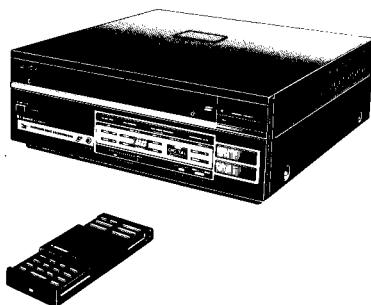


# *Service Manual*

 PIONEER®



ORDER NO.  
VRT-050-0

COMPACT DISC/LASERVISION PLAYER

**CLD-900**

NTSC

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MEY

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Printed in Japan

# 1. SPECIFICATION

## 1. General

System .....	LaserVision video disc system and Compact disc digital audio system
Power requirement	
KU model .....	AC120V, 50/60 Hz
S/G model.....	AC 110V/120V/220V/240V (switchable), 50/60 Hz
Power consumption .....	45 watts
Dimensions .....	420 (W) x 447 (D) x 168 (H) mm. 16.5 (W) x 17.6 (D) x 6.6 (H) in.
Net weight (without package) .....	15.6 kg (34.5 lbs.)
Operating temperature .....	+5°C to +35°C
Operating humidity .....	0 to 95% (There should be no moisture condensation)

## 2. Disc

### LaserVision video disc

*Maximum playing time	
12-inch standard play disc .....	30 min/side
12-inch extended play disc .....	60 min/side
8-inch standard play disc .....	14 min/side
8-inch extended play disc .....	20 min/side
Spindle motor speed	
Standard play disc .....	1,800 RPM
Extended play disc .....	1,800 RPM (inner circumference) to 600 RPM (outer circumference)

### Compact disc

Disc .....	Diameter: 120 mm, Thickness: 1.2 mm
*Maximum playing time .....	over 60 minutes (stereo)
Linear speed .....	1.2 ~ 1.4 m/sec

\*Actual playback time differs for each disc.

## 3. Video characteristics

Format .....	NTSC specifications
Video output	
Level .....	1 Vp-p nominal, sync. negative, terminated
Impedance .....	75 ohms unbalanced
Terminal .....	RCA jack
VHF output	
Channel .....	Channel 3 or 4 (switchable)
Impedance .....	75 ohms unbalanced
Terminal .....	F-type jack

## 4. Audio Characteristics

Disc	AUDIO OUTPUT 1	AUDIO OUTPUT 2
LaserVision Disc	YES	YES
LaserVision with Digital Sound Disc	YES*	YES**
Compact Disc	YES	NO

\* Digital Sound/Analog Sound switching possible.

\*\* Only Analog Sound output.

Terminal .....	RCA jacks
Channel	
LaserVision disc playback .....	Two channel: stereo or two individual channels
Compact Disc playback .....	Two channel: stereo
Digital sound characteristics (AUDIO OUTPUT 1)	
Frequency response .....	5 Hz to 20 kHz, ±0.5 dB
S/N (signal to noise ratio) .....	96 dB (1 kHz)
Dynamic range .....	96 dB (1 kHz)
Channel separation .....	94 dB (1 kHz)
Wow and Flutter .....	Quartz oscillator accuracy
Total harmonic distortion .....	0.003% (1 kHz, 0 dB)
Level	
AUDIO OUTPUT 1	
Analog sound playback .....	260 mVrms (1 kHz, 40%)
Digital sound playback .....	260 mVrms (1 kHz, -20 dB)
AUDIO OUTPUT 2	
Analog sound playback only .....	260 mVrms (1 kHz, 40%)

## 5. Functions

Functions possible with the Remote Control Unit CU-900:

Functions	LaserVision Disc		Compact Disc
	Standard Play Disc	Extended Play Disc	
PLAY	YES	YES	YES
STOP (EJECT)	YES	YES	YES
PAUSE	YES	YES	YES
SCAN (Forward, Reverse)	YES	YES	YES
INTERVAL REPEAT	YES	YES	YES
FAST (Forward, Reverse)	YES	NO	—
STILL/STEP (Forward, Reverse)	YES	NO	—
MULTI-SPEED PLAY (Forward, Reverse)	YES	NO	—
MULTI-SPEED DISPLAY	YES	NO	—
FRAME NUMBER DISPLAY	YES	NO	—
TIME NUMBER DISPLAY	NO	YES	—
CHAPTER NUMBER DISPLAY	YES*	YES*	—
FRAME NUMBER SEARCH	YES	NO	—
TIME NUMBER SEARCH	NO	YES	—
CHAPTER NUMBER SEARCH	YES*	YES*	—
CHAPTER STOP	YES*	YES*	—
SINGLE-TRACK REPEAT	—	—	YES
ALL-TRACK REPEAT	—	—	YES
SKIP SEARCH	—	—	YES
TRACK SEARCH	—	—	YES
INDEX SEARCH	—	—	YES
PLAYBACK INFORMA- TION DISPLAY	—	—	YES

**QUESTIONNAIRE**

**MODEL**

One Model per questionnaire

Dear Servicer,

Thank you for your cooperation in the post-sale service of Pioneer products.

This questionnaire is used as a tool to improve the serviceability of our products and service manuals. Please evaluate this model and service manual by answering the following questions. Your ideas may be realized in our future products. Your answers will be appreciated. Thank you.

PIONEER ELECTRONIC CORP.

T. Nakagawa, Manager, Service Section, International Division

1. SERVICING EVALUATION		Circle applicable number:				
		Good	Fair	Poor		
a.	Disassembly/Re-assembly:	1	2	3	*4	*5
b.	Circuit Checks:	1	2	3	*4	*5
c.	Replacement of Parts:	1	2	3	*4	*5
d.	Adjustment (s):	1	2	3	*4	*5

\* If (4) or (5) was circled, please be specific.

e. Your advice, opinion or ideas related to servicing this product.

**2. SERVICE MANUAL EVALUATION**

a. Circuit & Mechanism Description

b. Circuit Diagram

**3. OTHER**

Please describe other areas of servicing which you may find difficult.

Completed by :

Date :

Company Name :

Address :

City/State/Zip :

Please send this form filled to the distributor in your country.

Functions possible with the function buttons and switches on the player.

Functions	LaserVision Disc		Compact Disc
	Standard Play Disc	Extended Play Disc	
PLAY	YES	YES	YES
EJECT	YES	YES	YES
AUTO REPEAT ON/OFF	YES	YES	YES
CX NOISE REDUCTION ON/OFF	YES**	YES**	—

\* Only for discs recorded with chapter codes.

\*\* Effective when using LaserVision discs with the CX mark.

Other functions (LaserVision video disc playback only)

AUTOMATIC PICTURE STOP ..... Only for discs recorded with picture stop code.

DIGITAL SOUND/ANALOG SOUND SELECTION ..... Only for LaserVision with Digital Sound Disc playback.

## 6. Other terminals

I/O port ..... 8-pin, DIN  
PHONES ..... Stereo headphones jack

## 7. Furnished Accessories

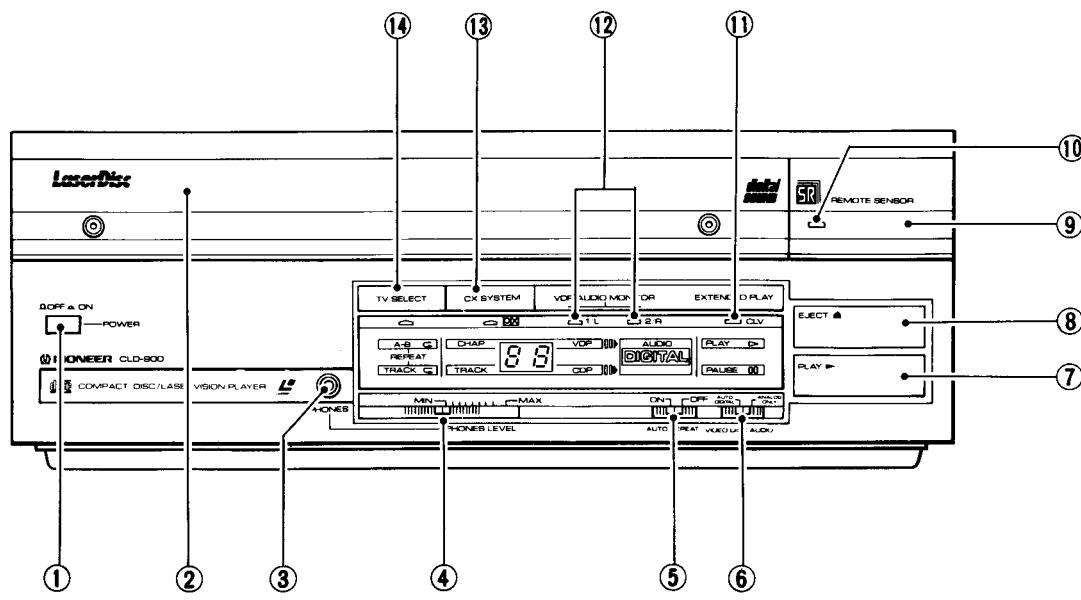
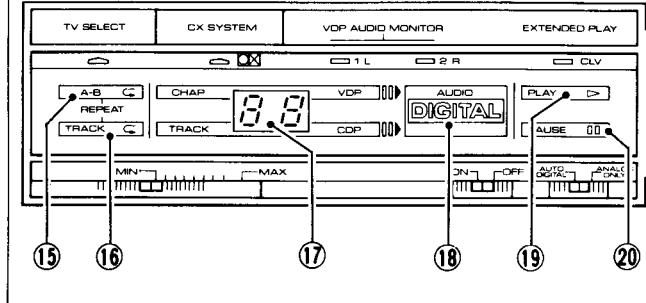
Remote control unit (CU-900) .....	1
Size "AA" dry batteries .....	2
VHF connecting cable with F-type plugs .....	1
Audio connecting cords with RCA-plugs .....	1
Video connecting cable with RCA-plugs .....	1
300-ohms to 75-ohms F-type plug .....	1
75-ohms F-type plug adaptor .....	1
Operating instructions .....	1
Warranty card .....	1

### NOTE:

Specifications and design subject to possible modifications without notice, due to improvement.

## 2. FACILITIES

[INDICATOR SECTION]



**① POWER****② DISC TABLE**

After turning on the POWER switch, press the EJECT button ⑧ and the disc table will open slightly towards the front. Then, pull the disc table out by hand to load discs.

**③ PHONES jack**

Connect stereo headphones here.

**④ PHONES LEVEL**

Use to control the volume level of headphones connected to the PHONES jack.

**⑤ AUTO REPEAT ON/OFF switch**

When set to ON, repeat playback of one side of the disc will be performed. When set to OFF, disc rotation will stop after one side of the disc has been played.

**⑥ VIDEO DISC AUDIO:  
AUTO DIGITAL/ANALOG ONLY**

This switch is used to select the audio mode when playing back LaserVision with Digital Sound Discs. By setting this switch appropriately, the audio output from the rear panel "AUDIO OUTPUT 1" terminals can be switched between Digital Sound and Analog Sound.

**AUTO DIGITAL**

When set to this position, if playing back the LaserVision with Digital Sound Discs, those Digital Sound will be reproduced.

