

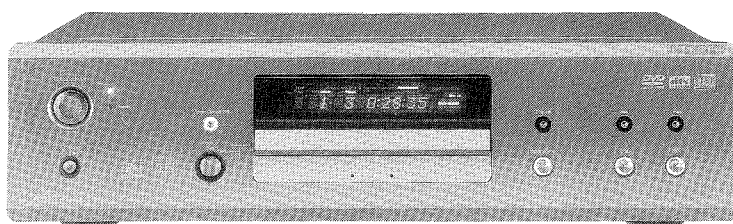
Integra SERVICE MANUAL

R E S E A R C H

Oct, 2000

DVD AUDIO/VIDEO Player

RDV-1



RC-439DV

UD	120V AC, 60Hz
UP/UPS	230-240V AC, 50Hz
UGT	220-230V AC, 50/60Hz
UWT	120/220-230V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK.

REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

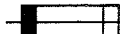
MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

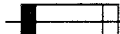
TABLE OF CONTENTS


Service procedure	2
Specifications.....	3
Front panel/ Rear panel views.....	4
Display view	5
Remote controller view	6-7
IC block diagram	8-14
Printed circuit board parts list	15-19
DVD mechanism exploded view / Parts list	20-21
Microprocessor connection diagram /	
Terminal description	22-23
FL tube view	24
Wiring diagram	25-26
Printed circuit board view / Schematic diagram	
Display circuit	27-30
Power supply circuit	31-34
Microprocessor circuit	35-38
Output terminal circuit	39-42
DAC / VLC circuit	43-50
Video circuit	51-56
Scart terminal circuit	57-58
BNC terminal circuit	59
Output sound conversion table	60
Upgrade firmware	61-62
Exploded view/parts list	63-66
Assemble the PAD	67-70
Packing view / parts list	71-72

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 appose.

REF.NO.	PART NO.	DESCRIPTION
F9001	252158	1.6A-UL/T-237, Fuse <D>
	252073 	1.6A-SE-EAW, FUSE <P/PS/WT/GT>

NOTE : <D> : 120 V 60Hz model only
 <P, PS> : 230 V 50Hz model only
 <WT> : 120/220-230 V 50/60Hz model only
 <GT> : 220 V 50Hz model only


2. Safety-check out

(Only U.S.A. model)

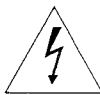
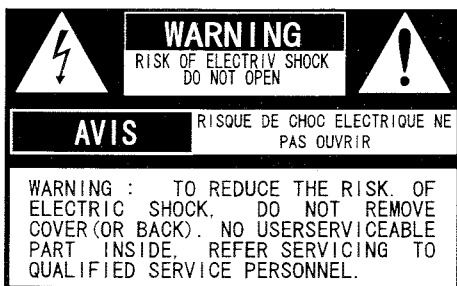
After correcting the original service problem perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel. Specifications: More than 10Mohm at 500V

3. Regional restriction codes (Region Number)

Regional restriction codes are built into DVD players and DVD videos for each sales region. If the regional code of the DVD receiver dose not match one of the regional codes on the DVD video, playback is not possible.

The regional number can be found on the rear panel of the DVD receiver. (e.g.  for Region 1)

4. CAUTION labels



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) instruction in the literature accompanying the appliance.

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

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

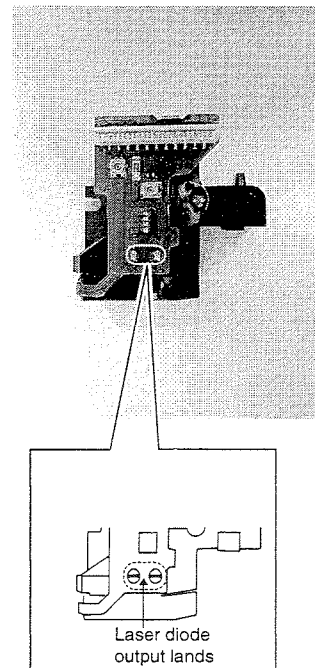
ATTENTION : POUR EVITER LES CHOCS ELECTRIQUE, INTRODUIRE LA LAME LA PLUS LARGE DA LA FICHE DANS LA BORNE CORRESPONDANTE DA LA PRISE ET POUSSER JUSQU' AU FOND.

5. Replacement of DVD mechanism

The laser diode in the optical pickup block is so sensitive to static electricity, surge current and etc. That the components are liable to be broken down or its reliability remarkable deteriorated.

During repair, carefully take the following precautions. Do not touch the optical pickup object lens with the hands.

1. Remove the top cover with eight screws.
2. Remove the PC board (NAAR-6953 Main circuit PCB) with two screws.
3. Remove the mechanism cover with four screws.
4. Solder the LD output lands on the DVD optical pickup.
5. Replace the pickup mechanism assembly. Unsolder the laser diode output lands.



SPECIFICATIONS

■ DVD Player

Power supply	AC 120 V, 60 Hz (USA and Canadian models) AC 220-230 V, 50/60 Hz (Some Asian models) AC 120/220-230 V, 60/50 Hz (Worldwide models) AC 230-240 V, 50 Hz (Other models)
Power consumption	56 W (USA and Canadian models) 50 W (Some Asian models, Worldwide models) 49 W (Other models)
Weight	11.5 kg
External dimensions	450 x 122 x 385 mm (W/H/D)
Signal system	PAL*/NTSC
Laser	Semiconductor laser, wavelength 650/780 nm
Frequency range (digital audio)	DVD linear sound: 48 kHz sampling 4 Hz to 22 kHz 96 kHz sampling 4 Hz to 44 kHz 192 kHz sampling 4 Hz to 96 kHz
Signal-to-noise ratio (digital audio)	More than 112 dB
Audio dynamic range (digital audio)	More than 106 dB
Harmonic distortion (digital audio)	Less than 0.002 %
Wow and flutter	Below measurable level (less than ± 0.001 % (W,PEAK))
Operating conditions	Temperature: 5°C to 35°C, Operation status: Horizontal

■ Outputs

Video output (SCART)	1.0 V (p-p), 75 Ω , SCART socket * 1 (European model only)
Video output (pin jack)	1.0 V (p-p), 75 Ω , negative sync., pin jack x 2
S-video output	(Y) 1.0 V (p-p), 75 Ω , negative sync., Mini DIN 4-pin x 2 (C) 0.286 V (p-p), 75 Ω
Component video output	(Y) 1.0 V (p-p), 75 Ω , negative sync. (P _b)/(P _r) 0.7 V (p-p), 75 Ω , pin jack x 2, BNC x 1
Audio output (digital output Optical)	Optical connector x 2
Audio output (digital output Coaxial)	0.5 V (p-p), 75 Ω , pin jack x 2
Audio output (2-Channel Audio)	2.0 V (rms), 320 Ω , pin jack (L, R) x 2
Audio output (5.1-Channel Surround)	2.0 V (rms), 320 Ω , pin jack x 6 2.0 V (rms), 320 Ω , DB25 x 1
RGB video output	0.7 V (p-p), 75 Ω , SCART socket x1

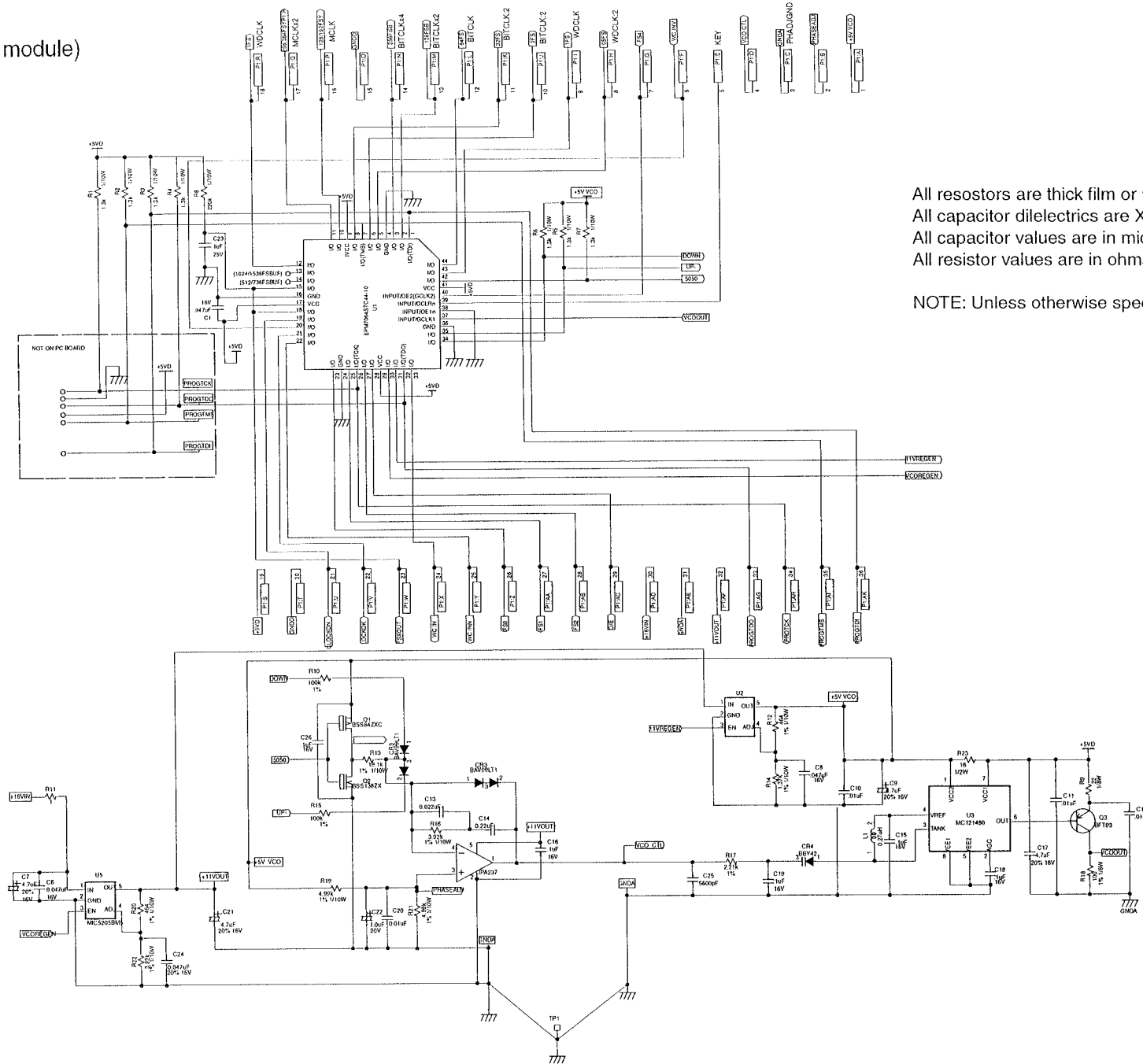
■ Input

Audio input (Digital Optical)	-22.5 dBm x 1
Audio input (Digital Coaxial)	0.7 V (p-p), 75 Ω , pin jack (L, R) x 1

* Not applicable for USA and Canadian models

Specifications and features are subject to change without notice.

CC1536E
(Master clock module)



All resistors are thick film or metal film.
All capacitor dielectrics are X7R.
All capacitor values are in microfarads, 50V, 10%.
All resistor values are in ohms, 1/8W, 5%.

NOTE: Unless otherwise specified.

PRINTED CIRCUIT BOARD PARTS LIST

DISPLAY CIRCUIT PC BOARD(NADIS-6940-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q7502	212212	13-BT-177GNK
	FL tube	
	Remote sensor	
U7501	241329	PIC-26043TH2
	IC	
Q7501	22240685R9	M66004FP
	Transistors	
Q7503,Q7504	2213145R2	2SC2712-GR
Q7505,Q7506	2216270R2	IMT1A
Q7507,Q7511	2216270R2	IMT1A
Q7508,Q7509	2216260R2	RN1407
Q7510,Q7512	2216260R2	RN1407
	Diodes	
D7502,D7504	225374	SEL2E10C
D7506,D7508	225374	SEL2E10C
D7507	224490750R2 or	UDZ7.5B or
	224550750R2	UDZS7.5B
	Capacitors	
C7505,C7512	393321017	100 μ F,6.3V,Elect.
C7511	393381007	10 μ F,50V,Elect.
C7514,C7517	393382207	22 μ F,50V,Elect.
C7520	355721019	100 μ F,6.3V,Elect.
	Switches	
S7501-S7507	25035699	NPS-111-S662
	Sockets	
P7001B	25052255	NSCT-22P2152
P7002B	2002A391830	NSAS-18P0872
P7701B	25051089	NSCT-5P876
	Plug	
P7501A	25055369	NPLG-5P352
	Holder	
Q7502A	27191114	FL
E7502-E7504	27191115	LED

STANDBY SWITCH PC BOARD (NASW-6941-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q7701	2216270R2	IMT1A
Q7702,Q7703	2216260R2	RN1407
	LEDs	
D7702	225374	SEL2E10C
D7703	225290	SEL4110R
	Capacitor	
C7703	393321017	100 μ F,6.3V,Elect.
	Switch	
S7702	25035699	NPS-111-S662
	Socket	
P7701A	25051089	NSCT-5P876

INPUT SWITCH PC BOARD(NASW-6942-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
P7801A	2002A390840	NSAS-8P0873,Socket
S7801	25030352	NRSF-123- 15SBM,Rotary switch

POWER SWITCH PC BOARD(NASW-6943-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
S9002	25035550	Δ NPS-111-L512P,Push switch
C9003	3500196S	Δ RE275V-103M,IS

POWER SUPPLY CIRCUIT PC BOARD(NAPS-6944-2A/2B/2C2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q9101,Q9102	22278005ENEC	MPC29M05HF
Q9301,Q9401	22241526	PQ30RV21
	ICs	
Q9103,Q9104	2214490R2	RN1404
Q9202,Q9704	2214540R2	RN2403
Q9701	2211504	2SA950-Y
Q9705,Q9706	2211164	2SC2120-Y
Q9707	2214490R2	RN1404
	Diodes	
D9101,D9201	22380022	RBV402
D9103,D9105	22380035	GP104003E
D9203,D9204	223234R2 or	1SS352 or
D9303,D9403	223269R2	1SS355
D9301,D9401	22380022	RBV402
D9501-D9504	22380284R2	1SR154-400
D9601-D9604	22380284R2	1SR154-400
D9701	22380013	RDF02M
D9702	224492700R2	UDZ27B
D9703,D9704	22380035	GP104003E
	Capacitors	
C9101,C9105	374723344	0.33 μ F \pm 5%,50V,Plastic
C9102,C9302	393342227S	2200 μ F,16V,Elect.
C9103	393344707	47 μ F,16V,Elect.
C9106	393321017	100 μ F,6.3V,Elect.
C9201,C9203	374723344	0.33 μ F \pm 5%,50V,Plastic
C9202	393344727S	4700 μ F,16V,Elect.
C9301,C9303	374723344	0.33 μ F \pm 5%,50V,Plastic
C9304	393380107	1 μ F,50V,Elect.
C9305	393322217	220 μ F,6.3V,Elect.
C9401,C9403	374723344	0.33 μ F \pm 5%,50V,Plastic
C9402	393343327S	3300 μ F,16V,Elect.
C9404	393384797	0.47 μ F,50V,Elect.
C9405	393342217	220 μ F,16V,Elect.
C9502,C9503	374723344	0.33 μ F \pm 5%,50V,Plastic
C9504,C9505	3504369	2200 μ F, \pm 5%,25V,Elect.
C9602,C9603	374723344	0.33 μ F \pm 5%,50V,Plastic
C9604,C9605	393342227S	2200 μ F,16V,Elect.
C9701,C9708	374723344	0.33 μ F \pm 5%,50V,Plastic
C9702	393384707	47 μ F,50V,Elect.
C9703,C9705	393382207	22 μ F,50V,Elect.
C9706,C9707	393382217	220 μ F,50V,Elect.
	Resistors	
R9102,R9209	453532294	0.22 Ω \pm 5%,1/2W,Metal
R9210,R9409	453532294	0.22 Ω \pm 5%,1/2W,Metal
R9408	453530224	2.2 Ω \pm 5%,1/2W,Metal
R9601-R9604	453532294	0.22 Ω \pm 5%,1/2W,Metal
R9706,R9707	415470824	8.2 Ω \pm 5%,1/4W,Carbon
R9708	443521004	10 Ω \pm 5%,1/2W,Metal
	Sockets	
CN501	2002A262625	NSAS-26P0875
P2201A	2003B090830	NSAS-8P0876
P3303A	2003B090625	NSAS-6P0890
P4001A	2003B091830	NSAS-18P0877
P7003A	2002A392225	NSAS-22P0874
P9201A	2004C291015	NSAS-10P0902,Socket
	Plug	
P9101,P9102	25055171	NPLG-8P155

CIRCUIT NO.	PART NO.	DESCRIPTION
E9101A,E9201A	27160465	RAD-135
E9111A	27160472	RAD-141
E9112A,E9311A	27160145-1	RAD-51
E9301A,E9401A	27160357	
E9411A	27160220-1	RAD51(B)
	Screws	
	82143010	3P+10FN(BC),Pan head

PRIMARY CIRCUIT PC BOARD(NAPS-6945-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diode	
D9801	22380022	△ RBV402
	Coil	
L9001	231252 or 231287	△ NCH-3489 or △ NCH-3567
	Capacitors	
C9001,C9002	3500077	△ DE7150F-472M,IS
C9801,C9803	374723344	0.33 μ F±5%,50V,Plastic
C9802	3504365	3300 μ F,50V,Elect.
	Resistor	
R9803	453532294	0.22 Ω ±5%,1/2W,Metal
	AC inlet	
P9001	25055960	△ NPLG-2P913
	Slide switch	
S9001	25065437	△ NSS-22157P <WT>
	Fuseholders	
F9001A,F9001B	25052133	△ NSCT-1P2031
	Socket	
P3301A	2003B090440	NSAS-4P0889
	Plugs	
P6001A	25055132	NPLG-2P116
P9002,P9003	25055675	NPLG-2P631
P9006,P9007	25055675	NPLG-2P631<GT/WT>
P9103	25055165	NPLG-2P149
	Radiator	
E9801A	27160357	(S3)
	Label	
E9801	29361769	T1.6AL250V <P/PS/WT/GT>
	Screw	
E9801B	82143010	3P+10FN(BC),Pan head
	Clampers	
E9001,E9003	27301394	HL-18-0

VIDEO CIRCUIT PC BOARD(NAVD-6946-2A/2B)

DESCRIPTION	CIRCUIT NO.	PART NO.
		ICs
Q2016	22241465R2	LA7106MFP
Q2017	22241440R2	MAX4018ESD
Q2018,Q2020	22241527R2	EL4581CS
Q2023,Q2024	22241159R2	TC7S02FU
Q2025	22240947R2	TC7W241FU <P>
Q2029-Q2031	22241545R2	EL2280CS
Q2032,Q2033	22241442R2	MAX4218ESD
Q2034	22241443R2	TK15420M
Q2501,Q2502	22241228R2	TC74HC4053FP <P>

