

SERVICE
MANUAL

MX583

4822 725 508

AMP:PM583/TUNER:ST583/ST583L/CASSETTE DECK:SD5



marantz®

model MX583

System Component

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 to our National Marantz Subsidiary or Agent.

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:

AUSTRIA
HORNYPHON
Vertriebsgesellschaft GmbH
Wienerbergstrasse 1
A 1101 Wien
Austria
Telex: 132.332

BELGIUM
SVD DIVISION MARANTZ
Industrialaan 1
1720 Groot-Bijgaarden
Belgium
Telex: 24466

CHILE
MARANTZ
DIVISION OF PHILIPS S.A.
AV. Santa Maria, 0760
Casilla 2687
Santiago
Telex: 240.239

DENMARK
MARANTZ
DIVISION OF PHILIPS
SERVICE A/S
Prags Boulevard 80
Postbox 1919
DK-2300 København S
Denmark
Telex: 31201

FINLAND
MARANTZ
DIVISION OF OY PHILIPS Ab
Kaivokatu 8
00100 Helsinki
Finland
Telex: 124811

FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

GERMANY
MARANTZ GERMANY GmbH
Alexanderstrasse 1
2000 Hamburg
Germany

THE NETHERLANDS
Elpro Marantz
Wint Hontlaan 28
3526 KV Utrecht
The Netherlands
Telex: 4748

NORWAY
MARANTZ
DIVISION OF PHILIPS A/S
Sandstuveien 40
0680 Oslo 6
Norway
Telex: 72640

GREAT BRITAIN
MARANTZ AUDIO U.K. Ltd
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 0LW
Great Britain
Telex: 935196

GREECE
SHERTON ELECTRONICS S.A.
P.O.Box 21025
Hippocratus Street 188
Athens 11471
Greece
Telex: 216.795

JAPAN
MARANTZ JAPAN, Inc.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

KUWAIT
AL ALAMIAH ELECTRONICS
Ussama Building
Fahd al Saleem Street
P.O.Box 23781
Safat-Kuwait
Telex: 22694

ITALY
MARANTZ ITALIANA S.P.A.
Via Chiese, 74
20126 Milano
Italy

SAUDI ARABIA
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia
Telex: 401530

SOUTH AFRICA
MARANTZ
DIVISION OF PHILIPS S.A.
Main Road Martindale
P.O. Box. 58088
Newville 21114
South Africa

SPAIN
PHONO S.A.
Ignacio Iglesias 10
Badalona (Barcelona)
Spain
Telex: 59355

SWEDEN
MARANTZ
DIVISION OF PHILIPS
Försäljning AB
Tegeluddsvägen 1
S-115 84 Stockholm
Sweden
Telex: 14060

SWITZERLAND
MARANTZ
Technischer Service
Duenstrasse 3
3186 Düringen
Switzerland

TURKEY
DOGRUOL Ltd.
I.M.C.
6 Blok N°6310
Unkapani
Istanbul
Turkey
Telex: 22085

MALTA
CACHIA & GALEA
Republic Street, 68D
Valetta
Telex: 1682

PORTUGAL
MARANTZ
Divisao philips S.A. service
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.

MARANTZ INTERNATIONAL
Vestdijk 9
5600 MD Eindhoven
The Netherlands
Phone: +31/40.758290
Telefax: +31/40.75.82.99
Telex: 35000 PHTC NL routing IND NLMTFAT

TABLE OF CONTENTS

SECTION	PAGE
SYSTEM CONNECTION DIAGRAM	2
CONNECTION OF FM AND AM ANTENNAS	3
REMOTE CONTROL UNIT MODEL RC-53	6
AMPLIFIER SECTION	
1. TEST EQUIPMENT REQUIRED FOR SERVICING	8
2. P.W. BOARDS	8
3. ADJUSTMENT PROCEDURES	8
4. TEST POINT AND ALIGNMENT POINTS	8
5. BLOCK DIAGRAM	9
6. SCHEMATIC DIAGRAM	13
7. WIRING DIAGRAM	16
8. COMPONENT LOCATIONS	17
9. EXPLODED VIEW AND PARTS LIST	20
10. ELECTRICAL PARTS LIST	24
11. TECHNICAL SPECIFICATIONS	28
TUNER SECTION	
1. TEST EQUIPMENT REQUIRED FOR SERVICING	29
2. P.W. BOARDS	29
3. TUNER ALIGNMENT PROCEDURES	30
4. TEST POINT AND ALIGNMENT POINTS	31
5. ONE-CHIP MICROPROCESSOR FOR TUNER-LC6514B-3357 (Q505)	32
6. BLOCK DIAGRAM	35
7. SCHEMATIC DIAGRAM	37
8. COMPONENT LOCATIONS	39
9. EXPLODED VIEW AND PARTS LIST	41
10. ELECTRICAL PARTS LIST	43
11. TECHNICAL SPECIFICATIONS	45
DECK SECTION	
1. P.W. BOARDS	46
2. TEST EQUIPMENT REQUIRED FOR SERVICING	46
3. ADJUSTMENT	47
4. DESCRIPTION OF MICROPROCESSOR AND PERIPHERAL CIRCUITRY OPERATION	50
5. LEVEL DIAGRAM	57
6. SCHEMATIC DIAGRAM	59
7. PARTS LOCATIONS	63
8. EXPLODED VIEW AND PARTS LIST	66
9. ELECTRICAL PARTS LIST	70
10. TECHNICAL SPECIFICATIONS	73

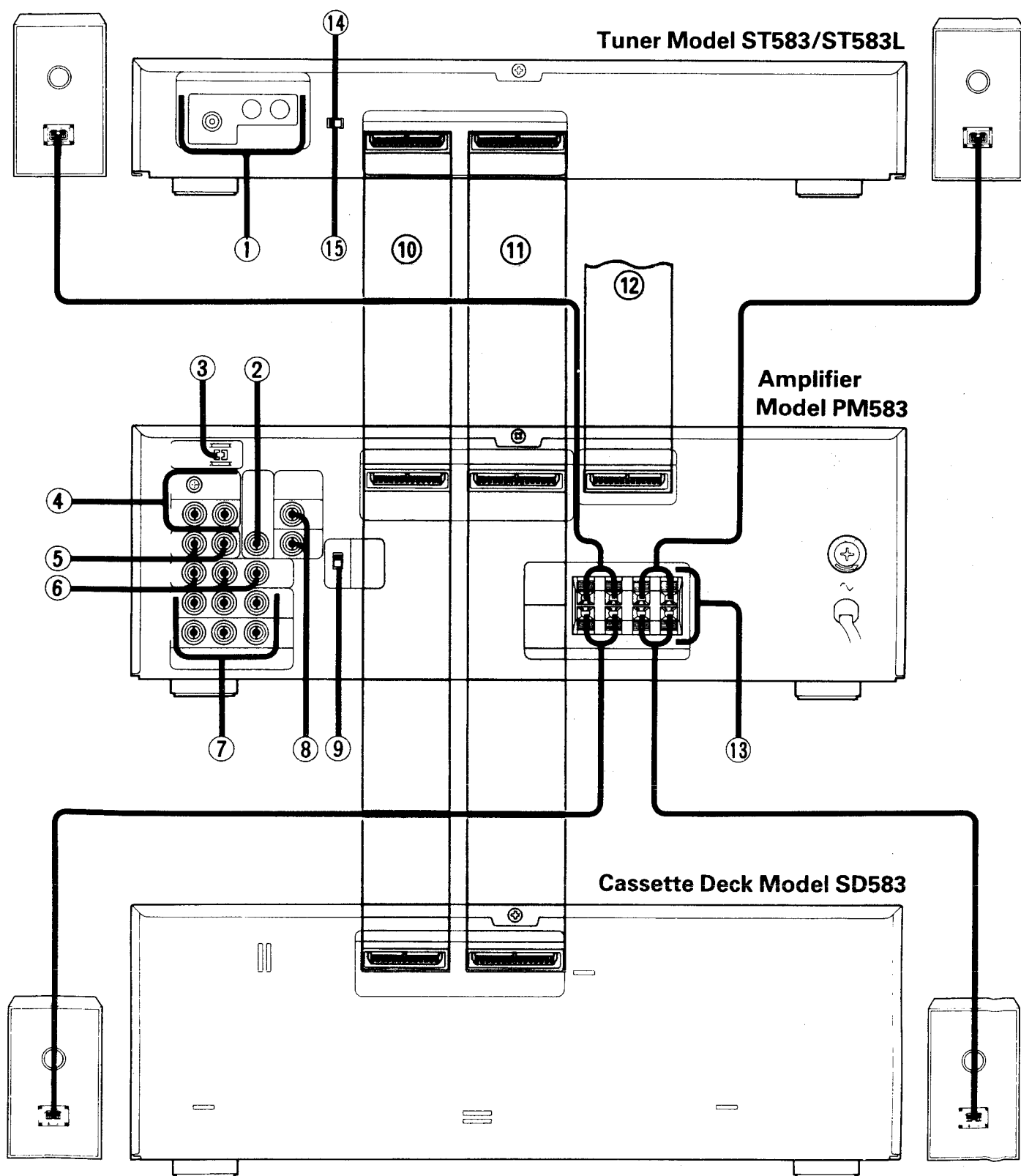
How to use this service manual

- 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 MJL.
- 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.

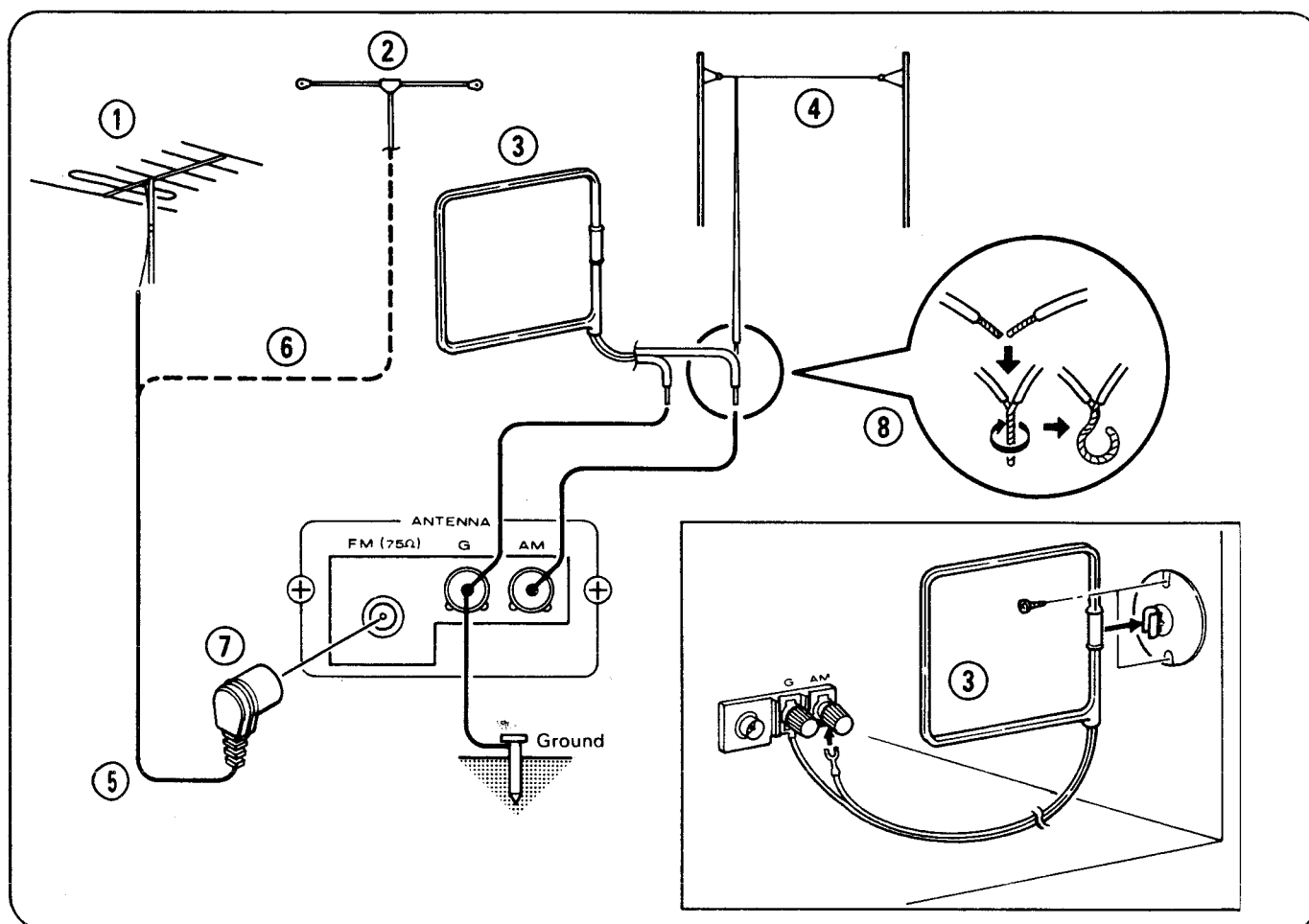
SYSTEM CONNECTION DIAGRAM

Model MX583

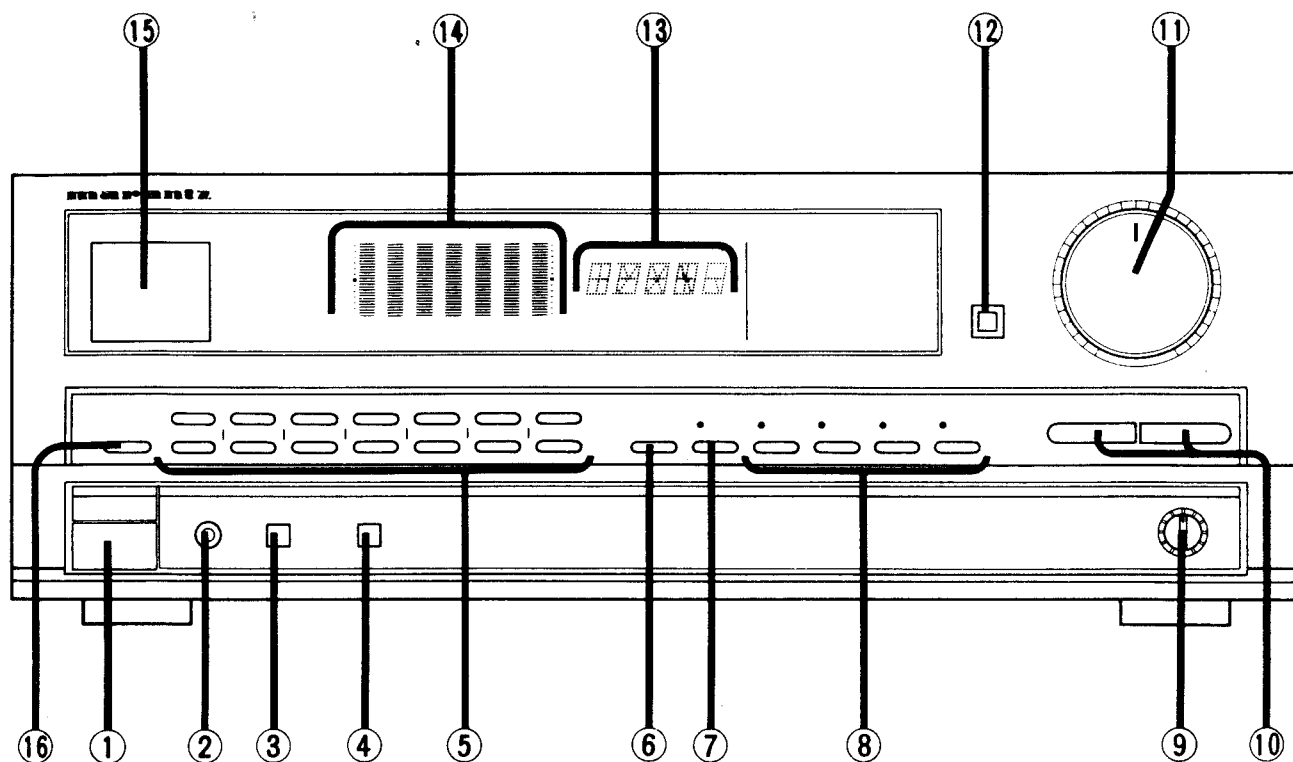


- | | |
|--|-------------------------------------|
| ① FM/AM Antenna Terminal | ⑨ VCR Input Sound Changeover Switch |
| ② Television Video Output Terminal (TV) | ⑩ Audio Terminal |
| ③ Reset Button | ⑪ Control Terminal |
| ④ Turntable Input Terminals (PHONO) | ⑫ Surround Terminal |
| ⑤ TV Input Terminals (TV) | ⑬ Speaker Terminals |
| ⑥ Compact Disc Video/Compact Disc Input Terminals (CDV/CD) | ⑭ Scan Step Selector |
| ⑦ VCR Input and Output Terminals (VCR) | ⑮ FM DE-Emphasis Switch |
| ⑧ Remote Control Bus Terminals | |

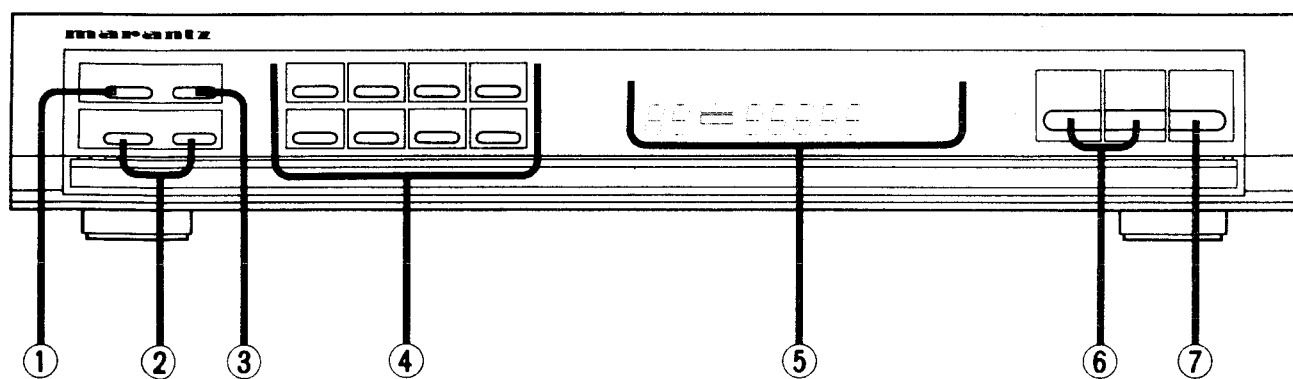
CONNECTION OF FM AND AM ANTENNAS



- | | |
|--------------------------|---|
| ① Outdoor FM Antenna | ⑤ 75 Ohm Coaxial Cable |
| ② Indoor FM Antenna | ⑥ Shielded 300 Ohm Twin Feeder Cable |
| ③ Indoor AM Loop Antenna | ⑦ Twin Feeder to Coaxial Plug Adapter |
| ④ AM Outdoor Antenna | ⑧ Install the AM Antenna Lead Wire with the Loop Antenna Lead |



Amplifier Model PM583



Tuner Model ST583/ST583L

- ① Power Switch
- ② Headphone Jack
- ③ Speaker Switch
- ④ Surround Effect Button
- ⑤ Equalizer Control Buttons
- ⑥ Equalizer Flat Button
- ⑦ Memory Button and Indicator
- ⑧ Equalizer Memory Buttons and Indicators
- ⑨ Balance Control Knob
- ⑩ Audio/Video Function Select Buttons
- ⑪ Volume Control Knob
- ⑫ Muting Button and Indicator
- ⑬ Function Indicator
- ⑭ Spectrum Analyzer/Equalizer Display
- ⑮ Remote Control Sensor
- ⑯ Display Control Button

- ① Memory Button
- ② Tuning +/– Buttons
- ③ FM Mode Buttons
- ④ Preset Buttons
- ⑤ Digital Frequency Display
- ⑥ Preset +/– Buttons
- ⑦ Band Select Button

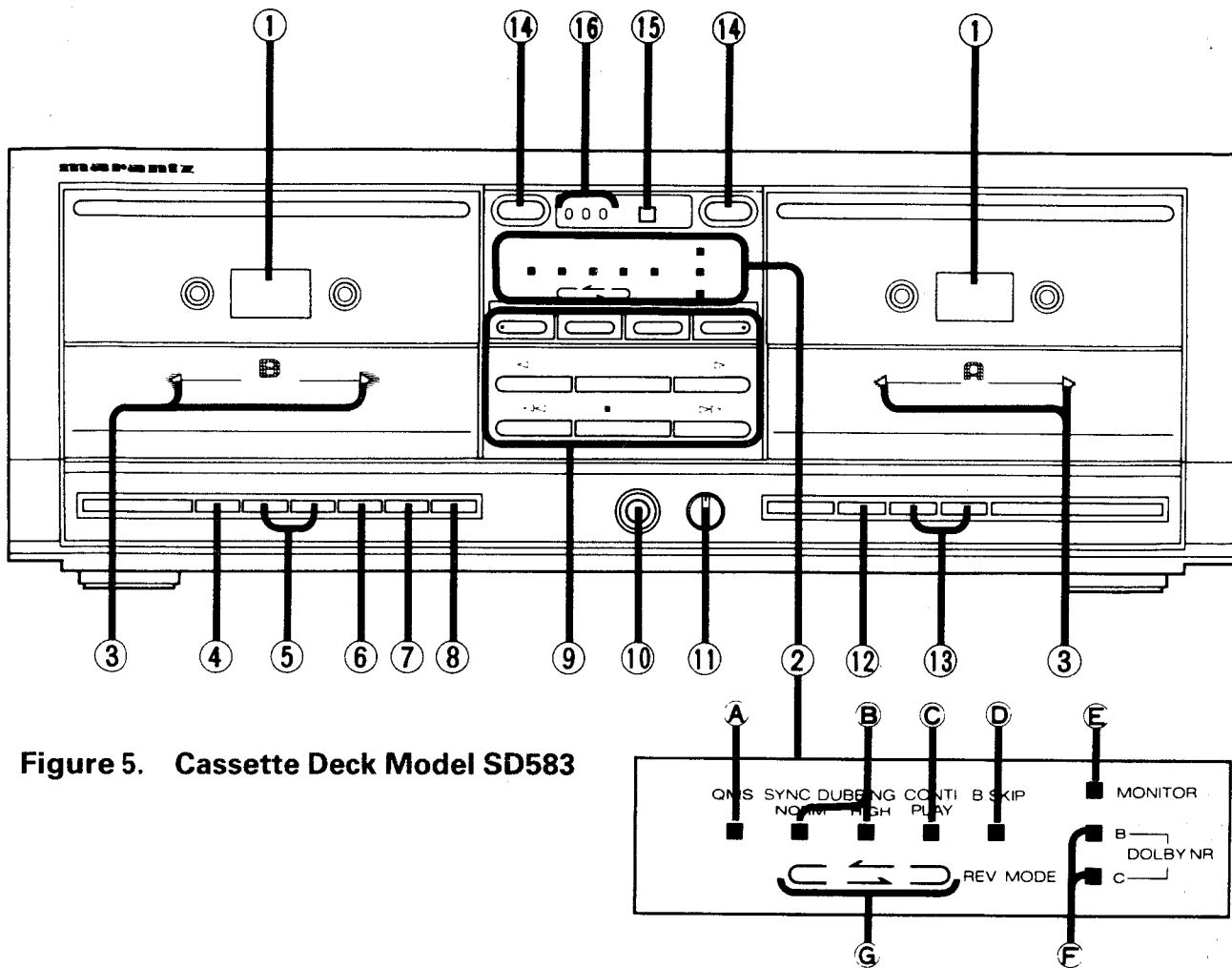
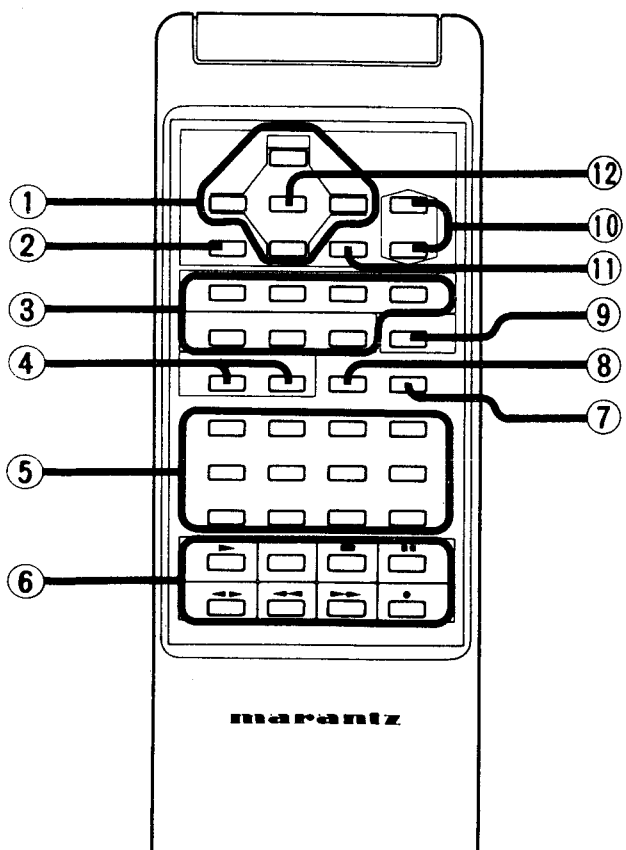


Figure 5. Cassette Deck Model SD583

REMOTE CONTROL UNIT MODEL RC-53



- | | |
|---|--|
| ① Cassette Compartments | ① Surround Processor Operation Buttons |
| ② Display Indicators | ② Acoustic Button |
| ① Quick Music Sensor (QMS) Indicator | ③ Function Select Buttons |
| ② Dubbing Speed Indicators | ④ Deck A/B Select Buttons |
| ③ Continuous Play Indicator | ⑤ Numerical Buttons |
| ④ Blank Skip Indicator | ⑥ Cassette Deck Controls |
| ⑤ Monitor Indicator | ⑦ Memory Button |
| ⑥ Dolby Noise Reduction System Indicators | ⑧ Search Button |
| ⑦ Reverse Mode Indicator | ⑨ Mode Button |
| ③ Tape Direction and Function Indicators | ⑩ Volume Control Buttons |
| ④ Quick Music Sensor (QMS) Button | ⑪ Graphic Equalizer Button |
| ⑤ Dubbing Speed Buttons | ⑫ Muting Button |
| ⑥ Continuous Play Button | |
| ⑦ Blank Skip Button | |
| ⑧ Reverse Mode Button | |
| ⑨ Control Buttons | |
| ⑩ Microphone Jack | |
| ⑪ Mixing Level Control Knob | |
| ⑫ Synchronized Recording Button | |
| ⑬ Dolby B and Dolby C Noise Reduction Buttons | |
| ⑭ Eject Buttons | |
| ⑮ Counter Reset Buttons | |
| ⑯ Tape Counter | |

AMPLIFIER SECTION

1. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Stereo Amplifier.

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
AC VTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Circuit Tester	Trouble shooting
DC VTVM	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

2. P.W. BOARDS

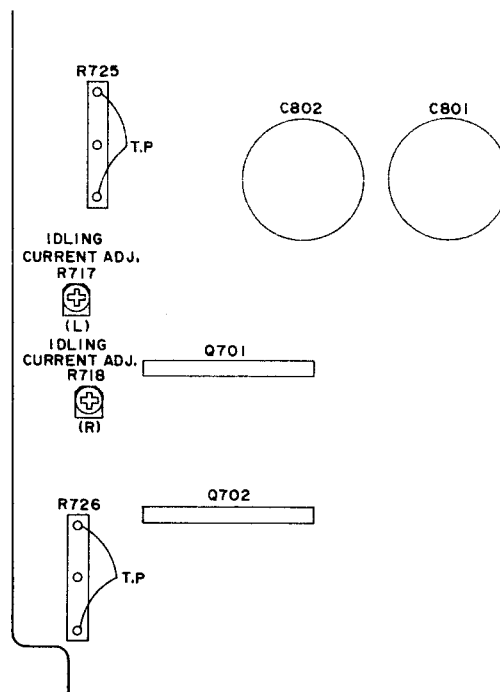
1. Power Transf. mounted on P.W. Board PA34
2. Motor Volume mounted on P.W. Board PG04
3. Balance Volume mounted on P.W. Board PG14
4. Volume LED mounted on P.W. Board PG34
5. Video Amp mounted on P.W. Board PL04
6. Power Switch mounted on P.W. Board PA24
7. Function mounted on P.W. Board PS04
8. μ -com mounted on P.W. Board PU04
9. Flip Tact Switch mounted on P.W. Board PU14
10. Multi Connector ... mounted on P.W. Board PV04
11. Main/Power Supply
..... mounted on P.W. Board P704
12. Speaker Switch mounted on P.W. Board P774
13. Speaker Terminal .. mounted on P.W. Board P784

3. ADJUSTMENT PROCEDURES

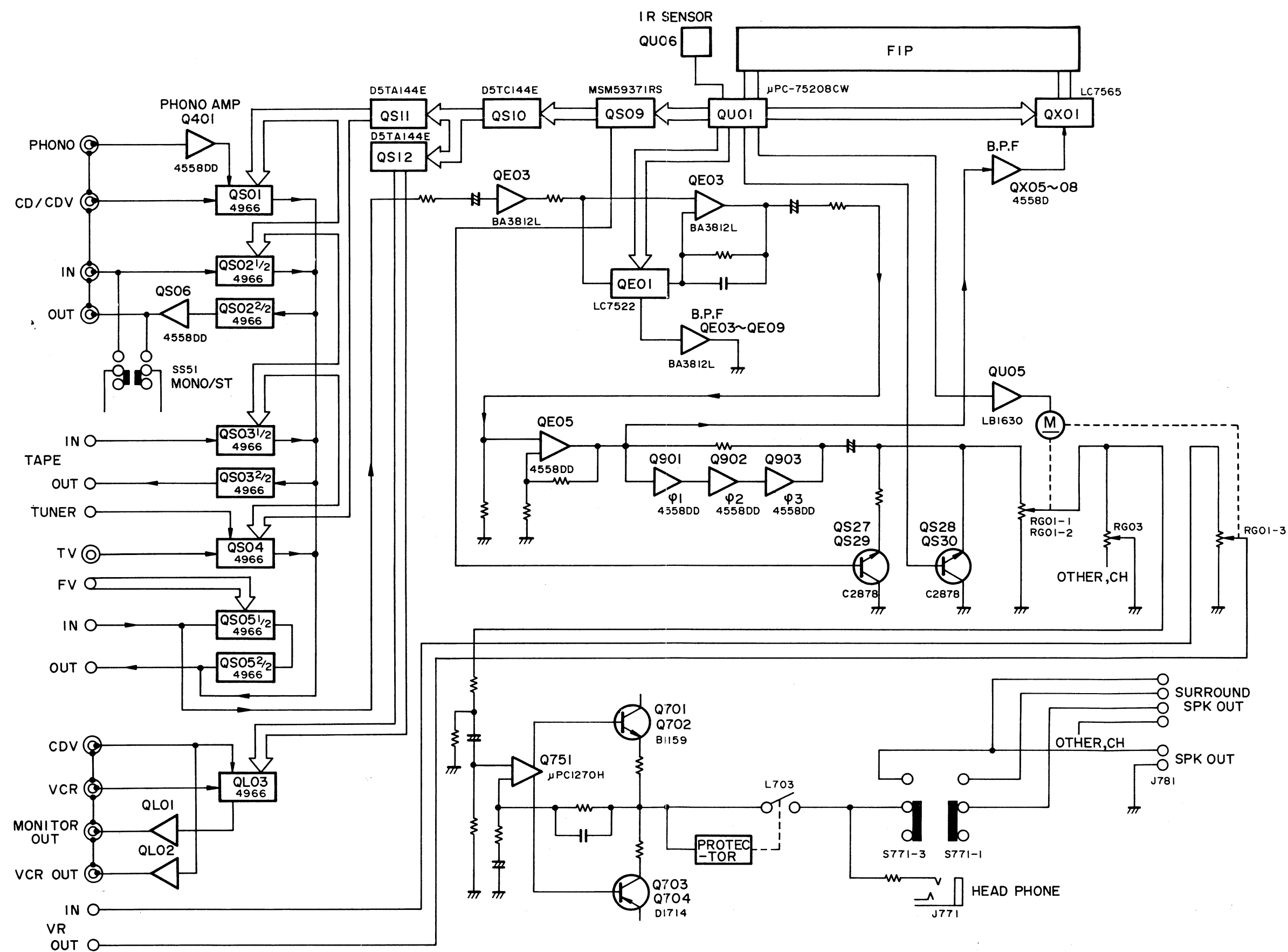
MAIN AMPLIFIER IDLING CURRENT ADJUSTMENT.

Connect a digital voltmeter to the adjustment terminals of the R725 and R726 emitter resistors, turn on the power, wait 10 seconds, then adjust R717 and R718 for a reading of $4 \text{ mV} \pm 1.5 \text{ mV}$.

