ORDER NO. AD9109

Service Manual

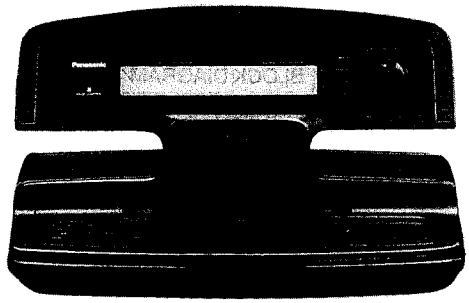
CD/Deck/Tuner

CD/Deck/Tuner

SA-FX1

COMPACT disc DIGITAL AUDIO

DOLBY SYSTEM



Color

(K)	Black Type

Area

Country Code	Areas	Color
(EB)	Great Britain	(K)
(EG)	Continental Europe and F.R. Germany	

System: SC-FX2

This system can be used in a cordless configuration in which the speakers are located separately from the main operation unit and controlled by means of optical digital space transmission.
When a component requires service, send or bring in the entire system.

TAPE DECK: RX-FD55 MECHANISM SERIES (AR300)
TRAVERSE DECK: RX-DT55 MECHANISM SERIES (S0DD110)

■ SPECIFICATIONS

■ Radio

Frequency Range: FM; 87.5–108 MHz
MW; 522–1611 kHz

■ Disc player

Sampling Frequency: 44.1 kHz
D-A Conversion: MASH 1 bit
Beam Source: Semiconductor laser (Wave length 780 nm)
No. of Channels: 2-channels, stereo
Frequency Response: 20 Hz–20 kHz (+1/–1 dB)
Wow and Flutter: Unmeasurable

■ Tape Recorder

Track System: 4-track, 2-channels, stereo
Recording System: AC bias
Erasing System: AC erase
Monitor System: Variable sound monitor
Frequency Range:
Normal: 35–16000 Hz (DIN)
CrO_2: 35–16000 Hz (DIN)
Metal: 33–17000 Hz (DIN)

■ General

Power Requirement: Memory back-up for computer/clock; 6 V (4 R03/LR03, UM-4 batteries)
Jacks:
Input: MIX MIC; 2.5 mV impedance 200–600Ω
AUX IN; 0.25 mV input impedance 57 kΩ
Output: LINE OUT; 400 mV output impedance 3.2 kΩ
HEADPHONES; 8 mW (max.) 8Ω
Dimensions (W×H×D): 394×87×235 mm
Weight: 3.3 kg without batteries

Notes:
1. Specifications are subject to change without notice.
2. Weight and dimensions are approximate.

***Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.**
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

System	CD/deck/receiver	Power amplifier	Optical digital adaptor Optical digital emitter	Optical digital receiver	Speaker system
SC-FX2	SA-FX1	SE-FX1	SH-FX1T	SH-FX1R	SB-FX2

Panasonic

■ CONTENTS

CAUTION:
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ PRECAUTION OF LASER DIODE

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick up lens.

Wave length: 780 nm
Maximum output radiation power from pick up: 100 µW/VDE

Laser radiation from the pick up lens is safety level, but be sure the followings:

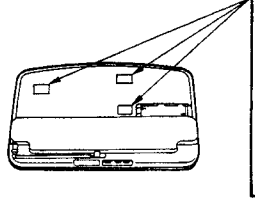
1. Do not disassemble the optical pick up unit, since radiation from exposed laserd diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG: Dieses produkt enthält eine laserdiode. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

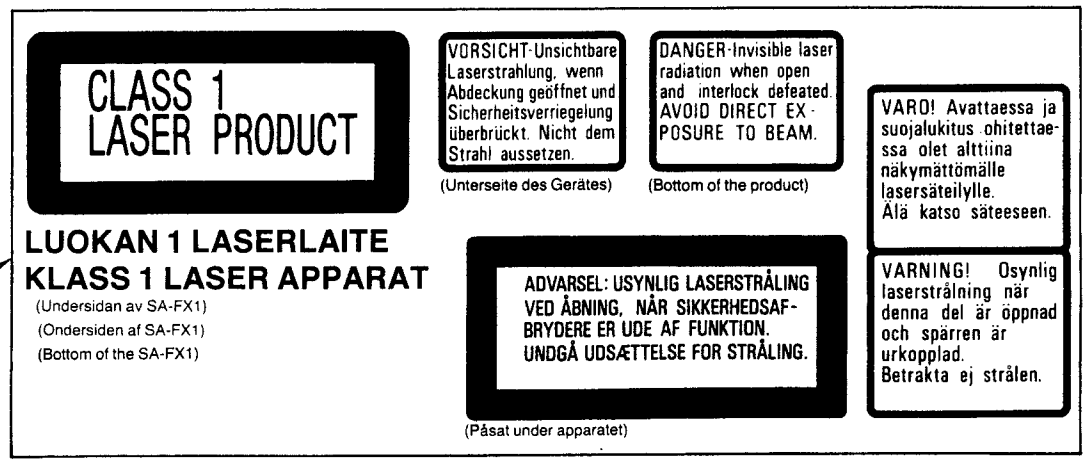
Wellenlänge: 780 nm
Maximale strehlungsleistung der lasereinheit: 100 µW/VDE

Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

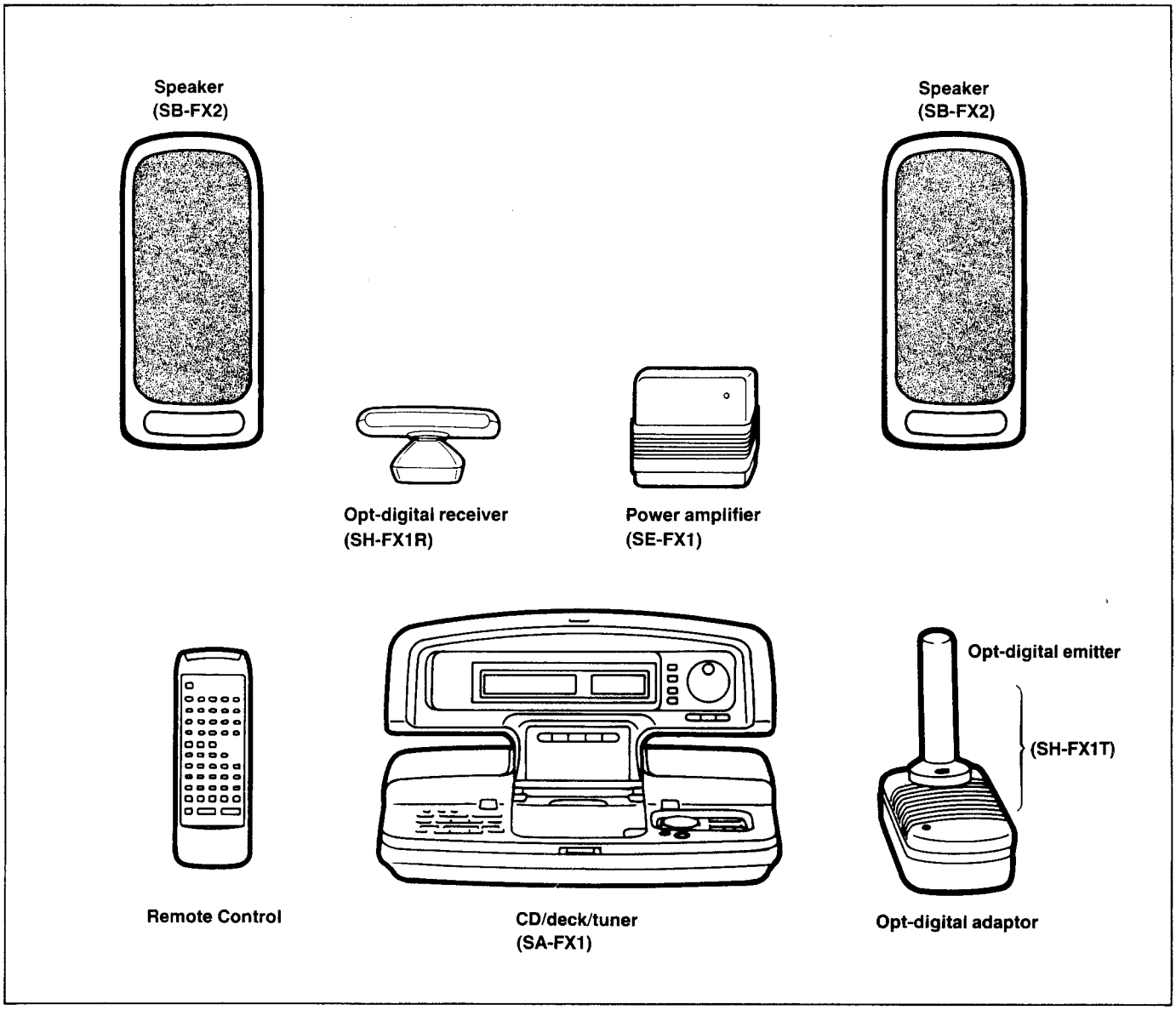
1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdiode gefährlich ist.
2. Den werksseitig justierten einstellregler der lasereinreit nicht verstellen.
3. Nicht mit optischen instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.



(Undersidan av SA-FX1)
(Ondersiden af SA-FX1)
(Bottom of the SA-FX1)



■ SYSTEM LINE-UP



CD/deck/tuner
This is the main unit with the controls for operation.

Remote control
This is used to operate the CD/deck/tuner from a distance.

Opt-digital emitter
This transmits the signals which have been converted by the opt-digital adaptor.
(The opt-digital emitter is supplied in ass'y.)

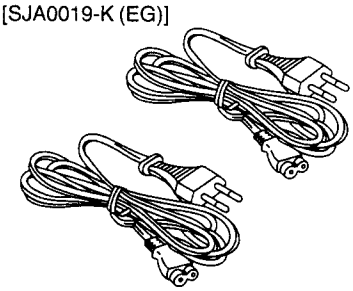
Opt-digital (optical digital) adaptor
This converts the analog signals sent from the CD/deck/tuner into optical digital signals. It also supplies the power to the CD/deck/tuner.

Opt-digital (optical digital) receiver
This receives the signals transmitted from the Opt-digital emitter and converts them into analog signals.
(The opt-digital receiver is supplied in ass'y.)

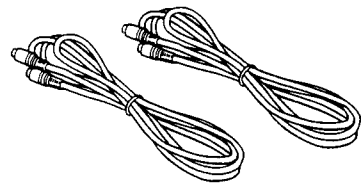
Power amplifier
This drives the speakers. It also supplies power to the opt-digital receiver.

■ SUPPLIED ACCESSORIES

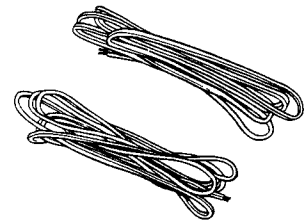
AC power supply cords . . . . . 2 pcs.
[SJA193 (EB)]
[SJA0019-K (EG)]



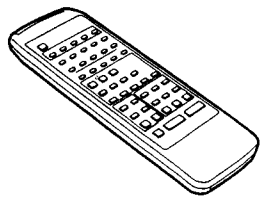
System cables . . . . . 2 pcs.
[RJL8D004B20]



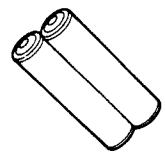
Speaker cords . . . . . 2 pcs.
[SWXS257M]



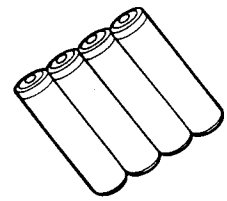
Remote control . . . . . 1pc.
[RAK-RX504W]



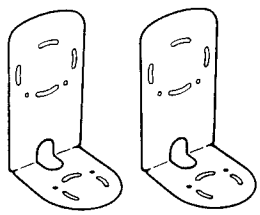
Batteries for remote control . . . . . 2 pcs.



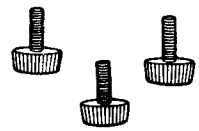
Batteries for clock/memory back-up . . . . . 4 pcs.



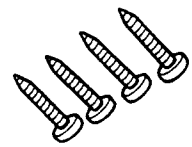
Wall-mounting brackets for Opt-digital receiver/emitter . . . . . 2 pcs.
[RFA0153]



Screws for wall-mounting brackets . . . . . 3 pcs.
[RFA0152]

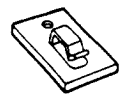


Wood screws for wall-mounting brackets . . . . . 4 pcs.
[RFA0152]

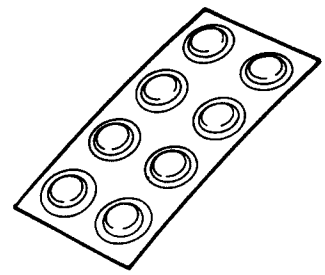


Cord clamp (large) for opt-digital receiver . . . . . 1 pc.
[RFA0171]

Cord clamp (small) for opt-digital emitter . . . . . 1 pc.
[RFA0171]



Setting mat for speaker system . . . . . 8 pcs.
[RFA0206]



The configuration of AC power supply cord differs according to area.

■ INSTALLATION

This system can be used in a cordless configuration in which the speakers are located separately from the main operation unit and controlled by means of optical digital space transmission.

Installation precautions

Install the units where the path of the optical digital signals will not be obstructed.
Place the opt-digital emitter and receiver at a high position.

Place the opt-digital emitter and receiver facing each other.

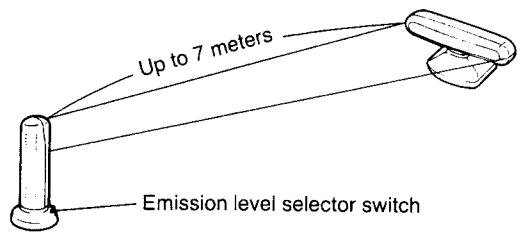
Place the opt-digital receiver so that the front of its lightsensing window will not be directly exposed to sunlight or indoor light.

Place the opt-digital receiver so that its light-sensing window will not be directly exposed to remote control signals from other components.

Obstructing the optical digital signals or exposing the light-sensing window of the opt-digital receiver to other remote control signals may result in a loss of sound from the speakers.

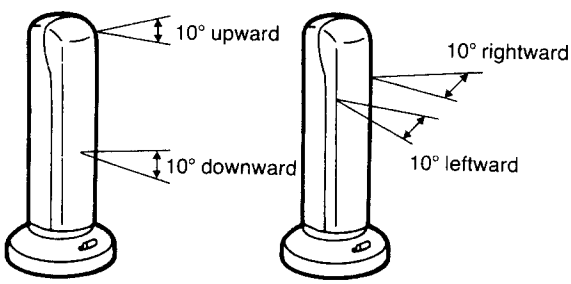
Even if the speaker sound is lost in this way while the CD/deck/tuner is recording, this will not affect the recording.
Sending this unit's optical digital signals to the remote control sensor window of a TV or VTR may make it impossible for these units to be operated by remote control.

Optical digital signals can be sent and received over distances of up to 7 meters.



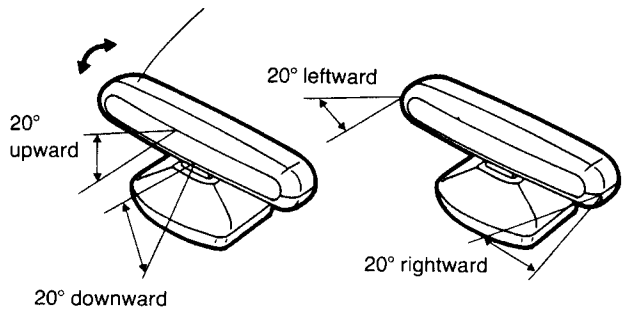
Emission level selector switch on opt-digital emitter:
This is normally kept at the "HIGH" position.
Set it to "LOW" when another remote-controlled component or product (TV set, etc.) cannot be operated by remote control.

The emission range of the opt-digital emitter is 10° both laterally and vertically.



The receiving range of the opt-digital receiver is approximately 20° in both the lateral and vertical directions.

The light-sensing window can be adjusted vertically.
(Adjust the direction of the light sensing window when it is exposed to lighting.)

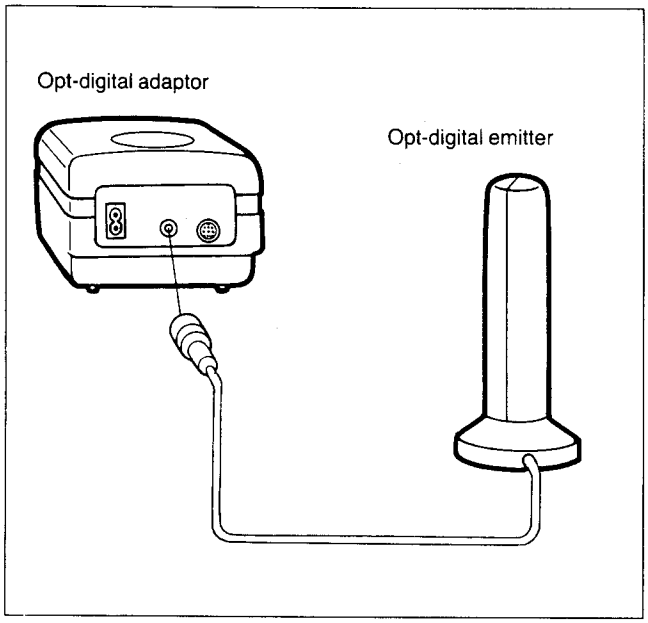


■ CONNECTIONS

Control unit connections

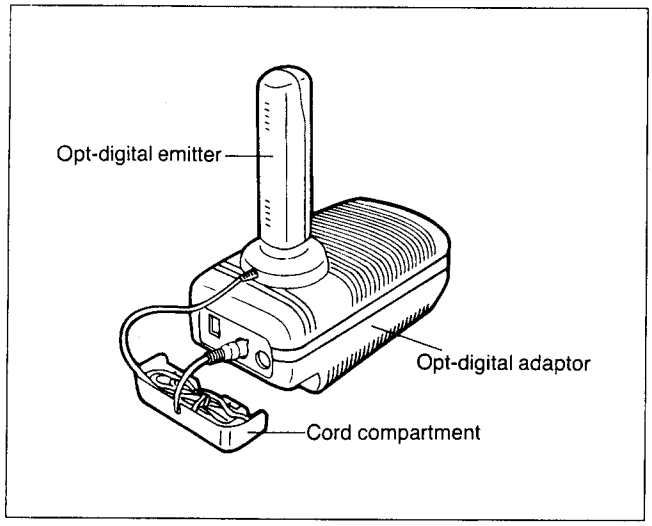
Push the plugs firmly into the sockets as far as they go.

Connecting the opt-digital emitter



Do not use the connection jacks on the opt-digital adaptor for connecting anything else since doing so may result in a breakdown.

Stowing away the excess cord



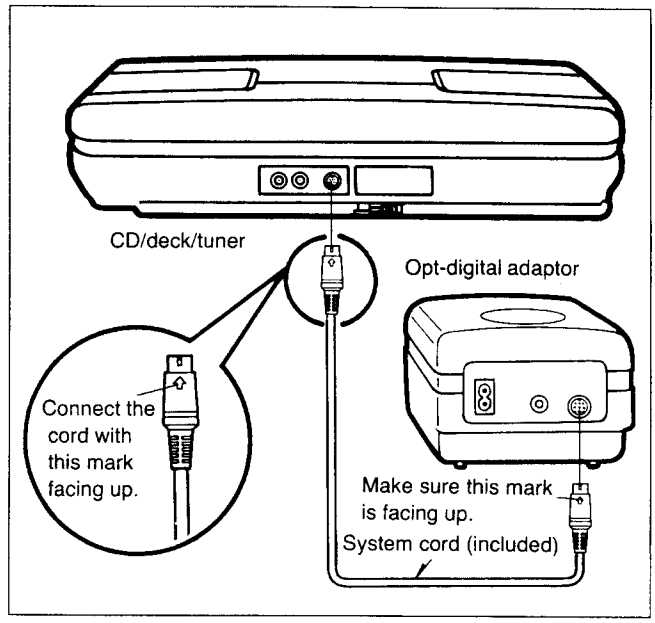
When the cord has been connected with the opt-digital emitter positioned on top of the opt-digital adaptor, fold the excess cord and stow it away in the compartment provided, as shown in the figure.

Notes:

Do not allow cords to come near the telescopic antenna on the rear panel of the CD/deck/tuner since this may generate noise which will adversely affect radio reception.

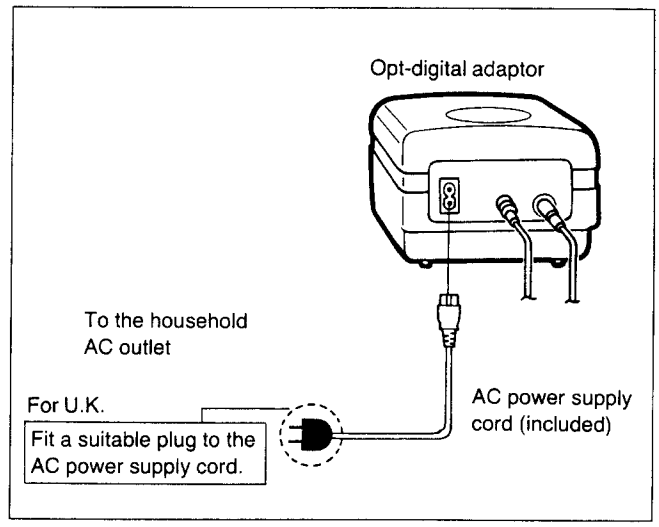
The top panel of the opt-digital adaptor will heat up: this is normal and not indicative of a malfunction.
Holes are provided to allow the heat inside to dissipate. They should not, therefore, be blocked or covered by a cloth or paper, etc. Install the unit in a location which is as well-ventilated as possible.

Connecting the system cord



Before connecting the system cord, insert the clock/memory back-up batteries first.

Connecting the AC power supply cord

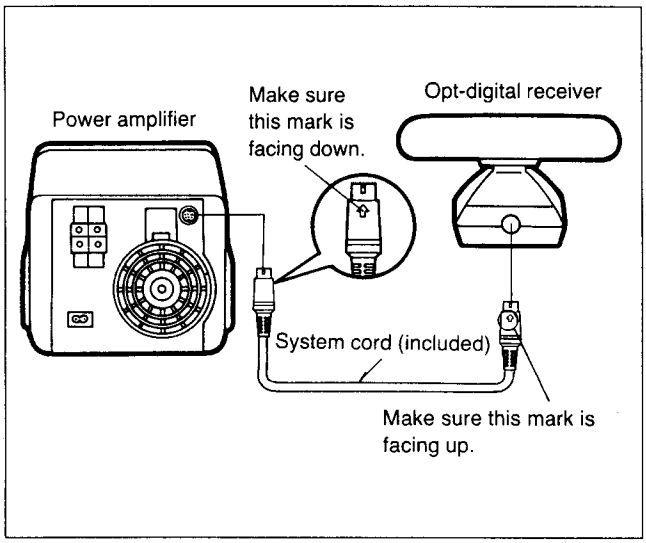


Install the opt-digital adaptor and power amplifier on the right side facing the front of the CD/deck/tuner on the left side facing the front. If these units are installed on the left side, noise may be generated which will adversely affect radio reception.

Optical digital signals are not sent when the headphones are in use.

Speaker connections

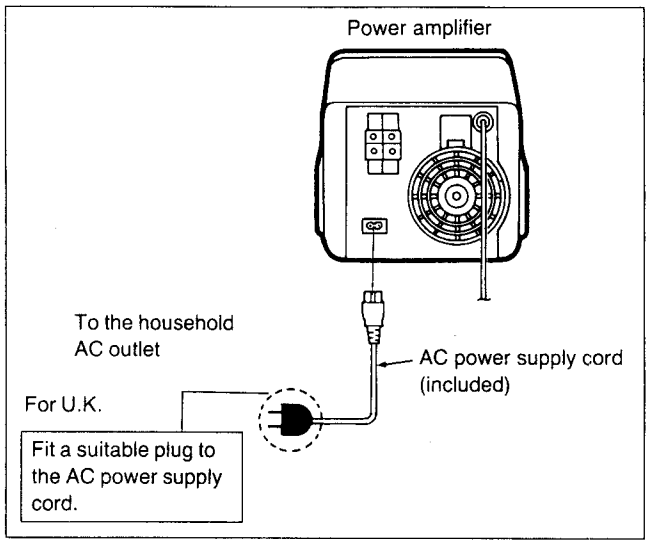
Connecting the system cord



Note:
Before disconnecting the power amplifier's system cord, make sure that its power is in the standby condition. (This can be checked by observing the SA-FX1's mode indicator.)

Connecting the AC power supply cord

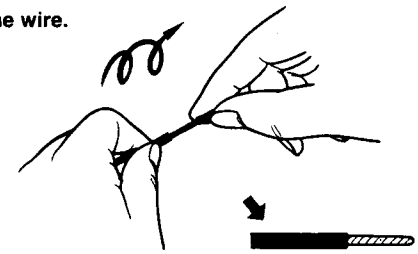
The AC power supply cord should be connected after the other cords have been connected.



Connecting the speaker cords

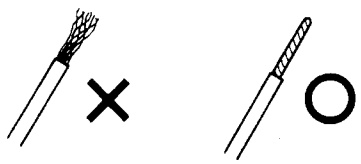
Optional speaker cannot be connected to this unit.
Match the 2 wires from the left and right speaker cords with the same coloured levers of the speaker terminals, then insert the wires into the respective terminals.

1 Twist the wire.



2 Push down on the lever, insert the bare ends of the wires, and push up the lever. (Refer to the right.)

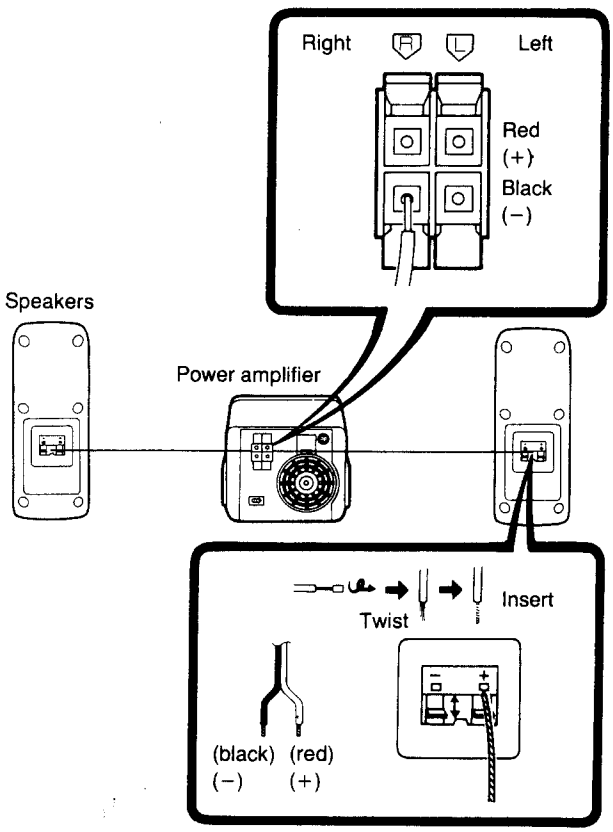
Note:
Make sure the bare ends of the wires are not unraveled. (If they are, twist them tight again.)



Take care not to short the wires. (The main unit could be damaged if they are shorted.)

What happens when a short circuit occurs in the cords
If the (+) and (−) polarities of the speaker terminals are short-circuited in error during operation, the internal protection circuit is actuated to safeguard the circuitry from damage and no sound will be heard. In this case, switch off the power to the standby mode, check whether the speaker cords have shorted, and then switch the power on again.

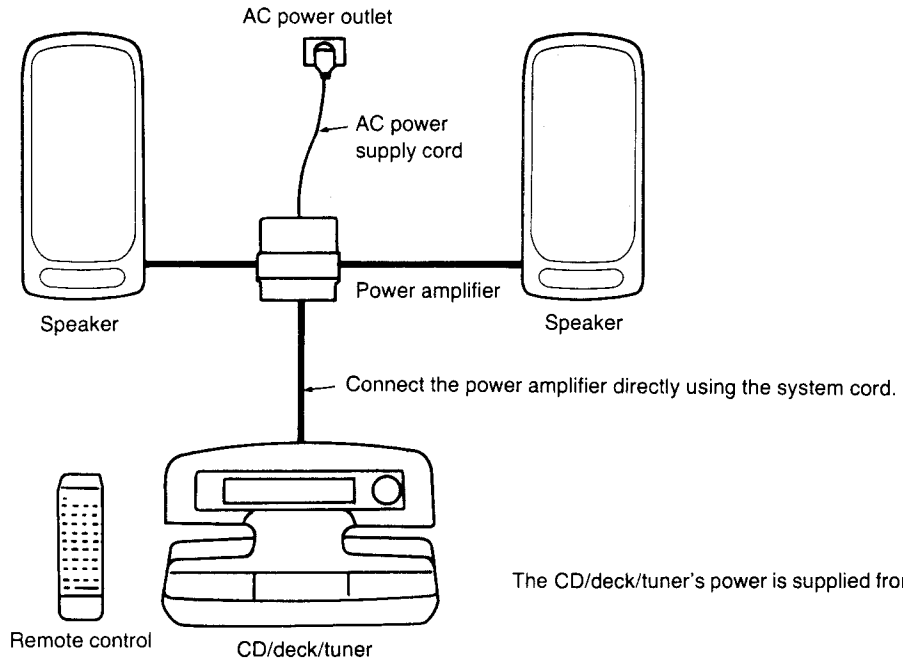
First connect the cords to the speakers, then to the amplifier.



er cords

y cord

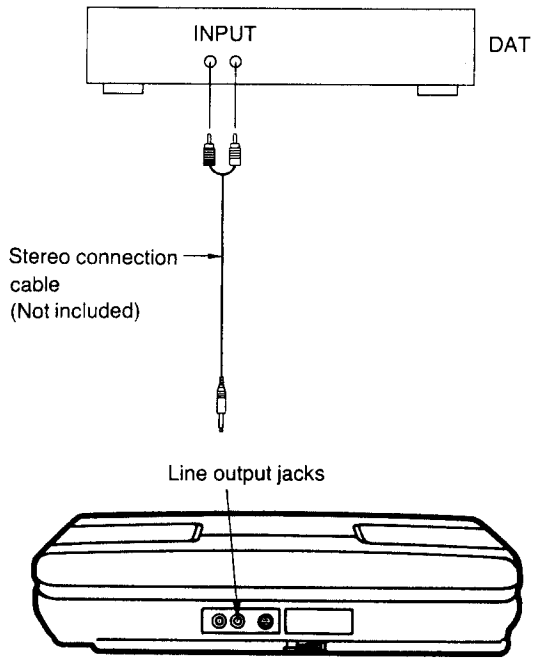
Direct connection of CD/deck/tuner and speaker systems



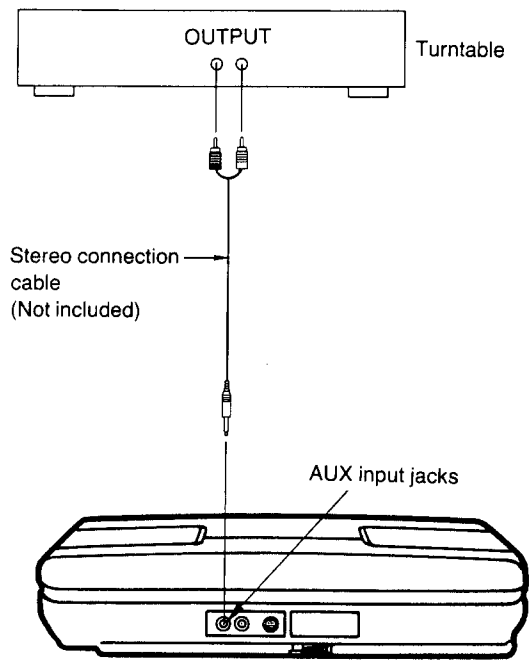
The CD/deck/tuner's power is supplied from the power amplifier.

External unit connections

■ DAT (digital audio tape deck)



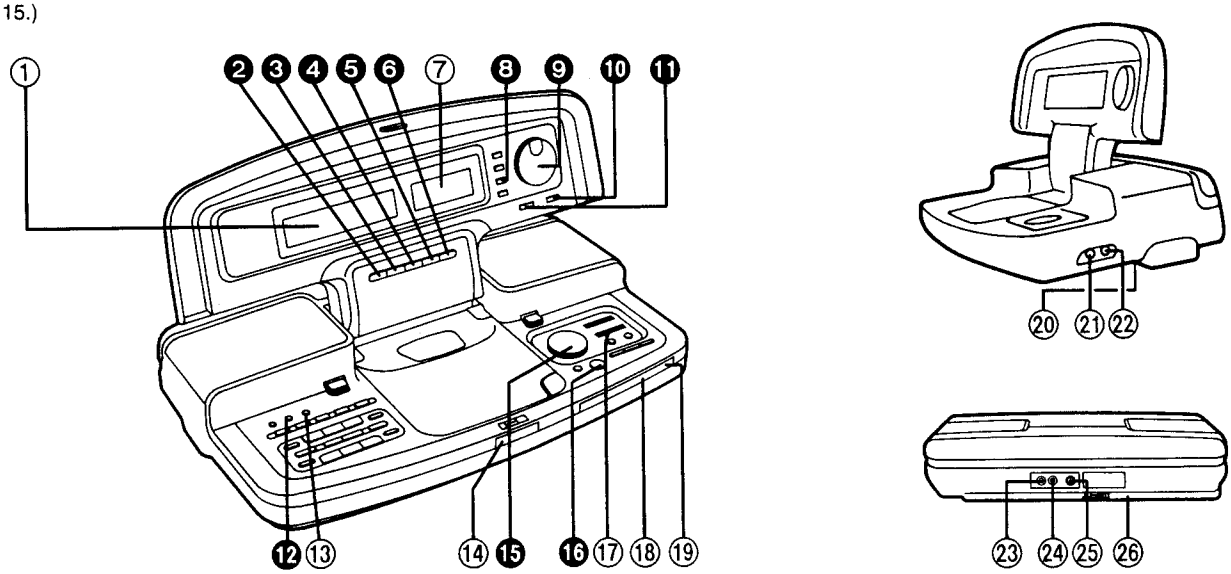
■ PHONO (turntable system)



Note:
Only turntable that has a built-in equalizing amplifier can be connected to the system.

■ LOCATION OF CONTROLS AND FUNCTIONS

The functions indicated by the numbers with black background ❸ can also be activated from the remote control transmitter. (See page 15.)



General: control section

① **Display section**

❷ **Super extra bass system button (S-XBS LEVEL)**
This button is used when adjust the level of the low frequency sound.

❸ **Spectrum analysis display select button (SPECTRUM MODE)**

❹ **Equalizer OFF/ON button (OFF/ON)**
This button is used to switch on/off the equalizer function.

❺ **Equalizer mode select button (MODE)**
This button is used to select the equalizer mode.

❻ **Equalizer level adjustment button (SYNCHRO)**
This button is used to adjust the levels of the preset equalizer mode.

⑦ **Equalizer display**

❽ **Title button (TITLE)**
This button is used to enter the titles of the compact discs or the name of the preset radio broadcasts stations.

❾ **Jog dial (AI JOG)**
This dial is turned to select the contents of the mode, etc.

❿ **Setting button (SET)**
This button is used to set the selected contents by using the jog dial.

⓫ **Cancel button (CANCEL)**
This button is used to cancel the selected contents by using the jog dial.

⓬ **Display select button (DISPLAY)**
This button is used to select the display (mode display, clock or tape counter, etc.).

⓭ **Beep sound button (BEEP)**
This button is used to turn on/off the beep sound.

⓮ **Top panel open button (OPEN)**
This button is used to open the top panel.

⓯ **Volume control (VOLUME)**
This control is used to adjust the volume level.

⓰ **Operation switch (OPERATION)**
The operation switch does not separate entire system from mains even if in standby position.

⓱ **Balance control (BALANCE)**

⓲ **AC connection indicator**
This indicator illuminates when the AC power supply cord is connected to the AC power outlet.

⓳ **Remote control transmitter sensor (SENSOR)**

⓴ **Memory back-up batteries compartment cover**

㉑ **Headphones jack (PHONES)**

㉒ **Mixing mic jack (MIX MIC)**

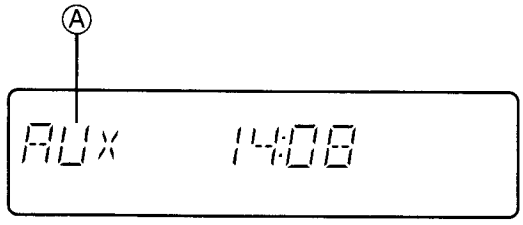
㉓ **AUX input jack (AUX IN)**
This jack is used to connect the other external equipment from which sound can be heard from the main unit.

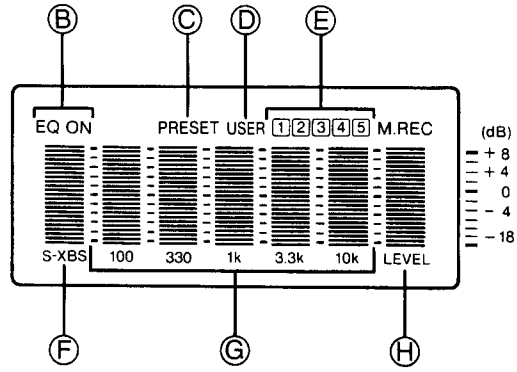
㉔ **Line output jack (LINE OUT)**
This jack is used to connect the other external equipment from which the sound of the main unit can be heard.

㉕ **System control jack (SYSTEM)**
Connect the system cable from the optical digital adaptor.

㉖ **Telescopic antenna**

General: display section





Ⓐ Aux indicator (AUX)
This indicator illuminates when the external equipment's listening mode.

Ⓑ Equalizer on indicator (EQ ON)
This indicator illuminates when the equalizer function is turned on.

Ⓒ Preset indicator (PRESET)
This indicator illuminates when the preset equalizer mode is selected.

Ⓓ "USER" indicator (USER)
This indicator illuminate to show that the desired equalization curves can be programmed into memory or retrieved from the memory.

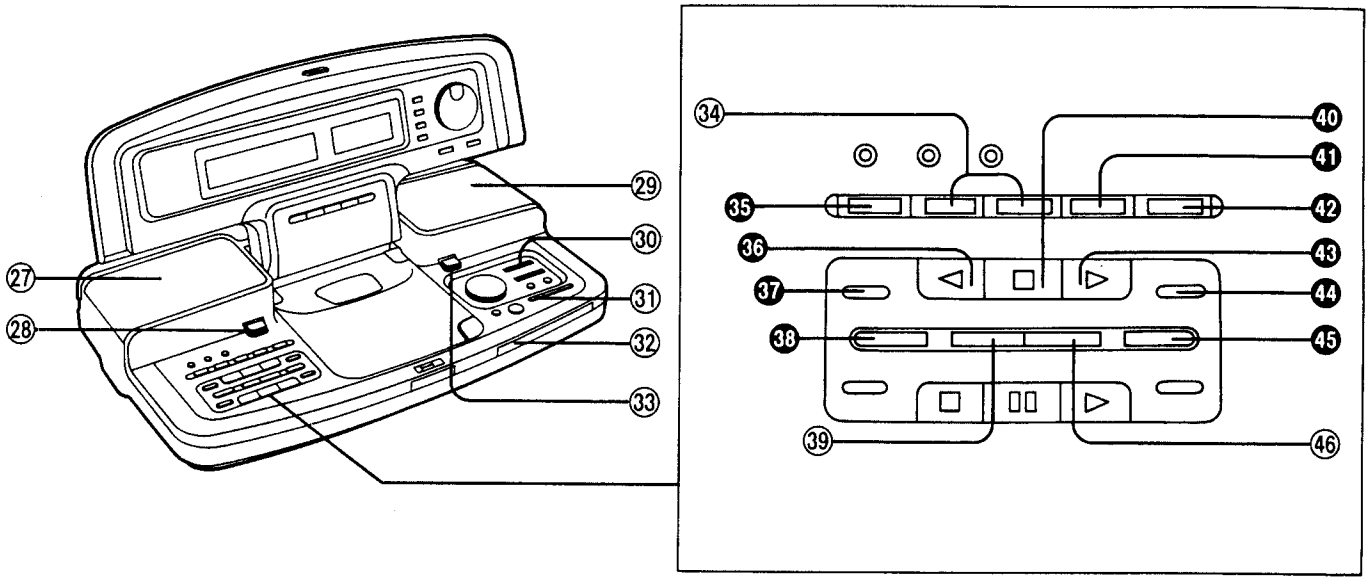
Ⓔ Preset channel indicator (1, 2, 3, 4, 5)
These indicators illuminate to show the selected preset channel of the preset mode and "USER" mode.

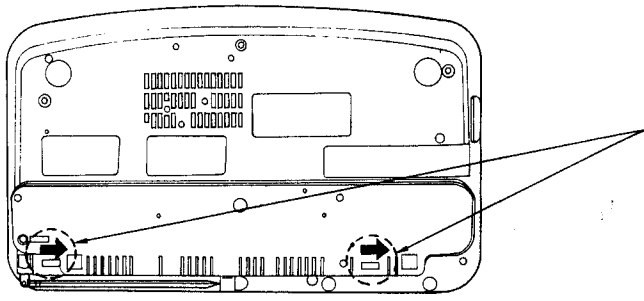
Ⓕ Super extra bass system level display (S-XBS)

Ⓖ Spectrum analysis level display

Ⓗ Level meter (LEVEL)
This indicator displays the sound level of the source.

Deck: control section





When the tape is caught in the pinch roller, etc. Release the tape by turning the pulley on the motor with the screwdriver in the direction of the arrow.

㉗ Deck 1 cassette compartment cover

㉘ Deck 1 cassette eject button (▲ EJECT)

㉙ Deck 2 cassette compartment cover

㉚ Recording level control (REC LEVEL)
This control is used to adjust the recording level when using manual recording function.

㉛ Tape/aux mode select buttom (TAPE/AUX)
This button is used to set the tape playback mode, or external equipment playing mode.
(Each time this button is pressed, the mode will change alternately.)

㉜ Tape/aux indicator (TAPE)
This indicator illuminates when tape or aux mode is selected.

㉝ Deck 2 cassette eject button (▲ EJECT)

㉞ Edit-recording buttons (ONE TOUCH EDIT)
These buttons are used to start the tape-to-tape recording.

㉟ Deck 1/2 select button (DECK SELECTOR)
This button is used to select the deck to be operated.

㊱ Reverse-side playback button (◁)
This button is used to start the playback (Deck 1, 2) or recording (Deck 2).

㊲ Fast/tape program sensor button (◀◀ TPS)
This button is used to advance or rewind the tape, or to quickly search for the beginning of a tune while the tape is being played.

㊳ Record/record standby button (●❚❚)
This button is used to put deck 2 into the record standby mode.

㊴ Dolby noise reduction button (DOLBY NR)
This button is used to reduce the hissing noise heard from the tape. This unit is provided with Dolby B-type noise reduction system.

㊵ Stop button (□)
This button is used to stop the tape movement.

㊶ Tape counter reset button (COUNTER)
This button is used to reset the tape counter indicator to "000".

㊷ Reverse mode select button (REVERSE MODE)
This button is used to select the reverse mode (for playback and recording).

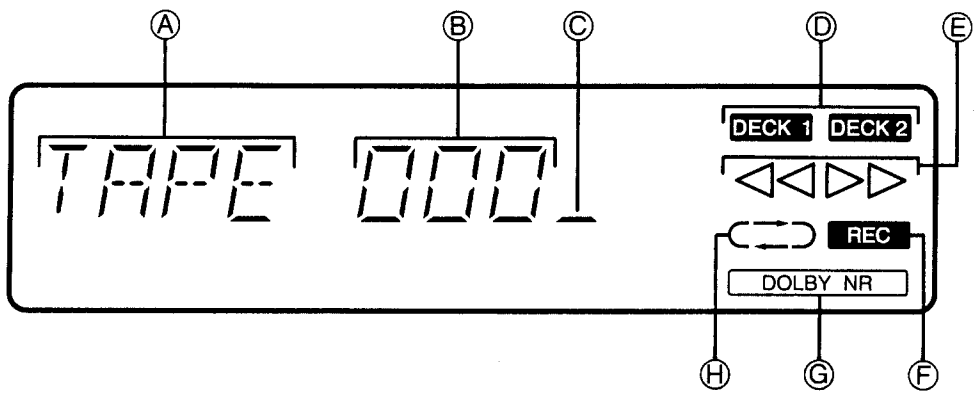
㊸ Forward-side playback button (▷)
This button is used to begin the playback (Deck 1, 2) or recording (Deck 2).

㊹ Fast/tape program sensor button (TPS ▶▶)

㊺ Automatic tape level setting button (ATLS)
This button is used to start the recording from compact disc.

㊻ Manual recording mode button (M.REC MODE)
This button is used to record with manual recording level adjustment.

Deck: display section



Ⓐ Tape mode indicator (TAPE)
This indicator illuminates when the unit is in tape listening mode.

Ⓑ Tape counter
It indicates the amount of tape movement separately for deck 1 or deck 2.

Ⓒ Running indicator

Ⓓ Deck 1/2 indicator (DECK 1 DECK 2)
This indicator illuminates to show the operational deck (deck 1 or deck 2).

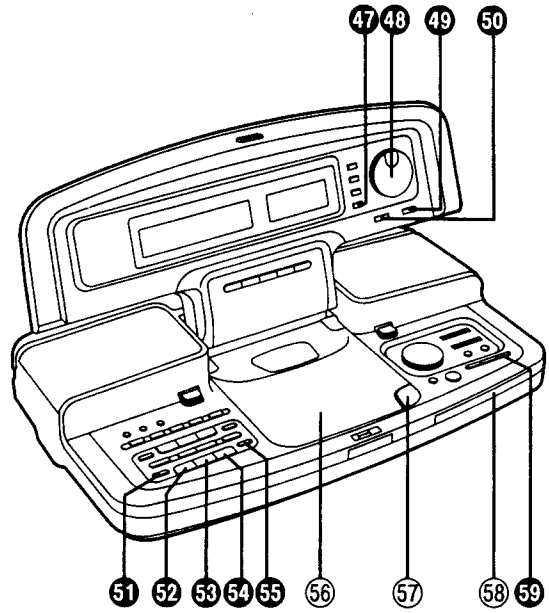
Ⓔ Tape direction indicators (◁◁ ▷▷)
These indicators illuminate to show the direction of tape travel.

Ⓕ Recording indicator (REC)
This indicator illuminates when the unit is in the recording (recording standby) mode.

Ⓖ Dolby noise reduction indicator (DOLBY NR)
This indicator illuminates when the Dolby noise reduction system is activated.

Ⓗ Reverse mode indicators (⊂⇄⊃)
These indicators illuminate to show which of the reverse modes was selected by the reverse mode select button.

Compact disc player: control section



47 Compact disc edit-recording mode select button (CD EDIT)
This button is used to select the desired edit-recording mode.

48 Jog dial (AI JOG)
This dial is used to select the contents of the mode, etc.

49 Setting button (SET)
This button is used to set the selected contents by using the jog dial.

50 Cancel button (CANCEL)
This button is used to cancel the selected contents by using the jog dial.

51 Skip/search button (▮◀◀/◀◀)
This button is used to briefly move the pickup backward to the beginning of a specific track or to move the pickup backward in the playing mode.

52 Stop button (□)
This button is used to stop the disc play.

53 Pause button (▯▯)
This button is used to stop the disc play temporarily.

54 Play button (▷)
This button is used to begin the play of compact disc or recording from compact disc.

55 Skip/search button (▶▶/▶▶▮)
This button is used to briefly move the pick up forward to the beginning of a specific track or to move the pickup forward in the playing mode.

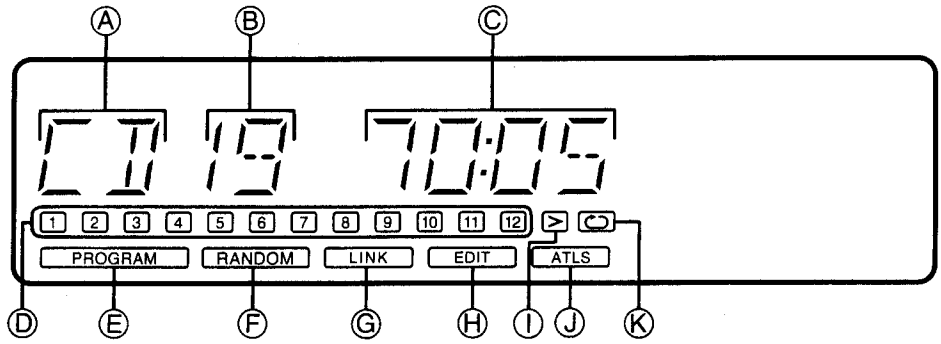
56 Disc cover

57 Compact disc eject button (CD EJECT)
This button is used to open the disc cover.

58 Compact disc indicator (CD)
This indicator illuminates when the unit is in compact disc playing mode.

59 Compact disc button (CD)
This button is used to select the compact disc playing mode.

Compact disc: display section



Ⓐ Compact disc mode indicator (CD)
This indicator illuminates in the compact disc listening mode.

Ⓑ Track display

Ⓒ Playing time display

Ⓓ Music matrix

Ⓔ Program indicator (PROGRAM)
This indicator illuminates during program play.

Ⓕ Random play indicator (RANDOM)
This indicator illuminates during random play.

Ⓖ Link indicator (LINK)
This indicator illuminates when the unit is in a condition the disc link is possible.

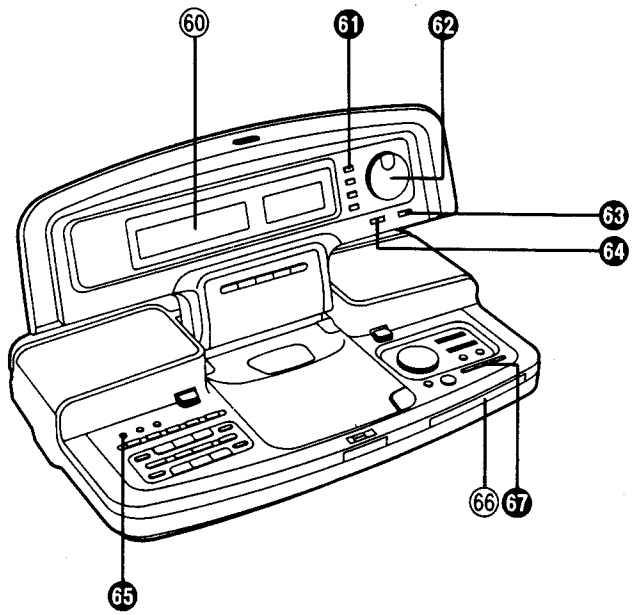
Ⓗ Compact disc edit-recording indicator (EDIT)
This indicator illuminates when edit-recording from a compact disc.

Ⓘ "Over" mark (▷)
This indicator illuminates if the total number of tracks on the disc is 13 or more.

Ⓙ Auto tape level setting indicator (ATLS)
This indicator illuminates when the auto tape level setting button is pressed.

Ⓚ Repeat play indicator (↻)
This indicator illuminates during repeat play.

Tuner section: control section



60 Display section

61 Tuning mode select button (TUNING MODE)
This button is used to select the desired tuning mode (preset or manual).

62 Jog dial (AI JOG)
This dial is used to select the contents of the mode, etc.

63 Setting button (SET)
This button is used to set the selected contents by using the jog dial.

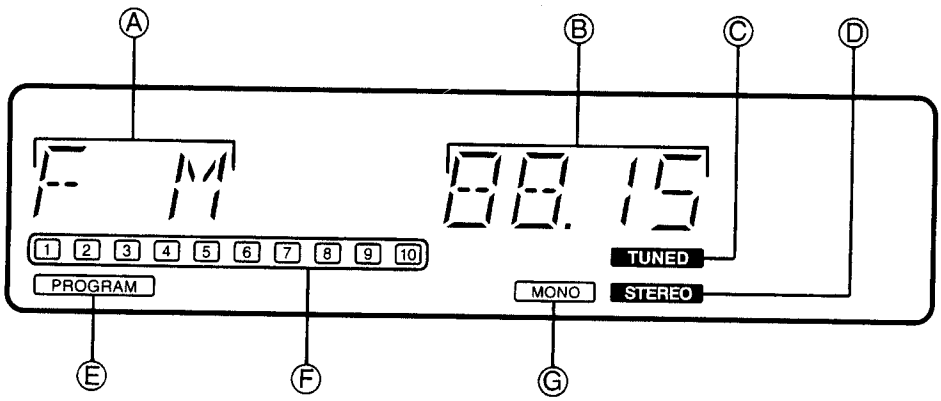
64 Cancel button (CANCEL)
This button is used to cancel the selected contents by using the jog dial.

65 FM mode/beat proof button (FM MODE/B.P)
This button is used to select the FM listening mode (stereo or monaural) during the FM broadcast station is received or to reduce the unwanted beat noise during MW broadcast is recorded.

66 Tuner indicator (TUNER)
This indicator illuminates when this unit is in radio listening mode.

67 Tuner/band select button (TUNER/BAND)
This button is used to listen to the radio and select the desired radio band (FM or MW).

Tuner: display section



Ⓐ Band indicator (FM/MW)
This indicator illuminates to show the selected band by tuner/band select button.

Ⓑ Frequency display

Ⓒ Tuning indicator (TUNED)
This indicator illuminates when the broadcast station is received.

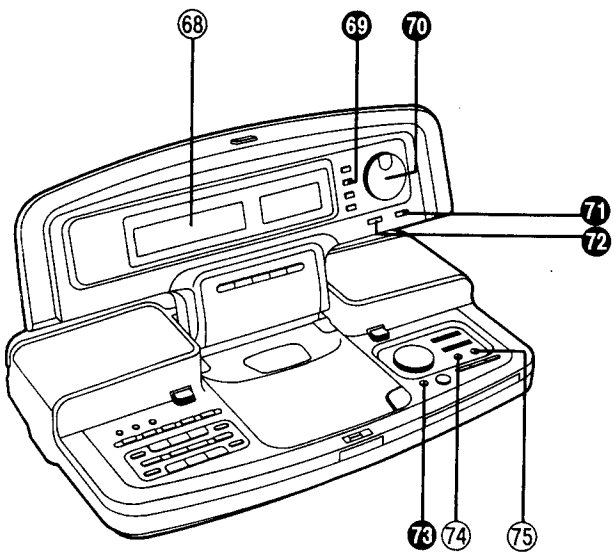
Ⓓ FM stereo indicator (STEREO)
This indicator automatically illuminates when an FM stereo broadcast is being received. It will not illuminate if the FM mode/beat proof button is used to select monaural mode.

Ⓔ Program indicator (PROGRAM)
This indicator illuminates when the program button is pressed.

Ⓕ Preset channel indicators (1 - 10)

Ⓖ FM monaural indicator (MONO)
This indicator illuminates when the FM mode is selected to monaural.

Timer section: controls



68 Display section

69 Timer/clock button (TIMER/CLOCK)
This button is used to select the desired timer mode or to adjust the clock.

70 Jog dial (AI JOG)
This dial is used to select the contents of the mode, etc.

71 Setting button (SET)
This button is used to set the selected contents by using the jog dial.

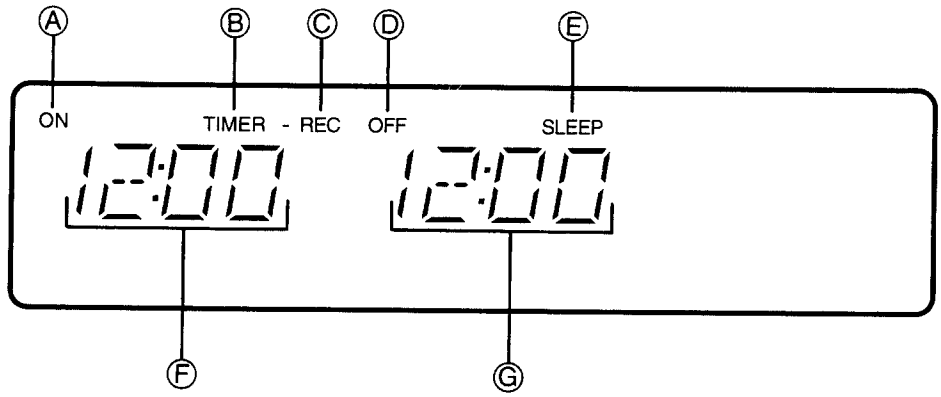
72 Cancel button (CANCEL)
This button is used to cancel the selected contents by using the jog dial.

73 Sleep timer button (SLEEP)
This button is used when you wish to fall asleep while listening to the music.

74 Timer play button (PLAY-TIMER)
This button is used for timer play.

75 Timer recording button (REC-TIMER)
This button is used for timer recording.

Timer: display section



Ⓐ Timer-ON indicator (ON)
This indicator illuminates to show the timer operation's start time.

Ⓑ Timer play indicator (TIMER)
This indicator illuminates when the timer play button is pressed.

Ⓒ Timer recording indicator (TIMER-REC)
This indicator illuminates when the timer recording button is pressed.

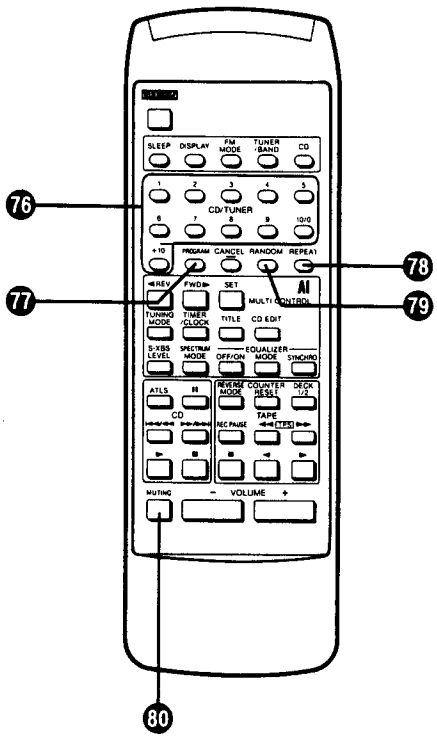
Ⓓ Timer-OFF indicator (OFF)
This indicator illuminates to show the timer operation's close time.

Ⓔ Sleep timer indicator (SLEEP)
This indicator illuminates when the sleep timer button is pressed.

Ⓕ Timer ON time/preset sound source mode display

Ⓖ Timer OFF time/time display

Remote control section



76 Numeric buttons (1–10/0, +10)
These buttons are used to specify the compact disc's track (1–10/0, +10) or select the preset channel of the tuner (1–10/0).

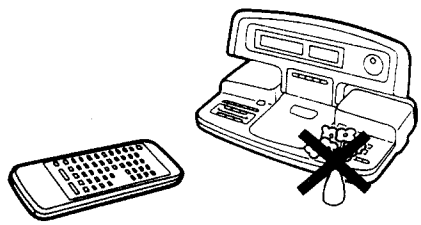
77 Program button (PROGRAM)
This button is used for compact disc program-play and for preset memory of the tuner.

78 Repeat play button (REPEAT)
This button is used to activate the repeat mode of the compact disc playing.

79 Random play button (RANDOM)
This button is used to let the microcomputer make a random selection of the sequence.

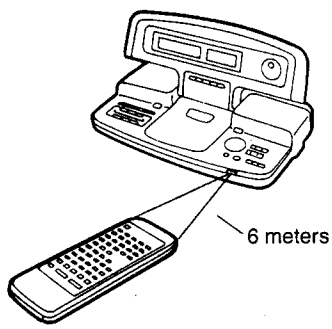
80 Muting button (MUTING)
This button is used to reduce the volume level temporarily.

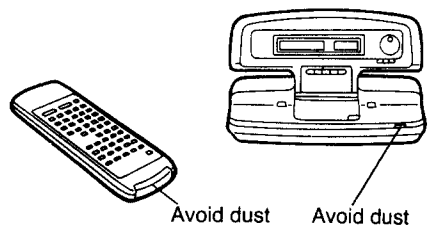
Operation notes



Aim the remote control's transmission window toward the unit's sensor. Avoid any obstacles.

Approx. 6 m from the front of the unit. Approx. 3 m within the range 45° left and right and 10° up and down.





Be sure the transmission window and the unit's sensor are free from dust. Excessive dust might prevent reception.

The operation may not be correct if direct sunlight or other strong light source strikes the remote control signal sensor part of this unit. If there is a problem, place the unit away from the light source.

