483

SERVICE MANUAL

PM-75

4822 725 50864

marantz®

model PM-75

Digital Integrated Amplifier

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.

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ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, 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 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.

PARTS ORDERING

Parts may be ordered at the following addresses:

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BELGIUM
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Telex: 24466

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Av. Santa Maria, 0760
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Prags Boulevard 80
Postbox 1919
DK-2300 København S
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Telex: 31201

FINLAND
MARANTZ
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Kaivokatu 8
00100 Helsinki
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FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
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Telex: 611651

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P.O.Box 21025
Hippocratus Street 188
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Telex: 216.795

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MARANTZ JAPAN, Inc.
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MARANTZ ITALIANA S.P.A.
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Main Road Martindale
P.O. Box. 58088
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PHONO S.A.
Ignacio Iglesias 10
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Försäljning AB
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Telex: 22085

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Outurela-carnaxide
2795 LinDA-A-VELHA
Telex: 43906

All of the above locations are fully equipped to take care of your total service needs. 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 abovementioned address.

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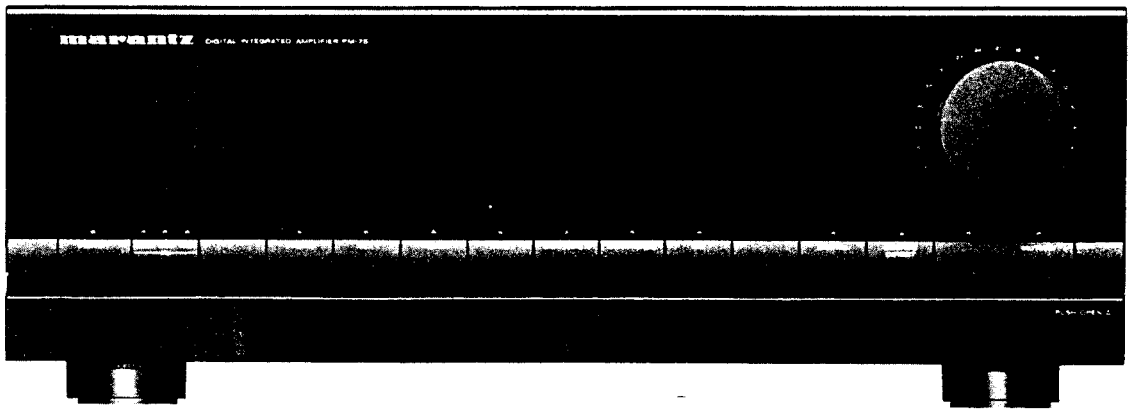
How to use this service manual

- The "Common parts" which Marantz Japan, Inc. has established are eliminated from this service manual.
- These "Common parts" are applied to all models in the service manuals arranged and issued by MJI.
- To indicate clearly the common parts in the schematic diagram, a line is drawn above or under the Ref. Desig. No. of applicable parts.
- "Common parts" can be supplied from the Marantz service center as ever.
  In case of ordering, please establish the parts number of 12 N/C'S following the procedure mentioned in this service manual "How to establish the parts number for common parts".

1) Please correctly write the parts number of 12 N/C'S following the rule.

MODEL PM-75 DIGITAL INTEGRATED AMPLIFIER



1. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model PM-75 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. **Tone/Loudness/ Balance ..... mounted on P.W. Board PE01**
2. **Master Volume ..... mounted on P.W. Board PG01**
3. **Motor Volume ..... mounted on P.W. Board PG51**
4. **Tape IN/OUT ..... mounted on P.W. Board PJ01**
5. **Micom ..... mounted on P.W. Board PU01**
6. **Rec Selecter ..... mounted on P.W. Board PU81**
7. **Phono Amp/Input .. mounted on P.W. Board PV01**
8. **Speaker Terminal .. mounted on P.W. Board PW01**
9. **Headphone/Speaker Switch ..... mounted on P.W. Board PW51**
10. **D/A Converter IN/OUT ..... mounted on P.W. Board P101**
11. **D/A Converter PLL ..... mounted on P.W. Board P201**
12. **D/A Converter FS IND ..... mounted on P.W. Board P271**
13. **Main Amp ..... mounted on P.W. Board P701**
14. **Power Transformer ..... mounted on P.W. Board P851**
15. **Power Switch ..... mounted on P.W. Board P901**
16. **Power Transformer ..... mounted on P.W. Board P951**

2. ADJUSTMENT PROCEDURE (MAIN IDLING CURRENT)

1. Places for adjustment
   Left channel — R751 (470 Ω)
   Right channel — R752 (470 Ω)
2. Measuring points
   Left channel — TP-1 (−) TP-2 (+)
   Right channel — TP-3 (−) TP-4 (+)
3. Steps

(1) Connect a DC digital voltmeter to the test points. (Perform with the variable resistor set at minimum, no load, and the rated power supply voltage.)

(2) Apply 6 mV to 8 mV between TP-1 and TP-2, TP-3 and TP-4 (center value 7 mV).
An idling current of 16.7 mA to 22.2 mA will flow at this time.
The current will be approximately 19.4 mA when stabilized.

CAUTION: Conduct with the rated voltage, without gradually increasing the primary side power supply voltage (to prevent malfunction).
Let set for about 1 minute after turning the power on before adjusting.

3. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model PM-75 Stereo Amplifier.

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 alignment
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 (0 to 140V AC, 10A)	Adjust level of primery power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

4. NON CUT-OFF CIRCUIT

A. Outline of Operation

Fig. 1 shows the configuration of the Power stage of the non cut-off circuit. The section enclosed by dotted lines corresponds to the bias circuit.

1. A1 and A2 detect the current variation in the Power stage, and apply the input, in the form of current, to the VB1 and VB2.
2. VB1 and VB2 receive the current output from A1 and A2, and convert the current into voltage in order to vary the base bias voltage of the Power stage.
3. Q717 is a constant-voltage circuit which sets the idle current in the Power stage and performs the temperature compensation.

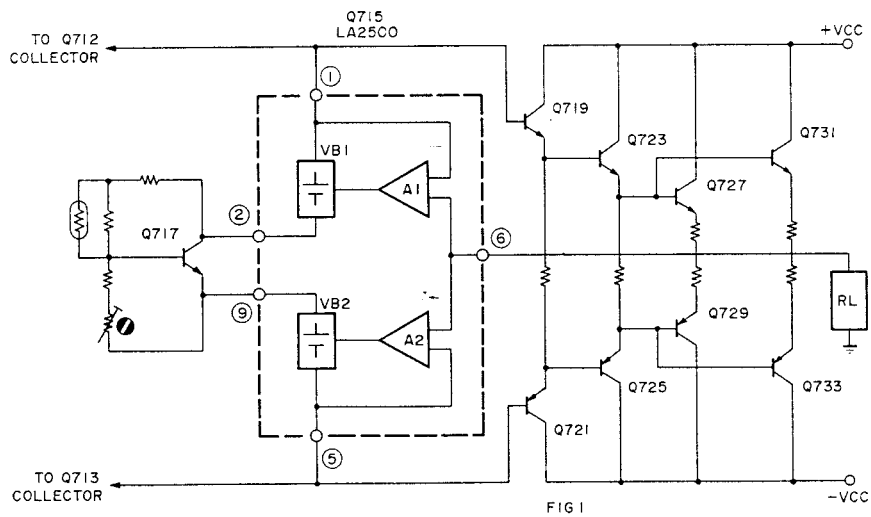


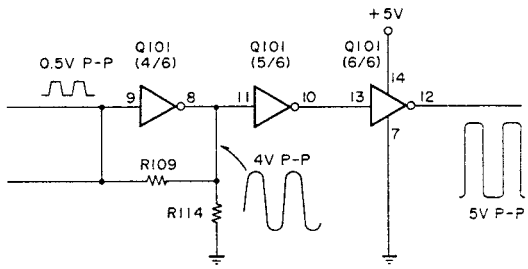
FIG 1

5. DESCRIPTION OF DIGITAL CIRCUIT OPERATIONS

5.1 INPUT CIRCUIT

Q101 (1/6 to 6/6) and Q102 (4/6 to 6/6) make up a circuit which amplifies the 0.5 Vp-p digital signal level to the TTL level of 5 Vp-p and shapes the waveform. The amplifier in the first stage amplifies the signal up to about 4 Vp-p, and the inverter of the second and third stages shapes the waveform and sends the output to the following input selector circuit.

Q103 to Q105 form an input selector circuit using a NAND gate, which is controlled by the μ-COM PU01. The selected signal with the level of 5 Vp-p is sent to the demodulator circuit in the next stage. On the other hand, the selected source signal is also sent to the REC OUT jack. The output at the REC OUT jack is 0.5 Vp-p/75 ohms, so the level with no load is 1 Vp-p.



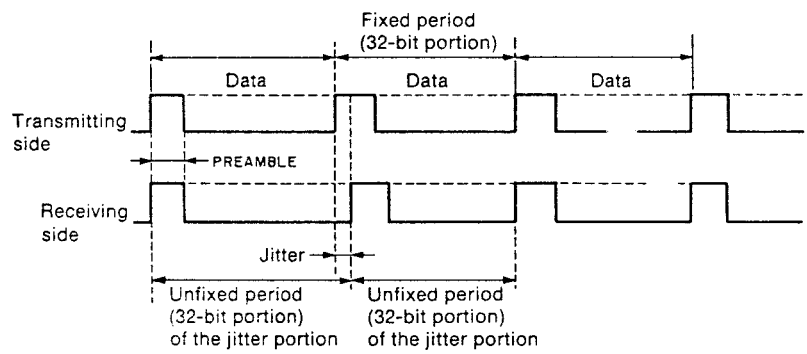
5.2 DEMODULATOR CIRCUIT

The demodulator (Q201) receives and reproduces the digital audio interface format signal. It incorporates a PLL circuit which is synchronized with the externally-supplied digital audio interface format signal. Therefore, the sampling frequency is automatically set according to the input.

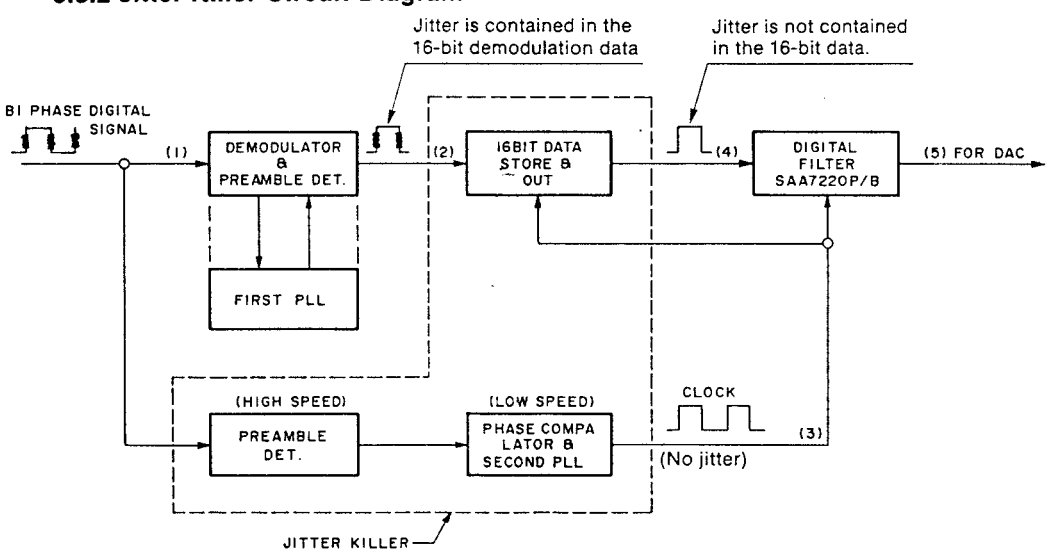
5.3 JITTER KILLER CIRCUIT

This circuit absorbs jitter (a wavering of the time axis, or a type of shifting distortion) which is generated in the optical transmission system.
The circuit utilizes a twin PLL system with memory. In particular, this circuit is effective in improving the distortion factor in the high region.

5.3.1



5.3.2 Jitter Killer Circuit Diagram



5.4 DIGITAL FILTER

The digital filter (Q222) handles the following functions.

1. Data interpolation in case of error.
2. Attenuation.
3. Muting.
4. Finite impulse response transversal filtering with quadruple oversampling rate.
5. Digital analog output.

5.5 DAC (Q112)

This is a 16-bit dual digital-to-analog converter.

5.6 I/V CONVERTER

— Q115 is the I/V converter, which inputs digital signal of the standard input level (0.5 Vp-p) and outputs an analog output voltage of 2 Vrms at point (A).

— Q113 is the de-emphasis ON/OFF switch which is controlled by Q201.

