Ref. No. 3666
102000

ONKYO® SERVICE MANUAL

DVD AUDIO/VIDEO Player

DV-S939

Black, Golden and Silver models

BUD	120V AC, 60Hz
BUP,GPS,SUP	230-240V AC, 50Hz
GUGT	220V AC, 50Hz
GUWT	120/220 - 230V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ 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 NUMBER 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

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 adjest 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 apposre.

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

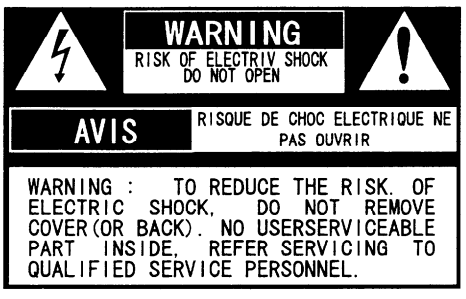
2. Safety-check out

(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.

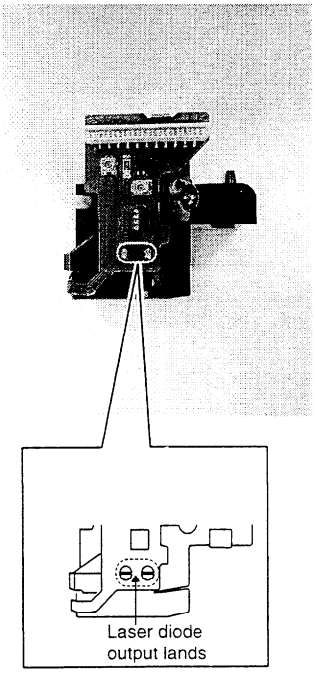
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

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 reliablity 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.

Unsoder the laser diode output lands.



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.

SPECIFICATIONS

■ DVD Player

Power supply	AC120V, 60Hz <UD>
	AC220-230V, 50/60Hz <GT>
	AC120/220-230V, 60/50Hz <WT>
	AC230-240V, 50Hz <UP/PS>
Power consumption	45W <UD>
	40W <UP/PS/GT/WT>
Weight	11.0 kg, 24.3 lbs
External dimensions	435 x 122 x 374 mm (W/H/D), 17 1/8" x 4 13/16" x 14 3/4" (W/H/D)
Signal system	NTSC/PAL*
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 (41°F to 95°F), Operation status: Horizontal

* Not applicable for USA and Canadian models

■ Outputs

Video output (pin jack) Video output (SCART) **<UP>**	1.0 V (p-p), 75 Ω, negative sync., pin jack × 2 1.0 V (p-p), 75 Ω, SCART socket x 1
S-video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., Mini DIN 4-pin × 2 (C) 0.286 V (p-p), 75 Ω
Component video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., pin jack × 2 (P_B)/(P_R) 0.7 V (p-p), 75 Ω, pin jack × 4
Audio output (digital output Optical)	Optical connecter × 2
Audio output (digital output Coaxial)	0.5 V (p-p), 75 Ω, pin jack × 2
Audio output (2-Channel Audio)	2.0 V (rms), 320 Ω, pin jack (L, R) × 2
Audio output (5.1-Channel Surround)	2.0 V (rms), 320 Ω, pin jack × 6 2.0 V (rms), 320 Ω, DB25 × 1
RGB video output **<UP>** only	0.7V (p-p), 75Ω, SCART socket x 1

■ Supplied Accessories

Audio/video connection cable	1
Remote controller (RC-438DV)	1
Batteries (size AA/UM-3)	2
Power cord	1
S-video cable	1
DB-25 cable	1
CV plug **<WT> only**	1

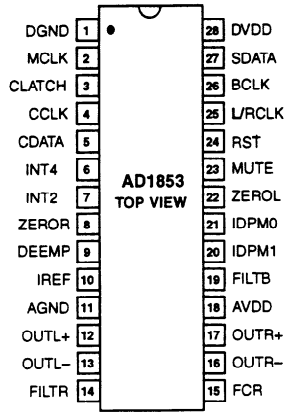
Specifications and features are subject to change without notice.

NOTE:
<UD> : 120V model only
<UP> : European model only
<GT> : 220V model only
<WT> : 120/220-230V model only
<PS> : 230-240V model only

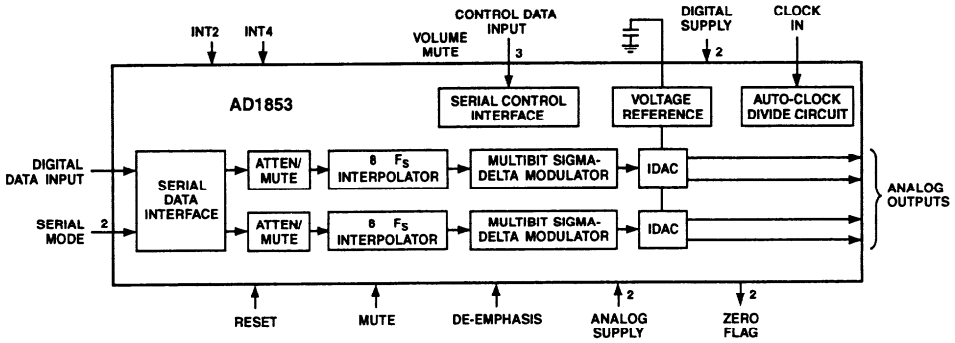
IC BLOCK DIAGRAM AND DESCRIPTIONS

AD1853
(Stereo 24-Bit, 192kHz, Multibit DAC)

PIN CONFIGURATION



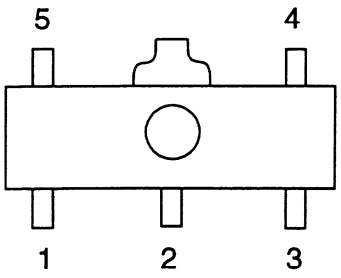
FUNCTIONAL BLOCK DIAGRAM



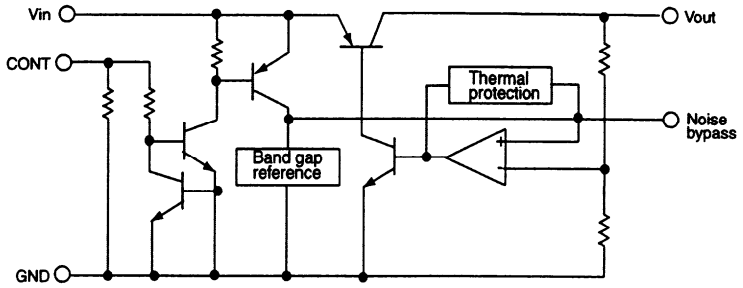
PIN FUNCTION DESCRIPTIONS

Pin	Input/Output	Pin Name	Description
1	I	DGND	Digital Ground.
2	I	MCLK	Master Clock Input.
3	I	CLATCH	Latch input for control data. This input is rising-edge sensitive.
4	I	CCLK	Control clock input for control data. Control input data must be valid on the rising edge of CCLK. CCLK may be continuous or gated.
5	I	CDATA	Serial control input, MSB first, containing 16 bits of unsigned data. Used for specifying control information and channel-specific attenuation.
6	I	INT4 ×	Assert HI to select interpolation ratio of 4×, for use with double-speed inputs (88 kHz or 96 kHz).
7	I	INT2 ×	Assert HI to select interpolation ratio of 2×, for quad-speed inputs (176 kHz or 192 kHz). Assert LO to select 8× interpolation ratio.
8	O	ZEROR	Right Channel Zero Flag Output.
9	I	DEEMP	De-Emphasis. Digital de-emphasis is enabled when this input signal is HI.
10	I	IREF	Connection point for external bias resistor.
11	I	AGND	Analog Ground.
12	O	OUTL+	Left Channel Positive line level analog output.
13	O	OUTL–	Left Channel Negative line level analog output.
14	O	FILTR	Voltage Reference Filter Capacitor Connection.
15	I	FCR	Filter cap return pin for cap connected to FILTB
16	O	OUTR–	Right Channel Negative line level analog output.
17	O	OUTR+	Right Channel Positive line level analog output.
18	I	AVDD	Analog Power Supply. Connect to analog +5 V supply.
19	O	FILTB	Filter Capacitor connection, connect 10 uF capacitor to FCR (Pin 15).
20	I	IDPM1	Input serial data port mode control one. With IDPM0, defines one of four serial modes.
21	I	IDPM0	Input serial data port mode control zero. With IDPM1, defines one of four serial modes.
22	O	ZEROL	Left Channel Zero Flag output. This pin goes HI when Left Channel has no signal input for more than 1024 LR Clock Cycles.
23	I	MUTE	Mute.
24	I	RST	Reset.
25	I	L/ RCLK	Left/ Right clock input for input data.
26	I	BCLK	Bit clock input for input data.
27	I	SDATA	Serial input, MSB first, containing two channels of 16/18/20/24 bit two-complement data.
28	I	DVDD	Power supply

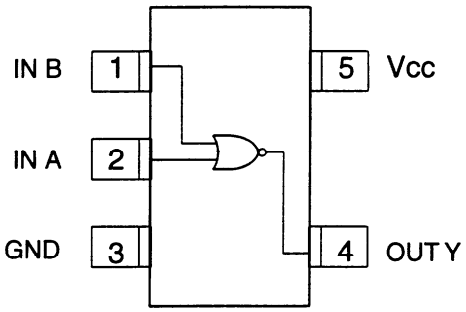
NJM2370
(Regulated power supply)



1. Control
2. GND
3. Noise bypass
4. Vout
5. Vin



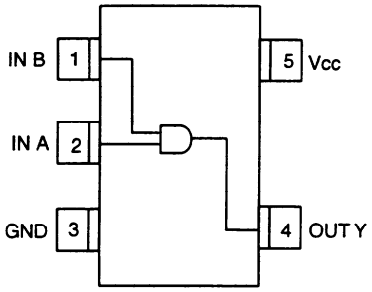
TC7S02FU
(2 input NOR gate)



Truth table

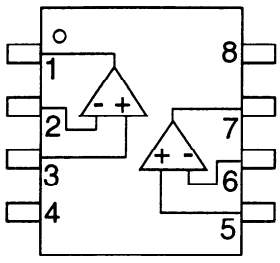
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	L

TC7S08FU
(2 input AND gate)



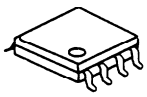
A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

NJM4580M-D
(2-ch Ope. amp.)

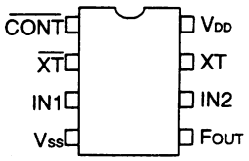


(Top view)

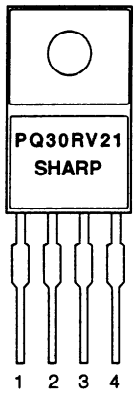
Pin description
1. A OUTPUT
2. A -INPUT
3. A +INPUT
4. V-
5. B +INPUT
6. B -INPUT
7. B OUTPUT
8. V+



NJU6321PE
(Quartz oscillator)

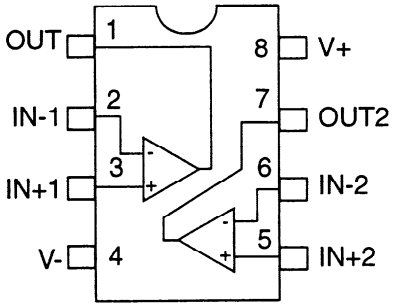


PQ30RV21
(Regulated supply)

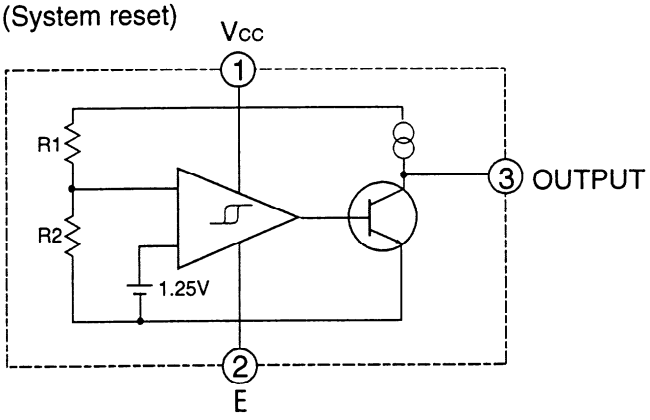


1: Input
2: Output
3: GND
4: Variable adjust

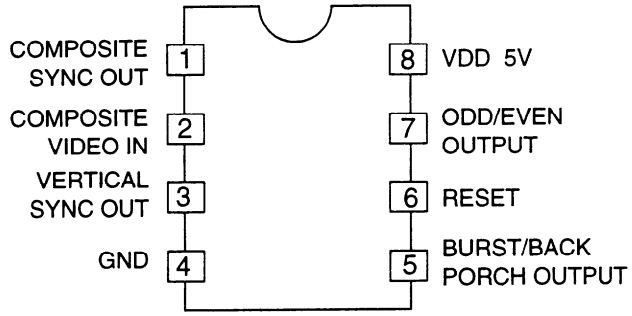
EL2210CE
(Dual Op. amp.)



