

Service Manual

74 AV500/01B

AV Surround pre amplifier

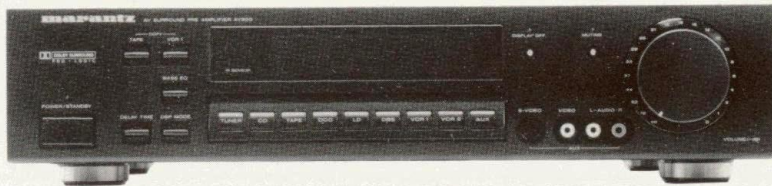


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marantz®

model AV500

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PCS 70 630

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available at our National Marantz Subsidiary or Agent.

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ORDERING PARTS

Parts can be ordered either by mail or by telex. In both cases, the correct part number has to be specified. The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which the part is required
5. Way of shipment
6. Signature: any order form or telex must be signed, otherwise such part order will be considered as null and void.

ADDRESSES

AUSTRALIA
MARANTZ AUSTRALIA
Figtree Drive
Australia Centre
Homebush, NSW 2140
AUSTRALIA

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MARANTZ
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00520
Helsingfors 52
Finland

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3007 Drammen
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France

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P.O.Box 5954
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MARANTZ
Horsvinget 5
2630 Tastrup
Denmark

GREECE
ADAMCO ELECTR. SA
P.O.Box 21025
Hippocrates Str. 188
Athens 11471
Greece

All of the above locations are fully equipped to take care of your total service needs or can advise you. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

1. TECHNICAL SPECIFICATIONS

Audio

Input Sensitivity/ Impedance 150 mV/47 Kohm
Output Level/ Impedance 1.0V/ 600 ohms
Total Harmonic Distortion 0.006%
Crosstalk 76 dB/ 10 kHz
Audio Frequency Response 10 Hz to 100 kHz (-3 dB)
Noise VOL MIN (Weighted) 3.5 μ V
VOL MAX (Weighted) 15 μ V
S/ N 90 dB
Dolby Surround Channel Separation 50 dB

Television Format NTSC
Input Level/ Impedance 1 Vp-p/ 75 ohms
Output Level/ Impedance 1 Vp-p/ 75 ohms
Video Frequency Response 5 Hz to MHz (-3 dB)
S/ N 63 dB

DSP

Delay time 10 to 90 mS

General

Power Requirement 230/ 240 VAC, 50/ 60 Hz
Power Consumption 30 W
Dimensions
Width 420 mm
Height 86 mm
Depth 336 mm
Weight 8.1 kg

Accessories

Remote Control Unit RC500AV 1
AA-size batteries 2
Stereo Pin cable 3

2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing.

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
ACVTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO aignment
Circuit Tester	Trouble shooting
DCVTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer	Adjust level of primery power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup
NTSC TV Test Signal Generator	Color bar signal source
NTSC Vector Scope	Color phase monitor

3. SERVICE ROUTINE

HOW TO ACTIVATE THE SERVICE ROUTINE

While holding the CD and LD function keys on the front panel of the set, press the POWER switch to ON to activate the service routine.

The service routine starts with two cycles of alternate lighting of the SERVICE ROUTINE indicator and all FL dots on the FL display, then proceed to the series of operations as shown in the following table.

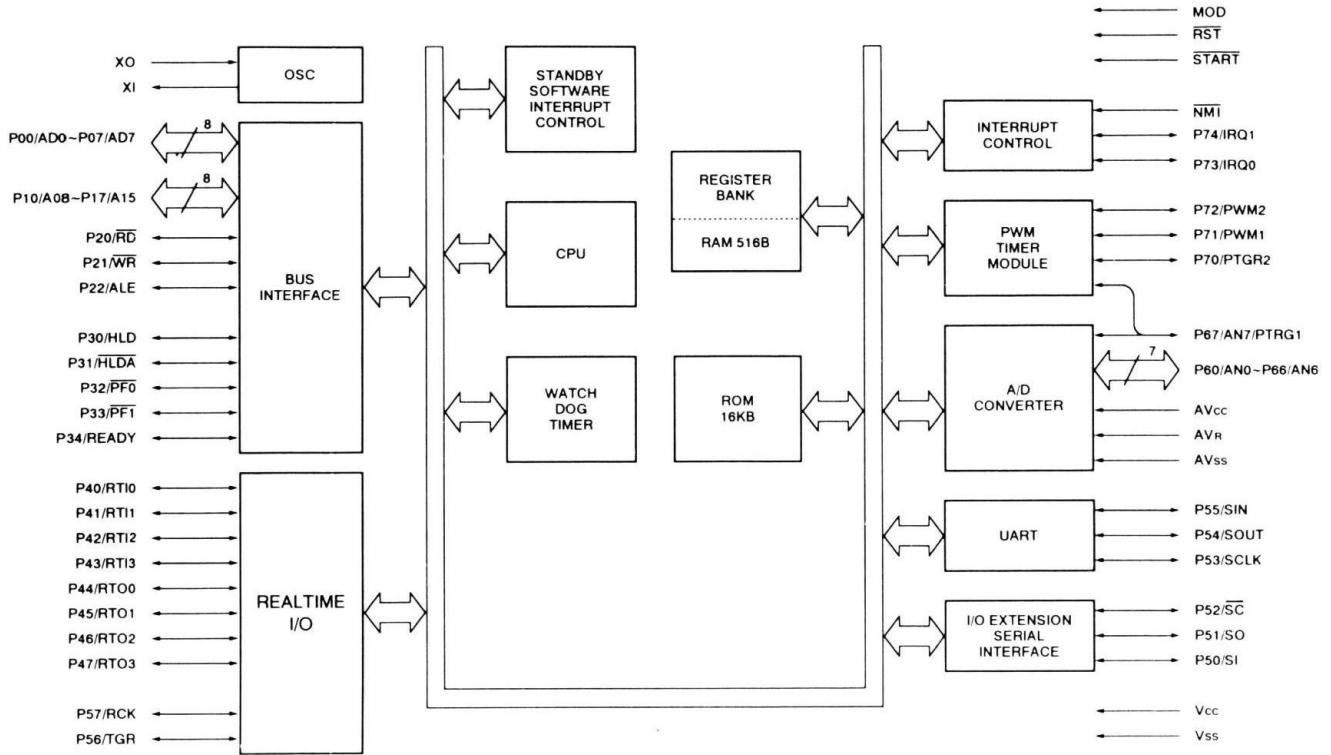
Caution: Before activating the service routine, be sure to input a desired video signal to the video input of the LD player.

Any of the service routine operations can be paused by pressing the MUTE switch.

After the completion of service routine, the set returns to the initial state and normal operation mode.

	FUNCTION		DSP MODE	CENTER MODE	DELAY TIME	COPY		BASS EQ	MAIN	VOLUME		BAL
	AUDIO	VISUAL				TAPE	VCR1			CENT	REAR	
1	TUNER	LD	STEREO	OFF	0mSEC	SOUR	SOUR	OFF		-∞	-∞	CENT
2	CD											
3	TAPE											
4	DCC											
5	LD	LD										
6	DBS	DBS										
7	VCR1	VCR1										
8	VCR2	VCR2										
9	AUX	AUX										
10	LD	LD	STEREO	OFF	0mSEC					-∞	-∞	
11	TUNER	LD	DOLBY	NORMAL	20mSEC					-6dB	-6dB	
12				WIDE								
13				PHANTO								
14				NORMAL								
15				WIDE	20mSEC							
16					25mSEC							
17					30mSEC							
18					15mSEC							
19					20mSEC							
20												
21												
22												
23												
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26												
27			DOLBY									
28			MOVIE									
29			3ch									
30			HALL1		20mSEC							
31					30mSEC							
32					40mSEC							
33					50mSEC							
34					60mSEC							
35					70mSEC							
36					80mSEC							
37					90mSEC							
38					0mSEC							
39					10mSEC							
40					20mSEC							
41			HALL1		30mSEC							
42			HALL2									
43			MATRIX									
44			STEREO									
45												
46												
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71	TUNER	LD	STEREO	WIDE	30mSEC	SOUR	SOUR	7dB	UP DOWN	-∞	-∞	CENT