4. TEST POINT AND ALIGNMENT POINTS



5. BLOCK DIAGRAM

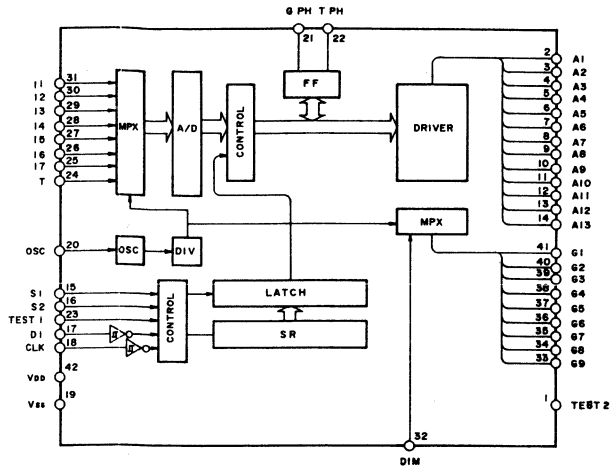


able of Function Names, IC Numbers, and Voltages

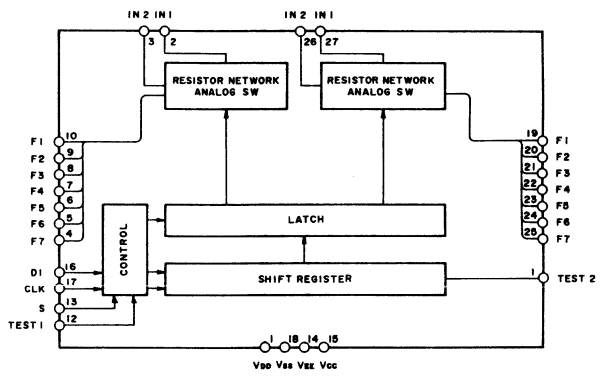
VIT = V

FUNCTION	IC NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHONO	QS01	0	0	0	0	14.2	14.2	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS02	0	0	0	0	14.2	-12.9	-14.7	0	0	0	0	-12.9	14.2	14.3
	QS03	0	0	0	0	14.1	-14.7	-14.7	0	0	0	0	-14.7	14.1	14.3
	QS04	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS05	0	0	0	0	0	0	-14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	5.6	0	0	0	0	0	0	0	0	0	0
	QS10	0	14.1	0	14.1	14.1	14.1	0	0	0	0	5.6	0	-	-
	QS11	14.3	-14.5	14.2	-12.9	-14.7	-14.6	14.3	14.1	14.1	14.1	0	14.1	-	-
	QS12	5.6	5.6	-6	-5	5.6	-6	5.6	-5	5.6	5.6	0	-	-	-
	QL07	0	0	0	0	0	-6	-6	0	0	0	0	-5	-5	6
CD (CDV)	QS01	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	14.2	14.2	14.3
	QS02	0	0	0	0	14.3	-12.9	-14.7	0	0	0	0	-12.9	14.2	14.3
	QS03	0	0	0	0	14.1	-14.7	-14.7	0	0	0	0	-14.7	14.1	14.3
	QS04	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS05	0	0	0	0	0	0	-14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0 (5.6)	0	0	0	5.6 (0)	0	0	0	0	0	0	0
	QS10	0	0	14.1	14.1	14.1	14.1	0	0	0	0	0	5	-	-
	QS11	14.3	14.3	-14.5	-12.9	-14.7	-14.6	14.3	14.1	14.1	14.1	14.1	0	-	-
	QS12	5.6	5.6	-6	-5	5.6	5.6	5.6	0.6	-5	5.6	5.6	0	-	-
	QL07	0	0	0	0	0	5.6	-6	0	0	0	0	-5	-5	6
TUNER	QS01	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS02	0	0	0	0	14.3	-12.9	-14.7	0	0	0	0	-12.9	14.3	14.3
	QS03	0	0	0	0	14.1	-14.7	-14.7	0	0	0	0	-14.7	14.1	14.3
	QS04	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	14.3	14.3	14.3
	QS05	0	0	0	0	0	0	-14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	0	0	0	5.6	0	0	0	0	0	0
	QS10	0	14.1	14.1	14.1	14.1	14.1	0	0	0	0	0	0	-	-
	QS11	14.3	-14.5	-14.5	-12.9	-14.6	-14.5	14.3	14.1	14.1	14.1	14.1	14.1	-	-
	QS12	5.6	5.6	-6	-5	5.6	-6	5.6	5.6	-5	5.6	5.6	0	-	-
	QL07	0	0	0	0	0	-6	-6	0	0	0	0	-5	-5	6
TAPE	QS01	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS02	0	0	0	0	14.3	-12.9	-14.7	0	0	0	0	-12.9	14.3	14.3
	QS03	0	0	0	0	-14.7	14.2	-14.7	0	0	0	0	14.2	-14.7	14.3
	QS04	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS05	0	0	0	0	0	0	-14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	0	0	0	5.6	0	0	0	0	0	0
	QS10	0	14.1	14.1	14.1	0	14.1	0	0	5.6	0	0	0	-	-
	QS11	14.3	-14.5	-14.5	-12.9	14.2	-14.5	14.3	14.1	0	14.1	14.1	14.1	-	-
	QS12	5.6	5.6	-6	-5	5.6	-6	5.6	5.6	-5	5.6	5.6	0	-	-
	QL07	0	0	0	0	0	-6	-6	0	0	0	0	-5	-5	6
VCR	QS01	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS02	0	0	0	0	-14.5	14.2	-14.7	0	0	0	0	14.2	-14.5	14.3
	QS03	0	0	0	0	14.1	-14.7	-14.7	0	0	0	0	-14.7	14.1	14.3
	QS04	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS05	0	0	0	0	0	0	-14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	5.6	0	0	0	0	0	0	0	0	0
	QS10	0	14.1	14.1	0	14.1	14.1	0	0	0	5.6	0	0	-	-
	QS11	14.3	-14.5	-14.5	14.2	-14.7	-14.5	14.2	14.1	0	14.1	14.1	14.1	-	-
	QS12	5.6	5.6	-6	5.5	-6	5.6	5.6	5.6	0.6	5.6	0	-	-	-
	QL07	0	0	0	0	0	-6	-6	0	0	0	0	5.5	5.5	6
TV	QS01	0	0	0	0	-14.5	-14.5	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS02	0	0	0	0	14.3	-12.9	-14.7	0	0	0	0	-12.9	14.3	14.3
	QS03	0	0	0	0	14.1	-14.7	-14.7	0	0	0	0	-14.7	14.1	14.3
	QS04	0	0	0	0	14.3	14.3	-14.7	0	0	0	0	-14.5	-14.5	14.3
	QS05	0	0	0	0	0	0	-14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	0	5.6	0	0	0	0	0	0	0	0
	QS10	0	14.1	14.1	14.1	14.1	0	0	5.6	0	0	0	0	-	-
	QS11	14.3	-14.5	-14.5	-12.9	-14.7	14.2	0	0	14.1	14.1	14.1	14.1	-	-
	QS12	5.6	-2.2	5.6	-5	5.6	-6	5.6	5.6	-5	5.6	-2.2	5.6	-	-
	QL07	0	0	0	0	0	-6	-6	0	0	0	0	-5	-5	6

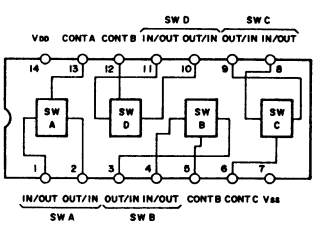
QX01



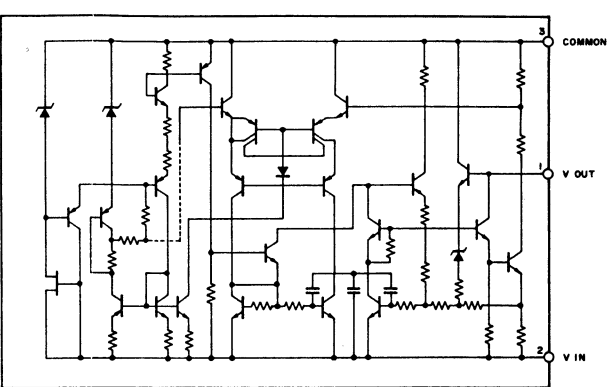
QE01



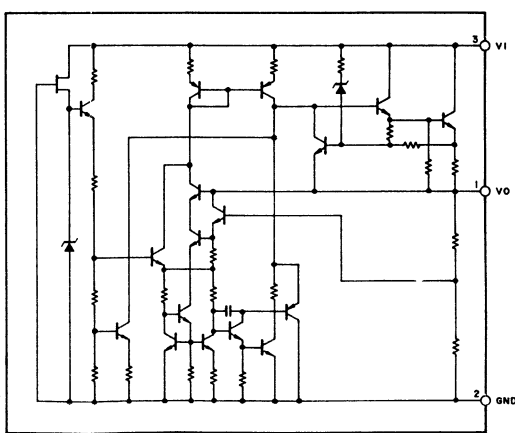
QS01 ~ QS05



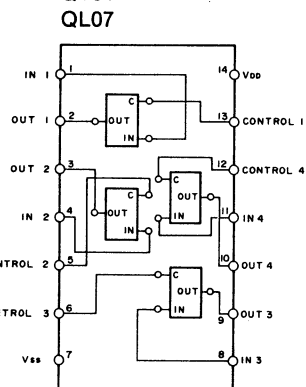
Q833, Q835



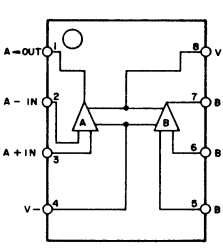
Q811, Q831
Q834, Q836



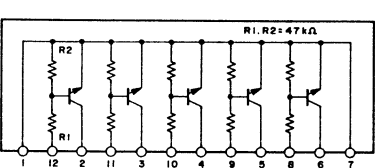
QT51



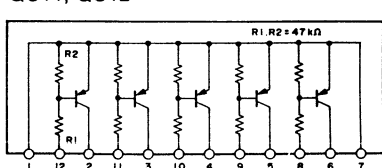
QE05, Q901 ~ Q903, Q401
QX05 ~ QX08, QS06
QJ31



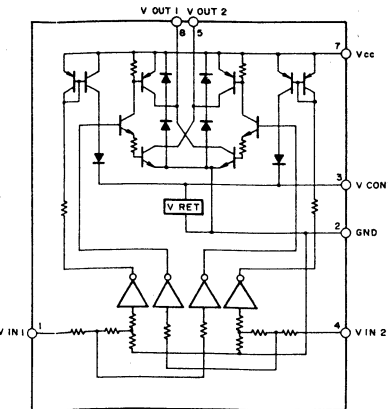
QS10



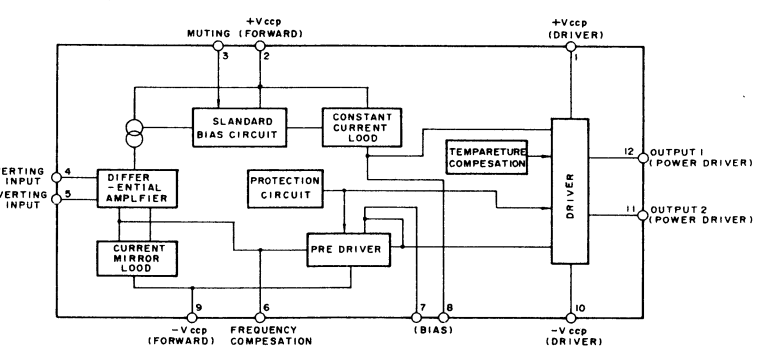
QS11, QS12

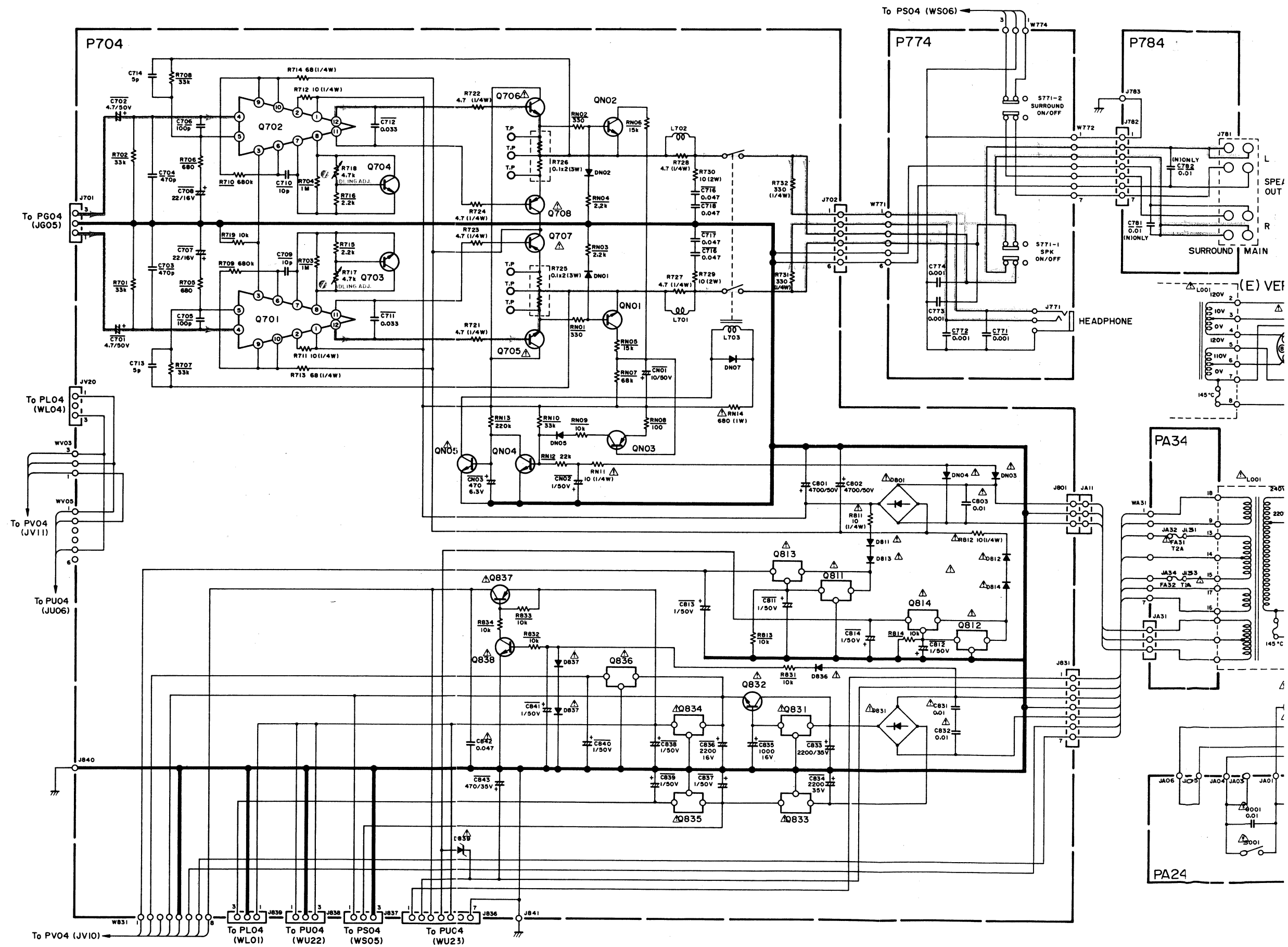


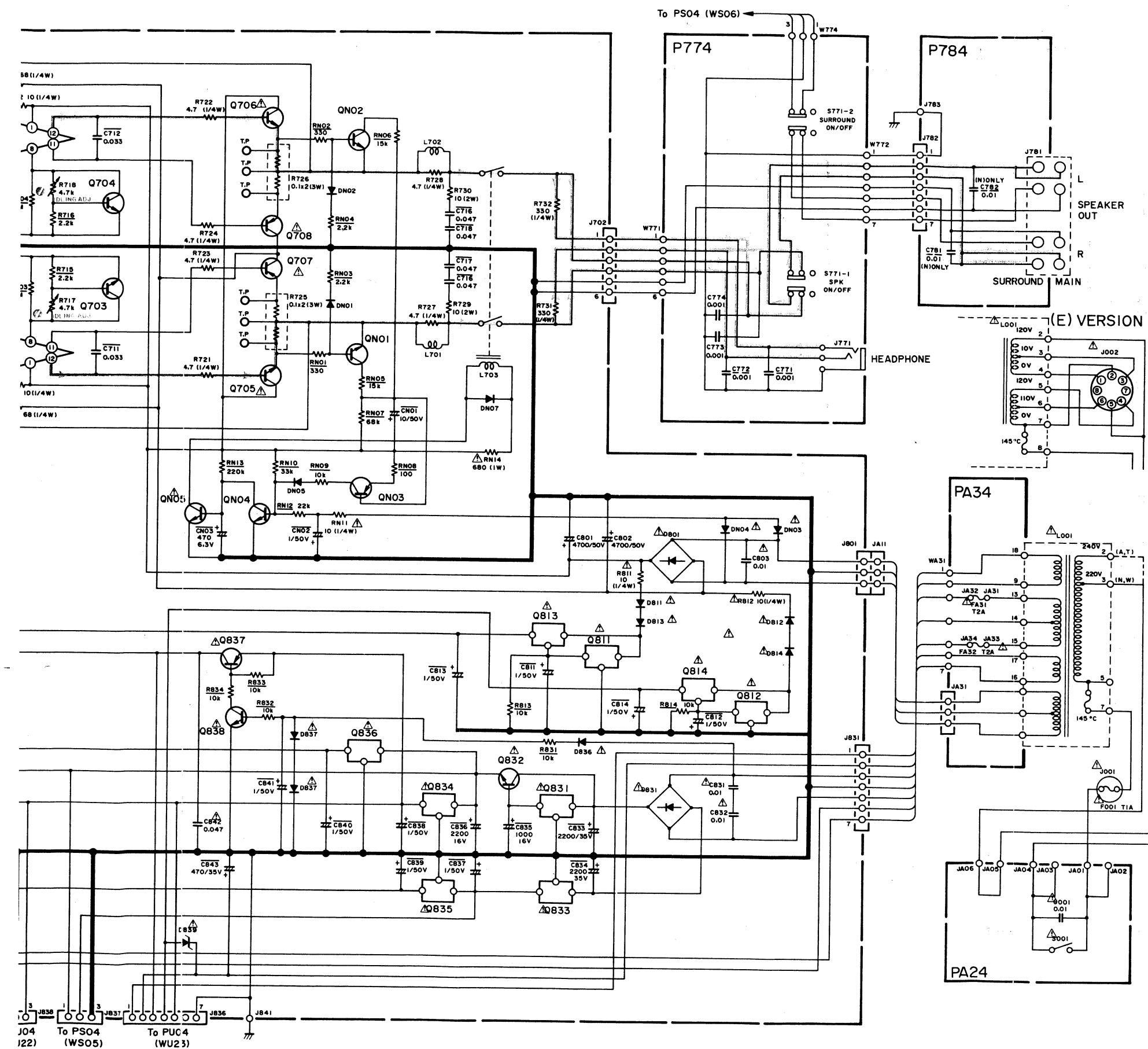
QU05



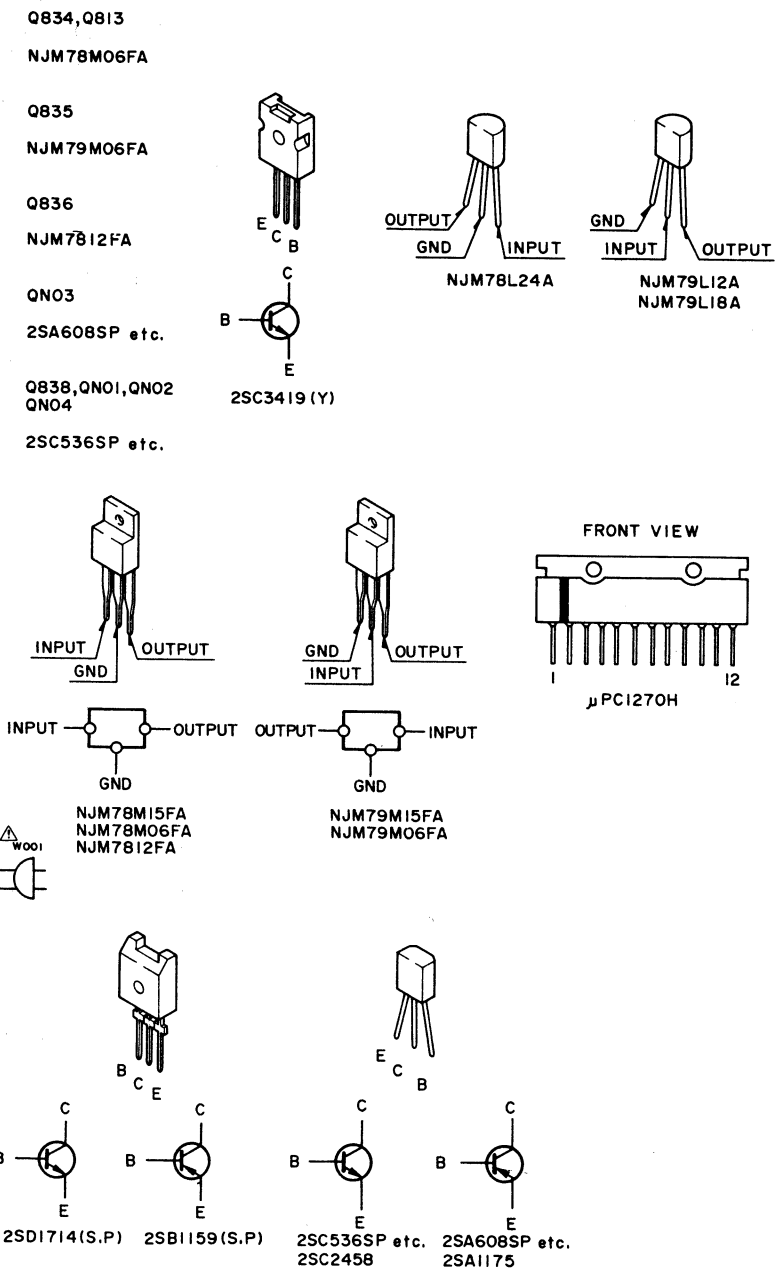
Q701, Q702



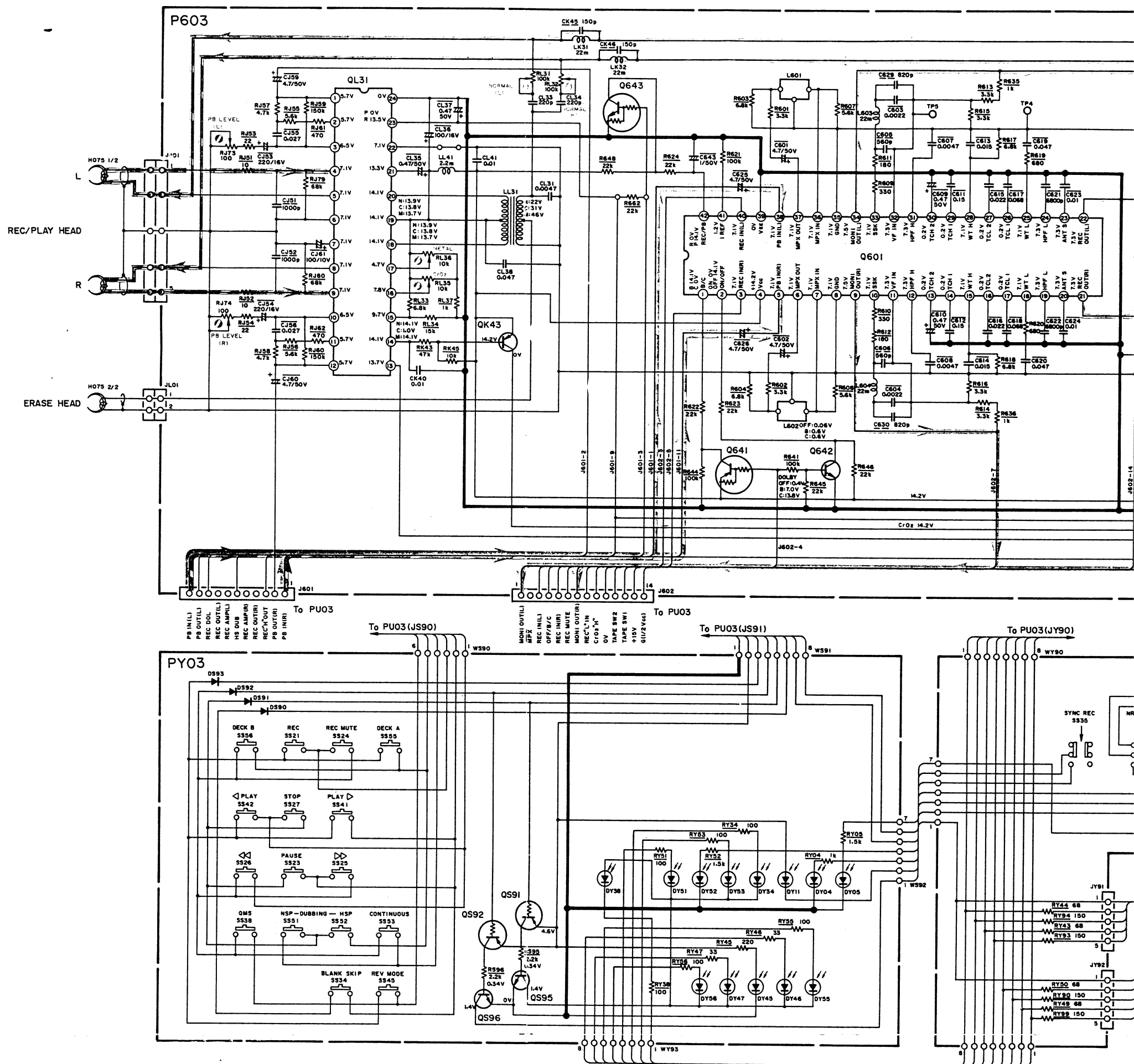




Q701, Q702	D801	Q811
μPC-1270H-V	S4VB-20	NJM78L24A
Q703, Q704	D811~D818, D832~D838	Q812
2SC3419 (Y)	DN03, DN04, DN07	NJM79L18A
	S5688G	
Q705, Q706, Q832	D819	Q814
2SD1714 (S.P)	16V ZENER	NJM79L12A
Q707, Q708	D820, D821	D839
2SB1159 (S.P)	15V ZENER	MTZJ10C
Q831	D831	QN05
NJM78M15FA	S2VB	2SC2458
Q833	DN01, DN02, DN05	Q837
NJM79M15FA	ISS133 etc.	2SA1175



SCHEMATIC DIAGRAM



NOTE ON SAFETY:

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

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

"SERVICE IN ANY MISAD REPAIR BY

RE

R*** (1) G

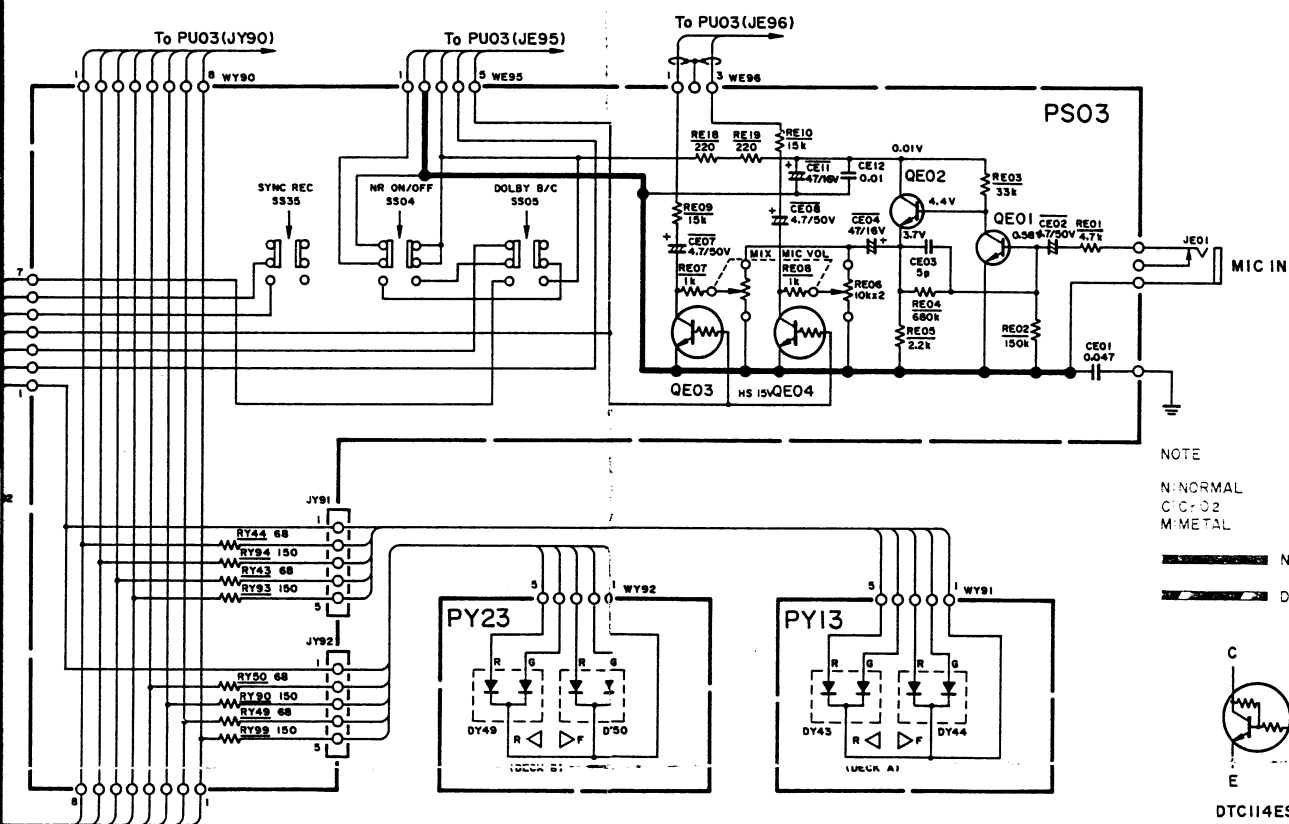
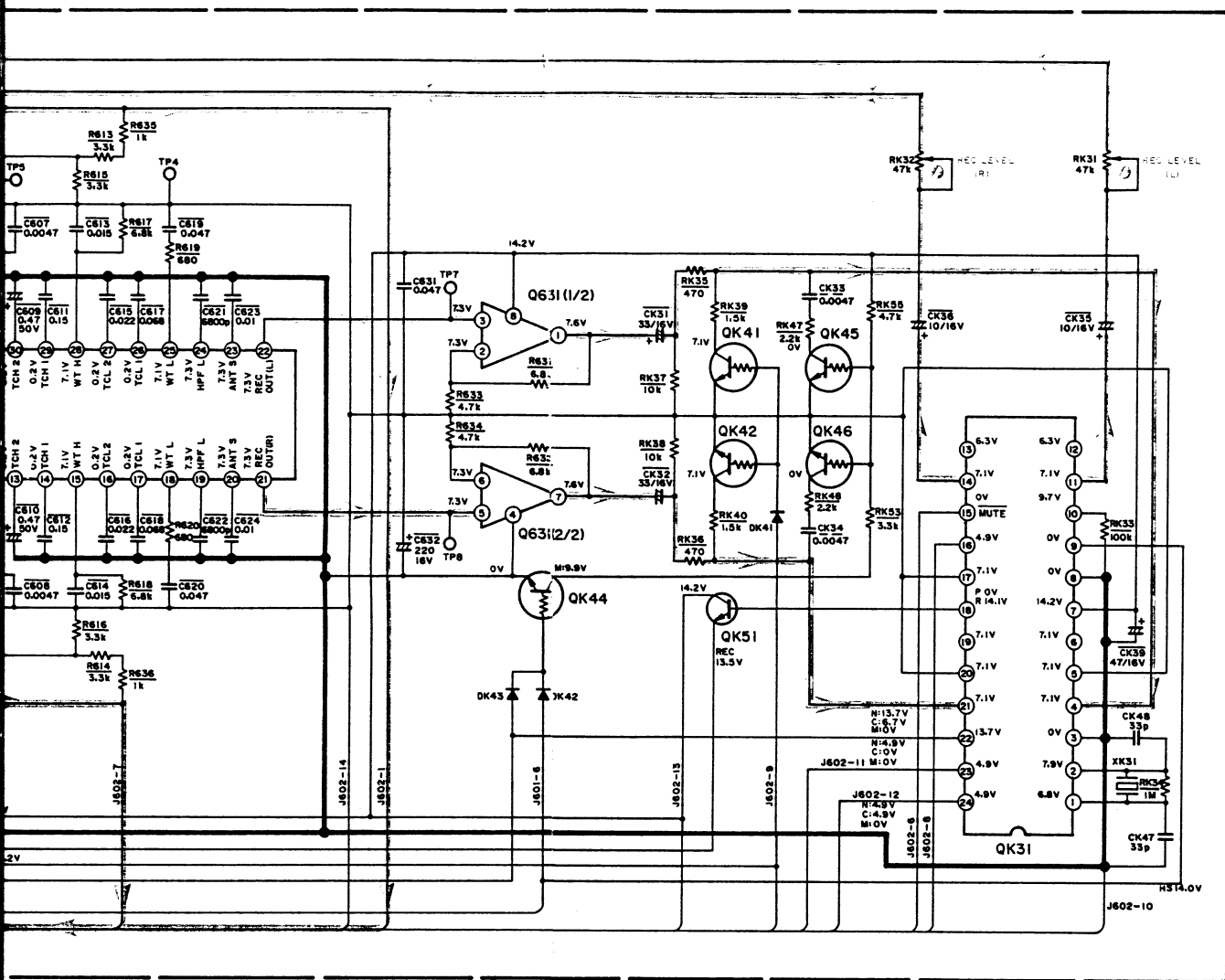
R*** (2) G

C*** : CE

(1) DD

C*** : CE

(1) DK



"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, $\pm 5\%$ 1/4W
R*** (2) GD05 160, Carbon film fixed resistor, $\pm 5\%$ 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

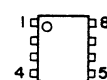
ELECTROLY CAP. (E) / FILM CAP. (F)

- (1) EA 10, Electrolytic condenser,
one-way lead type, tolerance $\pm 20\%$
(2) DF15 350, Plastic film condenser,
one-way type, Mylar, $\pm 5\%$ 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"

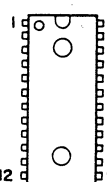
- Q601
CX20187
Q631
NJM45580
QK43
2SA608SP, etc.
Q642, Q601, Q602
QK51
2SC536SP, etc.
QK31
TDA1601
TDD1601
QS95, QS96
2SC1741 (Q, R)
DK41~DK43
DS90~DS93
ISS133, etc.
DY05, DY34, DY38
DY45~DY47, DY51~DY53
DY55, DY56
LT308B
DY43, DY44, DY49, DY50
DUAL COLOR LED (GR, RED)
Q643
DTC114ES
QL31
HC10004490
TDA1600
QE03, QE04, QK41
QK42, QK44~QK46
DTC114TS
QS91, QS92
DTA114S
Q641
DTA144ES
DY04, DY11
LT308B
NORMAL PLAY (2) SIGNAL
DUBBING (2) SIGNAL
DTC114ES
DTA144ES
DTC114TS
DTA114S

TOP VIEW



NJM45580

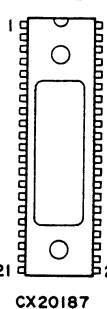
TOP VIEW



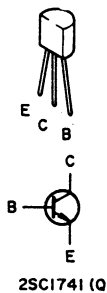
TDA1600

TDD1601

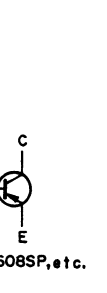
TOP VIEW



CX20187



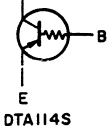
2SC1741 (Q, R)



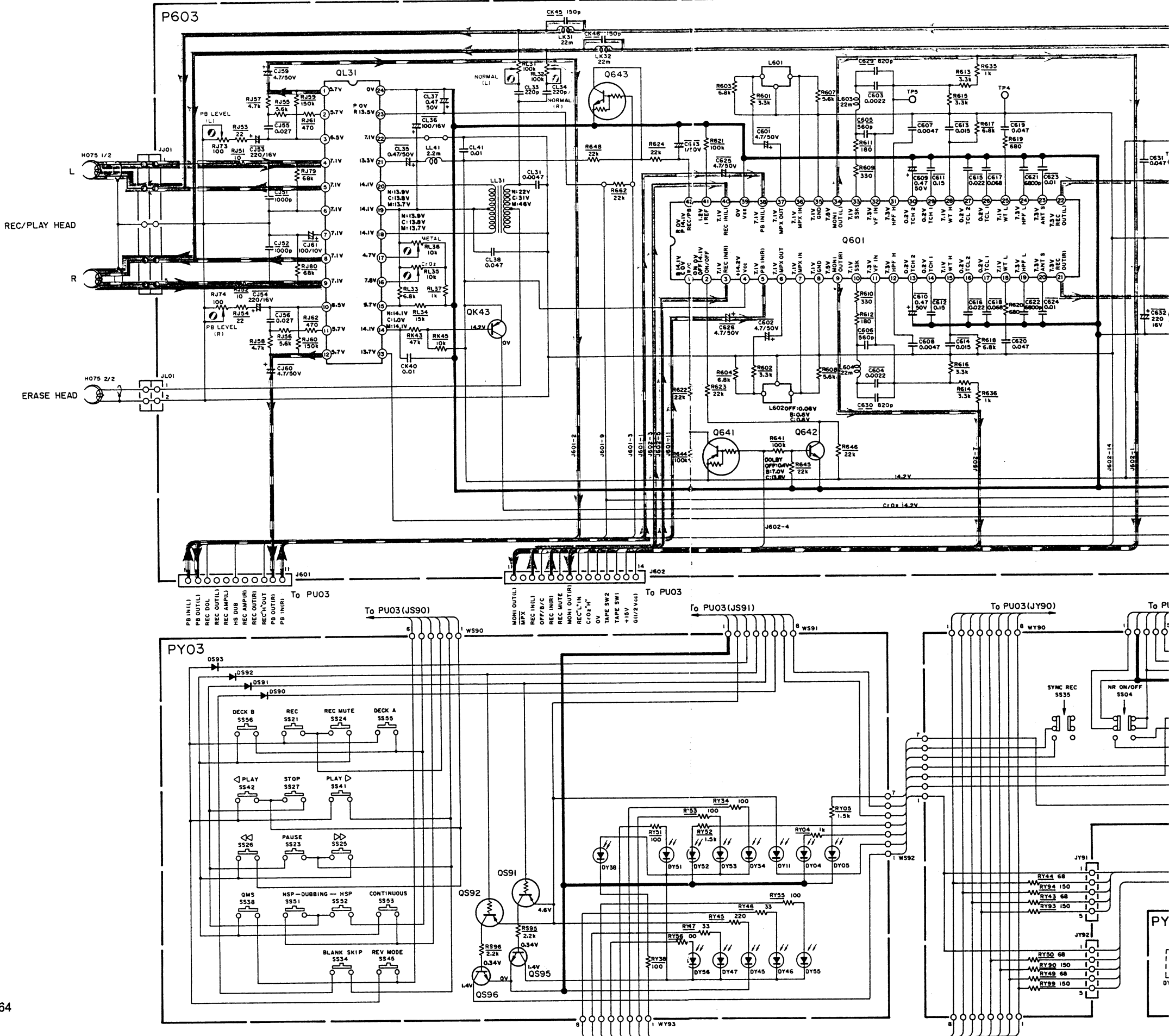
2SA608SP, etc.

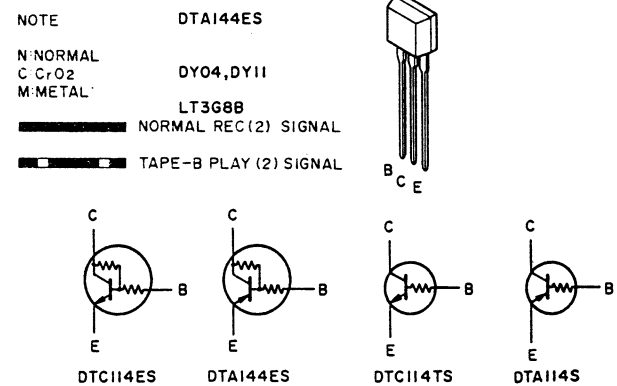
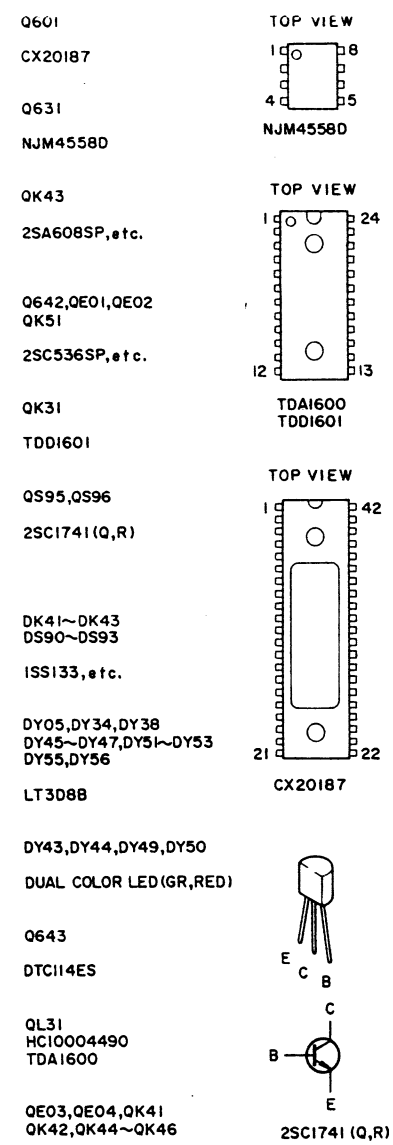


2SC536SP, etc.

