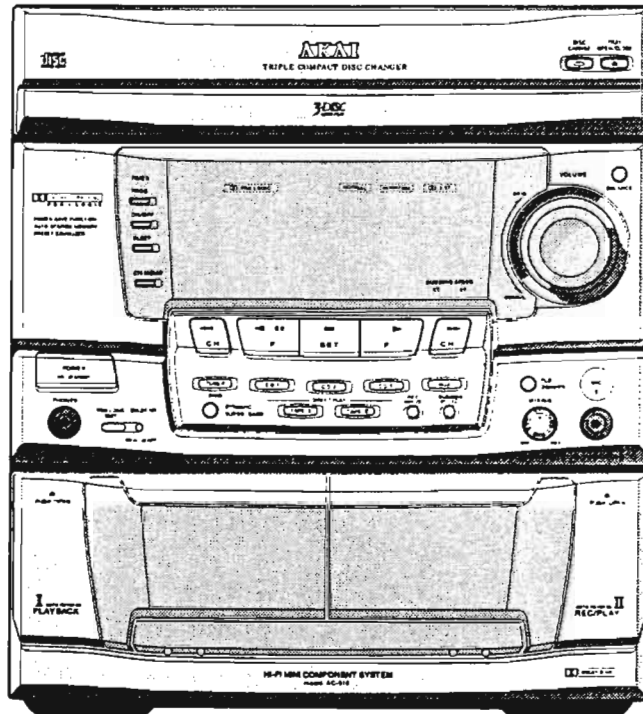


TX-410/610
(AC-410/413R/415K)
(AC-610/613R/615K)

AKAI SERVICE MANUAL



COMPACT
disc
DIGITAL AUDIO

 **DOLBY B NR**

 **DOLBY SURROUND**
PRO • LOGIC

MINI STEREO COMPONENT SYSTEM

MODEL **AC-410/413R/415K**

MODEL **AC-610/613R/615K**

MODEL **SR-410**

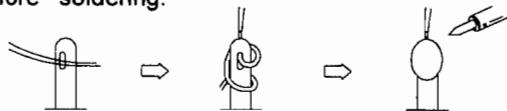
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SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the \triangle (*) symbol parts are critical for safety. Replace them only with parts whose numbers are specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, tuner units, antenna selection switches, RF cables, noise-blocking capacitors, noise-blocking filters, etc.
3. Use specified internal Wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulating Tape
 - 2) PVC tubing
 - 3) Spacers (insulating barriers)
 - 4) Insulating sheets for transistors
 - 5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitor, etc.), wrap ends of wires securely about the terminals before soldering.



6. Make sure that wires do not contact heat generating parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
7. Check if replaced wires do not contact sharply edged or pointed parts.
8. Also check areas surrounding repaired parts.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.



Please leave them at an appropriate depot.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to check if exposed parts are acceptably insulated from the supply circuit.

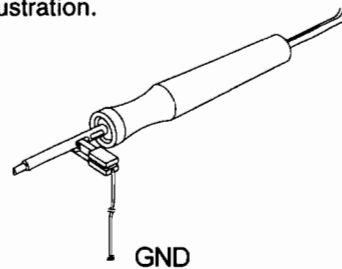
The leakage-current measurement should be done between accessible metal parts, (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resistor of 1500 ohm paralleled with a 0.15 μ F capacitor, under the unit's normal working condition.

The leakage-current should be less the 0.5mA rms AC. The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch "ON" (if included). The resistance should be more than 2.2Mohms.

PRECAUTIONS IN REPAIRING

When repairing or adjusting the unit, please note the following points

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment. Make sure that there are no metal objects between the P.C board or the mecha parts and the base.
3. The Micro-Computer and the CD signal processing ICs may be damaged by static electricity or leakage from a soldering iron during repairing. While soldering, please take the precautions against leakage as in the illustration.

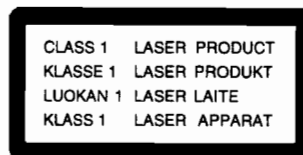


4. Do not loosen any screws in the pick-up block. Please refer to NOTE when replacing the pick up block.
5. To avoid hazardous invisible Laser Radiation, do not look at the Laser Beam (Objective lens) directly.
6. On model for some countries, laser warning labels are affixed on and inside of the unit as shown below. For your safety, read these labels carefully before repairing or adjusting the unit.

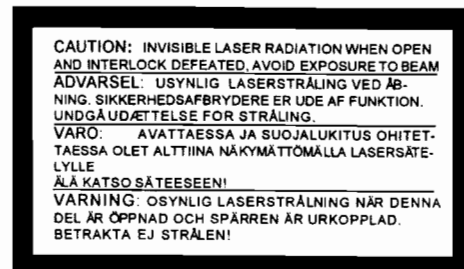
CAUTION

The use of controls or adjustments or the performance of procedures other than those specified herein may result in hazardous radiation.

[EUROPE, SCANDINAVIA, UK and AUSTRALIA]



Label affixed on the rear panel of the unit



Label affixed on the CD MECHA BLOCK

INFORMATION

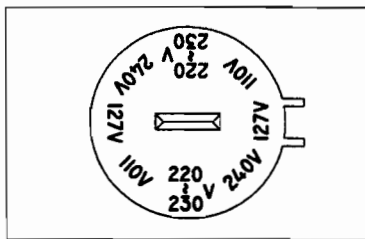
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbol	Principal Destination
A	USA
B	UK
E	Europe (except, UK)
S	Australia
V	Germany
U	Universal
Y*	Custom version

VOLTAGE CONVERSION(U Y Model only)

Before connecting the power cord, set the VOLTAGE SELECTOR located on the rear panel of the AC-415K/615K so that the correct voltage for your area is indicated.



[U5,U8, Y6, Y7]

TEST MODE

Various kind of test modes are installed in this unit's microcomputer in order to test them on the production line. Following test modes among the various test modes can be used for adjustment, operation check or maintenance. To terminate the test mode, simply press the "POWER ON/STANDBY " button or disconnect the AC power cord from the AC outlet.

1. DECK TEST MODE

This test mode can be used for tape speed adjustment as well as bias oscillator frequency adjustment in TAPE DECK section.

While pressing and holding the "TAPE II" and "▶" (F) buttons, connect the AC power cord to AC outlet. The function turns to "TAPE I" and "DUBX1" as well as "I ▶", "II ▶" tape direction indicators on the FLD light when this mode is engaged.

2. DECK CLEANING MODE

This test mode can be used for cleaning of the TAPE DECK mechanism.

Because, this mode enables engaging of the playback, fast forward (FF), and rewind (RWD) modes without a cassette tape, it makes the cleaning (such as the capstan shaft, magnetic head, pinch roller etc..) easier. While pressing and holding the "TAPE I" and "▶" (F) button, connect the AC power cord to the AC outlet. The "TAPE I", "I ▶", "II ▶" tape direction indicators on the FLD light when this mode is engaged.

[CD SECTION]


Pick up system	3Beam Laser
Sampling frequency	44.1KHz
Error correction system	Cross interleave read solomon
Number of channels	2Channe
Frequency response	20Hz-20KHz
Wow & Flutter	Below measurable limits
S/N ratio	83dB
Total harmonic distortion	0.035% (at 1KHz)
Channel separation	73dB(at 1KHz)
Dynamic range.....	82dB (at 1KHz)

[GENERAL]

Power requirement	
E1/E3/B1/S1	AC 220-230V/50Hz
U5/U8/Y6/Y7	AC110/127/220-230/240V, 50/60Hz
Power consumption	80W/AC-410/413R/415K, 130W/AC-610/613R/615K
Weight	7.3Kg/AC-410/413R/415K, 8.2Kg/AC-610/613R/615K

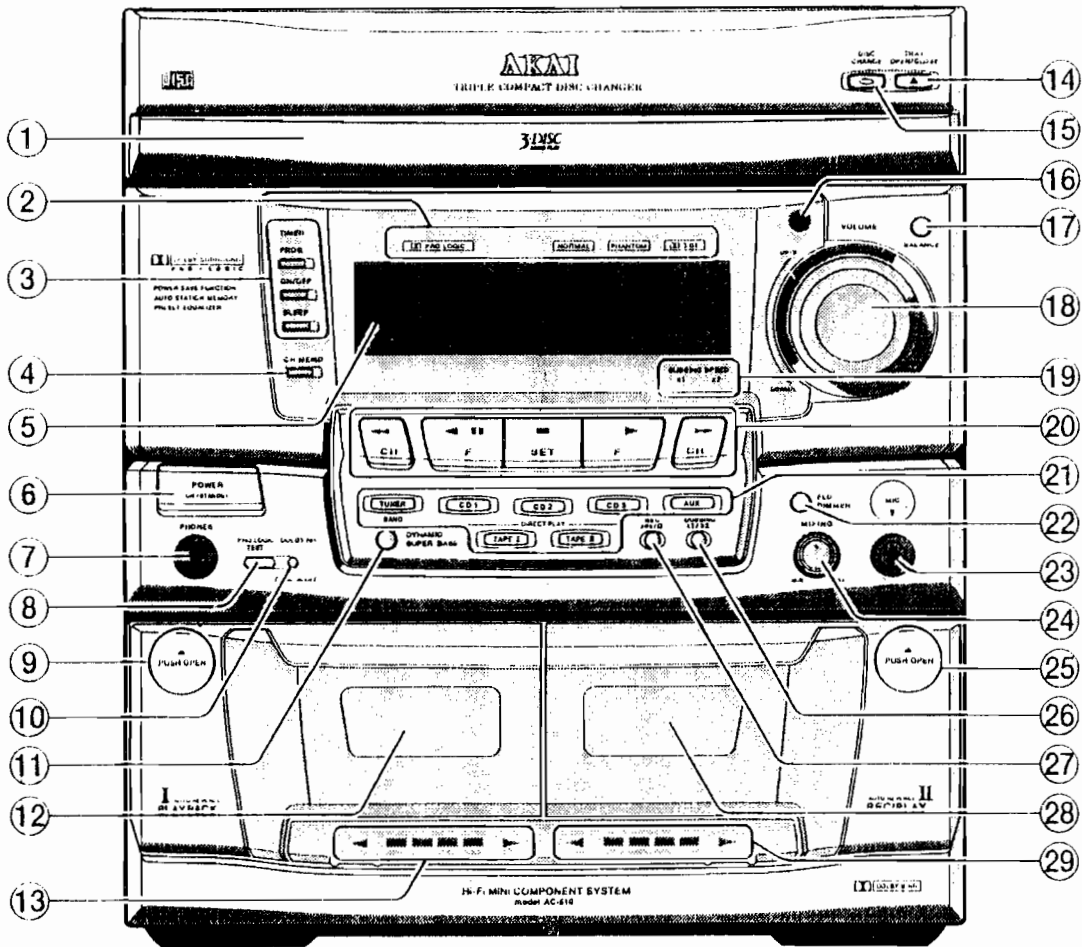
[SPEAKER SECTION]

ITEM	SR-410
System Constructions	3-way 3-speakers
Woffer Unit	135mm Cone type
Midrange Unit.	57mm Cone type
Tweeter Unit	20mm dome type (piezo)
System Impedance	6Ω
Maxium Power Input.....	50w
Sensitivity	more than 87dB/w/m
Frequency Response	60Hz-20KHz
Harmonic Distortion	less than 3%
Enclosure Type	bass reflex type
Units Layout	L/R mirror layout
Dimensison	193(W)X305(H)X245.5(D)
Net Weight.....	3.3Kg/pc

For improvement purposes, specifications and design are subject to change without notice.
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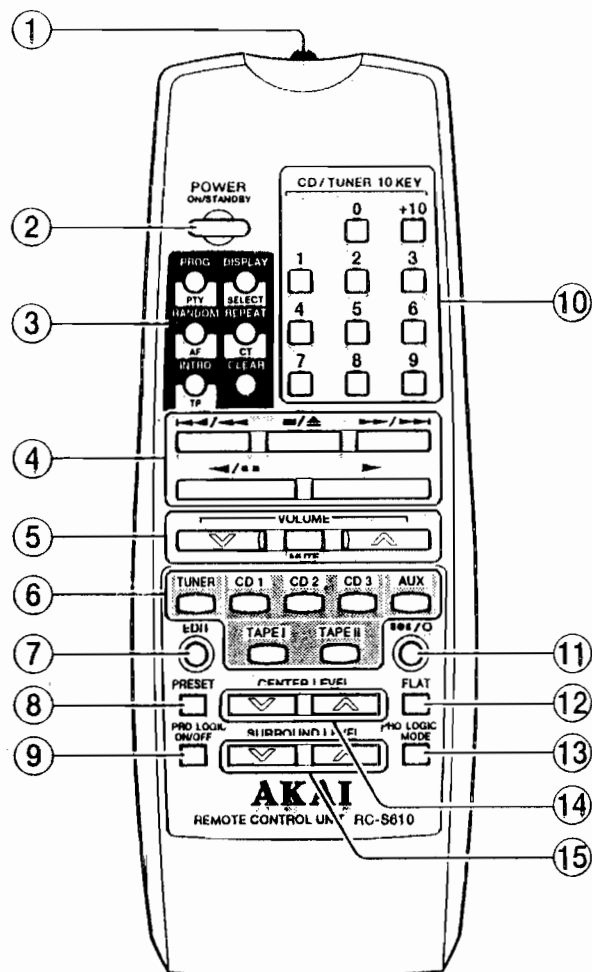
CONTROLS

A MAIN UNIT



- | | |
|--|---|
| 1. Disc tray | 16. Remote sensor |
| 2. Dolby PRO LOGIC mode indicators (AC-610/613R/615K) | 17. BALANCE button |
| 3. TIMER operation buttons | 18. Volume control |
| 4. CH MEMO button | 19. DUBBING SPEEDx1, x2 indicators |
| 5. System FL display | 20. Multi-function buttons |
| 6. POWER ON/STANDBY button | 21. Input source select buttons |
| 7. PHONES jack | 22. Dimmer button (AC-410/413R/610/613R)
KARAOKE button (AC-415K/615K) |
| 8. PRO LOGIC TEST button (AC-610/613R/615K) | 23. MIC jack |
| 9. Tape deck I PUSH OPEN button | 24. Mixing control |
| 10. DOLBYNR button | 25. Tape deck II PUSH OPEN button |
| 11. DYNAMIC SUPER BASS button | 26. DUBBINGx1/x2 button |
| 12. Tape deck I cassette compartment | 27. REC button |
| 13. Tape deck I direction indicator and transportation indicator | 28. Tape deck II cassette compartment |
| 14. TRAY OPEN/CLOSE button | 29. Tape deck II direction indicator and transportation indicator |
| 15. DISC CHANGE button | |

B Remote Control



When using the remote control for operation, make sure that it is pointing to the remote sensor window on the main unit.

- | | |
|--|-----------------------------|
| 1. Transmitting window | 8. PRESET button |
| 2. POWER ON/STANDBY button | 9. PRO LOGIC ON/OFF button |
| 3. CD operation buttons/RDS buttons
(The RDS function is only available on
the AC-413R/613R) | 10. CD/TUNER 11 KEY buttons |
| 4. Multi-function buttons | 11. Rec/pause button |
| 5. VOLUME buttons | 12. FLAT button |
| 6. Input source select buttons | 13. PRO LOGIC MODE button |
| 7. EDIT button | 14. CENTER LEVEL buttons |
| | 15. SURROUND LEVEL buttons |

* The 9, 13, 14 and 15 buttons are not included on the RC-S510 remote control (for AC-410/413R/415K model operation).

Note:

The remote control can not be used for some functions that require the combined pressing of two tape transportation buttons (intro scan or auto play for example). Please Use the Main unit's multi-function buttons for the operation of such functions.

I. DISASSEMBLY

1-1. REMOVE OF MAIN COVER

- 1) Remove the seven screws on back and six screws on both sides.
- 2) Remove the MAIN COVER

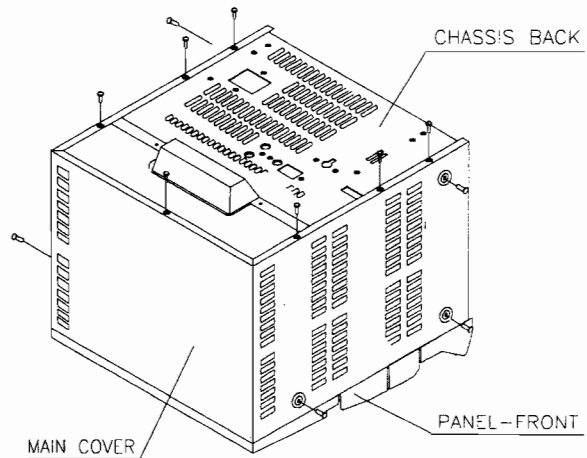


Fig. 1-1

1-2. REMOVE OF CD MECHA & FRONT PANEL

- 1) Remove the CD door
- 2) Remove the four screws (A) on both sides and disconnect three connectors and the flat cable from the TC-DK P.C.B.
- 3) Remove the CD player block
- 4) Remove the three screws (B) and two screws (C) on both sides.
- 5) Remove the FRONT PANEL

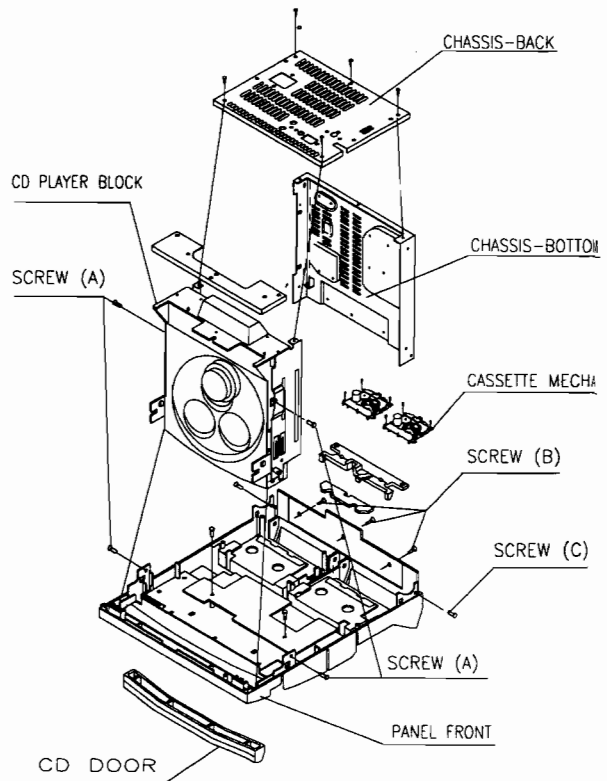


Fig. 1-2

II. PRINCIPAL PARTS LOCATION

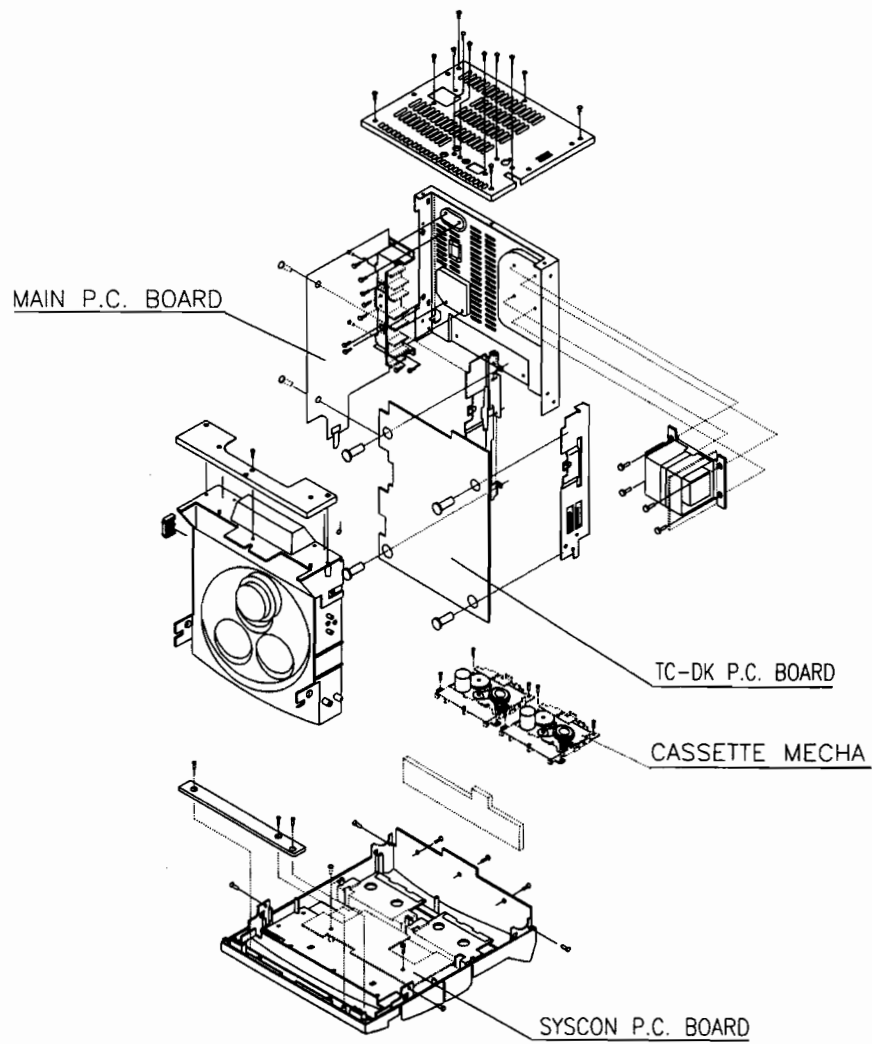


Fig. 2-1

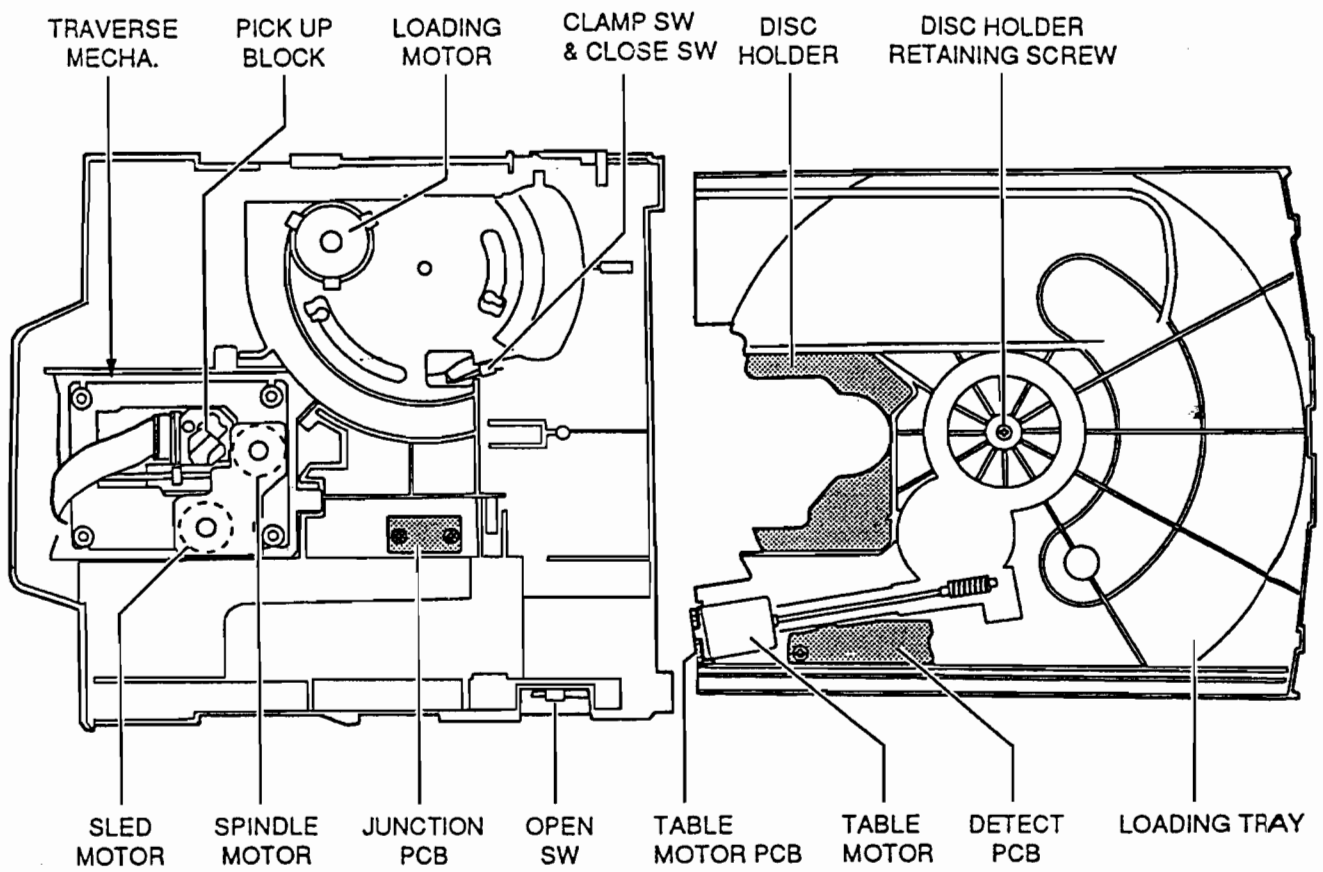


Fig. 2-2 CD PIAYER BLOCK

III. DISASSEMBLY OF THE MAIN COMPONENTS

3-1. CD PLAYER BLOCK

* Remove the CD PLAYER BLOCK before proceeding.

3-1-1. Removal of the TRAVERSE MECHA.

- 1) Remove the TRAVERSE COVER by releasing the two tabs in the direction of the arrow as shown in Fig. 3-1.

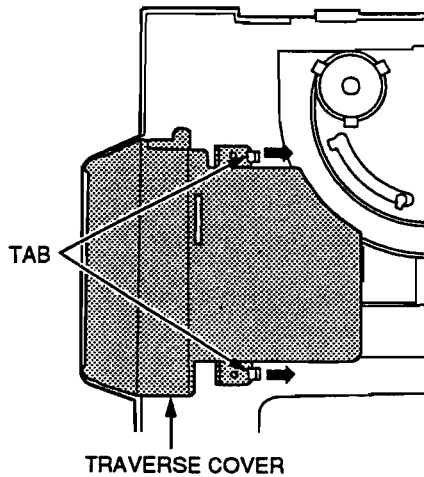


Fig. 3-1

- 2) Short the circuit on the PICK UP BLOCK with solder as shown in Fig. 3-2.

Note : To protect the laser diode from damage caused by high voltage static electricity, a part of the PCB on the PICK UP BLOCK has to be shorted before disconnecting the connectors. After replacement, be sure to connect the two connectors and then remove the solder of the shorted circuit before turning the power ON.

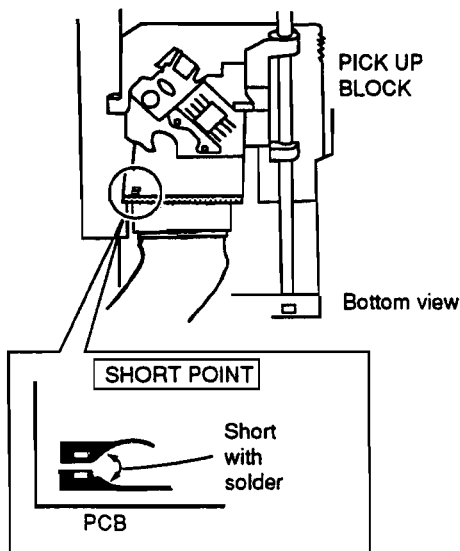


Fig. 3-2

- 3) Disconnect the two connectors carefully.

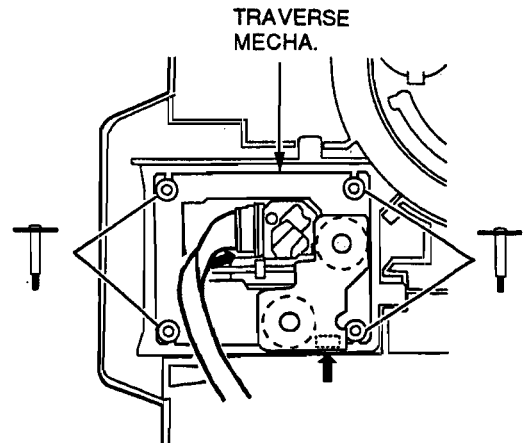


Fig. 3-3

- 4) Remove the four retaining screws, then remove the TRAVERSE MECHA.
- 5) Proceed in the reverse order for installation but never unsolder the shorted circuit before connecting the three connectors.

3-1-2. Replacement of the SLED MOTOR

- 1) Remove the TRAVERSE MECHA (refer to section 3-1-1).
- 2) Unsolder the leads of the SLED and SPINDLE MOTORS then remove the MOTOR PCB.

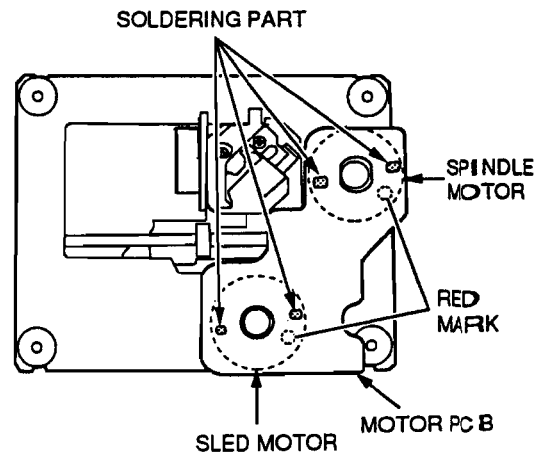


Fig. 3-4

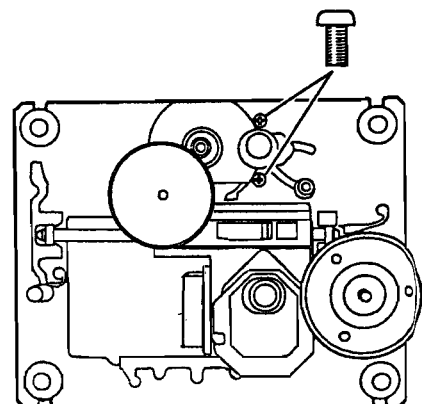


Fig. 3-5

- 3) Remove the two retaining screws, then remove the SLED MOTOR.
Next, extract the plastic gear from the motor shaft and attach it onto the new motor's shaft.
- 4) Reassemble in the reverse order.

About the SPINDLE MOTOR:

Replacement of the SPINDLE MOTOR itself is not recommended, because adjustment of the TURN TABLE height is quite critical and requires the use of a special jig.

3-1-3. Replacement of the PICK UP BLOCK

- 1) Remove the TRAVERSE MECHA (refer to section 3-1-1).
- 2) While pressing the (A) stopper upwards, pull the SLIDE SHAFT to the right to remove the PICK UP BLOCK, then replace the PICK UP BLOCK.

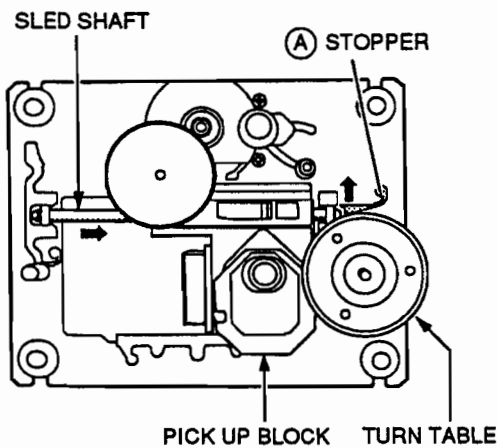


Fig. 3-6

- 3) Reassemble in the reverse order.

3-1-4. Replacement of the LOADING MOTOR

- 1) Slide the protruding part of the GEAR HOLDER PART in the direction of the arrow, then pull out the TRAY BLOCK.

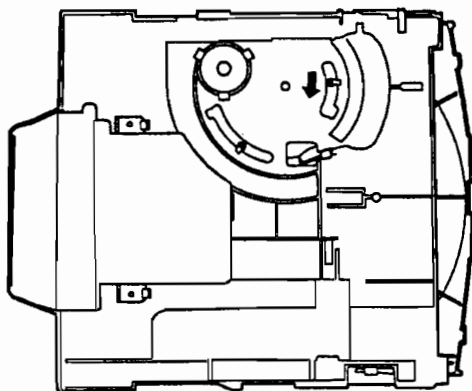


Fig. 3-7

- 2) Unhook the LOADING BELT with tweezers.

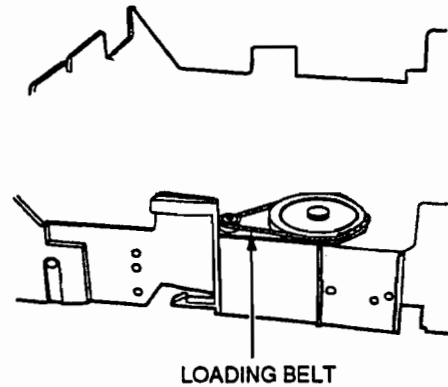


Fig. 3-8

- 3) Unsolder the lead wires of the LOADING MOTOR with a soldering iron.
- 4) While releasing the LOADING MOTOR's three retaining hooks, push the motor pulley part down with your middle finger to remove the LOADING MOTOR, then replace it.

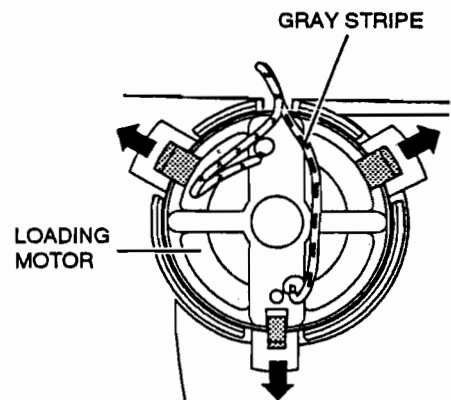


Fig. 3-9

- 5) Reassemble in the reverse order. Make sure that the wire with the gray stripe is connected to the motor's O marked terminal when soldering.

3-1-5. Removal of the TRAY BLOCK

- 1) If the TRAY BLOCK is in the "in" position, slide the protruding part of the GEAR HOLDER PART in the direction of the arrow and pull out the TRAY BLOCK slowly (refer to Fig. 3-7).
- 2) In order to disengage the two stoppers, carefully press the (A) part of the TRAY BLOCK downwards while pulling the TRAY BLOCK out as shown in Fig. 3-10.