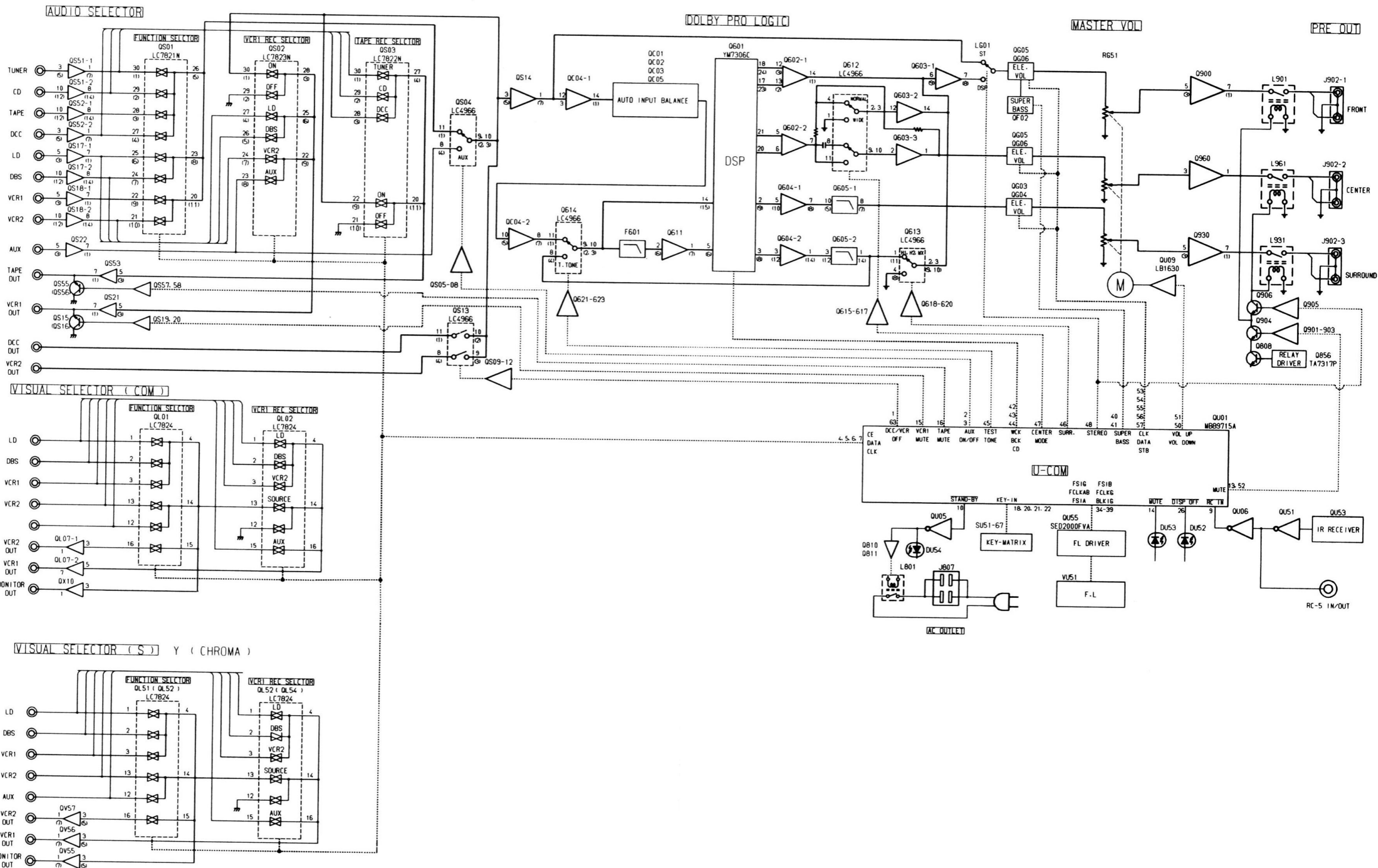
4. MICROPROCESSOR I/O PINS AND THEIR FUNCTIONS



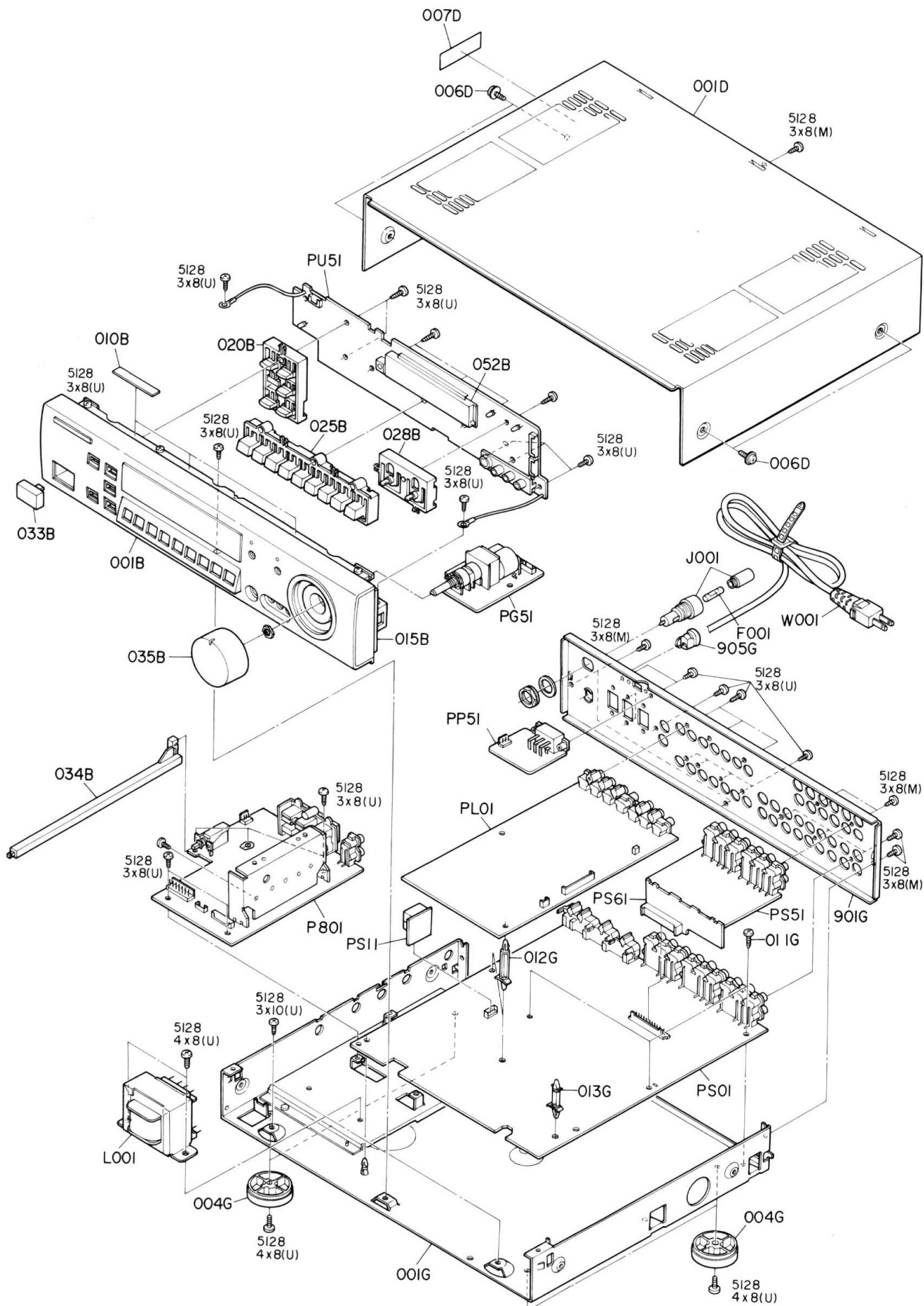
QU01 MB89715A

PIN NO.	PORT NAME	I/O	ACT	FUNCTION	PIN NO.	PORT NAME	I/O	ACT	FUNCTION		
1	P46/RT02	DCC REC OFF	O	H	DCC REC OUT OFF CONTROL	33	RST	RESET	I	L	RESET
2	P47/RT03	AUX	O	H	FUNCTION CONTROL-2 (AUX)	34	AD0/P00	FSIG	O	H	FL DRIVER (SED2000FVB) FSIG CONTROL
3	P70/PTGR2	OTHER	O	H	FUNCTION CONTROL-1 (OTHER)	35	AD1/P01	FCLKAB	O	H	FL DRIVER (SED2000FVB) FCLKAB CONTROL
4	P71/PWM1	CE2	O	H	LC782X CE2 CONTROL	36	AD2/P02	FSIA	O	H	FL DRIVER (SED2000FVB) FSIA CONTROL
5	P72/PWM2	CE1	O	H	LC782X CE1 CONTROL	37	AD3/P03	FSIB	O	H	FL DRIVER (SED2000FVB) FSIB CONTROL
6	P73/IRQ0	DATA	O	H	LC782X DATA CONTROL	38	AD4/P04	FCLKG	O	H	FL DRIVER (SED2000FVB) FCLKG CONTROL
7	P74/IRQ1	CLK	O	H	LC782X CLOCK CONTROL	39	AD5/P05	BLKIG	O	H	FL DRIVER (SED2000FVB) BLKIG CONTROL
8	NMI	N.C	—	—	N.C	40	AD6/P06	EQ-1	O	H	BASS EQ (TC4052) CONTROL-1
9	P50/SI	RC5-IN	I	L	RC-5 INPUT	41	AD7/P07	EQ-2	O	H	BASS EQ (TC4052) CONTROL-2
10	P51/SO	STAND BY	O	H	STANDBY LED CONTROL	42	A08/P10	BCK	O	H	DOLBY (YM7306B) BCK CONTROL
11	P52/SC	CLK-IN	I	H	CLOCK INPUT	43	A09/P11	WCK	O	H	DOLBY (YM7306B) WCK CONTROL
12	P53/SCLK	CLK-OUT	O	H	CLOCK OUTPUT	44	A10/P12	CD	O	H	DOLBY (YM7306B) CD CONTROL
13	P54/SOUT	MUTE	O	H	PRI MUTE OUTPUT	45	A11/P13	TEST-TONE	O	H	DOLBY TEST-TONE CONTROL
14	P55/SIN	MUTE-LED	O	H	AUDIO MUTE LED CONTROL	46	A12/P14	SURROUND	O	H	DSP MODE (PRO-LOGIC/SURROUND) CONTROL
15	P56/TGR	V1-REC-MUTE	O	H	VCR1 REC OUT MUTE CONTROL	47	A13/P15	CENTER-MODE	O	H	CENTER MODE (NORMAL/WIDE) CONTROL
16	P57/RCK	TAPE-REC-MUTE	O	H	TAPE REC OUT MUTE CONTROL	48	A14/P16	STEREO	O	H	DSP MODE STEREO CONTROL
17	AVcc	AVcc	—	—	A/D CONVERTER Vcc	49	A15/P17	PIP-ON/OFF	O	H	PIP (MB86140) POSITION CONTROL
18	AVr	AVr	—	—	A/D CONVERTER REFERENCE Vcc	50	RD/P20	VR-UP	O	H	MASTER VR DRIVER (LC1630) UP CONTROL
19	AVss	AVss	—	—	A/D CONVERTER GND	51	WR/P21	VR-DOWN	O	H	MASTER VR DRIVER (LC1630) DOWN CONTROL
20	P60/AN0	KEY-1	I	H	KEY (TACT SW) CONTROL-1	52	ALE/P22	MUTE	O	H	AUDIO MUTE OUT PUT CONTROL
21	P61/AN1	KEY-2	I	H	KEY (TACT SW) CONTROL-2	53	HLD/P30	DATA	O	H	ELECTRIC VR (TC9213P) DATA CONTROL
22	P62/AN2	KEY-3	I	H	KEY (TACT SW) CONTROL-3	54	HLD/A/P31	CLK	O	H	ELECTRIC VR (TC9213P) CLOCK CONTROL
23	P63/AN3	KEY-4	I	H	KEY (TACT SW) CONTROL-4 (UN USED)	55	PF0/P32	STB-1	O	H	ELECTRIC VR (TC9213P) STB-1 CONTROL
24	P64/AN4	KEY-5	I	H	KEY (TACT SW) CONTROL-5 (UN USED)	56	PF1/P33	STB-2	O	H	ELECTRIC VR (TC9213P) STB-2 CONTROL
25	P65/AN5	MODE	I	H	MODEL SELECT CONTROL	57	READY/P34	STB-3	O	H	ELECTRIC VR (TC9213P) STB-3 CONTROL
26	P66/AN6	DISP-OFF-LED	O	L	DISPLAY OFF LED CONTROL	58	RTI0/P40	DATA	O	H	OSD (μ PD6450) DATA CONTROL
27	P67/AN7/PTRG1	PIP-REV	O	H	PIP (MB86140) NOR/REV CONTROL	59	RTI1/P41	CLK	O	H	OSD (μ PD6450) CLK CONTROL
28	START	START	I	L	START	60	RTI2/P42	STB	O	H	OSD (μ PD6450) STB CONTROL
29	MOD/VPP	VPP	—	—	—	61	RTI3/P43	BUSY	I	L	OSD (μ PD6450) BUSY INPUT
30	XO	X-OUT	O	—	CRYSTAL OUTPUT (8MHz)	62	RT00/P44	BLUE-CONT	I	L	OSD BLUE BACK CONTROL INPUT
31	XI	X-IN	I	—	CRYSTAL INPUT (8MHz)	63	RT01/P45	V2-REC OFF	O	H	VCR-2 REC OUT OFF CONTROL
32	Vss	Vss	—	—	GND	64	Vcc	Vcc	—	—	Vcc