M51943A
(System reset)



EL4581C
(Sync Separator, 50% Slice, S-H, Filter)

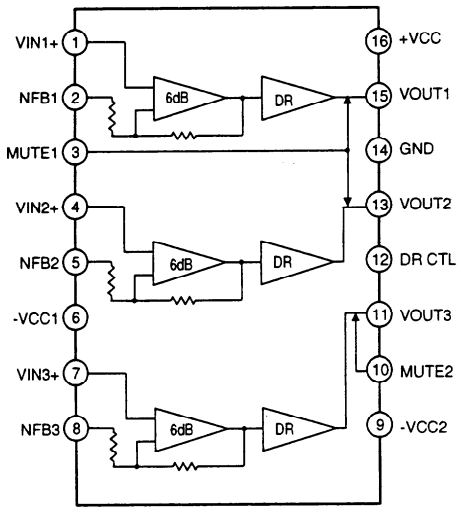


Top View

Pin Descriptions

Pin No.	Pin Name	Function
1	Composite Sync Out	Composite sync pulse output.
2	Composite Video in	AC coupled composite video input.
3	Vertical Sync Out	Vertical sync pulse output.
4	GND	Supply ground.
5	Burst/Back Porch Output	Burst/Back porch output.
6	RESET	An external resistor to ground sets all internal timing.
7	Odd/Even Output	Odd/Even field output.
8	VDD 5V	Positive supply. (5V)

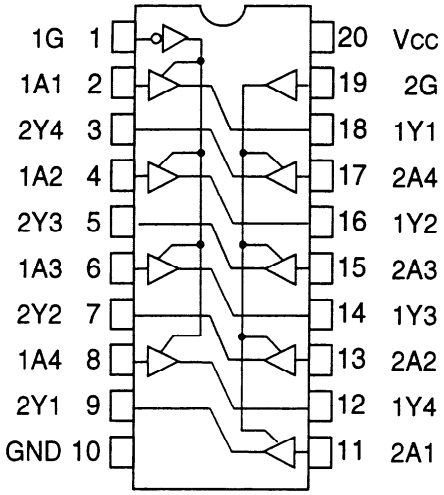
LA7106MFP
(3-ch Video amp.)



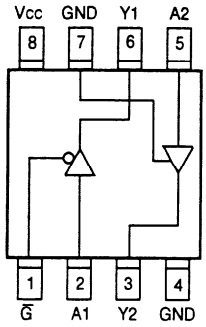
Truth Table

	Pins 3 , 10	Pins 12
H	Throuth	150 ohm Driver
L	Mute	75 ohm Drive

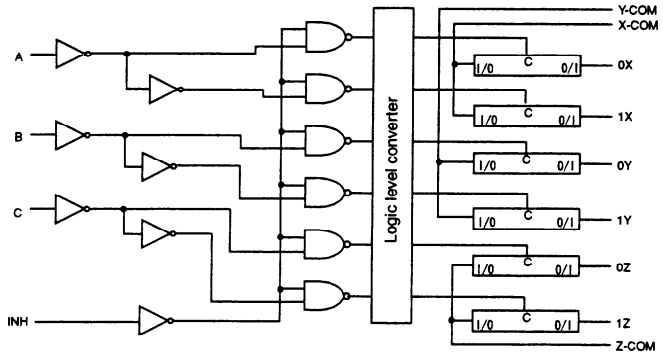
TC74HC241AF
(Octal bus buffer)



TC7W241FU
(Non-Inverted, 3-State outputs)



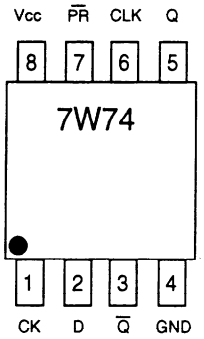
TC74HC4053FP
(Triple 2-channel analog multiplexer/demultiplexer)



Control inputs			
INHIBIT	C	B	A
L	L	L	L
L	L	L	H
L	L	H	L
L	L	H	H
L	H	L	L
L	H	L	H
L	H	H	L
L	H	H	H
H	X	X	X

X: Don't care

TC7W74FU
(D-type flip flop)

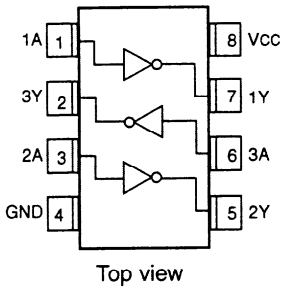


Truth table

INPUTS				OUTPUTS		FUNCTION
CLR	PR	D	CK	Q	Q	
L	H	x	x	L	H	CLEAR
H	L	x	x	H	L	PRESET
L	L	x	x	H	H	-
H	H	L	↑	L	H	-
H	H	H	↑	H	L	-
H	H	x	↓	Qn	Qn	NO CHANGE

x : Don't care

TC7W04FU
(3-inverter)

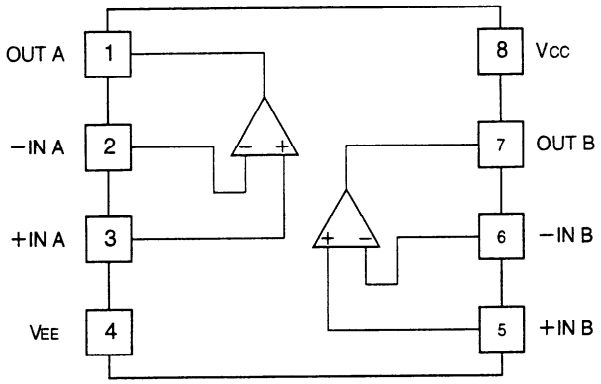


Top view

Truth table

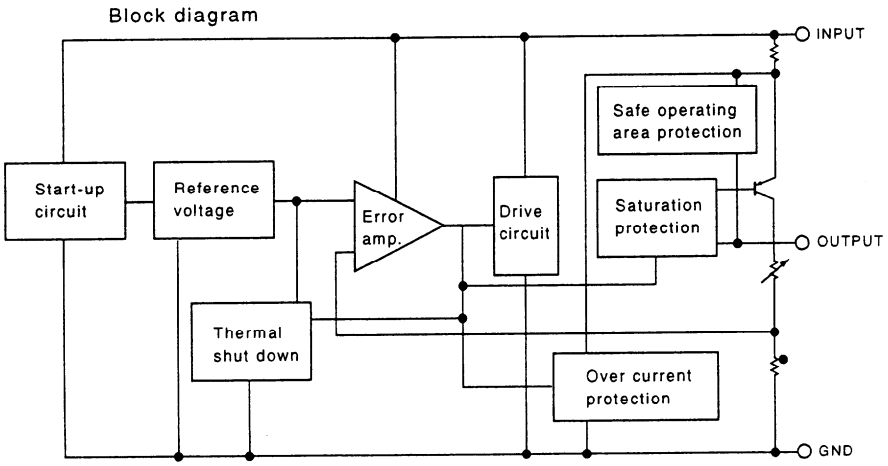
A	Y
L	H
H	L

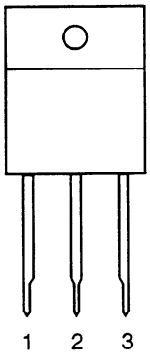
TK15420M
(Video amp.)



uPC29M05HF
(3-Terminal regulator)

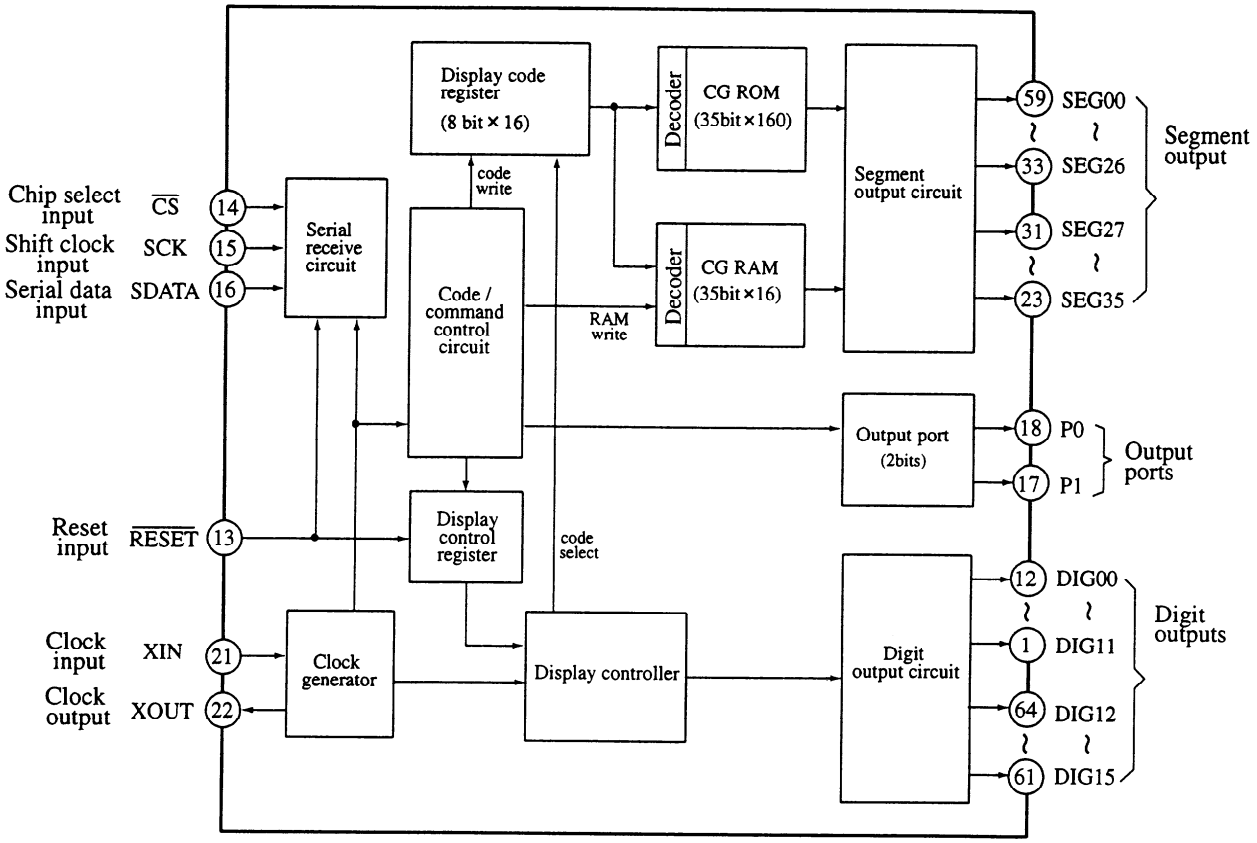
Block diagram





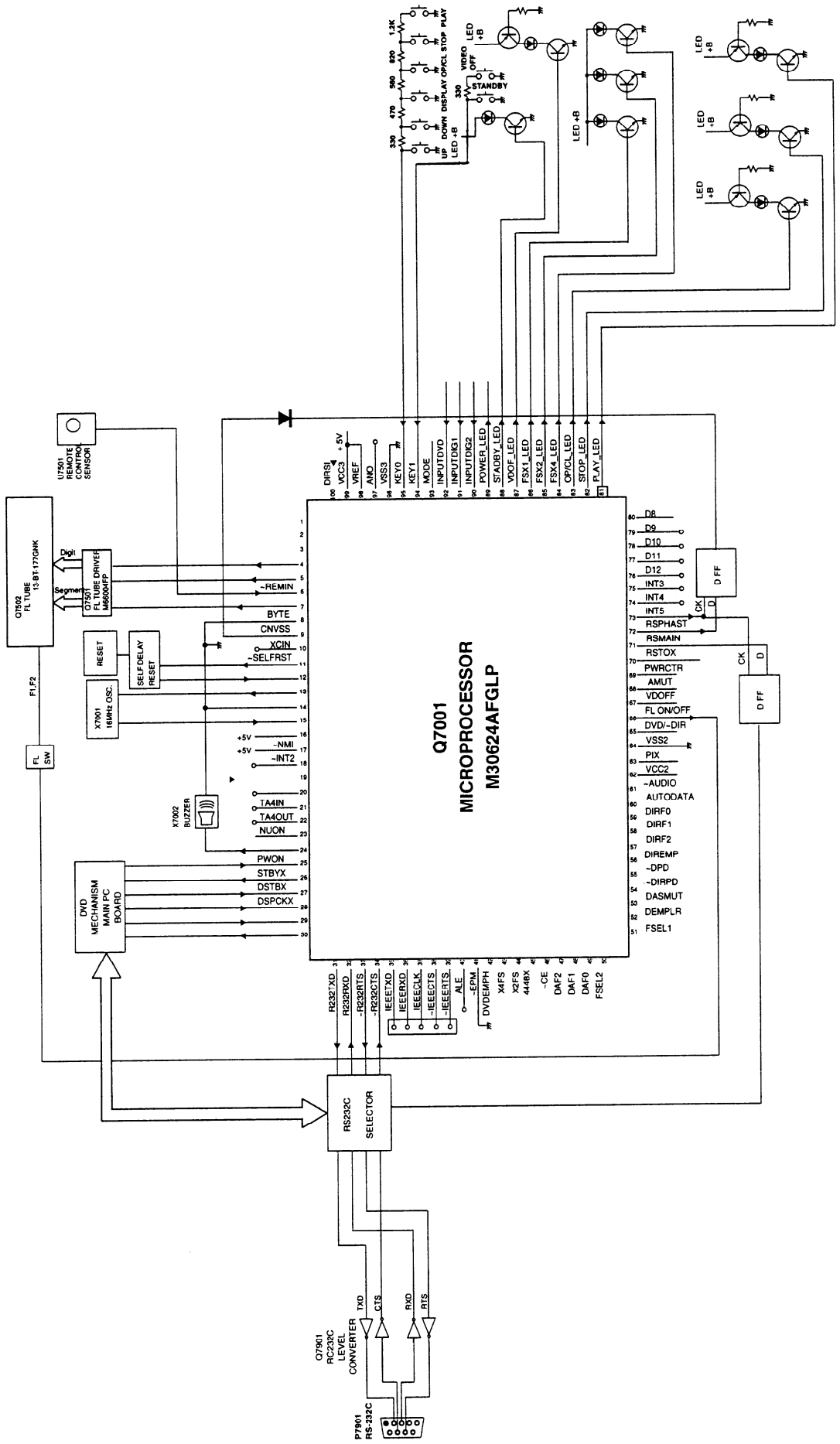
1: Input
2: GND
3: Output

M66004F
(FL driver)



Pin No.	Symbol	Pin name	Function
13	$\overline{\text{RESET}}$	Reset input	This pin is used to initialize the internal state on the M66004
14	$\overline{\text{CS}}$	Chip select input	"L" : communication with the MCU is possible. "H" : any instruction from teh MCU is neglected.
15	SCK	Shift select input	At the rising edge from "L"to"H" , input data is shifted.
16	SDATA	Serial data input	Character code or command data to display is input from MSB.
21, 22	XIN, XOUT	Clock input Clock output	Set oscillation frequency
1-12 61-64	DIG00 - DIG15	Digit output	These pins are used to connect to digit pins of VFD.
23-31 33-59	SEG00 - SEG35	Segment output	These pins are used to connect to segment pins of VFD.
17,18	P0,PI		Output port (static operation)
19	VCC1		Positive power supply for internal logic.
60	VCC2		Positive power supply for high-pressure-resistant output port.
22	VSS		GND
32	VP		Negative power supply for VFD drive.

