	CE04W16V-10M(VX)	393341007	
7673	C8412	VX C	CE04W16V-10M(VX)	393341007	
7673	C8414	VR C	CE04W6.3V-47M(VR)	394624707	
7673	C8421	VX C	CE04W16V-10M(VX)	393341007	
7673	C8422	VX C	CE04W16V-10M(VX)	393341007	
7673	C8423	VX C	CE04W16V-10M(VX)	393341007	
7673	C8424	VX C	CE04W16V-10M(VX)	393341007	
7673	C8425	VX C	CE04W16V-10M(VX)	393341007	
7673	C8426	VX C	CE04W16V-10M(VX)	393341007	
7673	C8503	VR C	CE04W6.3V-47M(VR)	394624707	
7673	C8507	VR C	CE04W6.3V-47M(VR)	394624707	
7673	C8604	VR C	CE04W6.3V-47M(VR)	394624707	
7673	C8692	VR C	CE04W6.3V-47M(VR)	394624707	
7673	C8693	VR C	CE04W6.3V-47M(VR)	394624707	
7673	C8801	VR C	CE04W6.3V-100M(VR) <PP2P>	394621017	
7673	C8806	VR C	CE04W6.3V-100M(VR) <PP2P>	394621017	
7673	D3111	C-DIODE	1SS355	223269R2	
7673	D3112	C-DIODE	1SS355	223269R2	

7673	D8001	C-DIODE	1SS355	223269R2	
7673	D8002	C-DIODE	1SS355	223269R2	
7673	D8023	C-DIODE	1SS355	223269R2	
7673	D8024	ZENER D	UDZ5.1B	224490510R2	
7673	D8060	C-DIODE	1SS355	223269R2	
7673	D8061	C-DIODE	1SS355	223269R2	
7673	D8062	ZENER D	UDZ6.2B	224490620R2	
7673	L8001	CHOKE COIL	NCH-1479	231237K470R2	
7673	L8401	CHOKE COIL	NCH-1471	231237M022R2	
7673	L8402	CHOKE COIL	NCH-1471	231237M022R2	
7673	L8403	CHOKE COIL	NCH-1471	231237M022R2	
7673	L8404	CHOKE COIL	NCH-1471	231237M022R2	
7673	L8451	CHOKE COIL	NCH-1479	231237K470R2	
7673	L8501	CHOKE COIL	NCH-1471	231237M022R2	
7673	L8502	CHOKE COIL	NCH-1471	231237M022R2	
7673	L8601	CHOKE COIL	NCH-1479	231237K470R2	
7673	L8691	CHOKE COIL	NCH-1479	231237K470R2	
7673	L8801	CHOKE COIL	NCH-1477 <PP2P>	231237K220R2	
7673	P1001A	SOCKET	NSCT-15P1609	25051822	
7673	P3001	JACK	NPJ-6PDBL159	25045300	
7673	P3002	PIN JACK	NPJ-4PDRW389	25045575	
7673	P3003	PIN JACK	NPJ-6PWRLGGP493	25045697	
7673	P3114	SOCKET	NSCT-19P1317	25051530	
7673	P5801A	PLUG	NPLG-7P135	25055151	
7673	P7001A	PLUG	NPLG-12P140	25055156	
7673	P7673	PWB	NCDG-7673	25137673A	
7673	P8006	PLUG	NPLG-2P29	25055038	
7673	P8151	SOCKET	NSCT-10P1025	25051235	
7673	P8403A	PLUG	NPLG-2P130	25055146	
7673	P8404A	PLUG	NPLG-7P135	25055151	
7673	Q1101	TR	2SC4617 <PP2P>	2216540R2	
7673	Q3001	IC	BD3811K1	22241761R3	
7673	Q3002	IC	78L07(SMT)	222780073R2	
7673	Q3003	IC	79L07(SMT)	222790073R2	
7673	Q3051	TR	RN1441	2215410R2	
7673	Q3052	TR	RN1441	2215410R2	
7673	Q3053	TR	RN1441	2215410R2	
7673	Q3054	TR	RN1441	2215410R2	
7673	Q3055	TR	DTA114EE	2216710R2	
7673	Q3057	IC	NJM4565V	22241554R2	
7673	Q3101	IC	NJM4565V	22241554R2	
7673	Q3111	TR	RN1441	2215410R2	
7673	Q3112	TR	RN1441	2215410R2	
7673	Q3113	IC	NJM4565V	22241554R2	
7673	Q3114	TR	RN1441	2215410R2	
7673	Q3115	TR	RN1441	2215410R2	
7673	Q3116	TR	DTA114EE	2216710R2	
7673	Q3117	TR	RN1441	2215410R2	
7673	Q3118	TR	RN1441	2215410R2	
7673	Q3119	TR	RN1441	2215410R2	
7673	Q8001	IC	MPD784225GC-192-8BT	22241886R3	
7673	Q8023	TR	DTA124EE	2216490R2	
7673	Q8060	TR	DTC144EE	2216390R2	
7673	Q8081	TR	2SA1774	2216410R2	
7673	Q8082	TR	DTC114EE	2216730R2	
7673	Q8301	IC	NJM4565V	22241554R2	
7673	Q8302	IC	NJM4565V	22241554R2	
7673	Q8303	IC	NJM4565V	22241554R2	
7673	Q8401	IC	AK4586	22241620R3	
7673	Q8451	IC	TC7WU04FU	22240935R2	
7673	Q8501	IC	CS493292-CL	22241455R2	
7673	Q8601	IC	TC74VHC574FT	22274574ER20	
7673	Q8602	IC	TC74VHC574FT	22274574ER20	
7673	Q8603	IC	TC74VHC74FT	22274074ER20	
7673	Q8611	IC	MX27L2000TC-12	22241809R3	
7673	Q8651	IC	TC74VHC541FT	22274541ER20	
7673	Q8671	IC	TC74HCT7007AF	222740077R20	
7673	Q8691	IC	BA33C25FP	22241778R2	
7673	Q8801	IC	BU1923F <PP2P>	22241297R2	
7673	X8001	CRYSTAL	HC-49/U03C12.500MHz	3010362R2	
7673	X8451	CERA LOCK	CSTCV12.2MTJ0C4	3010324R2	
7673	X8801	CRYSTAL	HC-49/U03C4.332MHz <PP2P>	3010332R2	

	CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7674	C7005	ELECT C	CE04W6.3V-100M(S)	353721019	
7674	C7015	ELECT C	CE04W50V-22M	355782209	
7674	P7001	SOCKET AS	NSAS-24P1086	2002E392411	
7674	Q7001	FL TUBE	HNW-12SS12T	212228	
7674	Q7001 or	FL TUBE	HNW-12SS12T	212228A	
7674	Q7001A	CUSHION for FL	t3*10*25	28141513	
7674	Q7001B	CUSHION for FL	t3*10*25	28141513	
7674	Q7002	IC	MPD780232GC-070-8BT	22241814R3	
7674	Q7004	TR	DTC114EE	2216730R2	
7674	Q7007	TR	DTC114EE	2216730R2	
7674	Q7008	TR	DTC114EE	2216730R2	
7674	Q7009	TR	DTC114EE	2216730R2	
7674	S7001	R ENCODE	EC16B2420	25065641	
7674	S7002	PUSH SW	NPS-111-S662	25035699	
7674	S7003	PUSH SW	NPS-111-S662	25035699	
7674	S7004	PUSH SW	NPS-111-S662	25035699	
7674	S7005	PUSH SW	NPS-111-S662	25035699	
7674	S7006	PUSH SW	NPS-111-S662	25035699	
7674	S7007	PUSH SW	NPS-111-S662	25035699	
7674	S7008	PUSH SW	NPS-111-S662	25035699	
7674	S7009	PUSH SW	NPS-111-S662	25035699	
7674	S7010	PUSH SW	NPS-111-S662	25035699	
7674	S7011	PUSH SW	NPS-111-S662	25035699	
7674	S7012	PUSH SW	NPS-111-S662	25035699	
7674	S7013	PUSH SW	NPS-111-S662	25035699	
7674	S7014	PUSH SW	NPS-111-S662	25035699	
7674	S7015	PUSH SW	NPS-111-S662	25035699	
7674	X7001	CERA LOCK	CST5.00MGW	3010242	

