

AV RECEIVER RX-V595a/HTR-5150/ RX-V595aRDS SERVICE MANUAL

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual of firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

■ CONTENTS

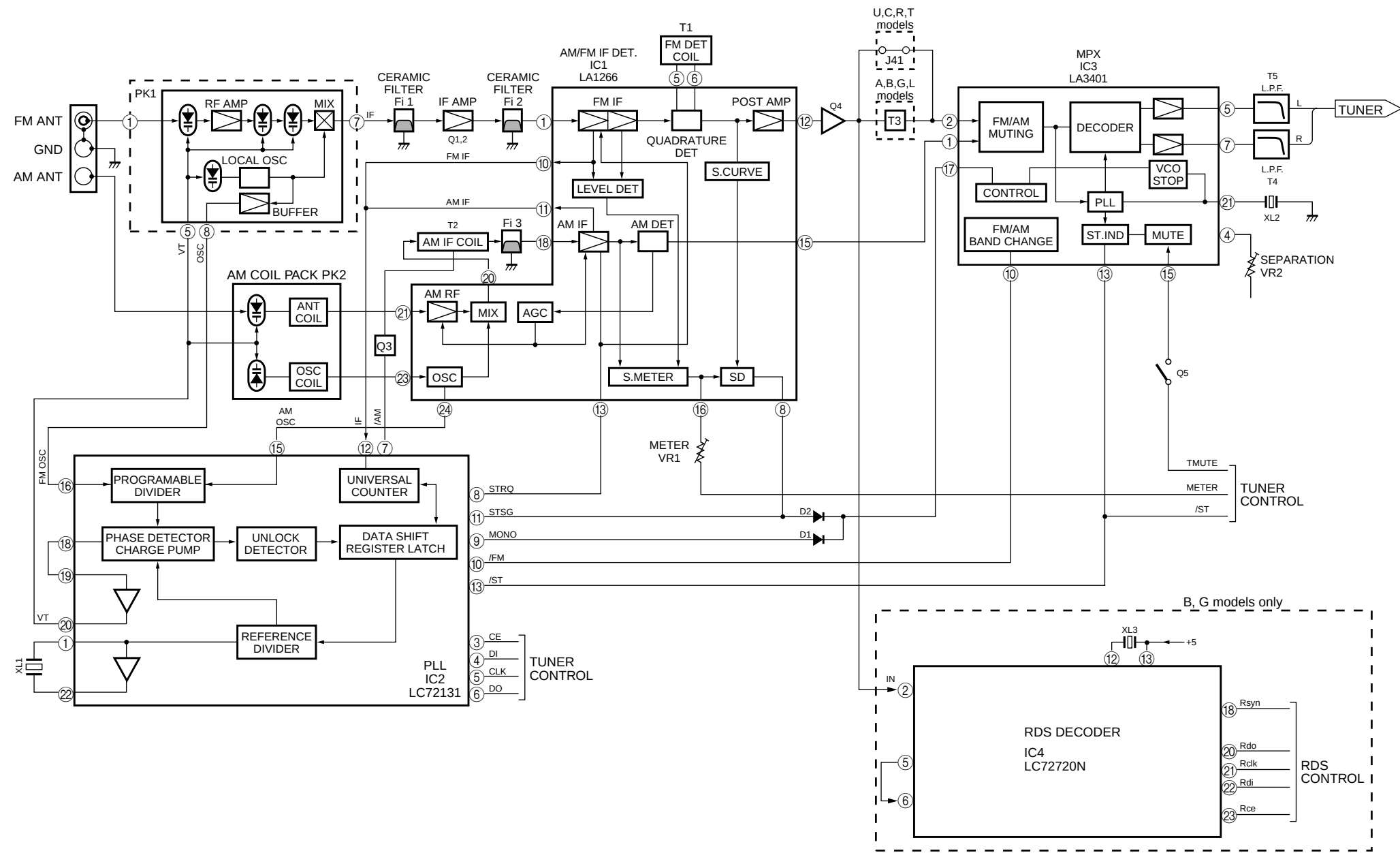
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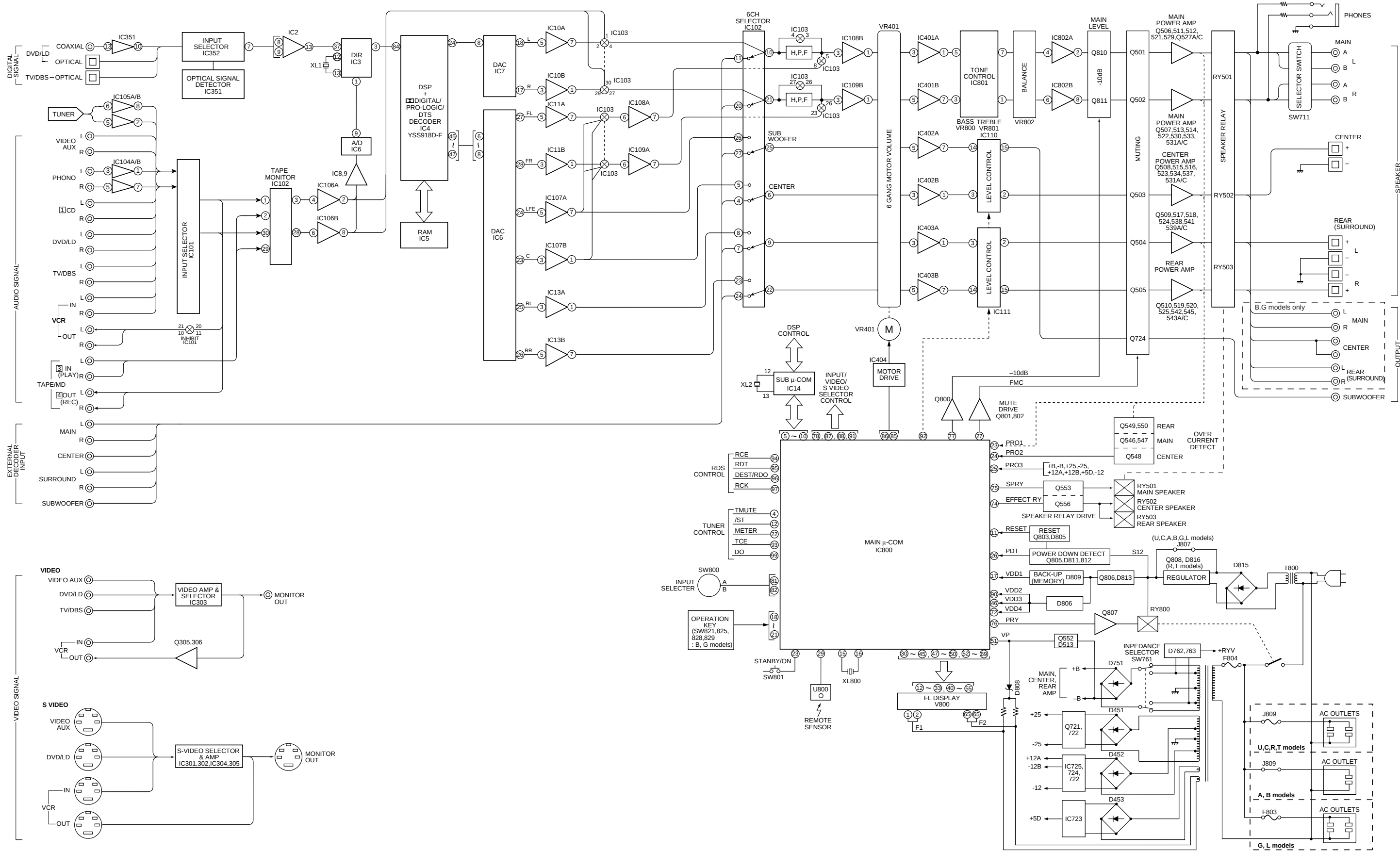
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This Service Manual uses recycled paper.



■ BLOCK DIAGRAM (1/2)



BLOCK DIAGRAM (2/2)



PRINTED CIRCUIT BOARD (Foil side)

1

There are two types of the Tuner P. C. B. assembly in this model:
One has only lead-type devices and the other has lead-type and surface-mount (SMD) devices. These two P. C. B. assemblies are compatible.

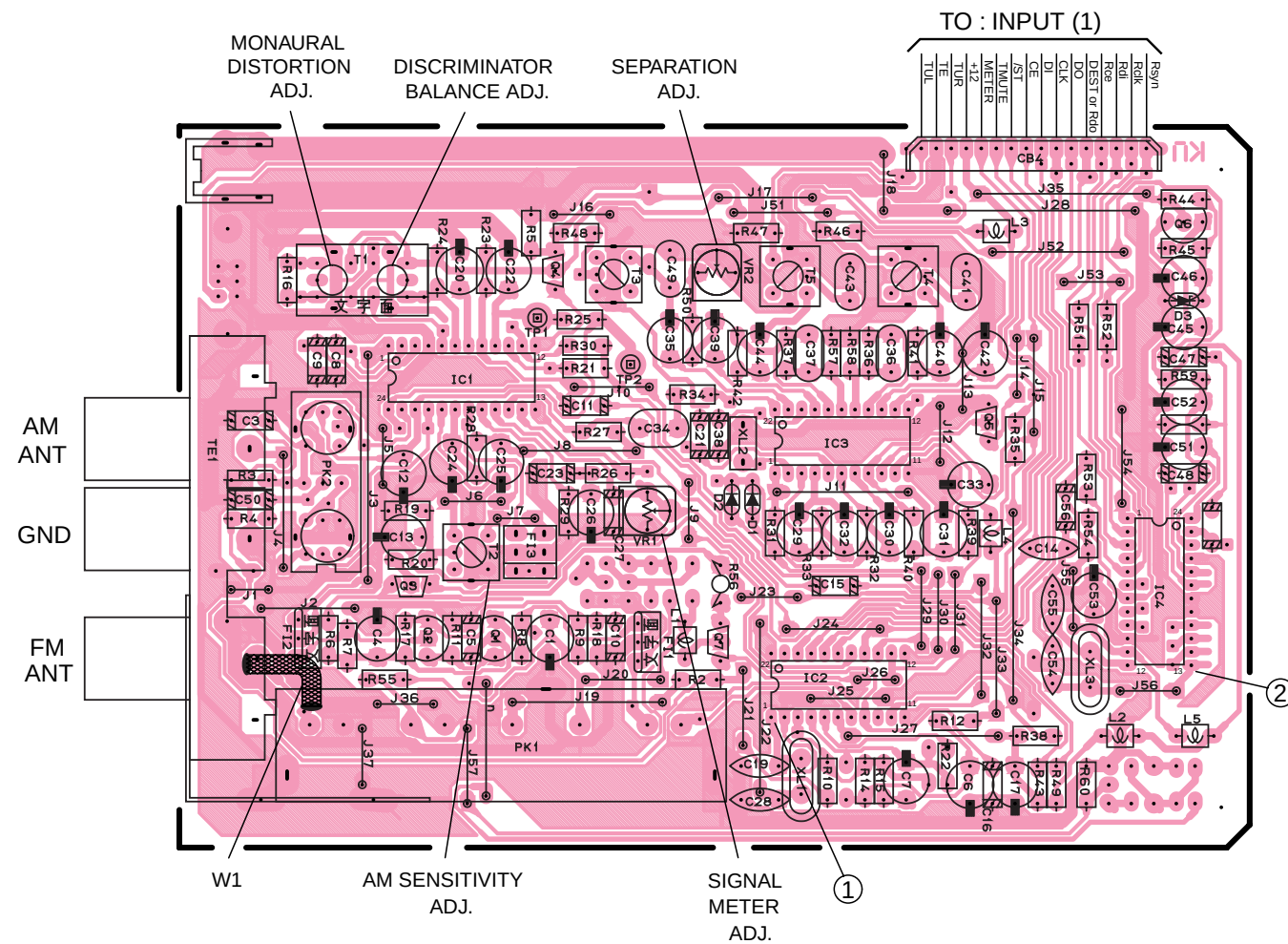
P. C. B. ASS'Y TUNER LIST

Model	Markets	Lead Type	Lead & SMD
RX-V595aRDS	B, G	V2518900	V2519600

● B and G models

P. C. B. TUNER (Lead Type)

2



3

4

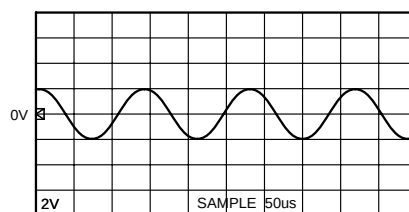
Lead Type

● Semiconductor Location

Ref. No.	Location
D1	C3
D2	C3
D3	D3
IC1	B3
IC2	C4
IC3	C3
IC4	D3
Q1	B4
Q2	B4
Q3	B3
Q4	B3
Q5	C3
Q6	D2
Q7	C4

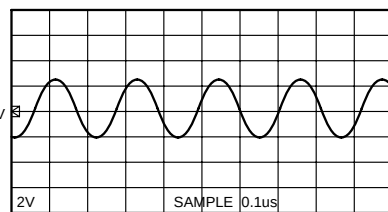
Point ① (Pin22 of IC2)

V : 2V/div H : 50nsec/div DC range 1 : 1 probe



Point ② (Pin12 of IC4)

V : 2V/div H : 0.1μsec/div DC range 1 : 1 probe



5

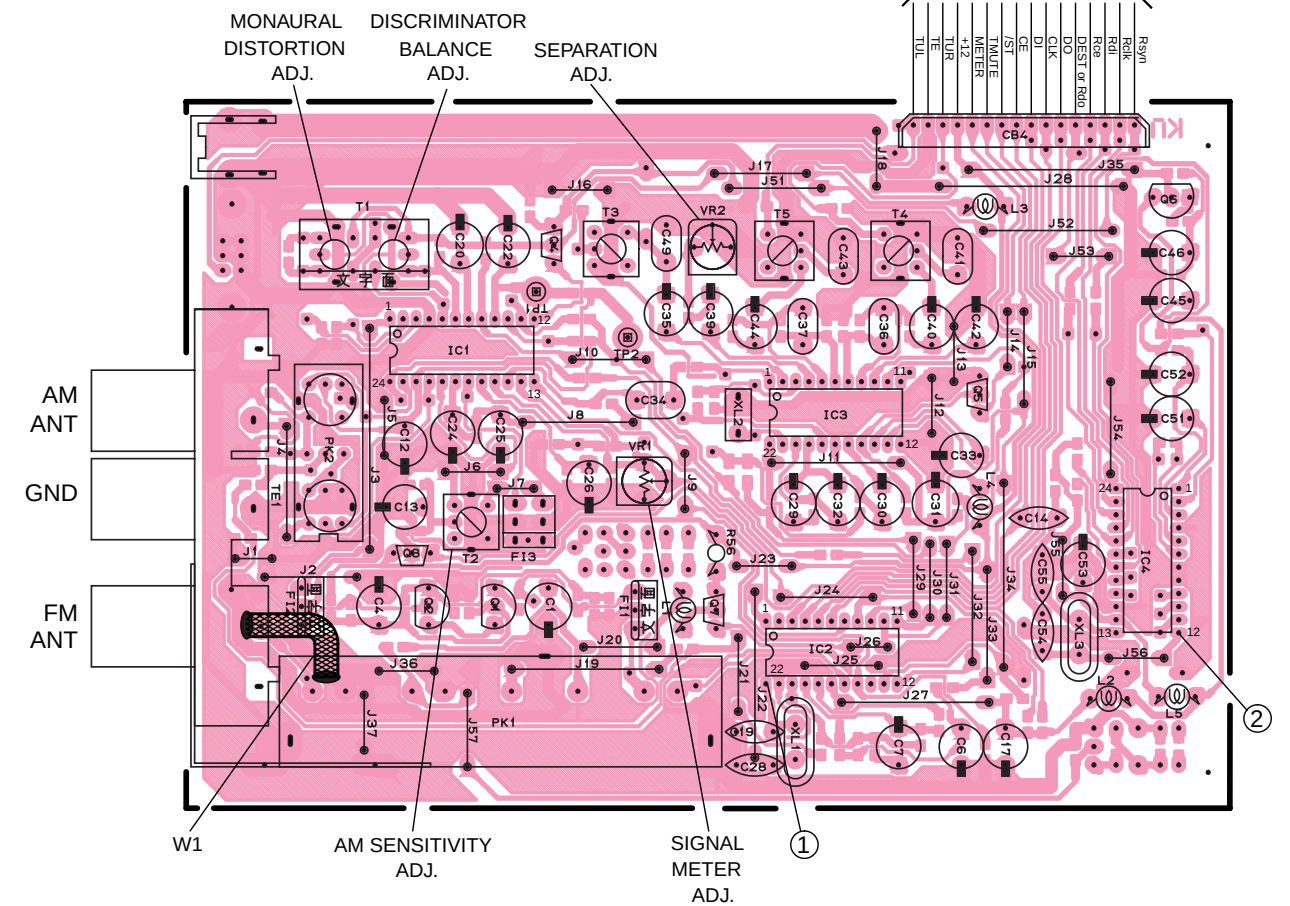
6

● B and G models

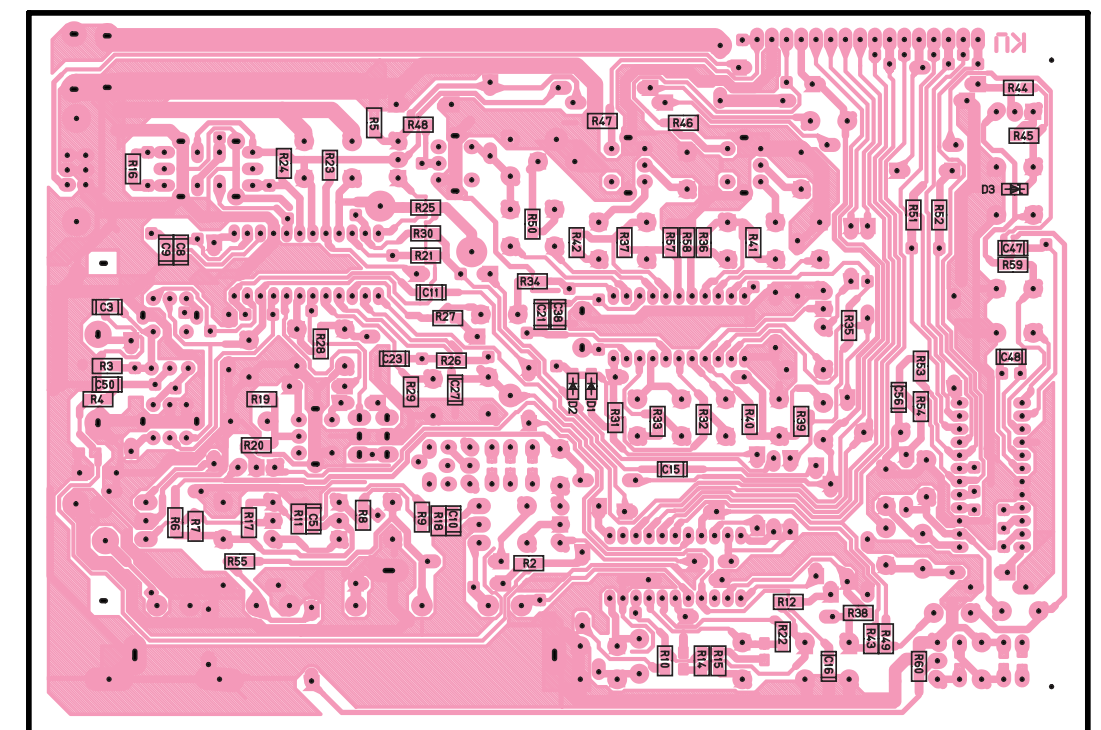
P. C. B. TUNER (Lead Type & SMD)