When playing back the LaserVision Discs recorded with Analog Sound only, the Analog Sound will be reproduced.

**ANALOG ONLY**

No matter what the LaserVision disc (with Digital Sound or not), the Analog Sound signals only will be played back.

*This selector switch is unrelated to the rear panel "AUDIO OUTPUT 2" terminals since those terminals constantly output Analog Sound signals only.*

**⑦ PLAY ▶**

Press to begin playback.

**⑧ EJECT ▲**

Press to stop playback and remove a loaded disc. The disc table will open slightly to the front.

**⑨ REMOTE CONTROL receiver**

The infrared signals from the remote control unit are received here.

**⑩ REMOTE CONTROL indicator**

This indicator lights when the remote control unit's buttons are pressed.

**⑪ EXTENDED PLAY DISC indicator**

This indicator lights automatically when playing extended play (CLV) discs.

**⑫ VDP AUDIO MONITOR indicator**

Indicates the audio output channel (1/L, 2/R) when playing LaserVision discs.

**⑬ CX SYSTEM**

Use for turning the CX noise reduction system ON and OFF.

**⑭ TV SELECT**

Use for switching between LaserVision disc or Compact Disc playback and VHF television broadcast reception. When the indicator goes out, LaserVision disc or Compact Disc playback is possible; when lit, TV broadcasts can be watched.

**[INDICATOR SECTION]****⑮ A—B (interval) REPEAT indicator**

Lights when performing repeat play of an interval between two selected points.

**⑯ TRACK REPEAT indicator**

Lights when performing repeat playback of a single track on a Compact Disc.

**⑰ Numeric display (CHAP./TRACK)**

When playing back a LaserVision disc, displays the "chapter" number presently being played back.

When playing back a Compact Disc, displays the "track" number presently being played back.

*When playing back LaserVision discs without recorded chapter numbers, no chapter numbers are displayed.*

**⑱ DIGITAL indicator**

Lights when playing LaserVision with Digital Sound Discs, or when playing Compact Discs.

**⑲ PLAY indicator**

Lights when the player is in the play mode. When time is required between the pressing of the button and actual beginning of playback (for example, when first beginning play, or when performing search), this indicator will flash during that interval.

**⑳ PAUSE indicator**

Lights to indicate player is in the pause mode.

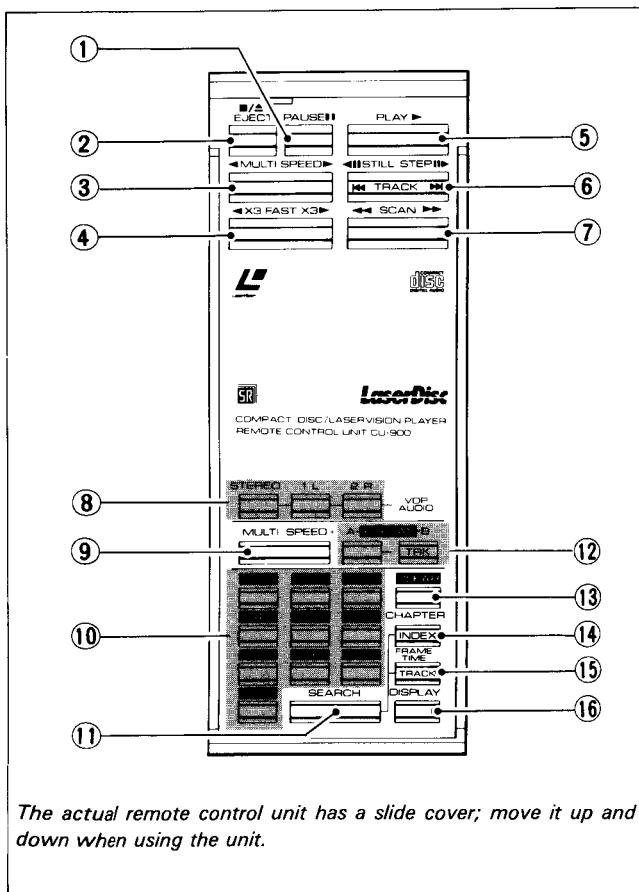
The accessory remote control unit can be used during playback of both LaserVision discs and Compact Discs. Some buttons have different functions when used with LaserVision discs and Compact Discs; these buttons appear in the following colors when used with the two disc modes:

**Blue:** Function used only with LaserVision discs.

**Green:** Function used only with Compact Discs.

Buttons appearing in other colors have same functions with both kinds of discs.

### [WHEN PLAYING BACK VIDEO DISCS]



#### ① PAUSE ( II )

Press to temporarily halt playback.

To release the player from the pause mode, press once again.

#### ② EJECT ( ■/▲ )

When this button is pressed, playback is stopped, and the disc rotation ceases. When pressed once again, the disc table will open after the disc stops rotating.

#### ③ ◀ MULTI-SPEED ▶ (Standard play discs only)

When the right side (▶) of the button is pressed, the video image will be sent forward at the speed set with the -MULTI-SPEED+ button.

When the left side (◀) of the button is pressed, the video image will be sent backwards.

#### ④ ◀x3 FAST x3▶ (Standard play discs only)

During the time the right side (x3▶) of the button is held depressed, the video image will advance at three times normal speed. When the left side (◀x3) is held depressed, the video image will be sent backwards at three times normal speed.

#### ⑤ PLAY ▶

Press to begin playback.

#### ⑥ ◀■ STILL/STEP ■▶ (Standard play discs only)

When either the right or left side of the button is pressed, the video image will be shown as a still picture. Then, each time thereafter that the right side (■▶) is pressed, the image will be advanced by one frame; each time that the left side (◀■) is pressed, the image will be reversed one frame.

#### ⑦ ◀◀ SCAN ▶▶

While right side of the button (▶▶) is held depressed, the video image will be advanced at high speed.

While left side of the button (◀◀) is held depressed, the video image will be reversed at high speed.

#### ⑧ VDP AUDIO

Use to select the audio channel. When the power is first turned on, the audio will be reset automatically to both 1/L, 2/R.

When one of the buttons 1/L, 2/R is pressed, the audio channel corresponding to that button only will be heard. The other channel will be suppressed, and its indicator on the player's front panel will go out.

When the STEREO button is pressed, both channels will return to their original play condition.

##### NOTE:

- Audio reproduction is only possible in the normal play mode.
- When only one audio channel is in use, the sound is still fed to both audio output terminals (1/L, 2/R).

#### ⑨ -MULTI-SPEED +

Use to select the playback speed during multi-speed playback.

#### ⑩ Numeric buttons

Use when performing search (random access).

#### ⑪ SEARCH

Use when performing search (random access).

**(12) REPEAT**

Use when performing repeat playback between two selected points.

**(13) CLEAR**

Use when correcting input numbers during the search procedures, or cancelling the search procedures. Also, use to cancel the repeat play back mode.

**(14) CHAPTER**

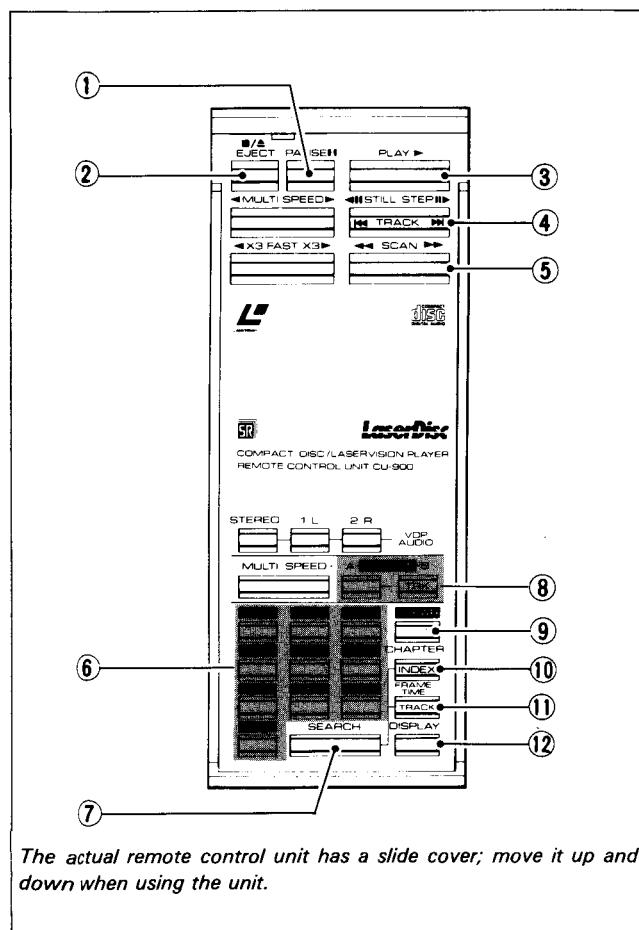
Use when performing search by means of chapter numbers.

**(15) FRAME/TIME**

Use when performing search by means of frame numbers (time numbers on extended play discs).

**(16) DISPLAY**

Use to display and erase chapter numbers and frame numbers (time numbers on extended play discs) on the TV screen.

**[WHEN PLAYING BACK COMPACT DISCS]****(1) PAUSE**

Use to temporarily halt playback.

**(2) EJECT**

When this button is pressed, playback is stopped, and the disc rotation ceases. When pressed once again, the disc table opens to the front after the disc has stopped rotating.

**(3) PLAY ▶**

Use to begin playback, and to cancel the pause mode.

**(4) ⏪ TRACK ⏩**

Use when skipping tracks search. (Skip search operation).

▶: Playback moves forward to the beginning of the next track.

⏪: Playback moves backwards to the beginning of the presently playing track.

By pressing repeatedly, any desired number of tracks can be skipped.

**(5) ⏪ SCAN ⏩**

While the ▶ side is held depressed, the playback will be advanced at high speed.

While the ⏪ side is held depressed, the playback will be reversed at high speed.

During the scan operation, the audio will be heard at a reduced level.

**(6) Numeric buttons**

Use to designate specific track numbers, and index numbers within tracks when performing search.

**(7) SEARCH**

This is the command button pressed to execute track and index search.

**(8) TRK. REPEAT, A-B REPEAT**

Use when performing single-track repeat playback, or repeat play of the interval between two designated points on the disc.

**(9) CLEAR**

Use to cancel single-track or interval repeat playback, to correct numbers used for search, and to cancel the search procedure itself.

**(10) INDEX**

Use when performing search by means of index numbers within the track currently playing.