5. BLOCK DIAGRAM



6. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 426 51665	Front Panel Assembly
015B	4822 464 90772	Chassis Assembly, Front
020B	4822 410 62732	Button, Copy
025B	4822 410 62731	Button, Function
028B	4822 417 11197	Hinge Assembly, DIS/ MUT
033B	4822 410 60194	Button, Power/ Standby
034B	4822 402 50237	Link, Power
035B	4822 413 41679	Knob, Main Volume
006D	4822 501 11008	B.T. Screw (W/ W) M4 x 8
004G	4822 462 41932	Leg
011G	4822 502 12355	B.T. Screw (W/ W) M3 x 8
905G	4822 532 60948	Bushing, AC Cord
▲ F001	4822 253 40203	Fuse 0.2A 250V
▲ J001	4822 256 30233	Jack, Fuse Holder
▲ L001	4822 146 21741	Power Transformer
Z001	4822 218 10517	Unit (K), Remocon
Z003	4822 321 21438	Connective Cord
Z004	4822 321 21438	Connective Cord
Z005	4822 321 21438	Connective Cord
001T	4822 736 21786	User Manual

7. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R*** : (1) GD05 x x x 140. Carbon film fixed resistor, ±5% 1/4W
 R*** : (2) GD05 x x x 160. Carbon film fixed resistor, ±5% 1/6W

① — Resistance value

Examples :

① Resistance value	0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
	0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
	1Ω...010	100Ω...101	10kΩ...103	1MΩ...105
	6.8Ω...068	390Ω...391	22kΩ...223	4.7MΩ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C*** : CERAMIC CAP.

(1) DD1 x x x x 370. Ceramic capacitor
 Disc type
 Temp.coeff.P350~N1000,50V

① ②
 Capacity value
 Tolerance

Examples

① Tolerance (Capacity deviation)	±0.25pF...0
	±0.5pF...1
	±5%...5

* Tolerance of COMMON PARTS handled here are as follows :

0.5pF~5pF	±0.25pF
6pF~10pF	±0.5pF
12pF~560pF	±5%

② Capacity value

0.5pF...005	3pF...030	100pF...101
1pF...010	10pF...100	220pF...221
1.5pF...015	47pF...470	560pF...561



C*** : CERAMIC CAP.

(1) DK16 x x x x 300. High dielectric constant ceramic capacitor
 Disc type
 Temp.chara. 2B4, 50V

① Capacity value

Examples

② Capacity value	100pF...101	1000pF...102	10000pF...103
	470pF...471	2200pF...222	

C*** : ELECTROLY CAP. (), FILM CAP. ()

(1) EA x x x x x x 10. Electrolytic capacitor
 One-way lead type. Tolerance ±20%

① ②
 Working voltage
 Capacity value

Examples

① Capacity value	0.1μF...104	4.7μF...475	100μF...107
	0.33μF...334	10μF...106	330μF...337
	1μF...105	22μF...226	1100μF...108
			2200μF...228

② Working voltage

6.3V...006	25V...025
10V...010	35V...035
16V...016	50V...050

(2) DF15 x x x x 350. Plastic film capacitor
 One-way type. Mylar ±5% 50V

① Capacity value

Examples

① Capacity value	0.001μF(1000pF)...102	0.1μF...104
	0.0018μF...182	0.56μF...564
	0.01μF...103	1μF...105
	0.015μF...153	

NOTE : The above CODES (R***, R***, C***, C*** and C***) are omitted on the schematic diagram in some case.

On the occasion, be confirmed the common parts on the parts list.

REF. DESIG.	PART NO.	DESCRIPTION
		PG51-MAIN VR CIRCUIT BOARD
CG51	4822 122 40617	Ceramic Cap. 0.1μF +80% -20%
RG51	4822 100 12048	100K Ω (D) x 5, Variable
		PL01-VIDEO CIRCUIT BOARD
		PL01-CAPACITORS
CL12	4822 122 40617	Ceramic 0.1μF +80% -20%
CL17	4822 122 40617	Ceramic 0.1μF +80% -20%
CL20		
		PL01-CAPACITORS (COMMON)
C***		Electrolytic Capacitor, ±20%: CL01~CL06, CL08~CL11, CL13 CL15, CL21
		PL01-RESISTORS (COMMON)
R***		Carbon Film Fixed Resistor, ±5% 1/6W: RL01~RL12, RL14, RL15, RL16, RL25, RL26, RL30, RX30
		PL01-SEMICONDUCTORS
QL01	4822 209 31538	IC LC7824
QL02	4822 209 31538	IC LC7824
QL07	4822 209 32513	IC MC14576, Video Amp
QX10	4822 209 32513	IC MC14576, Video Amp
		PL01-MISCELLANEOUS
FX01	4822 158 60605	Ferrit Core
JL01	4822 265 30865	Terminal, 3P; RCA
JL02	4822 290 61178	Terminal, 4P; RCA
JL03	4822 267 31035	Jack, 2P
		PP51-VOLTAGE SELECT CIRCUIT BOARD
SP51	4822 277 21465	Slide Switch, Voltage Select
		PS01-DOLBY U-COM FUNCTION CIRCUIT BOARD
		PS01-CAPACITORS
CF05	4822 122 32486	Ceramic 0.01μF +80% -20%
CF06	4822 122 32486	Ceramic 0.01μF +80% -20%
CS15	4822 122 40617	Ceramic 0.1μF +80% -20%
CS16	4822 122 40617	Ceramic 0.1μF +80% -20%
CS21	4822 122 40617	Ceramic 0.1μF +80% -20%
CU01	4822 124 23295	Big Elect 0.022F
CU06	4822 122 40617	Ceramic 0.1μF +80% -20%
CU07	4822 122 40617	Ceramic 0.1μF +80% -20%
CU08	4822 124 22694	Elect 100μF 6.3V
CU09	4822 122 40617	Ceramic 0.1μF +80% -20%
CU10	4822 122 40617	Ceramic 0.1μF +80% -20%
CV61	4822 122 32486	Ceramic 0.01μF +80% -20%
CV66	4822 122 40617	Ceramic 0.1μF +80% -20%
CV69		
CV70		
C629	4822 122 31349	Ceramic 68pF ±5%
C630	4822 122 31349	Ceramic 68pF ±5%
C631	4822 122 31349	Ceramic 68pF ±5%
C643	4822 122 40617	Ceramic 0.1μF +80% -20%
C644	4822 122 40617	Ceramic 0.1μF +80% -20%
C901	4822 124 22274	Elect 4.7μF 50V
C902	4822 124 22274	Elect 4.7μF 50V
C905	4822 124 22274	Elect 4.7μF 50V

REF. DESIG.	PART NO.	DESCRIPTION
C906	4822 124 22274	Elect 4.7μF 50V
C909	4822 122 40617	Ceramic 0.1μF +80% -20%
C931	4822 124 22274	Elect 4.7μF 50V
C932	4822 124 22274	Elect 4.7μF 50V
C935	4822 124 22274	Elect 4.7μF 50V
C936	4822 124 22274	Elect 4.7μF 50V
C961	4822 124 22274	Elect 4.7μF 50V
C965	4822 124 22274	Elect 4.7μF 50V
		PS01-CAPACITORS (COMMON)
C***		High Dielectric Constant Ceramic Capacitor, 50V: C603, C604, C609, C610, C615, C616, C621~C624, C637, C638, C639, C903, C904, C911, C912, C933, C934, C937, C938, C963, C967
		Electrolytic Capacitor, ±20%: CC02, CC03, CC05~CC08, CF01~CF04, CG01~CG17, CS01~CS14, CS17~CS20, CU02, CU03, CU05, CV51~CV60, CV67, CV68, CV71, CV72, C601, C602, C605, C606, C619, C620, C627, C628, C632~C635, C640, C641, C642, C645, C647, C650, C651, C653~C660, C907, C908, C913
		Plastic Film Capacitor, ±5% 50V: CC01, CC04, C607, C608, C611~C614, C617, C618, C625, C626, C636, C646, C652
		PS01-RESISTORS
RC05	4822 050 23308	3.3M Ω ±5% 1/6W
RC06	4822 050 23308	3.3M Ω ±5% 1/6W
RC07	4822 050 23308	3.3M Ω ±5% 1/6W
▲R640	4822 111 30816	120 Ω ±5% 1/4W
R668	4822 050 22209	22 Ω ±5% 1/4W
R671	4822 050 21501	150 Ω ±5% 1/4W
R672	4822 050 21501	150 Ω ±5% 1/4W
▲R919	4822 116 60348	270 Ω ±5% 1W
R981	4822 116 83929	220 Ω ±5% 1/4W
R982	4822 116 83929	220 Ω ±5% 1/4W
		PS01-RESISTORS (COMMON)
		Carbon Film Fixed Resistor, ±5% 1/6W: RC01~RC04, RC08~RC14, RF06, RF07, RF09~RF20, RG01~RG21, RS01~RS50, RU01~RU04, RU08~RU13, RU15, RU16, RU18, RU19, RV51~RV61, RV64, RV65, RV68, RV69, RV72, RV73, RV76, RV77, RV80, RV81, RV84~RV94, R601~R639, R641~R653, R657~R667, R901~R910, R913~R918, R931, R933~R940, R943~R948, R963, R965, R967, R969, R973, R975, R977
		PS01-SEMICONDUCTORS
DC01	4822 130 33305	Diode 1SS176, etc.
DC02	4822 130 33305	Diode 1SS176, etc.
DC03	4822 130 33305	Diode 1SS176, etc.
DF01	4822 130 80317	Zener RD5.1JB2/MTZJ5.1B
DF02	4822 130 80317	Zener RD5.1JB2/MTZJ5.1B
DG01	4822 130 32508	Diode RL103E/DSF10C
DU01	4822 130 33305	Diode 1SS176, etc.
DU02	4822 130 33305	Diode 1SS176, etc.
DU03	4822 130 33305	Diode 1SS176, etc.
DU04	4822 130 33305	Diode 1SS176, etc.
DU05	4822 130 32508	Diode RL103E/DSF10C
DU09	4822 130 80839	Diode S5688G
DU10	4822 130 80839	Diode S5688G