(Lead Type Device)

TO : INPUT (1)



(Surface Mount Device)



PRINTED CIRCUIT BOARD (Foil side)

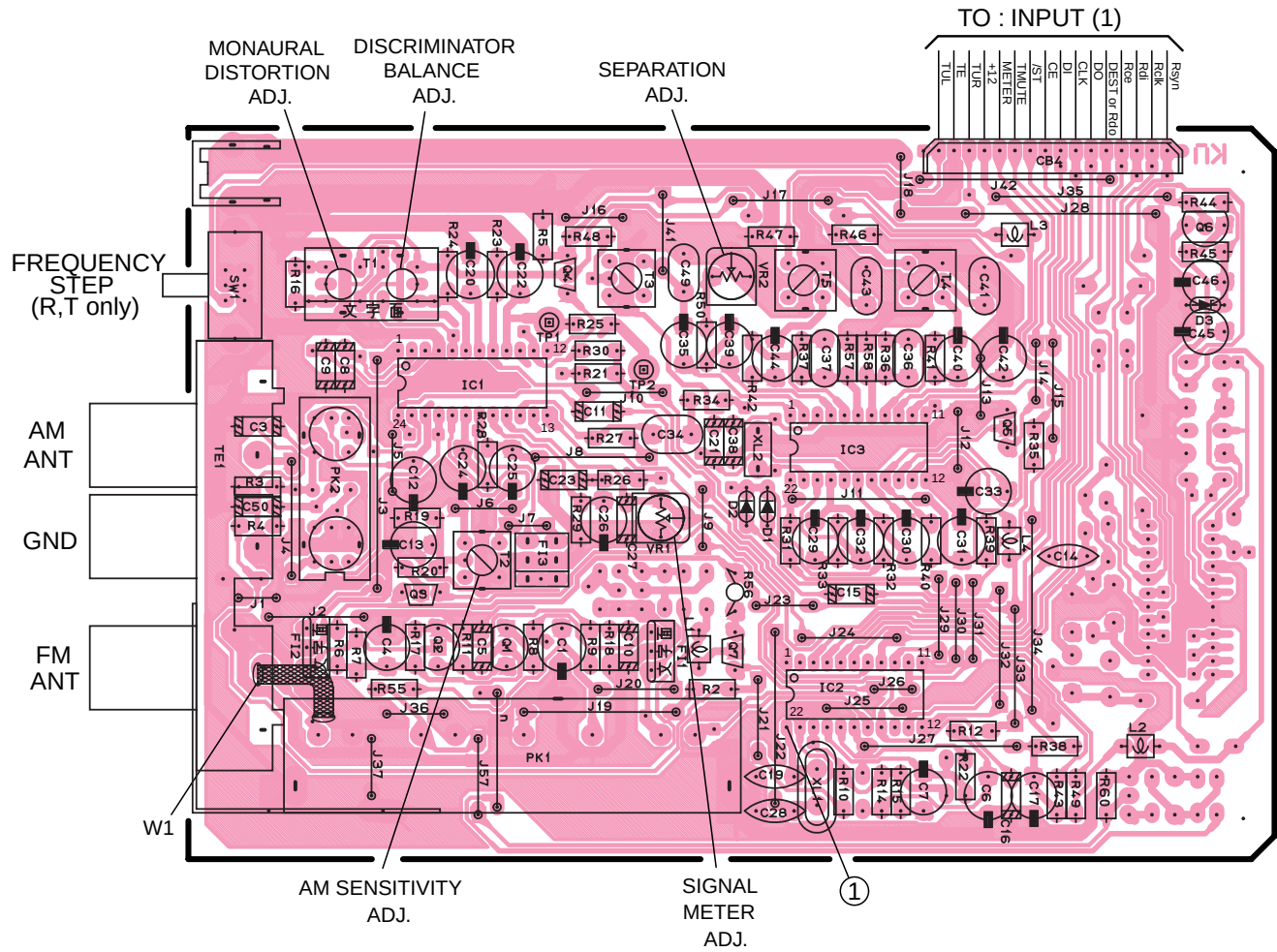
There are two types of the Tuner P. C. B. assembly in this model: One has only lead-type devices and the other has lead-type and surface-mount (SMD) devices. These two P. C. B. assemblies are compatible.

P. C. B. ASS'Y TUNER LIST

Model	Markets	Lead Type	Lead & SMD
RX-V595a/HTR-5150	U, C	V2518600	V2519300
RX-V595a/HTR-5150	R, T/T	V2518700	V2519400
RX-V595a/HTR-5150	A, L/A	V2518800	V2519500

U, C, R, T, A and L models

P. C. B. TUNER (Lead Type)



Lead Type Semiconductor Location

Ref. No.	Location
D1	C3
D2	C3
D3	D3
IC1	B3
IC2	C4
IC3	C3
Q1	B4
Q2	B4
Q3	B4
Q4	B3
Q5	C3
Q6	D3
Q7	C4

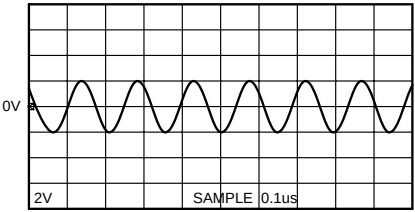
CIRCUIT CHANGES BY MARKET.

	J	U,C	R,T	A,L
R48	X	X	X	○
T3	X	X	X	○
J41	○	○	○	X
SW1	X	X	○	X
J42	X	X	○	X
R55	X	X	X	○
R57	X	X	X	○
R58	X	X	X	○
R60	X	X	X	○

○:USED X:NOT USED

Point 1 (Pin22 of IC2)

V : 2V/div H : 0.1μsec/div DC range 1 : 1 probe



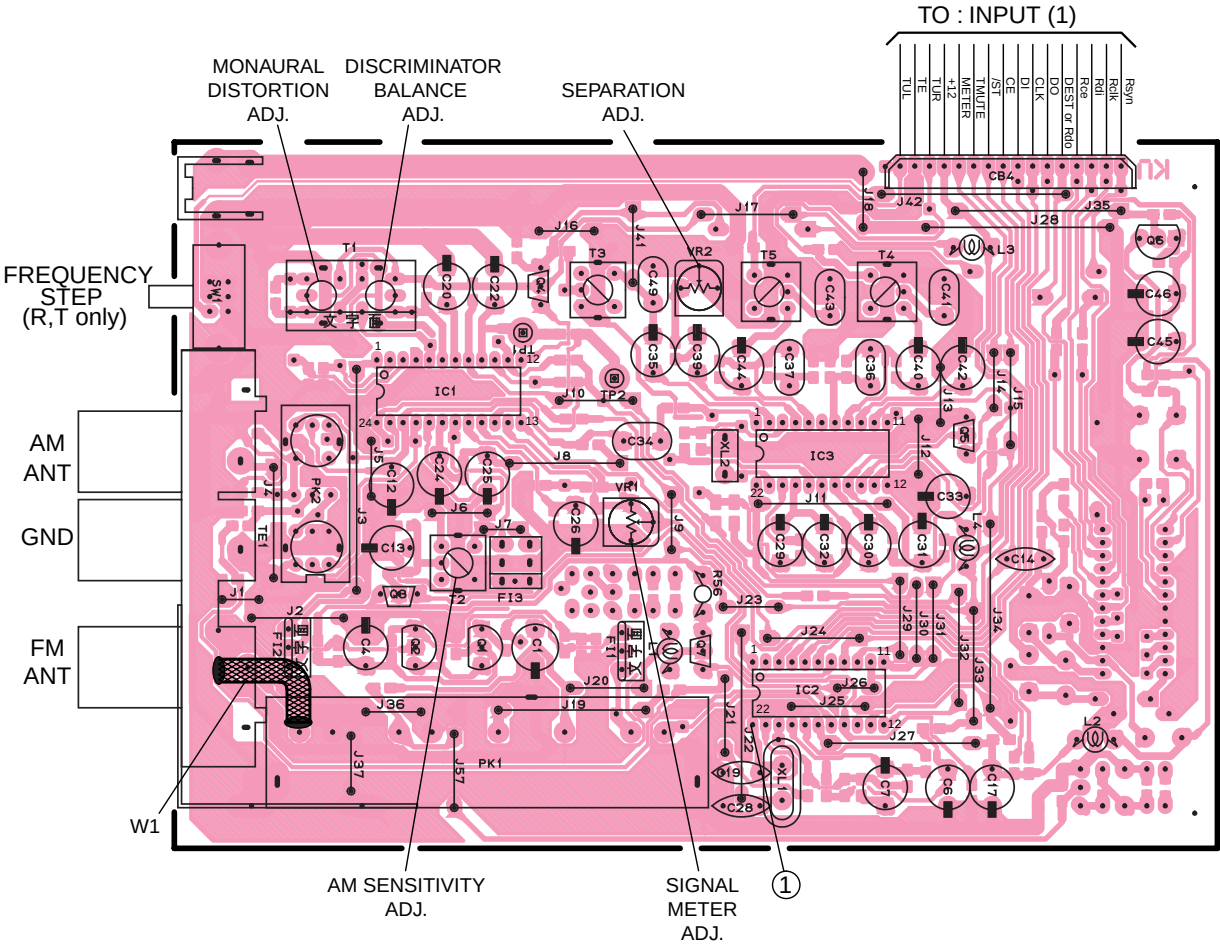
Lead Type & SMD Semiconductor Location

Ref. No.	Location
D1	G5
D2	G5
D3	H4
IC1	F2
IC2	G3
IC3	G2
Q1	F3
Q2	F3
Q3	F3
Q4	F2
Q5	G2
Q6	H2
Q7	G3

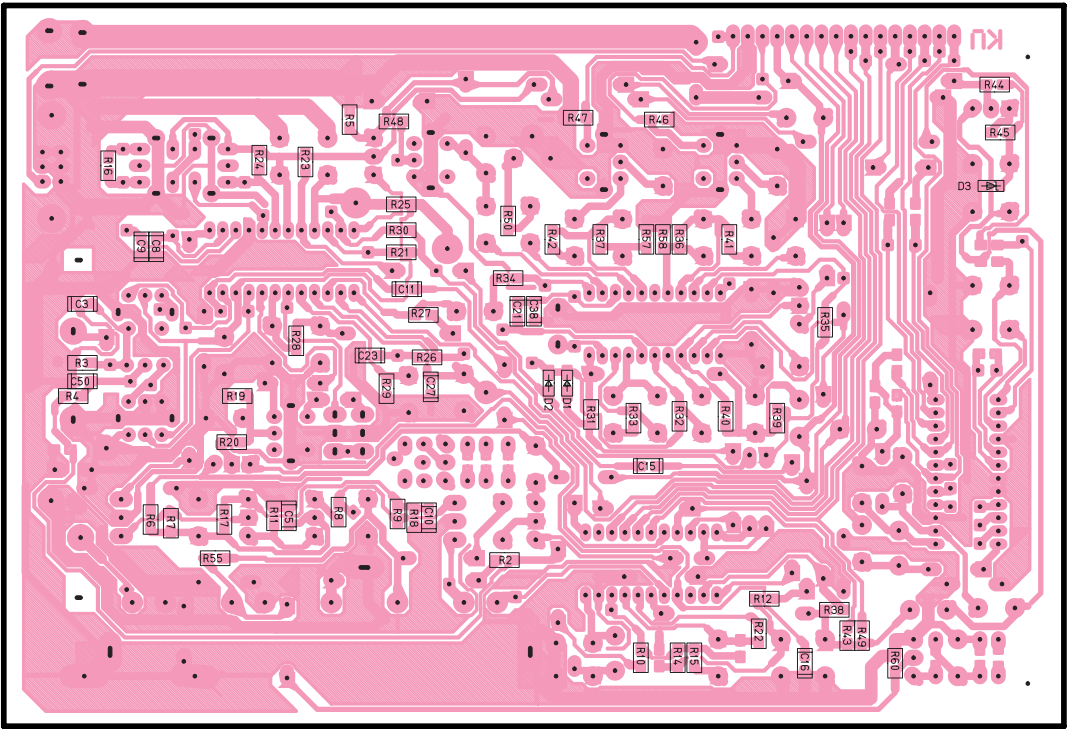
U, C, R, T, A and L models

P. C. B. TUNER (Lead Type & SMD)

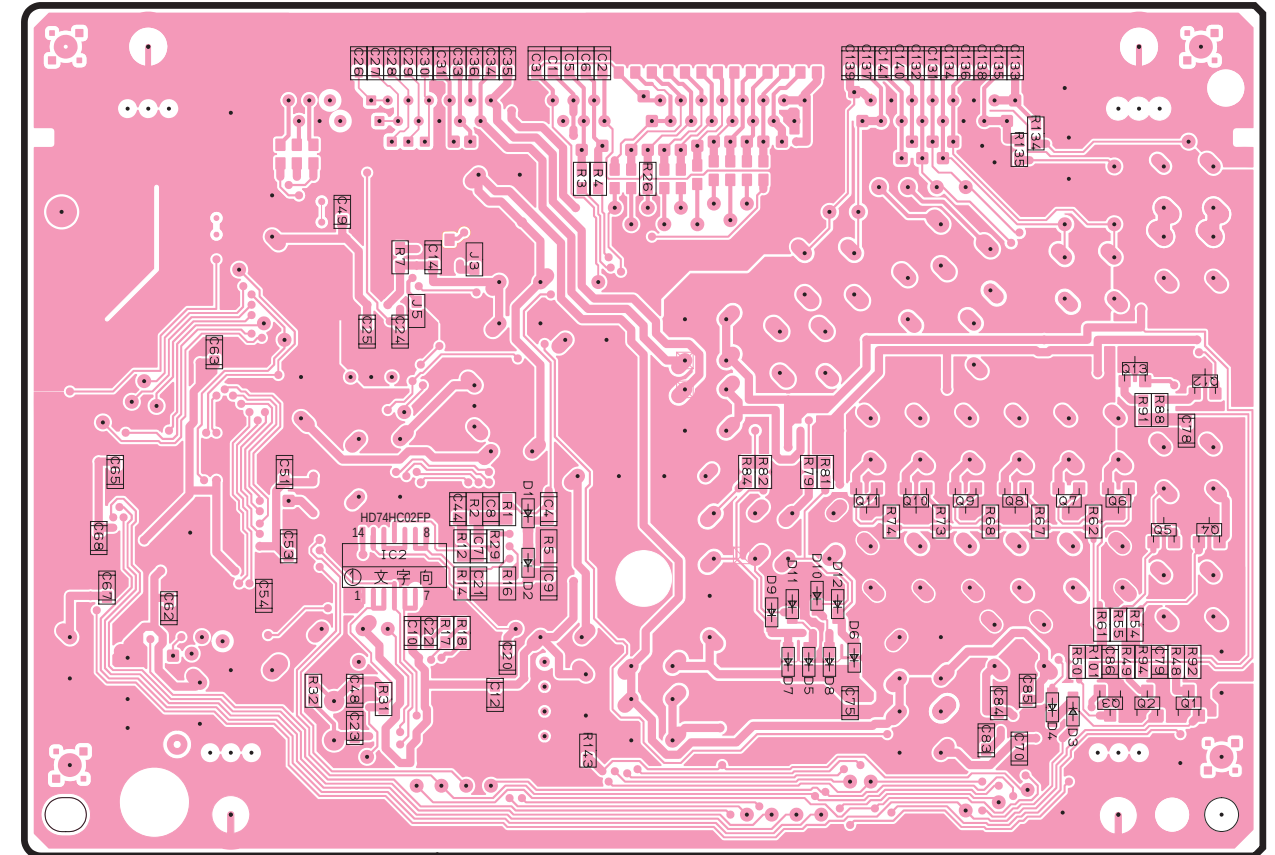
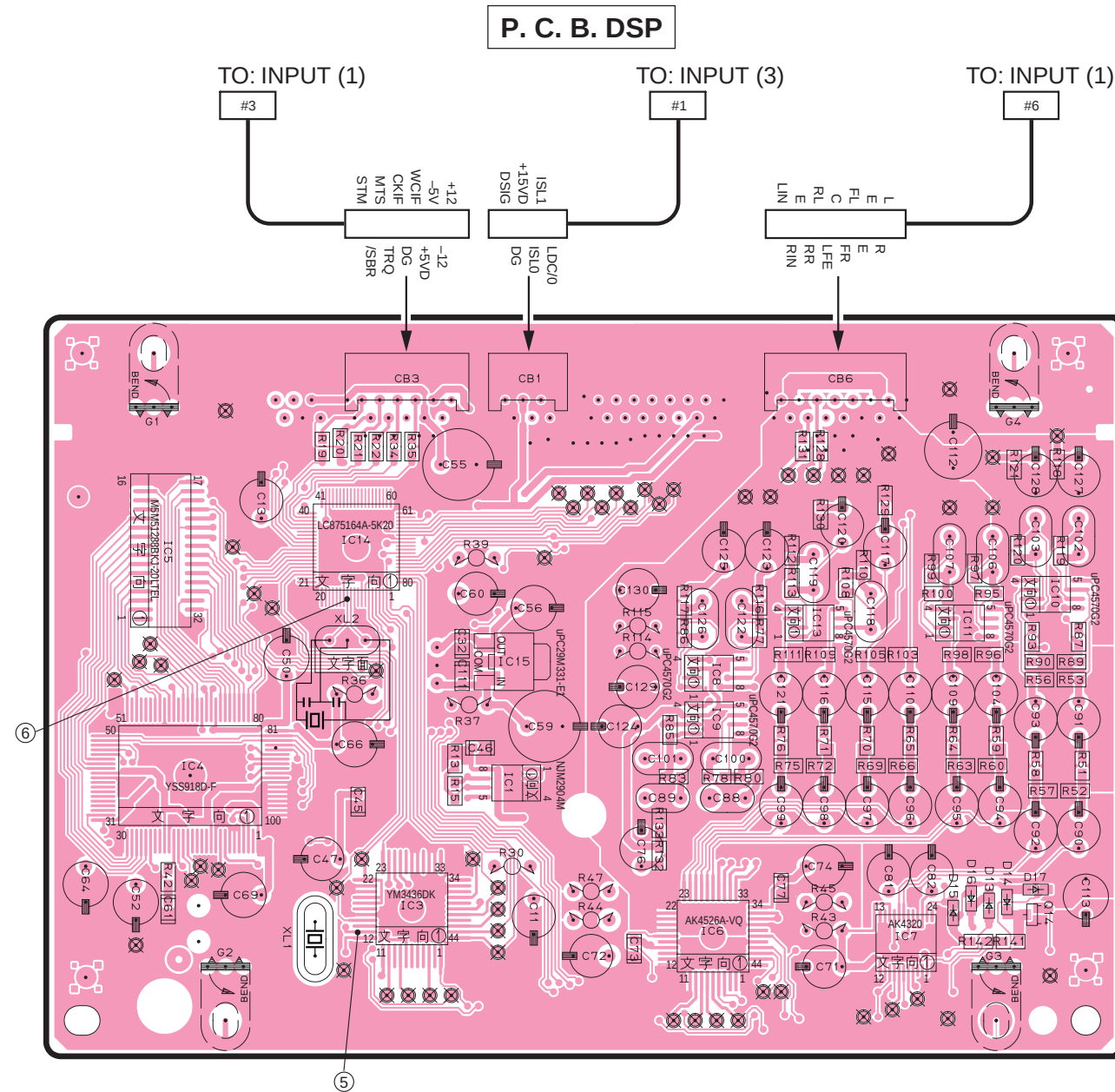
(Lead Type Device)