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

CIRCUIT NO.	PART NO.	DESCRIPTION
Q2001-Q2006	2214375R2	2SA1162-GR
Q2007-Q2009	2213145R2	2SC2712-GR
Q2010-Q2012	2214375R2	2SA1162-GR
Q2013-Q2015	2213145R2	2SC2712-GR
Q2021,Q2028	2214490R2	RN1404
Q2026,Q2027	2213145R2	2SC2712-GR
Q2201	2202715	2SB1565-E
Q2202	2202705	2SD2394-E
Q2203	2213145R2	2SC2712-GR
Q2204,Q2206	2214375R2	2SA1162-GR
Q2205	2214490R2	RN1404
Q2503	2214490R2	RN1404 <P>
	Transistors	
D2001	223234R2	1SS352
D2002	225383R2	SEC1401C
D2003-D2008	223234R2	1SS352
D2201,D2202	224550560R2	UDZS5.6B
D2501	223234R2 or 223269R2	1SS352 or 1SS355 <P>
	Diodes	
Z2001-Z2003	3030043	YS-2L(15MHz)
	Composite parts	
C2007-C2012	393380107	1 μ F,50V,Elect.
C2020,C2023	393380107	1 μ F,50V,Elect.
C2039	393321017	100 μ F,6.3V,Elect.
C2041,C2042	393321017	100 μ F,6.3V,Elect.
C2043,C2044	355721019	100 μ F,6.3V,Elect.
C2051,C2052	393321017	100 μ F,6.3V,Elect.
C2057,C2059	393321017	100 μ F,6.3V,Elect.
C2201,C2202	393344717	470 μ F,16V,Elect.
C2203,C2204	393344707	47 μ F,16V,Elect.
C2205,C2206	393322217	220 μ F,6.3V,Elect.
C2501,C2503	355721019	100 μ F,6.3V,Elect. <P>
	Resistors	
R2207,R2208	415470224	2.2 Ω ±5%,1/4W,Carbon
	Terminals	
P2001	25045632	NPJ-2PDYE439
P2002	25045633	NPJ-14PDRGB440
	Sockets	
CN301	25052584R2	NSCT-18P2481
P2501A	25052588R2	NSCT-22P2485
	Plugs	
P2101A	25055707	NPLG-11P663
P2102B	25055631	NPLG-10P593
P2201	25055134	NPLG-4P118
	Radiators	
E2201A,E2202A	27160220-1	RAD51(B)
	Screws	
E2201B,E2202B	82143010	3P+10FN(BC),Pan head

BNC TERMINAL PC BOARD (NAVD-6947-2A/2B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q2701	22241442R2	MAX4218ESD
	Capacitors	
C2703,C2704	393321017	100 μ F,6.3V,Elect.
	Terminal	
P2701	25045634	P2298
	Socket	
P2102A	25051094	NSCT-10P881

SCART TERMINAL PC BOARD (NAVD-6948-2B)

European model only

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2603,Q2604	22241545R2	EL2280CS
Q2605	22241448R2	NJM4580M-D
	Transistors	
Q2601	2216280R2	IMX1
Q2602	2213145R2	2SC2712-GR
Q2651	2215940R2	FMG12
Q2652	2214375R2	2SA1162-GR
	Diodes	
D2601-D2606	223266R2	1SS226
D2651	223234R2 or 223269R2	1SS352 or 1SS355
	Filters	
L2601-L2604	230958R1	BK1608LM182-T
	Coil	
L2605	231237K022R2	NCH-1471
	Capacitors	
C2605-C2608	393321027	1000 μ F,6.3V,Elect.
C2609,C2610	393321017	100 μ F,6.3V,Elect.
C2653,C2654	393341007	10 μ F,16V,Elect.
C2657,C2658	393344707	47 μ F,16V,Elect.
C2659	393324717	470 μ F,6.3V,Elect.
	Sockets	
P2601	25052279	NSCT-21P2176
P2501B	25052588R2	NSCT-22P2485

MICROPROCESSOR PC BOARD (NADG-6949-2A/2B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q7001	22241512	M30624FGAFP
Q7003	22240018	M51943ASL
Q7301	222742415R2	TC74HC241AF
Q7302,Q7303	22241408R2	TC7W74FU
Q7304	22241159R2	TC7S02FU
Q7305	22240935R2	TC7WU04FU
	Diodes	
D7001	223234R2 or 223269R2	1SS352 or 1SS355
D7301,D7302	223234R2 or	1SS352 or
D7305,D7306	223269R2	1SS355
D7303,D7304	225385R2	SEC1201C
	Buzzer	
X7002	3010309	PKM13EPY-4002
	Oscillator	
X7001	3010329R2	CSTCV16.00MXJ0C
	Coil	
L7301	231237K022R2	NCH-1471
	Capacitors	
C7005,C7007	393321017	100 μ F,6.3V,Elect.
C7301,C7303	393321017	100 μ F,6.3V,Elect.
	Switch	
S7301	25035699	NPS-111-S662
	Sockets	
CN602,P7301A	25052579R2	NSCT-13P2476
P7001A	25052218	NSCT-22P2115
P7004B	25052589R2	NSCT-23P2486
P7005A	25052572R2	NSCT-6P2469
	Plugs	
CN601	25056050R2	NPLG-6P1000
P7002A	25055153	NPLG-9P137
P7003B	25055155	NPLG-11P139
P7302	25055704	NPLG-8P660
P7801B	25055148	NPLG-4P132

OUTPUT TERMINAL PC BOARD (NAAF-6950-2A/2B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3501	222740046R2TO	TC74HCU04F
Q3551	22274004HR2TO	TC74VHCU04FT
Q5101,Q5111	22241409R2	BA15532F
Q5131	22241409R2	BA15532F
Q5301,Q5501	22241409R2	BA15532F
Q9201	22241526	PQ30RV21
	Photo couplers	
Q3502,Q3503	24120085	GP1FA551TZ
Q3552	24120086	GP1FA551RZ
	Transistors	
Q5001,Q5002	2214375R2	2SA1162-GR
Q5102,Q5201	2214540R2	RN2403
Q5103,Q5112	2216141R2	HN1C03F-B
Q5132,Q5203	2216141R2	HN1C03F-B
Q5212,Q5232	2216141R2	HN1C03F-B
Q5302,Q5401	2214540R2	RN2403
Q5303,Q5403	2215940R2	FMG12
Q5502,Q5601	2214540R2	RN2403
Q5503,Q5603	2215940R2	FMG12
	Diodes	
D5001,D5002	223234R2 or 223269R2	1SS352 or 1SS355
	Coils	
L3501	231237K022R2	NCH-1471
L3551,L3552	231237K022R2	NCH-1471
	Capacitors	
C3502,C3504	393321017	100 μ F,6.3V,Elect.
C3506	393321017	100 μ F,6.3V,Elect.
C3551,C3557	393321017	100 μ F,6.3V,Elect.
C5003,C5004	393344707	47 μ F,16V,Elect.
C5015,C5016	393324717	470 μ F,6.3V,Elect.
C5101,C5111	393884707	47 μ F,50V,Elect.
C5131,C5201	393884707	47 μ F,50V,Elect.
C5211,C5231	393884707	47 μ F,50V,Elect.
C5301,C5401	393884707	47 μ F,50V,Elect.
C5501,C5601	393884707	47 μ F,50V,Elect.
C9205	393324717	470 μ F,6.3V,Elect.
C9204	393380227	2.2 μ F,50V,Elect.
	Sockets	
P3001B	2009990643	NSAS-6P0891
P3002B	2009990644	NSAS-10P0892
	Terminals	
P3501,P3502	25045636	NPJ-1PDOR442
P3551	25045636	NPJ-1PDOR442
P5001	25045637	NPJ-4PDWR443
P5002	25045638	NPJ-6PDBWR444
	Sockets	
P4002B	25052593R2	NSCT-27P2490
P5003A	25052593R2	NSCT-27P2490
	Plug	
P9201B	25055149	NPLG-5P133
	Radiator	
E9201A	27160465	RAD-135
	Screw	
E9201B	82143010	3P+10FN(BC),Pan head
	Clamp	
E5001	260224	CP-1S

MULTI CHANNEL OUTPUT TERMINAL PC BOARD (NAAF-6951-2A/2B)

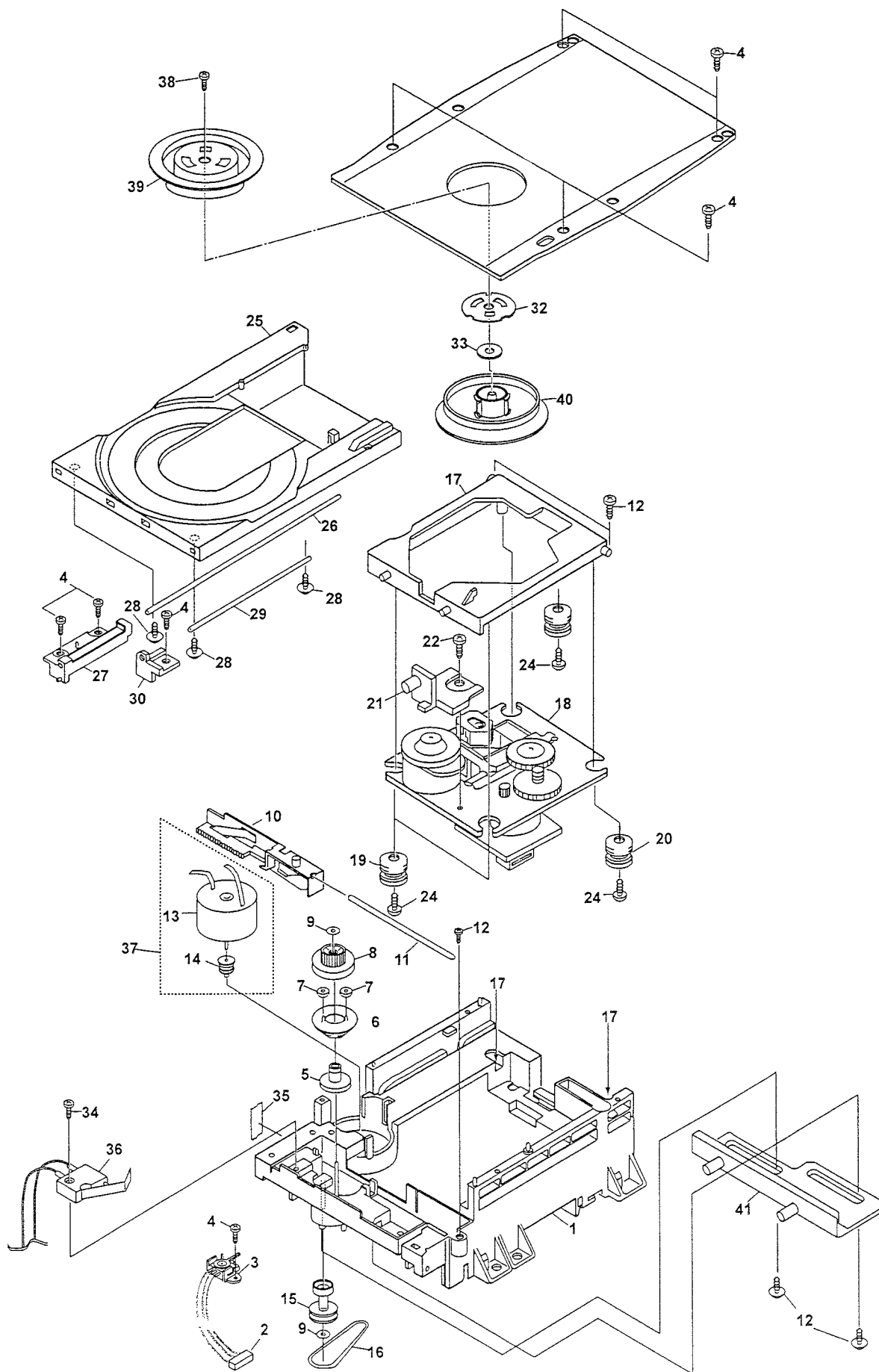
CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
ICs					
Q6101,Q6301	22241409R2	BA15532F	Q3406	222118	CC1536
Q6501	22241409R2	BA15532F	Q3407	22240928R2	TC9246F
Q7901	22241447R2	MAX202CSE	Q3426,Q3487	222740077R2TO	TC74HCT7007AF
Transistors					
Q6001	2214375R2	2SA1162-GR	Q3501	22240396	M51943BL
Q6102,Q6202	2214540R2	RN2403	Q4101,Q4102	22241488R2	OPA2604AU
Q6103,Q6203	2215940R2	FMG12	Q4103,Q4104	22241409R2	BA15532F
Q6302,Q6402	2214540R2	RN2403	Q4111,Q4112	22241409R2	BA15532F
Q6303,Q6403	2215940R2	FMG12	Q4301,Q4401	22241488R2	OPA2604AU
Q6502,Q6602	2214540R2	RN2403	Q4302,Q4402	22241409R2	BA15532F
Q6503,Q6603	2215940R2	FMG12	Q4501,Q4601	22241488R2	OPA2604AU
Diode					
D6001	223234R2 or 223269R2	1SS352 or 1SS355	Q4502,Q4602	22241409R2	BA15532F
Filter					
L7902-L7905	230958R1	BK1608LM182-T	Q3103,Q3104	2214490R2	RN1404
Coil					
L7901	231237K022R2	NCH-1471	Q3203,Q3204	2214490R2	RN1404
Capacitors					
C6001	393324717	470 μ F,6.3V,Elect.	Q3304-Q3306	2214540R2	RN2403
C6008,C6009	393344707	47 μ F,16V,Elect.	Q3307,Q3401	2214490R2	RN1404
C6101,C6201	393884707	47 μ F,50V,Elect.	Q3410,Q3413	2214490R2	RN1404
C6301,C6401	393884707	47 μ F,50V,Elect.	Q3411,Q3414	2202715	2SB1565-E
C6501,C6601	393884707	47 μ F,50V,Elect.	Q3412,Q3416	2213145R2	2SC2712-GR
C7905	393321017	100 μ F,6.3V,Elect.	Q3415,Q3421	2202705	2SD2394-E
Sockets					
P2101B	25051236	NSCT-11P1026	Q3417,Q3423	2214375R2	2SA1162-GR
P5003B	25052593R2	NSCT-27P2490	Q3418,Q3424	2214490R2	RN1404
P6001	25052597	NSCT-25P2494	Q3419,Q3425	2214540R2	RN2403
P7301B	25052579R2	NSCT-13P2476	Q3420	2202715	2SB1565-E
P7901	25052379	NSCT-9P2277	Q3422	2213145R2	2SC2712-GR
SAMPLING INDICATOR PC BOARD(NAETC-6952-2A/2B)					
CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
Transistors					
Q7601	2216270R2	IMT1A	Q4105-Q4110	2215410R2	RN1441
Q7602	2214375R2	2SA1162-GR	Q4113	2214490R2	RN1404
Q7603-Q7605	2216260R2	RN1407	Diodes		
Diodes					
D7601-D7603	225383R2	SEC1401C	D3301,D3302	223234R2 or	1SS352 or
Capacitor					
C7605	355780229	2.2 μ F,50V,Elect.	D3402,D3403	223269R2	1SS355
Socket					
P7501B	2002A391025	NSAS-10P0871	D3404	224491600R2	UDZ16B
MAIN CIRCUIT PC BOARD(NAAR-7033-1)					
CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
ICs					
Q3001-Q3004	22241460R2	PCM1704	D3405,D3406	224491200R2	UDZ12B
Q3101,Q3201	22241489R2-1	AD1853JRS	D3407,D3408	224490560R2	UDZ5.6B
Q3102,Q3202	22241289R2	NJM2370U05	D3501	223234R2 or	1SS352 or
Q3301	22241454R3	LC89055W-RA8	D4101-D4104	223269R2	1SS355
Q3302	22241490R3	SM5847AF	Filters		
Q3303	22241533R3	XCS05XL-4VQ100C	L3005,L3006	230955R2	BK1608HS102-T
Q3308,Q3311	22241289R2	NJM2370U05	L3101-L3103	230958R1	BK1608LM182-T
Q3309,Q3310	22241546R2	TC7WT241FU	L3201-L3203	230958R1	BK1608LM182-T
Q3312	22241547R2	NJM2370U33	L3301-L3309	230958R1	BK1608LM182-T
Q3313,Q3408	22241546R2	TC7WT241FU	L3310,L3312	230955R2	BK1608HS102-T
Q3314	22241534	XC17S05XLPD8C	L3311,L3401	230958R1	BK1608LM182-T
Q3315	22241408R2	TC7W74FU	L3313	230955R2	BK1608HS102-T
Q3402	22240947R2	TC7W241FU	L3314,L3315	230959R1	BK1608LL241-T
Q3403,Q3404	22241288R2	NJU6321PE	L3402,L3406	230958R1	BK1608LM182-T
Q3405,Q3409	22241289R2	NJM2370U05	L3407,L34140	230959R1	BK1608LL241-T
Coils					
Oscillators					
Capacitors					
Coils					
Oscillators					
Capacitors					