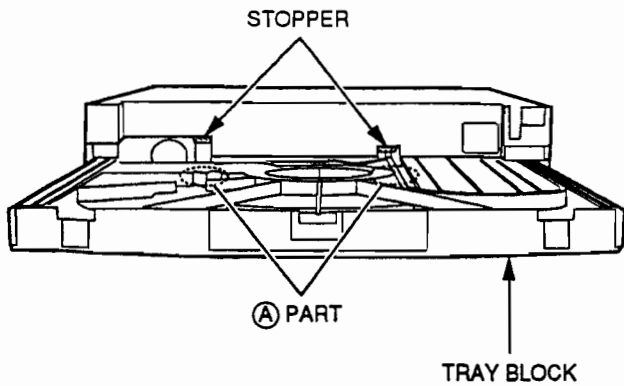


Fig. 3-10

- 4) Remove the TRAY BLOCK by pulling it out carefully.
- 5) Reassemble in the reverse order for installation. When reattaching the TRAY BLOCK to the chassis, carefully align the guides on both sides of the TRAY BLOCK with their corresponding rails on the chassis. Also, make sure that any one of the reference marks on the DISC HOLDER aligns with the reference mark on the LOADING TRAY.

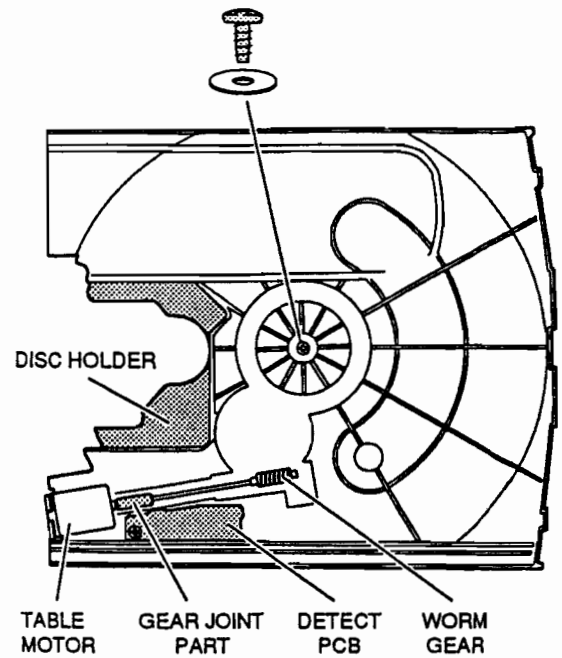


Fig. 3-13

- 3) Unsolder the leads of the TABLE MOTOR and remove the TABLE MOTOR PCB.

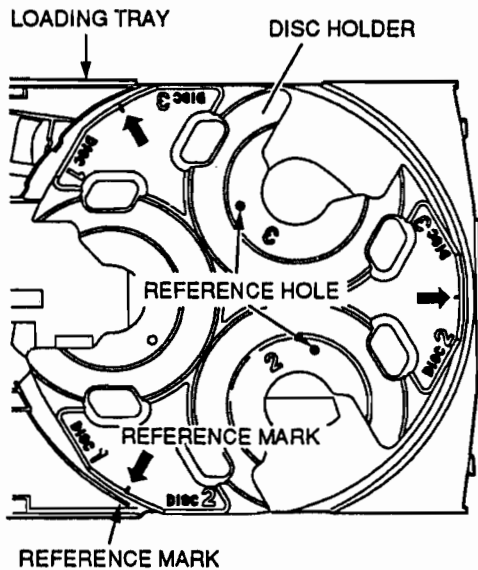


Fig. 3-11

Next, move the head of the GEAR HOLDER PART in the direction of the arrow before engaging the stoppers as shown in Fig. 3-12.

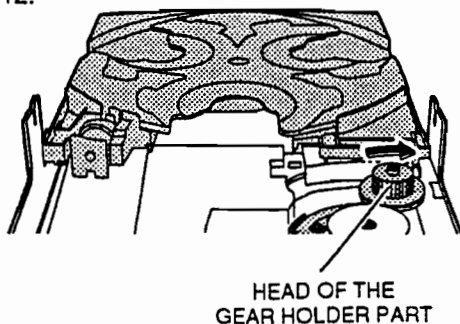


Fig. 3-12

3-1-6. Replacement of the TABLE MOTOR

- 1) Remove the TRAY BLOCK (refer to section 3-1-5).
- 2) Remove the DISC HOLDER retaining screw then remove the DISC HOLDER.

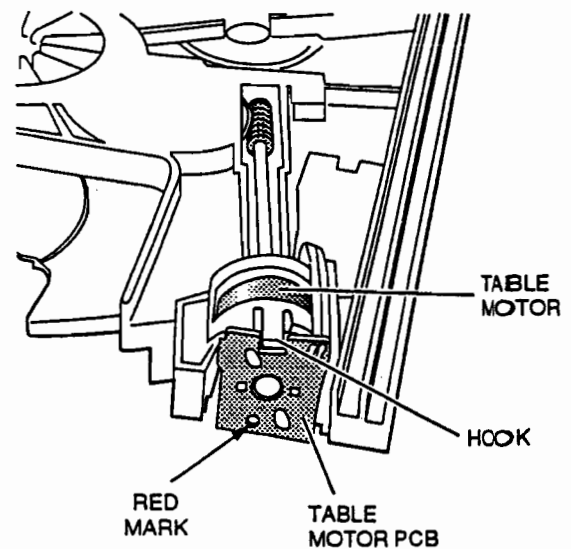


Fig. 3-14

- 4) Remove the TABLE MOTOR by pulling it out while opening the TABLE MOTOR retaining hook. Next, remove the WORM GEAR BLOCK by pulling the GEAR JOINT PART out and attach it to the new motor as shown in Fig. 3-13.
- 5) Reassemble in the reverse order.
 - When soldering the TABLE MOTOR PCB on the TABLE MOTOR, the TABLE MOTOR's red mark must be visible through the hole on the TABLE MOTOR PCB.
 - When attaching the DISC HOLDER on the LOADING TRAY, make sure to place the DISC HOLDER so that any one of the three reference marks aligns with the reference mark on the LOADING TRAY (any two reference holes on the DISC HOLDER align with the corresponding reference holes on the LOADING TRAY accordingly). (Refer to Fig. 3-11)

3-2. TAPE-I & TAPE-II MECHANISM BLOCK

3-2-1. Removal of the MECHANISM BLOCK

- 1) Remove the FRONT PANEL BLOCK.
- 2) Remove the four screws for each of the TAPE-I and TAPE-II MECHANISM BLOCKS then remove the MECHANISM BLOCKS from the FRONT PANEL BLOCK.

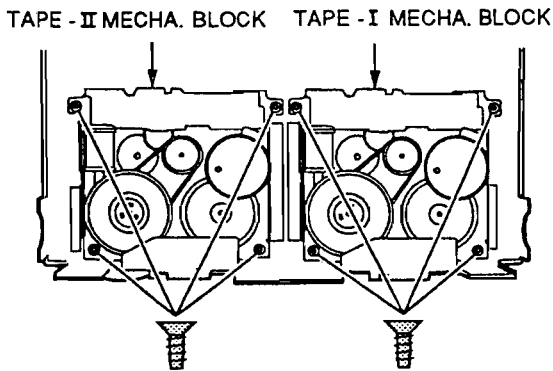


Fig. 3-15

3-2-2. Replacement of the CAPSTAN MOTOR

NOTE : After replacement, tape speed adjustment must be performed.

- 1) Unsolder the flat cable on the CAPSTAN MOTOR with a soldering iron.
- 2) While pressing the INTER-LOCK LEVER in the direction of the arrow, remove the two (B) screws and then remove the CAPSTAN MOTOR.

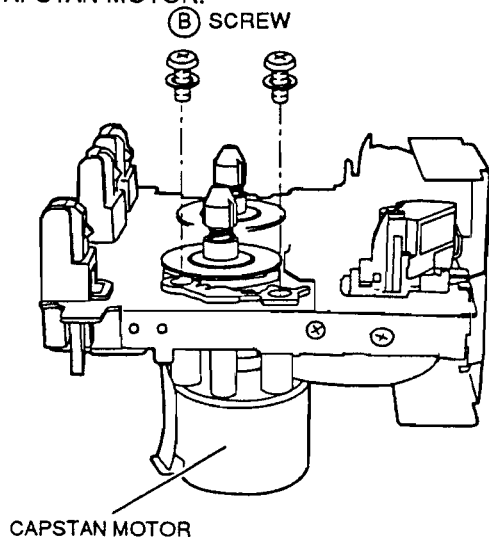


Fig. 3-16

- 3) Install a new motor and re-assemble in the reverse order for installation.

3-2-3. Replacement of the FR BELT

- 1) Unthread the MAIN BELT and replace the FR BELT as shown in Fig. 3-17.
- 2) Proceed in the reverse order for installation.

3-2-4. Replacement of the MAIN BELT

- 1) Remove the CAPSTAN MOTOR
- 2) Replace the MAIN BELT and re-assemble in the reverse order for installation.

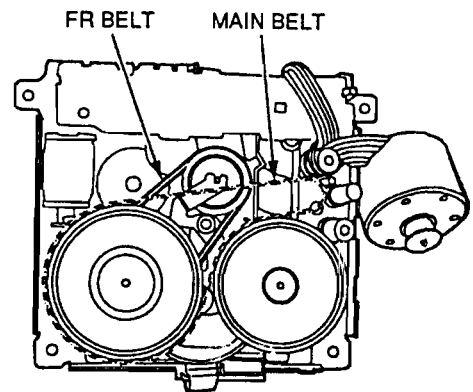


Fig. 3-17

- 3) After replacement, check the tape speed and if the result is not satisfactory, tape speed adjustment must be performed.

3-2-5. Replacement of the PINCH ROLLER BLOCK

- 1) Extract the PINCH ROLLER BLOCK upwards while releasing the pinch roller retaining hook in the direction of the arrow.

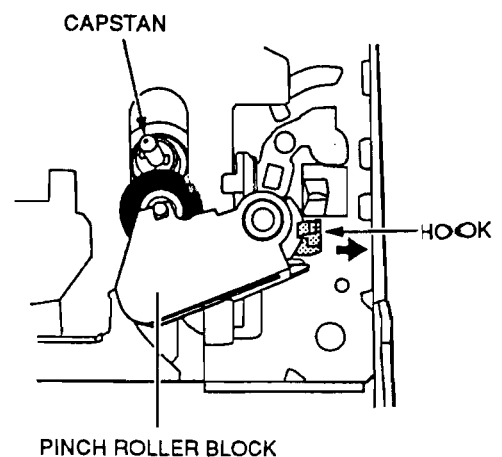


Fig. 3-18

- 2) Replace the PINCH ROLLER BLOCK and re-assemble in the reverse order. Attach the spring in the correct position when placing the PINCH ROLLER BLOCK.

3-2-6. Replacement of the PB HEAD OR REC/PB HEAD

- 1) Remove the two (A) screws and remove the HEAD SHIELD PLATE.

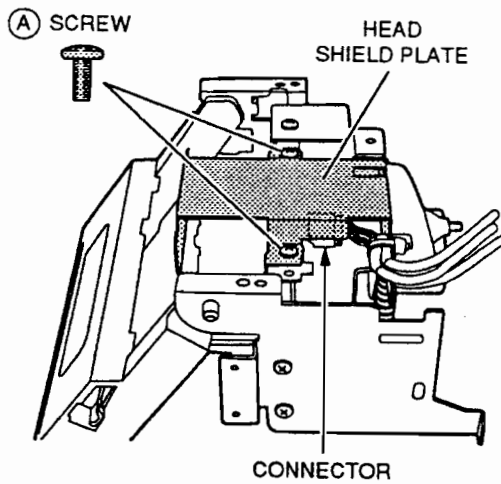


Fig. 3-19

- 2) Disconnect the connector on the CONNECTOR PCB and remove the PCB retaining screw.

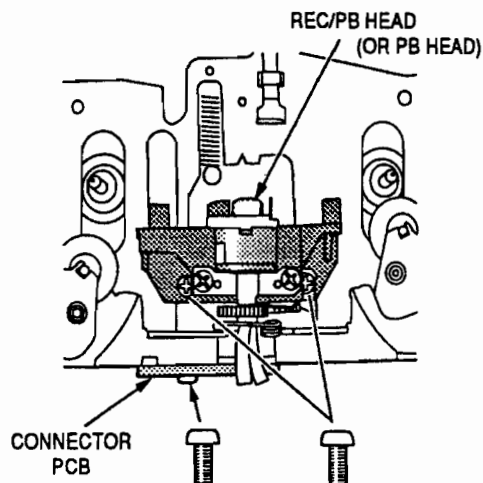


Fig. 3-20

- 3) Remove the two head retaining screws and remove the HEAD BLOCK.
- 4) Reassemble in the reverse order. After replacement, demagnetize the HEAD then perform head azimuth adjustment.

IV. MECHANICAL ADJUSTMENT

4-1. ADJUSTMENT OF THE HEAD AZIMUTH ALIGNMENT

- 1) Connect an oscilloscope to the L-ch and R-ch speaker terminals of the unit. Set the VOLUME control on the FRONT PANEL at the appropriate level (ie, the output level is not too low or too high).
- 2) Play back a 10 kHz (-15 dB), HEAD AZIMUTH ALIGNMENT TEST TAPE (TF-106CH) then adjust the HEAD AZIMUTH ALIGNMENT Ⓐ (FWD PLAY) and Ⓑ (REV PLAY) SCREWS respectively so that the waveform level of both the L-ch and R-ch are at maximum and also they are in the same phase in both FWD and REV directions. (Use a sharp edge philips type screwdriver that is de-magnetized for adjustment.)

Perform the adjustment on both the TAPE-I and TAPE-II heads if necessary.

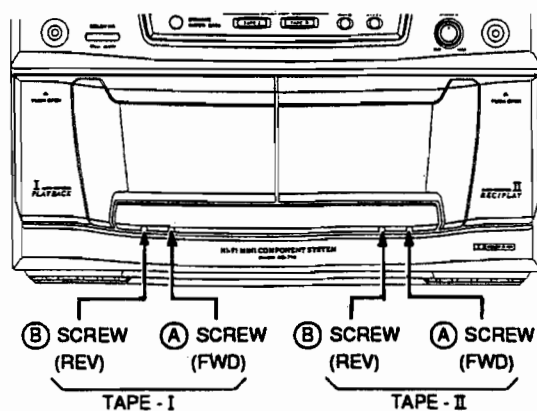


Fig. 4-1

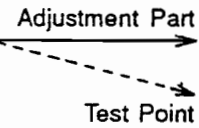
V. ELECTRICAL ADJUSTMENT

5-1. TAPE DECK SECTION

NOTE :

- 1) The following adjustment should be performed in the "DECK test mode".
To engage the DECK test mode, connect the AC power cord to the AC outlet while pressing the "TAPE-II" and "▶ (F)" buttons together.
When the "DECK test mode" is engaged, the "DUBX1" indicator on the FL display will light.
- 2) When performing the tape speed adjustment, observe the following notes.
 - Adjustment should be started more than 30 seconds after the power is switched ON.
 - Adjustment should be made on X2 speed mode first then adjust the normal speed mode.
 - Adjustment should be made in the forward direction.
- 3) To disengage the "DECK test mode", press the "POWER" button or unplug the AC power cord from the AC outlet.

STEP	ADJUSTMENT
1.	Test tape/input signal
2.	Mode
3.	Check point, adjustment part
4.	Remarks (•) and result (*)



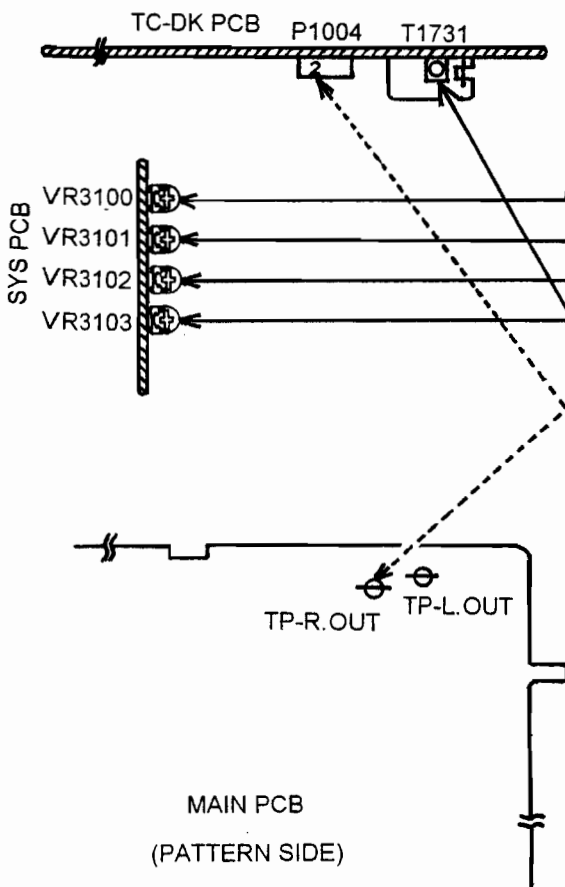
1	TAPE-I (X2) TAPE SPEED
1.	3,150 Hz test tape (TF-110CT)
2.	TAPE-I, PLAY
3.	TP-R.OUT, VR3100
4.	• Connect a frequency counter to the TP-R.OUT (or L.OUT) and press the "DUBBING" button to engage double speed. * 6,340 ± 20 Hz

2	TAPE-I NORMAL TAPE SPEED
1.	3,150 Hz test tape (TF-110CT)
2.	TAPE-I, PLAY
3.	TP-R.OUT, VR3101
4.	• Connect a frequency counter to the TP-R.OUT and press the "▶ (F)" button again to resume normal tape speed. * 3,150 ± 10 Hz

3	TAPE-II (X2) TAPE SPEED
1.	3,150 Hz test tape (TF-110CT)
2.	TAPE-II, PLAY
3.	TP-R.OUT, VR3102
4.	• Press the "TAPE-II" button and play back the test tape. • Connect a frequency counter to the TP-R.OUT and press the "DUBBING" button to engage double speed. * 6,320 ± 20 Hz

4	TAPE-II NORMAL TAPE SPEED
1.	3,150 Hz test tape (TF-110CT)
2.	TAPE-II, PLAY
3.	TP-R.OUT, VR3103
4.	• Connect a frequency counter to the TP-R.OUT and press the "▶ (F)" button again to resume normal tape speed. * 3,140 ± 10 Hz

5	BIAS OSC FREQUENCY
1.	CrO2 type blank tape
2.	TAPE-II, REC
3.	P1004 ② pin, T1731
4.	• Connect a frequency counter between P1004 pin and GND. (10 : 1 probe should be used to avoid affecting the measurement.) • Start a recording (press the "REC" button then press the "▶" button). The "AUX" source indicator appears automatically. * 100.0 ± 0.2 kHz



5-2.CD PLAYER SECTION

TEST MODE FOR CD PLAYER'S OPERATION

Some adjustments of the CD PLAYER section are automatically carried out by the micro computer.

If the CD player section is defective and it is necessary to partially check the operation, "CD TEST" mode can be used while repairing.

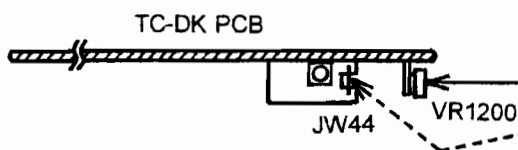
Engaging the "CD TEST" MODE

While pressing and holding both the "CD1" and "▶(F)" buttons, plug in the AC power cord to the AC outlet.

Note :

- During "CD TEST" mode, only the DISC"1" ▲ open/close button can be used for loading. So, place a disc on "TRAY 1".
- Proceed testing by pressing the "CD1" button once for each testing step.
- To disengage the "CD TEST" mode, press the "POWER ON/STANDBY" button or disconnect the AC power cord from the AC outlet.

DISPLAY	FUNCTION
T0 (TEST-0)	Initial condition of the "CD TEST" mode.
T1 (TEST-1)	Perform "focus search".
T2 (TEST-2)	Turn on the "focus servo".
T3 (TEST-3)	Mode of the "E-F balance" adjustment.
T4 (TEST-4)	E-F balance adjustment is carried out automatically and its data value is displayed on the FLD.
T5 (TEST-5)	Mode of the "Tracking gain" adjustment.
T6 (TEST-6)	Tracking gain adjustment is carried out automatically and its data value is displayed on the FLD.
T7 (TEST-7)	Normal playback mode is engaged.



1 FOCUS OFFSET

1. Test disc (SONY TYPE-III)
2. Play back
3. JW44 and VR1200
4. Connect the hot side probe of an AC millivoltmeter to JW44 on the BIAS OSC PCB and GND side probe to the chassis. Adjust the VR1200 on the TC-DK PCB until indication of the AC millivoltmeter is maximum.

VI. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list the part No., Model No. and the description of each part. Otherwise, the nondelivery of the part or the delivery of a wrong part may result.
2. Please make sure that part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in parts list of preliminary service manual may have been the subject of changes, please use this parts list for all future reference.


[NOTE]

1. This parts list lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts list shows those parts in the parts list which are considered particularly important for service.
3. Parts not shown in the parts list and "Common List for Service Parts" will not in principle be supplied.

WARNING

 (*) INDICATED SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVEERTISSEMENT

 (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDÉES PAR LE FABRICANT.

1. REMOTE P.C. BOARD

REF.NO.	PARTS No.	DESCRIPTION
CF001	007-300455-63	RESONATOR CRK455 455KHz
IC001	033-806122-13	REMOTE TRANSMITTER UPD6122G-001
LED001	130-670303-00	INFRA RED EMITINT DIODE EL-1L1
PCB	090-385604-01	REMOTE BOARD T=1.6mm 94HB (46X119mm)
Q001	031-278050-03	TRANSISTOR NPN KTC8050C
D001-004	030-134148-00H	D SILICON IN4148
	210-010101-01S	REMOTE BATTERY COVER

2. SYS CON P.C. BOARD

REF.NO	PARTS No.	DESCRIPTION
D3001-3002/3004-3015/3079-3088	030-320131-01H	D SILICON H 1SS131T T52
D3100-3109/3111-3112/3017/3110		
D3120(for AC-610/613R/615K)	030-320131-01H	D SILICON H 1SS131T T52
D 3018-3031	030-560034-10	D LED MYB34C YELLOW
D 3032-3038	030-540034-04	D LED MGB34D GREEN
D 3039-3042/3046/3048-3054	030-560031-00	D LED MYB31CA YELLOW
D 3043-3045	030-510031-00	D LED MSB31TA RED
D 3055-3059(for AC-610/613R/615K)	030-540034-04	D LED MGB34D GREEN
D 3114(for AC-415/615K)	030-320131-01H	D SILICON H 1SS131T T52
D 3115(S1/Y7)	030-320131-01H	D SILICON H 1SS131T T52
D 3116(for AC-413/613R)	030-320131-01H	D SILICON H 1SS131T T52
D 3117(for AC-415/615K)	030-320131-01H	D SILICON H 1SS131T T52
D 3119(E1/B1/RE1/E3)	030-320131-01H	D SILICON H 1SS131T T52
D 3121(for AC-410/413R/415K)	030-320131-01H	D SILICON H 1SS131T T52
D 3200/3205/3206/3211	030-560031-00	D LED MYB31CA YELLOW
D 3201-3204/3207-3210	030-540034-04	D LED MGB34D GREEN
IC3001	034-B00401-12	IC M38197MA-148FP TX2-SYS64-1
IC3002	033-509121-29	IC PST-9121 T05
IC3003	033-002402-42	IC XL24C02P
IC3004	033-202011-14	IC TA2011S
IC3005-3007/3200	034-304094-18	IC BU4094BCF
IC3008(for AC-610/613R/615K)	034-304094-18	IC BU4094BCF
IC3100	033-304094-18A	IC BU4094BC
IC3101(for AC-413/613R)	034-106579-33	IC SAA6579T-T
IC3102(for AC-413/613R)	034-307073-16	IC LC7073M
IN3001	035-131640-01	IND FL 16-BT-40GK
J 3001	061-121406-00	PHONE J HSJ1406-01-010 3.5
J 3002(for AC-415/615K)	061-121406-00	PHONE J HSJ1406-01-010 3.5
J 3003/3033	060-406123-99	SOCKET 00 6216 006 000 6P
J 3022	060-423124-99	SOCKET 00 6216 023 100 23P
P 3001	060-103204-07	PLUG S3B-PH-K WHT 3P
P 3011	060-422124-99	PLUG TKC-V22P-A1 22P
PH3001	036-600446-01	DETECTOR SPS-446-1
SW3001	040-002410-20	SW ROTARY EC16B24304
SW3002	046-080001-00	SW PUSH VPS-800
TR3003-3005/3107-3110/3124-3126	031-440144-05V	DTR DTC144ES(47-47) T05
TR3101/3103/3113-3120/3122-3123	031-211048-25V	TR 2SA1048 Y,GR T05
TR3100/3102/3104-3106	031-221425-00V	TR 2SB1425 S,E T05
TR3111(for AC-413/613R)	031-211048-25V	TR 2SA1048 Y,GR T05
TR3112(for AC-413/613R)	031-440144-05V	DTR DTC144ES(47-47) T05
TS3001-3022/3300/3301	046-110201-00	SW TACT 1.T-1102A 160GM
TS3027(for AC-610/613R/615K)	046-110201-00	SW TACT 1.T-1102A 160GM
VR3001	011-202298-00	VR ROTARY RK11K1140 L17.5 B202
VR3100/3102	112-222311-05	R S-FIX V T05EVNDCAA3 0.10W222
VR3101/3103	112-102311-05	R S-FIX V T05EVNDCAA3 0.10W102

W 3001	063-552701-03	WA PH-SAN L270 3P
W 3007(for AC-410/413R/415K)	077-622107-15	WF 2468#26 P2.0 C09 L100 15P
W 3007A(for AC-610/613R/615K)	077-622107-16	WF 2468#26 P2.0 C09 L100 16P
W 3008	077-622107-16	WF 2468#26 P2.0 C09 L100 16P
W 3009	077-626107-13	WF 2468#26 P2.0 C09 L100 13P
W 3010	077-626117-10	WF 2468#26 P2.0 C09 L100 10P
X 3001	007-208000-06	OSC CE CST8.00MTW 8.000MHZ
X 3002	037-032768-10M	OSC X'TAL C-002RX 32.768KHZ
X 3100(for AC-413/613R)	007-204000-06	OSC CE CST4.00MGW 4.000MHZ
X 3101(for AC-413/613R)	037-004332-10Z	OSC X'TAL HC-49/U-S 4.33200MHZ

3. MAIN P.C. BOARD

REF. NO.

PARTS No.

DESCRIPTION

D 001	△ 030-310040-02	D SILICON DBF40C 200/4.0A
D 003-004	030-410056-30H	D ZENER MTZJ5.6C T52
D 005-008	△ 030-310152-06	D SILICON RL152M11S15 100/1.5A
D 021/023/081-083/141	030-314002-10H	D SILICON 1N4002-F T52 100/1A
D 022/024/041-042/047/130-131	030-320131-01H	D SILICON H 1SS131T T52
D 133/142/153-154/156-157		
D 025	030-410056-30H	D ZENER MTZJ5.6C T52
D 043/062/721-723	030-410062-10H	D ZENER MTZJ6.2A T52
D 044/151-152	030-410075-10H	D ZENER MTZJ7.5C T52
D 045	030-410051-20H	D ZENER MTZJ5.1B T52
D 046	030-410015-03H	D ZENER MTZJ15B T52
D 084	030-410330-00H	D ZENER MTZJ33B T52
D 085	030-410056-20H	D ZENER MTZJ5.6A T52
D 132/134	030-410220-00H	D ZENER MTZJ22D T52
D 155	030-410051-10H	D ZENER MTZJ5.1A T52
D 322(for AC-610/613R/615K)	030-320131-01H	D SILICON H 1SS131T T52
D 531-533(for AC-615K)	030-320131-01H	D SILICON H 1SS131T T52
D 551-554(for AC-415/615K)	030-320131-01H	D SILICON H 1SS131T T52
D 724	030-320131-01H	D SILICON H 1SS131T T52
D 751-753(for AC-410/413R/415K)	030-410062-10H	D ZENER MTZJ6.2A T52
F1(for AC-410/413R/415K)	△ 082-220630-06	FUSE TIME 218 250V 630MA
F2(for AC-415K)	△ 082-220630-06	FUSE TIME 218 250V 630MA
F3(for AC-410/413R/415K)	△ 082-222500-06	FUSE TIME 218 250V 2.50A
F4(for AC-410/413R/415K)	△ 082-222500-06	FUSE TIME 218 250V 2.50A
F1(for AC-610/613R/615K)	△ 082-222000-06	FUSE TIME 218 250V 2.00A
F2(for AC-615K)	△ 082-222000-06	FUSE TIME 218 250V 2.00A
F3(for AC-610/613R/615K)	△ 082-225000-06	FUSE TIME 218 250V 5.00A
F4(for AC-610/613R/615K)	△ 082-225000-06	FUSE TIME 218 250V 5.00A
IC 021	033-507805-00B	IC ML7805FA 5V/1A
IC 101	033-304094-18A	IC BU4094BC
IC 201/202	033-218751-38	IC SI18751
IC 203/204(AC-610/613R/615K)	033-218751-38	IC SI18751
IC 501(AC-415K/610/613R/615K)	033-K65843-12	IC M65843AFP
IC 581	033-904558-30A	IC NJM4558L
IC 602(for AC-610/613R/615K)	034-K02177-74	IC NJM2177AFB3
IC 701	034-262422-12	IC M62422FP
IC 751/761 (for AC-610/613R/615K)	033-209412-14	IC TC9412P
IC 761A(for AC-410/413R/415K)	033-009260-14	IC TC9260P
IC 801	033-304094-18A	IC BU4094BC
IC 802(for AC-610/613R/615K)	033-304094-18A	IC BU4094BC
J 011	060-422122-99	SOCKET TKC-V22X-A1 22P
J 201(for AC-610/613R/615K)	061-123000-00	PHONE J HSJ3000-01-010 3.5
J 201A(for AC-410)	061-122000-00	PHONE J HSJ2000-01-010 3.5

J 301(only for AC-610/613R/615K)	061-780243-00	PIN J HSP-243V-06 3P
L 202(for AC-410/413R/610/613R)	084-070410-00	COIL BALUM OPW/5-8-14-5H2
L 203(for AC-610/613R)	084-070410-00	COIL BALUM OPW 15-8-14-5H2
L 801	002-300002-09	COIL LF LF-4D-102 102UH
P 006	060-116204-07	PLUG S16B-PH-K WHT 16P
P 013	060-107045-20	PLUG PS2438-7 7P
P 801	060-102045-20	PLUG B2P-3-VH P7.92 2P
R 004-005/043	△ 013-478205-75	R OMF H S10FLR ERG12SP1/2WR47J
R 021/080/103/106/109/112	△ 013-109205-75	R OMF H S10FLR ERG12SP1/2W1R0J
R 047-048	△ 013-221205-75	R OMF H S10FLR ERG12SP1/2W221J
R 060-063	△ 013-392205-75	R OMF H S10FLR ERG12SP1/2W392J
R 132/135-136/141	△ 013-151205-75	R OMF H S10FLR ERG12SP1/2W151J
R 137	△ 013-478205-75	R OMF H S10FLR ERG12SP1/2W562J
R 213/263	△ 013-479305-75	R OMF H S12 FLR ERG1SP 1W 4R7J
R 233/283(for AC-610/613R/615K)	△ 013-479305-75	R OMF H S12 FLR ERG1SP 1W 4R7J
TM 201	061-780401-00	TERMINAL PUSH CJ-9007-060 4P
TR 022/024/026/043/131	031-440114-05V	DTR DTC114ES(10-10) T05
TR 023/025	031-220621-00V	TR 2SB621 R,S T05
TR 021/041/082/101-104/130/132	031-211048-25V	TR 2SA1048 Y,GR T05
TR 044/081	031-221375-00	TR 2SB1375
TR 061	031-440114-60V	DTR DTC114TS(10) T05
TR 134(for AC-610/613R/615K)	031-241785-00	TR 2SD1785
TR 134A(for AC-410/413R/415K)	031-241796-00	TR 2SD1796
TR 045/135/151/152/154/155/201/251	031-232458-25V	TR 2SC2458 Y,GR T05
TR 137	031-221258-00	TR 2SB1258
TR 137A	031-221257-00	TR 2SB1257
TR 153	031-430114-19V	DTR DTA114TS(10) T05
TR 158	031-440114-60V	DTR DTC114TS(10) T05
TR 221/271(for AC-610/613R/615K)	031-232458-25V	TR 2SC2458 Y,GR T05
TR 320	031-430114-05V	DTR DTA114ES(10-10) T05
TR 321(for AC-610/613R/615K)	031-430114-05V	DTR DTA114ES(10-10) T05
TR 322(for AC-610/613R/615K)	031-440114-60V	DTR DTC114TS(10) T05
TR 531(for AC-615K)	031-430114-19V	DTR DTA114TS(10) T05
TR 532/533/535/536/539-541 (for AC-615K)	031-440114-60	DTR DTC144TS(47) T05
TR 534/537/538(for AC-615K)	031-440114-60V	DTR DTC114TS(10) T05
TR 551/552(for AC-415K/615K)	031-440114-60V	DTR DTC114TS(10) T05
TR 601-604(AC-610/613R/615K)	031-430114-19V	DTR DTA114TS(10) T05
W 801(for AC-610/613R/615K)	063-502401-11	WA SDN L200 6P
W 913	063-553201-07	WA SDN-VH #22 L320 7P
X 501(only for AC-610)	007-002000-40	OSC CE CSA2.00MG 2.000MHZ
X 551(for AC-415K/615K)	007-200400-03	OSC CE DCRK400 400.000KHZ

4. TC-DKP.C. BOARD

REF.NO.	PARTS No.	DESCRIPTION
D 1300-1304	030-314002-10H	D SILICON 1N4002-F T52 100/1A
D 1400/1401/1721	030-320131-01H	D SILICON H 1SS131T T52
D 1501	030-410051-10H	D ZENER MTZJ5.1A T52
FL1611/1621/1661/1671	007-100100-09	COIL TUN 1 100Z-121 100.00KHZ
IC1001	033-314052-21	IC MC14052BCP
IC1002/1210	033-904558-30A	IC NJM4558L
IC1100	033-601782-64Q	IC CXA1782BQ
IC1200	033-K02508-64	IC CXD2508AQ
IC1300	033-209258-61	IC KA9258D
IC1400	033-206247-18	IC BA6247
IC1601	034-101897-64	IC CXA1897Q
IC1701/1702	034-304094-18	IC BU4094BCF
J 1001	061-782421-00	PIN J HSP-242V1-05 2P