(Surface Mount Device)



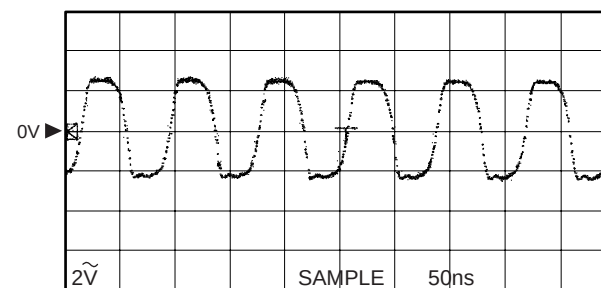
■ PRINTED CIRCUIT BOARD (Foil side)



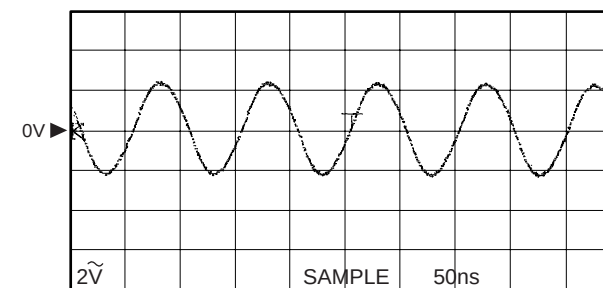
● Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D1	F3	IC1	B3	Q1	H4
D2	F3	IC2	E3	Q2	G4
D3	G4	IC3	B4	Q3	G4
D4	G4	IC4	A3	Q4	H3
D5	G4	IC5	A3	Q5	G3
D6	G4	IC6	C4	Q6	G3
D7	G4	IC7	D4	Q7	G3
D8	G4	IC8	C3	Q8	G3
D9	F4	IC9	C3	Q9	G3
D10	G4	IC10	D3	Q10	G3
D11	G4	IC11	D3	Q11	G3
D12	G4	IC13	C3	Q12	H3
D13	D4	IC14	B3	Q13	G3
D14	D4	IC15	B3	Q14	D4
D15	D4				
D16	D4				
D17	D4				

Point ⑤
Pin 13 of IC3
V : 2V/div H : 50nsec/div
AC range 1 : 1probe

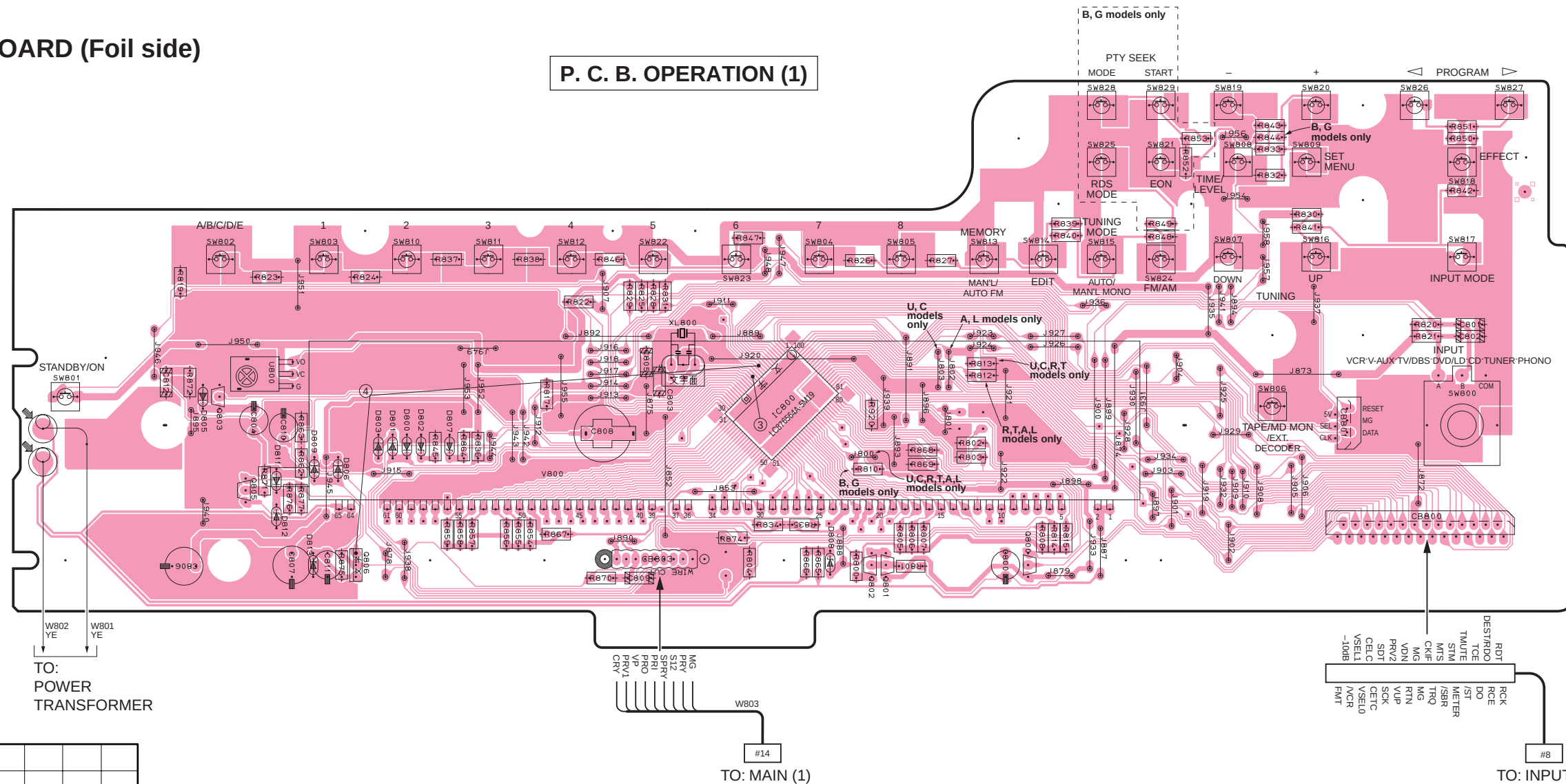


Point ⑥
Pin 13 of IC14
V : 2V/div H : 50nsec/div
AC range 1 : 1probe

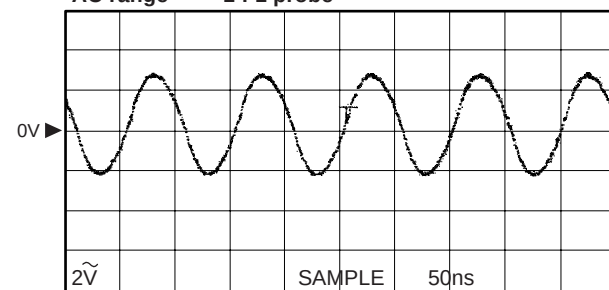


P. C. B. OPERATION (1)

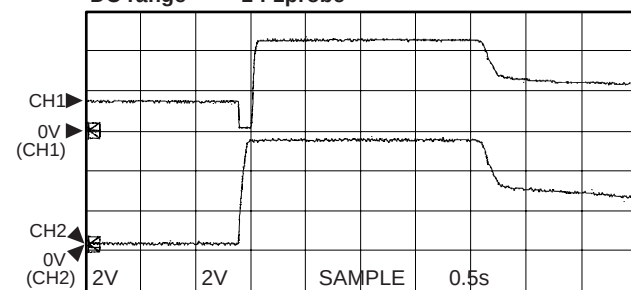
Ref. No.	Location
D800	C2
D801	C2
D802	C2
D803	C2
D805	C2
D806	C3
D807	C2
D808	E3
D809	C3
D811	C3
D812	C3
D813	C3
IC800	E2
IC801	D5
IC802	E5
Q800	F3
Q801	E3
Q802	E3
Q803	C2
Q805	C3
Q806	C3
Q810	E5
Q811	E5



Point ③
(Pin 16 of IC800)
V : 2V/div H : 50nsec/div
AC range 1 : 1 probe



Point ④
(CH1 : Pin 11 of IC800)
(CH2 : Emitter of Q806)
V : 2V/div H : 0.5sec/div
DC range 1 : 1probe

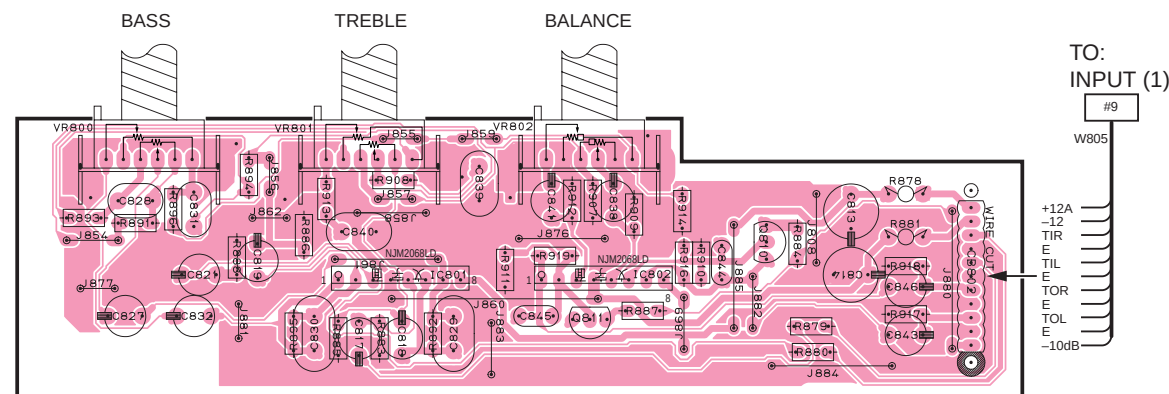


With the POWER switch turned ON, connect the power cord to the AC outlet.

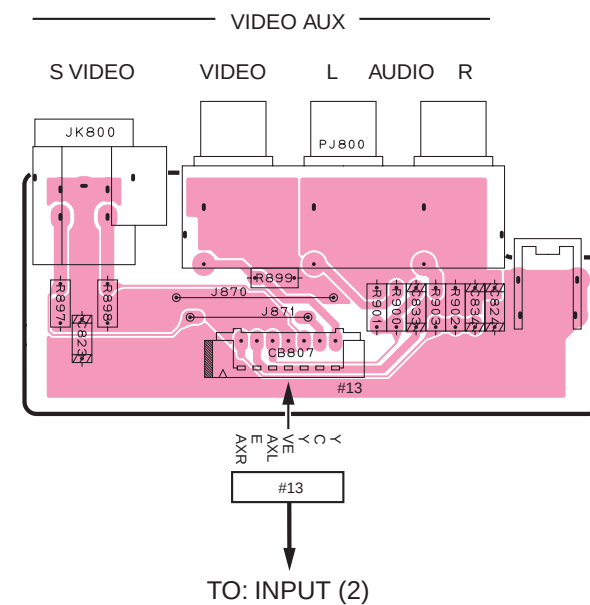
Disconnect the power cord from the AC outlet.

(This waveform is not available by pushing the power switch ON and OFF.)

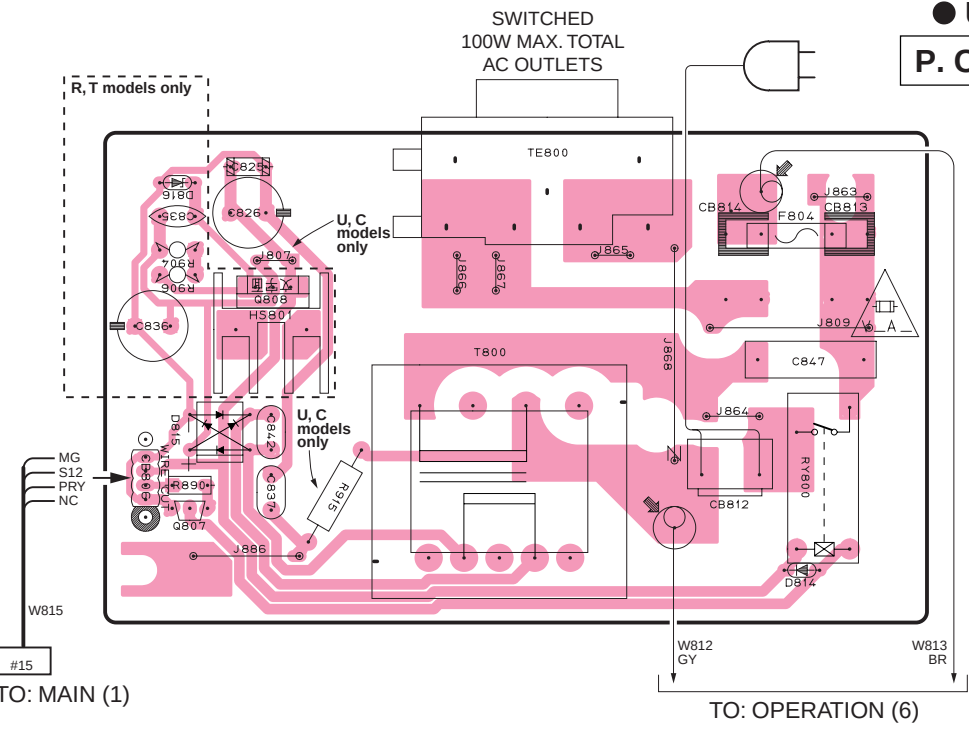
P. C. B. OPERATION (4)



P. C. B. OPERATION (2)



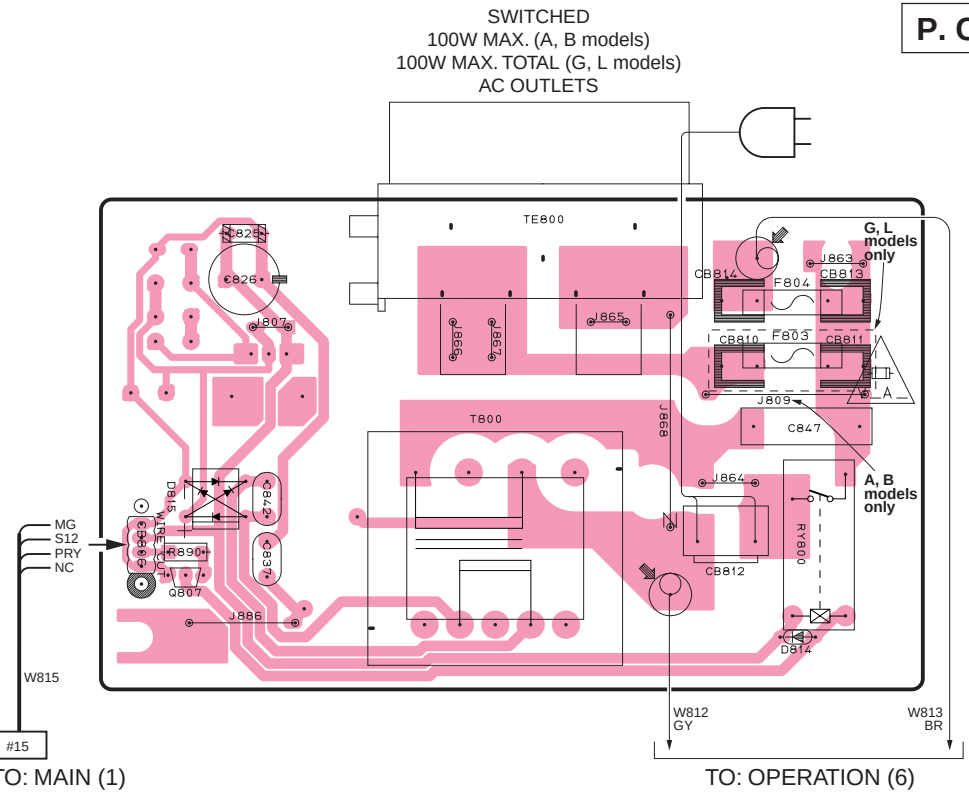
■ PRINTED CIRCUIT BOARD (Foil side)



● U, C, R and T models
P. C. B. OPERATION (3)