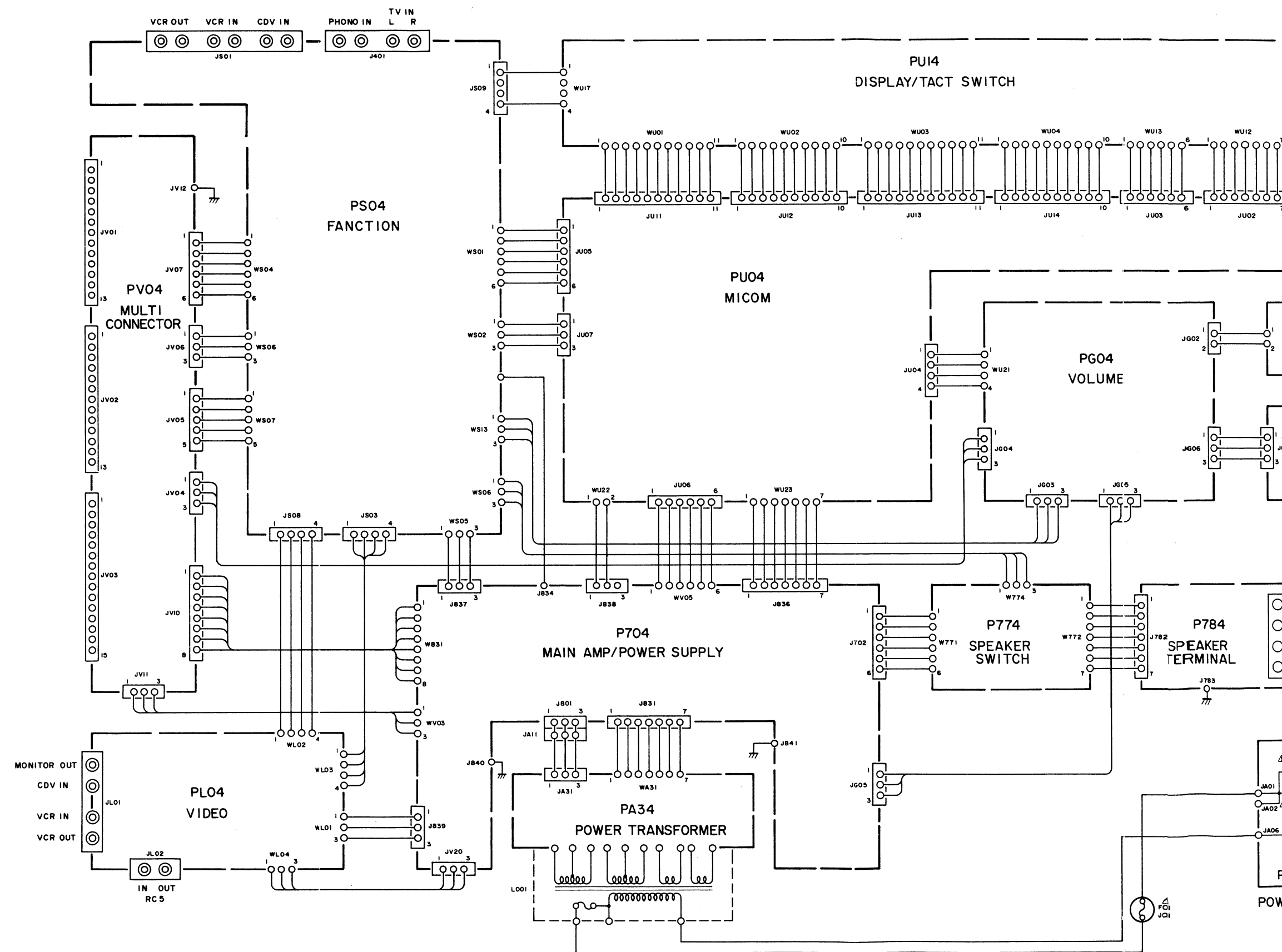


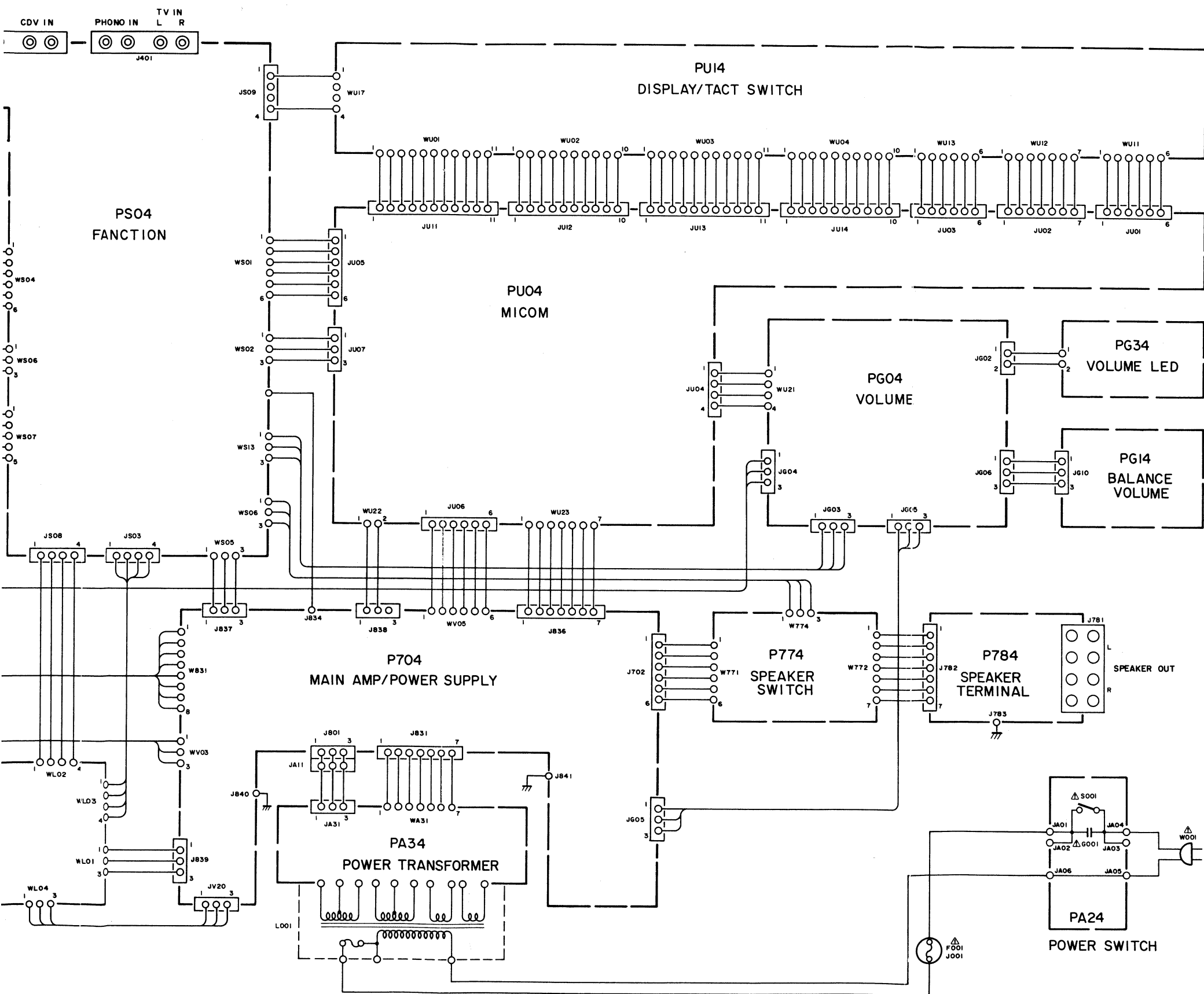
MZ 1963





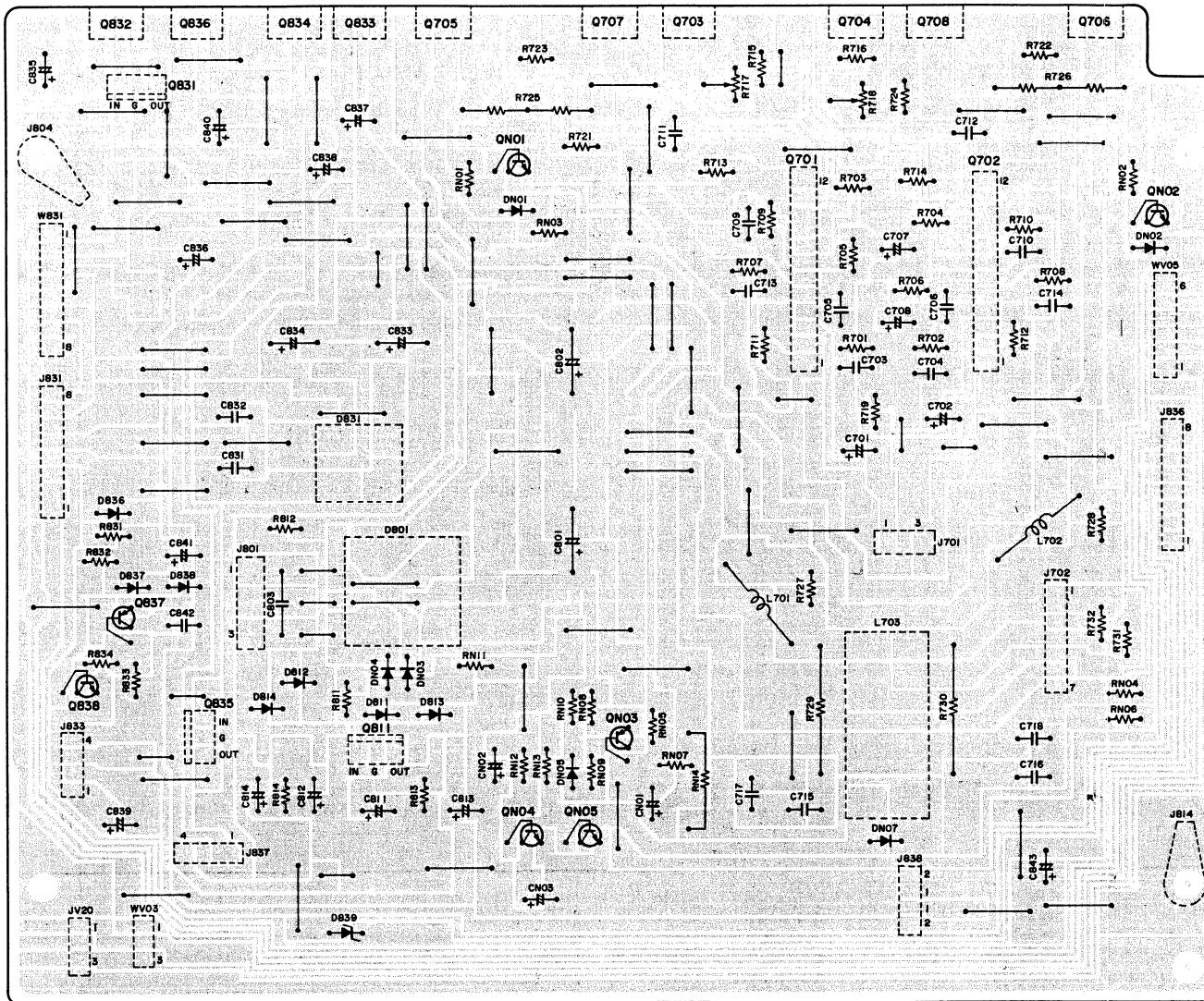
7. WIRING DIAGRAM



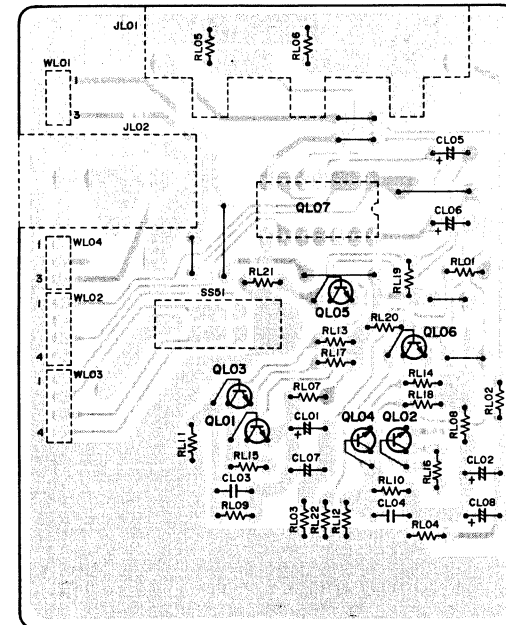


8. COMPONENT LOCATIONS

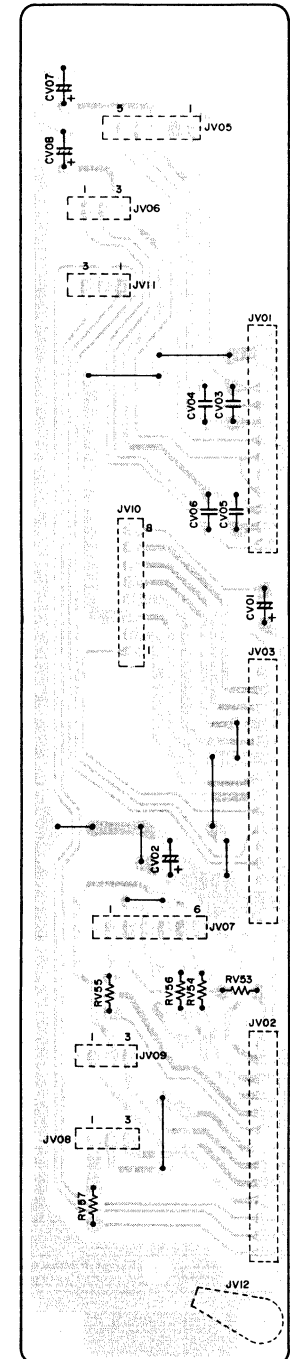
P704 MAIN/POWER SUPPLY



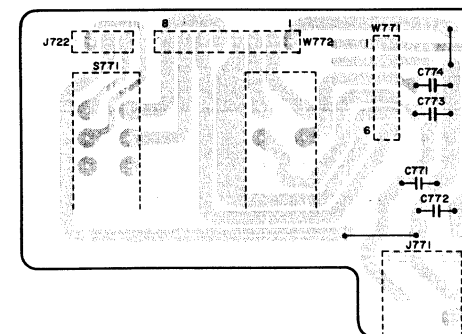
PL04 VIDEO AMP



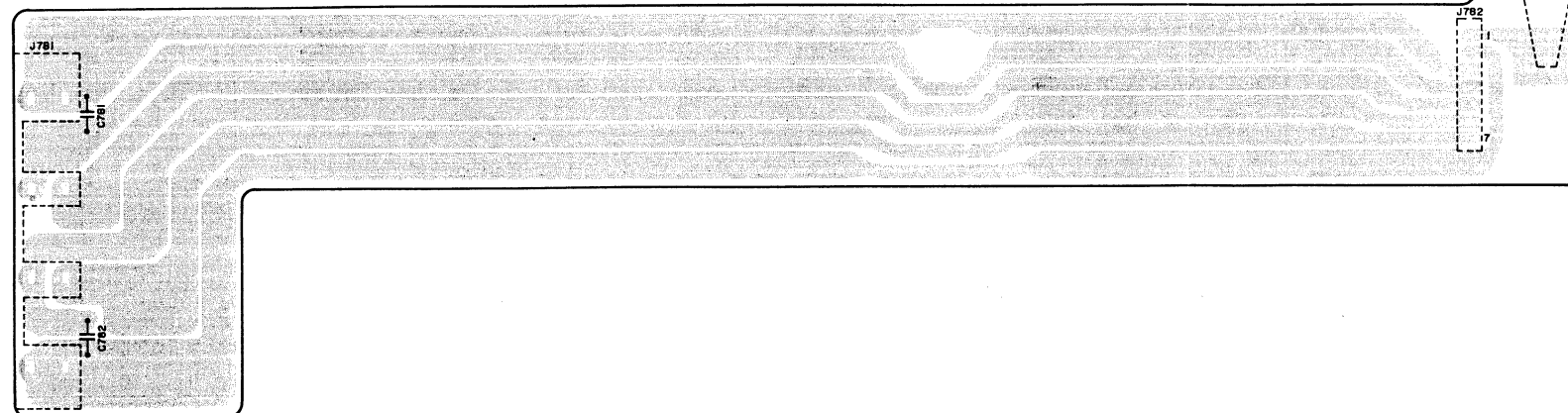
PV04 MULTI CONNECTOR



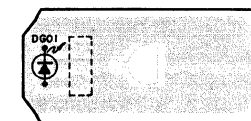
P774 SPEAKER SWITCH



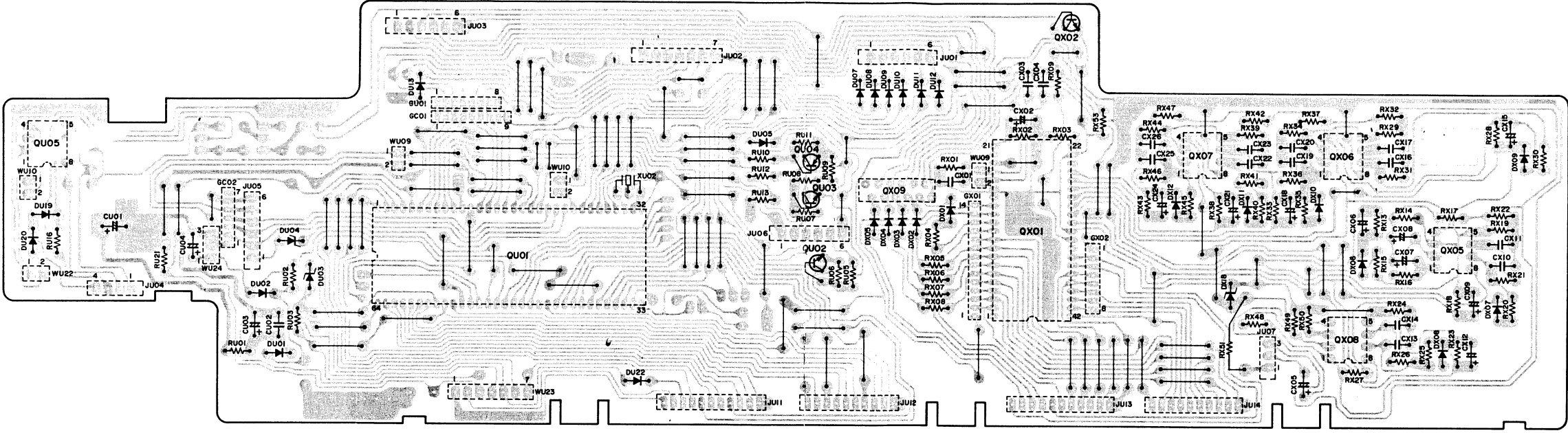
P784 SPEAKER TERMINAL



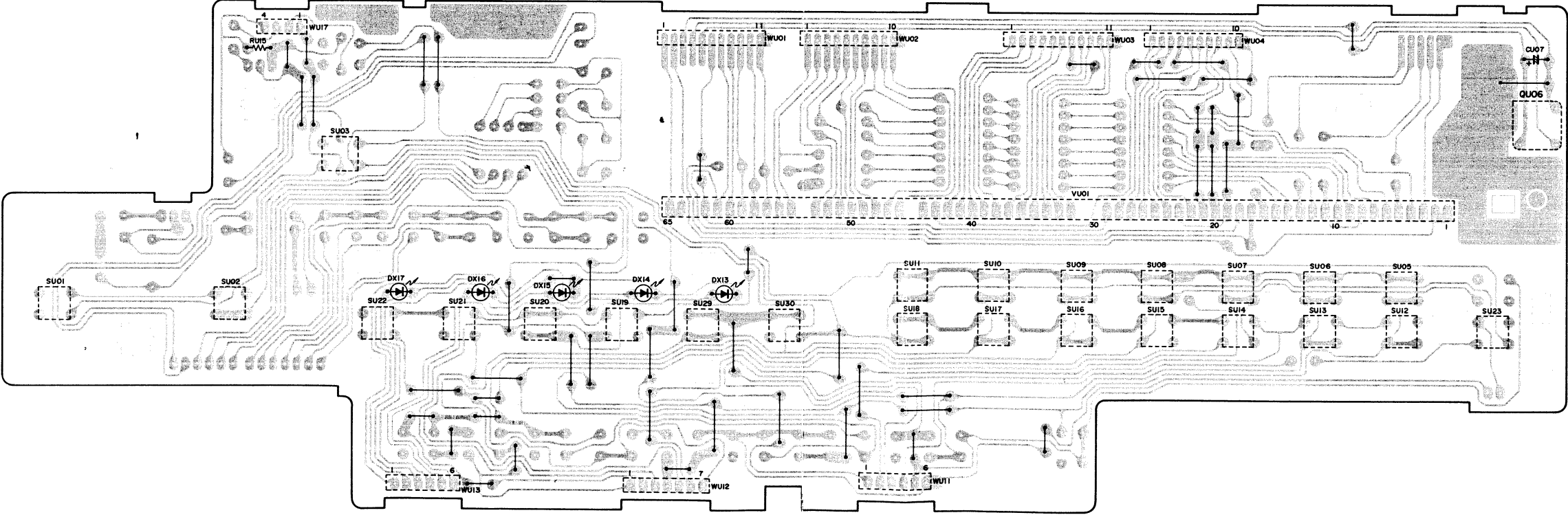
PG34 VOLUME LED



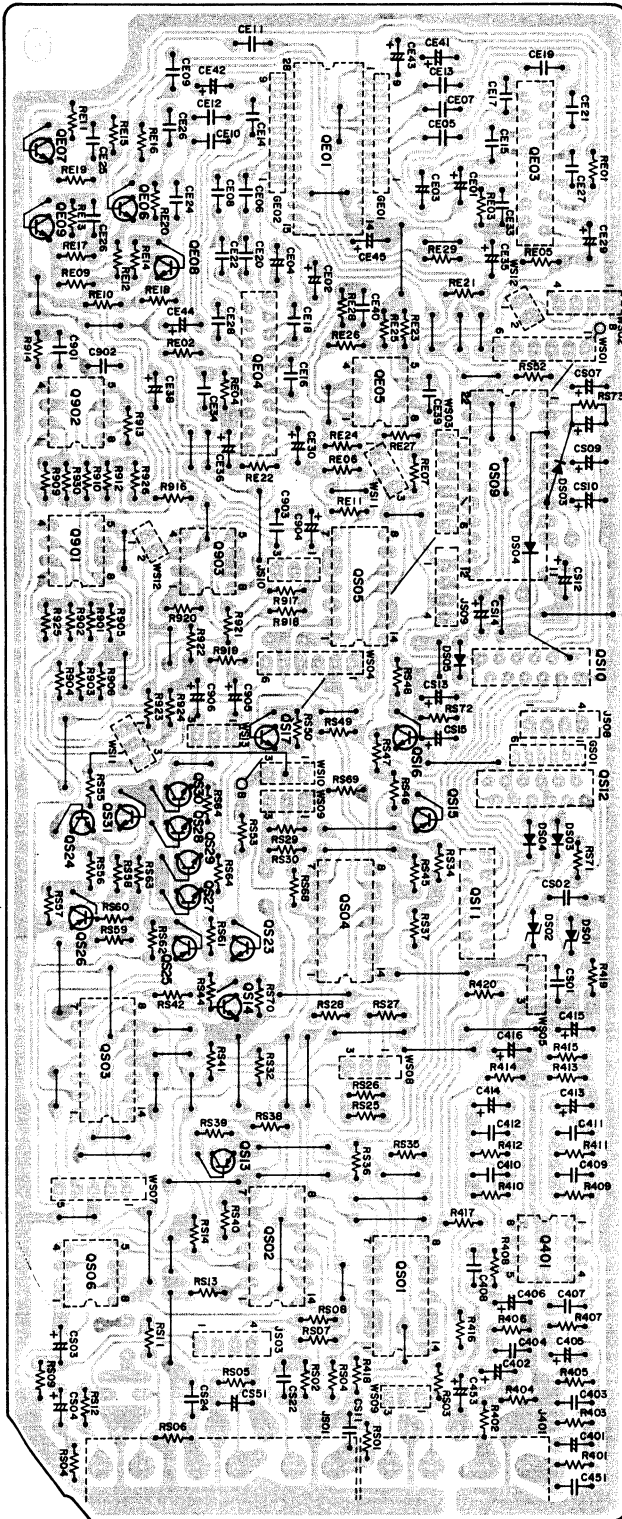
PU04 U-COM



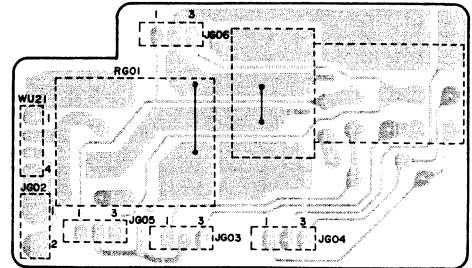
PU14 FIP TACT SWITCH



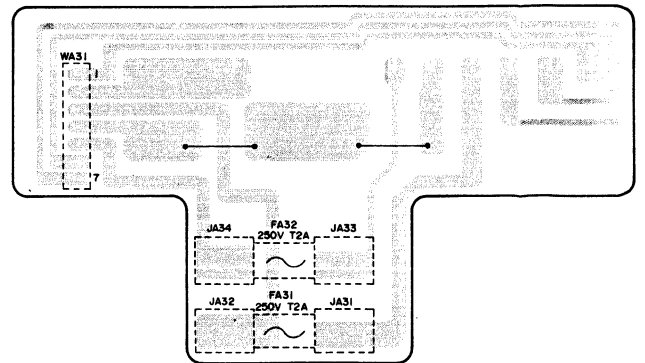
PS04 FUNCTION



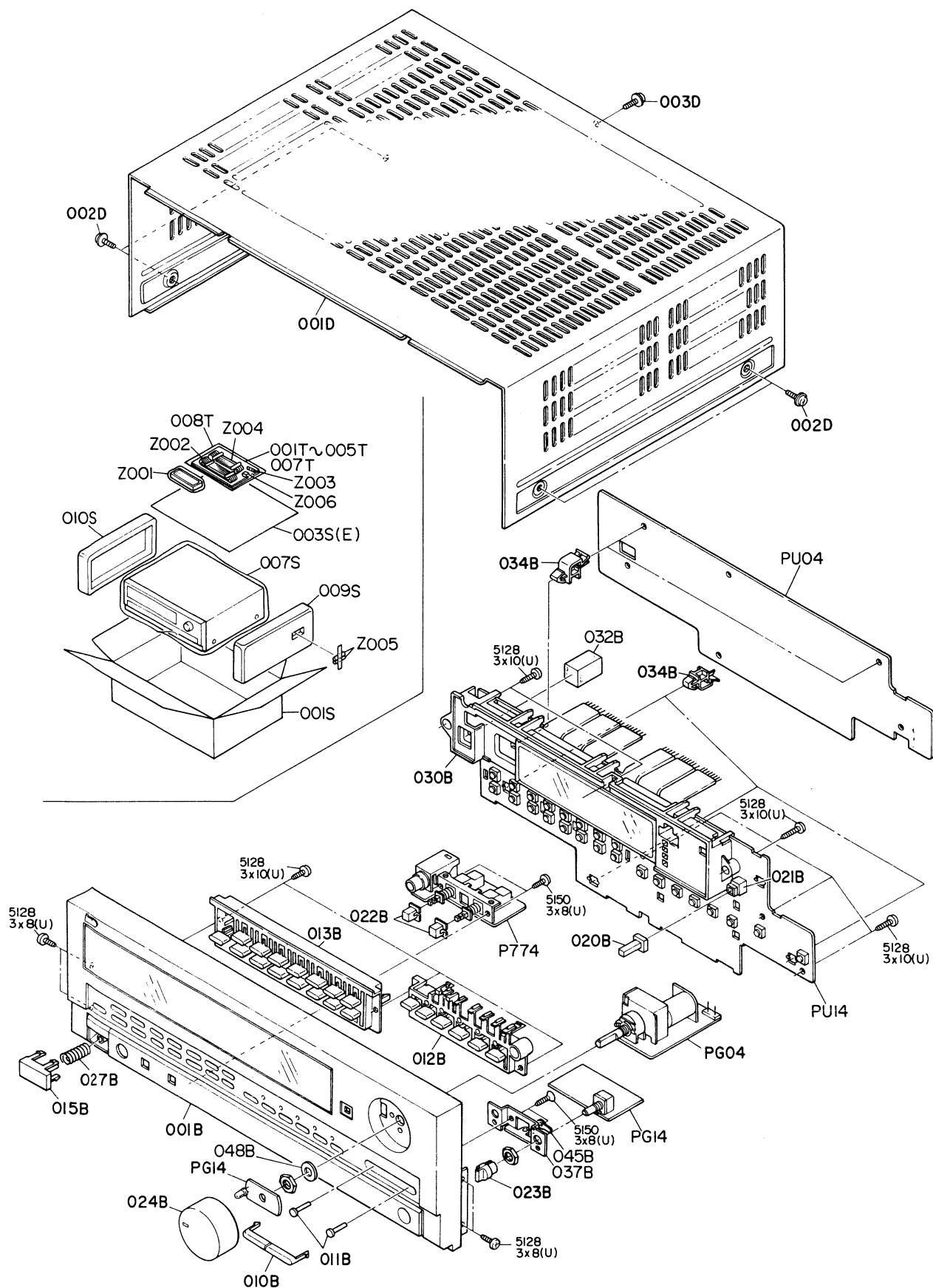
PG04 MOTOR VOLUME



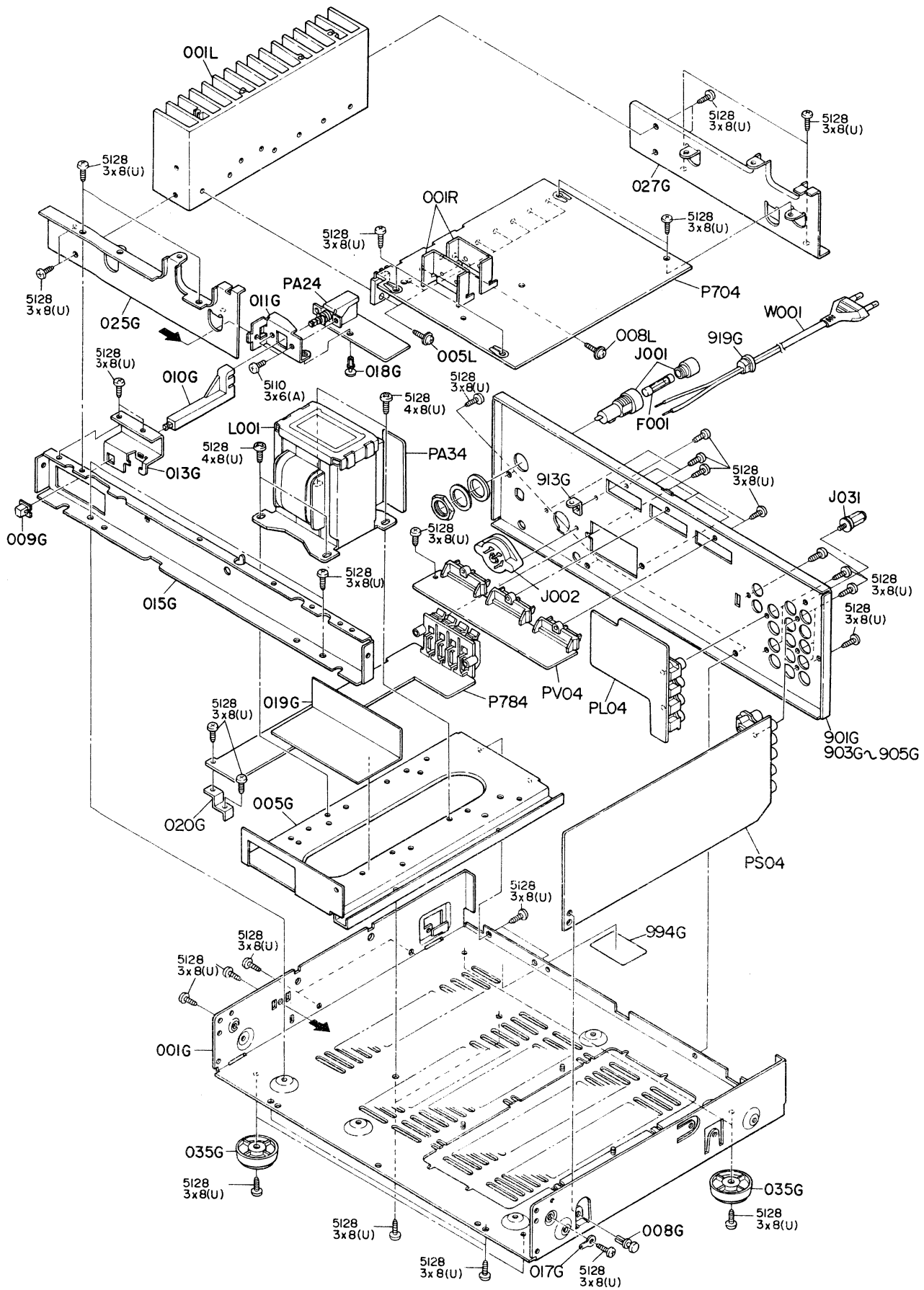
PA34 POWER TRANSF.



9. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 426 51298	Front Panel Assembly
010B	4822 410 25819	Button, Function
011B	4822 535 92497	Pin
012B	4822 410 26589	Button, Hinge; Memory
013B	4822 410 26591	Button, Hinge; EQ
015B	4822 410 26592	Button, Power
020B	4822 381 10895	Lens, Muting
021B	4822 532 51719	Bushing, Muting
022B	4822 410 26593	Button, Speaker Surround
023B	4822 412 20997	Knob, Balance
024B	4822 413 41465	Knob [K]
027B	4822 492 52016	Spring, Power Button
030B	4822 256 91327	Holder, FL
032B	4822 466 61642	Spacer
034B	4822 402 61143	Holder
037B	4822 404 20984	Bracket, Volume
045B	4822 323 10103	Lug
048B	4822 532 11664	Collar
001D	4822 426 40389	Lid, Top Cover
002D	4822 502 12355	B.T. Screw B3 x 8
003D	4822 502 12355	B.T. Screw B3 x 8
PACKING		
009S	4822 600 70473	Cushion, Right
010S	4822 600 70545	Cushion, Left
001T	4822 736 13993	User Manual
008T	4822 600 70363	Polyethylene Bag
Z001	4822 218 10227	Unit K, RC-53
Z003	4822 253 30025	Fuse T2.0A [E]
Z005	4822 138 10155	Battery, SUM-3
Z006	4822 265 10092	Jack, AC Adaptor [E]



REF. DESIG.	PART NO.	DESCRIPTION
005G	4822 404 20985	Bracket Transformer
008G	4822 530 80277	Clamper
009G	4822 410 26593	Button, Power Spacer
010G	4822 278 80217	Link, Power Switch
017G	4822 323 10103	Lug
018G	4822 530 80277	Clamper
020G	4822 404 20806	Bracket
034G	4822 462 41271	Leg, Front
035G	4822 462 41186	Leg Rear
901G	4822 435 20086	Rear Panel [N]
903G	4822 426 20171	Rear Panel [A]
905G	4822 435 20085	Rear Panel [E]
919G	4822 532 51314	Bushing, AC Cord
994G	4822 600 70229	Label, Caution
005L	4822 502 12161	Fain Neck B.T. Screw M3 x 12
008L	4822 502 12161	Fain Neck B.T. Screw M3 x 12
001R	4822 255 40874	Heatsink
△ F001	4822 253 30021	Fuse 4A 250V
△ J001	4822 256 30233	Jack, Fuse Holder
△ J002	4822 272 10227	Voltage Selector [E]
△ J031	4822 290 40297	Terminal GND
△ L001	4822 146 21343	Power Transformer [E]
	4822 146 21348	Power Transformer [N, A, W]
△ W001	4822 321 10428	A.C. Power Cord [N, W]
	4822 321 10429	A.C. Power Cord [E]

10. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R*:** (1) GD05 --- 140, Carbon film fixed resistor, $\pm 5\%$, 1/4W

R*:** (2) GD05 --- 160, Carbon film fixed resistor, $\pm 5\%$, 1/6W

① — Resistance value

Examples

① Resistance value
 0.1 Ω ...001 10 Ω ...100 1k Ω ...102 100k Ω ...104
 0.5 Ω ...005 18 Ω ...180 2.7k Ω ...272 680k Ω ...684
 1 Ω ...010 100 Ω ...101 10k Ω ...103 1Mk Ω ...105
 6.8 Ω ...068 390 Ω ...391 22k Ω ...223 4.7Mk Ω ...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
 Temp. coeff. P350 ~ N1000, 50V

① ②
 Capacity value
 Tolerance

Examples

① Tolerance (Capacity deviation)
 $\pm 0.25\text{pF}$...0
 $\pm 0.5\text{pF}$...1
 $\pm 5\%$...5

* Tolerance of COMMON PARTS handled here are as follows:

0.5pF ~ 5pF... $\pm 0.25\text{pF}$
 6pF ~ 10pF... $\pm 0.5\text{pF}$
 12pF ~ 560pF... $\pm 5\%$

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
 Temp. chara. 2B4, 50V

①
 Capacity value

Example

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

C***: ELECTROLY CAP. (∇), FILM CAP. ($\pm$)

(1) EA --- 10, Electrolytic condenser
 One-way lead type, Tolerance $\pm 20\%$

① ②
 Dielectric strength
 Capacity value

Examples

① Capacity value
 0.1 μF ...104 4.7 μF ...475 100 μF ...107
 0.33 μF ...334 10 μF ...106 330 μF ...337
 1 μF ...105 22 μF ...226 1100 μF ...108
 2200 μF ...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 $\pm 5\%$ 50V

①
 Capacity value

Examples

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

REF. DESIG.	PART NO.	DESCRIPTION
PA24-POWER SWITCH CIRCUIT BOARD		
Δ G001	4822 122 33276	Ceramic 0.01 μF , Spark Killer
Δ S001	4822 276 11654	Push Switch Power
JA01 ? JA06	4822 265 10158	Plug
PA34-POWER TRANSFORMER CIRCUIT BOARD		
Δ L001	4822 146 21343 4822 146 21348	Power Transformer [E] Power Transformer [N, A, W]
Δ FA31	4822 253 30025	Fuse T2.0A 250V
Δ FA32	4822 253 30025	Fuse T2.0A 250V
JA11	4822 265 10093	Jack, 3P
JA31	4822 267 70978	Jack, Fuse Clip
JA32	4822 256 30329	Jack, Fuse Clip
JA33	4822 267 70978	Jack, Fuse Clip
JA34	4822 256 30329	Jack, Fuse Clip
PG04-MOTOR VR CIRCUIT BOARD		
RG01	4822 101 30569	Variable Resistor, Motor
JG02	4822 265 10158	Plug, 2P
JG03	4822 265 10062	Jack, 3P
JG04	4822 265 10062	Jack, 3P
PG14-BALANCE VOLUME CIRCUIT BOARD		
RG10	4822 101 30568	Variable Resistor 100K Ω (B) Balance
JG10	4822 265 10062	Jack, 3P
PG34-VOLUME LED CIRCUIT BOARD		
DG01	4822 130 80326	L.E.D. LT3D8B
PL04-VIDEO AMP CIRCUIT BOARD		
QL01 ? QL06 QL07	4822 130 42298	Transistor 2SC536SP(F, G), etc.
JL01	4822 266 30314	Terminal, 4P
JL02	4822 266 30236	Terminal, 2P
SS51	4822 277 21146	Slide Switch, Mono/Stereo
WL01	4822 323 10074	Jumper Lead, 3P
WL02	4822 323 10112	Jumper Lead, 4P
WL03	4822 323 10087	Jumper Lead, 4P
WL04	4822 323 10076	Jumper Lead, 3P

REF. DESIG.	PART NO.	DESCRIPTION
		PS04-FUNCTION CIRCUIT BOARD
		PS04-CAPACITORS
CS01	4822 122 40306	Ceramic 0.047 μ F +80% -20%
CS02	4822 122 40306	Ceramic 0.047 μ F +80% -20%
		PS04-RESISTORS
GS01	4822 111 91401	22K Ω x5, Array
GE01	4822 111 91644	100K Ω x9, Array
GE02	4822 111 91644	100K Ω x9, Array
		PS04-SEMICONDUCTORS
DS01	4822 130 80319	Zener 9.1V
DS02	4822 130 80319	Zener 9.1V
DS03	4822 130 33305	Diode 1SS133, etc.
DS04	4822 130 33305	Diode 1SS133, etc.
DS05	4822 130 33305	Diode 1SS133, etc.
DS07	4822 130 33305	Diode 1SS133, etc.
DS08	4822 130 33305	Diode 1SS133, etc.
QS01	4822 209 83804	IC LC4966
QS05		
QS06	4822 209 83631	IC NJM4558D-D
QS09	4822 209 83594	IC MSM59371RS
QS10	4822 209 71779	IC DT5C144E
QS11	4822 209 71778	IC DT5A144E
QS12	4822 209 71778	IC DT5A144E
QS13	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS14	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS15	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS16	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS17	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS23	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS24	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS25	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS26	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS27	4822 130 43818	Transistor 2SC2878
QS28	4822 130 43818	Transistor 2SC2878
QS29	4822 130 43818	Transistor 2SC2878
QS30	4822 130 43818	Transistor 2SC2878
QE01	4822 209 71783	IC LC7522
QE03	4822 209 83338	IC BA3812L
QE04	4822 209 83338	IC BA3812L
QE05	4822 209 83631	IC NJM4558D-D
QE06	4822 130 42298	Transistors 2SC536SP(F, G), etc.
QE07	4822 130 42298	Transistors 2SC536SP(F, G), etc.
QE08	4822 130 42298	Transistors 2SC536SP(F, G), etc.
QE09	4822 130 42298	Transistors 2SC536SP(F, G), etc.
Q401	4822 209 83631	IC NJM4558D-D
Q901	4822 209 83631	IC NJM4558D-D
Q902	4822 209 83631	IC NJM4558D-D
Q903	4822 209 83631	IC NJM4558D-D
		PS04-MISCELLANEOUS
JS01	4822 265 30457	Terminal, 6P; RCA
JS03	4822 265 10105	Jack, 4P
JS08	4822 265 10105	Jack, 4P
JS09	4822 265 10105	Jack, 4P
J401	4822 265 30397	Terminal, 4P; RCA

REF. DESIG.	PART NO.	DESCRIPTION
WS01	4822 323 10198	Jumper Lead, 6P
WS02	4822 323 10281	Jumper Lead, 3P
WS04	4822 323 10099	Jumper Lead, 6P
WS05	4822 323 10106	Jumper Lead, 3P
WS06	4822 321 21896	Connective Cord, 3P
WS07	4822 323 10094	Jumper Lead, 5P
WS08	4822 323 10077	Jumper Lead, 3P
WS09	4822 323 10076	Jumper Lead, 3P
WS10	4822 323 10281	Jumper Lead, 3P
WS11	4822 323 10106	Jumper Lead, 3P
WS12	4822 323 10124	Jumper Lead, 2P
WS13	4822 323 10141	Jumper Lead, 3P
		PU04-U-COM CIRCUIT BOARD
		PU04-CAPACITORS
CU01	4822 124 22272	Elect 0.1 μ F, Super
CU02	4822 122 40306	Ceramic 0.047 μ F +80% -20%
CU10	4822 122 40306	Ceramic 0.047 μ F +80% -20%
CU11	4822 122 40491	Ceramic 0.022 μ F +80% -20%
CU12	4822 122 32832	Ceramic 1000pF +80% -20%
CU13	4822 122 32832	Ceramic 1000pF +80% -20%
GC01	4822 111 91393	Composite 1000pFx8
GC02	4822 111 91643	Composite 1000pFx6
		PU04-RESISTORS
RX51	4822 111 50474	330 Ω $\pm$ 5% 1W
GU01	4822 111 91398	100K Ω x7, Array
GX01	4822 111 91397	100K Ω x13, Array
GX02	4822 111 91398	100K Ω x7, Array
		PU04-SEMICONDUCTORS
DU01	4822 130 33305	Diode 1SS133, etc.
DU02	4822 130 33305	Diode 1SS133, etc.
DU03	4822 130 80997	Zener MTZJ7.5V
DU04	4822 130 80132	Zener 3.9V
DU05		
	4822 130 33305	Diode 1SS133, etc.
DU13		
DU19	4822 130 80839	Diode S5668G
DU20	4822 130 80839	Diode S5668G
DU22	4822 130 33305	Diode 1SS133, etc.
DX01		
	4822 130 33305	Diode 1SS133, etc.
DX12		
DX18	4822 130 80317	Zener 5.1V
QU01	4822 209 73288	Microprocessor μ PD-75208CW/G
QU02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QU03	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QU04	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QU05	4822 209 73287	IC LB1630
QX01	4822 209 71782	IC LC7565
QX02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QX05	4822 209 80401	IC NJM4558D
QX06	4822 209 80401	IC NJM4558D
QX07	4822 209 80401	IC NJM4558D
QX08	4822 209 80401	IC NJM4558D
QX09	4822 209 73286	IC TA76

REF. DESIG.	PART NO.	DESCRIPTION
PU04-MISCELLANEOUS		
JU01	4822 265 10063	Jack, 6P
JU02	4822 265 10064	Jack, 7P
JU03	4822 265 10063	Jack, 6P
JU04	4822 265 10105	Jack, 4P
JU05	4822 265 10063	Jack, 4P
JU06	4822 265 10063	Jack, 4P
JU07	4822 265 10062	Jack, 3P
WU09	4822 323 10197	Jumper Lead, 2P
WU10	4822 323 10197	Jumper Lead, 2P
WU21	4822 323 10109	Jumper Lead, 4P
WU22	4822 323 10124	Jumper Lead, 2P
WU23	4822 323 10134	Jumper Lead, 7P
WU24	4822 323 10082	Jumper Lead, 3P
XU02	4822 242 72194	Ceramic Vibrator, 4.19MHz
PU14-FIP/TACT SWITCH CIRCUIT BOARD		
DX13 } DX17	4822 130 80326	L.E.D. LT3D8B
QU06	4822 130 10009	Photo Unit
SU01	4822 276 11559	Push Switch, Tact
SU02	4822 276 11559	Push Switch, Tact
SU03	4822 276 11656	Push Switch, Tact
SU05 } SU23	4822 276 11656	Push Switch, Tact
SU29	4822 276 11656	Push Switch, Tact
SU30	4822 276 11656	Push Switch, Tact
VU01	4822 130 90564	Display Unit
WU17	4822 323 10112	Jumper Lead, 4P
PV04-MULTI CONNECTOR CIRCUIT BOARD		
JV01	4822 266 30306	Terminal, 13P
JV02	4822 266 30306	Terminal, 13P
JV03	4822 266 30315	Terminal, 15P
JV05	4822 265 10061	Jack, 5P
JV06	4822 265 10062	Jack, 3P
JV07	4822 265 10063	Jack, 6P
JV08	4822 265 10062	Jack, 3P
JV09	4822 265 10062	Jack, 3P
JV10	4822 265 10059	Jack, 8P
JV11	4822 265 10062	Jack, 3P
JV12	4822 290 40209	Terminal, Earth
P704-MAIN AMP/POWER SUPPLY CIRCUIT BOARD		
P704-CAPACITORS		
C713	4822 122 40103	Ceramic 5pF ± 0.25 pF
C714	4822 122 40103	Ceramic 5pF ± 0.25 pF
C801	4822 124 41603	Elect 4700 μ F 50V
C802	4822 124 41603	Elect 4700 μ F 50V
C803	4822 122 40545	Ceramic 0.01 μ F $\pm 10\%$
C831	4822 122 32486	Ceramic 0.01 μ F +80% -20%
C832	4822 122 32486	Ceramic 0.01 μ F +80% -20%
C842	4822 122 40306	Ceramic 0.047 μ F +80% -20%

REF. DESIG.	PART NO.	DESCRIPTION
P704-RESISTORS		
Δ R711	4822 115 90166	10 Ω $\pm 2\%$ $\frac{1}{4}$ W, Fuse
Δ R712	4822 115 90166	10 Ω $\pm 2\%$ $\frac{1}{4}$ W, Fuse
Δ R713	4822 115 90314	68 Ω $\pm 2\%$ $\frac{1}{4}$ W, Fuse
Δ R714	4822 115 90314	68 Ω $\pm 2\%$ $\frac{1}{4}$ W, Fuse
R717	4822 100 11373	4.7K Ω , Trimming
R718	4822 100 11373	4.7K Ω , Trimming
R721	4822 116 52858	4.7 Ω $\pm 5\%$ $\frac{1}{4}$ W
R722	4822 116 52858	4.7 Ω $\pm 5\%$ $\frac{1}{4}$ W
R723	4822 116 52858	4.7 Ω $\pm 5\%$ $\frac{1}{4}$ W
R724	4822 116 52858	4.7 Ω $\pm 5\%$ $\frac{1}{4}$ W
R725	4822 111 91402	0.1 Ω x2 3W, Array
R726	4822 111 91402	0.1 Ω x2 3W, Array
R727	4822 116 52858	4.7 Ω $\pm 5\%$ $\frac{1}{4}$ W
R728	4822 116 52858	4.7 Ω $\pm 5\%$ $\frac{1}{4}$ W
R729	4822 111 90726	10 Ω $\pm 5\%$ 2W
R730	4822 111 90726	10 Ω $\pm 5\%$ 2W
R731	4822 111 90725	330 Ω $\pm 5\%$ $\frac{1}{4}$ W
R732	4822 111 90725	330 Ω $\pm 5\%$ $\frac{1}{4}$ W
Δ R811	4822 115 90166	10 Ω $\pm 2\%$ $\frac{1}{4}$ W, Fuse
Δ R812	4822 115 90166	10 Ω $\pm 2\%$ $\frac{1}{4}$ W, Fuse
Δ RN11	4822 115 90166	10 Ω $\pm 2\%$ $\frac{1}{4}$ W, Fuse
Δ RN14	4822 116 52115	680 Ω $\pm 5\%$ 1W
P704-SEMICONDUCTORS		
Δ D801	4822 130 31007	Diode S4VB-20
Δ D811	4822 130 80839	Diode S5688G
Δ D812	4822 130 80839	Diode S5688G
Δ D813	4822 130 80839	Diode S5688G
Δ D814	4822 130 80839	Diode S5688G
Δ D831	4822 130 80907	Diode S2VB
D836	4822 130 80839	Diode S5688G
D837	4822 130 80839	Diode S5688G
D838	4822 130 80839	Diode S5688G
D839	4822 130 80998	Zener MTZJ10V
DN01	4822 130 33305	Diode 1SS133, etc.
DN02	4822 130 33305	Diode 1SS133, etc.
DN03	4822 130 80839	Diode S5688G
DN04	4822 130 80839	Diode S5688G
DN05	4822 130 33305	Diode 1SS133, etc.
DN07	4822 130 80839	Diode S5688G
Q701	4822 209 83779	IC μ PC1270H-V
Q702	4822 209 83779	IC μ PC1270H-V
Q703	4822 130 60117	Transistor 2SC3419(Y)
Q704	4822 130 60117	Transistor 2SC3419(Y)
Δ Q705	4822 130 60698	Transistor 2SD1714(S, P)
Δ Q706	4822 130 60698	Transistor 2SD1714(S, P)
Δ Q707	4822 130 60695	Transistor 2SB1159(S, P)
Δ Q708	4822 130 60695	Transistor 2SB1159(S, P)
Q811	4822 209 73523	IC NJM78L24A
Q812	4822 209 73525	IC NJM79L18A
Q813	4822 209 83821	IC NJM78M06FA
Q814	4822 209 73524	IC NJM79L12A
Q831	4822 209 82829	IC NJM78M15FA
Q832	4822 130 60698	Transistor 2SD1714(S, P)
Q833	4822 209 83828	IC NJM79M15FA
Q834	4822 209 83821	IC NJM78M06FA
Q835	4822 209 72332	IC NJM79M06FA
Q836	4822 209 70084	IC NJM7812A
Q837	4822 130 42591	Transistor 2SA1175(FF, EF)
Q838	4822 130 42298	Transistor 2SC536SP(F, G), etc.

REF. DESIG.	PART NO.	DESCRIPTION
QN01	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QN02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QN03	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QN04	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QN05	4822 130 60839	Transistor 2SC2458
P704-MISCELLANEOUS		
J701	4822 265 10062	Jack, 3P
J702	4822 265 10063	Jack, 6P
J801	4822 265 20205	Plug, 3P
J831	4822 265 10064	Jack, 7P
J836	4822 265 10064	Jack, 7P
J837	4822 265 10062	Jack, 3P
J838	4822 265 10062	Jack, 3P
J839	4822 265 10062	Jack, 3P
J840	4822 290 40209	Terminal, Earth
J841	4822 290 40209	Terminal, Earth
JV20	4822 265 10062	Jack, 3P
L701	4822 157 51739	Coil
L702	4822 157 51739	Coil
L703	4822 280 20197	Relay
WV03	4822 323 10077	Jumper Lead, 3P
WV05	4822 323 10146	Jumper Lead, 6P
W831	4822 323 10212	Jumper Lead, 8P
P774-SPEAKER SWITCH CIRCUIT BOARD		
S771	4822 276 20466	Push Switch
J771	4822 267 30834	Jack, Headphone
J772	4822 265 10078	Plug, 3P
W771	4822 323 10273	Jumper Lead, 6P
W772	4822 323 10147	Jumper Lead, 7P
P784-SPEAKER TERMINAL CIRCUIT BOARD		
J781	4822 267 50424	Terminal, 8P; Speaker
J782	4822 265 10064	Jack, 7P
J783	4822 290 40209	Terminal, Earth

(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.

11. TECHNICAL SPECIFICATIONS

AUDIO/VIDEO MASTER AMPLIFIER PM583

Power output

T.S.P. (Total System Power, EIA, 6 Ohms)	130 W
DIN 8 ohms	2 x 40 W
T.H.D. (at 1/2 rated output)	0.05%
IM Distortion (at 1/2 rated output)	0.05%
Damping factor	50

Phono input

Signal to noise ratio	75 dB
Sensitivity	4.5 mV/47kOhms

CD, CDV/TV/Video inputs

Input sensitivity impedance	400 mV/25kOhms
Signal to noise ratio	90 dB
Frequency response	10 Hz - 50 kHz
Tone characteristic	7B EQ $\pm$ 10 dB
Channel separation	>60 dB at 1 kHz

Video section

Sensitivity	1.0 V/75 Ohms
Output level	1.0 V/75 Ohms
Dimension (W x H x D)	360 x 120 x 300 mm
Net weight	7.2 kg

Power supply

N version	220 V AC 50/60 Hz
T version	240 V AC 50/60 Hz
E version	110/120/220/240 V AC 50/60 Hz

TUNER SECTION

1. TEST EQUIPMENT REQUIRED FOR SERVICING

Item	Use
AM Signal Generator	Signal source for AM alignment
Test Loop	Use with AM signal generator
FM Signal Generator	Signal source for FM alignment
MPX Signal Generator	Stereo separation alignment and trouble shooting
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
AC VTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Frequency Counter	MPX oscillator adjustment (VCO)
Circuit Tester	Trouble shooting
DC VTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to tuner
Line Voltmeter	Monitors potential of primary power to tuner
Variable Autotransformer	Adjusts level of primary power to tuner

2. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model ST583/ST583L 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. Tuner mounted on P.W. Board P102
2. Preset Mode mounted on P.W. Board PT02
3. Preset UP/DOWN mounted on P.W. Board PS02
4. Input Output mounted on P.W. Board PW02

3. TUNER ALIGNMENT PROCEDURES

A dummy resistor of 47 kohms must be connected across the tuner output terminals before alignment.

3.1 FM Alignment Procedures (Function switch in the "FM" position, MODE switch in the MONO position.)

1. FM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	FM signal generator to FM antenna terminal (75Ω) through matching network Set the SG RF output level so that some noise can be observed on the upper and lower side of the output waveform.	98.00 MHz	VTVM to L or R channel output (J302 ⑫ or ⑬)	98.00 MHz	FRONT END IFT (A101: L8) for maximum output and minimum distortion.
2	FM signal generator 500μV output to FM antenna terminal (75Ω) through matching network Modulation Level DIN 40 kHz DEV. IHF 75 kHz DEV.	98.00 MHz	"O" center meter or DC current meter in 100 μA range (J201)	98.00 MHz	L201 (Primary) core so that the meter indicates its center or may read "O".
3	FM signal generator 500μV output to FM antenna terminal (75Ω) through matching network.	98.00 MHz	Distortion meter to L or R channel output (J302 ⑫ or ⑬)	98.00 MHz	L201 (Secondary) core for minimum distortion.

3.2 Muting Level Alignment (Function switch in the "FM" position, MODE switch in the "AUTO STEREO" position.)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	FM signal generator 6.3μV output to FM antenna terminal through matching network (75Ω)	98.00 MHz	VTVM to L or R channel output (J302 ⑫ or ⑬)	98.00 MHz	Adjust R211 until output is developed.

3.3 Multiplex Alignment Procedures (Function switch in the "FM" position, MODE switch in the "AUTO STEREO" position.)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	FM signal generator 500μV output modulated by MPX signal generator to FM antenna terminal (75Ω) through matching network Modulation Level DIN 40 kHz+8% Pilot DEV. IHF 67.5 kHz+9% Pilot DEV.	No modulation	Frequency counter to (J301)	98.00 MHz	R314 so that Frequency may precisely read 228.0 kHz.
2		Stereo left (1,000 Hz)	VTVM to right channel output (J302 ⑩)		R301 for same separation in both channels.
3		Stereo right (1,000 Hz)	VTVM to left channel output (J302 ⑪)		
4	Repeat steps 2 and 3.				

3.4 AM Alignment Procedures (Function switch in the "AM" position.)

1. AM IF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Sweep generator to AM Antenna Terminal.	450 kHz marker	Oscilloscope to (RA15)	—	FA01 for maximum and symmetric response.

AM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Apply the signal to the AM loop antenna from the AM signal generator using the test loop.	603 kHz (600 kHz)	VTVM to L or R channel output (J302 ② or ③)	603 kHz (600 kHz)	LA01 for maximum output.
2		1,404 kHz (1,400 kHz)		1,404 kHz (1,400 kHz)	CA01 for maximum output.
3	Repeat steps 1 and 2.				

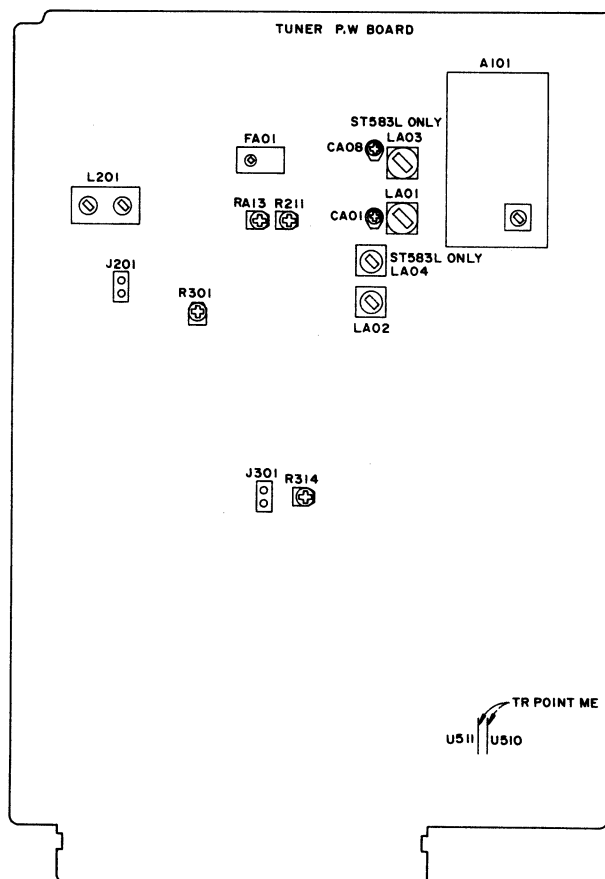
AM Signal Alignment (Function switch in the "AM" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Apply a signal to the AM loop antenna from the RF generator via the test loop. 500 μ V signal	999 kHz (1000 kHz)	—	999 kHz (1000 kHz)	Adjust RA13 so that light. "TUNED"

LW RF Alignment (Function in the "LW" position) ST583L Only

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Apply the signal to the AM loop antenna from the RF generator using the test loop.	173 kHz	VTVM to L or R channel output (J302 ② or ③)	173 kHz	LA03 for maximum output.
2		272 kHz		272 kHz	CA08 for maximum output.
3	Repeat steps 1 and 2 as necessary to obtain maximum sensitivity.				

4. TEST POINT AND ALIGNMENT POINTS



5. ONE-CHIP MICROPROCESSOR FOR TUNER-LC6514B-3357 (Q505)

1. Receiving Frequency Range, Channel Space, Reference Frequency, Intermediate Frequency

			Channel Space	Reference Frequency	Intermediate Frequency
Europe	FM	87.5 – 108.0MHz	50kHz	25kHz	+10.7MHz
	MW	531 – 1602kHz	9kHz	9kHz	+450kHz
	LW	152 – 282kHz	1kHz	1kHz	+450kHz

2. Tuning Function

- Automatic Up/Down Tuning (sawtooth wave mode)
- Manual Up/Down Tuning
The frequency changes in steps when the momentary switch is pressed or rapidly at a speed of approximately 70ms/step when the switch is depressed for 0.5 seconds or more. If the finger is released automatic tuning is performed.
- Preset Memory Recall
16 FM stations + 8 AM stations
For FM, 8 keys $\times$ 2 = 16
M1 to M8 when keys pressed for less than 0.5 sec.
M9 to M16 when keys pressed for more than 0.5 sec.
For AM (MW + LW) – 8
M1 to M8 (random for MW and LW)

3. Remote Control Function

Remote control operation with Philips RC-5 bus code signals.

- Band switching
- Preset recall
- Tuning up/down
- Mode (mono/stereo) switching

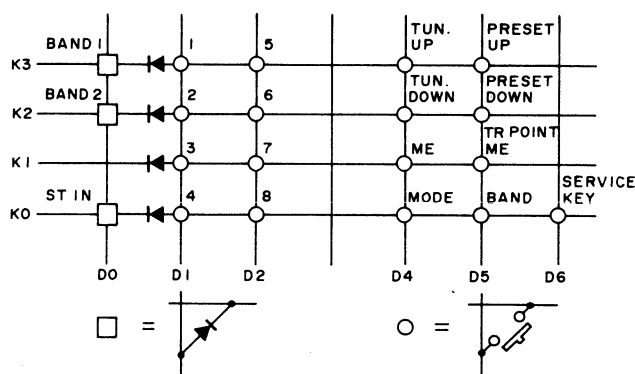
4. Easy Bus Out Function

The signal for switching the audio amplifier's input selector to TUNER is output as an RC-5 bus code. (For band switching, preset recall, and tuning up/down)

5. IF Count Function

For the LW band only, when the SD pin becomes high after the PLL frequency is changed, the IF frequency is counted and "TUNED" lights on the fluorescent display if the result is 450 kHz. If in the auto scan mode, scanning stops. (There is no IF count function for the FM and MW bands.)

6. Key Matrix



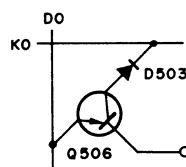
Description of Keys

- * **BAND 1**, **BAND 2** Initial setting diodes for directivity selection

	USA	JAPAN	EUROPE (w/o LW)	EUROPE (w/ LW)	
BAND 1	0	1	0	1	BAND 1: D501 BAND 2: D502
BAND 2	0	0	1	1	

0: No diode
1: Diode

- * **ST IN** (Transistor switch)
Inputs PLL IC LM7000 ST. OUT. (When IF frequency becomes 450 ± 0.6 kHz, ST. OUT becomes low and transistor switch turns ON.



- * **1 – 8** Preset memory setting and recall keys
- * **TUNE UP**, **DOWN** Tuning up and down keys
The frequency increases or decreases by 1 step when pressed once (0.5 sec. or less) and changes continuously at a speed of approximately 70 ms/step when pressed for more than 0.5 seconds. If the finger is released, automatic tuning is performed.
- * **ME** Memory setting key
When the key is pressed, "MEMORY" will light for approximately 5 seconds indicating that memory setting is possible. If pressed again, "MEMORY" will remain lit for another 5 seconds.
For AM, the frequency is stored at that key number when any key is pressed. For FM, the frequency is stored at numbers 1 to 8 if the keys are pressed for less than 0.5 seconds, and at numbers 9 to 16 if the keys are pressed for more than 0.5 seconds.
- * **MODE** Mono/stereo output select key
When pressed in FM, the mono/stereo output changes cyclicly between low and high. This can also be stored in the memory with the preset memory frequency.

- * **BAND** Band select key. Band switches each time key is pressed.

FM → AM (w/o LW)

FM → MW → LW (w/ LW)

- * **PRESET UP**, **DOWN** Preset scan up and down keys
The preset address increases or decreases by 1 step when pressed once (0.5 sec. or less) and changes continuously at a speed of approximately 0.5 sec/step when pressed for more than 0.5 seconds.

TR POINT ME (Tracking point memory key)

When test point J501 ① and ② on the P102 P.W. board are shorted, the following frequencies are written into the memory:

FM: P1=90.0 MHz, P2=98.0 MHz, P3=106.0 MHz

AM: P1=603 kHz, P2=999 kHz, P3=1404 kHz

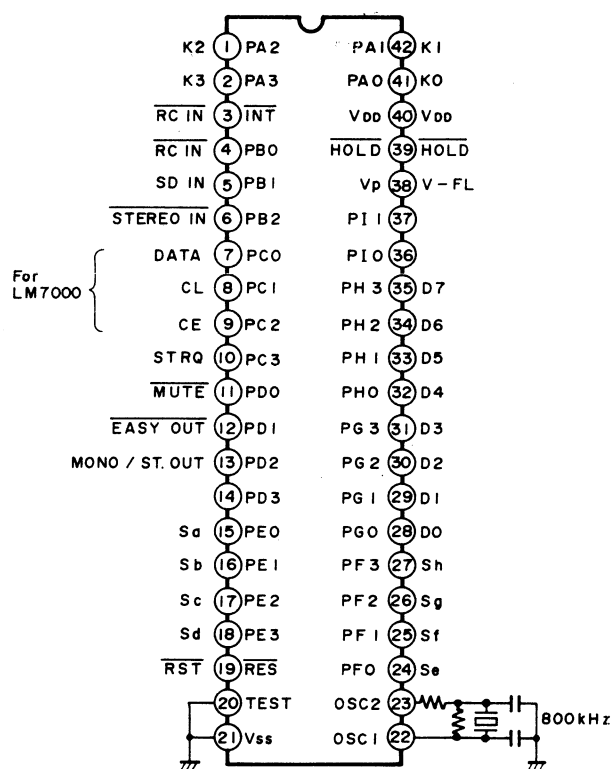
P4=173 kHz, P5=209 kHz, P6=272 kHz (LW only)

SERVICE (Service program start key)

When test points D6 and Ko on the P102 P.W. board are shorted, the following service program is started;

- 1) The muting signal is output.
- 2) First all displays on the fluorescent display turn off, then the segments light in order one at a time starting from the "a" segment for the fourth digit.
- 3) After the last segment lights, all segments remain lit for approximately 3 seconds, then the unit returns to the same status as before the service program was started.

Pin Connections Diagram



Description of Pins

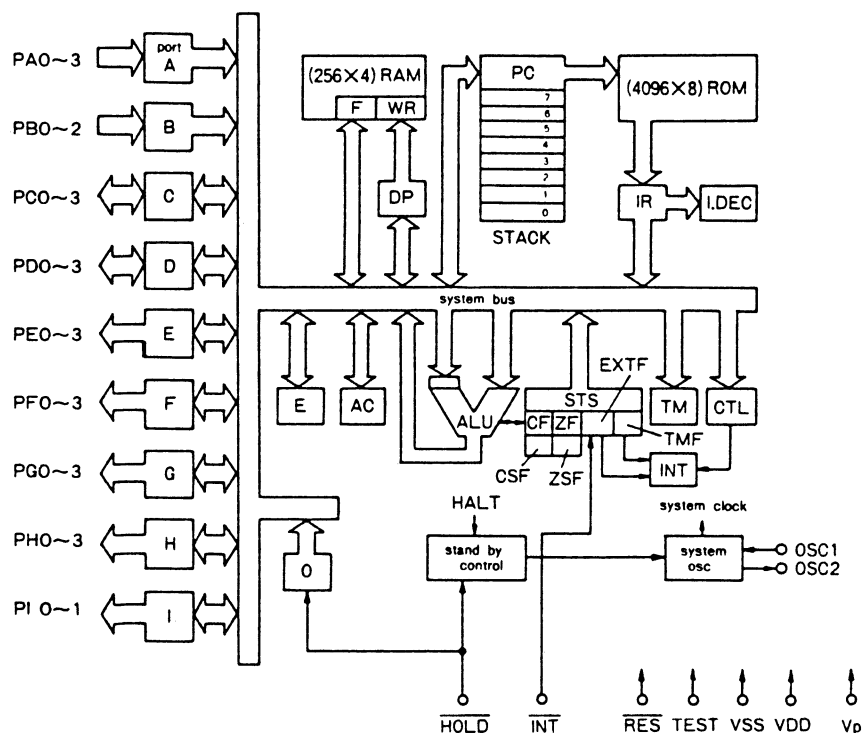
- Sa – Sh: Fluorescent display segment signals.
- Do – D7: Fluorescent display digit signals and key return signals.
D0 → Diode matrix return signal
D1 – D6 → Key return signals
D1 – D7 → Digit signals
- K0 – K3: Key input, diode matrix input
- DATA }
CL }
CE } Signals transferred to LM7000N
- R.C IN: For inputting remote control signal.
- SD IN: Stop signal input pin for auto tuning.
For FM and MW, when the SD IN pin becomes high, "TUNED" lights on the fluorescent display, and if in the auto tuning mode, scanning stops.
For LW, when the SD IN pin becomes high, the STRQ pin becomes high and the LM7000N performs IF counting. If the result is $450 \text{ kHz} \pm 0.6 \text{ kHz}$, ST IN becomes low, "TUNED" lights, and if in the auto tuning mode, scanning stops.
- ST RQ: Signal for making LM7000N perform IF counting.
For the LW band only, if the SD IN pin is high after the PLL data is changed, the ST RQ pin becomes high for approximately 180 ms.
- MUTE OUT: Audio mute signal.
Output when the band is switched, preset frequencies are recalled, the power is turned on, etc. Low when active

EASY OUT: Easy operation out signal.
Outputs a 14-bit RC-5 code synchronized with the MUTE OUT output.

MONO/ST. OUT: Mode switch output.
For FM, the output changes between low and high depending on the MODE key. When the output is high, "AUTO" lights on the fluorescent display, and when low, "AUTO" is not lit.

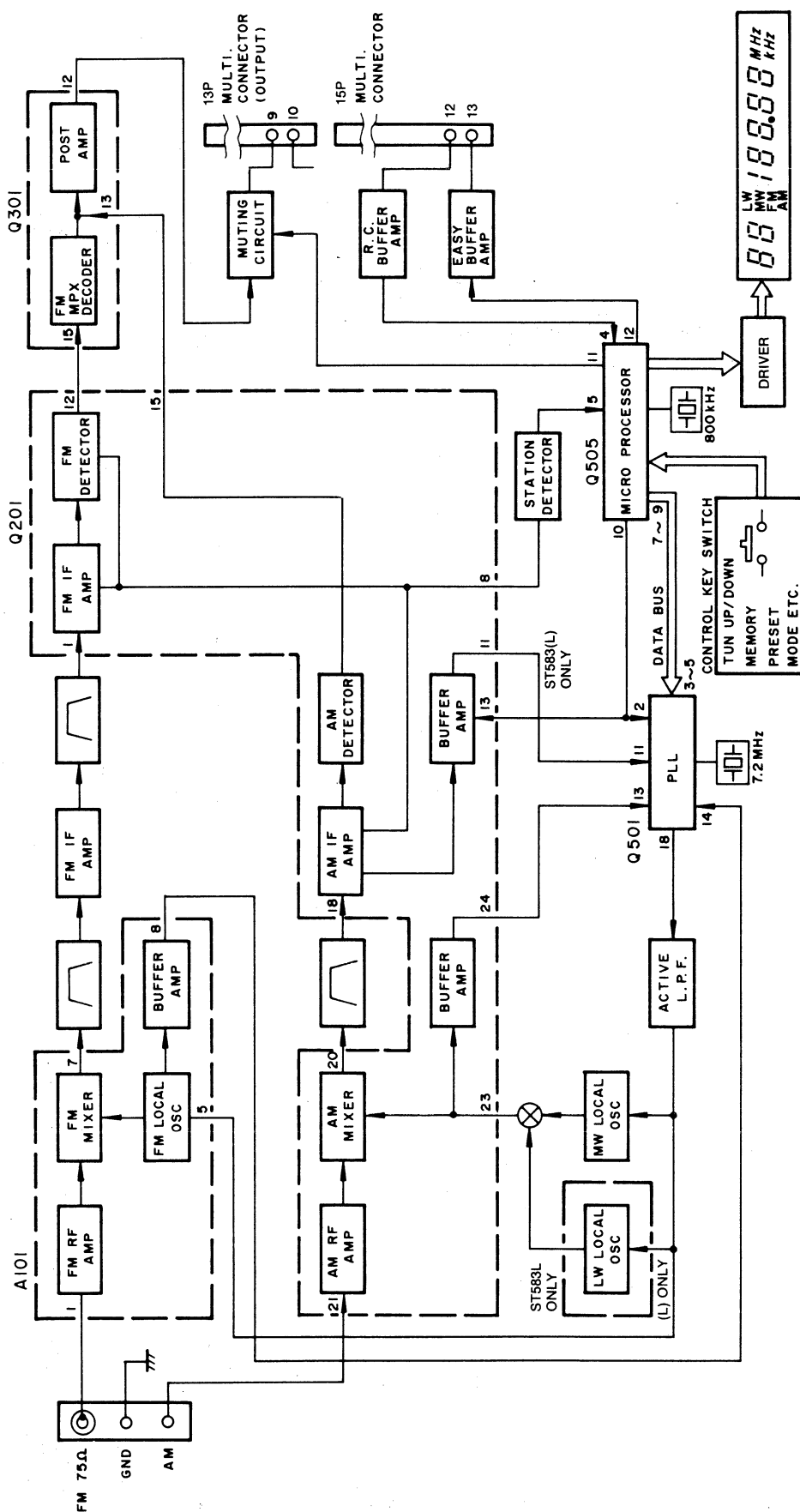
STEREO IN: Pin for lighting "STEREO" on fluorescent display.
For FM, when this pin becomes low, "STEREO" lights only when "TUNED" is lit.