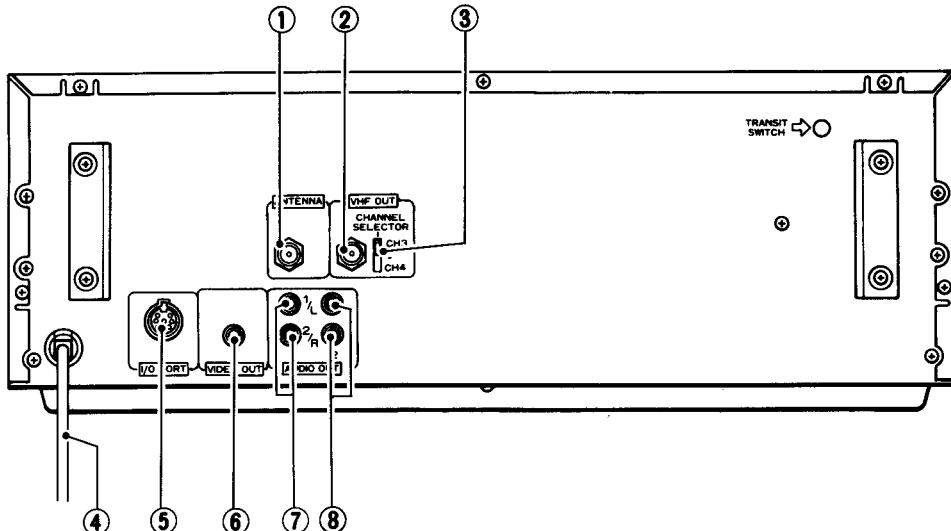
**(11) TRACK**

Use when performing search by track numbers.

**(12) DISPLAY**

Use for selecting the information to be displayed on the TV screen when playing a Compact Disc.

\* INDEX refers to signals which are previously recorded on a disc and which indicate sub-divisions within a track.



### ① ANTENNA

The coaxial cable (75 ohm) from a VHF television antenna is connected here.

### ② CH. 3/4 VHF OUT

Connect to a television's VHF antenna input terminal.

### ③ VHF CHANNEL SELECTOR

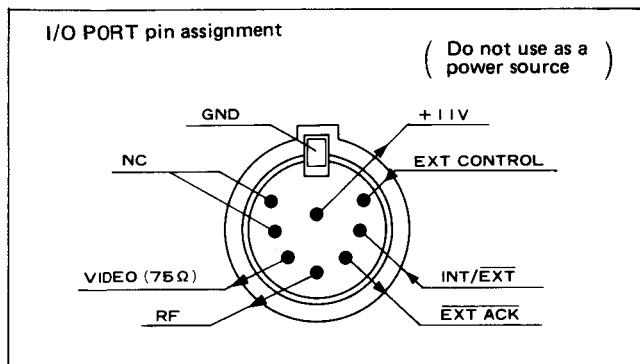
This selector is for switching the internal VHF converter. Set to the channel which is not used for TV broadcasts in your area.

### ④ POWER CORD

Plug this into an electrical outlet.

### ⑤ I/O PORT

This is the I/O port used when performing external control of the player.



### ⑥ VIDEO OUTPUT

When using a video TV monitor to play back the video image, connect this terminal to the TV monitor's video input terminal.

### ⑦ AUDIO OUTPUT 1

Connect to your stereo amplifier's AUX, CD, or TUNER input terminals.

When playing back the LaserVision with Digital Sound Discs, select the front panel's VIDEO DISC AUDIO switch to AUTO DIGITAL (Digital Sound output) or ANALOG ONLY (Analog Sound output).

The audio signals of the Compact Disc are output from these terminals only.

### ⑧ AUDIO OUTPUT 2

Connect to your stereo amplifier's AUX, CD, or TUNER input terminals.

These terminals output only the LaserVision disc's Analog Sound signals.

## About the AUDIO OUTPUT 1/2 Terminals

This player is equipped with two sets of "AUDIO OUTPUT Terminals".

The "AUDIO OUTPUT 2" terminals output only the Analog Sound signals from LaserVision discs.

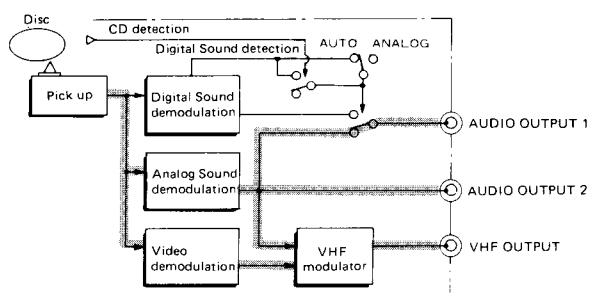
The "AUDIO OUTPUT 1" terminals can output the LaserVision disc's Analog Sound, Digital Sound, and Compact Disc's audio signals.

### (1) LaserVision Disc (Analog Sound only) playback

AUDIO OUTPUT 1 . . . . . Analog Sound  
 AUDIO OUTPUT 2 . . . . . Analog Sound  
 VHF OUT . . . . . Analog Sound

#### NOTE:

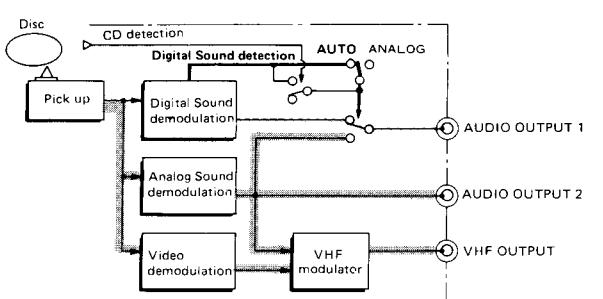
- \* 1/L and 2/R audio channels of the AUDIO OUTPUT 1 or AUDIO OUTPUT 2 terminals have been combined here for ease of explanation.
- \* This diagram is meant for explanatory purposes and differs from actual signal processing.
- \* The audio for VHF output is based on Analog Sound.  
The Compact Disc's audio, and the Digital Sound of the LaserVision with Digital Sound Disc are not output from the VHF output terminal.



### (2) LaserVision with Digital Sound Disc playback (When set the VIDEO DISC AUDIO switch on the front panel to "AUTO DIGITAL")

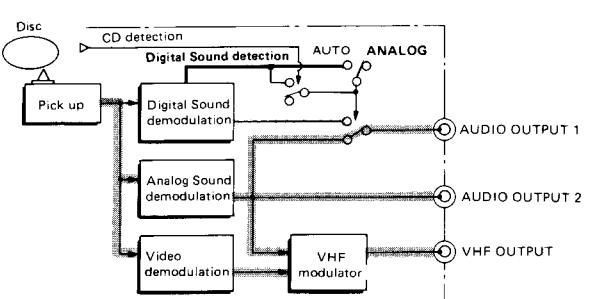
AUDIO OUTPUT 1 . . . . . Digital Sound  
 AUDIO OUTPUT 2 . . . . . Analog Sound  
 VHF OUT . . . . . Analog Sound

*In the LaserVision with Digital Sound Disc, both the Digital sound and Analog Sound are recorded.*



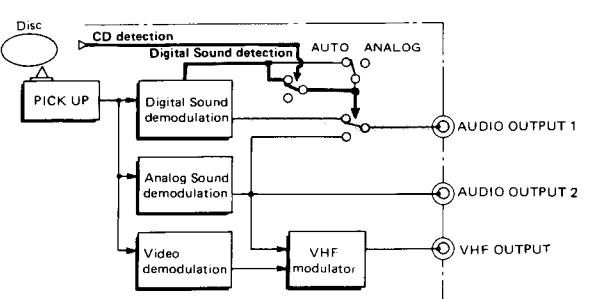
### (3) LaserVision with Digital Sound Disc playback (When set the VIDEO DISC AUDIO switch on the front panel to "ANALOG ONLY")

AUDIO OUTPUT 1 . . . . . Analog Sound  
 AUDIO OUTPUT 2 . . . . . Analog Sound  
 VHF OUT . . . . . Analog Sound

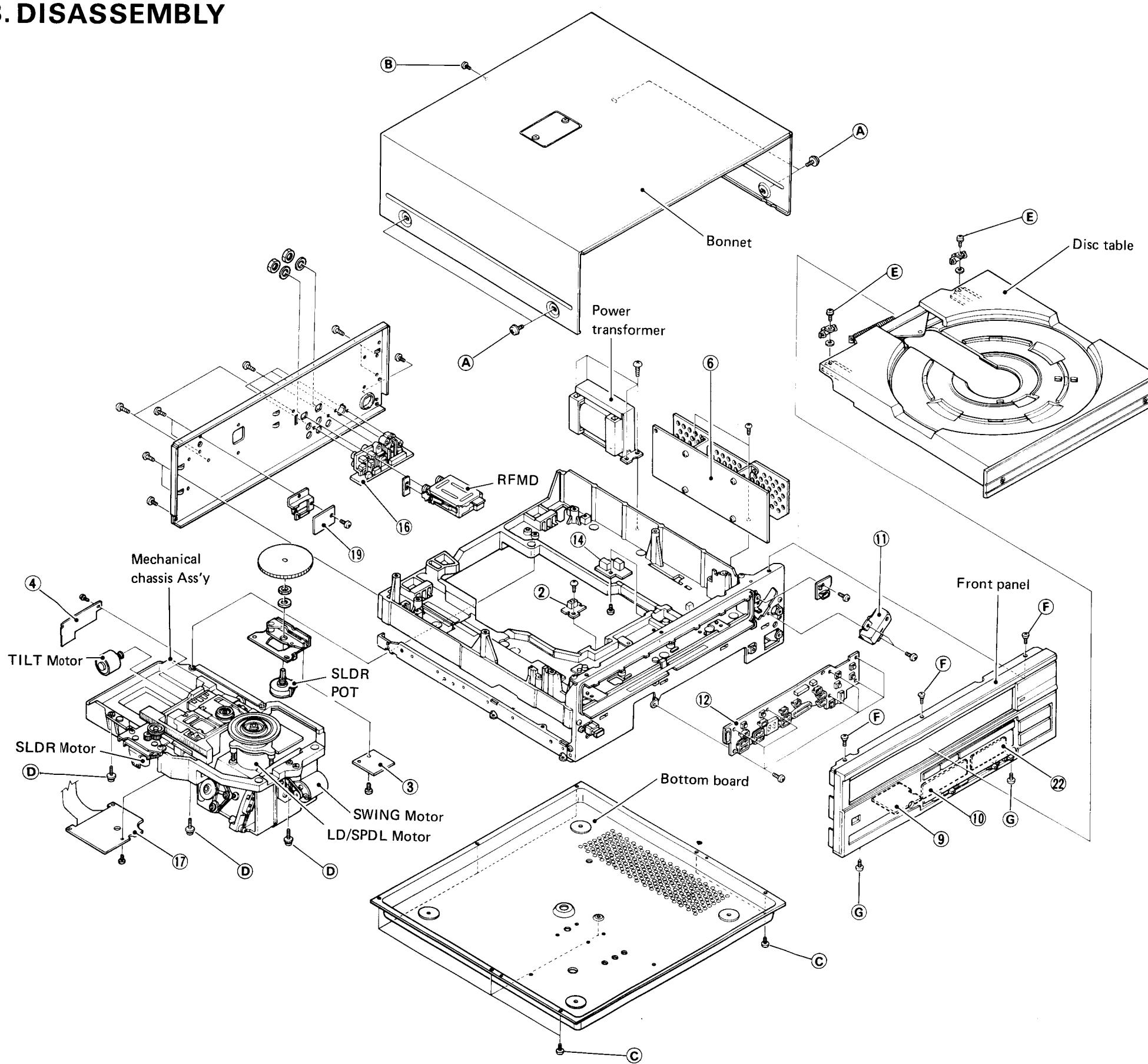


### (4) Compact Disc playback

AUDIO OUTPUT 1 . . . . . Compact Disc Digital Sound  
 AUDIO OUTPUT 2 . . . . . no output  
 VHF OUT . . . . . no output