U, C, R and T Models
● Semiconductor Location

Ref. No.	Location
D814	C3
D815	A2
D816	A2
Q807	A2
Q808	A2

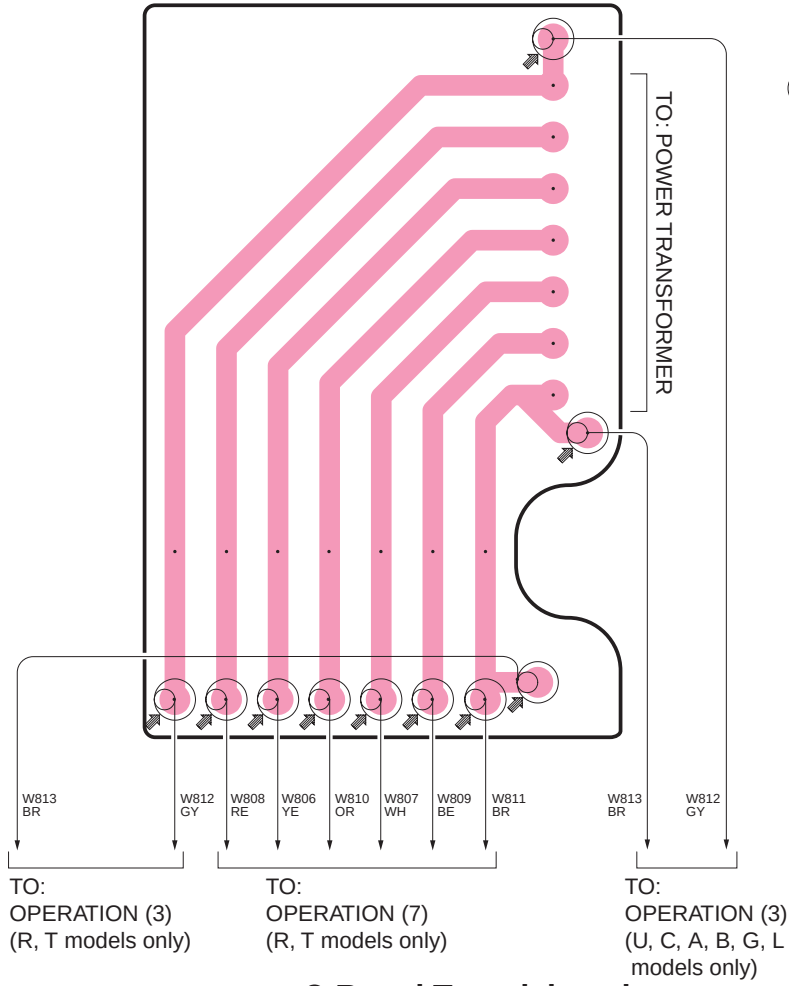


● A, B, G and L models
P. C. B. OPERATION (3)

A, B, G and L Models
● Semiconductor Location

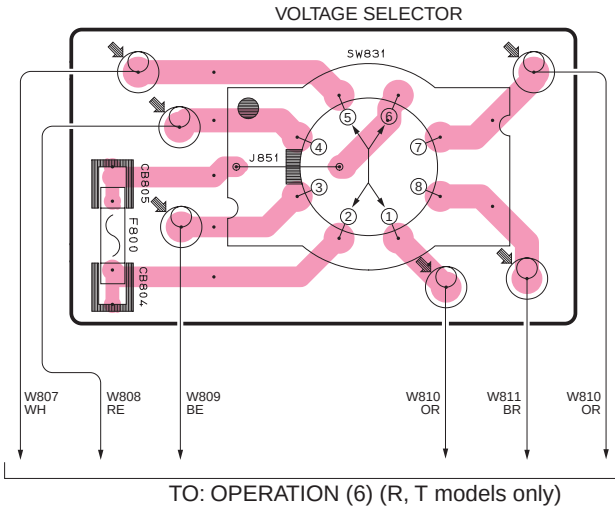
Ref. No.	Location
D814	C5
D815	A5
Q807	A5

P. C. B. OPERATION (6)

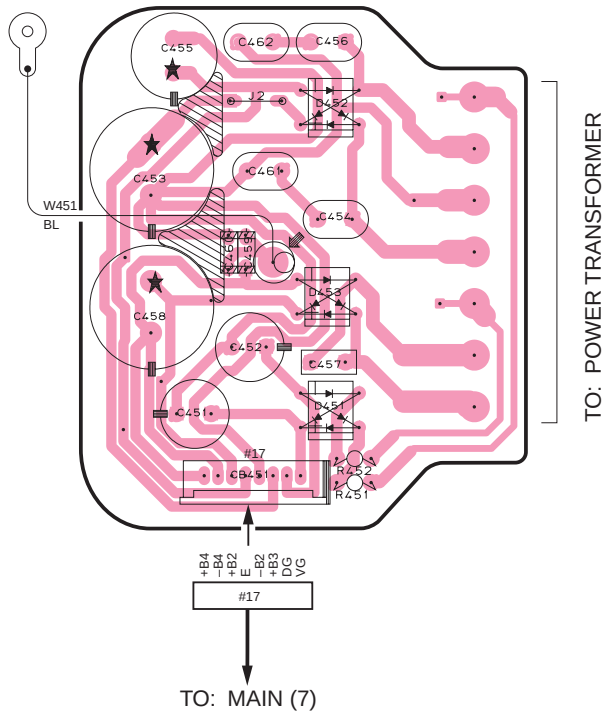


● R and T models only
P. C. B. OPERATION (7)

240V	1-2 / 5-6
220V	2-3 / 6-7
110V	3-4 / 7-8
120V	4-5 / 8-1



P. C. B. OPERATION (5)



● Semiconductor Location

Ref. No.	Location
D451	G2
D452	G1
D453	G2

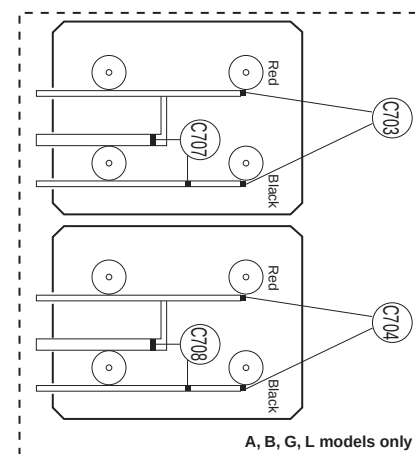
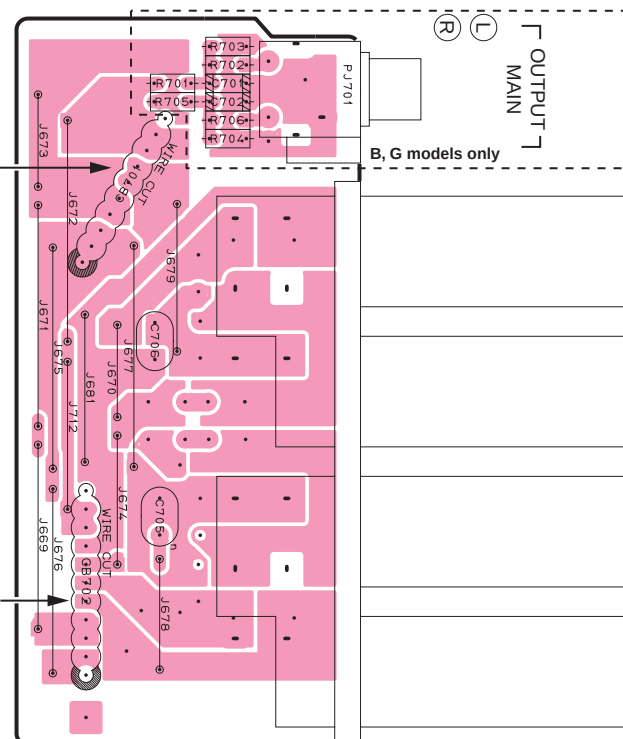
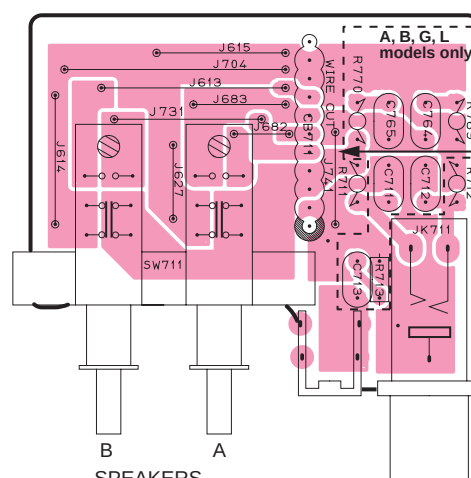
P. C. B. MAIN (2)

Ref. No.	Location
D507	C2
D508	C2
D509	F2
D510	D2
D511	E2
D512	C3
D513	C3
D514	F3
D515	E3
Q521	B1
Q522	C1
Q523	F1
Q524	D1
Q525	E1
Q526	B2
Q527A	C1
Q527C	B1
Q529	C2
Q530	C2
Q531A	D1
Q531C	C1
Q533	D2
Q534	F2
Q535A	F1
Q535C	F1
Q537	F1
Q538	D2
Q539A	D1
Q539C	D1
Q541	E2

Ref. No.	Location
Q542	E2
Q543A	E1
Q543C	E1
Q545	F2
Q546	B2
Q547	C2
Q548	F2
Q549	D2
Q550	E2
Q551	B2
Q552	C3
Q553	C3
Q556	D3

SPEAKERS
ON ☒ OFF ☐

PHONES

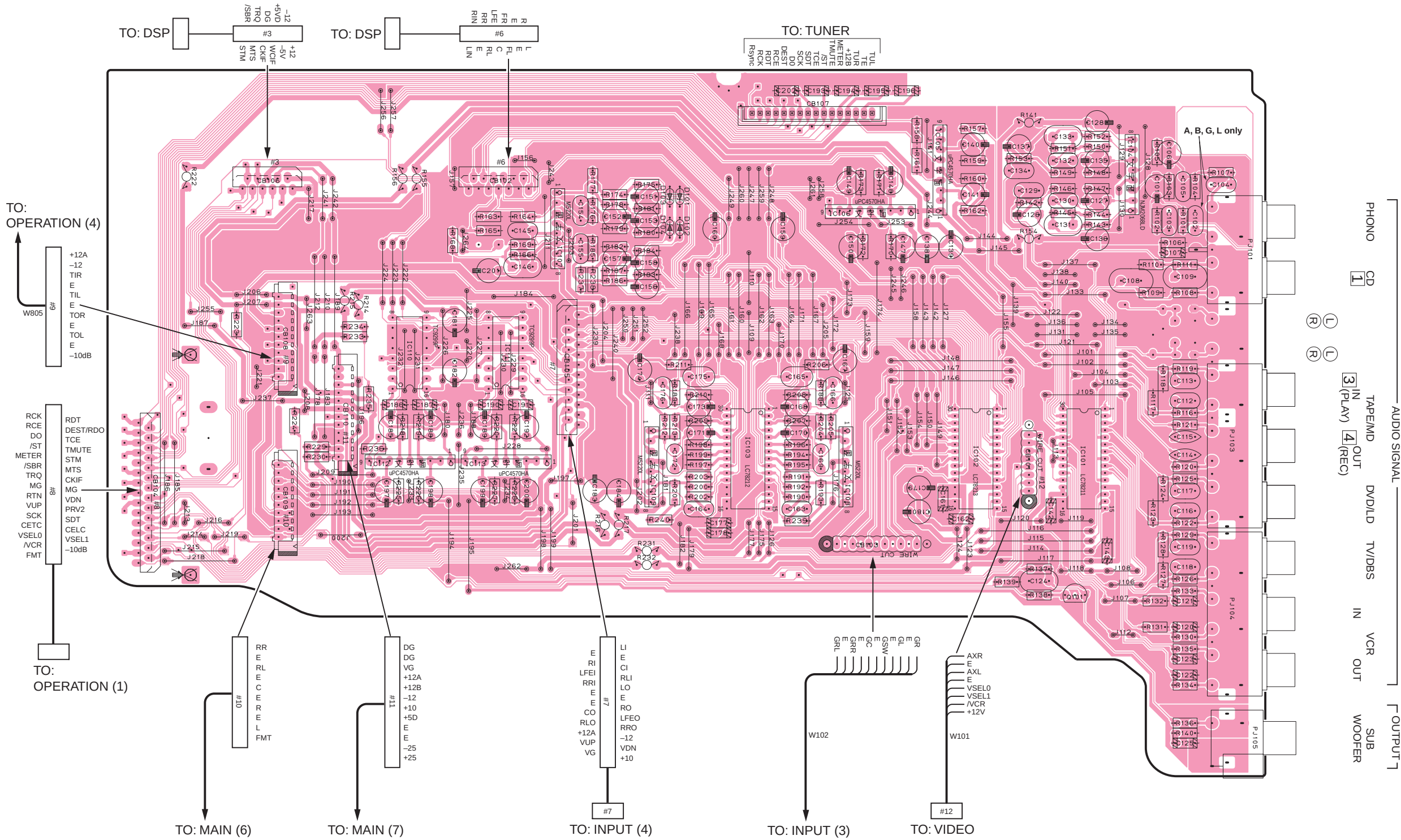


PRINTED CIRCUIT BOARD (Foil side)

P. C. B. INPUT (1)

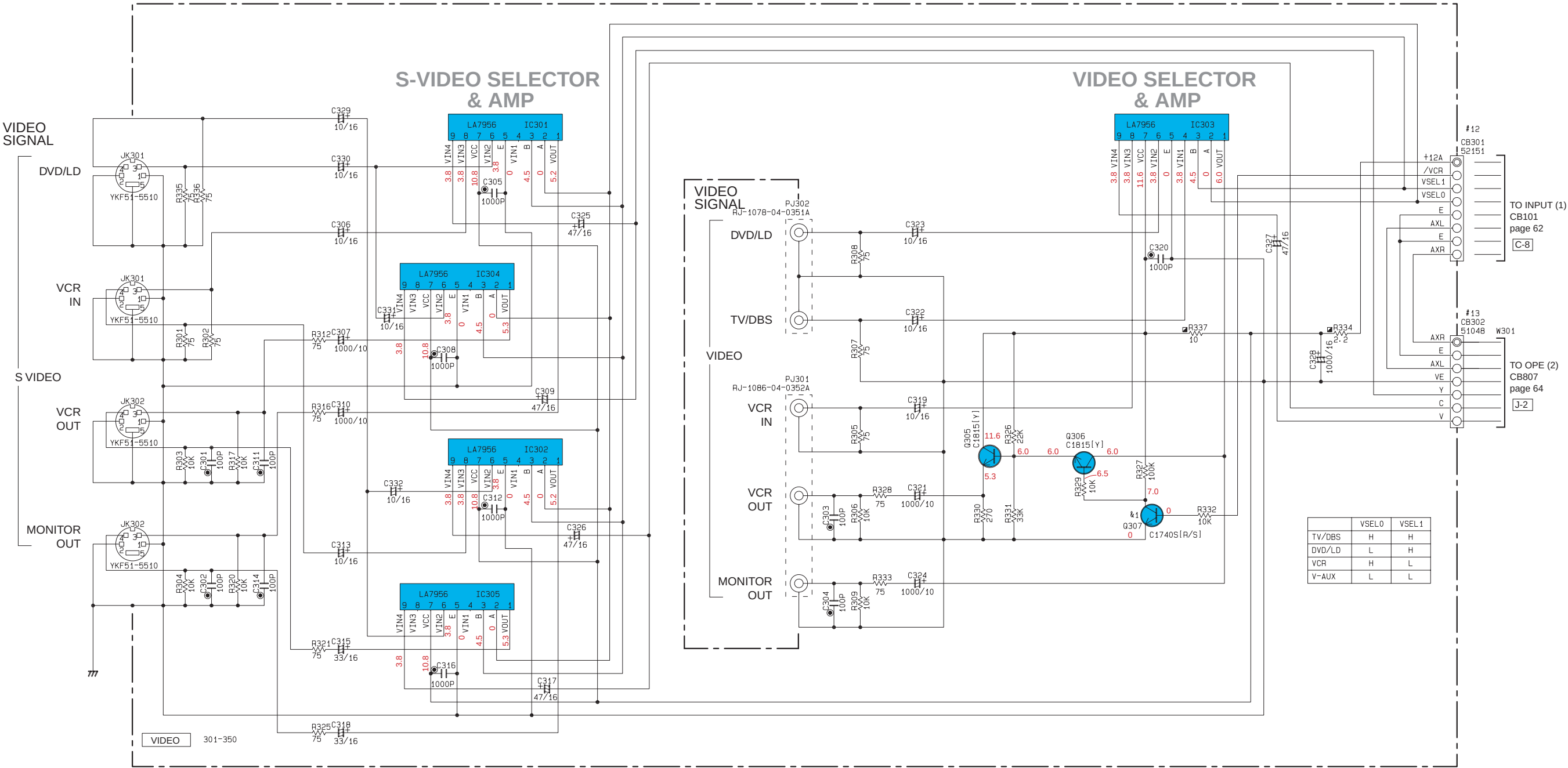
Semiconductor Location

Ref. No.	Location
D101	E2
D102	E3
D103	E2
D104	E3
IC101	F4
IC102	F4
IC103	E4
IC104	G2
IC105	F2
IC106	E2
IC107	D3
IC108	E4
IC109	E4
IC110	C3
IC111	D3
IC112	C4
IC113	D4
Q101	F4



6

SCHEMATIC DIAGRAM (VIDEO)



Interchangeable Parts at Manufacture-Stage

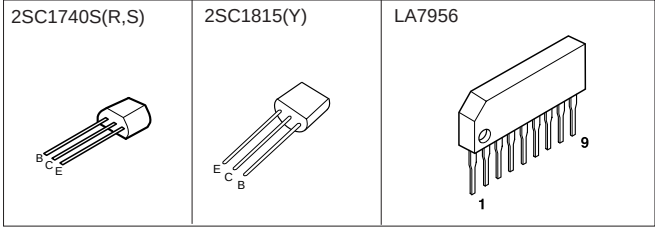
Mark	Reference Parts Number	Parts Name
&1	Q307	2SC1740S[R/S] 2SC2603[E/F] 2SC3311A[G/R/S]

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
⊠	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊞	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊗	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

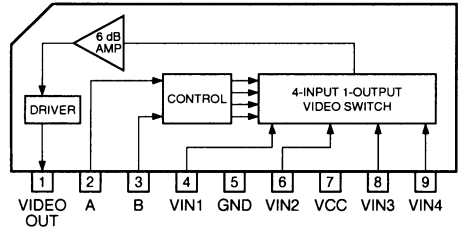
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⦿	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
①	MICA CAPACITOR
Ⓟ	POLYPROPYLENE FILM CAPACITOR
⦿	SEMICONDUCTIVE CERAMIC CAPACITOR
Ⓢ	POLYPHENYLENE SULFIDE FILM CAPACITOR

NOTICE (model)
(J)..... JAPANESE
(U)..... U. S. A
(C)..... CANADIAN
(R)..... GENERAL
(A)..... AUSTRALIAN
(B)..... BRITISH
(G)..... EUROPEAN
(T)..... CHINA
(L)..... SINGAPORE

PIN CONNECTION DIAGRAM OF TRANSISTORS AND IC's.