J 1002	060-423123-99	SOCKET 00 6216 023 000 23P
J 1100	060-416109-99	SOCKET 00 6232 016 006 16P
L 1501(S1/U5/U8/Y6/Y7/A3)	005-229056-01H	COIL FIX 1 LAP02TA T26 2R2J
L 1721	005-101056-00H	COIL FIX 1 LAP02TA T26 101J
P 1004	060-108205-27	PLUG B8B-PH-K WHT 8P
P 1005	060-103205-27	PLUG B3B-PH-K WHT 3P
P 1400	060-105204-27	PLUG S5B-PH-K WHT 5P
P 1401	060-107204-29	PLUG S7B-PH-K WHT 7P
P 1402	060-106206-27	PLUG S6B-PH-K WHT 6P
T 1731	002-800002-09	COIL OSC 1 C1047
TM1501	061-480312-00	TERMINAL LEVER HSP-312V-02
TR1100/1400/1632/1682/1743	031-211048-25V	TR 2SA1048 Y,GR T05
TR1300/1301	031-221425-00V	TR 2SB1425 S,E T05
TR1302/1601/1621/1651/1671/	031-440114-05V	DTR DTC114ES(10-10) T05
TR1644/1721/1722		
TR1401/1501/1611-1622/1661-1662/1701	031-232458-25V	TR 2SC2458 Y,GR T05
TR1502(for AC-413R/613R)	031-250304-06V	TR FET 2SK304 E,F T05
TR1613/1663	031-241012-06V	TR 2SD1012-V-SPA-AC F,G,H T05
TR1631/1681/1665	031-430114-19V	DTR DTA114TS(10) T05
TR1641/1642/1691/1692	031-430114-19V	DTR DTA114TS(10) T05
(for AC-610/613R/615K)		
TR1643/1693(for AC-615K)	031-430114-19V	DTR DTA114TS(10) T05
TR1645/1695(for AC-415K/615K)	031-232458-25V	TR 2SC2458 Y,GR T05
TR1723-1725	031-231815-26V	TR 2SC1815 Y,GR T05
TR1726(E1/B1/RE1/E3)	031-211048-25V	TR 2SA1048 Y,GR T05
TR1731-1732(E1/B1/RE1/E3)	031-232458-25V	TR 2SC2458 Y,GR T05
TR1771-1774(for AC-610/613R/615K)	031-440114-05V	DTR DTC114ES(10-10) T05
TU1501(E1/B1/RE1/E3)	103-146601-04	TUNER TFCB3E720A FM/MW/LW
TU1501A(S1/U5/U8/Y6)	103-146401-04	TUNER TFCB1U717A FM/AM
TU1501B(Y7)	103-146101-04	TUNER TFCB1S713A FM/MW/SW
VR1200	112-103311-05	R S-FIX V T05EVNDCAA3 0.10W103
W 1006	063-551001-16	WA PH L100 16P
W 1400/1401	077-322087-09	WF 2468#26 P2.0 C09 L80 9P
X 1200	007-201693-06	OSC CE CSA16.93MHZ
D 4410	030-600048-00	D LED GL4800
J 4410	060-405124-99	SOCKET 00 6216 005 100 5P
J 4411	060-405123-99	SOCKET 00 6216 005 000 5P
TR4410	031-594800-00	TR PHOTO PT4800
W 4410	077-622077-02	WF 2468#26 P2.0 C09 L70 2P
W 4412	063-555301-05	WA SAN-PH L530 5P

5. P.C. BOARD BLOCK

REF. NO.	PARTS No.	DESCRIPTION
1-a(AC-410 B1/E1/E3)	771-385001-01	CD/TUNER/TAPE P.C. BOARD
1-b(AC-410 S1)	771-385001-02	CD/TUNER/TAPE P.C. BOARD
1-c(AC-413R E1)	771-385001-03	CD/TUNER/TAPE P.C. BOARD
1-d(AC-415K U5/U8/Y6)	771-385001-04	CD/TUNER/TAPE P.C. BOARD
1-e(AC-415K Y7)	771-385001-05	CD/TUNER/TAPE P.C. BOARD
2-a(AC-410 B1/E1/E3)	771-385001-06	KEY/DISPLAY P.C. BOARD
2-b(AC-410 S1)	771-385001-07	KEY/DISPLAY P.C. BOARD
2-c(AC-413R E1)	771-385001-08	KEY/DISPLAY P.C. BOARD
2-d(AC-415K U5/U8/Y6)	771-385001-09	KEY/DISPLAY P.C. BOARD
2-e(AC-415K Y7)	771-385001-10	KEY/DISPLAY P.C. BOARD
3-a(AC-410 B1/E1/E3/S1)	771-385001-11	POWER AMP/MAIN P.C. BOARD
3-b(AC-413R E1)	771-385001-12	POWER AMP/MAIN P.C. BOARD
3-c(AC-415K U5/U8/Y6/Y7)	771-385001-13	POWER AMP/MAIN P.C. BOARD
4(for TX-410/510/610/710 of all version)	771-385601-13	REMOTE P.C. BOARD
5-a(AC-610 B1/E1/E3)	771-385501-01	CD/TUNER/TAPE P.C. BOARD
5-b(AC-610 S1)	771-385501-02	CD/TUNER/TAPE P.C. BOARD

5-c(AC-613R E1)
 5-d(AC-615K U5/U8/Y6)
 5-e(AC-415K Y7)
 6-a(AC-610 B1/E1/E3)
 6-b((AC-610 S1)
 6-c(AC-613R E1)
 6-d(AC-615K U5/U8/Y6)
 6-e(AC-615K Y7)
 7-a(AC-610 B1/E1/E3/S1)
 7-b(AC-613R E1)
 7-c(AC-615K U5/U8/Y6/Y7)

771-385501-03
 771-385501-04
 771-385501-05
 771-385501-06
 771-385501-07
 771-385501-08
 771-385501-09
 771-385501-10
 771-385501-11
 771-385501-12
 771-385501-13

CD/TUNER/TAPE P.C. BOARD
 CD/TUNER/TAPE P.C. BOARD
 CD/TUNER/TAPE P.C. BOARD
 KEY/DISPLAY P.C. BOARD
 KEY/DISPLAY P.C. BOARD
 KEY/DISPLAY P.C. BOARD
 KEY/DISPLAY P.C. BOARD
 KEY/DISPLAY P.C. BOARD
 POWER AMP/MAIN P.C. BOARD
 POWER AMP/MAIN P.C. BOARD
 POWER AMP/MAIN P.C. BOARD

6.YMC03 P.C. BOARD

REF.NO.

D4410
 TR4410
 J4410
 J4411

PARTS NO.

030-600048-00
 031-594800-00
 060-405124-99
 060-405123-99

DESCRIPTION

D LED GL4800
 TR PHOTO PT4800
 SOCKET 006216023100 5P
 SOCKET 006216023808 5P

7. ACCESSARY

REF. NO.

1
 2

PARTS. No.

790-010101-01
 790-010102-01

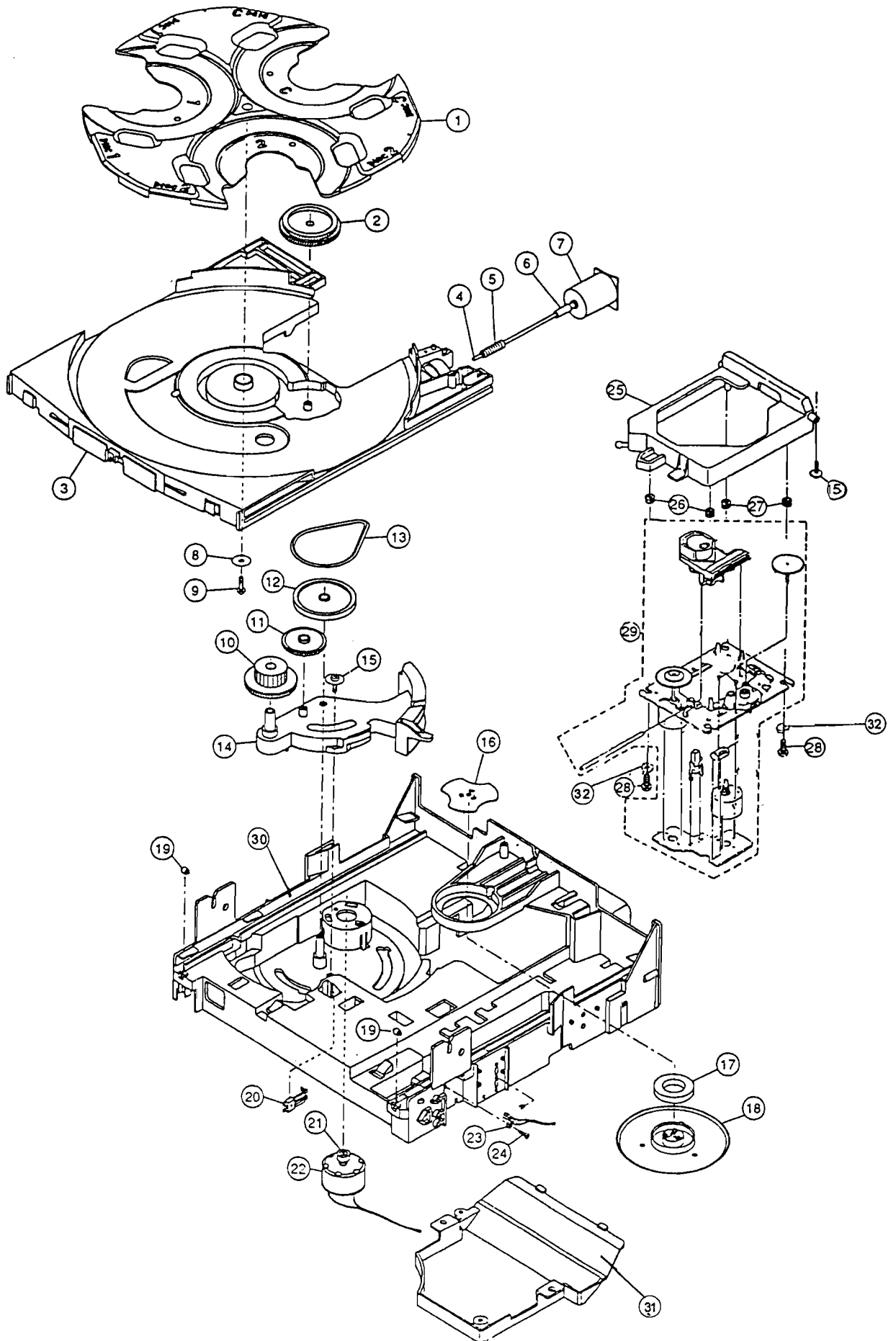
DESCRIPTION

REMOCON RC-S610
 REMOCON RC-S510

8. CD MECHANISM

REF. NO.	PARTS NO.	DESCRIPTION
1	229-385602-01S	HOLDERDISC
2	288-385601-01Z	GEAR WORMWHEEL TABLE
3	220-385602-01S	TRAY LOADING
4	438-385601-01	SHAFT
5	288-385604-01Z	WORM
6	239-385601-01Z	JOINT
7	743-037012-54	MOTOR PF-370CA-15370 12V
8	634-150030-08	PW30X150X080 THK
9	619-300208-00	TAPING SCREW 3X1.25X8mm
10	288-385605-01Z	GEAR LOADING (A)
11	288-385606-01Z	GEAR LOADING(B)
12	288-385602-01Z	PULLEY GEAR
13	334-385604-01	BELT LOADING
14	288-385603-01S	HOLDER GEAR
15	615-300308-00	BW/T 3X8mm
16	428-385603-01	PLATE CLAMPER
17	489-383801-01	MAGNET DISC CLAMP
18	229-385606-01S	CLAMPER
19	259-385602-01Z	ROLLER
20	047-102127-00	LEAF SWITCH LSA-2127E
21	243-385601-01Z	PULLEY
22	743-050009-54	MOTOR RF-500TB-14415 D/V
23	047-101119-01	LEAF SWITCH ISA-1119H
24	610-260208-10	R/T 2.6X8mm
25	220-385601-01S	HOLDER TRAVERSE
26	334-385606-01	INSULATOR
27	334-385606-01	INSULATOR
28	610-200216-00	SELF-SCREW TAPING B/T 2.0X16
29	747-021301-02	MECHA TRAVERSE KSM213CCM
30	220-385603-01R	CHASSIS MAIN
31	219-385601-01Z	CD MECH COVER
32	634-100027-05	METAL WASHER 10X2.7X0.5

CD MECHANISM BLOCK



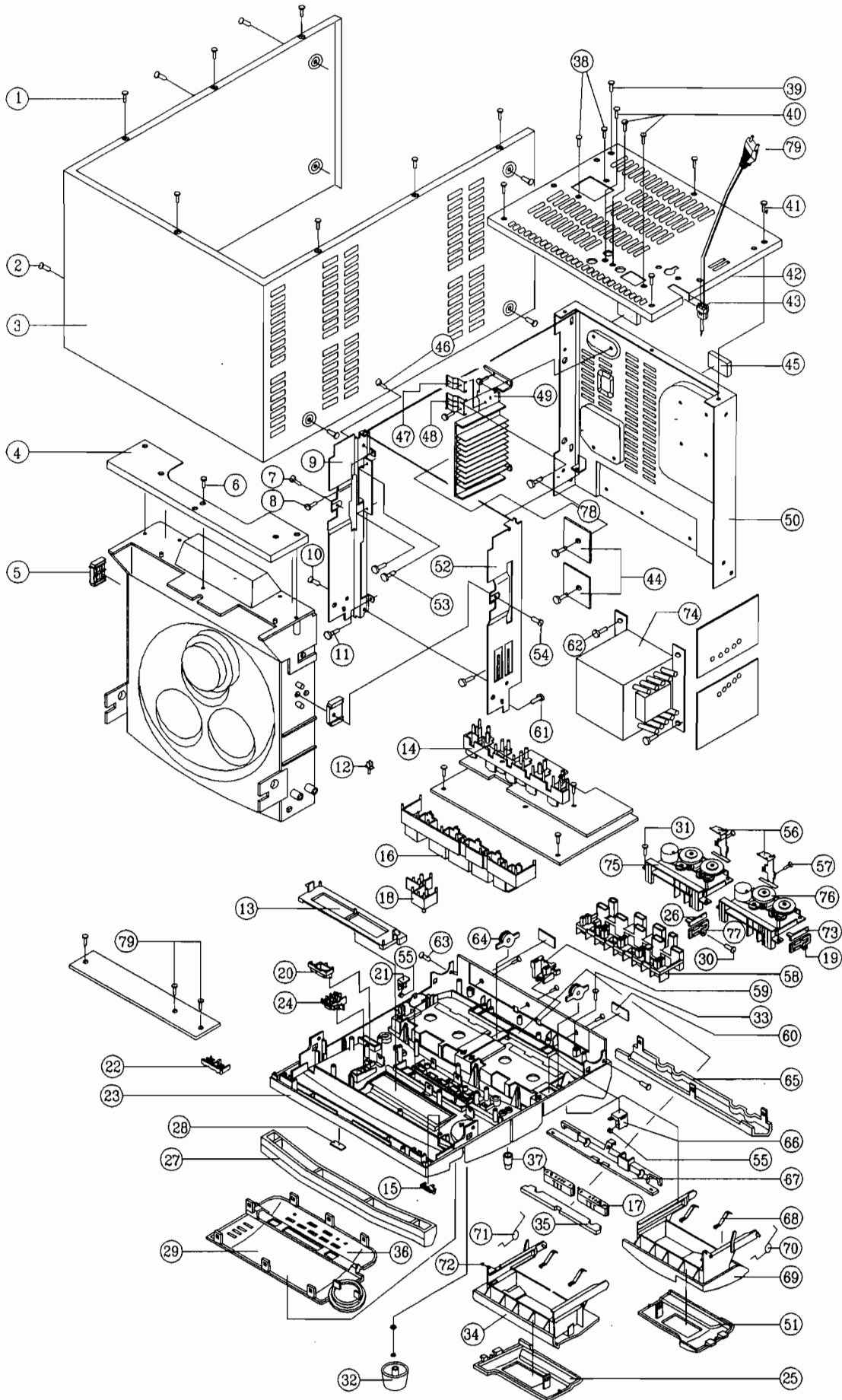
9. AC-410/413R/415K

REF. NO.	PARTS NO.	DESCRIPTION
1	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
2	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
3	402-385002-01	MAIN COVER BLACK
4	495-385017-01	REAR CABINET SUB
5	284-385001-01R	MECH SPACER BLACK HI-PS
6	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
7	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
8	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
9	428385001-01	CD BRACKET 'L'
10	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
11	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
12	292-385002-01S	DOLABY BUTTON (A)
13	229-385011-01R	FLD BRACKET HI-PS
14	291-385014-01S	FUNCTION BUTTON ABS
15	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
16	291-385005-01Z	CD FUNCTION BUTTON (B) ABS+PC
17	250-385001-01S	LAMP HOLDER WHITE ABS
18	292-385001-01S	REC BUTTON BLACK ABS
19	259-385004-01Z	INTERLOCK 'R' POM
20	291-385001-01S	POWER BUTTON BLACK ABS
21-a	229-385006-01Z	LATCH BRACKET BLACK POM
21-b	229-385001-01Z	LATCH BRACKET (L) POM
22	291-385002-01S	CD FUNCTION BUTTON (A)
23-a(AC-410)	200-385011-01R	FRONT CABINET HI-PS
23-b(AC-413R)	200-385011-03R	FRONT CABINET HI-PS
23-c(AC-415K)	200-385013-01R	FRONT CABINET HI-PS
24	275-385001-01S	TIMER BUTTON BLACK ABS
25	261-385001-01K	CASS DOOR LENS (L) SMOKE
26	259-385001-01S	INTERLOCK HOLDER 'L' ABS
27	219-385002-01R	CD DOOR HI-PS
28	286-385001-01S	NAME PLATE 'AKAI'
29	263-385001-01K	DISPLAY LENS AS
30	601-264506-60A	TAPPING SCREW FLAT HEAD 2.6X6MM
31	619-300312-00	TAPPING SCREW P TYPE FLAT HEAD 3X6MM
32	273-385001-01S	VOLUME KNOB ABS
33	619-300306-00	TAPING SCREW P TYPE FLAT HEAD 3X6MM
34	211-385011-01S	CASS DOOR (L) HI-PS
35	263-385003-01L	DIR LENS CLEAR ACRYLIC
36	234-385011-01K	CONTORL SUB PANEL AS
37	273-385002-01S	MIC KNOB BLACK ABS
38	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
39	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
40	614-300208-00	SELF-TAPPING SCREW B/T 3X8MM BLACK
41	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
42-a(AC-410 E1,B1,E3)	495-385001-01	PANEL REAR
42-b(AC-410 S1)	495-385001-03	PANEL REAR
42-c(AC-413R RE1)	495-385001-05	PANEL REAR
42-d(AC-415K U5,Y6)	495-385002-01	PANEL REAR
42-e(AC-415K U8,Y7)	495-385002-03	PANEL REAR
43	650-381301-01	CORD BUSHING
44	619-300408-00	TAPING SCREW B/T WASHER 3X8MM BLACK
45	207-385101-01Z	REAR FOOT (PLASTIC) BLACK EVA
46	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
47	428-385003-01	HOLDER BRACKET SECC-E20 T=1
48	428-385001-01	HOLDER BRACKET (H)
49	481-385101-01	HEAT SINK (H)

50	493-385011-01	METAL BOTTOM CABINET
51	261-385002-01K	CASS DOOR LENS (R) SMOKE
52	428-385002-01	CD BRACKET 'R'
53	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
54	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
55	477-385011-01	LATCH PUSH SPRING
56	483-385001-01	DECK SHIELD COVER
57	604-264501-00A	TAPPING SCREW C TYPE BID 2.6X5MM
58	229-385014-01S	LED BRACKET WHITE ABS
59	229-385007-01S	HOLDER LID BRACKET BLACK ABS
60	330-385001-01	FRONT CUSHION FOOT
61	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
62	602-407008-60A	TAPPING SCREW P TYPE WASHER H 4X8MM
63	619-300212-00	TAPPING SCREW P TYPE BID H 3X12MM
64	703-385002-01	DAMPER DA-60W/W (105) ASSEMBLY
65	263-385002-01K	DECK DIR LENS AS
66-a	229-385006-01Z	LATCH BRACKET BLACKPOM
66-b	229-385002-01Z	LATCH BRACKET (R) POM
67	229-385003-01S	DECK DIR BLACK ABS
68	470-385001-01	CASS DOOR SPRING SHEET
69	211-385012-01S	CASS DOOR (R) HI-PS
70	471-385012-01	CASS DOOR SPRING WIRE (R)
71	471-385011-01	CASS DOOR SPRING WIRE (L)
72	259-385005-01S	STUD (BOSS LID) BLACK ABS
73	259-385002-01S	INTERLOCK HOLDER 'R' ABS
74-a(AC-410/413R)	001-733850-42A	POWER TRANSFORMER C1047-E
74-b(AC-415K)	001-733850-02	POWER TRANSFORMER C1047-U
75	741-490065-09	LOGICAL CONTROL DECK MECHA CMAL2Z065A
76	471-490066-09	LOGICAL CONTROL DECK MECHA CMAL2Z066A
77	259-385003-01Z	INTRLOCK 'L' POM
78	619-300306-00	TAPINET SCREW P TYPE FLAT HEAD 3X6MM
79-a(except,B1,Y6,S1)	071-669078-00A	AC LINE CORD VDE
79-b(B1,Y6)	071-449078-20	AC LINE CORD BS
79-c(S1)	071-559078-10	AC LINE CORD SAA

FINAL ASSEMBLY BLOCK

MODEL: AC-410/413R/415K



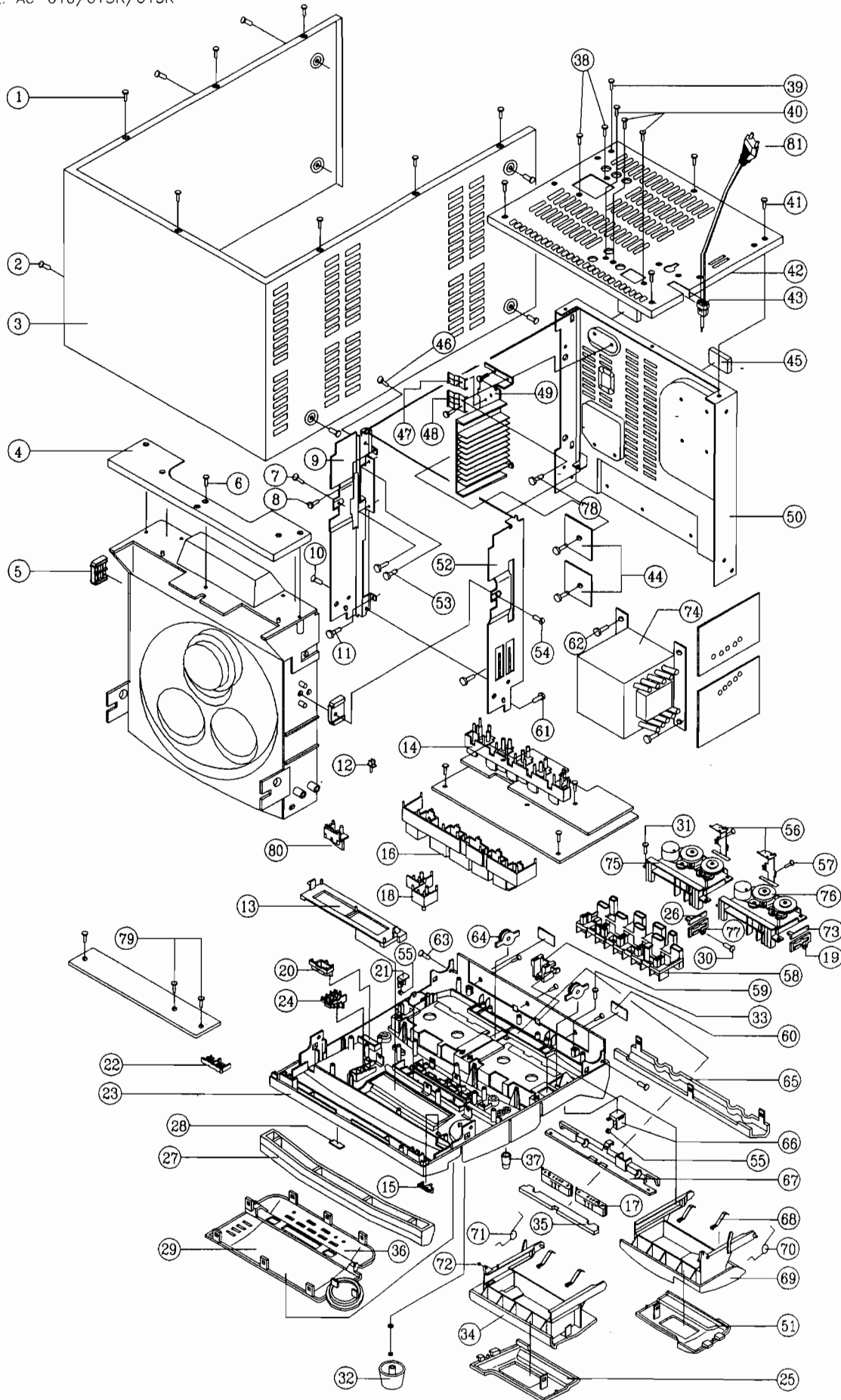
10. AC-610/613R/615K

REF. NO.	PARTS NO.	DESCRIPTION
1	606A301208-00	TAPPING SCREW P TYPE BID H 3X1.25PX8MM
2	606A301208-00	TAPPING SCREW P TYPE BID H 3X1.25PX8MM
3	402-385002-01	MAIN COVER (METAL)
4	495-385017-01	REAR CABINET SUB
5	248-385001-01R	MECH SPACER BLACK HI-PS
6	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
7	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
8	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
9	428-385001-01	CD BRACKET 'L'
10	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
11	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
12	292-385501-01S	DOLABY BUTTON (B)
13	229-385011-01R	FLD BRACKET HI-PS
14	291-385014-01S	FUNCTION BUTTON ABS
15	291-385003-01S	BALANCE BUTTON BLACK ABS
16	291-385005-01Z	CD FUNCTION BUTTON (B) ABS=PC
17	250-385001-01S	LAMP HOLDER WHITE ANS
18	292-385001-01S	REC BUTTON BLACK ABS
19	259-385001-01Z	INTERLOCK 'R' POM
20	291-385001-01S	POWER BUTTON BLACK ABS
21-a	229-385006-01Z	LATCH BRACKET BLACK POM
21-b	229-385001-01Z	LATCH BRACKET(L) POM
22	291-385002-01S	CD FUNCTION BUTTON (A)
23-a(AC-610)	200-385012-01R	FRONT CABINET HI-PS
23-b(AC-613R)	200-385001-02R	FRONT CABINET HI-PS
23-c(AC-615K)	200-385014-01R	FRONT CABINET HI-PS
24	275-385001-01S	TIMER BUTTON BLACK ABS
25	261-385001-01K	CASS DOOR LENS (L) SMOKE
26	259-385001-01S	INTERLOCK HOLDER 'L' ABS
27	219-385002-01S	CD DOOR HI-PS
28	286-385001-01S	NAME PLATE 'AKAI'
29	263-385001-02K	DISPLAY LENS AS
30	601-164506-60A	TAPPING SCREW FLAT HEAD 2.6X6MM
31	619-300312-00	TAPPING SCREW P TYPE FLAT HEAD 3X6MM
32	273-385001-01S	VOLUME KNOB ABS
33	619-300306-00	TAPPING SCREW P TYPE FLAT HEAD 3X6MM
34	211-385011-01S	CASS DOOR (L) HI-PS
35	263-385003-01L	DIR LENS CLEAR ACRYLIC
36	234-385011-01K	CONTROL SUB PANEL AS
37	273-385002-01S	MIC KNOB BLACK ABS
38	606A301208-00	TAPPING SCREW TYPE BID H 3X1.25PX8MM
39	606A301208-00	TAPPING SCREW P TYPE BID H 3X1.25PX8MM
40	614-300208-00	SELF-TAPPING SCREW B/T 3X8MM BLACK
41	606A301208-00	TAPPING SCREW P TYPE BID H 3X1.25PX3MM
42-a(AC-610 E1,B1,E3)	495-385005-01	PANEL REAR
42-b(AC-610 S1)	495-385005-02	PANEL REAR
42-c(AC-613R RE1)	495-385005-03	PANEL REAR
42-d(AC-610 U5,Y6)	495-385006-01	PANEL REAR
42-e(AC-610 U8,Y7)	495-385006-02	PANEL REAR
43	650-381301-01	CORD BUSHING
44	481-385002-01	HEAT SINK
45	330-385002-01	REAR CUSHION FOOT
46	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
47	428-385003-01	HOLDER BRACKET SECC-E20 T=1
48	428-385101-01	HOLDER BRACKET (H)
49	481-385101-01	HEAT SINK (H)

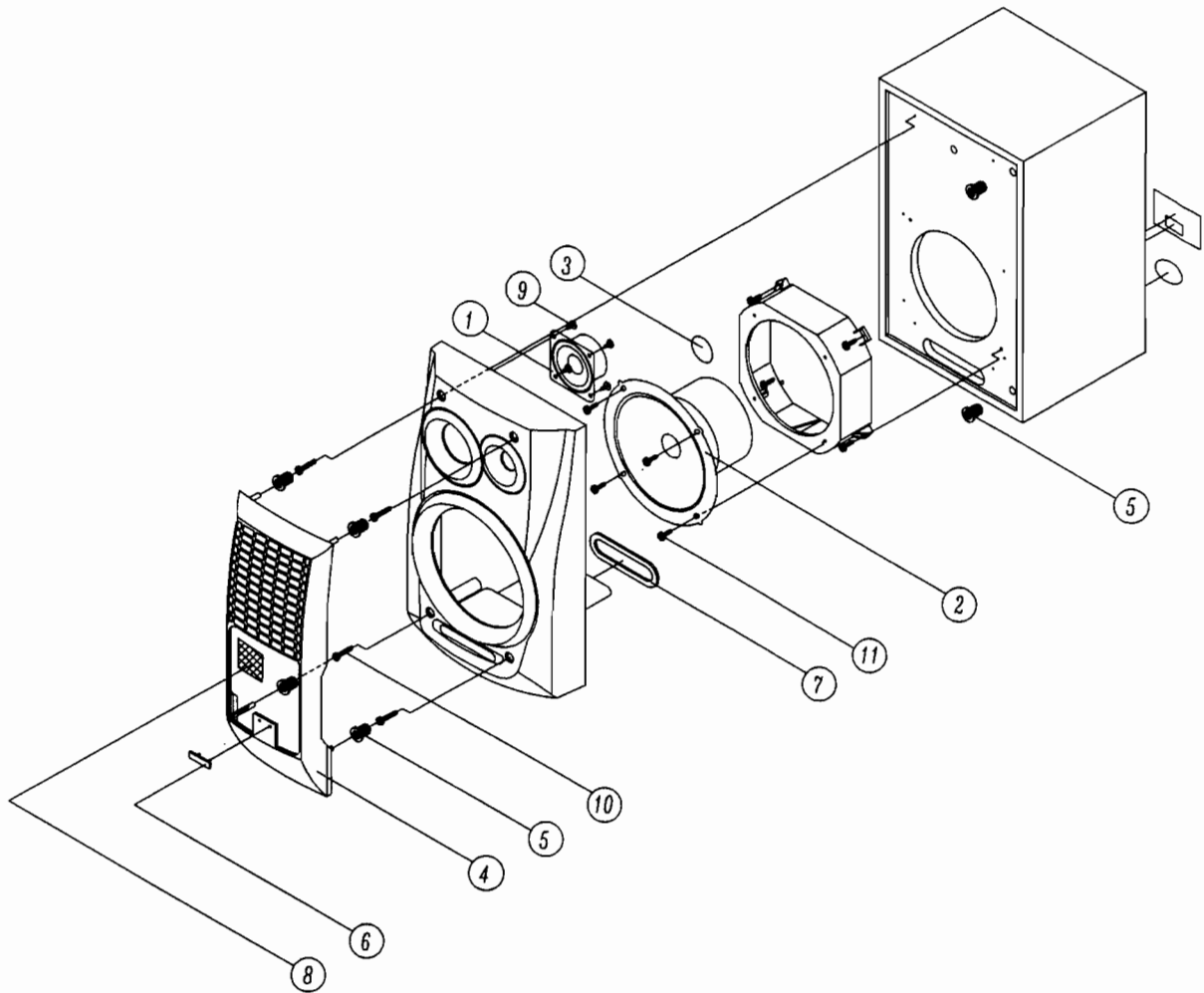
50	493-385011-01	METAL BOTTOM CAB
51	261-385002-01K	CASS DOOR LENS (R) SMOKE
52	428-385002-01	CD BRACKET 'R'
53	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
54	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
55	477-385011-01	LATCH PUSH SPRING
56	483-385001-01	DECK SHIELD COVER
57	604-264501-00A	TAPPING SCREW C TYPE BID H 2.6X5MM
58	229-385014-01S	LED BRACKET WHITE ABS
59	229-385007-01S	HOLDER LID BRACKET BLACK ABS
60	330-385001-01	FRONT CUSHION FOOT
61	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
62	602-407008-60A	TAPPING SCREW P TYPE WASHER H 4X8MM
63	619-300212-00	TAPPING SCREW P TYPE BID H 3X12MM BLACK
64	703-385002-01	DAMPER DA-60W/W (105) ASSEMBLY
65	263-385002-01K	DECK DIR LENS AS
66-a	229-385006-01Z	LATCH BRACKET BLACK POM
66-b	229-385002-01Z	LATCH BRACKET(R) POM
67	229-385003-01S	DECK DIR BKT BLACK ABS
68	470-385001-01	CASS DOOR SPRING SHEET
69	211-385012-01S	CASS DOOR (R) HI-PS
70	471-385012-01	CASS DOOR SPRING WIRE (R)
71	471-385011-01	CASS DOOR SPRING WIRE (L)
72	259-385005-01S	STUD (BOSS LID) BLACK ABS
73	259-385002-01S	INTERLOCK HOLDER 'R' ABS
74-a(AC-610/613R)	001-873855-42	POWER TRANSFORMER C1050-E
74-b(AC-615K)	001-873855-02	POWER TRANSFORMER C1050-U
75	471-490065-09	LOGICAL CONTROL DECK MECHA CMAL2Z065A
76	471-490066-09	LOGICAL CONTROL DECK MECHA CMAL2Z066A
77	259-385003-01Z	INTERLOCK 'L' POM
78	606A301208-00	TAPPING SCREW P TYPE BID H 3X1.25PX8MM
79	619-300306-00	TAPPING SCREW P TYPE FLAT HEAD 3X6MM
80	292-385502-01S	TEST BUTTON
81-a(except,B1,Y6,S1)	071-669078-00A	AC LINE CORD VDE
81-b(B1,Y6)	071-449078-20	AC LINE CORD BS
81-c(S1)	001-873855-02	AC LINE CORD SAA