REF. DESIG.	PART NO.	DESCRIPTION
D601	4822 130 33305	Diode 1SS176, etc.
D610		
D903		Diode S5688G
D904		Diode S5688G
QC01	4822 209 83679	IC NJM2904, Dual OP-Amp
QC02	4822 209 83684	IC NJM072D
QC03	4822 209 83167	IC TDA1074A, Electronic Vol.
QC04	4822 209 70044	IC NJM2058D
QC05	4822 130 63378	F. E. T. 2SK117 (GR)
QF02	4822 209 61677	IC TC4052, C-MOS
QF03	4822 130 42298	Transistor 2SC536SP, etc.
QF04	4822 130 42298	Transistor 2SC536SP, etc.
QG01	4822 209 31575	IC TC9213P, Electronic Vol. 2H
QG02	4822 209 83627	IC NJM4560D
QG03	4822 209 31575	IC TC9213P, Electronic Vol. 2H
QG04	4822 209 83631	IC NJM4558DD
QG05	4822 209 31575	IC TC9213P, Electronic Vol. 2H
QG06	4822 209 83631	IC NJM4558DD
QG07	4822 130 60588	Transistor, digital DTC114ES
QG08	4822 130 61227	Transistor, digital DTA114ES
QS01	4822 209 32552	IC LC7821N, Analog SW
QS02	4822 209 32554	IC LC7823N, Analog SW
QS03	4822 209 32553	IC LC7822N, Analog SW
QS04	4822 209 83804	IC LC4966
QS05	4822 130 61227	Transistor, digital DTA114ES
QS06	4822 130 61227	Transistor, digital DTA114ES
QS07	4822 130 60588	Transistor, digital DTC114ES
QS08	4822 130 60588	Transistor, digital DTC114ES
QS09	4822 130 61227	Transistor, digital DTA114ES
QS10	4822 130 61227	Transistor, digital DTA114ES
QS11	4822 130 60588	Transistor, digital DTC114ES
QS12	4822 130 60588	Transistor, digital DTC114ES
QS13	4822 209 83804	IC LC4966
QS14	4822 209 83631	IC NJM4558DD
QS15	4822 130 43818	Transistor 2SC2878 (A)
QS16	4822 130 43818	Transistor 2SC2878 (A)
QS17	4822 209 70044	IC NJM2058D
QS18	4822 209 70044	IC NJM2058D
QS19	4822 130 61227	Transistor, digital DTA114ES
QS20	4822 130 60588	Transistor, digital DTC114ES
QS21	4822 209 83631	IC NJM4558DD
QS22	4822 209 83631	IC NJM4558DD
QU01	4822 209 32556	Microprocessor MB89715A
QU02	4822 209 32551	IC MB3771
QU04	4822 130 60588	Transistor, digital DTC114ES
QU05	4822 130 61227	Transistor, digital DTA114ES
QU06	4822 130 42298	Transistor 2SC536SP, etc.
QU09	4822 209 73287	IC LB1630
QV51	4822 209 31538	IC LC7824
QV52	4822 209 31538	IC LC7824
QV53	4822 209 31538	IC LC7824
QV54	4822 209 31538	IC LC7824
QV55	4822 209 32513	IC MC14576, Video Amp
QV56	4822 209 32513	IC MC14576, Video Amp
QV57	4822 209 32513	IC MC14576, Video Amp
Q601	4822 209 32549	IC YM7306C
Q602	4822 209 70044	IC NJM2058D
Q603	4822 209 70044	IC NJM2058D
Q604	4822 209 70044	IC NJM2058D
Q605	4822 209 70044	IC NJM2058D
▲Q609	4822 209 71373	IC NJM78L05A
▲Q610	4822 209 31631	IC NJM7805FA
Q611	4822 209 83631	IC NJM4558DD
Q612	4822 209 83804	IC LC4966
Q613	4822 209 83804	IC LC4966
Q614	4822 209 83804	IC LC4966
Q615	4822 130 42594	Transistor, digital DTC144ES
Q616	4822 130 42594	Transistor, digital DTC144ES
Q617	4822 130 61227	Transistor, digital DTA114ES
Q618	4822 130 42594	Transistor, digital DTC144ES
Q619	4822 130 42594	Transistor, digital DTC144ES
Q620	4822 130 61227	Transistor, digital DTA114ES
Q621	4822 130 42594	Transistor, digital DTC144ES
Q622	4822 130 42594	Transistor, digital DTC144ES

REF. DESIG.	PART NO.	DESCRIPTION
Q623 Q624 Q900 Q901 Q902 Q903 Q904 Q905 Q906 Q930 Q960	4822 130 61227 4822 209 32444 4822 209 73064 4822 130 42594 4822 130 42594 4822 130 61227 4822 130 60588 4822 130 61227 4822 130 60588 4822 209 73064 4822 209 73064	Transistor, digital DTA114ES IC V53C464AP80 IC NJM2068DD Transistor, digital DTC144ES Transistor, digital DTC144ES Transistor, digital DTA114ES Transistor, digital DTC114ES Transistor, digital DTA114ES Transistor, digital DTC114ES IC NJM2068DD IC NJM2068DD
PS01-MISCELLANEOUS		
JS03 JS04 JS06	4822 290 81407 4822 290 81407 4822 265 40929	Terminal, 6P Terminal, 6P Plug, 18P
JV51 JV52 JV53	4822 290 61176 4822 290 61176 4822 290 61177	Terminal, 2P Terminal, 2P Terminal, 3P
J902	4822 290 81407	Terminal, 6P
LG01	4822 280 20501	Relay MR62-24SR 24V
L901 L931 L961	4822 280 20196 4822 280 20196 4822 280 20196	Relay 24V Relay 24V Relay 24V
XU01	4822 242 72066	Ceramic Resonator, 8.00MHz
X601	4822 242 81536	Ceramic Resonator, 8.46MHz
PS11-L. P. F. CIRCUIT BOARD		
L601 L602	4822 153 70065 4822 153 70065	L. C. Filter 13.3KHz L. C. Filter 13.3KHz
PS51-SUB FUNCTION CIRCUIT BOARD		
PS51-CAPACITORS		
CS61 CS62	4822 122 40617 4822 122 40617	Ceramic Cap. 0.1 μ F +80% -20% Ceramic Cap. 0.1 μ F +80% -20%
PS51-CAPACITORS (COMMON)		
Electrolytic Capacitor, \pm 20%: CS51~CS60		
PS51-RESISTORS (COMMON)		
Carbon Film Fixed Resistor, \pm 5% 1/6W: RS51~RS83, RS85, RS86		
PS51-SEMICONDUCTORS		
QS51 QS52 QS53 QS55 QS56 QS57 QS58	4822 209 70044 4822 209 70044 4822 209 83631 4822 130 43818 4822 130 43818 4822 130 61227 4822 130 60588	IC NJM2058D IC NJM2058D IC NJM4558DD Transistor 2SC2878 (A) Transistor 2SC2878 (A) Transistor, digital DTA114ES Transistor, digital DTC114ES
PS51-MISCELLANEOUS		
JS51 JS52	4822 290 81407 4822 290 81407	Terminal, 6P; RCA Terminal, 6P; RCA
PS61-SUB FUNCTION CONNECT CIRCUIT BOARD		
JS53	4822 265 41287	Jack, 18P

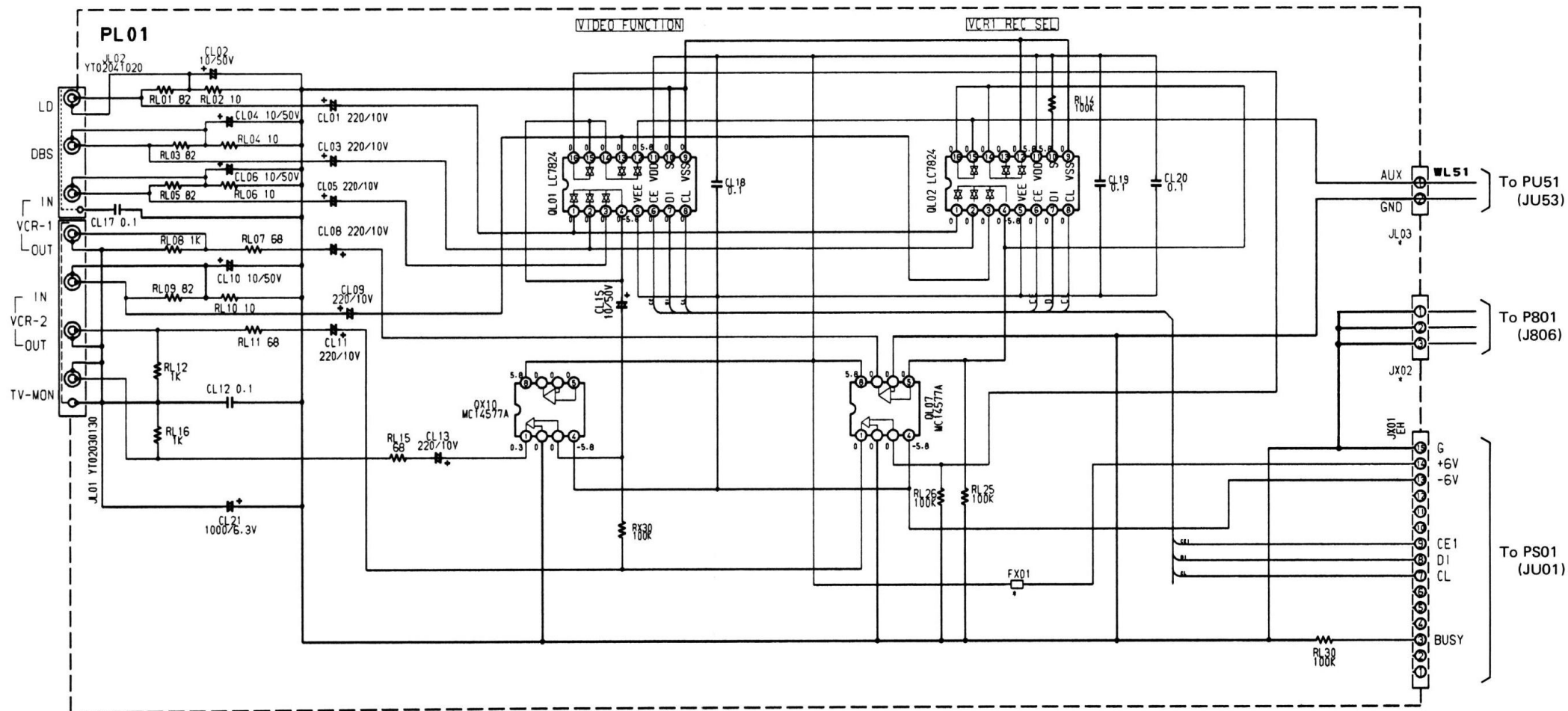
REF. DESIG.	PART NO.	DESCRIPTION
PU51-FRONT CIRCUIT BOARD		
PU51-CAPACITORS		
CL51 CL54 CL55 CL56 CL57 CL58 CL59	4822 124 22048 4822 124 80665 4822 124 80665 4822 122 40617 4822 122 40617 4822 122 30045 4822 122 40617	Elect 220 μ F 6.3V Elect 10 μ F 50V Elect 10 μ F 50V Ceramic 0.1 μ F +80% -20% Ceramic 0.1 μ F +80% -20% Ceramic 27pF \pm 5% Ceramic 0.1 μ F +80% -20%
CU51 CU52 CU53	4822 122 32486 4822 124 41242 4822 122 32486	Ceramic 0.01 μ F +80% -20% Elect 100 μ F 10V Ceramic 0.01 μ F +80% -20%
PU51-RESISTORS (COMMON)		
Carbon Film Fixed Resistor, \pm 5% 1/6W: RL53, RL54, RL55, RL61, RL62, RU51~RU67, RU69, RU71, RU72, RU73		
PU51-SEMICONDUCTORS		
DU52 DU53 DU54	4822 130 81715 4822 130 80326 4822 130 80326	L. E. D. LT3K44B L. E. D. LT3D8B L. E. D. LT3D8B
QU51 QU53 QU55	4822 130 42682 4822 218 10343 4822 209 63172	Transistor, digital DTA144ES Photo Unit, IR Sensor IC SED2000FVA
PU51-MISCELLANEOUS		
FU52 FU53	4822 158 60605 4822 158 60605	Ferrit Core Ferrit Core
JL51	4822 290 61181	Terminal, RCA; Pin
SU51 SU63 SU65 SU66 SU67	4822 276 20508 4822 276 20508 4822 276 20508 4822 276 20508 4822 276 20508	Push Switch (Tact) Push Switch (Tact) Push Switch (Tact) Push Switch (Tact) Push Switch (Tact)
VU51	4822 130 90924	Display Unit
P801-SUPPLY CIRCUIT BOARD		
P801-CAPACITORS		
C803 C804 C807 C808 ▲ C809 C811 C812 C813 C816 C817	4822 124 22277 4822 124 22277 4822 124 90371 4822 124 90371 4822 122 33276 4822 124 41538 4822 124 41538 4822 124 90355 4822 122 30103 4822 122 30103	Elect 470 μ F 16V Elect 470 μ F 16V Elect 470 μ F 10V Elect 470 μ F 10V Ceramic 0.01 μ F \pm 20% Elect 220 μ F 35V Elect 220 μ F 35V Elect 100 μ F 50V Ceramic 0.022 μ F +80% -20% Ceramic 0.022 μ F +80% -20%
C818 C819 ▲ C851 C858 C860 C861	4822 122 30103 4822 122 30103 4822 122 33276 4822 124 22694 4822 124 41539 4822 122 32486	Ceramic 0.022 μ F +80% -20% Ceramic 0.022 μ F +80% -20% Ceramic 0.01 μ F \pm 20% Elect 1000 μ F 6.3V Elect 47 μ F 16V Ceramic 0.01 μ F +80% -20%
P801-CAPACITORS (COMMON)		
Electrolytic Capacitor, \pm 20%: C801, C802 C805, C806, C820, C821		
P801-RESISTORS		
▲ R822	4822 111 90967	4.7 Ω \pm 5% 1/4W