	Q201 Pin 16 (DEF) Out
a When input data is emphasized	H
b When input data is not emphasized	L

—Twin PLL System with Memory—

In terms of sound quality, the PLL has good slow-speed (narrow bandwidth) characteristics, and good high-speed (wide bandwidth) characteristics from the point of the decoder response, presenting a reciprocal relationship. To deal with this situation, two PLL systems are established, a high-speed type and a slow-speed type. The decoder is controlled by the clock that has a lot of jitter, which has been produced by the high-speed PLL (1st PLL). The digital filter which is highly susceptible to sound quality and the DAC are controlled by the clock that has a small amount of jitter produced by the slow-speed PLL (2nd PLL). Note that the clock of the DAC is not directly supplied from the slow-speed PLL, rather, the supply is from the digital filter.
As a method of increasing the jitter margin, the word memory, which consists of a 16-bit shift register, is arranged in front of the digital filter. Data containing jitter which is sent from the decoder is stored in this memory at once. When a one-word portion (16 bits) of data has accumulated, it is read by the clock that has a small amount of jitter (produced by the slow-speed 2nd PLL) and sent to the digital filter. All this is to say that the jitter contained in the data is absorbed by storing the jitter-containing data to memory by the word unit. Note that this circuit structure is the same as CD-12LE of the high end separate CD.

—Circuit Operation—

1. Preamble Detector (Q213-1/4 to 4/4 and Q220-1/2, 2/2)
   This circuit detects the head signal occurring with each sample of 16-bit data and outputs it to the phase comparator (Q221) as a sync signal. The frequency is 88.2 kHz for 44.1 kHz sampling.
2. Second PLL (Low Speed)
   This circuit is made up of phase comparator (Q221), low pass filter (Q229 and Q230) used for band control, VCO (Q231) which changes the oscillation frequency by means of the output voltage from the LPF, and frequency demultiplier (Q226-1/2, 2/2) which performs division (by 1/128) while accurately adjusting the duty cycle to 50%.
   Concerning the basic operation of the circuit, first, the VCO oscillates at the previously set free-running frequency. Next, this frequency is divided by the demultiplier and the phase of the resultant signal is compared with the phase of the receive data sync signal by the phase comparator. A voltage corresponding to the phase difference is produced and fed back to the VCO via the LPF, and the oscillation frequency is changed in the direction that decreases the phase difference. In a short time, the frequency and the phase of the demultiplied signal become roughly equal to the input sync signal and they are locked in this condition. The receive data and the synchronized master clock (11.2896 MHz) pass through the output of the VCO and the NAND gate IC (Q223-3/4) and are then output to the digital filter.

SERVICE INFORMATION

1. Function Initialize (Initial setting)

INPUT SELECTOR — CD
DIGITAL — OFF (ANALOGUE)
SOURCE DIRECT — OFF (TONE IN)
MUTING — OFF

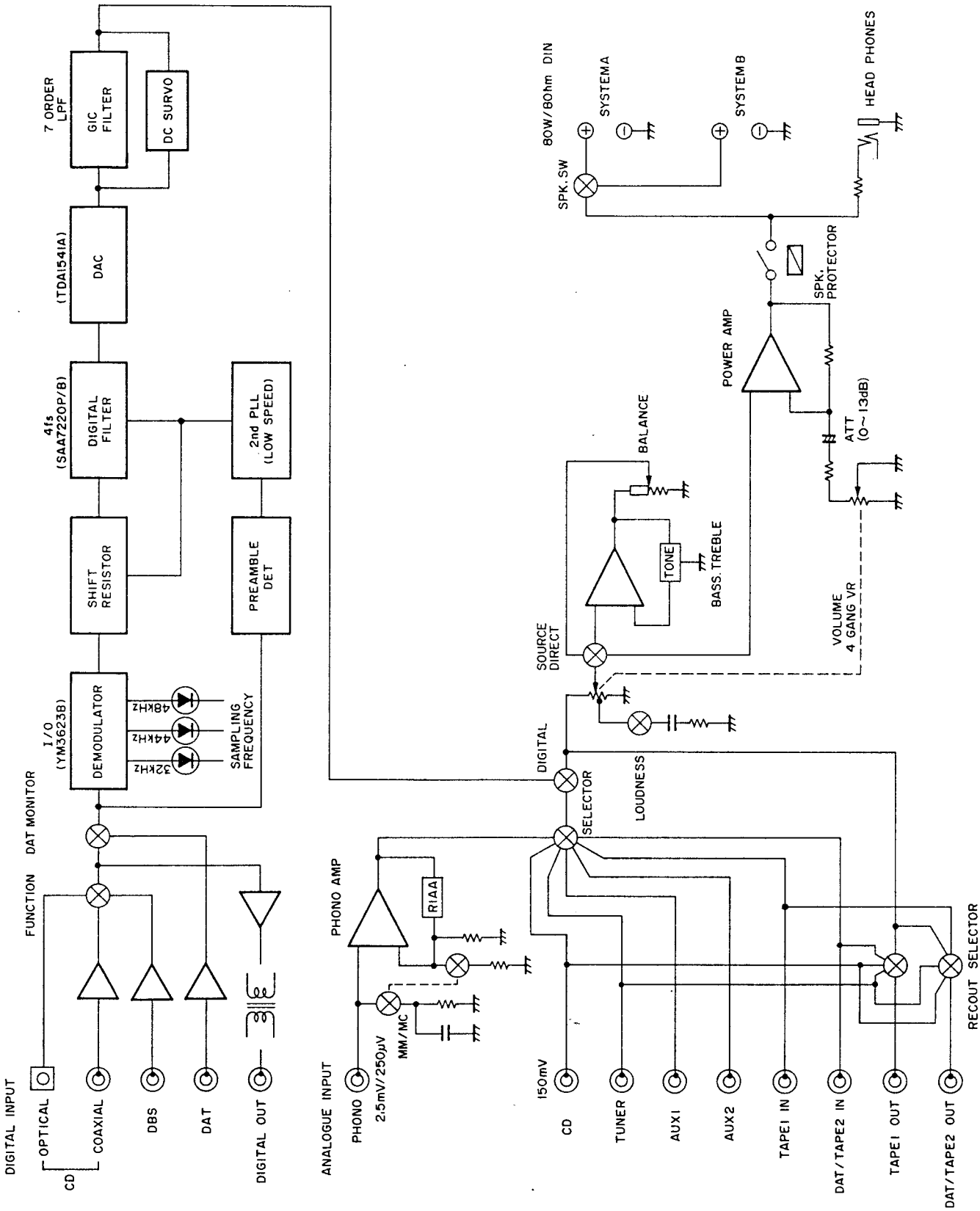
2. SERVICE TEST PROGRAM

2-1. When the POWER is turned ON while pressing the PHONO, AUX 1 and AUX 2 keys simultaneously, the unit enters the test routine. Then, the speaker relay will be turned ON after 5 seconds.
During this period, the volume level will automatically be lowered if the level is raised.

2-2. Then, press the CD, TUNER and TAPE 2 keys simultaneously to start test routine. The contents of the test routine is as shown below, and is performed repeatedly.
   1) The PHONO, AUX 1, AUX 2, TAPE 1, TAPE 2, TUNER, CD, DIGITAL, DIRECT and MUTING indicators are all lit twice. The setting of the SELECTOR switch is CD at this time.
   2) In the above order, the indicator and switch for each function will be changed in sequence, then all indicators will go out.
   3) About 5 seconds later, MUTING is turned ON and OFF, then test program is returned to step 1), and performed repeatedly.

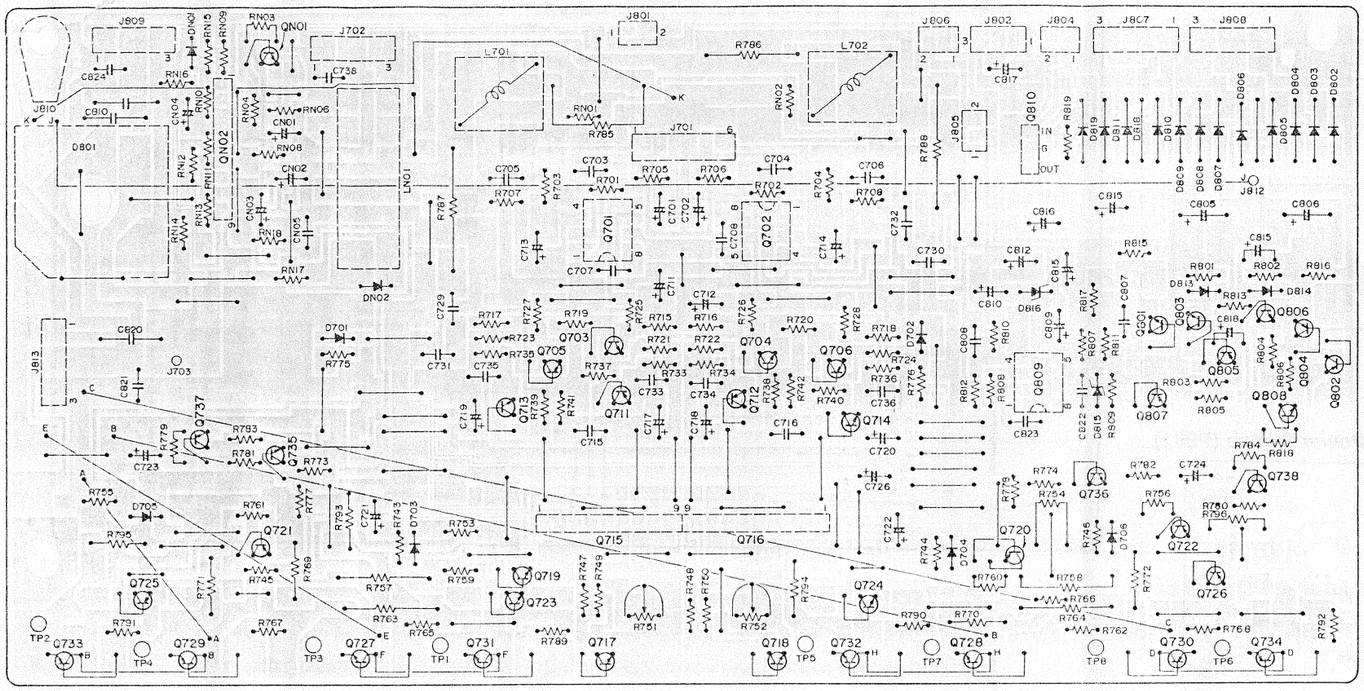
2-3. To release the test routine, press the DIRECT and MUTING keys simultaneously.

6. BLOCK DIAGRAM

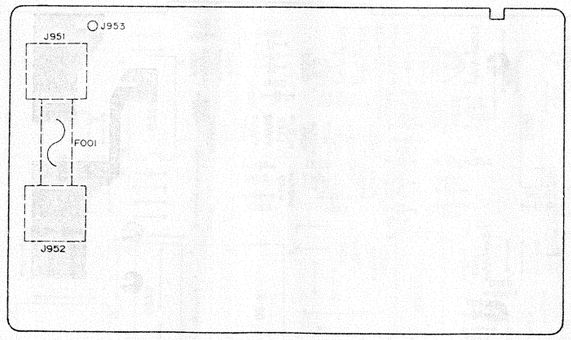


7. PARTS LOCATIONS (Pattern Side)

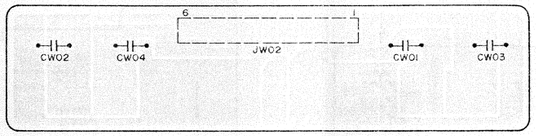
7.1 Main Amp (P701)



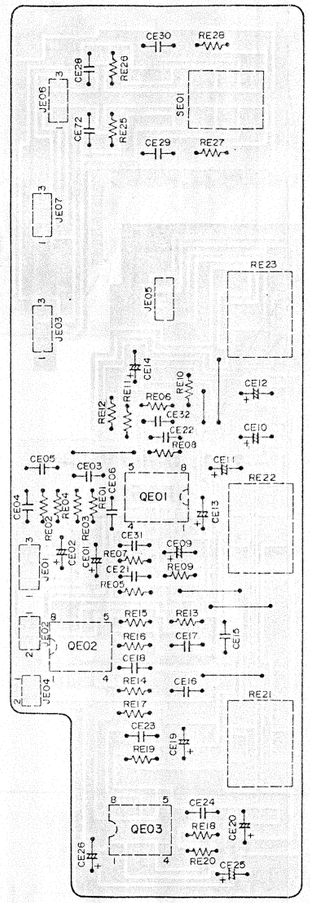
7.2 Power Transformer (P951)



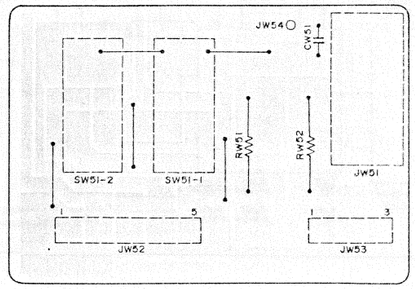
7.3 Speaker Terminal (PW01)



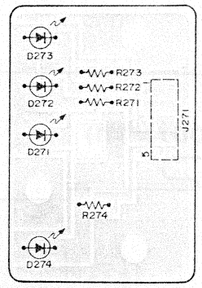
7.4 Tone/Loudness/ Balance Supply (PE01)