CIRCUIT NO.	PART NO.	DESCRIPTION			
	Capacitors			Resistors	
C3025,C3027	393344707	47 μ F,16V,Elect.	R3454	415470224	2.2 Ω \pm 5%,1/4W,Carbon
C3030,C3032	393344707	47 μ F,16V,Elect.	R3462,R3463	415470224	2.2 Ω \pm 5%,1/4W,Carbon
C3101,C3103	393344707	47 μ F,16V,Elect.	R3472,R3473	415470224	2.2 Ω \pm 5%,1/4W,Carbon
C3102,C3109	393341007	10 μ F,16V,Elect.	R3498	443624704	47 Ω \pm 5%,1W,Metal
C3105,C3111	393321017	100 μ F,6.3V,Elect.	R3438,R3482	453530224	2.2 Ω \pm 5%,1/2W,Metal
C3113,C3202	393341007	10 μ F,16V,Elect.	R4711	453530224	2.2 Ω \pm 5%,1/2W,Metal
C3201,C3203	393344707	47 μ F,16V,Elect.	CIRCUIT NO.	PART NO.	DESCRIPTION
C3205,C3210	393321017	100 μ F,6.3V,Elect.		Sockets	
C3208,C3212	393341007	10 μ F,16V,Elect.	P3003A	25052573R2	NSCT-7P2470
C3302,C3308	393344707	47 μ F,16V,Elect.	P7004A	25052589R2	NSCT-23P2486
C3312,C3322	393344707	47 μ F,16V,Elect.	CN901B	25052592R2	NSCT-26P2489
C3324,C3331	393344707	47 μ F,16V,Elect.	P4002A	25052593R2	NSCT-27P2490
C3332,C3340	393341007	10 μ F,16V,Elect.		Plugs	
C3333,C3341	393381097	0.1 μ F,50V,Elect.	P3301B	25055132	NPLG-2P116
C3339	354744709	47 μ F,16V,Elect.	P3001A,P3303B	25055133	NPLG-3P117
C3342,C3401	393344707	47 μ F,16V,Elect.	P3002A	25055135	NPLG-5P119
C3343,C3413	393341007	10 μ F,16V,Elect.	P4001B	25055139	NPLG-9P123
C3344,C3412	393381097	0.1 μ F,50V,Elect.	P3404	25055148	NPLG-4P132
C3414,C3417	393344707	47 μ F,16V,Elect.		Clamps	
C3419,C3427	393344707	47 μ F,16V,Elect.	E4001,E4003	260224	CP-1S
C3422	393324707	47 μ F,6.3V,Elect.	E4006,E4007	260224	CP-1S
C3425	393381097	0.1 μ F,50V,Elect.		Retainer	
C3426	393341007	10 μ F,16V,Elect.	E3401,E4101	27141059	Ground
C3429,C3435	393344707	47 μ F,16V,Elect.		Bars	
C3431	393362217	220 μ F,35V,Elect.	J01A-J05A	27141773	BBL40
C3433	393342217	220 μ F,16V,Elect.		Radiators	
C3436,C3437	393354717	470 μ F,25V,Elect.	E3411A,E3414A	27160220-1	RAD51(B)
C3440,C3441	393342217	220 μ F,16V,Elect.	E3415A,E3420A	27160220-1	RAD51(B)
C3444,C3445	393354717	470 μ F,25V,Elect.	E3421A	27160220-1	RAD51(B)
C3448,C3449	393344707	47 μ F,16V,Elect.		Holders	
C3450-C3453	393322217	220 μ F,6.3V,Elect.	E4008,E4009	27190540-1	HOLDER(CLAMP)
C3457,C3463	393344707	47 μ F,16V,Elect.	E4004,E4005	27190608-1	UA-0 V0
C3501	393382297	0.22 μ F,50V,Elect.		Screws	
C4105,C4106	393344707	47 μ F,16V,Elect.	E3411B,E3414B	82143010	3P+10FN(BC),Pan head
C4109,C4110	393344707	47 μ F,16V,Elect.	E3415B	82143010	3P+10FN(BC),Pan head
C4113,C4114	372802724	2700pF \pm 5%,125V,PP	E3420B,E3421B	82143010	3P+10FN(BC),Pan head
C4115,C4116	374723315	330pF \pm 5%,125V,PP			
C4125,C4126	372802724	2700pF \pm 5%,125V,PP			
C4127,C4128	374724724	4700pF \pm 5%,50V,Plastic			
C4129,C4130	374723924	3900pF \pm 5%,50V,Plastic			
C4131,C4132	374728214	820pF \pm 5%,50V,Plastic			
C4304,C4305	372803314	330pF \pm 5%,125V,PP			
C4306,C4307	393344707	47 μ F,16V,Elect.			
C4310,C4311	372803314	330pF \pm 5%,125V,PP			
C4317,C4417	374728214	820pF \pm 5%,50V,Plastic			
C4318,C4418	372802714	270pF \pm 5%,125V,PP			
C4404,C4405	372803314	330pF \pm 5%,125V,PP			
C4406,C4407	393344707	47 μ F,16V,Elect.			
C4410,C4411	372803314	330pF \pm 5%,125V,PP			
C4504,C4505	372803314	330pF \pm 5%,125V,PP			
C4506,C4507	393344707	47 μ F,16V,Elect.			
C4510,C4511	372803314	330pF \pm 5%,125V,PP			
C4517,C4617	374728214	820pF \pm 5%,50V,Plastic			
C4518,C4618	372802714	270pF \pm 5%,125V,PP			
C4604,C4605	372803314	330pF \pm 5%,125V,PP			
C4606,C4607	393344707	47 μ F,16V,Elect.			
C4610,C4611	372803314	330pF \pm 5%,125V,PP			

NOTE :

 : Black model only
 <G> : Golden model only
 <S> : Silver model only
 <D> : 120V model only
 <P> : European model only
 <GT> : 220V model only
 <WT> : 120/220-230V model only

DVD MECHANISM EXPLODED VIEW



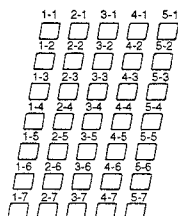
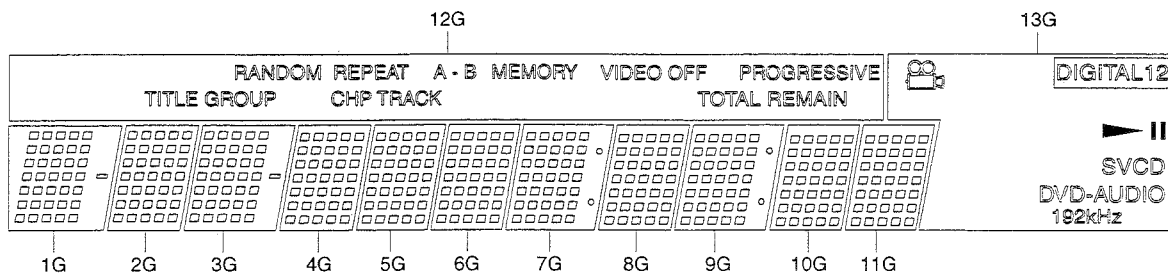
DVD MECHANISM EXPLODED PARTS LIST

No	PART NO	PART NAME	Q'ty
1	A10-3322	CHASSIS ASSY	1
2	E35-1698	WIRE HARNESS(T)	1
3	S64-0026	LEVER SWITCH SSS-23	1
4	N82-2608	BIND TAP TITE SCREW 2.6*8	8
5	D13-1782	GEAR (CENTER)	1
6	D13-0977	GEAR (CARRIER)	1
7	D13-0978	GEAR (IDLER)	2
8	D13-0979	GEAR (MAIN)	1
9	N19-0891	FLAT WSHER 2.6*4.7*0.5 CUT	2
10	D10-3683	SLIDER	1
11	30D 8001	ROD(GUIDE)H	1
12	N09-3385	WASHER HEAD TAPPING SCREW 2.6*6	5
13	T42-0811	DC MOTOR MSN5G543C	1
14	D15-0295	MOTOR PULLEY	1
15	D13-1783	GEAR(PULLEY)	1
16	D16-0712	BELT	1
17	30B 3002	SUB CHASSIS (FRAME-T)	1
19	30D 4001	DAMPER-MGD32-F	2
20	30D 4002	DAMPER-MGD32-R	2
21	30C 3001	BRACKET(T)	1
22	N86-2006	BIND TAP TITE SCREW 2*6	1
24	N09-3359	TAP TITE SCREW 2.6*8	4
25	30C 3011	TRAY(B)	1
26	30D 8003	SHAFT(TRAY L)H	1
27	D23-0326	REATINER(L)	1
28	N88-2606	FLAT TAP TITE SCREW 2.6*6	3
29	30D 8002	SHAFT(TRAY R)H	1
30	D23-0327	RETAINER(R)	1
31	30C 1003	SUB CHASSIS (CLAMP)	1
32	30D 1002	YORK(CLAMPER-T)	1
33	90999019	MAGNET(T)	1
34	N78-2080	PAN TAP TITE SW	1
35	G10-0146	NON-WOVEN-FABRIC 10*30	1
36	S64-0027	LEVER SWITCH	1
38	E6D 8011	SCREW(SUB-L)	1
39	30C 3005	CLAMPER(GUIDE-T)	1
40	30C 3004	CLAMPER(T)	1
41	D10-3710	SLIDER	1

MICROPROCESSOR TERMINAL DESCRIPTION

Pin No.	Symbol	I/O	Act.	Description	Pin No.	Symbol	I/O	Act.	Description
1	DIRSO	O	H	Serial data signal output terminal to DIR IC.	49	DAF0	O	H	Sampling frequency signal F0 output terminal of D/A converter.
2	DIRSCK	O	CLK	Serial clock signal output terminal to DIR IC.	50	FSEL2	O		Filter coefficient select output terminal of D/A converter.
3	-DIRCS	O	L	Chip select signal output terminal to DIR IC.	51	FSEL1	O		Filter coefficient select output terminal of D/A converter.
4	FLCS	O	H	Chip select signal output terminal to FL tube driver IC.	52	DEMPLR	O	H	DEEMPL/R output terminal of D/A converter.
5	FLSO	O	H	Serial data signal output terminal to FL tube driver IC.	53	DASMUT	O	H	Soft mute output terminal of D/A converter.
6	-REMIN	I	L	Signal input terminal from the remote controller.	54	-DIRPD	O	L	Power-down output terminal for DIR IC.
7	FLSCK	O	CLK	Serial clock signal output terminal to FL tube driver IC.	55	-DPD	O	L	Power-down output terminal for the digital section.
8	Vss	I		Select input terminal of external data bus. Connect to ground terminal.	56	DIREMP	I	H	Emphasis signal input terminal for DIR IC.
9	Vss	I		Input terminal to switch the processor mode. Connect to the power supply (+5V).	57	DIRF2	I	H	F2 signal input terminal for DIR IC.
10				Not used.	58	DIRF1	I	H	F1 signal input terminal for DIR IC.
11	-SEL_RST	O	L	Reset terminal when the standard serial writing mode.	59	DIRF0	I	H	F0 signal input terminal for DIR IC.
12	-RESET	I	L	System reset input terminal.	60	AUTODATA	I	H	Auto Data signal input terminal of DIR IC.
13	XOUT	O		Output terminal for main oscillator circuit. Connect the ceramic oscillator 10MHz between this pin and #13.	61	-AUDIO	I	L	Audio signal input terminal of DIR IC.
14	Vss	I		Ground terminal.	62	Vcc	I		Power supply terminal. Apply 5V to this terminal.
15	XIN	I		Input terminal for main oscillator circuit.	63	PIX	I		Progressive judge input terminal.
16	Vcc	I		Power supply terminal. Apply 5V to this terminal.	64	Vss	I		Ground terminal.
17,18				Not used.	65	-DVD/DIR	O	L	Select signal output terminal for audio of DVD/DIR. L: DVD
19	ERROR	I	H	Lock error signal input terminal from DIR IC.	66	FL ON/OFF	O	H	Not used.
20-22				Not used.	67	-VDOFF	O	L	Video output control signal output terminal.
23	-NUON	I	L	Initializing input terminal of NUON.	68	AMUT	O	H	Muting output terminal for audio section.
24	BUZZER	O	H	Buzzer control output terminal.	69	PWRCTR	O	H	Control output terminal for power supply.
25	PW ON	I	H	Information input terminal of power source from main board of DVD mechanism.	70	RSTOX	O	L	Reset output terminal for device.
26	STBYX	O	L	Standby condition output terminal to the main board of mechanism.	71	RSMAIN	O	H	RS232C input select terminal.
27	DSTBX	I	L	Strobe signal input terminal to transfer the serial data from the mechanism microprocessor.	72	-RSPHAST	O	H	RS232C change-over switch control output terminal.
28	DSPCKX	I	CLK	Clock signal input terminal to transfer the serial data from the mechanism microprocessor.	73	RSLATCH	O	H	Latch signal output terminal for 74CK. Latch at leading edge.
29	IICLK/DSPSO	I	CLK	Serial data input terminal from the mechanism microprocessor.	74-79				Not used.
30	IICDATA/DSPS	I/O		Serial data output terminal to the mechanism microprocessor.	80	DLYPW	O	H	Delayed power supply output terminal to main board.
31	R232TXD	O		Serial data output terminal when the program is written.	81	PLAY LED	O	H	PLAY indicator control output terminal
32	R232RXD	I		Serial data input terminal to write the program.	82	STOP LED	O	H	STOP indicator control output terminal
33	-R232RTS	I/O		Serial clock input terminal to write the program.	83	OPEN LED	O	H	OPEN/CLOSE indicator control output terminal
34	-R232CTS	I/O	H	Busy signal output terminal when the program is written.	84	FSX4 LED	O	H	192/176.4 kHz indicator control output terminal
35	IEEETXD	O		TXD terminal for communication of microprocessor IEE1394.	85	FSX2 LED	O	H	96/88.2 kHz indicator control output terminal
36	IEEERXD	I		RXD terminal for communication of microprocessor IEE1394.	86	FSX1 LED	O	H	48/44.1 kHz indicator control output terminal
37	IEEECLK	I	CLK	SCLK terminal for communication of microprocessor IEE1394.	87	VDOF LED	O	H	VIDEO OFF indicator control output terminal
38	-IEEECTS	I	L	CST input terminal for communication of microprocessor IEE1394.	88	STADBY LED	O	H	STANDBY OFF indicator control output terminal
39	-IEEERTS	O	L	CST output terminal for communication of microprocessor IEE1394.	89	POWER LED	O	H	POWER ON indicator control output terminal
40				Not used.	90	-INPUTDIG2	I	L	Select input terminal for external input 2 of digital input.
41	-EPM			Connect to the ground when the program is written.	91	-INPUTDIG1	I	L	Select input terminal for external input 1 of digital input.
42	DVDEMP	I	H	Emphasis signal input terminal for DVD.	92	-INPUTDVD	I	L	Select input terminal for internal input of digital input.
43	X4FS	I	H	Four times over-sampling frequency input terminal for DVD.	93	MODE	I		Mode input terminal
44	X2FS	I	H	Two times over-sampling frequency input terminal for DVD.	94	KEY1	I		Operation key 1 input terminal
45	4448X	I	H	Sampling frequency input terminal for DVD.H:44kHz L:48kHz	95	KEY0	I		Operation key 2 input terminal
46	-CE			Connect to the power supply 5V when the program is written.	96	Vss	I		Power supply terminal for A/D converter. Connect to the ground terminal.
47	DAF2	O	H	Sampling frequency signal F2 output terminal of D/A converter.	97				Not used.
48	DAF1	O	H	Sampling frequency signal F1 output terminal of D/A converter.	98	VREF	I		Reference voltage terminal for A/D converter.
					99	Vcc	I		Power supply terminal for A/D converter. Apply 5V.
					100	DIRSI	I	H	Serial data input terminal from DIR IC.