## 3. DISASSEMBLY

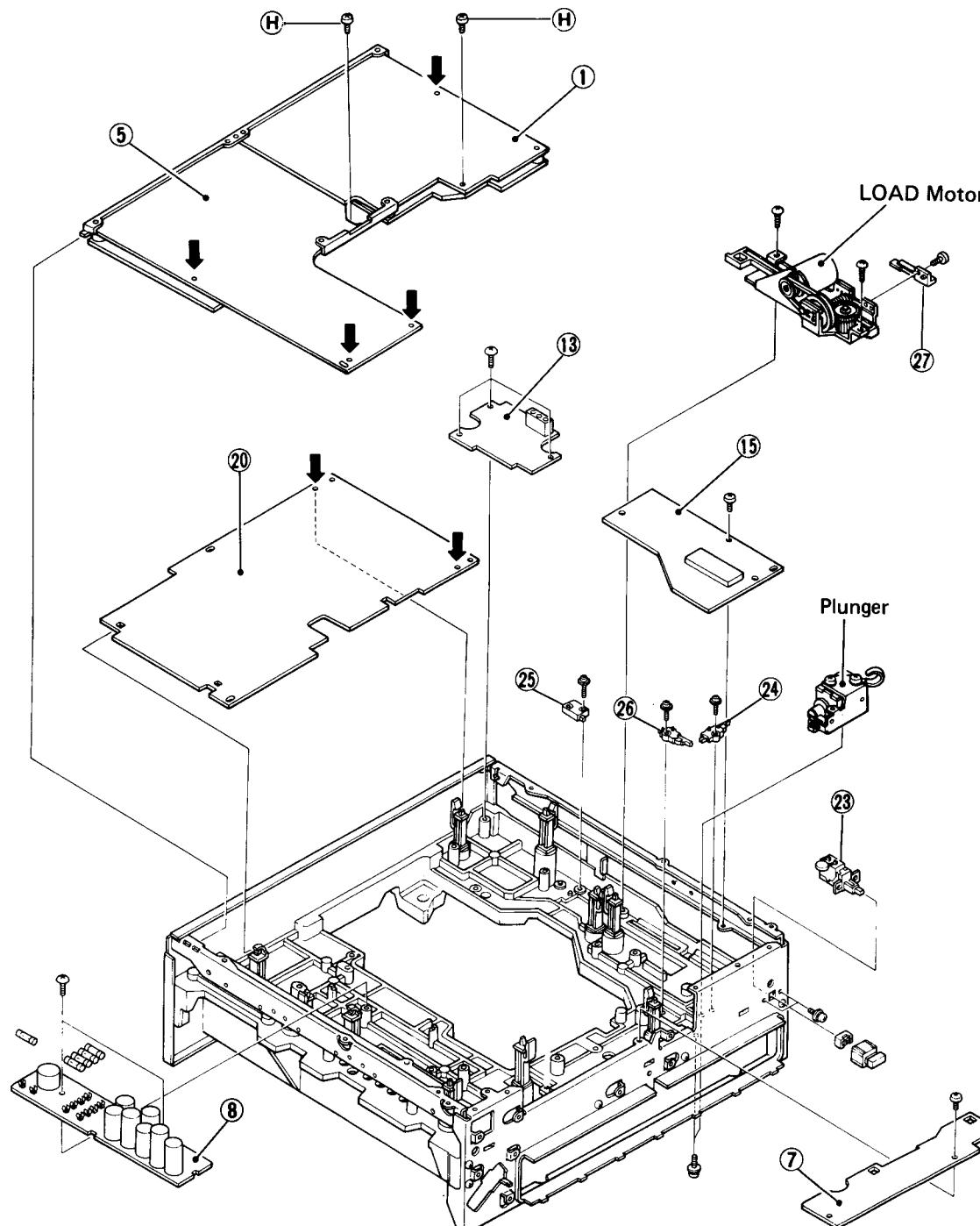


## No. CIRCUIT BOARDS

- ① CDDM
- ② CDSB
- ③ CNNB
- ④ CTCB
- ⑤ DEMB
- ⑥ DRVB
- ⑦ DSPD
- ⑧ FUSB
- ⑨ HPJB
- ⑩ HPVB
- ⑪ IRAB
- ⑫ KEYB
- ⑬ LDDB
- ⑭ LDSB
- ⑮ LOLB
- ⑯ PNJB
- ⑰ PREB
- ⑲ SHPB
- ⑳ SRVB
- ㉑ SWTB

## No. SWITCHES

- ㉓ POWER switch
- ㉔ LOAD switch
- ㉕ EJECT switch
- ㉖ INTERLOCK switch
- ㉗ CLAMP switch



#### [Bonnet]

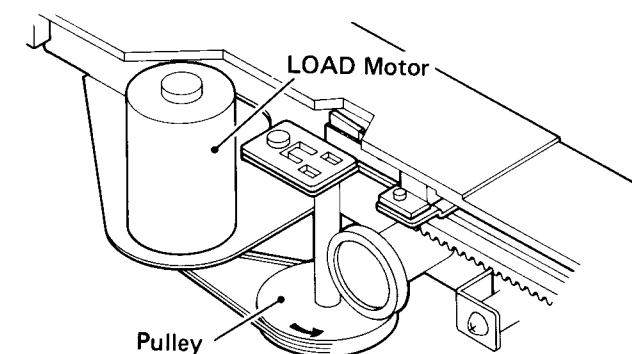
- Remove four side screws (A) (ABA-079).
- Remove a rear screw (B) (BCZ30P060FZK).

#### [Bottom board]

- Remove eight screws (C) (BCZ30P080FZK).

#### [Disc table]

- Remove the bonnet.
- Turn the POWER switch ON, press the EJECT key ( $\Delta$ ) and withdraw the disc table.
- Remove screw (E) (PMB26P060FMC), then remove the rail stoppers (2 positions).
  - ➡ Be careful that the flat washer (WC30FMC) is inserted between the rail and stopper.
  - ➡ When the main power cannot be turned ON or the disc table cannot be withdrawn by the EJECT key due to a fault, operate as follows.
- Remove the bonnet.
- Turn the pulley of the loading mechanism shown in the figure in the direction shown by the arrow.



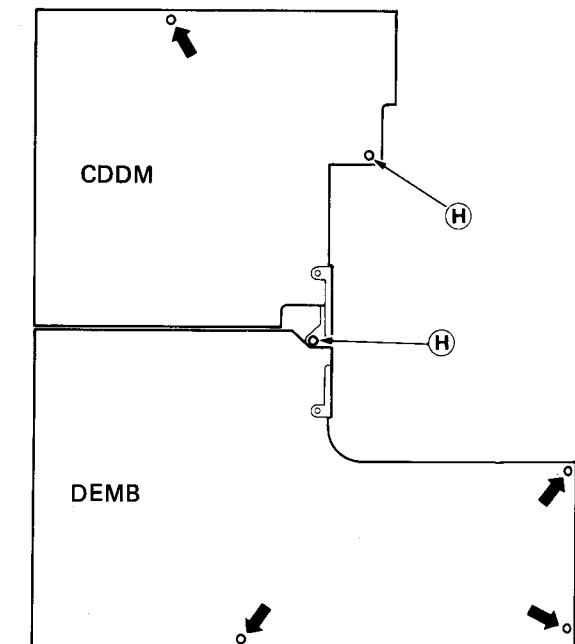
- ➡ Gear engaging part is coated with grease. Be careful not to apply grease to the belt.
- The disc clamper is raised after turning many times. In this way the CLAMP switch is pressed by the rack.
- Set the player upright and remove the bottom board.
- ➡ When the disc is set, handle carefully while lightly pressing the disc.
- Press the plunger and unlock table interlock.
- ➡ Operate, while lightly pressing the disc.

#### [Front panel]

- Remove the bonnet, bottom board and disc table.
- Remove three upper screws (F) (CBZ30P080FZK).
- Remove two screws (G) (BCZ30P080FZK) near both ends at the bottom.
- Remove the connector mounted on the board at the rear of the panel.

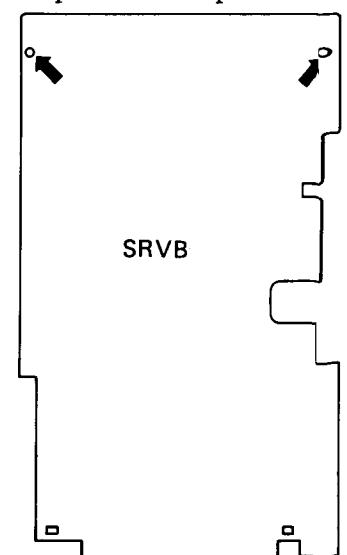
#### [CDDM, DEMB]

- Remove the bottom board.
- Remove two screws (H) (BCZ30P080FZK).
- Remove the clips at the 4 positions shown by the arrow.
- Open the board and separate from the chassis at a right angle to the player.



#### [SRVB]

- Remove the bottom board and open CDDM and DEMB.
- Remove the clips at the 2 positions shown by the arrow.



#### [Mechanical chassis Assembly]

- Remove the bottom board, CDDM, DEMB and SRVB in this order.
- Remove the connectors (at 7 positions) connected to the player.
- Remove 3 screws (D) (PMB30P140FMC).

## 4. ADJUSTMENTS AND WAVEFORMS

### 4.1 NOTES FOR ADJUSTMENT

- For electrical adjustment, open the player in the figure below using the following procedures.

  - Remove the bonnet. (4 screws on the side and 1 screw on the rear)
  - Remove the bottom board. (8 screws)
  - Place the player in the direction shown in the figure, and loosen the 2 transit screws.
  - Remove the set-screws (2 pcs.) of the DEMB and CDDM, and detach the boards. (4 clips)
  - Detach the SRVB. (2 clips)

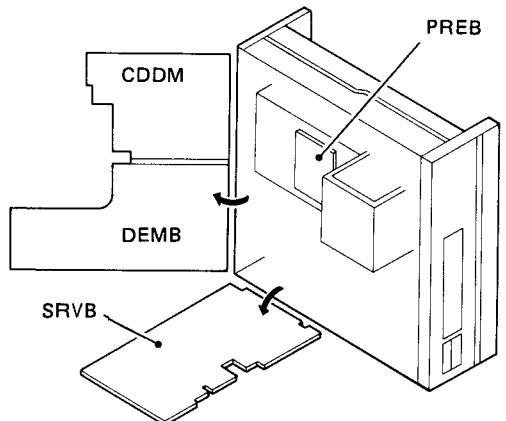


Fig. 3.1 Player Before Adjustment

- DRVVB is adjustable after the bonnet is removed and the 2 transit screws are loosened.
- When replacing DRVVB or the movement of focus lens is suspected to be abnormal, adjust DRVVB (bridge balance adj.) first prior to any adjustment.
- When a disc is set into or removed from the player, be sure the player is in a horizontal position.
- When the CD disc is set into the player with the bonnet removed, be careful not to illuminate the LD disc detector of the LDSB (Q1 and Q2).
- Do not push the EJECT (▲) key on the front panel when the player is upright. To stop the player, press the EJECT (■/▲) key on the remote control unit once.
- For adjustment with the TRKG servo opened.
- When the loop of the TRKG servo cannot be set to CLOSE, it can not playback and the picture cannot be displayed, even if the PLAY key is pressed and the disc is rotating. If this happens, press the PLAY key then press the CLEAR key again to display the picture.