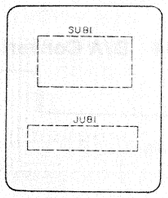
7.5 Headphone/Speaker Switch (PW51)



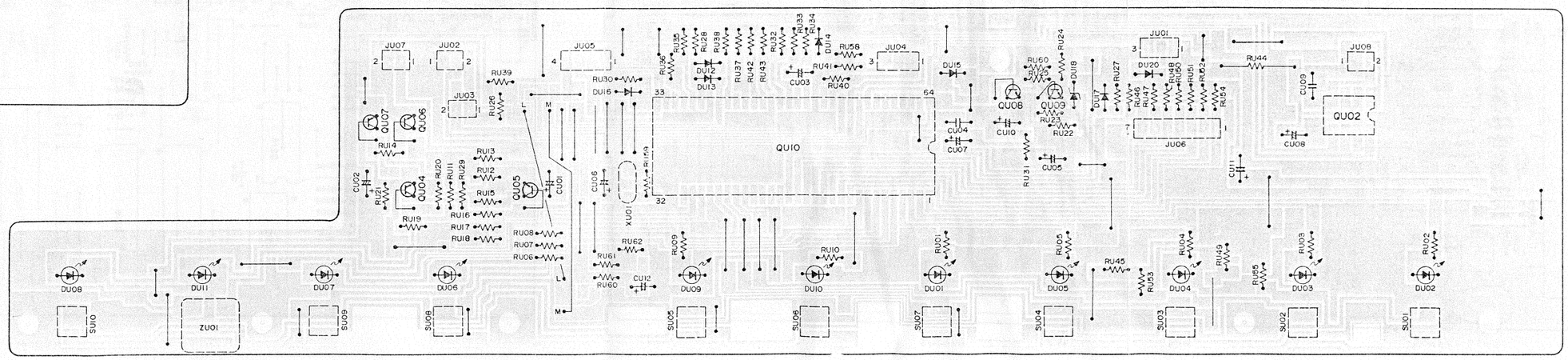
7.6 D/A Converter FS IND (P271)



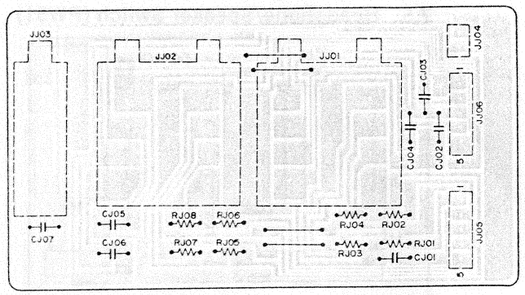
7.7 Rec Selector (PU81)



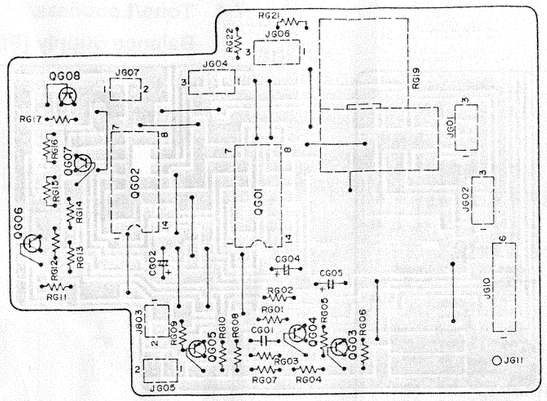
7.8 Micon (PU01)



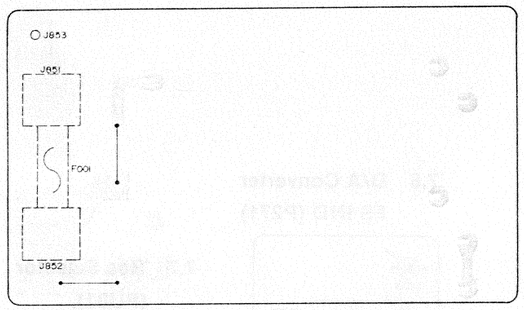
7.9 Tape IN/OUT (PJ01)



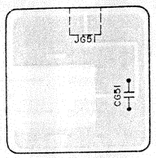
7.10 Master Volume (PG01)



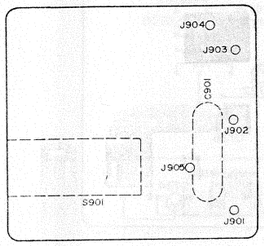
7.11 Power Transformer (P851)



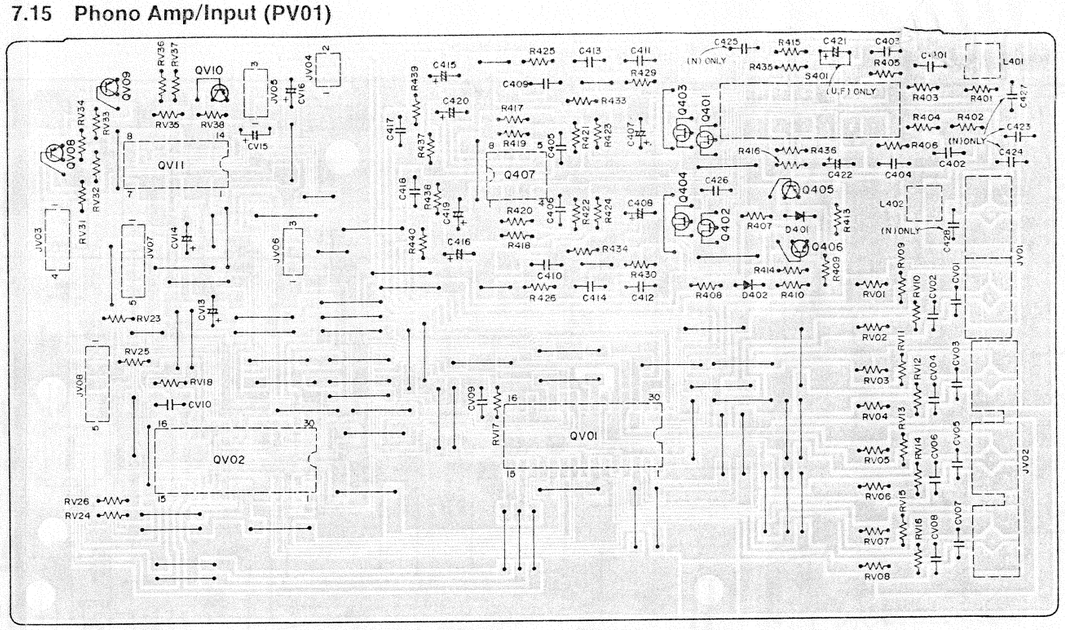
7.12 Motor Volume (PG51)



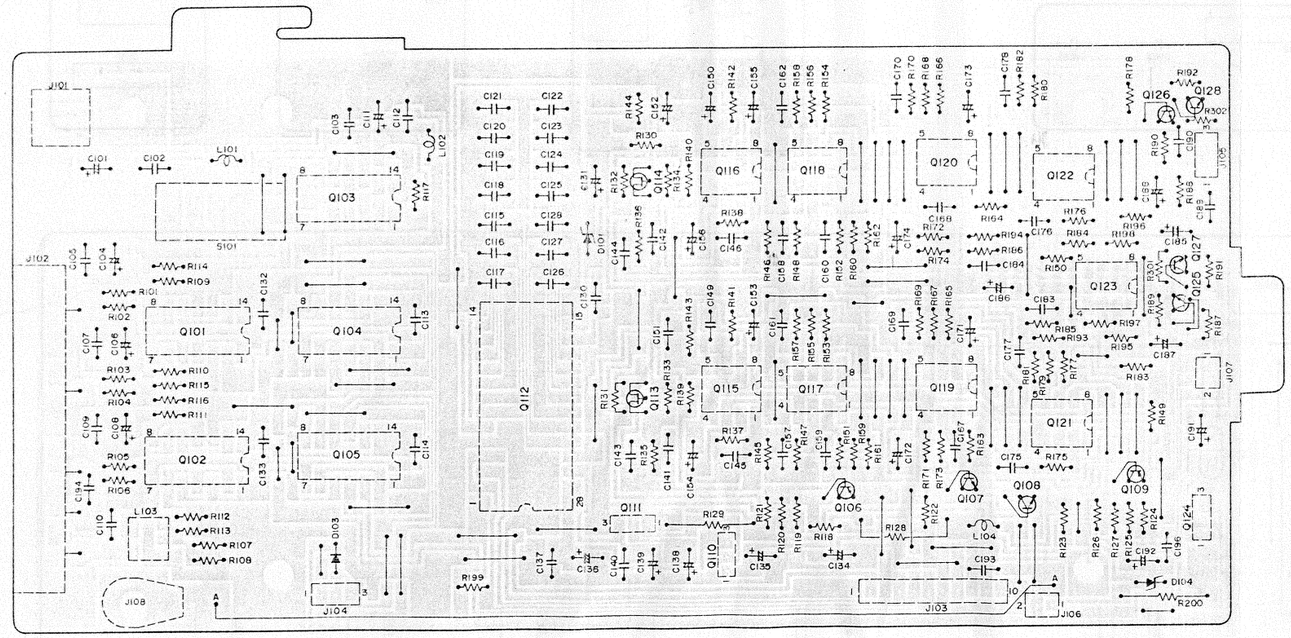
7.13 Power Switch (P901)



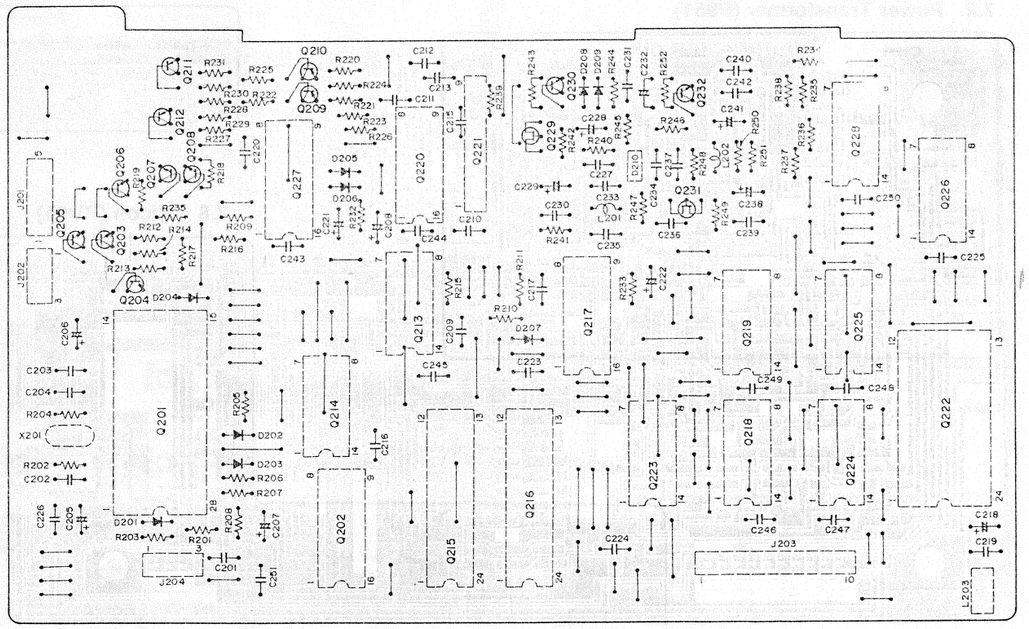
7.15 Phono Amp/Input (PV01)