MICROPROCESSOR CONNECTION DIAGRAM



MICROPROCESSOR TERMINAL DESCRIPTION

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

PRINTED CIRCUIT BOARD PARTS LIST

DISPLAY CIRCUIT PC BOARD(NADIS-6940-1A/1B/1C/1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7502	212212	13-BT-177GNK
	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	
D7501,D7503	225394	SEL6914A
D7505	225394	SEL6914A
D7507	224490750R2 or 224550750R2	UDZ7.5B or UDZS7.5B
D7508	225390	SEL2910A-TP6
	Capacitors	
C7505,C5712	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-6941-1A/1B/1C/1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q7703	2216260R2	RN1407,Transitor
D7701	225290	SEL4110R,LED
C7703	393321017	100 μ F,6.3V,Elect. Capacitor
S7701	25035699	NPS-111-S662,Switch
P7701A	25051089	NSCT-5P876,Socket

POWER SWITCH PC BOARD(NASW-6943-1A/1B/1C/1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
S9002	25035550	NPS-111-L512P,Switch
C9003	3500196S	RE275V-103M

POWER SUPPLY CIRCUIT PC BOARD (NAPS-6944-1A/1B/1C/1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q9101,Q9102	22278005ENEC	MPC29M05HF
Q9301,Q9401	22241526	PQ30RV21
	Transistor	
Q9103,Q9104	2214490R2	RN1404
Q9202,Q9704	2214540R2	RN2403
Q9701	2211504	2SA950-Y
Q9705,Q9706	2211164	2SC2120-Y
Q9707	2214490R2	RN1404

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D9101,D9201	22380022	RBV402
D9103,D9105	22380035	GP104003E
D9203,D9204	223234R2 or	1SS352 or
D9301,D9401	22380022	RBV402
D9303,D9403	223269R2	1SS355
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±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±5%,50V,Plastic
C9202	393344727S	4700 μ F,16V,Elect.
C9301,C9303	374723344	0.33 μ F±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±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±5%,50V,Plastic
C9504,C9505	3504369	CE69W25V-2200M
C9602,C9603	374723344	0.33 μ F±5%,50V,Plastic
C9604,C9605	393342227S	2200 μ F,16V,Elect.
C9701,C9708	374723344	0.33 μ F±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	
R9209,R9210	453532294	0.22 Ω ±5%,1/2W,Metal
R9408	453530224	2.2 Ω ±5%,1/2W,Metal
R9409	453532294	0.22 Ω ±5%,1/2W,Metal
R9601-R9604	453532294	0.22 Ω ±5%,1/2W,Metal
R9706,R9707	415470824	8.2 Ω ±5%,1/4W,Carbon
R9708	443521004	10 Ω ±5%,1/2W,Metal oxide
	Sockets	
CN501	2002A262625	NSAS-26P0875
P2201A	2003B090830	NSAS-8P0876
P4001A	2003B091830	NSAS-18P0877
P7003A	2002A392225	NSAS-22P0874
P9201A	2004C291015	NSAS-10P0902,Socket
	Plug	
P9101,P9102	25055171	NPLG-8P155
	Radiators	
E9101A,E9201A	27160465	RAD-135
E9111A	27160472	RAD-141
E9112A,E9311A	27160145-1	RAD-51
E9301A,E9401A	27160357	(S3)
E9411A	27160145-1	RAD-51
	Screws	
E9101B,E9111B	82143010	3P+10FN(BC),Pan head
E9112B,E9201B	82143010	3P+10FN(BC),Pan head
E9301B,E9311B	82143010	3P+10FN(BC),Pan head
E9401B,E9411B	82143010	3P+10FN(BC),Pan head

PRIMARY CIRCUIT PC BOARD(NAPS-6945-1A/1B/1C/1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diode	
D9801	22380022	RBV402
	Coils	
L9001 or L9001	231252 or 231287	NCH-3489 or NCH-3567
	Capacitors	
C9001,C9002	3500077	DE7150F-472M
C9801,C9803	374723344	0.33 μ F±5%,50V,Plastic
C9804	393382227S	2200 μ F,50V,Elect.
	Resistor	
R9803	453532294	0.22Ω±5%,1/2W,Metal
	AC inlet	
P9001	25055960	NPLG-2P913
	Slide switch	
S9001	25065437	NSS-22157P
	Fuseholders	
F9001A,F9001B	25052133	NSCT-1P2031
	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-6946-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2016	22241465R2	LA7106MFP
Q2017	22241440R2	MAX4018ESD
Q2018,Q2020	22241527R2	EL4581CS
Q2023,Q2024	22241159R2	TC7S02FU
Q2025	22240947R2	TC7W241FU <P>
Q2029-Q2031	22241550R2	EL2280CS
Q2032,Q2033	22241440R2	MAX4218ESD
Q2034	22241443R2	TK15420M
Q2501,Q2502	22241228R2	TC74HC4053FP <P>
	Transistors	
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>
	Diodes	
D2001	223234R2	1SS352
D2002	225383R2	SEC1401C
D2003-D2008	223234R2	1SS352
D2201,D2202	224550560R2	UDZS5.6B
D2501	223234R2 or 223269R2	1SS352 or 1SS355 <P>

CIRCUIT NO.	PART NO.	DESCRIPTION
	Composite parts	
Z2001-Z2003	3030043	YS-2L(15MHz)
	Capacitors	
C2007-C2012	393380107	1 μ F,50V,Elect.
C2020,C2023	393380107	1 μ F,50V,Elect.
C2039,C2041	393321017	100 μ F,6.3V,Elect.
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	2.2Ω±5%,1/4W,Carbon
	Terminals	
P2001	25045632	NPJ-2PDYE439
P2002	25045633	NPJ-14PDRGB440
	Sockets	
CN301	25052584R2	NSCT-18P2481
P2501A	25052588R2	NSCT-22P2485
	Plugs	
P2201	25055134	NPLG-4P118
P2101A	25055707	NPLG-11P663
	Radiators	
E2201A,E2202A	27160220-1	RAD51(B)
	Screws	
E2201B,E2202B	82143010	3P+10FN(BC),Pan head

SCART TERMINAL PC BOARD (NAVD-6948-1B)

European model only

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2603,Q2604	22241550R2	EL2210CS
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
	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.
	Filters	
L2601-L2604	230958R1	BK1608LM182-T
	Coil	
L2605	231237K022R2	NCH-1471
	Sockets	
P2601	25052279	NSCT-21P2176
P2501B	25052588R2	NSCT-22P2485

NOTE : < P > : European model only
< PS > : 230-240 V model only
< WT > : 120/220-230 V model only
< GT > : 220V model only

MICROPROCESSOR PC BOARD (NADG-6949-1A/1B)

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	1SS352 or
	223269R2	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	25052579R2	NSCT-13P2476
P7001A	25052218	NSCT-22P2115
P7005A	25052572R2	NSCT-6P2469
P7301A	25052579R2	NSCT-13P2476
	Plugs	
CN601	25056050R2	NPLG-6P1000
P7002A	25055153	NPLG-9P137
P7003B	25055155	NPLG-11P139
P7302	25055704	NPLG-8P660
	Clamp	
E7003	260226	CP-2S

OUTPUT TERMINAL PC BOARD (NAAF-6950-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3501	222740046R2T(	TC74HCU04F
Q5101,Q5111	22241448R2	NJM4580M-D
Q5131,Q5301	22241448R2	NJM4580M-D
Q5501	22241448R2	NJM4580M-D
Q9201	22241526	PQ30RV21
	Photo couplers	
Q3502,Q3503	24120082	GP1FA550TZ
	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

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D5001,D5002	223234R2 or	1SS352 or
	223269R2	1SS355
	Coil	
L3501	231237K022R2	NCH-1471
	Capacitors	
C3502,C3504	393321017	100 μ F,6.3V,Elect.
C3506	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.
C9204	393380227	2.2 μ F,50V,Elect.
C9205	393324717	470 μ F,6.3V,Elect.
	Terminals	
P5001	25045637	NPJ-4PDWR443
P5002	25045638	NPJ-6PDBWR444
P3501,P3502	25045643	NPJ-1PDOR448
	Sockets	
P3001B	2009990632	NSAS-6P0878
P4002B	25052593R2	NSCT-27P2490
P5003A	25052593R2	NSCT-27P2490

CIRCUIT NO.	PART NO.	DESCRIPTION
	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-6951-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q6101,Q6301	22241448R2	NJM4580M-D
Q6501	22241448R2	NJM4580M-D
Q7901	22241447R2	MAX202CSE
	Transistors	
Q6001	2214375R2	2SA1162-GR
Q6102,Q6202	2214540R2	RN2403
Q6103,Q6203	2215940R2	FMG12
Q6302,Q6402	2214540R2	RN2403
Q6303,Q6403	2215940R2	FMG12
Q6502,Q6602	2214540R2	RN2403
Q6503,Q6603	2215940R2	FMG12
	Diodes	
D6001	223234R2 or	1SS352 or
	223269R2	1SS355
	Filters	
L7902-L7905	230958R1	BK1608LM182-T
	Coil	
L7901	231237K022R2	NCH-1471
	Capacitors	
C6001	393324717	470 μ F,6.3V,Elect.
C6008,C6009	393344707	47 μ F,16V,Elect.
C6101,C6201	393884707	47 μ F,50V,Elect.
C6301,C6401	393884707	47 μ F,50V,Elect.
C6501,C6601	393884707	47 μ F,50V,Elect.
C7905	393321017	100 μ F,6.3V,Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Socket	
P2101B	25051236	NSCT-11P1026
P5003B	25052593R2	NSCT-27P2490
P6001	25052597	NSCT-25P2494
P7301B	25052579R2	NSCT-13P2476
P7901	25052379	NSCT-9P2277
E6001	25065425	NEGITANSI M3

SAMPLING INDICATOR PC BOARD (NAETC-6952-1A/1B)