U3: OUTPUT TERMINAL PC BOARD (NAVD-7675-1B/-1C/-1D)

	CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7675	C2011	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C2014	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C2016	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C2018	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C2020	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C2022	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C2023	VR C	CE04W6.3V-220M(VR)	394622217	
7675	C2027	VR C	CE04W6.3V-1000M(VR)	394621027	
7675	C2029	VR C	CE04W6.3V-1000M(VR)	394621027	
7675	C2030	VR C	CE04W6.3V-1000M(VR)	394621027	
7675	C2031	VR C	CE04W6.3V-1000M(VR)	394621027	
7675	C2032	VR C	CE04W6.3V-1000M(VR)	394621027	
7675	C8481	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C8486	VR C	CE04W6.3V-100M(VR)	394621017	
7675	C8491	VR C	CE04W16V-100M(VR)	394641017	
7675	D7001	ZENER D	UDZ4.7B	224490470R2	
7675	D7002	DIODE	RL1N4003	22380260	
7675	D7002 or	DIODE	GP104003E	22380035	
7675	D7003	LED	SLR-332VR(h1=8mm)	225338	
7675	D7006	LED	SLR-332DU(h1=8mm)	225340	
7675	D7007	LED	SLR-332DU(h1=8mm)	225340	
7675	D7008	LED	SLR-332DU	225340	
7675	JL2006A	WIRE HOL	NSCT-7P878	25051091	
7675	L8481	EMIFIL	BK1608LM182-T	230958R1	
7675	L8482	EMIFIL	BK1608LM182-T	230958R1	
7675	P2001A	PLUG	NPLG-6P134	25055150	
7675	P2002A	PLUG	NPLG-12P140	25055156	
7675	P2003	PIN JACK	NPJ-5PDBY456	25045656	
7675	P2004A	PLUG	NPLG-13P141	25055157	
7675	P8153	SOCKET	NSCT-7P2241	25052344	
7675	P8404	SOCKET AS	NSAS-14P1066	2009990756UL	
7675	P8491	ST JACK	HSJ1002-01-1020	25045647	
7675	Q2001	IC	4053BF(TC4053BF)	222840531R2O	
7675	Q2002	IC	LA73054	22241767R2	
7675	Q2003	TR	DTC114EE	2216730R2	
7675	Q2004	TR	DTC114EE	2216730R2	
7675	Q2005	TR	DTA114EE	2216710R2	
7675	Q2006	TR	DTA114EE	2216710R2	
7675	Q2007	TR	DTC114EE	2216730R2	
7675	Q2008	TR	DTC114EE	2216730R2	
7675	Q8481	IC	TC7WU04FU	22240935R2	
7675	Q8491	TR	2SB1068-U	2212855	
7675	Q8492	TR	DTC114EE	2216730R2	

7675	R8493	THERMISTOR	RXE030	4000195	
7675	U8481	PHT CP	TOTX179	24120094	
7675	U8482	PHT CP	TOTX179	24120094	
7675	U8483	PHT CP	TORX179	24120095	

U4: VIDEO OUTPUT TERMINAL PC BOARD (NAVD-7676-1B/-1C/-1D)

CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7676	JL2006B	WIRE TRAP <DT3P,DS4P>	NPLG-7P590	25055628
7676	L2007	EMIFIL	BK1608LM182-T	230958R1
7676	L2008	EMIFIL	BK1608LM182-T	230958R1
7676	L2009	EMIFIL	BK1608LM182-T	230958R1
7676	P2005	PIN JACK	NPJ-3PDB401	25045590

U5: POWER TRANSFORMER PC BOARD (NAPS-7677-1B/-1C/-1D)

CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7677	JL9002A	WIRE HOL	NSCT-4P895	25051108
7677	JL9003A	WIRE HOL	NSCT-6P897	25051110
7677	P9002A	SOCKET AS	NSAS-4P0911	2009990654UL

U6: POWER SUPPLY CIRCUIT PC BOARD (NAPS-7678-1B/-1C/-1D)

CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7678	C9001	IS C	RE275V-103M	3500196S
7678	C9003	VR C	CE04W25V-470M(VR)	394654717
7678	C9501	MMT C	MMT50V-334J	375523344
7678	C9502	MMT C	MMT50V-334J	375523344
7678	C9503	VR C	CE04W25V-2200M(VR)	394652227S
7678	C9504	VR C	CE04W25V-2200M(VR)	394652227S
7678	C9505	VR C	CE04W35V-100M(VR)	394661017
7678	C9506	VR C	CE04W50V-47M(VR)	394684707
7678	C9511	VR C	CE04W50V-10M(VR)	394681007
7678	C9512	VR C	CE04W50V-10M(VR)	394681007
7678	C9514	VR C	CE04W50V-10M(VR)	394681007
7678	C9516	VR C	CE04W50V-10M(VR)	394681007
7678	C9517	MMT C	MMT50V-334J	375523344
7678	C9518	MMT C	MMT50V-334J	375523344
7678	C9519	VR C	CE04W16V-4700M(VR)	394644727S
7678	C9521	VR C	CE04W16V-1000M(VR)	394641027S
7678	C9522	VR C	CE04W50V-10M(VR)	394681007
7678	C9524	VR C	CE04W50V-10M(VR)	394681007
7678	C9526	VR C	CE04W50V-10M(VR)	394681007
7678	C9528	VR C	CE04W50V-10M(VR)	394681007
7678	C9529	MMT C	MMT50V-334J	375523344
7678	C9530	MMT C	MMT50V-334J	375523344
7678	C9531	ELECT C	CE04W10V-10000M(RS)	3500205S
7678	C9533	VR C	CE04W6.3V-470M(VR)	394624717
7678	C9535	VR C	CE04W50V-10M(VR)	394681007
7678	D9001	DIODE	S1NB60-4062	22380318R2
7678	D9002	C-DIODE	1SS355	223269R2
7678	D9501	DIODE	RBV402	22380022F
7678	D9502	DIODE	RL1N4003	22380260
7678	D9502 or	DIODE	GP104003E	22380035
7678	D9503	DIODE	RL1N4003	22380260
7678	D9503 or	DIODE	GP104003E	22380035
7678	D9504	ZENER D	UDZS27B	224552700R2
7678	D9504 or	ZENER D	RD27SB	224372700R2
7678	D9505	DIODE	RL1N4003	22380260
7678	D9505 or	DIODE	GP104003E	22380035
7678	D9506	DIODE	RBV402	22380022F
7678	D9507	DIODE	RL1N4003	22380260
7678	D9507 or	DIODE	GP104003E	22380035
7678	D9508	DIODE	RBV402	22380022F
7678	E0001	HOLDER	HOLDER(CLAMP)	27190540-1
7678	E0002	HOLDER	HOLDER(CLAMP)	27190540-1
7678	E9001	TRM(SCREW)	NEGITANSI M3	25065425
7678	F9001A	FUSE HOL	NSCT-1P2031	25052133
7678	F9001B	FUSE HOL	NSCT-1P2031	25052133
7678	F9001C	FUSE LABEL <GQ3P, GT3P>	T800mAL250V	29362519
7678	F9001C	FUSE LABEL <PP2P>	T800mAL250V	29362519
7678	F9501A	FUSE HOL	NSCT-1P2031	25052133
7678	F9501B	FUSE HOL	NSCT-1P2031	25052133
7678	JL9002B	SOCKET	NSCT-4P96	25050268
7678	JL9003B	SOCKET	NSCT-6P98	25050270
7678	P5001A	PLUG	NPLG-19P764	25055808
7678	P5006	SOCKET AS	NSAS-22P1061	2002A392205