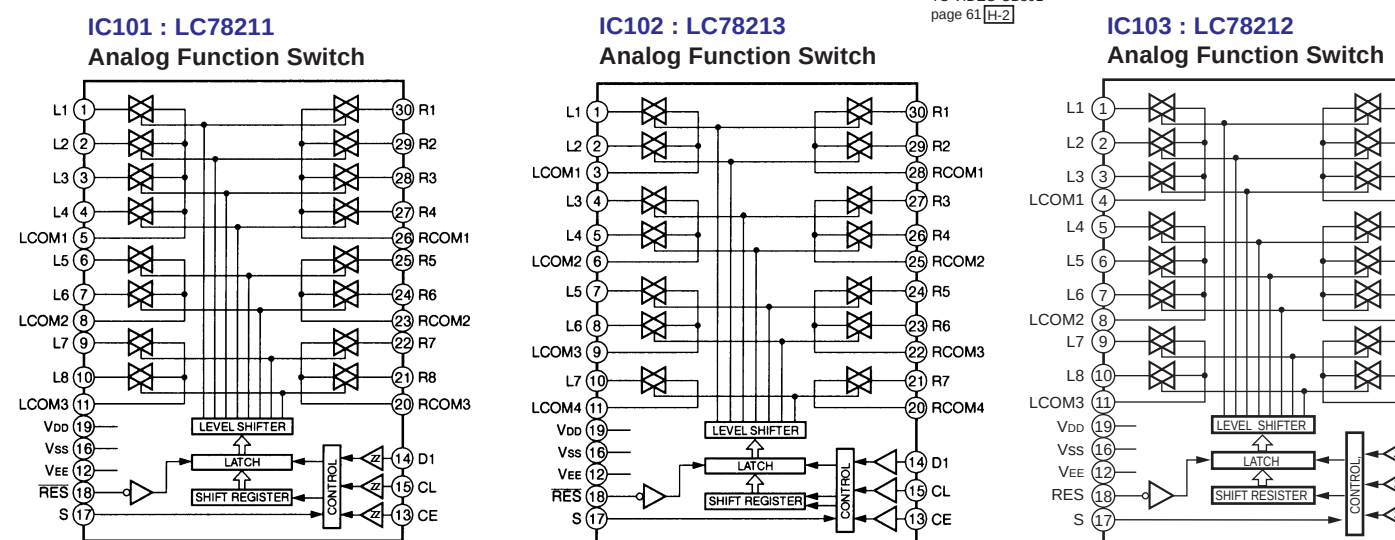
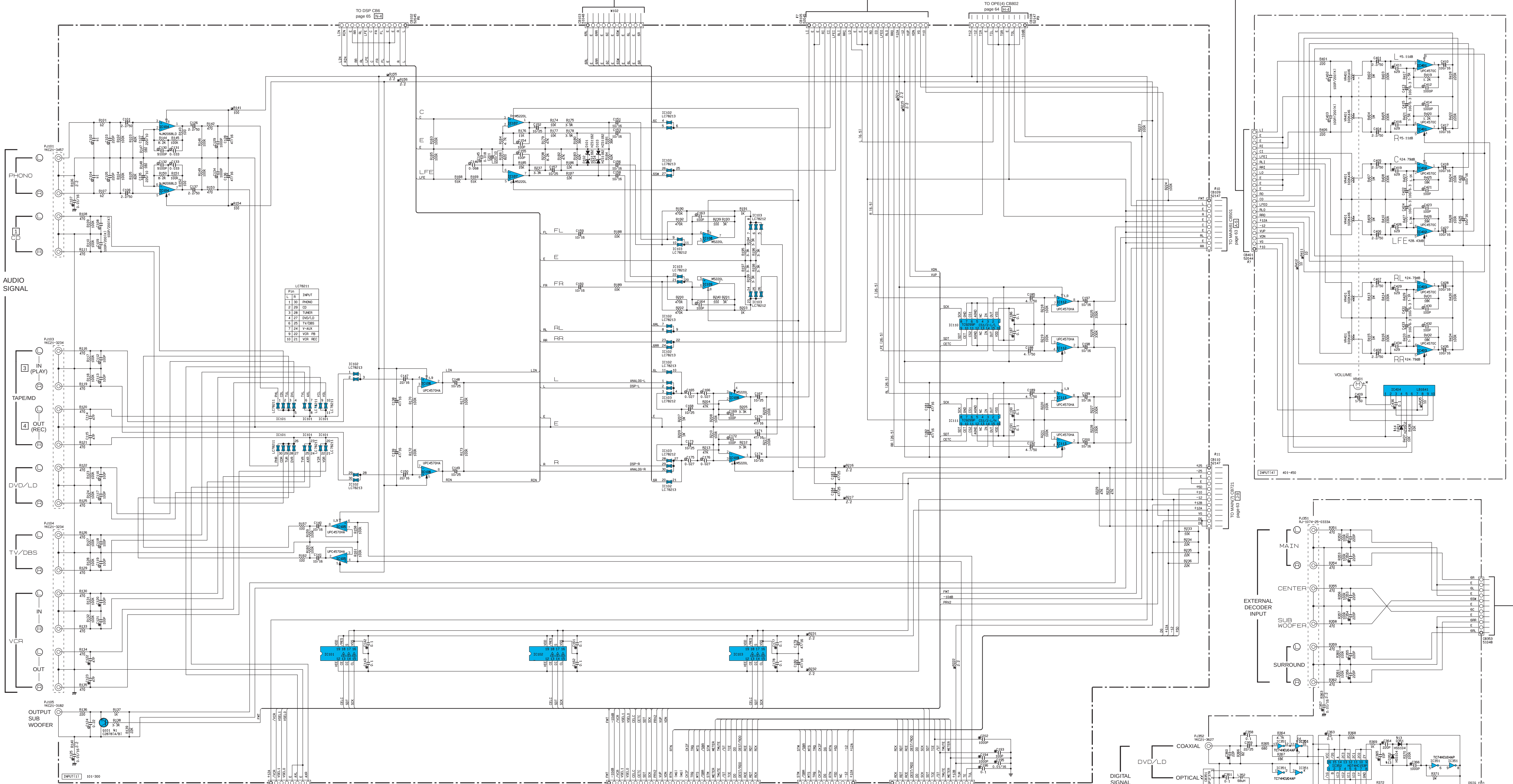
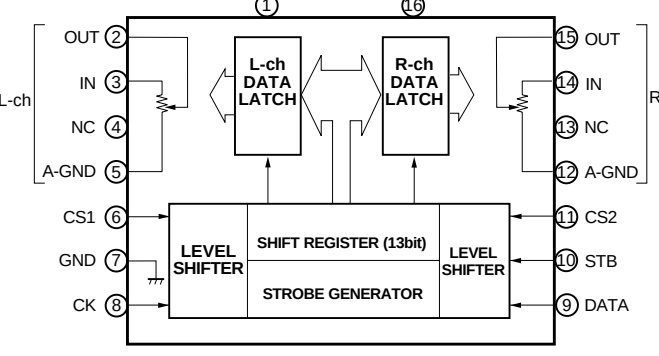
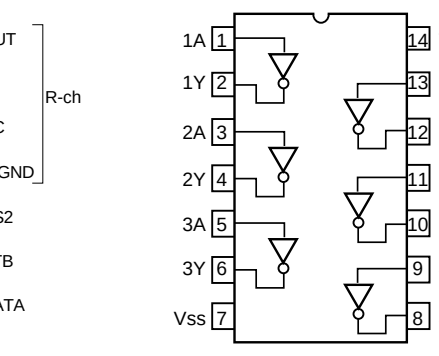
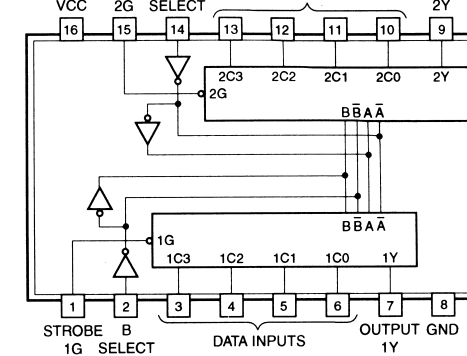
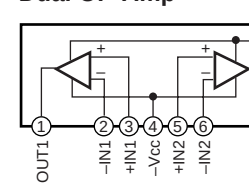
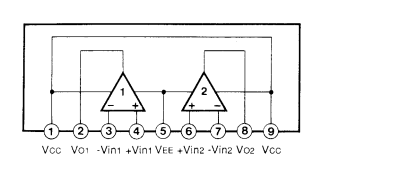
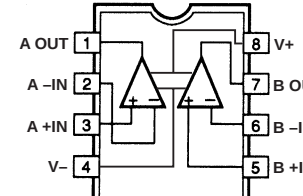
IC301-305 : LA7956
Video Switch



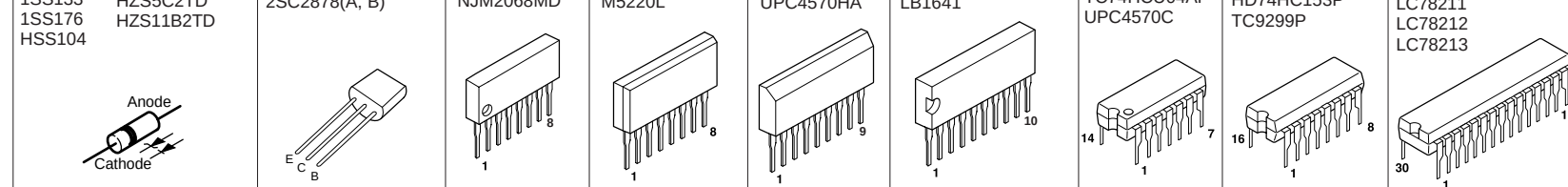
- Conditions (RX-V595aRDS)
- INPUT → CD
 - VOLUME → minimum(−∞)
 - IMPEDANCE SELECTOR → Upper
 - PRO LOGIC → On

★ All voltages are measured with a 10MΩ/V DC electric volt meter.
★ Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (INPUT)

IC110,111 : TC9299P
Electric Controlled VolumeIC351: TC74HC04AP
Hex InvertersIC352 : HD74HC153P
Dual 4 to Data SelectorsIC104 : NJM2068LD
IC107-109 : M5220L
Dual OP-AmpIC105, 106, 112, 113 : μ PC4570HA
Dual OP-AmpIC401-403 : μ PC4570C
Dual OP-AmpIC404 : LB1641
Motor Driver

PIN CONNECTION DIAGRAM OF DIODES, TRANSISTORS AND IC'S.



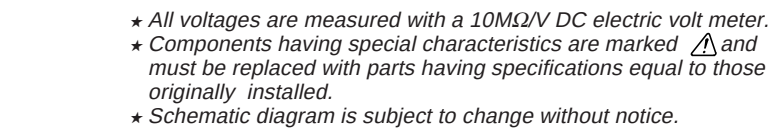
REMARKS	PARTS NAME
NO MARK ELECTROLYTIC CAPACITOR	TANTALUM CAPACITOR
NO MARK CERAMIC CAPACITOR	CERAMIC TUBULAR CAPACITOR
NO MARK POLYESTER FILM CAPACITOR	POLYSTYRENE FILM CAPACITOR
NO MARK METAL FILM RESISTOR	METAL FILM RESISTOR
NO MARK METAL PLATE RESISTOR	FIRE PROOF CARBON FILM RESISTOR
NO MARK CEMENT MOLDED RESISTOR	SEMI VARIABLE RESISTOR
NO MARK CHIP RESISTOR	CHIP RESISTOR

Mark	Reference Parts Number	Parts Name
1	0101	U.C.R.T.A.L models
2	0102	U.C.R.T.A.L models
3	0103	U.C.R.T.A.L models
4	0104	U.C.R.T.A.L models

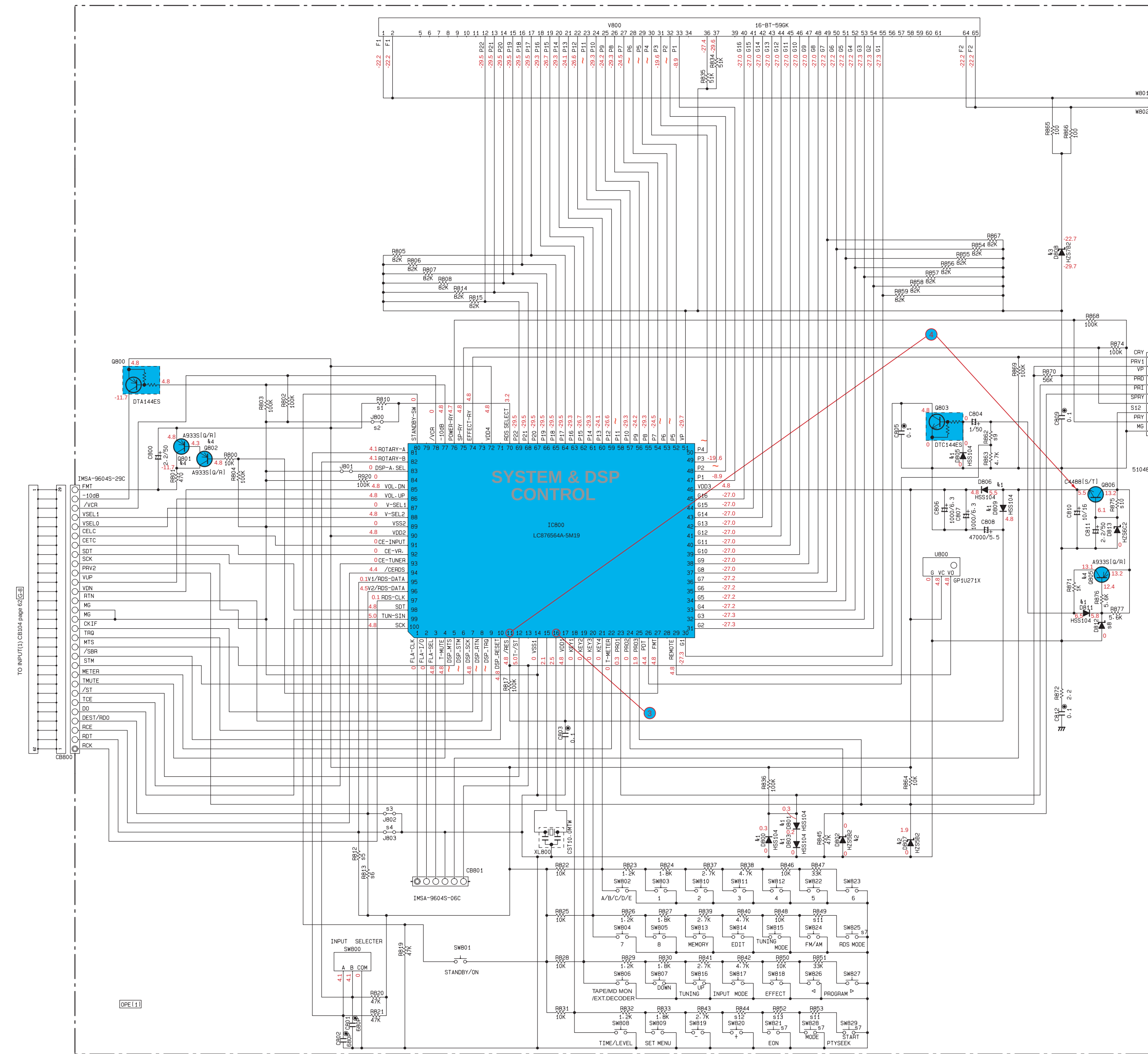
REMARKS	PARTS NAME
NO MARK CARBON FILM RESISTOR (P+5)	CARBON FILM RESISTOR (P+10)
NO MARK METAL FILM RESISTOR	METAL FILM RESISTOR
NO MARK METAL PLATE RESISTOR	FIRE PROOF CARBON FILM RESISTOR
NO MARK CEMENT MOLDED RESISTOR	SEMI VARIABLE RESISTOR
NO MARK CHIP RESISTOR	CHIP RESISTOR

Conditions (RX-V595aRDS)
 • INPUT → CD
 • VOLUME → minimum(—)
 • IMPEDANCE → 16 Ω
 • SELECTOR → Upper
 • PRO LOGIC → On

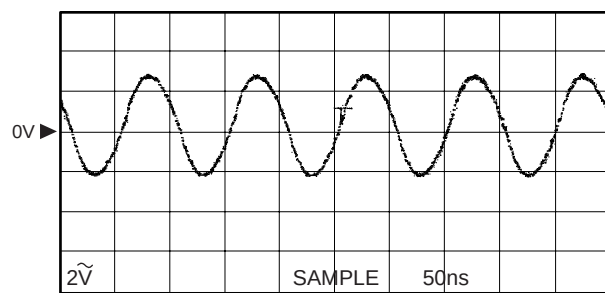
* All voltages are measured with a 10M Ω /V DC electric volt meter.
 * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 * Schematic diagram is subject to change without notice.



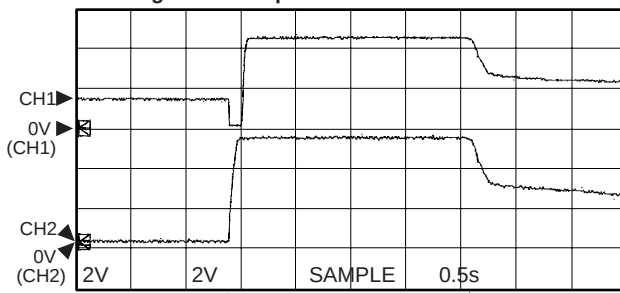
■ SCHEMATIC DIAGRAM (OPERATION)



Point ③
(Pin 16 of IC800)
V : 2V/div H : 50ns/div
AC range 1 : 1 probe



Point ④
CH1 : Pin 11 of IC800
CH2 : Emitter of Q806
V : 2V/div H : 0.5sec/div
DC range 1 : 1probe



With the POWER switch turned ON, connect the power cord to the AC outlet.

Disconnect the power cord from the AC outlet.
(This waveform is not available by pushing the power switch ON and OFF.)