REF. DESIG.	PART NO.	DESCRIPTION
P801-RESISTORS (COMMON)		
Carbon Film Fixed Resistor, \pm 5% 1/6W: RU91, R801, R806~R810, R816~R821, R864, R865, R866		
P801-SEMICONDUCTORS		
▲ D801 ▲ D802 ▲ D803 ▲ D804 ▲ D805 ▲ D807 ▲ D819 ▲ D820 ▲ D821 ▲ D822	4822 130 80907 4822 130 80907 4822 130 32508 4822 130 32508 4822 130 33305 4822 130 32508 4822 130 32508 4822 130 32508 4822 130 32508 4822 130 32508	Diode 2SVB20 Diode 2SVB20 Diode RL103E/DSF10C Diode RL103E/DSF10C Diode 1SS176, etc. Diode RL103E/DSF10C Diode RL103E/DSF10C Diode RL103E/DSF10C Diode RL103E/DSF10C Diode RL103E/DSF10C
D823 ▲ D824 ▲ D825	4822 130 80322 4822 130 32508 4822 130 32508	Zener RD15JB3/MTZJ16A Diode RL103E/DSF10C Diode RL103E/DSF10C
▲ Q801 ▲ Q802 ▲ Q803 ▲ Q804 ▲ Q806 Q807 Q808 Q810 Q811 Q856	4822 209 61848 4822 209 61526 4822 209 61533 4822 209 32555 4822 209 61533 4822 130 61187 4822 130 42298 4822 130 42682 4822 130 60588 4822 209 83312	IC NJM7815FA IC NJM79M15FA IC NJM7806FA IC NJM79M06FA, Regulator IC NJM7806FA Transistor, digital DTA144TS Transistor 2SC536SP, etc. Transistor, digital DTA144ES Transistor, digital DTC114ES IC TA7317P
P801-MISCELLANEOUS		
JU91	4822 290 61175	Terminal, RCA; 2P
▲ J807 J853	4822 265 31113 4822 403 53984	Jack, 3P; RCA Outlet Terminal
▲ L801	4822 280 20534	RELAY G5P-1
▲ S851	4822 276 12924	Push Switch, Power

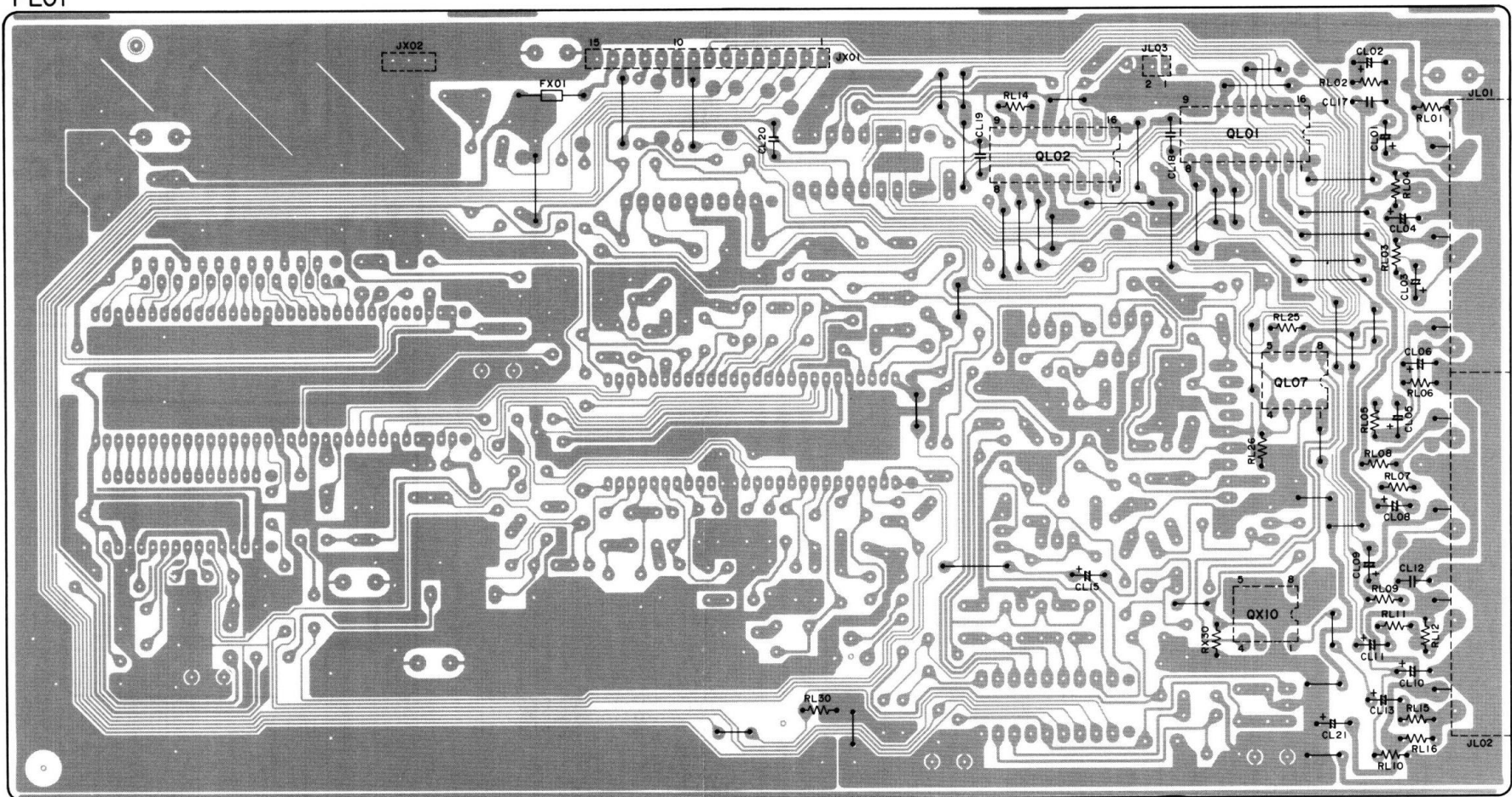
NOTE ON SAFETY :