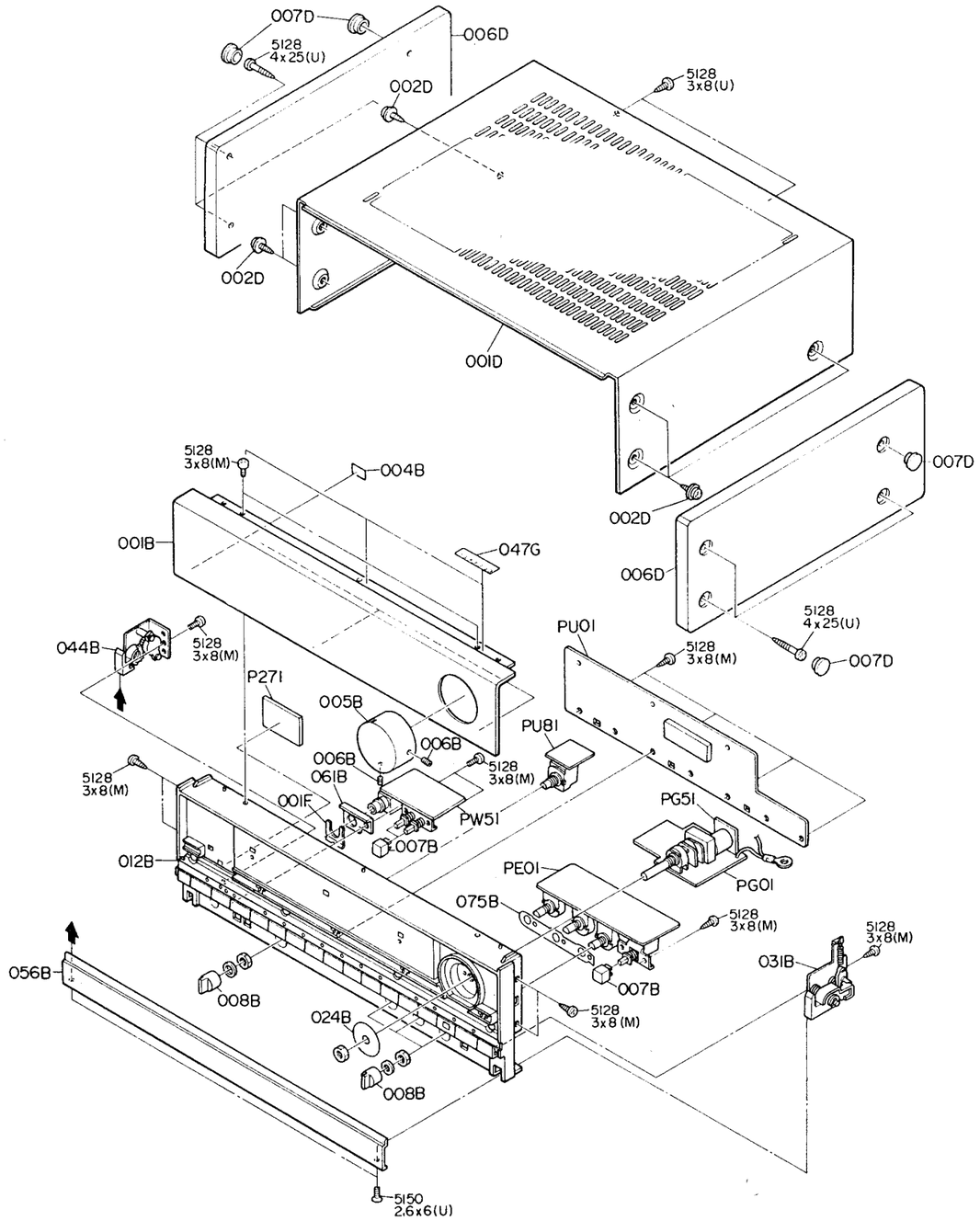
7.14 D/A Converter IN/OUT (P101)



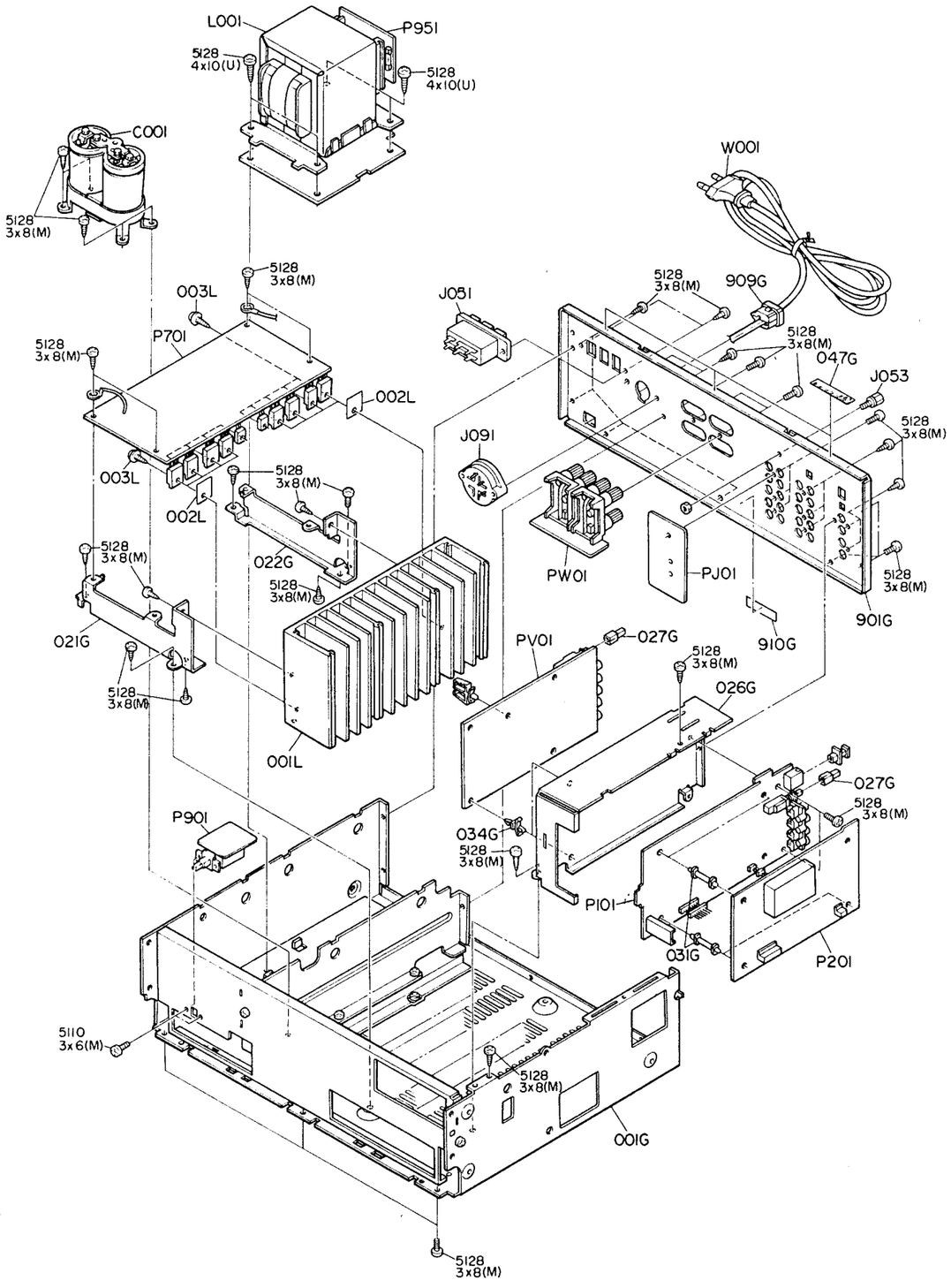
7.16 D/A Converter PLL (P201)



8. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 443 40738	Front Panel Assembly
007B	4822 410 26801	Button, Speaker/Loudness
008B	4822 413 41477	Knob, Rec/Tone/Balance
012B	4822 464 50747	Chassis Assembly, Front
031B	4822 403 53631	Arm (R) Assembly, Door
044B	4822 403 53632	Arm (L) Assembly, Door
056B	4822 459 80473	Escutcheon, Door
001D	4822 443 40739	Lid, Top Cover
002D	4822 532 11276	B.T. Screw B4 x 8
001F	4822 462 41037	Stopper, Phone Jack
001T	4822 736 20085	User Manual



REF. DESIG.	PART NO.	DESCRIPTION
027G	4822 412 20506	Knob, OPT-COAX/MM-MC
047G	4822 535 71084	Spacer
901G	4822 443 51141	Rear Panel [N]
	4822 443 51142	Rear Panel [A, W]
003L	4822 502 12512	B.T. Screw B3 x 12
⚠ C001	4822 124 22692	Elect Cap. 1500μF 63V
⚠ J051	4822 267 30797	Jack, AC Outlet [E]
J053	4822 266 30288	Terminal, GND
⚠ L001	4822 146 21377	Power Transformer
⚠ J091	4822 272 10236	Voltage Selector [A, N, W]
	4822 272 10227	Voltage Selector [E]

REF. DESIG.	PART NO.	DESCRIPTION
		PG01-MISCELLANEOUS
JG01	4822 265 10078	Plug, 3P
JG02	4822 265 10078	Plug, 3P
JG03	4822 265 30641	Plug, 2P
JG04	4822 265 10078	Plug, 3P
JG05	4822 265 30641	Plug, 2P
JG06	4822 265 10078	Plug, 3P
JG07	4822 265 30641	Plug, 2P
JG10	4822 265 30473	Plug, 5P
		PG51-MOTOR VOLUME CIRCUIT BOARD
CG51	4822 122 40491	Ceramic Cap. 0.022μF +80% −20%
JG51	4822 265 30641	Plug, 2P
		PJ01-TAPE IN/OUT CIRCUIT BOARD
CJ01	4822 122 32486	Ceramic Cap. 0.01μF +80% −20%
CJ02	4822 122 32486	Ceramic Cap. 0.01μF +80% −20%
CJ03	4822 122 40617	Ceramic Cap. 0.1μF +80% −20%
JJ01	4822 265 30512	Terminal, 4P; RCA
JJ02	4822 265 30512	Terminal, 4P; RCA
JJ03	4822 266 30236	Terminal, 2P; RCA
		PU01-MICOM CIRCUIT BOARD
		PU01-CAPACITORS
CU01	4822 124 41543	Elect 1μF 50V
CU02	4822 124 90359	Elect 10μF 16V
CU04	4822 122 40491	Ceramic 0.022μF +80% −20%
CU05	4822 124 41592	Elect, Big 0.1F
CU06	4822 124 22274	Elect 4.7μF 50V
CU07	4822 124 41543	Elect 1μF 50V
CU08	4822 124 90352	Elect 10μF 16V
CU09	4822 122 40491	Ceramic 0.022μF +80% −20%
CU10	4822 124 90353	Elect 100μF 10V
CU11	4822 124 22694	Elect 1000μF 6.3V
CU12	4822 124 22273	Elect 0.47μF 50V
		PU01-RESISTORS
⚠RU44	4822 116 60362	68Ω ±5% 1W
		PU01-SEMICONDUCTORS
DU01 ~ DU11	4822 130 80326	L.E.D. CT3D8B
DU12	4822 130 33305	Diode 1SS176, etc.
DU13	4822 130 33305	Diode 1SS176, etc.
DU15	4822 130 80839	Diode S5688G
DU17	4822 130 33305	Diode 1SS176, etc.
DU18	4822 130 80316	Zener 3.6V
DU20	4822 130 80839	Diode S5688G
QU01	4822 209 73259	Microprocessor LC6554H
QU02	4822 209 73287	IC LB1630
QU04	4822 130 60107	Transistor 2SA1048(Y, GR)
QU05	4822 130 60839	Transistor 2SC2458(Y, GR)
QU06	4822 130 60839	Transistor 2SC2458(Y, GR)
QU07	4822 130 60107	Transistor 2SA1048(Y, GR)
QU08	4822 130 60839	Transistor 2SC2458(Y, GR)
QU09	4822 130 60839	Transistor 2SC2458(Y, GR)
QU10	4822 130 60839	Transistor 2SC2458(Y, GR)

REF. DESIG.	PART NO.	DESCRIPTION
		PU01-MISCELLANEOUS
JU03	4822 265 30641	Plug, 2P
SU01 ~ SU10	4822 276 12455	Push Switch, Tact
XU01	4822 242 72221	Ceramic Vibrator, CST4.00MT
ZU01	4822 130 10009	Photo Unit
		PU81-REC SELECTOR CIRCUIT BOARD
SU81	4822 273 80336	Rotary Switch, Rec Selector
		PV01-PHONO AMP/INPUT CIRCUIT BOARD
		PV01-CAPACITORS
CV01 ~ CV08	4822 122 32486	Ceramic 0.01μF +80% −20%
CV13	4822 124 22274	Elect 4.7μF 50V
CV14	4822 124 22274	Elect 4.7μF 50V
CV15	4822 124 22274	Elect 4.7μF 50V
CV16	4822 124 22274	Elect 4.7μF 50V
C401	4822 121 42894	Film 150pF ±5% [A,E,W]
C402	4822 121 42894	Film 150pF ±5% [A,E,W]
C407	4822 124 22279	Elect 2200μF 6.3V
C408	4822 124 22279	Elect 2200μF 6.3V
C415	4822 124 22571	Elect 10μF 50V
C416	4822 124 22571	Elect 10μF 50V
C419	4822 124 22274	Elect 4.7μF 50V
C420	4822 124 22274	Elect 4.7μF 50V
C421	4822 124 22278	Elect 51μF 10V
C422	4822 124 22278	Elect 51μF 10V
		PV01-SEMICONDUCTORS
D401	4822 130 33305	Diode 1SS176, etc.
D402	4822 130 33305	Diode 1SS176, etc.
QV01	4822 209 72357	IC LC7821
QV02	4822 209 72357	IC LC7821
QV08	4822 130 60839	Transistor 2SC2458(Y, GR)
QV09	4822 130 60107	Transistor 2SA1048(Y, GR)
QV10	4822 130 60107	Transistor 2SA1048(Y, GR)
QV11	4822 209 83804	IC LC4966
Q401 ~ Q404	4822 130 42839	F.E.T. 2SK369(BL)
Q405	4822 130 43233	Transistor 2SC2240(GR, BL)
Q406	4822 130 43233	Transistor 2SC2240(GR, BL)
Q407	4822 209 73064	IC NJM2068DD
		PV01-MISCELLANEOUS
JV01	4822 267 20348	Terminal, 4P; RCA
JV02	4822 266 30285	Terminal, 6P; RCA
JV04	4822 265 30641	Plug, 2P
JV05	4822 265 10078	Plug, 3P
JV06	4822 265 10078	Plug, 3P