System Block Diagram

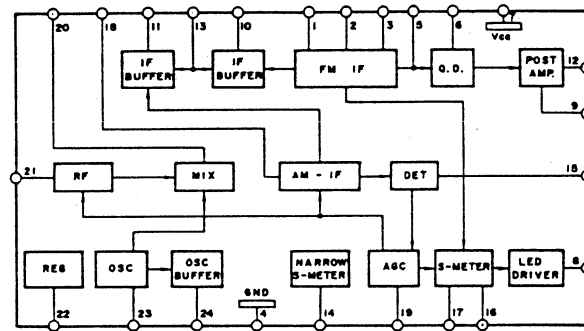


RAM: Data Memory
F: Flag
WR: Working Register
AC: Accumulator
ALU: Logic Operation unit
DP: Data Pointer
E: E Register
CTL: Control Register
OSC: OSC Circuit
TM: Timer
STS: Status Register
ROM: Program Memory
PC: Program Counter
INT: Interrupt Control
IR: Inst. Register
I. DEC: Inst. Decoder
DF, CSF: Carry Flag
ZF, ZSF: Zero Flag

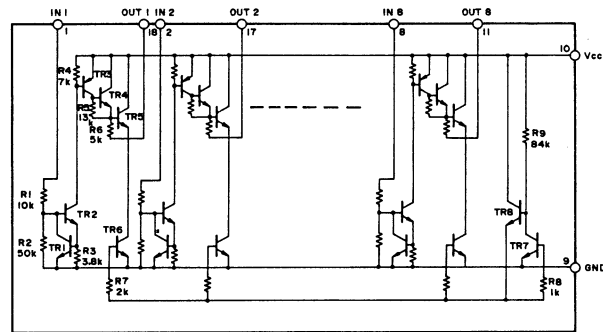
6. BLOCK DIAGRAM



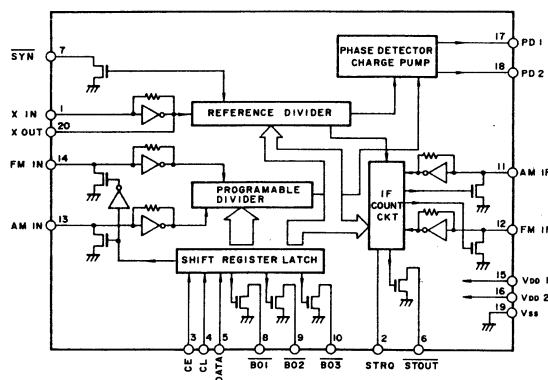
Q201



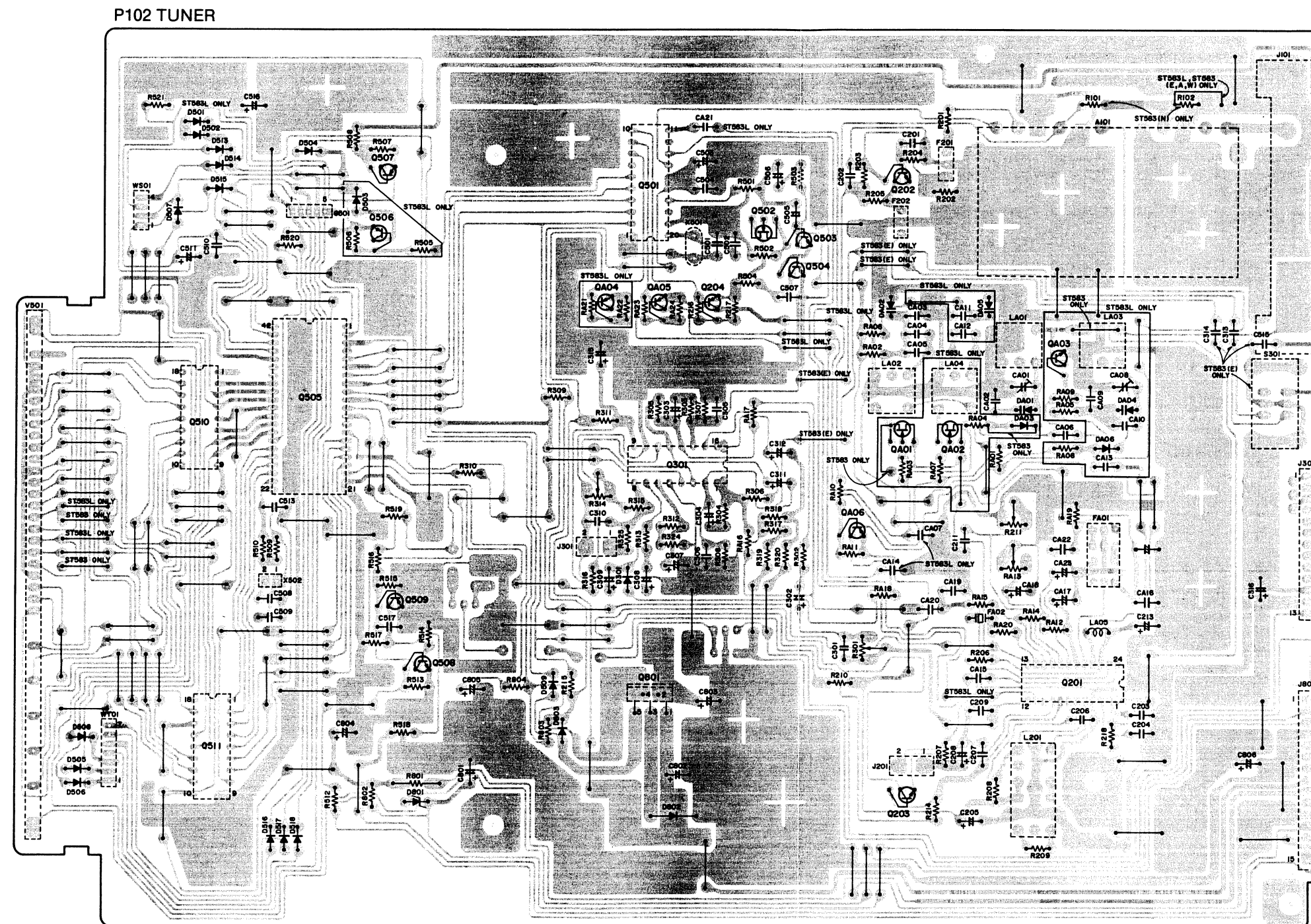
Q510, Q511



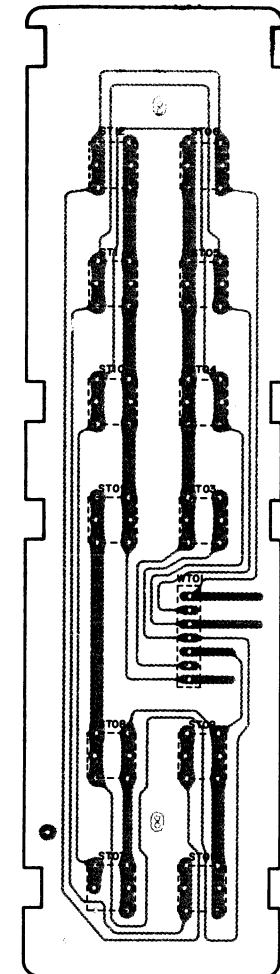
Q501



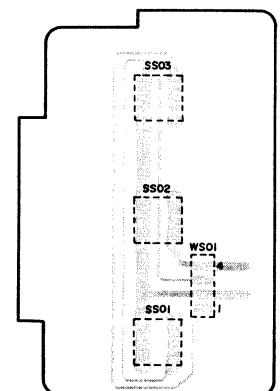
8. COMPONENT LOCATIONS



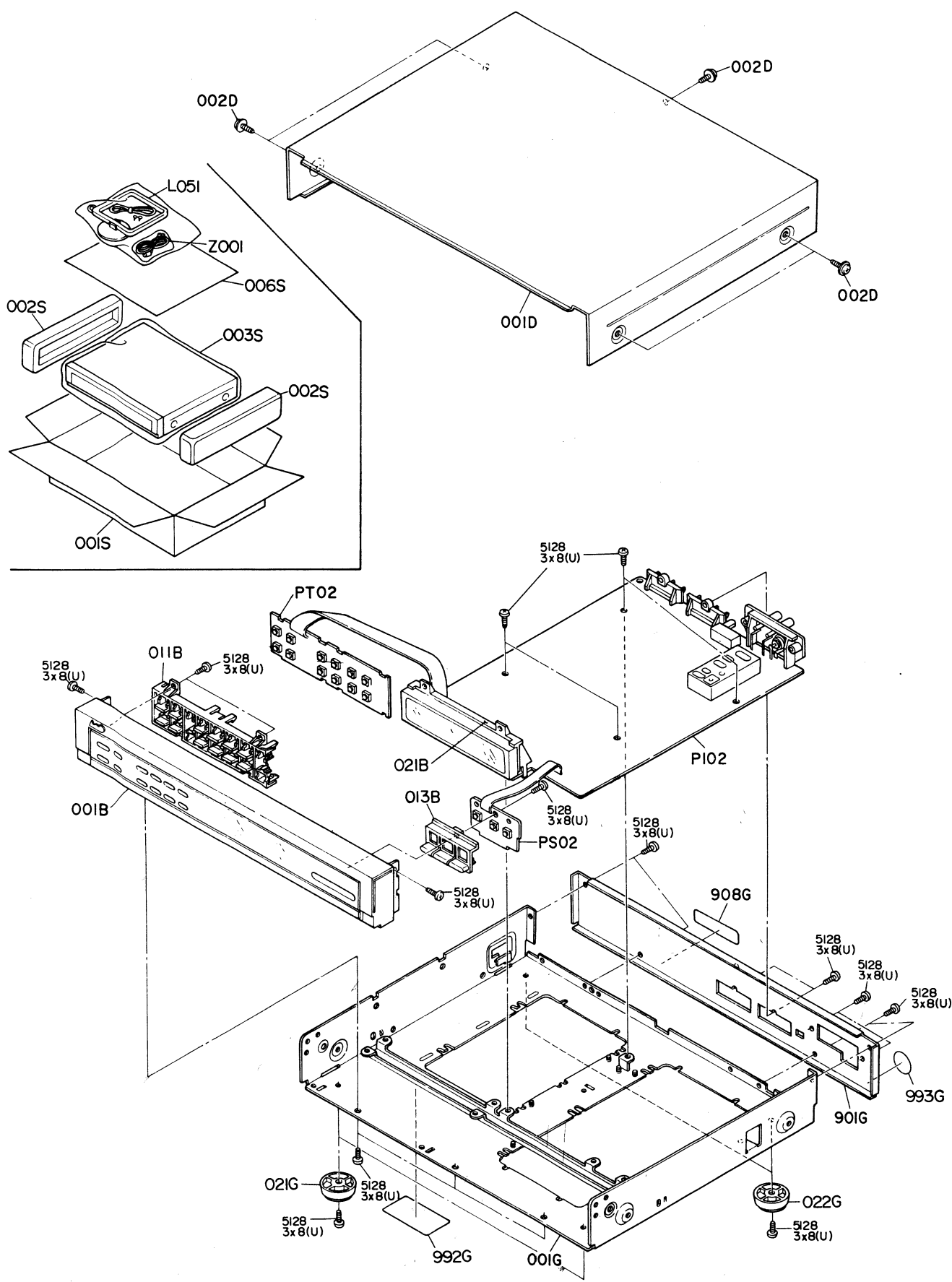
PT02 RESET MODE



PS02 RESET UP/DOWN



9. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 426 51302	Front Panel Assembly (ST583)
001B	4822 426 51314	Front Panel Assembly (ST583L)
011B	4822 410 26635	Button, Preset
013B	4822 410 25831	Button, Tuning UP/Down
001D	4822 426 40368	Lid, Top Cover
002D	4822 502 12355	B.T. Screw B3 x 8
001G	4822 464 70533	Chassis Assembly, Main
021G	4822 462 41271	Leg, Front
022G	4822 462 41186	Leg, Rear
901G	4822 426 20168	Rear Panel (ST583)[E]
	4822 426 20169	Rear Panel (ST583)[N]
992G	4822 600 70229	Label, Couston
993G	4822 454 11873	Indicator, Made in Japan
PACKING		
001S	4822 600 70547	Packing Case (ST583)[E]
002S	4822 600 70474	Cushion
006S	4822 600 70548	Reinforcing [E]
L051	4822 157 53089	Antenna Coil, Loop

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R*:** (1) GD05 --- 140, Carbon film fixed resistor, $\pm 5\%$, 1/4W
R*:** (2) GD05 --- 160, Carbon film fixed resistor, $\pm 5\%$, 1/6W

① — Resistance value

Examples

① Resistance value
0.1 Ω ...001 10 Ω ...100 1k Ω ...102 100k Ω ...104
0.5 Ω ...005 18 Ω ...180 2.7k Ω ...272 680k Ω ...684
1 Ω ...010 100 Ω ...101 10k Ω ...103 1Mk Ω ...105
6.8 Ω ...068 390 Ω ...391 22k Ω ...223 4.7Mk Ω ...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
Temp. coeff. P350 ~ N1000, 50V

① ②
Capacity value
Tolerance

Examples

① Tolerance (Capacity deviation)
 $\pm 0.25\mu\text{F}$...0
 $\pm 0.5\mu\text{F}$...1
 $\pm 5\%$...5

* Tolerance of COMMON PARTS handled here are as follows:

0.5pF ~ 5pF... $\pm 0.25\mu\text{F}$
6pF ~ 10pF... $\pm 0.5\mu\text{F}$
12pF ~ 560pF... $\pm 5\%$

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
Temp. chara. 2B4, 50V

①
Capacity value

Example

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

C***: ELECTROLY CAP ($\neq$), FILM CAP. ($\neq$)

(1) EA --- 10, Electrolytic condenser
One-way lead type, Tolerance $\pm 20\%$

① ②
Dielectric strength
Capacity value

Examples

① Capacity value
0.1 μF ...104 4.7 μF ...475 100 μF ...107
0.33 μF ...334 10 μF ...106 330 μF ...337
1 μF ...105 22 μF ...226 1100 μF ...108
2200 μF ...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 $\pm 5\%$ 50V

①
Capacity value

Examples

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

10. ELECTRICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
P102-TUNER CIRCUIT BOARD		
P102-CAPACITORS		
CA01	4822 125 50384	Trimming 20pF
CA02	4822 122 40306	Ceramic 0.047 μF +80% -20%
CA04	4822 122 31205	Ceramic 47pF $\pm 5\%$
CA05	4822 121 41629	Film 390pF $\pm 5\%$
CA06	4822 122 32486	Ceramic 0.01 μF +80% -20%
CA07	4822 122 32486	Ceramic 0.01 μF +80% -20%
CA08	4822 125 50384	Trimming 20pF (ST583L)
CA09	4822 122 40306	Ceramic 0.047 μF (ST583L)
CA12	4822 122 10367	Ceramic 150pF $\pm 5\%$ (ST583L)
CA13	4822 122 32486	Ceramic 0.01 μF (ST583L)
CA14	4822 122 32486	Ceramic 0.01 μF (ST583L)
CA15	4822 122 32486	Ceramic 0.01 μF +80% -20%
CA16	4822 122 40306	Ceramic 0.047 μF +80% -20%
CA19	4822 122 32486	Ceramic 0.01 μF +80% -20%
CA22	4822 122 32486	Ceramic 0.01 μF +80% -20%
C201	4822 122 32486	Ceramic 0.01 μF +80% -20%
C202	4822 122 32486	Ceramic 0.01 μF +80% -20%
C203	4822 122 40306	Ceramic 0.047 μF +80% -20%
C204	4822 122 40306	Ceramic 0.047 μF +80% -20%
C206	4822 122 40306	Ceramic 0.047 μF +80% -20%
C207	4822 122 40306	Ceramic 0.047 μF +80% -20%
C211	4822 122 40306	Ceramic 0.047 μF +80% -20%
C310	4822 121 41518	Film 470pF $\pm 5\%$
C504	4822 122 32486	Ceramic 0.01 μF +80% -20%
C507	4822 122 32486	Ceramic 0.01 μF +80% -20%
C510	4822 122 32486	Ceramic 0.01 μF +80% -20%
C516	4822 124 41592	Elect 0.1 μF 5.5V
C517	4822 122 32486	Ceramic 0.01 μF +80% -20%
P102-RESISTORS		
RA13	4822 100 11352	22K Ω , Trimming
R210	4822 111 91404	150 Ω $\pm 5\%$ 1/6W
R211	4822 100 11372	47K Ω , Trimming
R301	4822 100 11351	10K Ω , Trimming
R311	4822 111 91405	220 Ω $\pm 5\%$ 1/6W
R314	4822 100 11351	10K Ω , Trimming
R801	4822 116 80914	47 Ω $\pm 5\%$ 1/6W
G501	4822 111 91399	100K $\Omega \times 4$ $\pm 5\%$ 1/6W
P102-SEMICONDUCTORS		
DA01	4822 130 31542	Varicap SVC321SP
DA02	4822 130 31542	Varicap SVC321SP
DA03	4822 130 33697	Diode 1SS135 (ST583L)
DA04	4822 130 31542	Varicap SVC321SP (ST583L)
DA05	4822 130 31542	Varicap SVC321SP (ST583L)
DA06	4822 130 33697	Diode 1SS135 (ST583L)
D301	4822 130 33305	Diode 1SS133, etc.
D501	4822 130 33305	Diode 1SS133, etc. (ST583L)
D502	4822 130 33305	Diode 1SS133, etc. [N, A, W]
D503	4822 130 33305	Diode 1SS133, etc. (ST583L)
D504	4822 130 33305	Diode 1SS133, etc. (ST583L) E]
D505		
}	4822 130 33305	Diode 1SS133, etc.
D509		
D513		
}	4822 130 33305	Diode 1SS133, etc.
D518		

REF. DESIG.	PART NO.	DESCRIPTION
D801	4822 130 80272	Zener RD7.5JB2, etc.
D802	4822 130 32508	Diode 10SF10C, etc.
D803	4822 130 33305	Diode 1SS133, etc.
QA01	4822 130 42121	F.E.T. 2SK30A(Y) (ST583L)
QA02	4822 130 42121	F.E.T. 2SK30A(Y) (ST583L)
QA03	4822 130 42125	Transistor 2SD1302(S, T)(ST583L)
QA04	4822 130 60495	Transistor 2SA1309A(Q, R) (ST583L)
QA05	4822 130 60495	Transistor 2SA1309A(Q, R)
QA06	4822 130 42715	Transistor 2SA608SP(F, G), etc.
Q201	4822 209 71785	IC LA1266
Q202	4822 130 42082	Transistor 2SC1047(C)
Q203	4822 130 42298	Transistor 2SC536SP(F, G)
Q204	4822 130 60495	Transistor 2SA1309A(Q, R)
Q301	4822 209 71776	IC TEA5581
Q501	4822 209 83314	IC LM7000N
Q502	4822 130 42121	F.E.T. 2SK30A(Y)
Q503	4822 130 42298	Transistor 2SC536SP(F, G)
Q504	4822 130 42298	Transistor 2SC536SP(F, G)
Q505	4822 209 71788	Microprocessor LC6514B-3357
Q506	4822 130 42715	Transistor 2SA608SP(F, G) (ST583L)
Q507	4822 130 42715	Transistor 2SA608SP(F, G) (ST583) [E]
Q508	4822 130 42298	Transistor 2SC536SP(F, G)
Q509	4822 130 42715	Transistor 2SA608SP(F, G)
Q510	4822 209 72863	IC LB1290
Q511	4822 209 72863	IC LB1290
Q801	4822 209 70385	IC L78MR05
A101	4822 210 10246	P102-MISCELLANEOUS V.H.F. Tuner, FE306-A14 (ST583) [A, E, W]
	4822 210 10267	V.H.F. Tuner, FE307-G44 (ST583) [N]
	4822 210 10246	V.H.F. Tuner, FE306-A14 (ST583L)
FA01	4822 242 71509	Ceramic Filter, SFL450J3
FA02	4822 242 71217	Ceramic Filter, BFU450C
F201	4822 242 70911	Ceramic Filter, SFE10.7MA8-A (ST583) [E]
	4822 242 71135	Ceramic Filter, SFE10.7MS3-A [N, A, W]
F202	4822 242 71135	Ceramic Filter, SFE10.7MS3-A
J101	4822 266 30298	Terminal, Antenna
J201	4822 265 10158	Plug, 2P
J301	4822 265 10158	Plug, 2P
J302	4822 266 30306	Terminal, 13P
J801	4822 266 30315	Terminal, 15P
LA01	4822 157 52328	Antenna Coil, MW
LA02	4822 157 52716	OSC Coil, AM
LA03	4822 157 52714	Antenna Coil, LW (ST583L)
LA04	4822 157 52717	OSC Coil, LW (ST583L)
LA05	4822 157 53589	Choke Coil, 39mH
L201	4822 157 53061	I.F.T. Coil, FM Det
S301	4822 277 20968	Slide Switch, Scan/Step (ST583) [E]
V501	4822 130 90433	Display Unit, FIP10TM8
X501	4822 242 71219	Crystal, 7.2MHz
X502	4822 242 72058	Ceramic Vibrator

REF. DESIG.	PART NO.	DESCRIPTION
SS01	4822 276 12455	Push Switch, Down
SS02	4822 276 12455	Push Switch, UP
SS03	4822 276 12455	Push Switch, Band
ST01	4822 276 12455	Push Switch
ST12		

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

11. TECHNICAL SPECIFICATIONS

FM/AM STEREO TUNER ST583/ST583L

FM Stage (87.5 - 108 MHz)

Sensitivity

DIN mono (S/N 26 dB 75 Ohm)	1.0 μ V
DIN stereo (S/N 46 dB 75 Ohm)	30 μ V
Selectivity adjacent channel 98 MHz	60 dB
Tuner output (1 kHz 75 kHz Dev.)	940 mV

Signal to noise ratio

S/V DIN weighted mono	73 dB
S/V DIN weighted stereo	68 dB
Total harmonic distortion mono	0.2%
Total harmonic distortion stereo	0.5%
Accuracy of frequency response across 30 Hz - 15 kHz bandwidth	+ 0.5/-2 dB
Stereo separation	45 dB

MW Stage (531 - 1602 kHz)

Sensitivity (S/N 20 dB 30% mod 1 MHz)	500 μ V
Selectivity 1 MHz $\pm$ 9 kHz	30 dB
Signal to noise ratio at 1 MHz	50 dB

LW Stage (152 - 282 kHz)

Sensitivity (S/N 20 dB 30% mod 209 kHz)	1000 μ V
Signal to noise ratio at 209 kHz	50 dB
Dimensions (W x H x D)	360 x 55 x 300 mm
Net weight	3.0 kg

DECK SECTION

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Cassette Deck 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. Mix Mic/NR Switch . . . mounted on P.W. Board PS03
2. Logic Main mounted on P.W. Board PU03
3. Multi Connector mounted on P.W. Board PU53
4. Key Switch mounted on P.W. Board PY03
5. Direction
LED (Deck A) mounted on P.W. Board PY13
6. Direction
LED (Deck B) mounted on P.W. Board PY23
7. Dolby B/C mounted on P.W. Board P603

2. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking your Cassette Deck, the following instruments and materials are necessary.

- VTVM
- Audio Oscillator (AF OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Black Tapes (Completely erased with bulk eraser)
TDK AC-212 (Normal)
TDK AC-512 (Special/CrO₂)
TDK AC-712 (Metal)

NOTE:

If any doubt is noted in a measured value, use new tape.

- | | |
|-----------------------------------|--|
| • Test Tape | (New Tape) |
| TCC-111·MTT-111 | Wow and Flutter, Tape Speed |
| TCC-140·MTT-112B | Signal-to-Noise Ratio |
| TCC-130·MTT-150 | Level Adjustment |
| TCC-161·MTT-256 | Frequency Response
(for Normal) |
| TCC-261·MTT-356 | Frequency Response
(for CrO ₂ and Metal) |
| TCC-192·MTT-121 | Cross Talk |
| TCC-194·MTT-141 | Channel Separation |
| TCC-120·MTT-212
(A-BEX)·(TEAC) | Output |

3. ADJUSTMENT

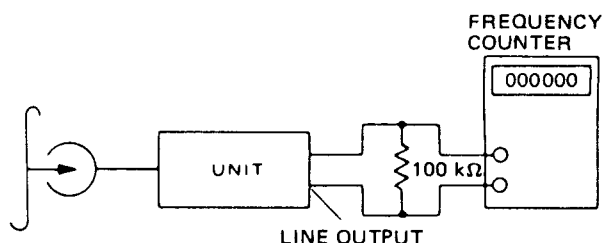
3.1 TAPE SPEED ADJUSTMENT

DECK A

1. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-1 for a counter reading of 3010 Hz ± 5 Hz. (Normal speed mode 4.8 cm/sec.)
2. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-2 for a counter reading of 6020 Hz ± 10 Hz. (High speed mode 9.5 cm/sec.)
Do this with JM01 short-circuited.
3. Rewind, play, and check that the speed is within the proper range to make sure that the adjustment is correct.

DECK B

1. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-1 for a counter reading of 3010 Hz ± 5 Hz. (Normal speed mode 4.8 cm/sec.)
2. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-2 for a counter reading of 6020 Hz ± 10 Hz. (High speed mode 9.5 cm/sec.)
Do this with JM11 short-circuited.
3. Rewind, play, and check that the speed is within the proper range to make sure that the adjustment is correct.



NOTE:

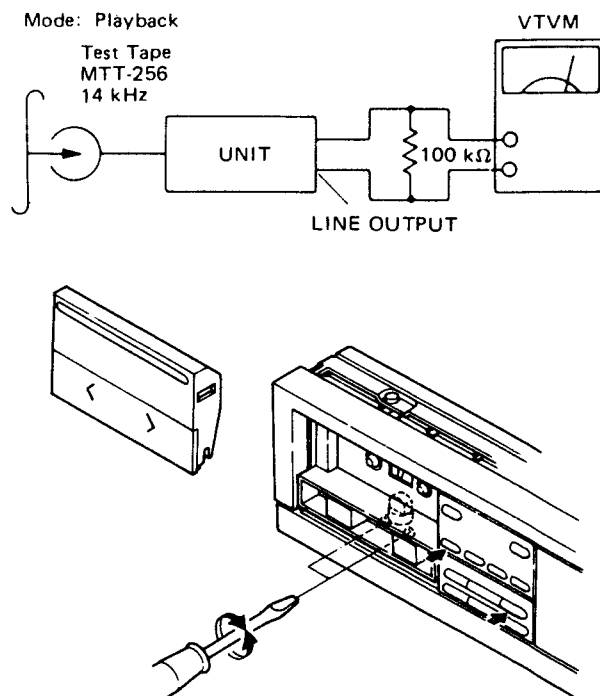
1. Do not adjust after the unit is subjected to an excessive temperature change.
2. Be careful that the frequency counter may indicate an incorrect value because of too low of a counter input level.
3. Perform the above adjustments, after approx. 10 to 20 seconds.
4. Adjust the normal speed first. To set to the high speed mode, first set to the normal playback mode then short-circuit JM01 (deck A) or JM11 (deck B).
5. When set to the play mode with JM01 or JM11 short-circuited, the mechanism will malfunction, so be sure to set to the normal play mode before short-circuiting them.
6. Adjust the tape speed so that deck A is about 10 Hz faster than deck B.

3.2 HEAD AZIMUTH ADJUSTMENT

1. Play back the 14 kHz signal of the test tape MTT-256, and rotate the head azimuth adjusting screw for a maximum VTVM reading.
2. If the peak level reads of the right and left channels are different, set the lower channel to maximum.
3. After adjustment, be sure to lock the screws with bond.

NOTE:

Be sure to adjust with the same section on the same side of the tape of both TAPE 1 and TAPE 2.



3.3 PLAYBACK OUTPUT LEVEL ADJUSTMENT

1. Play back the test tape MTT-150 and adjust RJ47(L)/RJ48(R) for TAPE 1, RJ73(L)/RJ74(R) for TAPE 2, so that the pin voltage at the Dolby test point (TP7 8) becomes 245 mV.
2. Rewind the tape and play back again to confirm that both levels are the same.

3.4 RECORDING/PLAYBACK LEVEL ADJUSTMENT

1. Load a normal tape.
2. Set the ALC circuit to its maximum sensitive condition.
3. Apply the 1 kHz, 250 mV signal to the Line Input terminal and record it. Then play it back and adjust RK31 (L) and RK32 (R) so that it becomes the same level as the monitor level. For CrO₂ and Metal tape, adjust following the same procedure and confirm that the level difference between the recording (input) level and the playback (monitor) level is within 1 dB.

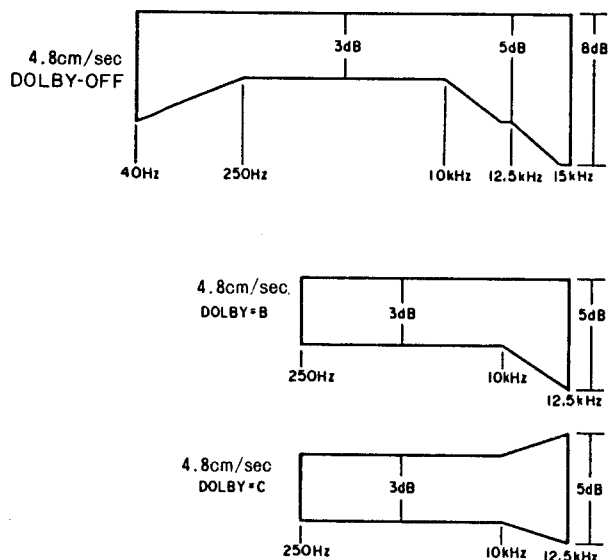
3.5 REC/PLAY FREQUENCY RESPONSE ADJUSTMENT AND MEASUREMENT

(NORMAL)

1. Load the AC-212 test tape and set the deck to the recording mode (input: 250 mV). Then reduce the level by 22 dB with the attenuator and record 1 kHz and 10 kHz on the non-recorded section. (DOLBY C position)
2. Rewind the tape and play it again, and adjust RL31 (L) and RL32 (R) so that the playback level differences of 1 kHz and 10 kHz is within 0 to ± 1.0 dB.
3. After adjustment, record 1 kHz, 10 kHz and 12.5 kHz signals, and check that the playback level differences of these frequencies are as gives below.
4. Set the DOLBY switch to OFF, record 1 kHz and 12.5 kHz signals, and check that the playback level differences are as given below.
5. With the DOLBY switch OFF, check that the L/R channel balance for 10 kHz is less than 3 dB.

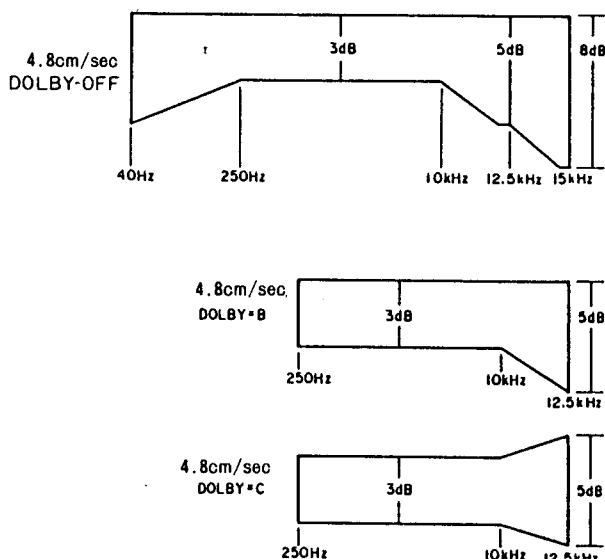
NOTE:

When 1 kHz level difference in DOLBY C mode is 1 dB or more compared to the monitor level, adjust RK31 (L) and RK32 (R) for the recording level adjustment previously, so that the level difference is within 1 dB.



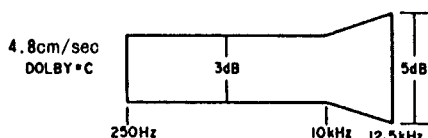
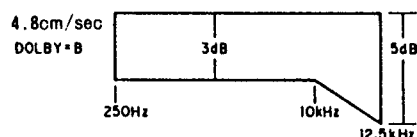
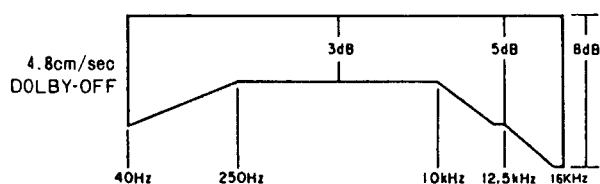
(CrO₂)

1. Load the AC-512 test tape and set the deck to the recording mode (input: 250 mV). Then reduce the level by 22 dB with the attenuator, and record 1 kHz and 10 kHz signals on the non-recorded section. (DOLBY C position)
2. Rewind the tape and play it again, and adjust the Bias semi-fixed resistor RL35 so that the playback level differences of 1 kHz and 10 kHz is within 0 to ± 1 dB.
3. After adjustment, record 1 kHz, 10 kHz and 12.5 kHz signals, and check that the playback level differences are as given below.
4. Set the Dolby switch to OFF, and record 1 kHz and 12.5 kHz signals, and check that the playback level differences are as given below.
5. With the Dolby switch OFF, check that the L/R channel balance for 10 kHz is less than 3 dB.



(METAL)

1. Load the AC-712 test tape and set the deck to the recording mode (input: 250 mV). Then reduce the level by 22 dB, and record 1 kHz and 10 kHz on the non-recorded section. (DOLBY C position)
2. Rewind the tape and play it, and adjust the BIAS semi-fixed resistor RL36 so that the 1 kHz and 10 kHz level difference is within 0 to ± 1 dB.
3. After adjustment, record 1 kHz, 10 kHz and 12.5 kHz signals, and check the playback level differences are as given below.
4. Set the Dolby switch to OFF, and record 1 kHz and 10 kHz signals, and check that the playback level differences are as given below.
5. With the Dolby switch OFF, check that the L/R channel balance for 10 kHz is less than 3 dB.

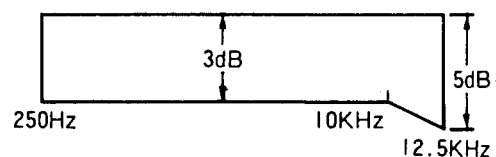


3.6 DUBBING REC/PLAY LEVEL MEASUREMENT

1. Load the MTT-150 test tape into DECK A and AC-212 test tape into DECK B.
2. Set the deck to the dubbing recording mode of DECK A to DECK B.
3. Rewind the AC-212 loaded into DECK B and play back. Then measure it at DOLBY test points T.P7 and T.P8 to check that the playback output level becomes 245 mV ± 1 dB.

3.7 DUBBING REC/PLAY FREQUENCY RESPONSE MEASUREMENT

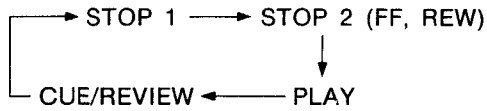
1. Load the MTT-256 test tape into DECK A and AC-212 into DECK B.
2. Set the deck to the DECK A to DECK B dubbing recording mode.
3. Rewind the AC-212 loaded into DECK B and play it back, and check that the level differences of 1 kHz and 12.5 kHz is as shown in the figure below.



4. DESCRIPTION OF MICROPROCESSOR AND PERIPHERAL CIRCUITRY OPERATION

4.1 MECHANISM

Selection of the forward or reverse directions is possible depending on whether the solenoid trigger is short or long when switching to the lay mode. The direction of the head for the head position for the cue mode is the same as the direction of the head in the play mode before switching to the cue mode.



There are four modes — stop 1, stop 2, play, and cue/review. Their positions change in cycles according to the power assist operation through the rotation of the intermittent gear of the solenoid trigger and flywheel. Four the cue/review position, voltage is applied to the solenoid and held.

4.3 MICROPROCESSOR OPERATION CHECK

VDD, POWER DOWN, and RES Power ON/OFF Timing

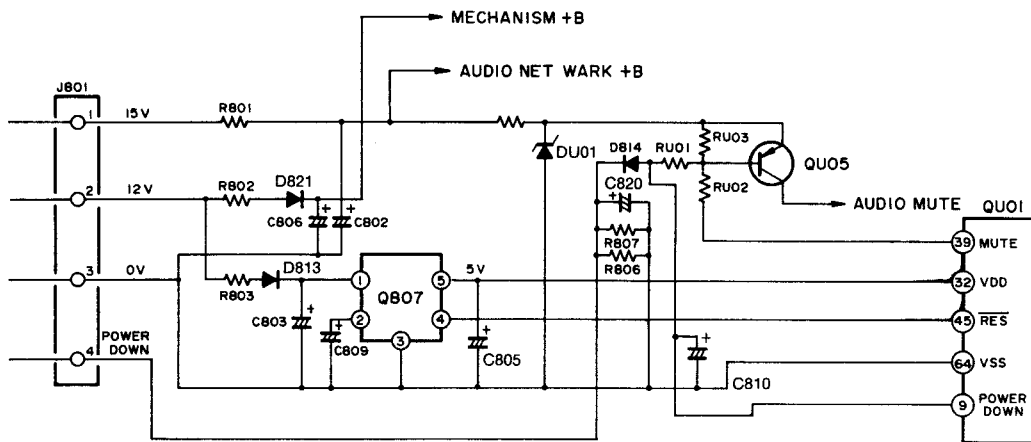


Fig. 4-1

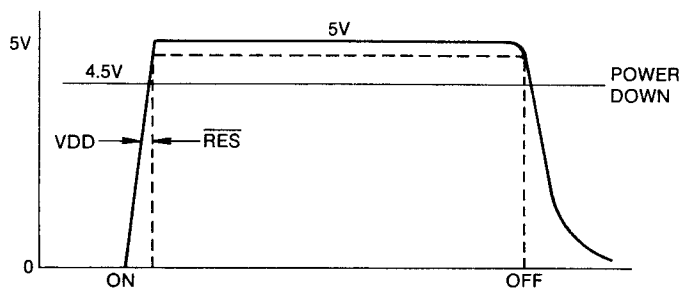


Fig. 4-2

The microprocessor's VDD, POWER DOWN, and $\overline{\text{RES}}$ pins' rise and fall characteristics are shown on Figure 4-2, their diagrams on Figure 4-1.

Fast-forward and rewind are selected by rotating the motor at a high speed in the forward or reverse direction at the stop 2 position. At the stop position, the head is always in the forward direction.

4.2 INITIAL CHECK

1. The reverse mode indicator indicates $\curvearrowright$. When the REV MODE selector button is pressed, the indicator switches in the order $\curvearrowright$, $\curvearrowleft$, $\curvearrowright$.
2. The tape direction indicator indicates FWD, PLAY or REV PLAY depending on the direction of the tape before the power was turned off.
3. When the mechanism is stopped in the play mode, it is automatically set to the stop mode after the power is turned on.
4. When the mechanism is in a mode other than stop 1, stop 2, or play, if the power is turned on while pressing the STOP key, the mechanism is initialized and set to the stop mode.