FINAL ASSEMBLY BLOCK

MODEL: AC-610/613R/615K



11. SPEAKER SYSTEM (SR-410)



REF. NO	PART NO	DESCRIPTION
1	066-283220-WT	2" 8Ω 30-40W
2	066-953254-WT	5 ¹ / ₄ 6Ω 30-40W
3	070-100027-02Z	27MM PIEZO
4	239-050201-01R	ADAPTOR
5	259-050201-01Z	CUSHION FOR SPEAKER BOX BLK S.B.R
6	286-385002-01S	NAME PLAATE FOR AKAI
7	323-050104-01	SPONG SPACER
8	583-050201-01	SPEAKER CLOTH 317MM X200MM BLK
9	610-350208-10	SELF-TAPPING SCREW R/T 3.5X8 BLACK
10	610-400220-30	SELF-TAPPING SCREW R/T 4.0X20 BLACK
11	614-400216-30	SELF-TAPPING SCREW R/T 4.0X16 BLACK

XII. ABBREVIATIONS

TUNER

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AFC	Auto Frequency Control	MEMO	MEMOry
AGC	Auto Gain Control	MI-COM	MlCro-COMputer
ALC	Auto Level Control	MIN	MINimum
AM	Amplitude Modulation	MIX	MIXing
AMP	AMPlifier	MPX	MultiPleX
ANT	ANTenna	MW	Medium Wave(frequency)
BATT	BATTery	NC	No Connection
BLK	BLock	NFB	Negative Feed Back
BUFF	BuFFer	OSC	OSCillator
COMP	COMParator	PCB	Printed Circuit Board
DET	DETECT(DETector)	PLL	Phase Locked Loop
FLD	FLuorescent Display	Q.D	Quadrature Detector
FM	Frequency Modulation	Rch	Right channel
FREQ	FREQuency	REF	REFerence
GND	GrouND	REG	REGulator
H	High	RF	Radio Frequency
HPF	High Pass Filter	SEG	SEGment
IF	Intermediate Frequency	SELE	SELEctor
IHF	Institut of High Fidelity	SENS	SENSitivity
IND	INDicator	SIG	SIGnal
I/O	In/Out	S/N	Signal to Noise Ratio
JW	Jumper Wire	SSG	Standard Signal Generator
L	Low	STD	STanDard
LCD	Liquid Crystal Display	SW	Switch: Short Wave(frequency)
LCH	Left CHannel	THD	Total Harmonic Distortion
LED	Light Emitting Diode	TP	Test Point
LPF	Low Pass Filter	VCO	Voltage Controlled Oscillator
LW	Long Wave (Frequency)	VR	Variable Resistor
XTAL	Crystal		

COMPACT DISC

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital(Converter)	Mb	Mega Bits
ADC	Analog Code Decimal (Converter)	MDA	Mortor Drive Amplifier
BCD	Binaary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits Per Inch	MW	Mono-stable Multivibrator
CD	Compact Disc	M2FM	Modified Midified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2 (Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog(Converter)	NRZ-I	Non Return to Zero Inverted
DAC	Digital to Analog(Converter)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital sum Value	PE	Phase Encode
EFM	Eight to Fourteen Modulation	PLL	Phase locked Loop
EX-OR	Exclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Midulation
FP	Front Pluse	Q	Parity Data
FPG	Front Pluse Gate	R,R1,R2,ect.	Data for Right Channel
F	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H&V(Parity)	Horizonal & Veertical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S&H	Sample & Hold
KB	Kilo Bits	S/N	Signal to Noise Ratio
L,L1,L2,ect.	Data for Left Channel	SSG	Standard Signal Generator
LPF	Low Pass Filter	SYSCON	SYStem CONTROL
LSB	Least Significant Bit		

CASSETTE

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AC	Alternating Current	MIN	MINite
A/D	Analog/Digital	MML	Maximum Modulation Level
AF	Auto Fader	MOL	Maximum Output Level
AMP	AMPlifier	MPX	MultiPlex
AR	Anti Recording	NC	Not connected (No Connection)
ATBIAS	Auto Turning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMAl
BAL	BALance	NR	Noisse Reduction
BEFB	and Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
CAPM	CAPstan Motor	PB	Play Back
CH	CHannel	QMSS	Quick Memory Search Syatem
COMP	CoMParator	OR	Quick Reverse
CONT	CONTinuance	RCH	Right CHannel
CRLP	Computer Recording Level Processing	REC	RECOrd (RECOding)
CS	Chip Select	REV	REVERSE
D/A	Digital/Analog	ROT	ROtation
DC	Direct Current	REW	REWind
DET	DETECTOR	SEC	SECOnd
DISCRU	DISCRIminator	SELE	SELEctor
DUB	DUBbing	SENS	SENSitivity
EQ	EQUALizer	SEPP	Single Ended Push Pull
FF or (F.FWD)	Fast Foward	SIG	SIGnal
FLD	FLuoresent Display	SPECT	SPECTrum
FREQ	FREQUency	STD	STAnDard
FWD	ForWarD	SW	SWitch
GND	GrouND	SYS	CONSYStem CONTRol
H	High	TP	TEST Point
HPF	High Pass Filter	TRIG	TRIGa
IND	INDicator	VCA	Voltage Control Attenuator
IPLS	Instant Program Location System	VOL	Volume
L	Low	VOLT	VOLTage
LCH	Left Channel	VR	Variable Resistor
LEDLight	Emitting Diode	XTAL	crysTAL
MEMO	MEMOry	X1	Normal speed
MICOM	MicroCOMputer	X2	Dubble speed

AMPLIFIER

ABBREVIATION	EXPLANATION
A	Analog
AC	Alternating Current
AMP	AMPLifier
CD	Compact Disc
COM	COMmon
D	Digital
D/A	Digital to Analog
DAC	Digital to Analog Converter
DAT	Digital Audio Tape recorder
DC	Direct Current
GND	GrouNd
L	Left
LED	Light Emitting Diode
MC	Moving Coil
MM	Moving Magnet
PCB	Printed Circuit Board
R	Right
REG	REGulator
REC	RECord
TR	TRansistor
SW	SWitch
VAMP	Voltage AMPLifier
V.DISC	Video DISC
VR	Variable Resistance
VTR	Video Tape Recorder

AKAI

MODEL **AC-410, 413R, 415K**

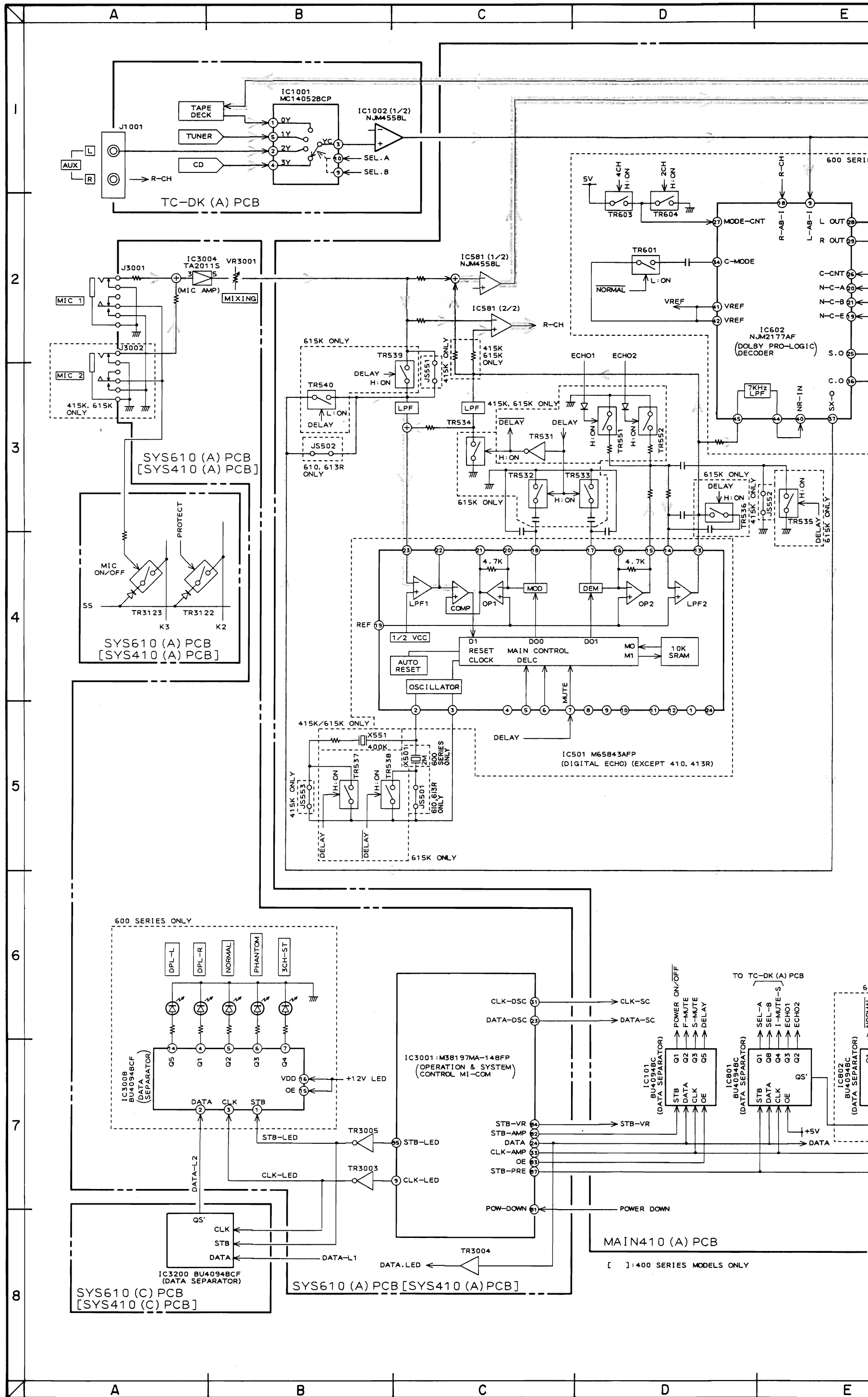
MODEL **AC-610, 613R, 615K**

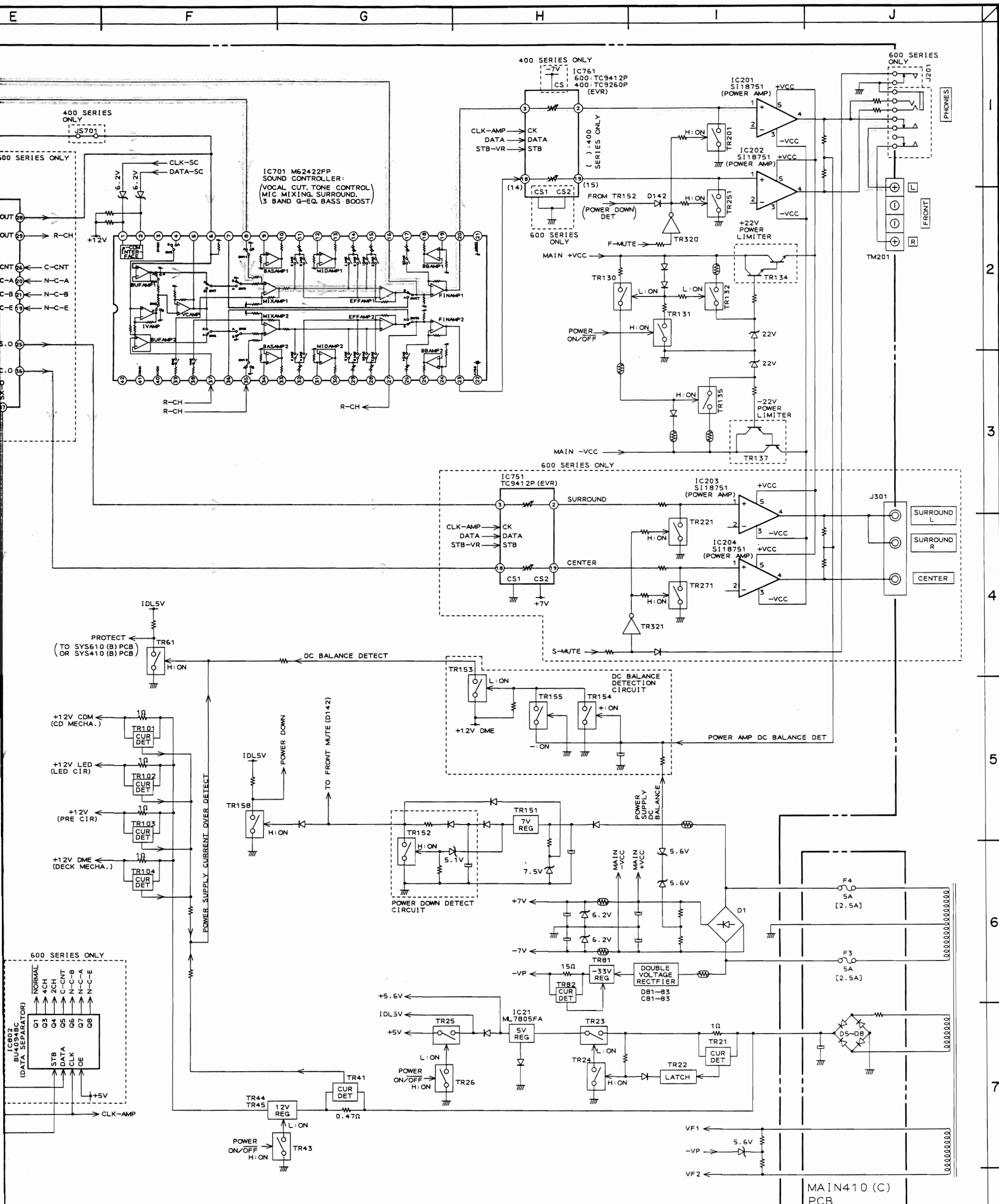
SCHEMATIC DIAGRAMS AND PC BOARDS

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2. CD	4
3. TUNER & DECK	5
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Use these schematic diagrams and PC boards together with the provided service manual.

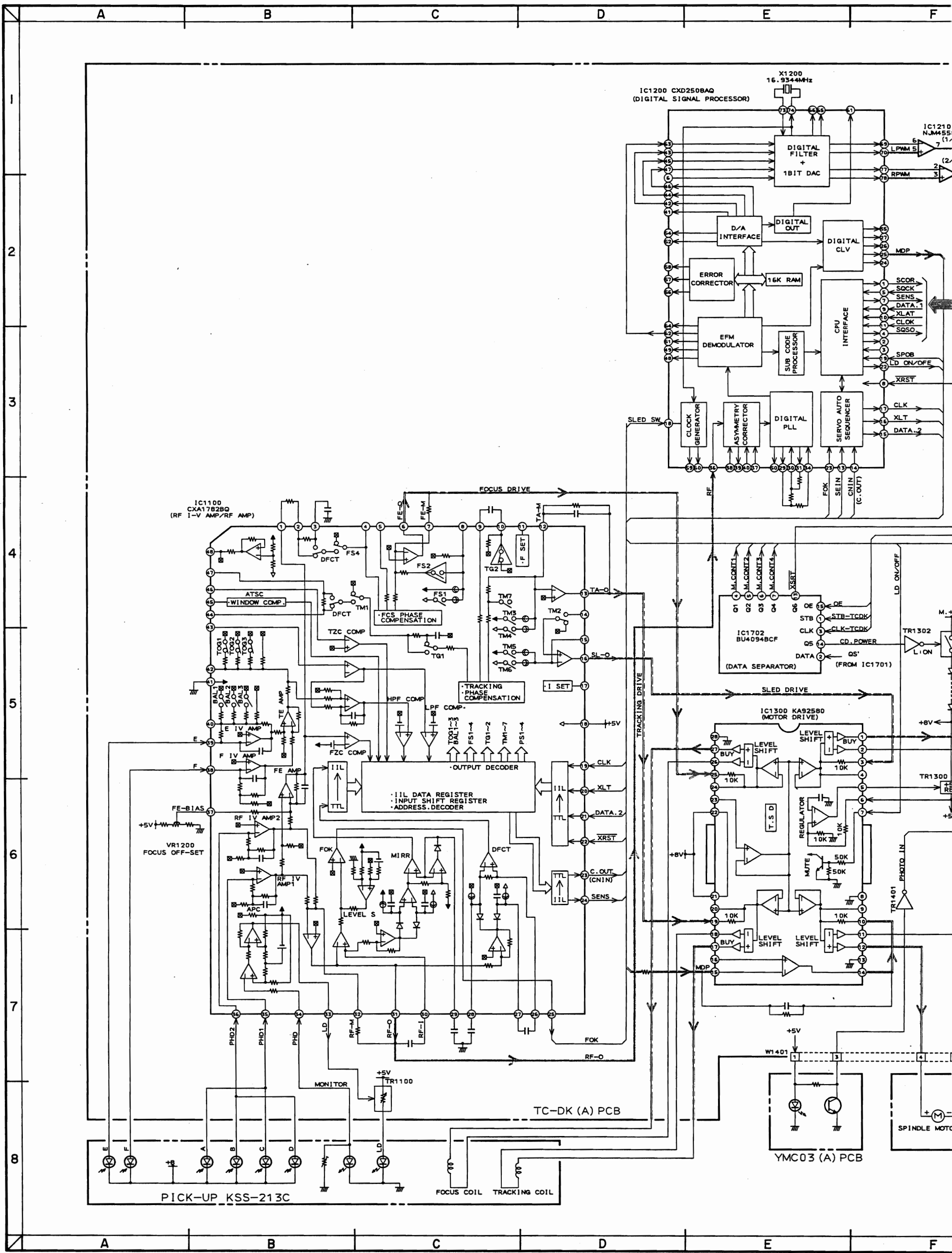




- - - - - NORMAL SIGNAL LINE (L-CH)
 - - - - - EFFECT SIGNAL LINE (DELAY & D.P.L.)
 - - - - - MIC SIGNAL LINE
 - - - - - CENTER & SURROUND SIGNAL LINE

AC-410/413R/415K
 AC-610/613R/615K
 MAIN
 BLOCK DIAGRAM
 No. 3-1 C104751M
 A1

1
 2
 3
 4
 5
 6
 7
 8
 3



A B C D E F

1
2
3
4
5
6
7
8

A B C D E F

4

IC1100
CX1782BQ
(RF I-V AMP/RF AMP)

IC1200 CXD250BAQ
(DIGITAL SIGNAL PROCESSOR)

X1200
16.9344MHz

IC1210
NUM4551
(1)

IC1100
CX1782BQ
(RF I-V AMP/RF AMP)

IC1200 CXD250BAQ
(DIGITAL SIGNAL PROCESSOR)

X1200
16.9344MHz

IC1210
NUM4551
(1)

IC1702
BU4094BCF
(DATA SEPARATOR)

IC1300
KA92580
(MOTOR DRIVE)

VR1200
FOCUS OFF-SET

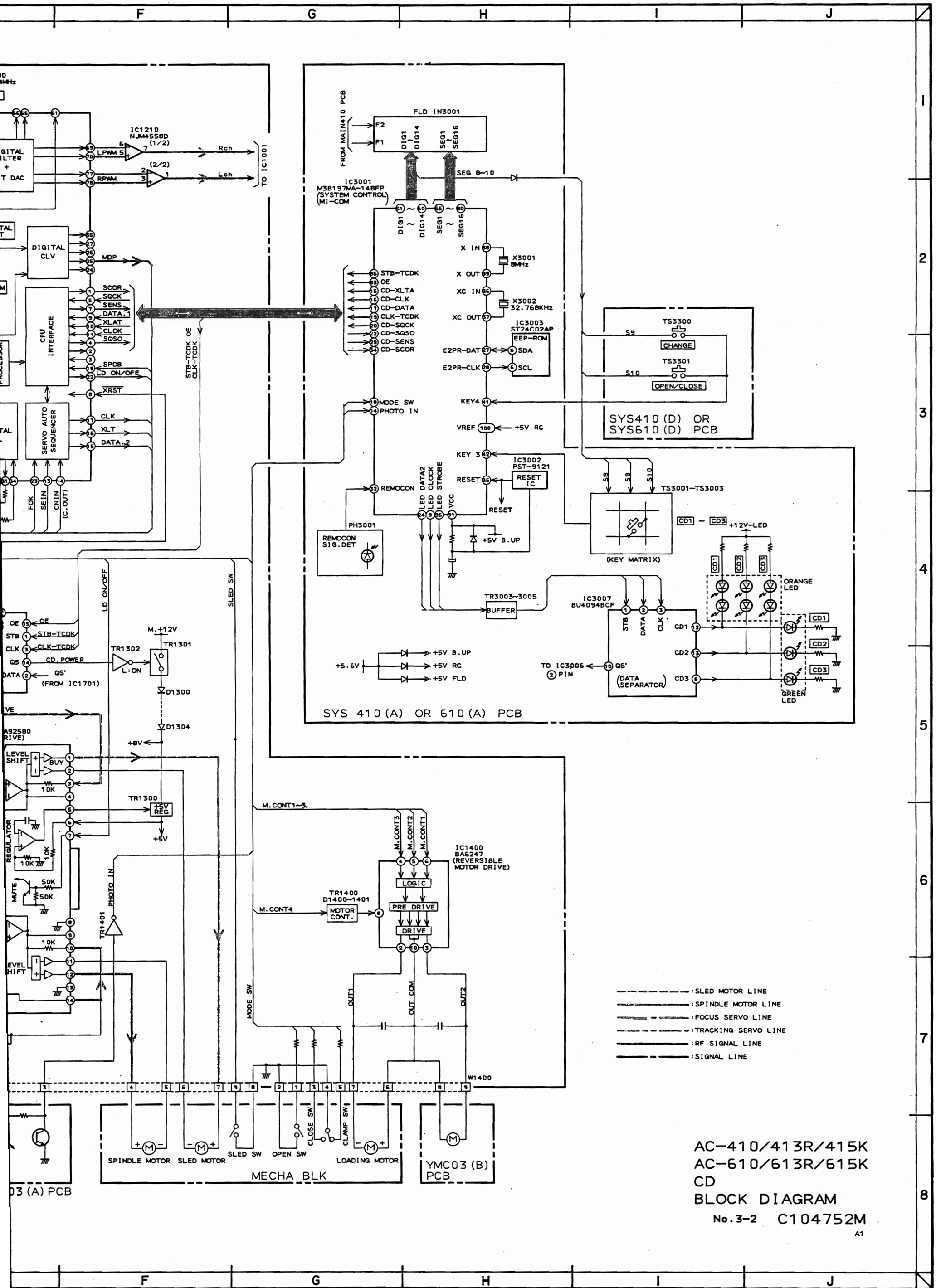
TC-DK (A) PCB

YMC03 (A) PCB

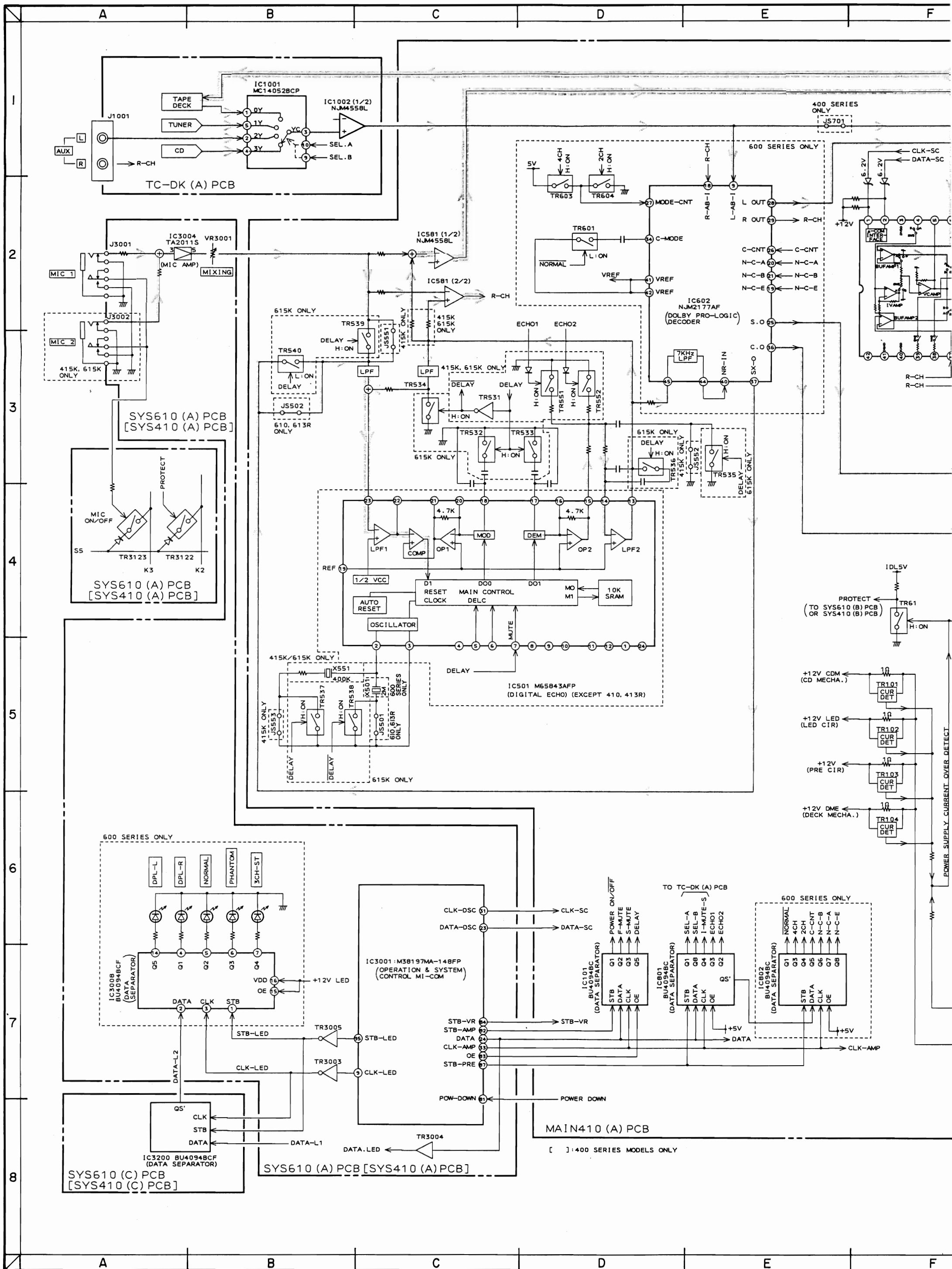
PICK-UP_KSS-213C

FOCUS COIL TRACKING COIL

SPINDLE MOTOR



AC-410/413R/415K
 AC-610/613R/615K
 CD
 BLOCK DIAGRAM
 No. 3-2 C104752M
 A1



A

B

C

D

E

F

1

2

3

4

5

6

7

8

TC-DK (A) PCB

SYS610 (A) PCB
[SYS410 (A) PCB]

SYS610 (A) PCB
[SYS410 (A) PCB]

600 SERIES ONLY

IC3001: M38197MA-148FP
(OPERATION & SYSTEM CONTROL MI-COM)

MAIN410 (A) PCB

[] : 400 SERIES MODELS ONLY

SYS610 (C) PCB
[SYS410 (C) PCB]

SYS610 (A) PCB [SYS410 (A) PCB]

400 SERIES ONLY
JS701

600 SERIES ONLY

615K ONLY

415K, 615K ONLY

610, 613R ONLY

415K, 615K ONLY

415K/615K ONLY

415K ONLY

615K ONLY

IC501 M65843AFP
(DIGITAL ECHO) (EXCEPT 410, 413R)

PROTECT
(TO SYS610 (B) PCB
OR SYS410 (B) PCB)

+12V CDM
(CD MECHA.)

+12V LED
(LED CIR)

+12V
(PRE CIR)

+12V DME
(DECK MECHA.)

POWER SUPPLY CURRENT OVER DETECT

TO TC-DK (A) PCB

600 SERIES ONLY

IC3008
BU4094BCF
(DATA SEPARATOR)

DPL-L
DPL-R
NORMAL
PHANTOM
3CH-ST

IC3200
BU4094BCF
(DATA SEPARATOR)

DATA
CLK
STB

CLK-DSC
DATA-DSC

STB-VR
STB-AMP
DATA
CLK-AMP
OE
STB-PRE

POW-DOWN

DATA-LED

IC101
BU4094BC
(DATA SEPARATOR)

SEL-A
SEL-B
I-MUTE-S
ECHO1
ECHO2

IC801
BU4094BC
(DATA SEPARATOR)

STB
DATA
CLK
OE

IC802
BU4094BC
(DATA SEPARATOR)

NORMAL
4CH
2CH
C-CNT
N-C-B
N-C-A
N-C-E

STB
DATA
CLK
OE

STB
DATA
CLK
OE

STB
DATA
CLK
OE

STB
DATA
CLK
OE

STB
DATA
CLK
OE

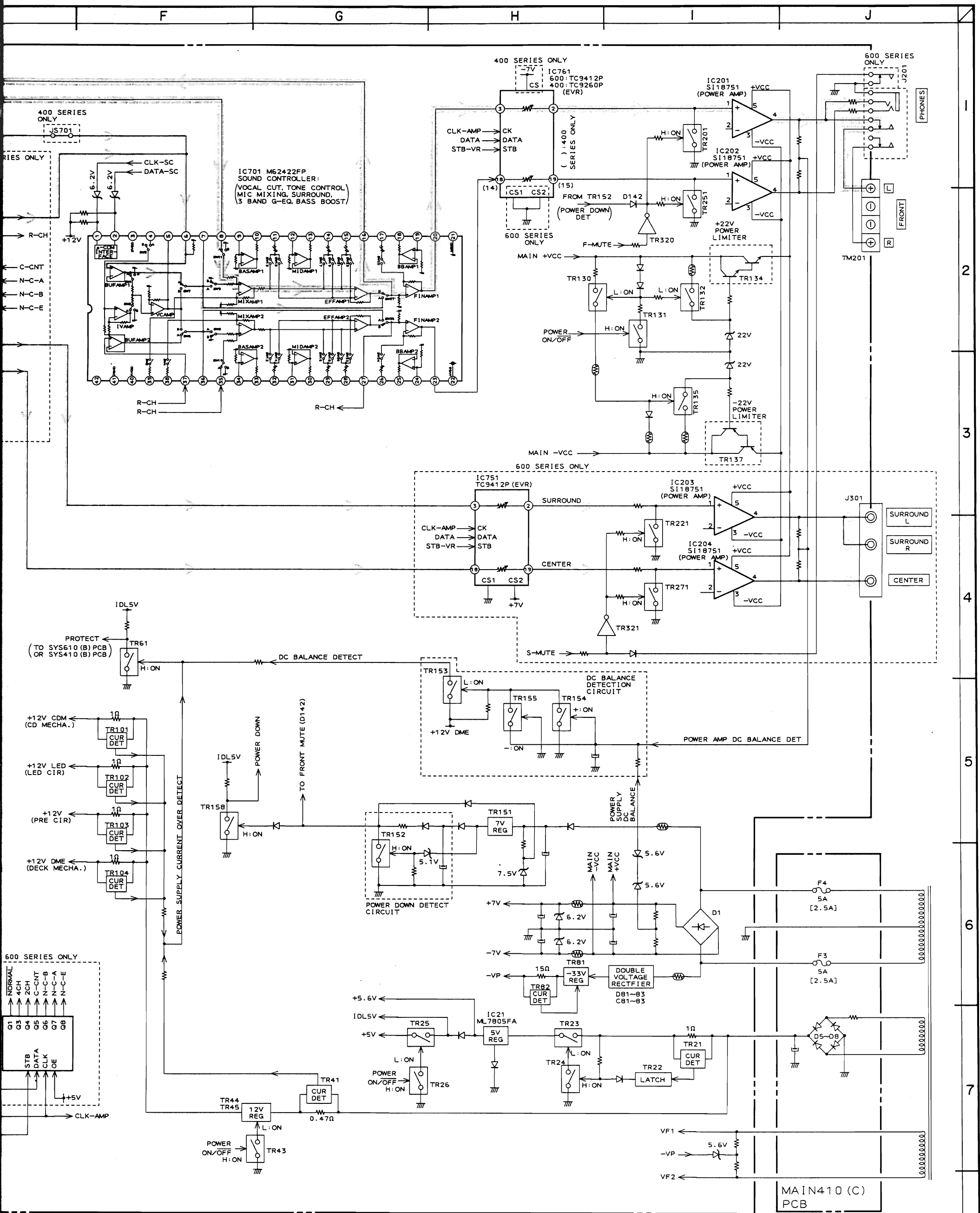
STB
DATA
CLK
OE

STB
DATA
CLK
OE

STB
DATA
CLK
OE

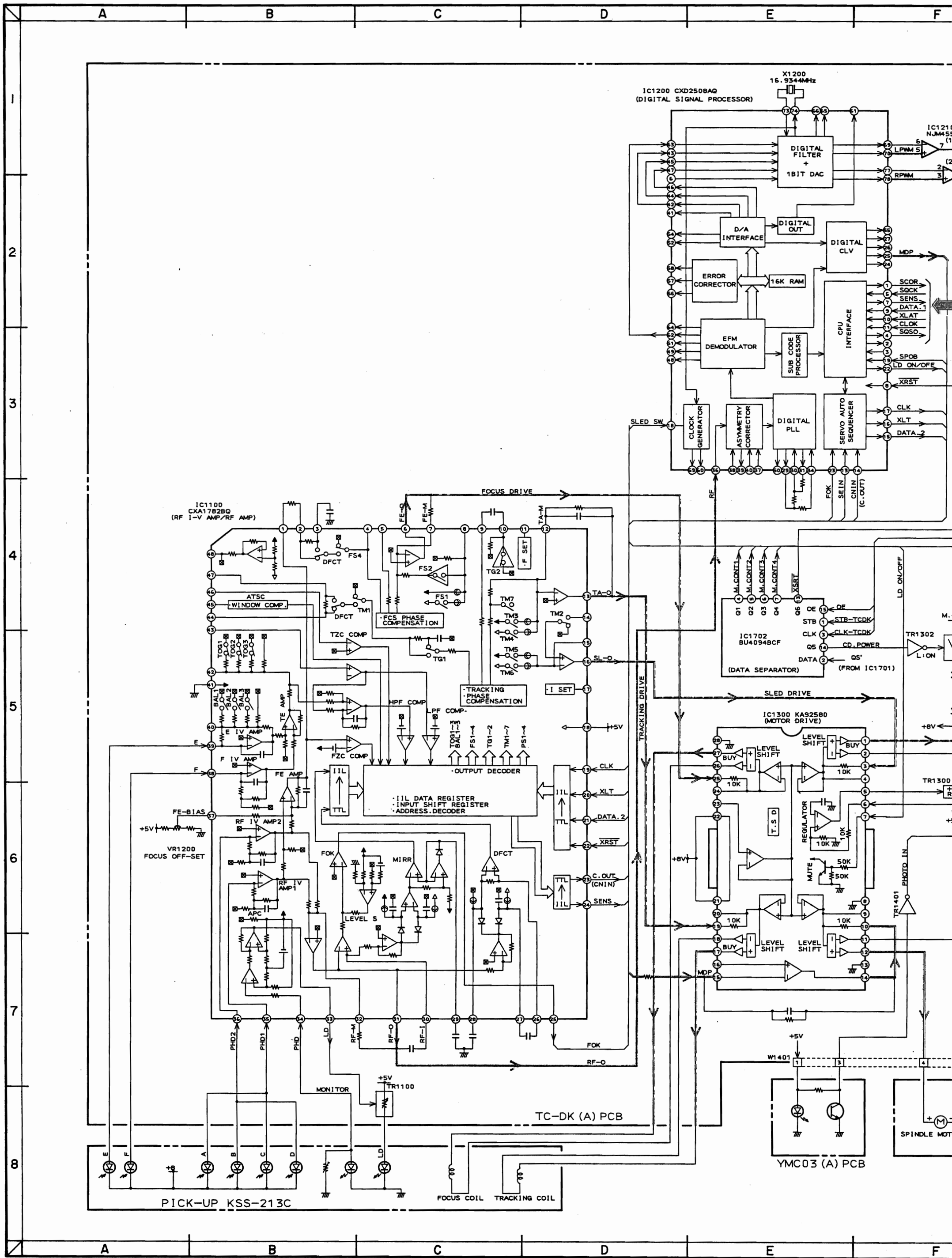
STB
DATA
CLK
OE

STB
DATA
CLK
OE



○-----○ NORMAL SIGNAL LINE (L-CH)
 ○-----○ EFFECT SIGNAL LINE (DELAY & D.P.L.)
 ○-----○ MIC SIGNAL LINE
 ○-----○ CENTER & SURROUND SIGNAL LINE