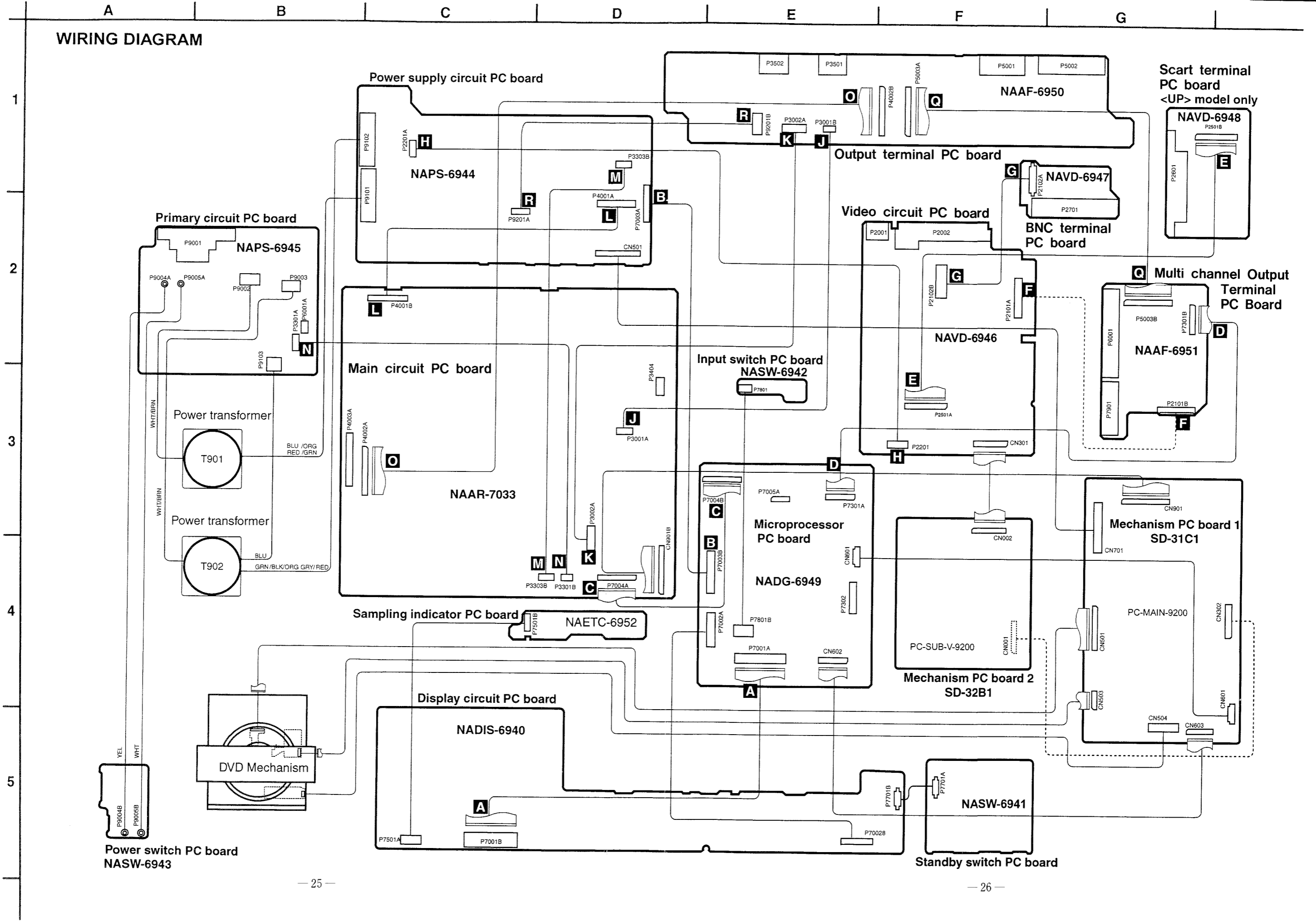
FL TUBE VIEW



ANODE CONNECTION

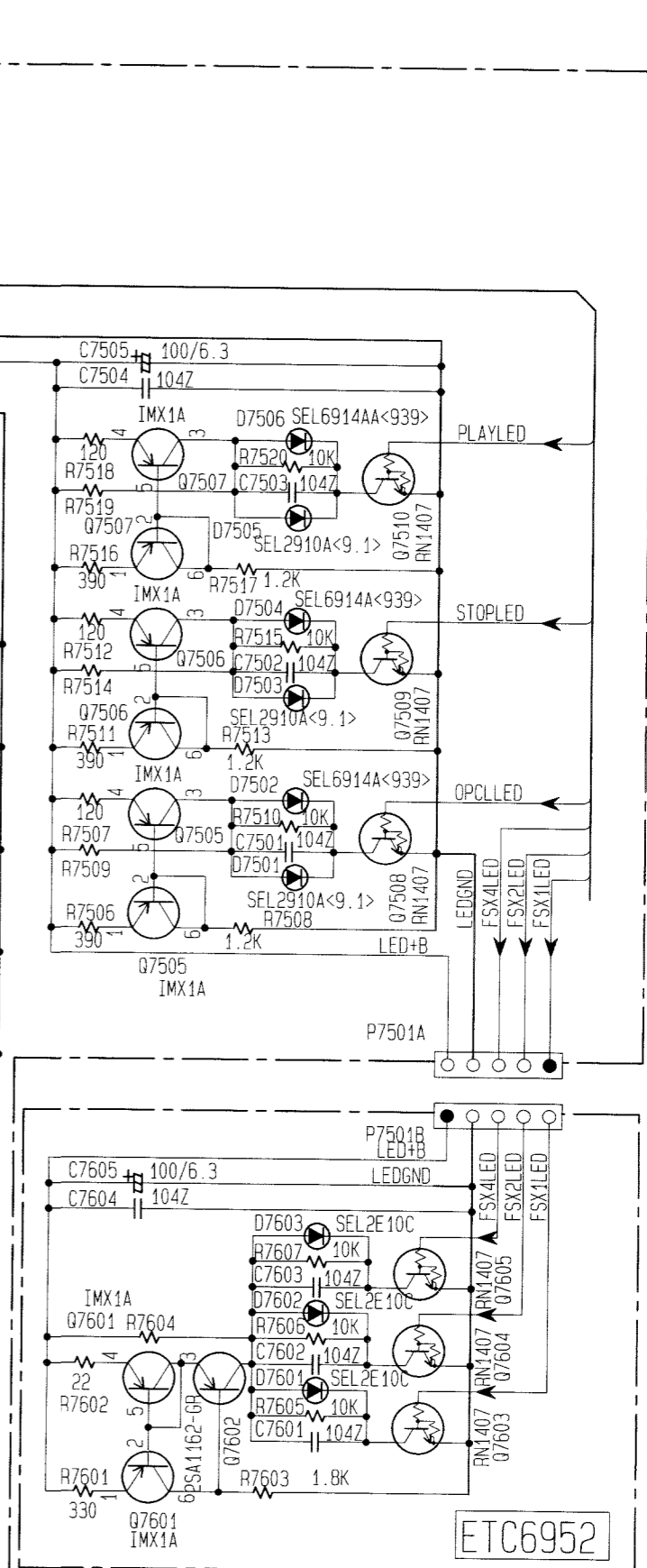
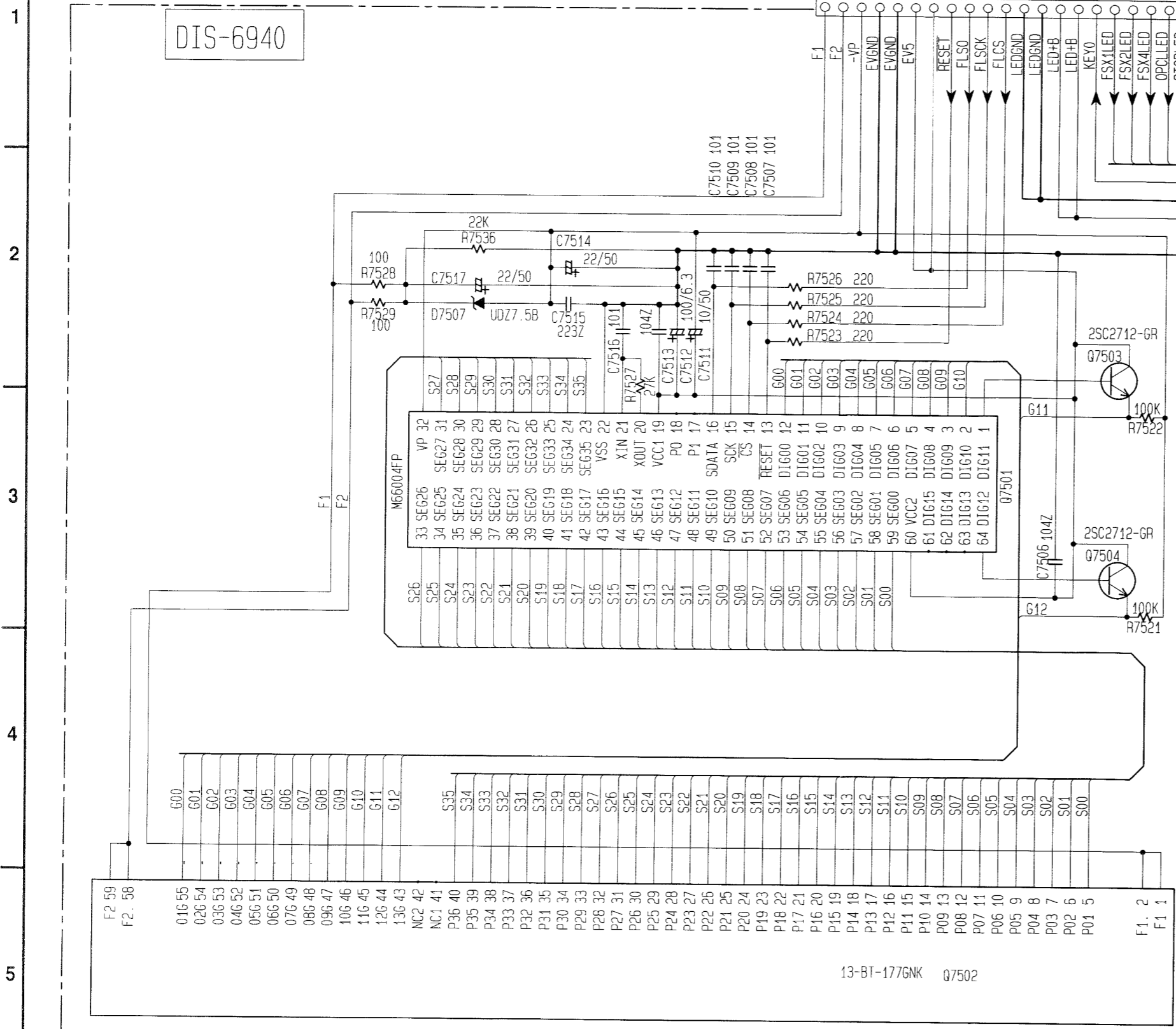
	1G 3G	2G 4G-6G 8G 10G 11G	7G 9G	12G	13G
P1	1-1	1-1	1-1		—
P2	2-1	2-1	2-1		—
P3	3-1	3-1	3-1	TITLE	—
P4	4-1	4-1	4-1	GROUP	—
P5	5-1	5-1	5-1	RANDOM	—
P6	1-2	1-2	1-2	REPEAT	—
P7	2-2	2-2	2-2	CHP	—
P8	3-2	3-2	3-2	TRACK	—
P9	4-2	4-2	4-2	A	—
P10	5-2	5-2	5-2	-B	—
P11	1-3	1-3	1-3	MEMORY	—
P12	2-3	2-3	2-3	VIDEO OFF	—
P13	3-3	3-3	3-3	TOTAL	—
P14	4-3	4-3	4-3	REMAIN	—
P15	5-3	5-3	5-3	PROGRESSIVE	—
P16	1-4	1-4	1-4	—	
P17	2-4	2-4	2-4	—	
P18	3-4	3-4	3-4	—	DIGITAL 12
P19	4-4	4-4	4-4	—	
P20	5-4	5-4	5-4	—	
P21	1-5	1-5	1-5	—	
P22	2-5	2-5	2-5	—	
P23	3-5	3-5	3-5	—	
P24	4-5	4-5	4-5	—	
P25	5-5	5-5	5-5	—	V
P26	1-6	1-6	1-6	—	CD
P27	2-6	2-6	2-6	—	DVD
P28	3-6	3-6	3-6	—	-AUDIO
P29	4-6	4-6	4-6	—	192kHz
P30	5-6	5-6	5-6	—	
P31	1-7	1-7	1-7	—	
P32	2-7	2-7	2-7	—	—
P33	3-7	3-7	3-7	—	—
P34	4-7	4-7	4-7	—	—
P35	5-7	5-7	5-7	—	—
P36		—	col	—	—

WIRING DIAGRAM



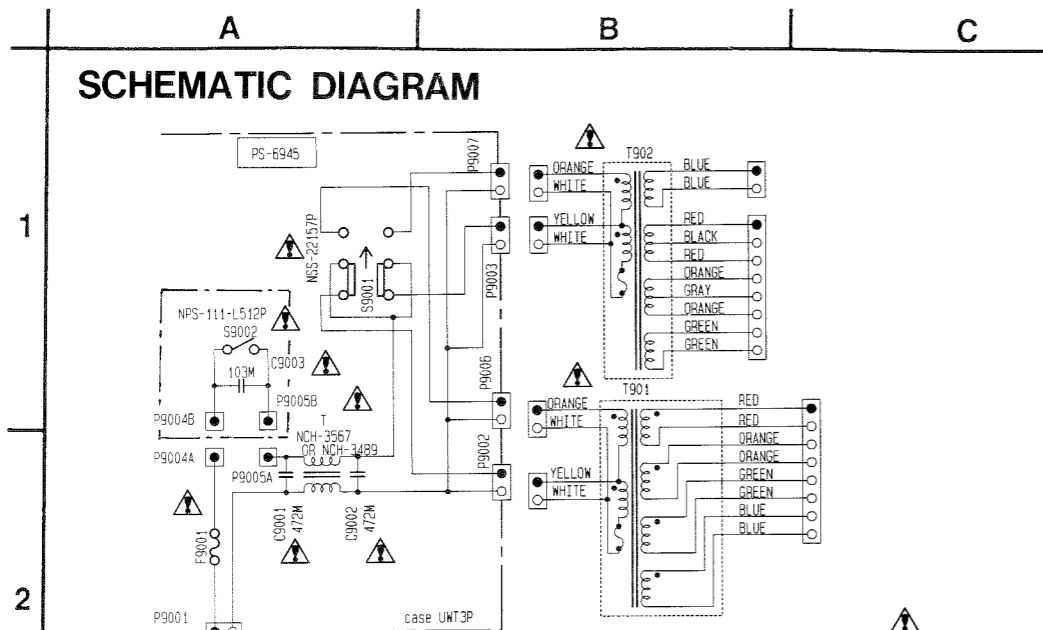
SCHMATIC DIAGRAM

Display circuit PC board

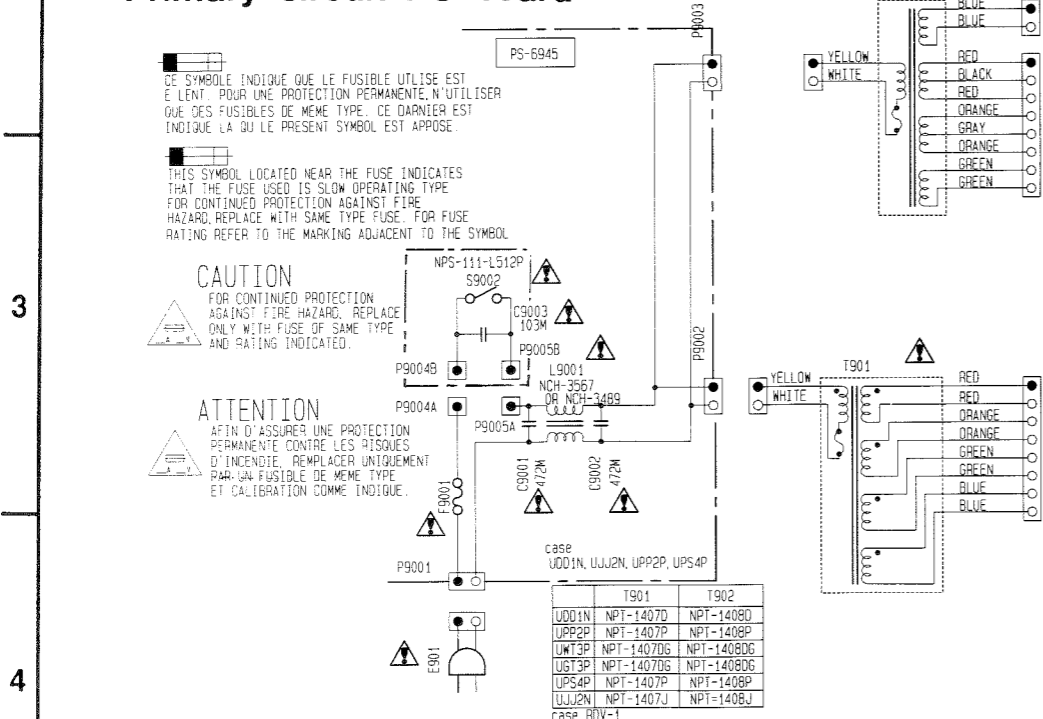


Sampling indicator PC board

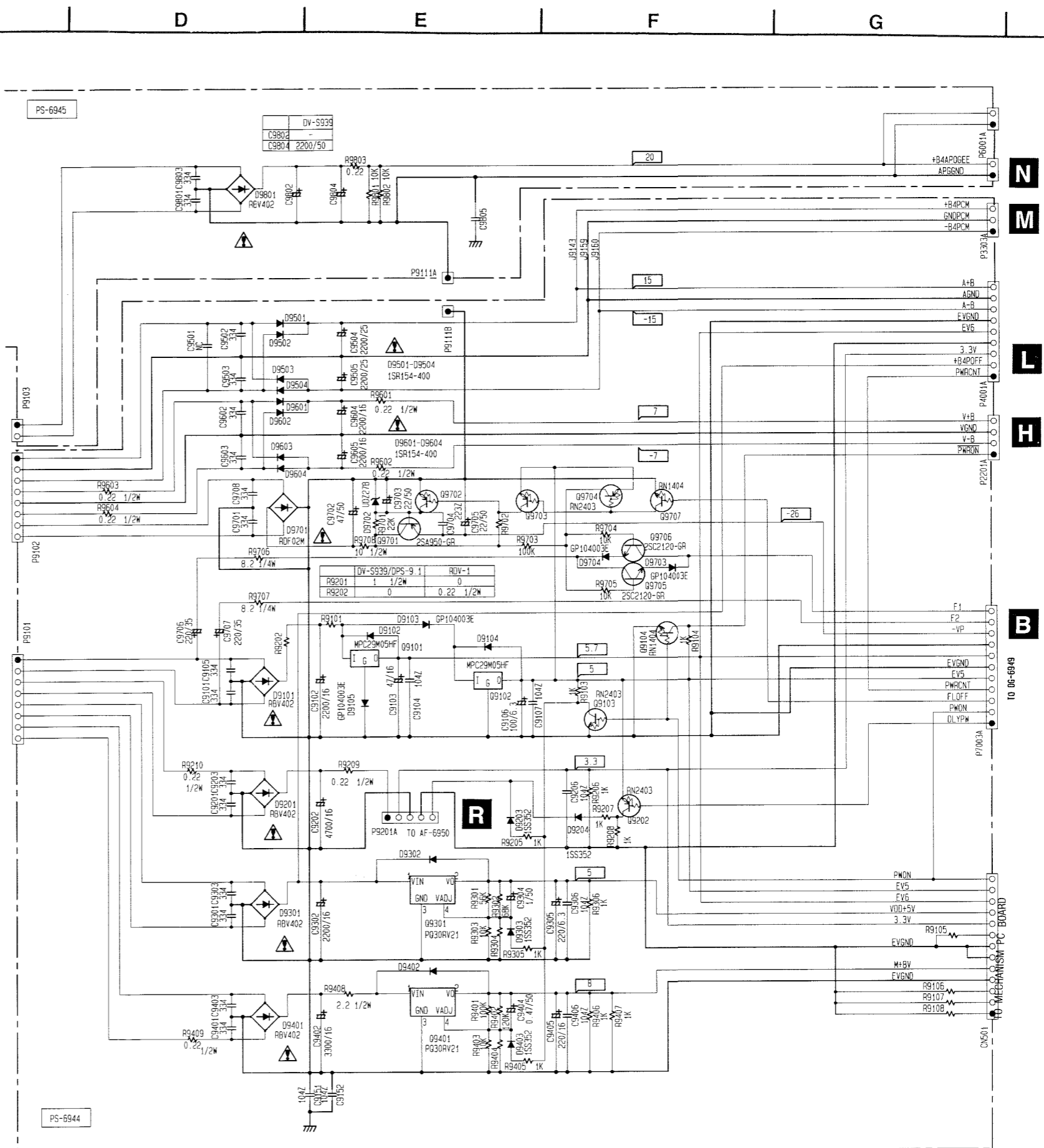
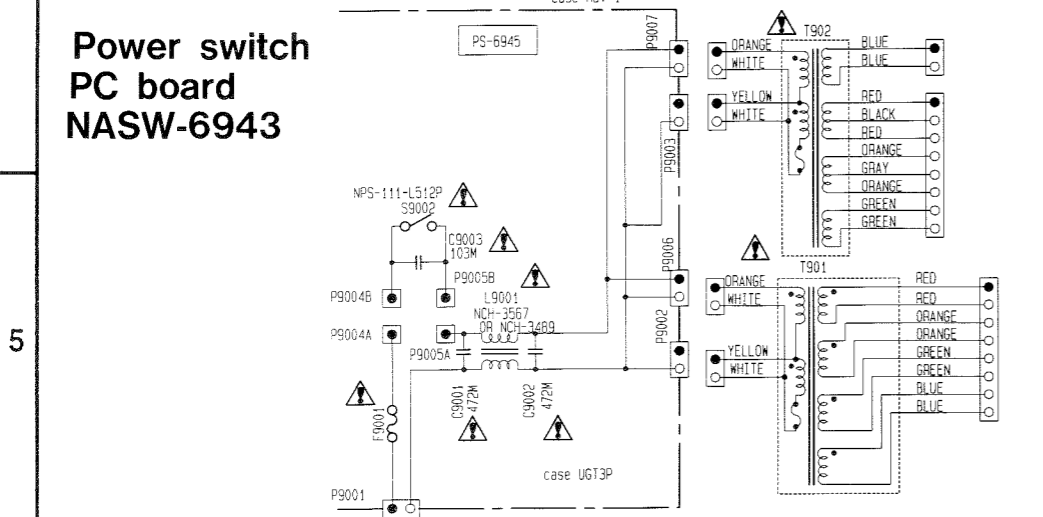
SCHEMATIC DIAGRAM