### 1. FOCs Off-set Adjustment

- Set the VR2 to the center of the rotation range.
- Adjust the VR6 so that the TP3 voltage becomes 0V ( $\pm 5\text{mV}$ ) with the POWER switch ON.

### 4.2 PREB ADJUSTMENT

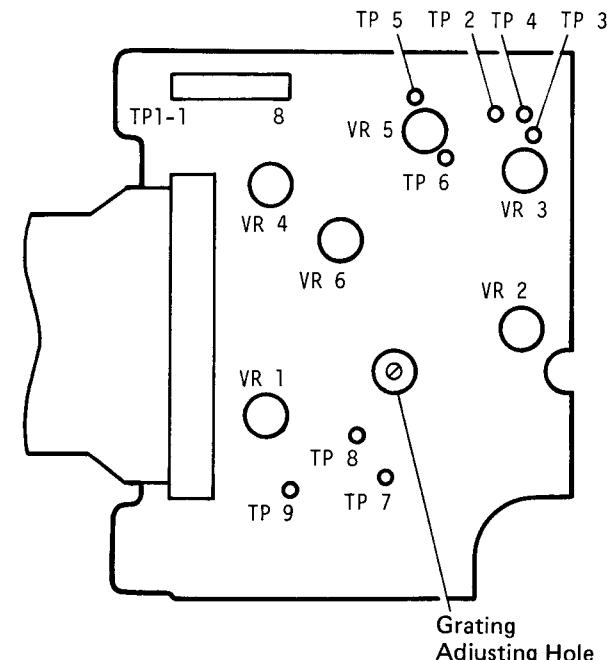


Fig. 3.2 Adjustment Positions of PREB

Search also cannot be performed when the loop of the TRKG servo cannot be set to CLOSE. After the search has started, wait several seconds then press the CLEAR key. Thus, the nearby picture of an object position can be displayed. If the player cannot display the picture and the SPDL motor stops rotating, the picture can be displayed by pressing the PLAY key then connecting Pin 7 of Z202 (PA9002) on the SRVB to the GND, and pressing the CLEAR key.

For adjustment, the following equipment, etc. are required.

Oscilloscope (DC-35MHz)  
Color monitor TV  
FTG adjuster  
Oscillator, distortion factor meter, frequency counter, etc.  
Test disc (LD: F2, CD: YEDS-7, etc.)  
Remove control unit (CU-900)

### 2. TRKG Error Balance Adjustment

- Connect Pin 20 and Pin 22 of Z401, PM4001, on the SRVB board.
- When the above connection is completed, the loop of the TRKG servo opens. When the description "Open the TRKG servo" occurs in the following paragraphs, perform the connection described above.
- Set the player to playback at around Frame No. (#) 20,000.
- Observe the TRKG error signal of the TP5 and adjust VR4 so that the amplitude center of the waveform becomes DC0V.
- Disconnect Pin 20 and Pin 22 of the PM4001 and close the servo loop.

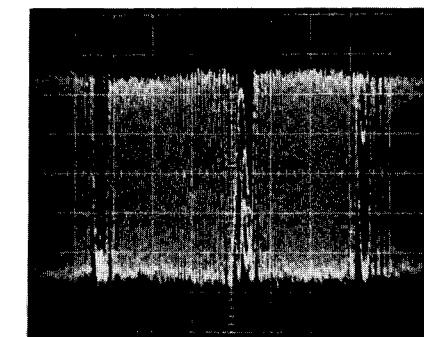


Photo 3.1 TRKG Error Waveform (with Loop Open)

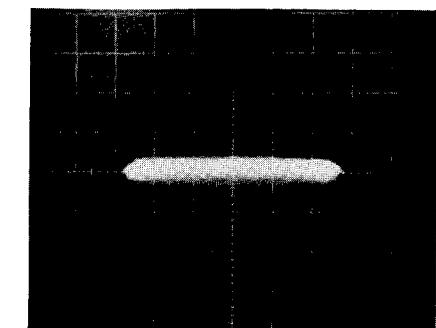
### 3. Grating Initialization

- The angle of grating (diffraction grating) in the pick-up determines the angle between the line connecting three beams irradiated to the disc and the disc track (more precisely, the tangential line of the track).
- Set the player to the still condition near Frame #15,000. (Then, the position of the PREB grating adjusting hole agrees with the grating position and is ready for adjustment.)
- Open the TRKG servo.
- Observe the TRKG error signal of the TP5 and adjust the grating so that the waveform envelope is smooth with minimum amplitude.
- At this point, the line connecting three beams is approximately parallel to the track.

### 4. Grating Adjustment

- "3. Grating Initialization" should be finished in advance.
- Slowly turn the grating counterclockwise and stop at the position where the error signal amplitude first reaches the maximum (coarse adjustment).

- Set the oscilloscope to the X - Y mode. Then, connect the TRKG error signal (TP5) and the TRKG SUM signal (N45-1) to inputs X and Y, respectively and observe the Lissajous' waveform.
- Adjust the grating so that the Lissajous' waveform is flat.
- Return the TRKG servo to CLOSE.



X: TRKG Error Signal (PREB, TP5)  
Y: TRKG SUM Signal (PREB, N45-1)

Photo 3.2 Lissajous' Waveform (Grating Adjustment)

### 5. TRKG Loop Gain Adjustment

- Set the frequency of the FTG adjuster at 4.3kHz with Frequency-VR2.
- Set the gain of the FTG adjuster at 4Vp-p with Gain-VR2. Oscillator's output is available from Yellow wire by turning the Switch to 2.
- Connect the Yellow wire of the FTG adjuster as shown in the diagram.
- Connect the RED wire of the FTG adjuster as shown in the diagram.
- Use search to locate frame #18,000.
- Adjust VR5 to turn J-LED on.

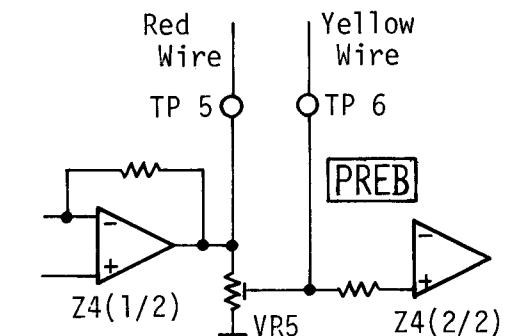


Fig. 3.4 TRKG Loop Gain Adjustment

## 6. FOCS Loop Gain Adjustment

- Set the frequency of the FTG adjuster at 1.6kHz with Frequency-VR1.
- Set the gain of the FTG adjuster at 1.2Vp-p with Gain-VR1. Oscillator's output is available from Orange with by turning the Switch to 1.
- Connect the Orange wire of the FTG adjuster as shown in the diagram.
- Connect the Brown wire of the FTG adjuster as shown in the diagram.
- Use search to locate frame #20,000.
- Adjust VR3 to turn on the green j (JUST) LED.
- Disconnect the FTG adjuster.

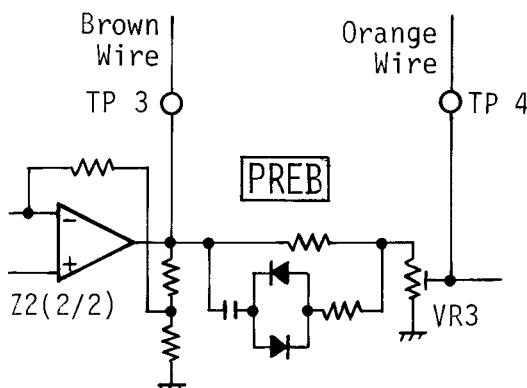


Fig. 3.5 FOCS Loop Gain Adjustment

## 7. RF Level Adjustment

- Search around Frame #1,800 and press the PLAY key.
- Observe the RF signal of the TP2 and adjust the VR1 to an amplitude of 400mVp-p.

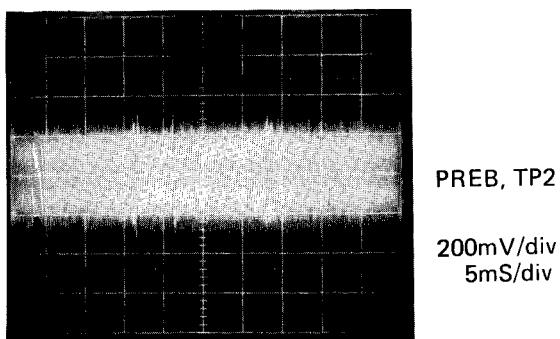


Photo 3.3 RF Signal Waveform

## 8. FOCS Error Balance Adjustment

- The crosstalk checking signal is recorded in a section from Frame #1 to Frame #900 of test disc F2.

In this section, the following contents are repeated sixty times.

Horizontal Stripe Pattern ..... 12 frames

Vertical black bar

(left of the screen) ..... 1 frame

(center of the screen) ..... 1 frame

(right of the screen) ..... 1 frame

When a still condition is held at a frame with the black bar shown at the center of the screen, a striped pattern appears to the right and left sides of the screen by the crosstalk from the adjacent frames (track). This occurs immediately before and after the current one. The greater the crosstalk quantity, the clearer the stripe pattern becomes. Thus, the crosstalk quantity can be visually observed.

- Search Frame #104.
- Adjust the VR2 so that the stripe pattern to the right and left sides of the screen is not visible.
- Repeat the same adjustment at a few positions in the section of Frame #1 to #900 to achieve the best condition.

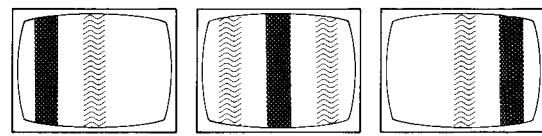


Fig. 3.6 Influence of Crosstalk

*Note: In the figure, the influence of crosstalk is exaggerated.*

## 9. Check for the Optical Axis in the TRKG Direction

- Open the TRKG servo.
- Connect the TP5 and the TP9 (GND) of the SRVB and open TANG servo.
- Connect the volume for applying the mirror bias to the TP2 of the SRVB, as shown in Fig. 3.7 (R should be 200 ohms).

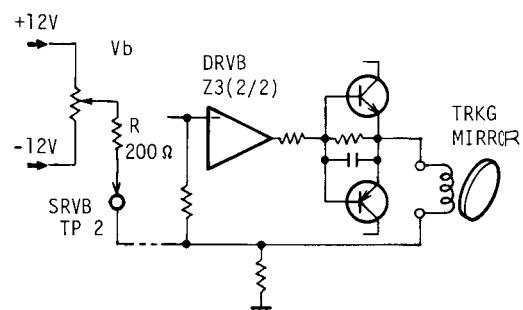


Fig. 3.7 TRKG Mirror Bias

- Set the player to playback at around Frame #15,000.
- Observe the TRKG error signal by the TP5 of the PREB, adjust the VR to the maximum amplitude, then record the value p-p ( $E_o$ ) related to the maximum amplitude and applied voltage ( $V_{bm}$ ).
- Turn the VR fully to the +12V side and record the value p-p ( $E_p$ ) of the TRKG error.
- Turn the VR fully to the -12V side and record the value p-p ( $E_n$ ) of the TRKG error.
- Check that the four recorded values satisfy the following relationships.