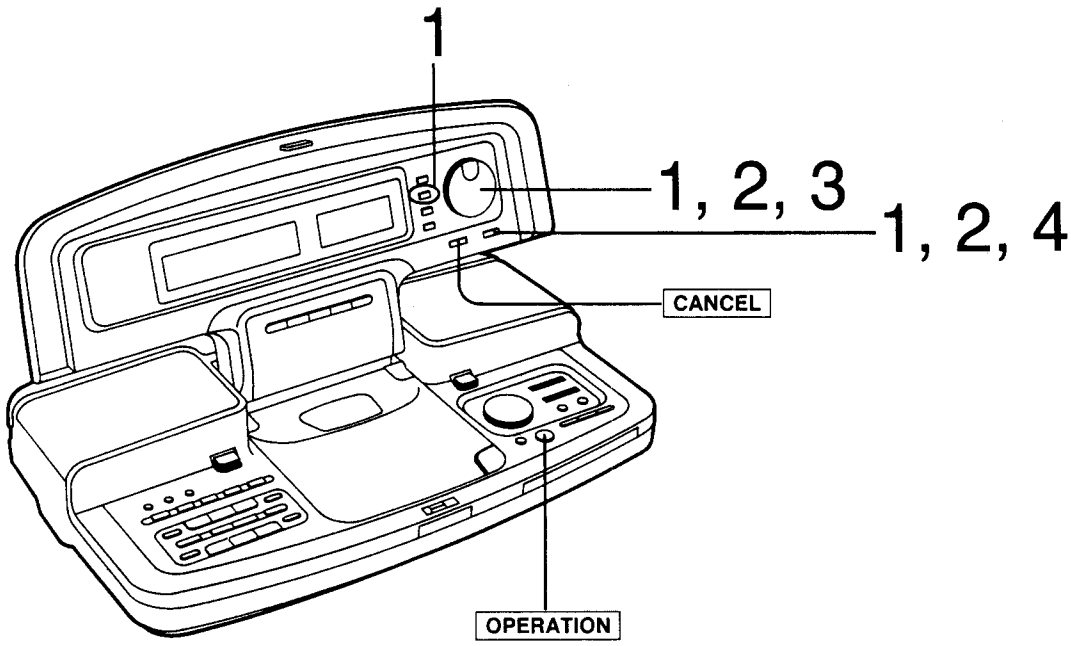
Jog dial keys (REV and FWD)

The FWD key functions in the same way as when the dial of the main unit is turned to the right.

The REV key functions in the same way as when the dial of the main unit is turned to the left.

Other keys on the remote control unit that have the same indications as the keys on the main unit function in exactly the same way.

■ SETTING THE TIME

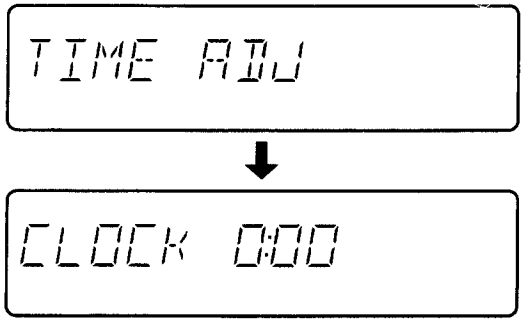


The function is also available from the remote control. Follow the procedure described below.

Before operation, press the operation switch to turn on the unit.

For example:
To set the time at 16:20.

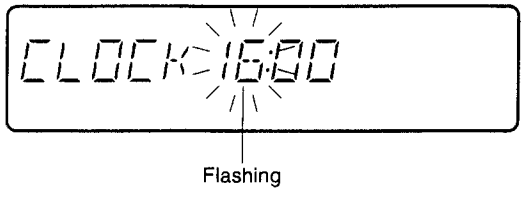
1 Press the timer/clock button, and then turn the jog dial to select the "CLOCK" mode.
The display will change to "P-TIMER"–"R-TIMER"–"SLEEP"–"CLOCK".



The display will return to what was previously indicated if 10 or more seconds are allowed to elapse before the next operation is accomplished.)

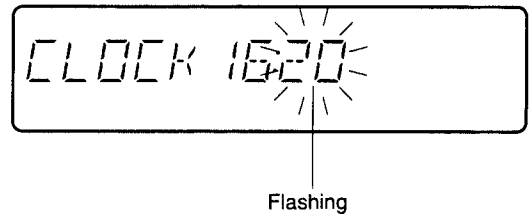
Press the setting button.

2 Turn the jog dial to adjust the correct hour display.
FWD: Increase.
REV: Decrease.



Press the setting button.

3 Turn the jog dial to adjust the correct minute display.
Note that the minute "00" display appears following "59", but the hour display is not changed.

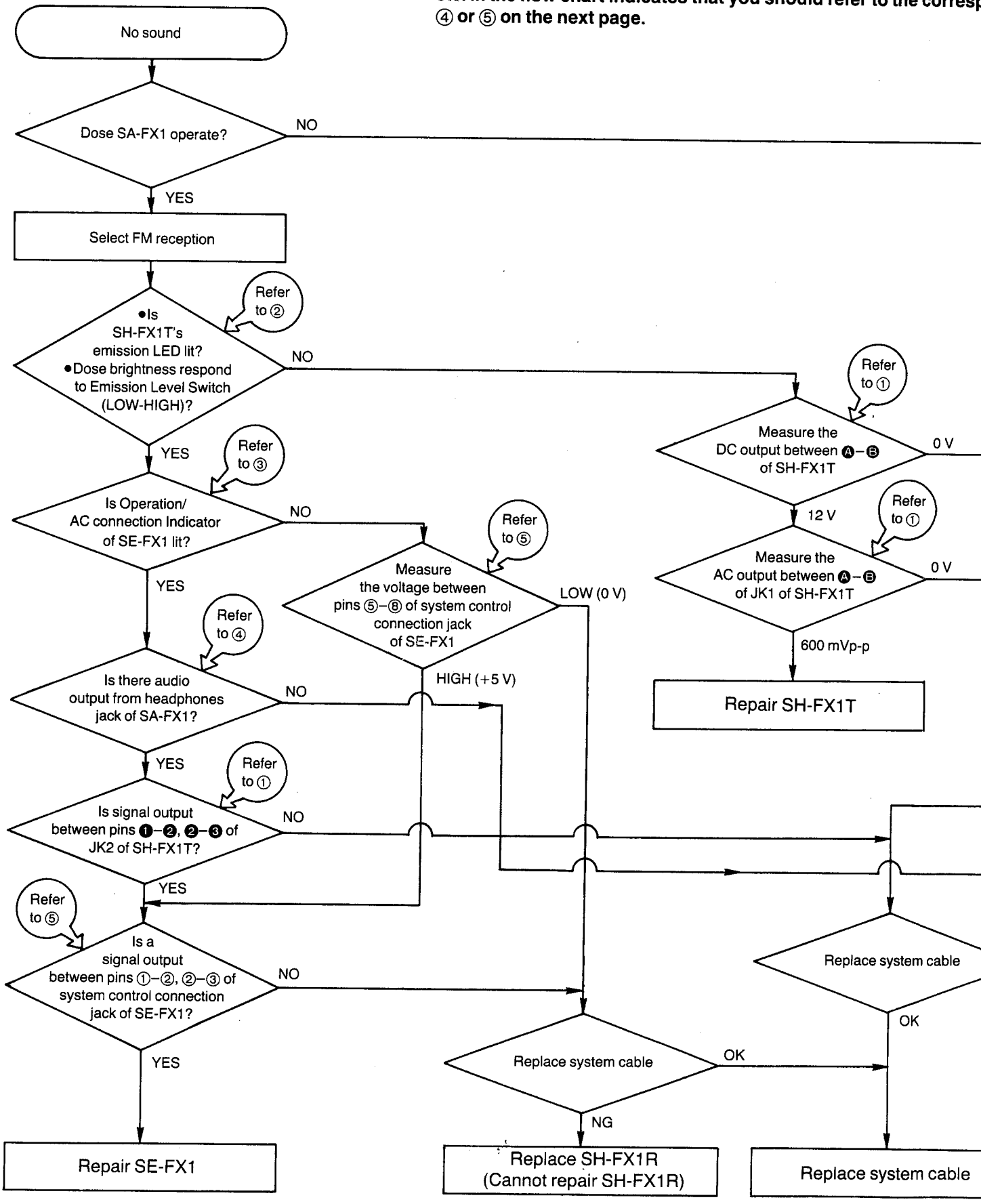


4 Press the setting button to finish setting the time.
The display will change to the previous display.

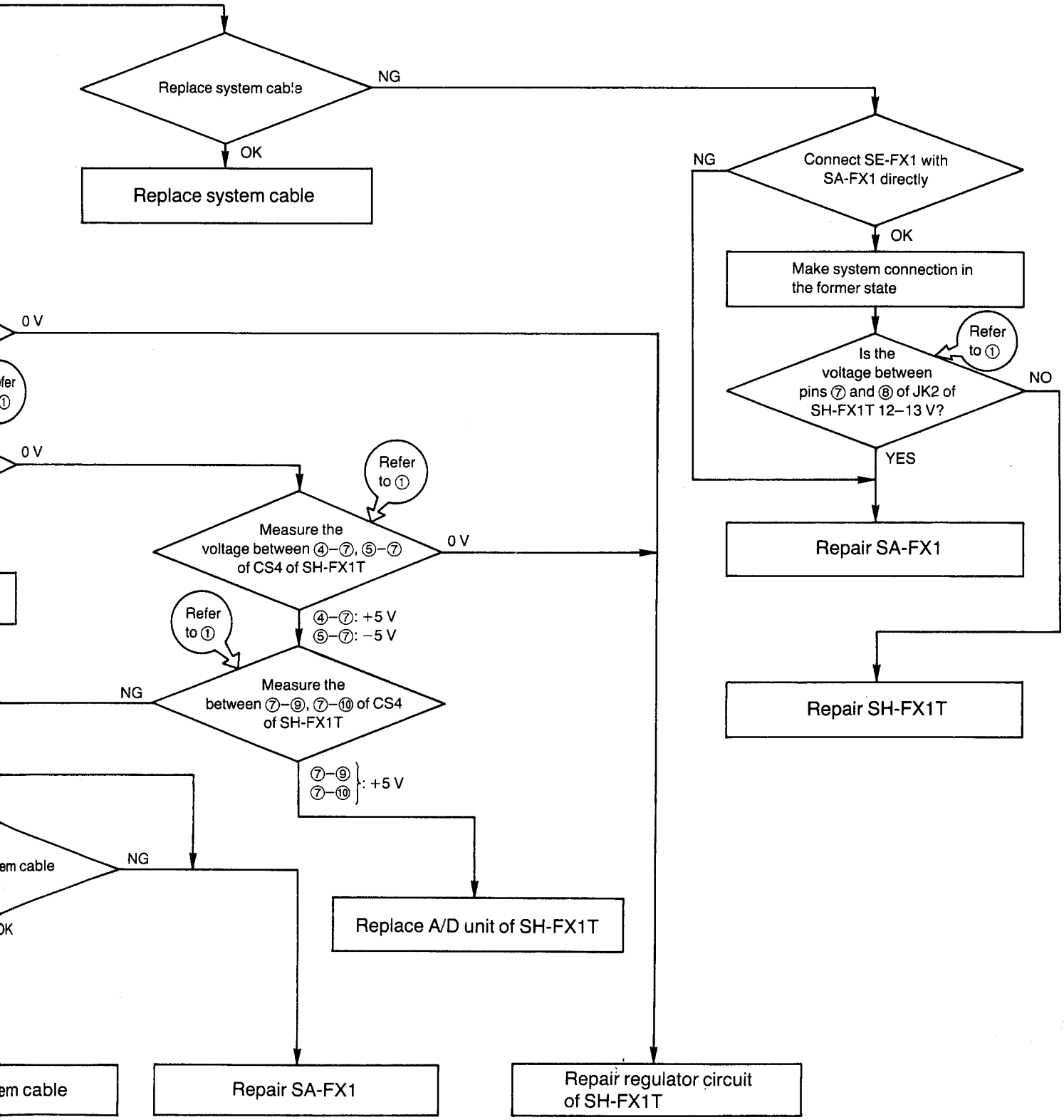
When the minute display is set correctly and the setting button is pressed, the clock is reset to "0" second.
When a wrong operation occurs, press the cancel button, then the unit is returned to the previous setting mode.

■ TROUBLESHOOTING

The below flow chart will help you to find and correct errors and f "no sound" problem occurs during operation. The message "Ref etc. in the flow chart indicates that you should refer to the corresp ④ or ⑤ on the next page.

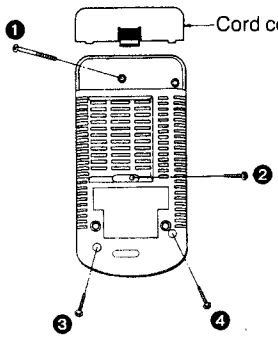


rs and faults in the component if
ge "Refer to ①" or "Refer to ⑤",
corresponding section ①, ②, ③,

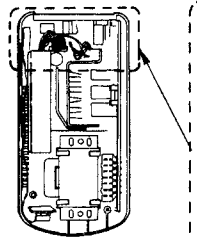


•CHECK POINTS OF COMPONENTS

① Disassemble the Optical Digital Adaptor SH-FX1T.



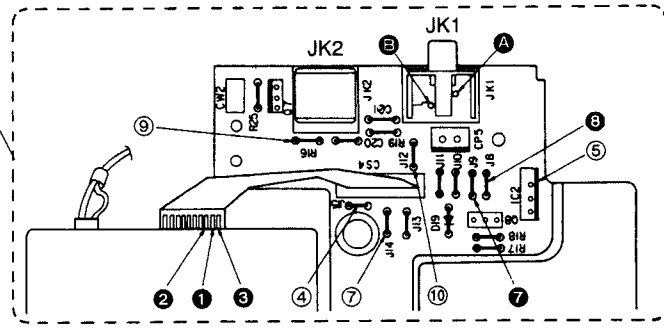
1. Remove the cord compartment box
2. Remove the 4 screws (❶~❹).



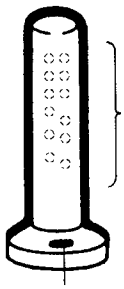
3. Remove the upper cabinet.

Note:
The below figure shows the check points (JK1, JK2 and CS4) the P.C.B. facing up.

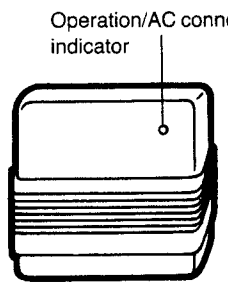
Ⓐ and Ⓑ ..... Check points of JK1
❶, ❷, ❸, ❼, ❽ ..... Check points of JK2
④–⑦, ⑨ and ⑩ ..... Check points of CS4



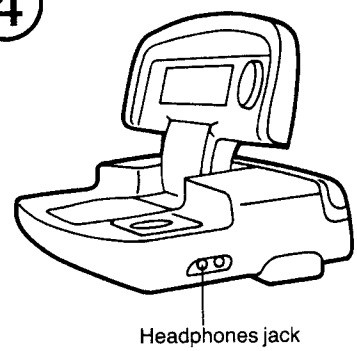
②



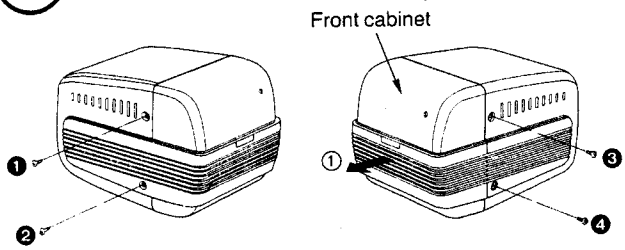
③



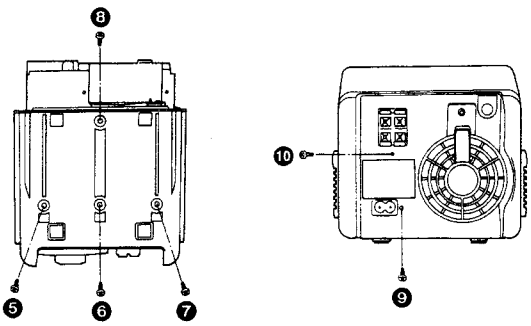
④



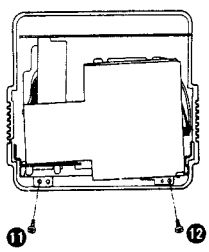
⑤ Disassemble the Power Amp.

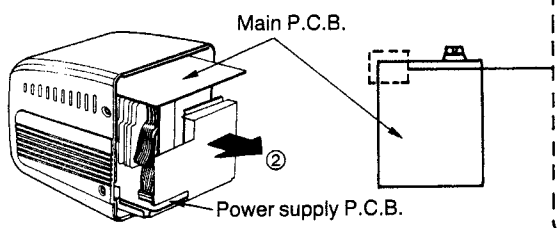


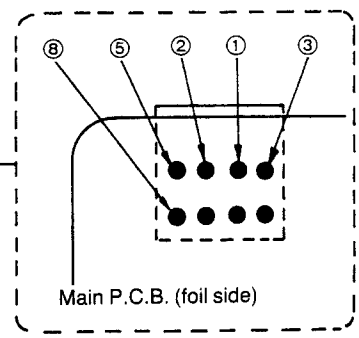
1. Remove the 4 screws (❶~❹).
2. Remove the front cabinet in the direction of the arrow ①.



3. Remove the 6 screws (❺~❿).







4. Remove the 2 screws (⓫, ⓬).
5. Pull out the main P.C.B. and power supply P.C.B. in the direction of the arrow ②.

■ HANDLING PRECAUTIONS FOR TRAVERSE DECK

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

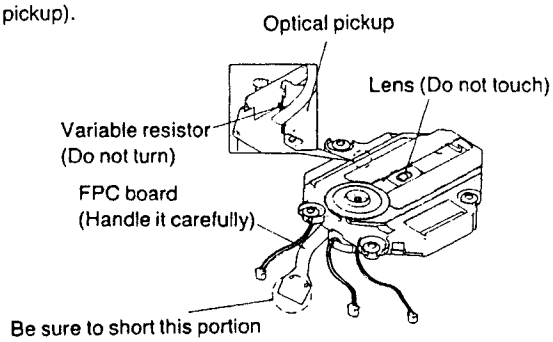
•Handling of traverse deck (optical pickup)

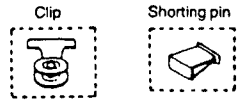
1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an anti-static shorting pin is inserted into the flexible board (FPC board). When removing or connecting the short pin, finish the job in as short time as possible.
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

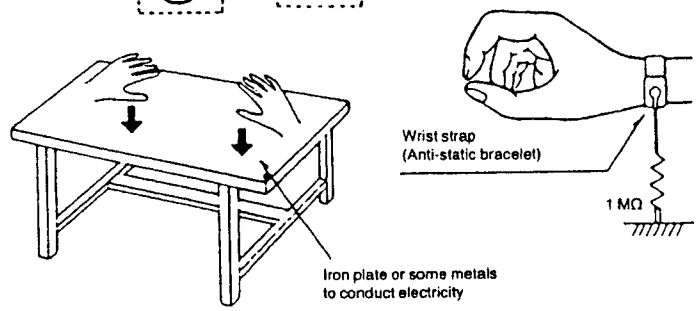
•Grounding for electrostatic breakdown prevention

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution:
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

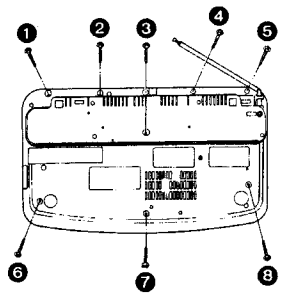




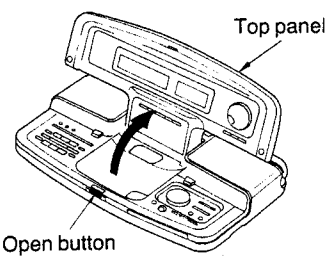


■ DISASSEMBLY INSTRUCTIONS

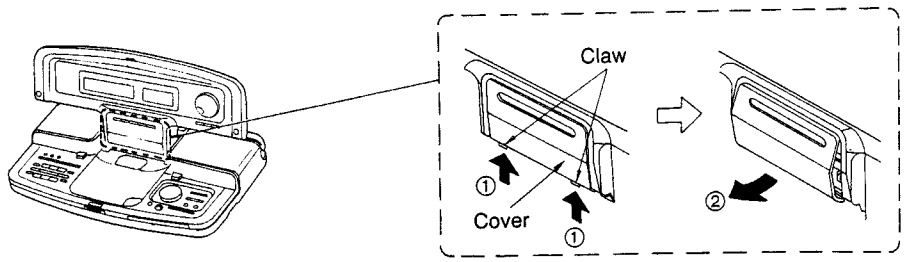
Ref. No. 1	Removal of the Upper Unit
Procedure 1	



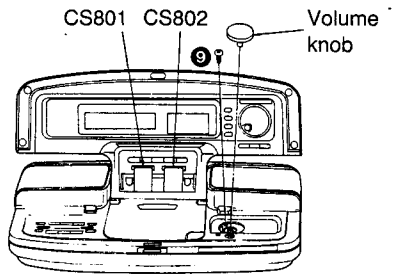
1. Remove the 8 screws (❶~❽).



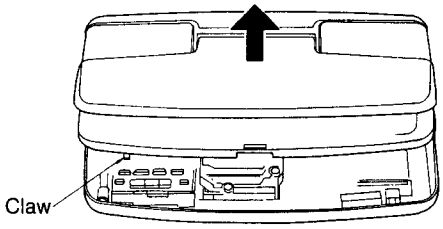
2. Press the open button and then open the top panel.



3. Press the 2 claws in the direction of the arrow ① and then remove the cover in the direction of the arrow ②.

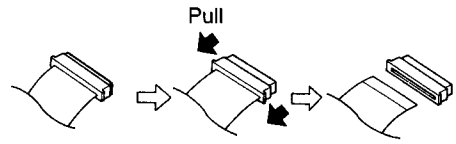


4. Release the 2 flat cables from CS801 and CS802.
5. Remove the volume knob.
6. Remove the screw (⑨).

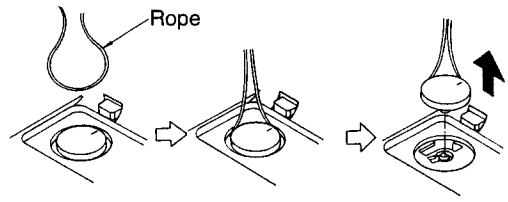


7. Lift up the upper unit.
8. Release the claw.

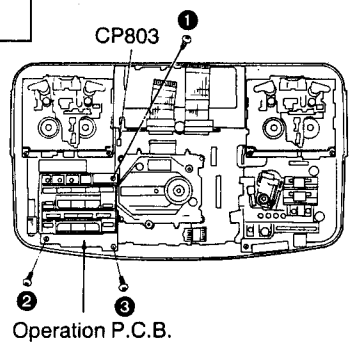
•Removal of the F.P.C.



•Removal of the Volume Knob

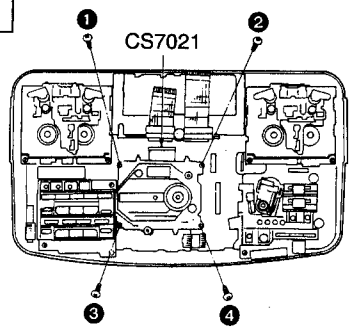


Ref. No. 2	Removal of the Operation P.C.B.
Procedure 1→2	



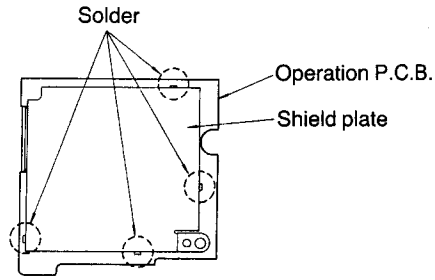
1. Remove the 3 screws (❶~❸).
2. Release the connector (CP803).

Ref. No. 4	Removal of the CD Unit
Procedure 1→4	

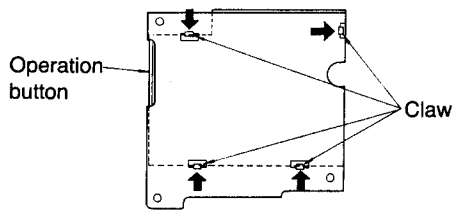


1. Remove the 4 screws (❶~❹).
2. Release the connector (CS7021).

Ref. No. 3	Removal of the Operation Button
Procedure 1→2→3	



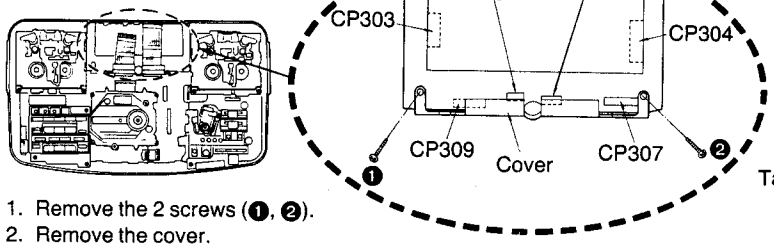
1. Resolder the 4 solderd points.
2. Remove the shield plate.



3. Release the 4 claws in the direction of the arrows.

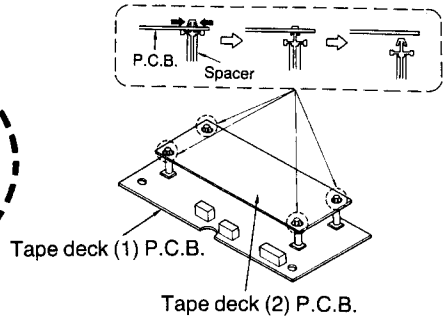
Ref. No. 5 — Removal of the Tape Deck P.C.B. Unit

Procedure 1→5



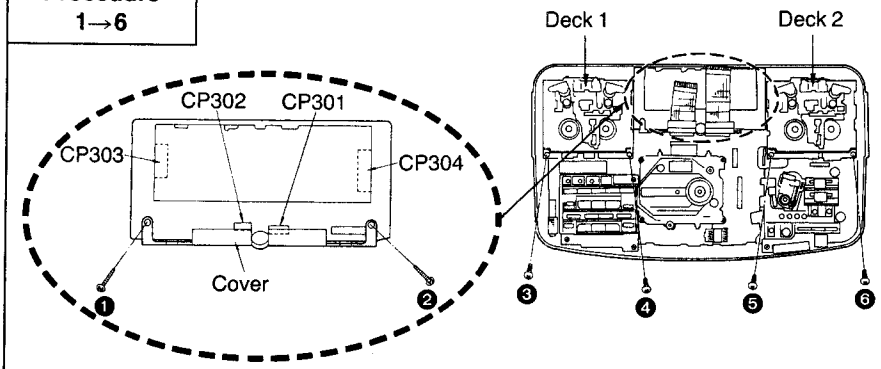
1. Remove the 2 screws (❶, ❷).
2. Remove the cover.
3. Release the 5 connectors (CP301–CP304, CP307).
4. Remove the tape deck P.C.B. unit.
5. Release the connector (CP309).

•Disassemble the Tape Deck P.C.B. unit



Ref. No. 6 — Removal of the Mechanism

Procedure 1→6



1. Remove the 2 screws (❶, ❷).
2. Remove the cover.

•Removal of the Deck 1 Mechanism

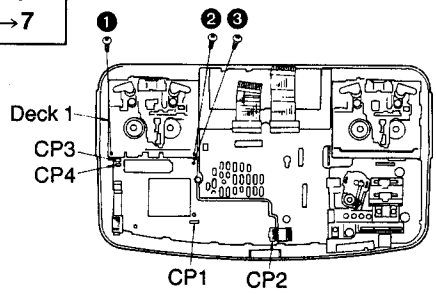
3. Remove the 2 screws (❸, ❹).
4. Release the 2 connectors (CP302, CP303).

•Removal of the Deck 2 Mechanism

3. Remove the 2 screws (❺, ❻).
4. Release the 2 connectors (CP301, CP304).

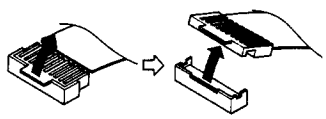
Ref. No. 7 — Removal of the Tuner P.C.B.

Procedure 1→2→4→7



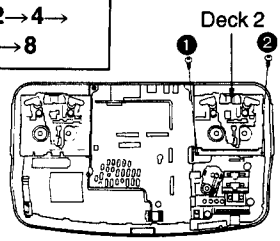
1. Remove the 2 screws (❶, ❷).
2. Remove the deck 1 mechanism.
3. Remove the screw (❸).
4. Release the 4 connectors (CP1–CP4).

•Removal of the Connector (CP2).

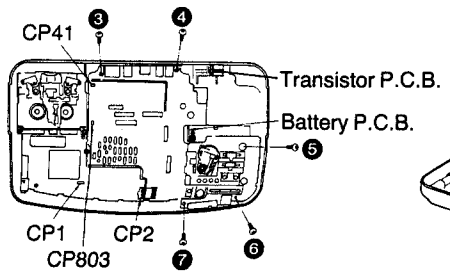


Ref. No. 8 — Removal of the Main P.C.B. Unit

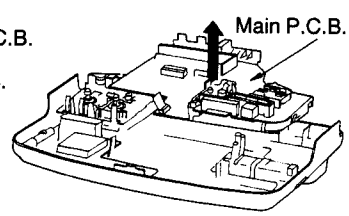
Procedure 1→2→4→ 5→8



1. Remove the 2 screws (❶, ❷).
2. Remove the deck 2 mechanism.



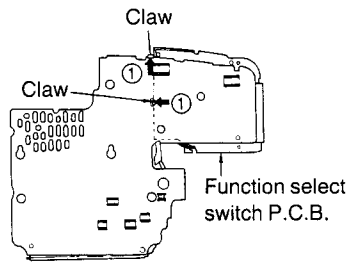
3. Pull out the transistor P.C.B.
4. Pull out the battery P.C.B.
5. Release the 4 connectors (CP1, CP2, CP41, CP803).
6. Remove the 5 screws (❸–❼).

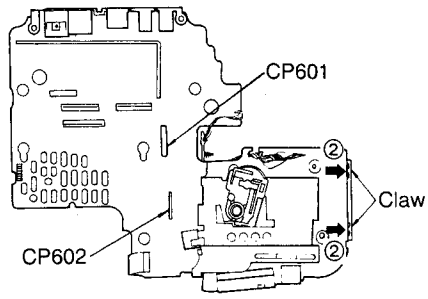


7. Remove the main P.C.B. unit.

Ref. No. 9	Removal of the Function Select Switch P.C.B.

Procedure
1→2→4→
5→8→9

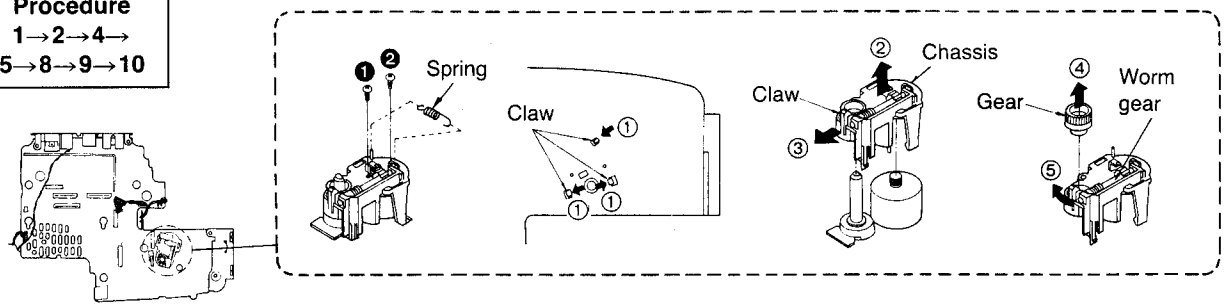




1. Release the 2 claws in the direction of the arrow ①.
2. Release the 2 claws in the direction of the arrow ②.
3. Release the 2 connectors (CP601, CP602).

Ref. No. 10	Disassemble of the Volume Chassis

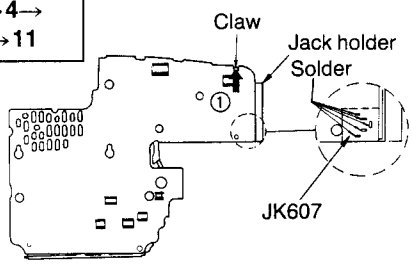
Procedure
1→2→4→
5→8→9→10

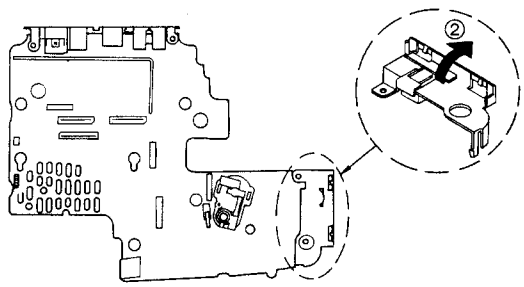


1. Remove the spring.
2. Remove the 2 screws (❶, ❷).
3. Release the 3 claws in the direction of the arrow ①.
4. Remove the volume chassis in the direction of the arrow ②.
5. Release the claw in the direction of the arrow ③.
6. Remove the gear in the direction of the arrow ④.
7. Remove the worm gear in the direction of the arrow ⑤.

Ref. No. 11	Removal of the Jack Holder

Procedure
1→2→4→
5→8→11

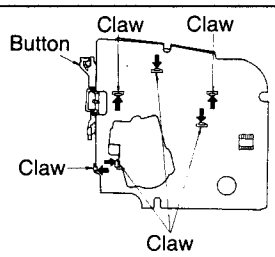


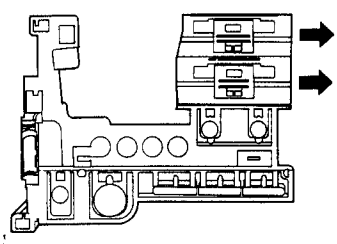


1. Resolder the 5 solderd points.
2. Release the claw in the direction of the arrow ①.
3. Remove the jack holder in the direction of the arrow ②.

Ref. No. 12	Removal of the Function Select Button, Balance Knob and REC Level Knob

Procedure
1→2→4→
5→8→9→12

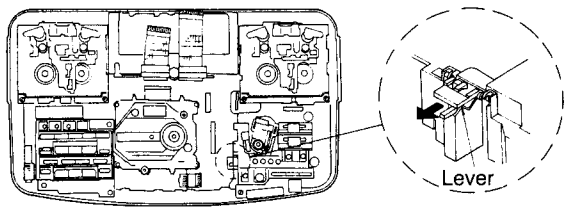




1. Release the 6 claws in the direction of the arrows and then remove the function select button.
2. Slide out the balance knob and REC level knob.

Ref. No. 13	Removal of the CD Cover Open/Close Lever

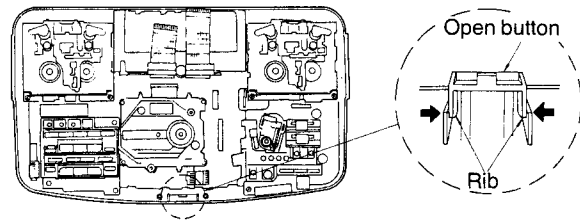
Procedure
1→13



- Remove the lever in the direction of the arrow.

Ref. No. 14	Removal of the Open Button

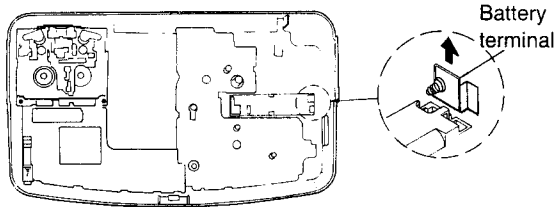
Procedure
1→14



- Press the rib in the direction of the arrow and then remove the open button.

Ref. No. 15	Removal of the Battery Terminal

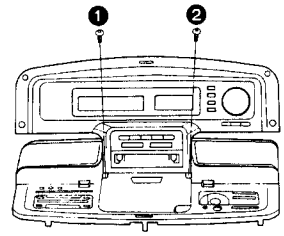
Procedure
1→2→4→5→8→15



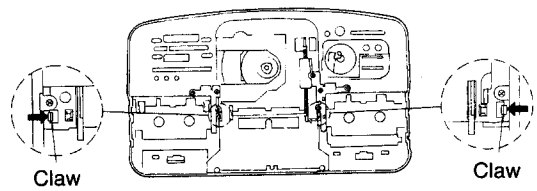
- Pull out the battery terminal.

Ref. No. 16	Removal of the Top Panel

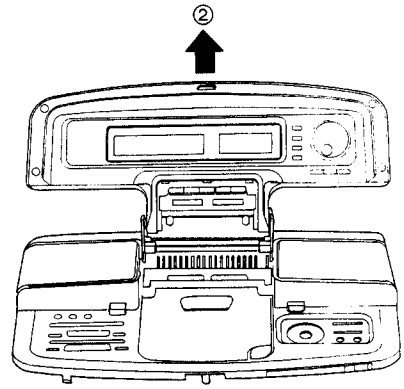
Procedure
1→16



1. Remove the 2 screws (❶, ❷).



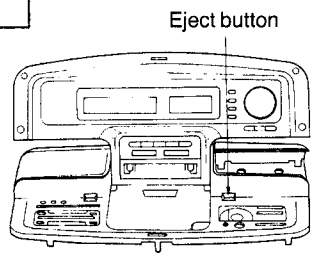
2. Release the 2 claws in the direction of the arrow ①.



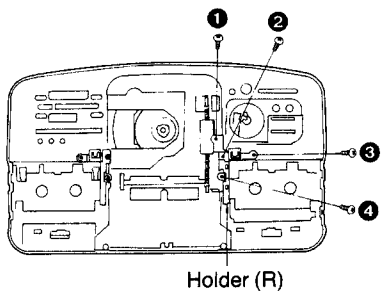
3. Remove the top panel in the direction of the arrow ②.

Ref. No. 17	Removal of the Holder (R)

Procedure
1→17

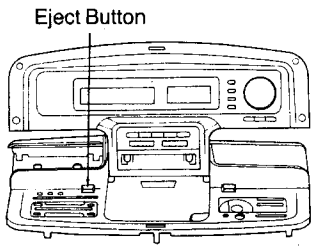


1. Press the eject button and then open the cassette holder.

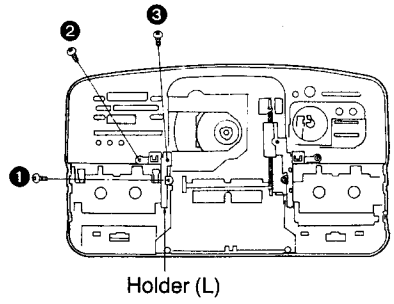


2. Remove the 4 screws (❶~❹).

Ref. No. 18	Removal of the Holder (L)
Procedure 1→18	

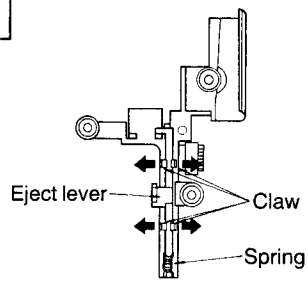


1. Press the eject button and then open the cassette holder.



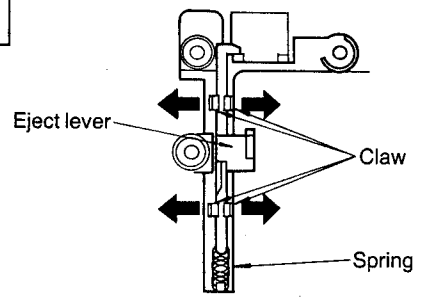
2. Remove the 3 screws (❶~❸).

Ref. No. 19	Removal of the Cassette Eject Lever (DECK 2)
Procedure 1→17→19	



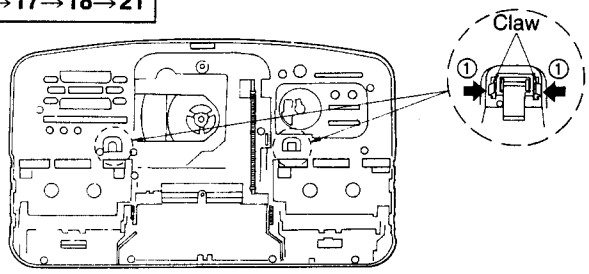
1. Remove the spring.
2. Release the 4 claws in the direction of the arrows.

Ref. No. 20	Removal of the Cassette Eject Lever (DECK 1)
Procedure 1→18→20	

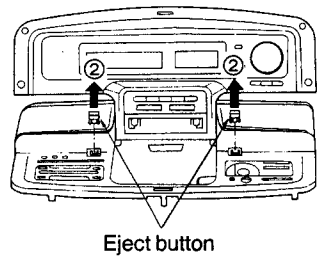


1. Remove the spring.
2. Release the 4 claws in the direction of the arrows.

Ref. No. 21	Removal of the Cassette Eject Button
Procedure 1→17→18→21	

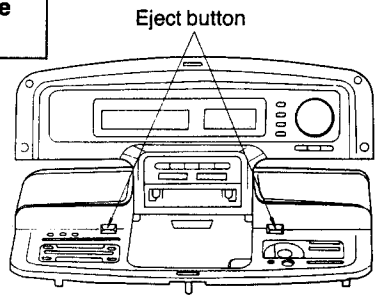


1. Release the 2 claws in the direction of the arrow ①.

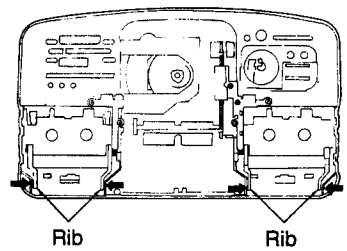


2. Remove the eject button in the direction of the arrow ②.

Ref. No. 22	Removal of the Cassette Holder
Procedure 1→22	

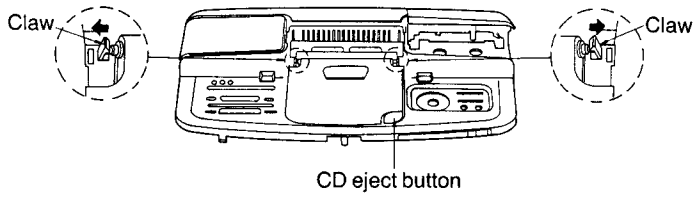


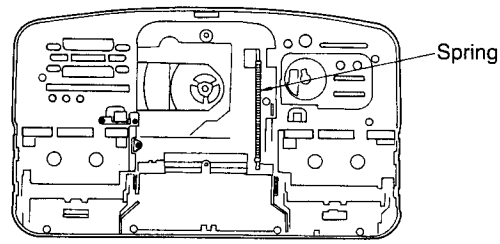
1. Press the eject button and then open the cassette holder.



2. Push the ribs in the direction of the arrow.

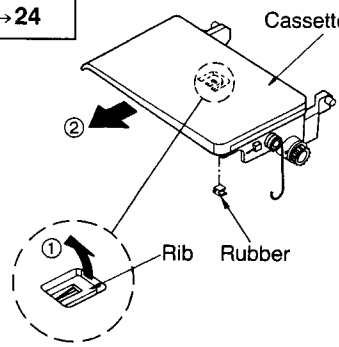
Ref. No. 23	Removal of the CD Cover
Procedure 1→16→27→23	





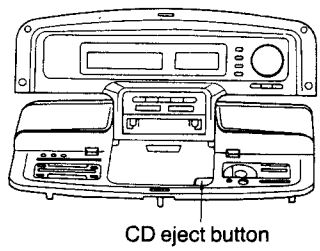
1. Press the CD eject button and then open the CD cover.
2. Release 2 claws in the direction of the arrow.
3. Remove the spring.

Ref. No. 24	Removal of the Cassette Panel
Procedure 1→22→24	

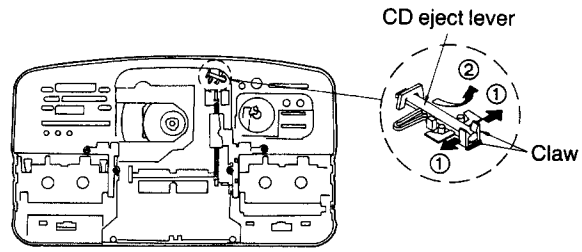


1. Remove the rib in the direction of the arrow ①.
2. Remove the cassette panel in the direction of the arrow ②.
3. Since the rubber is removed at the same time, when the cassette panel is removed, be especially careful not to lose the rubber. (You can also remove the rubber on the cassette panel of Deck 2 in the same way of Deck 1 shown below.)

Ref. No. 25	Removal of the CD Eject Lever
Procedure 1→25	

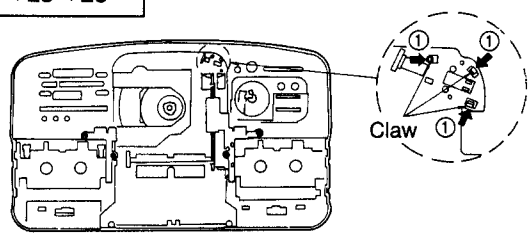


1. Press the CD eject button and then open the CD cover.

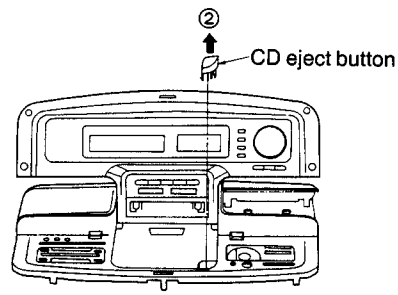


2. Release the 2 claws in the direction of the arrows ①.
3. Remove the CD eject lever in the direction of the arrow ②.

Ref. No. 26	Removal of the CD Eject Button
Procedure 1→25→26	

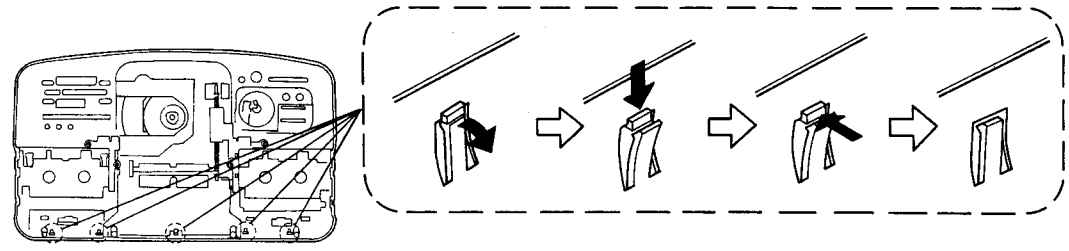


1. Release the 3 claws in the direction of the arrow ①.

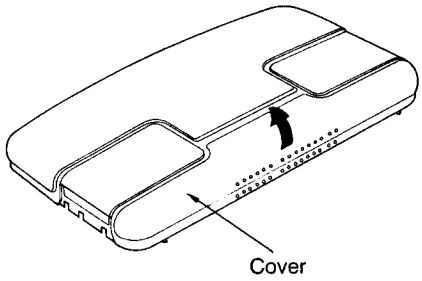


2. Remove the CD eject button in the direction of the arrow ②.

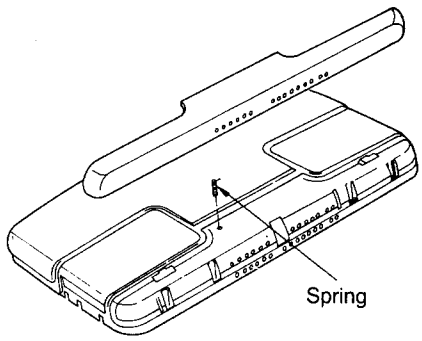
Ref. No. 27	Removal of the Top Panel Cover
Procedure 1→27	



1. Release the 5 hooks.



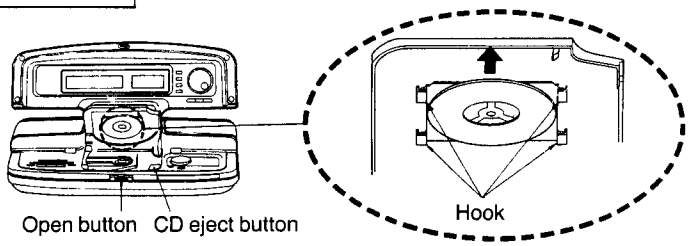
2. Remove the cover in the direction of the arrow.

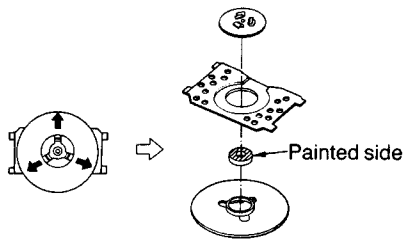


3. Remove the spring.

Ref. No. 28	Removal of the Disc Clamper
Procedure 28	

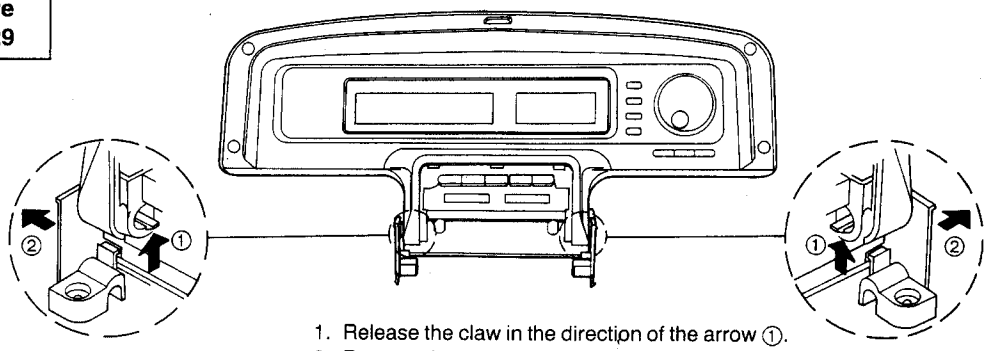
•Disassemble the disc clamper.





1. Press the open button and then open the top panel.
2. Press the CD eject button and then open the CD cover.
3. Slide the disc clamper in the direction of the arrow.

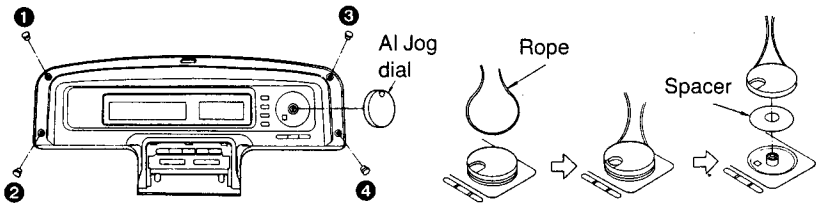
Ref. No. 29	Removal of the Top Cover Holder
Procedure 1→16→29	



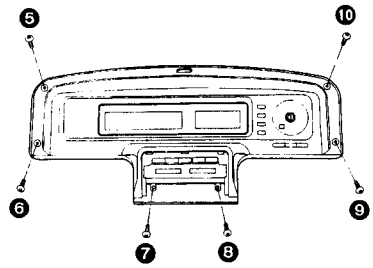
1. Release the claw in the direction of the arrow ①.
2. Remove the top panel holder in the direction of the arrow ②.

Ref. No. 30	Removal of the Indication Panel
Procedure 1→16→29→30	

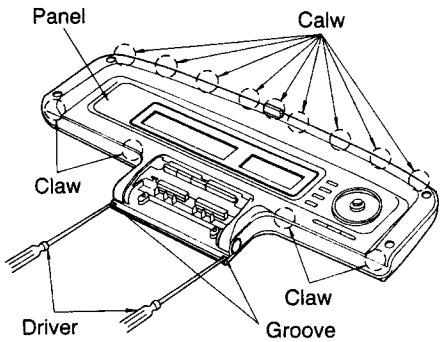
●Removal of the Al Jog dial



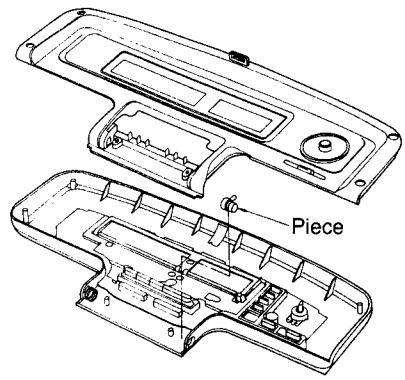
1. Remove the Al jog dial.
2. Remove the 4 rubbers (❶~❹).



3. Remove the 6 screws (❺~❿).

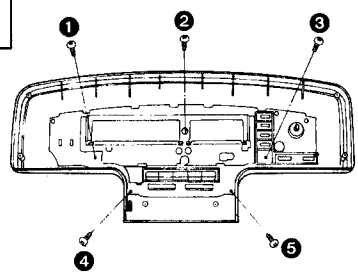


4. Insert a flat tip of a regular screwdriver into the groove and open the panel slightly.
5. Unlock the 13 claws carefully.



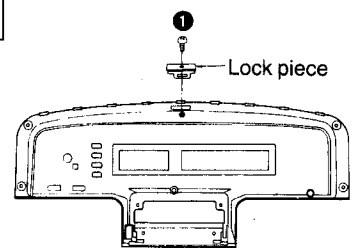
6. The piece will also be removed when the panel is removed. Be especially careful not to lose it.

Ref. No. 31	Removal of the LCD P.C.B.
Procedure 1→16→29→30→31	



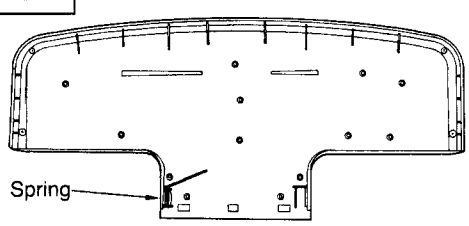
●Remove the 5 screws (❶~❺).

Ref. No. 32	Removal of the Top Panel Lock Piece
Procedure 1→16→29→30→32	



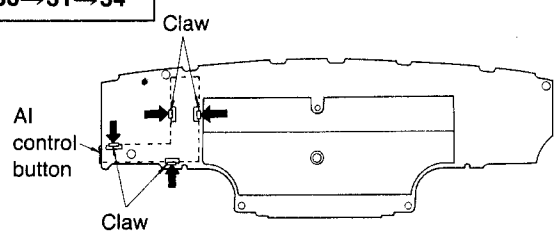
1. Remove the screw (❶).
2. Remove the lock piece.

Ref. No. 33	Removal of the Top Panel Spring
Procedure 1→16→29→30→31→33	



●Remove the spring.

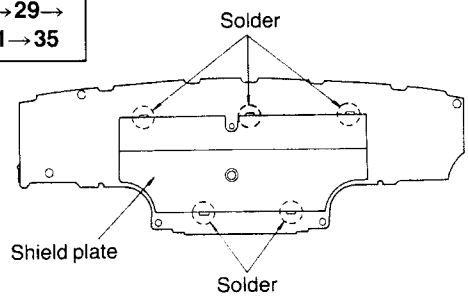
Ref. No. 34	Removal of the Al Control Button
Procedure 1→16→29→30→31→34	



●Release the 4 claws in the direction of the arrows.

Ref. No. 35	Removal of the Shield Plate (A)

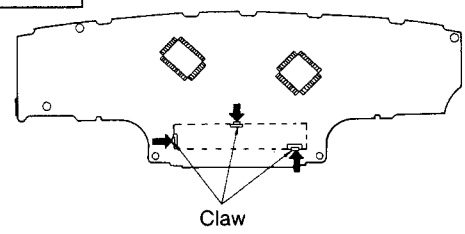
Procedure
1→16→29→30→31→35



- Resolder the 5 solderd points.

Ref. No. 36	Removal of the EQ. Control Button

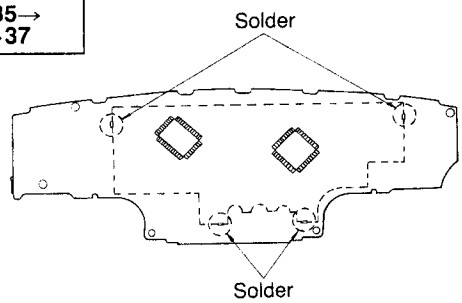
Procedure
1→16→29→30→31→35→36



- Release the 3 claws in the direction of the arrows.

Ref. No. 37	Removal of the Shield Plate (B)

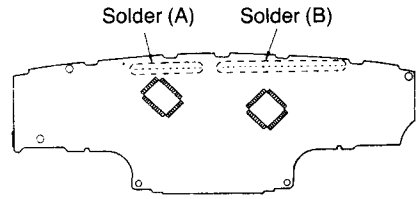
Procedure
1→16→29→30→35→36→37

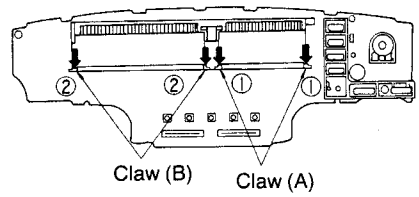


- Resolder the 4 solderd points.

Ref. No. 38	Removal of the LCD

Procedure
1→16→29→30→31→35→36→37→38



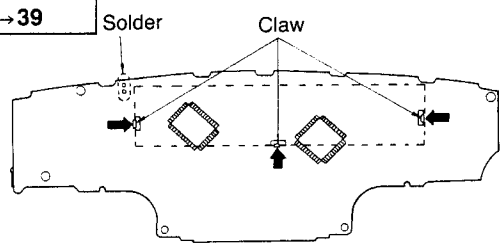


- **Equalizer section**
1. Resolder the 31 solderd points.
2. Release the claw (A) in the direction of the arrow ①.

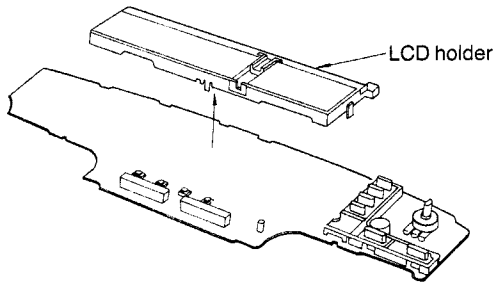
- **Function section**
1. Resolder the 51 solderd points.
2. Release the claw in the direction of the arrow ②.

Ref. No. 39	Removal of the LCD Holder

Procedure
1→16→29→30→31→35→36→37→38→39

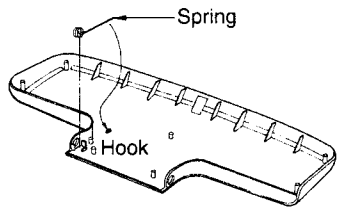


1. Resolder the 2 solderd points.
2. Release the 3 claws in the direction of the arrows.



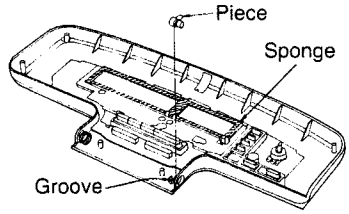
■ NOTES FOR INSTALLATION

•Installation of auxiliary spring of top panel



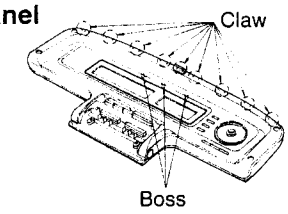
Hook the spring as shown the figure.

•Installation of top panel and piece



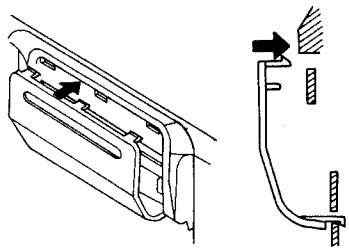
Fit the boss of the piece in the groove of the top panel.

•Installation of display of top panel



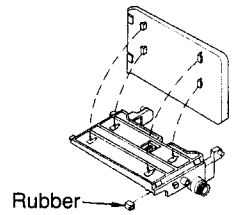
1. Fit in the 9 claws on the upper part of the panel.
2. Make sure that the sponge rubber is not seen in the window.

•Installation of top panel cover

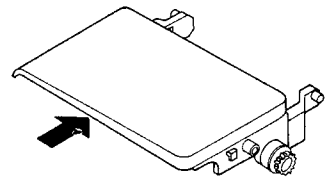


•Installation of cassette panel

(Install the cassette panel of Deck 2 in the same way as shown below.)



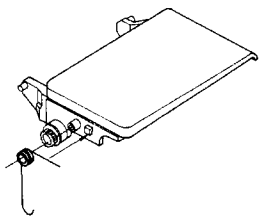
1. Install the rubber.



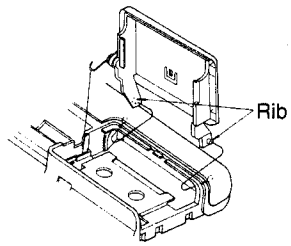
2. Install the cassette panel as shown above.

•Installation of cassette holder

(Install the cassette holder of Deck 2 in the same way of Deck 1 as shown below.)