Primary circuit PC board



Power switch PC board NASW-6943

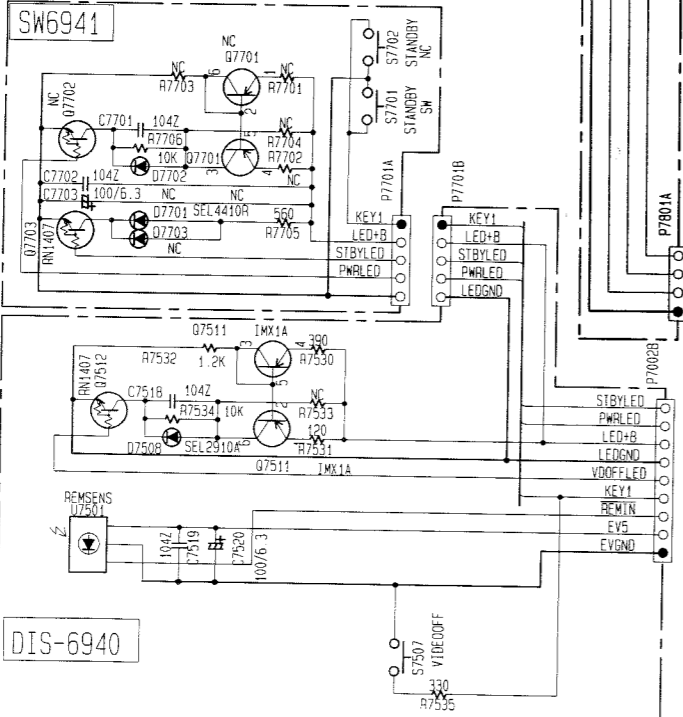


Power supply circuit PC board

N
M
L
H
B
TO 06-6949

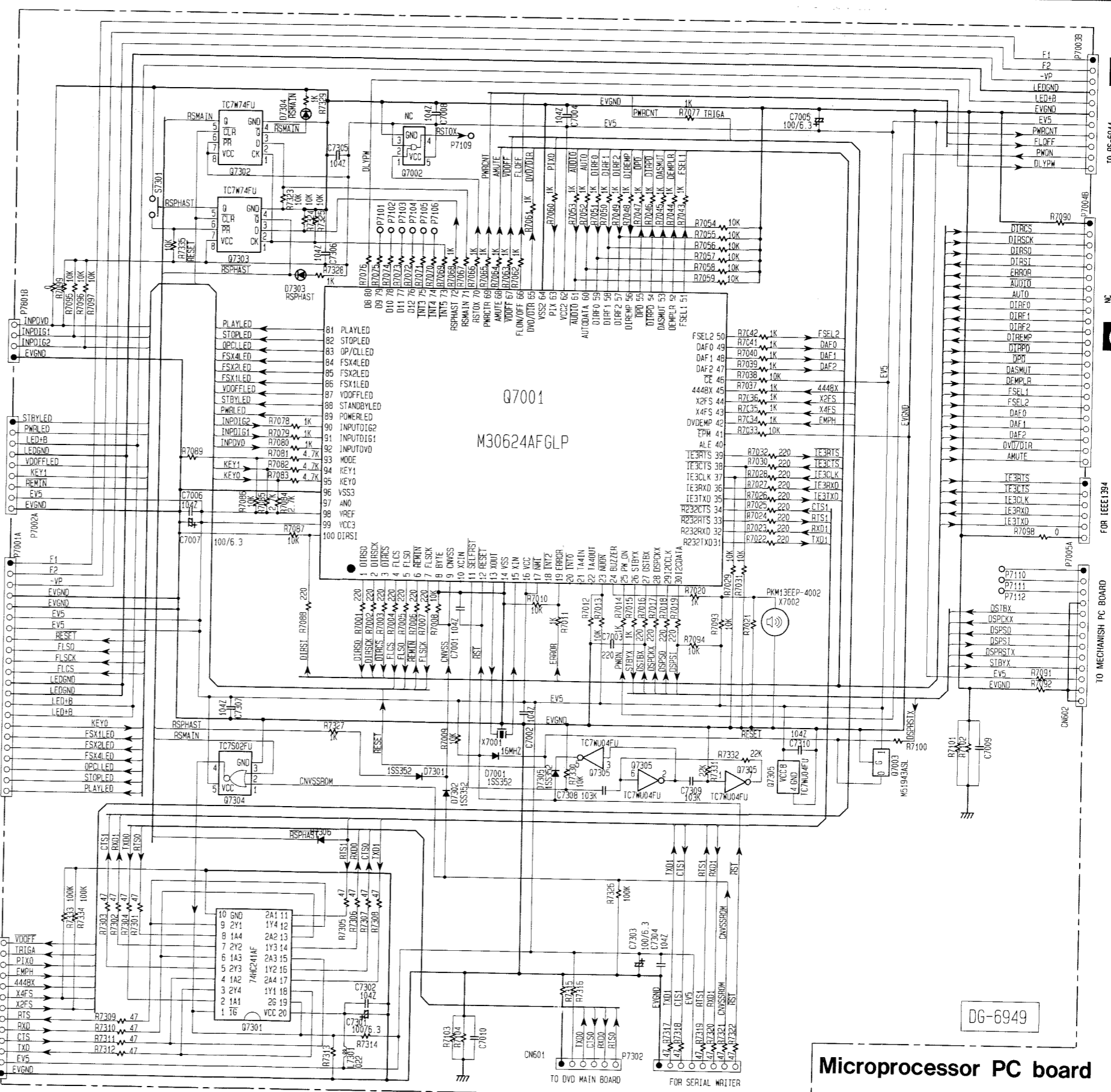
SCHEMATIC DIAGRAM

Input switch PC board



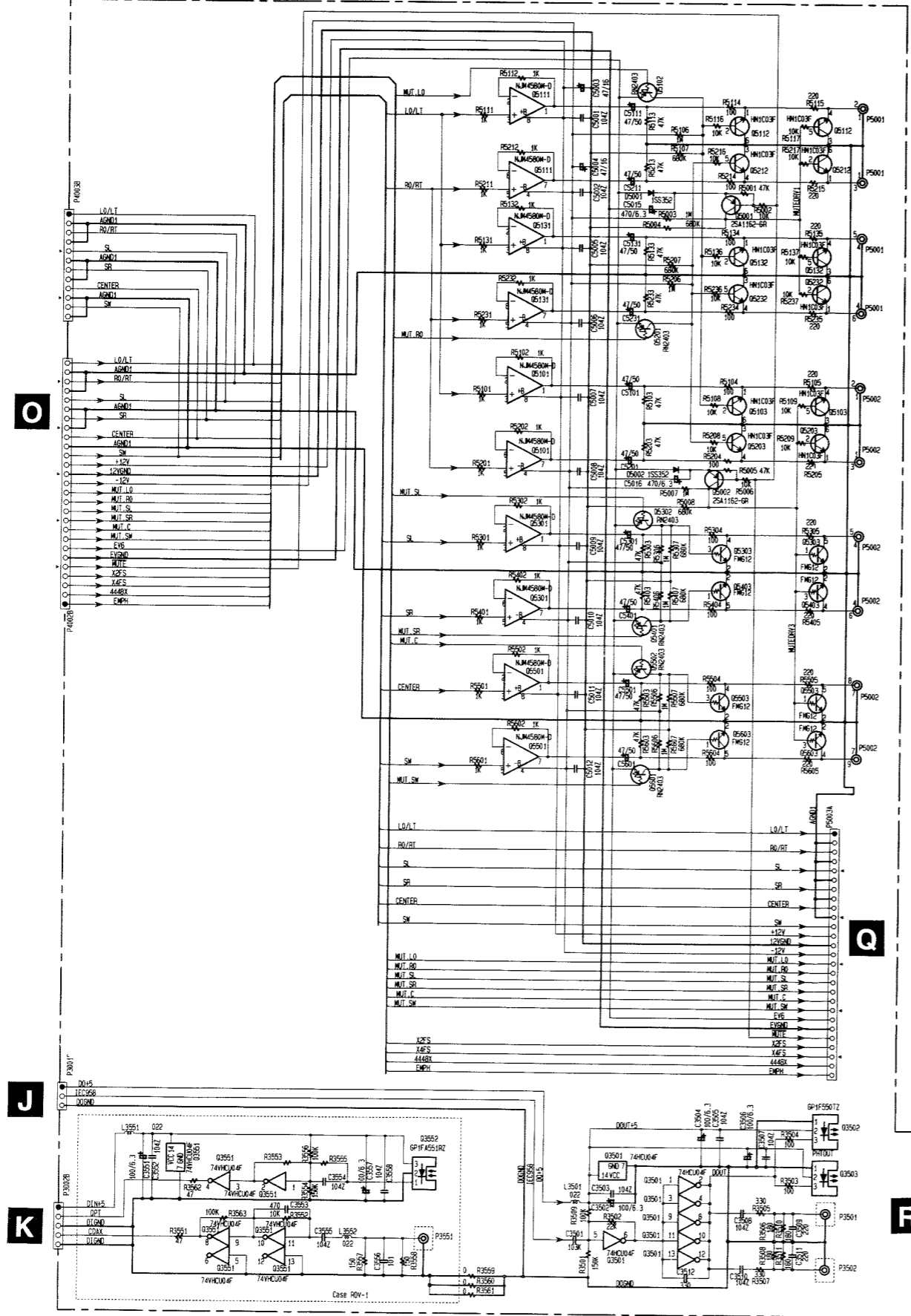
SW-6942

DIS-6940

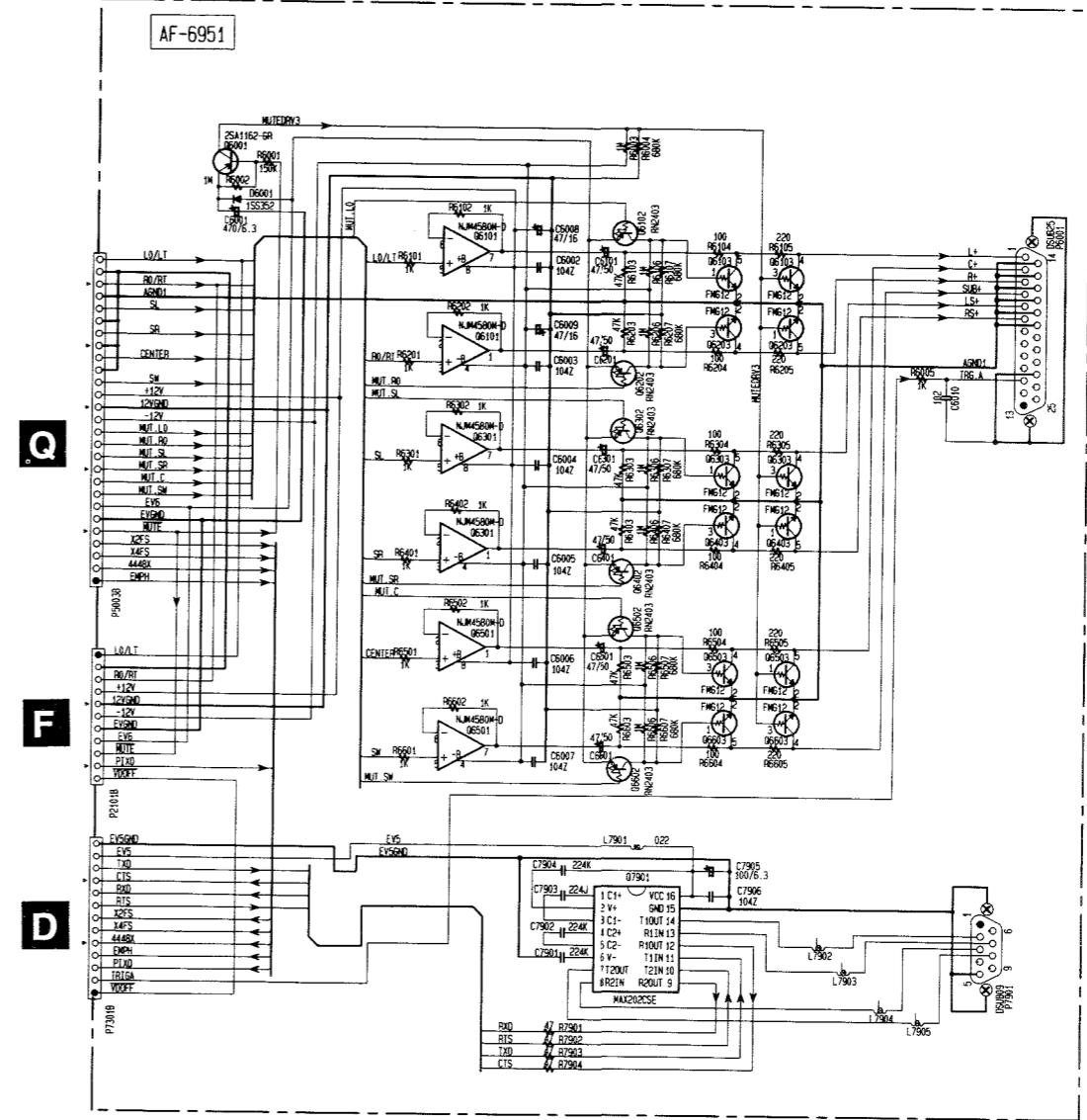


SCHEMATIC DIAGRAM

Output terminal PC board

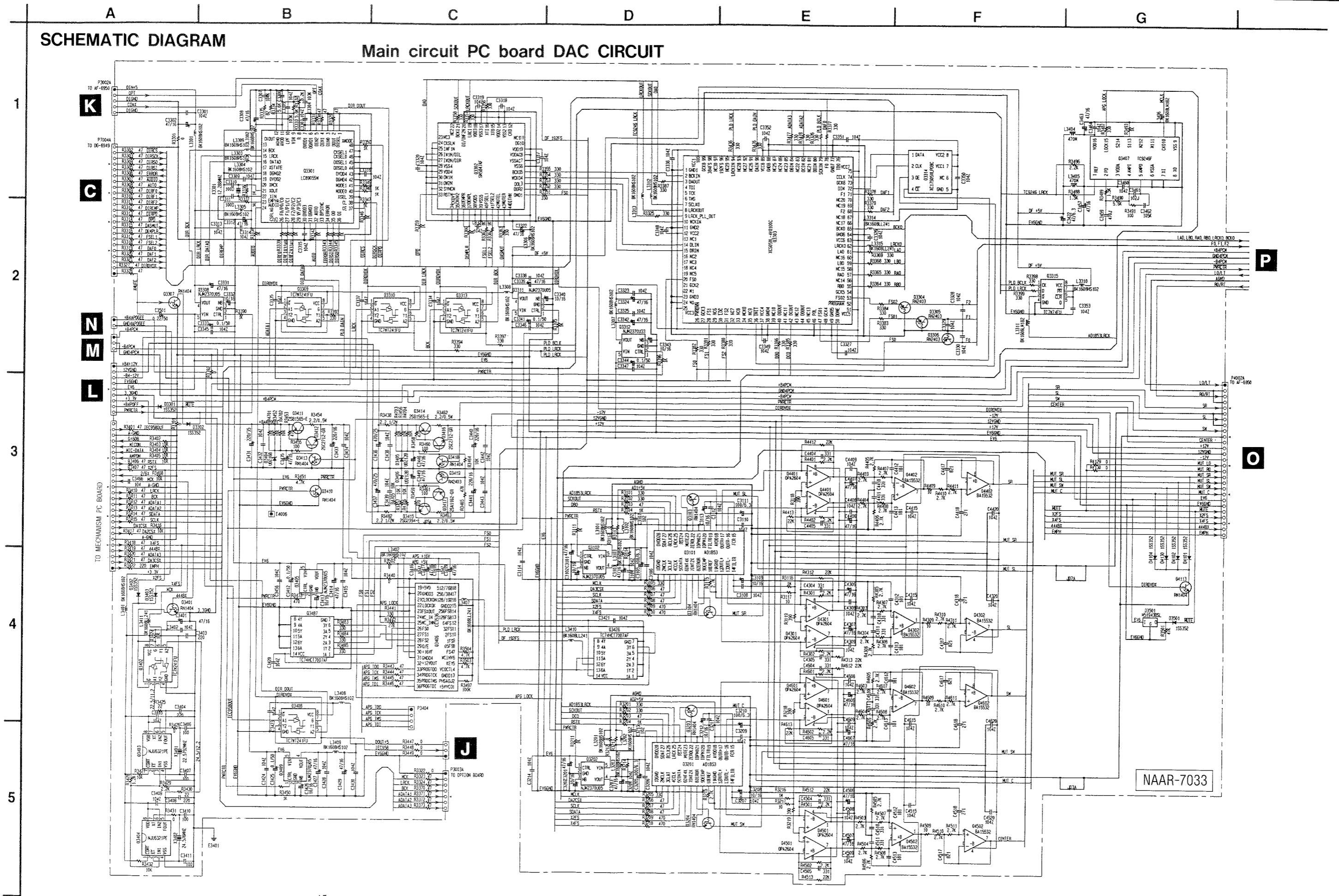


Multi channel output terminal PC board



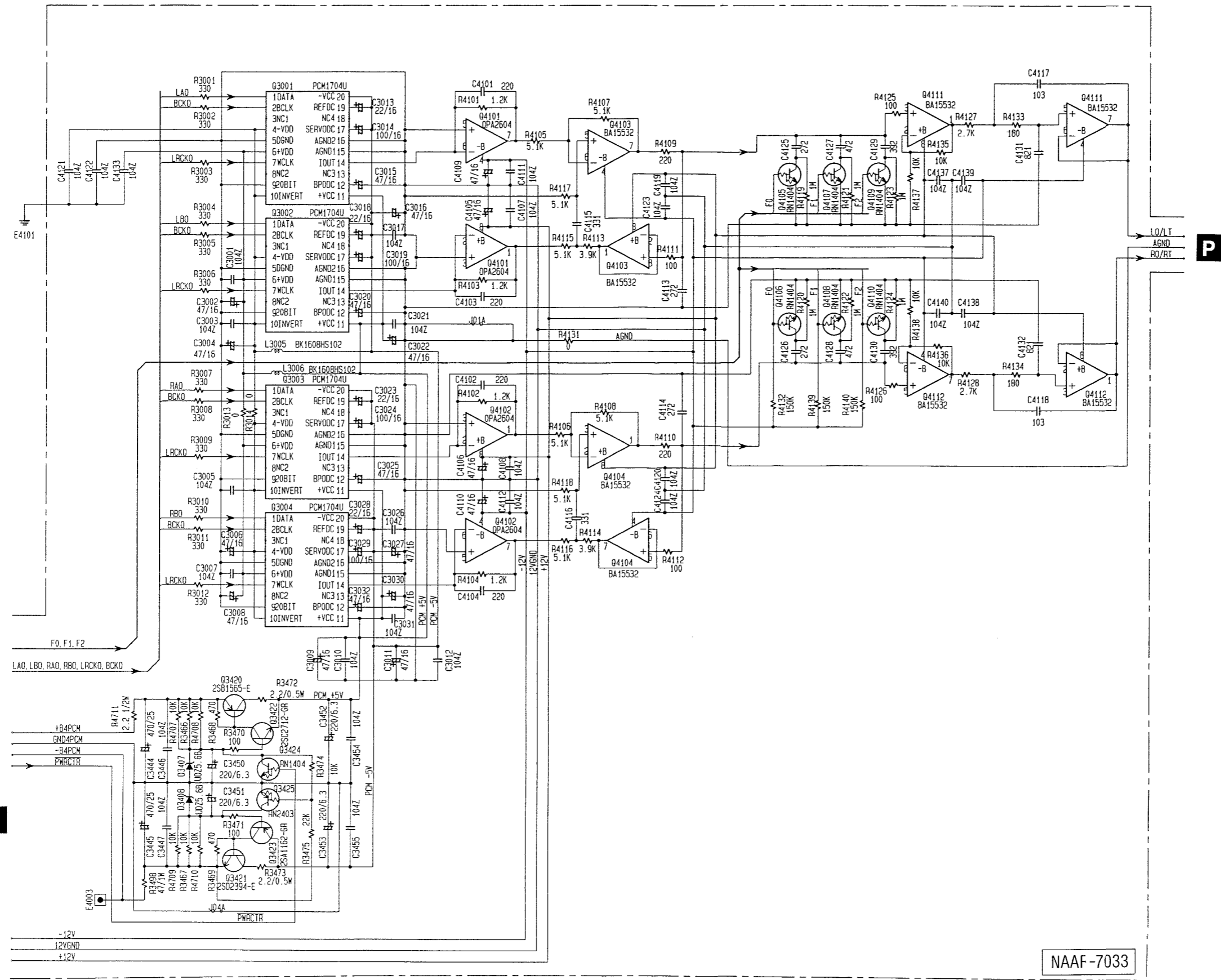
SCHEMATIC DIAGRAM

Main circuit PC board DAC CIRCUIT



SCHEMATIC DIAGRAM

Main circuit PC board VLC CIRCUIT



1

2

3

4

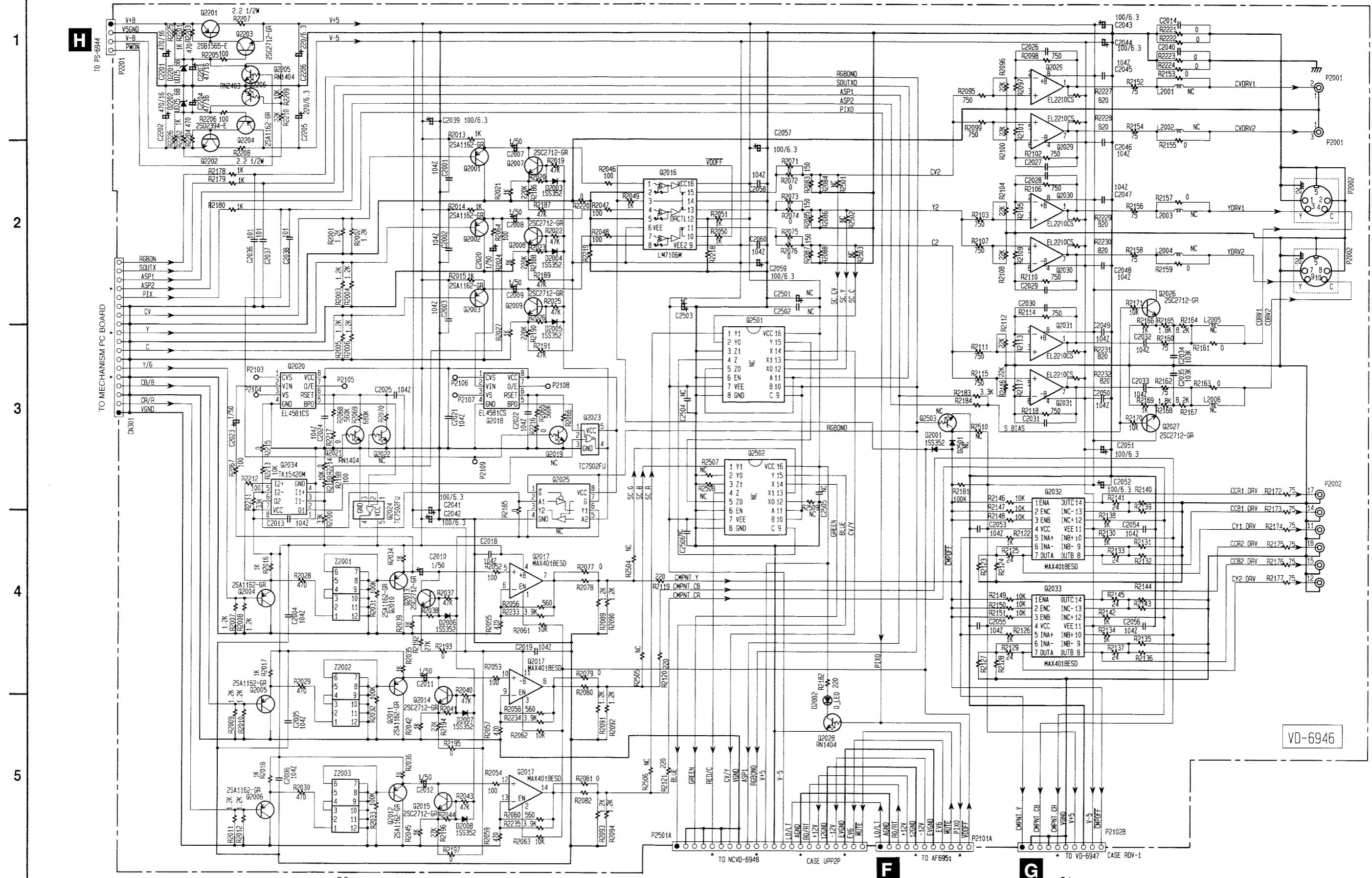
5

P

P

NAAF-7033

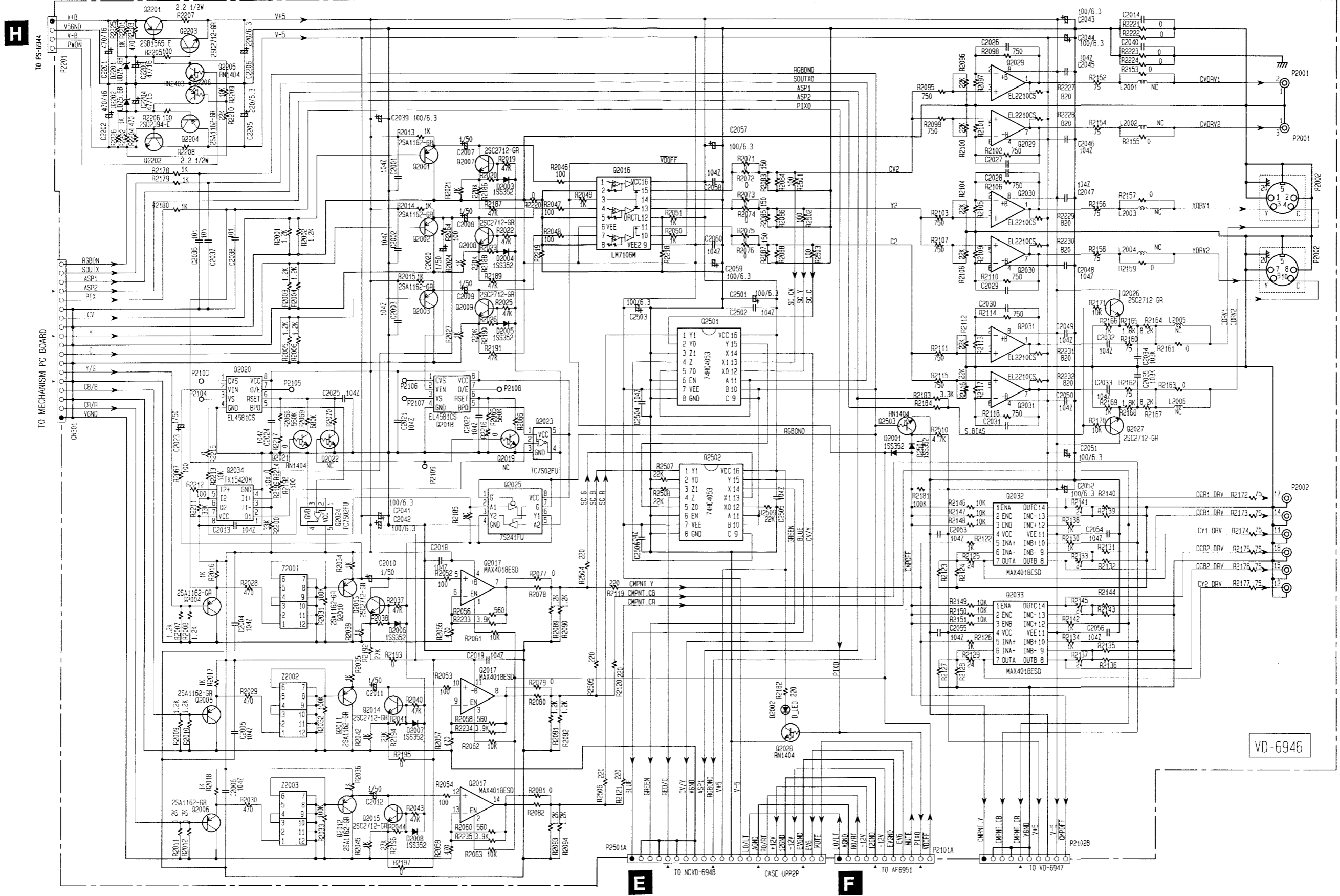
SCHEMATIC DIAGRAM <UD, PS, WT, GT> model only Video circuit PC board



SCHMATIC DIAGRAM <UP> model only
Video circuit PC board <UP> model only

A B C D E F G H

1
2
3
4
5

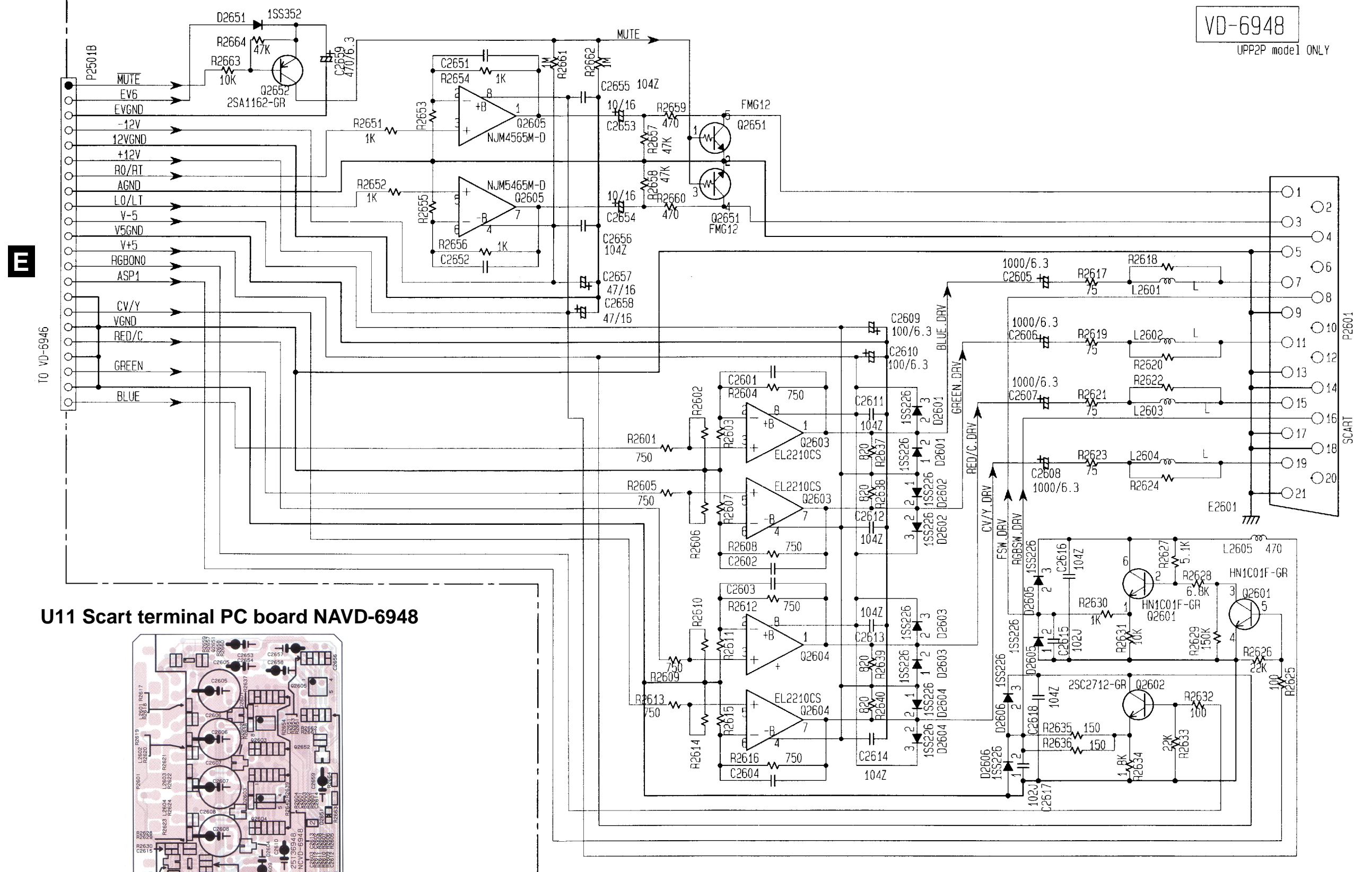


VD-6946

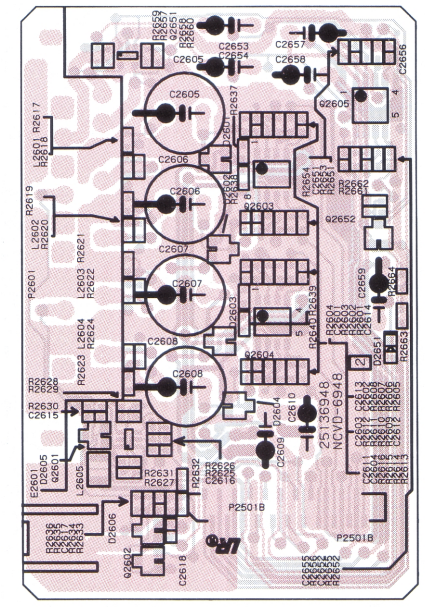
PRINTED CIRCUIT BOARD VIEW 4/SCHEMATIC DIAGRAM 4 <UP> modelonly

Scart terminal PC board <UP< model only

1
2
3
4
5



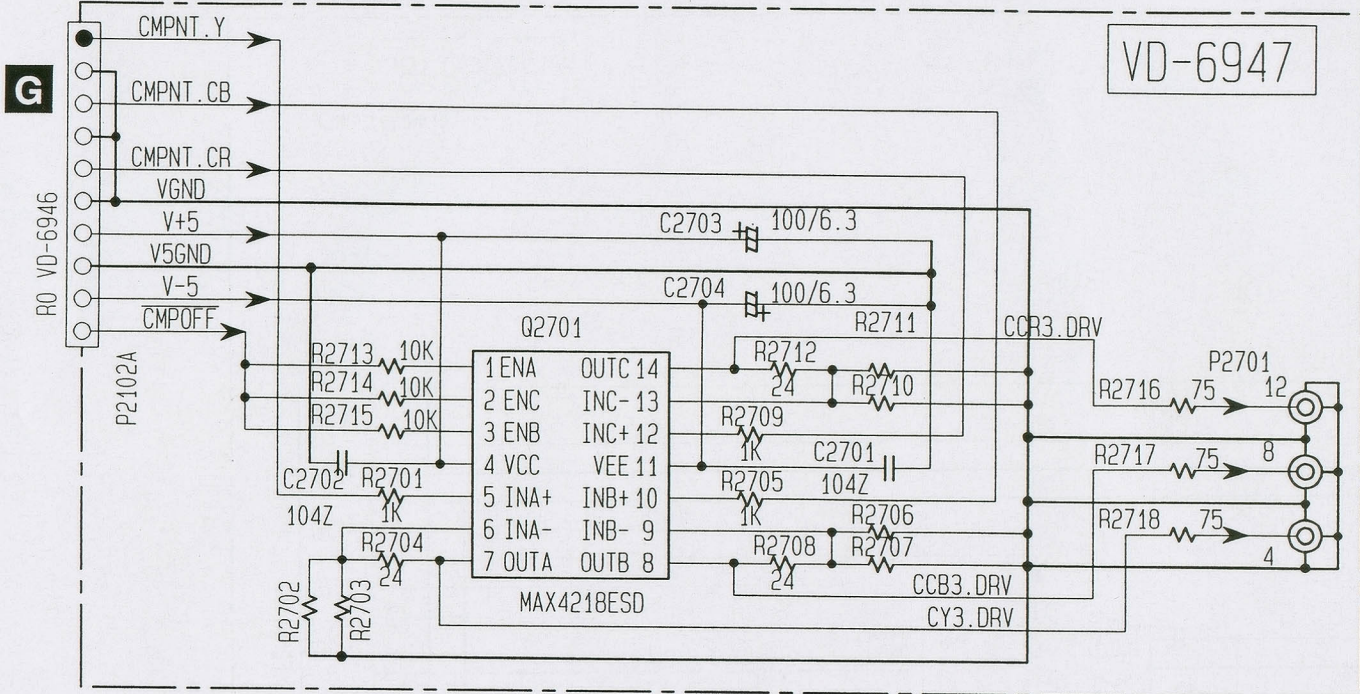
U11 Scart terminal PC board NAVD-6948



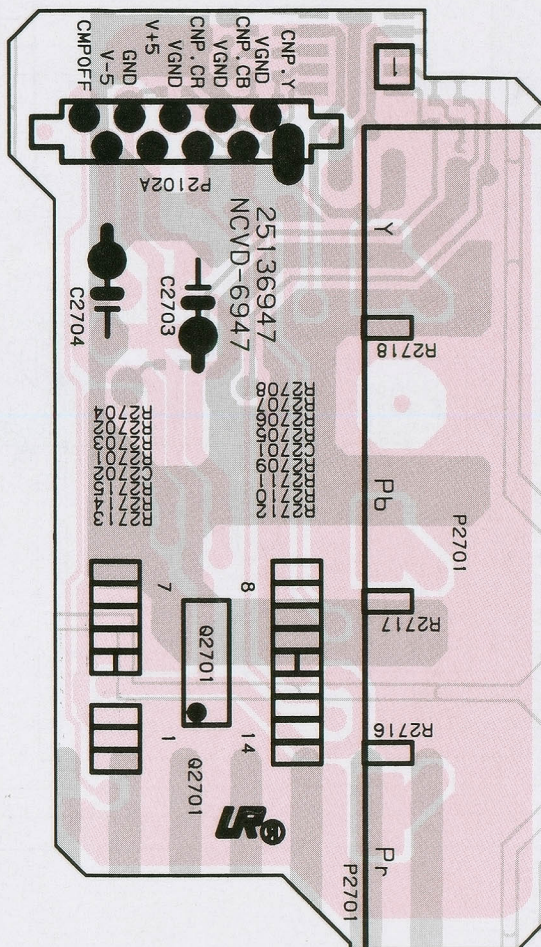
Component side

SCHEMATIC DIAGRAM 6947/PRINTED CIRCUIT BOARD VIEW

BNC Terminal PC board



Printed circuit PC board NACVD-6947



OUTPUT SOUND CONVERSION TABLE

Audio Output from the DIGITAL OUTPUT and ANALOG OUTPUT Jacks
Corresponding to Disc Formats and the DVD Player Settings

Disc	Sound System	Audio Out Select setting and the output jacks								
		Bitstream		Analog 6Ch		Analog 2Ch		PCM		
		DIGITAL OUTPUT	ANALOG OUTPUT	DIGITAL OUTPUT	ANALOG OUTPUT	DIGITAL OUTPUT	ANALOG OUTPUT	DIGITAL OUTPUT	ANALOG OUTPUT	
DVD Video	DOLBY DIGITAL	Bitstream	48 kHz/20 bit	—	48 kHz/20 bit	Bitstream	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	
	Linear PCM	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit
		48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit
		48 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit	48 kHz/16 bit	48 kHz/20 bit	48 kHz/16 bit	48 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit
		96 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	—	96 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit
		96 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	—	96 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit
	96 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit	48 kHz/16 bit	48 kHz/20 bit	—	96 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit	
DTS	Bitstream	—	Bitstream	—	Bitstream	—	—	—		
MPEG2**	Bitstream	48 kHz/16 bit	—	48 kHz/16 bit	Bitstream	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit		
Video CD	MPEG1	44.1 kHz/16 bit	44.1 kHz/16 bit	—	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	
CD	Linear PCM 44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	
	DTS	Bitstream	(Noise is output)	Bitstream	(Noise is output)	Bitstream	(Noise is output)	Bitstream	(Noise is output)	
DVD Audio	Linear PCM or packed PCM	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	—	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	
		48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	—	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	
		44.1 kHz/20 bit	44.1 kHz/16 bit	44.1 kHz/20 bit	—	44.1 kHz/20 bit	44.1 kHz/16 bit	44.1 kHz/20 bit	44.1 kHz/16 bit	
		48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	—	48 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	48 kHz/16 bit	
		44.1 kHz/24 bit	44.1 kHz/16 bit	44.1 kHz/24 bit	—	44.1 kHz/24 bit	44.1 kHz/16 bit	44.1 kHz/24 bit	44.1 kHz/16 bit	
		48 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit	—	48 kHz/24 bit	48 kHz/16 bit	48 kHz/24 bit	48 kHz/16 bit	
		88.2 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit	—	88.2 kHz/16 bit	—	88.2 kHz/16 bit	44.1 kHz/16 bit	
		96 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	—	96 kHz/16 bit	—	96 kHz/16 bit	48 kHz/16 bit	
		88.2 kHz/20 bit	44.1 kHz/16 bit	44.1 kHz/20 bit	—	88.2 kHz/20 bit	—	88.2 kHz/20 bit	44.1 kHz/16 bit	
		96 kHz/20 bit	48 kHz/16 bit	48 kHz/20 bit	—	96 kHz/20 bit	—	96 kHz/20 bit	48 kHz/16 bit	
		88.2 kHz/24 bit	44.1 kHz/16 bit	44.1 kHz/20 bit	—	88.2 kHz/24 bit	—	88.2 kHz/24 bit	44.1 kHz/16 bit	
		96 kHz/24 bit	48 kHz/16 bit	48 kHz/20 bit	—	96 kHz/24 bit	—	96 kHz/24 bit	48 kHz/16 bit	
		*2 176.4 kHz/16 bit	—	176.4 kHz/16 bit	—	176.4 kHz/16 bit	—	176.4 kHz/16 bit	—	
		*2 192 kHz/16 bit	—	192 kHz/16 bit	—	192 kHz/16 bit	—	192 kHz/16 bit	—	
		*2 176.4 kHz/20 bit	—	176.4 kHz/20 bit	—	176.4 kHz/20 bit	—	176.4 kHz/20 bit	—	
		*2 192 kHz/20 bit	—	192 kHz/20 bit	—	192 kHz/20 bit	—	192 kHz/20 bit	—	
		*2 176.4 kHz/24 bit	—	176.4 kHz/24 bit	—	176.4 kHz/24 bit	—	176.4 kHz/24 bit	—	
*2 192 kHz/24 bit	—	192 kHz/24 bit	—	192 kHz/24 bit	—	192 kHz/24 bit	—			