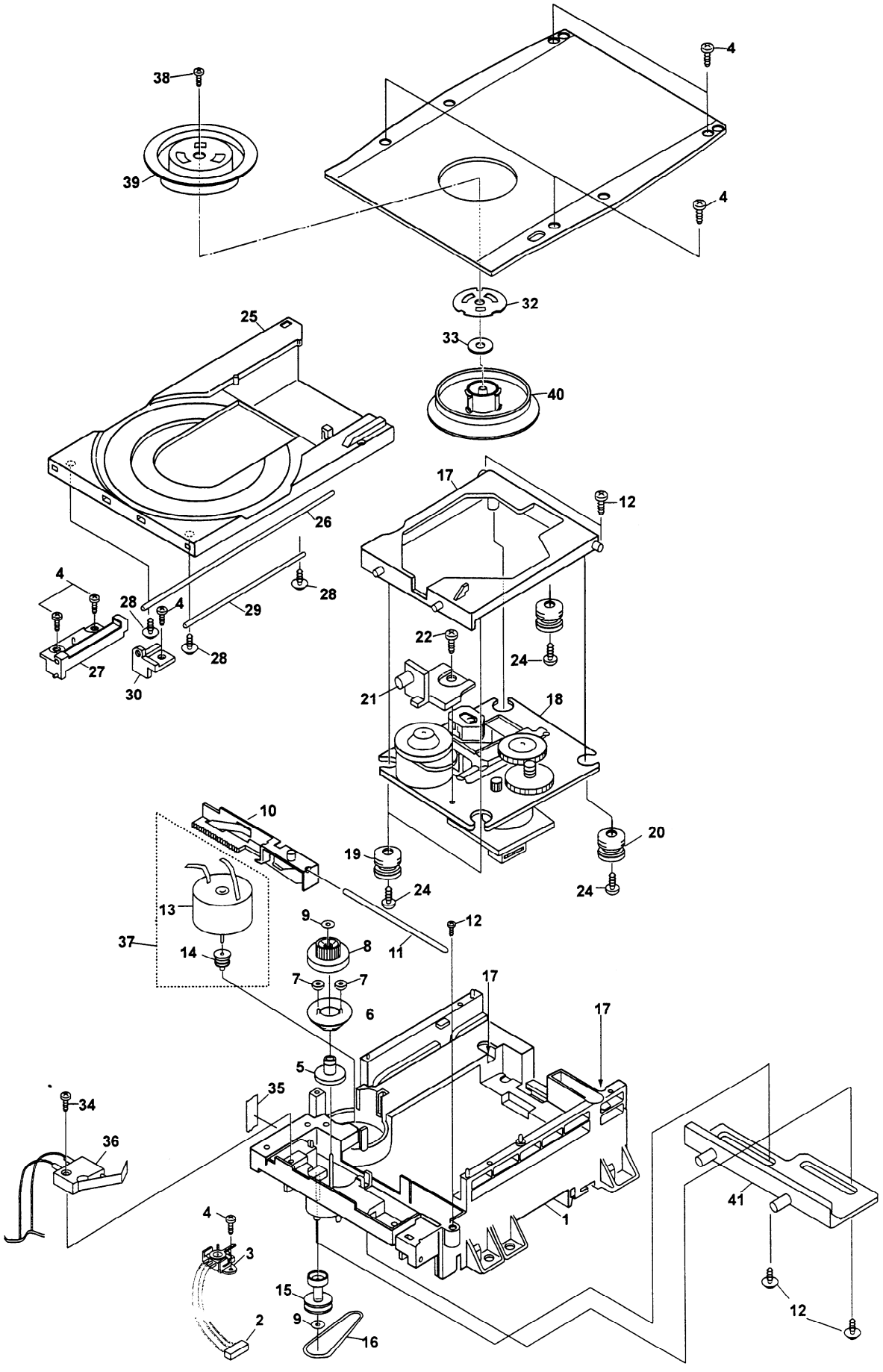
CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q7601	2216270R2	IMT1A
Q7602	2214375R2	2SA1162-GR
Q7603-Q7605	2216260R2	RN1407
	LED	
D7601-D7603	225382R2	SEC1E01C
	Capacitors	
C7605	355780229	2.2 μ F,50V,Elect.
	Socket	
P7501B	2002A391025	NSAS-10P0871

MAIN CIRCUIT PC BOARD(NAAR-6953-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3004,Q3104	22241289R2	NJM2370U05
Q3201	22241489R2-1	AD1853JRS
Q3204	22241289R2	NJM2370U05
Q3301,Q3101	22241489R2-1	AD1853JRS
Q3401,Q3402	22241288R2	NJU6321PE
Q3403	22240947R2	TC7W241FU
Q4101,Q4201	22241488R2	OPA2604AU
Q4102,Q4202	22241448R2	NJM4580M-D
Q4301,Q4401	22241488R2	OPA2604AU
Q4302,Q4402	22241448R2	NJM4580M-D
Q4501,Q4601	22241488R2	OPA2604AU
Q4502,Q4602	22241448R2	NJM4580M-D
	Transistors	
Q3002,Q3003	2214490R2	RN1404
Q3102,Q3103	2214490R2	RN1404
Q3202,Q3203	2214490R2	RN1404
Q3404,Q3405	2214490R2	RN1404
Q3451	2202715	2SB1565-E
Q3452	2202705	2SD2394-E
Q3453	2213145R2	2SC2712-GR
Q3454	2214375R2	2SA1162-GR
Q3455,Q3457	2214490R2	RN1404
Q3456	2214540R2	RN2403
	Diodes	
D3401-D3404	223234R2 or	1SS352 or
D3405	224490330R2	UDZ3.3B
D3406	223269R2	1SS355
D3451,D3452	224491200R2	UDZ12B
	Filter	
R3410	230959R1	BK1608LL241-T
	Oscillators	
X3402	3010330R2	HC-49/U03C22.5792MHz
X3401	3010331R2	HC-49/U03C24.576MHz

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C3002,C3006	393321017	100 μ F,6.3V,Elect.
C3004,C3008	393341007	10 μ F,16V,Elect.
C3010,C3102	393321017	100 μ F,6.3V,Elect.
C3012,C3112	393344707	47 μ F,16V,Elect.
C3013,C3104	393341007	10 μ F,16V,Elect.
C3106,C3110	393321017	100 μ F,6.3V,Elect.
C3108,C3113	393341007	10 μ F,16V,Elect.
C3202,C3206	393321017	100 μ F,6.3V,Elect.
C3204,C3208	393341007	10 μ F,16V,Elect.
C3210,C3410	393321017	100 μ F,6.3V,Elect.
C3212	393344707	47 μ F,16V,Elect.
C3213	393341007	10 μ F,16V,Elect.
C3451,CD3452	393354717	470 μ F,25V,Elect.
C3453,C3454	393344707	47 μ F,16V,Elect.
C3455,C3456	393342217	220 μ F,16V,Elect.
C4106,C4107	372803314	330pF±5%,125V,PP
C4111,C4211	374728214	820pF±5%,50V,Plastic
C4112,C4212	372802714	270pF±5%,125V,PP
C4115,C4116	393344707	47 μ F,16V,Elect.
C4206,C4207	372803314	330pF±5%,125V,PP
C4215,C4216	393344707	47 μ F,16V,Elect.
C4306,C4307	372803314	330pF±5%,125V,PP
C4311,C4411	374728214	820pF±5%,50V,Plastic
C4312,C4412	372802714	270pF±5%,125V,PP
C4315,C4316	393344707	47 μ F,16V,Elect.
C4406,C4407	372803314	330pF±5%,125V,PP
C4415,C4416	393344707	47 μ F,16V,Elect.
C4506,C4507	372803314	330pF±5%,125V,PP
C4511,C4611	374728214	820pF±5%,50V,Plastic
C4512,C4612	372802714	270pF±5%,125V,PP
C4515,C4516	393344707	47 μ F,16V,Elect.
C4606,C4607	372803314	330pF±5%,125V,PP
C4615,C4616	393344707	47 μ F,16V,Elect.
	Resistors	
R3457,R3458	415470474	4.7 Ω±5%,1/4W,Carbon
	Sockets	
P3003A	25052573R2	NSCT-7P2470
CN901B	25052592R2	NSCT-26P2489
P4002A	25052593R2	NSCT-27P2490
	Plugs	
P3001A	25055133	NPLG-3P117
P4001A	25055139	NPLG-9P123
	Clamp	
E4003	260224	CP-1S
	Bus bars	
J01A-J03A	27141753	BBL50
	Radiators	
E3451A,E3452A	27160220-1	RAD51(B)
	Holders	
E4001,E4002	27190608-1	UA-0 V0
	Screws	
E3451B,E3452B	82143010	3P+10FN(BC),Pan head

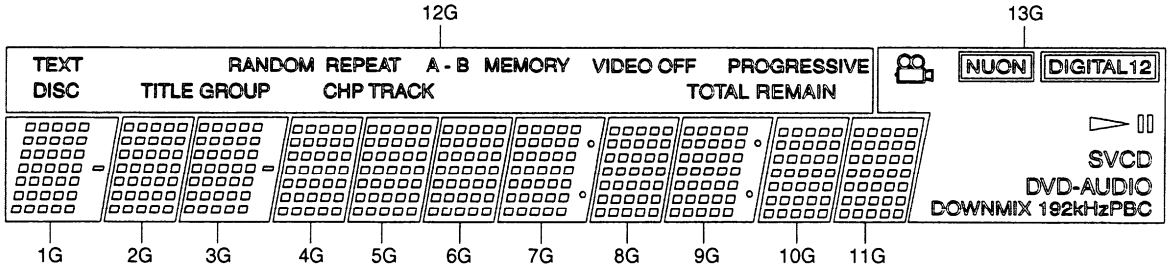
DVD MECHANISM EXPLODED VIEW

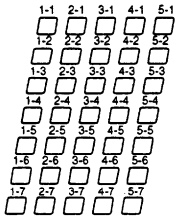


DVD MECHANISM PARTS LIST

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

FL TUBE VIEW





ANODE CONNECTION

	1G 3G	2G 4G-6G 8G 10G 11G	7G 9G	12G	13G
P1	1-1	1-1	1-1	TEXT	—
P2	2-1	2-1	2-1	DISC	—
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	—	NUON
P17	2-4	2-4	2-4	—	
P18	3-4	3-4	3-4	—	DIGITAL12
P19	4-4	4-4	4-4	—	1
P20	5-4	5-4	5-4	—	2
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	—	S
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	—	PBC
P31	1-7	1-7	1-7	—	DOWN MIX
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	—	—

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	27100388	Chassis
2	27122757	Rear panel <D>
	27122761	Rear panel <GT>
	27122759	Rear panel <PS>
	27122760	Rear panel <WT>
	27122758	Rear panel <P>
3	27130852A	Bracket F
4	838430088	3TTB+8B(BC),Self-tapping screw
5	27190541	WS-1NS,Clamp
6	838430088	3TTB+8B(BC),Self-tapping screw
7	27212232	Front panel <D>
	27212233	Front panel <B> <P/PS>
	27212233	Front panel <D>
	27212234	Front panel <S>
	27212235	Front panel <G>
8	838130088	3TTB+8B,Self-tapping screw
9	27130855	Bracket R
10	28125379	End cap L <B>
	28125381	End cap L <G>
	28125380	End cap L <S>
11	27141768	Retainer, main
12	28125385	End cap R <B>
	28125387	End cap R <G>
	28125386	End cap R <S>
13	28135243	Badge <B>
	28135242	Badge <S/G>
15	27130853	Bracket C
16	28198908	Facet 1
17	28198911	Facet, Play
19	28184772	Cover UPG
21	27141770	Retainer, heat sink
22	82143006	3P+6FN(BC),Pan head screw
24	28170070	Bushing, cord
25	28170072	CE-012, Bushing
26	28170074	KG-016L,Bushing
27	27150454A	Shield plate FFC
29	27190524	KGLS-14RF,Holder
30	27190657	KGLS-18RF,Holder
31	27190802	KGPS-14RF,Holder
32	27141766	Retainer, main 2
33	28184632-1B	Cover, mechanism
35	28141421	t8*10*30,Cushion
36	260208	Wire tie
37	27170333A	Bottom panel
38	27175311A	Leg
39	831430088	3TTW+8B(BC), Self-tapping screw
41	28184790	Top cover <B>
	28184791	Top cover <G>
	28184792	Top cover <S>
42	28141437	Cushion
43	28141409A	Cushion
44	838430088	3TTB+8B(BC),Self-tapping screw
45	838240089	4TTB+8C(NI),Self-tapping screw <S/G>
	838440089	4TTB+8C(BC),Self-tapping screw <B>
46	801597A	Special screw <B>
	801599	Special screw <G>
	801598	Special screw <S>
47	830440089	4TTC+8C(BC),Self-tapping screw
49	838440089	4TTB+8C(BC),Self-tapping screw
50	28191899	Clear plate <B>
	28191900	Clear plate <S/G>

REF. NO.	PART NO.	DESCRIPTION
51	28148453	Door <B>
	28148454	Door <S>
	28148455	Door <G>
52	838426088	2.6TTB+8B(BC),Self-tapping screw
53	27262658	Plate, door <B>
	27262659	Plate, door <S>
	27262660	Plate, door <G>
54	28198910	Facet SMP
55	27130845	Bracket, mechanism
56	838426088	2.6TTB+8B(BC),Self-tapping screw
57	27220063	Slider
58	28125388	End cap, mechanism L
59	838426088	2.6TTB+8B(BC),Self-tapping screw
60	28125389	End cap, mechanism R
62	28325810	Knob FF <B>
	28325811	Knob FF <S>
	28325812	Knob FF <G>
63	28325822	Knob, video <B>
	28325823	Knob, video <S>
	28325824	Knob, video <G>
64	28325804	Knob, play <B>
	28325805	Knob, play <S>
	28325806	Knob, play <G>
65	28325801	Knob, guide, power <B>
	28325802	Knob, guide, power <S>
	28325803	Knob, guide, power <G>
66	28325795	Knob, guide, video
67	28325807	Knob, power 2 <B>
	28325808	Knob, power 2 <S/G>
68	28135281	Badge, DVD AUDIO <B>
	28135282	Badge, DVD AUDIO <S/G>
69	27270425	Spacer
70	27180582	Spring, door
71	891002	Stopper
72	27190009	KGLS-4S,Holder
74	28325895	Knob, open <B>
	28325896	Knob, open <S>
	28325897	Knob, open <G>
76	28325892	Knob, stop <B>
	28325893	Knob, stop <S>
	28325894	Knob, stop <G>
77	27262661	Plate, mechanism
95	29110083	Tape, cloth
96	⚠ 29360778	Label, flash <D>
E101	2042233512	NCFC2-233512,Flexible flat cable
E102	2042082012	NCFC2-082012,Flexible flat cable
E103	2047221012	NCFC7-221012,Flexible flat cable
E104	2045181012	NCFC5-181012,Flexible flat cable
E105	2045262512	NCFC5-262512, Flexible flat cable
E106	2045131512	NCFC5-131512,Flexible flat cable
E107	2045131012	NCFC5-131012,Flexible flat cable
E108	2045271512	NCFC5-271512,Flexible flat cable
E109	2045271512	NCFC5-271512,Flexible flat cable
E110	2009990637	NSAS-12P0883,Flexible flat cable
E111	2045222012	NCFC5-222012,Flexible flat cable <P>
E701	27191116	Holder SMP
E901	⚠ 253297KAW	AS-UC-2,Power supply cord <D>
	⚠ 253298KAW	AS-CEE-3,Power supply cord <P/PS/WT/GT>
F9001	⚠ 252073	1.6A-SE-EAK,Fuse <P/PS/WT/GT>
	⚠ 252158	1.6A-UL/T-237,Fuse <D>