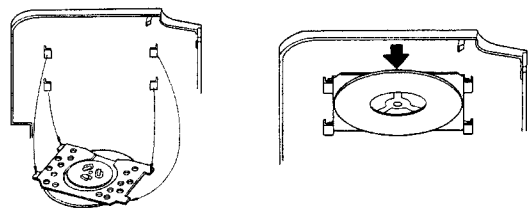


1. Install the spring.

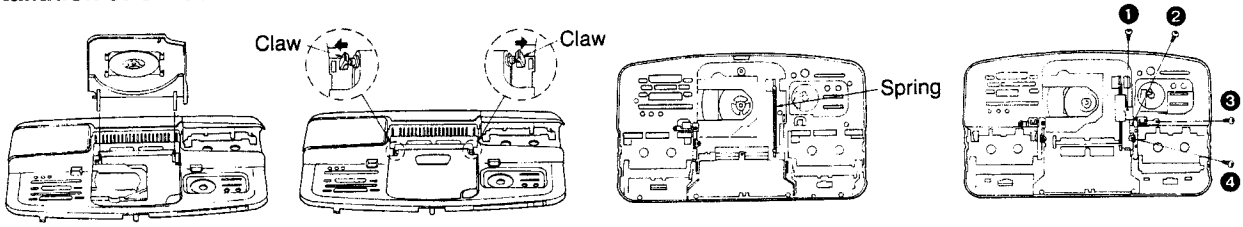


2. Insert the spring in the groove.
3. Fit in the rib.

•Installation of disc clamper

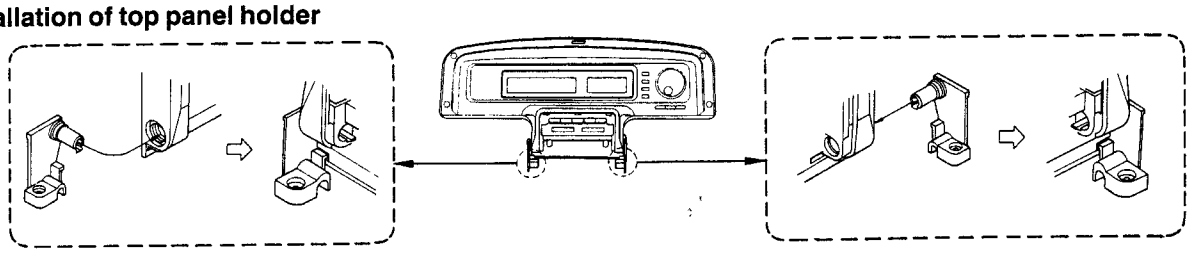


•Installation of CD cover



1. Install the CD cover.
2. Fit the claws in the bosses.
3. Install the spring.
4. Install the holder with the 4 screws (❶~❹).

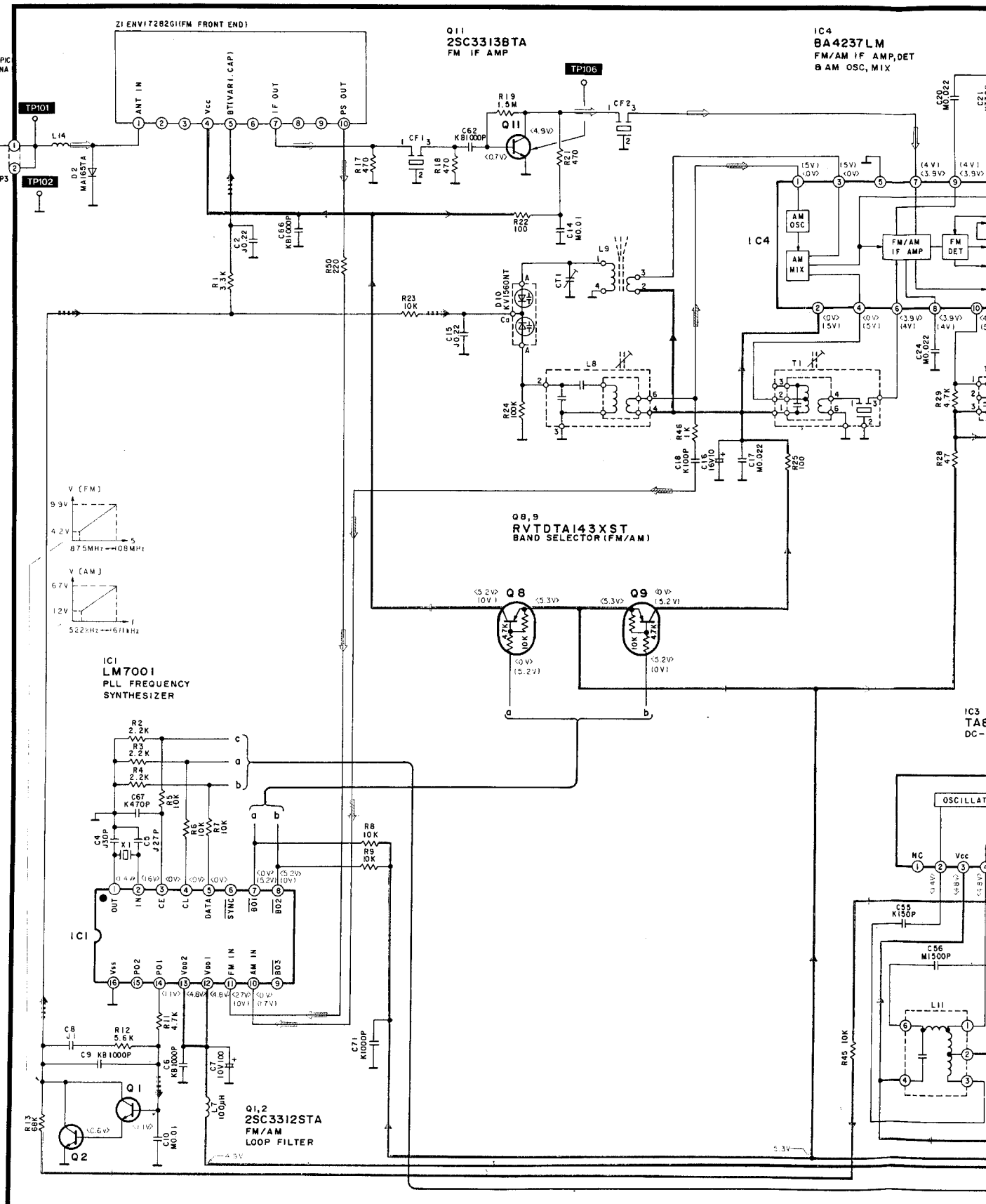
•Installation of top panel holder

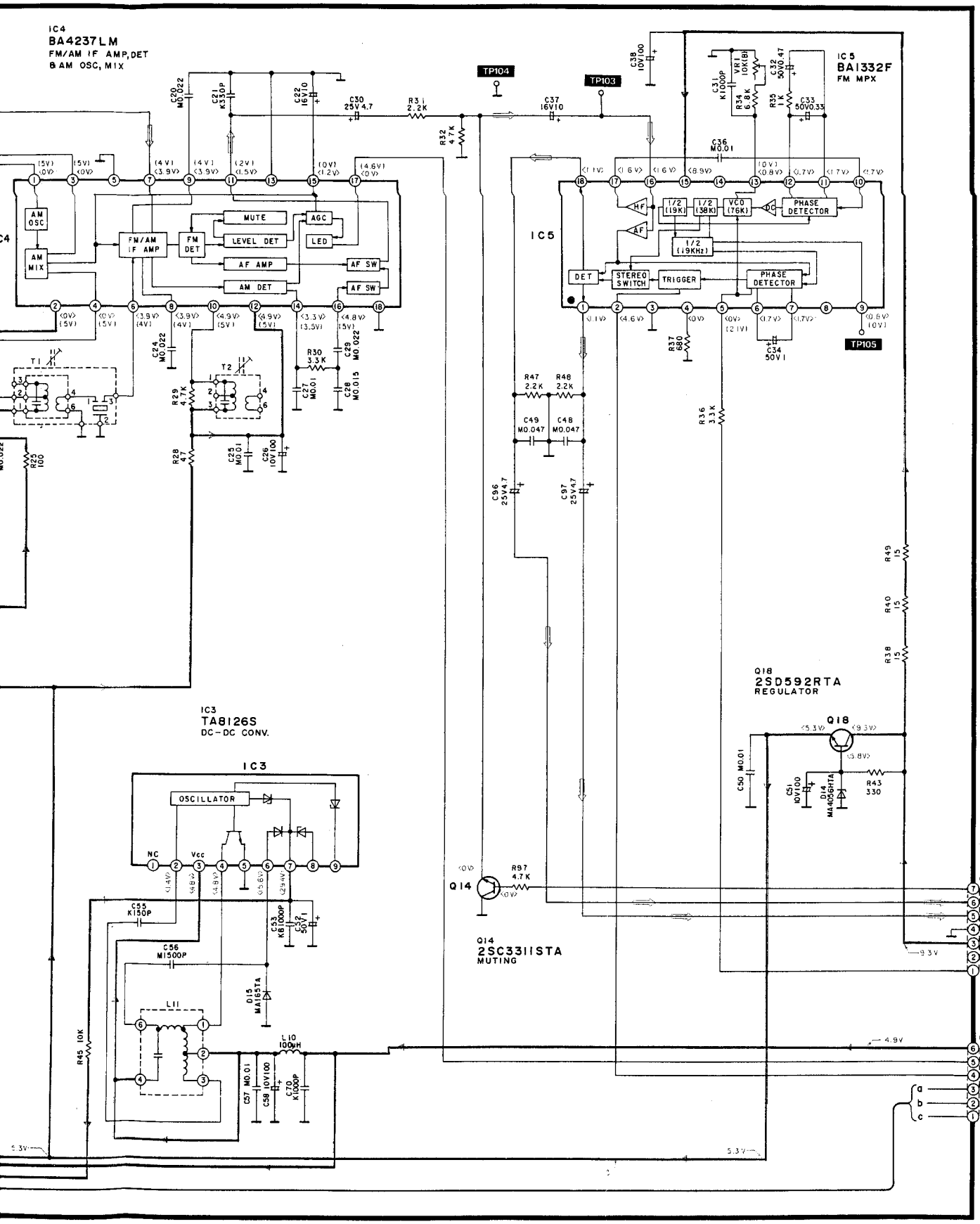


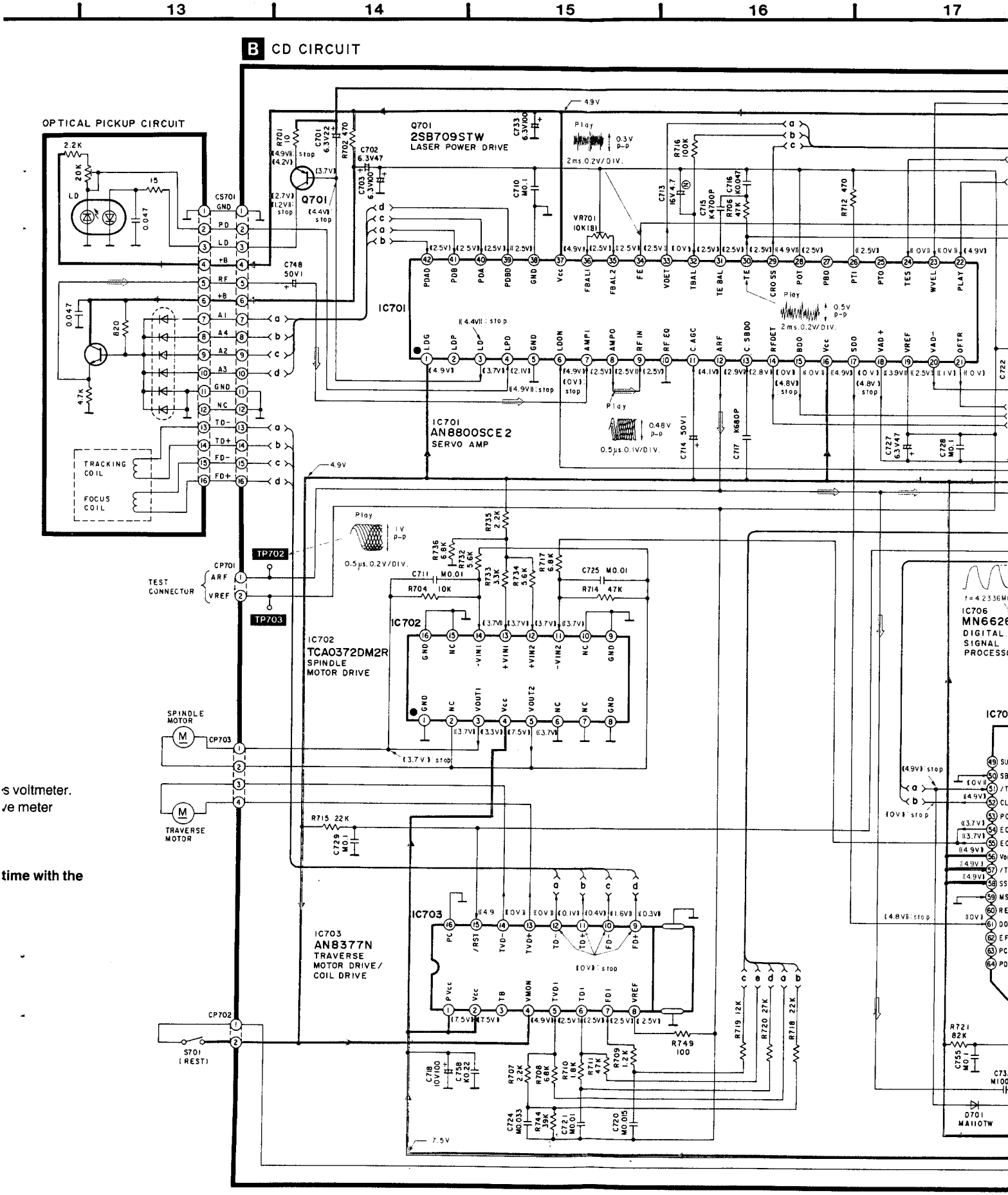
■ SCHEMATIC DIAGRAM •TUNER CIRCUIT AND CD CIRCUIT

1 2 3 4 5

A TUNER CIRCUIT

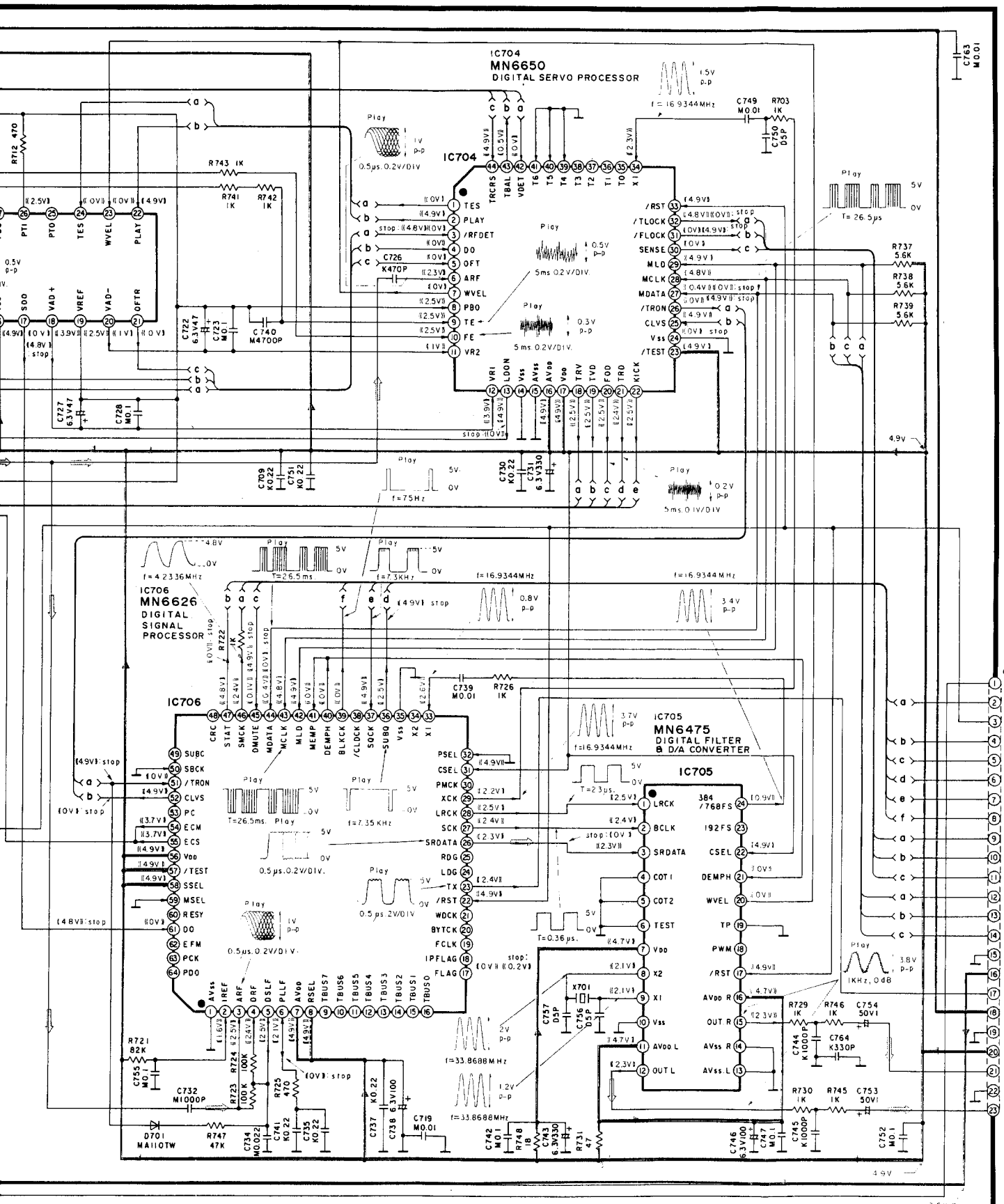



IC4
BA4237LM
FM/AM IF AMP, DET
& AM OSC, MIX
IC5
BA1332F
FM MPX
TP104
TP103
TP105
AM OSC
AM MIX
FM/AM IF AMP
FM DET
MUTE
LEVEL DET
AGC
LED
AF AMP
AF SW
AM DET
AF SW
IC5
HF
AF
1/2 (19K)
1/2 (38K)
VCO (76K)
PHASE DETECTOR
1/2 (19KHz)
DET
STEREO SWITCH
TRIGGER
PHASE DETECTOR
IC3
TA8126S
DC-DC CONV.
OSCILLATOR
NC
Vcc
Q18
2SD592RTA
REGULATOR
Q14
2SC3311STA
MUTING
CP2
MUTE.B
Lch OUT
Rch OUT
GND
+B(3)
—
M/ST
To L MAIN CIRCUIT (CW2) (Page 35)
CP1
+B(4)
TUNE
ST LED
PLL CLK
PLL DATA
PLL CE
To L MAIN CIRCUIT (CW1) (Page 35)



s voltmeter.
ve meter

time with the


IC704
MN6650
DIGITAL SERVO PROCESSOR
IC706
MN6626
DIGITAL SIGNAL PROCESSOR
IC705
MN6475
DIGITAL FILTER & D/A CONVERTER
CS702
To L M CIRCUIT (CS702) (Page 37)

■ SCHEMATIC DIAGRAM •MAIN, OPERATION, TRANSISTOR AND FUNCTION SELECTOR CIR

1 2 3 4 5

A B C D E F

Notes:

- •S601 : CD cover OPEN/CLOSE detect switch.
- •S602 : Volume limit switch.
- •S603 : Operation switch. (OPERATION)
- •S604 : Sleep timer switch. (SLEEP)
- •S605 : Tape/aux mode select switch. (TAPE/AUX)
- •S606 : Tuner/band select switch. (TUNER/BAND)
- •S607 : CD select switch. (CD)
- •S608 : Timer play switch. (PLAY-TIMER)
- •S609 : Timer recording switch. (REC-TIMER)
- •S820 : Deck stop switch. (□)
- •S821 : Deck fast/tape program sensor switch. (◀◀/TPS)
- •S822 : Deck reverse-side playback switch. (◀)
- •S823 : Deck forward-side playback switch. (▶)
- •S824 : Deck fast/tape program sensor switch. (TPS/▶▶)
- •S825 : Deck 1/2 select switch. (DECK SELECTOR)
- •S826 : Deck reverse mode select switch. (REVERSE MODE)
- •S827 : Tape counter reset switch. (COUNTER)
- •S828 : Dolby noise reduction switch. (DOLBY)
- •S829 : Record/record standby switch. (● ❚❚)
- •S830 : Edit-recording switch. (NORMAL)
- •S831 : Edit-recording switch. (HIGH)
- •S832 : CD stop switch. (□)
- •S833 : CD play switch. (▷)
- •S834 : CD pause switch. (❚❚)
- •S835 : CD skip/search switch. (▶▶ / ▶▶|)
- •S836 : CD skip/search switch. (|◀◀ / ◀◀)
- •S837 : Automatic tape level setting switch. (ATLS)
- •S838 : FM mode/beat proof switch. (FM MODE/B.P)
- •S839 : Display select switch. (DISPLAY)
- •S840 : Beep sound ON/OFF switch. (BEEP)
- •S841 : Manual recording mode switch. (M. REC MODE)
- •VR401 : Lch volume control VR. (VOLUME)
- •VR402 : Lch recording level control VR. (REC LEVEL)
- •VR501 : Rch volume control VR. (VOLUME)
- •VR502 : Rch recording level control VR. (REC LEVEL)
- •VR601 : Balance control VR. (BALANCE)

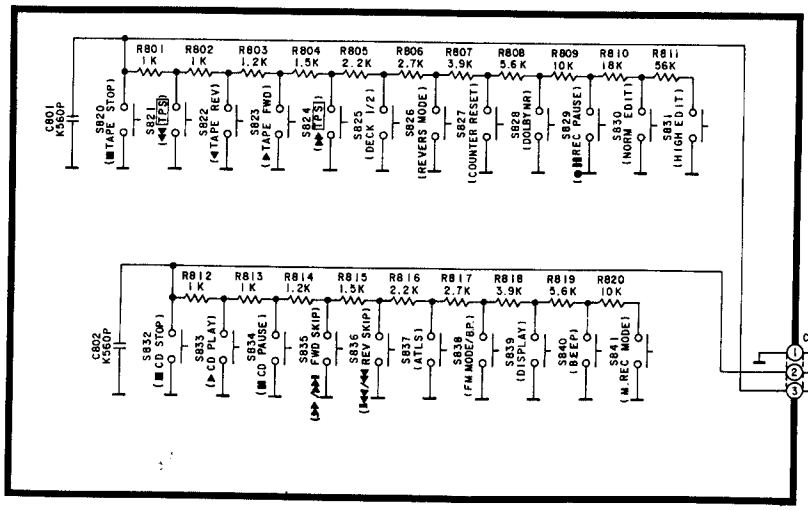
•DC voltage measurements are taken with electronics voltmeter.
The negative terminal of the battery provides negative meter connection point.
(( )) ...CD No mark...DECK PLAYBACK
⌐ _| ...TUNER [[ ]] ...AUX

•This schematic diagram may be modified at any time with the development of new technology.

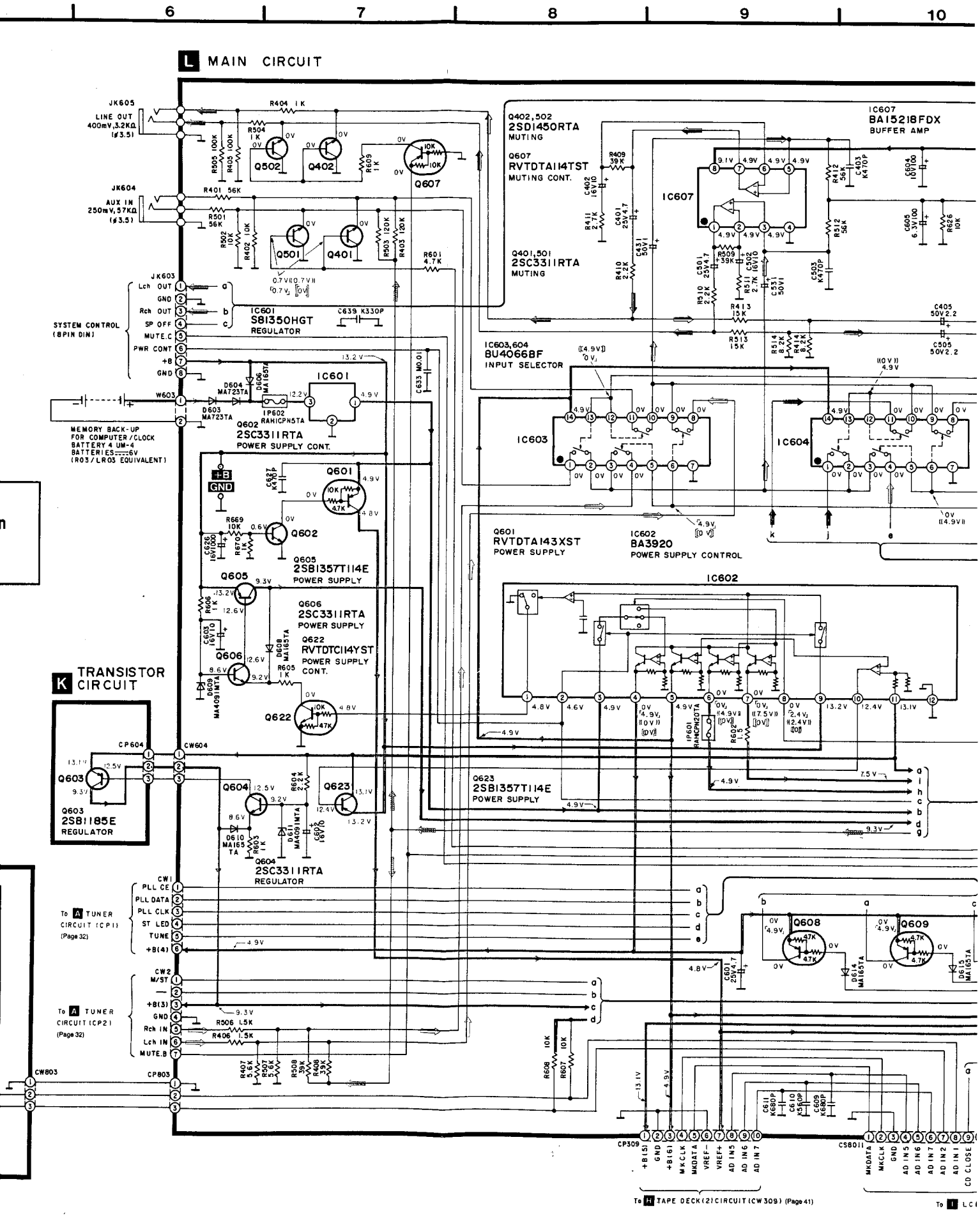
Note:
When 13.2 V DC is applied between +B and GND, the unit will be operational.

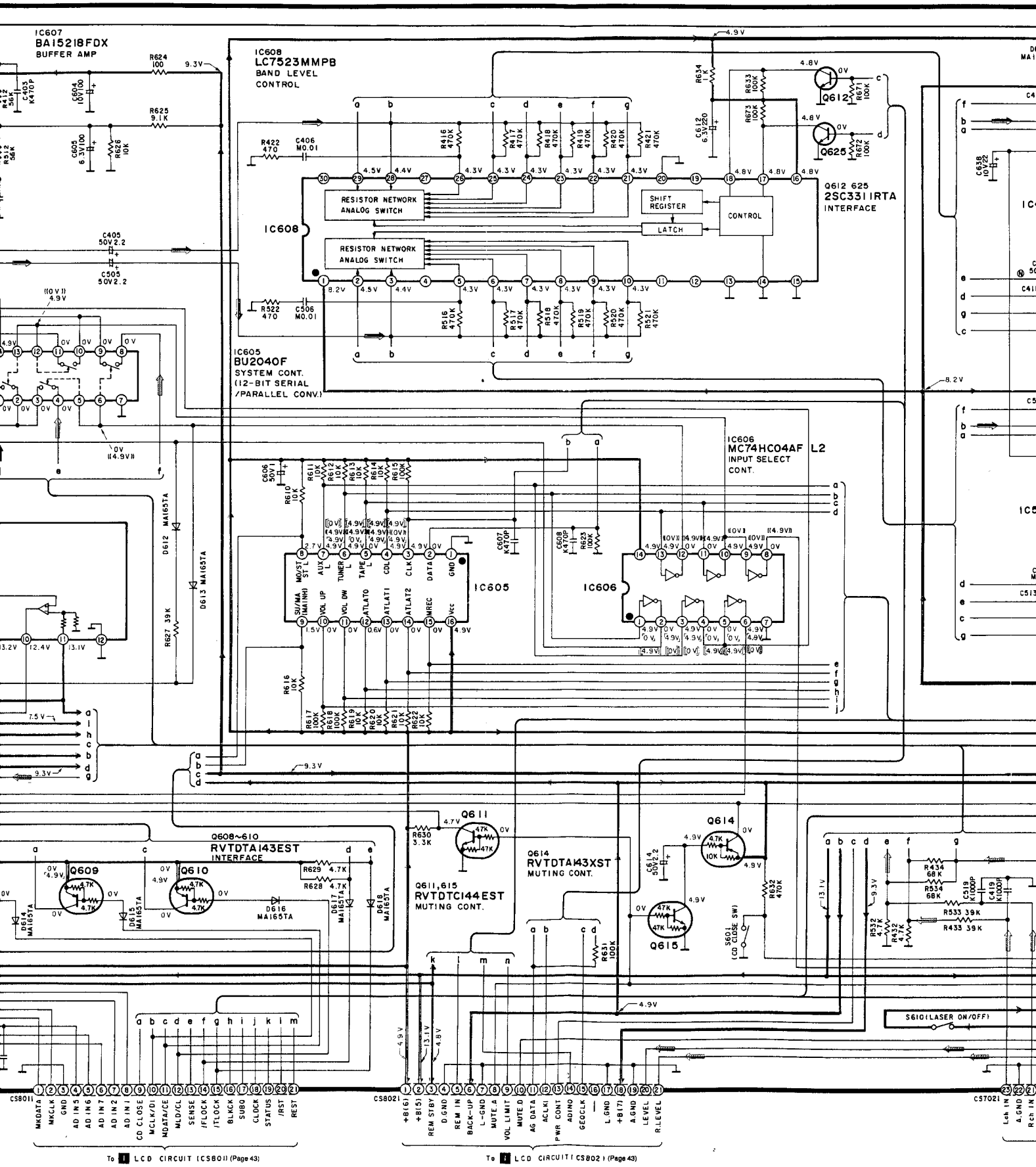
: FM SIGNAL LINE
: TAPE PLAYBACK SIGNAL LINE
: CD SIGNAL LINE
: MIC SIGNAL LINE
: MAIN SIGNAL LINE
: RECORD SIGNAL LINE
: SPECTRUM ANALIZER SIGNAL LINE
: +B LINE

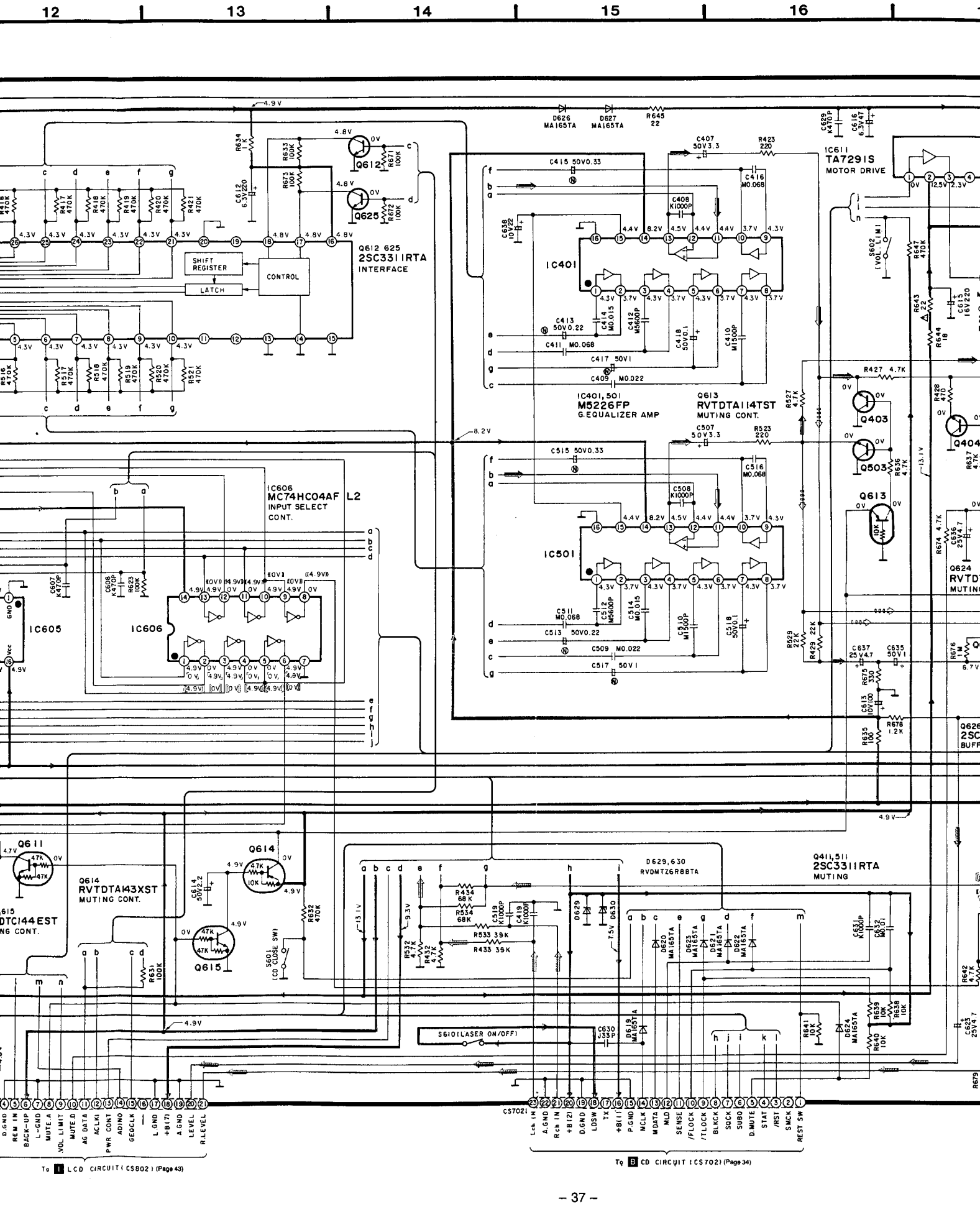
J OPERATION CIRCUIT



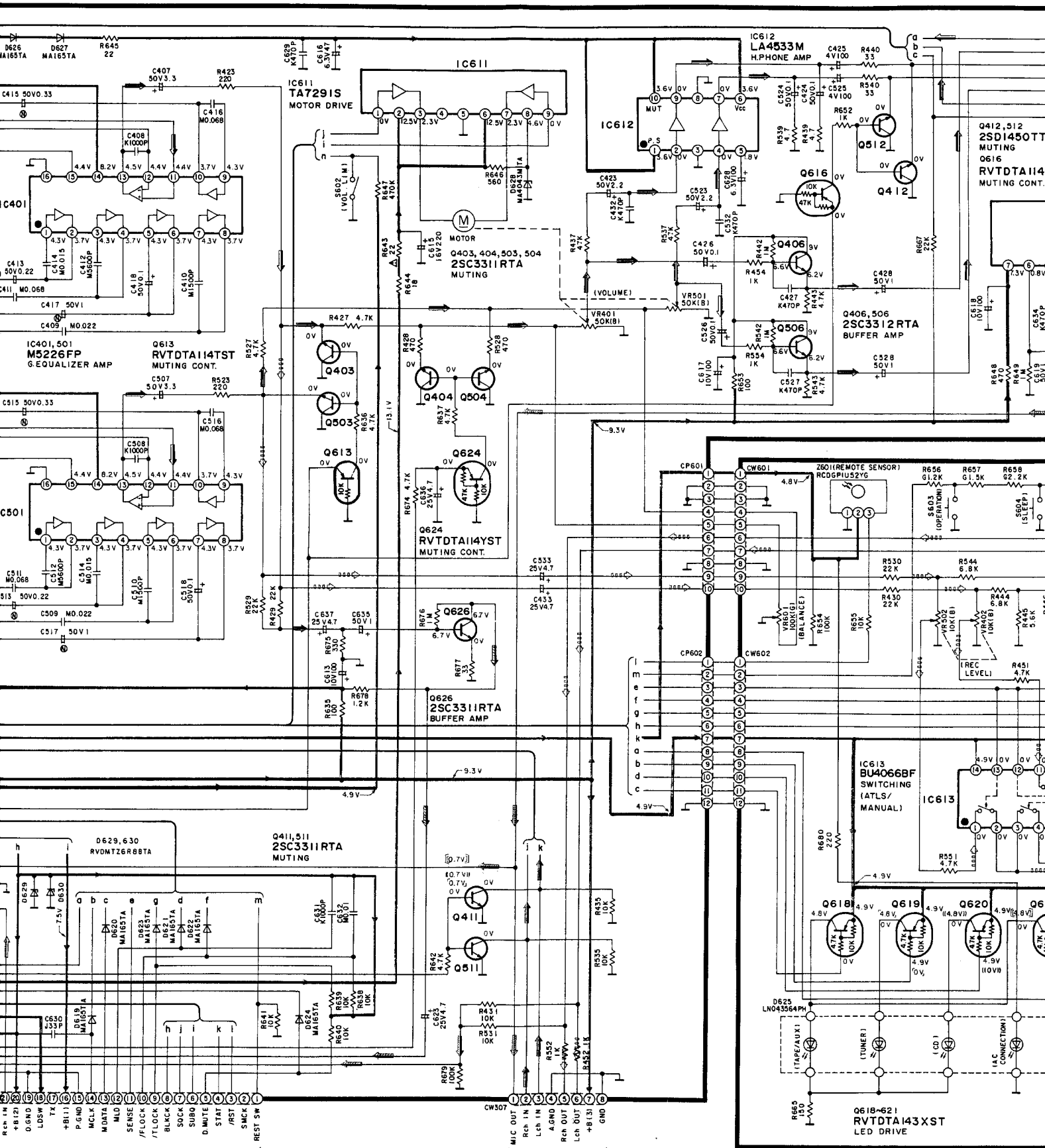
TOR CIRCUIT


6
7
8
9
10
L MAIN CIRCUIT
K TRANSISTOR CIRCUIT
JK605
LINE OUT
400mV,3.2KΩ
JK604
AUX IN
250mV,57KΩ
JK603
SYSTEM CONTROL
(8PIN DIN)
MEMORY BACK-UP
FOR COMPUTER/CLOCK
BATTERY 4 UM-4
BATTERIES---6V
(R03/LR03 EQUIVALENT)
Q502
Q402
Q607
Q501
Q401
Q402,502
2SD1450RTA
MUTING
Q607
RVTDTA114TST
MUTING CONT.
Q401,501
2SC3311RTA
MUTING
IC607
BA15218FDX
BUFFER AMP
IC601
S81350HGT
REGULATOR
IC603,604
BU4066BF
INPUT SELECTOR
IC603
IC604
Q602
2SC3311RTA
POWER SUPPLY CONT.
Q601
RVTDTA143XST
POWER SUPPLY
IC602
BA3920
POWER SUPPLY CONTROL
Q605
2SB1357T114E
POWER SUPPLY
Q606
2SC3311RTA
POWER SUPPLY
Q622
RVTDTC114YST
POWER SUPPLY
CONT.
Q603
2SB1185E
REGULATOR
Q604
2SC3311RTA
REGULATOR
Q623
2SB1357T114E
POWER SUPPLY
Q608
Q609
To A TUNER CIRCUIT (CP1) (Page 32)
To A TUNER CIRCUIT (CP2) (Page 32)
To H TAPE DECK (2) CIRCUIT (CW309) (Page 41)
To I LCI


10
11
12
13
14
IC607
BA15218FDX
BUFFER AMP
IC608
LC7523MMPB
BAND LEVEL
CONTROL
RESISTOR NETWORK
ANALOG SWITCH
SHIFT
REGISTER
LATCH
CONTROL
Q612 625
2SC3311RTA
INTERFACE
IC605
BU2040F
SYSTEM CONT.
(12-BIT SERIAL
/PARALLEL CONV.)
IC606
MC74HC04AF L2
INPUT SELECT
CONT.
Q608~610
RVTDTA143EST
INTERFACE
Q611,615
RVTDTC144EST
MUTING CONT.
Q614
RVTDTA143XST
MUTING CONT.
S610(LASER ON/OFF)
CS8011
CS8021
CS7021
To LCD CIRCUIT (CS801) (Page 43)
To LCD CIRCUIT (CS802) (Page 43)


12
13
14
15
16
IC611
TA7291S
MOTOR DRIVE
Q612 625
2SC3311RTA
INTERFACE
SHIFT REGISTER
CONTROL
LATCH
IC401
IC401, 501
M5226FP
G.EQUALIZER AMP
Q613
RVTDTA114TST
MUTING CONT.
IC501
IC606
MC74HC04AF L2
INPUT SELECT CONT.
IC605
Q611
RVTDTA143XST
MUTING CONT.
Q614
RVTDTA143XST
MUTING CONT.
Q615
Q403
Q404
Q503
Q624
Q626
D629,630
RVDMTZ6R8BTA
Q411,511
2SC3311RTA
MUTING
S601 (CD CLOSE SW)
S610 LASER ON/OFF
To I LCD CIRCUIT (CS802) (Page 43)
To B CD CIRCUIT (CS702) (Page 34)

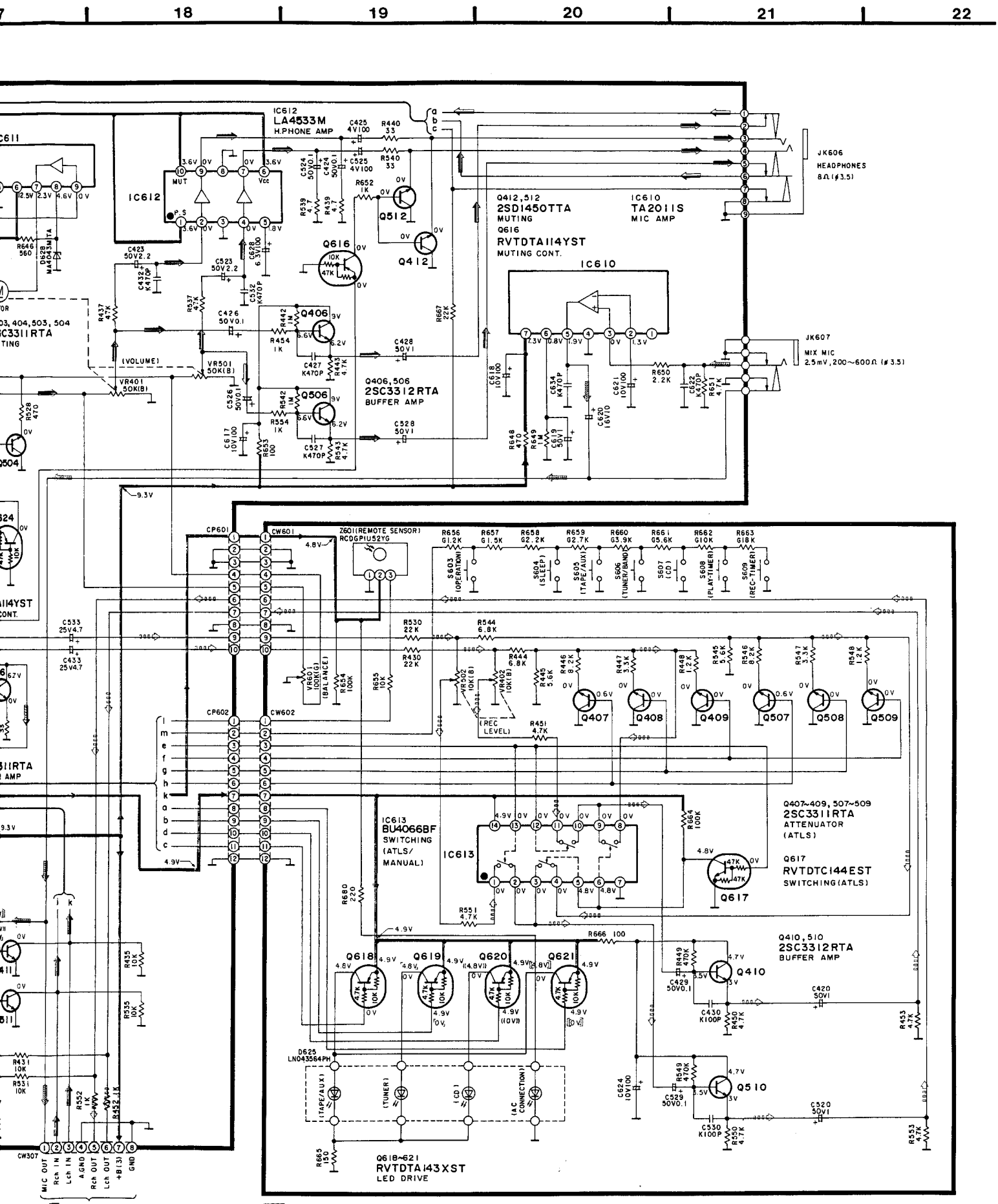
15 16 17 18 19



To B CD CIRCUIT (CS702) (Page 34)

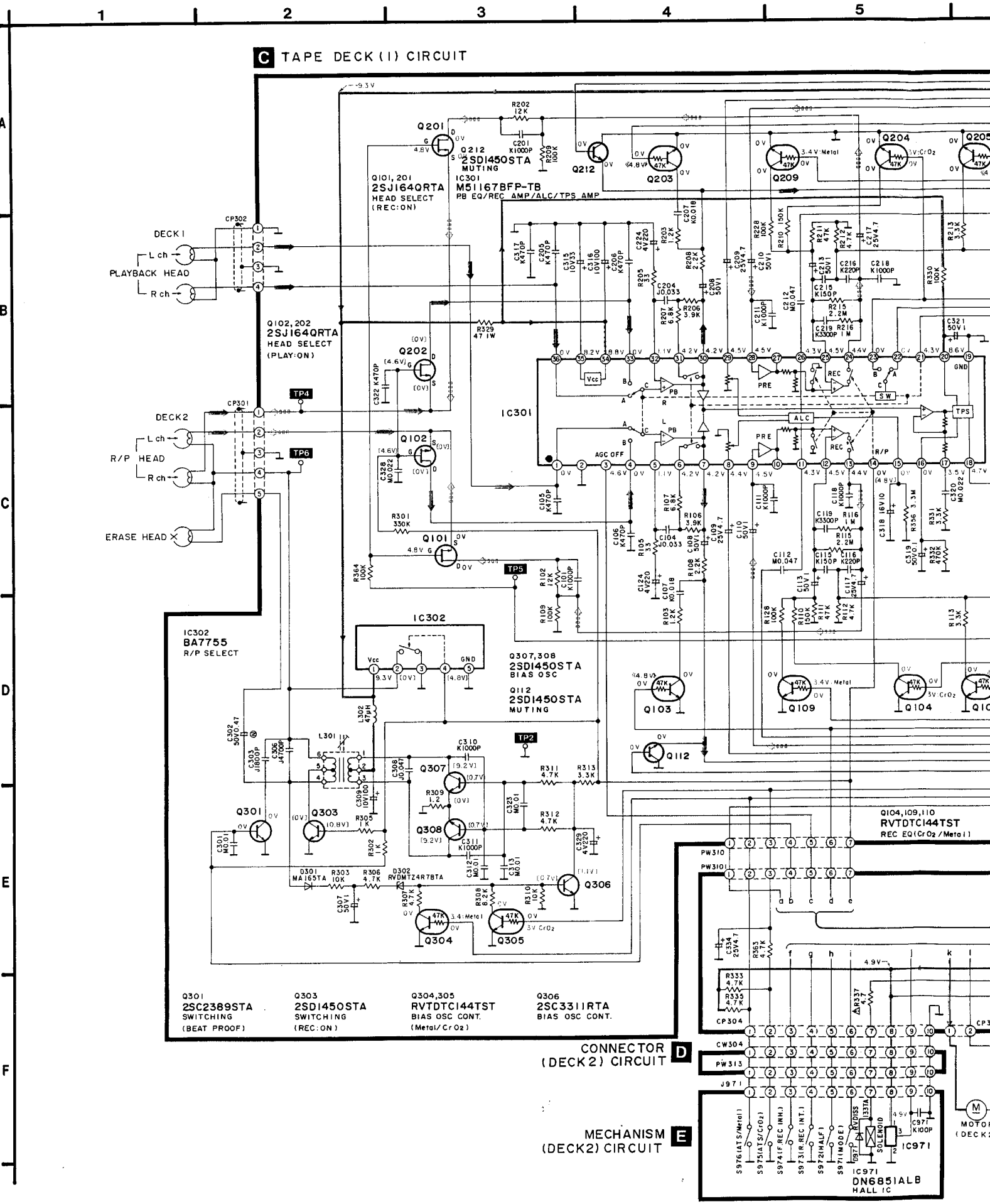
To C TAPE DECK (1) CIRCUIT (CP307) (Page 41)

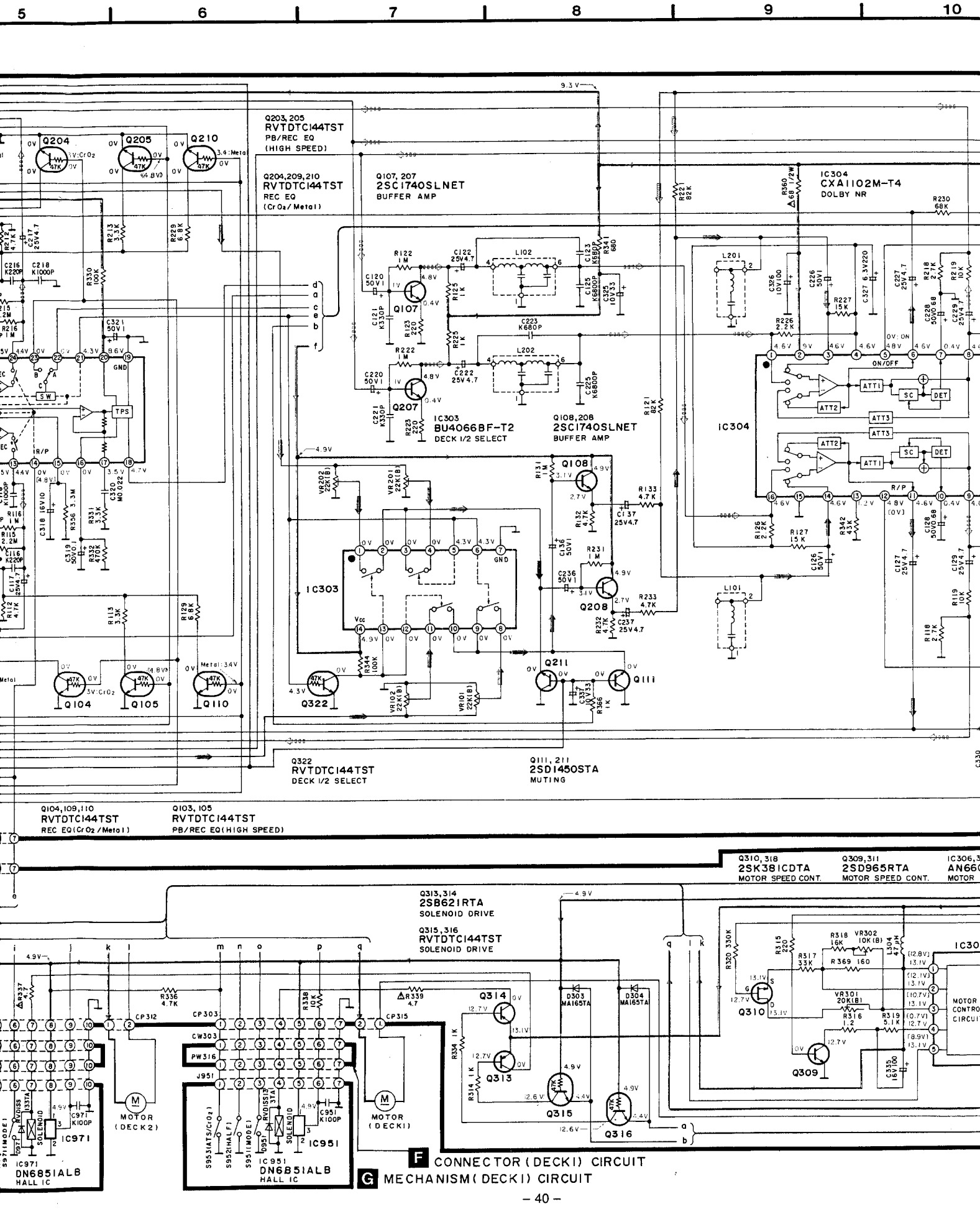
M FUNCTION SELECTOR CIRCUIT



M FUNCTION SELECTOR CIRCUIT

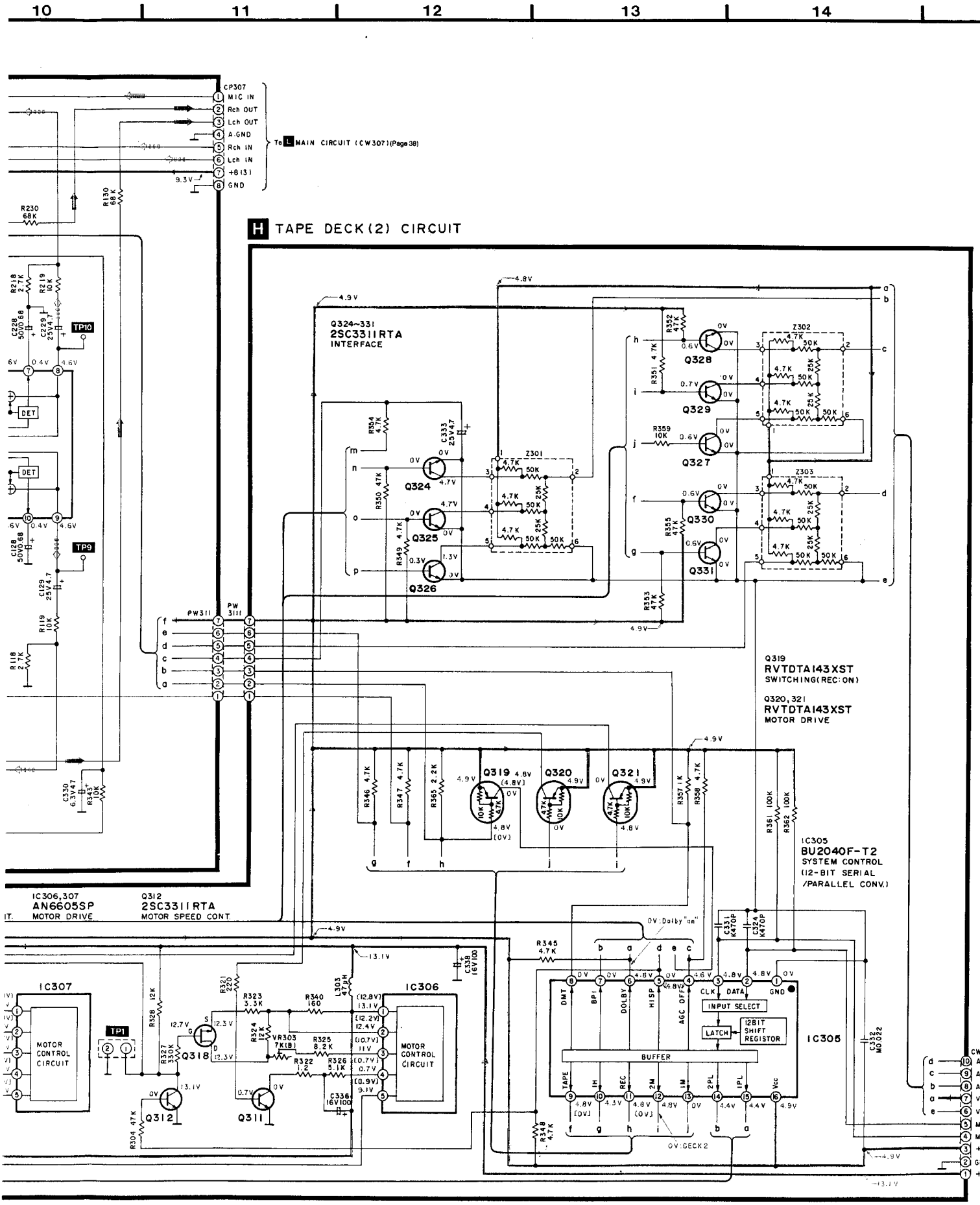
■ SCHEMATIC DIAGRAM •TAPE DECK 1/2 AND MECHANISM CIRCUIT



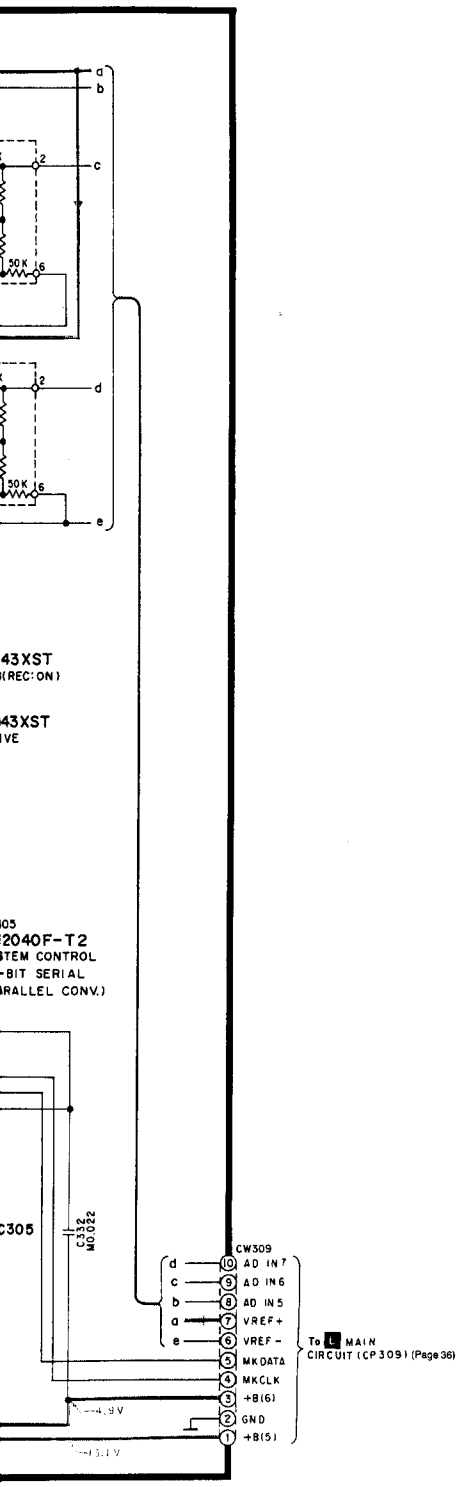


F CONNECTOR (DECK1) CIRCUIT

G MECHANISM (DECK1) CIRCUIT


10
11
12
13
14
CP307
MIC IN
Rch OUT
Lch OUT
A.GND
Rch IN
Lch IN
+B(3)
GND
To L MAIN CIRCUIT (CW307)(Page38)
H TAPE DECK(2) CIRCUIT
Q324~331
2SC3311RTA
INTERFACE
Q328
Q329
Q327
Q330
Q331
Q324
Q325
Q326
Z301
Z302
Z303
Q319
RVTDTA143XST
SWITCHING(REC:ON)
Q320,321
RVTDTA143XST
MOTOR DRIVE
IC305
BU2040F-T2
SYSTEM CONTROL
(12-BIT SERIAL
/PARALLEL CONV.)
IC306,307
AN6605SP
MOTOR DRIVE
Q312
2SC3311RTA
MOTOR SPEED CONT.
IC307
IC306
MOTOR CONTROL CIRCUIT
Q318
Q312
Q311
INPUT SELECT
12BIT SHIFT REGISTOR
LATCH
BUFFER
CLK
DATA
GND
DMT
BPI
DOLBY
HISP
AGC OFF
TAPE
1H
REC
2M
1M
2PL
1PL
Vcc
0V:Dolby "on"
0V:DECK2
CW309
AD IN
AD IN
AD IN
VREF+
VREF-
MKDAT
MKCLK
+B(6)
GND
+B(5)

14 15 16 17 18 19



Note:

- •S951 : Deck 1 mode detect switch.
- •S952 : Deck 1 cassette tape insertion detect switch.
- •S953 : Deck 1 METAL/CrO_2 tape detect switch.
- •S971 : Deck 2 mode detect switch.
- •S972 : Deck 2 cassette tape insertion detect switch.
- •S973 : Deck 2 reverse side record prevention tab detect switch.
- •S974 : Deck 2 fowerd side record prevention tab detecy switch.
- •S975 : Deck 2 CrO_2 tape detect switch.
- •S976 : Deck 2 METAL tape detect switch.
- •VR101 : Deck 1 Lch playback level adjustment VR.
- •VR102 : Deck 2 Lch playback level adjustment VR.
- •VR201 : Deck 1 Rch playback level adjustment VR.
- •VR202 : Deck 2 Rch playback level adjustment VR.
- •VR301 : Deck 2 tape high speed adjustment VR.
- •VR302 : Deck 2 tape normal speed adjustment VR.
- •VR303 : Deck 1 tape normal speed adjustment VR.
- •DC voltage measurements are taken with electronic voltmeter.
  The negative terminal of the battery provides negative meter connection point.
  No mark...TAPE PLAYBACK [ ]...RECORD
  < >...HIGH SPEED EDIT
- **•This schematic diagram may be modified at any time with the development of new technology.**

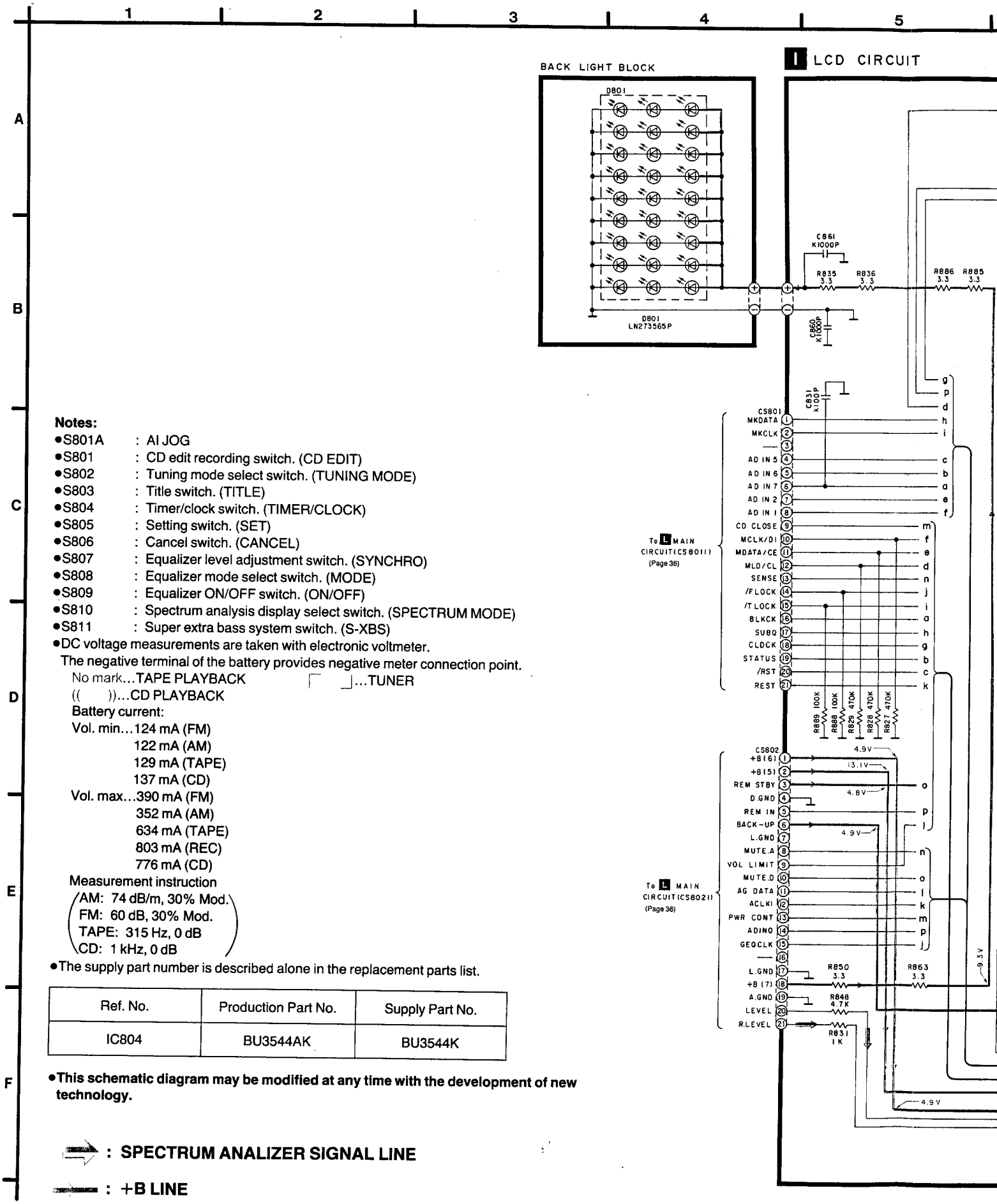
: TAPE PLAYBACK SIGNAL LINE

: MIC SIGNAL LINE

: RECORD SIGNAL LINE

: +B LINE

■ SCHEMATIC DIAGRAM •LCD CIRCUIT



Notes:

- •S801A : AI JOG
- •S801 : CD edit recording switch. (CD EDIT)
- •S802 : Tuning mode select switch. (TUNING MODE)
- •S803 : Title switch. (TITLE)
- •S804 : Timer/clock switch. (TIMER/CLOCK)
- •S805 : Setting switch. (SET)
- •S806 : Cancel switch. (CANCEL)
- •S807 : Equalizer level adjustment switch. (SYNCHRO)
- •S808 : Equalizer mode select switch. (MODE)
- •S809 : Equalizer ON/OFF switch. (ON/OFF)
- •S810 : Spectrum analysis display select switch. (SPECTRUM MODE)
- •S811 : Super extra bass system switch. (S-XBS)
- •DC voltage measurements are taken with electronic voltmeter.