*1 Not applicable for USA and Canadian models

*2 2Ch Audio Output

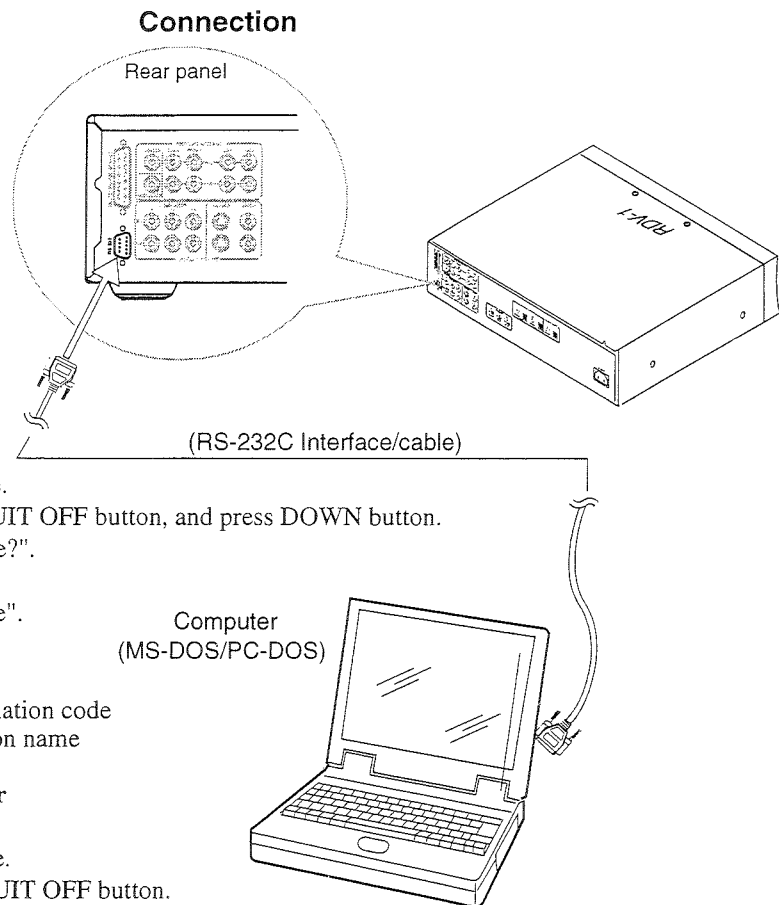
—: No signal

Notes

- When using only two speakers for playback and play a multi channel disc that prohibits stereo downmixing, the sound from the right and left speakers will be the right and left channels of the multi channel sound track as recorded on the disc. With these types of discs, it is often possible that a 2-channel stereo sound track may also be recorded. Change the sound track to hear the audio correctly. (For details, refer to the documentation supplied with the disc.)
- During playback of discs recorded with sampling rates higher than 48 kHz (for example 96 kHz), the 48/44.1 sampling rate indicator lights when Audio Out Select is set to either Bitstream or PCM.
- When Audio Out Select is set to Analog 6Ch, two channel audio sources are output with DOLBY PRO LOGIC surround processing (except for DVD-Audio).

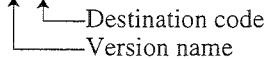
UPGRADED FIRMWARE

1. When replaced the ROM ICs, it is necessary to write the data into the IC615. (Firmware)
2. When the firmware is upgraded, rewriting the new firmware into IC615 may be requested for servicing.
3. Connect a computer to the jack (RC-232) on the rear panel of the unit.
4. Writing operation.



1. Writing the upgraded firmware

- 1-1. Setting the computer as shown as Fig.-1 above.
Turn POWER switch to ON to set the standby mode.
- 1-2. Press and hold down DISPLAY and VIDEO CIRCUIT OFF button, and press DOWN button.
It can be displayed on the FL display as "Main Write?".
- 1-3. Press the STANDBY/ON button.
It can be displayed on the FL display as "Main Write".
- 1-4. Writing operation by the computer.
Program: FLASH99.EXE File: JA***□OS.O24
- 1-5. Power off the unit.



2. Writing the E²PROM-data of main microprocessor

- 2-1. Setting the computer as shown as Fig.-1 above.
Turn POWER switch to ON to set the standby mode.
- 2-2. Press and hold down DISPLAY and VIDEO CIRCUIT OFF button.
- 2-3. It can be displayed on the FL display as "Main Write?".
- 2-4. Press the STANDBY/ON button. -----Set the writing mode
- 2-5. Writing operation by the computer.
Program: com99.exe File: s939r □.txt
- 2-6. Power off the unit.

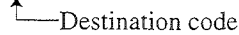


Fig 1 : Cable connection of the computer to RDV-1

3. Confirm the FL display
- 3-1. Turn POWER switch to ON to set the standby mode.
- 3-2. Press and hold down DISPLAY and VIDEO CIRCUIT OFF button at no disc condition.
- 3-3. Confirm the version of firmware and the version of sub microprocessor.

Confirm that the display on the monitor TV is sa follows.

Item	UD	UWT/UGT	UP	UPS
ROM Version				
Region	1	3	2	4
OSD	Eng/Fre/Spa	Eng/Chi	Eng/Fra/Spa	Eng/Fra/Spa
VCD	On	On	On	On
BUZZER	On	On	On	On
A.3D	Off	Off	Off	Off
RANDOM	On	On	On	On
KARA	Off	Off	Off	Off
DTS	On	On	On	On
VOCAL	Setup	Setup	Setup	Setup
DIMMER	3Type	3Type	3Type	3Type
V.3D	On	On	On	On
V-FMT	NTSC	PAL/NTSC	PAL/NTSC	PAL/NTSC
JOG	Off	Off	Off	Off
MPEG-A	On	On	On	On

3. Factory setting confirmation

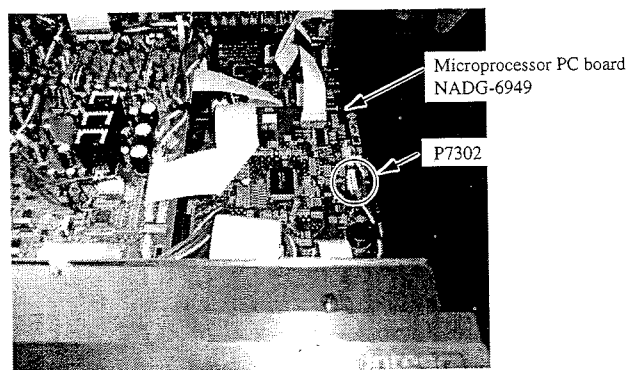
- 3-1. Turn power switch to ON to set the standby mode at no disc condition.
- 3-2. Press and hold down DISPLAY and STANDBY button.
- 3-3. Turn POWER to OFF, and pull out the power cord.
- 3-4. Confirm that display on the monitor TV is as follow.

		UD UWT/UGT UP UPS
Picture	TV/SHARP	4 :3 LB
	BLACKER THAN BLACK	OFF
	Progressive 4 : 3 out	FULL
	Progressive Conversion	AUTO
AUDIO	AUDIO OUT SELECT	Bitsream
Language	On-screen/Disc	Eng
	AUDIO	Eng
	Subtitle	-
Display	On-Screen display	ON
	BACK GRAND	GRAY
	Screen Saver	ON
Operation	PAUSE/STILL	AUTO
	PARENTAL LOCK	Off
	Remote Confirmation	On
	TITLE/GROUP STOP	Off
	PBC	On
	PRIORITY CONTENTS	DVD-AUDIO

V-1

4. Writing the E PROM-data of sub microprocessor

- 4-1. Connect the Serial Flash Writer to the socket (P7302) of microprocessor PC board at power off.
- 4-2. Press the power switch ON.
- 4-3. Writing operation the ROM writer.



NOTE:

1. The firmware and setup data are not available as service parts.
2. For more information, consult ONKYO authorized service station in your area.

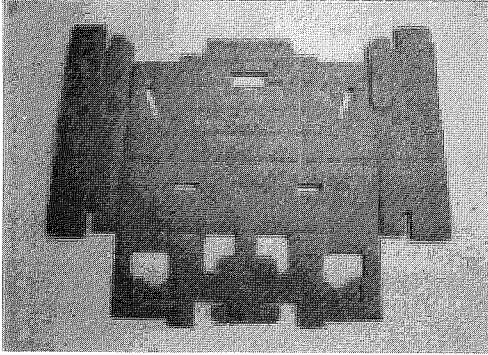
EXPLODED VIEW PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	27100388-1	Chassis	123	891002	Stopper	U4	1H453543-2A	NASW-6943-2A, Power switch PC board ass'y <D>
2	27122763	Rear panel <D>	127	27190009	KGLS-4S, holder		1H453543-2B	NASW-6943-2B, Power switch PC board ass'y <P/PS>
	27122764	Rear panel <P>	E101	2042233512	NCFC2-233512, Flexible flat cable		1H453543-2C	NASW-6943-2C, Power switch PC board ass'y <WT>
	27122765	Rear panel <PS>	E102	2042082012	NCFC2-082012, Flexible flat cable		1H453543-2D	NASW-6943-2D, Power switch PC board ass'y <GT>
	27122766	Rear panel <WT>	E103	2047221012	NCFC7-221012, Flexible flat cable	U5	1H453544-2A	NAPS-6944-2A, Power supply circuit PC board ass'y <D>
	27122767	Rear panel <GT>	E104	2045181012	NCFC5-181012, Flexible flat cable		1H453544-2B	NAPS-6944-2B, Power supply circuit PC board ass'y <P/PS>
3	27130852A	Front bracket	E105	2045263512	NCFC5-263512, Flexible flat cable		1H453544-2C	NAPS-6944-2C, Power supply circuit PC board ass'y <WT>
4	838430088	3TTB+8B(BC), Self-tapping screw	E106	2045131512	NCFC5-131512, Flexible flat cable		1H453544-2D	NAPS-6944-2D, Power supply circuit PC board ass'y <GT>
5	27190541	WS-INS, Clamp	E107	2045131012	NCFC5-131012, Flexible flat cable	U6	1H453545-2A	NAPS-6945-2A, Primary circuit PC board ass'y <D>
7	27212243	Front panel ass'y <D>	E108	2045271512	NCFC5-271512, Flexible flat cable		1H453545-2B	NAPS-6945-2B, Primary circuit PC board ass'y <P/PS>
	27212264	Front panel ass'y <P/PS/WT/GT>	E109	2045271512	NCFC5-271512, Flexible flat cable		1H453545-2C	NAPS-6945-2C, Primary circuit PC board ass'y <WT>
8	82143006	3P+6FN(BC), Pan head screw	E110	2009990637	NSAS-12P0883, Socket ass'y		1H453545-2D	NAPS-6945-2D, Primary circuit PC board ass'y <GT>
9	27130855-1	Bracket R	E111	2045231512	NCFC5-231512, Flexible flat cable	U7	1H453546-2A	NAVD-6946-2A, Video circuit PC board ass'y <D/PS/WT/GT>
10	28198908	Facet (1)		2045222012	NCFC5-222012, Flexible flat cable <P>		1H453546-2B	NAVD-6946-2B, Video circuit PC board ass'y <P>
11	27141768	Retainer Main	F9001	△ 252158	1.6A-UL/T-237, Fuse <D>		1H453547-2A	NAVD-6947-2A, BNC terminal PC board ass'y <D/PS/WT/GT>
12	28325871	Knob ass'y ST	F9001	△ 252073	1.6A-SE-EAK, Fuse <P/PS/WT/GT>	U8	1H453547-2A	NAVD-6947-2A, BNC terminal PC board ass'y <P>
15	27130853-1	Bracket C	T901	△ 2301496	NPT-1407D, Power transformer <D>		1H453547-2B	NAVD-6947-2B, BNC terminal PC board ass'y <P>
17	29360778	Label, Thunder <D>	T901	△ 2301497	NPT-1407P, Power transformer <P/PS>	U9	1H453549-2A	NADG-6949-2A, Microprocessor PC board ass'y <D/PS/WT/GT>
19	28184772	Cover (UPG)	T901	△ 2301498	NPT-1407DG, Power transformer <WT/GT>		1H453549-2B	NADG-6949-2B, Microprocessor PC board ass'y <P>
21	27141770	Retainer, heat sink	T902	△ 2301500	NPT-1408D, Power transformer <D>	U10	1H453550-2A	NAAF-6950-2A, Output terminal PC board ass'y <D/PS/WT/GT>
23	838430088	3TTB+8B(BC), Self-tapping screw	T902	△ 2301501	NPT-1408P, Power transformer <P/PS>		1H453550-2B	NAAF-6950-2B, Output terminal PC board ass'y <P>
25	28170070	Bushing	T902	△ 2301502	NPT-1408DG, Power transformer <WT/GT>	U11	1H453551-2A	NAAF-6951-2A, Multi channel output terminal PC board ass'y <D/PS/WT/GT>
27	28170072	CE-012, Bushing	Z723	27262661	Plate Mechanism		1H453551-2B	NAAF-6951-2B, Multi channel output terminal PC board ass'y <P>
29	28170074	KG-016L, Bushing	Z724	24834041	Washer C	U12	1H453552-2A	NAETC-6952-2A, Sampling indicator PC board ass'y <D/PS/WT/GT>
31	27150454A	Shield plate FFC	Z710	24801006	SD-9200K2-ZX, DVD mechanism		1H453552-2B	NAETC-6952-2B, Sampling indicator PC board ass'y <P>
35	27190524	KGLS-14RF, Holder	Z711	24801009	MGD-32, Mechanism loader	U13	1H453548-2B	NAVD-6948-2B, Scart terminal PC board ass'y <P>
37	27190657	KGLS-18RF, Holder	703	831430088	3TTW+8B(BC)	U14	1H454533-1	NAAR-7033-1, Main circuit PC board ass'y
39	27190802	KGPS-14RF, Holder	Z712	24802047	Sub chassis, Frame	U15	24150017A	SD-31C1, Mechanism PC board ass'y 1 (DVD Main)
41	27141766	Retainer, main 2	Z713	24840143	Bracket T	U16	24150018	SD-32B1, Mechanism PC board ass'y 2 (DVD Sub)
43	28184632-1B	Cover mechanism	Z714	801594	Special screw			
47	28141421	t8*10*30, Cushion	Z715	24818042	Insulator front			
51	260208	Wire tie	Z716	24818043	Insulator rear			
53	27170333A	Bottom panel	Z717	801595	Special screw C			
55	27175311A	Leg ass'y	Z718	801593	Special screw A			
57	831430088	3TTW+8B(BC), Self-tapping screw	Z719	801596	Special screw D			
61	28184793	Top cover	Z721	28140803	Cushion (10 x 100 t=0.5)			
63	28141437	Cushion	Z722	29362648	Label DVD			
65	28141409A	Cushion	A705	29110083	Cloth tape			
67	838430088	3TTB+8B(BC), Self-tapping screw	E701	27191116	Holder, SMP			
69	838240089	4TTB+8C(NI), Self-tapping screw	U1	1H453540-2A	NADIS-6940-2A, Display circuit PC board ass'y <D>			
71	801599	Special screw (HFC)		1H453540-2B	NADIS-6940-2B, Display circuit PC board ass'y <P/PS>			
73	27141765	Retainer (KOB)		1H453540-2C	NADIS-6940-2C, Display circuit PC board ass'y <WT>			
75	838430088	3TTB+8B(BC), Self-tapping screw		1H453540-2D	NADIS-6940-2D, Display circuit PC board ass'y <GT>			
79	830440089	4TTC+8C(BC), Self-tapping screw	U2	1H453541-2A	NASW-6941-2A, Standby switch PC board ass'y <D>			
81	838130088	3TTB+8B, Self-tapping screw		1H453541-2B	NASW-6941-2B, Standby switch PC board ass'y <P/PS>			
83	838440089	4TTB+8C(BC)		1H453541-2C	NASW-6941-2C, Standby switch PC board ass'y <WT>			
85	28191904	Clear plate		1H453541-2D	NASW-6941-2D, Standby switch PC board ass'y <GT>			
87	28148458	Door	U3	1H453542-2A	NASW-6942-2A, Input switch PC board ass'y <D>			
89	838426088	2.6TTB+8B(BC)		1H453542-2B	NASW-6942-2B, Input switch PC board ass'y <P/PS>			
91	27262662	Plate (DOOR)		1H453542-2C	NASW-6942-2C, Input switch PC board ass'y <WT>			
93	28198910	Facet (SMP)		1H453542-2D	NASW-6942-2D, Input switch PC board ass'y <GT>			
95	27130845	Bracket mechanism						
99	27220063	Slider						
101	28125388	End cap, mechanism L						
103	838426088	2.6TTB+8B(BC), Self-tapping screw						
105	28125389	End cap, mechanism R						
109	28325831	Knob ass'y FF, 3pcs						
111	28325838	Knob ass'y FF						
113	28325833	Knob ass'y PLAY						
115	28325835	Knob ass'y POWER						
117	28325869	Knob ass'y DG						
119	27270425	Spacer						
121	27180582	Spring, door						

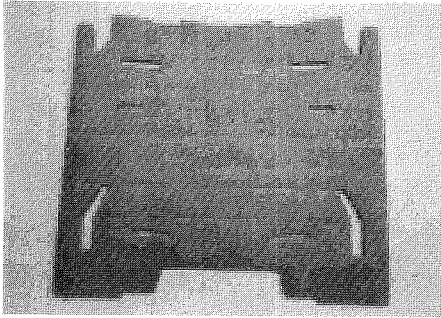
NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