7678	P9002C	PLUG	NPLG-2P631	25055675	
7678	Q9001	TR	DTC123JE	2216740R2	
7678	Q9501	TR	2SA950-Y	2211504	
7678	Q9502	IC	PQ12RF1	22241770	
7678	Q9502A	HEAT-SINK	HEAT-SINK(RAD-07)	27160029	
7678	Q9502B	SCREW	3P+10FN(BC)	82143010	
7678	Q9503	IC (REGULATOR)	78M06HF(NJM78M06FA)	222780065JRC	
7678	Q9503 or	IC (REGULATOR)	78M06(AN78M06F)	222780065MA	
7678	Q9504	IC (REGULATOR)	78M12HF(MPC78M12HF)	222780125NEC	
7678	Q9504 or	IC (REGULATOR)	78M12HF(NJM78M12FA)	222780125JRC	
7678	Q9504A	HEAT-SINK	HEAT-SINK(RAD-07)	27160029	
7678	Q9504B	SCREW	3P+10FN(BC)	82143010	
7678	Q9505	IC (REGULATOR)	79M12HF(NJM79M12FA)	222790125JRC	
7678	Q9505 or	IC (REGULATOR)	79M12HF(MPC79M12HF)	222790125NEC	
7678	Q9505A	HEAT-SINK	HEAT-SINK(RAD-07)	27160029	
7678	Q9505B	SCREW	3P+10FN(BC)	82143010	
7678	Q9506	IC(REGULATOR)	78M56	222780565	
7678	Q9507	IC	PQ05RD11	22241495	
7678	Q9507A	HEAT SINK	RAD-141	27160472	
7678	Q9507B	SCREW	3P+10FN(BC)	82143010	
7678	Q9508	IC (REGULATOR)	78M05(NJM78M05FA)	222780055JRC	
7678	Q9508 or	IC (REGULATOR)	78M05HF(MPC78M05HF)	222780055NEC	
7678	Q9508A	HEAT SINK	RAD-141	27160472	
7678	Q9508B	SCREW	3P+10FN(BC)	82143010	
7678	Q9509	IC (REGULATOR)	7806FA(NJM7806FA)	222780064JRC	
7678	Q9510	IC	PQ3RD23	22241771	
7678	Q9510A	HEAT SINK	RAD-141	27160472	
7678	Q9510B	SCREW	3P+10FN(BC)	82143010	
7678	Q9511	IC(REGULATOR)	MPC2925T	22278025DR2NE	
7678	R9001	SOLID R <DT3P, DS4P>	RC1/2GFKUL-3.3M	431533355	
7678	R9002	METAL O R	RS1/2WBJ-22	443522204	
7678	R9003	METAL R	RNU1/2WCJ-8.2	453530824	
7678	R9501	METAL R	RNU1WCJ-6.8	453630684	
7678	R9504	METAL O R	RS1/2WBJ-22	443522204	
7678	R9505	METAL O R	RS1/2WBJ-2.7K	443522724	
7678	R9507	METAL O R	RS1/2WBJ-56	443525604	
7678	R9508	METAL R	RNU1/2WCJ-2.2	453530224	
7678	R9509	METAL R	RNU1/2WCJ-2.2	453530224	
7678	R9511	METAL R	RNU1/2WCJ-1	453530104	
7678	R9512	METAL R	RNU1WCJ-0.22	453632294	
7678	R9513	METAL O R	RS1WBJ-10	443621004	
7678	R9514	METAL O R	RS1/2WBJ-22	443522204	
7678	R9515	METAL O R	RS1/2WBJ-22	443522204	
7678	R9516	METAL O R	RS1/2WBJ-22	443522204	
7678	RL9001	RELAY	NRL-1P5A-DC12-161	25065633	!
7678	RL9001 or	RELAY	NRL-1P5A-DC12-139	25065583	!
7678	T9002	P TRANS <DT3P,DS4P>	NPT-1358D	2301381	!
7678	T9002	P TRANS <GQ3P,GT3P>	NPT-1358DG	2301383	!
7678	T9002	P TRANS <PP2P>	NPT-1358P	2301382	!

U7: INLET TERMINAL PC BOARD (NAPS-7679-1B/-1C/-1D)

CIRCUIT BOARD NAME: 12, 13, 14					
CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK	
7679	P9001A	AC INLET <DT3P,DS4P>	NPLG-2P956	25056006	!
7679	P9001A	AC INLET <GQ3P,GT3P>	NPLG-2P977	25056027	!
7679	P9001A	AC INLET <PP2P>	NPLG-2P977	25056027	!
7679	P9001C	CORE	NFY-25 BLACK	230945	!
7679	P9006A	CRIMP AS	CRIMP AS	2069943501UL	!
7679	P9007A	CRIMP AS	CRIMP AS	2069943503UL	!