The negative terminal of the battery provides negative meter connection point.

No mark...TAPE PLAYBACK ⌜ ⌟...TUNER

(( ))...CD PLAYBACK

Battery current:

Vol. min...124 mA (FM)
122 mA (AM)
129 mA (TAPE)
137 mA (CD)

Vol. max...390 mA (FM)
352 mA (AM)
634 mA (TAPE)
803 mA (REC)
776 mA (CD)

Measurement instruction

(AM: 74 dB/m, 30% Mod.
FM: 60 dB, 30% Mod.
TAPE: 315 Hz, 0 dB
CD: 1 kHz, 0 dB)

- •The supply part number is described alone in the replacement parts list.

Ref. No.	Production Part No.	Supply Part No.
IC804	BU3544AK	BU3544K

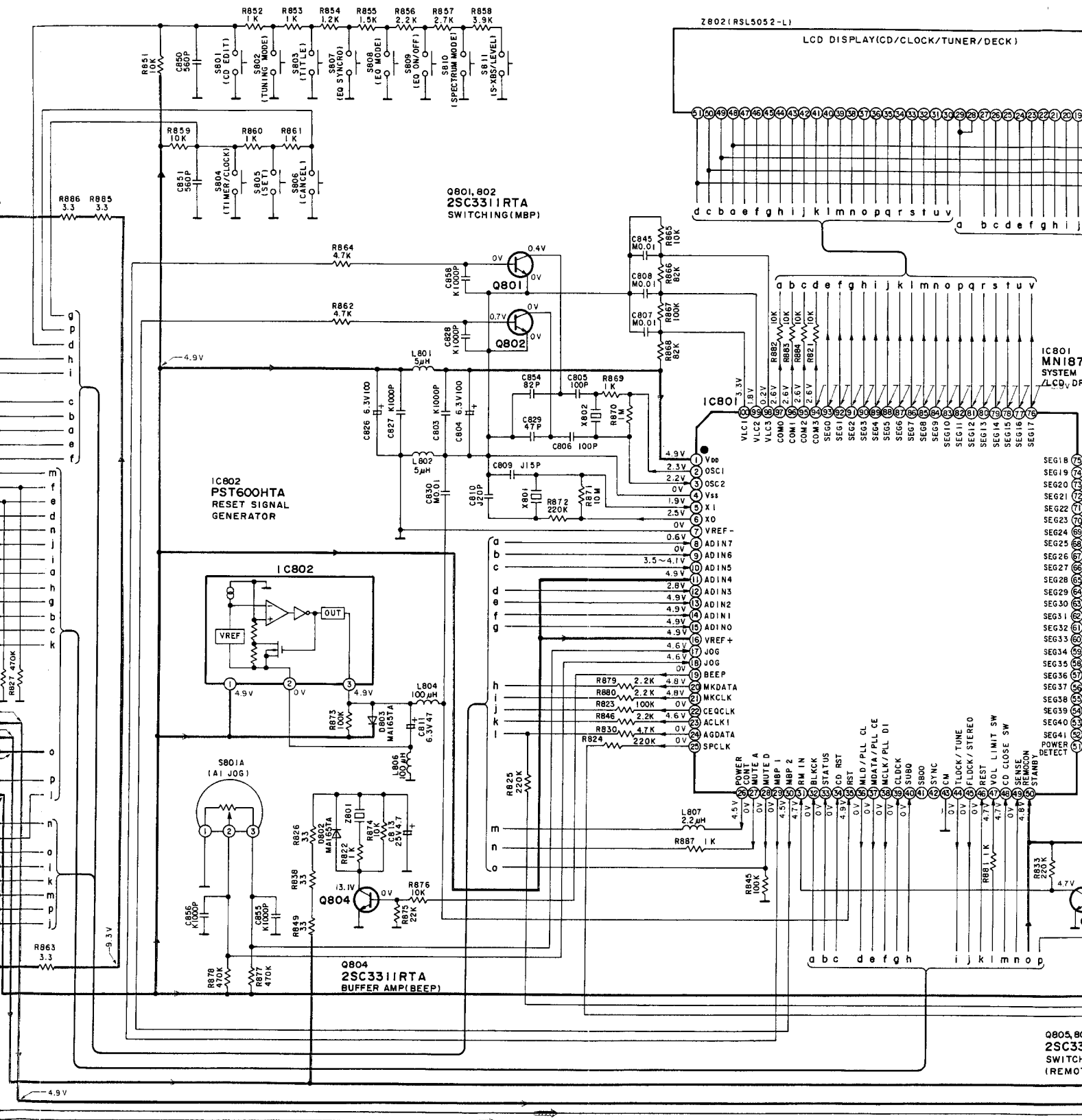
- **•This schematic diagram may be modified at any time with the development of new technology.**

⇨ : SPECTRUM ANALIZER SIGNAL LINE

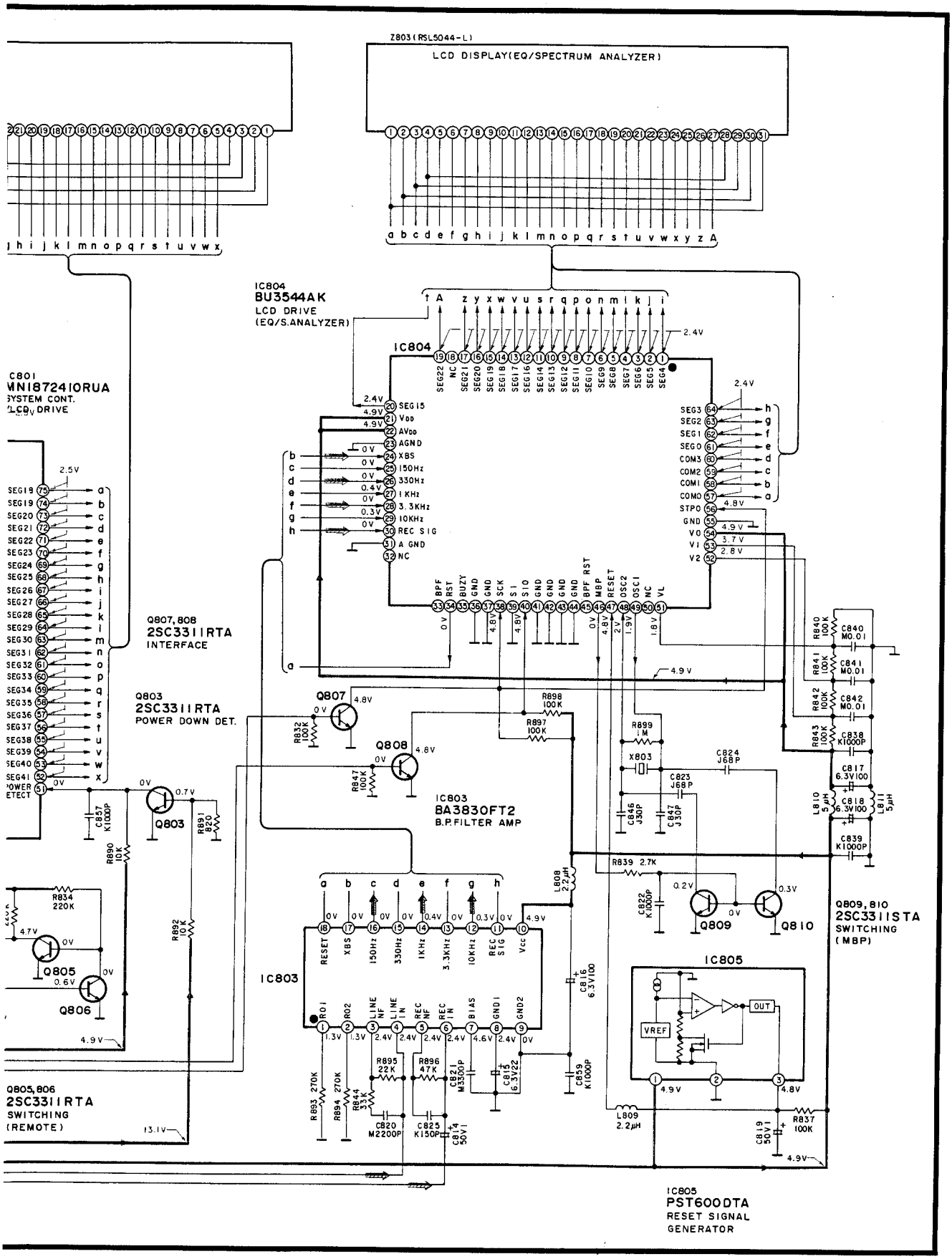
▬ : +B LINE

5 6 7 8 9 10

RCUIT

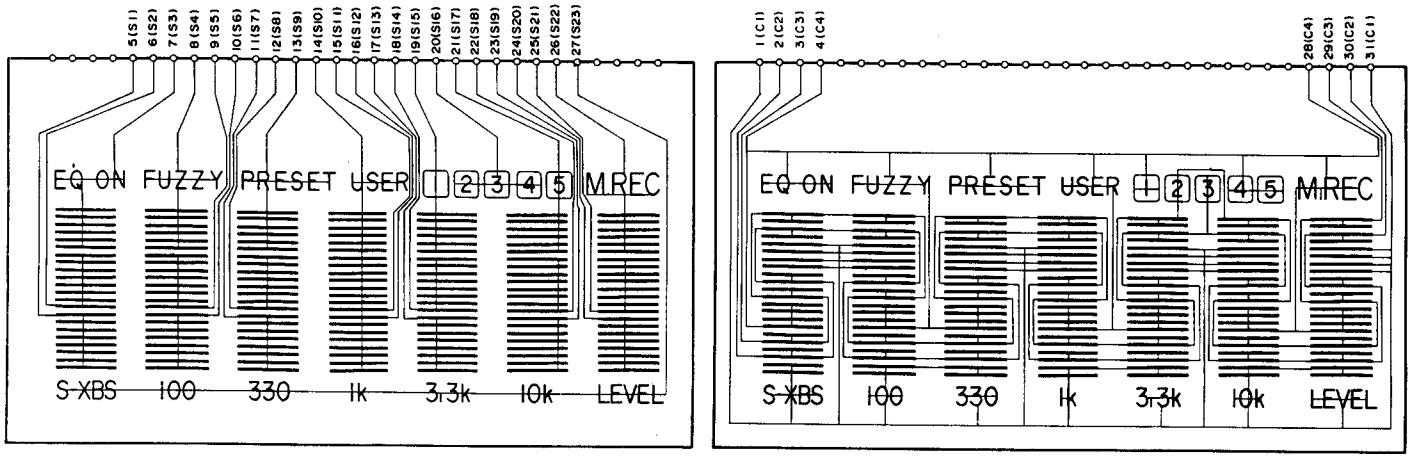


10 11 12 13 14

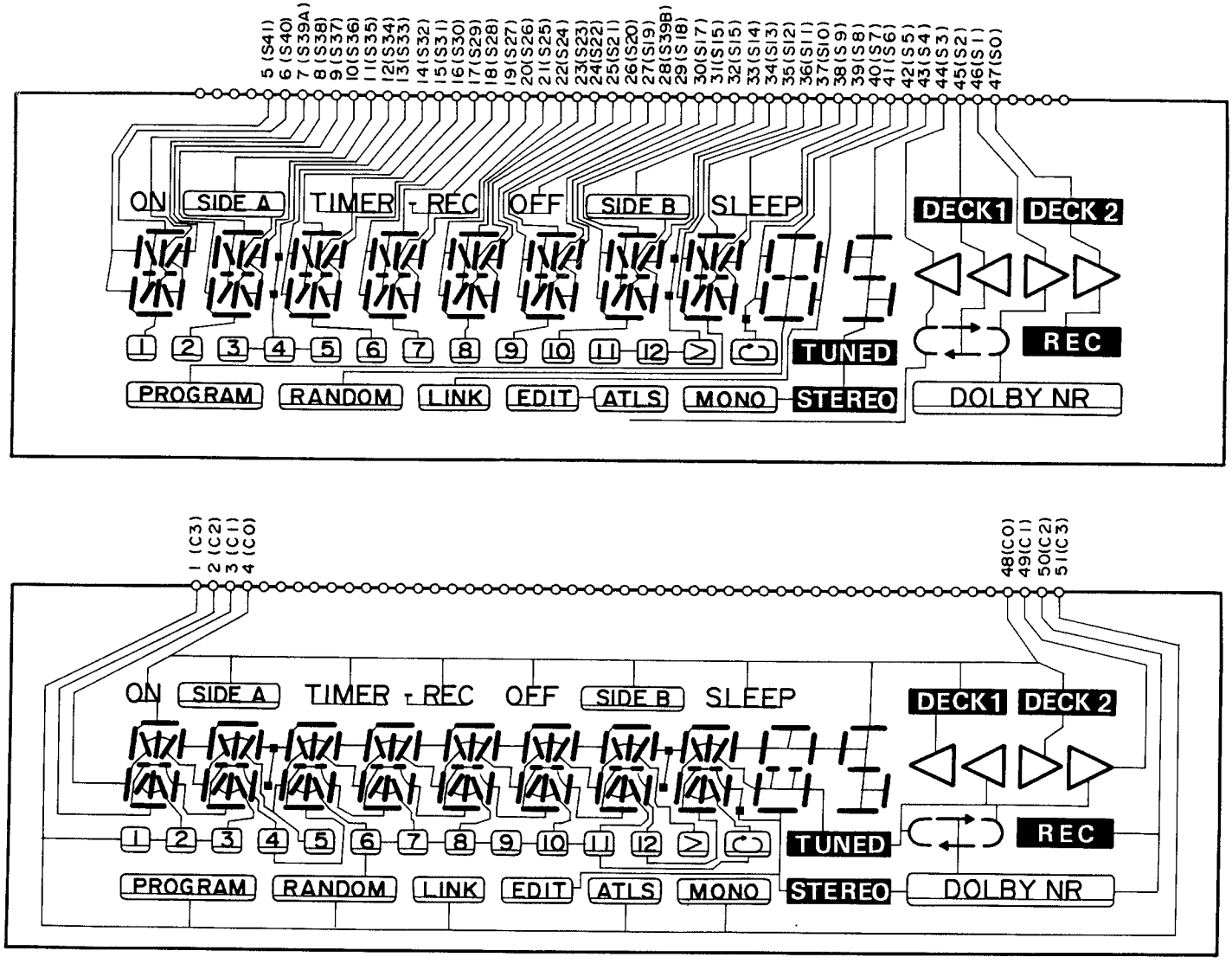

Z803(RSL5044-L)
LCD DISPLAY(EQ/SPECTRUM ANALYZER)
IC804
BU3544AK
LCD DRIVE
(EQ/S.ANALYZER)
IC804
C801
MN187241ORUA
SYSTEM CONT.
LCD DRIVE
Q807, 808
2SC3311RTA
INTERFACE
Q803
2SC3311RTA
POWER DOWN DET.
Q807
Q808
Q803
Q805
Q806
IC803
BA3830FT2
B.P.FILTER AMP
IC803
IC805
OUT
VREF
Q809
Q810
Q809, 810
2SC3311STA
SWITCHING
(MBP)
Q805, 806
2SC3311RTA
SWITCHING
(REMOTE)
IC805
PST600DTA
RESET SIGNAL
GENERATOR

■ LCD

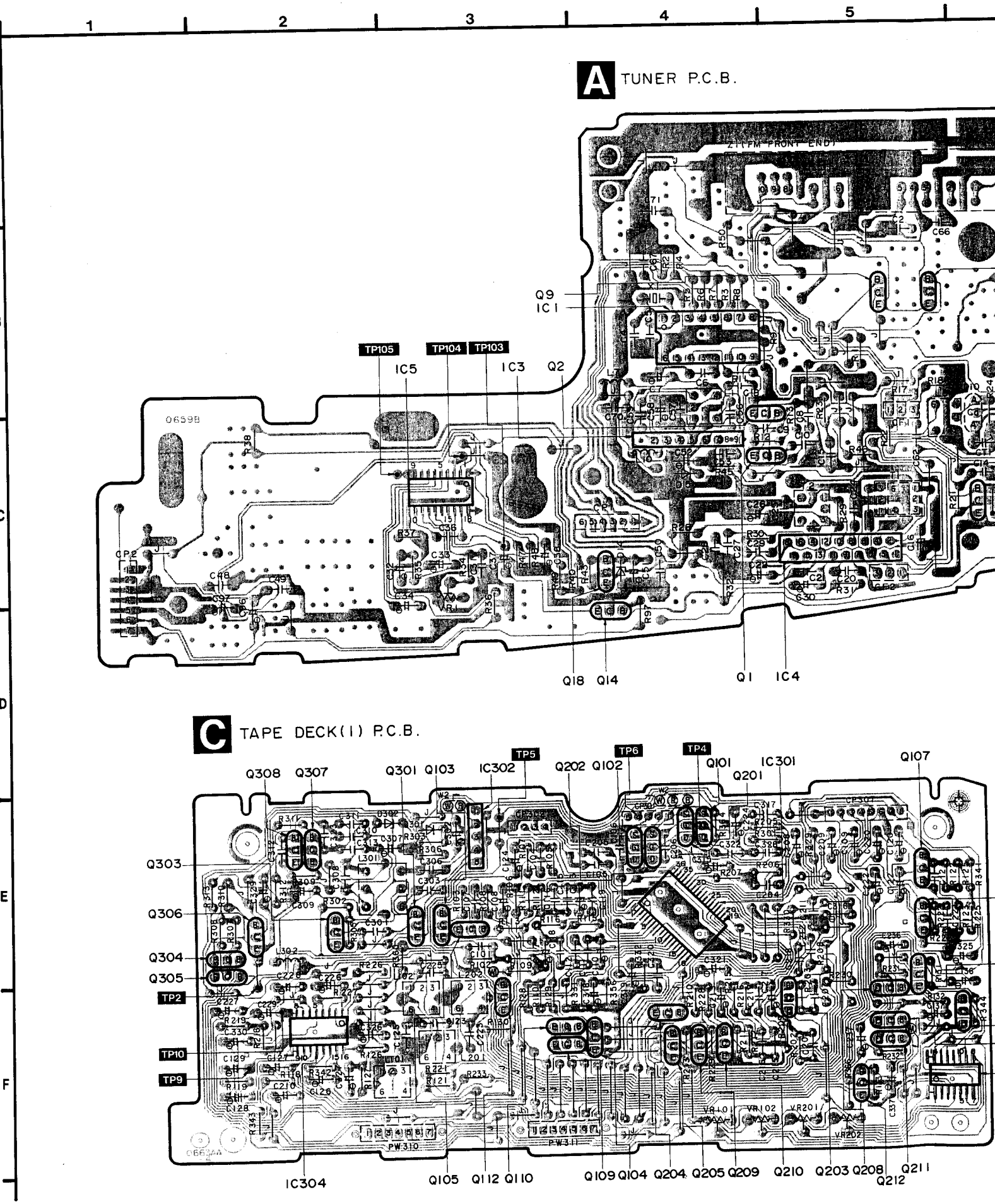
•Z803 (RSL5044-L)

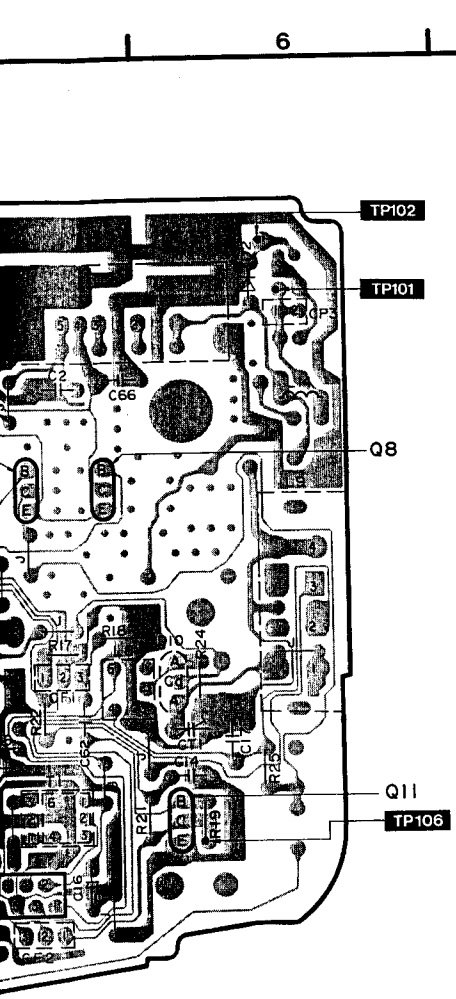


•Z802 (RSL5052L)

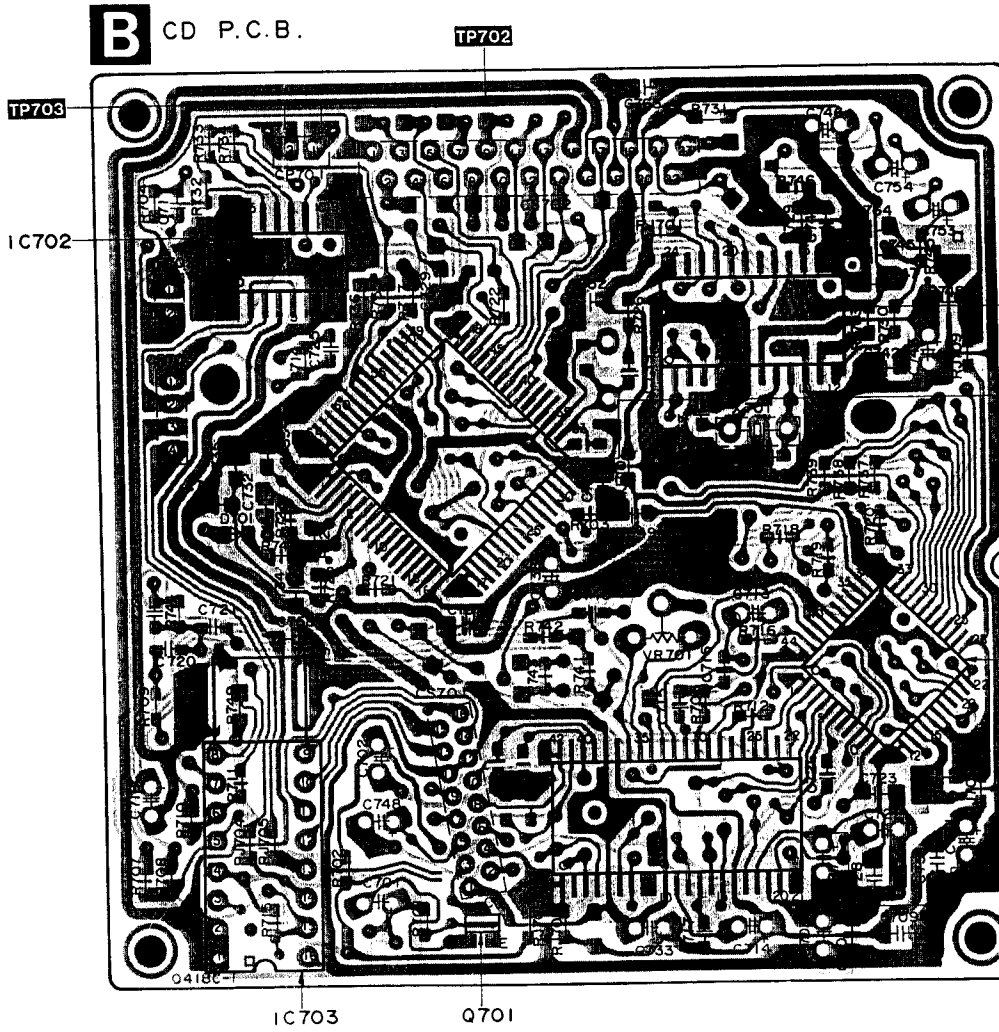


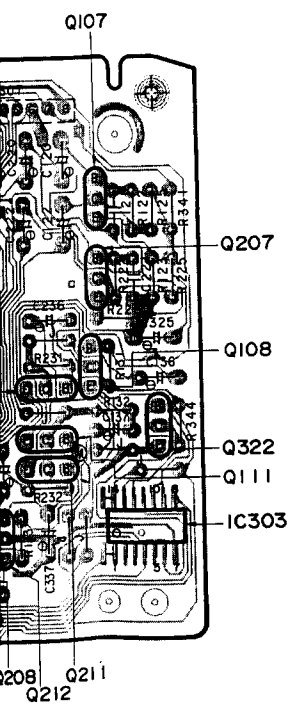
CIRCUIT BOARD DIAGRAM



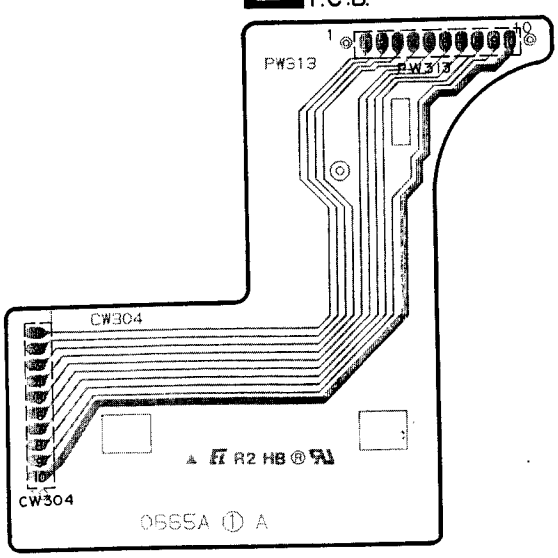


B CD P.C.B.

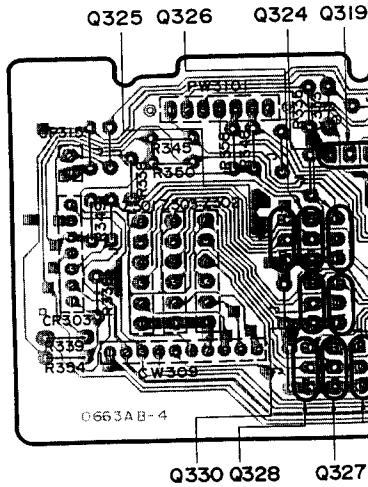




D CONNECTOR (DECK 2) P.C.B.

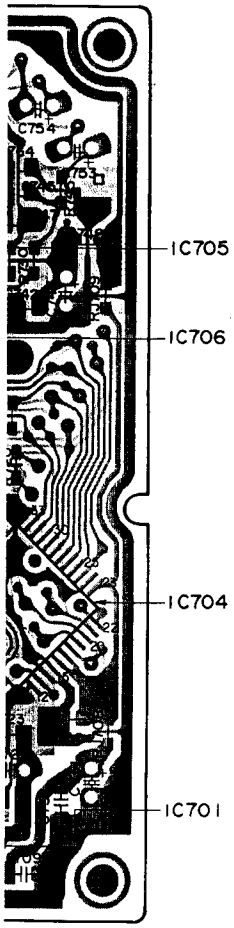


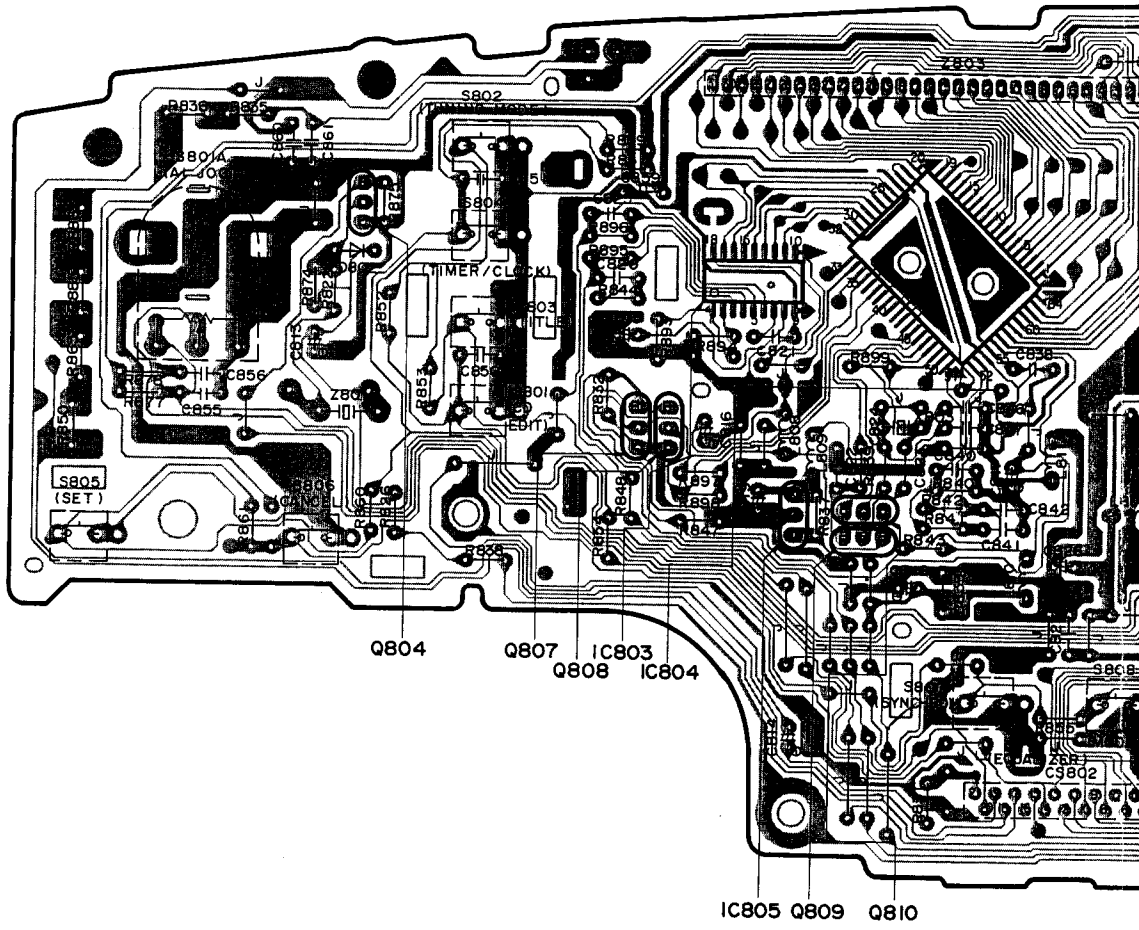
H TAPE DECK(2) P.C.B.



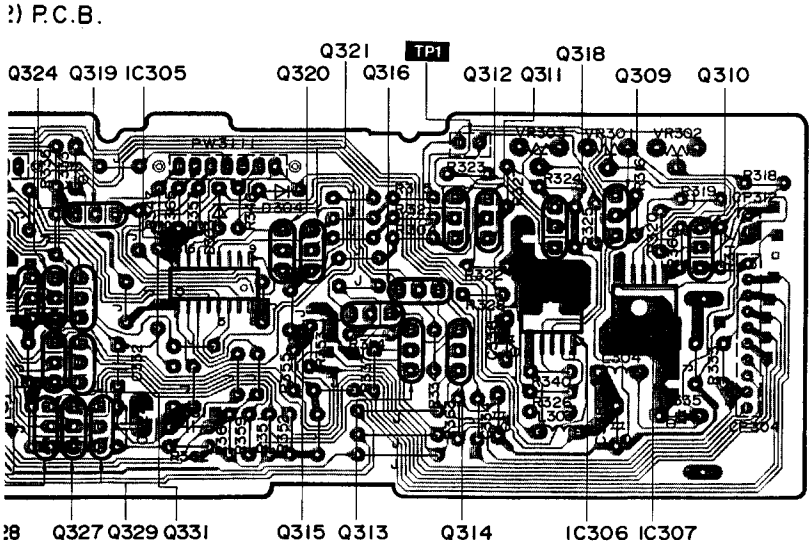
10 11 12 13 14 15

I LCD P.C.B.

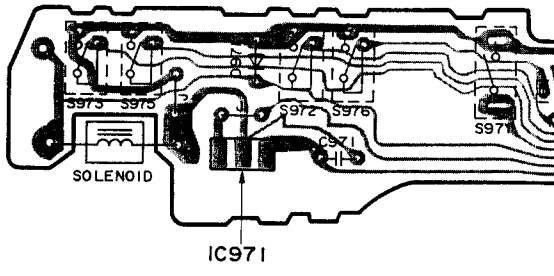




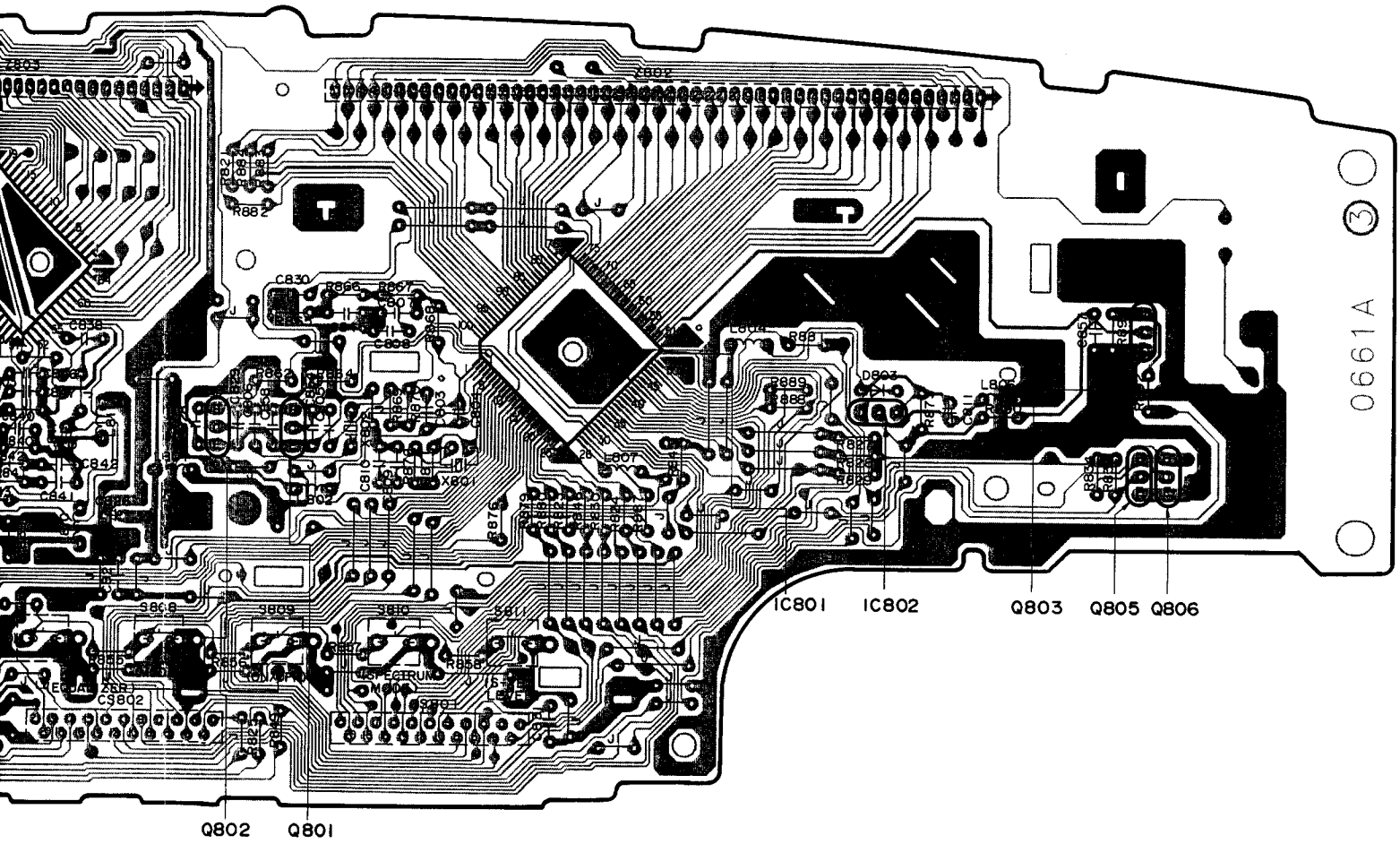
) P.C.B.



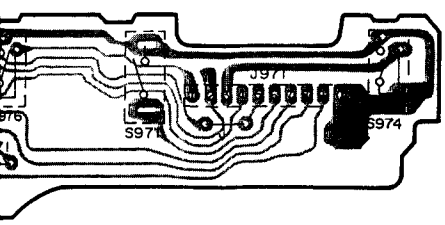
E MECHANISM (DECK 2) P.C.B.



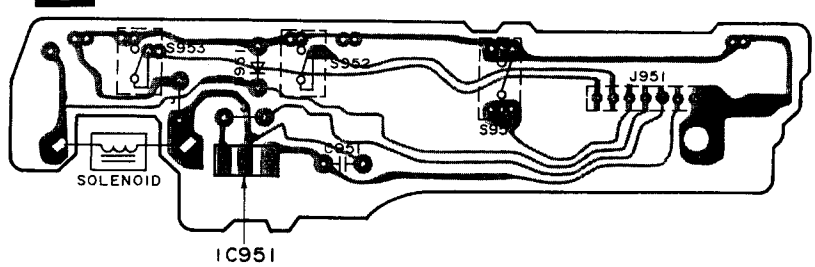
15 16 17 18 19



2) P.C.B.



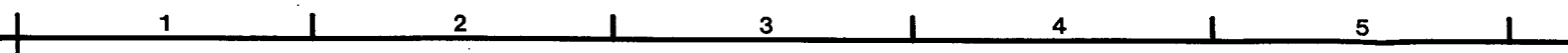
G MECHANISM (DECK 1) P.C.B.



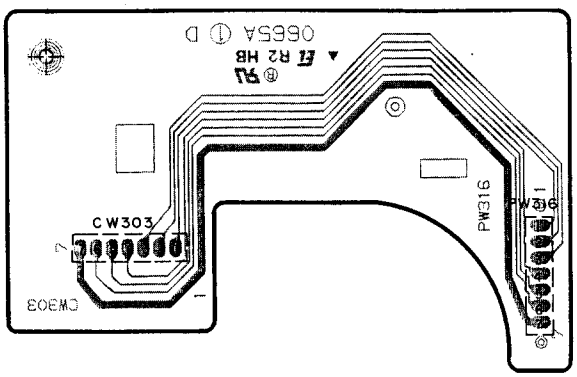
Notes:

- The circuit shown in ( ) on the conductor indicates printed circuit on the back side of the printed circuit board.
- The circuit shown in ( ) on the conductor indicates printed circuit on the front side of the printed circuit board.
- The symbols ( ) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit boa
- **This circuit board diagram may be modified at any time with the development of new technology.**

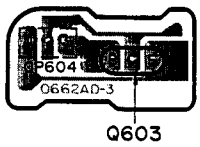
■ CIRCUIT BOARD DIAGRAM

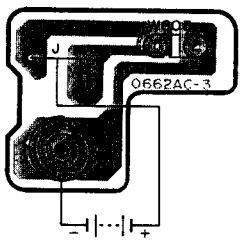


F CONNECTOR (DECK I) P.C.B.



K TRANSISTOR P.C.B.

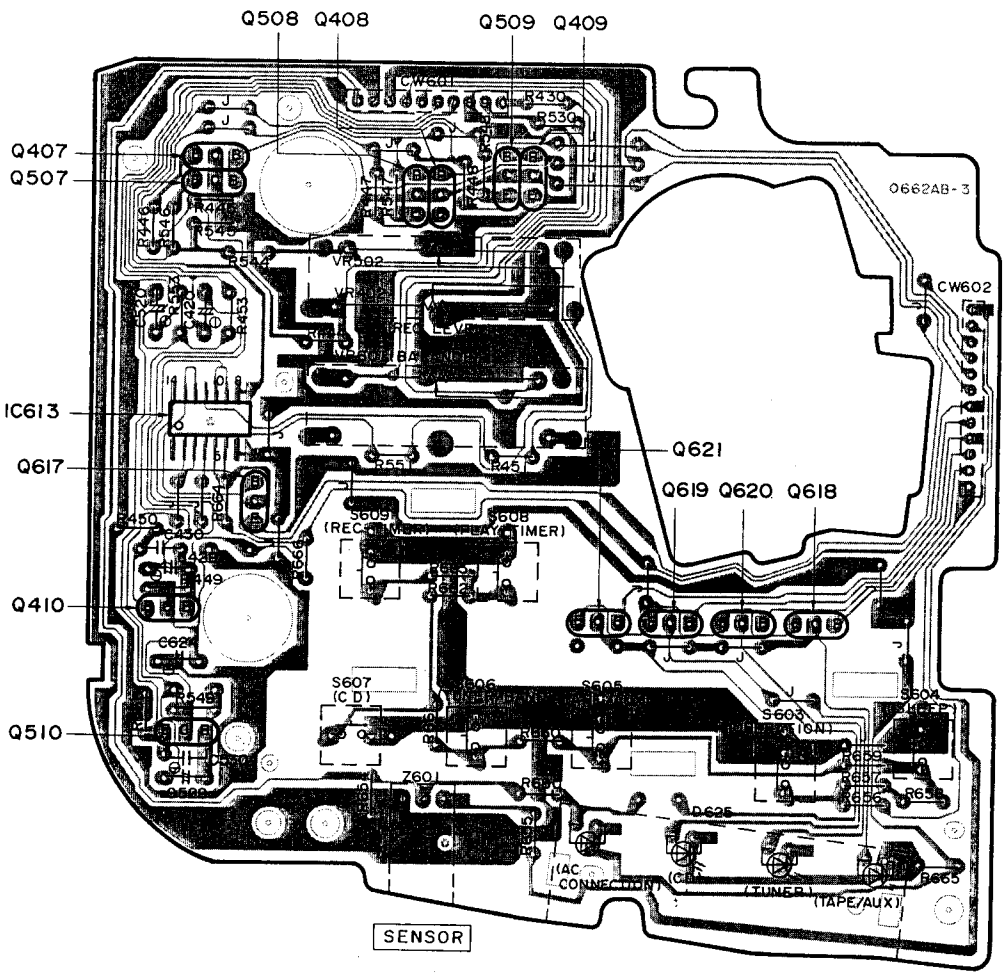




MEMORY BACK-UP
FOR COMPUTER / CLOCK
BATTERY 4 UM-4 BATTERIES ⎓ 6V
(R03 / LR03 EQUIVALENT)

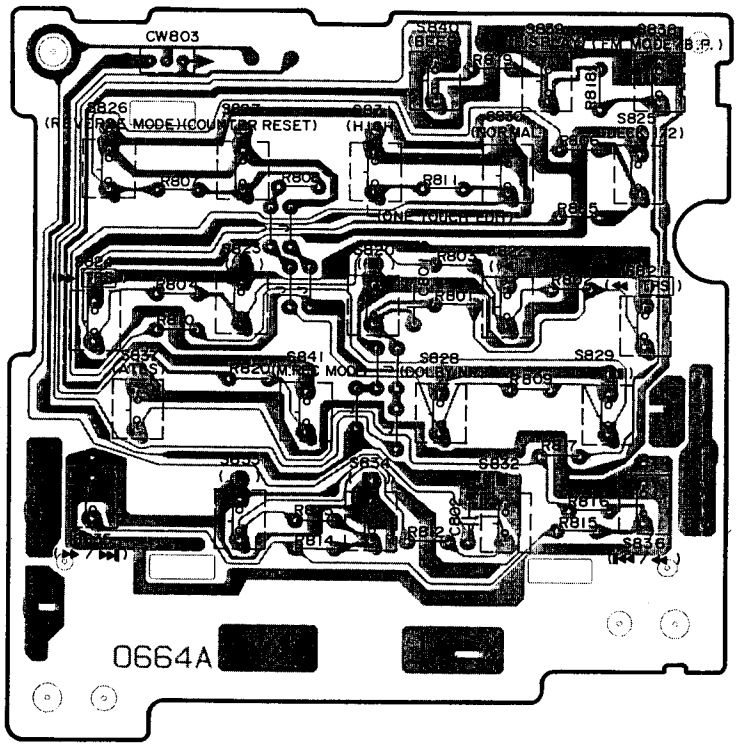
J

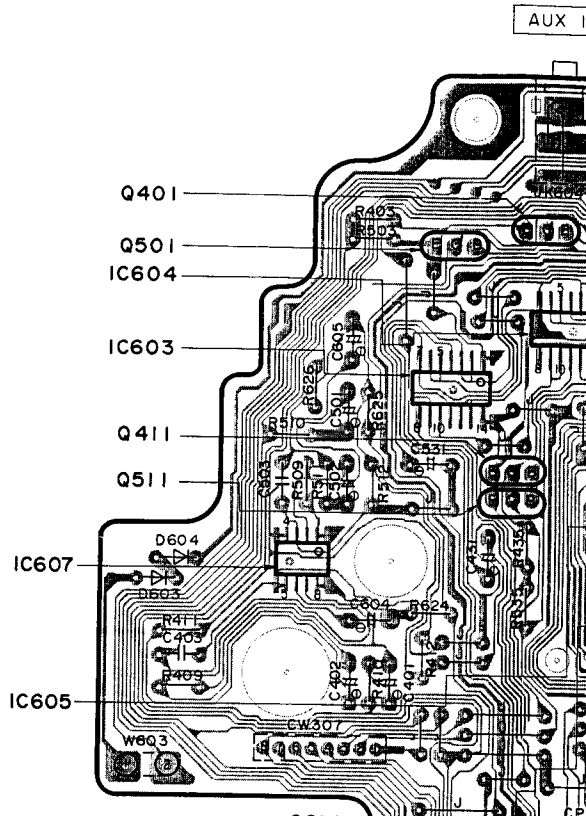
M FUNCTION SELECTOR P.C.B.



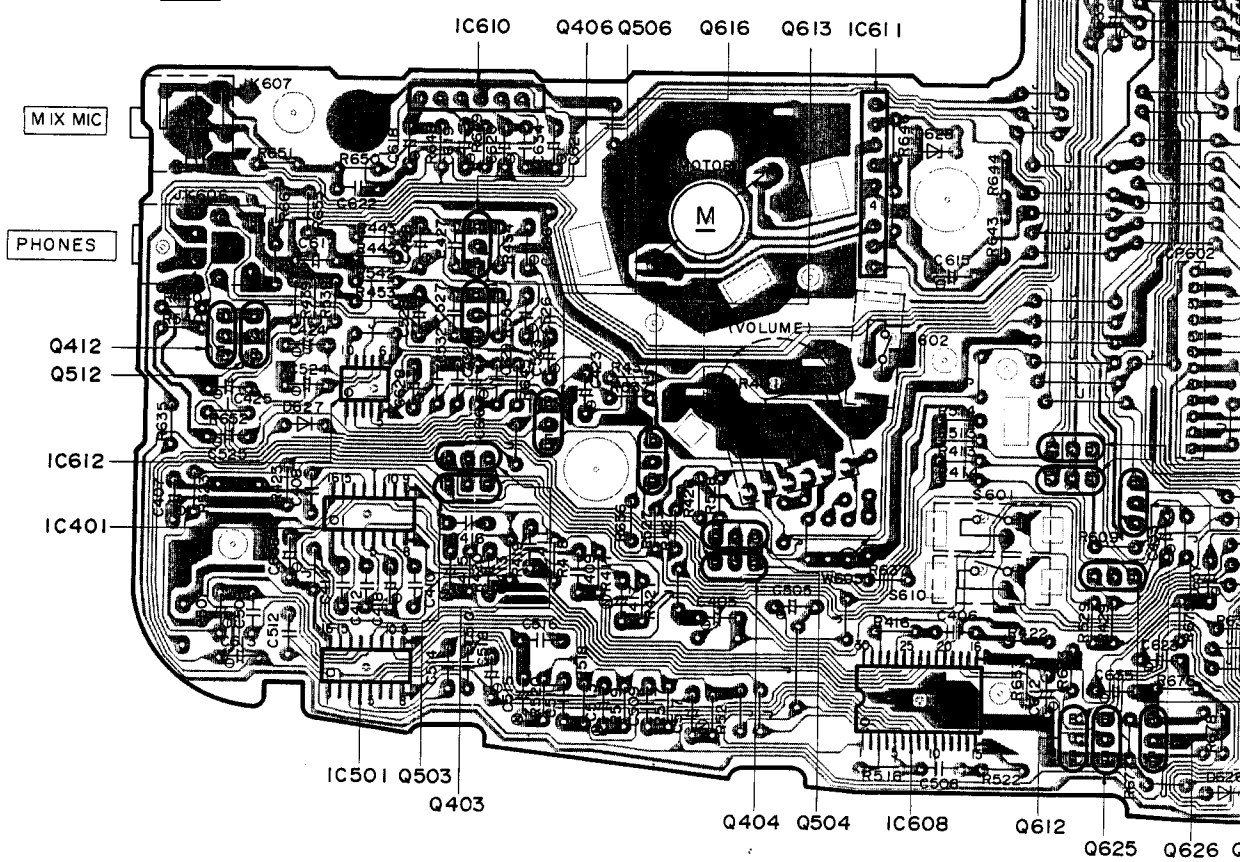
5 6 7 8 9 10

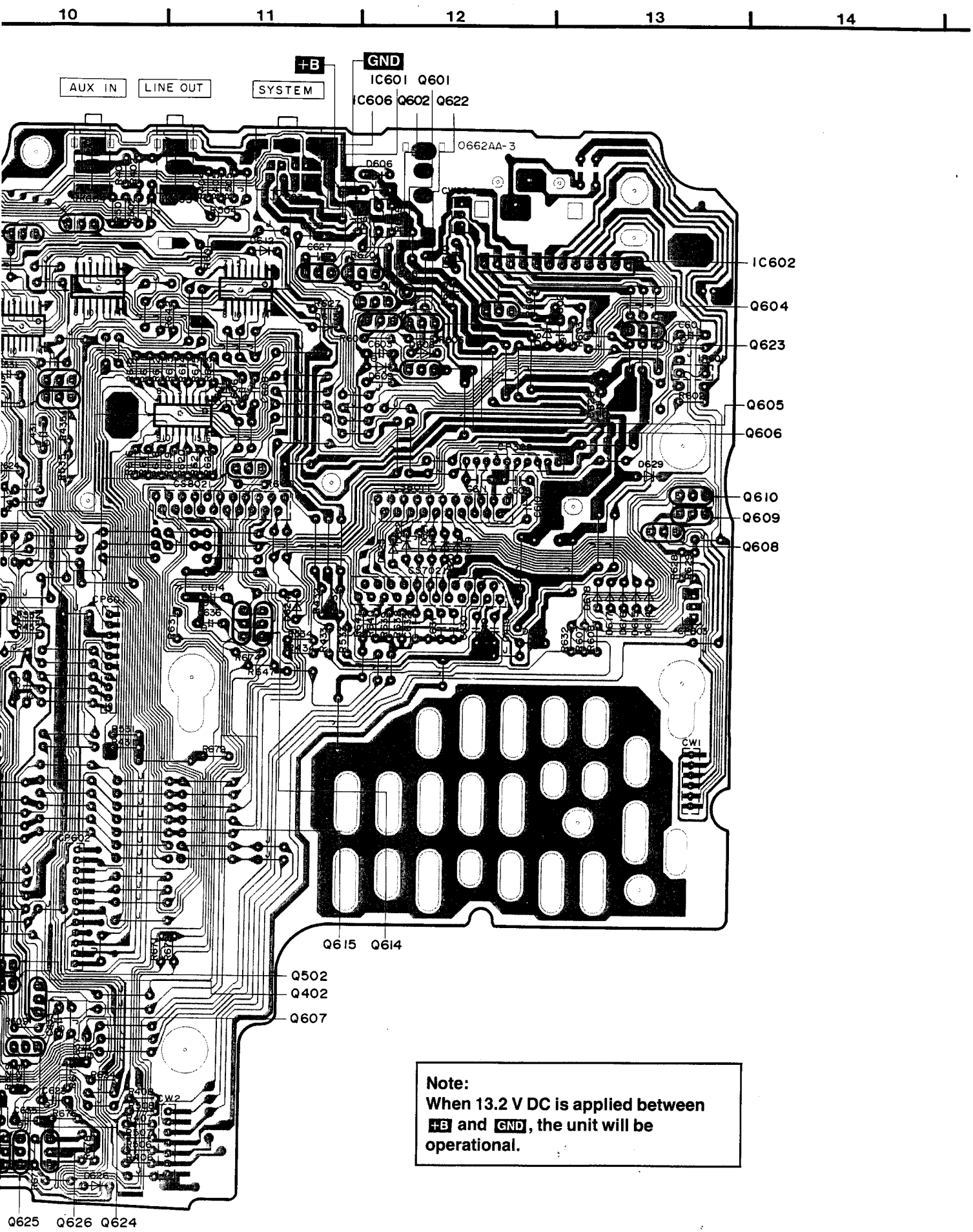
J OPERATION P.C.B.





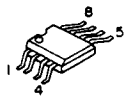
L MAIN P.C.B.



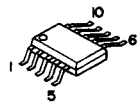


Note:
When 13.2 V DC is applied between +B and GND, the unit will be operational.