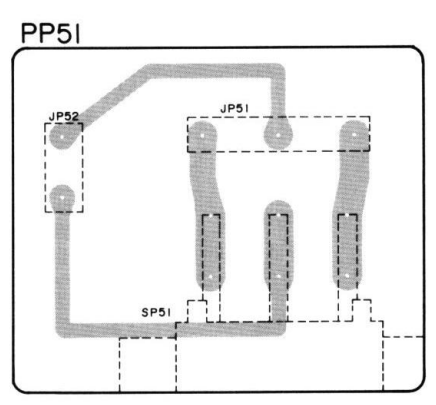
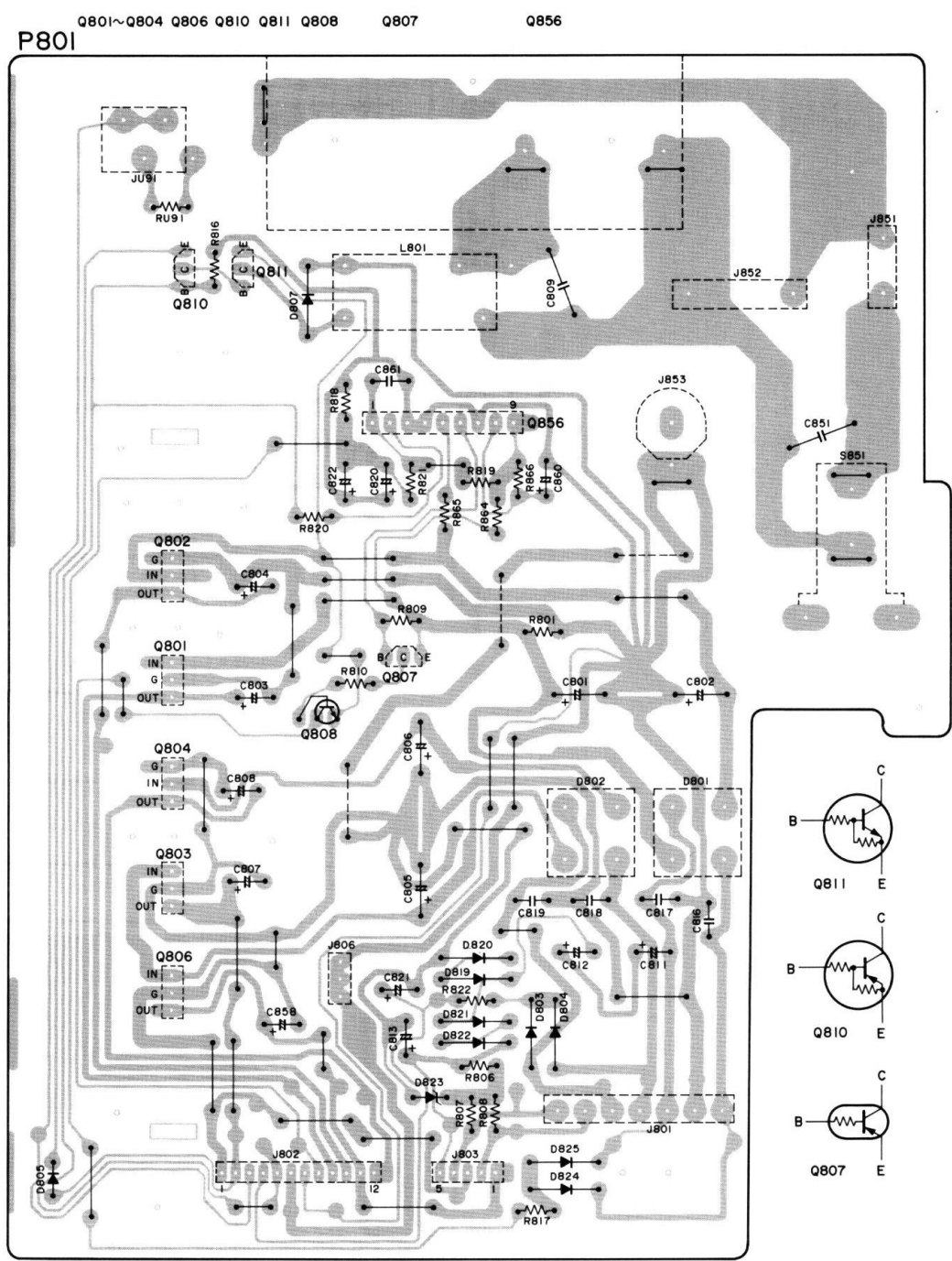
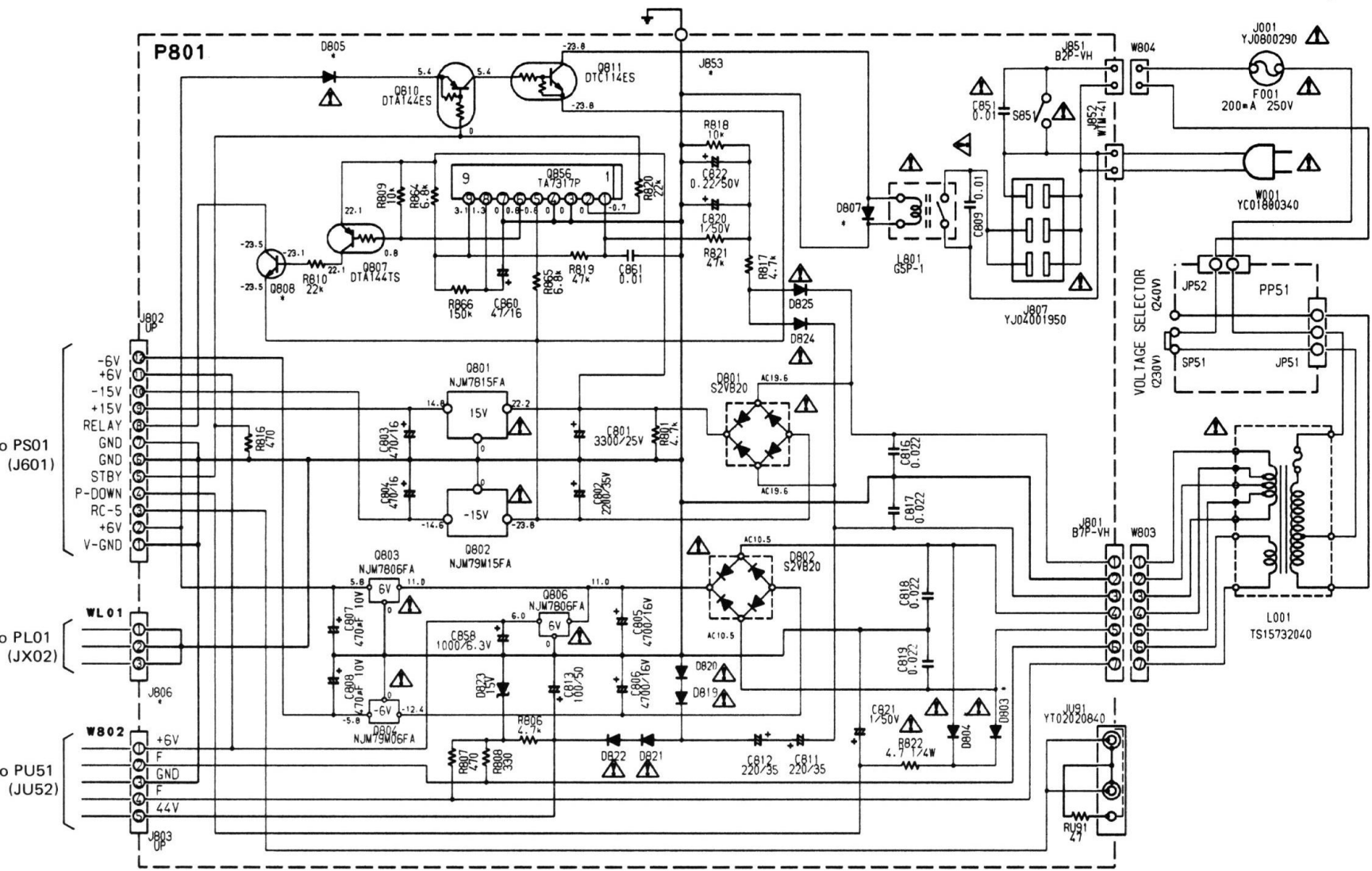
Symbol ▲ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ▲ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