Absolute value of  $V_{bm}$  is 2.4V or less:

$$E_p > 0.63E_o \text{ and } E_n > 0.63E_o$$

Absolute value of  $V_{bm}$  exceeds 2.4V:

$$E_p > 0.70E_o \text{ and } E_n > 0.70E_o$$

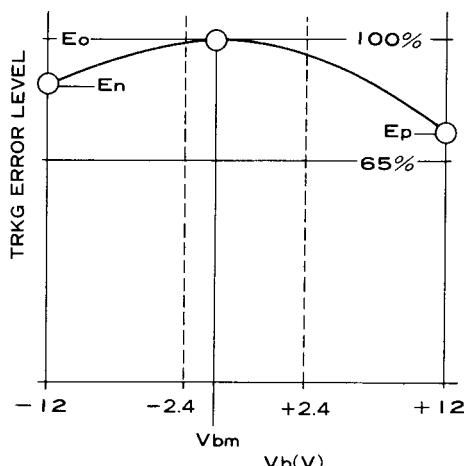


Fig. 3.8 Optical Axis Check

## 10. Check for the Optical Axis in the TANG Direction

- Open the servos of the TRKG and TANG.
- Connect the VR for applying the mirror bias to the TP1 of the SRVB.
- Referring to "9. Check for the Optical Axis in the TRKG Direction", and record the four values while observing the TRKG error signal. Check that the same relationships are valid.

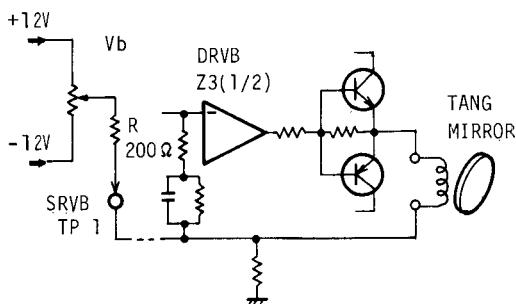


Fig. 3.9 TANG Mirror Bias

## 11. Grating Adjustment Check by CD Disc

- Replace the disc with a CD disc.
- After setting the player to play, play a few positions of the disc by the TRACK key (◀◀, ▶▶) and check for trouble.

## 4.3 DRVB ADJUSTMENT

### 1. FOCS Bridge Balance Adjustment

► This adjustment should be made immediately after the power switch is turned ON. The FOCS bridge balance circuit (DRVb, Z4 (2/2), etc.) employs a thermistor and changes the actuating point depending on temperature. The adjusted values, to be described later, assume normal temperature. Therefore, the adjustment must be finished before the temperature in the player is raised, after the power switch is turned ON.

- Connect the TP2-5 to -5V.
- Connect the TP2-1 and -5V by a resistance of about 100k ohms.
- Adjust the VR5 so that the voltage of the TP2-6 of the DRVB becomes -300mV ( $\pm 50\text{mV}$ ).

### 2. Initialization of Adjustment

► When the DRVB is replaced, etc., initialize in the following procedures before beginning the adjustment.

VR1 ..... Turn fully clockwise, then return slightly.

VR3 ..... Turn fully counterclockwise.

VR2, VR4 ..... Should be located at the center of the rotation range.

*Caution: When the heat dissipating plate of the DRVB is removed and the POWER switch is turned ON, finish the operation quickly and return to the original condition.*

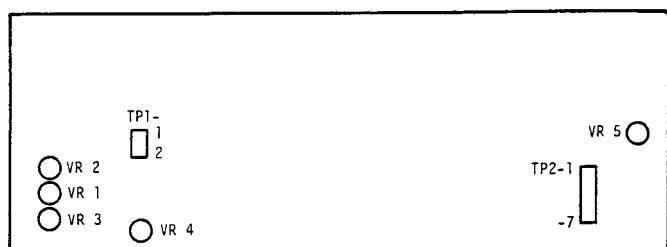


Fig. 3.10 Adjustment Positions of DRVB

### 3. Adjustment for Detecting the LD Inside Position

- When the  $\blacktriangleleft \times 3$  FAST REV key ( $\blacktriangleleft \times 3$ ) is continuously pressed at the innermost track, a laser beam soon reaches the read-in section of the disc and the inside position is detected. Then, the laser beam is returned to the outer track by a few tracks. This operation is repeated as long as the key is pressed.
- Continuously press the  $x 3$  FAST REV key near the innermost track of the disc and adjust the VR1 while observing the screen so that the laser beam reaches the read-in section Nos. 19 to 21.

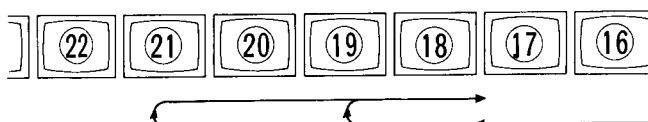


Fig. 3.11 Adjustment for Detecting the LD Inside Position

### 4. Adjustment for Detecting Park Position

- The park position signifies a position where the slider is saved when the SPDL motor of the LD and CD is changed over by the SWING motor. (For transportation, the slider is locked at this position.)
- Search Frame #12,700.
- Adjust the VR2 to the position where the TP1-1 (park signal) voltage is changed from "H" to "L".
- Search Frame #12,600, then press the  $x 3$  FAST FWD key ( $x 3 \blacktriangleright$ ). This checks that the PARK signal is changed over from "H" to "L" before reaching Frame #12,800.

### 5. Adjustment for Detecting the Position of 12 in. LD

- Referring to the inside position, adjust the outside position at about the outermost track.
- Search Frame #50,400 of the outermost track of the disc. Continue pressing the  $x 3$  FAST FWD key, then adjust the VR3 while observing the screen so that the laser beam reaches the read-out section Nos. 23 to 25.

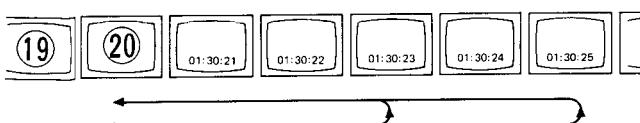


Fig. 3.12 Adjustment for Detecting Outside Position of 12 in. LD

### 6. Adjustment for Detecting outside Position of 8 in. LD

- "5. Adjustment for Detecting outside Position of 12 in. LD" should be finished in advance.
- An outside position of the 8 in. LD is detected based on the adjustment with the 12 in. LD. Therefore, adjustment with the 12 in. LD must be completed.
- Connect the TP1-2 and +5V at a resistance of about 10 kohms.
- The player automatically decides the size of the set disc and activates the 8 in. LD outside detecting circuit only when the 8 in. LD is detected. To forcefully operate this circuit, Q10 is turned ON by the above connection.
- Pressing the  $x 3$  FAST FWD key and observing the screen, adjust the VR4 so that the laser beam reaches between Frames #24,200 and 24,400, then returns to the inner track.

### 4.4 DEMB (VIDEO Section) ADJUSTMENT

#### 1. Adjustment of Demodulating Video Level

- Set the player to the still condition in the section of the composite test signal starting with Frame #19,801 (Chapter #15).
- Adjust the VR201 so that the video signal on Pin 13 of the Z201 (PA3018) (high-frequency component) is amplified by pre-emphasis) becomes 2Vp-p.

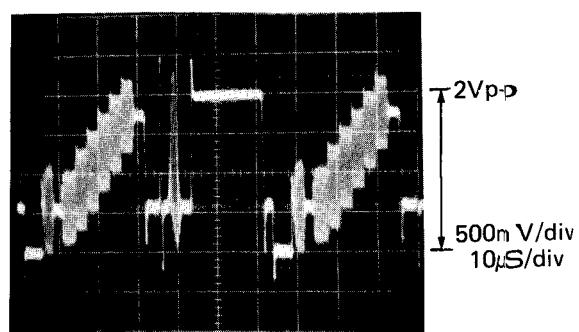
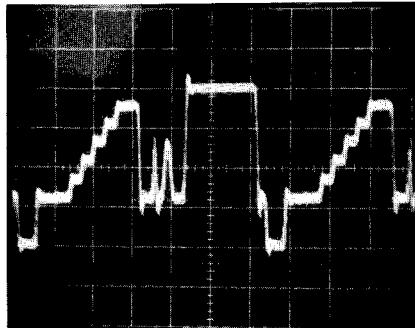


Photo 3.4 Demodulating Video Signal Waveform

#### 2. Adjustment of 1H Delay Video Level

- Referring to "1", set the player to the still condition by the composite test signal.
- Adjust the VR202 so that the video signal on Pin 11 of the Z201 (high-frequency component and chroma signal are suppressed) becomes 2Vp-p.

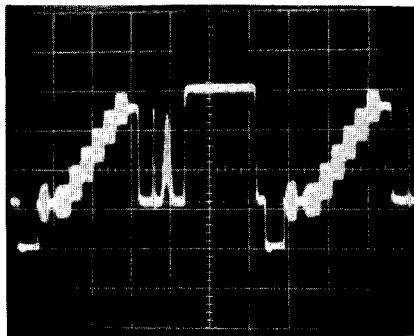


500mV/div  
10μS/div

Photo 3.5 Waveform of 1H Delay Video Signal

### 3. Adjustment of Output Video Level

- “1. Adjustment of Demodulating Video Level” should be finished before starting this adjustment.
- Referring to “1”, set the player to the still condition by the composite test signal.
- Adjust the VR203 so that the video signal on Pin 1 of the Z204 (PA9003) becomes 2Vp-p.



500mV/div  
10μS/div

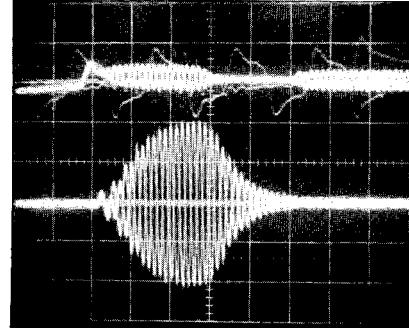
Photo 3.6 Waveform of Output Video Signal

### 4. Adjustment the Pulse Width of the HD1 Signal

- Observe the HD1 signal by Pin 25 of the Z203 (PA9001) and adjust the VR207 so that the pulse width becomes 5 μsec.

### 5. Adjustment of Color Burst Gate Timing

- Observe Pin 9 (video signal) and Pin 10 (color burst signal) of the Z203 and adjust the VR205 so that the color burst signal is separated from the video signal at the optimal timing.



Upper: 1V/div  
Lower: 200mV/div  
1μS/div

Upper; Video signal  
Lower; Color burst signal

Photo 3.7 Waveform of Color Burst Signal

### 6. Adjustment of PLL Loop Offset

- Disconnect the oscilloscope from the player, etc. and connect the GND of the probe to Pin 6 of the Z205 (MN8036).
- Observe Pin 13 of the Z203, adjust the VR206 so that the PLL circuit is set to “lock”, then read the voltage.
- Connect a condenser of about  $0.047\text{ }\mu\text{F}$  between Pin 9 of the Z203 and GND (Pin 6) and read the voltage of Pin 13.
- Adjust the VR206 so that the foregoing voltages all equal.