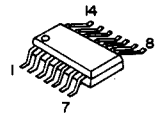
BA15218FDX



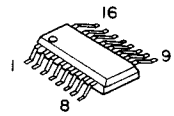
LA4533M



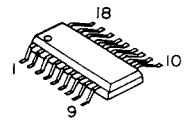
BU4066BF
BU4066BF-T2
MC74HC04AF



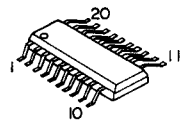
BU-2040F
BU-2040F-T2
CXA1102M-T4
M5226FP
MC74HC139AF
TCA0372DM2R



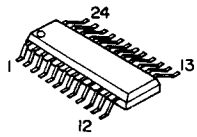
BA1332F
BA3830FT2



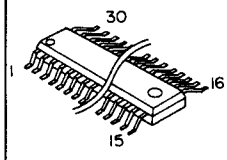
BA1407AFM



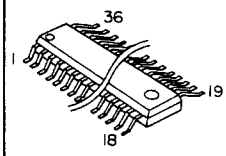
MN6475



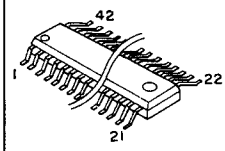
LC7523MMPB



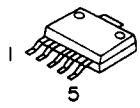
M51167BFP-TB



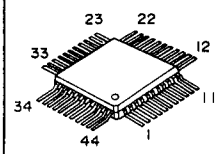
AN8800SC-E2



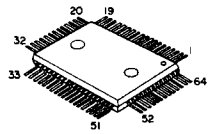
AN6605SP



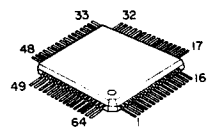
MN6650



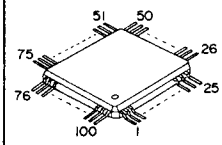
BU3544AK



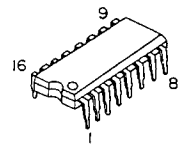
MN6626



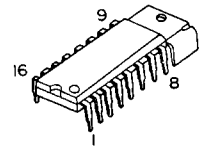
MN1872410RRZ



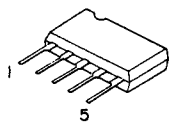
LM7001



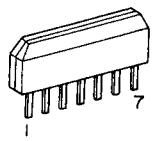
AN8377N



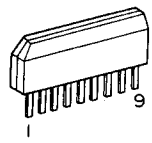
BA7755



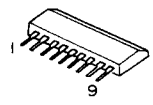
TA2011S



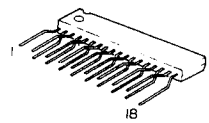
TA7291S



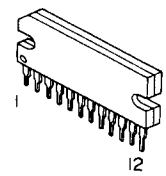
TA8126S



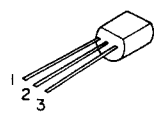
BA4237LM



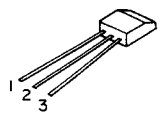
BA3920

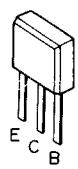


S81250HGT
PST600DTA
PST600HTA



DN6851ALB

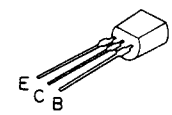


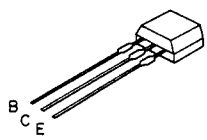


2SC3311RTA
2SC3311STA
2SC3312RTA
2SC3312STA
2SC3313BTA

2SD1450RTA
2SD1450STA
2SD1450TTA

2SB621RTA
2SD592RTA
2SD965RTA

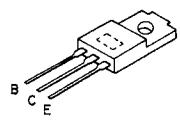




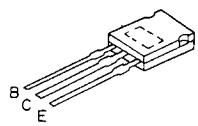
RVTDTA114TST
RVTDTA114YST
RVTDTC114EST
RVTDTA143EST
RVTDTA143XST
RVTDTA144EST

RVTDTC144TST
DTB123YSTP
2SC1740SLNET
2SC2389STA

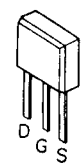
2SB1185E



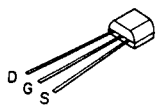
2SB1357T114E



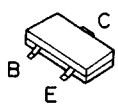
2SJ164QRTA



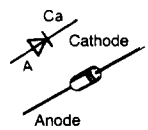
2SK381CDTA



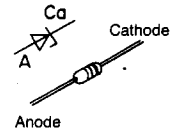
2SB709



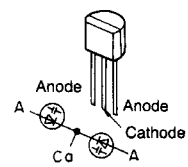
MA165TA
MA700TA
MA723TA



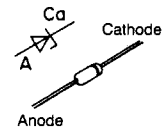
MA4043MTA
MA4056HTA
MA4091MTA



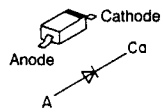
KV1560NT



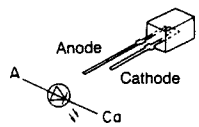
RVDMTZ4R7BTA



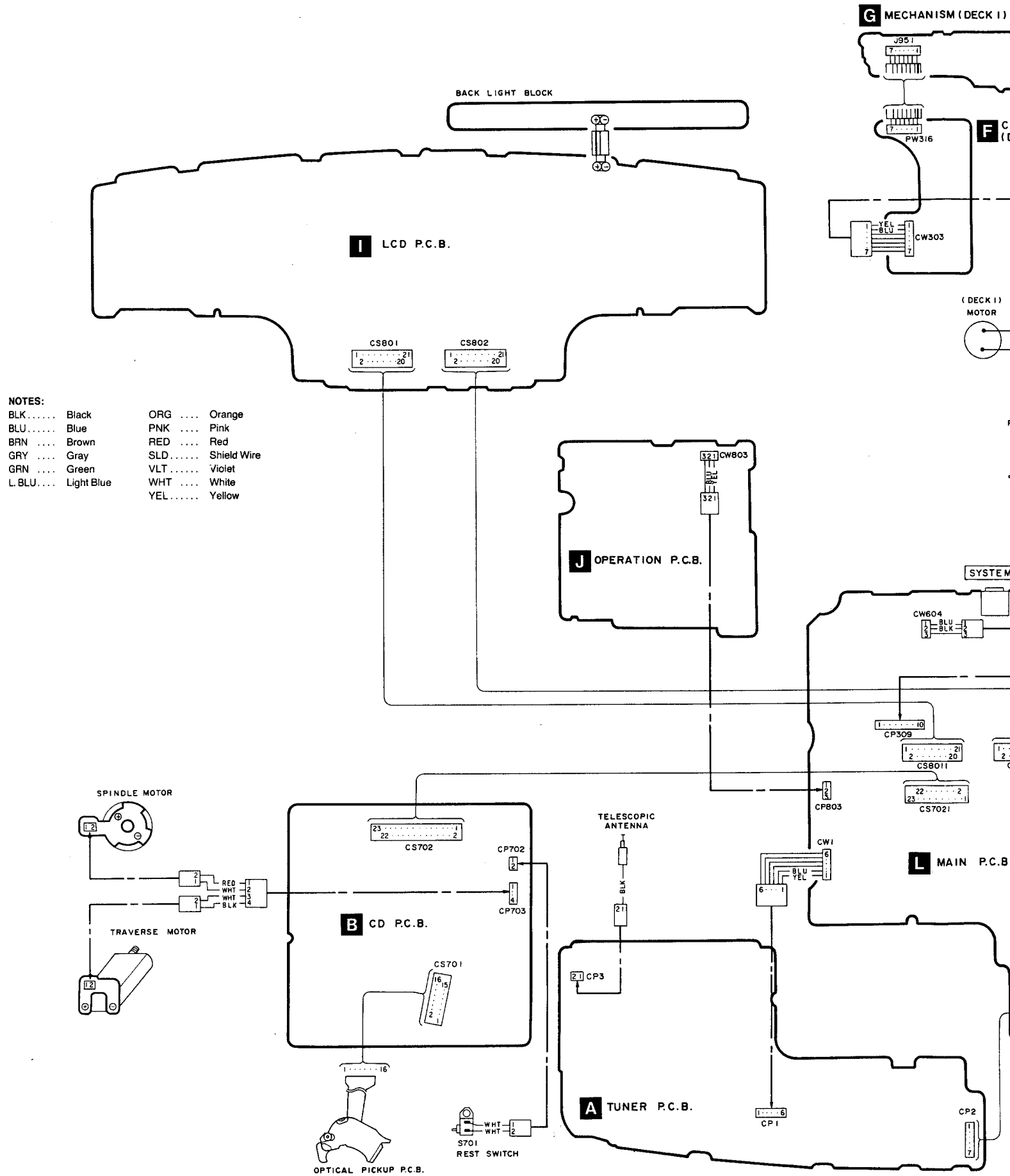
MA110TW

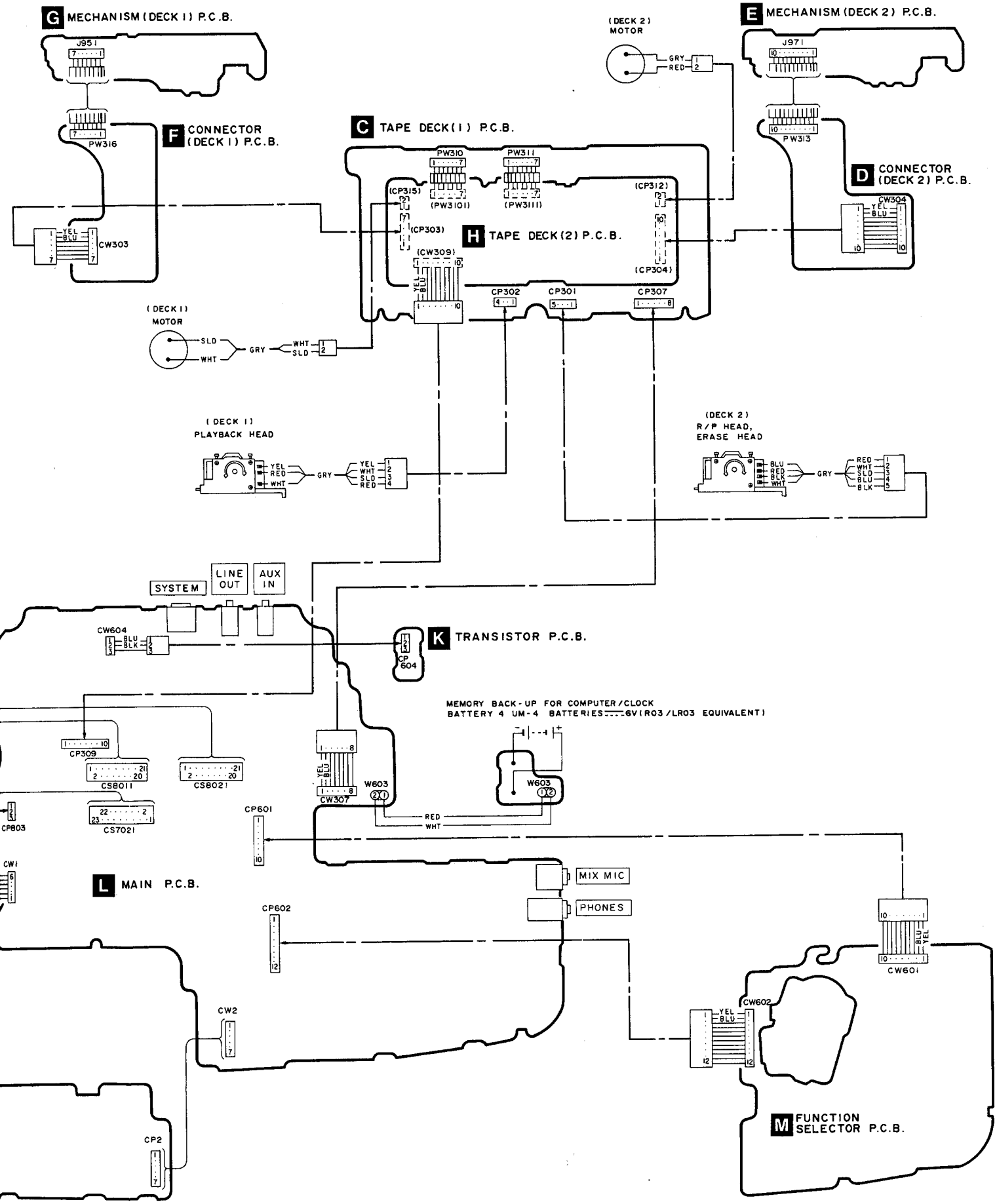


LN043564PH



■ WIRING CONNECTION DIAGRAM



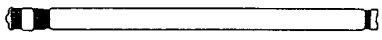

G MECHANISM (DECK 1) P.C.B.
J951
PW316
F CONNECTOR (DECK 1) P.C.B.
CW303
(DECK 2) MOTOR
GRY
RED
E MECHANISM (DECK 2) P.C.B.
J971
PW313
D CONNECTOR (DECK 2) P.C.B.
CW304
C TAPE DECK(1) P.C.B.
PW310
PW311
(CP315)
(PW3101)
(PW3111)
(CP312)
(CP303)
H TAPE DECK(2) P.C.B.
(CW309)
(CP304)
CP302
CP301
CP307
(DECK 1) MOTOR
SLD
WHT
GRY
(DECK 1) PLAYBACK HEAD
YEL
RED
WHT
(DECK 2) R/P HEAD, ERASE HEAD
BLU
RED
BLK
WHT
SYSTEM
LINE OUT
AUX IN
CW604
K TRANSISTOR P.C.B.
CP 604
MEMORY BACK-UP FOR COMPUTER/CLOCK
BATTERY 4 UM-4 BATTERIES 6V (R03/LR03 EQUIVALENT)
CP309
CS8011
CS8021
CS7021
CP803
CW307
W603
CP601
L MAIN P.C.B.
MIX MIC
PHONES
CP602
CW601
CW602
CW2
CP2
M FUNCTION SELECTOR P.C.B.

■ USE OF EXTENSION CABLE FOR CHECK AND ADJUSTMENT P.C.B.

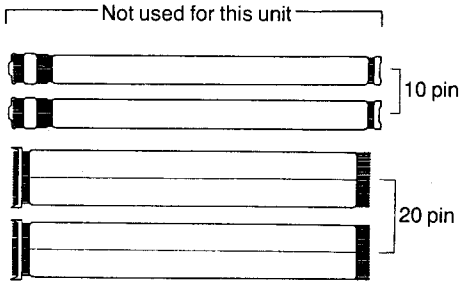
•Use the extension cable kit as shown below when checking and adjusting the unit's P.C.B.

Part No.: RFKZXDT7 (set of 5 extension cables)

For check and adjustment of the tuner P.C.B.

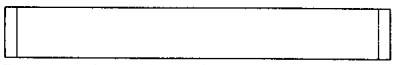


Between Tuner P.C.B. (CP2) and Main P.C.B. (CW2)



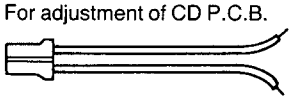
Part No.: RFKZ0009 (set of 2 extension cables)

For check and adjustment of the CD P.C.B.



Between CD P.C.B. (CS702) and Main P.C.B. (CS7021)

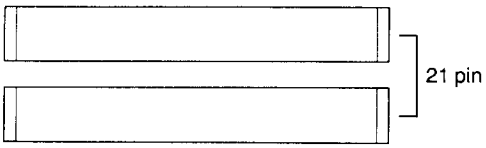
For adjustment of CD P.C.B.



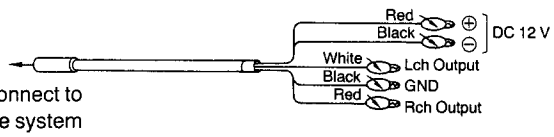
Used for output signal of CD P.C.B. (CP701)

Part No.: RFKZ0012 (set of 3 extension cables)

For connection with top panel



For power supply and signal output

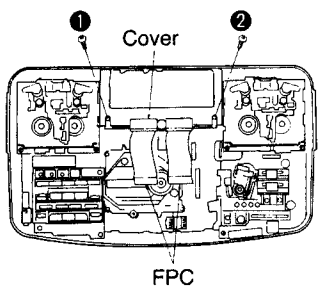


Connect to the system control jack

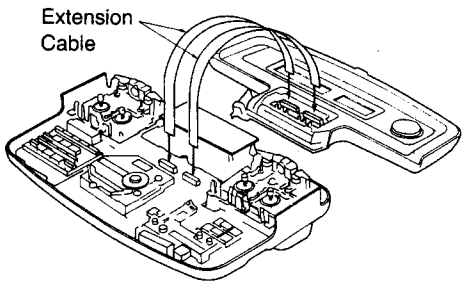
■ PREPARATIONS FOR CHECK AND ADJUSTMENT OF P.C.B.

•Follow the below-mentioned preparations before checking the unit's P.C.B. (CD P.C.B., tape deck P.C.B. and tuner P.C.B.).

1. Remove the upper unit by following the disassembly instructions of Ref. No. 1 "Removal of the upper unit". (Refer to page 20.)
2. Remove the top panel by following the disassembly instructions of Ref. No. 15 "Removal of the top panel". (Refer to page 24.)

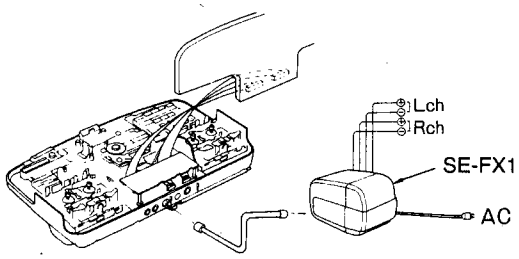


3. Remove the 2 screws (❶, ❷).
4. Remove the cover.
5. Remove the 2 FPCs.



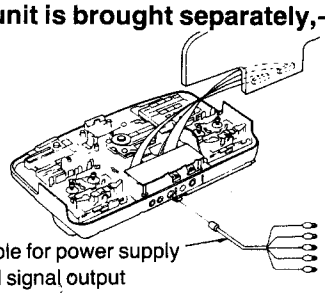
6. Connect the 21-pin connectors of the extension cables as shown above.

—If the unit is brought in component,—



7. Connect the unit with the power amp. (SE-FX1) with the system cord supplied with the component.

—If the unit is brought separately,—

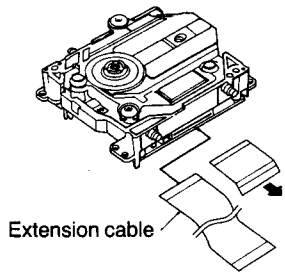


8. Connect the extension cable (RFKZ0012) as shown above.

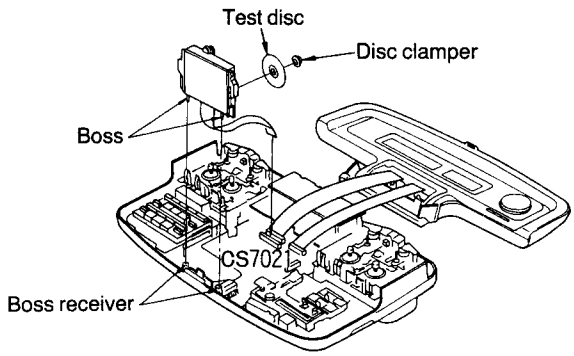
■ HOW TO CHECK P.C.B.

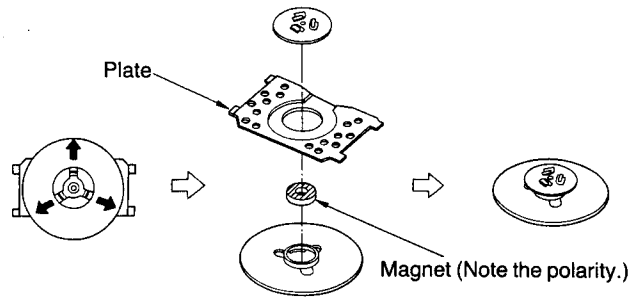
●Check of CD P.C.B.

1. Remove the CD unit by following the disassembly instructions of Ref. No. 4 "Removal of the CD unit". (Refer to page 21.)
2. Follow the disassembly instructions of Ref. No. 14 "Removal of the open button" to remove the open button. (Refer to page 24.)
3. Follow the disassembly instructions of Ref. No. 28 "Removal of the disc clamper" to remove the disc clamper. (Refer to page 27.)



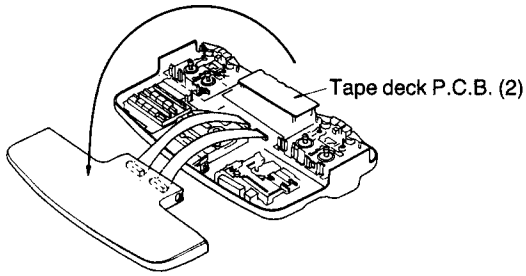
4. Remove the F.P.C. of the CD unit and connect the 23-pin connector of the extension cable (RFKZ0009).



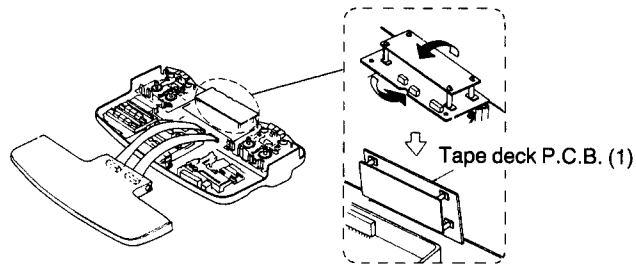


5. Remove the 3 claws in the direction of the arrow to disassemble the disc clamper.
6. Remove the plate and then assemble the disc clamper again.
7. Connect the extension cable (RFKZ0009) of the CD unit to the connector (CS7021).
8. Install the 2 bosses of the CD unit in the 2 boss receivers.
9. Fix the test disc with the disc clamper.

●Check of tape deck P.C.B.



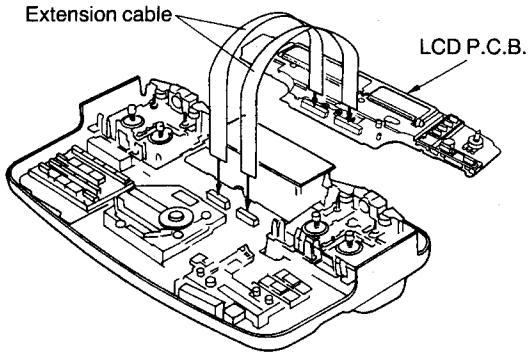
1. Place the top panel as shown above.
2. Check the tape deck P.C.B. (2).



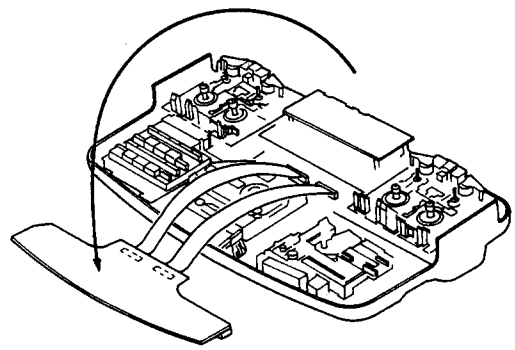
3. Reverse the tape deck P.C.B. unit as shown above.

●Check of LCD P.C.B.

1. Follow the disassembly instructions of Ref. No. 31 "Removal of the LCD P.C.B." to remove the LCD P.C.B. (Refer to page 28.)
2. Follow the disassembly instructions of Ref. No. 35 "Removal of the LCD P.C.B. and the shield plate on the reverse side" to remove the LCD P.C.B. and the shield plate on the reverse side. (Refer to page 29.)



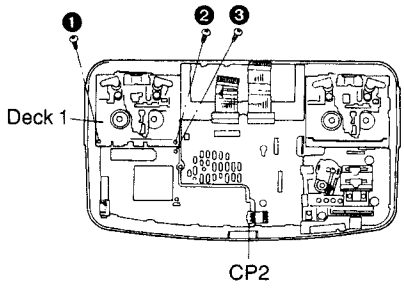
3. Connect the two 21-pin connectors of the extension cable (RFKZ0012).



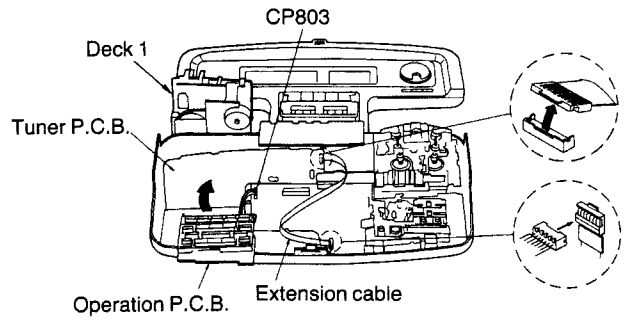
4. Place the LCD P.C.B. as shown above.
5. Check the LCD P.C.B. on the reverse side of the LCD P.C.B.

•Check of tuner P.C.B.

1. Follow the disassembly instructions of Ref. No. 2 "Removal of operation P.C.B." to remove the operation P.C.B. (Refer to page 21.)
2. Follow the disassembly instructions of Ref. No. 4 "Removal of the CD unit" to remove the CD unit. (Refer to page 21.)



3. Remove the 3 screws (❶~❸).
4. Remove the connector (CP2).

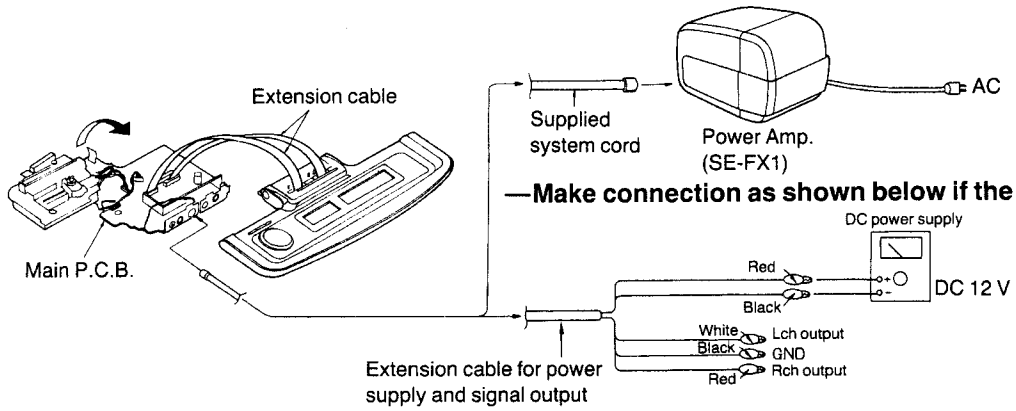


5. Place the Deck 1 beside the cabinet as shown above.
6. Place the tuner P.C.B. vertically as shown above.
7. Connect the 7-pin connector of the extension cable (RFKZXDT7).
8. Connect the operation P.C.B. to the connector (CP803).

•Check of main P.C.B. and function select switch P.C.B.

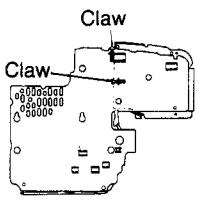
1. Remove the FPC extension cable and the extension cable for power supply and signal output (RFKZ0012).
2. Follow the disassembly instructions of Ref. No. 8 "Removal of the main P.C.B." unit. (Refer to page 22.)

—Make connection as shown below if the unit is brought in component—

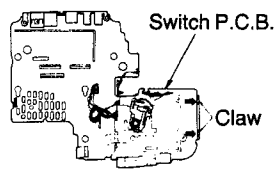


3. Connect the FPC extension cable (RFKZ0012) to the main P.C.B.
4. Connect the extension cable (RFKZ0012) as shown above.

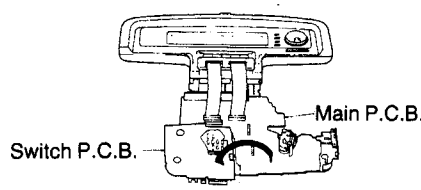
—Check of function select switch P.C.B.—



5. Remove the 2 claws in the direction of the arrow.

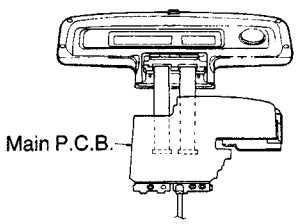


6. Remove the 2 claws in the direction of the arrow.
7. Remove the switch P.C.B.



8. Reverse the switch P.C.B.
9. Check the switch P.C.B. on the reverse side.

—Check the main P.C.B.—



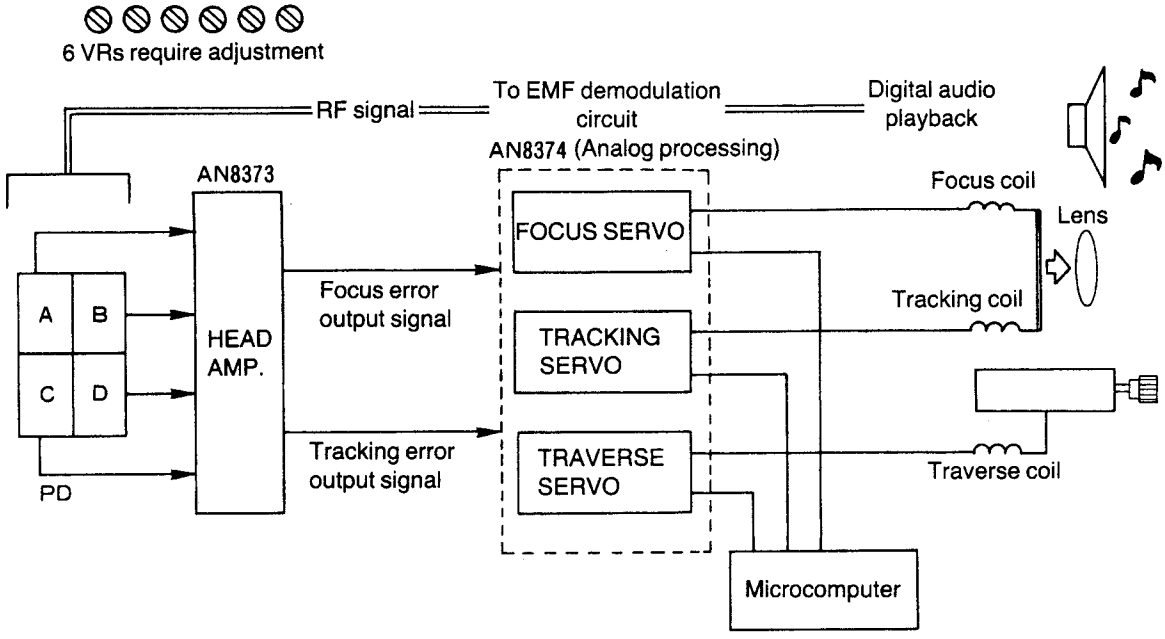
5. Reverse the main P.C.B. unit.
6. Check the main P.C.B. on the reverse side.

■ DIGITAL SERVO SYSTEM

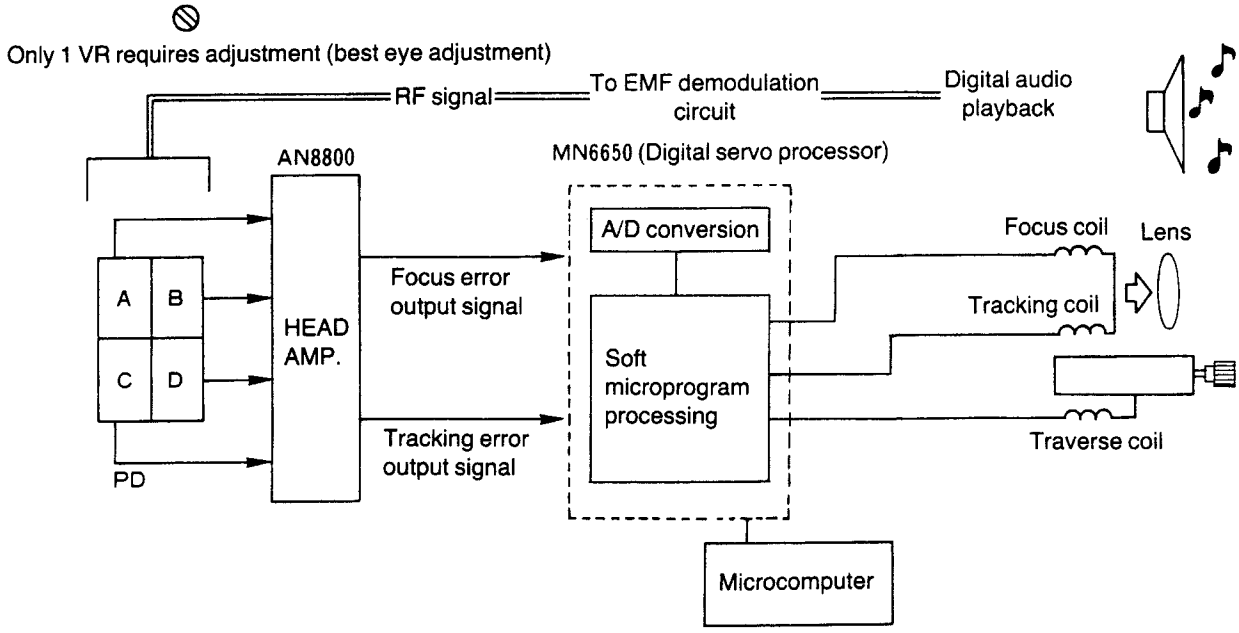
The newly-developed digital servo system is adopted in the servo circuit of the unit's CD player instead of the ordinary analog servo system.

1. The diagrams shown below represent differences between the analog servo and digital servo systems. The HEAD AMP. output signals (i.e., focus error and tracksing error output signals) are analog. These analog signals are converted to the 8-bit digital signals through the MN6650. The MN6650 performs the following adjustments automatically; focus offset, tracking offset, focus gain, tracking gain, and tracking balance adjustments. The outputs from the MN6650 such as the focus coil driving signal, tracking coil driving signal, and traverse motor driving signal are converted to analog signals again and sent to the coils and motor to perform proper servo control for a disc.

ANALOG SERVO SYSTEM



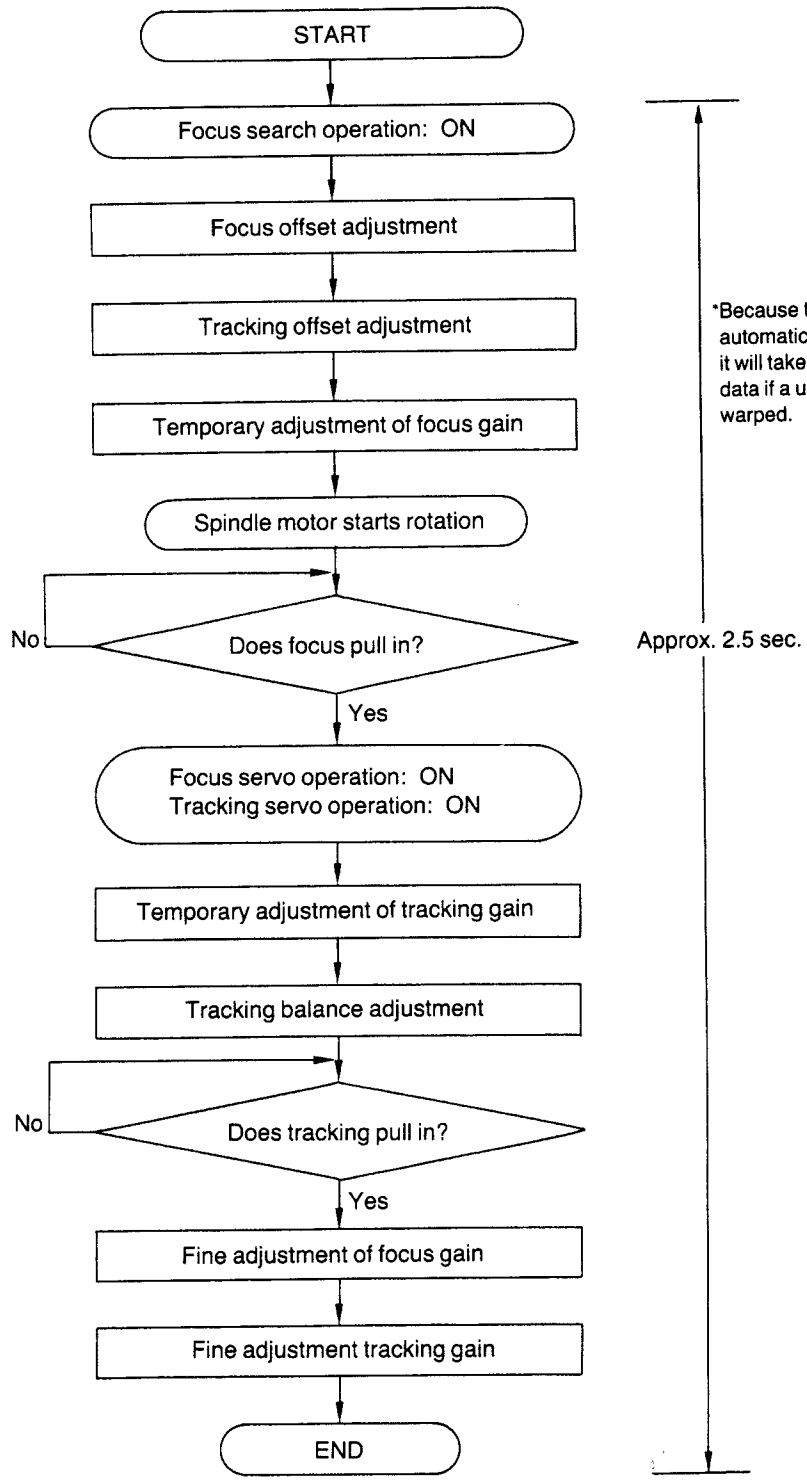
DIGITAL SERVO SYSTEM



2. The servo processor IC MN6650 of the newly-developed digital servo circuit automatically performs the following adjustments which were originally adjusted in the conventional analog servo circuit:
(1) Focus offset, (2) Tracking offset, (3) Focus gain, (4) Tracking gain, and (5) Tracking balance. Therefore, you do not have to perform not the above-mentioned electrical adjustments manually. Only the best eye (PD balance) needs to be adjusted adjustment. You can obtain an optimum servo control for a disc to be played.
[You must perform the best eye (PD balance) adjustment manually.]

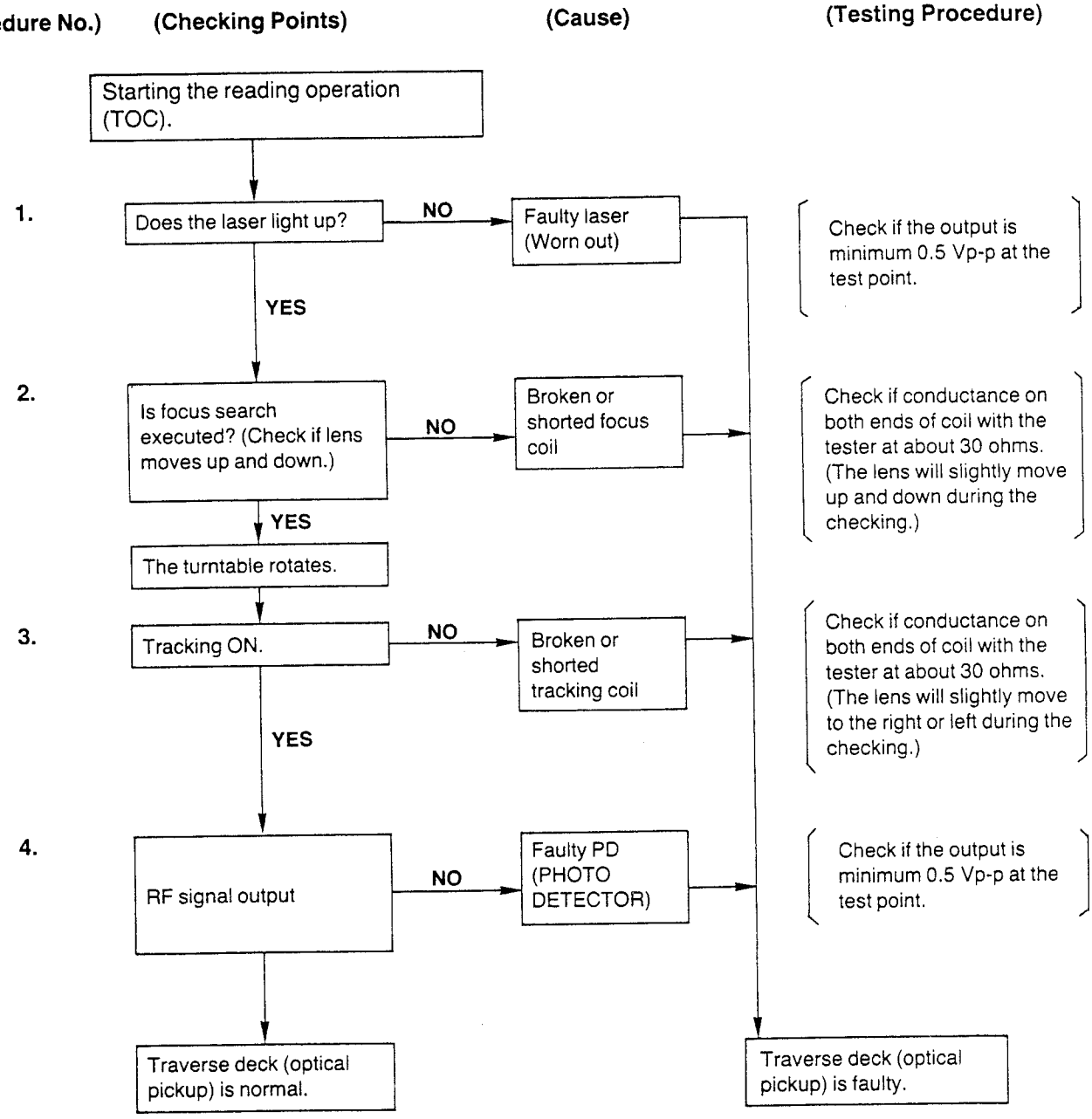
The following flow chart shows the sequence of automatic adjustments.

•Flow chart on automatic adjustment sequence



■ CHECKING THE OPERATION PROBLEMS ON THE TRAVERSE DECK (OPTICAL PICKUP)

Make sure to follow the procedures below to check the operation problems of the traverse deck (optical pickup) before replacing it. Replace the traverse deck only after the problem is identified.



- Check electrical circuit.
- CD is not adjusted properly. Adjust CD again.
  (1) Mechanical adjustment.
  (2) Focus balance adjustment (PD balance)
  } Refer to pages 67–69.
- Check for flaws on disc or if it is warped or not centered.

※Checking Operations of Replaced Traverse Deck (New Traverse Deck)

a) Check the operations described below on the traverse deck after replacing it.

＊Checking Skip Search

1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

＊Checking Manual Search

1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

＊Checking Using Defect Disc.

1. Play the 0.7 mm black dot and the 0.7 mm wedge on the defect test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc (SZZP1056C) and verify that no sound skip or noise occurs.

b) If the operations are normal, CD adjustment are not required when the traverse deck is replaced.

Note: CD adjustments are required in the cases below. (Mechanical adjustments are not necessary.)
(See item 2-7 on pp. 68, 69.)

- If audio is not played back continuously or noises occur after step (a) is excuted.
- If the adjustment VR (V701) were rotated before the traverse deck was replaced.
- If the ICs in the servo circuit or adjustment VRs were replaced.

Caution:

- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.)
  With the unit turned "on", laser radiation is emitted from the pickup lens.
  Avoid exposure to the laser beam, especially when performing adjustments.

Vorsicht:

- Vermeiden Sie es, in den Laserstrahl zu blicken oder ihn zu berühren. (Laserstrahlen sind unsichtbar.)
  Bei eingeschaltetem CD-Spieler werden Laserstrahlen aus der Aufnahmelinse abgestrahlt.
  Vermeiden Sie direkte Aussetzung von Laserstrahlen, insbesondere während der Einstellarbeiten.

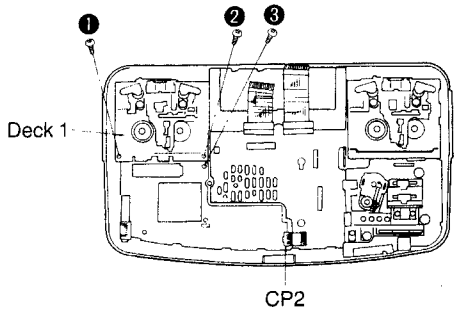
■ MEASUREMENTS AND ADJUSTMENTS

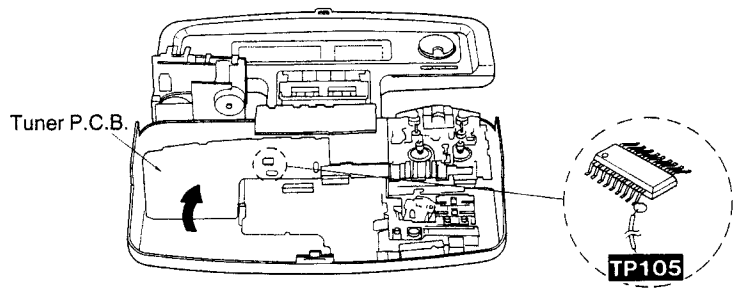
(Make connections by following "PREPARATIONS FOR CHECK AND ADJUSTMENT OF P.C.B." on page 57 before starting adjustment.)

<TUNER SECTION>

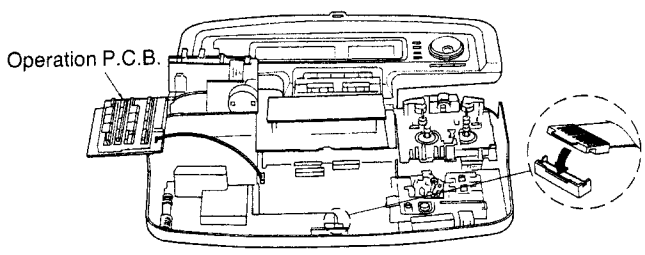
•Preparations for adjustment

1. Follow the disassembly instructions of Ref. No. 2 "Removal of the operation P.C.B." to remove the operation P.C.B. (Refer to page 21.)
2. Follow the disassembly instructions of Ref. No. 4 "Removal of the CD unit" to remove the CD unit. (Refer to page 21.)





3. Remove the 3 screws (❶~❸).
4. Remove the connector (CP2).



5. Remove the deck 1 from the cabinet.
6. Place the tuner P.C.B. vertically by lifting it in the direction of the arrow.
7. Solder the lead wire of 5 cm length into Pin ⑨ of IC5 (Test Point TP105).
8. Put the tuner P.C.B. back in its place.
9. Connect the connector (CP2).
10. Install the operation P.C.B.

•ALIGNMENT POINT

Please refer to Circuit Board Diagram for test point locations.

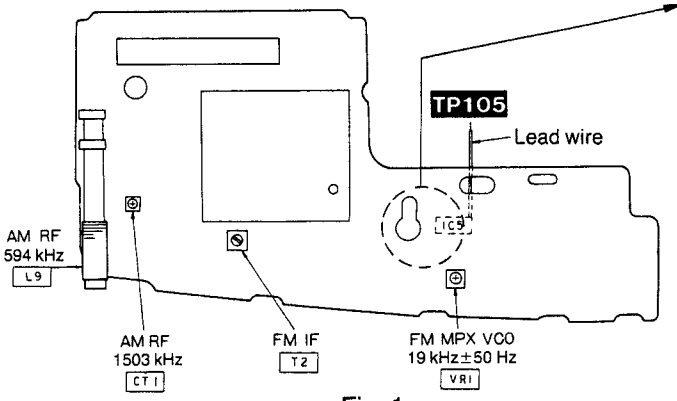


Fig. 1

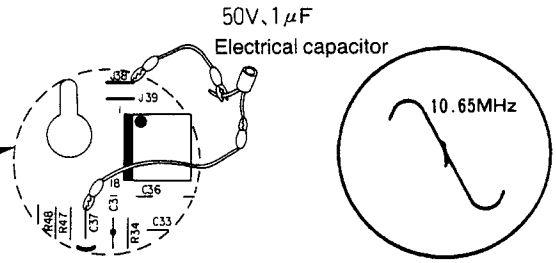


Fig. 3

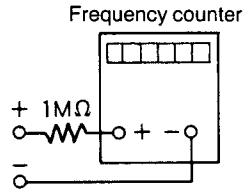


Fig. 3

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT		
•Set power switch to ON. •Set function switch to TUNER (FM or MW). •Set FM mode switch to STEREO.	•Set equalizer switch to OFF. •Set S-XBS level to MIN. •Set volume control to center position.	
EQUIPMENT REQUIRED		
•FM/AM signal generator •Frequency counter	•Roop antenna •Oscilloscope	•DC voltmeter •IF sweep generator

•FM IF ALIGNMENT

(The parts other than the ones listed below are aligned at the factory before they are supplied. Therefore, alignment of those parts is unnecessary when used for replacement.)

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 1.)	REMARKS
CONNECTIONS	FREQUENCY				
TP106...(+) TP102...(−)	10.65 MHz (SWEEP)	108 MHz	TP103...(+) TP104...(−)	T2	•Waveform is shown in Fig. 3.

•AM RF ALIGNMENT

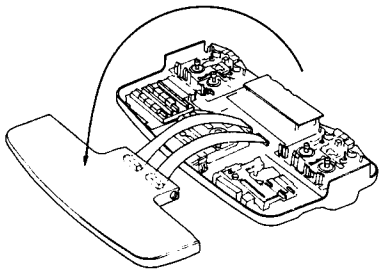
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	594 kHz	594 kHz	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	(*1) L9 (AM ANT Coil)	•Adjust for maximum output. Adjust L9 by moving coil along the ferrite core.
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	1503 kHz	1503 kHz	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	CT1 (AM ANT Trimmer)	•Adjust for maximum output.
(*1) Fix antenna coil with wax after completing alignment.					

•FM MPX VCO ALIGNMENT

TP101...(+) Through FM dummy antenna. TP102...(−)	98 MHz, 60 dB (CW)	98 MHz	TP105...(+) TP104...(−)	VR1	•Adjust VR1, for 19 kHz ±50 Hz reading on frequency counter.

<TAPE DECK SECTION>

•Preparations for adjustment



•Place the top panel as shown above.

•ALIGNMENT POINT

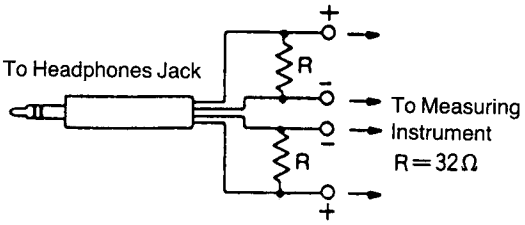


Fig. 4

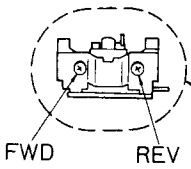
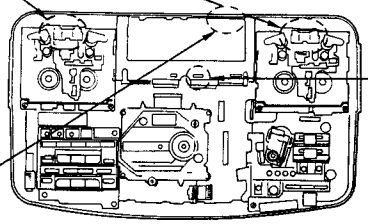


Fig. 5



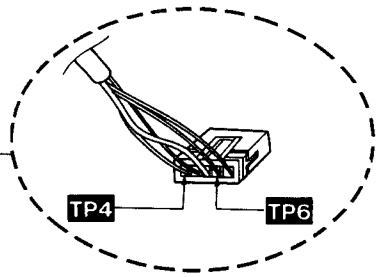


Fig. 7

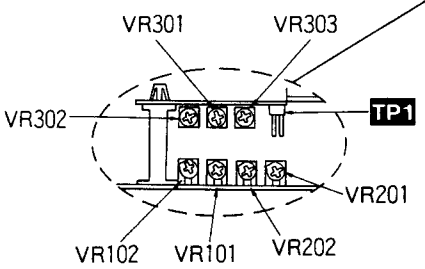


Fig. 6

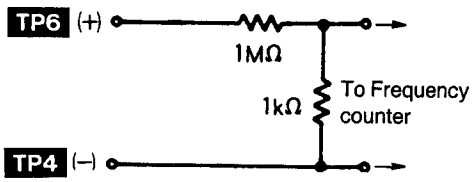


Fig. 8

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
•Set power switch to ON. •Set function switch to TAPE. •Set dolby NR switch to OFF.	•Set equalizer switch to OFF. •Set S-XBS level to MIN. •Set volume control to center position.
EQUIPMENT REQUIRED	
•Oscilloscope •DC voltmeter •Frequency counter	•Test tape; QZZCFM (for head azimuth and playback gain alignment) QZZCWAT (for tape speed alignment)

•HEAD AZIMUTH ALIGNMENT

TEST TAPE	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCFM (8 kHz, –20 dB)	Headphones Jack (32Ω) (Fabricate the plug shown in Fig. 4 and then connect the lead wires of the plug to the measuring instrument.)	Azimuth Screw (Refer to Fig. 3)	maximum output	1. Playback mode. 2. Adjust for maximum output.

•TAPE SPEED ALIGNMENT

TEST TAPE	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT	REMARKS
QZZCWAT (3 kHz, −10 dB)	Heaphones Jack (32Ω) (Fabricate the plug shown in Fig. 4 and then connect the lead wires of the plug to the measuring instrument.)	DECK 2 HIGH SPEED ..... VR301 DECK 1 NORMAL SPEED .... VR303 DECK 2 NORMAL SPEED .... VR302 (Shown in Fig. 6.)	1. Short the test point TP1 to set the high speed mode. 2. Insert test tape (QZZCWAT) in DECK 1 and start playback in forward direction. •This frequency is defined as **F**. 3. Insert test tape (QZZCWAT) in DECK 2 and start playback in forward direction. 4. Adjust VR301 until the frequency is set to **F±40 Hz**. 5. Open the test point TP1 to set the normal speed mode. 6. Insert test tape (QZZCWAT) in DECK 1 and start playback in forward direction. 7. Adjust VR303 until the frequency is set to **3000±20 Hz**. 8. Insert test tape (QZZCWAT) in DECK 2 and start playback in forward direction. 9. Ajust VR302 until the frequency is set to **3000±20 Hz**.

•RECORD BIAS CHECK

TEST TAPE	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT	REMARKS
——	TP6 ..... (+) TP4 ..... (−) (Shwon in Fig. 7 and Fig. 8)	Normal tape .. 13±1 mV CrO_2 tape .... 18.5±2 mV METAL tape .. 27±2 mV	•Recording mode.

•PLAYBACK GAIN ALIGNMENT

TEST TAPE	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT	REMARKS
QZZCWAT (315 Hz, 0 dB)	TP9 ..... Lch (+) TP2 ..... (−) TP10 ..... Rch (−)	DECK 1 Lch ..... VR101 Rch ..... VR201 DECK 2 Lch ..... VR102 Rch VR202	1. Insert test tape (QZZCWAT) and start playback. 2. Adjust VR101 and VR201 or VR102 and VR202, for −11 dBV (280 mV)±1 dBV reading on DC voltmeter.

<CD SECTION>

■ An ordinary CD unit needs the following 7 adjustments:

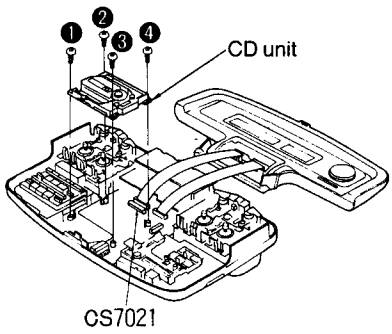
① Best eye adjustment, ② Focus offset adjustment, ③ Tracking offset adjustment, ④ Focus gain adjustment, ⑤ Tracking gain adjustment, ⑥ Tracking balance adjustment and ⑦ Mechanical adjustment.

On this CD unit, ②, ③, ④, ⑤ and ⑥ of the abovementioned adjustments is performed by the servo processor IC (IC704: MN6650).

The automatic adjustment is performed if:

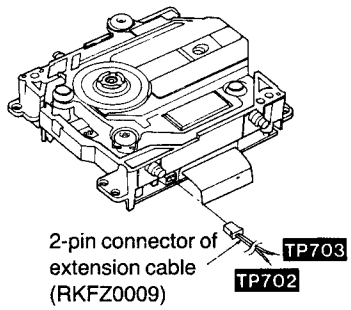
1. You insert the CD or exchange it. (If you change the CD during the tuner or tape operation, the unit will perform the automatic adjustment when the CD operation is selected.)
2. You turn on the unit with the CD inserted or select the CD operation. (If other operation than CD is selected, the CD unit's power is always switched off. If the CD unit is turned off, the automatic adjustment is reset.)

•Adjustment procedure



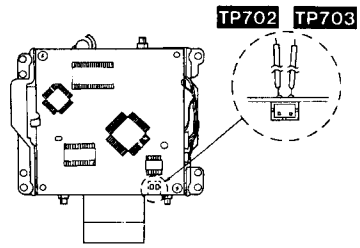
1. Remove the 4 screws (❶~❹).
2. Remove the connector (CS7021).
3. Remove the CD unit.

—In case of using extension cable—

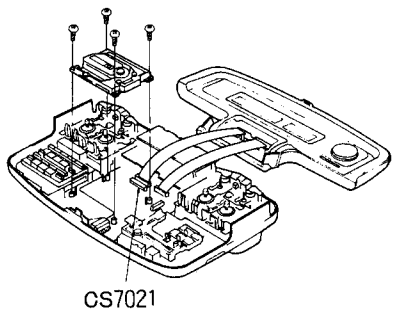


4. Connect the 2-pin connector of the extension cable (RKFZ0009) to CP701.

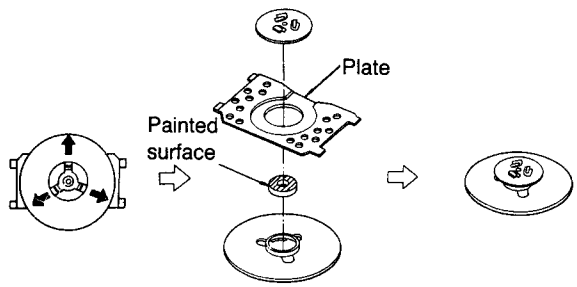
—In case of not using extension cable—



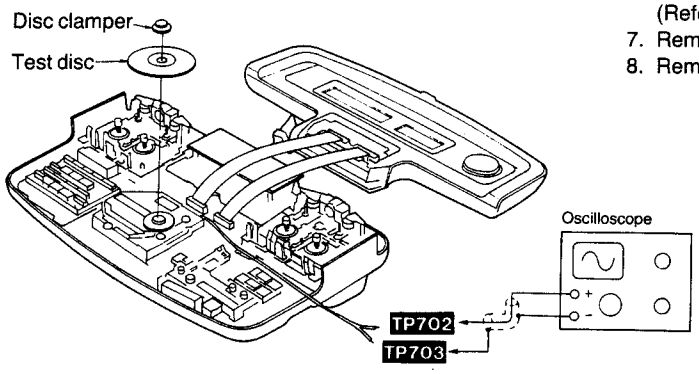
4. Solder the lead wire into the soldered part (TP702-TP703) of CP701.



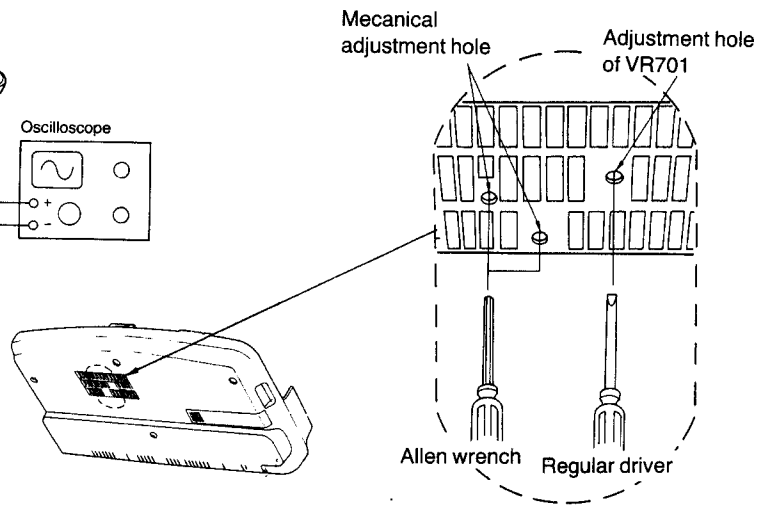
5. Install the traverse unit again.



6. Follow the disassembly instructions of Ref. No. 28 "Removal of the disc clamper" to remove the disc clamper. (Refer to page 27.)
7. Remove the 3 claws to remove the disc clamper.
8. Remove the plate and assemble the disc clamper again.



9. Fix the disc clamper with the test disc clamper.
10. Make connection with an oscilloscope.



■ ALIGNMENT POINT

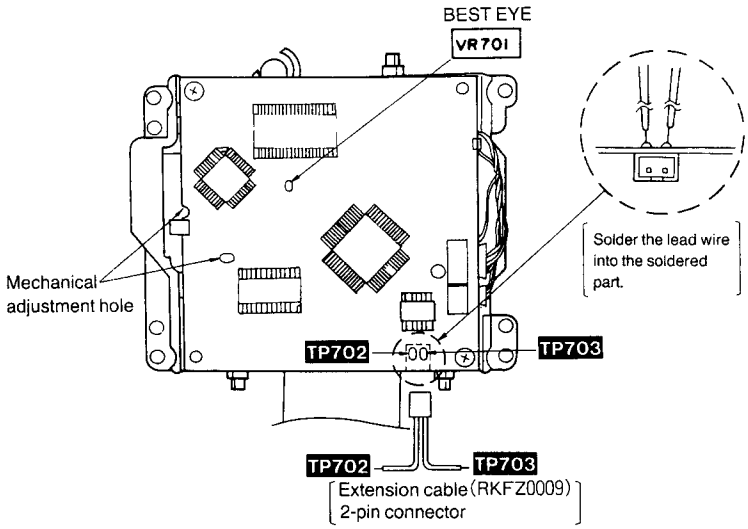


Fig. 9

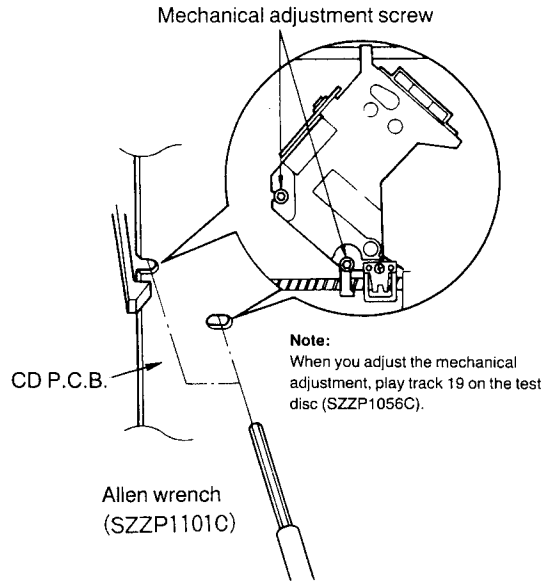


Fig. 10

Caution:

- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.)
  With the unit turned "on", laser radiation is emitted from the pickup lens.
  Avoid exposure to the laser beam, especially when performing adjustments.

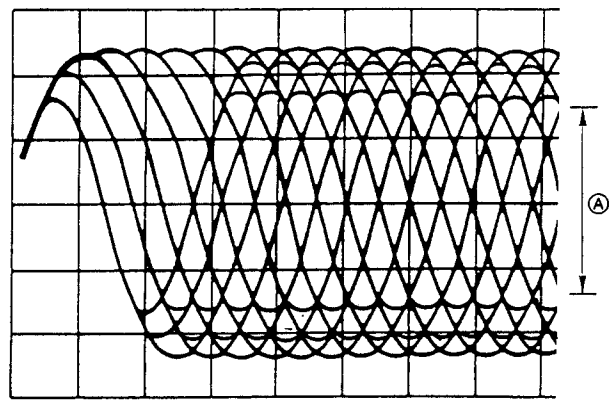
Measuring Instruments and Special Tools

- Test disc
  1. Playability test disc (SZZP1054C)
  2. Uneven test disc (SZZP1056C)
- Allen wrench (M2.0) (SZZP1101C)
- Oscilloscope

(1) MECHANICAL ADJUSTMENT

- When the traverse deck is replaced, making adjustments is not necessary. (The traverse deck ass'y is already adjusted.)
- Make adjustments to improve playability when the traverse deck has not been replaced. Make the electrical adjustments first.