AC-410/413R/415K
 AC-610/613R/615K
 MAIN
 BLOCK DIAGRAM
 No. 3-1 C104751M
 A1



IC1100
CXA1782BQ
(RF I-V AMP/RF AMP)

IC1200 CXD250BAQ
(DIGITAL SIGNAL PROCESSOR)

IC1702
BU4094BCF
(DATA SEPARATOR)

IC1300 KA9258D
(MOTOR DRIVE)

VR1200
FOCUS OFF-SET

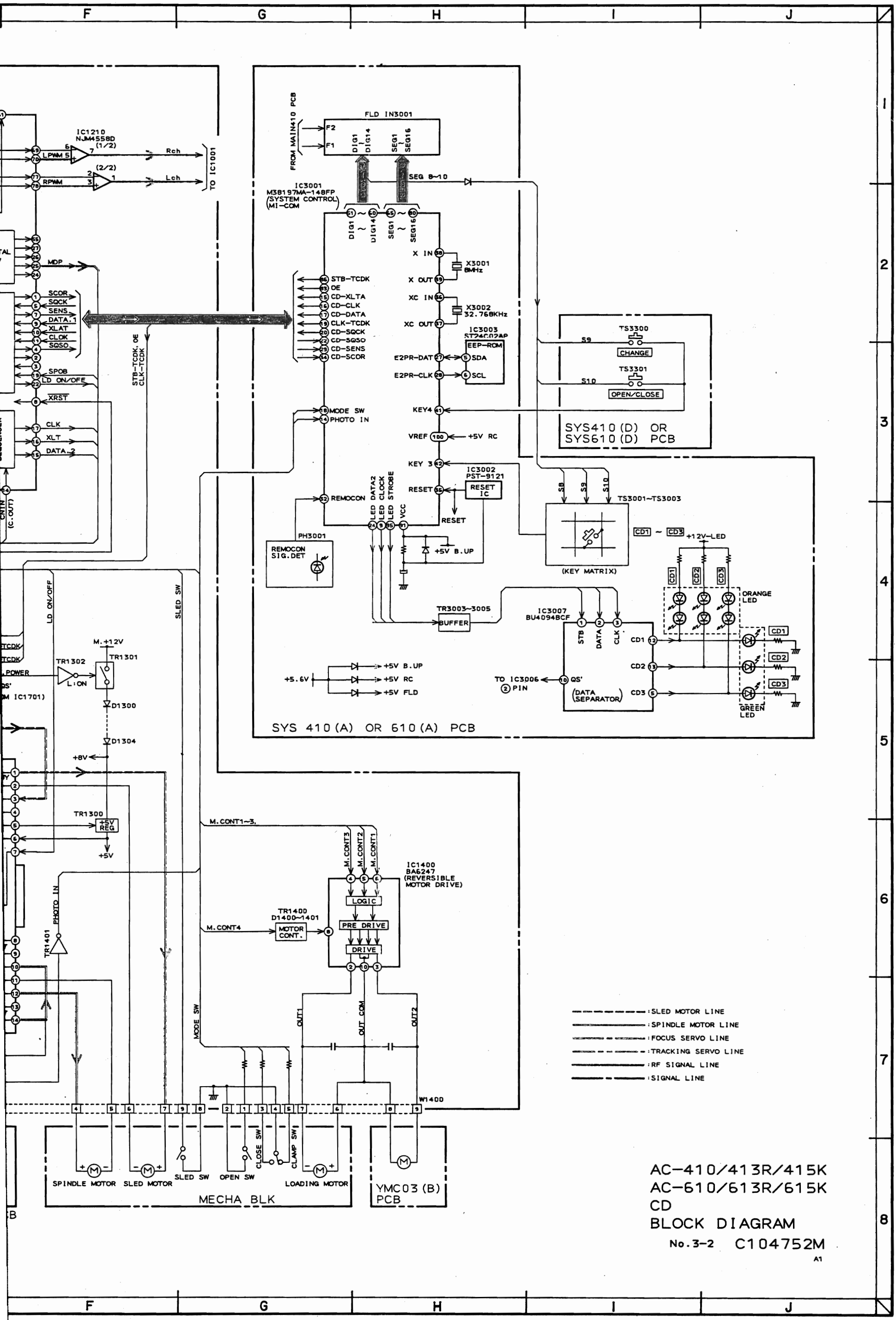
TC-DK (A) PCB

YMC03 (A) PCB

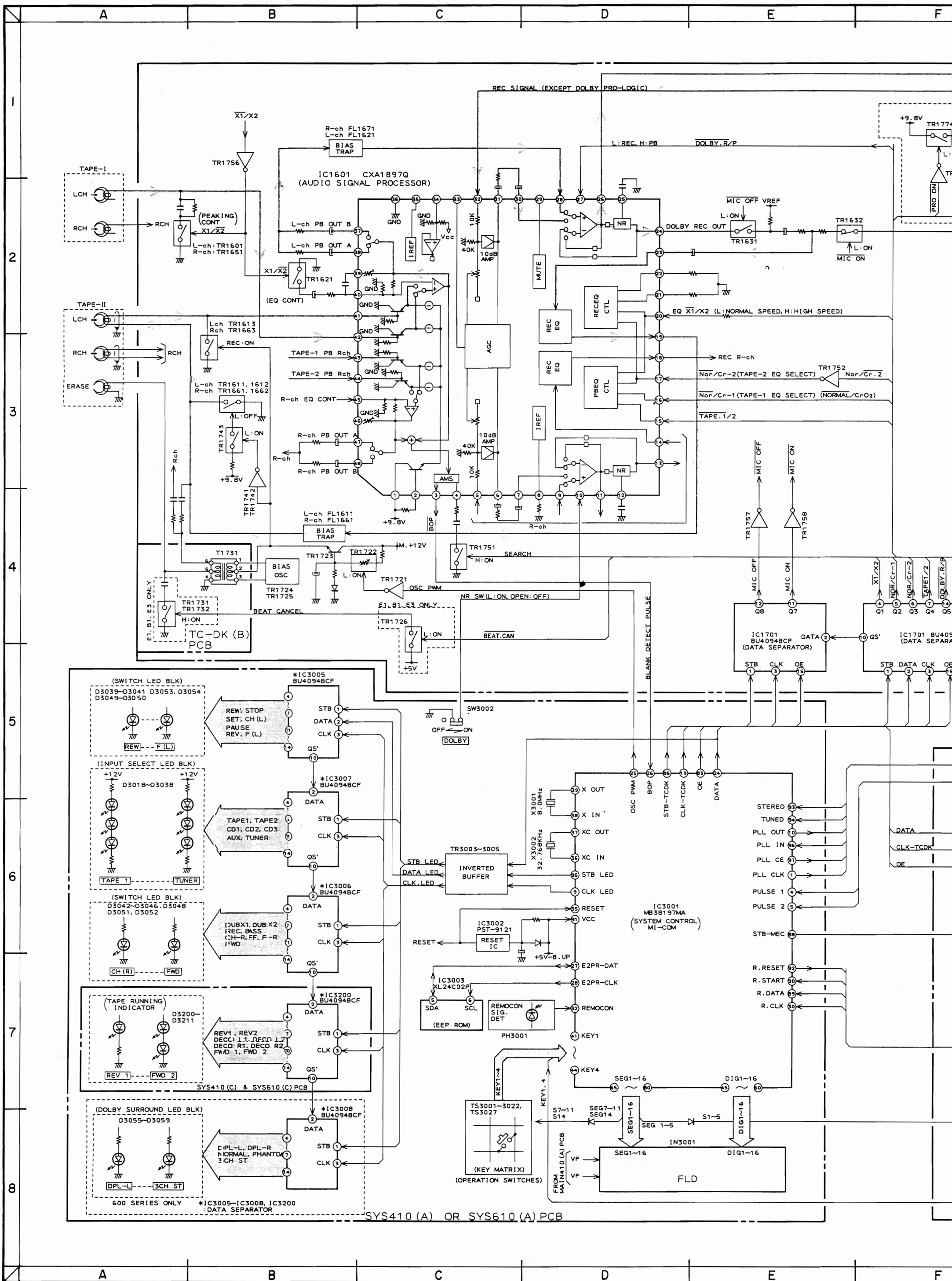
PICK-UP KSS-213C

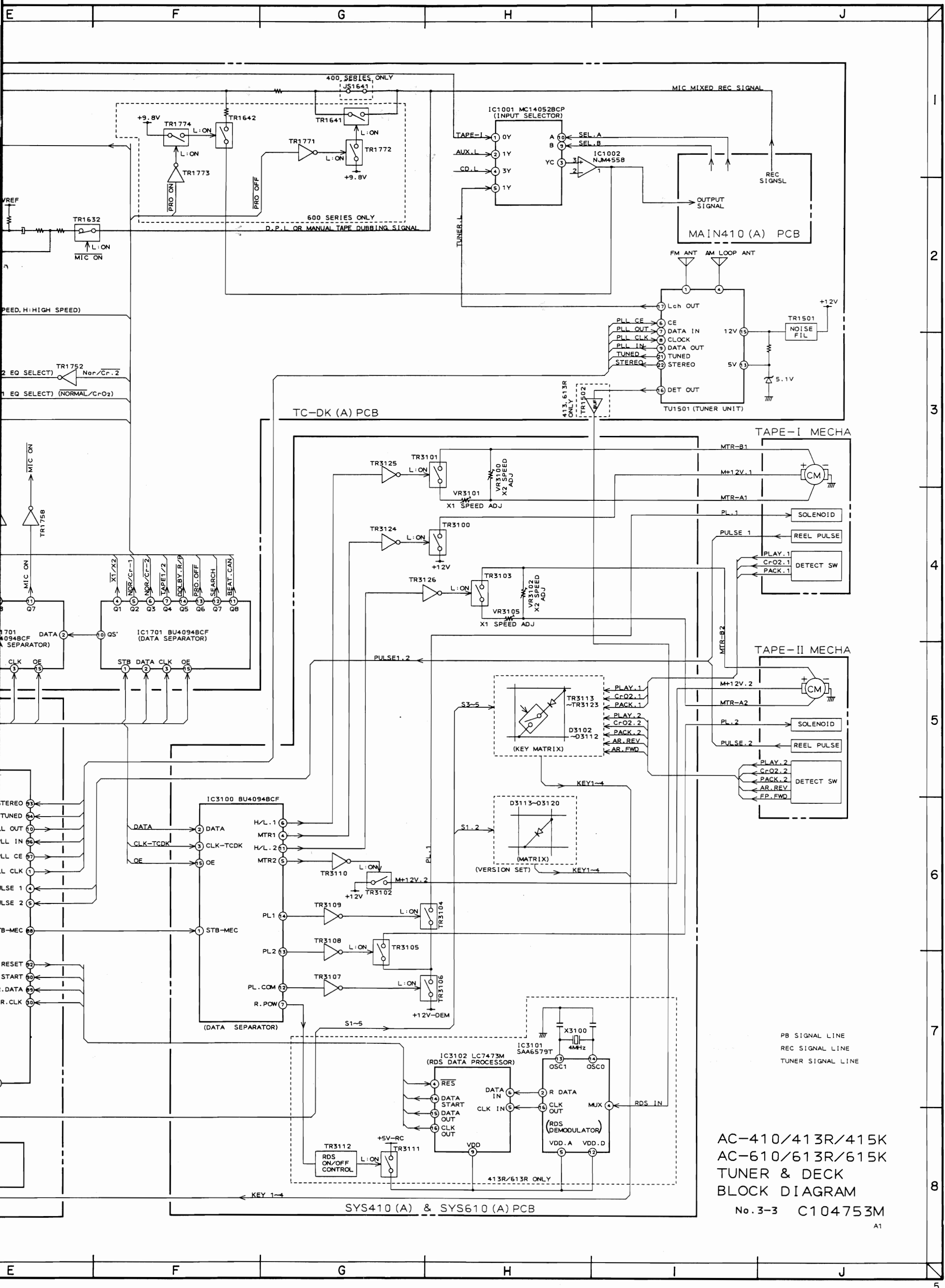
FOCUS COIL TRACKING COIL

SPINDLE MOTOR



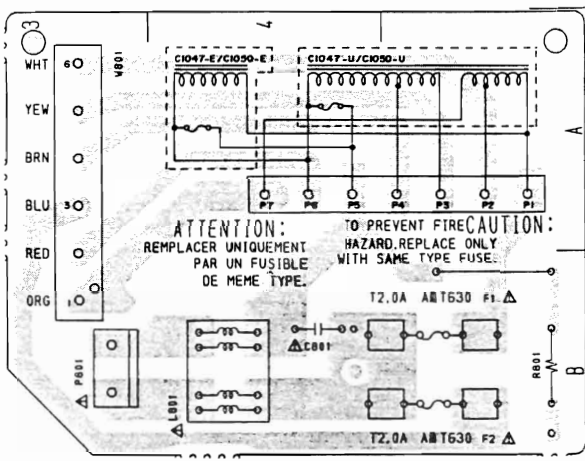
AC-410/413R/415K
 AC-610/613R/615K
 CD
 BLOCK DIAGRAM
 No. 3-2 C104752M
 A1





AC-410/413R/415K
 AC-610/613R/615K
 TUNER & DECK
 BLOCK DIAGRAM
 No. 3-3 C104753M
 A1

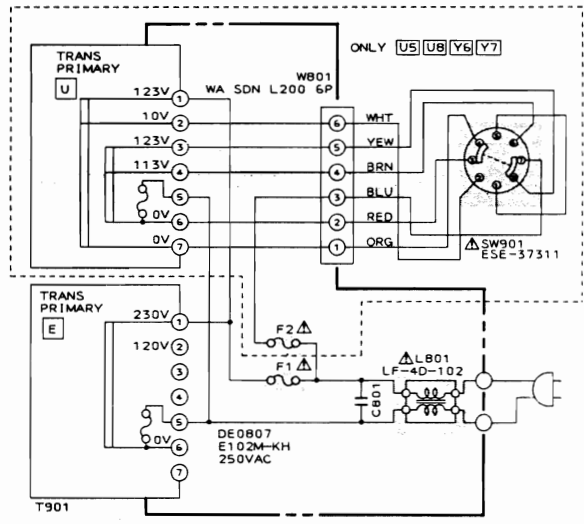
1
2
3
4
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8
5



MAIN410(B) PCB C1047A501B

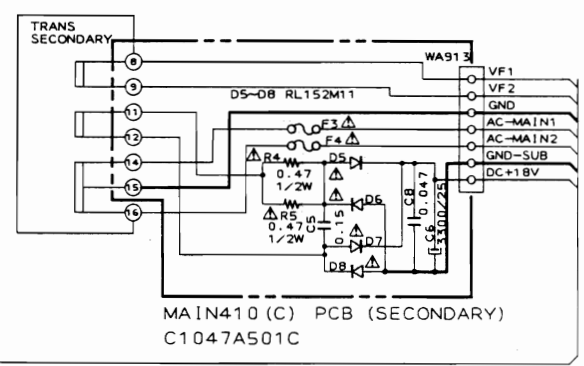
NOTE: PART DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.



MAIN410(B) PCB (PRIMARY) C1047A501B

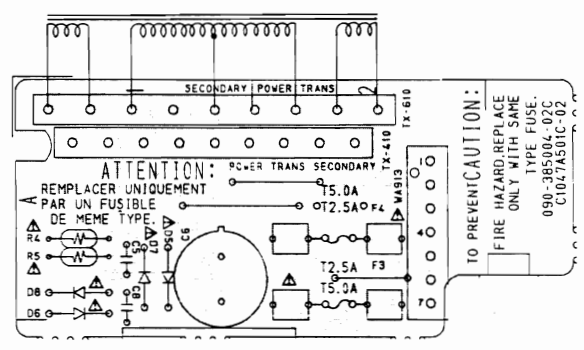
	F1	F2	F3	F4
410	E1, E3, B1, S1	T630MA	-	T2.5A T2.5A
413R	US, UB, Y6, Y7	T630MA	T630MA	T2.5A T2.5A
415K				
610	E1, E3, B1, S1	T2.0A	-	T5.0A T5.0A
613R	US, UB, Y6, Y7	T2.0A	T2.0A	T5.0A T5.0A
615K				



MAIN410(C) PCB (SECONDARY) C1047A501C

Δ POWER TRANSFORMER:

400 SERIES	E1 E3 B1 S1	410 C1047E
	E1	413R C1047E
	US UB Y6 Y7	415K C1047U
600 SERIES	E1 E3 B1 S1	610 C1049E
	E1	613R C1049E
	US UB Y6 Y7	615K C1047U

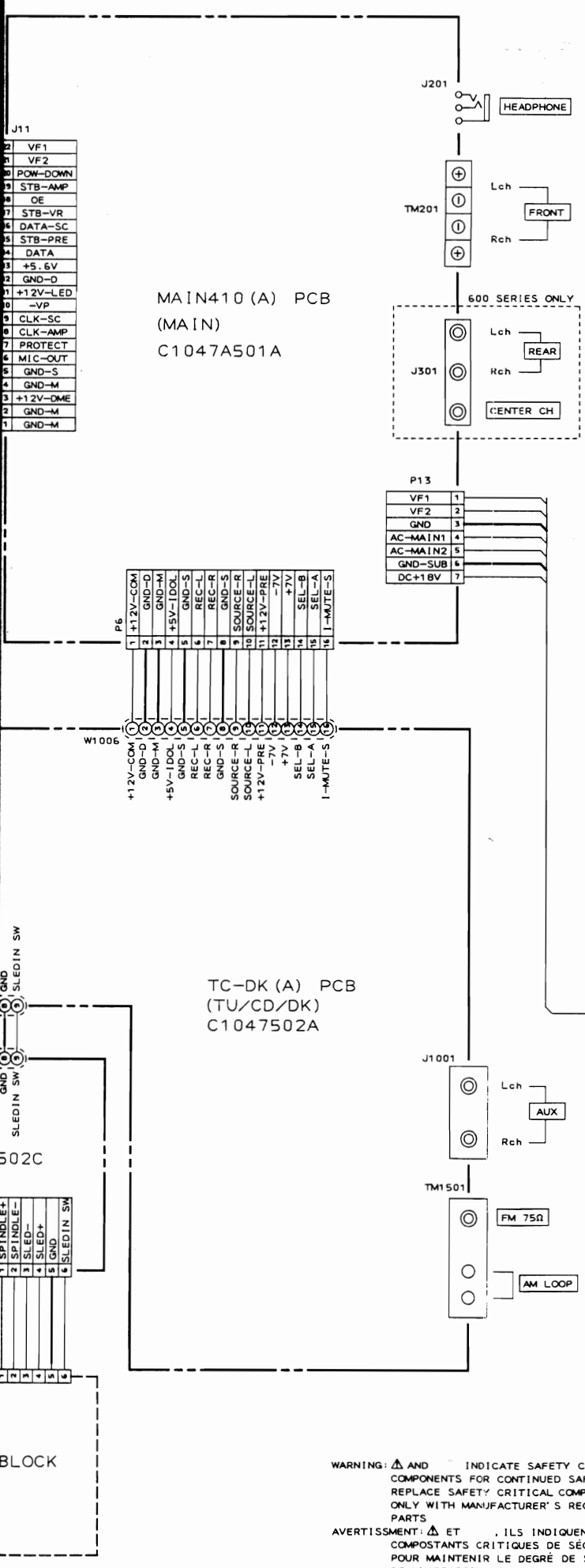


MAIN410(C) PCB C1047A501C

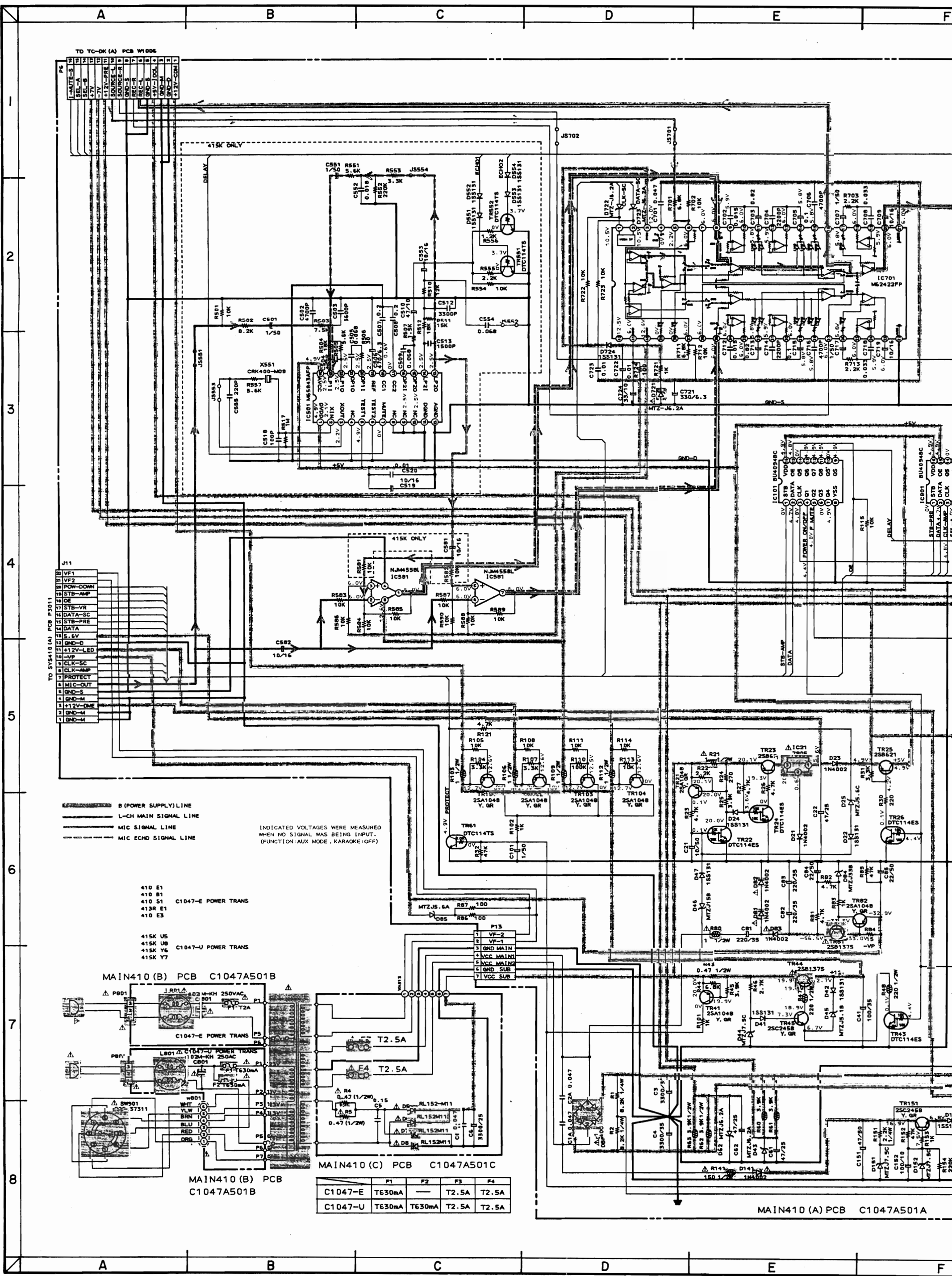
NOTE: PART DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

AC-410/413R/415K
 AC-610/613R/615K
 CONNECTION DIAGRAM
 No. 6-1 C104701M
 A1



WARNING: Δ AND Δ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: Δ ET Δ ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.



TO TC-OK (A) PCB W1006

1	W1006
2	W1006
3	W1006
4	W1006
5	W1006
6	W1006
7	W1006
8	W1006
9	W1006
10	W1006
11	W1006
12	W1006
13	W1006
14	W1006
15	W1006
16	W1006
17	W1006
18	W1006
19	W1006
20	W1006
21	W1006
22	W1006
23	W1006
24	W1006
25	W1006
26	W1006
27	W1006
28	W1006
29	W1006
30	W1006
31	W1006
32	W1006
33	W1006
34	W1006
35	W1006
36	W1006
37	W1006
38	W1006
39	W1006
40	W1006
41	W1006
42	W1006
43	W1006
44	W1006
45	W1006
46	W1006
47	W1006
48	W1006
49	W1006
50	W1006

TO SYS410 (A) PCB P3011

1	VF1
2	VF2
3	POW-DOWN
4	STB-AMP
5	OE
6	STB-VR
7	DATA-SC
8	STB-PRE
9	DATA
10	5.5V
11	+12V-LED
12	+5V
13	CLK-SC
14	CLK-AMP
15	PROTECT
16	MIC-OUT
17	GND-S
18	GND-M
19	+12V-DME
20	GND-M
21	GND-M

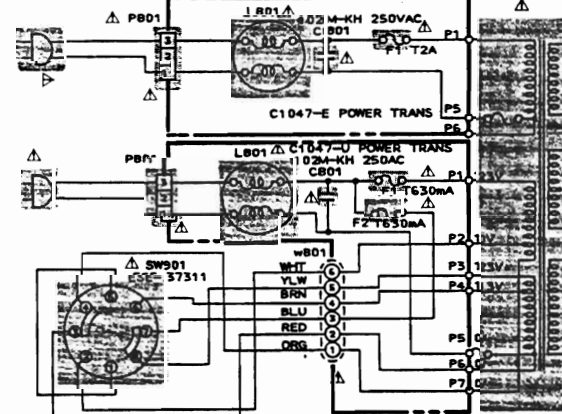
- - - - - B (POWER SUPPLY) LINE
 - - - - - L-CH MAIN SIGNAL LINE
 - - - - - MIC SIGNAL LINE
 - - - - - MIC ECHO SIGNAL LINE

INDICATED VOLTAGES WERE MEASURED WHEN NO SIGNAL WAS BEING INPUT. (FUNCTION: AUX MODE, KARAOKE: OFF)

410 E1
 410 B1
 410 S1
 413R E1
 410 E3
 C1047-E POWER TRANS

415K US
 415K UB
 415K Y6
 415K Y7
 C1047-U POWER TRANS

MAIN410 (B) PCB C1047A501B

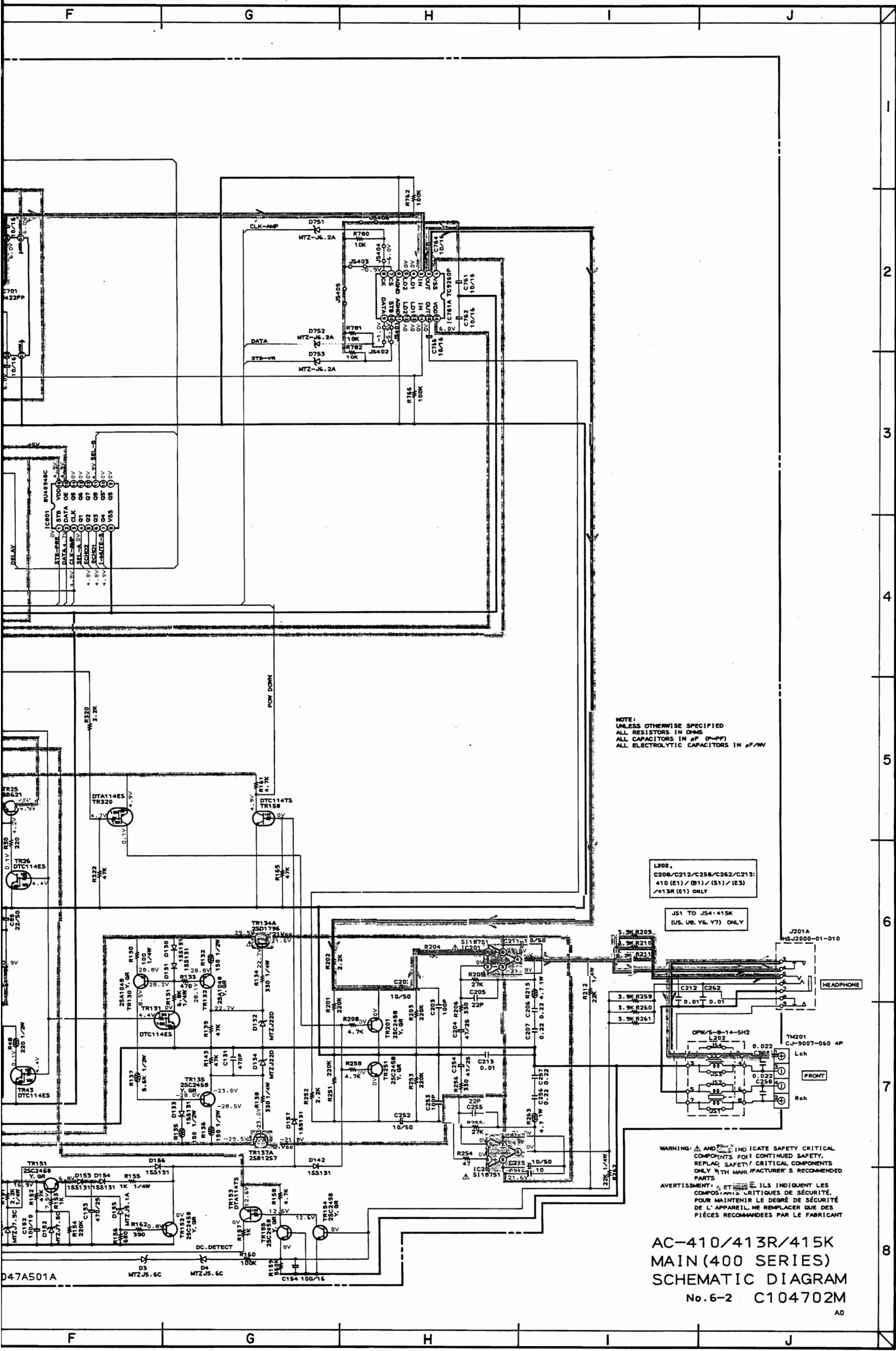


MAIN410 (C) PCB C1047A501C

	F1	F2	F3	F4
C1047-E	T630mA	—	T2.5A	T2.5A
C1047-U	T630mA	T630mA	T2.5A	T2.5A

MAIN410 (B) PCB C1047A501B

MAIN410 (A) PCB C1047A501A

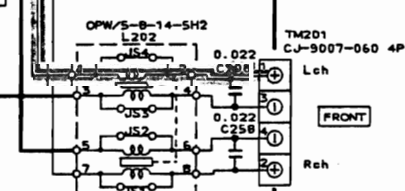


NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN PF (P-PP)
ALL ELECTROLYTIC CAPACITORS IN μ F/W