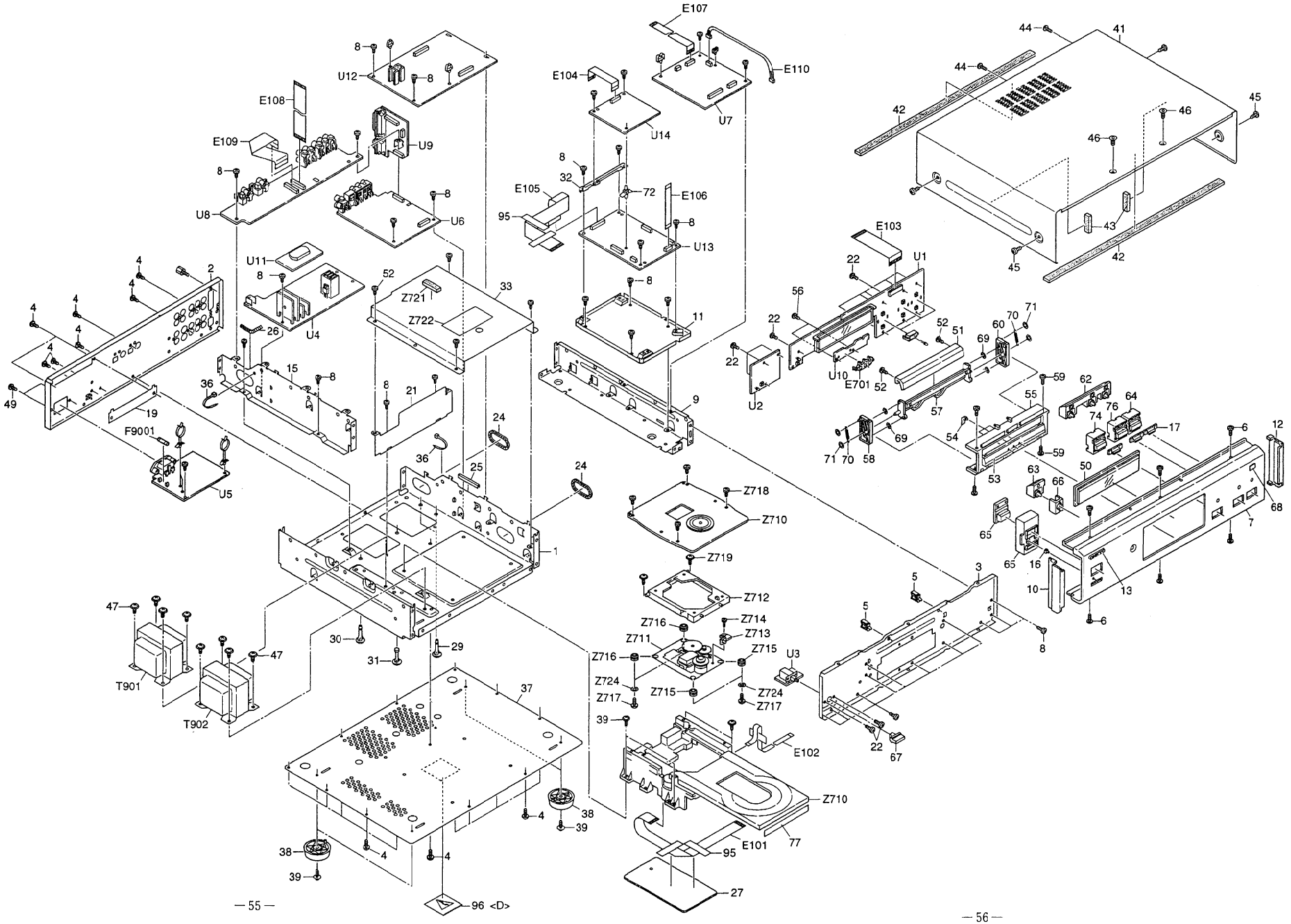
REF. NO.	PART NO.	DESCRIPTION
T901	⚠ 2301488	NPT-1405D,Power transformer <D>
	⚠ 2301489	NPT-1405P,Power transformer <P/PS>
	⚠ 2301490	NPT-1405DG,Power transformer <WT/GT>
T902	⚠ 2301492	NPT-1406D,Power transformer <D>
	⚠ 2301493	NPT-1406P,Power transformer <P/PS>
	⚠ 2301494	NPT-1406DG,Power transformer <WT/GT>
U1	1H453540-1A	NADIS-6940-1A,Display circuit PC board ass'y <D>
	1H453540-1B	NADIS-6940-1B,Display circuit PC board ass'y <P/PS>
	1H453540-1C	NADIS-6940-1C,Display circuit PC board ass'y <GT>
	1H453540-1D	NADIS-6940-D,Display circuit PC board ass'y <WT>
	1H453540-1E	NADIS-6940-1E,Display circuit PC board ass'y <J>
U2	1H453541-1A	NASW-6941-1A,Standby switch PC board ass'y <D>
	1H453541-1B	NASW-6941-1B,Standby switch PC board ass'y <P/PS>
	1H453541-1C	NASW-6941-1C,Standby switch PC board ass'y <WT>
	1H453541-1D	NASW-6941-1D,Standby switch PC board ass'y <GT>
	1H453541-1E	NASW-6941-1E,Standby switch PC board ass'y <J>
U3	1H453543-1A	NASW-6943-1A, Power switch PC board ass'y <D>
	1H453543-1B	NASW-6943-1B, Power switch PC board ass'y <P/PS>
	1H453543-1C	NASW-6943-1C, Power switch PC board ass'y <WT>
	1H453543-1D	NASW-6943-1D, Power switch PC board ass'y <GT>
	1H453543-1E	NASW-6943-1E, Power switch PC board ass'y <J>
U4	1H453544-1A	NAPS-6944-1A, Power supply circuit PC board ass'y <D>
	1H453544-1B	NAPS-6944-1B, Power supply circuit PC board ass'y <P/PS>
	1H453544-1C	NAPS-6944-1C, Power supply circuit PC board ass'y <WT>
	1H453544-1D	NAPS-6944-1D, Power supply circuit PC board ass'y <GT>
	1H453544-1E	NAPS-6944-1E, Power supply circuit PC board ass'y <J>
U5	1H453545-1A	NAPS-6945-1A, Primary circuit PC board ass'y <D>
	1H453545-1B	NAPS-6945-1B, Primary circuit PC board ass'y <P>
	1H453545-1C	NAPS-6945-1C, Primary circuit PC board ass'y <WT>
	1H453545-1D	NAPS-6945-1D, Primary circuit PC board ass'y <GT>
	1H453545-1E	NAPS-6945-1E, Primary circuit PC board ass'y <J>
U6	1H453546-1A	NAVD-6946-1A, Video circuit PC board ass'y <D/J/PS/WT/GT>
	1H453546-1B	NAVD-6946-1B, Video circuit PC board ass'y <P>
U7	1H453549-1A	NADG-6949-1A, Microprocessor PC board ass'y <D/J/PS/WT/GT>
	1H453549-1B	NADG-6949-1B, Microprocessor PC board ass'y <P>
U8	1H453550-1A	NAAF-6950-1A, Output terminal PC board ass'y <D/J/PS/WT/GT>
	1H453550-1B	NAAF-6950-1B, Output terminal PC board ass'y <P>
U9	1H453551-1A	NAAF-6951-1A, Multi channel output terminal PC board ass'y <D/J/PS/WT/GT>
	1H453551-1B	NAAF-6951-1B, Multi channel output terminal PC board ass'y <P>
U10	1H453552-1A	NAETC-6952-1A, Sampling indicator PC board ass'y <D/J/PS/WT/GT>
	1H453552-1B	NAETC-6952-1B, Sampling indicator PC board ass'y <P>
U11	1H453548-1B	NAVD-6948-1B, Scart terminal PC board ass'y <P>
U12	1H453553-1	NAAR-6953-1, Main circuit PC board ass'y
U13	24150017	SD-31B1, Mechanism PC board ass'y 1
U14	24150018	SD-32B1, Mechanism PC board ass'y 2
Z710	24801006	SD-9200K2-ZX,DVD mechanism
Z711	24801009	MGD-32,Mechansim, loader
Z712	24802047	Sub-chassis, frame
Z713	24840143	Bracket T
Z714	801594	Special screw
Z715	24818042	Insulator F
Z716	24818043	Insulator R
Z717	801595	Special screw C
Z718	801593	Special screw A
Z719	801596	Special screw D
Z721	28140803	Cushion
Z722	29362648	Label DVD2
Z724	24834041	Washer C

NOTE:
<B> : 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
<PS> : 230-240V model only
< J > : Japanese model only

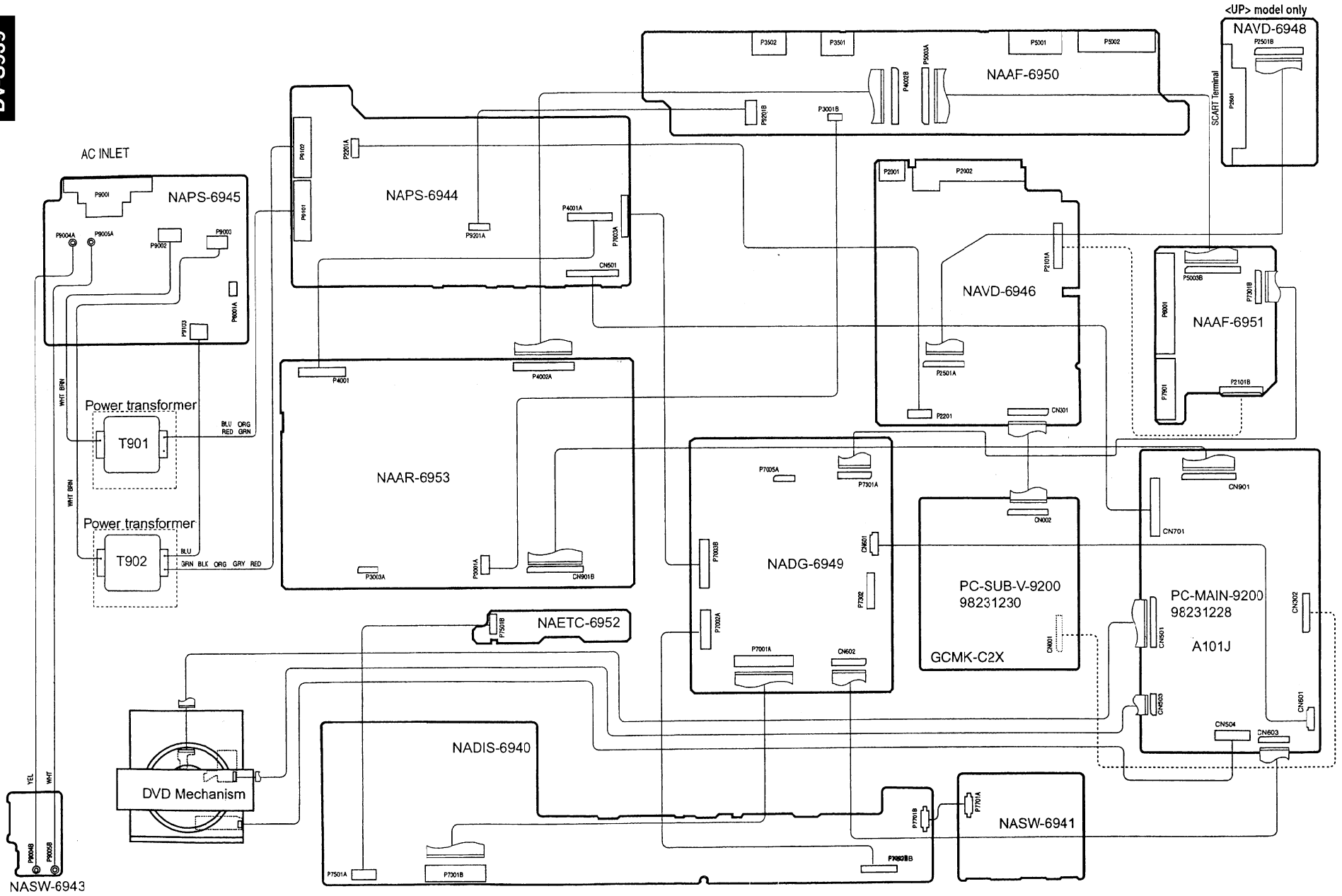
NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