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05 --- 140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05 --- 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	1MkΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MkΩ...475

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

C***: CERAMIC CAP.
(1) DD1 --- 370, Ceramic condenser
Disc type
①② Temp. coeff. P350 ~ N1000, 50V
② — Capacity value
① — 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 --- 300, High dielectric constant ceramic condenser
Disc type
① Temp. chara. 2B4, 50V
② — Capacity value

Example
② Capacity value

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

C***: ELECTROLY CAP. (⫩), FILM CAP. (⫦)
(1) EA ------ 10, Electrolytic condenser
One-way lead type, Tolerance ±20%
①② Dielectric strength
② — 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 --- 350, Plastic film condenser
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	

9. ELECTRICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
		PE01-TONE/LOUDNESS/ BALANCE CIRCUIT BOARD
		PE01-CAPACITORS
CE01	4822 124 22571	Elect 10μF 50V
CE02	4822 124 22571	Elect 10μF 50V
CE03	4822 121 42712	Film 100pF ±5%
CE09	4822 124 22276	Elect 47μF 50V
CE10	4822 124 22276	Elect 47μF 50V
CE11	4822 124 22698	Elect 47μF 25V
CE12	4822 124 22698	Elect 47μF 25V
CE13	4822 124 22571	Elect 10μF 50V
CE14	4822 124 22571	Elect 10μF 50V
CE17	4822 121 51348	Film 56pF ±10%
CE18	4822 121 51348	Film 56pF ±10%
CE19	4822 124 22696	Elect 3.3μF 50V
CE20	4822 124 22696	Elect 3.3μF 50V
CE21	4822 122 32143	Ceramic 22pF ±5%
CE22	4822 122 32143	Ceramic 22pF ±5%
CE25	4822 124 22274	Elect 4.7μF 50V
CE26	4822 124 22274	Elect 4.7μF 50V
CE27	4822 121 42872	Film 1000pF ±5%
CE28	4822 121 42872	Film 1000pF ±5%
		PE01-RESISTORS
RE21	4822 101 30574	20KΩ, Variable; Bass
RE22	4822 101 30574	20KΩ, Variable; Treble
RE23	4822 101 30575	50KΩ, Variable; Balance
		PE01-SEMICONDUCTORS
QE01	4822 209 83631	IC NJM4558D-D
QE02	4822 209 83631	IC NJM4558D-D
QE03	4822 209 83631	IC NJM4558D-D
		PE01-MISCELLANEOUS
JE01	4822 265 10078	Plug, 3P
JE02	4822 265 30641	Plug, 2P
JE03	4822 265 10078	Plug, 3P
JE04	4822 265 30641	Plug, 2P
JE05	4822 265 10078	Plug, 3P
JE06	4822 265 10078	Plug, 3P
JE07	4822 265 10078	Plug, 3P
SE01	4822 276 12504	Push Switch, Loudness
		PG01-MASTER VOLUME CIRCUIT BOARD
		PG01-CAPACITORS
CG02	4822 124 22274	Elect 4.7μF 50V
CG04	4822 124 22274	Elect 4.7μF 50V
CG05	4822 124 41543	Elect 1μF 50V
		PG01-RESISTORS
RG19	4822 101 30573	500Ω, 50KΩ(B) Motor; Variable
		PG01-SEMICONDUCTORS
QG01	4822 209 83804	IC LC4966
QG02	4822 209 83804	IC LC4966
QG03	4822 130 43819	Transistor 2SC2878(A)
QG04	4822 130 43819	Transistor 2SC2878(A)
QG05	4822 130 60107	Transistor 2SA1048(Y, GR)
QG06	4822 130 60839	Transistor 2SC2458(Y, GR)
QG07	4822 130 60107	Transistor 2SA1048(Y, GR)
QG08	4822 130 60107	Transistor 2SA1048(Y, GR)

REF. DESIG.	PART NO.	DESCRIPTION
L401	4822 156 11019	Choke Coil, 320μH [N]
L402	4822 156 11019	Choke Coil, 320μH [N]
S401	4822 276 20468	Push Switch, MC/MM
		PW01-SPEAKER TERMINAL CIRCUIT BOARD
JW01	4822 266 30323	Terminal, Speaker [N]
JW02	4822 265 20205	Plug, 3P
JW03	4822 265 20205	Plug, 3P
JW04	4822 265 10093	Jack, 3P
JW05	4822 265 10093	Jack, 3P
		PW51-HEADPHONE/SPEAKER SWITCH CIRCUIT BOARD
CW51	4822 122 40516	Ceramic Cap. 0.01μF +80% −20% [N]
RW51	4822 111 50474	Resistor 330Ω ±5% 1W
RW52	4822 111 50474	Resistor 330Ω ±5% 1W
JW51	4822 264 10132	Jack, Headphone (GLD)
	4822 267 30617	Jack, Headphone (BLK)
JW52	4822 265 10117	Plug, 5P
JW53	4822 265 20205	Plug, 3P
SW51	4822 276 20467	Push Switch
		P101-D/A CONVERTER IN/OUT CIRCUIT BOARD
		P101-CAPACITORS
C101	4822 124 22275	Elect 47μF 10V
C102	4822 122 40306	Ceramic 0.047μF +80% −20%
C103	4822 122 32143	Ceramic 22pF ±5%
C104	4822 124 22275	Elect 47μF 10V
C106	4822 124 22275	Elect 47μF 10V
C108	4822 124 22275	Elect 47μF 10V
C110	4822 122 40306	Ceramic 0.047μF +80% −20%
C111	4822 124 22275	Elect 47μF 10V
C112	4822 122 40306	Ceramic 0.047μF +80% −20%
C113	4822 122 40306	Ceramic 0.047μF +80% −20%
C114	4822 122 40306	Ceramic 0.047μF +80% −20%
C115 ≀ C128	4822 122 40617	Ceramic 0.1μF +80% −20%
C130	4822 121 42713	Film 680pF ±5%
C131	4822 124 41539	Elect 47μF 16V
C132	4822 122 40306	Ceramic 0.047μF +80% −20%
C133	4822 122 40306	Ceramic 0.047μF +80% −20%
C134	4822 124 90363	Elect 220μF 10V
C135	4822 124 41539	Elect 47μF 16V
C136	4822 124 22275	Elect 47μF 10V
C137	4822 122 40306	Ceramic 0.047μF +80% −20%
C138	4822 124 41539	Elect 47μF 16V
C139	4822 124 22275	Elect 47μF 10V
C140	4822 122 40306	Ceramic 0.047μF +80% −20%
C145	4822 121 42713	Film 6800pF ±5%
C146	4822 121 42713	Film 6800pF ±5%
C153	4822 124 22571	Elect 10μF 50V
C154	4822 124 22571	Elect 10μF 50V
C155	4822 124 22571	Elect 10μF 50V

REF. DESIG.	PART NO.	DESCRIPTION
C156	4822 124 22571	Elect 10μF 50V
C171	4822 124 22571	Elect 10μF 50V
C172	4822 124 22571	Elect 10μF 50V
C173	4822 124 22571	Elect 10μF 50V
C174	4822 124 22571	Elect 10μF 50V
C185	4822 124 22571	Elect 10μF 50V
C186	4822 124 22571	Elect 10μF 50V
C187	4822 124 22571	Elect 10μF 50V
C188	4822 124 22571	Elect 10μF 50V
C189	4822 121 42738	Film 820pF ±5%
C190	4822 121 42738	Film 820pF ±5%
C191	4822 124 90371	Elect 470μF 10V
C193	4822 122 40306	Ceramic 0.047μF +80% −20%
C194	4822 122 40617	Ceramic 0.01μF +80% −20%
C196	4822 122 40516	Ceramic 0.01μF +80% −20%
		P101-RESISTORS
⚠R128	4822 116 60246	220Ω ±5% 1W
⚠R129	4822 116 60246	220Ω ±5% 1W
⚠R130	4822 115 90314	68Ω ±2% ¼W
		P101-SEMICONDUCTORS
D101	4822 130 80322	Zener NTJ15B
D104	4822 130 80132	Zener 3.9V
Q101	4822 209 72323	IC TC74HCU04P
Q102	4822 209 72323	IC TC74HCU04P
Q103	4822 209 72322	IC TC74HC00P
Q104	4822 209 72322	IC TC74HC00P
Q105	4822 209 72322	IC TC74HC00P
Q106	4822 130 42591	Transistor 2SA1175(FF, EF)
Q107	4822 130 60839	Transistor 2SC2458(Y, GR)
Q108	4822 130 60839	Transistor 2SC2458(Y, GR)
Q109	4822 130 42591	Transistor 2SA1175(FF, EF)
⚠Q110	4822 209 70082	IC NJM78L05A
⚠Q111	4822 209 83825	IC NJM79L05A
Q112	4822 209 72969	IC TDA1541A/N2
Q113	4822 130 42842	F.E.T. 2SK372(GR, BL)
Q114	4822 130 42842	F.E.T. 2SK372(GR, BL)
Q115	4822 209 73064	IC NJM2068DD
Q116	4822 209 73064	IC NJM2068DD
Q117 ≀ Q122	4822 209 83274	IC NJM4560D-D
Q123	4822 209 73064	IC NJM2068DD
⚠Q124	4822 209 83824	IC NJM7805FA
Q125	4822 130 43819	Transistor 2SC2878(A)
Q126	4822 130 43819	Transistor 2SC2878(A)
Q127	4822 130 43819	Transistor 2SC2878(A)
Q128	4822 130 43819	Transistor 2SC2878(A)
		P101-MISCELLANEOUS
J101	4822 264 30217	Jack, OPT Connector
J102	4822 266 30324	Terminal, Digital Input
J105	4822 265 10078	Plug, 3P
J106	4822 265 30641	Plug, 2P
J107	4822 265 30641	Plug, 2P
L101	4822 157 53801	Choke Coil, 47μH
L102	4822 157 53801	Choke Coil, 47μH
L103	4822 142 60388	Pulse Transformer
L104	4822 157 53801	Choke Coil, 47μH
S101	4822 276 20458	Push Switch

REF. DESIG.	PART NO.	DESCRIPTION		
		P201-D/A CONVERTER PLL CIRCUIT BOARD		
		P201-CAPACITORS		
C201	4822 122 32143	Ceramic	22pF	±5%
C203	4822 122 32143	Ceramic	22pF	±5%
C204	4822 122 32143	Ceramic	22pF	±5%
C205	4822 124 90352	Elect	10μF	16V
C206	4822 124 41543	Elect	1μF	50V
C207	4822 124 22273	Elect	0.47μF	50V
C208	4822 124 22273	Elect	0.47μF	50V
C209	4822 122 33656	Ceramic	39pF	±5%
C210	4822 122 33657	Ceramic	56pF	±5%
C211	4822 121 42713	Film	680pF	±5%
C212	4822 122 32143	Ceramic	22pF	±5%
C213	4822 122 32143	Ceramic	22pF	±5%
C215	4822 122 40306	Ceramic	0.047μF	+80% −20%
C216	4822 122 40306	Ceramic	0.047μF	+80% −20%
C217	4822 121 51382	Film	560pF	±5%
C218	4822 124 90352	Elect	10μF	16V
C219	4822 122 40306	Ceramic	0.047μF	+80% −20%
C221	4822 124 41543	Elect	1μF	50V
C222	4822 124 90357	Elect	2.2μF	50V
C223	4822 122 40306	Ceramic	0.047μF	+80% −20%
C224	4822 122 40306	Ceramic	0.047μF	+80% −20%
C225	4822 122 40306	Ceramic	0.047μF	+80% −20%
C226	4822 122 40306	Ceramic	0.047μF	+80% −20%
C228	4822 124 41539	Elect	47μF	16V
C229	4822 124 22698	Elect	47μF	25V
C230	4822 122 40617	Ceramic	0.1μF	+80% −20%
C232	4822 124 41543	Elect	1μF	50V
C233	4822 121 42713	Film	680pF	±5%
C234	4822 122 32143	Ceramic	22pF	±5%
C238	4822 124 41543	Elect	1μF	50V
C239	4822 122 40617	Ceramic	0.1μF	+80% −20%
C240	4822 122 32832	Ceramic	1000pF	+80% −20%
C241	4822 124 41543	Elect	1μF	50V
C242	4822 122 32486	Ceramic	0.01μF	+80% −20%
C243	4822 122 40306	Ceramic	0.047μF	+80% −20%
C244	4822 122 32486	Ceramic	0.01μF	+80% −20%
C245 ~ C251	4822 122 40306	Ceramic	0.047μF	+80% −20%
		P201-RESISTORS		
R200	4822 116 60321	1Ω	±5%	1W
R220	4822 116 80251	100KΩ	±1%	1/6W
R221	4822 116 80959	7.5KΩ	±1%	1/6W
R223	4822 116 80958	20KΩ	±1%	1/6W
R224	4822 116 80957	13.3KΩ	±1%	1/6W
⚠R251	4822 115 90314	68Ω	±2%	¼W
		P201-SEMICONDUCTORS		
D201 ~ D207	4822 130 33305	Diode	1SS176, etc.	
D208	4822 130 80302	Varistor	MA27A	
D209	4822 130 80302	Varistor	MA27A	
D210	4822 130 31542	Varicap	SVC321SP	