4.3.1 Description of Operation of Parts

1) Q807 regulator with reset function

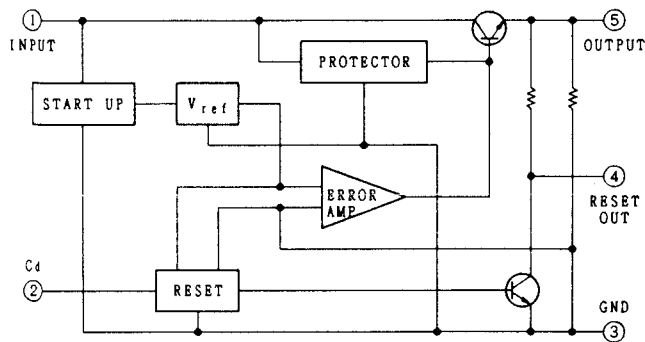


Fig. 4-3

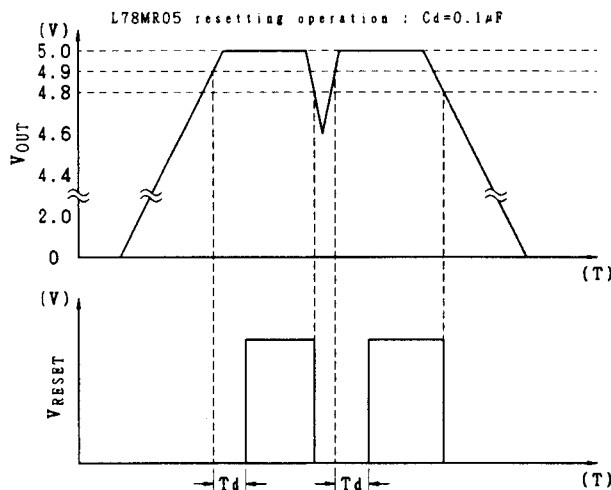


Fig. 4-4

The microprocessor's RES input is set to be slower for a rise (power on), faster for a fall (power off). The time is determined by C809 connected to IC pin 2. The timing is shown on Figure 4-4.

2) C803, R803, and D813

These are for microprocessor VDD backup. They back up the microprocessor for the necessary time to set the mechanism to the initial state (stop) when the power is turned off.

3) C806, R802, and D821

These are for mechanism power backup. They backup the solenoid and capstan motor for the necessary time to set the mechanism to the initial state (stop) when the power is turned off.

4) C810, R806, RU01, and D814

These produce the microprocessor's INT signal. The stop conditions for a power failure are set at the microprocessor's INT pin and the stop operation is set by "H" → "L". To achieve fast rising characteristics when the power is off, ripple filter C810's charge is discharged via R806.

5) RU02, RU03 and QU05

These output the audio mute signal when the power is turned on and off. When turned on, transistor QU05 is on while C808 is being charged via RU04. When turned off, it turns on immediately by charging to R806 and prevents popping noise.

4.3.2 Key Matrix

Pin No	(57)	(58)	(59)	(61)	(62)	(63)
(44)	REVERS MODE	DECK A		REC	FWD PLAY	REVERS PLAY
(43)	QMS	DECK B	CONTROLS PLAY	REC MUTE	FF	REW
(42)		HI-SPEED DUBBING	NORMAL DUBBING		PAUSE	STOP
(41)					BRANK SKIP	

Chart 4-1

4.4 MOTOR DRIVE CIRCUIT

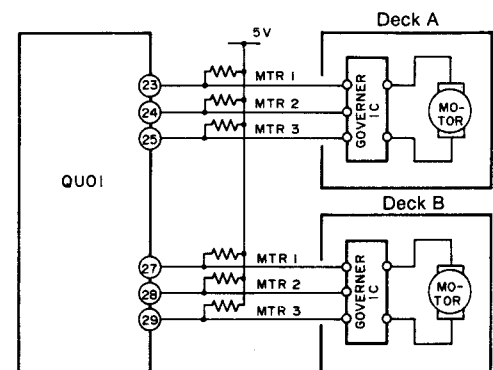


Fig. 4-5

The motor speed and direction of rotation are controlled when the governor IC in the mechanism receives the control signals from the microprocessor.

The control signals and motor modes are as follows:

Mode	MTR 1	MTR 2	MTR 3
Stop	L	L	L
Brake	L	H	H
Normal speed play (+1,600rpm)	H	L	H
High speed play (+3,200rpm)	H	L	L
Fast-forward and cue (+5,300rpm)	H	H	H
Rewind and review (-5,300rpm)	H	H	L
	L	L	H
	L	H	L

+ direction: Motor rotates counterclockwise as seen from front

- direction: Motor rotates clockwise as seen from front

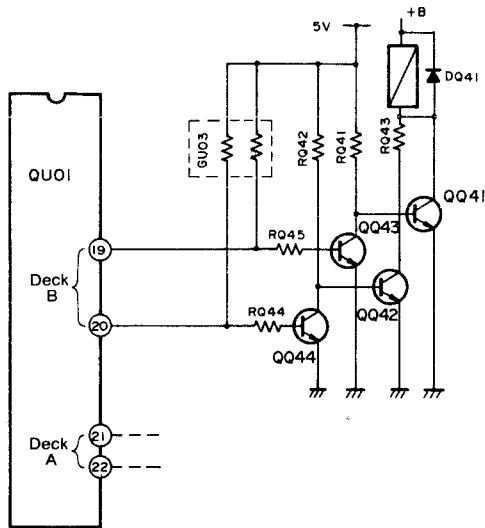
Chart 4-2

High Speed

High speed can be set by short-circuiting JM01 and JM11 during normal speed playback. When adjusting the speed, first adjust the normal speed, then the high speed.

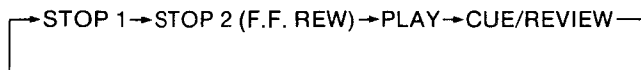
NOTE:

When set to the play mode with JM01 or JM11 short-circuited, the mechanism will malfunction, so be sure to set to the normal play mode before short-circuiting them.

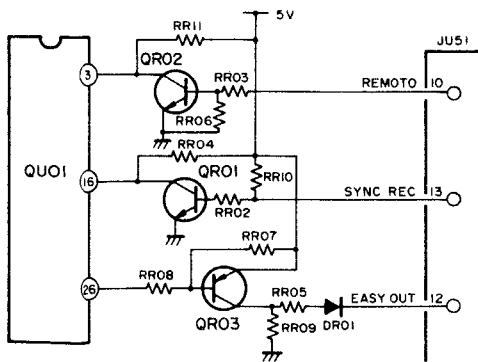
4.5 SOLENOID DRIVE CIRCUIT**Fig. 4-6**

The circuit is the same for mechanism (A) ⑳ and ㉑.

In order to change the mechanism mode, power is supplied to the solenoid for a fixed period of time and the cam gear and flywheel gear are engaged. The mechanism mode changes in the following cycle each time the solenoid is pulled:



RQ43 prevents the solenoid from heating when it is pulled in continuously such as for the cue/review mode.

4.6 OTHER INPUTS AND OUTPUTS**4.6.1 Remote Control, EASY OUT, SYNC REC****Fig. 4-7****1) Remote Control**

When the remote control switch is pressed, the signal from the remote control unit is input at JU51 pin ⑩, and the unit operations according to the instructions. The indicators flicker momentarily while a remote control signal is being input because the microprocessor is reading the signal.

2) EASY

QU01 pin ⑫ is normally "H", but during the play and dubbing modes, a pulse is output. RC-5 command 1853 is output whether Deck A or Deck B is playing.

3) SYNC REC

When SYNC REC input pin jack JU51 pin ⑬ is "L", QR01 turns on, QU01 pin ⑫ becomes "H", and the microprocessor performs the SYNC REC operation. However, the following conditions must be met: the SYNC REC button must be ON, and the mechanism must be in the REC PAUSE mode.

4.6.2 QMS

When in the stop or play modes the QMS button is pressed the number of times equivalent to the number of selections to be skipped and the button for the desired direction is pressed (◀◀, ▶▶), the beginning of the specified selection is found. The LED lights when it is pressed. The QMS circuit converts the playback signal into a form which the microprocessor can read via a comparator. The level is set by the QMS circuit, and the time which is used to judge a section between selections is set in the microprocessor.

1) Play speed and time constant

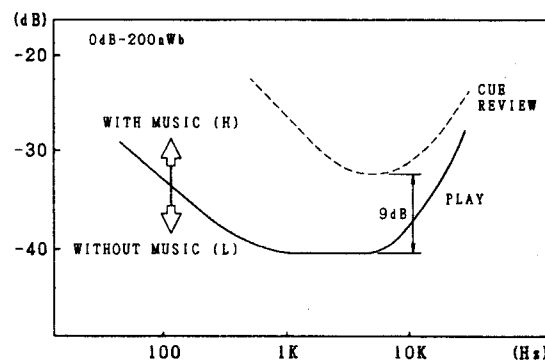
If the fast-forward and rewind time is 100 seconds, the normal play and cue/review speed is 11 times at the beginning of the tape, 25 times at the end of the tape. As the time between selections during playback is normally set at 4 seconds, the time between selections for the cue/review mode is 160 to 370 ms.

2) Microprocessor setting

The mechanism microprocessor used in this unit uses the time reading method for sections between selections, so 3 seconds is needed for reading in the play mode, 120 ms for reading in the cue/review mode.

3) Setting of judging level

The QU01 output as the characteristic of changing from "L" to "H" according to the level of recording on the tape.

**Fig. 4-8**

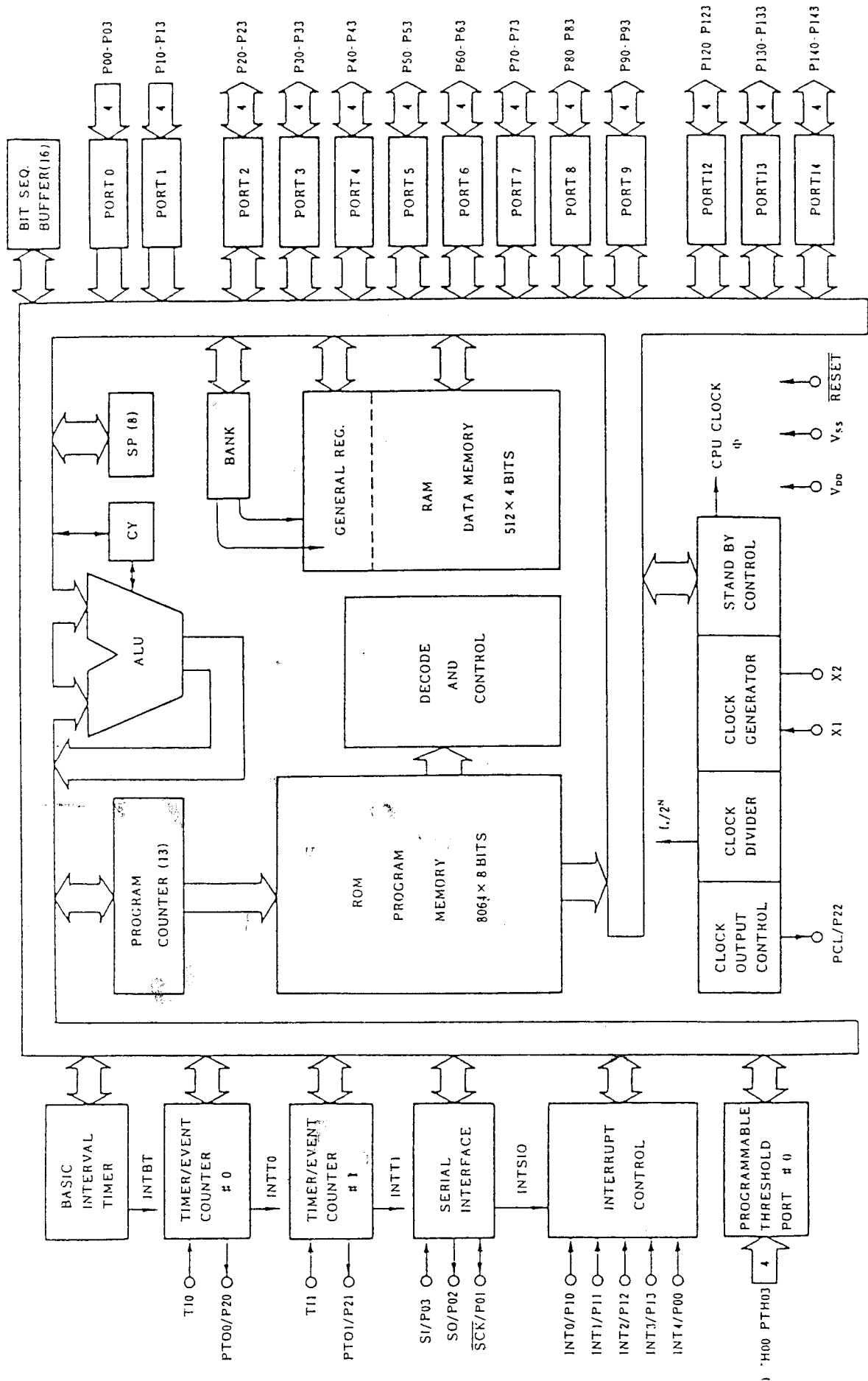
The frequency response is different during the play and search modes to prevent malfunction with music signals. During playback, QB02 is on and the frequency response is wider. Switching between search and playback is performed at QU01 pin ⑭, which is "L" during playback.

4.6.3 Reel Pulse

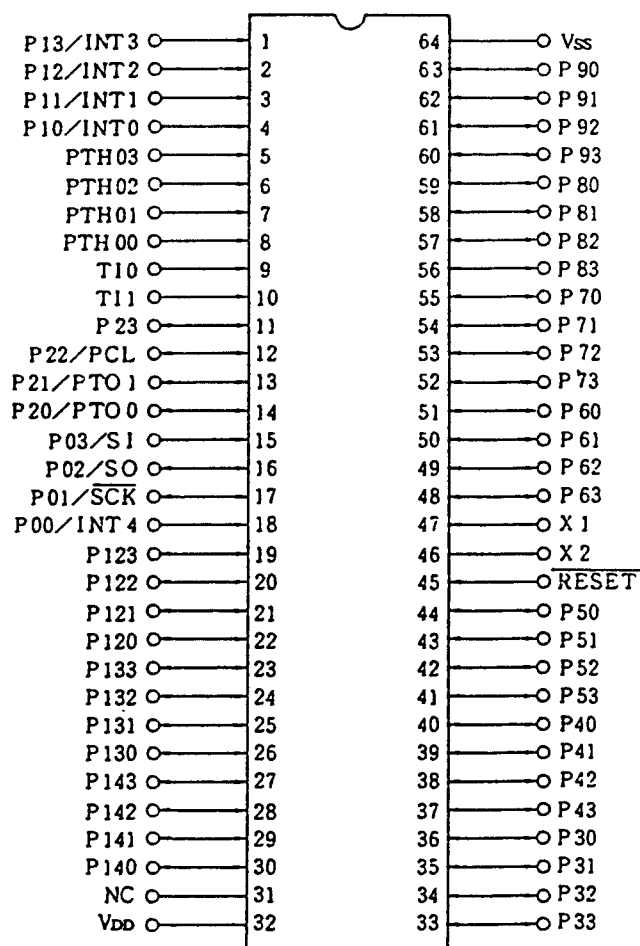
The reel rotation sensor output is connected to QU01 pins ④ and ⑮, and this output is used for auto shut-off, memory rewind stop, and QMS search correction. Auto shut-off functions 4 seconds after the reel pulse rotation output stops.

4.7 μ PD75108 (QU01) I-chip 4-bit Microprocessor

• μ PD75108 Block Diagram



● Pin Connections



P00—P03	: Port 0	SCK	: Serial clock input/output
P10—P13	: Port 1	SO	: Serial output
P20—P23	: Port 2	S1	: Serial input
P30—P33	: Port 3	PTO0, PTO1	: Timer output
P40—P43	: Port 4	PCL	: Clock output
P50—P53	: Port 5	PTH00, PTH03	: Comparator input
P60—P63	: Port 6	INT0, INT1	: External vector interrupt input
P70—P73	: Port 7	INT2, INT3	: External test input
P80—P83	: Port 8	INT4	: External vector interrupt input
P90—P93	: Port 9	T10, T11	: Timer input
P120—P123	: Port 12	X1, X2	: Oscillator pins
P130—P133	: Port 13	RESET	: Reset input
P140—P143	: Port 14	NC	: Not connected

4.7.1 Pin Functions

Port Pins

Pin Name	Input/Output	Also	Function	When Reset
P00	Input	INT4	4-bit input port (PORT 0)	Input
P01	Input/output	$\overline{\text{SCK}}$		
P02	Input/output	SO		
P03	Input	SI		
P10	Input	INT0	4-bit input port (PORT 1)	Input
P11		INT1		
P12		INT2		
P13		INT3		
P20	Input/output	PT00	4-bit input/output port (PORT 2)	Input
P21		PT01		
P22		PCL		
P23		—		
P30-P33	Input/output	—	Programmable 4-bit input/output port (PORT 3), input/output settable in units of bits	Input
P40-P43	Input/output	—	4-bit input/output port (PORT 4)	Input
P50-P53	Input/output	—	4-bit input/output port (PORT 5)	Input
P60-P63	Input/output	—	Programmable 4-bit input/output port (PORT 6), input/output settable in units of bits	Input
P70-P73	Input/output	—	4-bit input/output port (PORT 7)	Input
P80-P83	Input/output	—	4-bit input/output port (PORT 8)	Input
P90-P93	Input/output	—	4-bit input/output port (PORT 9)	Input
P120-P123	Input/output	—	N-ch open drain 4-bit input/output port (PORT 12), pull-up resistors settable in units of bits (mask option), 12 V resistance with open drain	Input
P130-P133	Input/output	—	N-ch open drain 4-bit input/output port (PORT 13), pull-up resistors settable in units of bits (mask option), 12 V resistance with open drain.	Input
P140-P143	Input/output	—	N-ch open drain 4-bit input/output port (PORT 14), pull-up resistors settable in units of bits (mask option), 12 V resistance with open drain	Input

*1: Open drainhigh impedance
Built-in pull-up resistorhigh level

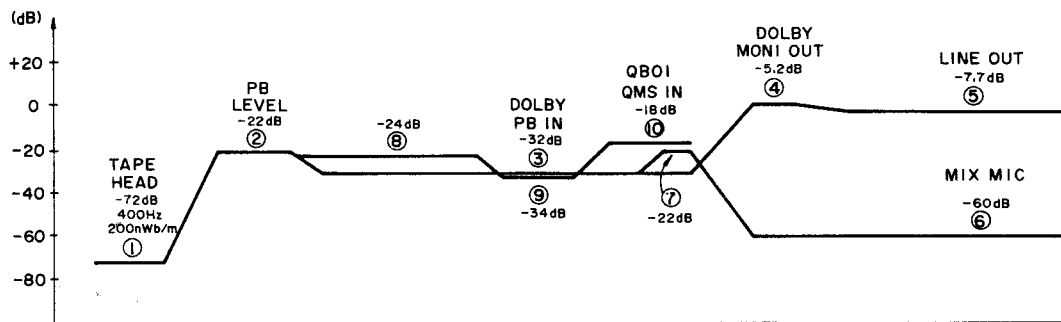
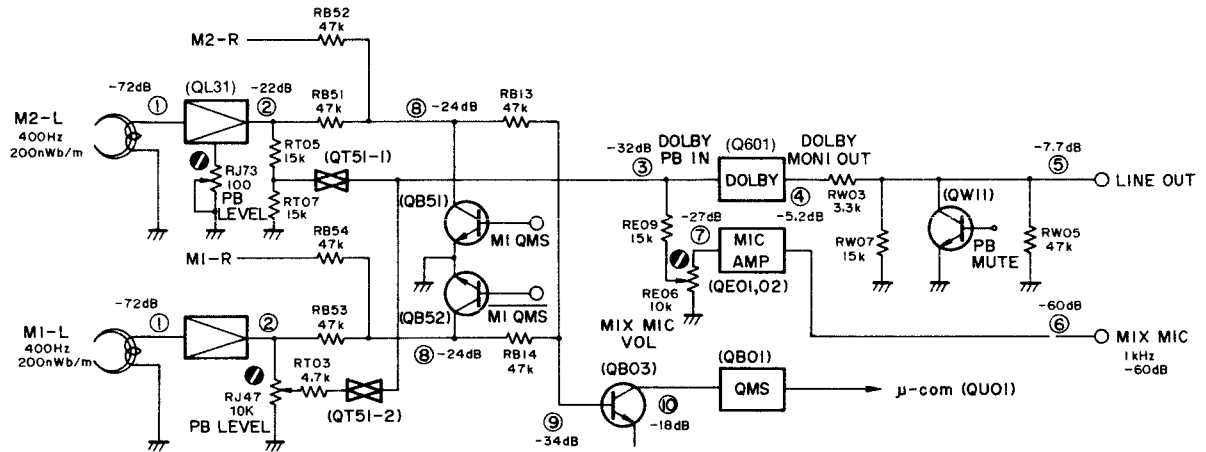
*2: Can directly drive LED

Non-port pins

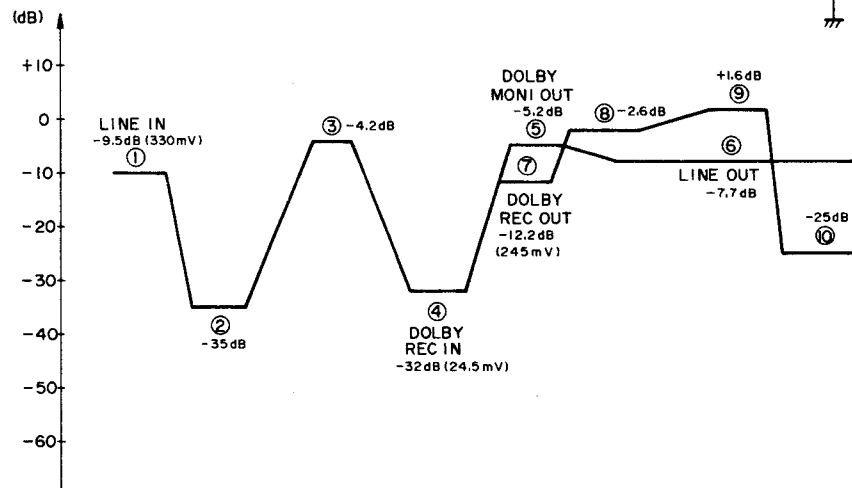
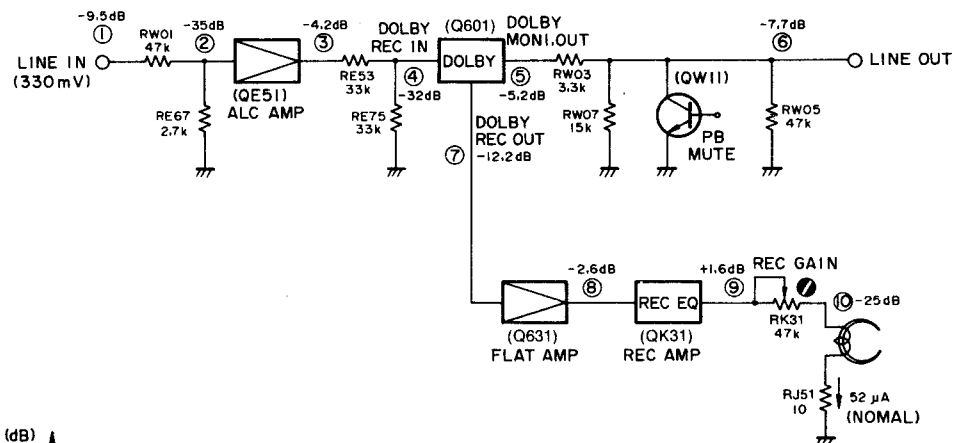
Pin Name	Input/Output	Also	Function	When Reset
PTH00-PTH03	Input	—	Threshold voltage variable 4-bit analog input port	—
T10	Input	—	Timer/event counter external even pulse input pin, or edge detection vector interrupt input pin, 1-bit input also possible	—
T11				
PTO0	Input/output	P20	Timer/event counter output pin	Input
PTO1		P21		
SCK	Input/output	P01	Serial clock input/output pin	Input
SO	Input/output	P02	Serial data output pin	Input
SI	Input	P03	Serial data input pin	Input
INT4	Input	P00	Edge detection vector interrupt input pin (edge detection at rise and fall)	Input
INT0	Input	P10	Edge detection vector interrupt input pin (detection edge selectable)	Input
INT1		P11		
INT2	Input	P12	Edge detection testable input pin (rise edge detection)	Input
INT3		P13		
PCL	Input/output	P22	Clock output pin	Input
X1, X2		—	System clock oscillation crystal/ceramic connection pin, for external clock, input to X1, opposite phase input to X2	
RESET	Input	—	System reset input pin (low level active)	
NC		—	No connection	
VDD		—	Normal power pin	
VSS		—	GND potential pin	

5. LEVEL DIAGRAM

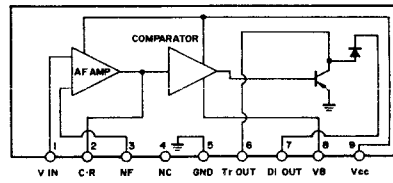
5.1 PLAY MODE



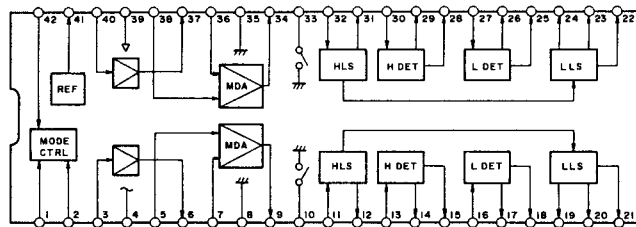
5.2 RECORDING MODE



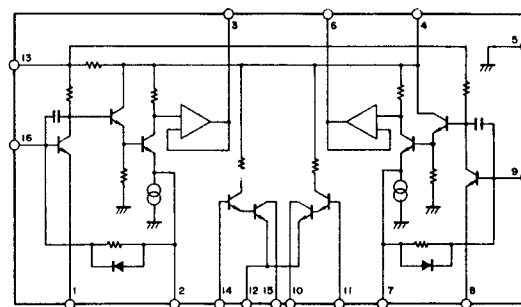
QB01



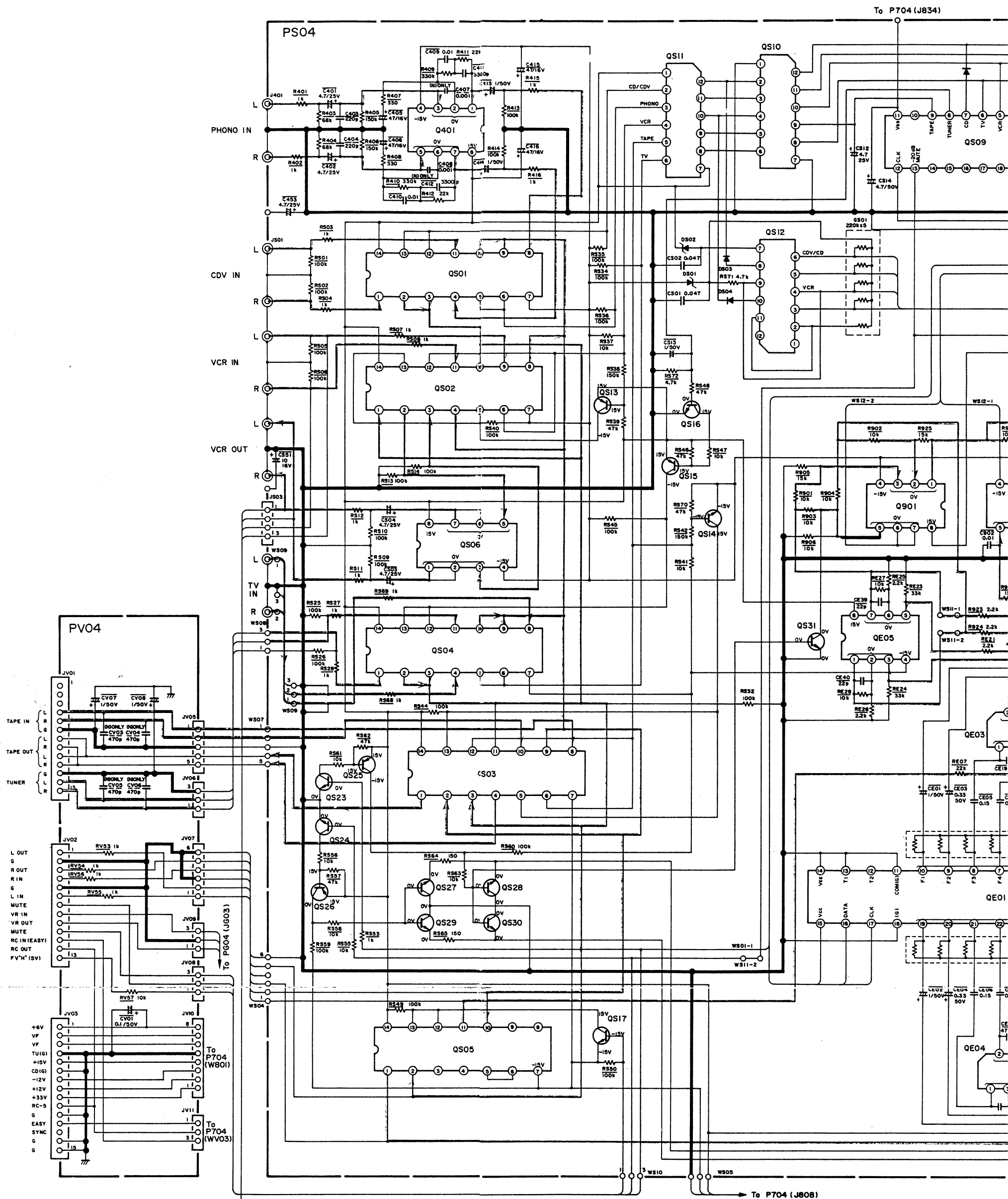
Q601



QE51



6. SCHEMATIC DIAGRAM

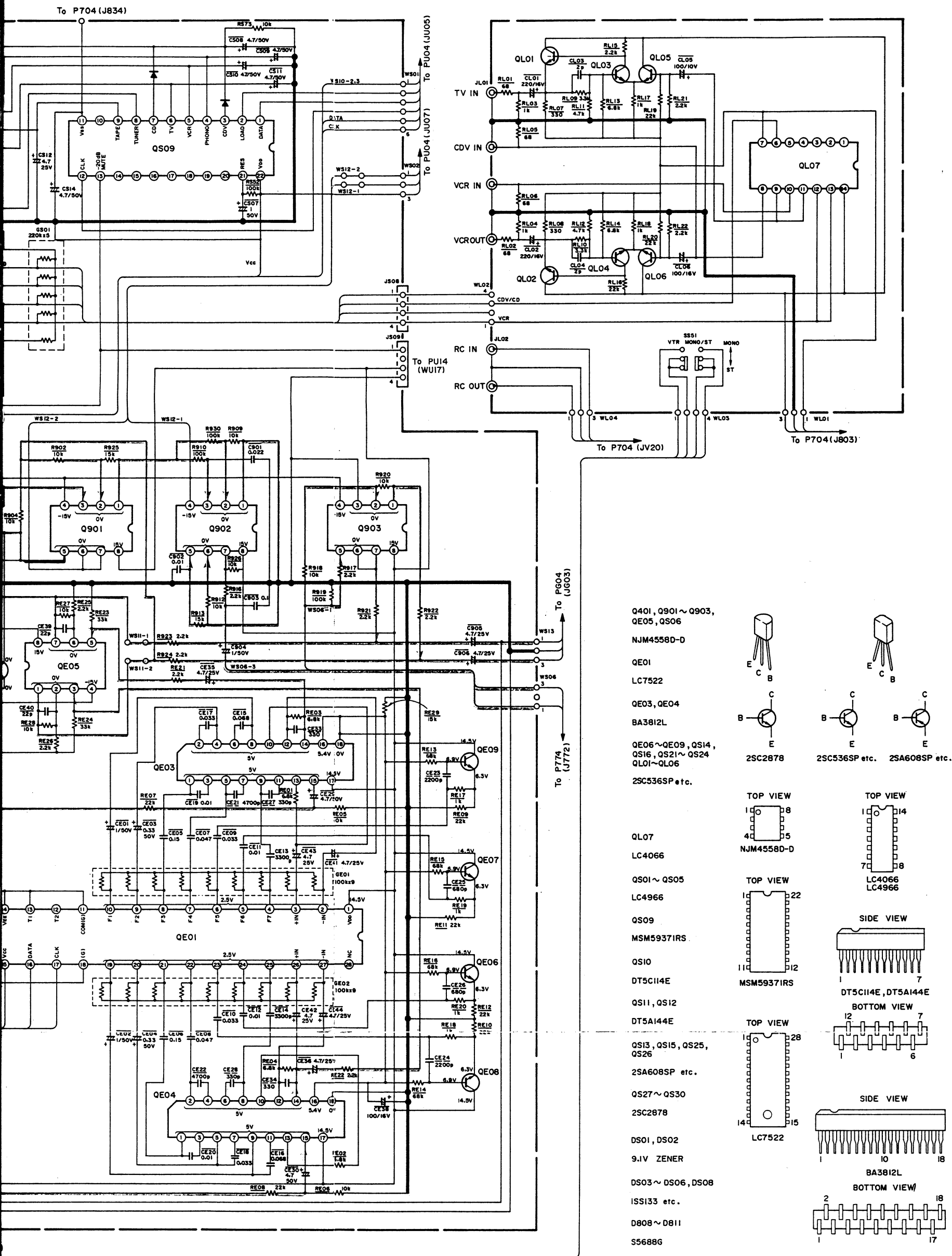


"SERVICE INFORMATION IS FOR USE BY QUALIFIED PERSONNEL ONLY —ANY MISADJUSTMENT OR MISALIGNMENT MAY BE TREATED AS A NON-WARRANTY REPAIR BY ANY MARANTZ SERVICE CENTRE —"

NOTE ON SAFETY:

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

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



REPAIR BY QUALIFIED PERSON-
OR MISALIGNMENT MAY BE
REPAIR BY ANY MARANTZ

Kind of Common Parts

RESISTOR

- R*** (1) GD05 140, Carbon film fixed resistor, $\pm 5\%$ 1/4W
R*** (2) GD05 160, Carbon film fixed resistor, $\pm 5\%$ 1/6W

C*** : CERAMIC CAP.

- (1) DD1 370, Ceramic condenser,
disc type (titan condenser)
Temp. coeff. P350 to N1000 50V

C*** : CERAMIC CAP.

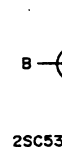
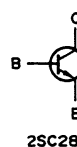
- (1) DK16 300, High dielectric constant ceramic
condenser, disc type (titan variable)
Temp. chara. 2B4 50V

C*** : ELECTROLY. CAP. (---)/FILM CAP. (---)

- (1) EA 10, Electrolytic condenser,
one-way lead type, tolerance $\pm 20\%$
(2) DF15 350, Plastic film condenser,
one-way type, Mylar, $\pm 5\%$ 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"

Q401, Q901~Q903,
QE05, Q906
NJM4558D-D
QE01
LC7522
QE03, QE04
BA3812L
QE06~QE09, Q514,
Q516, Q521~Q524
QL01~QL06
2SC536SP etc.