L202,
C208/C212/C258/C262/C213:
410 (E1)/(B1)/(S1)/(E3)
/413R (E1) ONLY

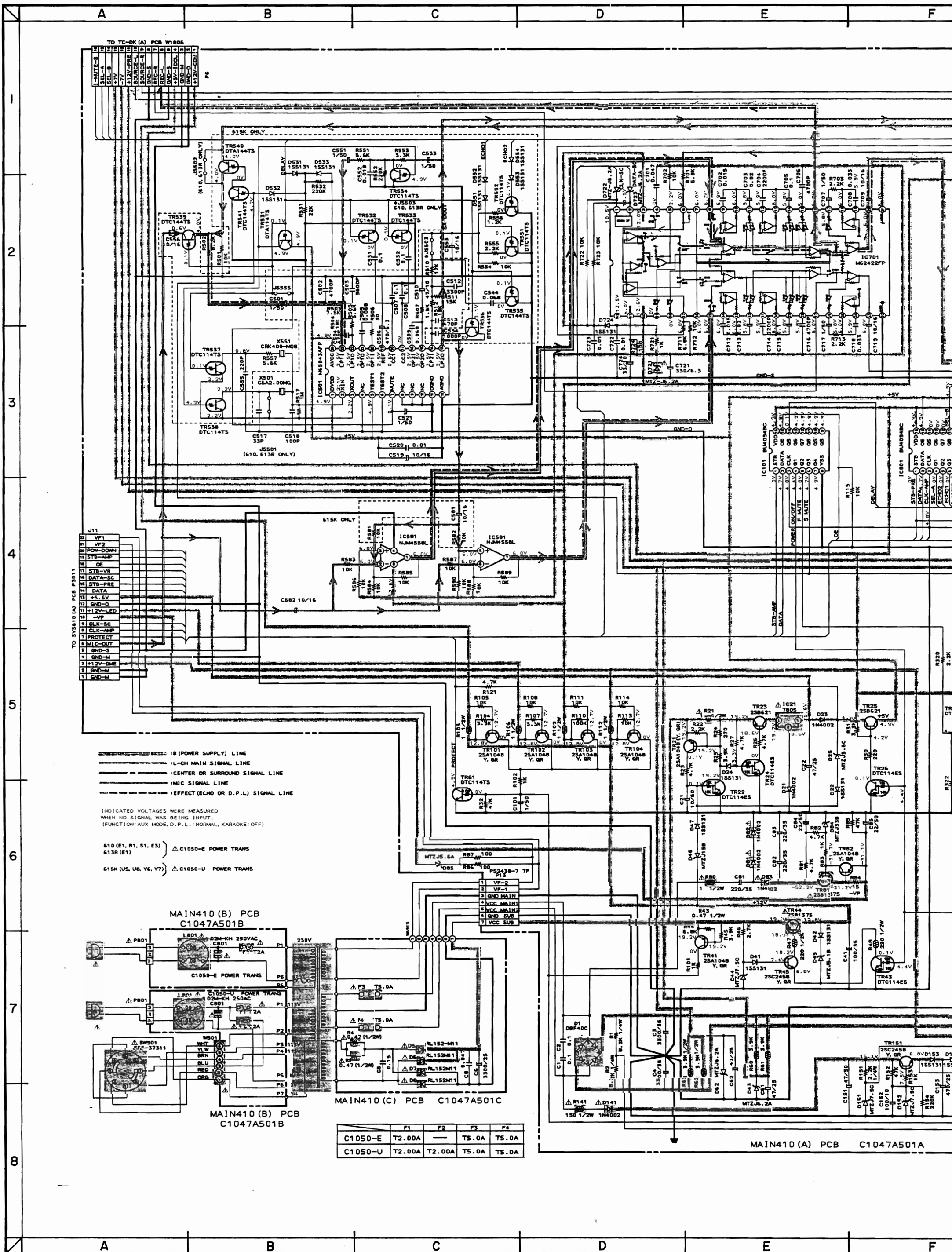
J51 TO J54: 415K
(US. UB. Y6. Y7) ONLY

OPW/S-B-14-5H2
L202
C208
C212
C262
C213



WARNING: Δ AND \square INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY / CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
AVERTISSEMENT: Δ ET \square ILS INDICENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

AC-410/413R/415K
MAIN (400 SERIES)
SCHEMATIC DIAGRAM
No. 6-2 C104702M
A0

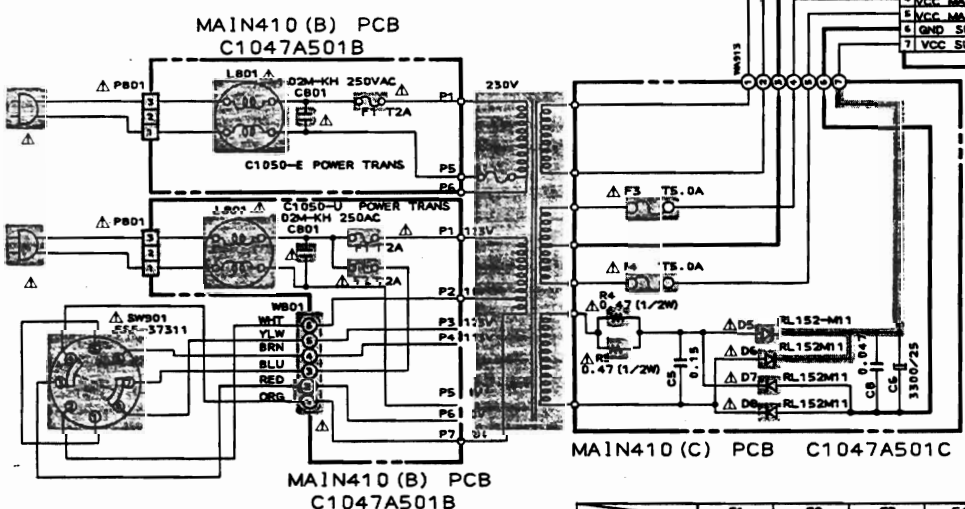


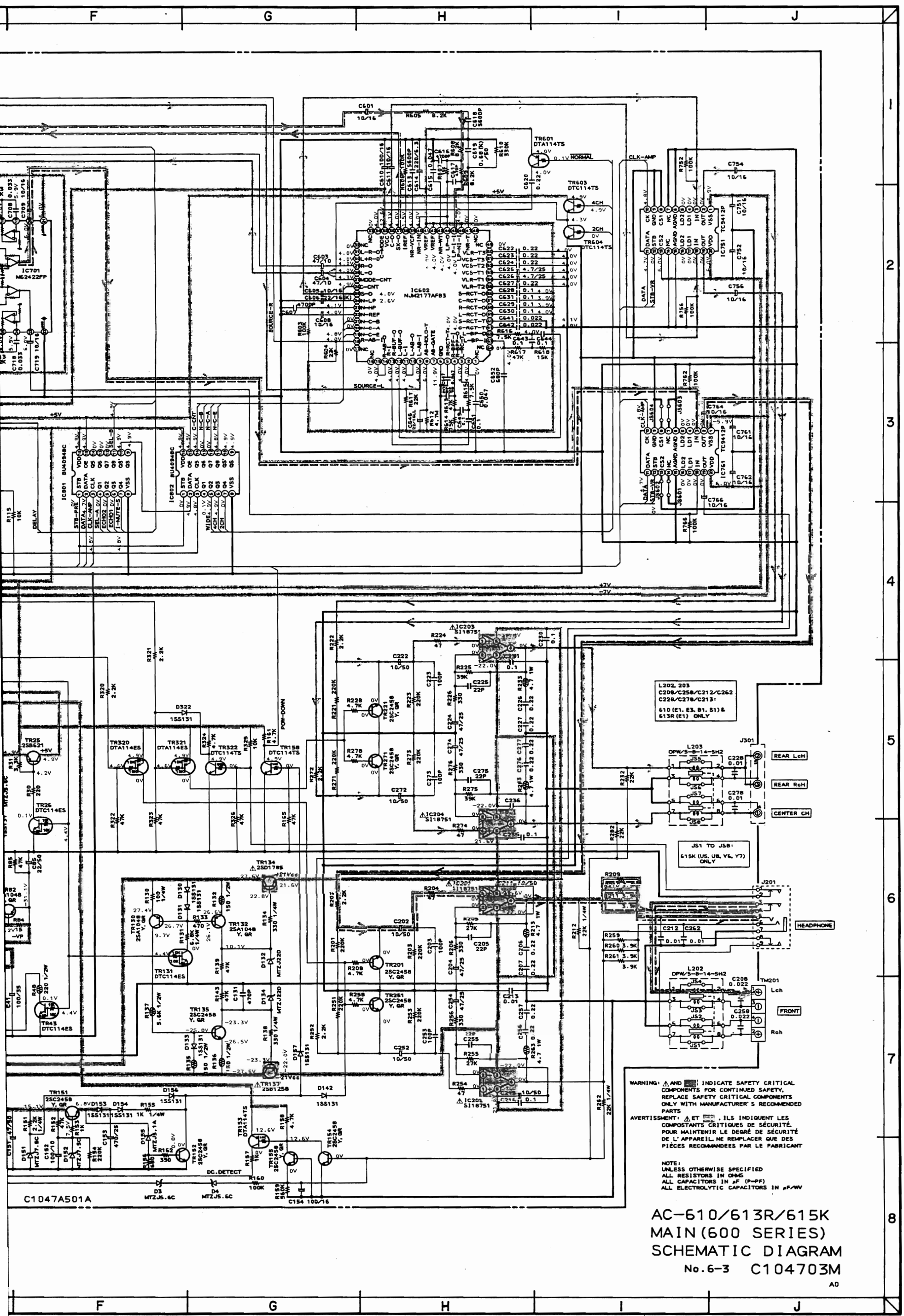
--- B (POWER SUPPLY) LINE
 --- L-CH MAIN SIGNAL LINE
 --- CENTER OR SURROUND SIGNAL LINE
 --- MIC SIGNAL LINE
 --- EFFECT (ECHO OR D.P.L.) SIGNAL LINE

INDICATED VOLTAGES WERE MEASURED
 WHEN NO SIGNAL WAS BEING INPUT.
 (FUNCTION: AUX MODE, D.P.L.: NORMAL, KARAOKE: OFF)

610 (E1, B1, S1, E3) Δ C1050-E POWER TRANS
 613R (E1)

615K (U5, U6, Y6, Y7) Δ C1050-U POWER TRANS





WARNING: Δ AND \square INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

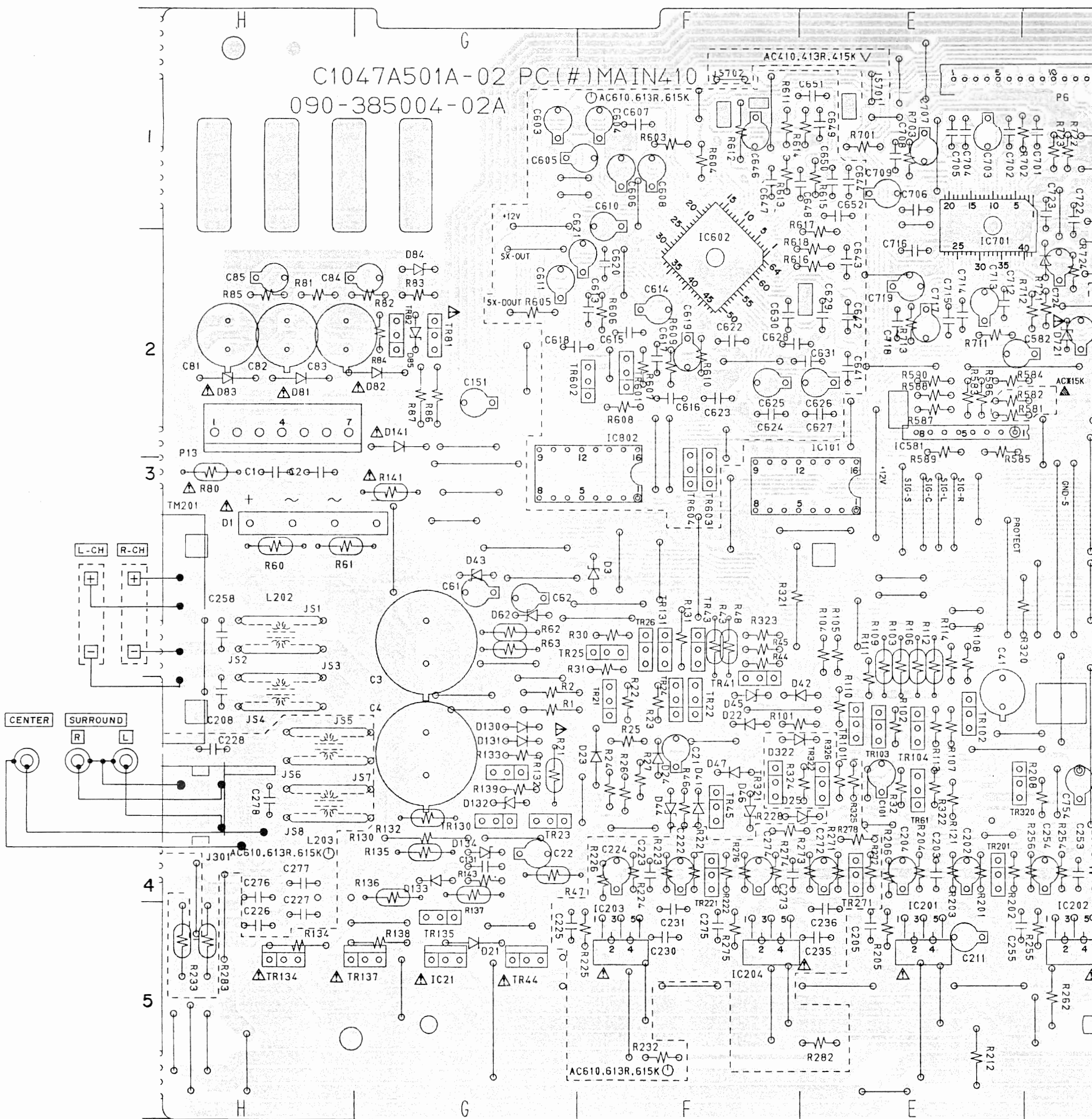
AVERTISSEMENT: Δ ET \square ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μ F (P-PF)
ALL ELECTROLYTIC CAPACITORS IN μ F/W

AC-610/613R/615K
MAIN (600 SERIES)
SCHEMATIC DIAGRAM
No. 6-3 C104703M
A0

PRINCIPAL PARTS LOCATION

ICs		TRANSISTORS		CONNECTORS	
IC21	G5	TR21	F4	TR102	E4
IC101	E,F3	TR22	F4	TR103	E4
IC201	E5	TR23	G4	TR104	E4
IC202	D5	TR24	F4	TR130	G4
IC203	F5	TR25	F3	TR131	F3
IC204	F5	TR26	F3	TR132	G4
IC501	C1	TR41	F3,4	TR134	H5
IC581	E2	TR43	F3	TR135	G5
IC602	F2	TR44	G5	TR137	G5
IC701	E1,2	TR45	F4	TR151	C4
IC751	D3,4	TR61	E4	TR152	C5
IC761	C3,4	TR81	G2	TR153	C,D4
IC801	D2	TR82	G2	TR154	D5
IC802	F,G3	TR101	E4	TR155	D5
				TR158	C5
				TR201	E4
				TR221	F4
				TR251	D4
				TR271	E4
				TR320	D,E4
				TR321	F4
				TR322	E4
				TR531	C1
				TR532	D1
				TR533	D1
				TR534	C2
				TR535	D1,2
				TR536	C2
				TR537	B1
				TR538	C1
				TR539	B1
				TR540	B1
				TR541	B1
				TR551	C2
				TR552	C1,2
				TR601	F2
				TR603	F3
				TR604	F3
				J11	B1
				J201	B3
				J301	H4
				P6	D,E
				P13	H2

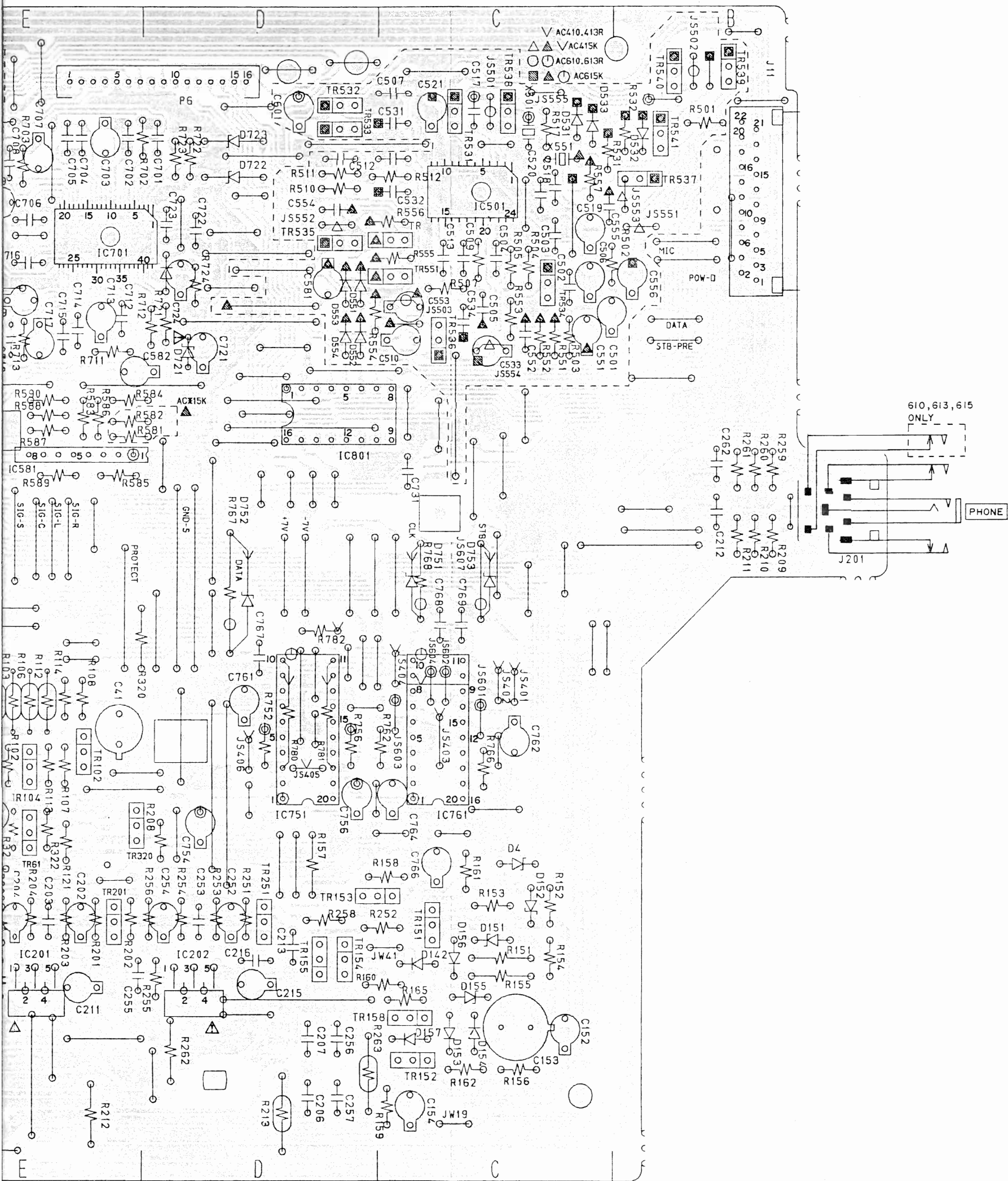


MAIN410(A) PCB C1047A501A

NOTE

CONNECTORS

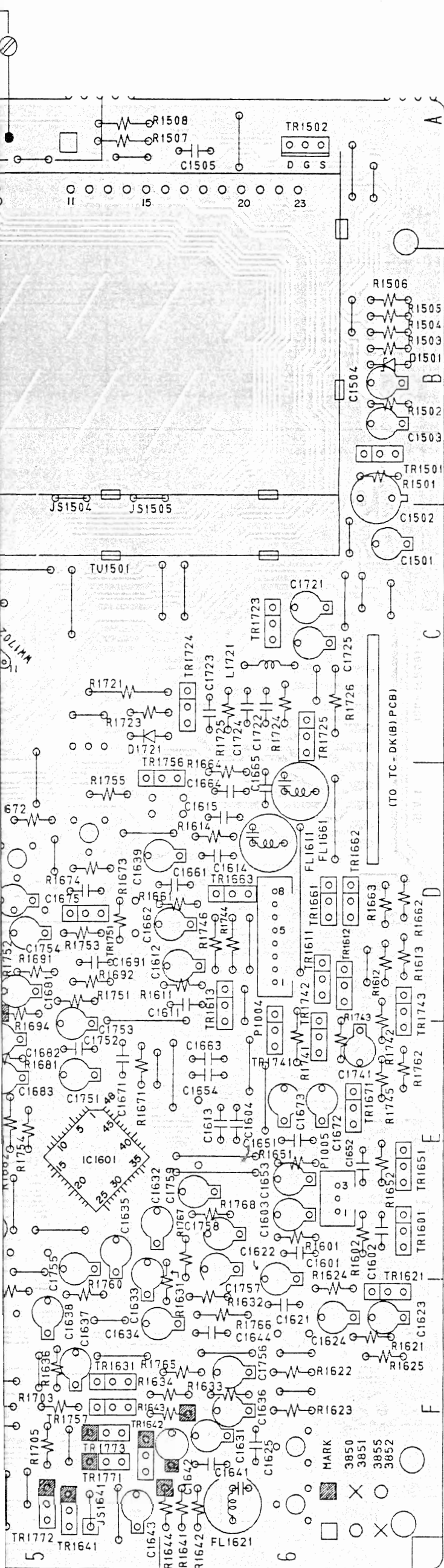
B1	J11	B1
C1	J201	B3
B1	J301	H4
B1	P6	D,E1
B1	P13	H2
C2		
C1,2		
F2		
F3		
F3		



NOTE: PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT



PRINCIPAL PARTS LOCATION

ICs		TR1681	.....	E4
IC1001	.....	TR1682	.....	E4
IC1002	.....	TR1691	.....	D4
IC1100	.....	TR1692	.....	F3,4
IC1200	.....	TR1701	.....	F3
IC1210	.....	TR1721	.....	E,F2
IC1300	.....	TR1722	.....	E2
IC1400	.....	TR1723	.....	C6
IC1601	.....	TR1724	.....	C6
IC1701	.....	TR1725	.....	C6
IC1702	.....	TR1726	.....	F3

TRANSISTORS

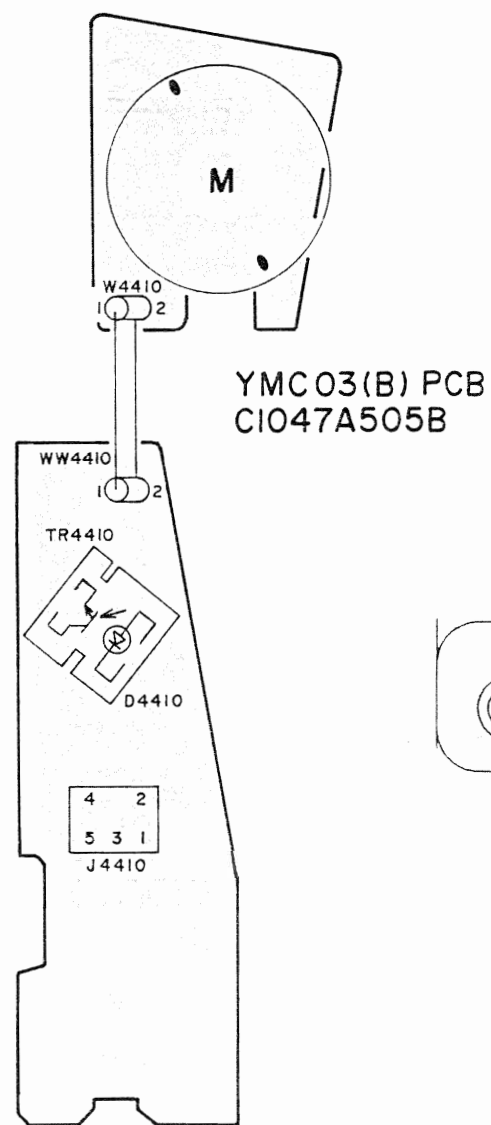
TR1100	.....	TR1741	.....	D6
TR1300	.....	TR1742	.....	D6
TR1301	.....	TR1743	.....	D6
TR1302	.....	TR1751	.....	D5
TR1400	.....	TR1752	.....	E5
TR1401	.....	TR1756	.....	D5,6
TR1501	.....	TR1757	.....	F5
TR1502	.....	TR1758	.....	F4
TR1601	.....	TR1771	.....	F5
TR1611	.....	TR1772	.....	F5
TR1612	.....	TR1773	.....	F5
TR1613	.....	TR1774	.....	F5

CONNECTORS

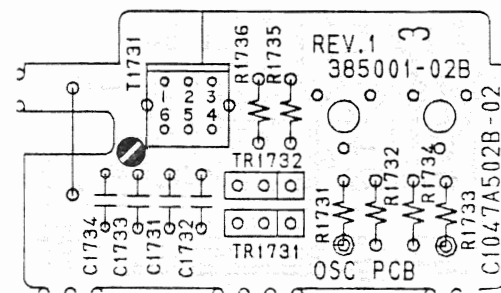
J1002	.....	F1,2
J1100	.....	B3
P1004	.....	D6
P1005	.....	E6

WIRES

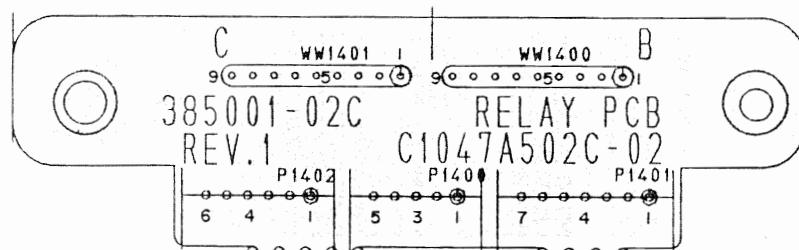
W1006	.....	E1
W1400	.....	B1
W1401	.....	C1



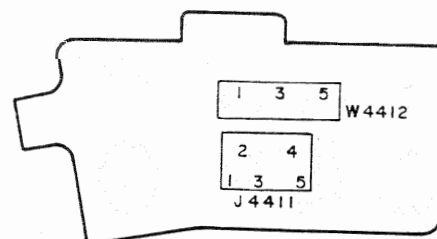
**YMC 03(A) PCB
C1047A505A**



TC-DK(B) PCB C1047A502B



TC-DK(C) PCB C1047A502C



**YMC 03(C) PCB
C1047A505C**

...ER DEPENDING ON MODEL NUMBER.
...SCHEMATIC DIAGRAMS FOR PERTINENT
...FORMATION.

F G H I J

1

2

3

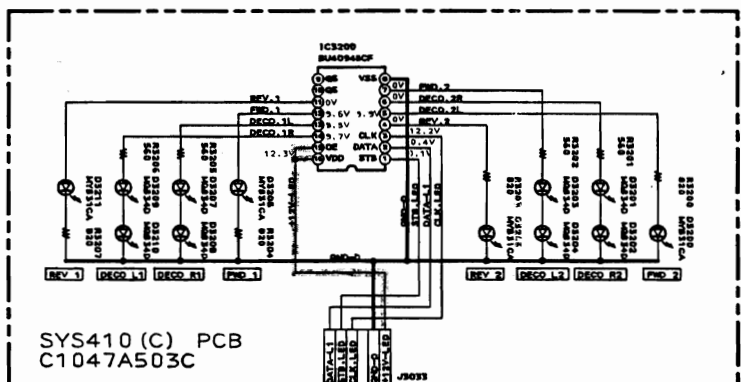
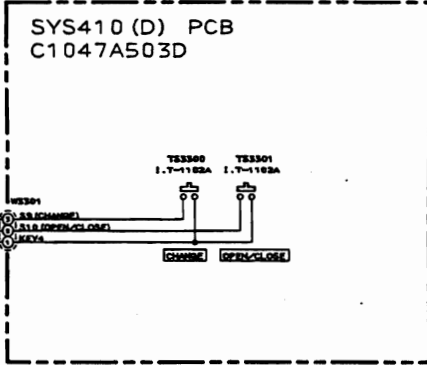
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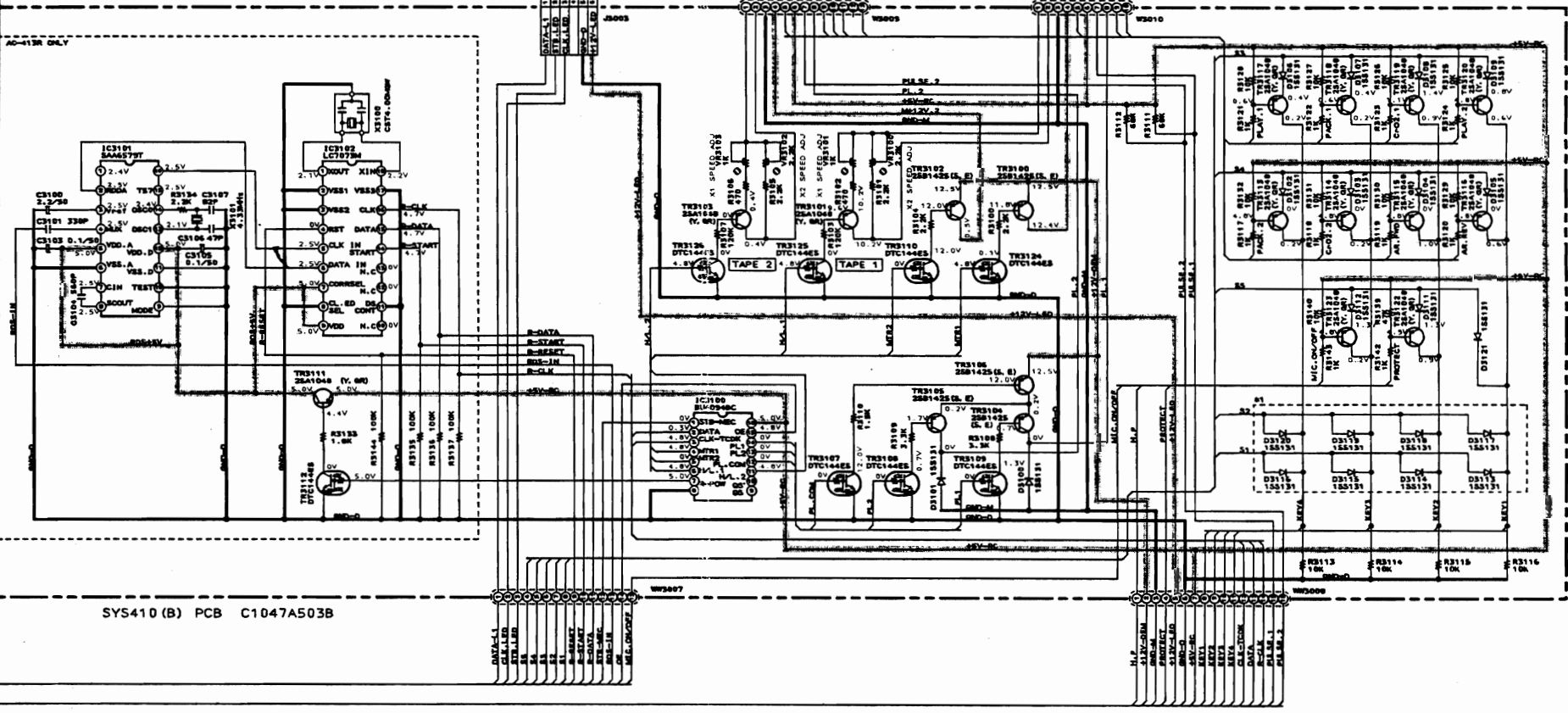
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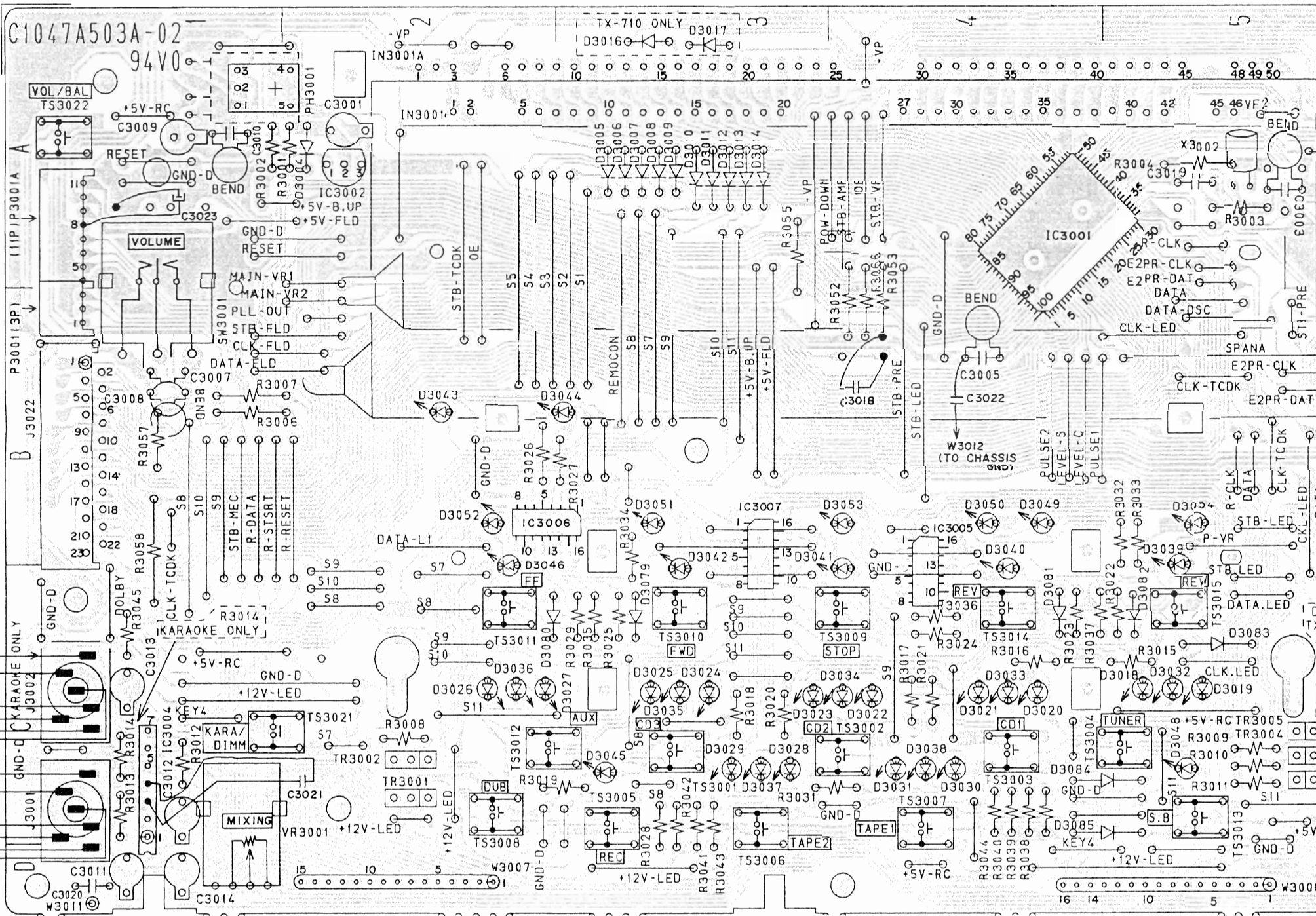
ST	E1/E3/E1	E1 (DCL)	US/AM/YS	V7	S1	A3	NOTE
D3113	X	X	X	X	O	X	
D3114	X	X	O	O	X	X	VERSION
D3115	X	X	X	X	X	O	
D3116	X	O	X	X	X	X	RDC
D3117	X	X	O	O	X	X	KARADGE
D3118	X	X	X	X	X	X	CD ADJUST
D3119	O	O	X	X	X	X	BEAT CANCEL
D3120	X	X	X	X	X	X	PROLOGIC



INDICATED VOLTAGES WERE MEASURED DURING PB MODE (TAPE USED-NORMAL TYPE DOLBY B1/0FF) (FUNCTION-TAPE-1)