REF. DESIG.	PART NO.	DESCRIPTION	
Q201	4822 209 73668	IC	YM3623B
Q202	4822 209 11767	IC	4555
Q203 ~ Q208	4822 130 60839	Transistor	2SC2458(Y, GR)
Q209	4822 130 42591	Transistor	2SA1175(FF, EF)
Q210	4822 130 42591	Transistor	2SA1175(FF, EF)
Q211	4822 130 42591	Transistor	2SA1175(FF, EF)
Q212	4822 130 42591	Transistor	2SA1175(FF, EF)
Q213	4822 209 73676	IC	TC74HC86P
Q214	4822 209 72322	IC	TC74HC00P
Q215	4822 209 73679	IC	HD74HC673
Q216	4822 209 73681	IC	HD74HC674
Q217	4822 209 73677	IC	TC74HC123P
Q218	4822 209 72333	IC	TC74HC74P
Q219	4822 209 72333	IC	TC74HC74P
Q220	4822 209 73677	IC	TC74HC123P
Q221	4822 209 73671	IC	TC5081AP
Q222	4822 209 72545	IC	SAA7220P/B
Q223	4822 209 73675	IC	TC74HC08P
Q224	4822 209 72333	IC	TC74HC74P
Q225	4822 209 72333	IC	TC74HC74P
Q226	4822 209 73678	IC	TC74HC393P
Q227	4822 209 73677	IC	TC74HC123P
Q228	4822 209 72323	IC	TC74HCU04P
Q229	4822 130 42842	F.E.T.	2SK372(GR, BL)
Q230	4822 130 60839	Transistor	2SC2458(Y, GR)
Q231	4822 130 61357	F.E.T.	2SK161(GR)
Q232	4822 130 60839	Transistor	2SC2458(Y, GR)
		P201-MISCELLANEOUS	
J202	4822 265 30639	Plug, 3P	
L201	4822 157 53799	Choke Coil, 1.5μH	
L202	4822 152 20662	Choke Coil, 150μH	
X201	4822 242 72334	Crystal, 16.9344MHz	
		P271-D/A CONVERTER FS IND. CIRCUIT BOARD	
D271	4822 130 80326	L.E.D.	LT3D8B
D272	4822 130 80326	L.E.D.	LT3D8B
D273	4822 130 80326	L.E.D.	LT3D8B
D274	4822 130 80326	L.E.D.	LT3D8B
		P701-MAIN AMP CIRCUIT BOARD	
		P701-CAPACITORS	
CN01	4822 124 22276	Elect	47μF 50V
CN02	4822 124 90361	Elect	22μF 25V
CN04	4822 124 41543	Elect	1μF 50V
CN05	4822 121 42708	Film	330pF ±5%
C701	4822 124 22571	Elect	10μF 50V
C702	4822 124 22571	Elect	10μF 50V
C703	4822 121 42712	Film	100pF ±5%
C704	4822 121 42712	Film	100pF ±5%
C705	4822 123 30077	Mica	15pF ±5%
C706	4822 123 30077	Mica	15pF ±5%
C707	4822 123 30088	Mica	10pF ±0.5pF
C711	4822 124 22571	Elect	10μF 50V
C712	4822 124 22571	Elect	10μF 50V
C713	4822 124 41541	Elect	470μF 35V

REF. DESIG.	PART NO.	DESCRIPTION
C714	4822 124 41541	Elect 470µF 35V
C715	4822 121 42708	Film 330pF ±5%
C716	4822 121 42708	Film 330pF ±5%
C717	4822 124 22693	Elect 10µF 63V
C718	4822 124 22693	Elect 10µF 63V
C719	4822 124 22693	Elect 10µF 63V
C720	4822 124 22693	Elect 10µF 63V
C721	4822 124 22693	Elect 10µF 63V
C722	4822 124 22693	Elect 10µF 63V
C723	4822 124 22693	Elect 10µF 63V
C724	4822 124 22273	Elect 10µF 63V
C733	4822 122 31205	Film 47pF ±5%
C734	4822 122 31205	Film 47pF ±5%
C735	4822 122 31205	Film 47pF ±5%
C736	4822 122 31205	Film 47pF ±5%
C738	4822 122 32486	Ceramic 0.01µF +80% −20%
C801	4822 122 40545	Ceramic 0.01µF ±10%
C802	4822 122 40545	Ceramic 0.01µF ±10%
C805	4822 124 22695	Elect 2200µF 35V
C806	4822 124 22695	Elect 2200µF 35V
C807	4822 121 42712	Film 100pF ±5%
C808	4822 121 42712	Film 100pF ±5%
C809	4822 124 90359	Elect 100µF 10V
C810	4822 124 90359	Elect 100µF 10V
C811	4822 124 41535	Elect 100µF 25V
C812	4822 124 41535	Elect 100µF 25V
C815	4822 124 22697	Elect 3300µF 10V
C816	4822 124 22275	Elect 47µF 10V
C817	4822 124 22275	Elect 47µF 10V
C818	4822 124 90361	Elect 22µF 25V
C819	4822 124 90361	Elect 22µF 25V
C820	4822 121 42643	Film 0.1µF 10%
C821	4822 121 42643	Film 0.1µF 10%
		P701-RESISTORS
RN17	4822 116 60416	1KΩ ±5% ¼W
⚠R743 ~ ⚠R746	4822 115 90198	33Ω, Fuse ±2% ¼W
R751	4822 100 11426	470Ω, Trimming
R752	4822 100 11426	470Ω, Trimming
⚠R753	4822 115 90166	10Ω ±2% ¼W
⚠R754	4822 115 90166	10Ω ±2% ¼W
⚠R755	4822 115 90166	10Ω ±2% ¼W
⚠R756	4822 115 90166	10Ω ±2% ¼W
R759 ~ R762	4822 111 91291	10Ω ±5% 1/6W
⚠R763	4822 116 60319	220Ω ±5% ½W
⚠R764	4822 116 60319	220Ω ±5% ½W

REF. DESIG.	PART NO.	DESCRIPTION
⚠R769	4822 116 80153	0.18Ω ±10% 5W
⚠R770	4822 116 80153	0.18Ω ±10% 5W
⚠R771	4822 116 80153	0.18Ω ±10% 5W
⚠R772	4822 116 80153	0.18Ω ±10% 5W
⚠R785	4822 116 60246	220Ω ±5% 1W
⚠R786	4822 116 60246	220Ω ±5% 1W
⚠R787	4822 111 90726	10Ω ±5% 2W
⚠R788	4822 111 90726	10Ω ±5% 2W
⚠R793	4822 116 80153	0.18Ω ±10% 5W
⚠R794	4822 116 80153	0.18Ω ±10% 5W
⚠R795	4822 116 80153	0.18Ω ±10% 5W
⚠R796	4822 116 80153	0.18Ω ±10% 5W
⚠R815	4822 116 52976	1Ω ±5% ¼W
⚠R816	4822 116 52976	1Ω ±5% ¼W
⚠R817	4822 116 60309	2.2Ω ±5% ¼W
⚠R818	4822 116 60309	2.2Ω ±5% ¼W
⚠R819	4822 116 60307	1Ω ±5% ¼W
		P701-SEMICONDUCTORS
DN01	4822 130 80837	Diode HSS81TD
DN02	4822 130 80837	Diode HSS81TD
D701	4822 130 80837	Diode HSS81TD
D702	4822 130 80837	Diode HSS81TD
⚠D801	4822 130 33132	Diode D5FB20
⚠D802 ~ ⚠D811	4822 130 32508	Diode RL103E, etc.
D813	4822 130 33305	Diode 1SS176, etc.
D814	4822 130 33305	Diode 1SS176, etc.
D815	4822 130 33948	Zener HZ6LA3
D816	4822 130 33948	Zener HZ6LA3
⚠D818	4822 130 32508	Diode RL103E, etc.
⚠D819	4822 130 32508	Diode RL103E, etc.
D820	4822 130 33305	Diode 1SS176, etc.
D821	4822 130 33305	Diode 1SS176, etc.
QN01	4822 130 60839	Transistor 2SC2458(Y, GR)
QN02	4822 209 83312	IC TA7317P
Q701	4822 209 73669	IC NJM5534DD
Q702	4822 209 73669	IC NJM5534DD
Q703	4822 130 43231	Transistor 2SC2240(GR)
Q704	4822 130 43231	Transistor 2SC2240(GR)
Q705	4822 130 42949	Transistor 2SA970(GR)
Q706	4822 130 42949	Transistor 2SA970(GR)
Q711	4822 130 42999	Transistor 2SA1145(O, Y)
Q712	4822 130 42999	Transistor 2SA1145(O, Y)
Q713	4822 130 43283	Transistor 2SC2705(O, Y)
Q714	4822 130 43283	Transistor 2SC2705(O, Y)
Q715	4822 209 73673	IC LA2500
Q716	4822 209 73673	IC LA2500
⚠Q717	4822 130 60117	Transistor 2SC3419(Y)
⚠Q718	4822 130 60117	Transistor 2SC3419(Y)
⚠Q719	4822 130 43283	Transistor 2SC2705(O, Y)
⚠Q720	4822 130 43283	Transistor 2SC2705(O, Y)
⚠Q721	4822 130 42999	Transistor 2SA1145(O, Y)
⚠Q722	4822 130 42999	Transistor 2SA1145(O, Y)
⚠Q723	4822 130 43311	Transistor 2SC3298(O, Y)
⚠Q724	4822 130 43311	Transistor 2SC3298(O, Y)

REF. DESIG.	PART NO.	DESCRIPTION
⚠Q725	4822 130 43023	Transistor 2SA1306(O, Y)
⚠Q726	4822 130 43023	Transistor 2SA1306(O, Y)
⚠Q727	4822 130 43306	Transistor 2SC3182(R, O)
⚠Q728	4822 130 43306	Transistor 2SC3182(R, O)
⚠Q729	4822 130 43019	Transistor 2SA1265(R, O)
⚠Q730	4822 130 43019	Transistor 2SA1265(R, O)
⚠Q731	4822 130 43306	Transistor 2SC3182(R, O)
⚠Q732	4822 130 43306	Transistor 2SC3182(R, O)
⚠Q733	4822 130 43019	Transistor 2SA1265(R, O)
⚠Q734	4822 130 43019	Transistor 2SA1265(R, O)
⚠Q735	4822 130 43231	Transistor 2SC2240(GR)
⚠Q736	4822 130 43231	Transistor 2SC2240(GR)
⚠Q737	4822 130 42951	Transistor 2SA970(GR, BL)
⚠Q738	4822 130 42951	Transistor 2SA970(GR, BL)
⚠Q801	4822 130 61363	Transistor 2SD1913(Q, R)
⚠Q802	4822 130 61359	Transistor 2SB1274(Q, R)
⚠Q805	4822 130 60107	Transistor 2SA1048(Y, GR)
⚠Q806	4822 130 60839	Transistor 2SC2458(Y, GR)
⚠Q807	4822 130 60107	Transistor 2SA1048(Y, GR)
⚠Q808	4822 130 60839	Transistor 2SC2458(Y, GR)
⚠Q810	4822 209 73674	IC NJM7806FA
⚠Q811	4822 130 60107	Transistor 2SA1048(Y, GR)
⚠Q812	4822 130 60839	Transistor 2SC2458(Y, GR)
		P701-MISCELLANEOUS
J701	4822 265 30473	Plug, 6P
J702	4822 265 20205	Plug, 3P
J703	4822 265 10093	Jack, 3P
J801	4822 265 30641	Plug, 2P
J802	4822 265 30639	Plug, 3P
J804	4822 265 30641	Plug, 2P
J805	4822 265 30641	Plug, 2P
J806	4822 265 30641	Plug, 2P
J807	4822 265 20205	Plug, 3P
J808	4822 265 20205	Plug, 3P
J809	4822 265 20205	Plug, 3P
J810	4822 290 40296	Terminal, Earth
J811	4822 265 10093	Jack, 3P
J812	4822 265 10093	Jack, 3P
J813	4822 265 20205	Plug, 3P
J814	4822 265 10093	Plug, 3P
J815	4822 265 10093	Plug, 3P
⚠LN01	4822 280 91103	Relay
L701	4822 157 51739	Coil
L702	4822 157 51739	Coil
		P901-POWER SWITCH CIRCUIT BOARD
⚠C901	4822 122 40305	Ceramic Cap. 0.01µF 250V
⚠S901	4822 276 12505	Push Switch, Power

REF. DESIG.	PART NO.	DESCRIPTION
		P951-POWER TRANSFORMER CIRCUIT BOARD
C951	4822 122 30043	Ceramic 0.01µF +80% −20% [N]
C952	4822 122 30043	Ceramic 0.01µF +80% −20% [N]
⚠F001	4822 253 30027	Fuse 3.15A 250V
J951	4822 256 30329	Jack, Fuse Clip
J952	4822 267 30978	Jack, Fuse Clip
⚠L001	4822 146 21377	Power Transformer

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

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.