OPRE11

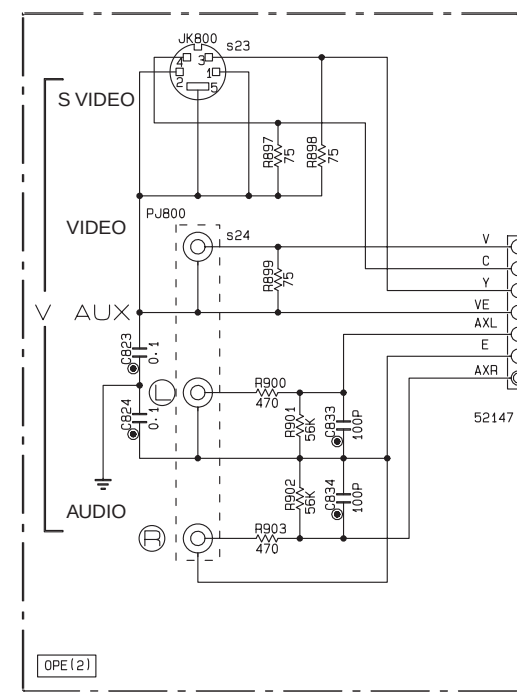
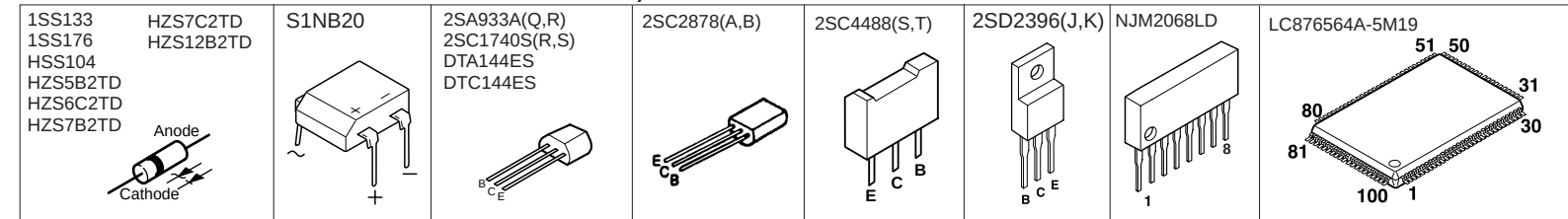
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
K1	Q801-801-803-805-806-809	H5104 ISS133 ISS176
K2	Q802-807	H25982 MT124-7C
K3	Q808	H25982 MT124-7C
K4	Q801-802-805	2SA933A(Q/R) 2SA1111(E/F) 2SA1308A(Q/R/S)

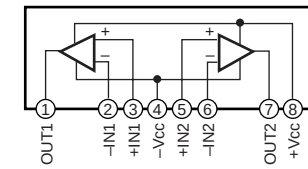
	U-C	R-T	A-L	B-G
K1	X	X	X	X
K2	X	X	X	X
K3	X	X	X	X
K4	X	X	X	X
K5	X	X	X	X
K6	X	X	X	X
K7	X	X	X	X
K8	X	X	X	X
K9	X	X	X	X
K10	X	X	X	X
K11	X	X	X	X
K12	X	X	X	X
K13	X	X	X	X
K14	X	X	X	X
K15	X	X	X	X
K16	X	X	X	X
K17	X	X	X	X
K18	X	X	X	X
K19	X	X	X	X
K20	X	X	X	X
K21	X	X	X	X
K22	X	X	X	X
K23	X	X	X	X
K24	X	X	X	X
K25	X	X	X	X
K26	X	X	X	X
K27	X	X	X	X
K28	X	X	X	X
K29	X	X	X	X
K30	X	X	X	X
K31	X	X	X	X
K32	X	X	X	X
K33	X	X	X	X
K34	X	X	X	X
K35	X	X	X	X
K36	X	X	X	X
K37	X	X	X	X
K38	X	X	X	X
K39	X	X	X	X
K40	X	X	X	X
K41	X	X	X	X
K42	X	X	X	X
K43	X	X	X	X
K44	X	X	X	X
K45	X	X	X	X
K46	X	X	X	X
K47	X	X	X	X
K48	X	X	X	X
K49	X	X	X	X
K50	X	X	X	X
K51	X	X	X	X
K52	X	X	X	X
K53	X	X	X	X
K54	X	X	X	X
K55	X	X	X	X
K56	X	X	X	X
K57	X	X	X	X
K58	X	X	X	X
K59	X	X	X	X
K60	X	X	X	X
K61	X	X	X	X
K62	X	X	X	X
K63	X	X	X	X
K64	X	X	X	X
K65	X	X	X	X
K66	X	X	X	X
K67	X	X	X	X
K68	X	X	X	X
K69	X	X	X	X
K70	X	X	X	X
K71	X	X	X	X
K72	X	X	X	X
K73	X	X	X	X
K74	X	X	X	X
K75	X	X	X	X
K76	X	X	X	X
K77	X	X	X	X
K78	X	X	X	X
K79	X	X	X	X
K80	X	X	X	X
K81	X	X	X	X
K82	X	X	X	X
K83	X	X	X	X
K84	X	X	X	X
K85	X	X	X	X
K86	X	X	X	X
K87	X	X	X	X
K88	X	X	X	X
K89	X	X	X	X
K90	X	X	X	X
K91	X	X	X	X
K92	X	X	X	X
K93	X	X	X	X
K94	X	X	X	X
K95	X	X	X	X
K96	X	X	X	X
K97	X	X	X	X
K98	X	X	X	X
K99	X	X	X	X
K100	X	X	X	X

X: NOT USED
O: USED

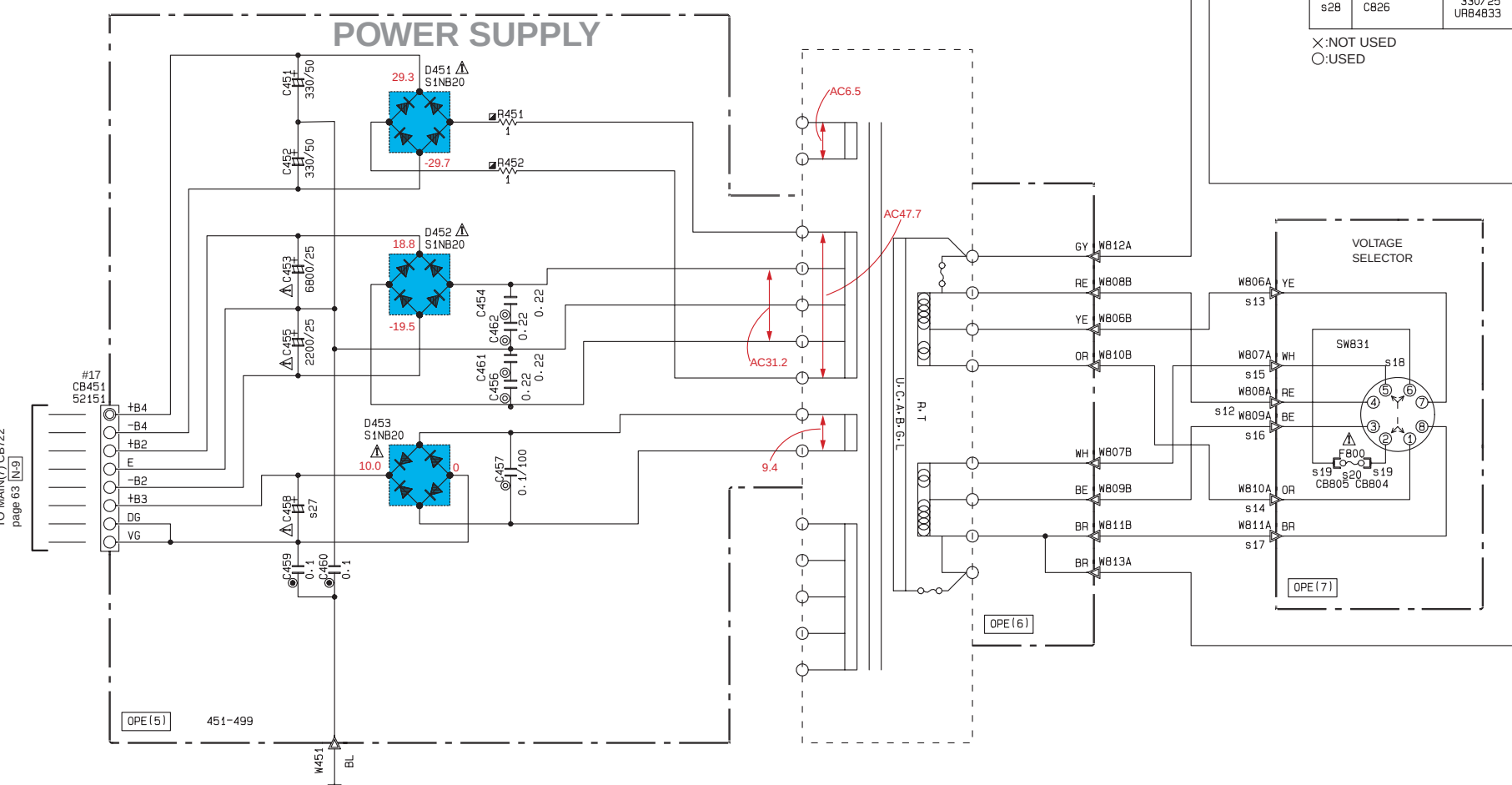
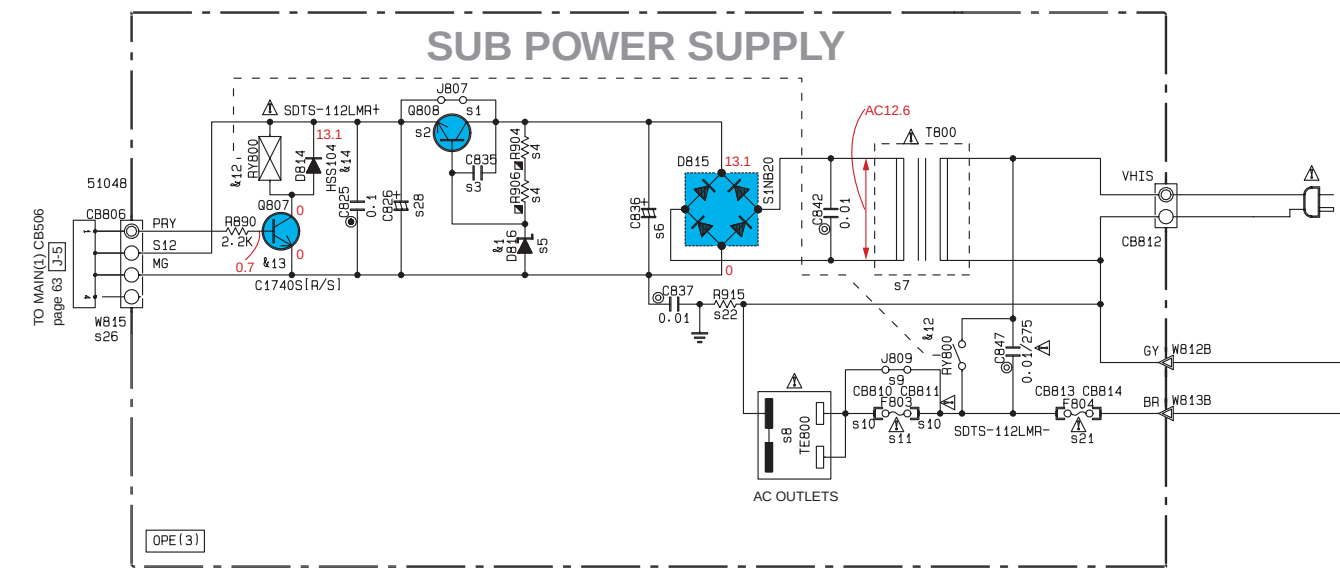
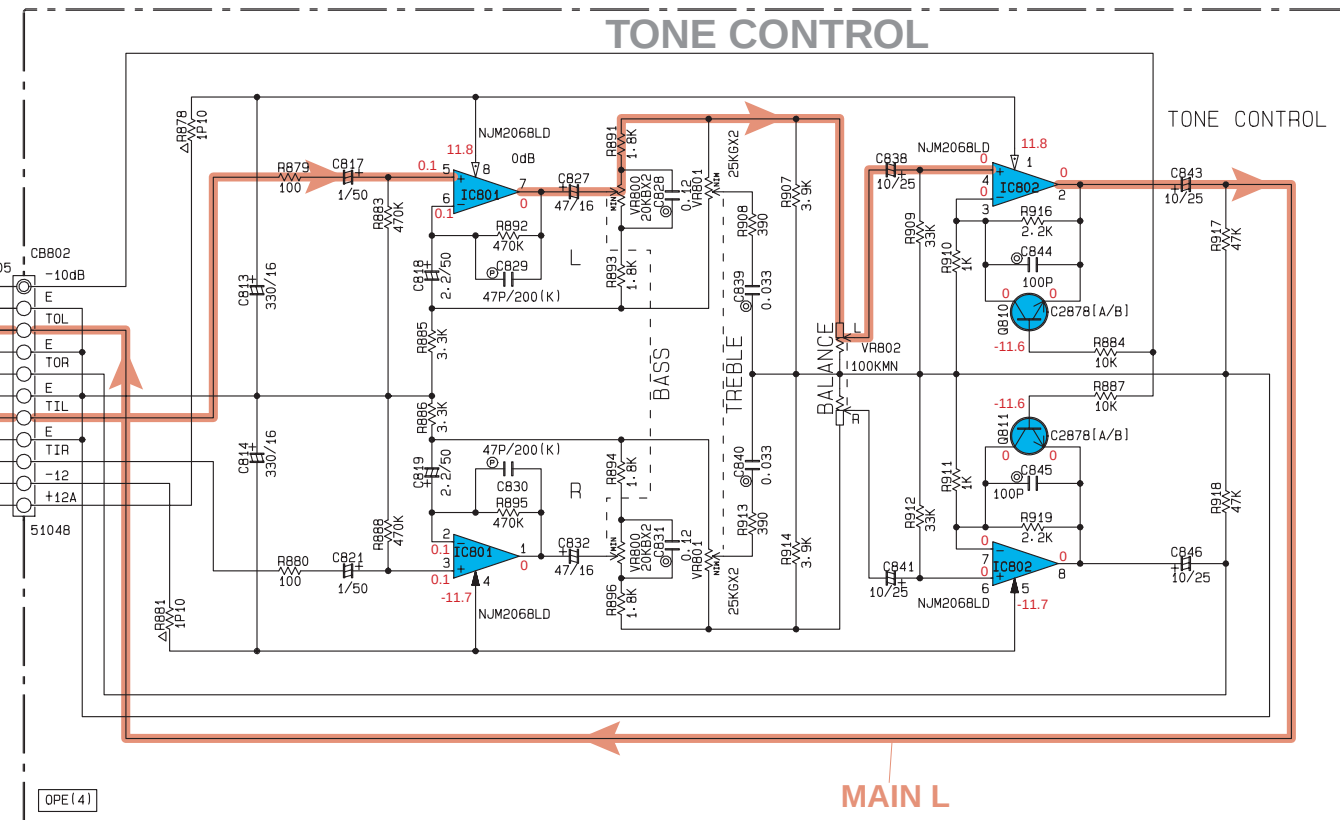
PIN CONNECTION DIAGRAM OF DIODES, TRANSISTORS AND IC'S.



IC801, 802 : NJM2068LD
Dual OP-Amp



IC800: LC876564A-5M19→See page 26-28



	U-C	R-T	A	B	G	L
K1	X	X	X	X	X	X
K2	X	X	X	X	X	X
K3	X	X	X	X	X	X
K4	X	X	X	X	X	X
K5	X	X	X	X	X	X
K6	X	X	X	X	X	X
K7	X	X	X	X	X	X
K8	X	X	X	X	X	X
K9	X	X	X	X	X	X
K10	X	X	X	X	X	X
K11	X	X	X	X	X	X
K12	X	X	X	X	X	X
K13	X	X	X	X	X	X
K14	X	X	X	X	X	X
K15	X	X	X	X	X	X
K16	X	X	X	X	X	X
K17	X	X	X	X	X	X
K18	X	X	X	X	X	X
K19	X	X	X	X	X	X
K20	X	X	X	X	X	X
K21	X	X	X	X	X	X
K22	X	X	X	X	X	X
K23	X	X	X	X	X	X
K24	X	X	X	X	X	X
K25	X	X	X	X	X	X
K26	X	X	X	X	X	X
K27	X	X	X	X	X	X
K28	X	X	X	X	X	X
K29	X	X	X	X	X	X
K30	X	X	X	X	X	X
K31	X	X	X	X	X	X
K32	X	X	X	X	X	X
K33	X	X	X	X	X	X
K34	X	X	X	X	X	X
K35	X	X	X	X	X	X
K36	X	X	X	X	X	X
K37	X	X	X	X	X	X
K38	X	X	X	X	X	X
K39	X	X	X	X	X	X
K40	X	X	X	X	X	X
K41	X	X	X	X	X	X
K42	X	X	X	X	X	X
K43	X	X	X	X	X	X
K44	X	X	X	X	X	X
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K49	X	X	X	X	X	X
K50	X	X	X	X	X	X
K51	X	X	X	X	X	X
K52	X	X	X	X	X	X
K53	X	X	X	X	X	X
K54	X	X	X	X	X	X
K55	X	X	X	X	X	X
K56	X	X	X	X	X	X
K57	X	X	X	X	X	X
K58	X	X	X	X	X	X
K59	X	X	X	X	X	X
K60	X	X	X	X	X	X
K61	X	X	X	X	X	X
K62	X	X	X	X	X	X
K63	X	X	X	X	X	X
K64	X	X	X	X	X	X
K65	X	X	X	X	X	X
K66	X	X	X	X	X	X
K67	X	X	X	X	X	X
K68	X	X	X	X	X	X
K69	X	X	X	X	X	X
K70	X	X	X	X	X	X
K71	X	X	X	X	X	X
K72	X	X	X	X	X	X
K73	X	X	X	X	X	X
K74	X	X	X	X	X	X
K75	X	X	X	X	X	X
K76	X	X	X	X	X	X
K77	X	X	X	X	X	X
K78	X	X	X	X	X	X
K79	X	X	X	X	X	X
K80	X	X	X	X	X	X
K81	X	X	X	X	X	X
K82	X	X	X	X	X	X
K83	X	X	X	X	X	X
K84	X	X	X	X	X	X
K85	X	X	X	X	X	X
K86	X	X	X	X	X	X
K87	X	X	X	X	X	X
K88	X	X	X	X	X	X
K89	X	X	X	X	X	X
K90	X	X	X	X	X	X
K91	X	X	X	X	X	X
K92	X	X	X	X	X	X
K93	X	X	X	X	X	X
K94	X	X	X	X	X	X
K95	X	X	X	X	X	X
K96	X	X	X	X	X	X
K97	X	X	X	X	X	X
K98	X	X	X	X	X	X
K99	X	X	X	X	X	X
K100	X	X	X	X	X	X

X: NOT USED
O: USED

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊗	METAL PLATE RESISTOR
⊠	FINE PROOF CARBON FILM RESISTOR
⊡	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