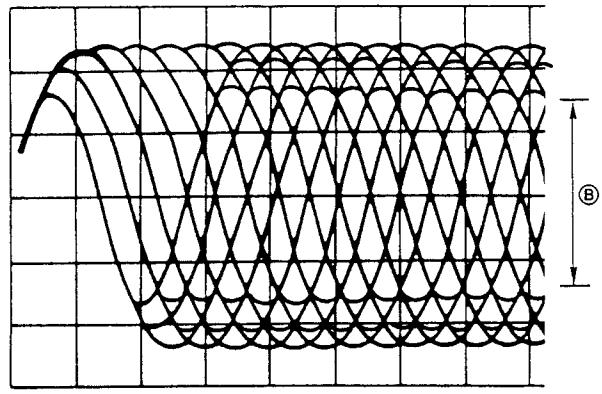
1. Connect the oscilloscope's CH. 1 probe across **TP702** (+) and **TP703** (V-REF) on the Servo P.C.B.
   Oscilloscope setting:
   VOLT ..... 200 mV
   SWEEP ..... 0.5 µsec
   Input coupling ..... AC
2. Switch the player power **ON**, and play track **19** on the test disc (SZZP1056C).
3. Leave the player in Play mode and place it as shown in the figure on the right.
4. Alternately adjust the two mechanical adjusting screws with the 2.0 mm allen wrench (SZZP1101C) until the RF signal amplitude variation on the oscilloscope is minimized. (Shown in Fig. 7)
5. After completing the adjustment, lock the **mechanical adjustments** with lock paint (RZZOL01).



Ⓐ Minimize the variation of amplitude.

(2) BEST EYE (PD BALANCE) ADJUSTMENT

1. Connect the oscilloscope's CH. 1 probe across **TP702** (+) and **TP703** (V-REF) on the Servo P.C.B.
   Oscilloscope setting:
   VOLT ..... 200 mV
   SWEEP ..... 0.5 µsec
   Input coupling ..... AC
2. Switch the player power **ON**, and play the 1 kHz (track 1) on test disc (SZZP1054C).
3. Adjust **VR701** until the RF signal eye pattern amplitude is maximized.



Ⓑ Maximize the amplitude

(3) CHECK OF PLAY OPERATION AFTER ADJUSTMENT

•Checking Skip Search

1. Play an ordinary musical program disc.
2. Press the skip button to check for normal skip search operation (in both the forward and reverse directions).

•Checking Manual Search

1. Play an ordinary musical program disc.
2. Press the manual search button to check for smooth manual search operations at either low or high speed (in both the forward and reverse directions).

•Checking Playability

1. Play the 0.7 mm black dot and the 0.7 mm wedge on the test disc (SZZP1054C) and verify that no sound skip or noise occurs.
2. Play the middle tracks of the uneven test disc and verify that no sound skip or noise occurs.

■ FUNCTION OF IC TERMINALS

•IC701 (AN8800SC-E2)

Pin No.	Mark	I/O Division	Function
1	LDG	I	+5 V input
2	LDP	—	———
3	LD	O	Laser power control output
4	LPD	I	Laser power monitor input
5	GND	—	Ground terminal
6	LDON	I	Laser power control input
7	AMPI	I	RF signal input
8	AMPO	O	RF signal output
9	RFIN	I	RF signal input
10	RFEQ	—	Ground
11	C.AGC	I	AGC detecting capacitor input
12	ARF	O	RF signal output
13	C.SBDO	I	Dropout detecting capacitor input
14	RFDET	O	RF detections signal output
15	BDO	O	Black dropout detection output
16	VCC	I	Power supply (+5 V input)
17	SDO	O	System dropont detection output
18	VAD+	O	A/D converter reference voltage output
19	VREF	O	Reference voltage output
20	VAD−	O	A/D converter reference voltage output
21	OFTR	O	Off track detection output
22	PLAY	I	Play signal input
23	WVEL	I	High speed signal input
24	TES	I	Tracking error signal input
25	PTO	—	———
26	PTI	I	Traverse speed detection signal input
27	PBO	—	———
28	POT	I	Position detecting buffer input
29	CROSS	O	Tracking error cross detection output
30	TE	O	Tracking error output
31	TEBAL	I	Tracking error gain detecting filter input
32	TBAL	I	Tracking balance adjustment
33	VDET	O	Vibration detection signal ouput
34	FE	O	Focus error output
35	EBL2	I	Focus balance adjustment
36	FBL1		
37	VCC	I	Power supply (+5 V input)
38	GND	—	Ground
39	PDBD	I	Photo detector current input
40	PDA	I	
41	PDAD	I	
42	PDB	I	

•IC702 (TCA0372DM2R)

Pin No.	Mark	I/O Division	Function
1	GND	—	Ground
2	NC	—	———
3	VOUT1	O	Spindle motor control output
4	VCC	I	Power supply (+7.5 V input)
5	VOUT2	O	Spindle motor control output
6	NC	—	———
7	NC	—	———
8	GND	—	Ground
9	GND	—	Ground
10	NC	—	———
11	−VIN2	I	Spinde motor control input
12	+VIN2		
13	+VIN1		
14	−VIN1		
15	NC	—	———
16	GND	—	Ground

•IC704 (MN6650)

Pin No.	Mark	I/O Division	Function
1	TES	O	Tracking error signal output
2	PLAY	O	Play signal output
3	RFDET	I	RF detection signal input
4	DO	I	Dropout signal input
5	OFT	I	Off track signal input
6	ARF	I	RF signal input
7	WVEL	O	High speed status signal output
8	PBO	I	Potension buffer signal input
9	TE	I	Tracking error signal input
10	FE	I	Focus error signal input
11	VR2	I	A/D reference voltage input
12	VR1	I	A/D reference voltage input
13	LDON	O	Laser power control signal output
14	VSS	—	Ground
15	AVSS	—	Ground
16	AVDD	I	Power supply (+5 V input)
17	VDD	I	Power supply (+5 V input)
18	TRV	O	Traverse servo control output
19	VTD	O	Traverse drive output
20	FOD	O	Focus drive output
21	TRD	O	Tracking drive output
22	KICK	O	Track kick signal output

Pin No.	Mark	I/O Division	Function
23	/TEST	I	+5 V input
24	VSS	—	Ground
25	CLVS	I	Spindle servo signal input
26	/TRON	O	Tracking servo signal output
27	MDATA	I	Command data input
28	MCLK	I	Command clock signal input
29	MLD	I	Command load signal input
30	SENSE	O	Sense signal output
31	/FLOCK	O	Focus servo signal output
32	/TLOCK	I	Tracking servo signal output
33	/RST	I	Reset signal input (L: Reset)
34	XI	I	Clock input (fXI=16.9344 MHz)
35	TO	—	Open
36	T1		
37	T2		
38	T3		
39	T4	—	Ground
40	T5		
41	T6		
42	VDET	I	Vibration detecting signal input
43	TBAL	O	Tracking balance adjustment output
44	TRCRS	I	Track cross signal input

•IC705 (MN6475)

Pin No.	Mark	I/O Division	Function
1	LRCK	I	Clock input
2	BCLK	I	Serial data bit clock input
3	SRDATA	I	Serial data input
4	COT1	—	Ground
5	COT2		
6	TEST		
7	VDD	I	Power supply (+5 V input)
8	X2	—	Clock (f=33.8688 MHz)
9	X1		
10	VSS	—	Ground
11	AVDDL	I	Power supply (+5 V input)
12	OUT.L	O	AF signal output (Lch)

Pin No.	Mark	I/O Division	Function
13	AVSS.L	—	Ground
14	AVSS.R	—	Ground
15	OUT.R	O	AF signal output (Rch)
16	AVDD.R	I	Power supply input
17	/RST	I	Reset signal input
18	PWM	—	———
19	TP	—	Ground
20	WVEL	I	High speed status signal input
21	DEMPH	I	De-emphasis signal input
22	CSEL	I	+5 V input
23	192FS	—	———
24	768FS	O	Clock output (f=16.9344 MHz)

•IC703 (AN8377N): Motor Dirve

Pin No.	Mark	I/O Division	Function
1	PVCC	I	Driver power supply (+8.9 input)
2	VCC	I	Power supply (+8.9 V input)
3	TB	O	External transistor base driving output
4	VMON	O	Voltage output
5	TVDI	I	Traverse error signal input
6	FDI	I	Focus error signal input
7	TDI	I	Tracking error signal input
8	VREF	I	Reference voltage input

•IC706 (MN6626)

Pin No.	Mark	I/O Division	Function
1	AVSS	—	Ground
2	IREF	I	Reference current input
3	ARF	I	RF signal input
4	DRF	I	DSL bias input
5	DSLF	O	DSL loop filter
6	PLLF	I	PLL loop filter
7	AVDD	I	Power supply (+5 V input)
8	RSEL	I	+5 V input
9 ≀ 16	TBUS7 ≀ TBUSO	—	Test terminal (Ground)
17	FLAG	—	———
18	IPFLAG		
19	FCLK		
20	BTYCK		
21	WDCK		
22	/RST	I	Reset signal input
23	TX	O	Digital audio interface signal output
24	LDG	—	———
25	RDG		
26	SRDATA	O	Serial data output
27	SCK	O	Serial bit clock output
28	LRCK	O	Clock output
29	XCK	O	Clock output (f=16.9344 MHz)
30	PMCK	—	———
31	CSEL	I	+5 V input
32	PSEL	—	Ground
33	×1	I	Clock input (f=16.9344 MHz)
34	×2	—	———
35	VSS	—	Ground

Pin No.	Mark	I/O Division	Function
9	TD−	O	Inverting output of tracking driver
10	TD+	O	Non-inverting output of tracking driver
11	FD−	O	Inverting output of focus driver
12	FD+	O	Non-inverting output of focus driver
13	TVD−	O	Inverting output of traverse driver
14	TVD+	O	Non-inverting output of traverse driver
15	RESET	O	Reset signal output
16	PC	I	PC input (connect to GND)

Pin No.	Mark	I/O Division	Function
36	SUBQ	O	Sub-code (Q data) output
37	SQCK	I	Sub-code (Q data) clock input f=7.3 kHz
38	/CLDCK	—	———
39	BLKCK	O	Sub-code block (Q data) clock f=75 Hz
40	DEMPH	O	De-emphasis ON signal output
41	MEMP	I	Enphasis signal input
42	MLD	I	Command load signal input
43	MCLK	I	Command clock signal input
44	MDATA	I	Command data input
45	DMUTE	I	Muting control signal input
46	SMCK	O	Clock output (f=4.2336 MHz)
47	STAT	O	Status signal output
48	CRC	—	———
49	SUBC	—	———
50	SBCK	I	Clock for sub-code serial output
51	/TRON	I	Tracking servo ON signal input
52	CLVS	O	Spindle servo signal output
53	PC	—	———
54	ECM	O	Spindle motor control signal output
55	ECS	O	Spindle motor control signal output
56	VDD	I	Power supply (+5 V input)
57	/TEST	I	+5 V input
58	SSEL	I	+5 V input
59	MSEL	—	———
60	RESY	—	———
61	DO	I	Drop out signal input
62	EFM	—	———
63	PCK		
64	PDO		

•IC801 (MN1872410RRZ)

Pin No.	Mark	I/O division	Function
1	VDD	I	Power supply (+5 V input)
2	OSC1	O	Clock output (4 MHz)
3	OSC2	I	Clock input (4 MHz)
4	VSS	—	GND
5	XI	I	Clock input (32 kHz)
6	XO	O	Clock output (32 kHz)
7	VREF−	—	A/D converter reference voltage (GND)
8	ADIN7	I	DECK2 front side record prevention tab detection. "HIGH" . . Recording is not possible "LOW" . . Recording is possible
9	ADIN6	I	DECK2 cassette tape insertion detection "HIGH" . . Playback is not possible "LOW" . . Playback is possible
10	ADIN5	I	DECK1 cassette tape insertion detection "HIGH" . . Playback is not possible "LOW" . . Playback is possible
11	ADIN4	—	GND
12	ADIN3	I	Top panel switch signal input
13	ADIN2	I	Tape deck operation switch signal input
14	ADIN1	I	CD operation, ATLS, FM mode, display, beep and manual REC switch signal input
15	ADIN0	I	Timer, set and cancel switch signal input
16	VREF+	I	A/D converter reference voltage (+5 V)
17, 18	JOG	I	Al jog dial signal input
19	BEEP	O	Beep signal output
20	MKDATA	O	Tape deck control data output
21	MKCLK	O	Tape deck control clock output
22	GEQCLK	O	Graphic equalizer control clock output
23	ACLK1	O	AF signal control clock output
24	AGDATA	O	AF signal control data output
25	SPCLK	O	IC804 control clock output
26	POWER CONT	O	Power supply control signal output
27	MUTE A	O	Muting control signal output
28	MUTE D	O	Muting control singal output

Pin No.	Mark	I/O division	Function
29	MBP 1	O	Beat proof control signal output
30	MBP 2	O	Beat proof control signal output
31	RM IN	I	Remote control signal input
32	BLKCK	I	CD sub code block clock signal input
33	STATUS	I	CD status signal input
34	CD RST	I	CD reset signal input
35	RST	I	System reset signal input
36	MLD/PLL CL	O	CD signal process IC control signal and PLL tuner clock output
37	MDATA/PLL CE	O	CD signal process IC control data and PLL tuner strove signal output
38	MCLK/PLL DI	O	CD signal process IC control clock and PLL tuner data output
39	CLDCK	I	CD sub code clock input
40	SUBQ	I	CD sub code data input
41	SBO0	—	———
42	SYNC	—	———
43	CM	—	GND
44	TLDCK/ TUNE	O	CD tracking lock signal and tuning signal output
45	FLDCK/ STEREO	O	CD focus lock signal and stereo tuning signal output
46	REST	I	Rest switch (S701) signal input
47	VOL LIMIT SW	I	Volume limit switch signal input
48	CD CLOSE SW	I	CD cover open/close detection signal input
49	SENCE	I	CD sence signal input
50	REM STANDBY	I	Remote control sensor power control
51	POWER DET	I	Power ON signal input
52 ~ 93	SEG41 ~ SEG0	O	LCD segment signal output
94 ~ 97	COM3 ~ COM0	O	LCD common signal output
98	VLC3	—	LCD bias reference voltage input V3
99	VLC2	—	LCD bias reference voltage input V2
100	VLC1	—	LCD bias reference voltage input V1

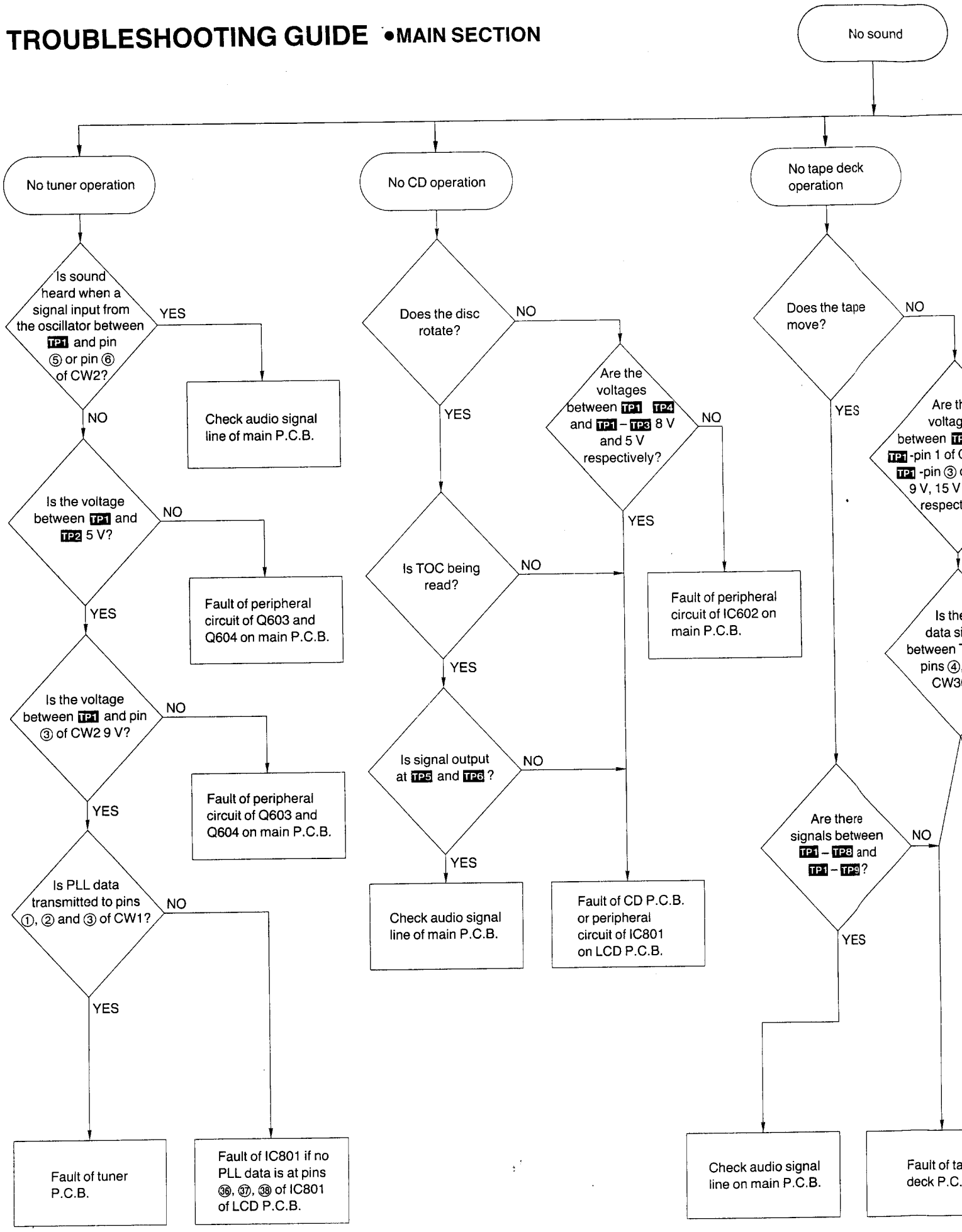
•IC8

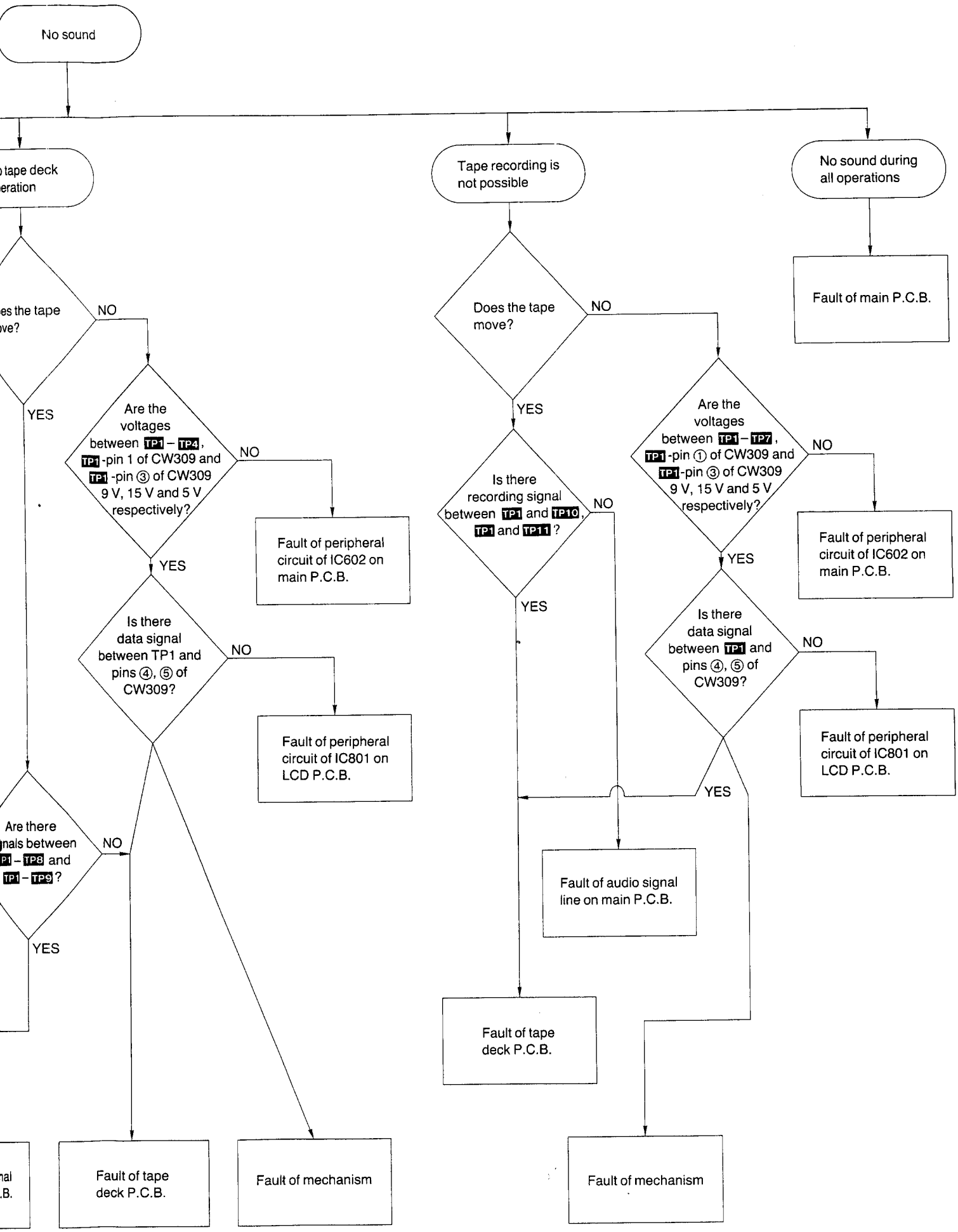
Pin No.
1 ~ 20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36, 37
38

•IC804 (BU3544K)

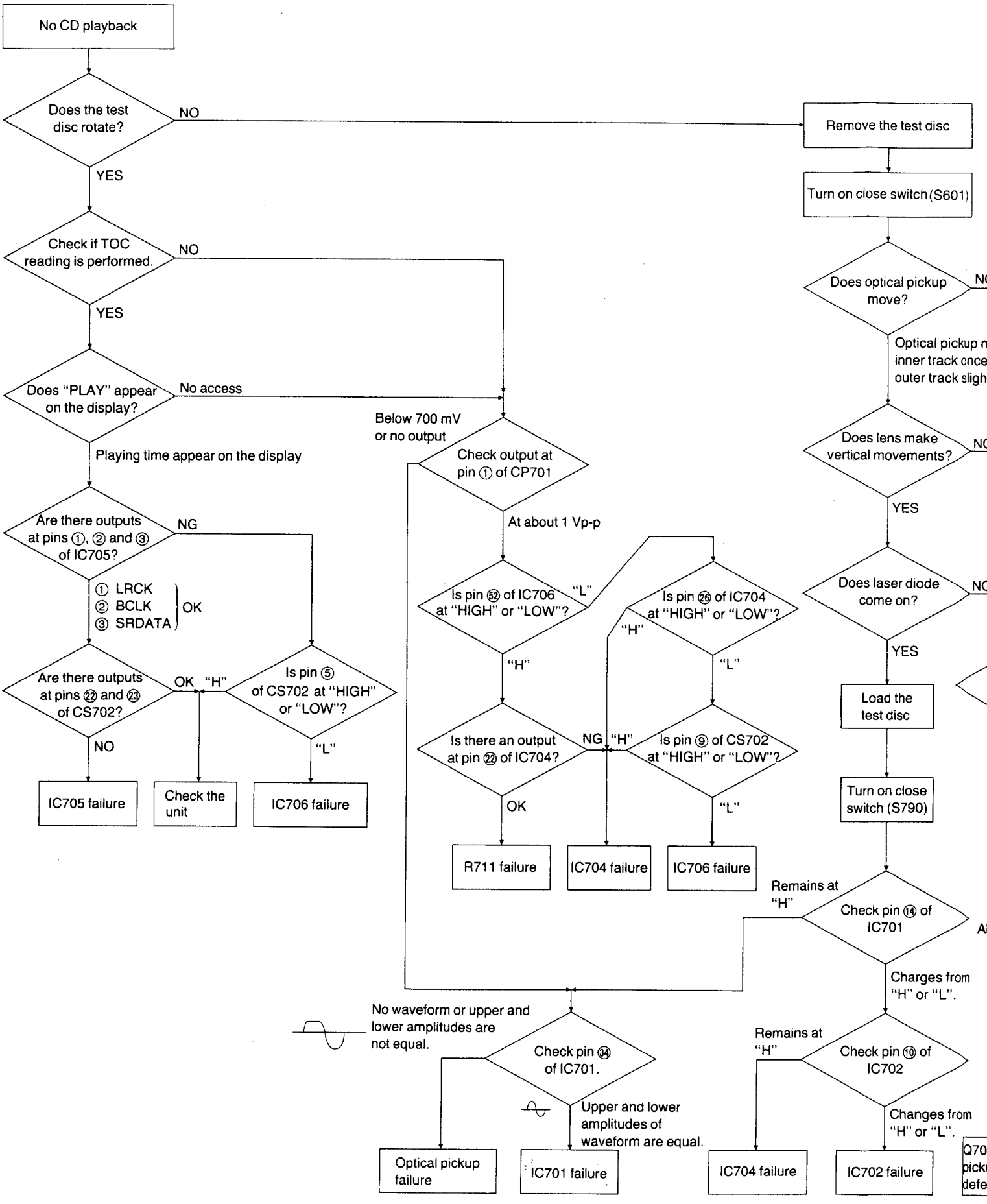
Pin No.	Mark	I/O division	Function
1 ~ 20	SEG04 ~ SEG23	O	LCD segment signal output
21	VDD	I	Power supply (+5 V)
22	AVDD	I	Power supply (+5 V)
23	AGND	—	GND
24	XBS	I	XBS signal input
25	150 Hz	I	Spectrum analizer signal (150 Hz) input
26	330 Hz	I	Spectrum analizer signal (330 Hz) input
27	1 kHz	I	Spectrum analizer signal (1 kHz) input
28	3.3 kHz	I	Spectrum analizer signal (3.3 kHz) input
29	10 kHz	I	Spectrum analizer signal (10 kHz) input
30	REC SIG	I	Record level signal input
31	A GND	—	GND
32	NC	—	———
33	BPF	—	———
34	RST	O	Reset signal output
35	BUZY	—	———
36, 37	GND	—	GND
38	SCK	I	Serial clock input
39	SI	—	GND
40	SI0	I	Serial data input
41 ~ 44	GND	—	GND
45	BPF RST	—	———
46	MBP	I	Beat proof control signal input
47	RST	I	Reset signal input
48	OSC2	I	Clock input
49	OSC1	O	Clock output
50	NC	—	———
51	VL	—	LCD bias reference voltage input
52	V2		
53	V1		
54	V0		
55	GND	—	GND
56	STP0	I	Serial clock input
57 ~ 50	COM0 ~ COM3	O	LCD common signal output
61 ~ 64	SEG0 ~ SEG3	O	LCD segment signal output

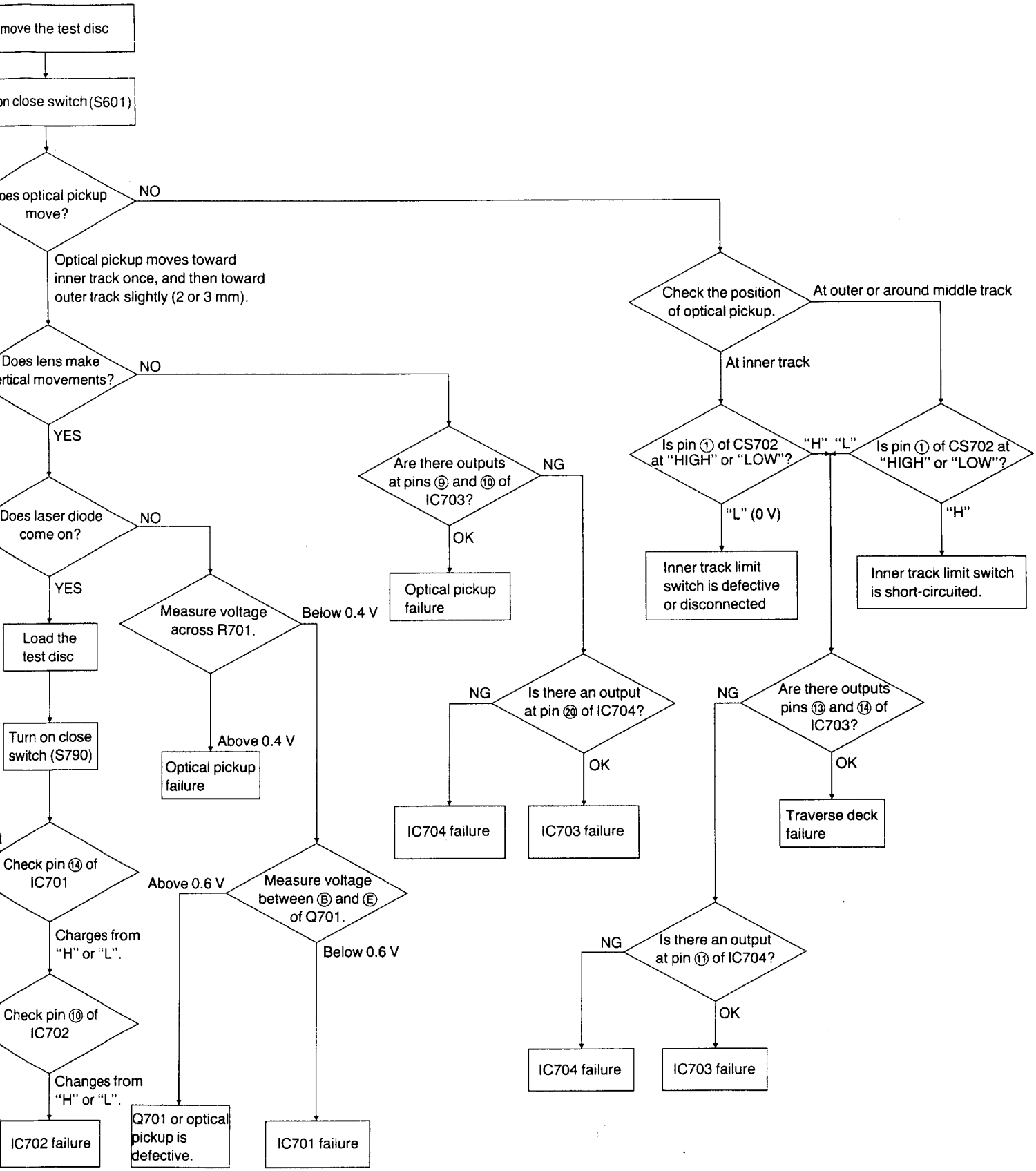
■ TROUBLESHOOTING GUIDE •MAIN SECTION



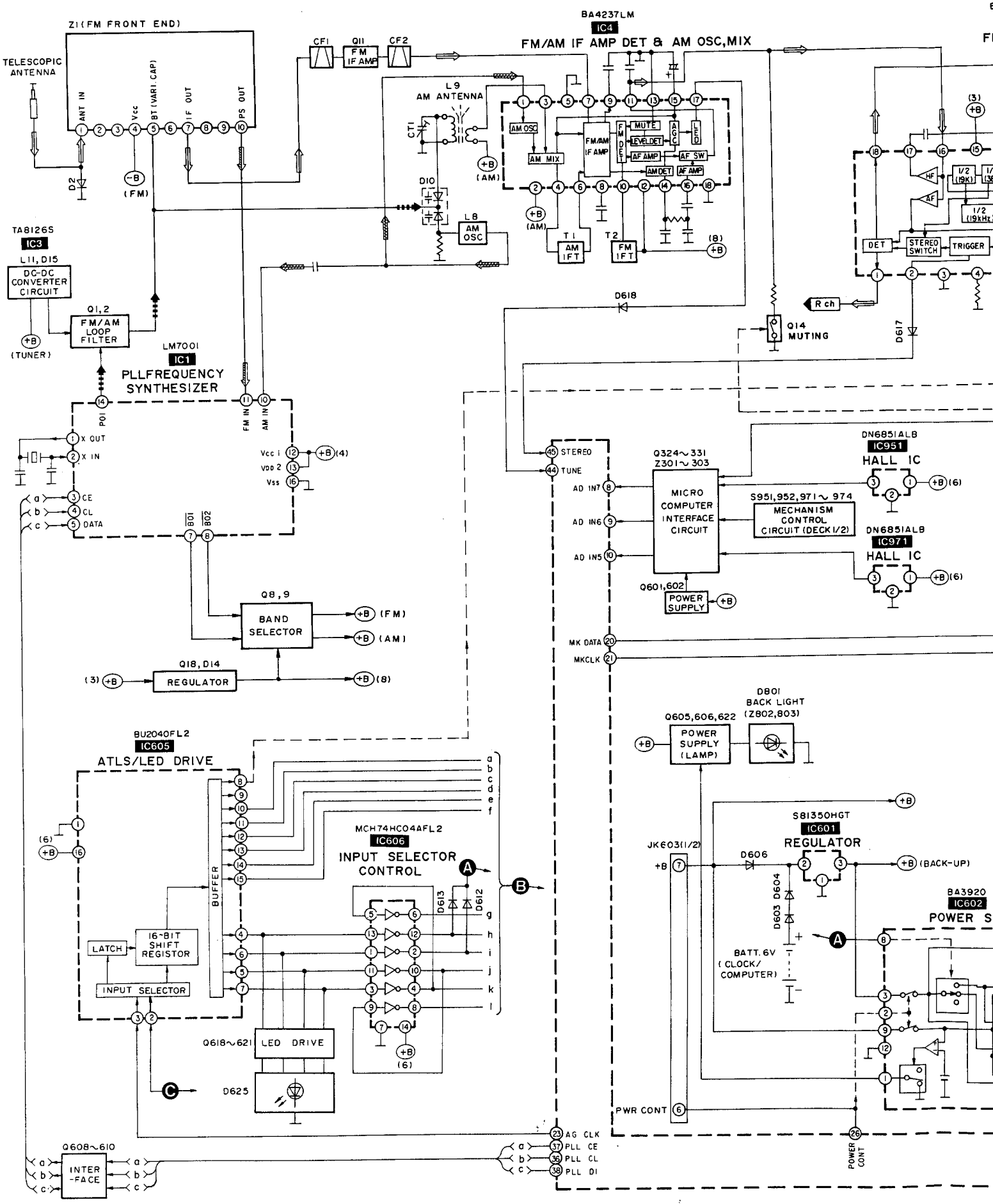

No sound
tape deck eration
es the tape ve?
NO
YES
Are the voltages between TP1 – TP4, TP1 -pin 1 of CW309 and TP1 -pin ③ of CW309 9 V, 15 V and 5 V respectively?
NO
Fault of peripheral circuit of IC602 on main P.C.B.
YES
Is there data signal between TP1 and pins ④, ⑤ of CW309?
NO
Fault of peripheral circuit of IC801 on LCD P.C.B.
Are there gnals between P1 – TP8 and TP1 – TP9?
NO
YES
Fault of tape deck P.C.B.
Fault of mechanism
Tape recording is not possible
Does the tape move?
NO
YES
Is there recording signal between TP1 and TP10, TP1 and TP11 ?
NO
YES
Fault of audio signal line on main P.C.B.
Fault of tape deck P.C.B.
Are the voltages between TP1 – TP7, TP1 -pin ① of CW309 and TP1 -pin ③ of CW309 9 V, 15 V and 5 V respectively?
NO
Fault of peripheral circuit of IC602 on main P.C.B.
YES
Is there data signal between TP1 and pins ④, ⑤ of CW309?
NO
Fault of peripheral circuit of IC801 on LCD P.C.B.
YES
Fault of mechanism
No sound during all operations
Fault of main P.C.B.

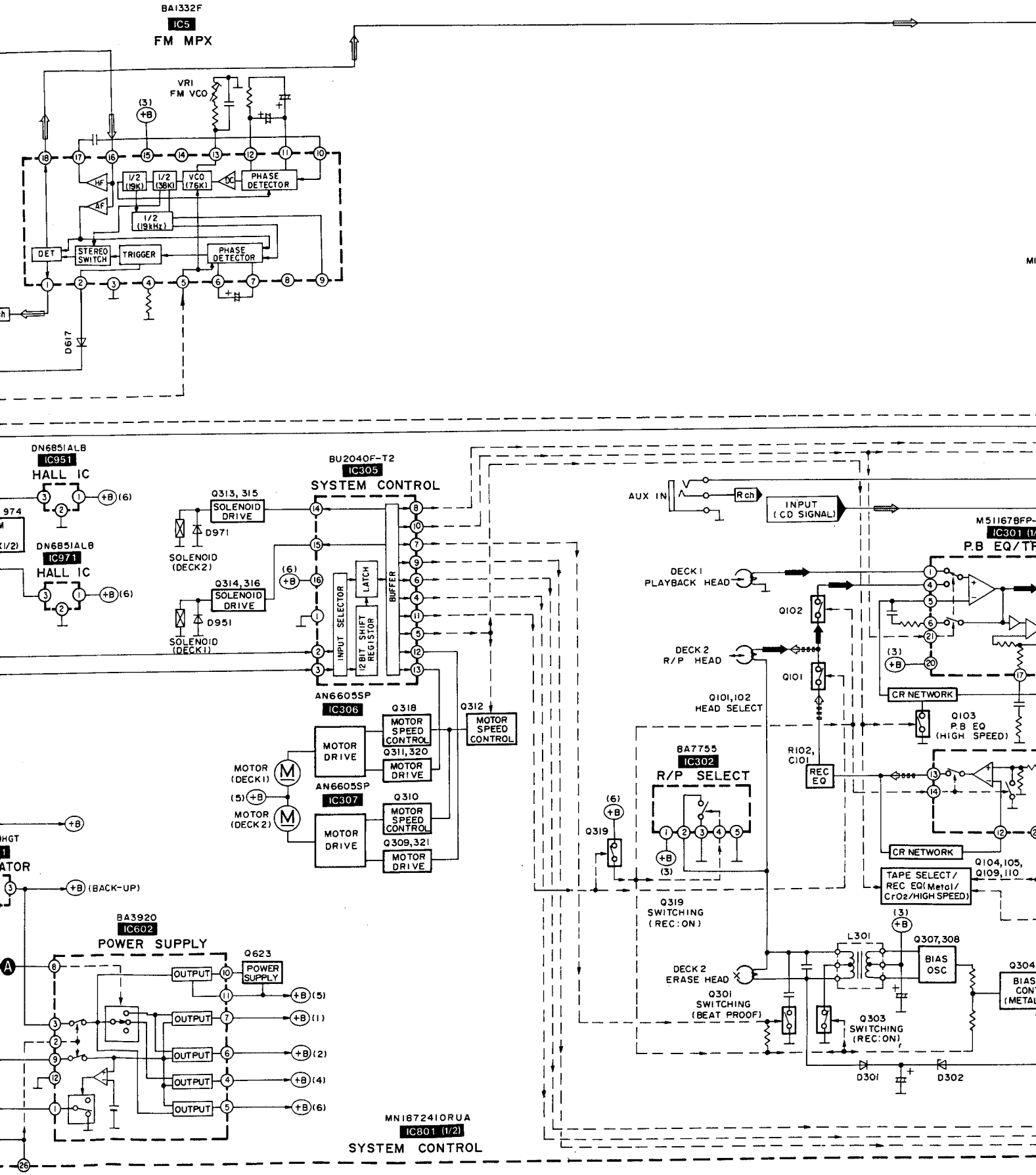
■ TROUBLESHOOTING GUIDE •CD SECTION

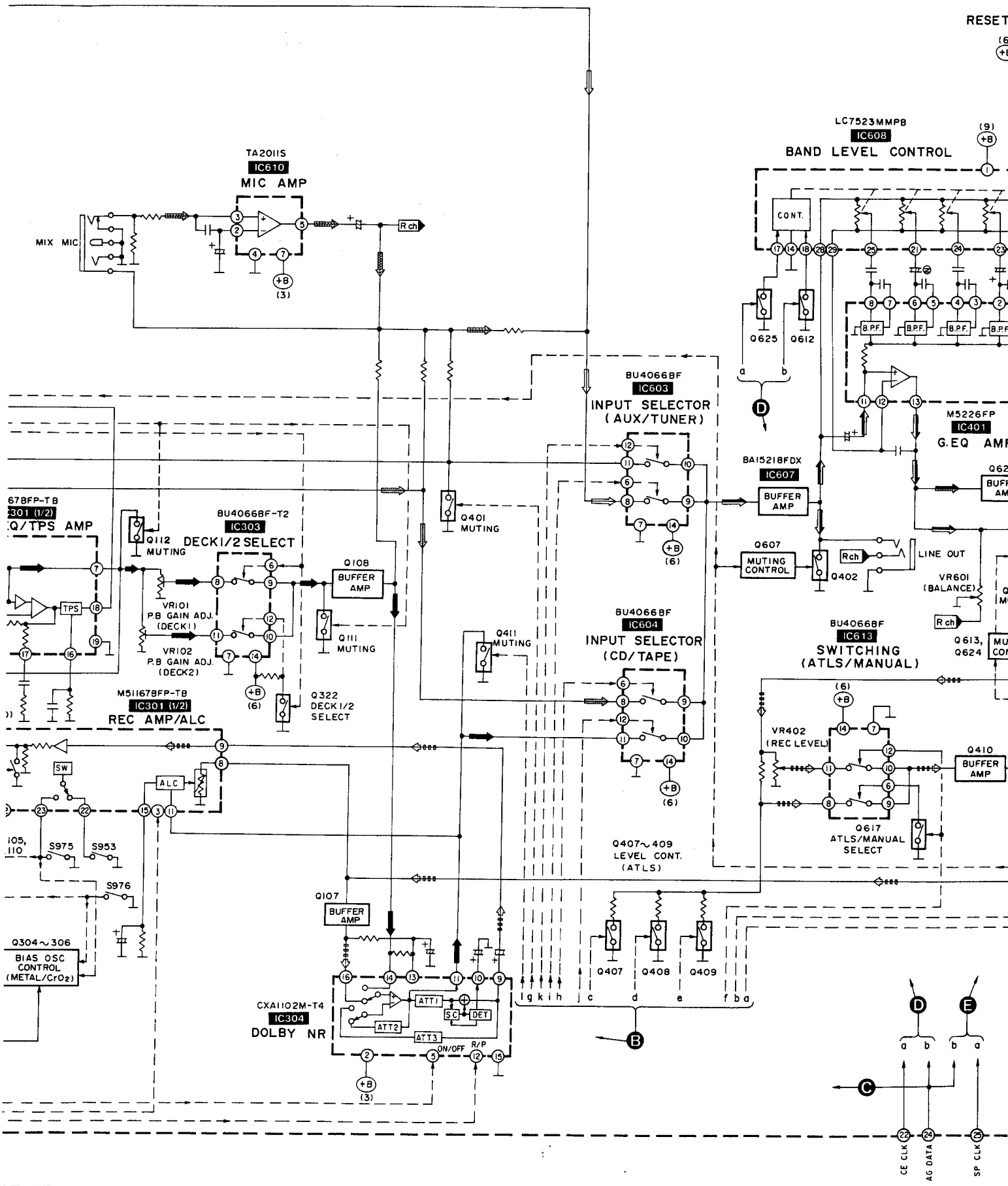


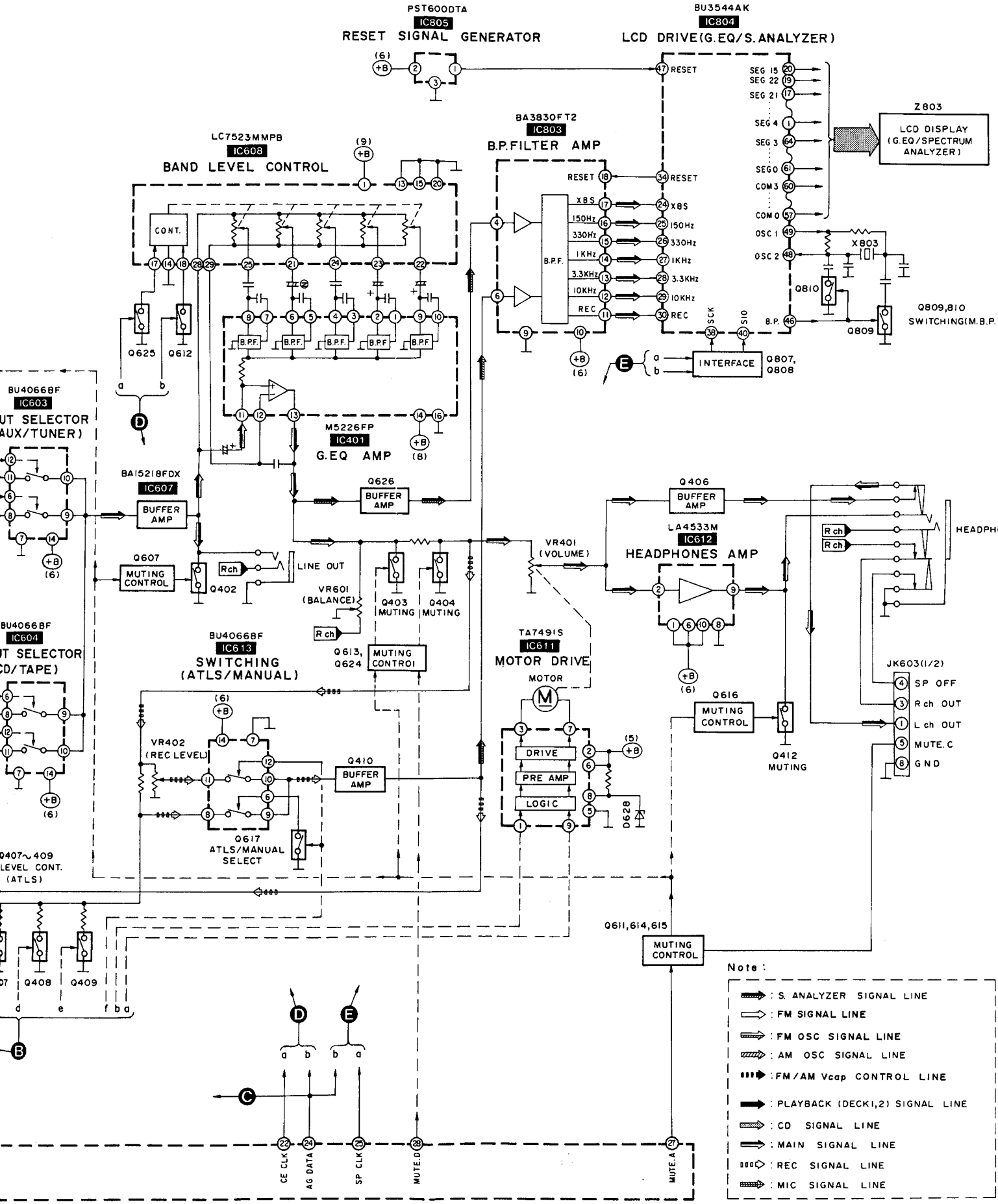

move the test disc
n close switch (S601)
oes optical pickup move?
NO
Optical pickup moves toward inner track once, and then toward outer track slightly (2 or 3 mm).
Does lens make rtical movements?
NO
YES
Does laser diode come on?
NO
YES
Load the test disc
Turn on close switch (S790)
Check pin ⑭ of IC701
Charges from "H" or "L".
Check pin ⑩ of IC702
Changes from "H" or "L".
IC702 failure
Measure voltage across R701.
Below 0.4 V
Above 0.4 V
Optical pickup failure
Above 0.6 V
Measure voltage between Ⓑ and Ⓔ of Q701.
Below 0.6 V
Q701 or optical pickup is defective.
IC701 failure
Are there outputs at pins ⑨ and ⑩ of IC703?
NG
OK
Optical pickup failure
NG
Is there an output at pin ⑳ of IC704?
OK
IC704 failure
IC703 failure
Check the position of optical pickup.
At outer or around middle track
At inner track
Is pin ① of CS702 at "HIGH" or "LOW"?
"H", "L"
Is pin ① of CS702 at "HIGH" or "LOW"?
"L" (0 V)
"H"
Inner track limit switch is defective or disconnected
Inner track limit switch is short-circuited.
NG
Are there outputs pins ⑬ and ⑭ of IC703?
OK
Traverse deck failure
NG
Is there an output at pin ⑪ of IC704?
OK
IC704 failure
IC703 failure

■ BLOCK DIAGRAM •Except CD circuit

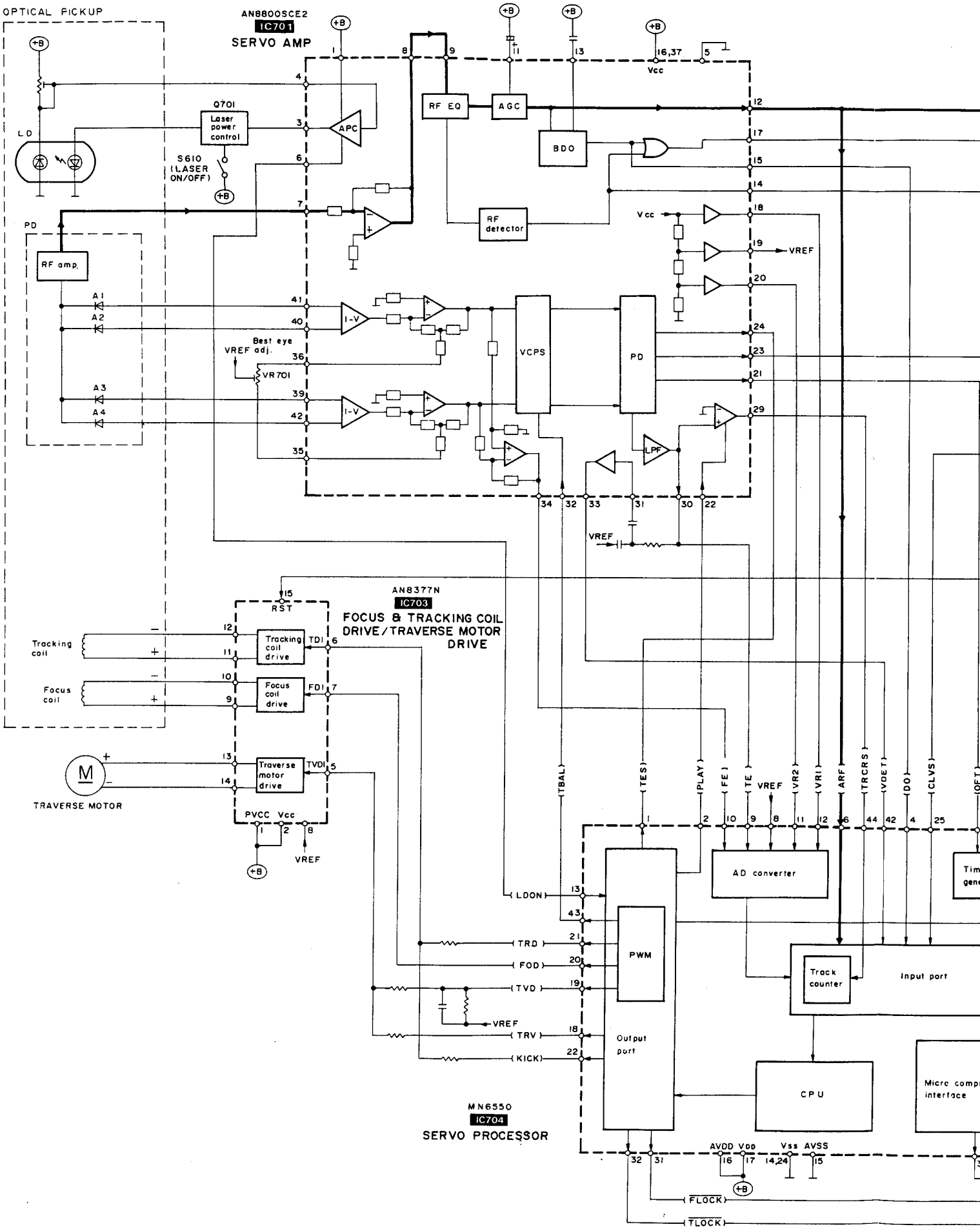


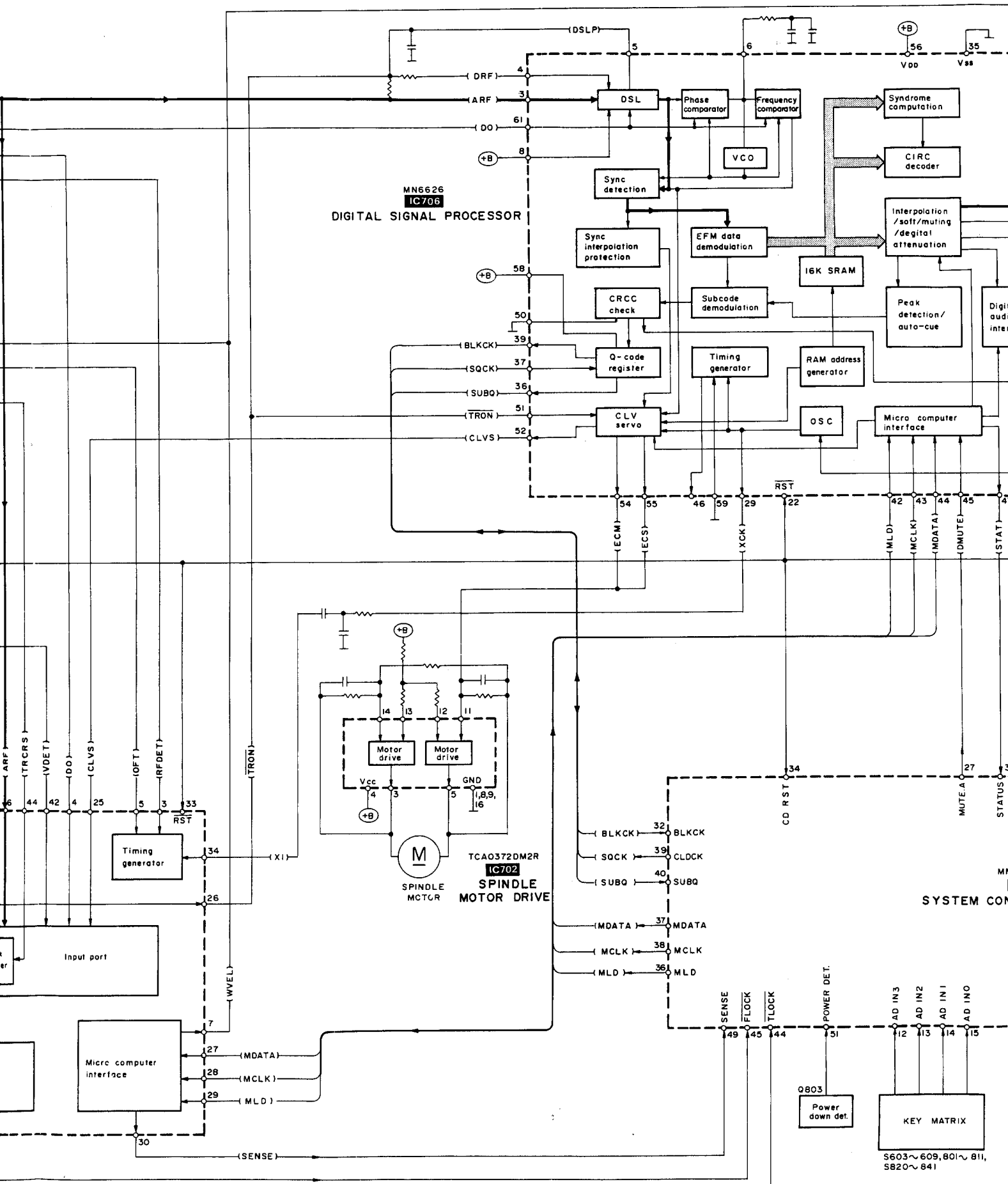

BA1332F
IC5
FM MPX
VRI
FM VCO
(3)
+B
HF
AF
1/2 (19K)
1/2 (38K)
VCO (76K)
DC
PHASE DETECTOR
1/2 (19kHz)
DET
STEREO SWITCH
TRIGGER
PHASE DETECTOR
D617
DN6851ALB
IC951
HALL IC
DN6851ALB
IC971
HALL IC
BU2040F-T2
IC305
SYSTEM CONTROL
Q313, 315
SOLENOID DRIVE
D971
SOLENOID (DECK2)
Q314, 316
SOLENOID DRIVE
D951
SOLENOID (DECK1)
INPUT SELECTOR
LATCH
12 BIT SHIFT REGISTOR
BUFFER
AN6605SP
IC306
Q318
MOTOR SPEED CONTROL
Q312
MOTOR SPEED CONTROL
MOTOR DRIVE
Q311, 320
MOTOR DRIVE
MOTOR (DECK1)
AN6605SP
IC307
Q310
MOTOR SPEED CONTROL
MOTOR (DECK2)
MOTOR DRIVE
Q309, 321
MOTOR DRIVE
BA3920
IC602
POWER SUPPLY
Q623
POWER SUPPLY
OUTPUT
(BACK-UP)
MN187241ORUA
IC801 (1/2)
SYSTEM CONTROL
AUX IN
Rch
INPUT (CD SIGNAL)
DECK1 PLAYBACK HEAD
Q102
DECK2 R/P HEAD
Q101
Q101, 102 HEAD SELECT
BA7755
IC302
R/P SELECT
R102, C101
REC EQ
CR NETWORK
Q103 P.B EQ (HIGH SPEED)
CR NETWORK
Q104, 105, Q109, 110
TAPE SELECT/ REC EQ(Metal/ CrO2/HIGH SPEED)
Q319
Q319 SWITCHING (REC:ON)
L301
Q307, 308
BIAS OSC
DECK2 ERASE HEAD
Q301 SWITCHING (BEAT PROOF)
Q303 SWITCHING (REC:ON)
D301
D302

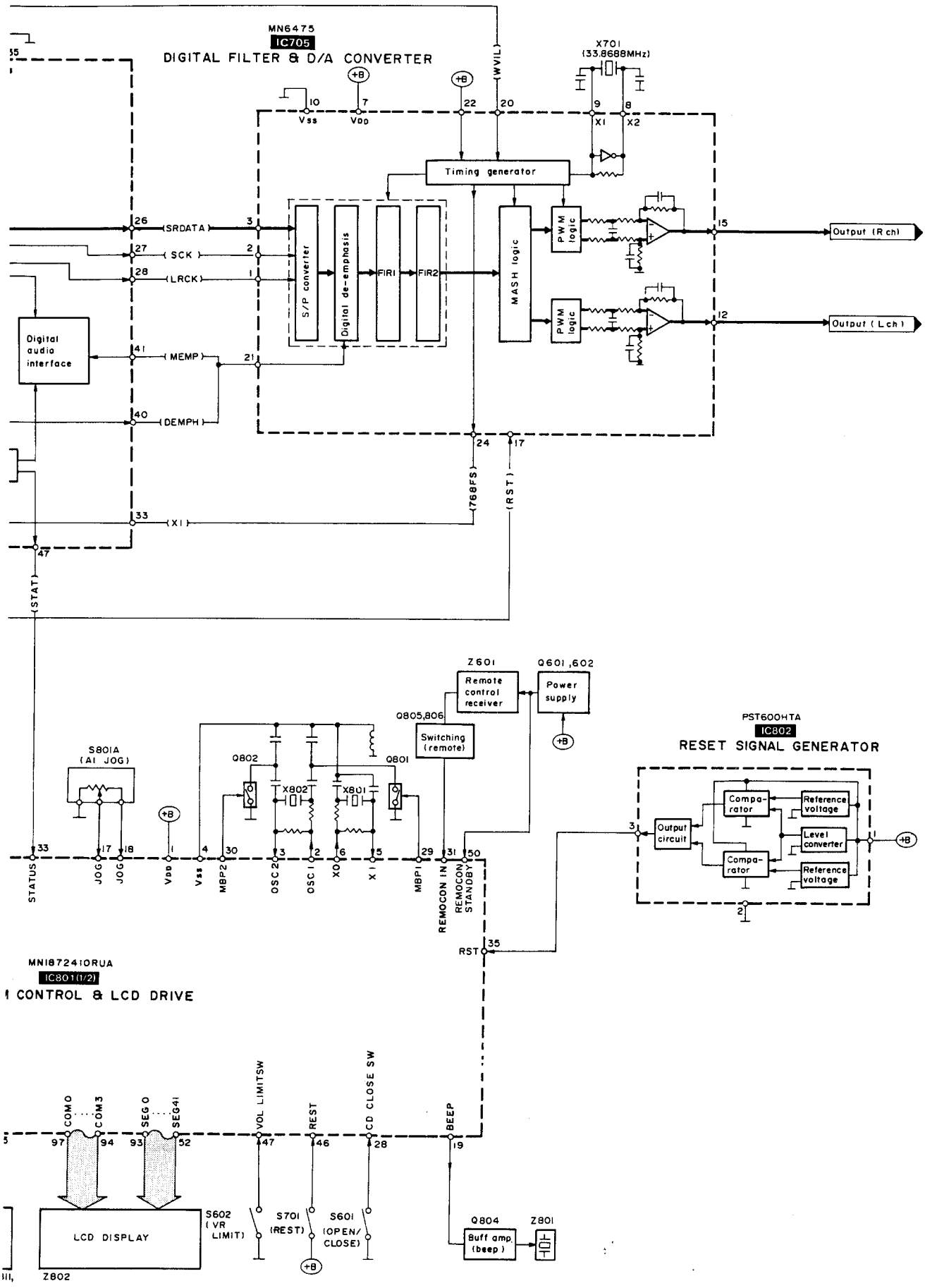

RESET
LC7523MMPB
IC608
BAND LEVEL CONTROL
TA2011S
IC610
MIC AMP
MIX MIC
R ch
+B
(3)
CONT.
Q625
Q612
B.P.F.
BU40668F
IC603
INPUT SELECTOR
(AUX/TUNER)
M5226FP
IC401
G.EQ AMP
BA15218FDX
IC607
BUFFER AMP
Q607
MUTING CONTROL
Q402
LINE OUT
VR601
(BALANCE)
Q401
MUTING
BU40668F-T2
IC303
Q112
MUTING
DECK1/2 SELECT
Q108
BUFFER AMP
VR101
P.B GAIN ADJ.
(DECK1)
VR102
P.B GAIN ADJ.
(DECK2)
Q111
MUTING
Q411
MUTING
BU40668F
IC604
INPUT SELECTOR
(CD/TAPE)
BU40668F
IC613
SWITCHING
(ATLS/MANUAL)
Q613,
Q624
M51167BFP-T8
IC301 (1/2)
REC AMP/ALC
Q322
DECK1/2
SELECT
VR402
(REC LEVEL)
Q410
BUFFER AMP
Q617
ATLS/MANUAL
SELECT
Q407~409
LEVEL CONT.
(ATLS)
SW
ALC
S975
S953
S976
Q107
BUFFER AMP
Q304~306
BIAS OSC
CONTROL
(METAL/CrO2)
Q407
Q408
Q409
CXA1102M-T4
IC304
DOLBY NR
ATT1
ATT2
ATT3
SC
DET
ON/OFF
R/P
CE CLK
AG DATA
SP CLK