10. TECHNICAL SPECIFICATIONS (DIN)

Audio Section

IHF Dynamic Power
2 Ohms ..... 220 W
4 Ohms ..... 160 W
8 Ohms ..... 125 W

Power Output per Channel
DIN 4 Ohms at 1 kHz ..... 130 W
RMS 4 Ohms ..... 120 W
DIN 8 Ohms at 1 kHz ..... 110 W
RMS 8 Ohms ..... 100 W

Total Harmonic Distortion at RMS 8 Ohms 0.02%

I.M. Distortion 0.02%

Damping Factor 8 Ohms (1 kHz) 100

MM Cartridge Input
Frequency Response (IEC RIAA) ..... ±0.5 dB
Signal To Noise Ratio (A weighted) ..... 86 dB
Input Impedance ..... 47 kOhms
Input Sensitivity ..... 2.5 mV

MC Cartridge Input
Input Sensitivity ..... 250 μV
Input Impedance ..... 100 Ohms
Signal To Noise Ratio (A weighted) ..... 72 dB

CD-Tuner-Tape Input
Input Impedance ..... 20 kOhms
Input Sensitivity ..... 150 mV
Frequency Response ..... 10 Hz – 70 kHz
Signal To Noise Ratio (A weighted, IHF 202) ..... 88 dB
(A weighted, VR MAX) ..... 103 dB

Output Voltage and Impedance
Tape Out [Phor ..M) 5.0 mV 1 kHz Input] ..... 300 mV/1 kOhms

Channel Separation [CD Input]. (IHF 202, 1 kHz) ..... >70 dB

Digital Section

Frequency Response (10 Hz – 20 kHz) ..... ±1.0 dB
Total Harmonic Distortion 0.0035%
Signal To Noise Ratio (A weighted at TAPE OUT) ..... 103 dB
Dynamic Range ..... 96 dB

General

Power Requirements N and T versions ..... 220/240 V AC, 50/60 Hz
E version ..... 110/120/220/240 V AC, 50/60 Hz
Power Consumption at Rated Output, both channels operating ..... 200 W
Dimensions (W × H × D) ..... 420 × 132 × 334 mm
Weight ..... 13 kg

"SERVICE INFORMATION IS FOR USE BY QUALIFIED PERSONNEL ONLY — ANY MISADJUSTMENT OR MISALIGNMENT MAY BE TREATED AS A NON-WARRANTY REPAIR BY ANY MARANTZ SERVICE CENTRE —"

Kind of Common Parts

RESISTOR

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

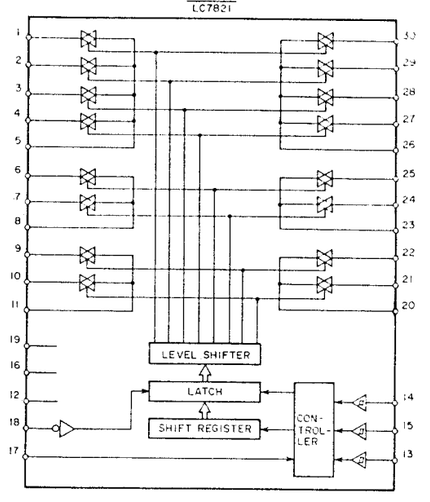
C*** : **CERAMIC CAP.**
(1) DD1 ..... 370, Ceramic condenser, disc type (titan condenser) Temp. coeff. P350 to N1000 50V

C*** : **CERAMIC CAP.**
(1) DK16 .... 300, High dielectric constant ceramic condenser, disc type (titan variable) Temp. chara. 2B4 50V

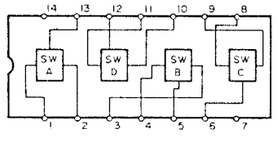
C*** : **ELECTROLY CAP. (⧧)/FILM CAP. (═)**
(1) EA ..... 10, Electrolytic condenser, one-way lead type, tolerance ±20%
(2) DF15 .... 350, Plastic film condenser, one-way type, Mylar, ±5% 50V

* In case of ordering the common parts, please establish the correct parts number of 10 figures by the procedure "ASSIGNMENT OF COMMON PARTS CODES"

QV01, QV02
LC7821



QG01, QG02
QV11
LC4966



Components and wiring are subject to change for modification without notice.

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.

11. SCHEMATIC DIAGRAM

PV01 PHONO AMP/INPUT

P701 MAIN AMP

PJ01 TAPE IN/OUT

(E, W, F) VERSION

(N, T) VERSION

P851

Model PM-75

PW01 SPK TERMINAL

PW51
PHONE JACK/SPK. SW.

P901
POWER SW.
(U,F) VERSION

P951
POWER TRANSF

(E, W, F) VERSION

To P101 (J106)

P851

(E) VERSION

P951

P901

(N,T) VERSION

Q401 ~ Q404
2SK369 (BL)

Q405, Q406
2SC2240 (GR, BL)

Q407, Q809
NJM2068DD

Q701, Q702
NJM-5534DD

Q703, Q704, Q735, Q736
2SC2240 (GR)

Q705, Q706
2SA970 (GR)

Q711, Q712, Q721, Q722
2SA1145 (O,Y)

Q713, Q714, Q719, Q720
2SC2705 (O,Y)

Q715, Q716
LA2500

Q717, Q718
2SC3419 (Y)

Q723, Q724
2SC3298 (O,Y)

Q725, Q726
2SA1306 (O,Y)

Q727, Q728, Q731, Q732
2SC3182 (R,O)

Q729, Q730, Q733, Q734
2SA1265 (R,O)

Q737, Q738
2SA970 (GR,BL)

QJ01
2SD1913 (Q,R)

Q802
2SB1274 (Q,R)

Q803, Q806, Q808, Q812
QN01, QV08
2SC2458 (Y, GR)

Q805, Q807, Q811, QV09, QV10
2SA1048 (Y, GR)

Q810
NJM7806FA

QN02
TA7317P

QV01, QV02
LC7821

QV11
LC4966

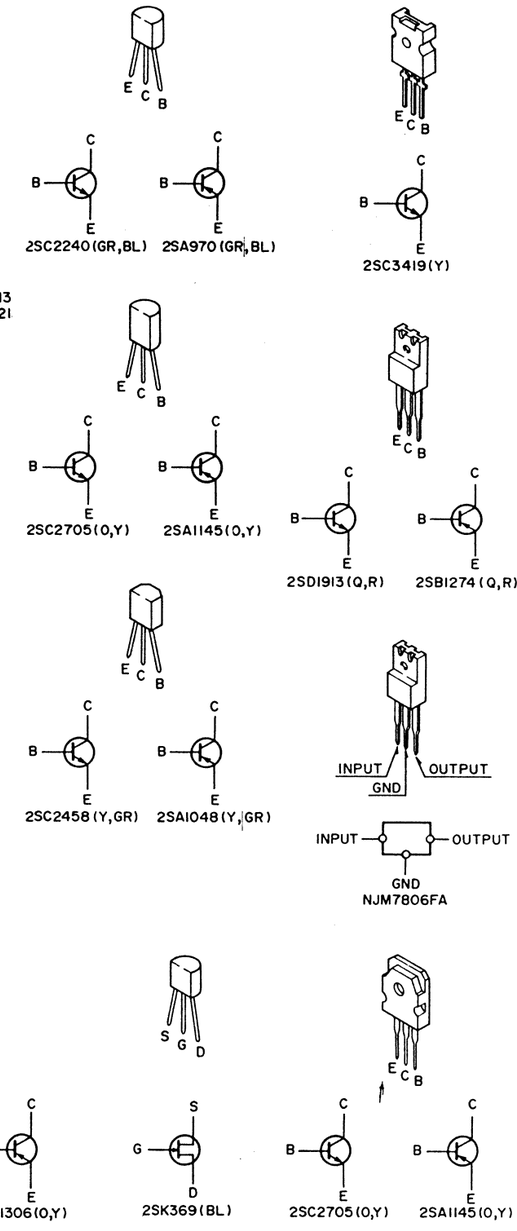
D401, D402, D813
D814, D820, D821
1SS176, etc.

D701, D702
DN01, DN02
HSS81TD

D801
D5FB20

D802 ~ D811
D818, D819
RL103E

D815, D816
5.6V



P101 D/A CONVERTER IN/OUT

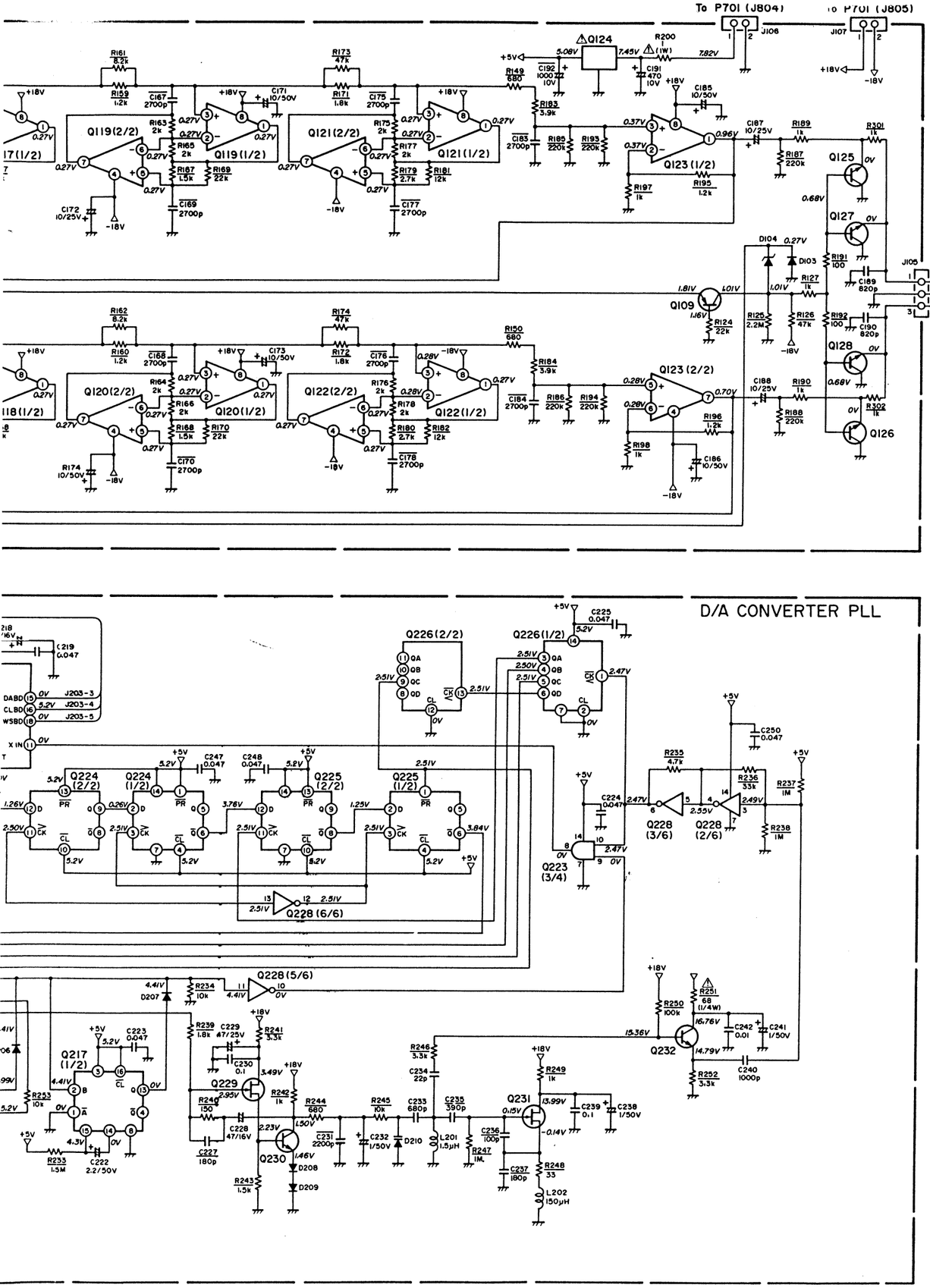
OPT
CD
COAX
DBS
PLAY
DAT
REC

To PU01 (JU04)