TOP VIEW



TOP VIEW



TOP VIEW



TOP VIEW



SIDE VIEW



BOTTOM VIEW



SIDE VIEW

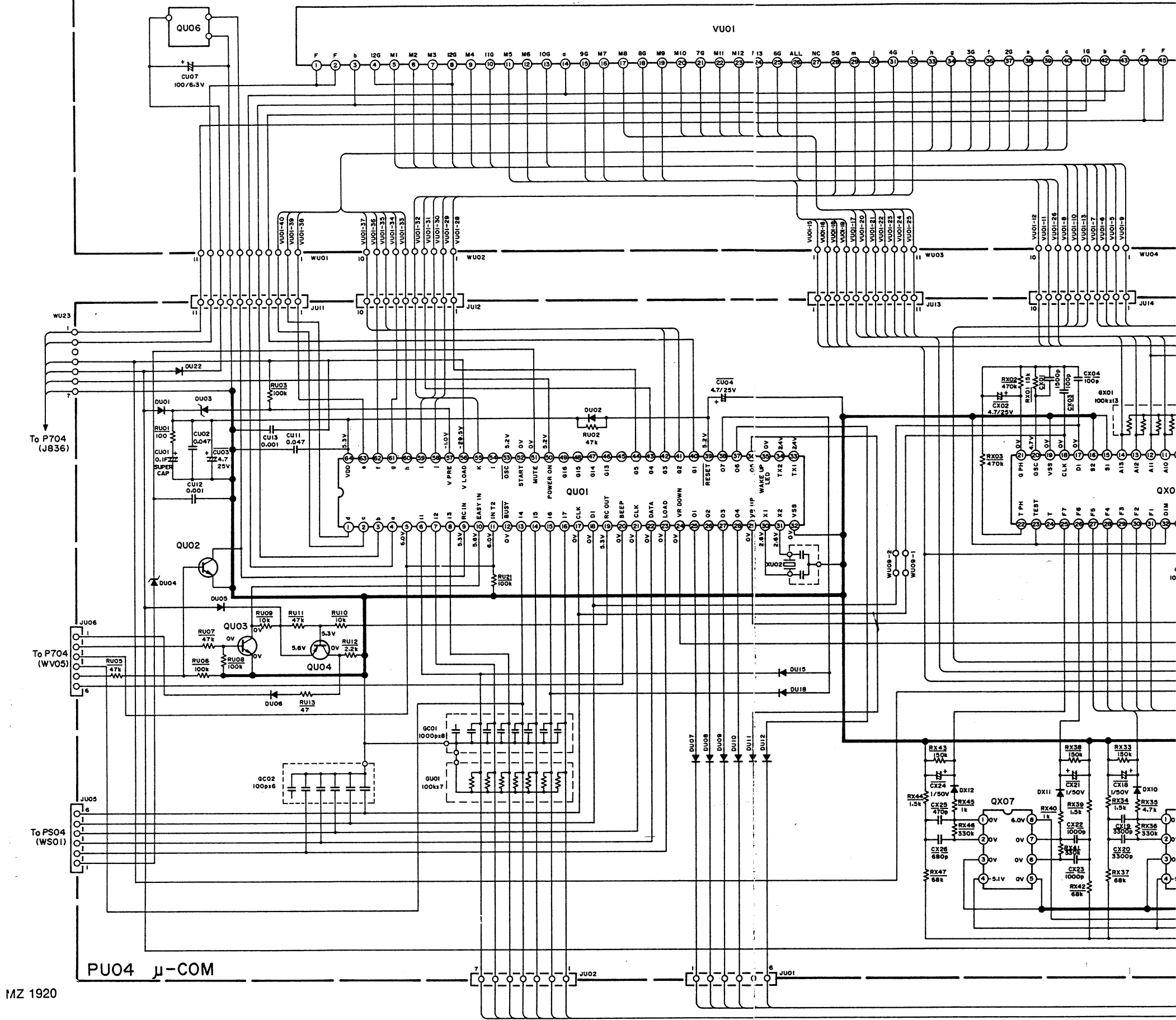


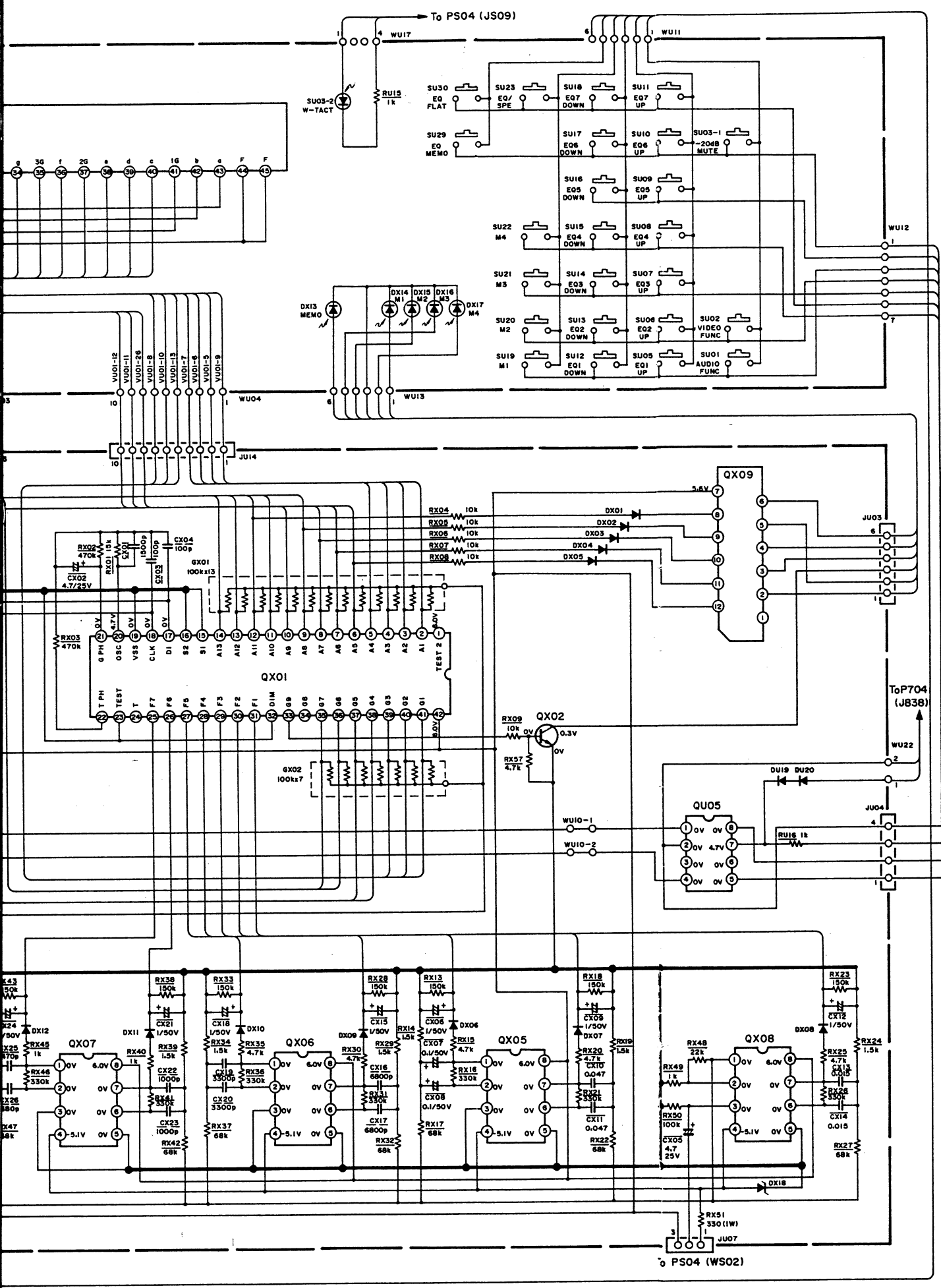
BOTTOM VIEW



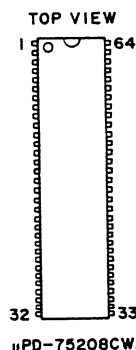
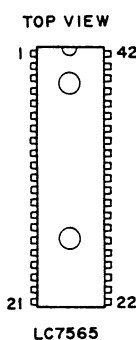
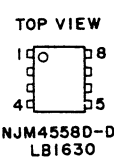
MZ 1919

PUI4 FIP TACT SWITCH

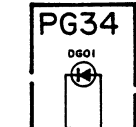




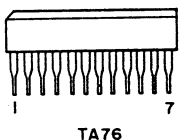
- QU01
μPD-75208CW/G
- QU02,QU03,QX02
2SC536SP etc.
- QU04
2SA608SP etc.
- QU05
LB1630
- QU06
PHOTO UNIT
- QX01
LC7565
- QX05~QX08
NJM4558D
- QX09
TA76
- DG01,DX13~DX17
LT3D8B
- DU01,DU02,DU05~DU13
DU22,DX01~DX12
ISS133 etc.
- DU03
MTZJ7.5C
- DU04
3.9V ZENER
- DU19,DU20
S5688G
- DX18
5.1V ZENER



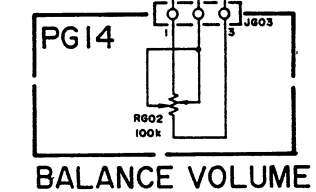
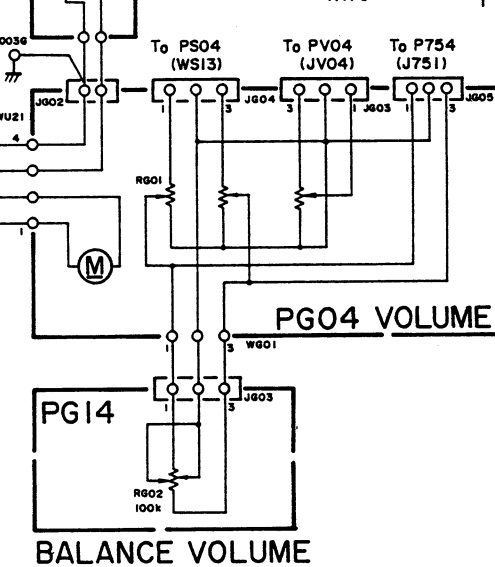
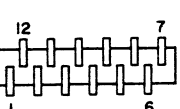
VOLUME LED

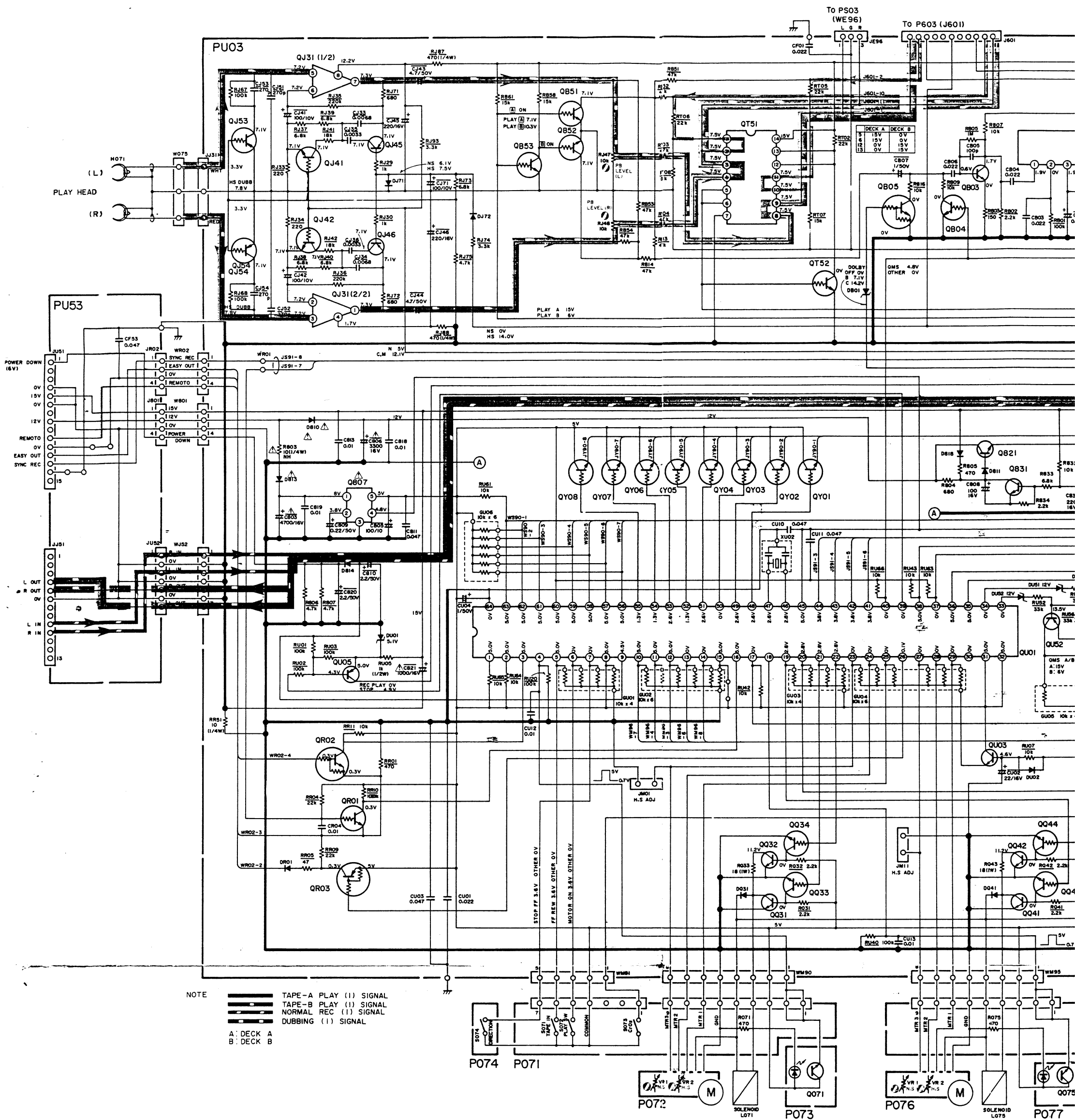


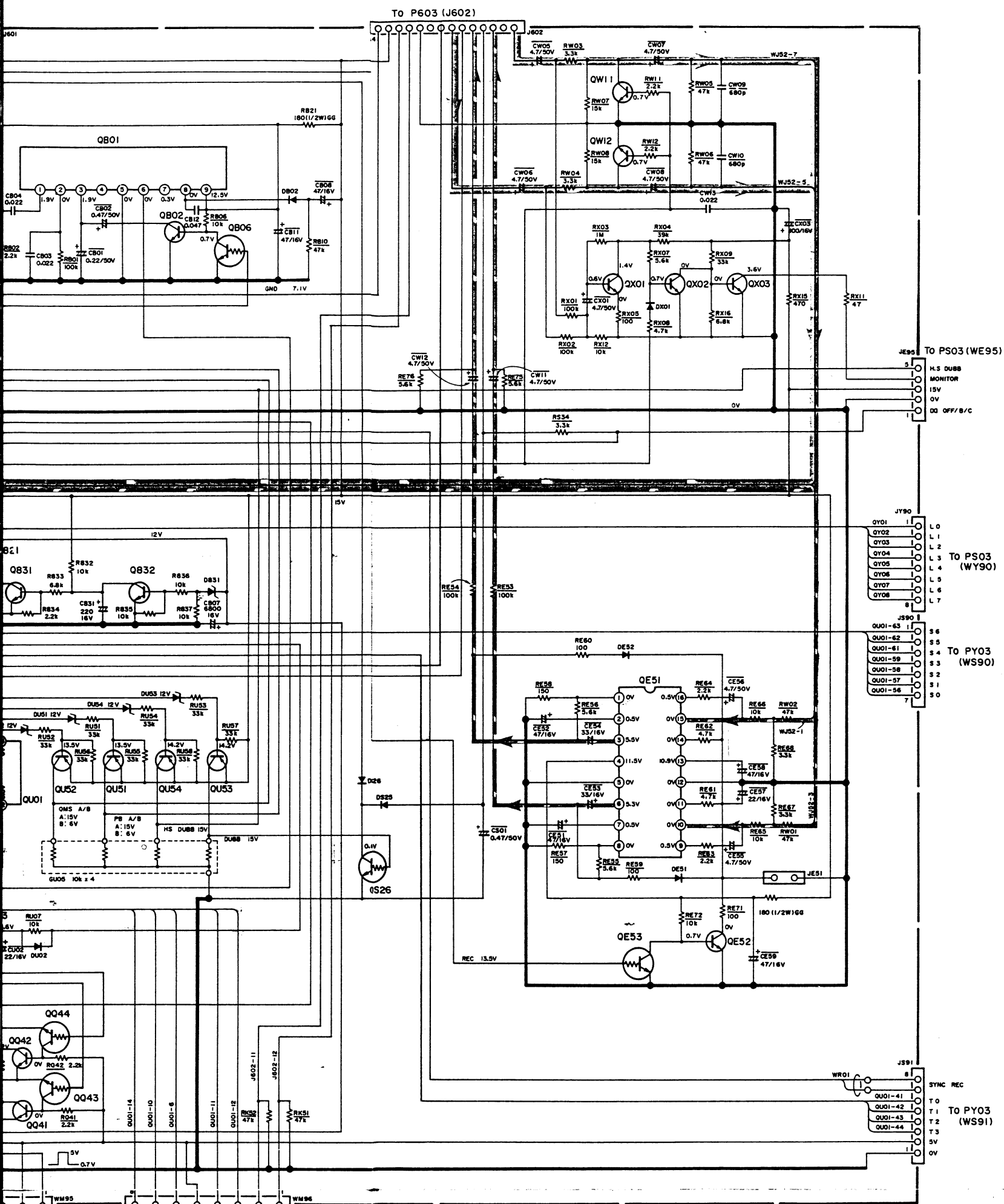
SIDE VIEW



BOTTOM VIEW



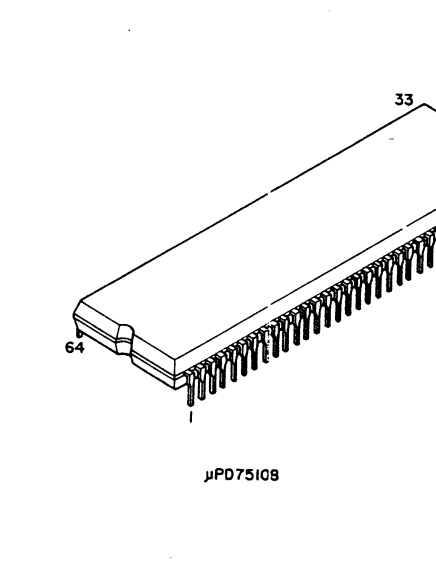
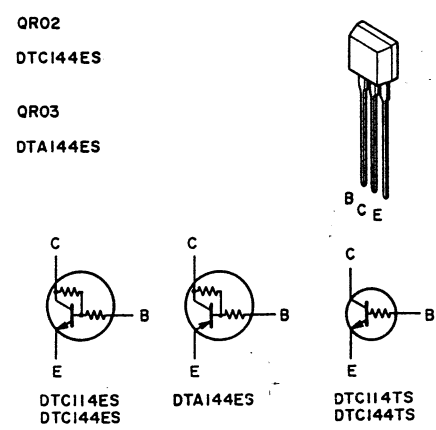
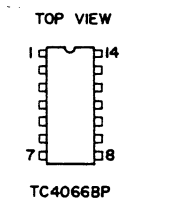




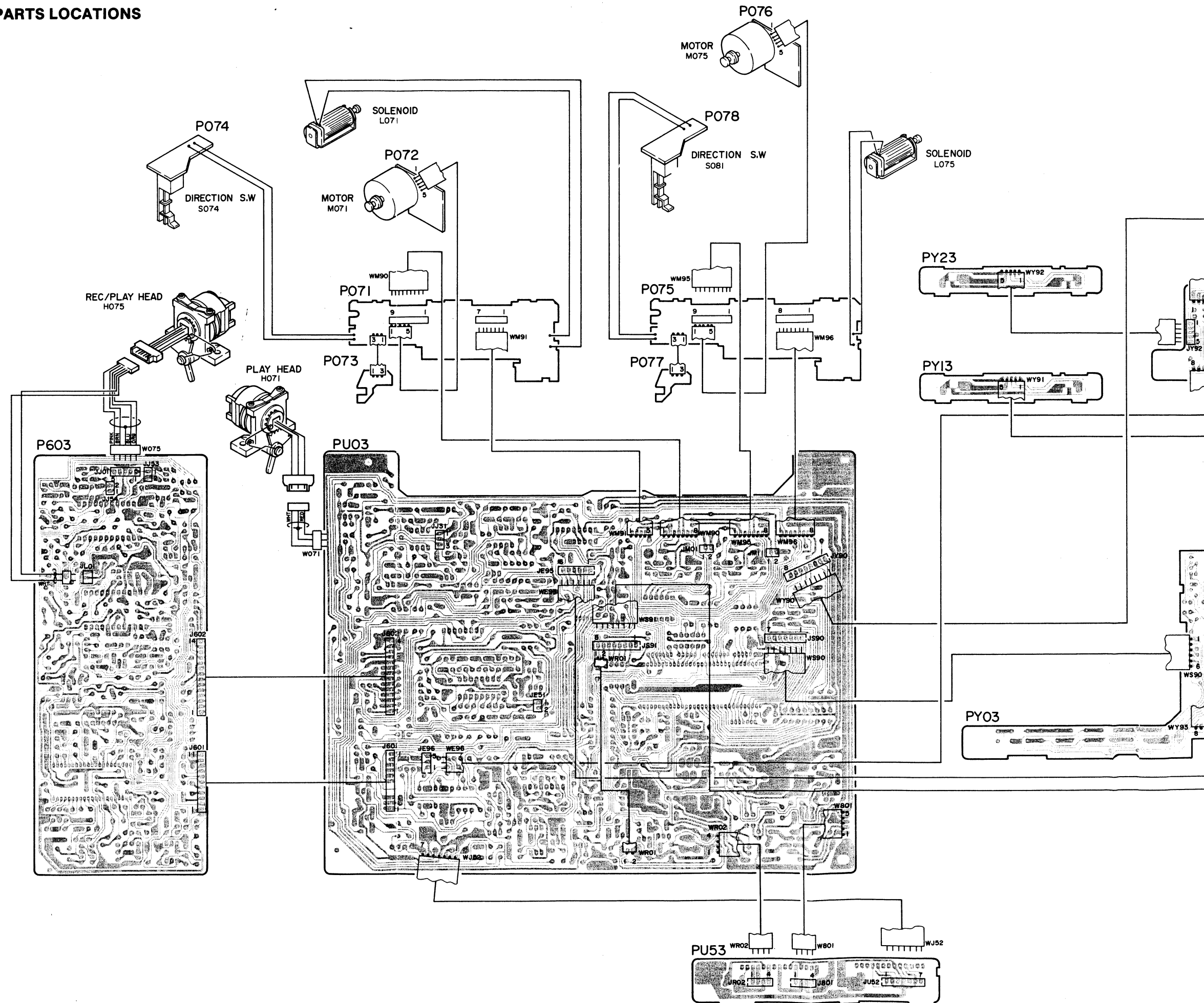
Q071, Q075
GP2509B
Q807
L78MR05
Q801
BA335
Q802, Q803, Q852, Q853
QU03, QX02, QX03, Q831, Q832
2SC536SP etc.
Q805
DTC114ES
QE51
BA343
QJ31
NJM-2068-DD
QU01
μPD75108CW
QU51~QU54, QU05, QJ45
QJ46
2SA608SP, etc.

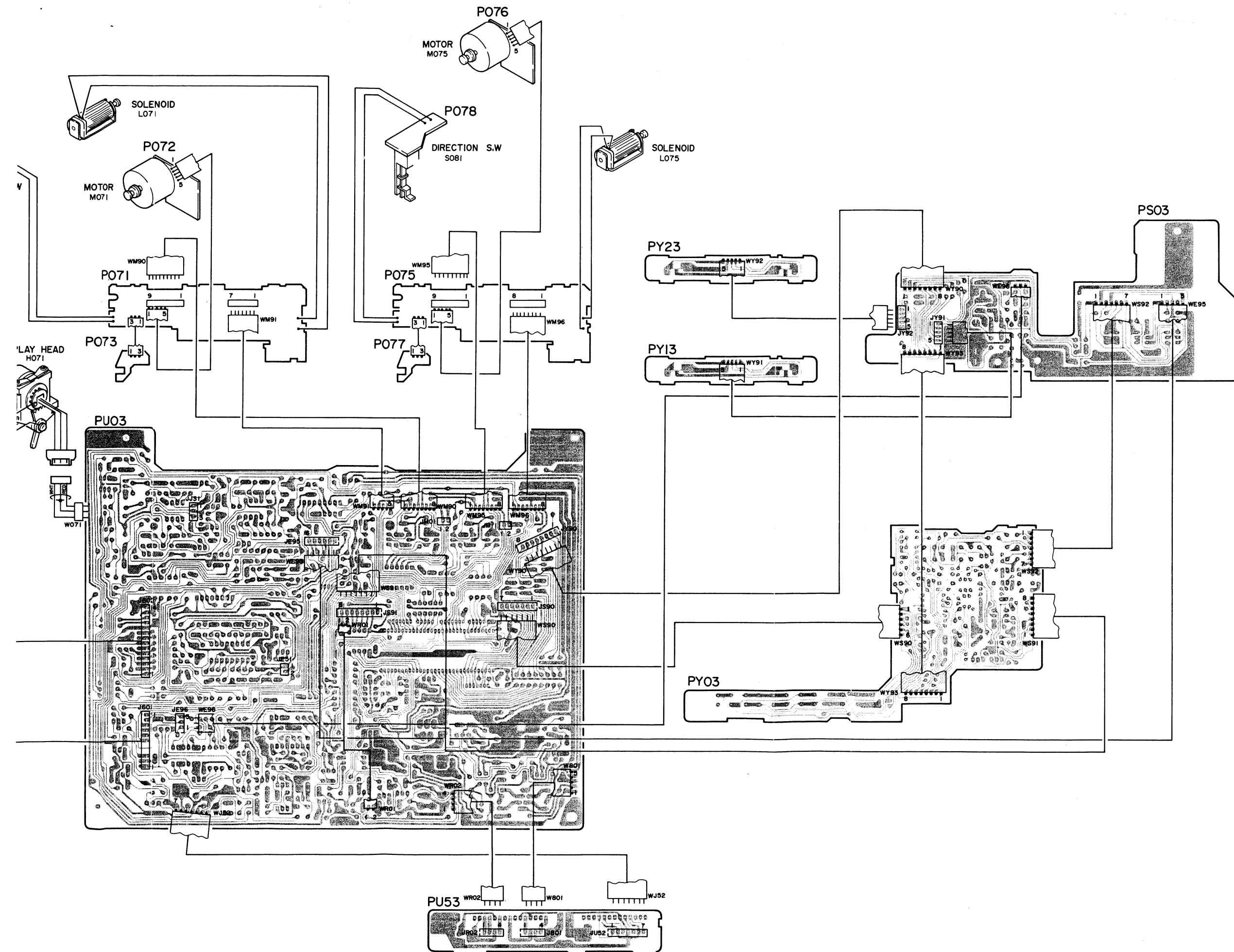
DH13, DQ31, DQ41
RI.103E
DH14, DE51, DE52, D811
D171, DJ72, D801, D818
DS25, DS26, DU02
D101, DB02
ISSI33, etc.
D1101
RD5.1JB2 5.1V
MTZJ5.1B
DU51~DU54
RD12JB2
MTZV12B 12V
DB01
8.2V
DB31
RD6.8JB2 6.8V
MTZJ6.8B
DH10
ISR35-200
QJ321
2SD313

Q031, Q041
2SC2060(Q,R)
Q032, Q042
2SC1741(Q,R)
Q051
TC4066BP
QW11, QW12
2SD1302(S,T)
QX01
2SC1740(R,S)
QJ53, QJ54
DTA144TS
QE53, Q033, Q034, Q043
Q044, Q804, Q806, Q826
Q851~Q853, QY01~QY08
DTC114TS
Q001, QJ41, QJ42, QJ52
DTC144TS
Q002
DTC144ES
Q003
DTA144ES

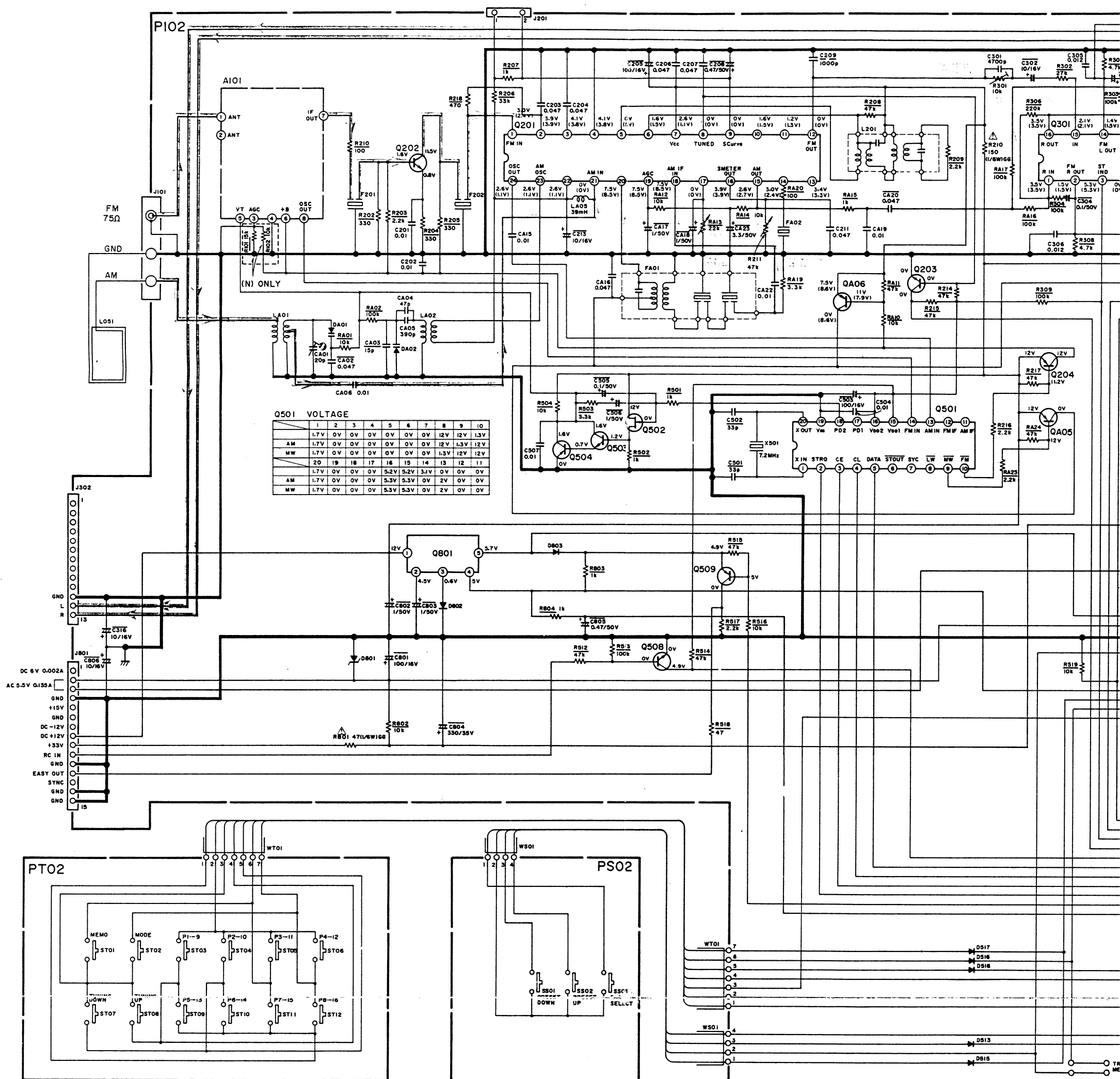


7. PARTS LOCATIONS



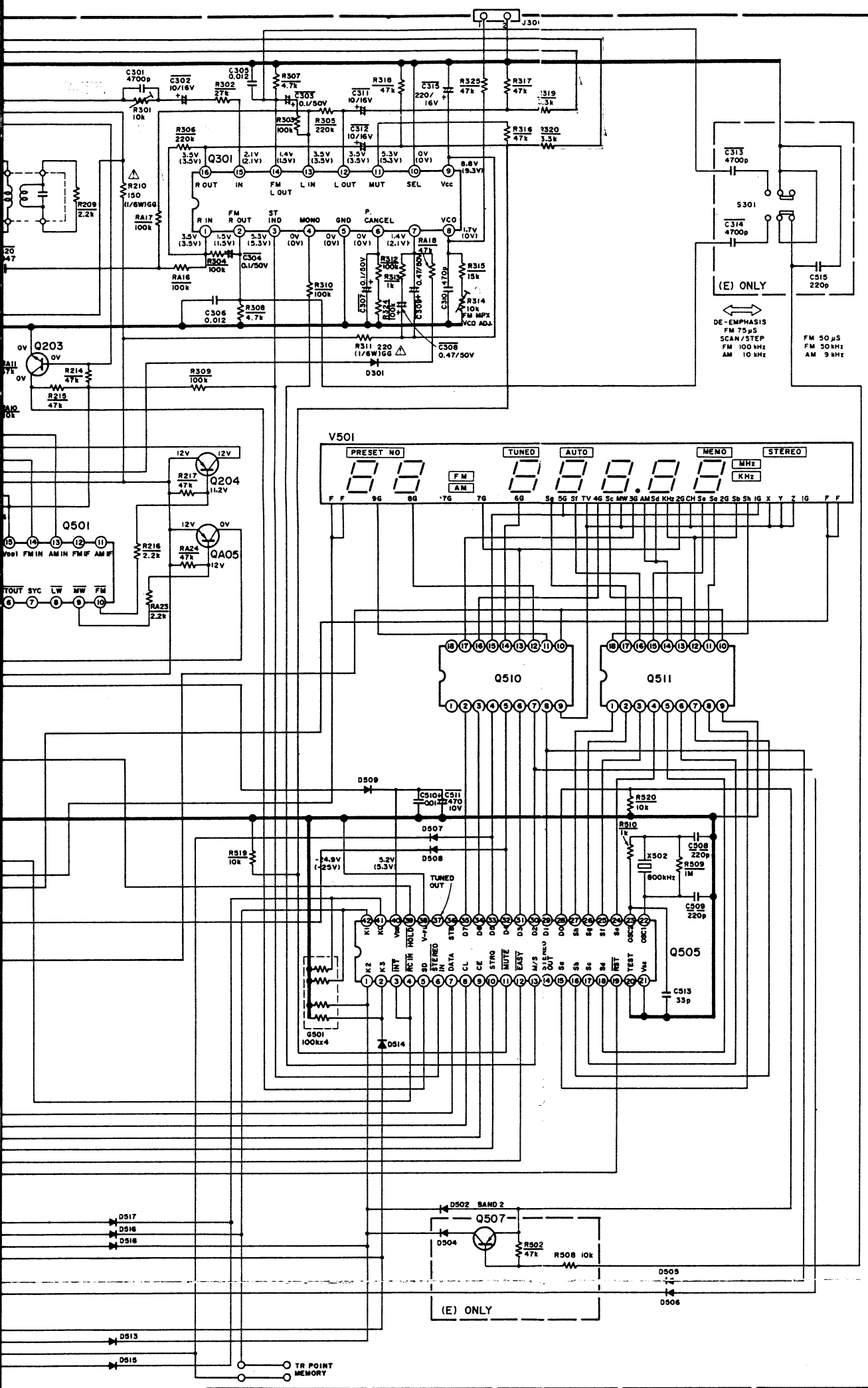


7. SCHEMATIC DIAGRAM



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.

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



Q201
HC10222030
LA1266 FM/AM IF

Q202
HT310471C0
2SC1047 (C)

Q203, Q503, Q504
Q508
HT30001000
2SC536SP (F, G) etc.

Q507, Q509, QAO6
HT10001000
2SA608SP (F, G) etc.

Q301
HC10022490
TEA5581 FM MPX

Q501
LC10164030
LM7000N

Q502
HF20030080
2SK30A (Y)

Q505
HUI0007030
LC6514B-3357

Q510, Q511
HC10160030
LB1290

Q801
HC10205030
L78MR05

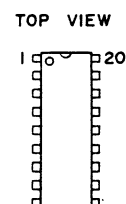
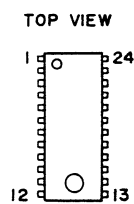
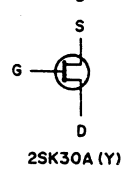
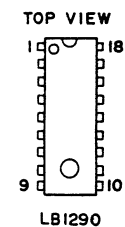
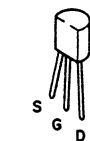
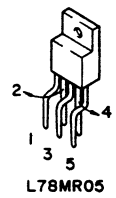
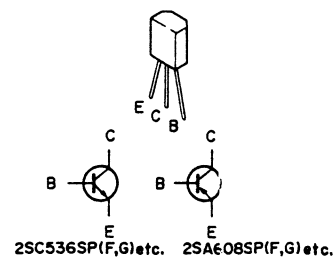
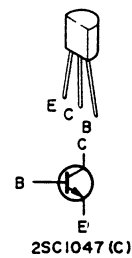
Q204, QAO5
HT113092C0
2SA1309A (Q, R)

D301, D502, D504
D505~D509, D513~D518
D803
HD20002000
ISS133 etc.

D801
HD30751000
RD7.5JB2 etc.

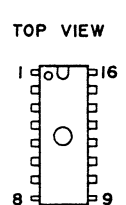
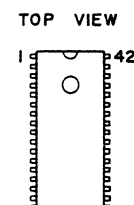
D802
HD20003000
10SF10C etc.

DA01, DA02
HD40006030
SVC321SP



LA1266

LM7000N



LC6514B-3357

TEA5581

NOTE
: AM/FM SIGNAL (: AM
: AM SIGNAL
: FM SIGNAL

"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, $\pm 5\%$ 1/4W
R*** (2) GD05 160, Carbon film fixed resistor, $\pm 5\%$ 1/6W

C*** : CERAMIC CAP.

(1) DD1 370, Ceramic condenser,
disc type (titan condenser)
Temp. coeff. P350 to N1000 50V

C*** : CERAMIC CAP.

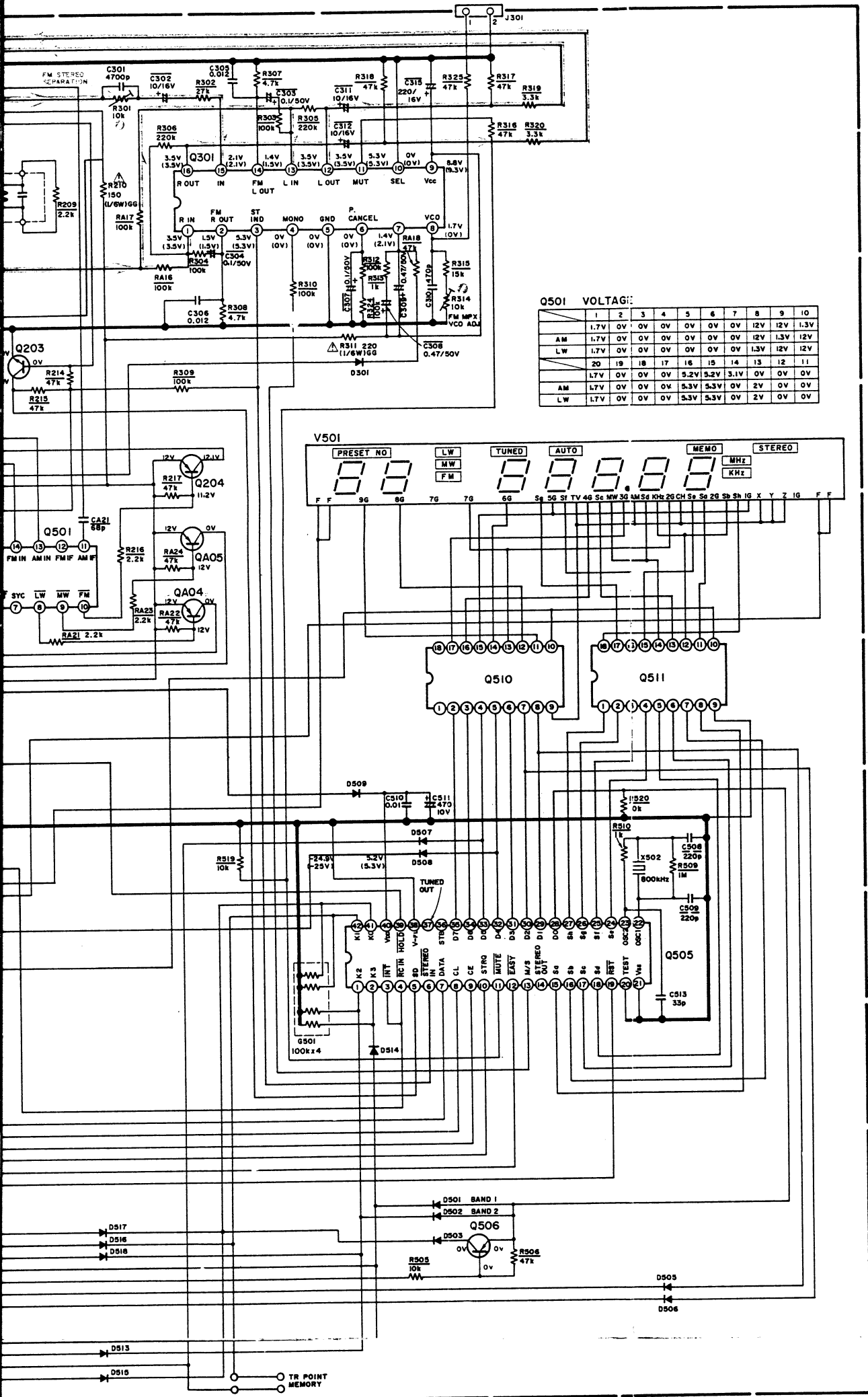
(1) DK16 300, High dielectric constant ceramic
condenser, disc type (titan variable)
Temp. char. 2B4 50V

ELECTROLY CAP. ($\frac{\square}{\square}$)/FILM CAP. ($\frac{\square}{\square}$)

(1) EA 10, Electrolytic condenser,
one-way lead type, tolerance $\pm 20\%$
(2) DF15 350, Plastic film condenser,
one-way type, Mylar, $\pm 5\%$ 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"

notice.