ASSEMBLE THE PAD

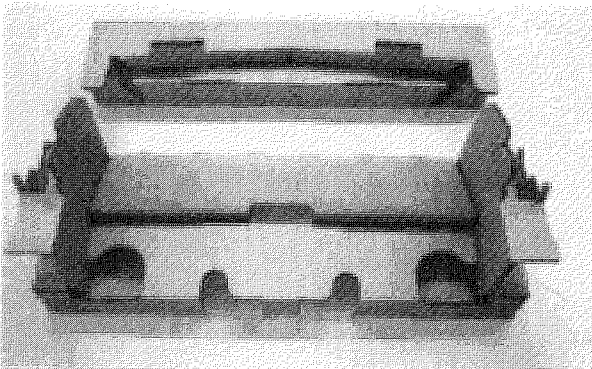
Part No. 29091963A



Part No. 29091965A

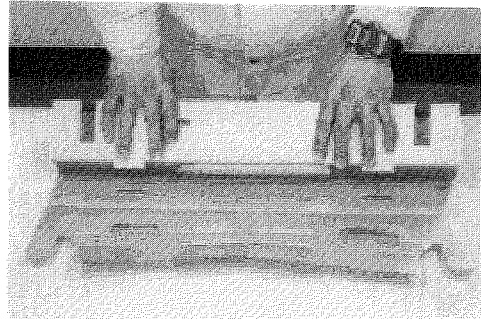
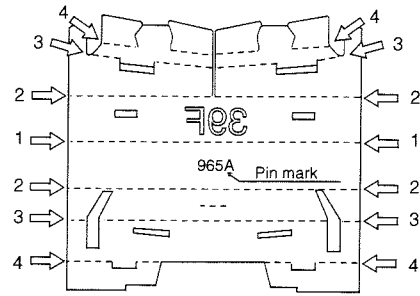
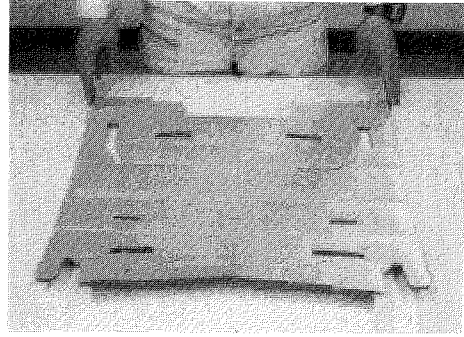


Assembled Pad

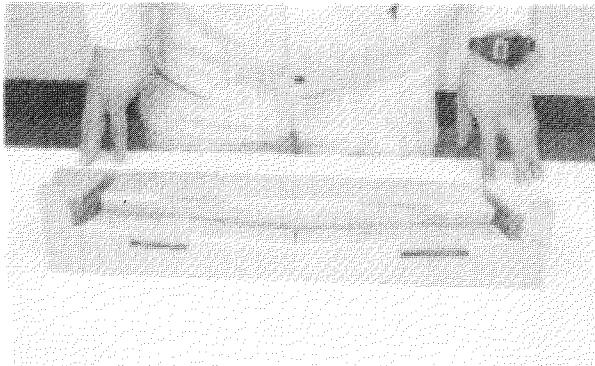
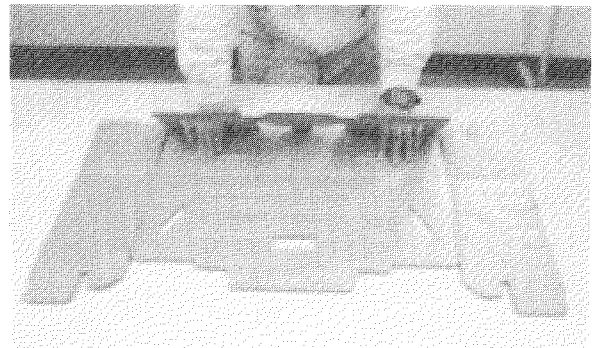
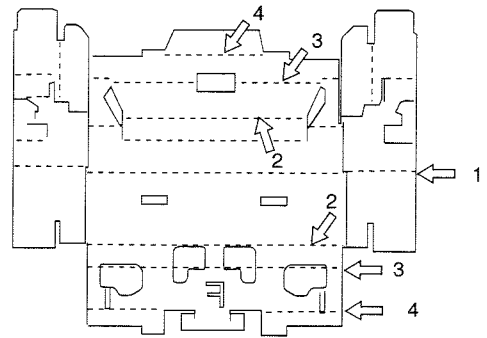
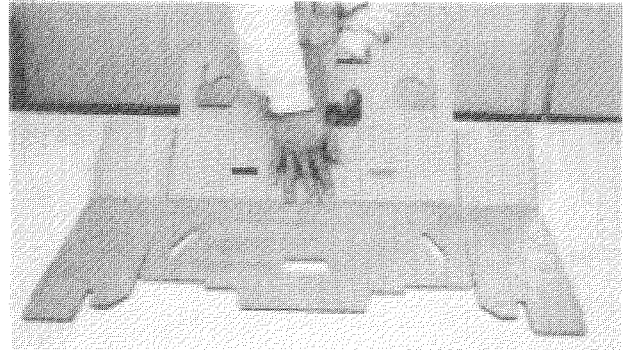
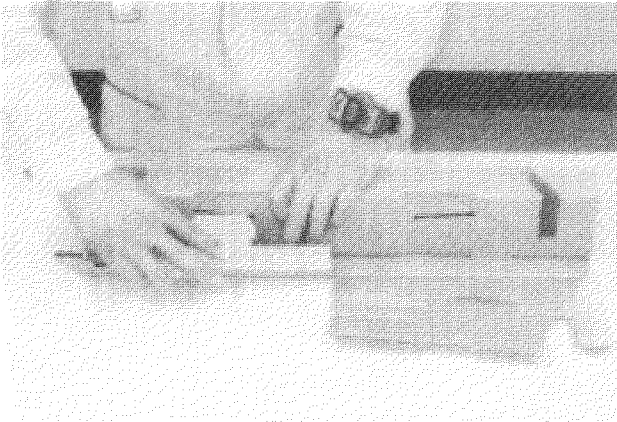


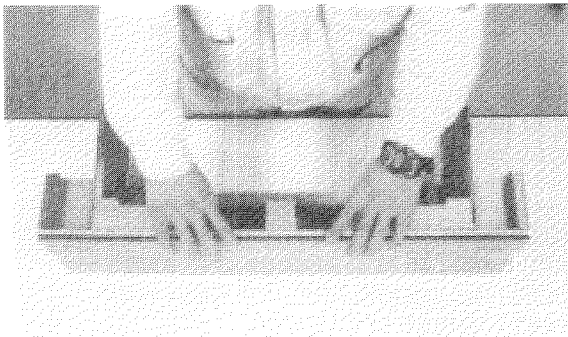
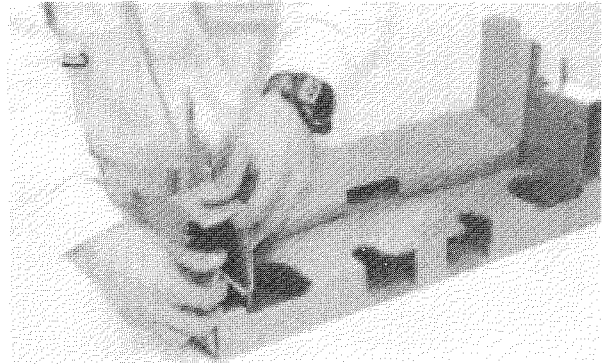
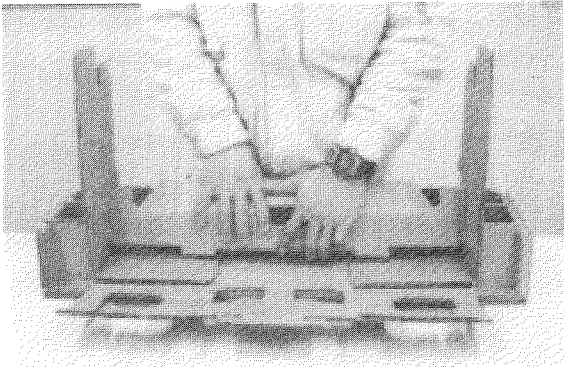
Assembly procedure

Part No. 29091965A

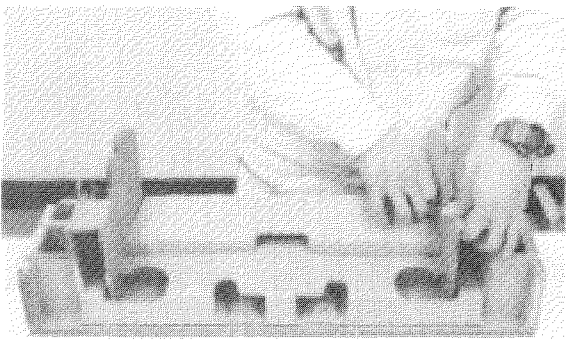
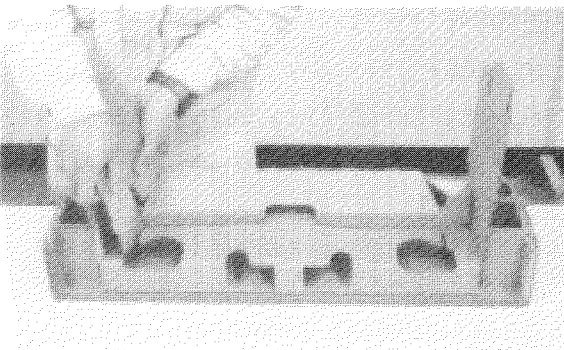
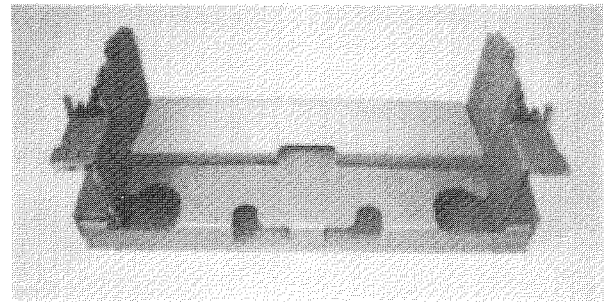


Part No. 29091963A

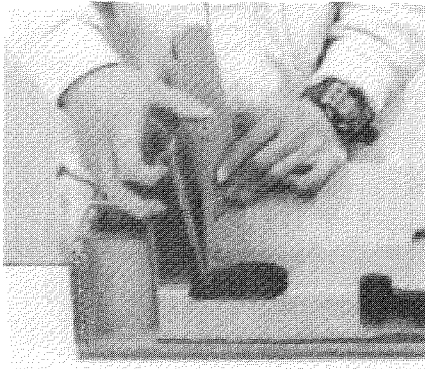
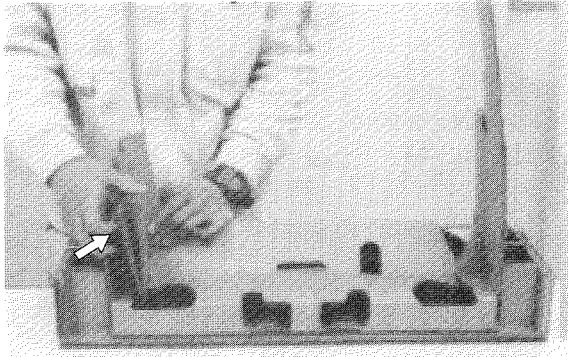
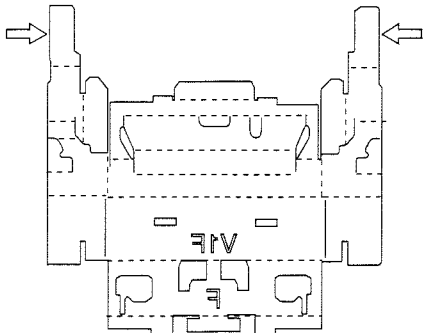
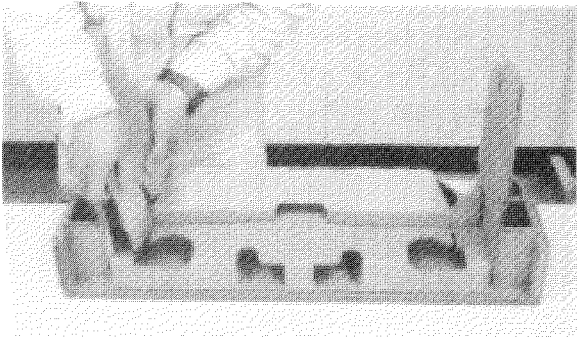
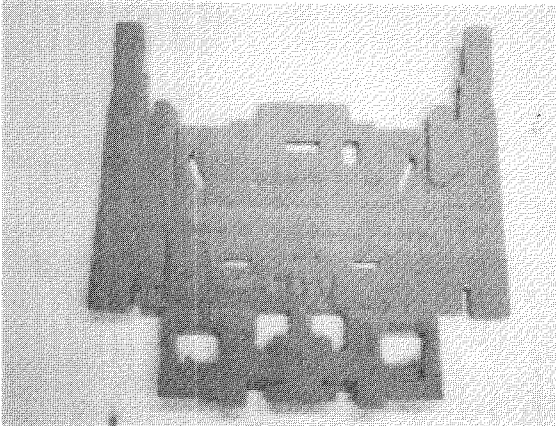




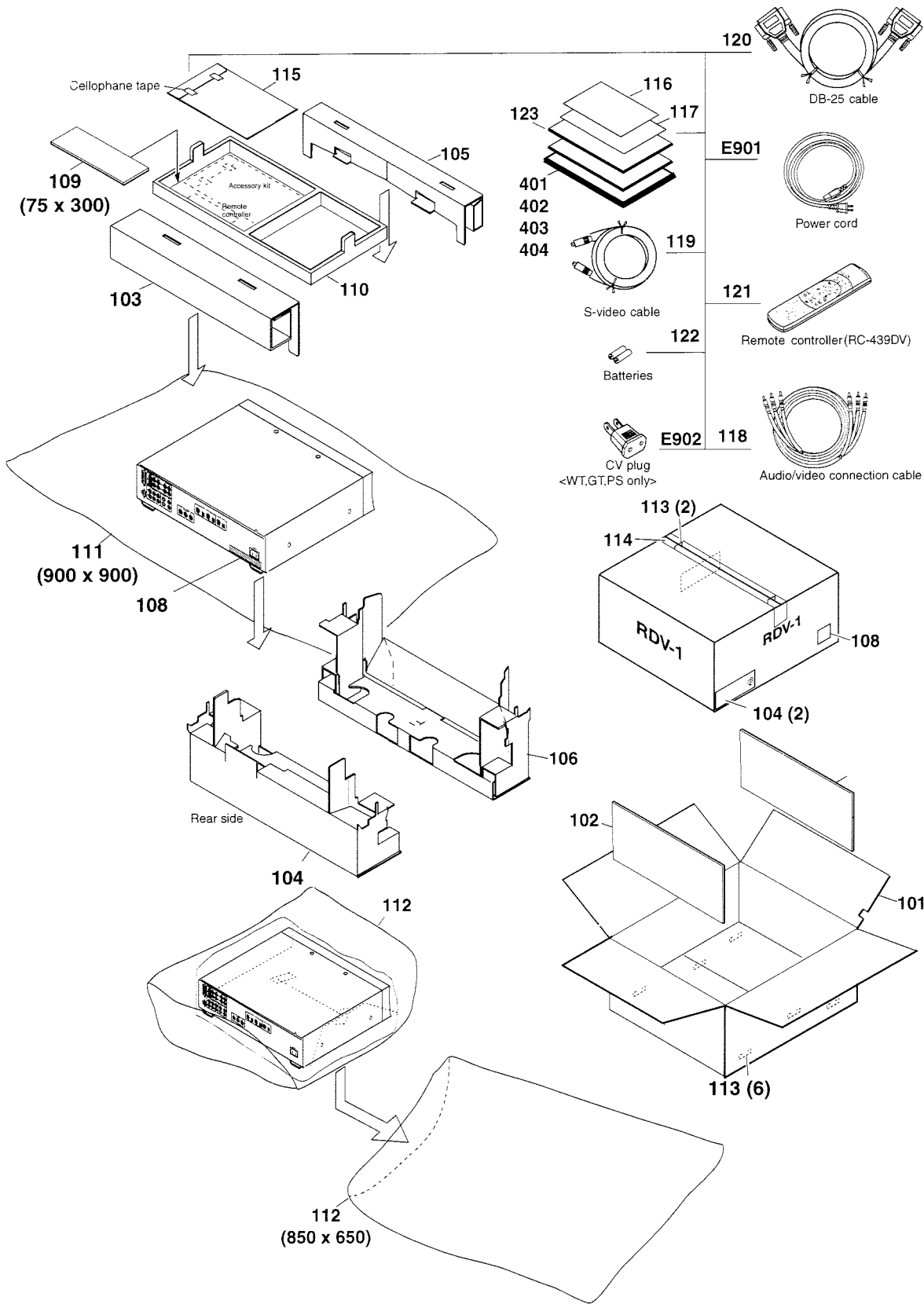
Assembled Pad






Part No. 29091968A



PACKING VIEW



PACKING PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
101	29053677	Carton box	117	29095865	Sheet <D>
102	29095893	Sheet	118	2010388	Video connection cable
103	29091966A	Pad, rear top	119	2010389	S-video cable
104	29091964A	Pad, rear bottom	120	2010390	DB-25 cable
105	29091967A	Pad, front top	121	24140439	RC-439DV, Remote controller
106	29091968A	Pad, front bottom	122	3010054	UM-3, Battery
107	29362744	Label <D>	123	29355347	Instruction sheet THX
	29362745	Label <P>	E901	 253301HIT	AS-UC-2, Power cord <D>
	29362746	Label <PS>		 253302HIT	AS-CEE-3, Power cord <P/PS/WT/GT>
	29362747	Label <WT>	E902	 25055018	CV-K-1, CV plug
	29362748	Label <GT>	401	29342995A	Instruction manual E <D/PS/WT/GT>
108	29362716	Label (UPC) <D>		29342996A	Instruction manual E <P>
	29362725	Label (EAN) <P/PS/WT/GT>	402	29342999	Instruction manual FS <P>
109	29095894	Sheet 75 x 300		29343002	Instruction manual FS <PS>
110	29105207A	Case, accessory		29342998	Instruction manual C <WT/GT>
111	29095880	Sheet 900 x 900 t=0.515	403	29343000	Instruction manual ISW <P>
112	29100034-1A	Poly bag 850 x 650	404	29343001	Instruction manual GD <P>
113	282321	Staple			
114	29110141	PP tape			
115	29100097-1A	Poly bag 350 x 250			
116	29365086	Warranty card <D>			

NOTE :


<D> : 120V model only

<P> : European model only

<PS> : South American and Australian models only

<GT> : 220V model only

<WT> : 120/220-230V model only

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

Integra Research Division of

ONKYO CORPORATION

Sales & Product Planning Div. : 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572-8540, JAPAN

Tel: 072-831-8111 Fax: 072-833-52 <http://www.onkyo.co.jp/>

Integra Research Division of

ONKYO U.S.A. CORPORATION

18 Park Way, Upper Saddle River, NJ 07458, U.S.A.

Tel: 201-785-2600 Fax: 201-758-2650 E-mail: Integra@onkyousa.com**ONKYO EUROPE ELECTRONICS GmbH**

Industriestrasse 20, 82110 Germering, GERMANY

Tel: 089-849-320 Fax: 089-849-3265 E-mail: info@onkyo.de**ONKYO CHINA LIMITED**

Units 2102-2107, Metroplaza Tower I, 223 Hing Fong Road, Kwai Chung,

N.T., HONG KONG Tel: 852-2429-3118 Fax: 852-2428-9039

OM3668 N0103 Printed in Japan