PST600DTA
IC805
RESET SIGNAL GENERATOR
BU3544AK
IC804
LCD DRIVE(G.EQ/S.ANALYZER)
Z803
LCD DISPLAY (G.EQ/SPECTRUM ANALYZER)
BA3830FT2
IC803
B.P.FILTER AMP
LC7523MMPB
IC608
BAND LEVEL CONTROL
M5226FP
IC401
G.EQ AMP
BU4066BF
IC603
BA15218FDX
IC607
BUFFER AMP
Q626
Q406
LA4533M
IC612
HEADPHONES AMP
HEADPHONES
VR401 (VOLUME)
Q607
MUTING CONTROL
Q402
LINE OUT
VR601 (BALANCE)
Q403 MUTING
Q404 MUTING
BU4066BF
IC604
BU4066BF
IC613
SWITCHING (ATLS/MANUAL)
Q613, Q624
MUTING CONTROL
TA7491S
IC611
MOTOR DRIVE
MOTOR
DRIVE
PRE AMP
LOGIC
D628
VR402 (REC LEVEL)
Q410
BUFFER AMP
Q617
ATLS/MANUAL SELECT
Q616
MUTING CONTROL
Q412
MUTING
JK603(1/2)
SP OFF
R ch OUT
L ch OUT
MUTE.C
GND
Q611,614,615
MUTING CONTROL
Q625
Q612
Q810
X803
Q809
Q809,810
SWITCHING(M.B.P.)
Q807, Q808
INTERFACE
Q407~409
LEVEL CONT. (ATLS)
Q407
Q408
Q409
CE CLK
AG DATA
SP CLK
MUTE.D
MUTE.A
Note :
: S. ANALYZER SIGNAL LINE
: FM SIGNAL LINE
: FM OSC SIGNAL LINE
: AM OSC SIGNAL LINE
: FM/AM Vcap CONTROL LINE
: PLAYBACK (DECK1,2) SIGNAL LINE
: CD SIGNAL LINE
: MAIN SIGNAL LINE
: REC SIGNAL LINE
: MIC SIGNAL LINE

■ BLOCK DIAGRAM •CD circuit




MN6626
IC706
DIGITAL SIGNAL PROCESSOR
DSL
Phase comparator
Frequency comparator
VCO
Sync detection
Sync interpolation protection
EFM data demodulation
Syndrome computation
CIRC decoder
Interpolation /soft/muting /degital attenuation
16K SRAM
CRCC check
Subcode demodulation
Peak detection/ auto-cue
Q-code register
Timing generator
RAM address generator
CLV servo
OSC
Micro computer interface
Motor drive
Motor drive
SPINDLE MOTOR
TCA0372DM2R
IC702
SPINDLE MOTOR DRIVE
Timing generator
Input port
Micro computer interface
Power down det.
KEY MATRIX
S603~609,801~811, S820~841
SYSTEM CON


MN6475
IC705
DIGITAL FILTER & D/A CONVERTER
X701
(33.8688MHz)
Timing generator
S/P converter
Digital de-emphasis
FIR1
FIR2
MASH logic
PWM logic
PWM logic
Output (R ch)
Output (L ch)
Digital audio interface
(SRDATA)
(SCK)
(LRCK)
(MEMP)
(DEMPH)
(768FS)
(RST)
(XI)
(STAT)
Z601
Remote control receiver
Q601,602
Power supply
Q805,806
Switching (remote)
S801A
(AI JOG)
Q802
Q801
X802
X801
PST600HTA
IC802
RESET SIGNAL GENERATOR
Compa-rator
Reference voltage
Output circuit
Level converter
Compa-rator
Reference voltage
STATUS
JOG
JOG
MBP2
OSC2
OSC1
XO
XI
MBP1
REMOCON IN
REMOCON STANDBY
RST
MN187241ORUA
IC801(1/2)
CONTROL & LCD DRIVE
COM0
COM3
SEG0
SEG41
VOL LIMITSW
REST
CD CLOSE SW
BEEP
LCD DISPLAY
Z802
S602
(VR LIMIT)
S701
(REST)
S601
(OPEN/CLOSE)
Q804
Buff amp. (beep)
Z801

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC1	LM7001	I. C, PLL FREQ. SYNTHESIZER	
IC3	TA8126S	I. C, DC-DC CONV.	
IC4	BA4237LM	I. C, FM/AM IF AMP	
IC5	BA1332F	I. C, FM MPX	
IC301	M51167BFP-TB	I. C, P. B EQ/REC AMP	
IC302	BA7755	I. C, R/P SELECT	
IC303	BU4066BF-T2	I. C, DECK 1/2 SELECT	
IC304	CXA1102M-T4	I. C, DOLBY NR	
IC305	BU2040F-T2	I. C, SYSTEM CONT.	
IC306, 307	AN6605SP	I. C, MOTOR DRIVE	
IC401	M5226FP	I. C, G. EQ AMP	
IC501	M5226FP	I. C, G. EQ AMP	
IC601	S81350HGT	I. C, REGULATOR	
IC602	BA3920	I. C, POWER SUPPLY CONT.	
IC603, 604	BU4066BF	I. C, INPUT SELECTOR	
IC605	BU2040F	I. C, SYSTEM CONT.	
IC606	MC74HC04AFL2	I. C, INPUT SELECT CONT.	
IC607	BA15218FDX	I. C, BUFFER AMP	
IC608	LC7523MMPB	I. C, BAND LEVEL	
IC610	TA2011S	I. C, MIC AMP	
IC611	TA7291S	I. C, MOTOR DRIVE	
IC612	LA4533M	I. C, HEADPHONE AMP	
IC613	BU4066BF	I. C, SWITCHING	
IC701	AN8800SCE2	I. C, SERVO AMP	
IC702	TCA0372DM2R	I. C, SPINDLE MOTOR DRIVE	
IC703	AN8377N	I. C, TRAVERSE MOTOR DRIVE	
IC704	MN6650	I. C, DIGITAL SERVO PROCESSOR	
IC705	MN6475	I. C, DIGITAL FILTER	
IC706	MN6626	I. C, DIGITAL SIGNAL PRO.	
IC801	MN1872410RUA	I. C, SYSTEM CONT.	
IC802	PST600HTA	I. C, RESET SIGNAL	
IC803	BA3830FT2	I. C, B. P. FILTER AMP	
IC804	BU3544K	I. C, LCD DRIVE	
IC805	PST600DTA	I. C, RESET SIGNAL GENE.	
IC951	DN6851ALB	HALL DEVICE	
IC971	DN6851ALB	HALL DEVICE	
		TRANSISTOR(S)	
Q1, 2	2SC3312S	TRANSISTOR	
Q8, 9	RVTDTA143XST	TRANSISTOR	
Q11	2SC3313B	TRANSISTOR	
Q14	2SC3311A-Q	TRANSISTOR	
Q18	2SD592NCR	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q101, 102	2SJ164QRTA	TRANSISTOR	
Q103-105	RVTDTC144TST	TRANSISTOR	
Q107, 108	2SC1740SLNET	TRANSISTOR	
Q109, 110	RVTDTC144TST	TRANSISTOR	
Q111, 112	2SD1450RTA	TRANSISTOR	
Q201, 202	2SJ164QRTA	TRANSISTOR	
Q203-205	RVTDTC144TST	TRANSISTOR	
Q207, 208	2SC1740SLNET	TRANSISTOR	
Q209, 210	RVTDTC144TST	TRANSISTOR	
Q211, 212	2SD1450RTA	TRANSISTOR	
Q301	2SC2389STA	TRANSISTOR	
Q303	2SD1450RTA	TRANSISTOR	
Q304, 305	RVTDTC144TST	TRANSISTOR	
Q306	2SC3311R	TRANSISTOR	
Q307, 308	2SD1450RTA	TRANSISTOR	
Q309	2SD965Q	TRANSISTOR	
Q310	2SK381BCDTA	TRANSISTOR	
Q311	2SD965Q	TRANSISTOR	
Q312	2SC3311R	TRANSISTOR	
Q313, 314	2SB621R	TRANSISTOR	
Q315, 316	RVTDTC144TST	TRANSISTOR	
Q318	2SK381BCDTA	TRANSISTOR	
Q319-321	RVTDTA143XST	TRANSISTOR	
Q322	RVTDTC144TST	TRANSISTOR	
Q324-331	2SC3311R	TRANSISTOR	
Q401	2SC3311R	TRANSISTOR	
Q402	2SD1450RTA	TRANSISTOR	
Q403, 404	2SC3311R	TRANSISTOR	
Q406	2SC3312RTA	TRANSISTOR	
Q407-409	2SC3311R	TRANSISTOR	
Q410	2SC3312RTA	TRANSISTOR	
Q411	2SC3311R	TRANSISTOR	
Q412	2SD1450TTA	TRANSISTOR	
Q501	2SC3311R	TRANSISTOR	
Q502	2SD1450RTA	TRANSISTOR	
Q503, 504	2SC3311R	TRANSISTOR	
Q506	2SC3312RTA	TRANSISTOR	
Q507-509	2SC3311R	TRANSISTOR	
Q510	2SC3312RTA	TRANSISTOR	
Q511	2SC3311R	TRANSISTOR	
Q512	2SD1450TTA	TRANSISTOR	
Q601	RVTDTA143XST	TRANSISTOR	
Q602	2SC3311R	TRANSISTOR	
Q603	2SB1185E	TRANSISTOR	
Q604	2SC3311R	TRANSISTOR	
Q605	2SB1357T114E	TRANSISTOR	
Q606	2SC3311R	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q607	RVTDTA114TST	TRANSISTOR	
Q608-610	RVTDTA143EST	TRANSISTOR	
Q611	RVTDTC144EST	TRANSISTOR	
Q612	2SC3311R	TRANSISTOR	
Q613	RVTDTA114TST	TRANSISTOR	
Q614	RVTDTA143XST	TRANSISTOR	
Q615	RVTDTC144EST	TRANSISTOR	
Q616	RVTDTA114YST	TRANSISTOR	
Q617	RVTDTC144EST	TRANSISTOR	
Q618-621	RVTDTA143XST	TRANSISTOR	
Q622	RVTDTC114YST	TRANSISTOR	
Q623	2SB1357T114E	TRANSISTOR	
Q624	RVTDTA114YST	TRANSISTOR	
Q625, 626	2SC3311R	TRANSISTOR	
Q701	2SB709S	TRANSISTOR	
Q801-808	2SC3311R	TRANSISTOR	
Q809, 810	2SC3311A-Q	TRANSISTOR	
		DIODE(S)	
D2	MA165	DIODE	
D10	KV1560NT	DIODE	
D14	MA4056HTA	DIODE	
D15	MA165	DIODE	
D301	MA165	DIODE	
D302	RVDMTZ4R7BTA	DIODE	
D303, 304	MA165	DIODE	
D603, 604	MA723TA	DIODE	
D606	MA165	DIODE	
D608	MA165	DIODE	
D609	MA4091-M	DIODE	
D610	MA165	DIODE	
D611	MA4091-M	DIODE	
D612-624	MA165	DIODE	
D625	LN041564PH	LED	
D626, 627	MA165	DIODE	
D628	MA4043M	DIODE	
D629, 630	RVDMTZ6R8BTA	DIODE	
D701	MA110TW	DIODE	
D801	LN273565P	LED	
D802, 803	MA165	DIODE	
D951	RVD1SS133TA	DIODE	
D971	RVD1SS133TA	DIODE	
		VARIABLE RESISTOR(S)	
VR1	EVNDXAA00B14	V. R, FM MPX VCO	
VR101	EVNDCAA03BE4	V. R, PLAYBACK LEVEL	(Lch) TAPE 1
VR102	EVNDCAA03BE4	V. R, PLAYBACK LEVEL	(Lch) TAPE 2
VR201	EVNDCAA03BE4	V. R, PLAYBACK LEVEL	(Rch) TAPE 1
VR202	EVNDCAA03BE4	V. R, PLAYBACK LEVEL	(Rch) TAPE 2
VR301	RVNCC24B1T-A	V. R, TAPE SPEED	(HIGH) TAPE 2

Ref. No.	Part No.	Part Name & Description	Remarks
VR302	RVNCC14B1T-A	V. R, TAPE SPEED	(NORMAL) TAPE 2
VR303	RVNCC73B1T-A	V. R, TAPE SPEED	(NORMAL) TAPE 1
VR401	EWC08A027B54	V. R, VOLUME	
VR402	EWAMAYX05B14	V. R, REC LEVEL (VR502)	
VR601	EWAMFQX05G15	V. R, BALANCE	
VR701	EVNDXAA00B14	V. R, BEST EYE	
		COMPONENT COMBINATION(S)	
Z1	ENV17282G1	FM FRONT END	
Z301-303	EXBF6L306SYV	COMPONENT COMBINATION	
Z601	RCD0002	REMOTE SENSOR	
Z801	RAT0008	OSCILLATOR	
		LCD	
Z802	RSL5052-L	LCD, OPERATION	
Z803	RSL5044-L	LCD, G. EQ	
		COIL(S)	
L7	ELEXT101KA9	COIL	
L8	RLQ2B003M-T	COIL	
L9	RLV2C009-0	COIL	
L10	ELEXT101KA9	COIL	
L11	RLQ9B20-Z	COIL	
L14	RLQY15S3W-E	COIL	
L101	RLM9B002-1M	COIL	
L102	RLM2B005-1M	COIL	
L201	RLM9B002-1M	COIL	
L202	RLM2B005-1M	COIL	
L301	RLQ8C002M-T	COIL	
L302-304	RLQZB470KT-D	COIL	
L801, 802	RLL500050T-Y	COIL	
L804	ELEXT101KA9	COIL	
L806	ELEXT101KA9	COIL	
L807-809	ELEXT2R2KA9	COIL	
L810, 811	RLL500050T-Y	COIL	
		TRANSFORMER(S)	
T1	RLI2B001-T	TRANSFORMER	
T2	RLI4B153-MB	TRANSFORMER	
		FILTER(S)	
CF1, 2	RLFFETMLA02D	CERAMIC FILTER	
		OSCILLATOR(S)	
X1	RSXC7M20S03	OSCILLATOR	
X701	RSXZ33M8M01T	OSCILLATOR	

Ref. No.	Part No.	Part Name & Description	Remarks
X801	RSXD32K7F02	OSCILLATOR	
X802	RVBCSA3R9MGT	OSCILLATOR	
X803	RSXZ3M00M01T	OSCILLATOR	
		SWITCH(ES)	
S601	RSH1A012-U	SW, OPEN/CLOSE	
S602	RSH1A012-U	SW, VOLUME LIMIT	
S603	EVQ21405R	SW, OPERATION	
S604	EVQ21405R	SW, SLEEP	
S605	EVQ21405R	SW, TAPE/AUX	
S606	EVQ21405R	SW, TUNER/BAND	
S607	EVQ21405R	SW, CD	
S608	EVQ21405R	SW, TIMER PLAY	
S609	EVQ21405R	SW, TIMER REC	
S610	RSH1A012-U	SW, LASER ON/OFF	
S701	SSHD5-E	SW, REST	
S801A	EVQWPGF1012B	SW, AI JOG	
S801	EVQ21405R	SW, CD EDIT	
S802	EVQ21405R	SW, TUNING MODE	
S803	EVQ21405R	SW, TITLE	
S804	EVQ21405R	SW, TIMER CLOCK	
S805	EVQ21405R	SW, SET	
S806	EVQ21405R	SW, CANCEL	
S807	EVQ21405R	SW, SYNCRO	
S808	EVQ21405R	SW, EQ MODE	
S809	EVQ21405R	SW, EQ ON/OFF	
S810	EVQ21405R	SW, SPECTRUM MODE	
S811	EVQ21405R	SW, S-XBS	
S820	EVQ21405R	SW, TAPE STOP	
S821	EVQ21405R	SW, TAPE REW	
S822	EVQ21405R	SW, TAPE REV PLAY	
S823	EVQ21405R	SW, TAPE FWD PLAY	
S824	EVQ21405R	SW, TAPE FF	
S825	EVQ21405R	SW, DECK 1/2	
S826	EVQ21405R	SW, REV MODE	
S827	EVQ21405R	SW, COUNTER RESET	
S828	EVQ21405R	SW, DOLBY NR	
S829	EVQ21405R	SW, REC PAUSE	
S830	EVQ21405R	SW, NORMAL EDIT	
S831	EVQ21405R	SW, HIGH EDIT	
S832	EVQ21405R	SW, CD STOP	
S833	EVQ21405R	SW, CD PLAY	
S834	EVQ21405R	SW, CD PAUSE	
S835	EVQ21405R	SW, FWD SKIP	
S836	EVQ21405R	SW, REV SKIP	
S837	EVQ21405R	SW, ATLS	
S838	EVQ21405R	SW, FM MODE/B. P.	
S839	EVQ21405R	SW, DISPLAY	
S840	EVQ21405R	SW, BEEP ON/OFF	
S841	EVQ21405R	SW, REC MODE	
S951	RSH1A89Z	SW, MODE DETECT	DECK 1

Ref. No.	Part No.	Part Name & Description	Remarks
S952	RSH1A90Z	SW, HALF	DECK 1
S953	RSH1A90Z	SW, ATS/CrO2	DECK 1
S971	RSH1A89Z	SW, MODE DETECT	DECK 2
S972	RSH1A90Z	SW, HALF	DECK 2
S973	RSH1A90Z	SW, R REC INT	DECK 2
S974	RSH1A90Z	SW, F REC INT	DECK 2
S975	RSH1A90Z	SW, ATS/CrO2	DECK 2
S976	RSH1A90Z	SW, ATS/Metal	DECK 2
		CONNECTOR	
CP1	SJTD613	CONNECTOR	
CP2	RJU005W007	SOCKET	
CP3	RJP2G4YA	PLUG	
CP301	RJP5G18ZA	PLUG	
CP302	SJTD413	CONNECTOR	
CP303	RJP7G17ZA	PLUG	
CP304	RJP10G17ZA	PLUG	
CP307	RJP8G18ZA	PLUG	
CP309	SJTD1013	CONNECTOR	
CP312	RJP2G17ZA	PLUG	
CP315	RJP2G17ZA	PLUG	
CP601	SJTD1013	CONNECTOR	
CP602	RJP12G18ZA	PLUG	
CP604	SJTD313	CONNECTOR	
CP701	RJP2G17ZA	PLUG	
CP702	RJP2G17ZA	PLUG	
CP703	RJP4G17ZA	PLUG	
CP803	RJP3G18ZA	PLUG	
CS701	RJU035T016-1	SOCKET	
CS702	RJS1A6723-1Q	CONNECTOR	
CP803	SJTD313	CONNECTOR	
CS801, 802	RJS21Q8ZA	SOCKET	
CS7021	RJS1A6823	SOCKET	
CS8011	RJS1A6821-Q	CONNECTOR	
CS8021	RJS1A6821-Q	CONNECTOR	
		TRIMMER	
CT1	RCV10AF1T-S	TRIMMER CAPACITOR	
		IC PROTECTOR	
IP601	RAHICPN20TA	IC PROTECTOR	
IP602	RAHICPN5TA	IC PROTECTOR	
		JACK(S)	
JK601	RJJ92M01-H	FM EXT	
JK603	RJS1D0608-M	SYSTEM	
JK604	RJJ33T01	AUX IN	
JK605	RJJ33T01	LINE OUT	
JK606	RJJ39T01	HEADPHONES	
JK607	RJJ1D25ZA-C	MIX MIC	

Notes : * Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R1	ERDS2TJ332	1/4W 3.3K
R2-4	ERDS2TJ222	1/4W 2.2K
R5-9	ERDS2TJ103	1/4W 10K
R11	ERDS2TJ472	1/4W 4.7K
R12	ERDS2TJ562	1/4W 5.6K
R13	ERDS2TJ683	1/4W 68K
R17, 18	ERDS2TJ471	1/4W 470
R19	ERDS2TJ155	1/4W 1.5M
R21	ERDS2TJ471	1/4W 470
R22	ERDS2TJ101	1/4W 100
R23	ERDS2TJ103	1/4W 10K
R24	ERDS2TJ104	1/4W 100K
R25	ERDS2TJ101	1/4W 100
R28	ERDS2TJ470	1/4W 47
R29	ERDS2TJ472	1/4W 4.7K
R30	ERDS2TJ332	1/4W 3.3K
R31	ERDS2TJ222	1/4W 2.2K
R32	ERDS2TJ473	1/4W 47K
R34	ERDS2TJ682T	1/4W 6.8K
R35	ERDS2TJ102	1/4W 1K
R36	ERDS2TJ332	1/4W 3.3K
R37	ERDS2TJ681	1/4W 680
R38	ERDS2TJ150T	1/4W 15
R40	ERDS2TJ150T	1/4W 15
R43	ERDS2TJ331	1/4W 330
R45	ERDS2TJ103	1/4W 10K
R46	ERDS2TJ102	1/4W 1K
R47, 48	ERDS2TJ222	1/4W 2.2K
R49	ERDS2TJ150T	1/4W 15
R50	ERDS2TJ221	1/4W 220
R97	ERDS2TJ472	1/4W 4.7K
R102	ERDS2TJ123	1/4W 12K
R103	ERDS2TJ122	1/4W 1.2K
R105	ERDS2TJ330	1/4W 33
R106	ERDS2TJ392T	1/4W 3.9K
R107	ERDS2TJ682T	1/4W 6.8K
R108	ERDS2TJ222	1/4W 2.2K
R109	ERDS2TJ104	1/4W 100K
R110	ERDS2TJ154	1/4W 150K
R111	ERDS2TJ473	1/4W 47K
R112	ERDS2TJ472	1/4W 4.7K
R113	ERDS2TJ332	1/4W 3.3K
R115	ERDS2TJ225	1/4W 2.2M
R116	ERDS2TJ105T	1/4W 1M
R118	ERDS2TJ272T	1/4W 2.7K
R119	ERDS2TJ103	1/4W 10K
R121	ERDS2TJ823T	1/4W 82K
R122	ERDS2TJ105T	1/4W 1M
R123	ERDS2TJ221	1/4W 220
R125	ERDS2TJ102	1/4W 1K
R126	ERDS2TJ222	1/4W 2.2K
R127	ERDS2TJ153	1/4W 15K
R128	ERDS2TJ104	1/4W 100K
R129	ERDS2TJ682T	1/4W 6.8K
R130	ERDS2TJ683	1/4W 68K
R131	ERDS2TJ105T	1/4W 1M
R132, 133	ERDS2TJ472	1/4W 4.7K
R202	ERDS2TJ123	1/4W 12K
R203	ERDS2TJ122	1/4W 1.2K
R205	ERDS2TJ330	1/4W 33
R206	ERDS2TJ392T	1/4W 3.9K
R207	ERDS2TJ682T	1/4W 6.8K
R208	ERDS2TJ222	1/4W 2.2K
R209	ERDS2TJ104	1/4W 100K
R210	ERDS2TJ154	1/4W 150K
R211	ERDS2TJ473	1/4W 47K
R212	ERDS2TJ472	1/4W 4.7K
R213	ERDS2TJ332	1/4W 3.3K
R215	ERDS2TJ225	1/4W 2.2M
R216	ERDS2TJ105T	1/4W 1M
R218	ERDS2TJ272T	1/4W 2.7K
R219	ERDS2TJ103	1/4W 10K
R221	ERDS2TJ823T	1/4W 82K
R222	ERDS2TJ105T	1/4W 1M
R223	ERDS2TJ221	1/4W 220
R225	ERDS2TJ102	1/4W 1K
R226	ERDS2TJ222	1/4W 2.2K
R227	ERDS2TJ153	1/4W 15K
R228	ERDS2TJ104	1/4W 100K
R229	ERDS2TJ682T	1/4W 6.8K
R230	ERDS2TJ683	1/4W 68K
R231	ERDS2TJ105T	1/4W 1M
R232, 233	ERDS2TJ472	1/4W 4.7K
R301	ERDS2TJ334	1/4W 330K
R302	ERDS2TJ102	1/4W 1K
R303	ERDS2TJ103	1/4W 10K
R304	ERDS2TJ473	1/4W 47K
R305	ERDS2TJ102	1/4W 1K
R306, 307	ERDS2TJ472	1/4W 4.7K
R308	ERDS2TJ822	1/4W 8.2K
R309	ERDS2TJ1R2	1/4W 1.2
R310	ERDS2TJ103	1/4W 10K
R311, 312	ERDS2TJ472	1/4W 4.7K
R313	ERDS2TJ332	1/4W 3.3K
R314	ERDS2TJ102	1/4W 1K
R315	ERDS2TJ221	1/4W 220
R316	ERDS2TJ1R2	1/4W 1.2
R317	ERDS2TJ333	1/4W 33K
R318	ERDS2TJ163T	1/4W 16K
R319	EROS2TKG5101	1/4W 5.1K
R320	ERDS2TJ334	1/4W 330K
R321	ERDS2TJ221	1/4W 220
R322	ERDS2TJ1R2	1/4W 1.2
R323	ERDS2TJ332	1/4W 3.3K
R324	ERDS2TJ123	1/4W 12K
R325	ERDS2TJ822	1/4W 8.2K
R326	EROS2TKG5101	1/4W 5.1K
R327	ERDS2TJ334	1/4W 330K
R328	ERDS2TJ123	1/4W 12K
R329	ERG1SJ470E	1W 47
R330	ERDS2TJ104	1/4W 100K
R331	ERDS2TJ332	1/4W 3.3K
R332	ERDS2TJ474	1/4W 470K
R333	ERDS2TJ472	1/4W 4.7K
R334	ERDS2TJ102	1/4W 1K
R335, 336	ERDS2TJ472	1/4W 4.7K
R337 ⚠	ERD2FCVJ4R7T	1/4W 4.7
R338	ERDS2TJ103	1/4W 10K
R339 ⚠	ERD2FCVJ4R7T	1/4W 4.7
R340	RRSA25J161TH	1/4W 160
R341	ERDS2TJ681	1/4W 680
R342	ERDS2TJ433	1/4W 43K
R343	ERDS2TJ103	1/4W 10K
R344	ERDS2TJ104	1/4W 100K
R345-349	ERDS2TJ472	1/4W 4.7K
R350	ERDS2TJ473	1/4W 47K
R351	ERDS2TJ472	1/4W 4.7K
R352, 353	ERDS2TJ473	1/4W 47K
R354	ERDS2TJ472	1/4W 4.7K
R355	ERDS2TJ473	1/4W 47K
R356	ERDS2TJ335T	1/4W 3.3M
R357	ERDS2TJ102	1/4W 1K
R358	ERDS2TJ472	1/4W 4.7K
R359	ERDS2TJ103	1/4W 10K
R360 ⚠	ERDS1FVJ680T	1/2W 68
R361, 362	ERDS2TJ104	1/4W 100K
R363	ERDS2TJ472	1/4W 4.7K
R364	ERDS2TJ104	1/4W 100K
R365	ERDS2TJ222	1/4W 2.2K
R366	ERDS2TJ102	1/4W 1K
R369	ERSB33J161U	1/4W 160
R401	ERDS2TJ563	1/4W 56K
R402	ERDS2TJ103	1/4W 10K
R403	ERDS2TJ124T	1/4W 120K

Ref. No.
R404
R405
R406
R407
R408, 409
R410
R411
R412
R413
R414
R416-421
R422
R423
R427
R428
R429, 430
R431
R432
R433
R434
R435
R437
R439
R440
R442
R443
R444
R445
R446
R447
R448
R449
R450, 451
R452
R453
R454
R501
R502
R503
R504
R505
R506
R507
R508, 509
R510
R511
R512
R513
R514
R516-521
R522
R523

Ref. No.	Part No.	Values & Remarks
R404	ERDS2TJ102	1/4W 1K
R405	ERDS2TJ104	1/4W 100K
R406	ERDS2TG152T	1/4W 1.5K
R407	ERDS2TG562T	1/4W 5.6K
R408, 409	ERDS2TJ393	1/4W 39K
R410	ERDS2TG222T	1/4W 2.2K
R411	ERDS2TG272T	1/4W 2.7K
R412	ERDS2TJ563	1/4W 56K
R413	ERDS2TJ153	1/4W 15K
R414	ERDS2TJ822	1/4W 8.2K
R416-421	ERDS2TJ474	1/4W 470K
R422	ERDS2TJ471	1/4W 470
R423	ERDS2TJ221	1/4W 220
R427	ERDS2TJ472	1/4W 4.7K
R428	ERDS2TJ471	1/4W 470
R429, 430	ERDS2TJ223	1/4W 22K
R431	ERDS2TJ103	1/4W 10K
R432	ERDS2TJ472	1/4W 4.7K
R433	ERDS2TJ393	1/4W 39K
R434	ERDS2TJ683	1/4W 68K
R435	ERDS2TJ103	1/4W 10K
R437	ERDS2TJ473	1/4W 47K
R439	ERDS2TJ4R7T	1/4W 4.7
R440	ERDS2TJ330	1/4W 33
R442	ERDS2TJ105T	1/4W 1M
R443	ERDS2TJ472	1/4W 4.7K
R444	ERDS2TJ682T	1/4W 6.8K
R445	ERDS2TG562T	1/4W 5.6K
R446	ERDS2TJ822	1/4W 8.2K
R447	ERDS2TJ332	1/4W 3.3K
R448	ERDS2TG122T	1/4W 1.2K
R449	ERDS2TJ474	1/4W 470K
R450, 451	ERDS2TJ472	1/4W 4.7K
R452	ERDS2TJ102	1/4W 1K
R453	ERDS2TJ472	1/4W 4.7K
R454	ERDS2TJ102	1/4W 1K
R501	ERDS2TJ563	1/4W 56K
R502	ERDS2TJ103	1/4W 10K
R503	ERDS2TJ124T	1/4W 120K
R504	ERDS2TJ102	1/4W 1K
R505	ERDS2TJ104	1/4W 100K
R506	ERDS2TG152T	1/4W 1.5K
R507	ERDS2TG562T	1/4W 5.6K
R508, 509	ERDS2TJ393	1/4W 39K
R510	ERDS2TG222T	1/4W 2.2K
R511	ERDS2TG272T	1/4W 2.7K
R512	ERDS2TJ563	1/4W 56K
R513	ERDS2TJ153	1/4W 15K
R514	ERDS2TJ822	1/4W 8.2K
R516-521	ERDS2TJ474	1/4W 470K
R522	ERDS2TJ471	1/4W 470
R523	ERDS2TJ221	1/4W 220

Ref. No.	Part No.	Values & Remarks
R527	ERDS2TJ472	1/4W 4.7K
R528	ERDS2TJ471	1/4W 470
R529, 530	ERDS2TJ223	1/4W 22K
R531	ERDS2TJ103	1/4W 10K
R532	ERDS2TJ472	1/4W 4.7K
R533	ERDS2TJ393	1/4W 39K
R534	ERDS2TJ683	1/4W 68K
R535	ERDS2TJ103	1/4W 10K
R537	ERDS2TJ473	1/4W 47K
R539	ERDS2TJ4R7T	1/4W 4.7
R540	ERDS2TJ330	1/4W 33
R542	ERDS2TJ105T	1/4W 1M
R543	ERDS2TJ472	1/4W 4.7K
R544	ERDS2TJ682T	1/4W 6.8K
R545	ERDS2TG562T	1/4W 5.6K
R546	ERDS2TJ822	1/4W 8.2K
R547	ERDS2TJ332	1/4W 3.3K
R548	ERDS2TG122T	1/4W 1.2K
R549	ERDS2TJ474	1/4W 470K
R550, 551	ERDS2TJ472	1/4W 4.7K
R552	ERDS2TJ102	1/4W 1K
R553	ERDS2TJ472	1/4W 4.7K
R554	ERDS2TJ102	1/4W 1K
R601	ERDS2TJ472	1/4W 4.7K
R602	ERDS2TJ1R5T	1/4W 1.5
R603	ERDS2TJ102	1/4W 1K
R604	ERDS2TG222T	1/4W 2.2K
R605, 606	ERDS2TJ102	1/4W 1K
R607, 608	ERDS2TG103T	1/4W 10K
R609	ERDS2TJ102	1/4W 1K
R610-614	ERDS2TJ103	1/4W 10K
R615	ERDS2TJ104	1/4W 100K
R616	ERDS2TJ103	1/4W 10K
R617, 618	ERDS2TJ104	1/4W 100K
R619-622	ERDS2TJ103	1/4W 10K
R623	ERDS2TJ104	1/4W 100K
R624	ERDS2TJ101	1/4W 100
R625	ERDS2TJ912T	1/4W 9.1K
R626	ERDS2TJ103	1/4W 10K
R627	ERDS2TJ393	1/4W 39K
R628, 629	ERDS2TJ472	1/4W 4.7K
R630	ERDS2TJ332	1/4W 3.3K
R631	ERDS2TJ104	1/4W 100K
R632	ERDS2TJ474	1/4W 470K
R633	ERDS2TJ104	1/4W 100K
R634	ERDS2TJ102	1/4W 1K
R635	ERDS2TJ101	1/4W 100
R636, 637	ERDS2TJ472	1/4W 4.7K
R638-641	ERDS2TJ103	1/4W 10K
R642	ERDS2TJ472	1/4W 4.7K
R643	ERD2FCVJ220T	1/4W 22
R644	ERDS2TJ180T	1/4W 18

Ref. No.	Part No.	Values & Remarks
R645	ERDS2TJ220T	1/4W 22
R646	ERDS2TJ561	1/4W 560
R647	ERDS2TJ474	1/4W 470K
R648	ERDS2TJ471	1/4W 470
R649	ERDS2TJ105T	1/4W 1M
R650	ERDS2TG222T	1/4W 2.2K
R651	ERDS2TJ472	1/4W 4.7K
R652	ERDS2TJ102	1/4W 1K
R653	ERDS2TJ101	1/4W 100
R654	ERDS2TJ104	1/4W 100K
R655	ERDS2TJ103	1/4W 10K
R656	ERDS2TG122T	1/4W 1.2K
R657	ERDS2TG152T	1/4W 1.5K
R658	ERDS2TG222T	1/4W 2.2K
R659	ERDS2TG272T	1/4W 2.7K
R660	ERDS2TG392T	1/4W 3.9K
R661	ERDS2TG562T	1/4W 5.6K
R662	ERDS2TG103T	1/4W 10K
R663	ERDS2TG183T	1/4W 18K
R664	ERDS2TJ104	1/4W 100K
R665	ERDS2TJ151	1/4W 150
R666	ERDS2TJ101	1/4W 100
R667	ERDS2TJ223	1/4W 22K
R669	ERDS2TJ103	1/4W 10K
R670	ERDS2TJ102	1/4W 1K
R671-673	ERDS2TJ104	1/4W 100K
R674	ERDS2TJ472	1/4W 4.7K
R675	ERDS2TJ331	1/4W 330
R676	ERDS2TJ105T	1/4W 1M
R677	ERDS2TJ330	1/4W 33
R678	ERDS2TG122T	1/4W 1.2K
R679	ERDS2TJ104	1/4W 100K
R680	ERDS2TJ221	1/4W 220
R701	ERJ6GEYJ100	1/10W 10
R702	ERJ6GEYJ471V	1/10W 470
R703	ERJ6GEYJ102V	1/10W 1K
R704	ERJ6GEYJ103V	1/10W 10K
R706	ERJ6GEYJ473V	1/10W 47K
R707	ERJ6GEYJ222V	1/10W 2.2K
R708	ERJ6GEYJ683V	1/10W 68K
R709	ERJ6GEYJ122V	1/10W 1.2K
R710	ERJ6GEYJ182V	1/10W 1.8K
R711	ERJ6GEYJ473V	1/10W 47K
R712	ERJ6GEYJ471V	1/10W 470
R714	ERJ6GEYJ473V	1/10W 47K
R715	ERJ6GEYJ223V	1/10W 22K
R716	ERJ6GEYJ104V	1/10W 100K
R717	ERJ6GEYJ682V	1/10W 6.8K
R718	ERJ6GEYJ223V	1/10W 22K
R719	ERJ6GEYJ123V	1/10W 12K
R720	ERJ6GEYJ273V	1/10W 27K
R721	ERJ6GEYJ823	1/10W 82K

Ref. No.	Part No.	Values & Remarks
R722	ERJ6GEYJ102V	1/10W 1K
R723	ERJ6GEYJ104V	1/10W 100K
R724	ERJ6GEYJ104V	1/10W 100K
R725	ERJ6GEYJ471V	1/10W 470
R726	ERJ6GEYJ102V	1/10W 1K
R729	ERJ6GEYJ102V	1/10W 1K
R730	ERJ6GEYJ102V	1/10W 1K
R731	ERJ8GEYJ470V	1/10W 47
R732	ERJ6GEYJ562V	1/10W 5.6K
R733	ERJ6GEYJ332V	1/10W 3.3K
R734	ERJ6GEYJ562V	1/10W 5.6K
R735	ERJ6GEYJ222V	1/10W 2.2K
R736	ERJ6GEYJ682V	1/10W 6.8K
R737	ERJ6GEYJ562V	1/10W 5.6K
R738	ERJ6GEYJ562V	1/10W 5.6K
R739	ERJ6GEYJ562V	1/10W 5.6K
R741	ERJ6GEYJ102V	1/10W 1K
R742	ERJ6GEYJ102V	1/10W 1K
R743	ERJ6GEYJ102V	1/10W 1K
R744	ERJ6GEYJ393V	1/10W 39K
R745	ERJ6GEYJ102V	1/10W 1K
R746	ERJ6GEYJ102V	1/10W 1K
R747	ERJ6GEYJ473V	1/10W 47K
R748	ERJ8GEYJ180V	1/8W 18
R749	ERJ6GEYJ101V	1/10W 100
R801, 802	ERDS2TG102T	1/4W 1K
R803	ERDS2TG122T	1/4W 1.2K
R804	ERDS2TG152T	1/4W 1.5K
R805	ERDS2TG222T	1/4W 2.2K
R806	ERDS2TG272T	1/4W 2.7K
R807	ERDS2TG392T	1/4W 3.9K
R808	ERDS2TG562T	1/4W 5.6K
R809	ERDS2TG103T	1/4W 10K
R810	ERDS2TG183T	1/4W 18K
R811	ERDS2TG563T	1/4W 56K
R812, 813	ERDS2TG102T	1/4W 1K
R814	ERDS2TG122T	1/4W 1.2K
R815	ERDS2TG152T	1/4W 1.5K
R816	ERDS2TG222T	1/4W 2.2K
R817	ERDS2TG272T	1/4W 2.7K
R818	ERDS2TG392T	1/4W 3.9K
R819	ERDS2TG562T	1/4W 5.6K
R820, 821	ERDS2TG103T	1/4W 10K
R822	ERDS2TG102T	1/4W 1K
R823	ERDS2TJ104	1/4W 100K
R824, 825	ERDS2TJ224T	1/4W 220K
R826	ERDS2TJ330	1/4W 33
R827-829	ERDS2TJ474	1/4W 470K
R830	ERDS2TJ472	1/4W 4.7K
R831	ERDS2TG102T	1/4W 1K
R832	ERDS2TJ104	1/4W 100K
R833, 834	ERDS2TJ224T	1/4W 220K

Ref. No.	Part No.	Values & Remarks
R835, 836	ERDS2TJ3R3T	1/4W 3.3
R837	ERDS2TJ104	1/4W 100K
R838	ERDS2TJ330	1/4W 33
R839	ERDS2TG272T	1/4W 2.7K
R840-843	ERDS2TJ104	1/4W 100K
R844	ERDS2TJ333	1/4W 33K
R845	ERDS2TJ104	1/4W 100K
R846	ERDS2TG222T	1/4W 2.2K
R847	ERDS2TJ104	1/4W 100K
R848	ERDS2TJ472	1/4W 4.7K
R849	ERDS2TJ330	1/4W 33
R850	ERDS2TJ3R3T	1/4W 3.3
R851	ERDS2TG103T	1/4W 10K
R852, 853	ERDS2TG102T	1/4W 1K
R854	ERDS2TG122T	1/4W 1.2K
R855	ERDS2TG152T	1/4W 1.5K
R856	ERDS2TG222T	1/4W 2.2K
R857	ERDS2TG272T	1/4W 2.7K
R858	ERDS2TG392T	1/4W 3.9K
R859	ERDS2TG103T	1/4W 10K
R860, 861	ERDS2TG102T	1/4W 1K
R862	ERDS2TJ472	1/4W 4.7K
R863	ERDS2TJ3R3T	1/4W 3.3
R864	ERDS2TJ472	1/4W 4.7K
R865	ERDS2TG103T	1/4W 10K
R866	ERDS2TJ823T	1/4W 82K
R867	ERDS2TJ104	1/4W 100K
R868	ERDS2TJ823T	1/4W 82K
R869	ERDS2TG102T	1/4W 1K
R870	ERDS2TJ105T	1/4W 1M
R871	ERDS2TJ106T	1/4W 10M
R872	ERDS2TJ224T	1/4W 220K
R873	ERDS2TJ104	1/4W 100K
R874	ERDS2TG103T	1/4W 10K
R875	ERDS2TJ223	1/4W 22K
R876	ERDS2TG103T	1/4W 10K
R877, 878	ERDS2TJ474	1/4W 470K
R879, 880	ERDS2TG222T	1/4W 2.2K
R881	ERDS2TG102T	1/4W 1K
R882-884	ERDS2TG103T	1/4W 10K
R885, 886	ERDS2TJ3R3T	1/4W 3.3
R887	ERDS2TG102T	1/4W 1K
R888, 889	ERDS2TJ104	1/4W 100K
R890	ERDS2TG103T	1/4W 10K
R891	ERDS2TJ821	1/4W 820
R892	ERDS2TG103T	1/4W 10K
R893, 894	ERDS2TJ274	1/4W 270K
R895	ERDS2TJ223	1/4W 22K
R896	ERDS2TJ473	1/4W 47K
R897, 898	ERDS2TJ104	1/4W 100K
R899	ERDS2TJ105T	1/4W 1M

Ref. No.	Part No.	Values & Remarks
		CHIP JUMPER
RJ701	ERJ6GEY0R00V	1/10W 0
RJ703	ERJ6GEY0R00V	1/10W 0
RJ704	ERJ6GEY0R00V	1/10W 0
RJ705	ERJ6GEY0R00V	1/10W 0
RJ706	ERJ6GEY0R00V	1/10W 0
RJ707	ERJ6GEY0R00V	1/10W 0
RJ708	ERJ6GEY0R00V	1/10W 0
RJ709	ERJ6GEY0R00V	1/10W 0
RJ710	ERJ6GEY0R00V	1/10W 0
		CAPACITORS
C2	ECQM1H224JZ	50V 0.22U
C4	ECBT1H300J5	50V 30P
C5	ECBT1H270J5	50V 27P
C6	ECBT1H102KB5	50V 1000P
C7	ECEA1AKA101B	10V 100U
C8	ECQV1H105JZ3	50V 1U
C9	ECBT1H102KB5	50V 1000P
C10	ECBT1C103MS5	16V 0.01U
C14	ECBT1C103MS5	16V 0.01U
C15	ECQM1H224JZ	50V 0.22U
C16	ECEA1CKA100B	16V 10U
C17	ECFR1C223MR	16V 0.022U
C18	ECBT1H101KB5	50V 100P
C20	ECFR1C223MR	16V 0.022U
C21	ECBT1H331KB5	50V 330P
C22	ECEA1CKA100B	16V 10U
C24	ECFR1C223MR	16V 0.022U
C25	ECBT1C103MS5	16V 0.01U
C26	ECEA1AKA101B	10V 100U
C27	ECBT1C103MS5	16V 0.01U
C28	ECFR1C153MR	16V 0.015U
C29	ECFR1C223MR	16V 0.022U
C30	ECEA1EKA4R7B	25V 4.7U
C31	ECQG1H102KZT	50V 1000P
C32	ECEA1HKAR47B	50V 0.47U
C33	ECEA1HKAR33B	50V 0.33U
C34	ECEA1HKA010B	50V 1U
C36	ECBT1C103MS5	16V 0.01U
C37	ECEA1CKA100B	16V 10U
C38	ECEA1AU101	10V 100U
C48, 49	ECFR1C473MR	16V 0.047U
C50	ECBT1C103MS5	16V 0.01U
C51	ECEA1AU101	10V 100U
C52	ECEA1HKA010B	50V 1U
C53	ECBT1H102KB5	50V 1000P
C55	ECBT1H151KB5	50V 150P
C56	ECBT1C152MR5	16V 1500P
C57	ECBT1C103MS5	16V 0.01U

Ref. No.	Part No.	Values & Remarks
C58	ECEA1AKA101B	10V 100U
C62	ECBT1H102KB5	50V 1000P
C66	ECBT1H102KB5	50V 1000P
C67	ECBT1H471KB5	50V 470P
C70, 71	ECBT1H102KB5	50V 1000P
C96, 97	ECEA1EKA4R7B	25V 4.7U
C101	ECBT1H102KB5	50V 1000P
C104	ECFR1C333JR	16V 0.033U
C105, 106	ECBT1H471KB5	50V 470P
C107	ECFR1C183KR	16V 0.018U
C108	ECEA1HKA010B	50V 1U
C109	ECEA1EKA4R7B	25V 4.7U
C110	ECEA1HKA010B	50V 1U
C111	ECBT1H102KB5	50V 1000P
C112	ECFR1C473MR	16V 0.047U
C113	ECEA1HKA010B	50V 1U
C115	ECBT1H151KB5	50V 150P
C116	ECBT1H221KB5	50V 220P
C117	ECEA1EKA4R7B	25V 4.7U
C118	ECBT1H102KB5	50V 1000P
C119	ECBT1C332KR5	16V 3300P
C120	ECEA1HKA010B	50V 1U
C121	ECBT1H331KB5	50V 330P
C122	ECEA1EKA4R7B	25V 4.7U
C123	ECBA1H681KB5	50V 680P
C124	ECEA0GKS221B	4V 220U
C125	ECBT1C682KR5	16V 6800P
C126	ECEA1HKA010B	50V 1U
C127	ECEA1EKA4R7B	25V 4.7U
C128	ECEA1HFSR68T	50V 0.68U
C129	ECEA1EKA4R7B	25V 4.7U
C136	ECEA1HKA010B	50V 1U
C137	ECEA1EKA4R7B	25V 4.7U
C201	ECBT1H102KB5	50V 1000P
C204	ECFR1C333JR	16V 0.033U
C205, 206	ECBT1H471KB5	50V 470P
C207	ECFR1C183KR	16V 0.018U
C208	ECEA1HKA010B	50V 1U
C209	ECEA1EKA4R7B	25V 4.7U
C210	ECEA1HKA010B	50V 1U
C211	ECBT1H102KB5	50V 1000P
C212	ECFR1C473MR	16V 0.047U
C213	ECEA1HKA010B	50V 1U
C215	ECBT1H151KB5	50V 150P
C216	ECBT1H221KB5	50V 220P
C217	ECEA1EKA4R7B	25V 4.7U
C218	ECBT1H102KB5	50V 1000P
C219	ECBT1C332KR5	16V 3300P
C220	ECEA1HKA010B	50V 1U
C221	ECBT1H331KB5	50V 330P
C222	ECEA1EKA4R7B	25V 4.7U
C223	ECBA1H681KB5	50V 680P

Ref. No.	Part No.	Values & Remarks
C224	ECEA0GKS221B	4V 220U
C225	ECBT1C682KR5	16V 6800P
C226	ECEA1HKA010B	50V 1U
C227	ECEA1EKA4R7B	25V 4.7U
C228	ECEA1HFSR68T	50V 0.68U
C229	ECEA1EKA4R7B	25V 4.7U
C236	ECEA1HKA010B	50V 1U
C237	ECEA1EKA4R7B	25V 4.7U
C301	ECBT1C103MS5	16V 0.01U
C302	ECEA1HKNR47B	50V 0.47U
C303	ECQP2A182JZT	100V 1800P
C306	ECQP2E472JZT	250V 4700P
C307	ECEA1HKA010B	50V 1U
C308	ECQV1H473JZ3	50V 0.047U
C309	ECEA1AU101	10V 100U
C310, 311	ECBT1H102KB5	50V 1000P
C312, 313	ECBT1C103MS5	16V 0.01U
C315	ECEA1AKA330B	10V 33U
C316	ECEA1AU101	10V 100U
C317	ECBT1H471KB5	50V 470P
C318	ECEA1CKA100B	16V 10U
C319	ECEA1HKA0R1B	50V 0.1U
C320	ECFR1C223MR	16V 0.022U
C321	ECEA1HKA010B	50V 1U
C322	ECBT1H471KB5	50V 470P
C323	ECBT1C103MS5	16V 0.01U
C324	ECBT1H471KB5	50V 470P
C325	ECEA1AKS330B	10V 33U
C326	ECEA1AU101	10V 100U
C327	ECEA0JU221	6.3V 220U
C328	ECFR1C223MR	16V 0.022U
C329	ECEA0GKS221B	4V 220U
C330	ECEA0JKA470B	6.3V 47U
C331	ECBT1H471KB5	50V 470P
C332	ECFR1C223MR	16V 0.022U
C333, 334	ECEA1EKA4R7B	25V 4.7U
C335, 336	ECEA1CKA101B	16V 100U
C337	ECEA1AKA330B	10V 33U
C338	ECEA1CKA101B	16V 100U
C401	ECEA1EKA4R7B	25V 4.7U
C402	ECEA1CKA100B	16V 10U
C403	ECBT1H471KB5	50V 470P
C405	ECEA1HKA2R2B	50V 2.2U
C406	ECBT1C103MS5	16V 0.01U
C407	ECEA1HKA3R3B	50V 3.3U
C408	ECBT1H102KB5	50V 1000P
C409	ECFR1C223MR	16V 0.022U
C410	ECBT1C152MR5	16V 1500P
C411	ECFR1C683MR	16V 0.068U
C412	ECBT1C562MR5	16V 5600P
C413	ECEA1HKNR22B	50V 0.22U
C414	ECFR1C153MR	16V 0.015U

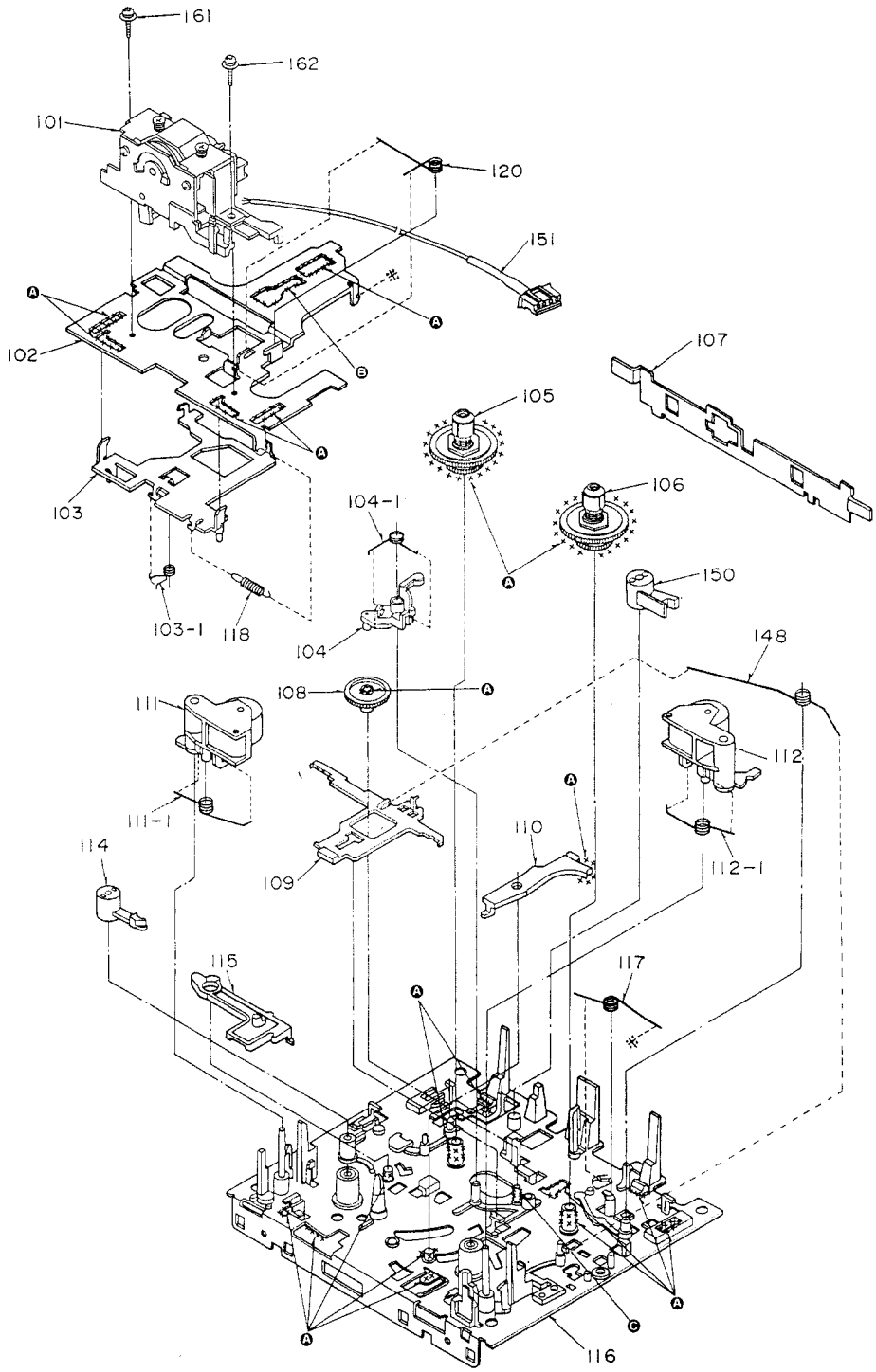
Ref. No.	Part No.	Values & Remarks
C415	ECEA1HKNR33B	50V 0.33U
C416	ECFR1C683MR	16V 0.068U
C417	ECEA1HKN010B	50V 1U
C418	ECEA1HKA0R1B	50V 0.1U
C419	ECBT1H102KB5	50V 1000P
C420	ECEA1HKA010B	50V 1U
C423	ECEA1HKA2R2B	50V 2.2U
C424	ECEA1HKA0R1B	50V 0.1U
C425	ECEA0GKA101B	4V 100U
C426	ECEA1HKA0R1B	50V 0.1U
C427	ECBT1H471KB5	50V 470P
C428	ECEA1HKA010B	50V 1U
C429	ECEA1HKA0R1B	50V 0.1U
C430	ECBT1H101KB5	50V 100P
C431	ECEA1HKA010B	50V 1U
C432	ECBT1H471KB5	50V 470P
C433	ECEA1EKA4R7B	25V 4.7U
C501	ECEA1EKA4R7B	25V 4.7U
C502	ECEA1CKA100B	16V 10U
C503	ECBT1H471KB5	50V 470P
C505	ECEA1HKA2R2B	50V 2.2U
C506	ECBT1C103MS5	16V 0.01U
C507	ECEA1HKA3R3B	50V 3.3U
C508	ECBT1H102KB5	50V 1000P
C509	ECFR1C223MR	16V 0.022U
C510	ECBT1C152MR5	16V 1500P
C511	ECFR1C683MR	16V 0.068U
C512	ECBT1C562MR5	16V 5600P
C513	ECEA1HKNR22B	50V 0.22U
C514	ECFR1C153MR	16V 0.015U
C515	ECEA1HKNR33B	50V 0.33U
C516	ECFR1C683MR	16V 0.068U
C517	ECEA1HKN010B	50V 1U
C518	ECEA1HKA0R1B	50V 0.1U
C519	ECBT1H102KB5	50V 1000P
C520	ECEA1HKA010B	50V 1U
C523	ECEA1HKA2R2B	50V 2.2U
C524	ECEA1HKA0R1B	50V 0.1U
C525	ECEA0GKA101B	4V 100U
C526	ECEA1HKA0R1B	50V 0.1U
C527	ECBT1H471KB5	50V 470P
C528	ECEA1HKA010B	50V 1U
C529	ECEA1HKA0R1B	50V 0.1U
C530	ECBT1H101KB5	50V 100P
C531	ECEA1HKA010B	50V 1U
C532	ECBT1H471KB5	50V 470P
C533	ECEA1EKA4R7B	25V 4.7U
C601	ECEA1EKA4R7B	25V 4.7U
C602, 603	ECEA1CKA100B	16V 10U
C604	ECEA1AU101	10V 100U
C605	ECEA0JU101B	6.3V 100U
C606	ECEA1HKA010B	50V 1U

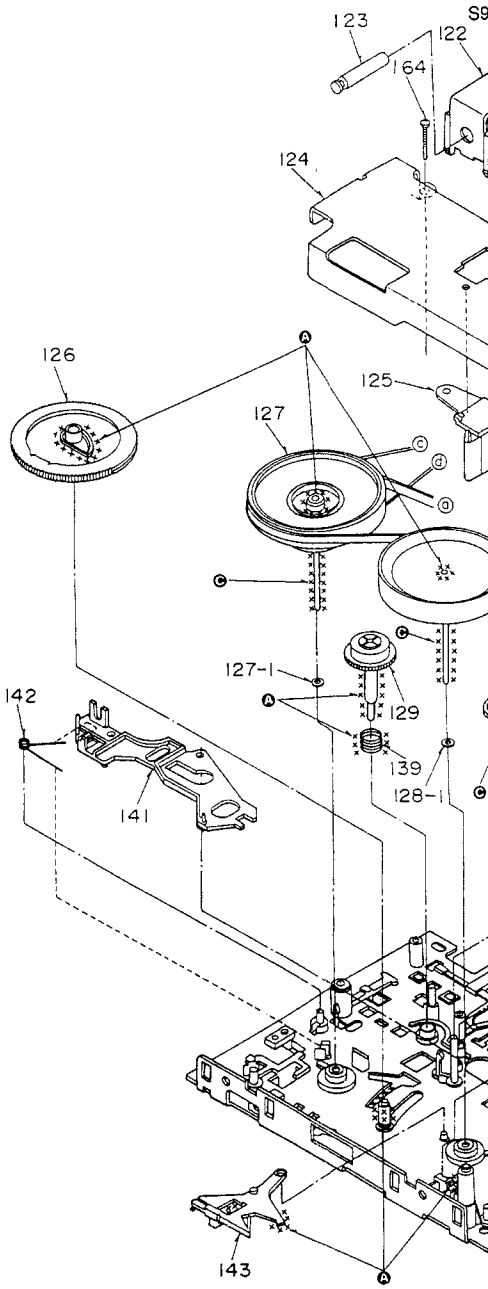
Ref. No.	
C607, 608	EC
C609	EC
C610	EC
C611	EC
C612	EC
C613	EC
C614	EC
C615	EC
C616	EC
C617, 618	EC
C619	EC
C620	EC
C621	EC
C622	EC
C623	EC
C624	EC
C626	EC
C627	EC
C628	EC
C629	EC
C630	EC
C631	EC
C632, 633	EC
C634	EC
C635	EC
C636, 637	EC
C638	EC
C639	EC
C701	EC
C702	EC
C703	EC
C709	EC
C710	EC
C711	EC
C713	EC
C714	EC
C715	EC
C716	EC
C717	EC
C718	EC
C719	EC
C720	EC
C721	EC
C722	EC
C723	EC
C724	EC
C725	EC
C726	EC
C727	EC
C728	EC
C729	EC
C730	EC