EXPLODED VIEW

DV-S939

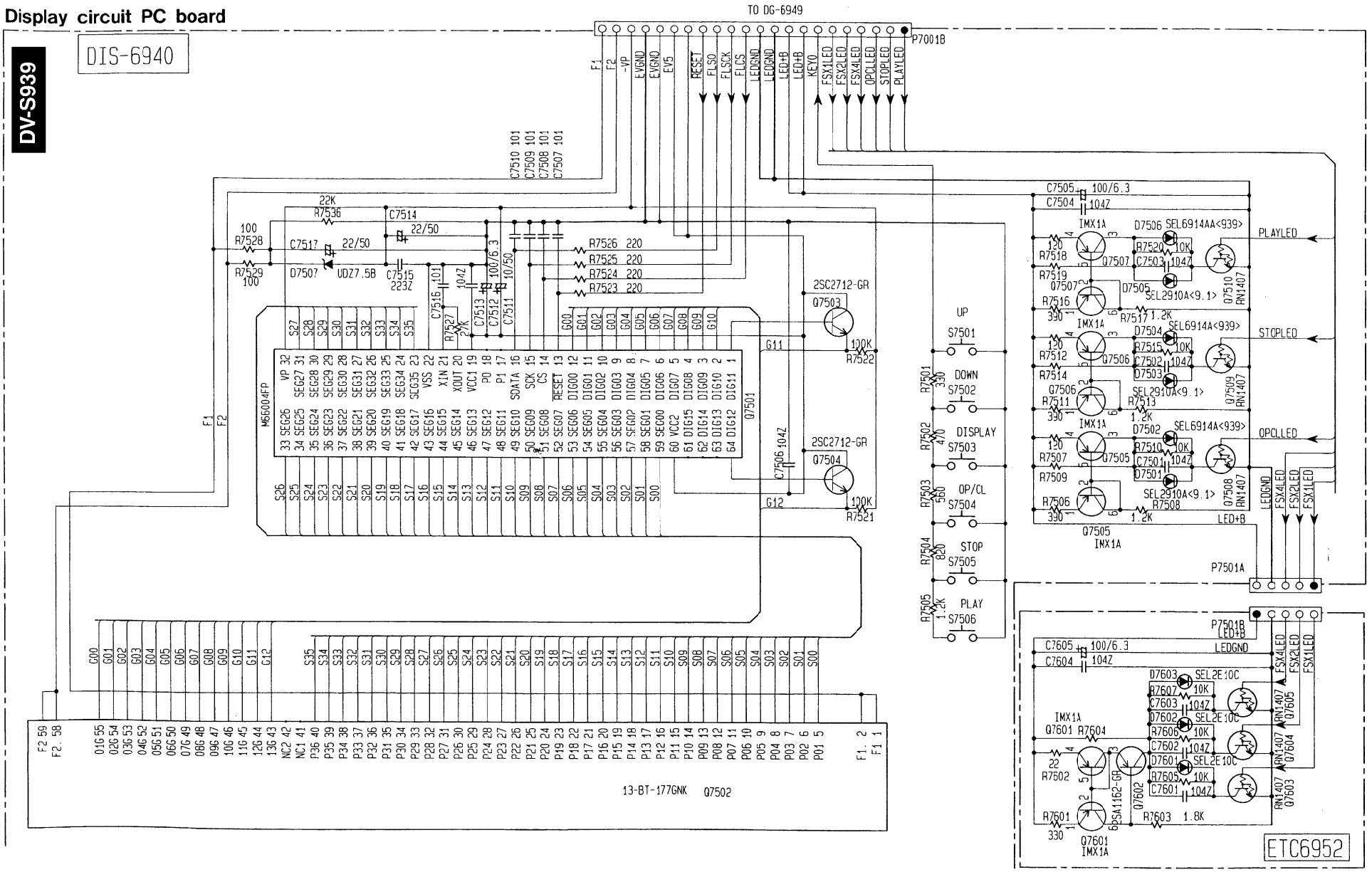


WIRING DIAGRAM



SCHEMATIC DIAGRAM 1

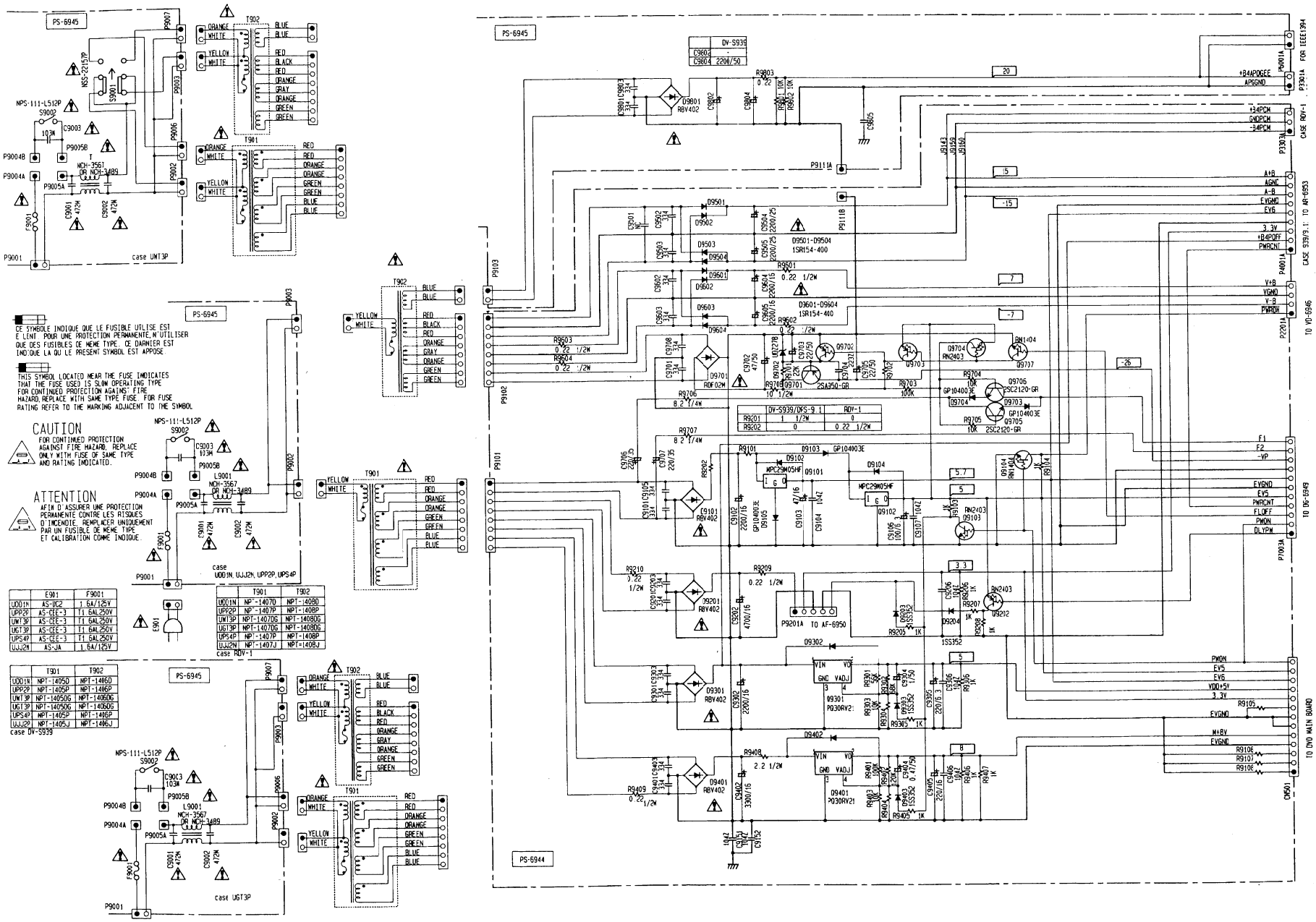
Display circuit PC board



Sampling indicator PC board

Sampling indicator PC board

SCHEMATIC DIAGRAM 2



	E901	F9001
UDD1N	AS-UC2	1.6A/125V
UPP2P	AS-CEE-3	T1.6AL250V
UNT3P	AS-CEE-3	T1.6AL250V
UGT3P	AS-CEE-3	T1.6AL250V
UPS4P	AS-CEE-3	T1.6AL250V
UJJ2N	AS-JA	1.6A/125V

	T901	T902
UDD1N	NP*-1407D	NPT-1408D
UPP2P	NP*-1407P	NPT-1408P
UNT3P	NPT-1407DG	NPT-1408DG
UGT3P	NPT-1407DG	NPT-1408DG
UPS4P	NPT-1407P	NPT-1408P
UJJ2N	NPT-1407J	NPT-1408J

	T901	T902
UDD1N	NPT-1405D	NPT-1466D
UPP2P	NPT-1405P	NPT-1466P
UNT3P	NPT-1405DG	NPT-1466DG
UGT3P	NPT-1405DG	NPT-1466DG
UPS4P	NPT-1405P	NPT-1466P
UJJ2P	NPT-1405J	NPT-1466J

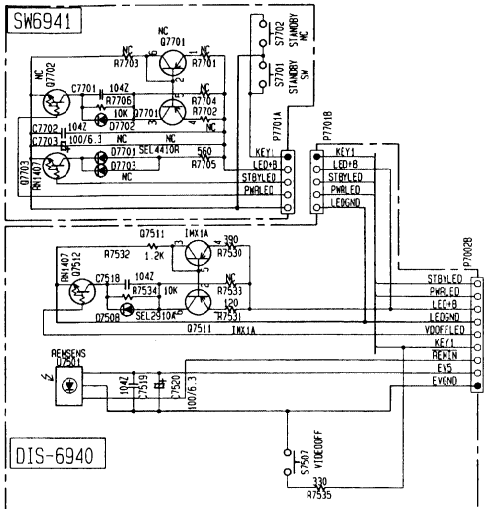
	DV-S939/DFS-9 1	RDV-1
R9201	1 1/2W	0
R9202	0	0.22 1/2W