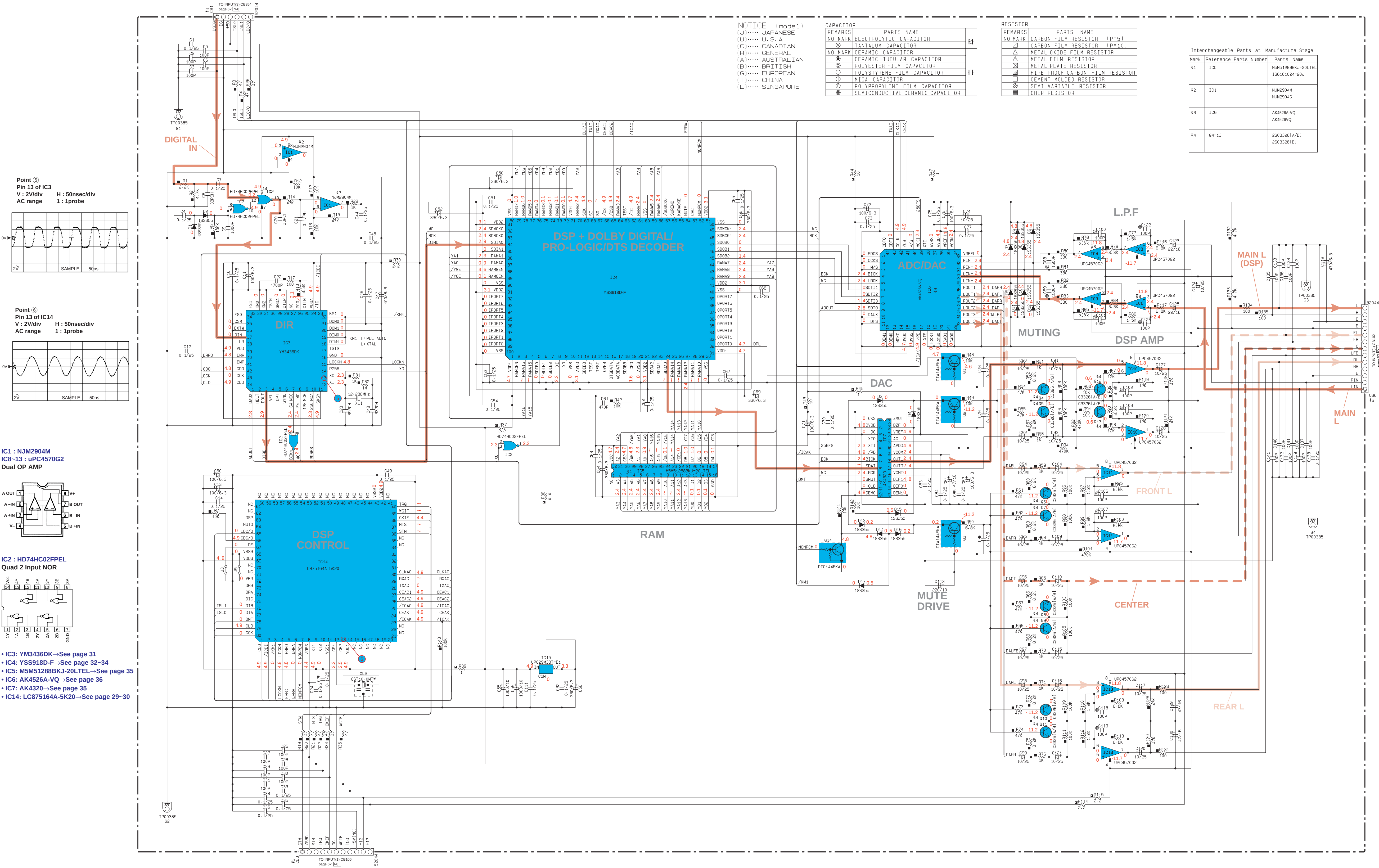
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	CERAMIC TUBULAR CAPACITOR
○	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
○	MICA CAPACITOR
⊙	POLYPROPYLENE FILM CAPACITOR
⊙	SEMICONDUCTIVE CERAMIC CAPACITOR
⊙	POLYPHENYLENE SULFIDE FILM CAPACITOR

NOTICE (model1)
(J)..... JAPANESE
(U)..... U. S. A
(C)..... CANADIAN
(F)..... GENERAL
(A)..... AUSTRALIAN
(B)..... BRITISH
(T)..... CHINA
(L)..... SINGAPORE

Conditions (RX-V595aRDS)
• INPUT → CD
• VOLUME → minimum(---)
• IMPEDANCE SELECTOR → Upper
• PRO LOGIC → On

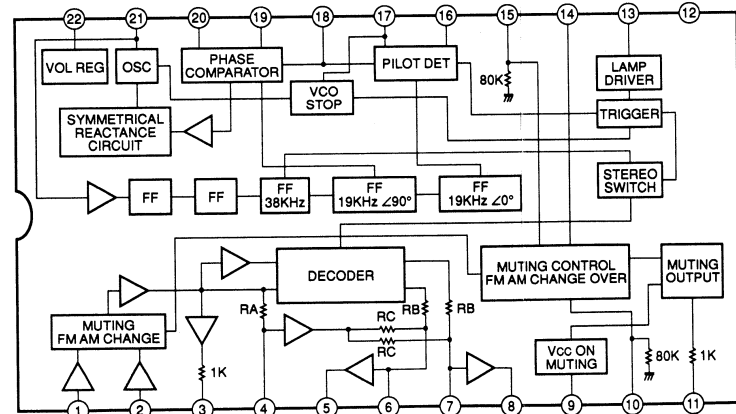
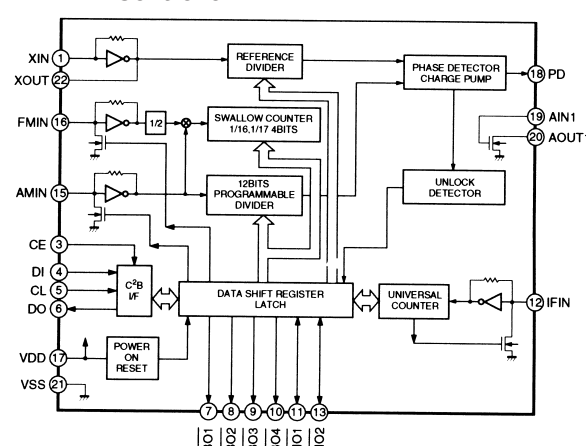
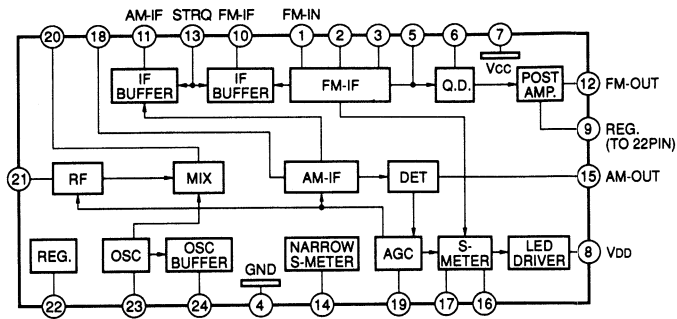
* All voltages are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (DSP)

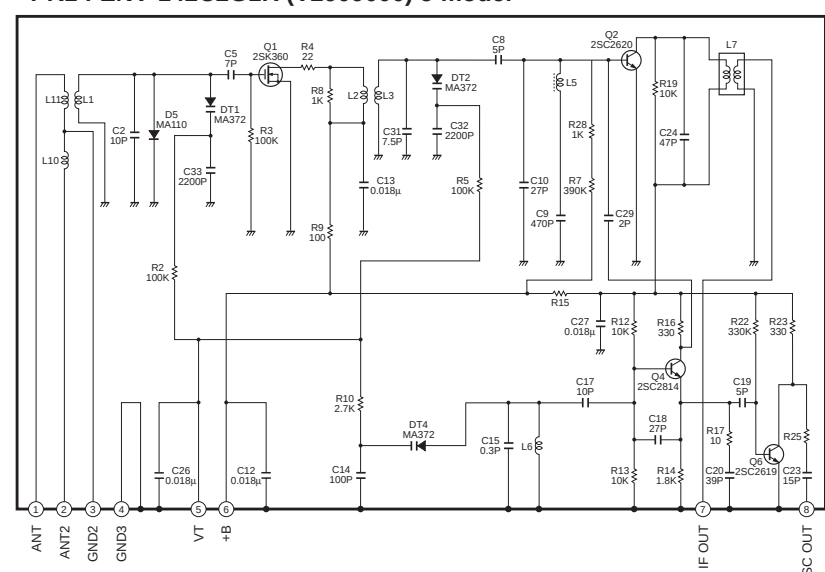


■ SCHEMATIC DIAGRAM (TUNER) U, C, R, T, A and L models

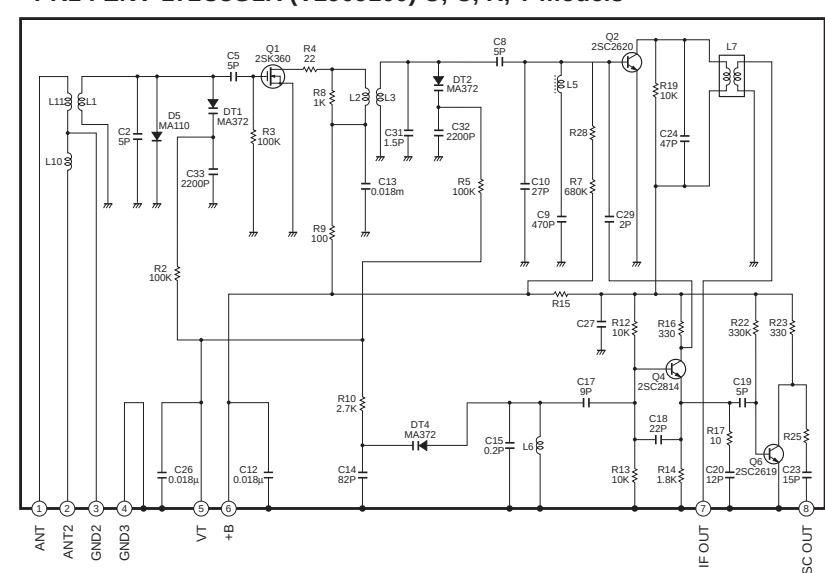
Each voltage given here represents that in the FM (98.1MHz STEREO) reception mode but the one in the parentheses () is that in the AM (1080kHz, MAN'L) reception mode.



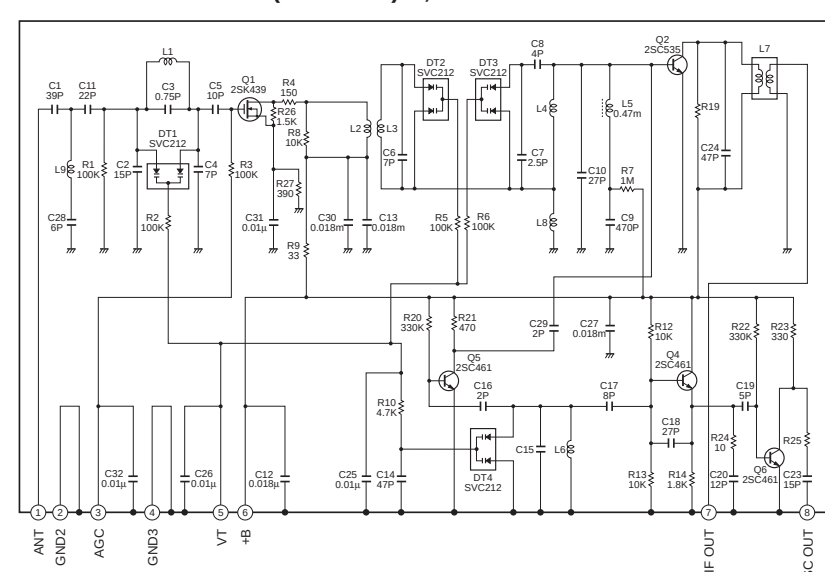
- PK1 : ENV-142C2G1R (V2909000) J model



- PK1 : ENV-172C8G1R (V2909100) U. C. R. T models



- PK1 : ENV-172A4G1 (V2716700) A, L models

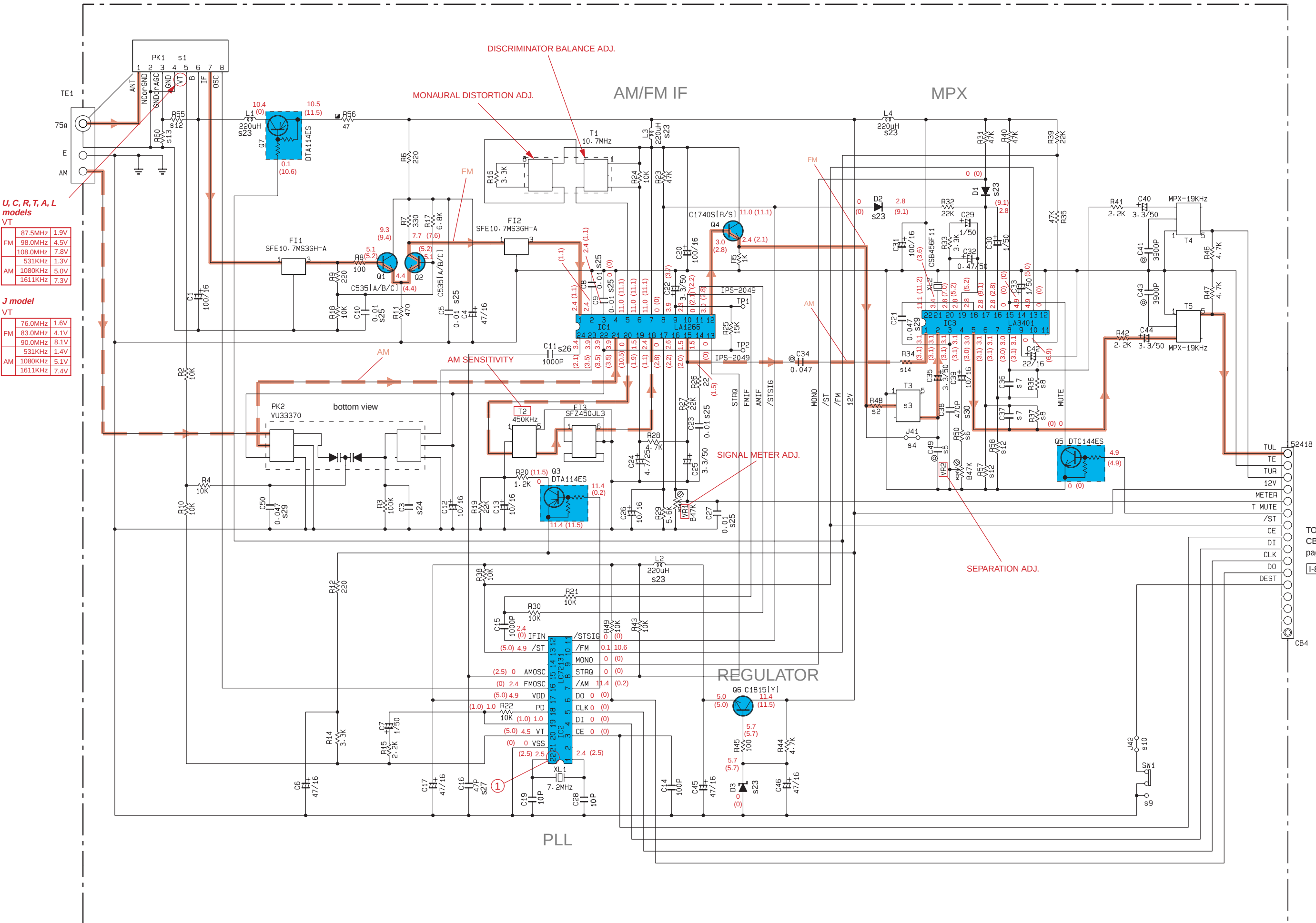


- * All voltages are measured with a 10M Ω /2V DC electric volt meter.
- * Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.

S	J	U-C	R-T	A-B-G-L
1 PK1	V290900	V290910	V290910	V271670
2 R4B				4.7k
3 T3				XY42 V746680
4 J41	○	○	○	
5 C49	2200P UA95322	2200P UA95322	2200P UA95322	120P UA95212
6 R50	22K	22K	22K	1K
7 C36-37	680P UA95268	1000P UA95310	1000P UA95310	270P UA95227
8 R36-37	75K	75K	75K	180K
9 SW1			V560260	
10 J42			○	
11				
12 R55-57.58				270K
13 R60				180K
14 R34	10K RD25710	10K RD25710	10K RD25710	27K RD25727

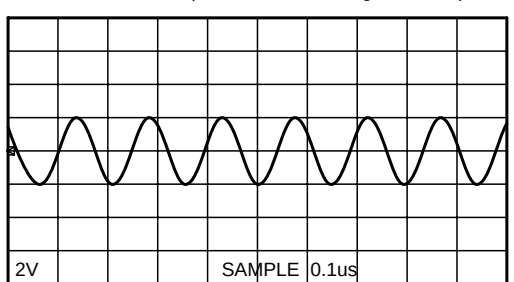
○:USED
☒:NOT USED

s		Lead Type	Lead Type & SMD
21	D1, 2	1SS133, 1SS176, HSS104 VD631600	1SS355 VT33290
22	D3	MTZJ5.6B VG43770	UDZ55.6BTE-17 VU17200
23	L1,2,3,4	VI54610	VU88950
24	C3	8.2P/50 VG27580	8P/50 UB05080
25	C5,8,9,10,23,27	0.01/16 VF46730	0.01/50 UB04410
26	C11,15	1000P/50 VF46700	1000P/50 UB01310
27	C16	47P/50 VA46670	47P/50 UB05147
28			
29	C21,50	0.047/16 VJ35900	0.047/50 UB04447
30	C38	470P/50 VF46690	470P/50 UB01247

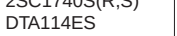
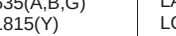
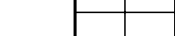


Point ① (Pin22 of IC2)

V : 2V/div H : 0.1 μ sec/div DC range 1 : 1 probe



PIN CONNECTION DIAGRAM OF DIODES, TRANSISTORS AND IC's.