U8: HEADPHONE TERMINAL PC BOARD (NAETC-7680-1B/-1C/-1D)

	CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7680	C7012	ELECT C	CE04W6.3V-100M(S)	353721019	
7680	D7010	C-DIODE	1SS355	223269R2	
7680	L5901	CHOKE COIL	BLM21B222SPT	230921R2	
7680	L5902	CHOKE COIL	BLM21B222SPT	230921R2	
7680	P5801	SOCKET AS	NSAS-14P1062	2002E391420	
7680	P5901	JACK (Headphone)	LGT1516-0101	25045396	
7680	P5902	CRIMP AS	CRIMP AS DX730	2063925100UL	
7680	Q7003	REMO SENS	PIC-37043TH2	241336	

U9: CONNECTION TERMINAL PC BOARD (NAETC-7681-1B/-1C/-1D)

	CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7681	CN15	SOCKET	NSCT-30P-2507	25052610	
7681	CN401	SOCKET	NSCT-30P-2507	25052610	

7681	CN52	SOCKET AS	NSAS-10P1063	2002A391005	
7681	CN61	SOCKET	NSCT-17P2214	25052317	
7681	P0003A	PLUG	NPLG-9P137	25055153	
7681	P0004A	PLUG	NPLG-8P136	25055152	
7681	P0005A	PLUG	NPLG-10P662	25055706	
7681	P2001	SOCKET AS	NSAS-12P0849	2009990619	
7681	P2002	SOCKET AS	NSAS-24P1065	2009990755UL	
7681	P2004	SOCKET AS	NSAS-26P1067	2002A392615	
7681	P5006A	PLUG	NPLG-11P139	25055155	
7681	P52A	PLUG	NPLG-5P133	25055149	

U10: CONNECTION BOARD_1 (NAETC-7682-1B/-1C/-1D)

CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7682	P0001	SOCKET	NSCT-4P2238	25052341
7682	P0002	SOCKET	NSCT-12P2376	25052479
7682	P0003	SOCKET-AS	NSAS-18P0196	2002391820
7682	P0004	SOCKET AS	NSAS-16P1077	2002A391625

U11: CONNECTION BOARD_2 (NAETC-7683-1B/-1C/-1D)

CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7683	P3114A	PLUG	NPLG-19P764	25055808
7683	P5001	SOCKET	NSCT-19P1317	25051530

U12: CONNECTION BOARD_3 (NAETC-7684-1B/-1C/-1D)

CIRCUIT NO.	PART NAME	DESCRIPTION	PART NO.	REMARK
7684	P0005	SOCKET	NSCT-10P1025	25051235
7684	P8151A	PLUG	NPLG-10P662	25055706

PC BOARD ASSY NO.

MOTHER BOARD	CHILD BOARD	PC AS NAME	DESTINATION					
			UDT3P	UDS4P	UGQ3P	UGT3P	UGR6P	UPP2P
NAAR-7673	NAAR-7673	DSP Circuit OC AS	B	C	B	B	B	D
NADIS-7674	NADIS-7674	Display circuit PC AS	B	B	C	C	C	D
NADIS-7674	NAVD-7675	Video circuit PC board AS	B	B	C	C	C	D
NADIS-7674	NAVD-7676	Video output terminal PC AS	B	B	C	C	C	D
NADIS-7674	NAPS-7677	Power transformer PC AS	B	B	C	C	C	D
NADIS-7674	NAPS-7678	Power supply circuit PC AS	B	B	C	C	C	D
NADIS-7674	NAPS-7679	Inlet terminal PC AS	B	B	C	C	C	D
NADIS-7674	NAETC-7680	Headphone terminal PC AS	B	B	C	C	C	D
NADIS-7674	NAETC-7681	Connection terminal PC AS	B	B	C	C	C	D
NADIS-7674	NAETC-7682	Connection board 1	B	B	C	C	C	D
NADIS-7674	NAETC-7683	Connection board 2	B	B	C	C	C	D
NADIS-7674	NAETC-7684	Connection board 3	B	B	C	C	C	D

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