	DV-S939
C9603	-
C9604	2200/50

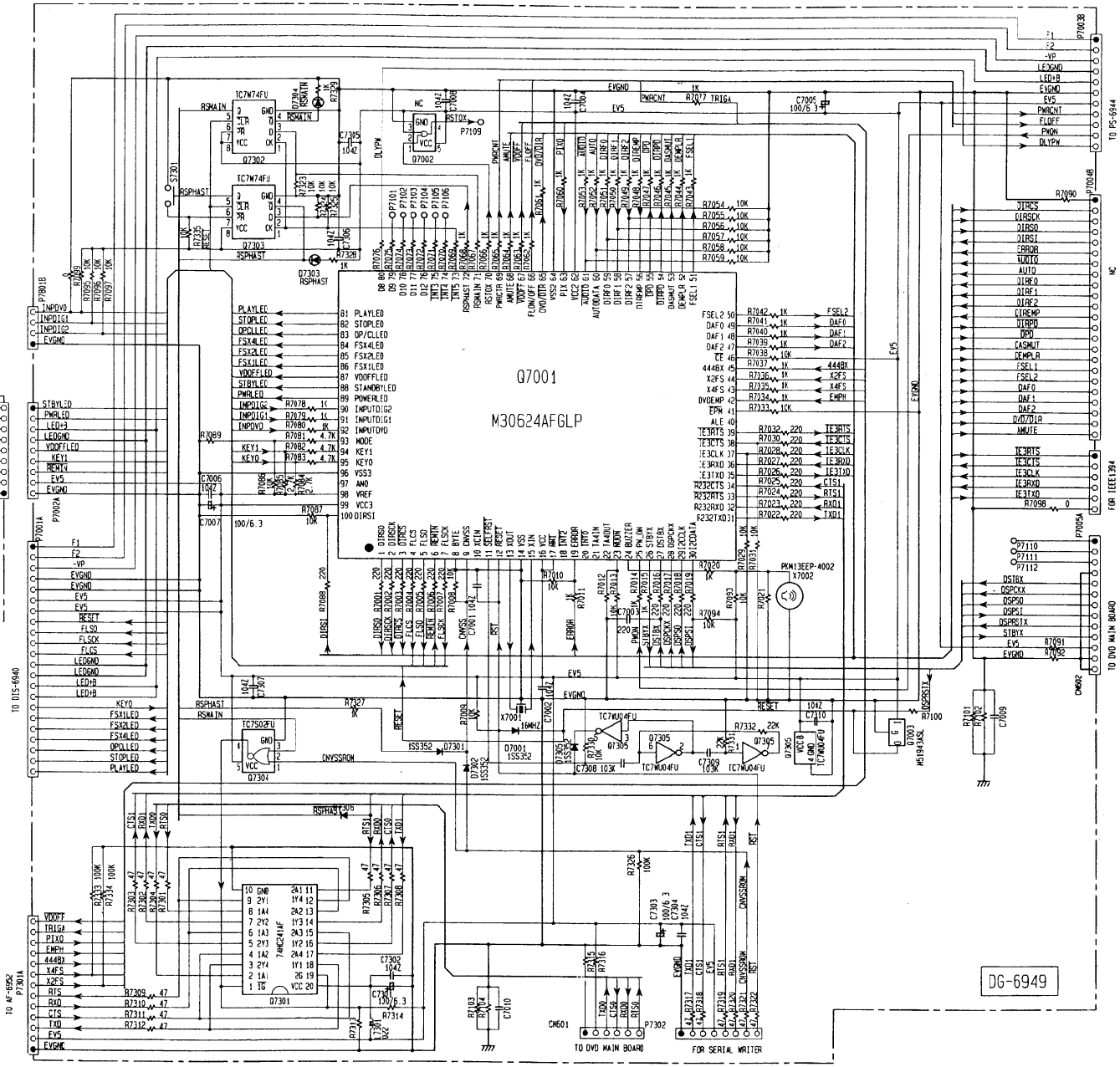
DV-S939

SCHEMATIC DIAGRAM 3

Standby switch PC board

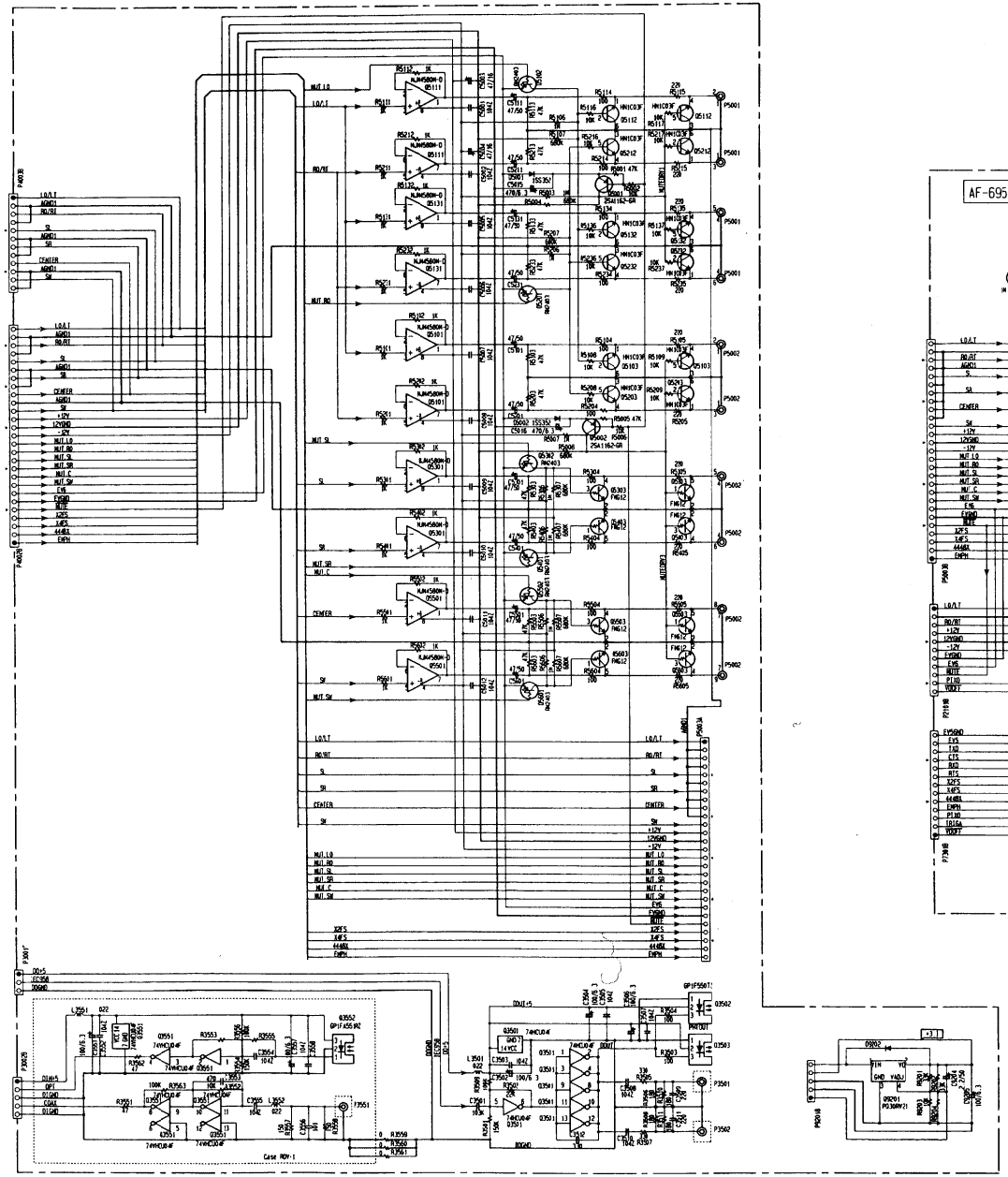


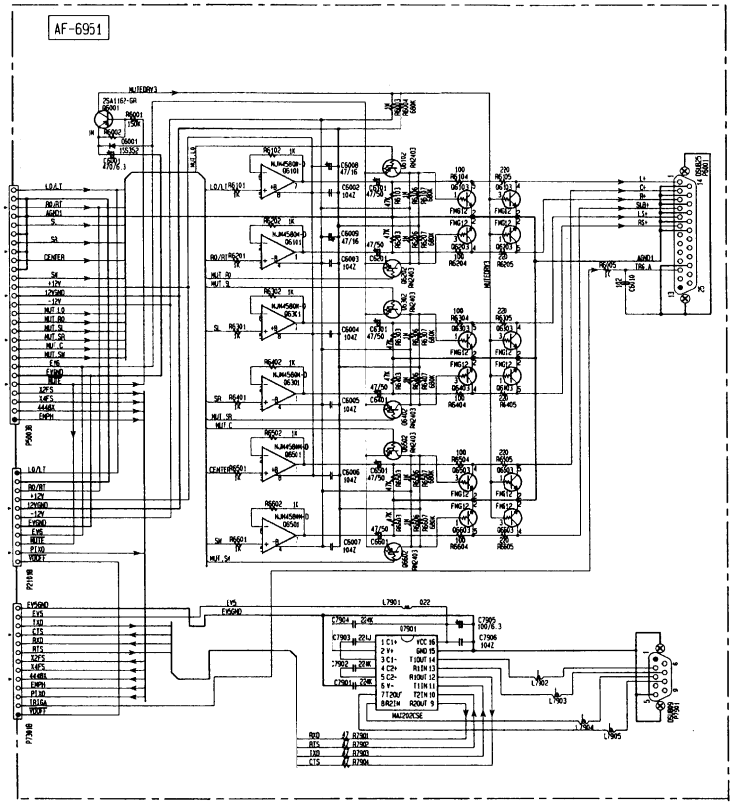
Microprocessor PC board



SCHEMATIC DIAGRAM 4

Output terminal PC board



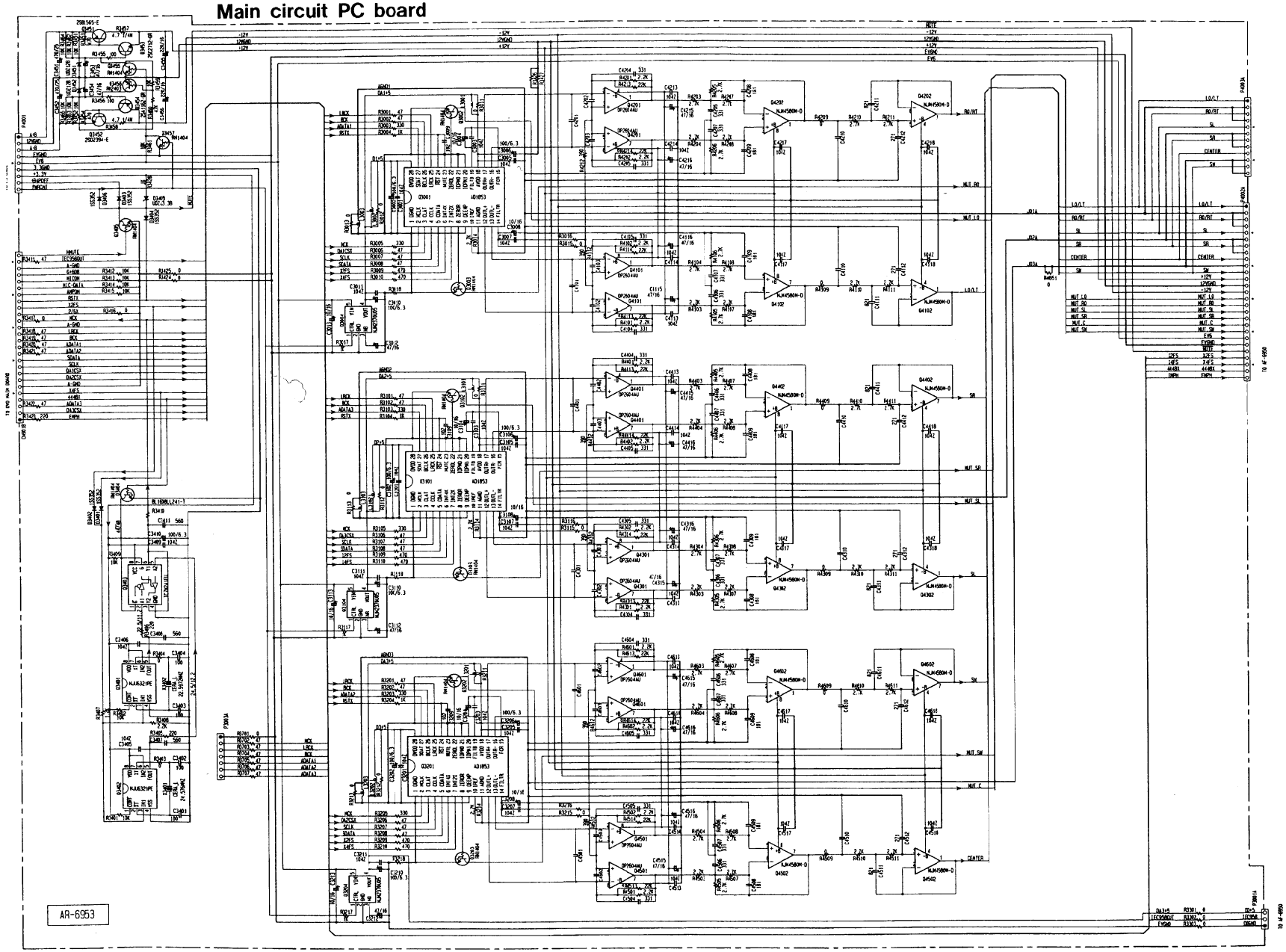


Multi channel PC board NAAF-6951

DV-S939

SCHEMATIC DIAGRAM 5

Main circuit PC board

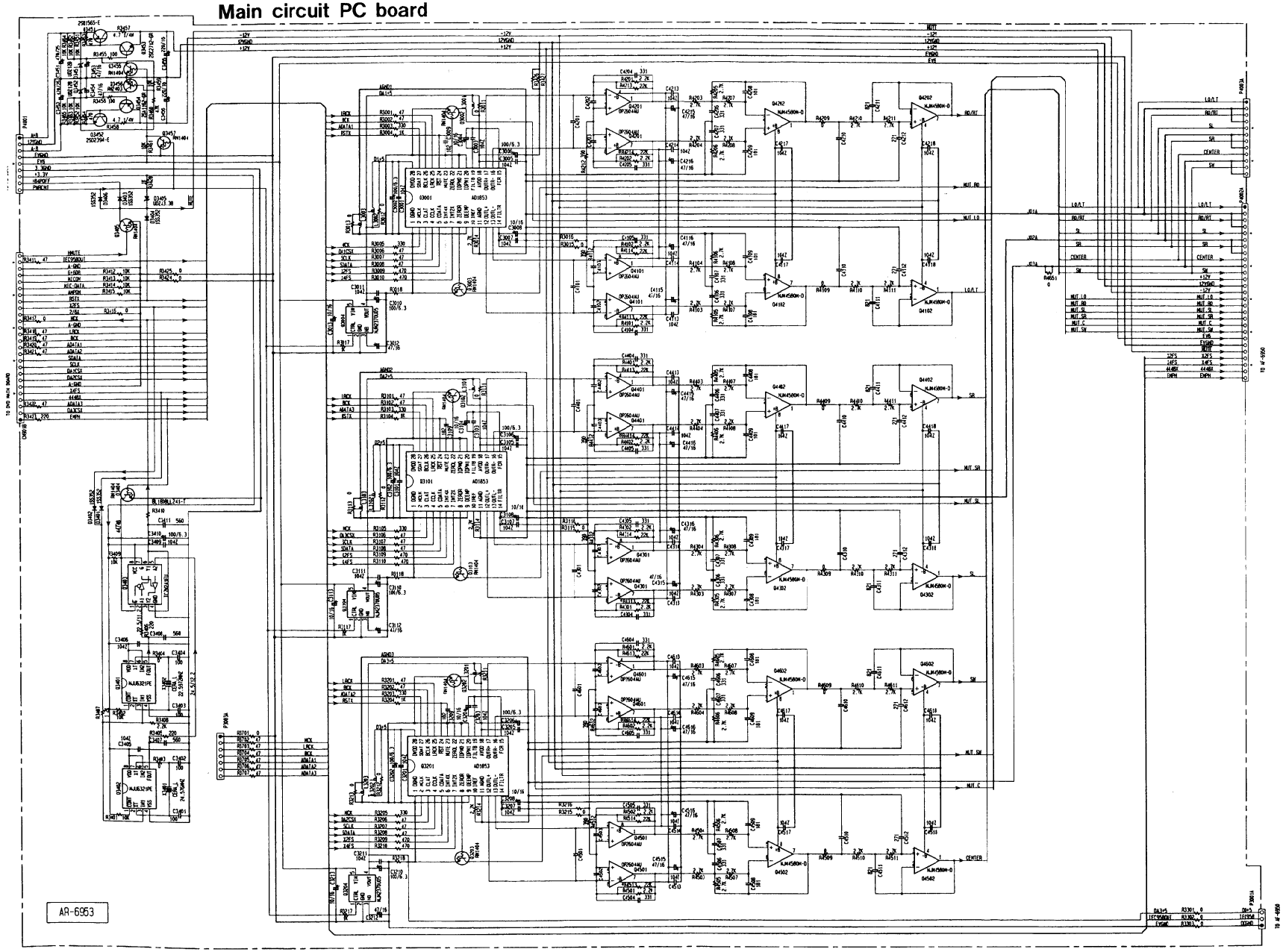


AR-6953

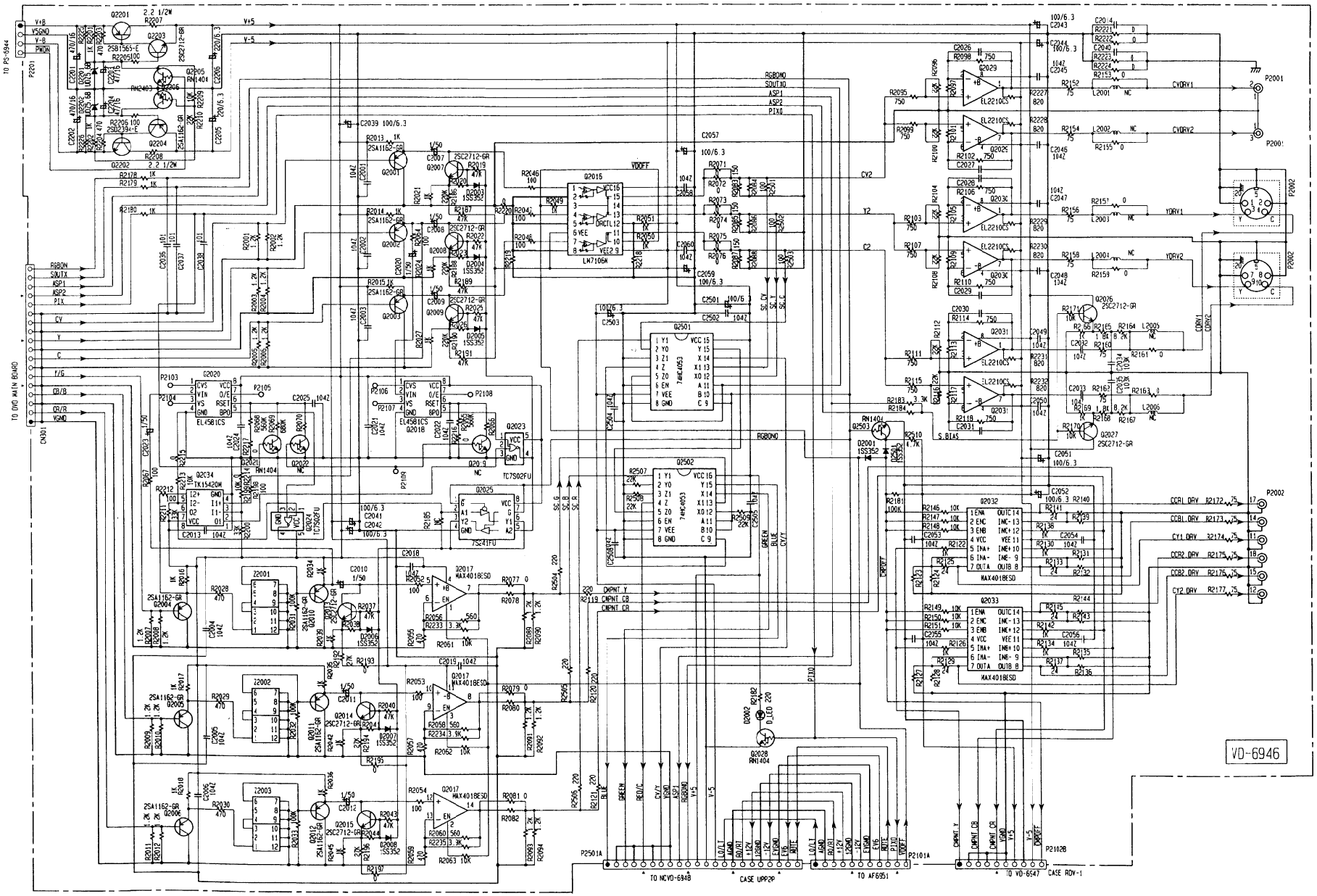
DV-S939

SCHEMATIC DIAGRAM 5

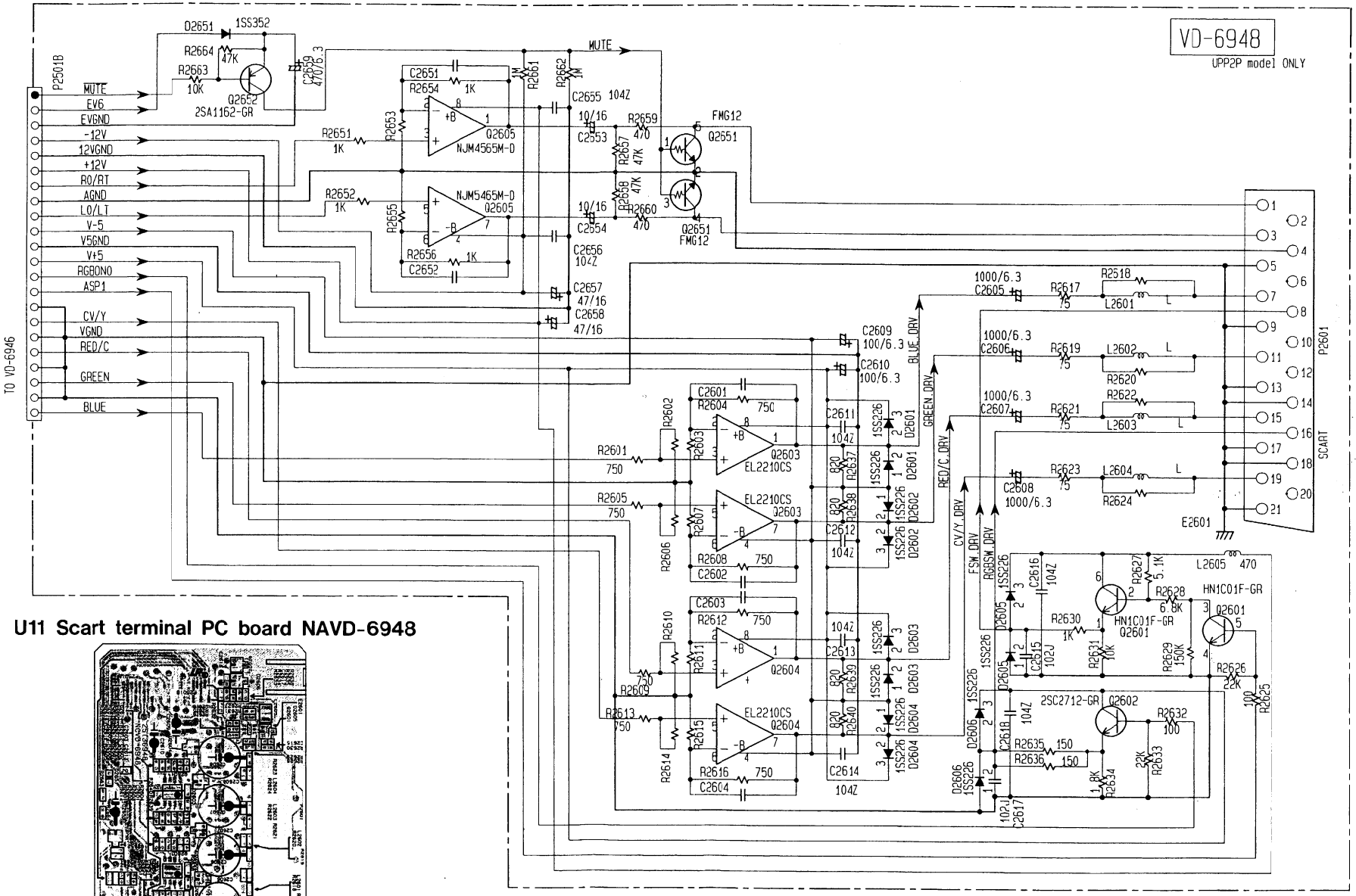
Main circuit PC board



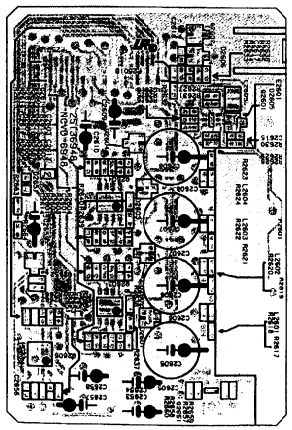
SCHEMATIC DIAGRAM 6 <UP> model only
Video circuit PC board



PRINTED CIRCUIT BOARD VIEW 7/SCHEMATIC DIAGRAM 7 <UP> model only



U11 Scart terminal PC board NAVD-6948



Component side

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.

Connection

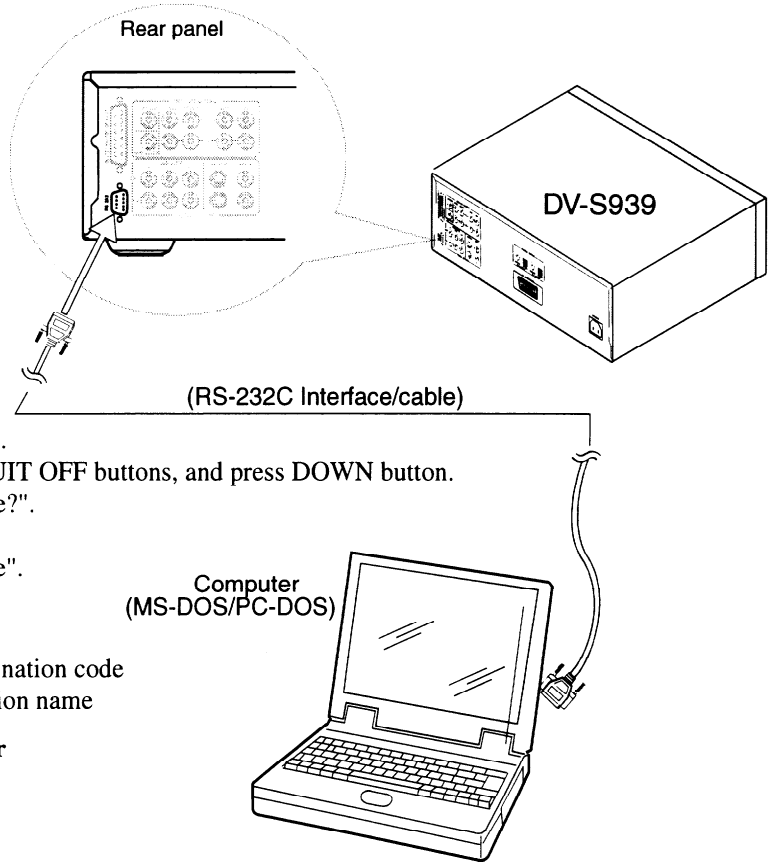


Fig.1 : Cable connection of the computer to DV-S939

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 buttons, 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
Destination code
Version name
1-5. Power off the unit.

2. Writing the E^2PROM-data of main microprocessor

2-1. Setting the computer as shown as Fig.-1 above.
2.2. Press and hold down DISPLAY, VIDEO and press the OFF+DOWN buttons with standby condition. ----------"Main Write?"
2.3 Press the standby button. ----------"Main Write"
2.4. Writing operation by the computer.
Program : com99.EXE File : s939r .txt
2.5. Power off the unit. : Destination of region code

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

Item	UD	UWT/UGT	UP	UPA
ROM Version				
Region	1	3	2	4
OSD	Eng/Fre/Spa	Eng/Chi	Eng/Fre/Spa	Eng/Fre/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.

		D WT/GT P PS
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

NOTE:

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

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*1		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	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	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	44.1 kHz/20 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	48 kHz/20 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	44.1 kHz/24 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	