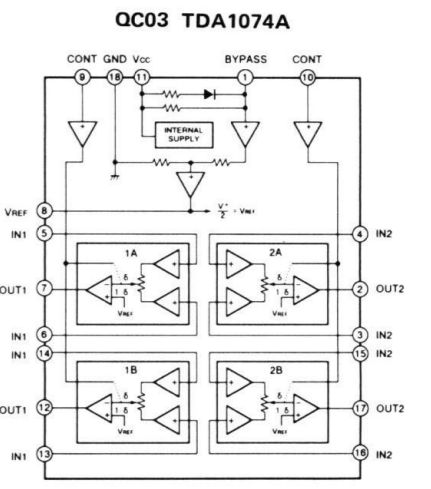
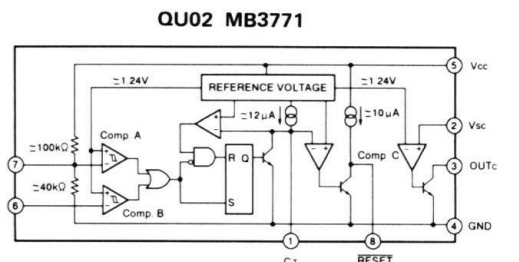
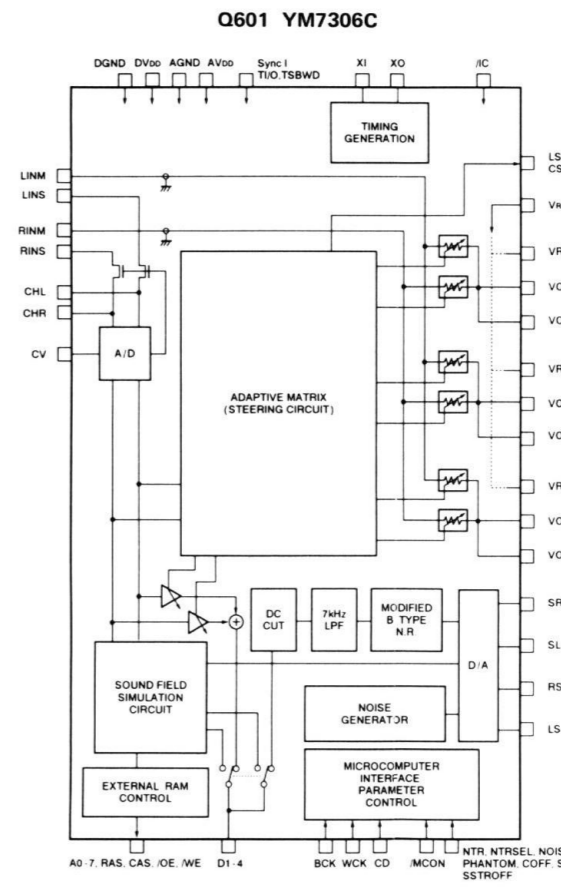
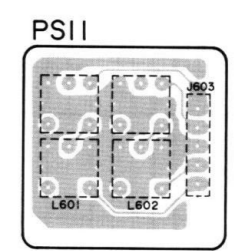
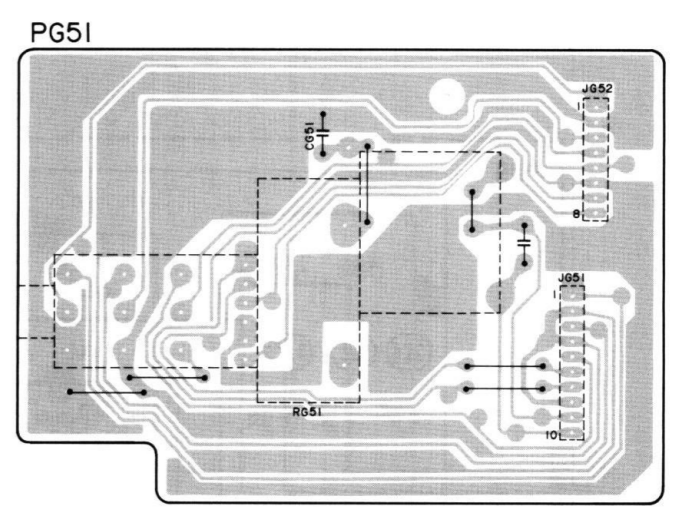
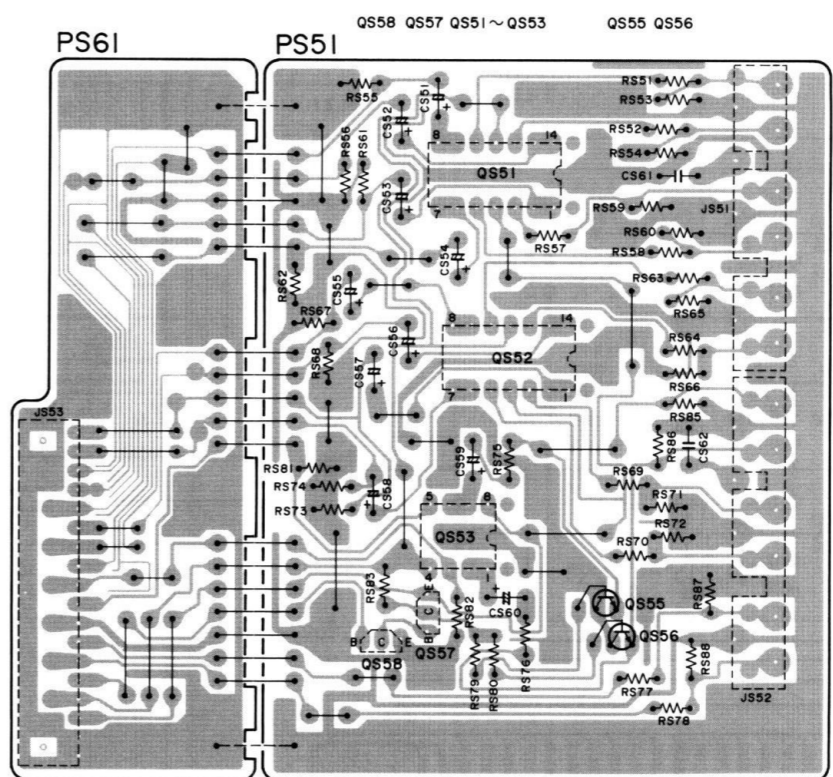
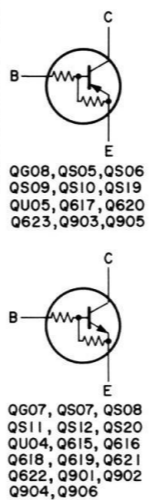
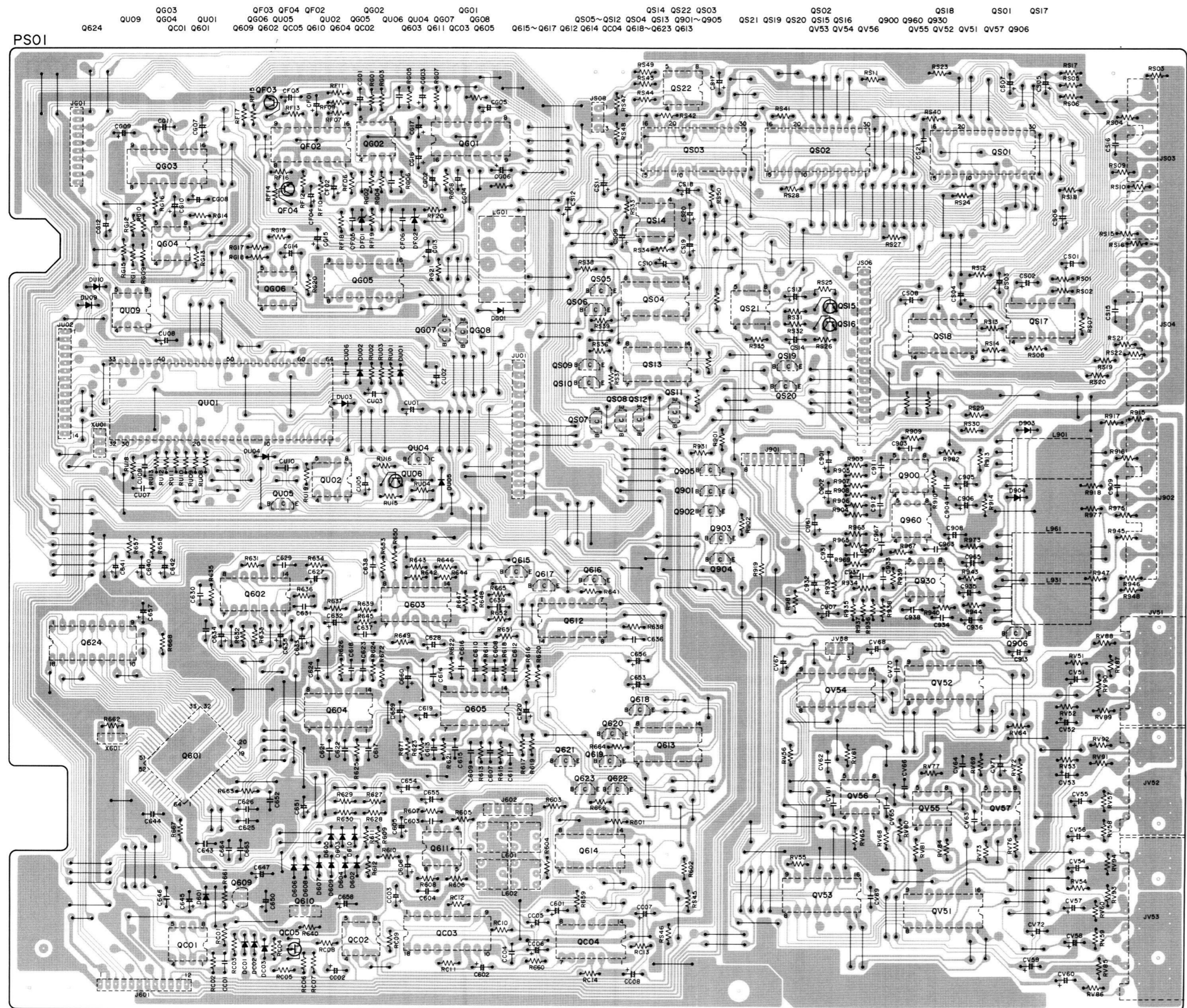
8. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern side)