1SS133 1SS176 HSS104 MTZJ5.6B 	1SS355 UDZ55.6BTE-17 	2SC1740S(R,S) DTA114ES DTC144ES 	2SC535(A,B,G) 2SC1815(Y) 	LA3401 LC72131 	LA1266 
--	---	--	---	--	---

SCHEMATIC DIAGRAM (TUNER) B, G models

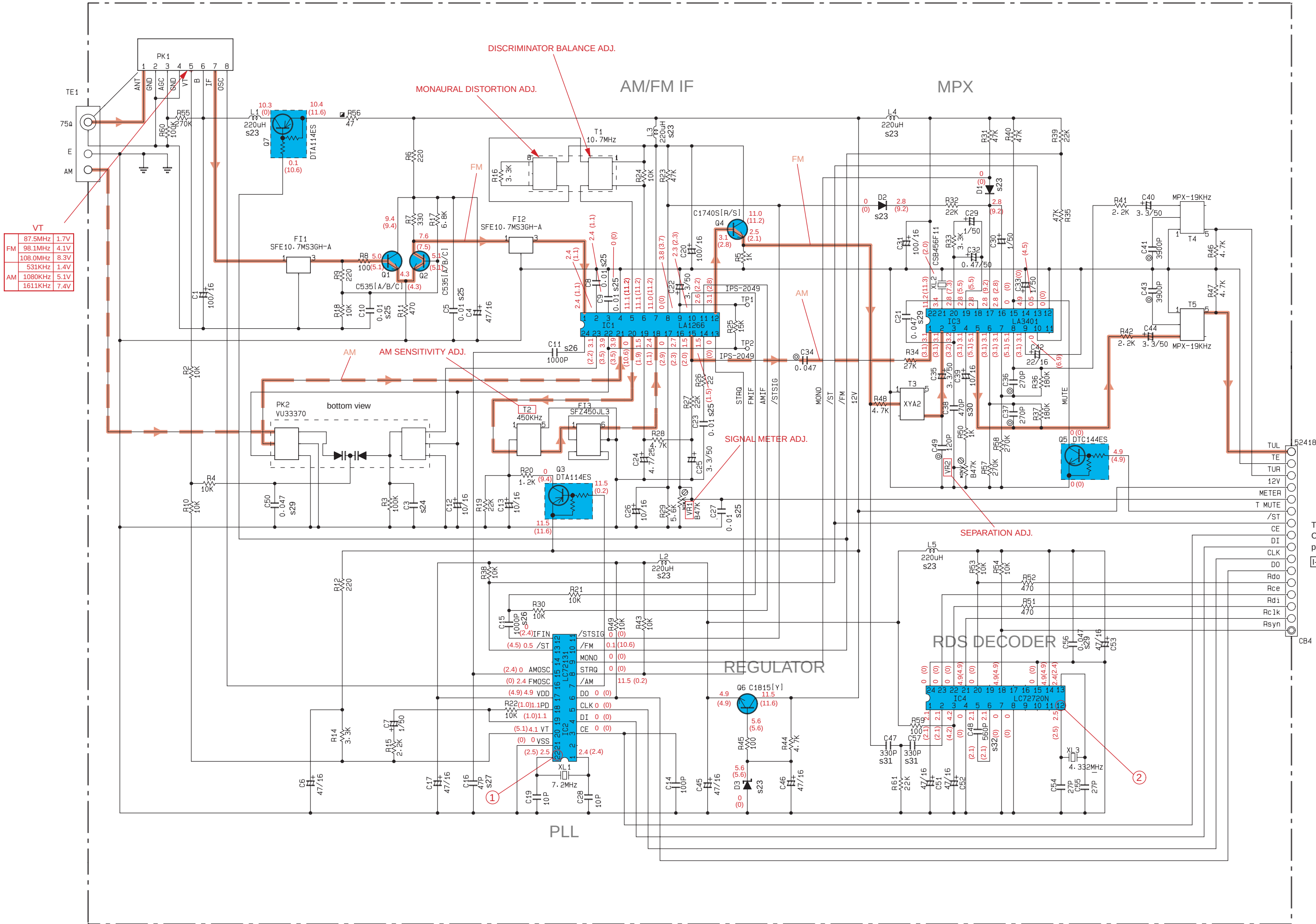
Each voltage given here represents that in the FM (98.1MHz STEREO) reception mode but the one in the parentheses () is that in the AM (1080kHz, MAN'L) reception mode.

CAPACITOR	REMARKS	PARTS NAME	
NO MARK		ELECTROLYTIC CAPACITOR	
⊗		TANTALUM CAPACITOR	
NO MARK		CERAMIC CAPACITOR	
●		CERAMIC TUBULAR CAPACITOR	
⊙		POLYESTER FILM CAPACITOR	
○		POLYSTYRENE FILM CAPACITOR	
⊖		MICA CAPACITOR	
⊕		POLYPROPYLENE FILM CAPACITOR	
⊗		SEMICONDUCTIVE CERAMIC CAPACITOR	

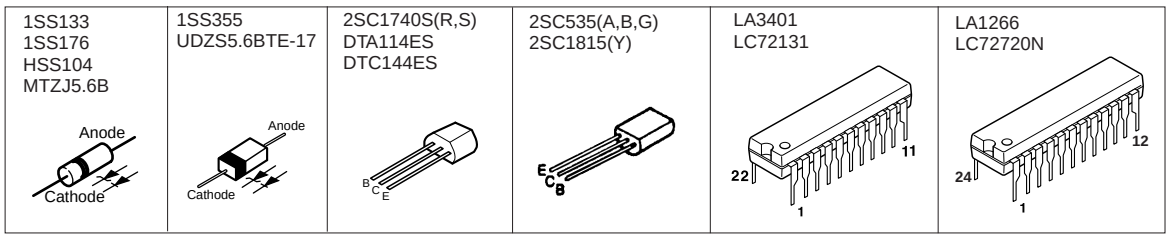
RESISTOR	REMARKS	PARTS NAME	
NO MARK		CARBON FILM RESISTOR (P=5)	
⊠		CARBON FILM RESISTOR (P=10)	
△		METAL OXIDE FILM RESISTOR	
▲		METAL FILM RESISTOR	
⊠		METAL PLATE RESISTOR	
⊠		FIRE PROOF CARBON FILM RESISTOR	
⊠		CEMENT MOLDED RESISTOR	
⊠		SEMI VARIABLE RESISTOR	
⊠		CHIP RESISTOR	

NOTICE (model)

(J)..... JAPANESE
(U)..... U. S. A
(C)..... CANADIAN
(R)..... GENERAL
(A)..... AUSTRALIAN
(B)..... BRITISH
(G)..... EUROPEAN
(T)..... CHINA
(L)..... SINGAPORE

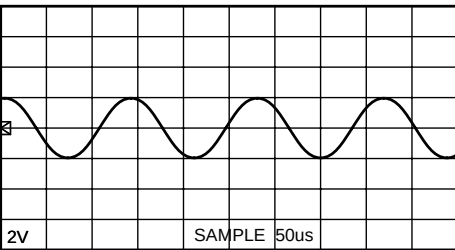


PIN CONNECTION DIAGRAM OF DIODES, TRANSISTORS AND IC's.



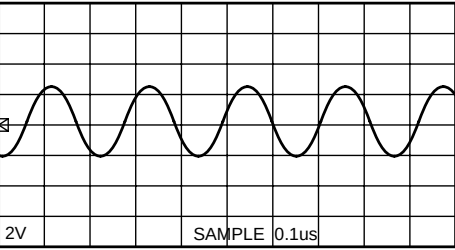
Point ① (Pin22 of IC2)

V : 2V/div H : 50nsec/div DC range 1 : 1 probe

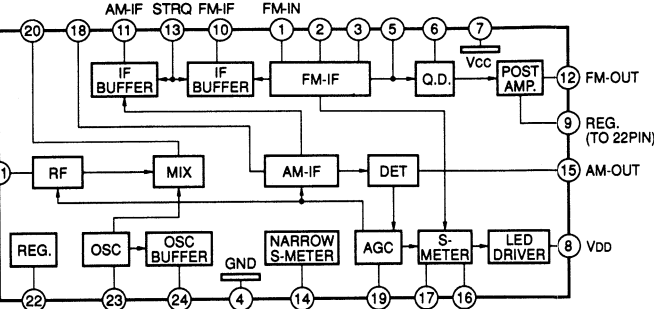


Point ② (Pin12 of IC4)

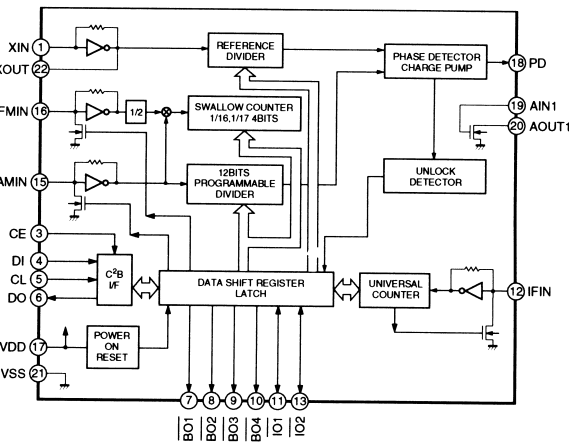
V : 2V/div H : 0.1usec/div DC range 1 : 1 probe



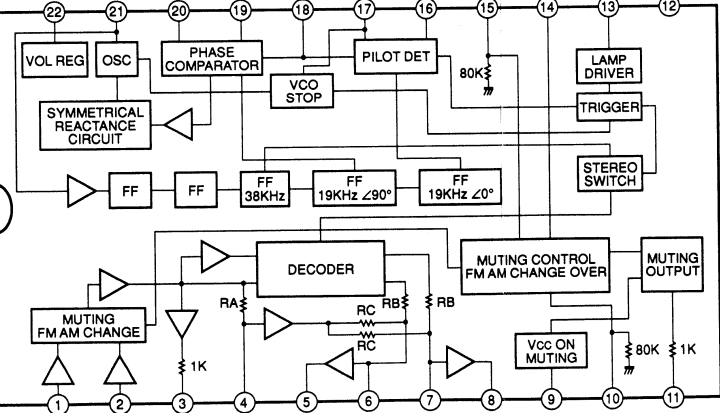
IC1 : LA1266
AM/FM IF



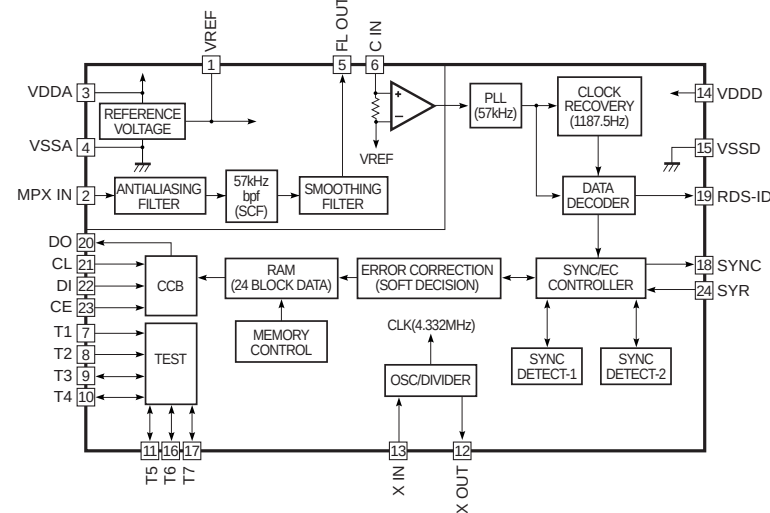
IC2 : LC72131
PLL Controller



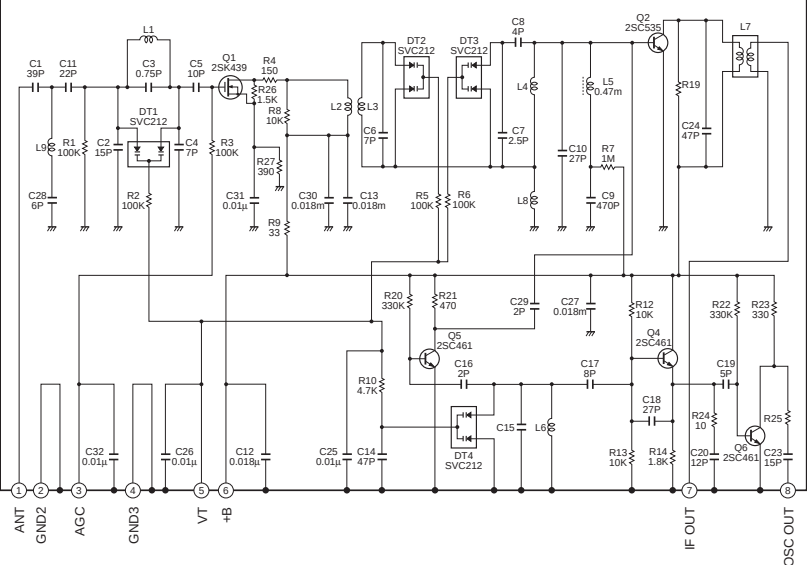
IC3 : LA3401
MPX



IC4 : LC72720N
RDS Decoder



• PK1 : ENV-172A4G1 (V2716700)



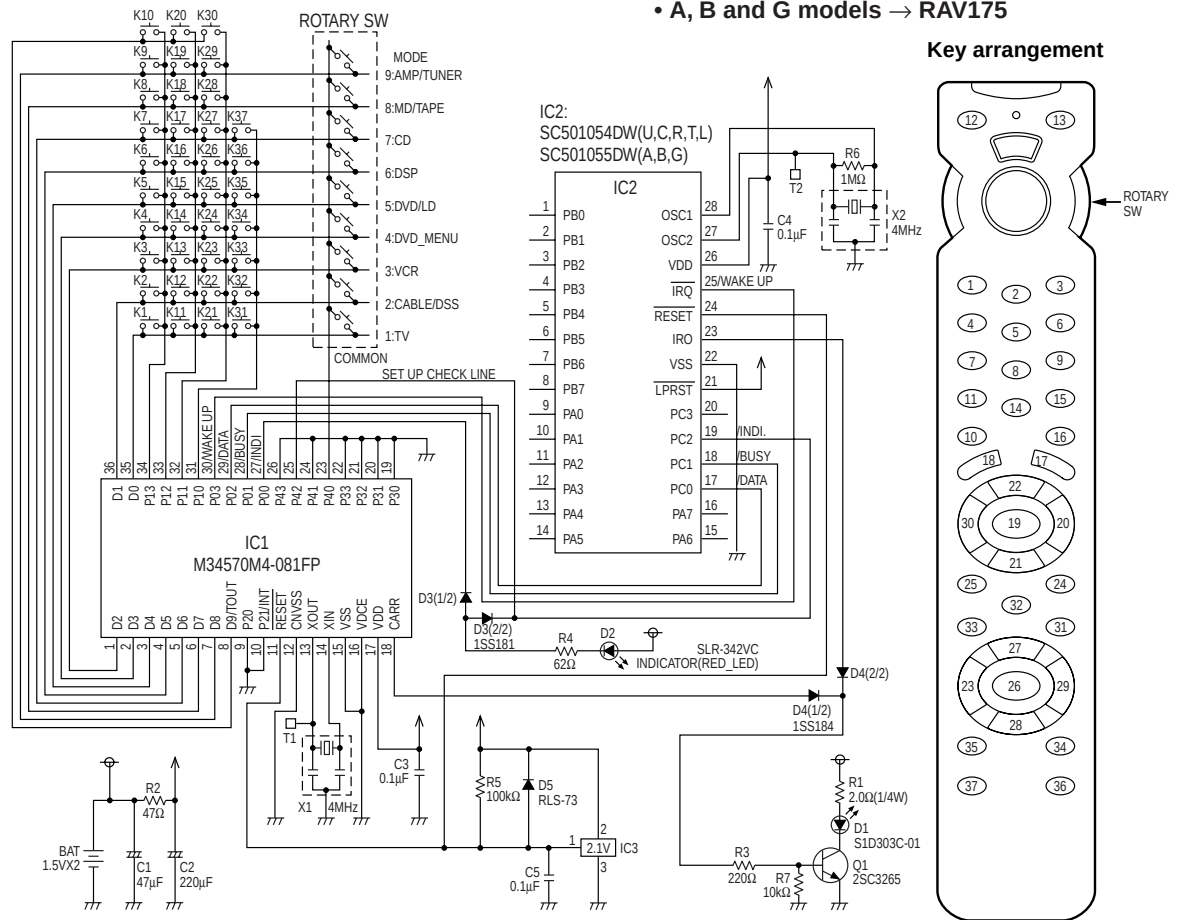
★ All voltages are measured with a 10MQ/V DC electric volt meter.
★ Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.
★ Schematic diagram is subject to change without notice.

■ REMOTE CONTROL TRANSMITTER

SCHEMATIC DIAGRAM

(RAV174 or RAV175)

- U, C, R, T and L models → RAV174
- A, B and G models → RAV175



List of the fixed code

Key No.	Key Name	MODE ID #	TV	Cable/DSS	VCR	DVD Menu	DVD/LD	DSP	CD	Tape/MD	AMP/Tuner
1	1		0047/0037	2566/2455(DSS)	3060/3072	----	4545(DVD)	----	6187	8524(Tape)	----
2	2		CH1	CH1	CH1	7C-94	7A-15	7A-88		7A-15	
3	3		CH2	CH2	CH2	7C-95	7A-16	7A-89		7A-16	
4	4		CH3	CH3	CH3	7C-96	7A-18	7A-8A		7A-18	
5	5		CH4	CH4	CH4	7C-97	7A-17	7A-8B		7A-17	
6	6		CH5	CH5	CH5	7C-98	7A-54	7A-8C		7A-54	
7	7		CH6	CH6	CH6	7C-99	7A-0F	7A-8D		7A-0F	
8	8		CH7	CH7	CH7	7C-9A	7A-14	7A-8E		7A-14	
9	9		CH8	CH8	CH8	7C-9B	7A-55	7A-8F		7A-55	
10	10		CH9	CH9	CH9	7C-9C	7A-13	7A-90		7A-13	
11	DSP		Shift of only Ten key in DSP Mode						Shift of only Ten key in DSP Mode		
12	0		CH0	CH0	CH0	7C-93	7A-87	7A-91		7A-87	
13	POWER		7A-1D	Power	Power	7A-1D				7A-1D	
14	STANDBY				7A-1E					7A-1E	
15	ENTER		CH Select	CH Select	CH Select	7C-9D	----	7A-12	----	----	7A-12
16	CLEAR		----	+100	----	7C-9F	----	7A-85	----	----	7A-85
17	EFFECT		Surround		7A-56					7A-56	
18	CH+		CH+	CH+	CH+	7C-8B		7A-10	7A-4F	----	7A-10
19	CH-		CH-	CH-	CH-	7C-8A		7A-11	7A-50	----	7A-11
20	MUTE		Mute		7A-1C					7A-1C	
21	VOL+				7A-1A					7A-1A	
22	TV VOL-				TV VOL-					TV VOL-	
23	TV VOL+				TV VOL+					TV VOL+	
24	SKIP-		----	Left	----	7C-B5	7C-B9	7A-53	7A-0B	7A-07	7A-53
25	DISPLAY		Display	Display	Display	7C-9E	7C-A6	7A-C2	7A-0B	----	7A-C2
26	SLEEP		Sleep		7A-57					7A-57	
27	PLAY		VCR Play	Menu Select	Play	7C-B8	7C-82	----	7A-08	7A-00	----
28	PAUSE		VCR Pause	Up	Pause	7C-B4	7C-83	7A-98	7A-09	----	7A-98
29	STOP		VCR Stop	Down	Stop	7C-B3	7C-85	7A-99	7A-09	7A-03	7A-99
30	SKIP+		----	Right	----	7C-B6	7C-BA	7A-52	7A-0A	7A-40	7A-52
31	VOL-				7A-1B					7A-1B	
32	TV INPUT				TV Input			----	TV Input	7A-06	----
33	TV POWER				TV Power					TV Power	
34	REC		VCR REC	----	REC	----	----	----	----	7A-04	----
35	FF		VCR FF	Recall	FF	7C-B7	7C-AE	7A-58	7A-0C	7A-02	7A-58
36	REW		VCR REW	----	REW	7C-AC	7C-AB	7A-59	7A-0D	7A-01	7A-59
37	MENU		----	Menu	----	7C-B2	7C-AD	7A-9C	----	----	7A-9C
38	TITLE		----	----	----	7C-B1	7C-AA	7A-86	----	----	7A-86

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