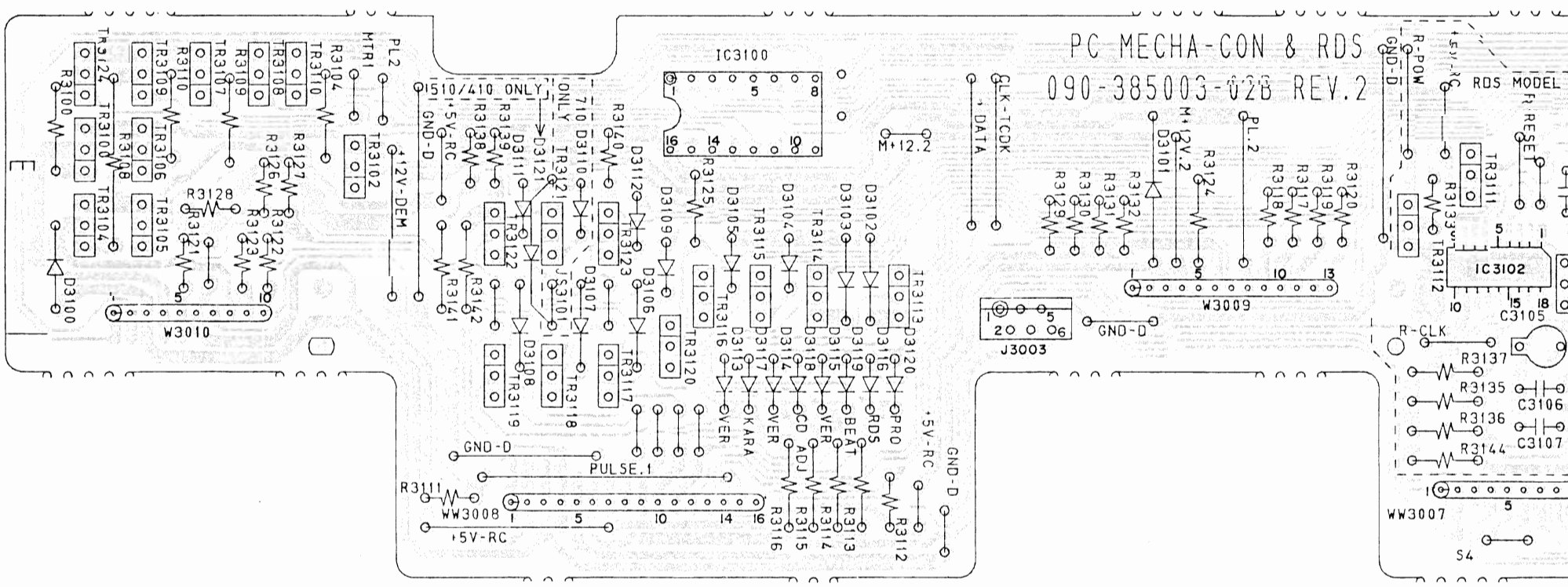
AC-410/413R/415K
 SYSCON (400 SERIES)
 SCHEMATIC DIAGRAM
 No. 6-5 C104705M
 A0

F G H I J



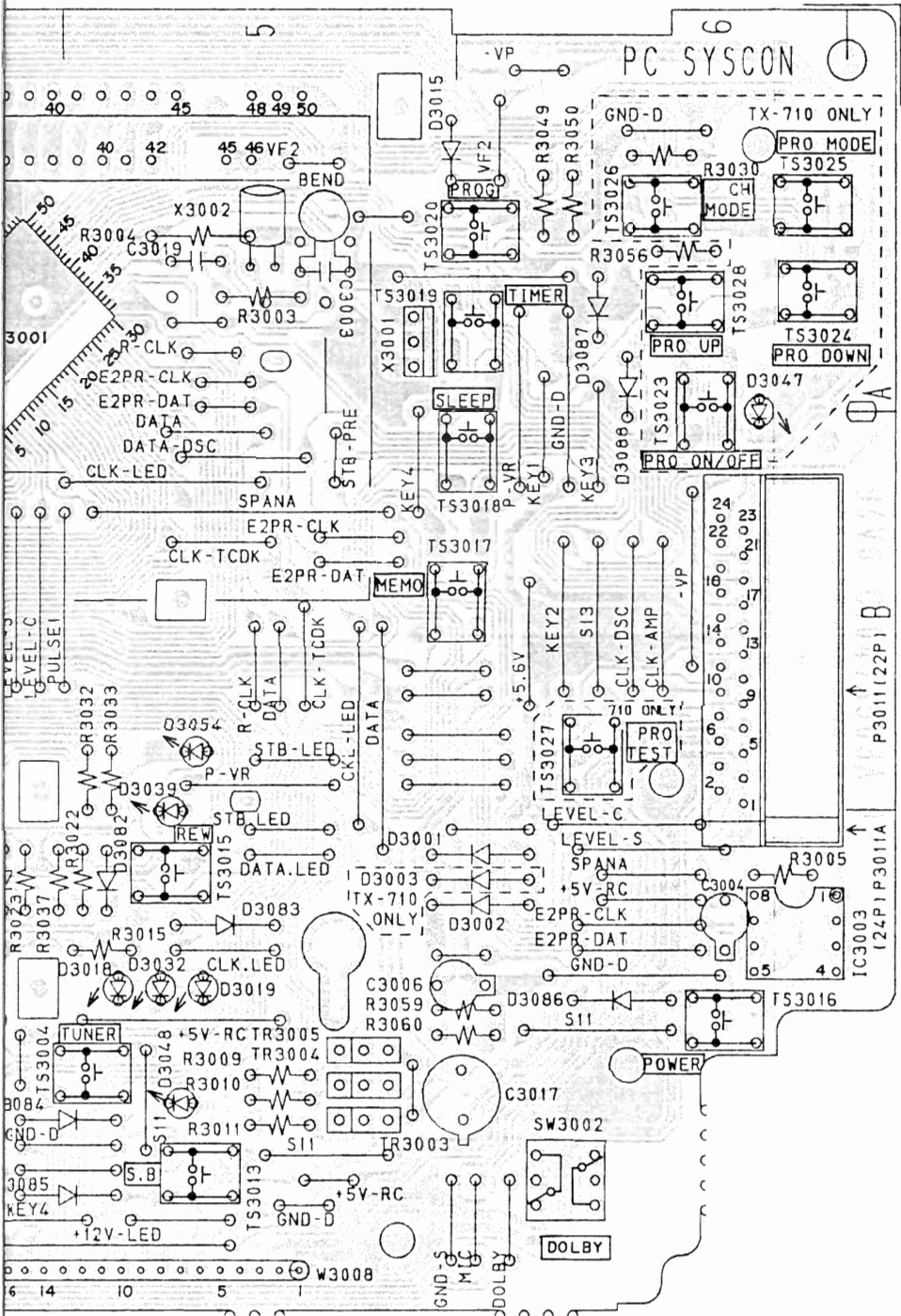
SYS410(A) PCB C1047A503A

NOTE: PART DIFFER DEPEND
REFER TO SCHEMATIC D
PARTS INFORMATION.

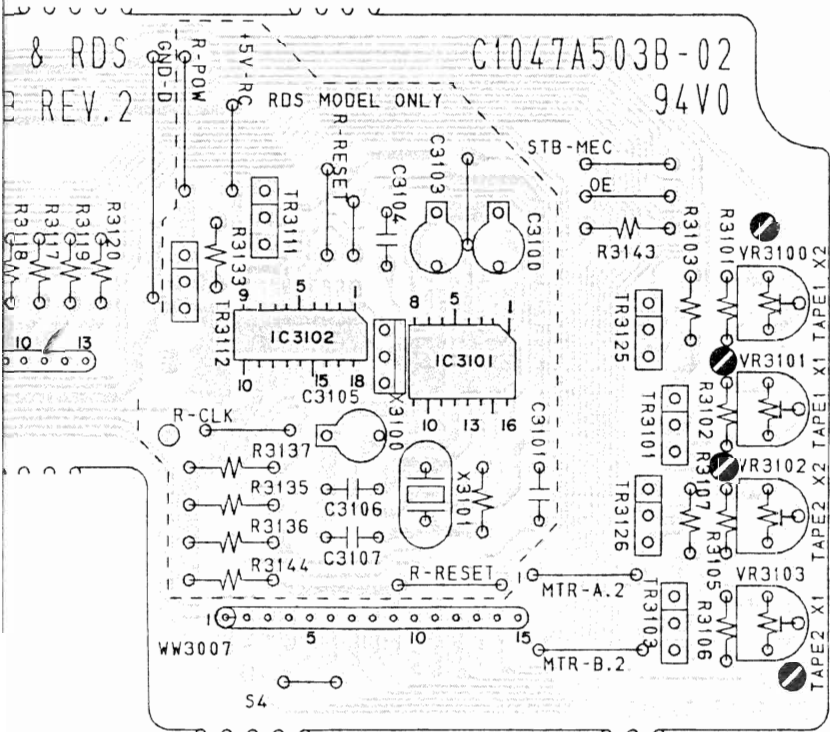


SYS410(B) PCB C1047A503B

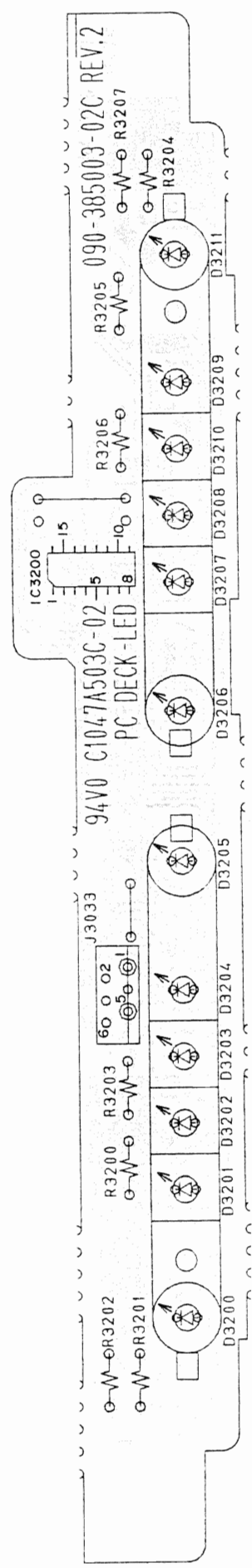
NOTE: PART DIFFER
REFER TO SCHEMATIC
PARTS INFOR



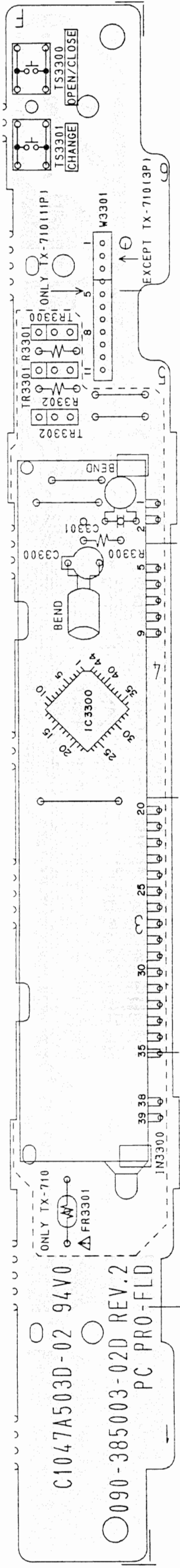
NOTE: PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.



NOTE: PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.



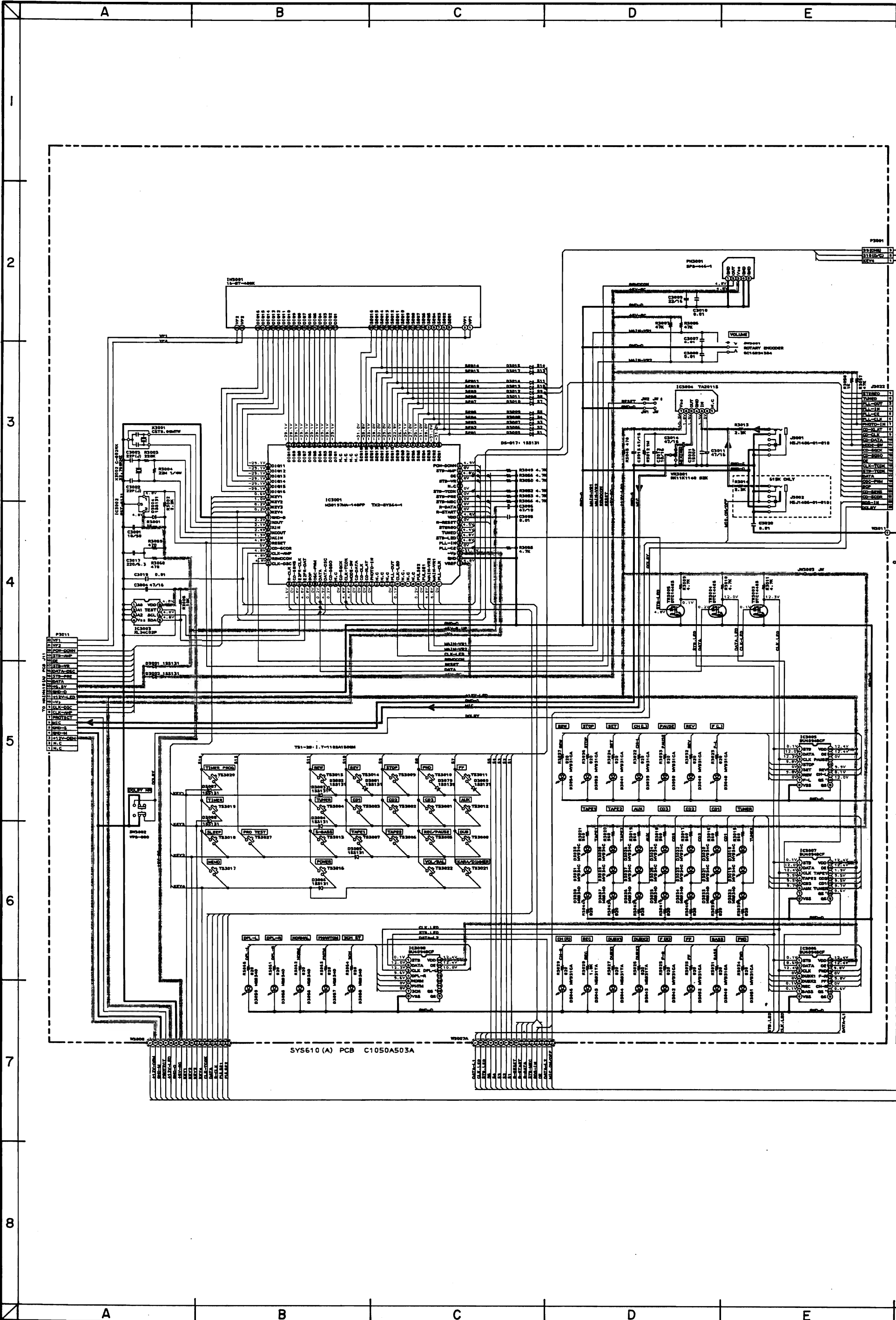
SYS 410 (C) PCB C1047A503C



SYS 410 (D) PCB C1047A503D

NOTE: PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE.
POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL,
NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT



SYS610 (A) PCB C1050A503A

F G H I J

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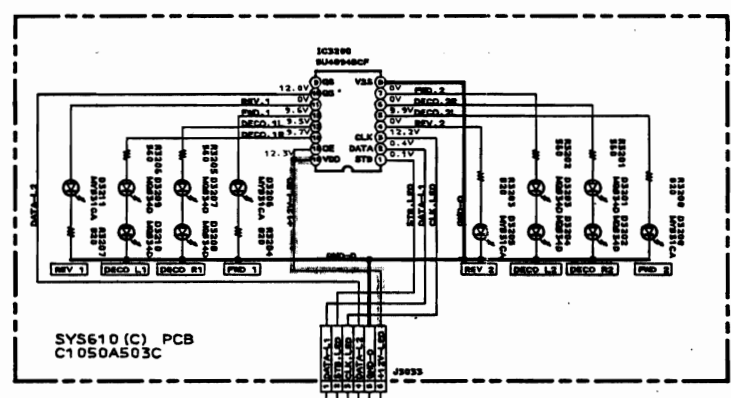
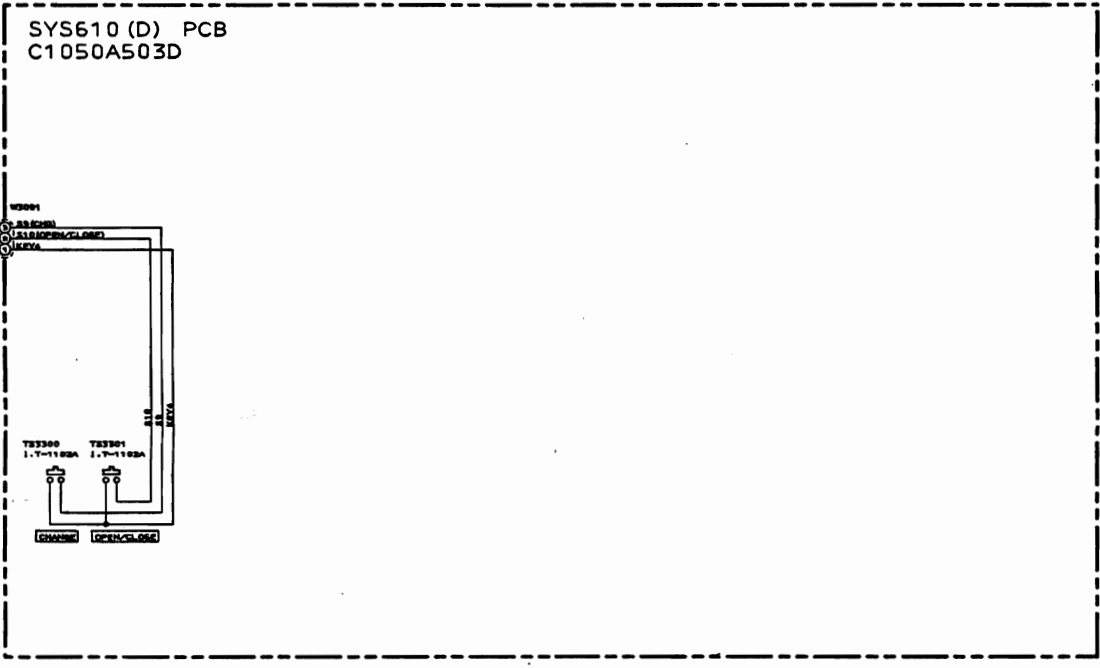
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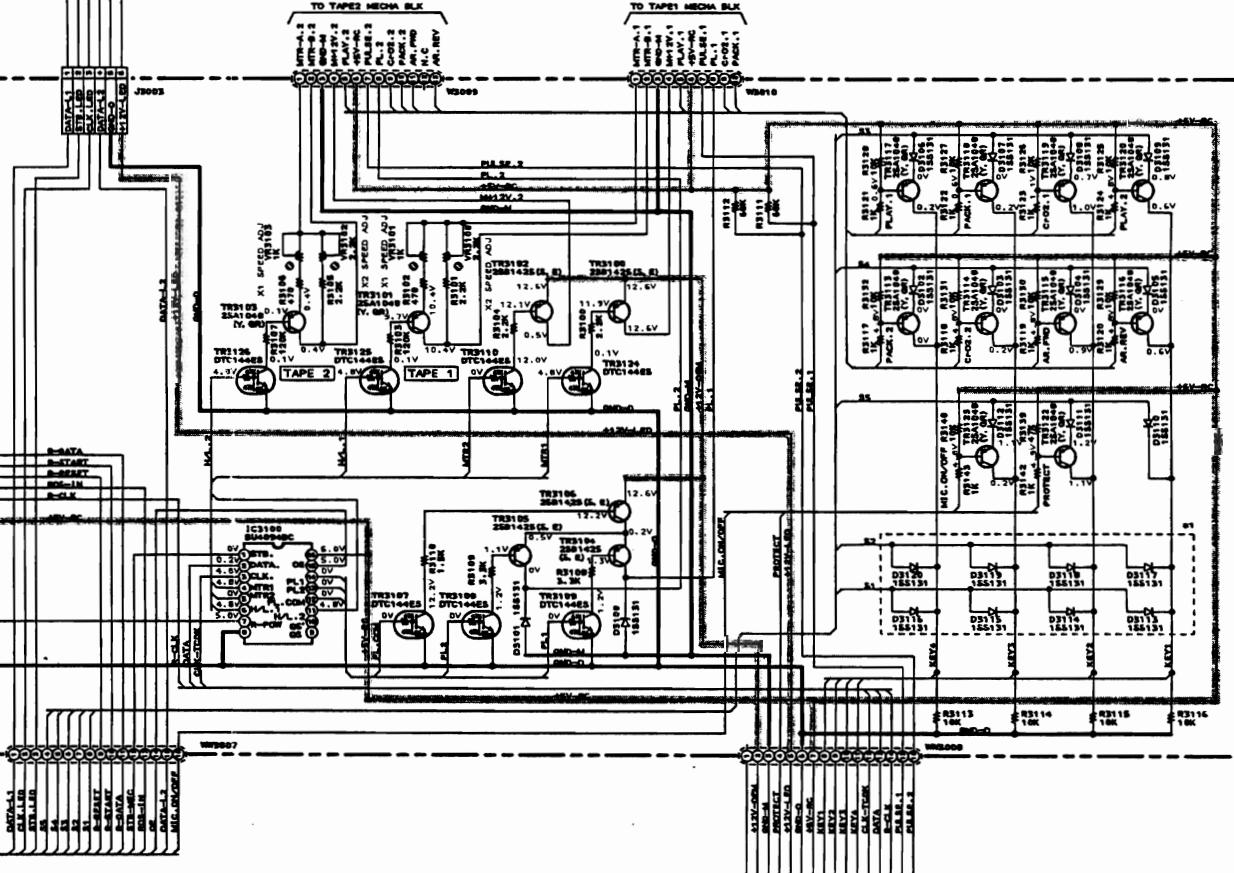
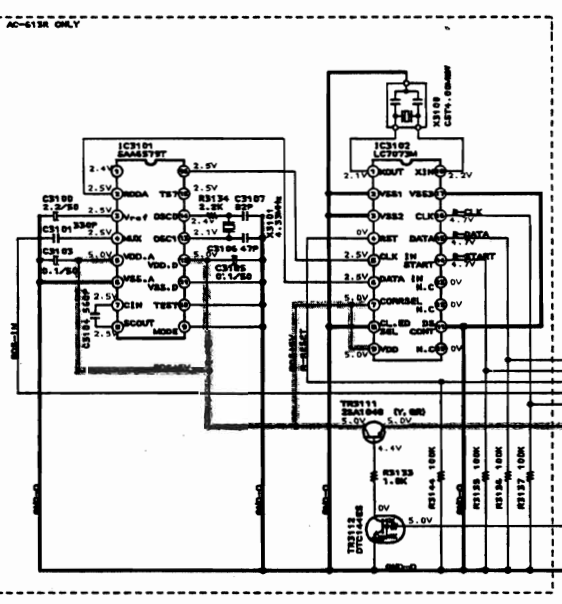
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DI	E1/E3/P1	E1 (DMS)	US/AN/P1	V1	S1	A3	NOTE
DI113	X	X	X	O	O	X	
DI114	X	X	O	O	X	X	VERSION
DI115	X	X	X	X	O	O	
DI116	X	O	X	X	X	X	RGB
DI117	X	X	O	O	X	X	KARAOKE
DI118	X	X	X	X	X	X	CD ADJUST
DI119	O	O	X	X	X	X	BEAT CANCEL
DI120	O	O	O	O	O	O	PHONOIC



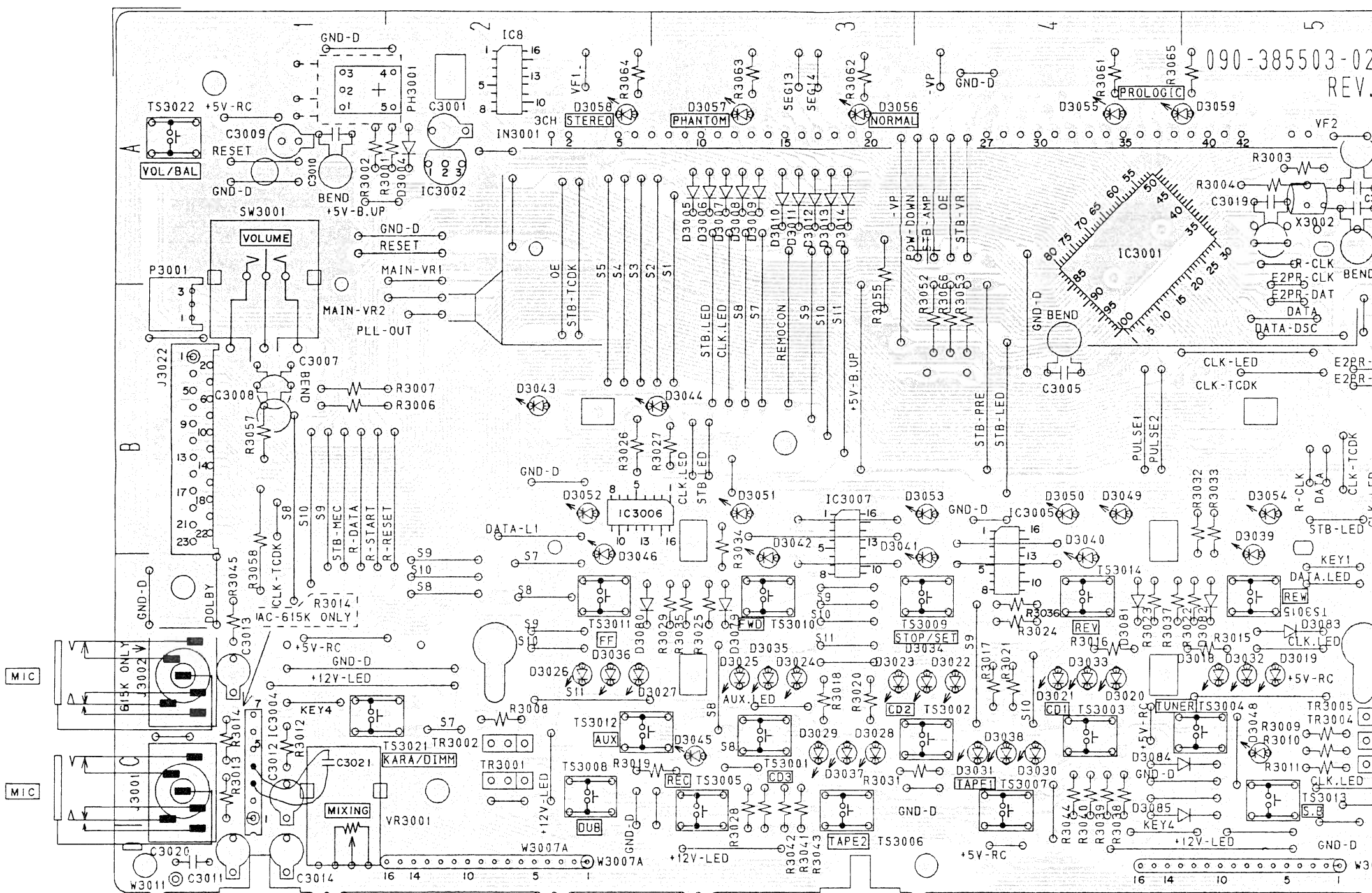
INDICATED VOLTAGES WERE MEASURED DURING PM MODE. TAPE USED NORMAL TYPE. DOLBY SW(OFF) (FUNCTION TAPE-1)

POWER SUPPLY LINE

MIC SIGNAL LINE

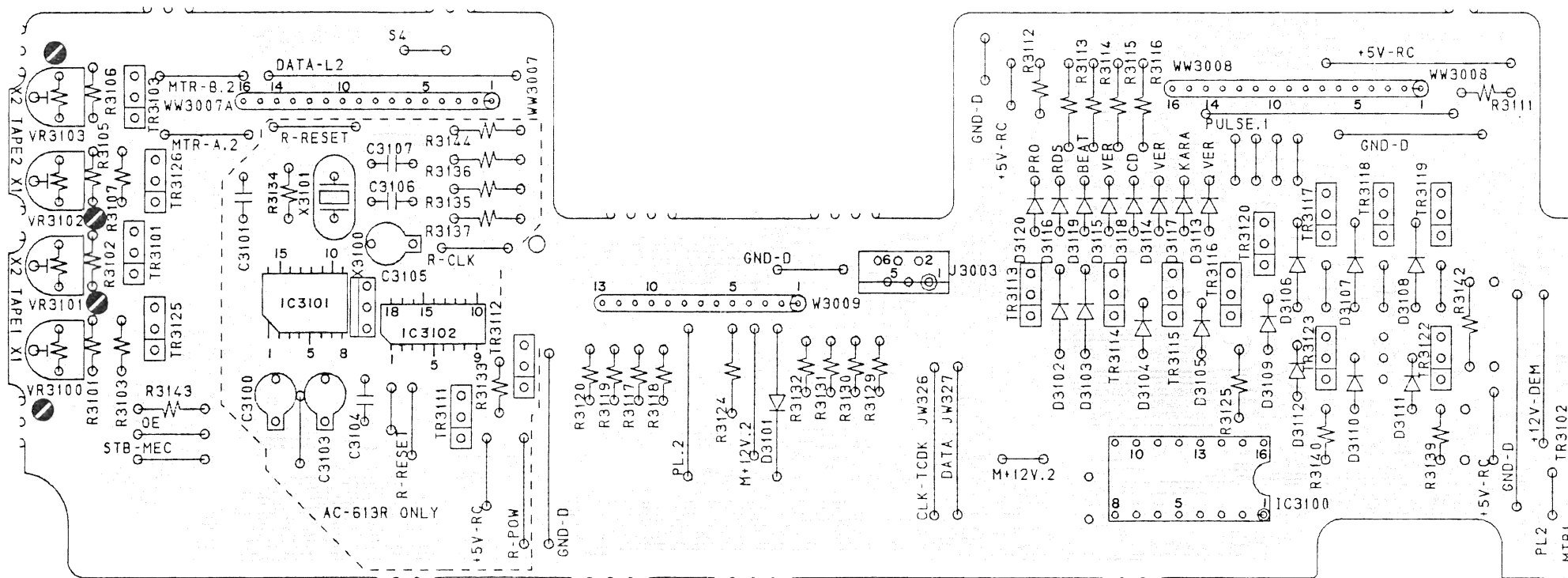
AC-610/613R/615K
 SYSCON (600 SERIES)
 SCHEMATIC DIAGRAM
 No. 6-6 C104706M
 AD

F G H I J



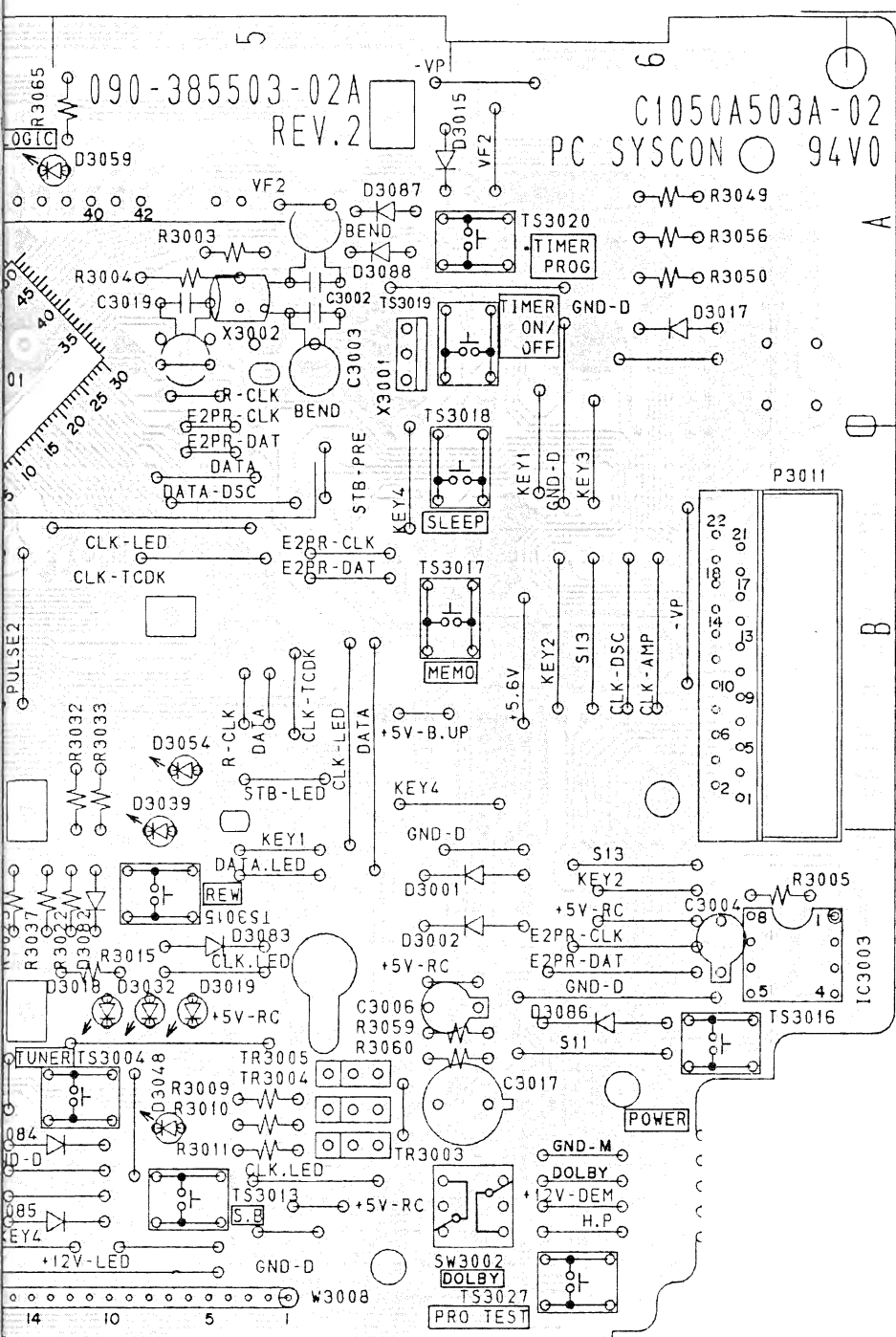
SYS610(A) PCB C1050A503A

NOTE: PART DIFFER
REFER TO SCH
PARTS INFORM

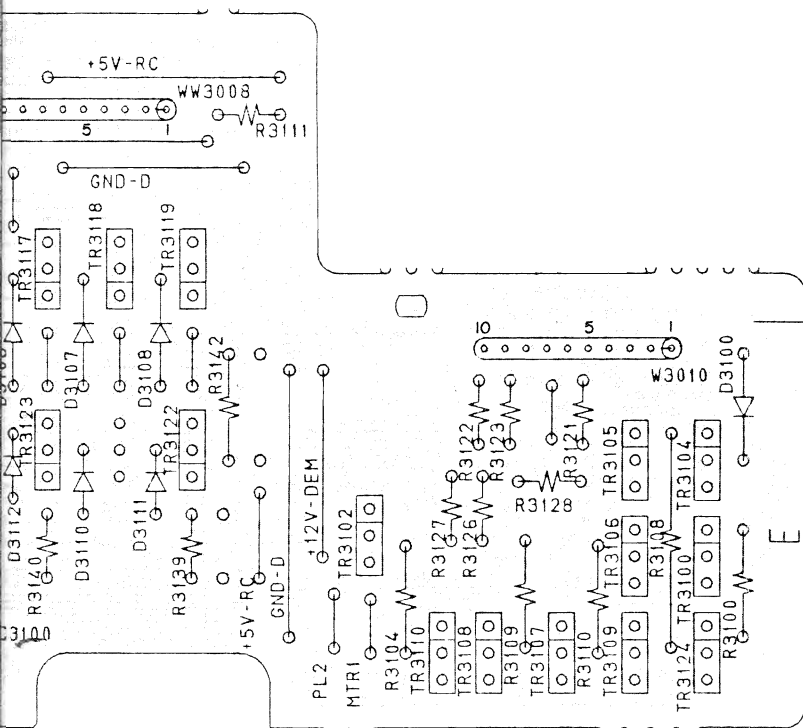


SYS610(B) PCB C1050A503B

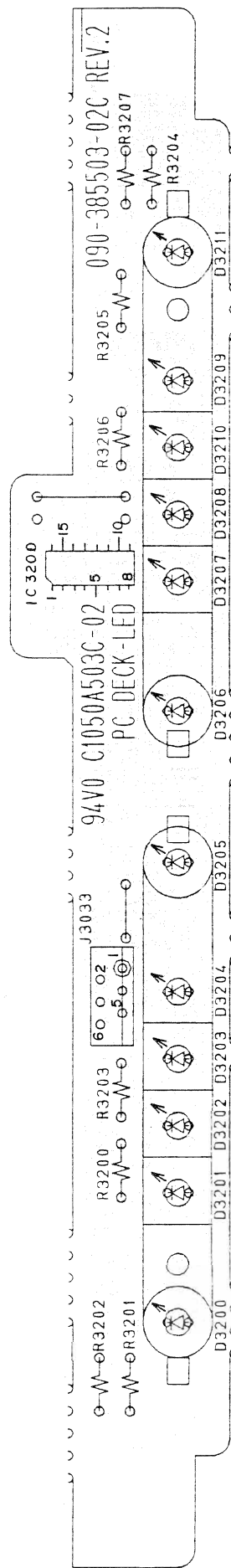
NOTE: PART DIFFER DEPENDING
REFER TO SCHEMATIC DIA
PARTS INFORMATION.