Ref. No.	Part No.	Values & Remarks
C607, 608	ECBT1H471KB5	50V 470P
C609	ECBA1H681KB5	50V 680P
C610	ECBT1H561KB5	50V 560P
C611	ECBA1H681KB5	50V 680P
C612	ECEA0JU221	6.3V 220U
C613	ECEA1AKA101B	10V 100U
C614	ECEA1HKA2R2B	50V 2.2U
C615	ECEA1CSS221B	16V 220U
C616	ECEA0JKA470B	6.3V 47U
C617, 618	ECEA1AKA101B	10V 100U
C619	ECEA1HKA010B	50V 1U
C620	ECEA1CKA100B	16V 10U
C621	ECEA1AKA101B	10V 100U
C622	ECBT1H471KB5	50V 470P
C623	ECEA1EKA4R7B	25V 4.7U
C624	ECEA1AKA101B	10V 100U
C626	ECEA1CSS102X	16V 1000U
C627	ECBT1H471KB5	50V 470P
C628	ECEA0JKA101B	6.3V 100U
C629	ECBT1H471KB5	50V 470P
C630	ECBT1H330J5	50V 33P
C631	ECBT1H102KB5	50V 1000P
C632, 633	ECBT1C103MS5	16V 0.01U
C634	ECBT1H471KB5	50V 470P
C635	ECEA1HKA010B	50V 1U
C636, 637	ECEA1EKA4R7B	25V 4.7U
C638	ECEA1AKA220B	10V 22U
C639	ECBT1H331KB5	50V 330P
C701	ECEA0JKA220	6.3V 22U
C702	ECEA0JKS470	6.3V 47U
C703	ECEA0JKS101I	6.3V 100U
C709	ECUV1C224KBM	16V 0.22U
C710	ECUV1C104MBM	16V 0.1U
C711	ECUE1E103MBN	25V 0.01U
C713	ECEA1CSN4R7I	16V 4.7U
C714	ECEA1HKS010	50V 1U
C715	ECUE1H472KBN	50V 4700P
C716	ECUE1C473KBN	16V 0.047U
C717	ECUE1H681KBN	50V 680P
C718	ECEA1AKS101I	10V 100U
C719	ECUE1E103MBN	25V 0.01U
C720	ECUE1E153MBN	25V 0.015U
C721	ECUE1E103MBN	25V 0.01U
C722	ECEA0JKS470	6.3V 47U
C723	ECUV1C104MBM	16V 0.1U
C724	ECUV1E333MBN	25V 0.033U
C725	ECUE1E103MBN	25V 0.01U
C726	ECUE1H471KBN	50V 470P
C727	ECEA0JKS470	6.3V 47U
C728	ECUV1C104MBM	16V 0.1U
C729	ECUV1C104MBM	16V 0.1U
C730	ECUV1C224KBM	16V 0.22U
C731	ECEA0JKS331I	6.3V 330U
C732	ECUE1H102MBN	50V 1000P
C733	ECEA0JKS101I	4V 100U
C734	ECUE1E223MBN	25V 0.022U
C735	ECUV1C224KBM	16V 0.22U
C737	ECUV1C224KBM	16V 0.22U
C738	ECEA0JKS101I	6.3V 100U
C739	ECUE1E103MBN	25V 0.01U
C740	ECUE1H472MBN	50V 4700P
C741	ECUV1C224KBM	16V 0.22U
C742	ECUV1C104MBM	16V 0.1U
C743	ECEA0JKS331I	6.3V 330U
C744	ECUE1H102KBN	50V 1000P
C745	ECUE1H102KBN	50V 1000P
C746	ECEA0JKS101I	6.3V 100U
C747	ECUV1C104MBM	16V 0.1U
C748	ECEA1HKS010	50V 1U
C749	ECUE1E103MBN	25V 0.01U
C750	ECUE1H050DCN	50V 5P
C751	ECUV1C224KBM	16V 0.22U
C752	ECUV1C104MBM	16V 0.1U
C753	ECEA1HKS010	50V 1U
C754	ECEA1HKS010	50V 1U
C755	ECUV1C104MBM	16V 0.1U
C756	ECUE1H050DCN	50V 5P
C757	ECUE1H050DCN	50V 5P
C758	ECUV1C224KBM	16V 0.22U
C763	ECUE1E103MBN	25V 0.01U
C764	ECUE1H331KBN	50V 330P
C801, 802	ECBT1H561KB5	50V 560P
C803	RCBS1H102KBY	50V 1000P
C804	ECEA0JKS101I	6.3V 100U
C805, 806	ECBT1H101KB5	50V 100P
C807, 808	ECBT1C103MS5	16V 0.01U
C809	ECBT1H150JC5	50V 15P
C810	ECBT1H200JC5	50V 20P
C811	ECEA0JKS470	6.3V 47U
C813	ECEA1EKS4R7I	25V 4.7U
C814	ECEA1HKS010	50V 1U
C815	ECEA0JKA220	6.3V 22U
C816-818	ECEA0JKS101I	6.3V 100U
C819	ECEA1HKS010	50V 1U
C820	ECBT1C222MR5	16V 2200P
C821	ECBT1C332MR5	16V 3300P
C822	RCBS1H102KBY	50V 1000P
C823, 824	ECBT1H680J5	50V 68P
C825	ECBT1H151KB5	50V 150P
C826	ECEA0JKS101I	6.3V 100U
C827, 828	RCBS1H102KBY	50V 1000P
C829	ECBT1H470J5	50V 47P
C830	ECBT1C103MS5	16V 0.01U
C831	ECBT1H101KB5	50V 100P
C838, 839	RCBS1H102KBY	50V 1000P
C840-842	ECBT1C103MS5	16V 0.01U
C845	ECBT1C103MS5	16V 0.01U
C846, 847	ECBT1H300J5	50V 30P
C850, 851	ECBT1H561KB5	50V 560P
C854	ECBT1H820KB5	50V 82P
C855-861	RCBS1H102KBY	50V 1000P
C951	ECBT1H101KB5	50V 100P
C971	ECBT1H101KB5	50V 100P

■ MECHANISM PARTS LOCATION

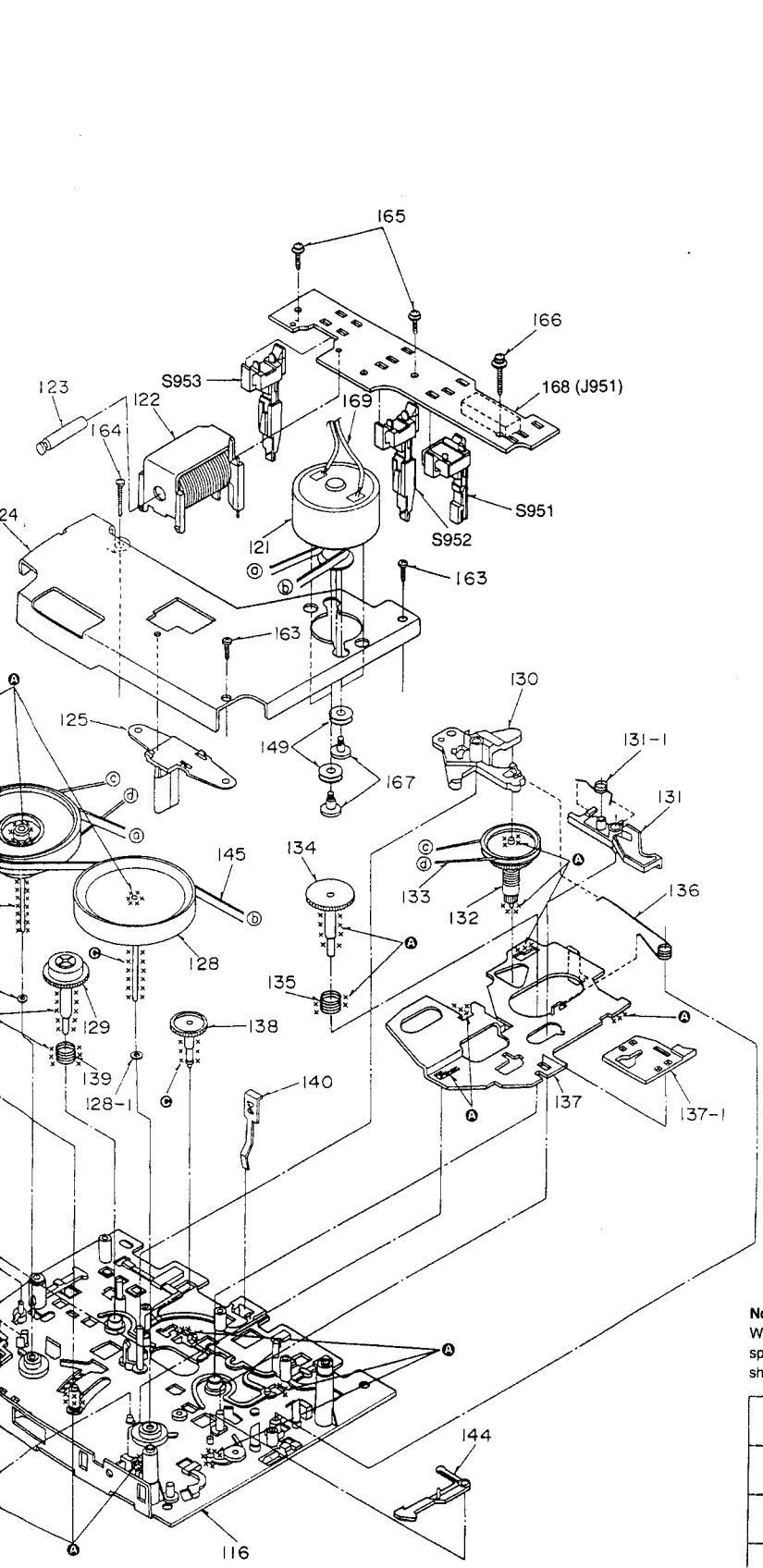
DECK1
(PLAYBACK)

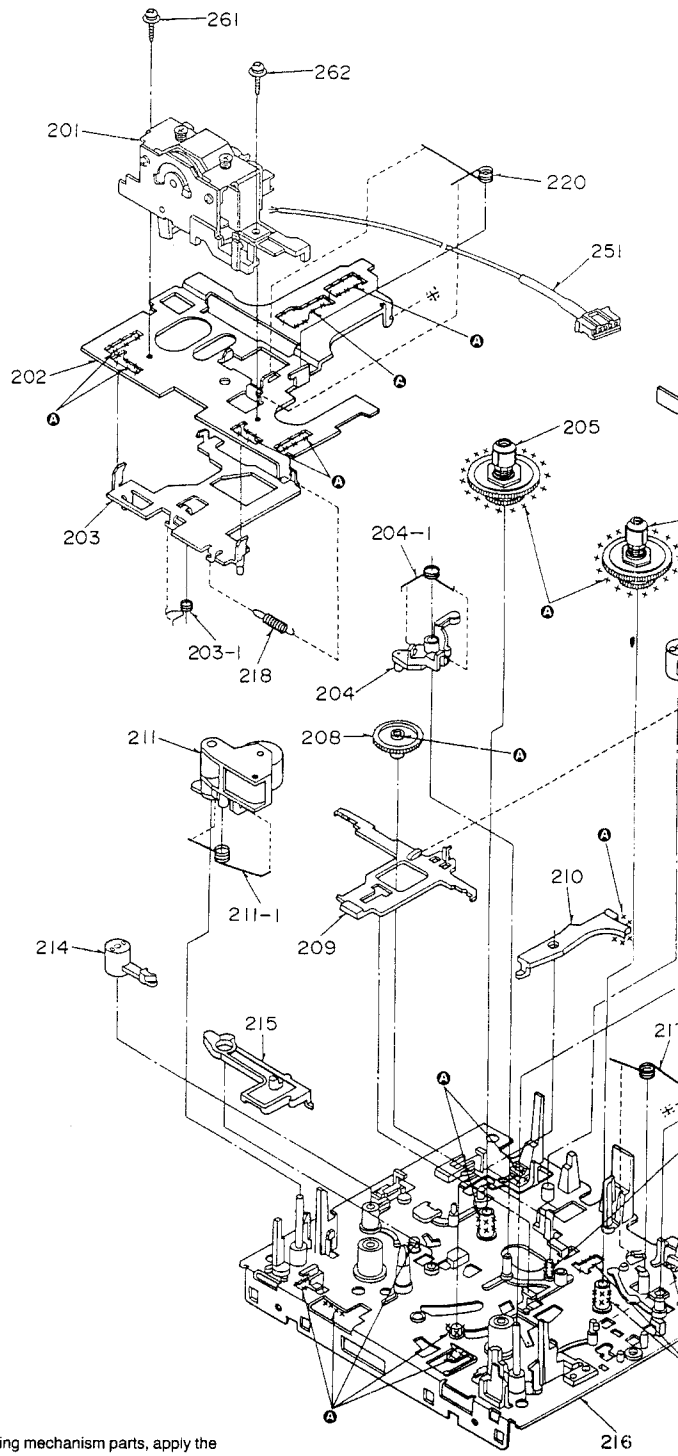




5 6 7 8 9 10

DECK2
(RECORD/PLAYBACK)



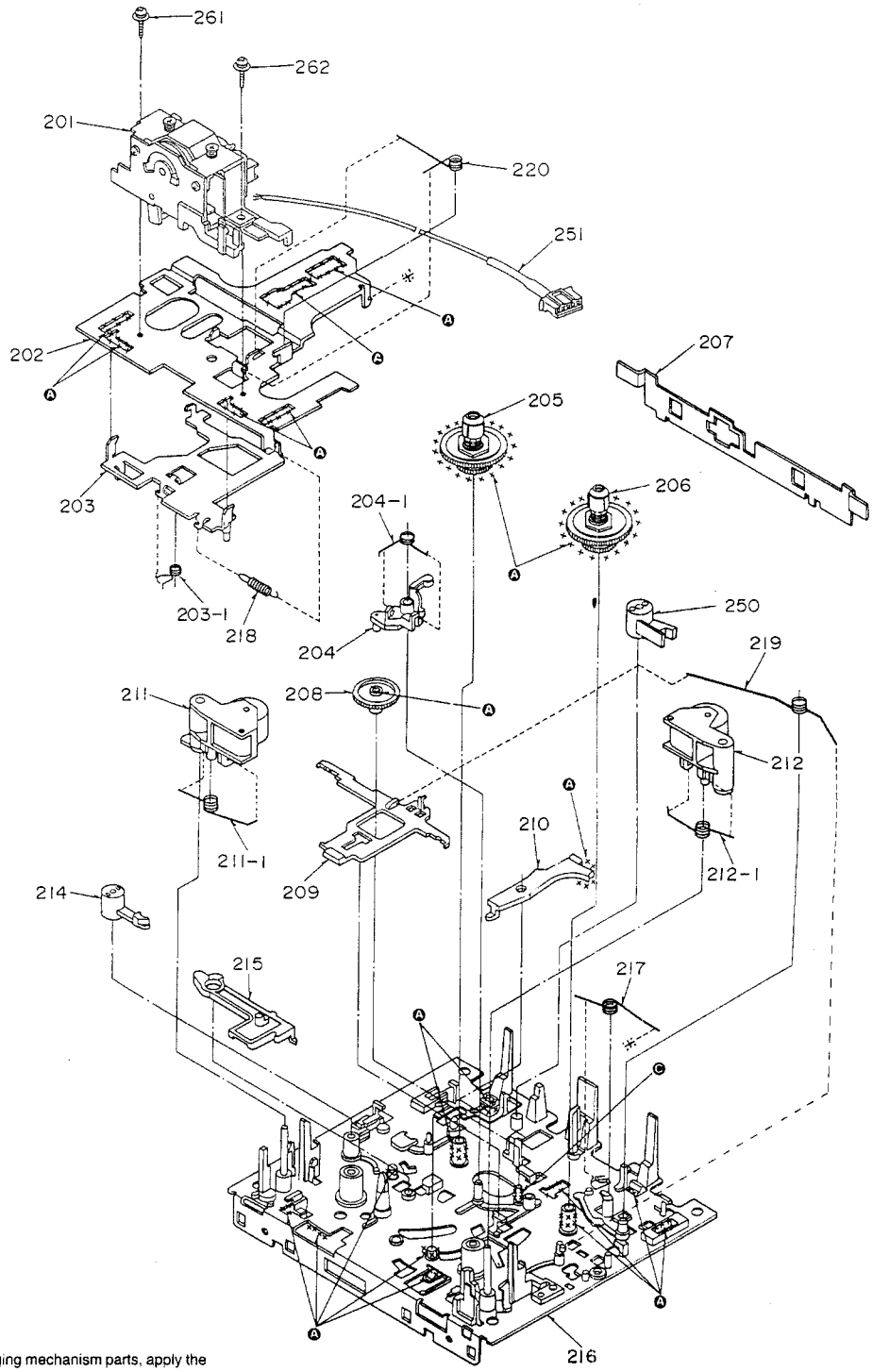


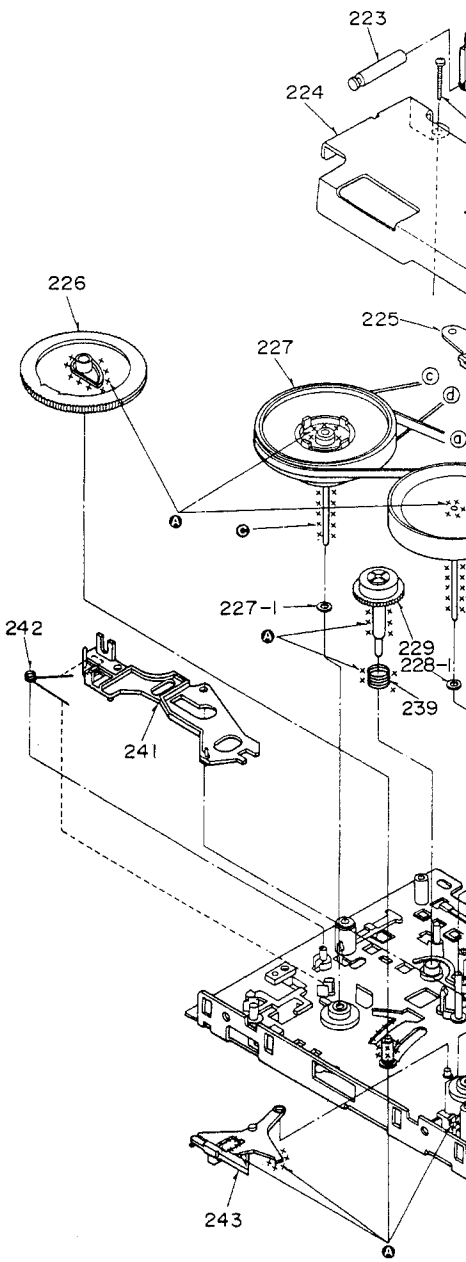
Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Mark	Part No.
Ⓐ	SZZOL18
Ⓑ	SZZOL05
Ⓒ	RZZOL02

8 9 10 11 12

DECK2
(RECORD/PLAYBACK)

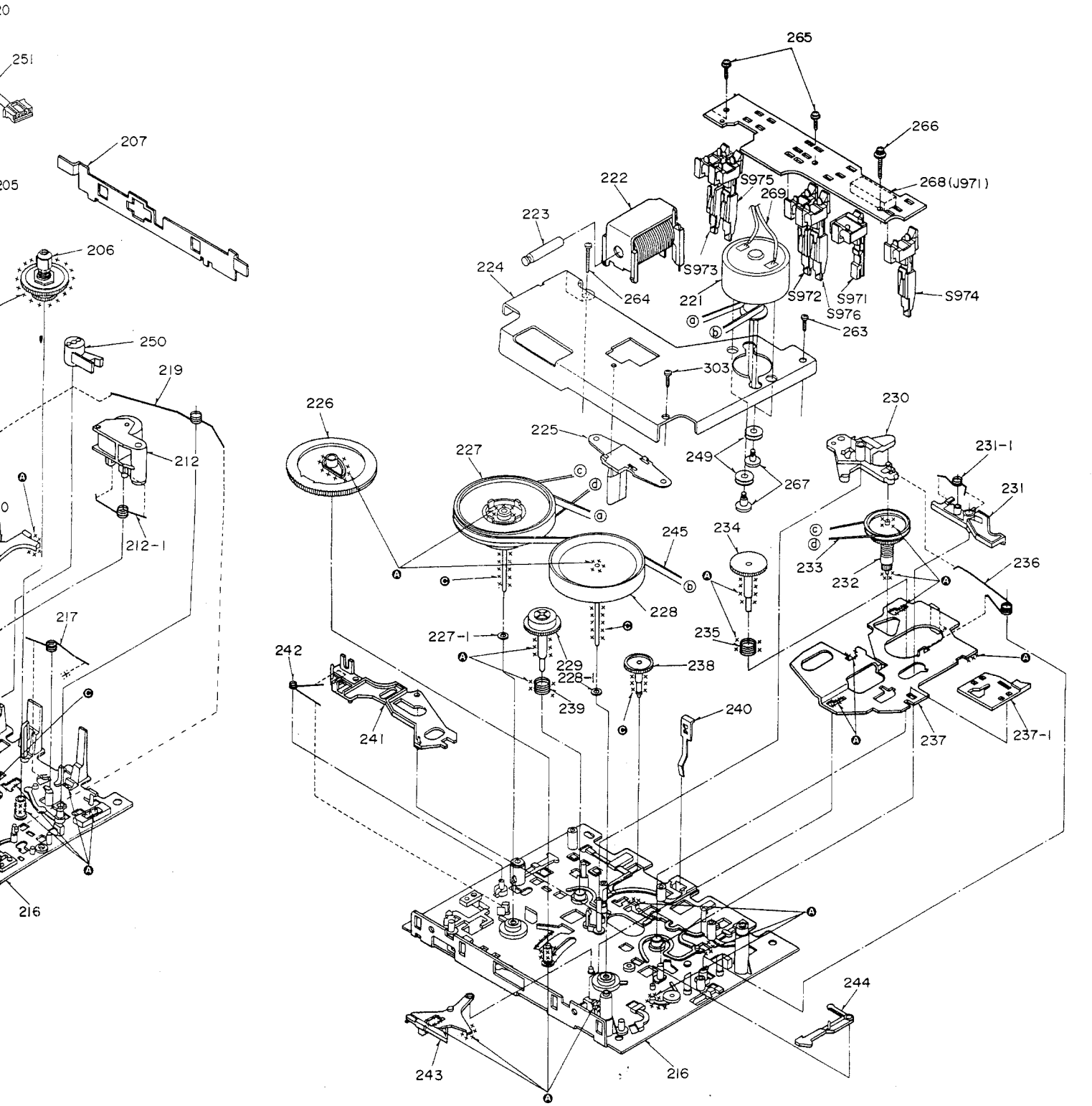




Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Mark	Part No.
Ⓐ	SZZOL18
Ⓑ	SZZOL05
Ⓒ	RZZOL02

10 | 11 | 12 | 13 | 14


265
266
268(J971)
222
S975
269
223
224
S973
264
221
S972
S971
S976
S974
263
303
226
225
227
249
267
230
231-1
231
245
234
233
232
236
228
227-1
235
229
228-1
238
239
242
240
241
237
237-1
244
243
216
251
207
206
250
219
212
212-1
217
216

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS	
		DECK1 (P. B)	
101	RXQ0051	HEAD ASS' Y (P. B)	
102	RUA793Z	CHASSIS	
103	RZLAR300	LEVER ASS' Y	
103-1	RUW143Z	SPRING	
104	1UB0089ZA	ARM	
104-1	RUW148ZA	SPRING	
105	1DM0018ZB	REEL TABLE ASS' Y	
106	1DM0017ZB	REEL TABLE ASS' Y	
107	RUB502Z	LEVER	
108	RDG5772Z	GEAR	
109	RUB508ZA	LEVER	
110	RUB506Z	LEVER	
111	1UB0088ZB	PINCH ROLLER	
111-1	RUW141Z	SPRING	
112	1UB0087ZB	PINCH ROLLER	
112-1	RUW140Z	SPRING	
114	RNL1Z	ARM	
115	RUB503Z	LEVER	
116	RFKRRSCH9N	CHASSIS ASS' Y	
117	RUW142ZA	SPRING	
118	RUD105Z	SPRING	
120	RUW139ZA	SPRING	
121	RFKPRAA0344	MOTOR ASS' Y	
122	1UE0015ZA	RLUNGER	
123	RUB428Z	SHAFT	
124	RMA0101	PLATE	
125	RMD5014ZB	SPACER	
126	RDG5927ZG	GEAR	
127	1DW0037ZB	FLYWHEEL ASS' Y	
127-1	RNW139Z	WASHER	
128	1DW0038ZB	FLYWHEEL ASS' Y	
128-1	RNW138Z	WASHER	
129	1DG0006ZB	GEAR ASS' Y	
130	RUB513Z	LEVER	
131	1UB0091Z	LEVER	
131-1	RUW146ZA	SPRING	
132	1DR0011ZB	PULLEY ASS' Y	
133	RDV90ZB	BELT	
134	RDG5769ZA	GEAR	
135	RUQ111ZB	SPRING	
136	RUW145ZA	SPRING	
137	1UB0090ZA	ROD	
137A	RUB512ZB	ROD	
138	RDG5773ZB	GEAR	
139	RUQ112ZA	SPRING	
140	RUS609ZC	SPRING	
141	RUB514ZC	LEVER	
142	RUW147ZA	SPRING	
143	RUB515Z	LEVER	
144	RUB509ZA	LEVER	
145	RDV108ZA	BELT	
148	RUW144ZA	SPRING	
149	RHG3032ZA	RUBBER	
150	RNL180ZB	LEVER	
151	REX0158	CABLE ASS' Y	
161	XTW2+6L	SCREW	
162	XTW2+8L	SCREW	
163	XTN26+7J	SCREW	
164	RHE5203ZA	SCREW	
165	XTW2+8S	SCREW	
166	XYC2+JF16	SCREW	
167	RHD26002	SCREW	
168	RJS7T7ZA	CONNECTOR (J951)	
169	REX0372	CABLE ASS' Y	
		DECK2 (R/P)	
201	RXQ0007	HEAD ASS' Y (R/P)	
202	RUA793Z	CHASSIS	
203	RZLAR300	LEVER ASS' Y	
203-1	RUW143Z	SPRING	
204	1UB0089ZA	ARM	
204-1	RUW148ZA	SPRING	
205	1DM0018ZB	REEL TABLE ASS' Y	
206	1DM0017ZB	REEL TABLE ASS' Y	
207	RUB502Z	LEVER	
208	RDG5772Z	GEAR	
209	RUB508ZA	LEVER	
210	RUB506Z	LEVER	
211	1UB0088ZB	PINCH ROLLER	
211-1	RUW141Z	SPRING	
212	1UB0087ZB	PINCH ROLLER	
212-1	RUW140Z	SPRING	
214	RNL1Z	ARM	
215	RUB503Z	LEVER	
216	RFKRRSCH9N	CHASSIS ASS' Y	
217	RUW142ZA	SPRING	
218	RUD105Z	SPRING	
219	RUW144ZA	SPRING	
220	RUW139ZA	SPRING	
221	RFKPRAA0345	MOTOR ASS' Y	
222	1UE0015ZA	PLUNGER	
223	RUB428Z	SHAFT	
224	RMA0101	PLATE	
225	RMD5014ZB	SPACER	
226	RDG5927ZG	GEAR	
227	1DW0037ZB	FLYWHEEL ASS' Y	
227-1	RNW139Z	WASHER	
228	1DW0038ZB	FLYWHEEL ASS' Y	
228-1	RNW138Z	WASHER	

Re
229
230
231
231-1
232
233
234
235
236
237
237-1
238
239
240
241
242
243
244
245
249
250
251
261
262
263
264
265
266
267
268
269

Ref. No.	Part No.	Part Name & Description	Remarks
229	1DG0006ZB	GEAR ASS'Y	
230	RUB513Z	LEVER	
231	1UB0091ZA	LEVER	
231-1	RUW146ZA	SPRING	
232	1DR0011ZB	PULLEY ASS'Y	
233	RDV90ZB	BELT	
234	RDG5769ZA	GEAR	
235	RUQ111ZB	SPRING	
236	RUW145ZA	SPRING	
237	1UB0090ZA	ROD	
237-1	RUB512Z	ROD	
238	RDG5773ZA	GEAR	
239	RUQ112ZA	SPRING	
240	RUS609Z	SPRING	
241	RUB514Z	LEVER	
242	RUW147ZA	SPRING	
243	RUB515Z	LEVER	
244	RUB509ZA	LEVER	
245	RDV108ZA	BELT	
249	RHG3032ZA	RUBBER	
250	RNL180ZA	LEVER	
251	REX0159	CABLE ASS'Y	
261	XTW2+6L	SCREW	
262	XTW2+8L	SCREW	
263	XTN26+7J	SCREW	
264	RHE5203ZA	SCREW	
265	XTW2+8S	SCREW	
266	XYC2+JF16	SCREW	
267	RHD26007	SCREW	
268	RJS10T7ZA	SOCKET(J971)	
269	REX0372	CABLE ASS'Y	

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RGW0115-K	KNOB, VOLUME	
2	RKF0210-K	COVER	
3	RKK0036-H	BATTERY COVER	
4	RGU0570-K	BUTTON, JOG MODE	
5	RGU0572-K	BUTTON, EQ	
7	RMN0131-W	LCD HOLDER	
8	RGK0363-K	CAP	
9	RGW0092-K	KNOB, JOG	
10	RKF0203-H	TOP PANEL (REAR)	
11	RFKKAFX1EGAK	TOP PANEL ASS'Y (FRONT)	
11-1	RMR0425-K	LOCK ANGLE	
11-2	XTN26+8G	SCREW	
12	RMB0197	SPRING	
13	RME0085	SPRING	
14	RMF0086	SPACER	
15	RMR0426	PIECE	
16	RMS0311	SHAFT	
17	RMS0312	SHAFT	
18	RSC0186	SHIELD PLATE	
19	RSC0188	SHIELD PLATE	
21	XTN26+8G	SCREW	
22	RFKKAFX1CK	CABINET COVER ASS'Y	
23	RKF0206-H	CASSETTE LID (L)	
24	RKF0208-H	CASSETTE LID (R)	
25	RMB0195	SPRING	
27	RMG0214A	RUBBER	
28	RFKKAFX1EGBK	UPPER CABINET ASS'Y	
28-1	RGP0204A-C	PANEL	
28-2	RGU0565-K	BUTTON, CASSETTE EJECT	
28-3	RGU0566-K	BUTTON, CD EJECT	
28-4	RML0224	LEVER	
28-5	RME0088	SPRING	
29	RDG5782ZB	GEAR	
30	RMB0198	SPRING	
31	RML0223	LEVER	
32	RMM0072	LOCK PIECE	
33	RMR0423	FIXER	
34	REE0217-1	WIRE ASS'Y	
35	RMM0073	LOCK PIECE	
36	RMR0424	FIXER	
38	RFKLAFX1AK	CASSETTE HOLDER ASS'Y	
38-1	RUS757ZA	SPRING	
39	RME0083	SPRING	
40	RFKLAFX1BK	CASSETTE HOLDER ASS'Y	
40-1	RUS757ZA	SPRING	
41	RME0084	SPRING	
42	XTV3+10G	SCREW	
43	XTB3+12GFZ	SCREW	
44	XTV3+16GFZ	SCREW	

Ref. No.	Part No.	Part Name & Description	Remarks
45	RMK0105	CHASSIS	
46	RMS0123-1	PIN	
47	SODD110Z	TRAVERSE ASS'Y	
47-1	RDV0014	BELT	
47-2	SHGD112	RUBBER	
47-3	SHGD113-1	RUBBER	
48	RSC0179	SHIELD PLATE	
49	XTV26+6G	SCREW	
50	REE0311	F.P.C	
51	RSC0180	SHIELD PLATE	
52	REE0312	F.P.C	
53	RDG59532C	GEAR SHAFT	
54	RDG5954ZA	GEAR	
55	RFM156ZA	MOTOR ASS'Y	
56	REX0331	WIRE ASS'Y	
57	REX0377Y	WIRE ASS'Y (CW601)	
58	REX0336Y	WIRE ASS'Y (CW602)	
59	REX0338Y	WIRE ASS'Y (CW307)	
60	REX0339Y	WIRE ASS'Y (CW1)	
61	REX0343Y	WIRE ASS'Y (CW604)	
63	RGU0568-K	BUTTON, FUNCTION	
64	RGV0041-K1	KNOB, VOLUME	
65	RJC40005	BATTERY TERMINAL	
66	RJC80005	BATTERY TERMINAL	
67	RJR0019	TERMINAL	
68	RKQ0084A-K	JACK PLATE-A	
69	RKQ0093-K	JACK PLATE-B	
70	RMB0017-1	SPRING	
71	RMB0196	SPRING	
72	RFKNAFX1EGK	SWITCH COVER ASS'Y	
73	RUA867ZA	CHASSIS	
74	RUD129XA	SPRING	
75	RJT005W007	WIRE ASS'Y (CW2)	
77	XTV3+8F	SCREW	
78	XQN17+C33	SCREW	
79	REX0337Y	WIRE ASS'Y (CW803)	
80	RGU0569-K	BUTTON, OPERATION	
81	REX0334Y	WIRE ASS'Y (CW309)	
82	RJP2G1ZA	PLUG (TP1)	
83	RJR0078	TERMINAL PLATE	
84	RMR0439	SPACER	
85	RWJ1107075QQ	FLAT CABLE (W310)	
86	RWJ1107075QQ	FLAT CABLE (W311)	
87	RSC0182	SHIELD PLATE	
92	RMR0440-K	PLATE	
93	RFKJAFX1EBK	BOTTOM CABINET ASS'Y	(EB)
93	RFKJAFX1EGK	BOTTOM CABINET ASS'Y	(EG)
93-1	RGU0567-K1	BUTTON, TOP PANEL OPEN	
93-2	REX0340	TERMINAL ASS'Y	
93-3	RKAQ017	FOOT	
93-4	RFKFAFX1	BATTERY TERMINAL ASS'Y	
93-5	RSC0183	SHIELD PLATE	

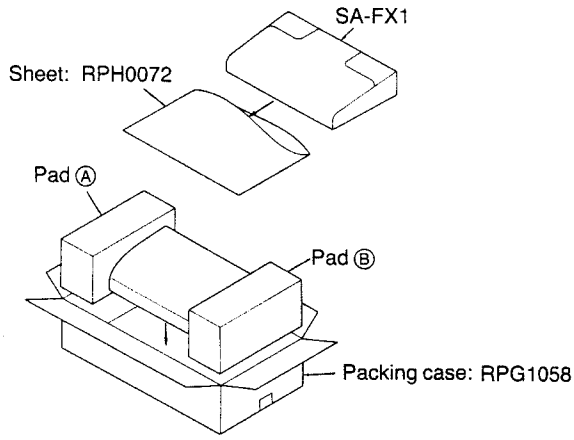
R
93-6
94
95
96
97
97-1
97-2
97-3
97-4
97-5
98
99
100
102
103
104
105
106
107
150
151
202
203
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
A1
A1-
A2

Ref. No.	Part No.	Part Name & Description	Remarks
93-6	RMEC0089	SPRING	
94	RWJ1110060QQ	FLAT CABLE(PW313)	
95	RWJ1107060QQ	FLAT CABLE(PW314)	
96	RSC0181	SHIELD PLATE	
97	RYF0129-K	CD COVER	
97-1	RFKNAFX1-K	DISC CLAMPER ASS'Y	
97-2	RMR0334	HOLDER	
97-3	RMA0443	PLATE	
97-4	RHM245ZA	MAGNET	
97-5	RFKNAFX1B-K	DISC PAD ASS'Y	
98	RFKBAFX1EGA	P.C.B	
99	XEARS147GC-Y	TELESCOPIC ANTENNA	
100	XYN3+F12FZ	SCREW	
102	XTV3+12G	SCREW	
103	RFKBAFX1EGB	P.C.B	
104	REX0382Y	WIRE ASS'Y(CW303)	
105	REX0383Y	WIRE ASS'Y(CW304)	
106	RMR0438	MECHANISM FIXER	
107	XTV26+8GFZ	SCREW	
150	RMR0490	SPACER	
151	RMR0495	SPACER	
202	RJS7T7ZA	SOCKET(J951)	
203	RJS10T7ZA	SOCKET(J971)	
		PACKING MATERIAL	
P1	RPG1057	GIFT BOX	For System
P2	RPG1058	PACKING CASE	For SA-FX1
P3	RPH0072	SHEET	For SA-FX1
P4	RPN0469	PAD	For SA-FX1
P5	RPG1060	PACKING CASE	For SB-FX2
P6	RPH0074	SHEET	For SB-FX2
P7	RPN0471	PAD	For SB-FX2
P8	RPG1059-1	PACKING CASE	For SE-FX1
P9	RPH0073	SHEET	For SE-FX1
P10	RPN0470	PAD	For SE-FX1
P11	RPG1061	PACKING CASE	For SH-FX1T
P12	RPH0075	SHEET	For SH-FX1T
P13	RPH0088	COVER	For SH-FX1T
P14	RPN0472	PAD	For SH-FX1T
P15	MU80PD18D	PAD	For SH-FX1R
P16	N0375X19D	PAD	For SH-FX1R
P17	N0375X20D	SHEET	For SH-FX1R
P18	MU80PC17D	PACKING CASE	For SH-FX1R
P19	RPN0474	PACKING CASE	For ACCESSORIES
P20	XZB25X35A02	POLYETHYLENE COVER	For ACCESSORIES
		ACCESSORIES	
A1	RAK-RX504W	REMOTE CONTROLLER	
A1-1	RKK0020-K	BATTERY COVER	
A2	RFKSCFX2EBK	INST.MANUAL ASS'Y	(EB)

Ref. No.	Part No.	Part Name & Description	Remarks
A2	RFKSCFX2EGK	INST.MANUAL ASS'Y	(EG)
A3	RFA0171	CORD CLAMP	
A4	RFA0206	SETTING MAT	
A5	RJL8D004B20	SYSTEM CORD	
A6 ⚠	SJA193	POWER CORD,AC	(EB)
A6 ⚠	RJA0019-K	POWER CORD,AC	(EG)
A7	SWXS257M	SPEAKER CORD	
A8	EMU81002	OPT-DIGITAL EMITTER	SH-FX1T
A9	EMU80002	OPT-DIGITAL RECEIVER	SH-FX1R
A10	RFA0152	SCREW	
A11	RFA0153	BLACKET	

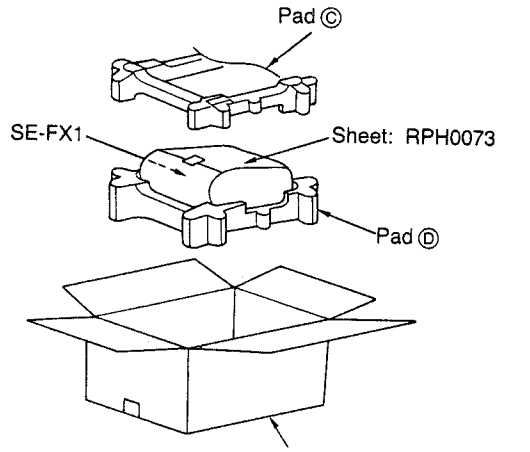
■ PACKAGING

•SA-FX1 (CD/deck/tuner)



Pad Ⓐ Ⓑ ass'y: RPN0469

•SE-FX1 (Power amplifier)

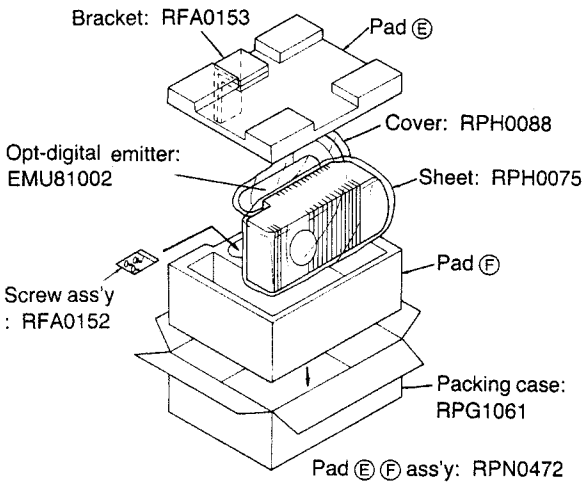


Pad Ⓒ Ⓓ ass'y: RPN0470

•ACCES

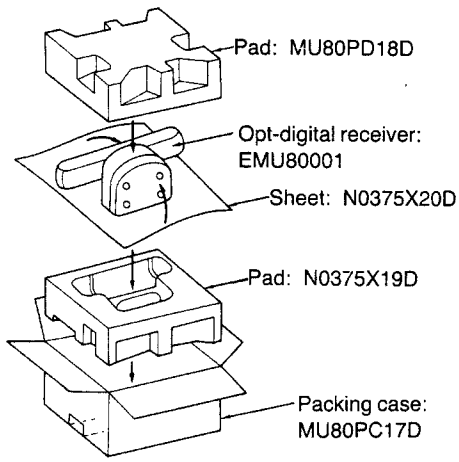
Instru
Instru

•SH-FX1T (Opt-digital emitter/Opt-digital adaptor)



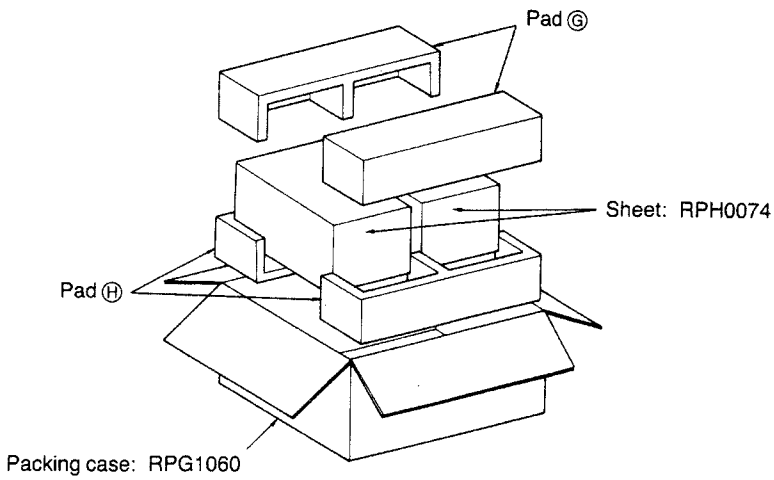
Pad Ⓔ Ⓕ ass'y: RPN0472

•SH-FX1R (Opt-digital receiver)



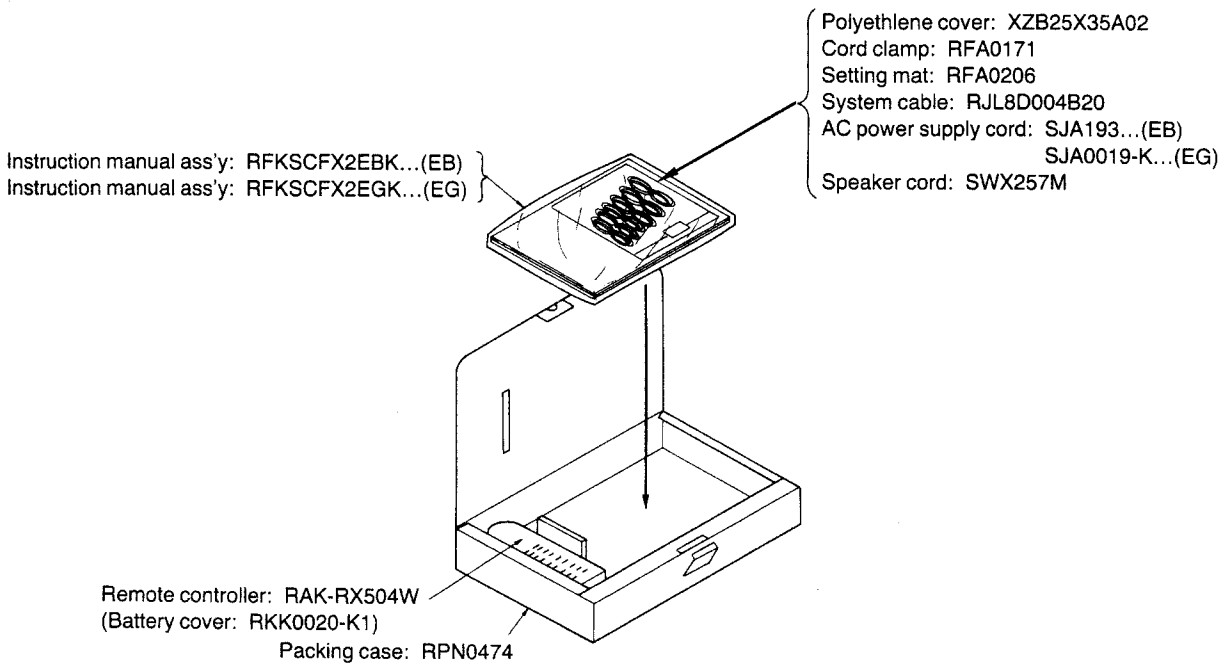
•SYSTEI

•SB-FX2 (Speaker)

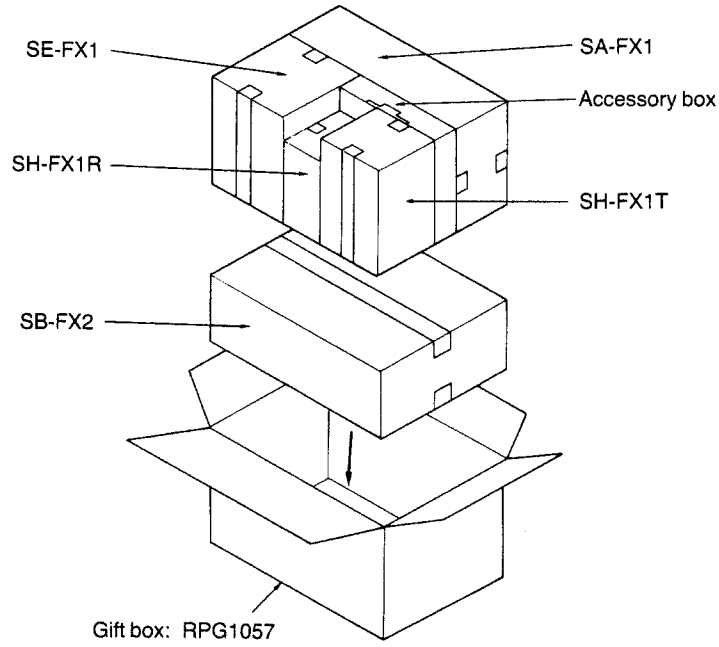


Pad Ⓖ Ⓗ ass'y: RPN0471

•ACCESSORIES



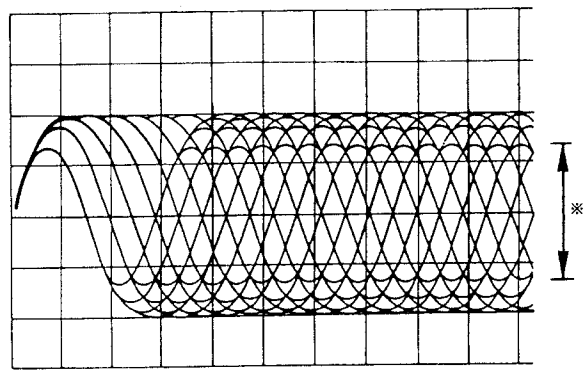
•SYSTEM



Printed in Japan
F911010500HS/KH

(2) AUGENMUSTER-EINSTELLUNG

1. Die Sonde CH1 des Oszilloskops über **TP703** (+) und **TP701** (V-REF) an die Servo-Platine anschließen.
   Oszilloskopeinstellung:
   Spannung ..... 200 mV
   Wobbel ..... 0,5 µs
   Eingang ..... WS
2. Den CD-Spieler **einschalten** und die Test-Disc (SZZP1054C) spielen.
3. Das Potentiometer **VR701** auf größtmögliche HF-Signal-Augenmusteramplitude einstellen.



※Größtmögliche Amplitude einstellen.

■ BETRIEBSPRÜFUNG NACH ERFOLGTER EINSTELLUNG

***Titel-Übersprung**

1. Eine normale Musik-CD spielen.
2. Durch Betätigen der Titel-Übersprung-Tasten prüfen, ob der Suchlauf in Vor-und Rückwärtsrichtung einwandfrei arbeitet.

***Manueller Suchlauf**

1. Eine normale Musik-CD spielen.
2. Durch Betätigen der Manual-Such-Tasten prüfen, ob der Suchlauf in mehrfacher Normalgeschwindigkeit (in Vor- und Rückwärtsrichtung) einwandfrei arbeitet.

***Spielen einer Test-Disc**

1. Auf der Test-Disc (SZZP1054C) die Stelle mit dem 0,7-mm-Schwarzloch und der 0,7-mm-Kerbe spielen und sicherstellen, daß weder Tonausfall noch Störgeräusche auftreten.
2. Die mittleren Spuren der ungleichmäßigen Test-Disc spielen und sicherstellen, daß weder Tonausfall noch Störgeräusche auftreten.

■ JUSTIERPUNKTE

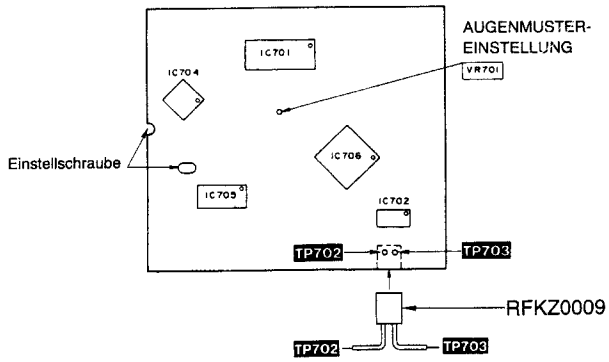


Abb. 1

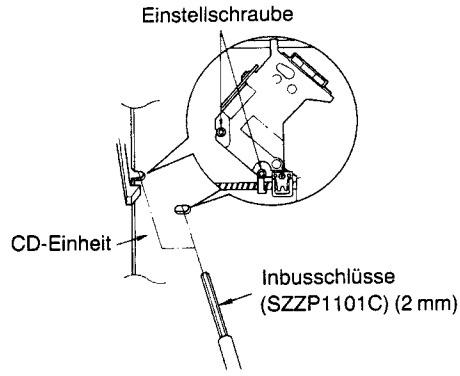


Abb. 2

ORDER NO. AD9109208C2-A

Portable Stereo CD System

Radio Cassette

SA-FX1

DEUTSCH

MESSUNGEN UND EINSTELLUNGEN

<CD-ABSCHNITT>

Vorsicht:

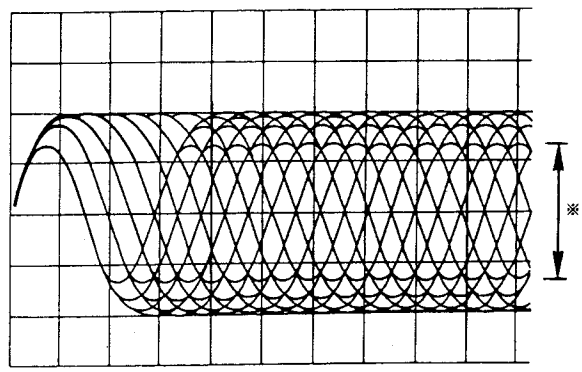
- Vermeiden Sie es, in den Laserstrahl zu blicken oder ihn zu berühren. (Laserstrahlen sind unsichtbar.) Bei eingeschaltetem CD-Spieler werden Laserstrahlen aus der Aufnahmelinse abgestrahlt. Vermeiden Sie direkte Aussetzung von Laserstrahlen, insbesondere während der Einstellarbeiten.

Meßgeräte und Sonderwerkzeug

- Test-Discs
  1. Spiel-CD (SZZP1054C)
  2. Ungleichmäßige Test-CD (SZZP1056C)
- Doppelstrahl-Oszilloskop mit 30 MHz Bandbreite oder höher (mit EXT-Trigger und 1:1-Sonde).
- Inbusschlüssel (M2,0) (SZZP1101C)

(1) MECHANISCHE EINSTELLUNG

1. Die Sonde CH1 des Oszilloskops über TP703 (+) und TP701 (V-REF) an die Servo-Platine anschließen.
   Oszilloskopeinstellung:
   Spannung ..... 200 mV
   Wobbel ..... 0,5 µs
   Eingang ..... WS
2. Den CD-Spieler **einschalten** und Titelnr. **19** der Test-Disc (SZZP1056C) spielen.
3. Den auf Wiedergabe geschalteten CD-Spieler wie rechts gezeigt plazieren.
4. Mit dem 2,0-mm-Inbusschlüssel die beiden Einstellschrauben auf kleinstmögliche Amplitudenänderung einstellen. (Siehe Abb. 2.)
5. Nach erfolgter Einstellung die Schrauben mit Farbe (RZZOL01) in Stellung sichern.



※Amplitudenänderung so klein wie möglich einstellen.

FRANÇAIS

MESURE ET REGLAGE

<SECTION LECTEUR CD>

Précaution:

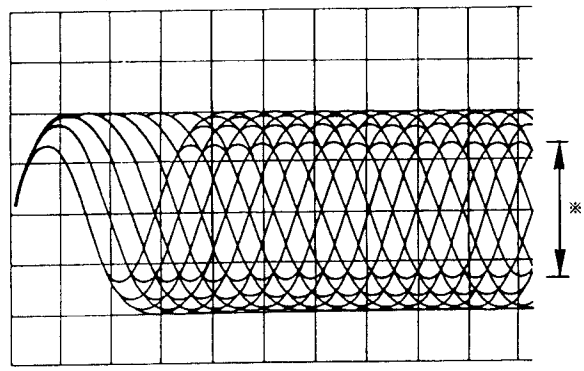
- Il est très dangereux de regarder ou de toucher ce rayon laser. (Le rayonnement laser est invisible.)
  Quand l'appareil est sous tension, la lentille de la tête de lecture émet un rayon laser.
  Eviter toute exposition au rayon laser, surtout lors du réglage.

Instruments de mesure et outils spéciaux

- Disques d'essai
  1. Disque d'essai de possibilité de lecture (SZZP1054C)
  2. Disque d'essai d'inégalité (SZZP1056C)
- Oscilloscope double trace avec une largeur de bande de 30 MHz ou plus (avec déclencheur EXT et sonde 1:1)
- Clé hexagonale (M2,0) (SZZP1101C)

(1) REGLAGE MECANIQUE

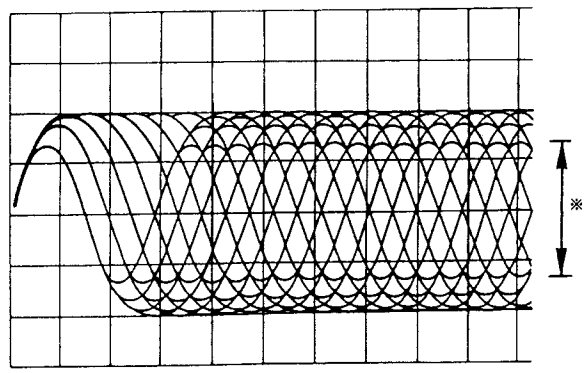
1. Raccorder la sonde CH.1 de l'oscilloscope entre **TP703** (+) et **TP701** (V-REF) de la plaquette de circuit imprimé de servo.
   Réglage de l'oscilloscope:
   Tension (VOLT) ..... 200 mV
   Dent de scie (SWEEP) ..... 0,5 µsec.
   Couplage d'entrée ..... courant alternatif
2. Mettre le lecteur de disque sur la position "marche" **(ON)**, et lire la piste **19** du disque d'essai (SZZP1056C).
3. Laisser le lecteur en mode de lecture, et le placer comme l'indique l'illustration de droite.
4. Alterner le réglage des deux vis de réglage mécanique au moyen de la clé polygonale de 2,0 mm jusqu'à ce que la variation d'amplitude du signal RF de l'oscilloscope soit minimale. (Voir la Fig. 2)
5. Après le réglage, verrouiller les réglages mécaniques avec à la peinture de blocage (RZZ0L01).



※Minimiser la variation d'amplitude.

(2) RÉGLAGE DE LA MEILLEURE MIRE (BALANCE PD)

1. Raccorder les bornes **TP703** (+) et **TP701** (V-REF) de la sonde de voir 1 (CH.1) de l'oscilloscope sur la plaquette de circuit imprimé de servo.
   Réglage de l'oscilloscope:
   Tension (VOLT) ..... 200 mV
   Dent de scie (SWEEP) ..... 0,5 µsec.
   Couplage d'entrée ..... courant alternatif
2. Mettre le lecteur de disques sur la position "marche" **(ON)**, et commencer la lecture du disque d'essai (SZZP1054C).
3. Régler **VR701** jusqu'à ce que l'amplitude de mire des signaux de radiofréquence soit maximisée.



※Maximiser la variation d'amplitude.

■ Contrôle du fonctionnement de la lecture après réglage

•Contrôle de la recherche par sauts

1. Lire un disque de programme musical ordinaire.
2. Appuyer sur la touche de saut pour contrôler le fonctionnement normal de la recherche par sauts (à la fois en avant et en arrière).

•Contrôle de la recherche manuelle

1. Lire un disque de programme musical ordinaire.
2. Appuyer sur la touche de recherche manuelle pour contrôler le fonctionnement normal de la recherche manuelle à vitesse réduite ou élevée (à la fois en avant et en arrière).

•Contrôle de l'utilisation d'un disque défectueux

1. Lire le point noir de 0,7 mm et le coin de 0,7 mm sur le disque d'essai défectueux (SZZP1054C), et vérifier qu'il ne se produit aucun saut sonore ou bruit.
2. Lire les voies du milieu du disque d'essai inégal, et vérifier qu'il ne se produit aucun saut sonore ou bruit.

■ POINT DE RÉGLAGE

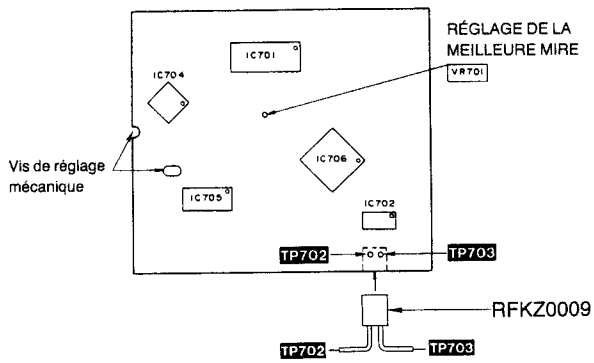


Fig. 1

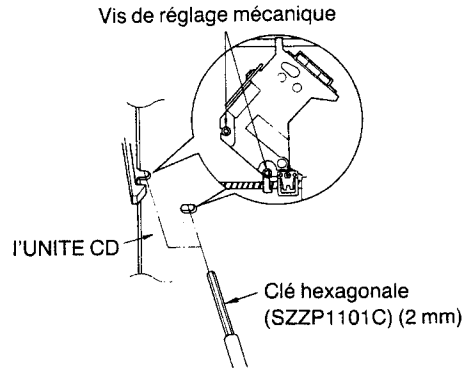


Fig. 2

Printed in Japan
F911003700HS/KH

ORDER NO. AD9210344

5126

Service Manual

CD/Deck/Tuner

SA-FX1

Supplement

CD/Deck/Tuner

Please file and use this supplement manual together with the service manual for Model No. SA-FX1 (EB) (EG), Order No. AD9109208C2.

Note: This supplement is intended to provide additional information or corrections to the existing service manual for Model No. SA-FX1. Be sure to update your service manual for future reference.

Colour

(K) ..... Black Type

Areas

Suffix for Model No.	Area	Colour
(EB)	Great Britain	(K)
(EG)	Europe and F.R. Germany	

System: SC-FX2

CORRECTION

■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part Number		Description	Remarks
	Original	**Supplement**		
ACCESSORIES				
A8	EMU81002	**REQ0056**	OPT-DIGITAL EMITTER	**Correction**
CABINET PARTS				
50	REE0311	**REE0475**	F.P.C.	**Correction**

Panasonic

Printed in Japan
F921009200KH/HH/TN