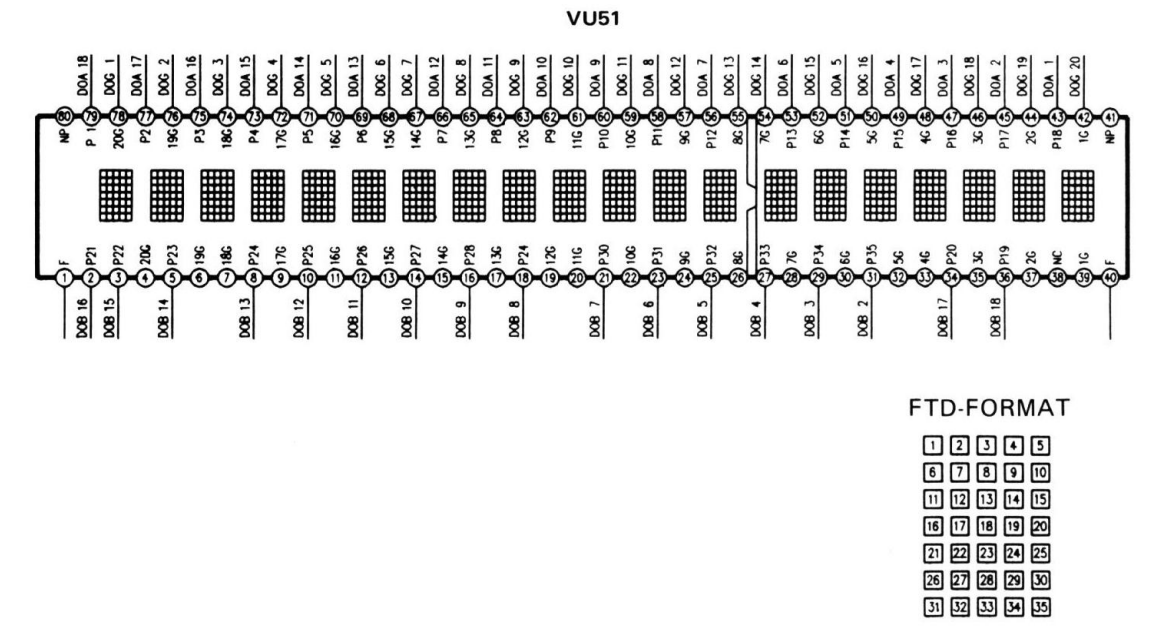
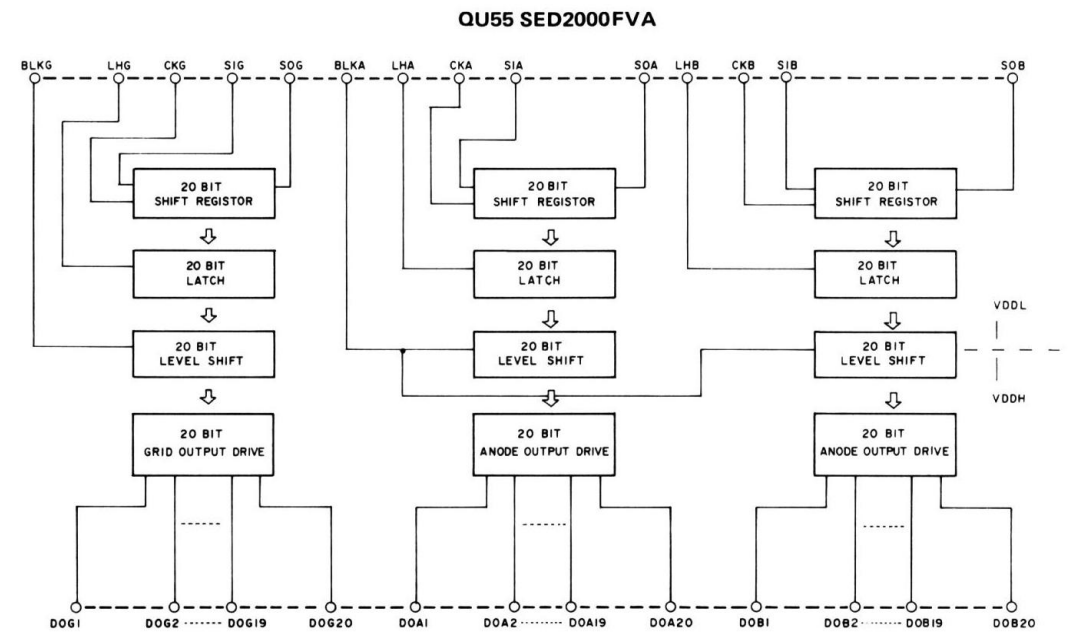
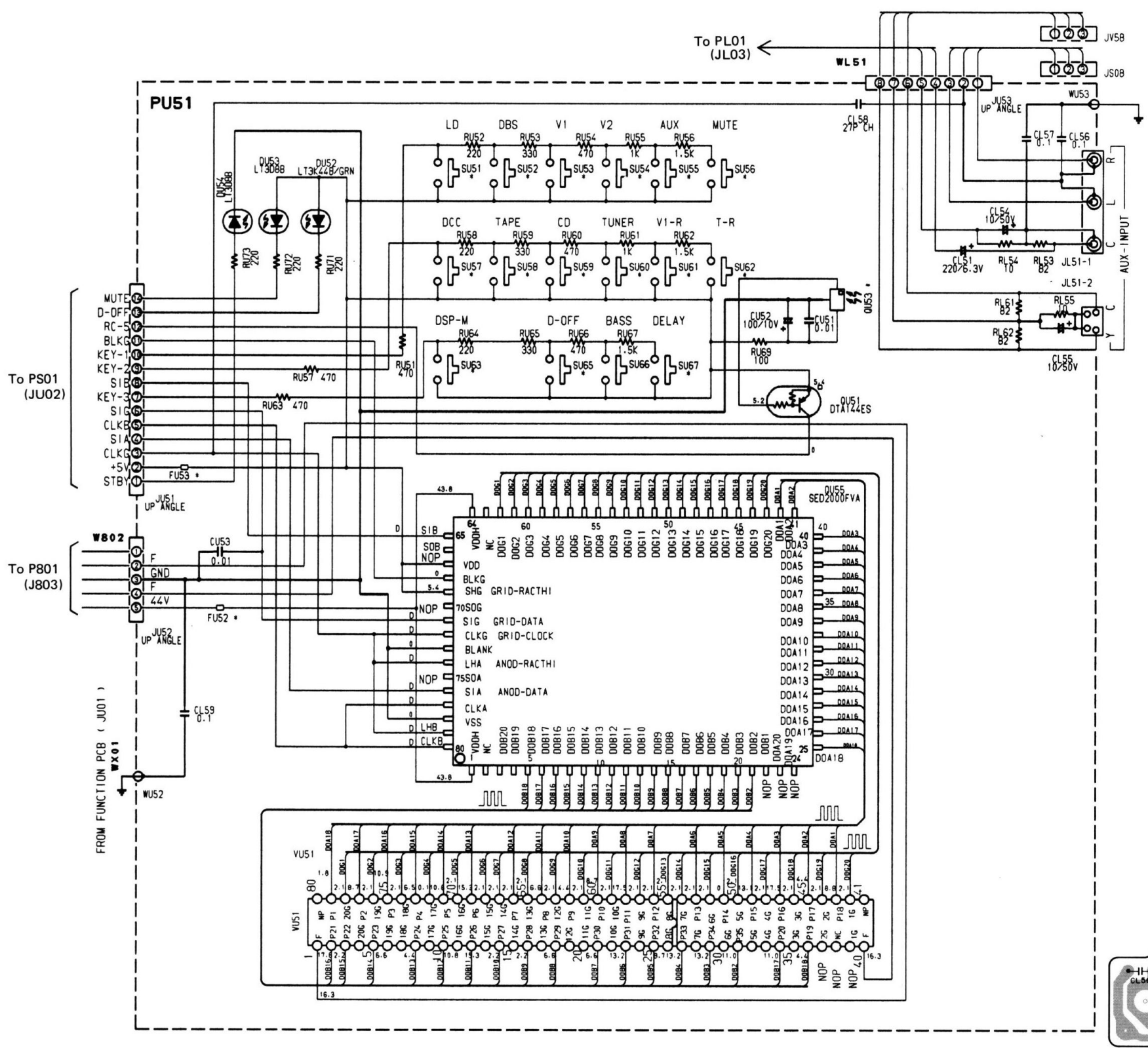


PL01



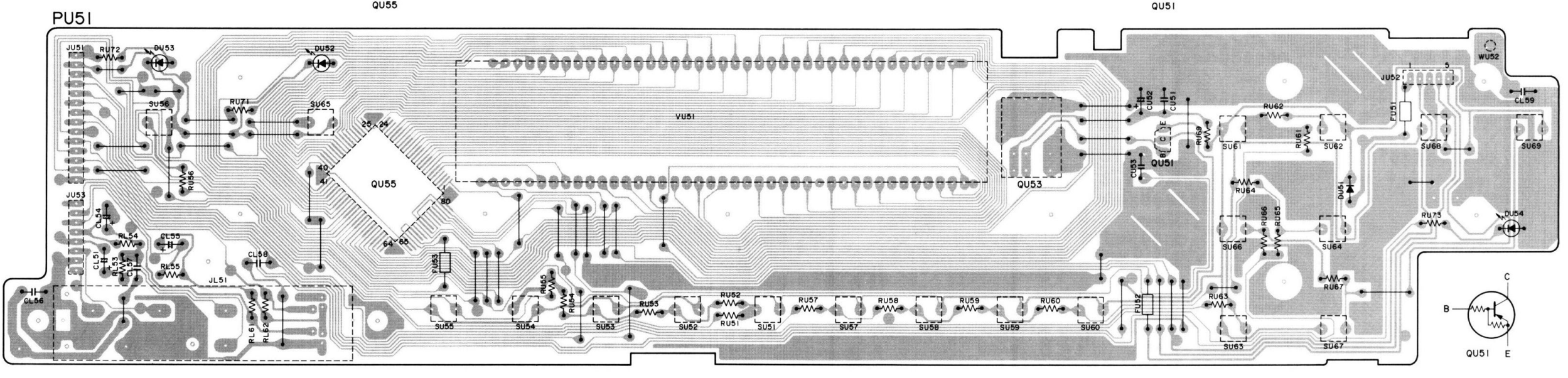




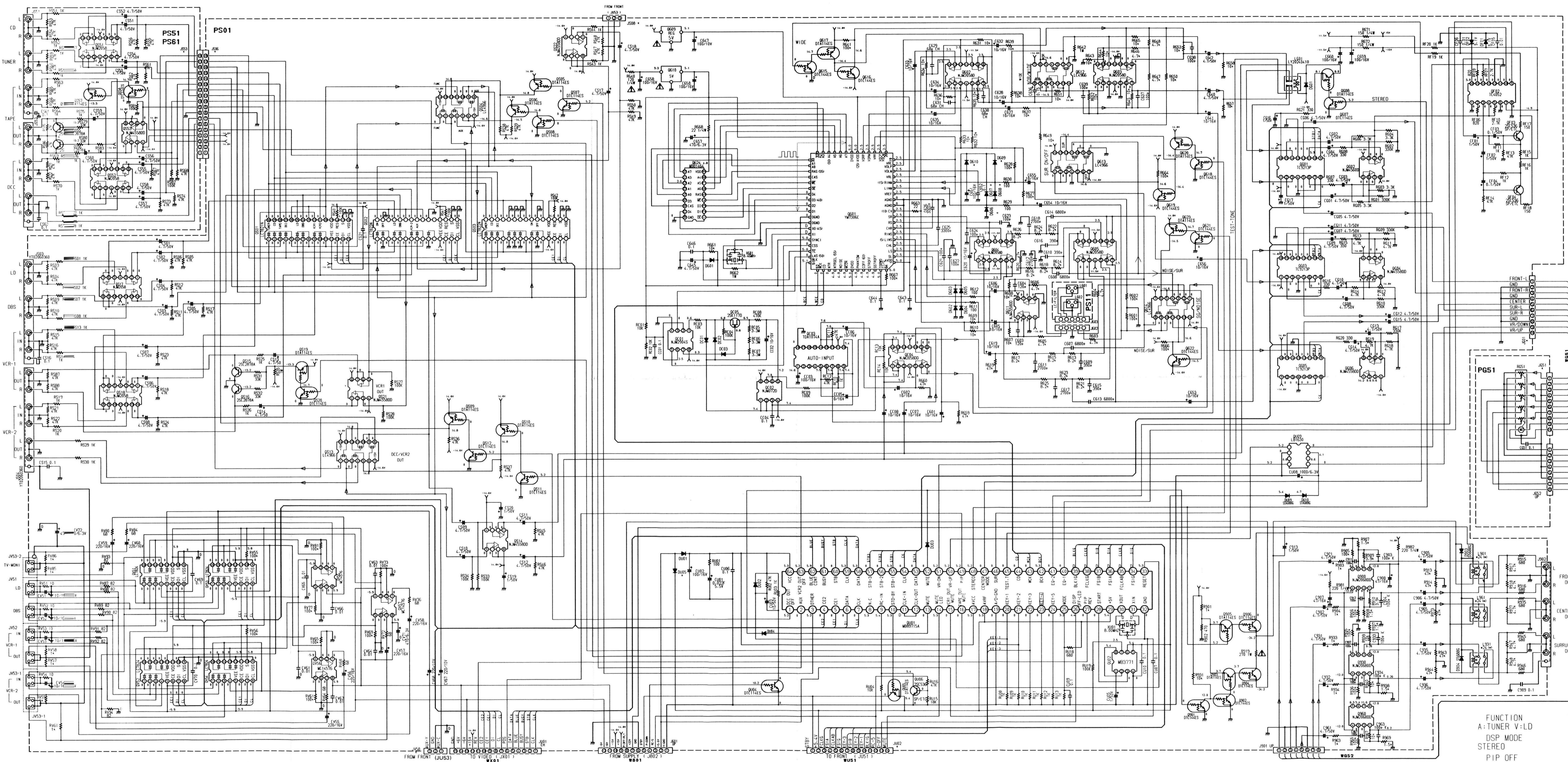


FTD-FORMAT

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6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35



AV5000 SCHEMATIC DIAGRAM



- FUNCTION
 A: TUNER V: LD
 DSP MODE
 STEREO
 PIP OFF
 DELAY: 0ms
 VOL: MIN
 COPY: TAPE
 SOURCE: TAPE
 COPY: VCR1
 SOURCE: VCR1
 D=