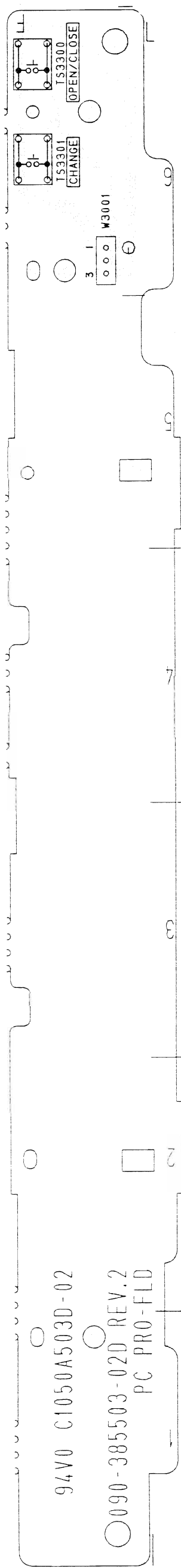
NOTE: PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.



NOTE: PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.



94V0 C1050A503C-02 REV.2
PC DECK-LED



94V0 C1050A503D-02

090-385503-02D REV.2
PC PRO-FLD

PCB C1050A503C
PCB C1050A503D

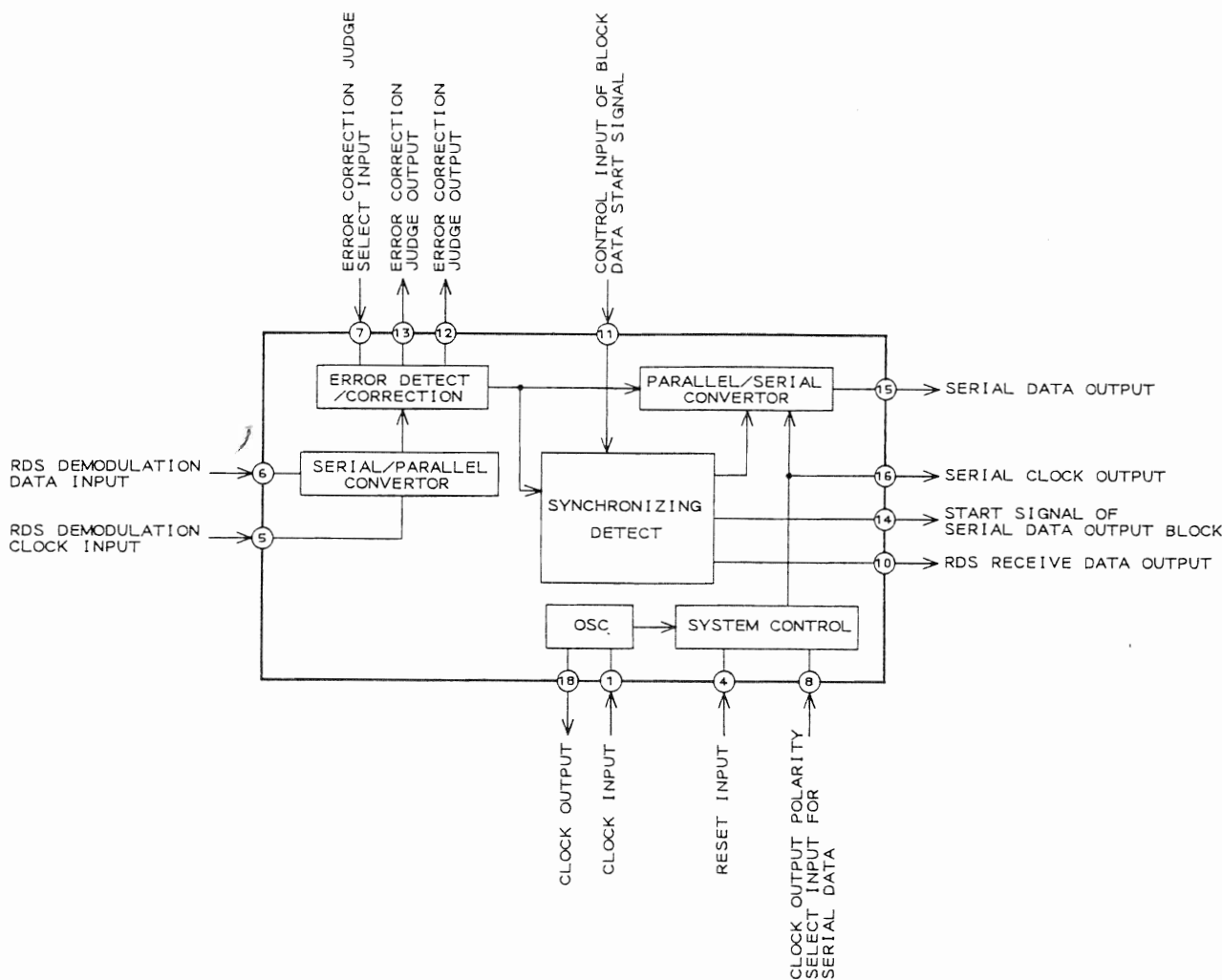
CXA1782BQ (CD RF I-V AMP/RF AMP)

PIN No.	PORT NAME	I/O	FUNCTION
1	FEO	O	Focus drive output.
2	FEI	I	Focus error signal input.
3	FDFCT	I	Time constant capacitor connecting terminal at time of defect.
4	FGD	I	Connect condenser for Focus servo gain control.
5	FLB	I	Connect condenser for Focus servo correction.
6	FE-O	O	Focus drive output.
7	FE-M	I	FOCUS AMP Inverting input.
8	SRCH	I	Connect condenser for Focus search wave.
9	TGU	I	Connect condenser for Trackink gain select.
10	TG2	I	Connect condenser for Tracking gain select.
11	FSET	I	Terminal for peak setting for Focus tracking phase compensation.
12	TA-M	I	Tracking AMP Inverting input.
13	TA-O	O	Tracking drive output.
14	SL-P	I	Sled AMP non-inverting input.
15	SL-M	I	Sled AMP Inverting input.
16	SL-O	O	Sled drive output.
17	ISET	I	Focus search, Track jump and slide kick current input.
18	Vcc	-	+5 V
19	CLK	I	Clock signal input from the CD MI-COM.
20	XLT	I	Lutch signal input from the CD MI-COM.
21	DATA	I	Data signal input from the CD MI-COM.
22	XRST	I	RESET input.
23	C.OUT	O	Track count signal output.
24	SENS	O	FZC,DFCT,TZC,GAIN and BAL output.
25	FOK	O	Focus OK signal output.
26	CC2	I	Input terminal of DEFECT bottom hold output which is supplied through capcitor.
27	CC1	O	DEFECT bottom hold output terminal.
28	CB	I	DEFECT bottom hold capacitor connecting terminal.
29	CP	I	Terminal for connection of MIRR hold capacitor. (Non inverted input terminal of MIRR comparator.)
30	RF-I	I	Input terminal of RF summing AMP output which is supplied through a capacitor.
31	RF-O	O	RF summing AMP output.
32	RF-M	I	RF summing AMP inverted input terminal.
33	LD	O	APC AMP output terminal.
34	PHD	I	APC AMP input terminal.
35	PHD1	I	RF I-V AMP inverted input terminal (for photo diode A+C of pick up)
36	PHD2	I	RF I-V AMP inverted input terminal (for photo diode B+D of pick up)
37	FE-BIAS	I	Terminal for bias adjustment of focus error amp.
38	F	I	RF I-V AMP inverted input terminal (for photo diode F of pick up)
39	E	I	RF I-V AMP inverted input terminal (for photo diode E of pick up)
40	EI	-	Not used
41	VEE	-	GND
42	TEO	O	Tracking error amp output terminal. (E-F signal output.)
43	LPFI	I	BAL adjustment of comperator input terminal.
44	TEI	I	Tracking error input terminal.
45	ATSC	I	Window comperator input input terminal for ATSC detection.
46	TZC	I	Input terminal of tracking zero cross comparator.
47	TDFCT	I	Time constant capacitor connecting terminal at time of defect.
48	VC	O	(VCC+VEE)/2 DC voltage output terminal.

CXD2508AQ (CD DIGITAL SIGNAL PROCESS & SYSTEM CONTROL)

Pin No.	PORT NAME	I/O	FUNCTION
1	SCOR	O	H output when either sub code
2	SBSO	O	Serial output of Sub P to W.
3	EXCK	I	Clock input for SBSO read out.
4	SQSO	O	Serial output of SUBQ 80 bit.
5	SQCK	I	Clock input for SQSO read out.
6	MUTE	I	Muteing control. (H : MUTE, L :
7	SENS	O	SENS output. Output to the OP
8	XRST	I	System reset. Reset at L.
9	DATA	I	Serial data input from THE OP
10	XLAT	I	Latch input from the OPERATIO
11	CLOCK	I	Serial data transmission clock i
12, 53	Vss	-	GND
13	SEIN	I	Sense input from SSP.
14	CNIN	I	Track jump number count signa
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latch output to SSP.
17	CLKO	O	Serial data transmission clock o
18	SLED SW	I	Innermost position ON/OFF det
19	SPOB	I	Innermost position ON/OFF det
20	SPOC	I	Innermost position ON/OFF det
21	XLSL	I	X'tal selection input terminal. L v
22	LD ON/OFF	O	Laser diode ON/OFF control.
23	FOK	I	Focus OK input terminal. For S
24	MON	-	Not used
25	MDP	O	Servo control for spindle motor.
26	MDS	-	Not used
27	LOCK	-	Not used
28	TEST	-	Regular GND for TEST termina
29	FILO	O	Filter output for master PLL. (sl
30	FILI	I	Filter input for master PLL.
31	PCO	O	Charge pump output for master
33, 75, 76	AVss1 ~ 3	-	GND
34	CLTV	I	VCO control voltage input for m
36	RF	I	EFM signal input.
37	BIAS	I	Asymmetry ciruir constant cur
38	ASYI	I	Asymmetry compilasion voltage
39	ASYO	O	EFM full swing output. (L = VSS
40	ASYE	I	L : Asymmetry circuit OFF H :
41	WDCK	-	Not used
42	LRCK	O	D/A interface for 48 bit slot. LR
43	LRCKI	I	LR clock input to DAC.
44	PCMD	O	Serial data from D/A interface.
45	PCMDI	I	Audio data input to DAC.
46	BCK	O	Bit clock from D/A interface.
47	BCKI	I	Bit clock input to DAC.
48	GTOP	-	
49	XUGF	-	
50	XPCK	-	
51	GFS	-	
52	RFCK	-	
54	C2PO	-	Not used
55	XROF	-	
56	MNT3	-	
57	MNT1	-	
58	MNT0	-	
59	FSTT	-	
60	C4MR	-	
61	DOUT	O	Digital out terminal.
62	EMPH	O	H output when a playback disc
63	EMPHI	I	De-emphasis control input. (H :
64	WFCK	O	WFCK (Write Frame Clock) ou
65	ZEROL	-	Not used
66	ZEROR	-	Not used
67, 79, 80	DTS1 ~ 3	-	GND
69	NLPWM	O	L-ch PWM output. (opposite ph
70	LPWM	O	L-ch PWM output. (in-phase)
73	XTAI	I	33.8688 MHz X'tal oscillation c
74	XTAO	O	33.8688 MHz X'tal oscillation c
77	NRPWM	O	R-ch PWM output. (opposite pi
78	RPWM	O	R-ch PWM output. (in-phase)

LC7073M (RDS DATA PROCESS)



SYSTEM CONTROL MI-COM)

FUNCTION
When either sub code S0 or S1 is detected.
of Sub P to W.
or SBSO read out.
of SUBQ 80 bit.
or SQSO read out.
rol. (H : MUTE, L : CANCEL)
Output to the OPERATION MI-COM.
Reset at L.
put from THE OPERATION MI-COM.
om the OPERATION MI-COM. (Latching of serial data at falling pulse.)
ansmission clock input from the OPERATION MI-COM.
from SSP.
umber count signal input.
output to SSP.
atch output to SSP. (Latching at falling edge of the pulse.)
ansmission clock output to SSP.
osition ON/OFF detection input of sled motor. (Input A)
osition ON/OFF detection input of sled motor. (Input B)
osition ON/OFF detection input of sled motor. (input C)
n input terminal. L when X'tal is 16.9344 MHz. H when 33.8688 MHz.
ON/OFF control.
put terminal. For SENS output and servo automatic sequencer.
l for spindle motor.
D for TEST terminal.
for master PLL. (slave = digital PLL)
or master PLL.
p output for master PLL.
voltage input for master.
input.
circuir constant current input.
compilation voltage input.
ng output. (L = Vss, H = VDD)
ry circuit OFF H : Asymmetry circuit ON.
e for 48 bit slot. LR clock f = Fs
ut to DAC.
rom D/A interface.
input to DAC.
m D/A interface.
ut to DAC.
terminal.
hen a playback disc is emphasised. L output when no emphasis.
is control input. (H : ON, L : OFF)
te Frame Clock) output.
output. (opposite phase)
output. (in-phase)
Hz X'tal oscillation circuit input.
Hz X'tal oscillation circuit output.
output. (opposite phase)
output. (in-phase)

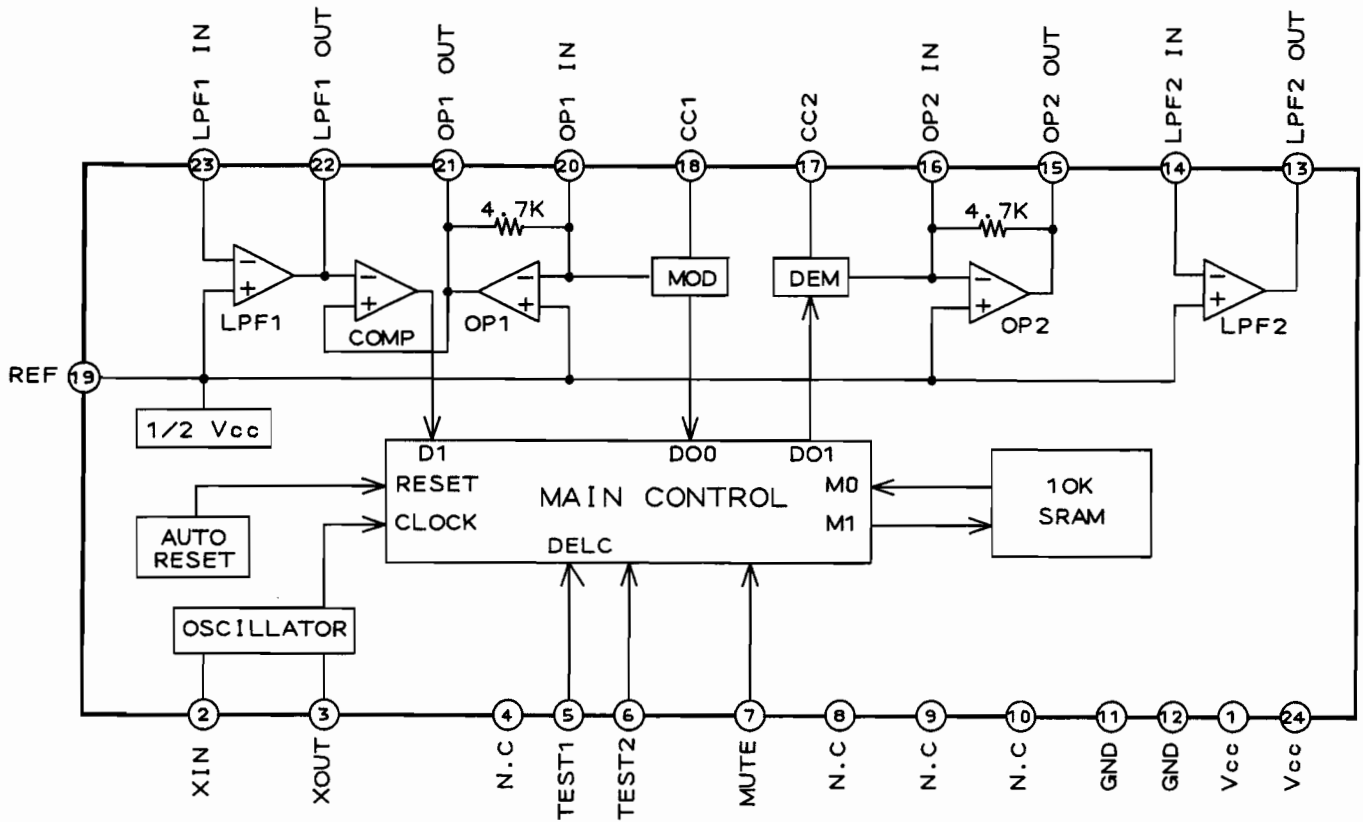
M38197MA-148/149FP (SYSTEM CONTROL MI-COM)

Pin No	PORT NAME	I/O	FUNCTION
1	PLL CLK	O	PLL clock signal output to the TUNER UNIT.
2	MAIN VR1	I	2 bit encoder input for electric volume control.
3	MAIN VR2	I	
4	PULSE 1	I	TAPE 1 reel pulse input.
5	PULSE 2	I	TAPE 2 reel pulse input.
6	LEVEL S	I	A/D input for surround level meter.
7	LEVEL C	I	A/D input for center level meter.
8	SPAN A	I	A/D input for spectrum analyzer indication.
9	CLK LED	O	Clock output for LED section expansion IC.
10	PLL OUT	O	PLL control output to the TUNER UNIT.
11	STB FLD	O	Strobe pulse output to DOLBY PRO-LOGIC FLD drive IC.
12	CLK FLD	O	Clock output to DOLBY PRO-LOGIC FLD drive IC.
13	DATA FLD	O	Data output to DOLBY PRO-LOGIC FLD drive IC.
14	PHOTO IN	I	Input from the TRAY rotation position detect photo sensor.
15	CD XLAT	O	Latch output for the CD MI-COM.
16	CD CLK	O	Serial clock output to the CD MI-COM.
17	CD DATA	O	Serial data output to the CD MI-COM.
18	MODE SW	I	A/D input from the CD's open, close and clamp switches.
19	CLK TCDK	O	Clock output for controlling the expansion IC of the TUNER/CD/DECK section.
20	CD SQCK	O	SQCK clock output to the CD MI-COM.
21,85	N.C	-	No connection.
22	CD SQSO	I	SUBQ 80 bits serial input.
23	DATA DSC	O	Serial data output for controlling the DIGITAL SOUND CONTROL IC.
24	DATA	O	Serial data output to the expansion ICs (for KEY control & EVR ICs, etc.).
25	OSC PWM	O	Erasing OSC level control output.(PWM)
26	BOP	I	Blank output pulse input. (L : blank)
27	E ² PR DAT	I/O	EEP ROM serial data input/output.
28	E ² PR CLK	O	Serial clock output to EEP ROM.
29	CD SENS	I	Input pin for reading verious data from the CD MI-COM.
30	R CLK	I	Clock input from RDS data processor.
31	CLK DSC	O	Clock output to the DIGITAL SOUND CONTROLLOR.
32	REMOCON	I	Remote control signal input.
33	CLK AMP	O	Clock output to the expansion ICs (EVR, Key control, etc. among the PRE/MAIN AMP section).
34	CD SCOR	I	Sub code detect input from the CD MI-COM. (H : sub code 0 or 1 is detected)
35	RESET	I	Reset input
36	XC IN	I	32.768 kHz X'tal input for clock.
37	XC OUT	O	Output to the 32.768 kHz X'tal.
38	X IN	I	8.0 MHz X'tal input.
39	X OUT	O	Output to the 8.0 MHz X'tal.
40	GND-D	-	Digital ground.
41 - 44	KEY1 - 4	I	Key matrix input from the operation switches.
45 - 60	DIG 1 - 16	O	System FLD's grid drive output.
61 - 80	SEG 1 - 20	O	System FLD's segment drive output. (SEG 17~20 : 700 series models only)
81	POW DOWN	I	Back up voltage detection input. (H : normal, L : Power down)
82	STB AMP	O	Strobe pulse output for AMP section expansion IC.
83	OE	O	Output enable control for expansion ICs. (L : enable, H : expansion IC output → high impedance).
84	STB VR	O	Strobe pulse output for EVR (electric volume) IC.
86	STB TCDK	O	Strobe pulse output for TUNER/DECK/CD section expansion ICs.
87	STB PRE	O	Strobe pulse output for PRE AMP section expansion IC.
88	STB MEC	O	Strobe pulse output for DECK MECHA. section expansion IC.
89	R DATA	I	Data input from RDS data processor.
90	R START	I	Start signal input from RDS data processor.
91	VCC	-	+5 V power supply.
92	R RESET	O	Reset output to RDS error correction IC. (L : reset)
93	STEREO	I	A/D input for the "STEREO" indicator.
94	TUNED	I	A/D input for the "TUNED" indicator.
95	STB LED	O	Strobe pulse output for LED section expansion IC.
96	PLL IN	I	PLL control input from the tuner unit.
97	PLL CE	O	PLL chip enable output to the tuner unit.
98	-VP	I	Negative power supply for FLD blanking.
99	VSS	-	To be grounded.
100	VREF	I	Reference voltage input. (+5 V)

M62422FP (SOUND CONTROLLER)

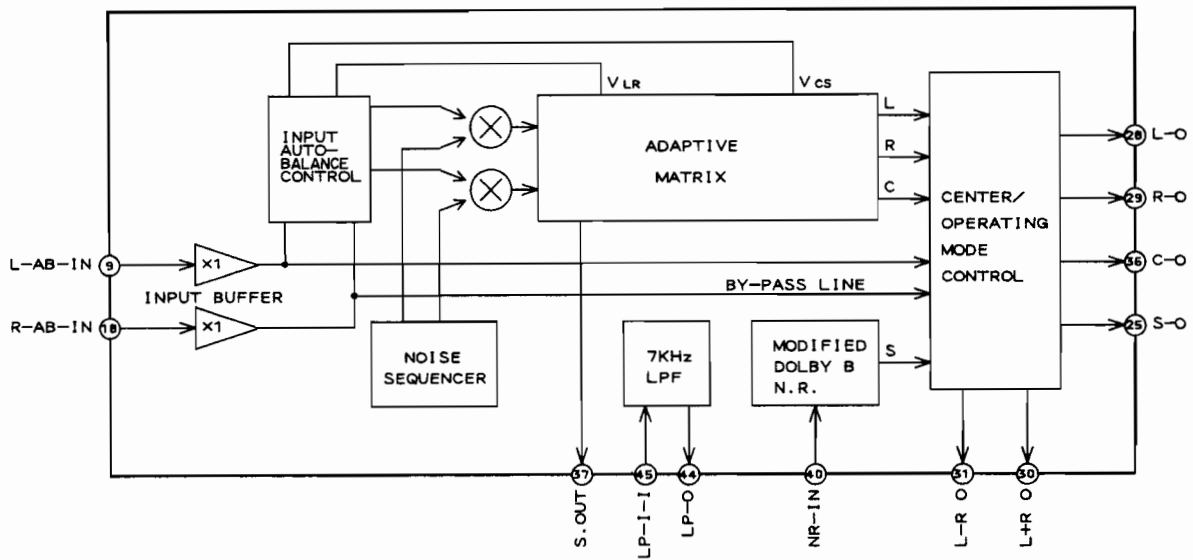
Pin No	PORT NAME	I/O	FUNCTION
1	CLOCK	I	Clock signal input pin for data transmission.
2	DATA	I	Control data input pin.
3	DVDD	-	Power supply for internal logic circuit.
4	VCUT	-	Capacitor connecting pin for vocal cut.
5	SUROUT	O	This pin outputs surround (L-R or L+R) signal and vocal cut signal.
6	IN1	I	Channel 1 input pin.
7	KEYCON1	O	Output pin to the key control circuit.
8	MIC IN1	I	Mic signal input pin during KARAOKE function.
9	INBASS1	I	BASS resonant bufferring AMP input pin.
10	NFBASS1	O	BASS resonant bufferring AMP output pin.
11	FBASS1	-	BASS BPF (resonant AMP) connecting pin.
12	INMID1	I	MID resonant bufferring AMP input pin.
13	NFMID1	O	MID resonant bufferring AMP output pin.
14	FMID1	-	MID BPF (resonant AMP) connecting pin.
15	FTRE1	-	TREBLE BPF connecting pin.
16	REC OUT1	O	Channel 1 REC OUT pin.
17	FBB1	I	BASS boost BPF (resonant AMP) connecting pin.
18	NFBB1	O	BASS boost resonant bufferring AMP output pin.
19	INBB1	I	BASS boost resonant bufferring AMP input pin.
20	OUT1	O	Channe 1 output pin.
21	AGND	-	Internal analog circuit grounding pin.
22	AVss	-	Negative power supply pin for internal analog circuit.
23	OUT2	O	Channe 2 output pin.
24	INBB2	I	BASS boost resonant bufferring AMP input pin.
25	NFBB2	O	BASS boost resonant bufferring AMP output pin.
26	FBB2	-	BASS boost BPF (resonant AMP) connecting pin.
27	REC OUT2	O	Channel 2 REC OUT pin.
28	FTRE2	-	TREBLE BPF connecting pin.
29	FMID2	-	MID BPF (resonant AMP) connecting pin.
30	NFMID2	O	MID resonant bufferring AMP output pin.
31	INMID2	I	MID resonant bufferring AMP input pin.
32	FBASS2	-	BASS BPF (resonant AMP) connecting pin.
33	NFBASS2	O	BASS resonant bufferring AMP output pin.
34	INBASS2	I	BASS resonant bufferring AMP input pin.
35	MIC IN2	I	Mic signal input pin during KARAOKE function.
36	KEYCON2	O	Output pin to the key control circuit.
37	IN2	I	Channel 2 input pin.
38	SUR R	-	Time constant setting capacitor connectig pin for the surround circuit.
39	SUR C	-	Time constant setting capacitor connectig pin for the surround circuit.
40	AVDD	-	Positive power supply pin for internal analog circuit.
41	DGND	-	Internal logic circuit grounding pin.
42	N.C	-	No connection.

M65843AFP (DIGITAL ECHO)



PIN No.	PORT NAME	I/O	FUNCTION
1	VDD	-	+5 V power supply for digital section.
2	X IN	I	X'tal OSC input.
3	X OUT	-	X'tal OSC output.
4	NC	-	No connection.
5	TEST 1	I	Test pin (fixed H in the normal condition).
6	TEST 2	I	Test pin (fixed L in the normal condition).
7	MUTE	I	Mute control input (L : mute).
8 ~ 10	NC	-	No connection.
11	D.GND	-	Digital ground.
12	A.GND	-	Analog ground.
13	LPF2 OUT	O	Constructs the output side low pass filter from the externally connected capacitor & resistor.
14	LPF2 IN	I	
15	OP2 OUT	O	Constructs the integrator for demodulation from the externally connected capacitor & resistor.
16	OP2 IN	I	
17	CC2	-	Current control for demodulator ADM control.
18	CC1	-	Current control for modulator ADM control.
19	REF	-	Analog reference voltage (1/2 Vcc).
20	OP1 IN	I	Constructs the integrator for modulation from the externally connected capacitor & resistor.
21	OP1 OUT	O	
22	LPF1 OUT	O	Constructs the input side low pass filter from the externally connected capacitor & resistor.
23	LPF1 IN	I	
24	Vcc	-	+5 V analog power supply.

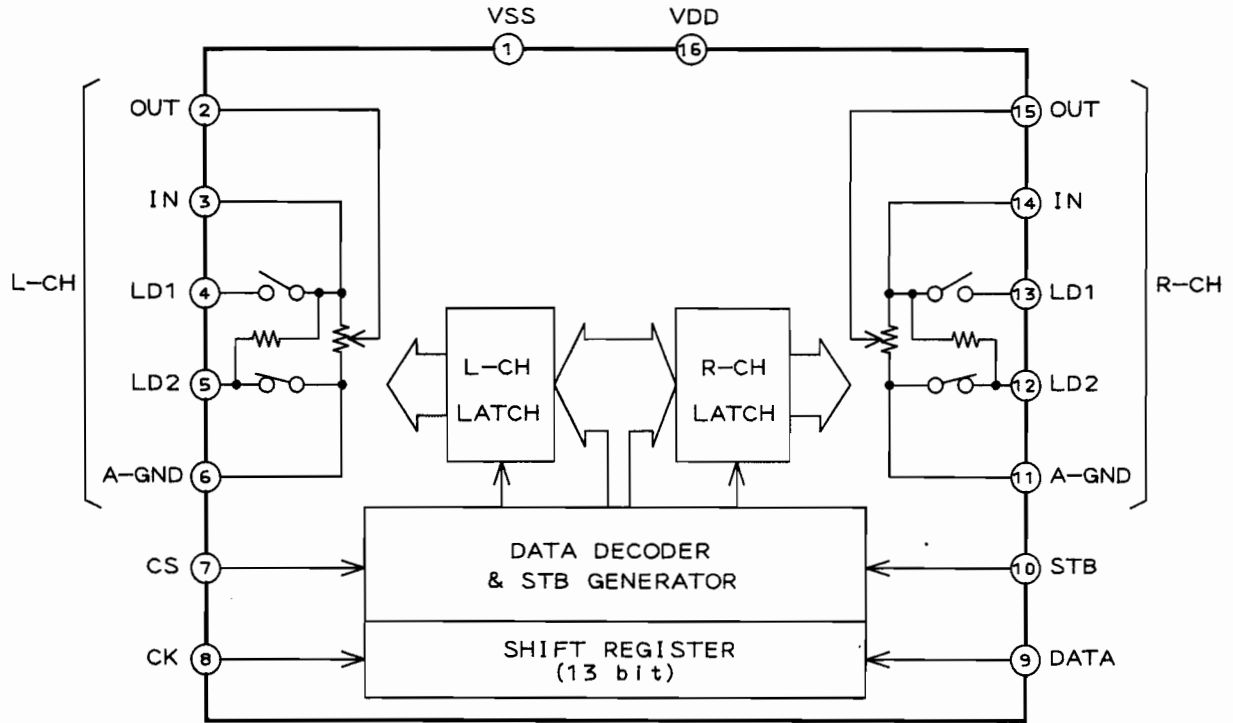
NJM2177A FB3 (DOLBY PRO LOGIC SURROUND DECODER)



SAA6579T (RDS DEMODULATOR)

PIN No	PORT NAME	I/O	FUNCTION
1	QUAL	O	QUALITY INDICATION OUTPUT
2	RDDA	O	RDS DATA OUTPUT
3	VREF	—	REFERENCE VOLTAGE OUTPUT
4	MUX	I	MULTIPLEX SIGNAL INPUT
5	VDD	—	+5 V SUPPLY VOLTAGE FOR ANALOG PART
6	VSS	—	GND FOR ANALOG PART
7	CIN	I	SUBCARRIER INPUT TO COMPARATOR
8	SCOUT	O	SUBCARRIER OUTPUT OF RECONSTRUCTION FILTER
9	MODE	I	OSCILLATOR MODE / TEST CONTROL INPUT
10	TEST	I	TEST ENABLE INPUT
11	VSS	—	GND FOR DIGITAL PART
12	VDD	—	+5 V SUPPLY VOLTAGE FOR DIGITAL PART
13	OSC1	I	OSCILLATOR INPUT
14	OSC0	O	OSCILLATOR OUTPUT
15	T57	O	57 kHz CLOCK SIGNAL OUTPUT
16	RDCL	O	RDS CLOCK OUTPUT

TC9260P (ELECTRIC VOLUME CONTROL)



TC9412P (ELECTRIC VOLUME CONTROL)