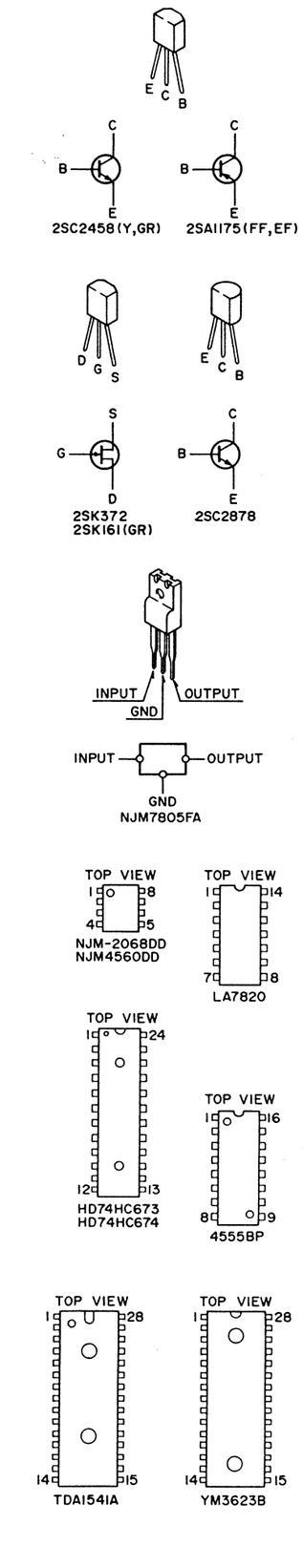
P201

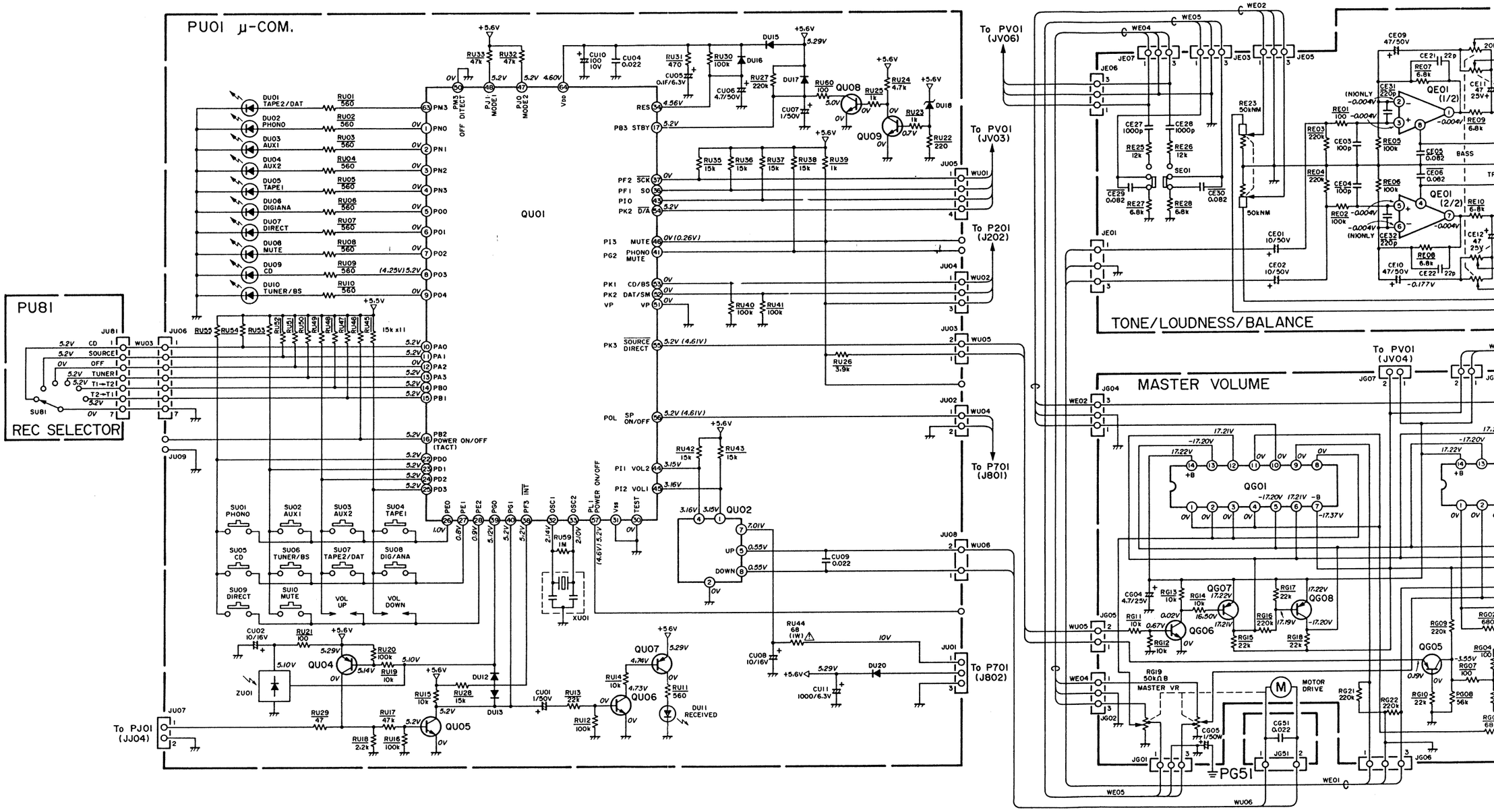
P271

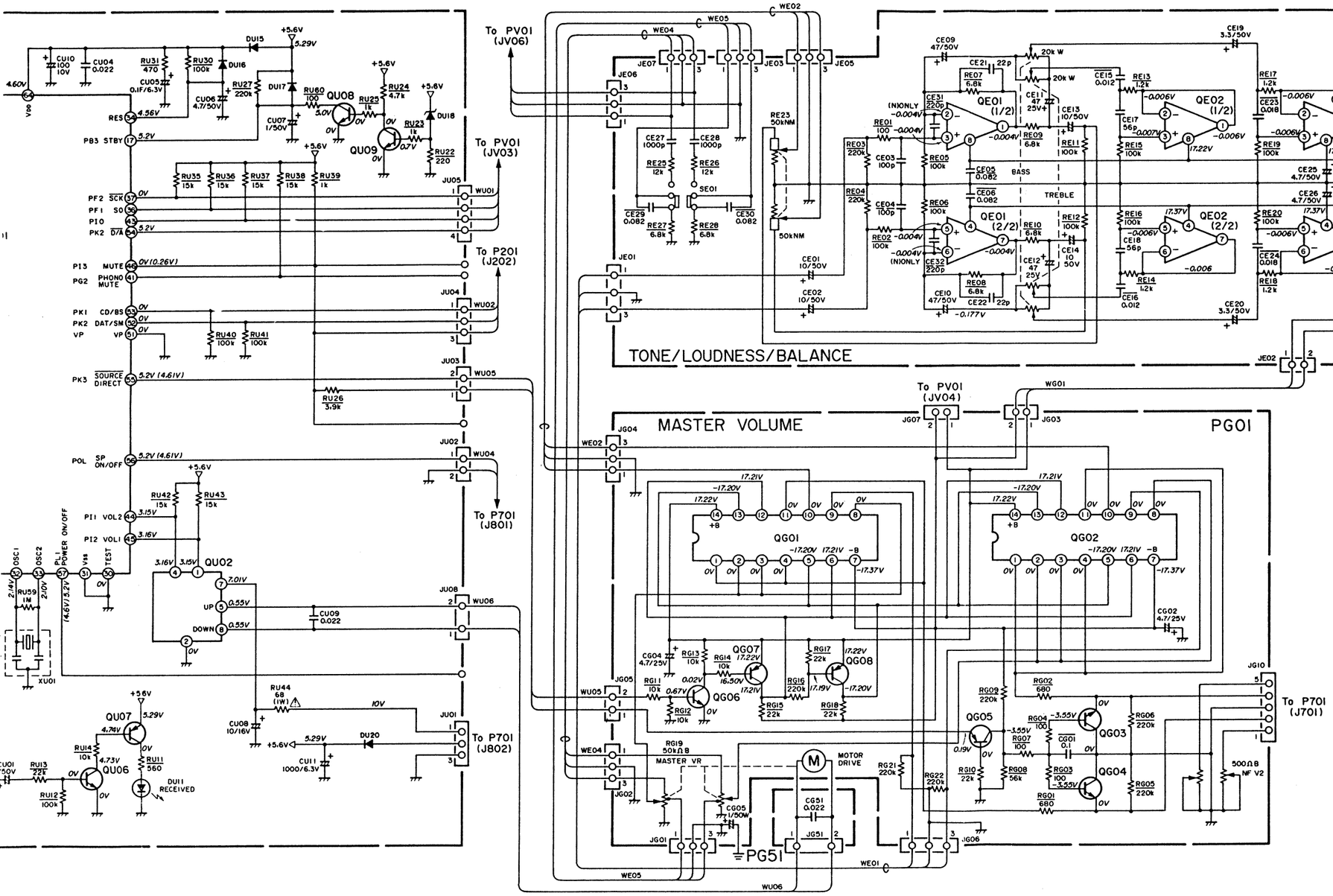
D/A CONVERTER
FS IND.



Q101, Q102, Q228	Q226
TC74HCU04P	TC74HC393P
Q103, Q104, Q105, Q214	Q231
TC74HC00P	2SK161 (GR)
Q106, Q109, Q209 ~ Q212	
2SA1175 (FF, EF)	
Q107, Q108, Q203 ~ Q208 Q230, Q232	D101
2SC2458 (Y, GR)	15V
Q110	D102, D103, D201 ~ D207
NJM78L05A	ISS176, etc.
Q111	D104
NJM79L05A	3.9V
Q112	D208, D209
TDA1541A	MA27A
Q113, Q114, Q229	D210
2SK372 (GR, BL)	SVC321SP
Q115, Q116, Q123	D271 ~ D274
NJM-2068DD	LT3D8B
Q117 ~ Q122	
NJM4560DD	
Q124	
NJM7805FA	
Q125, Q126, Q127, Q128	
2SC2878	
Q201	
YM3623B	
Q202	
4555BP	
Q213	
TC74HC86P	
Q215	
HD74HC673	
Q216	
HD74HC674	
Q217, Q220, Q227	
TC74HC123P	
Q218, Q219, Q224, Q225	
TC74HC74P	
Q221	
TC5081AP	
Q222	
SAA7220P/B	




PU01 μ-COM.
QU01
REC SELECTOR
PU81
SU81
JU81
JU06
JU09
WU03
To PJ01 (JJ04)
JU07
To PV01 (JV06)
To PV01 (JV03)
To P201 (J202)
To P701 (J801)
To P701 (J802)
JU05
JU04
JU03
JU02
JU08
JU01
WU01
WU02
WU05
WU04
WU06
TONE/LOUDNESS/BALANCE
MASTER VOLUME
To PV01 (JV04)
QE01 (1/2)
QE01 (2/2)
QG01
QG02
QG03
QG04
QG05
QG06
QG07
QG08
MOTOR DRIVE
M
PG51
JG01
JG02
JG03
JG04
JG05
JG06
JG07
JG51
WE01
WE02
WE04
WE05
WU05
WU06
JE01
JE03
JE05
JE06
JE07
SE01
RE23 50kNM
RG19 50kΩB MASTER VR
SU01 PHONO
SU02 AUX1
SU03 AUX2
SU04 TAPE1
SU05 CD
SU06 TUNER/BS
SU07 TAPE2/DAT
SU08 DIG/ANA
SU09 DIRECT
SU10 MUTE
VOL UP
VOL DOWN
DU01 TAPE2/DAT
DU02 PHONO
DU03 AUX1
DU04 AUX2
DU05 TAPE1
DU06 DIGIANA
DU07 DIRECT
DU08 MUTE
DU09 CD
DU10 TUNER/BS
DU11 RECEIVED
DU12
DU13
DU15
DU16
DU17
DU18
DU20
XU01
ZU01
PJ1 MODE1
PJ0 MODE2
PM3 OFF DITECT
POWER ON/OFF (TACT)
POWER ON/OFF
SP ON/OFF
SOURCE DIRECT
PHONO MUTE
CD/BS
DAT/SM
MUTE
SCK
SO
STBY
RES
VP
VDD
VSS
TEST
PLL
INT
OSC1
OSC2
UP
DOWN
IN
SOURCE1
TUNER1
T1→T21
T2→T11
OFF
CD
SOURCE
TUNER
TAPE2/DAT
PHONO
AUX1
AUX2
TAPE1
DIGIANA
DIRECT
MUTE
BASS
TREBLE
+5.6V
+B
-B
-17.20V
17.21V
17.22V
-17.37V
-0.177V
50kNM
MOTOR DRIVE



QE01～QE03	
NJM4558DD	
QG01, QG02	
LC4966	
QG03, QG04	
2SC2878	2SC2878
QG05, QG07, QG08 QU04, QU07	
2SA1048 (Y, GR)	
QG06, QU05, QU06 QU08, QU09	
2SC2458 (Y, GR)	2SC2458(Y,GR) 2SA1048(Y,GR)
QU01	
LC6554H	
QU02	
LB1630	

DU01～DU11	
LT3D8B	
DU12, DU13, DU16, DU17	
ISS176, etc.	
DU18	
3.6V	
DU15, DU20	
S5688G	

TOP VIEW

LB1630
NJM4558DD

TOP VIEW

LC4966

TOP VIEW

LC6554H