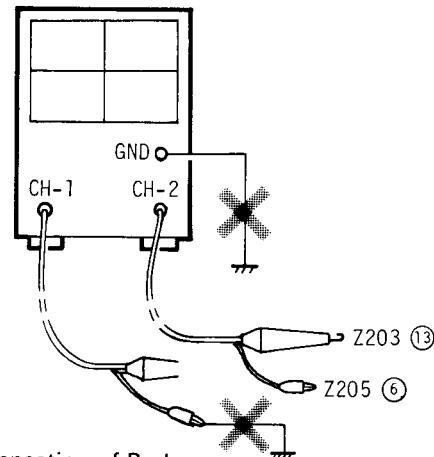


Fig. 3.14 Connection of Probe

*Caution: You may follow the procedure shown in LD-700's service manual (shown below) but this method is more accurate.*

- Play the composite test pattern in the still mode. Observe the DC level V1 of pin 13 of PA9001 (Z203).
- Next, connect a capacitor of about  $0.047\text{ }\mu\text{F}$  between pin 9 of the same IC and ground and observe the DC level V2 of pin 13. V1 should equal V2. If not, adjust VR206.

## 7. Adjustment of Hue Correcting Circuit and PLL Error Level

- Set the player to the still condition in the Magenta signal section starting with Frame #26,101 (Chapter #20).
- Set the VR208 near the center of the rotation range.
- Observe the video signals on (E) of the Q213 and (E) of the Q222 and adjust the VR204 so that the level of the chroma signal is equal.
- If color shading appears on the screen, adjust the VR204 and VR208 for a minimum of color shading.

## 4.5 DEMB (AUDIO Section) ADJUSTMENT

### 1. Adjustment of Audio Signal Offset

► When the CX system is operated, the gain of the VCA (Voltage Controlled Amplifier) in the Z6 (HA12043) is changed over according to the amplitude of the audio signal. At the moment of gain changeover, however, the control signal is mixed with the audio signal causing audible noise. This is caused by the imbalance of the differential amplifier in the IC and can be improved by adjusting the DC value (offset) of the input signal.

- Search Frame #9,001 and set the player to playback using the PLAY key.

► The audio signal offset adjusting signal is recorded from Frame #9,001 (Chapter #11) of test disc F2. This signal consists of a sine wave of 1 kHz in channel 1/left (CH-1/L) and a non-modulated signal in CH-2/R as shown in Fig. 3.15. Then, from Frame #10,351 (Chapter #12), the relationship of the channels is reversed.

In the signal shown in Fig. 3.15, gain is changed over in Sections A and B, if the CX system is operative.

- Turn ON the CX system.

• Observe the CH-2/R output (Pin 14 of the Z6) of the non-modulated signal and adjust the VR6 so that the noise occurring every 8 sec. is at a minimum.

► Even in the non-modulated signal, changeover noise occurs in both channels by inputting the CH-1/L. In the non-modulated signal, noise can be more easily observed.

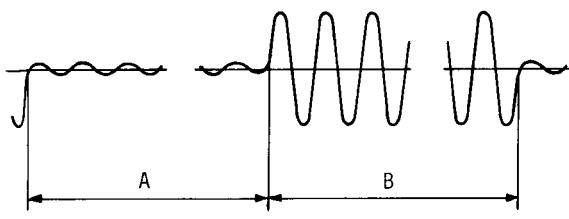
- When noise cannot be easily observed, slightly raise the signal level by the VR2 to the extent that Section A does not reach the gain change-over level.
- Beginning from Frame #10,351, observe the output of the CH-1/L (Pin 16 of the Z16) and adjust the VR5.

### 2. Adjustment of Audio Signal Distortion

- Connect the distortion factor meter to the audio output signal. (CH-1/L: N80-4, CH-2/R: N80-2)
- Search Frame #19,801 (Chapter #15) and set the player to playback using the PLAY key. (1 kHz, 100% modulation)
- Turn OFF the CX system.
- Coarsely adjust the output signal level to 650 m Vrms. (CH-1/L: VR1, CH-2/R: VR2)
- Adjust the inductor for a minimum distortion factor (0.3% or less). (CH-1/L: VL1, CH-2/R: VL2)

### 3. Adjustment of Audio Signal Level

- Search Frame #7,201 (Chapter #9) and set the player to playback. (1 kHz, 40% modulation)
- Adjust the VR1 so that the level of Pin 11 of the Z6 (CH-1/L) becomes 65 m Vrms.
- Search Frame #8,101 (Chapter #10) and set the player to playback.
- Adjust the VR2 so that the level of Pin 10 of the Z6 (CH-2/R) becomes 65 m Vrms.



A: 8 sec 1kHz 4% (-20dB)  
B: 8 sec 1kHz 40% (0dB)

Fig. 3.15 CX System Check Signal

## 4.6 SRVB ADJUSTMENT

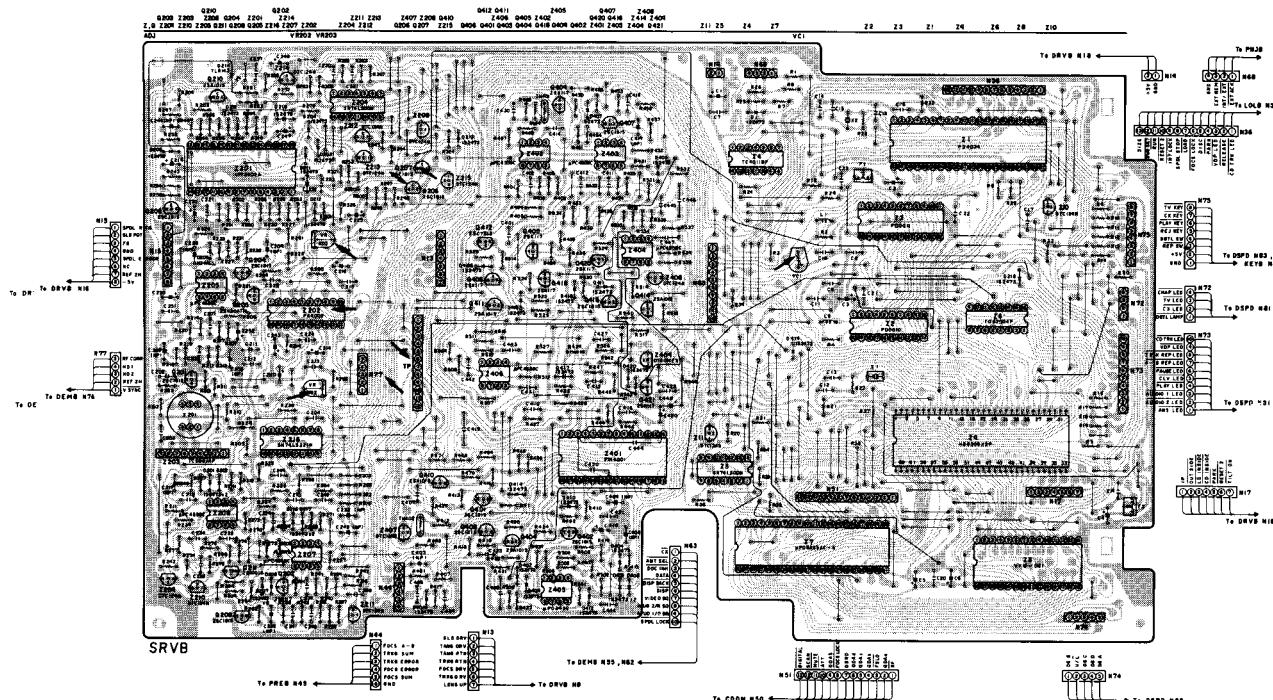


Fig. 3.16 SRVB Adjustment Positions

### **1. Adjustment of PA9002 SYNC-GATE Circuit**

- Insert the disc and begin disc play.
  - Verify the falling period of the trapezoid waveform is  $8\mu s \pm 1\mu s$ . If not, adjust VR202 to satisfy the above.
  - Verify the L period of the PBH is  $33\mu s \pm 2\mu s$ . If not, adjust VR203 to satisfy the above.

## 2. Check for PD0011 Clock Frequency

- Set the 12 in. CLV disc and set the player to playback.
  - Search Time #0: 40 from playback of Time #0: 10 and measure searching time.
  - Measure searching time from Time #0: 40 to Time #0: 10.
  - Check that both searches are completed in less than 12 sec.
  - If the search is extremely long or fails (play is restarted at a number other than the object), adjust the VC1.

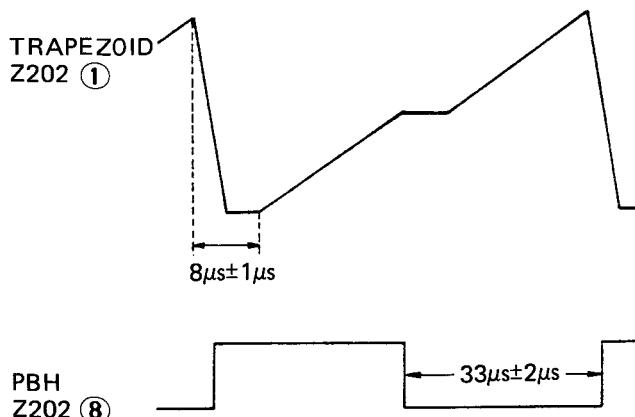


Fig. 3.17 SYNC GATE ADJUSTMENT

#### 4.7 LOLB ADJUSTMENT

## CD SPDL Motor Brake Adjustment

- If the EJECT key ( ■/▲ ) is pressed while the CD is playing, the voltage for reverse rotation is applied to the SPDL motor. The amount of time is decided by the C7 and the VR1 of the LOLB. As a result, the motor stops quickly. However, the motor is reversely rotated at the outer track because the angular velocity is low enough during playing.

Therefore, the applied time of the voltage for reverse rotation should be adjusted by the VR1 so that the motor is stopped within similar periods of time both at the inner and outer tracks.

- Set the CD disc for long-time playing and set the disc to play.

- Adjust the VR1 so that the disc is stopped within similar periods of time after pressing the EJECT key, while playing both outermost and innermost tracks.