Q201
HC10222030
LA1266 FM/AM IF

Q202
HT310471C0
2SC1047 (C)

Q203, Q503, Q504
Q508
HT30001000
2SC536SP (F, G) etc.

Q507, Q509, Q506
HT10001000
2SA608SP (F, G) etc.

Q301
HC10022490
TEA5581 FM MPX

Q501
HC10164030
LM7000N

Q502, Q501, Q502
HF20030080
2SK30A (Y)

Q505
HUI0007030
LC6514B-3357

Q510, Q511
HC10160030
LB1290

Q801
HC10205030
L78MR05

Q204, Q504, Q505
HT113092C0
2SA1309A (Q, R)

Q503
HT413022B0
2SD1302 (S, T)

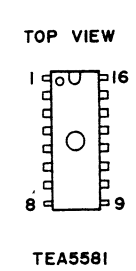
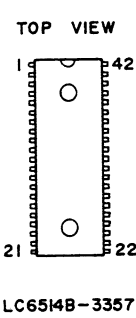
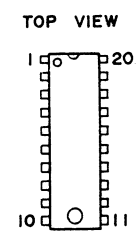
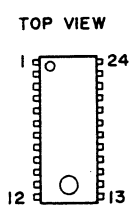
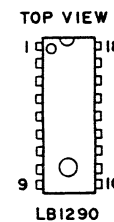
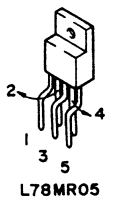
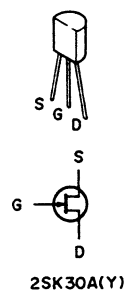
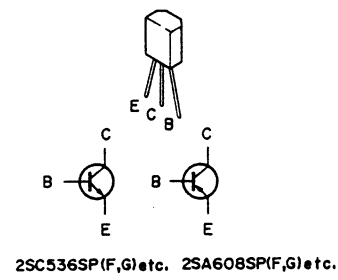
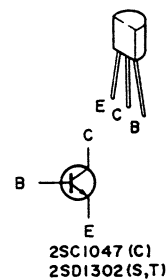
D301, D502, D503
D505~D509, D513~D518
D803
HD20002000
ISS133 etc.

D801
HD30751000
RD7.5JB2 etc.

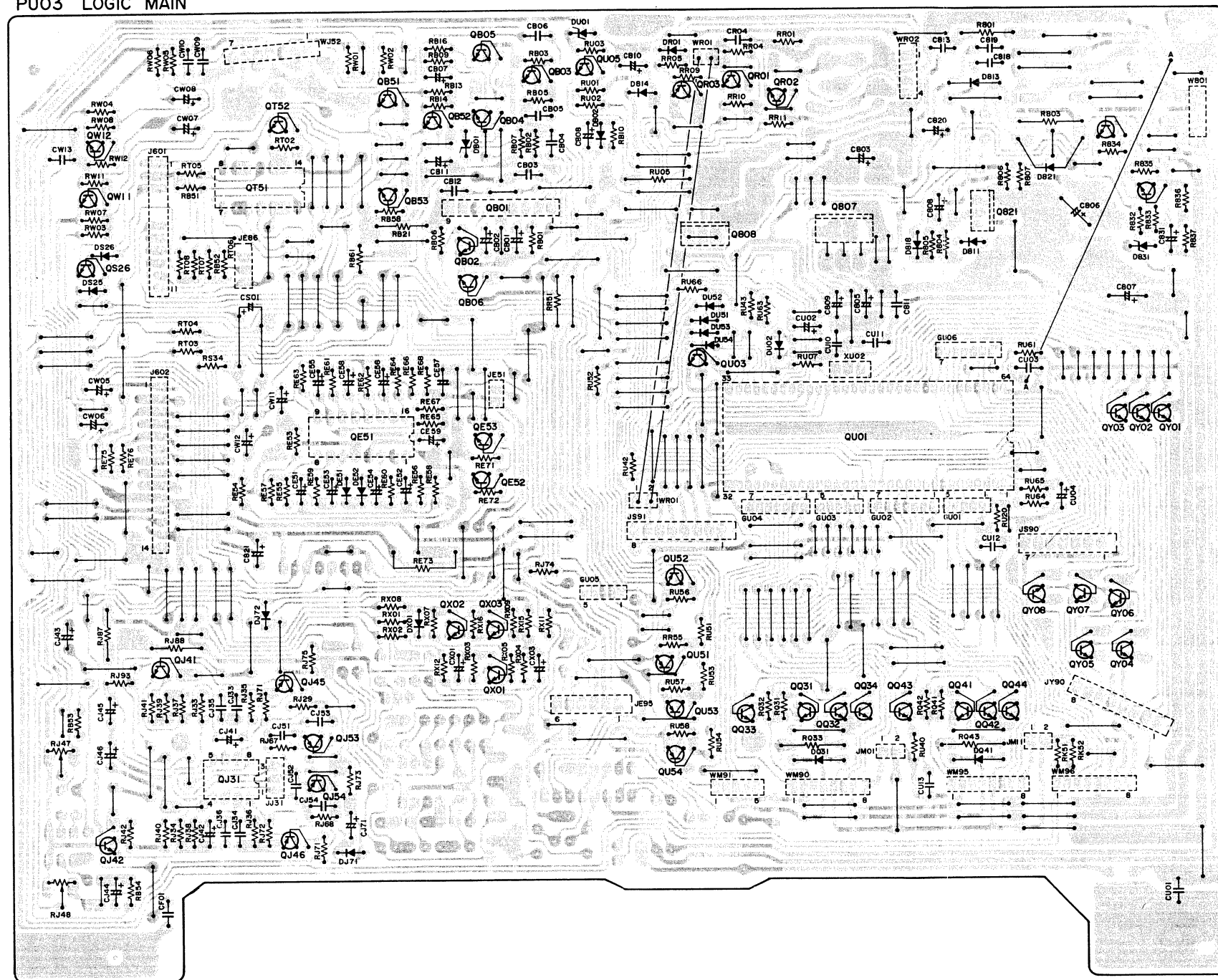
D802
HD20003000
IOSF10C etc.

DA01, DA02, DA04, DA05
HD40006030
SVC321SP

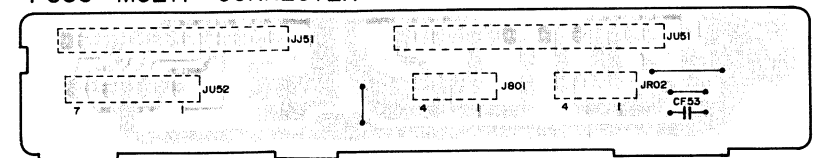
DA03, DA06
HD20017210
ISS135



PU03 LOGIC MAIN



PU53 MULTI CONNECTER



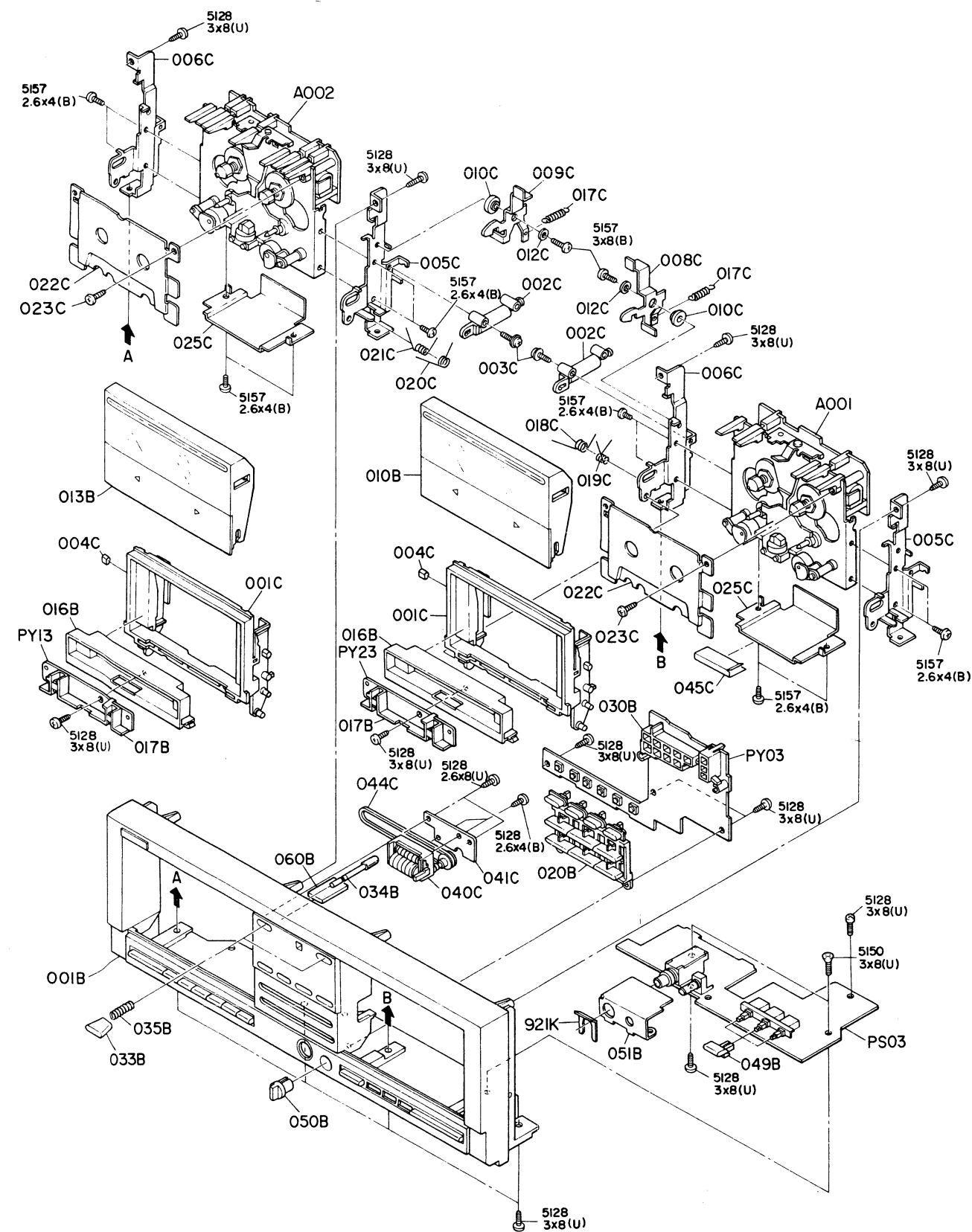
PY13 DIRECTION LED DECK-A



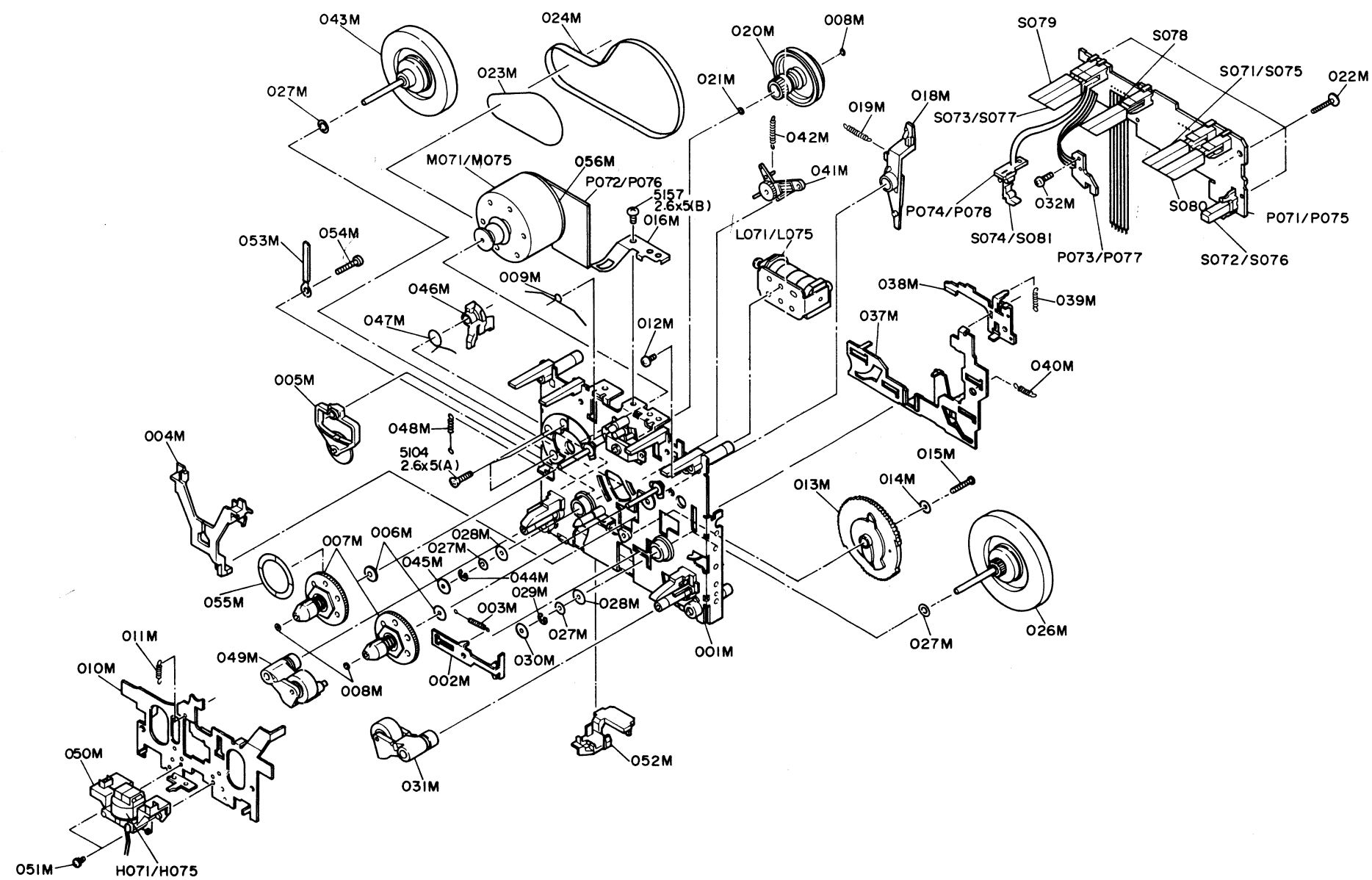
PY23 DIRECTION LED DECK-B



8. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 443 40657	Front Panel Assembly
010B	4822 443 62496	Window Assembly A, Cassette
013B	4822 443 62497	Window Assembly B, Cassette
016B	4822 443 62495	Cover, Play LED
020B	4822 410 26559	Button Assembly, Mecha
033B	4822 410 26555	Button, Eject
035B	4822 492 42164	Spring, Eject
049B	4822 410 26558	Button, Sync Rec/Dolby NR
050B	4822 412 20997	Knob, Mix Level
060B	4822 535 71093	Spacer
001C	4822 459 20391	Door Assembly, Cassette Holder
002C	4822 464 50528	Dumper Assembly
003C	4822 502 12557	Screw
004C	4822 492 63414	Leaf Spring
008C	4822 403 53328	Hook, Left
009C	4822 403 53329	Hook, Right
010C	4822 532 11636	Collar, Eject Hook
012C	4822 532 21181	Flat Washer, P.
017C	4822 492 32816	Spring, Eject Hook
018C	4822 492 41643	Spring, Door Open A
019C	4822 492 41644	Spring, Cassette Open A
020C	4822 492 42165	Spring, Door Open B
021C	4822 492 42166	Spring, Cassette Open B
022C	4822 459 80428	Cover, Mecha
023C	4822 502 13098	B.T. Screw
040C	4822 349 50324	Counter, Tape
041C	4822 530 70451	Retainer, Counter
044C	4822 358 30519	Belt, Counter
921K	4822 462 41037	Stopper, Jack



REF. DESIG.	PART NO.	DESCRIPTION
002M	4822 403 53331	Lever, Cam Gear
003M	4822 492 32817	Spring, Cam Gear
004M	4822 403 53325	Arm, Hold Lever
005M	4822 403 53326	Arm Assembly, Idler
006M	4822 502 12167	Washer
007M	4822 528 10588	Table Assembly, Reel
008M	4822 535 71232	Spacer
009M	4822 492 63898	Spring, Hold
010M	4822 464 50723	Chassis, Head Base
011M	4822 492 32818	Spring
012M	4822 532 11594	L. Washer Screw
013M	4822 522 32421	Arm, Cam Gear
014M	4822 532 51962	Washer
015M	4822 502 13003	Screw M2 x 13
016M	4822 492 63899	Leaf Spring
018M	4822 403 53327	Arm, Play
019M	4822 492 32819	Spring, Play Arm
020M	4822 528 40284	Clinger Assembly, Clutch
021M	4822 532 11635	Washer
022M	4822 502 13004	Screw M2 x 13
023M	4822 358 30811	Belt, Sub
024M	4822 358 30814	Belt, Main
026M	4822 528 60331	Flywheel Assembly, 2.5
027M	4822 532 11398	Washer
028M	4822 532 51963	Washer
029M	4822 530 70439	Stopper, E Ring
030M	4822 535 71101	Spacer
031M	4822 528 70514	Pinch Roller, 2.5
032M	4822 502 13005	Screw M2 x 6
037M	4822 403 53341	Lever, Slider
038M	4822 403 53342	Lever
039M	4822 492 32821	Spring, Lever
040M	4822 492 32822	Spring, Slider
041M	4822 403 53337	Arm Assembly, Gear
042M	4822 492 32823	Spring, REV Gear
043M	4822 528 60332	Flywheel Assembly, 2.2
044M	4822 530 70441	Stopper, E Ring
045M	4822 532 51967	Washer
046M	4822 403 53338	Arm, Direction
047M	4822 492 42247	Spring, Direction Arm
048M	4822 492 32824	Spring, Reverse
049M	4822 528 70515	Pinch Roller, 2.2
050M	4822 403 53466	Bracket Assembly, Head
051M	4822 502 12149	L. Washer Screw
052M	4822 403 53339	Holder, Lead
054M	4822 502 13011	Screw M2.6 x 8
055M	4822 532 51964	Mask, Reflector
H071	4822 249 30123	Head, Playback (A)
H075	4822 249 10349	Head, Rec/Play/Erase (B)
L071	4822 157 53318	Solenoid Coil (A)
L075	4822 157 53318	Solenoid Coil (B)
M071	4822-361 21069	D.C. Motor (A)
M075	4822 361 21069	D.C. Motor (B)
Q071	4822 130 80624	Photo Unit, Sensor (A)
Q075	4822 130 80624	Photo Unit, Sensor (B)

REF. DESIG.	PART NO.	DESCRIPTION
S071	4822 271 30609	Mini Switch, Tape (A)
S072	4822 276 12341	Mini Switch, Play (A)
S073	4822 271 30609	Mini Switch, CrO ₂ (A)
S074	4822 271 30611	Mini Switch, Direction (A)
S075	4822 271 30609	Mini Switch, Tape (B)
S076	4822 276 12341	Mini Switch, Play (B)
S077	4822 271 30609	Mini Switch, CrO ₂ (B)
S078	4822 271 30609	Mini Switch, Metal (B)
S079	4822 271 30609	Mini Switch, Anti Rec A (B)
S080	4822 271 30609	Mini Switch, Anti Rec B (B)
S081	4822 271 30611	Mini Switch, Direction (B)

9. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

- R***:** (1) GD05 --- 140, Carbon film fixed resistor, $\pm 5\%$, 1/4W
R*:** (2) GD05 --- 160, Carbon film fixed resistor, $\pm 5\%$, 1/6W

① — Resistance value

Examples

- ① Resistance value
 0.1 Ω ...001 10 Ω ...100 1k Ω ...102 100k Ω ...104
 0.5 Ω ...005 18 Ω ...180 2.7k Ω ...272 680k Ω ...684
 1 Ω ...010 100 Ω ...101 10k Ω ...103 1Mk Ω ...105
 6.8 Ω ...068 390 Ω ...391 22k Ω ...223 4.7Mk Ω ...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
 Temp. coeff. P350 ~ N1000, 50V
 ① ②
 Capacity value
 Tolerance

Examples

- ① Tolerance (Capacity deviation)
 $\pm 0.25\text{pF}$...0
 $\pm 0.5\text{pF}$...1
 $\pm 5\%$...5

* Tolerance of COMMON PARTS handled here are as follows:

- 0.5pF ~ 5pF... $\pm 0.25\text{pF}$
 6pF ~ 10pF... $\pm 0.5\text{pF}$
 12pF ~ 560pF... $\pm 5\%$
 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
 Temp. chara. 2B4, 50V
 ①
 Capacity value

Example

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

C***: ELECTROLY CAP. ($\frac{\square}{\square}$), FILM CAP. ($\frac{\square}{\square}$)

- (1) EA --- 10, Electrolytic condenser
 One-way lead type, Tolerance $\pm 20\%$
 ① ②
 Dielectric strength
 Capacity value

Examples

- ① Capacity value
 0.1 μF ...104 4.7 μF ...475 100 μF ...107
 0.33 μF ...334 10 μF ...106 330 μF ...337
 1 μF ...105 22 μF ...226 1100 μF ...108
 2200 μF ...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 $\pm 5\%$ 50V
 ①
 Capacity value

Examples

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

REF. DESIG.	PART NO.	DESCRIPTION
		PS03-MIX MIC/NR SW CIRCUIT BOARD
CE01	4822 122 40306	Ceramic Cap. 0.047 μF +80% -20%
CE03	4822 122 40103	Ceramic Cap. 5pF $\pm 0.25\text{pF}$
CE12	4822 122 32486	Ceramic Cap. 0.01 μF +80% -20%
RE06	4822 100 20616	Variable Resistor 10K Ω
QE01	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QE02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QE03	4822 130 61189	Transistor DTC114TS, Digital
QE04	4822 130 61189	Transistor DTC114TS, Digital
JE01	4822 267 30756	Jack, Mic
JY91	4822 267 40791	Jack, 5P
JY92	4822 267 40791	Jack, 5P
SS04	4822 277 11082	Push Switch, NR ON/OFF
SS05	4822 277 11082	Push Switch, Dolby B/C
SS35	4822 277 11082	Push Switch, Sync Rec
WE95	4822 323 10155	Jumper Lead, 5P
WS92	4822 323 10119	Jumper Lead, 7P
WY93	4822 323 10158	Jumper Lead, 8P
		PU03-LOGIC MAIN CIRCUIT BOARD
		PU03-CAPACITORS
CB03	4822 122 40491	Ceramic 0.022 μF +80% -20%
CB04	4822 122 40491	Ceramic 0.022 μF +80% -20%
CB05	5322 122 31626	Ceramic 100pF $\pm 5\%$
CB06	4822 122 40491	Ceramic 0.022 μF +80% -20%
CB12	4822 122 40306	Ceramic 0.047 μF +80% -20%
CF01	4822 122 40491	Ceramic 0.022 μF +80% -20%
CR04	4822 122 32486	Ceramic 0.01 μF +80% -20%
CU01	4822 122 40491	Ceramic 0.022 μF +80% -20%
CU03	4822 122 40306	Ceramic 0.047 μF +80% -20%
CU10	4822 122 40589	Ceramic 0.047 μF +80% -20%
CU11	4822 122 40306	Ceramic 0.047 μF +80% -20%
CU12	4822 122 32486	Ceramic 0.01 μF +80% -20%
CU13	4822 122 32486	Ceramic 0.01 μF +80% -20%
CW13	4822 122 40491	Ceramic 0.022 μF +80% -20%
C811	4822 122 40306	Ceramic 0.047 μF +80% -20%
C813	4822 122 32486	Ceramic 0.01 μF +80% -20%
C818	4822 122 32486	Ceramic 0.01 μF +80% -20%
C819	4822 122 32486	Ceramic 0.01 μF +80% -20%
		PU03-RESISTORS
RB21	5322 116 53285	180 Ω $\pm 5\%$ 1/2W
RE73	5322 116 53285	180 Ω $\pm 5\%$ 1/2W
RJ47	4822 100 11351	10K Ω , Trimming
RJ48	4822 100 11351	10K Ω , Trimming
RQ33	4822 116 60444	180 Ω $\pm 5\%$ 1W, Metal
RQ43	4822 116 60444	180 Ω $\pm 5\%$ 1W, Metal
RU05	4822 116 52893	1K Ω $\pm 5\%$ 1/2W
△R801	4822 116 21086	1 Ω $\pm 5\%$ 1/2W, Fusible
△R803	4822 116 60314	10 Ω $\pm 5\%$ 1/2W, Fusible

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
GU01	4822 111 91185	10K Ω ×4, Array	QS26	4822 130 61189	Transistor DTC114TS, Digital
GU02	4822 111 91276	10K Ω ×6, Array	QT51	4822 209 83067	IC TC4066RP
GU03	4822 111 91185	10K Ω ×4, Array	QT52	4822 130 61188	Transistor DTC144TS, Digital
GU04	4822 111 91276	10K Ω ×6, Array	QU01	4822 209 72548	Microprocessor μ PD7510B
GU05	4822 111 91185	10K Ω ×4, Array	QU03	4822 130 42298	Transistor 2SC536SP(F, G), etc.
GU06	4822 111 91276	10K Ω ×6, Array	QU05	4822 130 42715	Transistor 2SA608SP(F, G), etc.
		PU03-SEMICONDUCTORS	QU51		
DB01	4822 130 80273	Zener 8.2V	}	4822 130 42715	Transistor 2SA608SP(F, G), etc.
DB02	4822 130 33305	Diode 1SS133, etc.	QU54		
DE51	4822 130 33305	Diode 1SS133, etc.	QW11	4822 130 42125	Transistor 2SD1302(S, T)
DE52	4822 130 33305	Diode 1SS133, etc.	QW12	4822 130 42125	Transistor 2SD1302(S, T)
DJ71	4822 130 33305	Diode 1SS133, etc.			
DJ72	4822 130 33305	Diode 1SS133, etc.	QX01	4822 130 43118	Transistor 2SC1740(R, S)
DQ31	4822 130 32508	Diode DSF10C, etc.	QX02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
DQ41	4822 130 32508	Diode DSF10C, etc.	QX03	4822 130 42298	Transistor 2SC536SP(F, G), etc.
DR01	4822 130 33305	Diode 1SS133, etc.	QY01		
DS25	4822 130 33305	Diode 1SS133, etc.	}	4822 130 61189	Transistor DTC114TS, Digital
			QY08		
DS26	4822 130 33305	Diode 1SS133, etc.	△ Q807	4822 209 70385	IC L78MR05
DU01	4822 130 80317	Zener 5.1V	Q821	4822 130 41768	Transistor 2SD313(E)
DU02	4822 130 33305	Diode 1SS133, etc.	Q831	4822 130 42298	Transistor 2SC536SP(F, G), etc.
DU51	4822 130 80091	Zener 12V	Q832	4822 130 42298	Transistor 2SC536SP(F, G), etc.
DU52	4822 130 80091	Zener 12V			PU03-MISCELLANEOUS
DU53	4822 130 80091	Zener 12V	JE51	4822 265 20311	Plug 2P
DU54	4822 130 80091	Zener 12V	JE95	4822 265 10061	Jack, 5P
DX01	4822 130 33305	Diode 1SS133, etc.	JE96	4822 265 10062	Jack, 3P
D811	4822 130 33305	Diode 1SS133, etc.	JJ31	4822 265 10078	Plug, 3P
△ D813	4822 130 32508	Diode DSF10C, etc.	JM01	4822 265 20311	Plug, 2P
			JM11	4822 265 20311	Plug, 2P
D814	4822 130 33305	Diode 1SS133, etc.	JS90	4822 265 10063	Jack, 6P
D818	4822 130 33305	Diode 1SS133, etc.	JS91	4822 265 10059	Jack, 8P
D831	4822 130 80318	Zener 6.8V	JY90	4822 265 10059	Jack, 8P
QB01	4822 209 83706	IC BA335	WJ52	4822 323 10122	Jumper Lead, 7P
QB02	4822 130 42298	Transistor 2SC536SP(F, G), etc.	WR01	4822 323 10162	Jumper Lead, 2P
QB03	4822 130 42298	Transistor 2SC536SP(F, G), etc.	WR02	4822 323 10087	Jumper Lead, 4P
QB04	4822 130 61189	Transistor DTC114TS, Digital	W801	4822 323 10112	Jumper Lead, 4P
QB05	4822 130 60588	Transistor DTC114ES, Digital			
QB06	4822 130 61189	Transistor DTC114TS, Digital	XU02	4822 242 72194	Ceramic Vibrator, 4.19MHz
QB51	4822 130 61189	Transistor DTC114TS, Digital			
QB52	4822 130 61189	Transistor DTC114TS, Digital			
QB53	4822 130 61189	Transistor DTC114TS, Digital			
QE51	4822 209 82434	IC BA343			PU53-MULTI CONNECTOR CIRCUIT BOARD
			CF53	4822 122 40306	Ceramic Cap. 0.047 μ F -80%—20%
QE52	4822 130 42298	Transistor 2SC536SP(F, G), etc.			
QE53	4822 130 61189	Transistor DTC114TS, Digital	JJ51	4822 266 30306	Terminal, 13P
QJ31	4822 209 73064	IC NJM2068DD	JR02	4822 265 10105	Jack, 4P
QJ41	4822 130 61188	Transistor DTC144TS, Digital	JU51	4822 266 30315	Terminal, 15P
QJ42	4822 130 61188	Transistor DTC144TS, Digital	JU52	4822 265 10064	Jack, 7P
QJ45	4822 130 42715	Transistor 2SA608SP(F, G), etc.	J801	4822 265 10105	Jack, 4P
QJ46	4822 130 42715	Transistor 2SA608SP(F, G), etc.			
QJ53	4822 130 61187	Transistor DTA144TS, Digital			
QJ54	4822 130 61187	Transistor DTA144TS, Digital			
QQ31	4822 130 60173	Transistor 2SC2060(Q, R)			PY03-KEY SW/LED CIRCUIT BOARD
			DS90		
QQ32	4822 130 43191	Transistor 2SC1741(Q, R)	}	4822 130 33305	Diode 1SS133, etc.
QQ33	4822 130 61189	Transistor DTC114TS, Digital	DS93		
QQ34	4822 130 61189	Transistor DTC114TS, Digital			
QQ41	4822 130 60173	Transistor 2SC2060(Q, R)			
QQ42	4822 130 43191	Transistor 2SC1741(Q, R)			
QQ43	4822 130 61189	Transistor DTC114TS, Digital			
QQ44	4822 130 61189	Transistor DTC114TS, Digital			
QR01	4822 130 61188	Transistor DTC144TS, Digital			
QR02	4822 130 42594	Transistor DTC144ES, Digital			
QR03	4822 130 61227	Transistor DTA114ES, Digital			

REF. DESIG.	PART NO.	DESCRIPTION	
DY04	4822 130 80327	L.E.D.	LT3G8B
DY05	4822 130 80326	L.E.D.	LT3D8B
DY11	4822 130 80327	L.E.D.	LT3G8B
DY34	4822 130 80326	L.E.D.	LT3D8B
DY38	4822 130 80326	L.E.D.	LT3D8B
DY45	4822 130 80326	L.E.D.	LT3D8B
DY46	4822 130 80326	L.E.D.	LT3D8B
DY47	4822 130 80326	L.E.D.	LT3D8B
DY51	4822 130 80326	L.E.D.	LT3D8B
DY52	4822 130 80326	L.E.D.	LT3D8B
DY53	4822 130 80326	L.E.D.	LT3D8B
DY55	4822 130 80326	L.E.D.	LT3D8B
DY56	4822 130 80326	L.E.D.	LT3D8B
QS91	4822 130 61186	Transistor	DTA114S, Digital
QS92	4822 130 61186	Transistor	DTA114S, Digital
QS95	4822 130 43191	Transistor	2SC1741(Q, R)
QS96	4822 130 43191	Transistor	2SC1741(Q, R)
SS21	4822 276 11559	Push Switch	
SS23	4822 276 11559	Push Switch	
SS27	4822 276 11559	Push Switch	
SS34	4822 276 11559	Push Switch	
SS38	4822 276 11559	Push Switch	
SS41	4822 276 11559	Push Switch	
SS42	4822 276 11559	Push Switch	
SS45	4822 276 11559	Push Switch	
SS51	4822 276 11559	Push Switch	
SS52	4822 276 11559	Push Switch	
SS53	4822 276 11559	Push Switch	
SS55	4822 276 11559	Push Switch	
SS56	4822 276 11559	Push Switch	
WS90	4822 323 10099	Jumper Lead, 6P	
WS91	4822 323 10233	Jumper Lead, 8P	
WY90	4822 323 10189	Jumper Lead, 8P	
PY13-DIRECTION LED (DECK-A) CIRCUIT BOARD			
DY43	4822 130 80118	L.E.D.	LN173WP68
DY44	4822 130 80118	L.E.D.	LN173WP68
PY23-DIRECTION LED (DECK-B) CIRCUIT BOARD			
DY49	4822 130 80118	L.E.D.	LN173WP68
DY50	4822 130 80118	L.E.D.	LN173WP68

REF. DESIG.	PART NO.	DESCRIPTION	
P603-DOLBY B/C PROCESSOR CIRCUIT BOARD			
P603-CAPACITORS			
C631	4822 122 40306	Ceramic	0.047μF +80% -20%
CK40	4822 122 32486	Ceramic	0.01μF +80% -20%
CK47	4822 122 32917	Ceramic	33pF ±5%
CK48	4822 122 32917	Ceramic	33pF ±5%
CL31	4822 121 42791	Film	4700pF ±5%
CL33	4822 122 40522	Ceramic	220pF ±10%
CL34	4822 122 40522	Ceramic	220pF ±10%
CL38	4822 122 40589	Ceramic	0.047μF +80% -20%
CL41	4822 122 32486	Ceramic	0.01μF +80% -20%
P603-RESISTORS			
RJ73	4822 100 11249	100Ω, Trimming	
RJ74	4822 100 11249	100Ω, Trimming	
RK31	4822 100 20541	47KΩ, Trimming	
RK32	4822 100 20541	47KΩ, Trimming	
RL31	4822 100 20672	100KΩ, Trimming	
RL32	4822 100 20672	100KΩ, Trimming	
RL35	4822 100 20537	10KΩ, Trimming	
RL36	4822 100 20537	10KΩ, Trimming	
P603-SEMICONDUCTORS			
DK41	4822 100 33305	Diode	1SS133, etc.
DK42	4822 100 33305	Diode	1SS133, etc.
DK43	4822 100 33305	Diode	1SS133, etc.
Q601	4822 209 73092	IC	CX20187
Q631	4822 209 80401	IC	NJM4558D
Q641	4822 130 42682	Transistor	DTA144ES, Digital
Q642	4822 130 42298	Transistor	2SC536SP(F, G), etc.
Q643	4822 130 60588	Transistor	DTC114ES, Digital
QK31	4822 209 70379	IC	TDD1601
QK41	4822 130 61189	Transistor	DTC114TS, Digital
QK42	4822 130 61189	Transistor	DTC114TS, Digital
QK43	4822 130 42715	Transistor	2SA608SP(F, G), etc.
QK44	4822 130 61189	Transistor	DTC114TS, Digital
QK45	4822 130 61189	Transistor	DTC114TS, Digital
QK46	4822 130 61189	Transistor	DTC114TS, Digital
QK51	4822 130 42298	Transistor	2SC536SP(F, G), etc.
QL31	4822 209 70378	IC	TDA1600
P603-MISCELLANEOUS			
J601	4822 265 40592	Plug, 11P	
J602	4822 265 20312	Plug, 14P	
JJ01	4822 267 40793	Plug, 5P	
JL01	4822 265 20289	Plug, 2P	
L601	4822 157 52461	M.P.X. Coil	
L602	4822 157 52461	M.P.X. Coil	
L603	4822 157 53521	Choke Coil	22mH
L604	4822 157 53521	Choke Coil	22mH
LK31	4822 157 53521	Choke Coil	22mH
LK32	4822 157 53521	Choke Coil	22mH
LL31	4822 146 10184	OSC Transformer	
LL41	4822 152 20622	Choke Coil	2.2mH
XK31	4822 242 71533	Ceramic Vibrator, 500KHz	

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

NOTE ON SAFETY:

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

10. TECHNICAL SPECIFICATIONS

CASSETTE DECK SD583

General

Mechanism	2 x logic
Motors and type	Four DC
Number of heads	Three
Auto reverse	2 x yes
Auto tape selection	yes
High speed dubbing	yes
ALC (Auto Level Control)	yes

Frequency response (without Dolby)

Normal tape	20 Hz - 16 kHz
Chrome tape	20 Hz - 17 kHz
Metal tape	20 Hz - 18 kHz

Signal to noise ratio (Chrome tape) 1 kHz

With Dolby B/C	65-73 dB
Without Dolby	55 dB

Wow and flutter

DIN weighted	0.15%
RMS weighted	0.08%

Outputs

Line level/impedance	500 mV/ 3kOhm
Dimensions (W x H x D)	360 x 120 x 300 mm
Net weight	4.3kg