48 kHz/24 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	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	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	44.1 kHz/20 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	48 kHz/20 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	44.1 kHz/20 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	48 kHz/20 bit
		*2 176.4 kHz/16 bit	—	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	—	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	—	176.4 kHz/20 bit
		*2 192 kHz/20 bit	—	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	—	176.4 kHz/24 bit
		*2 192 kHz/24 bit	—	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).

PACKING PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
101	29053640	Carton box <D>
	29053641	Carton box <G>
	29053642	Carton box <S>
	29053656	Carton box <B>
102	29095893	Sheet
103	29091963A	Pad, front, bottom
104	29362745	Label <P>
	29362746	Label <PS>
	29362747	Label <WT>
	29362748	Label <GT>
105	29091964A	Pad, rear, bottom
106	29362715	Label UPC <D>
	29362724	Label EAN <S>
	29362722	Label EAN <B>
	29362723	Label EAN <G>
107	29091965A	Pad, front, top
108	29091966A	Pad, rear, top
109	29095894	75*300, Sheet
110	29105207A	Case, accessory
111	29095880	0.515*900*900,Sheet
112	29100034-1A	850*650,Polybag
113	29110149	Cellophane tape
114	282321	Staple
115	29110141	PP tape
116	29100097-1A	350*250,Polybag
117	29365083A	Warranty card
119	29095866	Sheet
120	2010388	Video connection cable
121	2010389	S-video cable
122	2010390	DB-25 cable
123	24140438	RC-438DV,Remote controller
124	3010054	UM-3,Battery
125	29355347	Instruction sheet THX
126	29362526	Label
127	29342987	Instruction manual E <PS/WT/GT>
128	29342988	Instruction manual E <P>
129	29343012	Instruction manual E <D>
130	29342990	Instruction manual T <WT/GT>
131	29342991	Instruction manual FS <P>
132	29342994	Instruction manual FS <PS>
133	29342992	Instruction manual ISw <P>
134	29342993	Instruction manual GD <P>
135	⚠ 25055018	CV-K-1,Converesion plug <WT>
137	⚠ 253297KAW	AS-UC-2,Power supply cord <D>
	⚠ 253298KAW	AS-CEE-3,Power supply cord <P/GT/WT/PS>

NOTE : <B> : 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
<PS> : 230-240V model only

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

PACKING VIEW