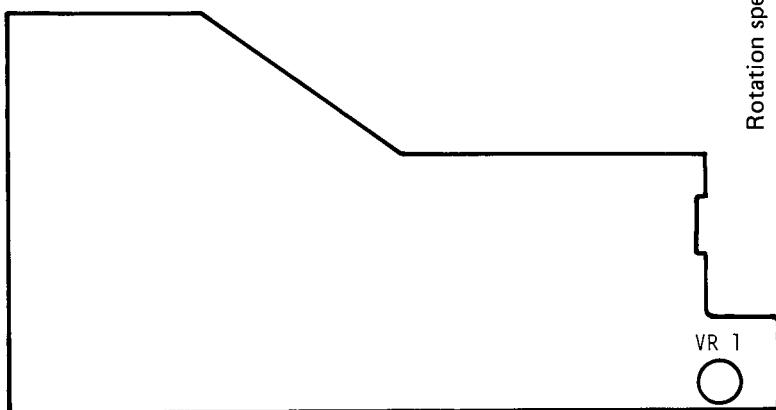


Fig. 3.19 CD/SPDL Motor Stop

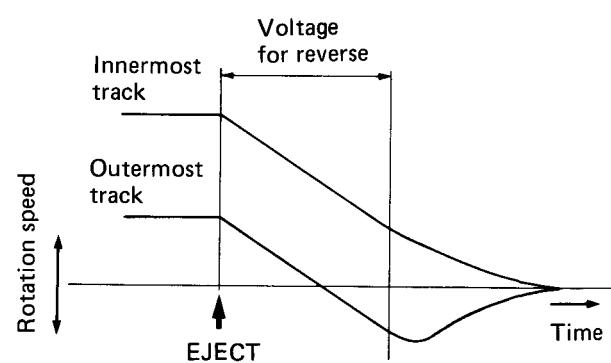


Fig. 3.18 LOLB Adjustment Position

## **4.8 CDDM ADJUSTMENT**

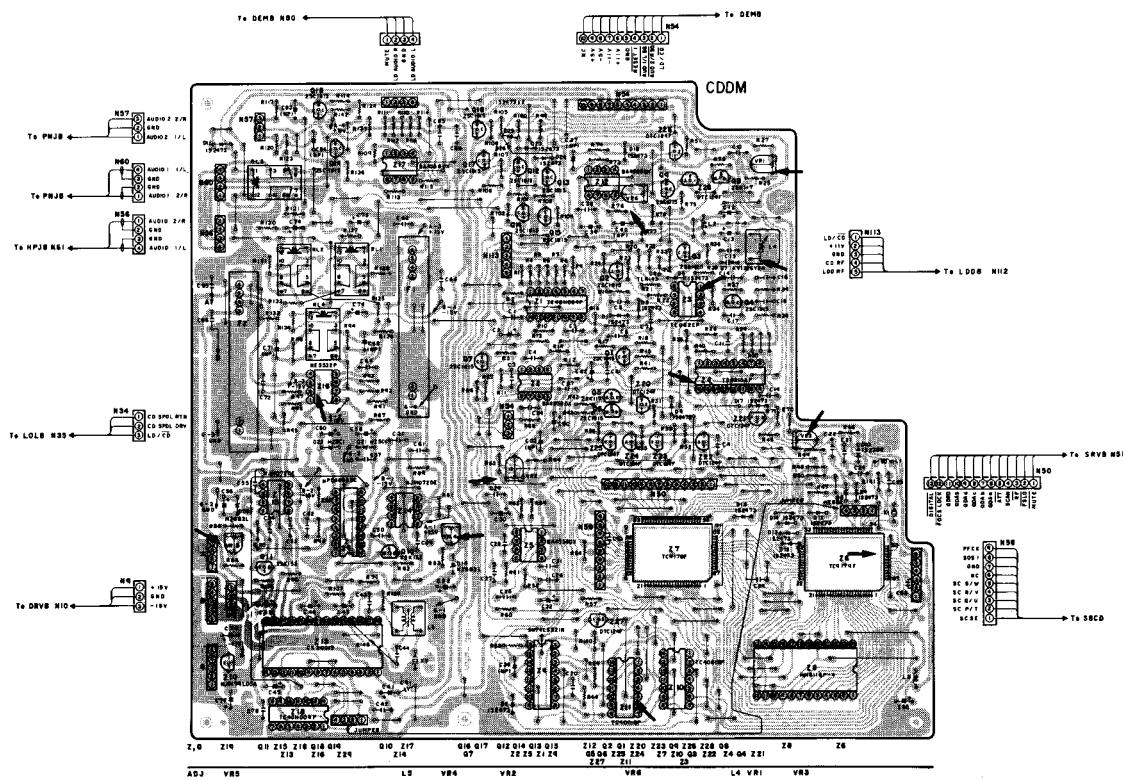


Fig. 3.20 CDDM Adjustment Positions

**digital  
SOUND**

### 1. Clock Frequency Adjustment

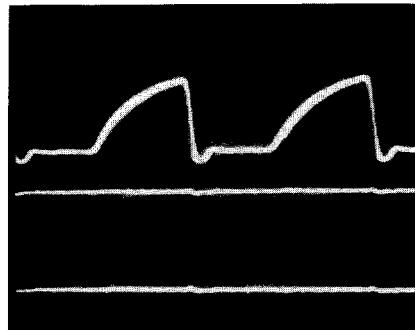
- Connect the frequency counter to Pin 56 (CK2M signal) of the Z6 (TC9179F).
- Set the CD/test disc in the player and turn the POWER switch ON.
- Adjust the VR3 so that the frequency counter indicates 2.11680 MHz ( $\pm 110$  Hz).

### 2. VCO Level Adjustment

- Set the VR1 so that Pin 1 of the Z4 (TD6315AP) becomes 2.7V.
- Set the CD disc to play using the PLAY key.
- Adjust the L4 so that Pin 1 of the Z3 (TL082CP) becomes 5.0V.

### 3. PLL Offset Adjustment

- Observe Pin 12 (PLCK signal) and Pin 14 (EFM2 signal) of the Z4 (TD6315AP). (Oscilloscope scanning is triggered by the PLCK signal.)
- Adjust the VR1 so that the edge center (transition timing) of the EFM2 signal with jitter agrees with the timing of the leading edge of the PLCK signal.



Upper, Lower:  
2V/div  
0.05 $\mu$ S/div  
(x10 MAG)

Photo 3.8 PLCK, EFM2 Signal Waveform

### 4. SPDL Offset Adjustment

- Observe Pin 5 (APCO signal) of the Z11 (TC4001BP).
- Adjust the VR2 so that the duty-cycle of the APCO signal becomes 50%.

### 5. Audio Signal Offset Adjustment

- Observe the audio signal (CH-1/L) of Pin 7 of the Z16 (NE5532P) and adjust the VR4 so that the DC value (offset) becomes 0V.
- Similarly, adjust the VR5 to set the DC value to 0V, for the CH-2/R audio signal of Pin 8 of the Z16.

### 6. LDD Offset Adjustment

- Set the LDD disc (with a mark as shown in Fig. 3.21) to playback.
- Adjust the VR6 so that the duty-cycle of Pin 5 (APCO signal) of the Z11 becomes 50%.

Fig. 3.21 Mark of "LaserVision with Digital Sound"

### 4.9 OTHER ADJUSTMENTS

#### CD/INSIDE Switch Position Check

- ⇒ By continuously pressing the SCAN REV key (◀◀) near the innermost track of the CD disc, the player is stopped at the beginning of the first tune. By pressing the key again, the slider is fed until the INSIDE switch is pressed. The position at which the INSIDE switch is pressed corresponds to the read-in section of the disc where the TOC (Table of Contents) is recorded.

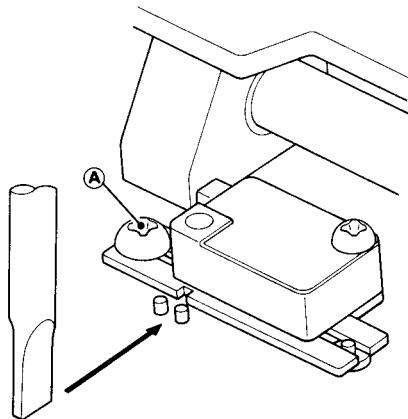


Fig. 3.22 INSIDE Switch Adjustment

- Set the player to play using the PLAY key, then locate the beginning of the first tune by the SCAN REV key, press the key again and feed the slider until the INSIDE switch is pressed.
- Check that the screen display time is 4 minutes and 46 sec. ( $\pm 8$  sec.) when the slider stops.

*Note: A time of 4 minutes and 46 sec. relates to Version A of test disc YEDE-7. (The time of Version E is 4 minutes and 49 sec.  $\pm 8$  sec.)*

- When the stop position is incorrect, adjust the position of the INSIDE switch in the following procedures.
- Pull out the disc table, remove the stopper mounted on the rail and remove the table.

- To close the INTERLOCK switch, connect Pin 1 and Pin 2 of the N40 of the LOLB.
- Place the test disc on the Tapered wheel of the CD/SPDL motor.
- Turn the power switch ON to clamp the disc.
- Slightly loosen Screw (A).
- Set the screw driver as shown in the figure and adjust the switch position.
- Tighten Screw (A) and check for the above.
- After the adjustment is complete, disconnect the N40 of the LOLB and return the table to the original position.

#### Adjustment of Disc Clamp Detecting Position

- ⇒ This adjustment must be made without fail when the CLAMP switch or mechanical chassis assembly is replaced.
- When the disc clam bar is low, press the EJECT key to raise.
  - Tighten Screw (B) so that the CLAMP switch is pressed when the disc is clamped.
  - Lower the disc clamper by pushing in the table.
  - Loosen Screw (B) to the changeover point where the voltage on the N78-1 of the LOLB is changed over from "L" to "H".
  - ⇒ Do not push the screw but gradually loosen it.
  - Tighten the screw by two and a half turns from the changeover point and coat the locking agent.

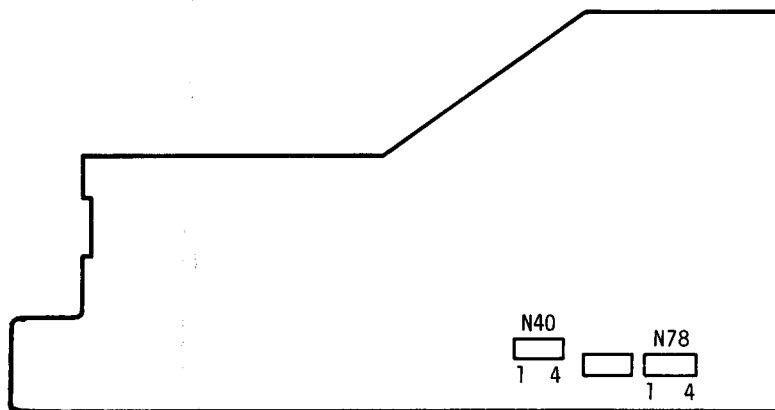


Fig. 3.23 LOLB, N40 and N78 (pattern side)

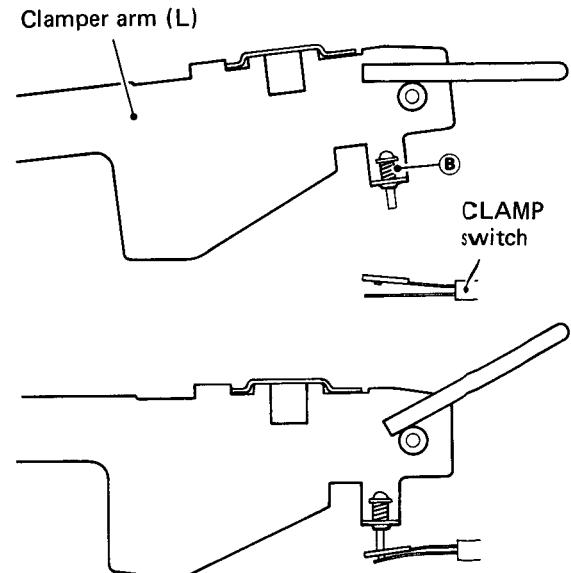
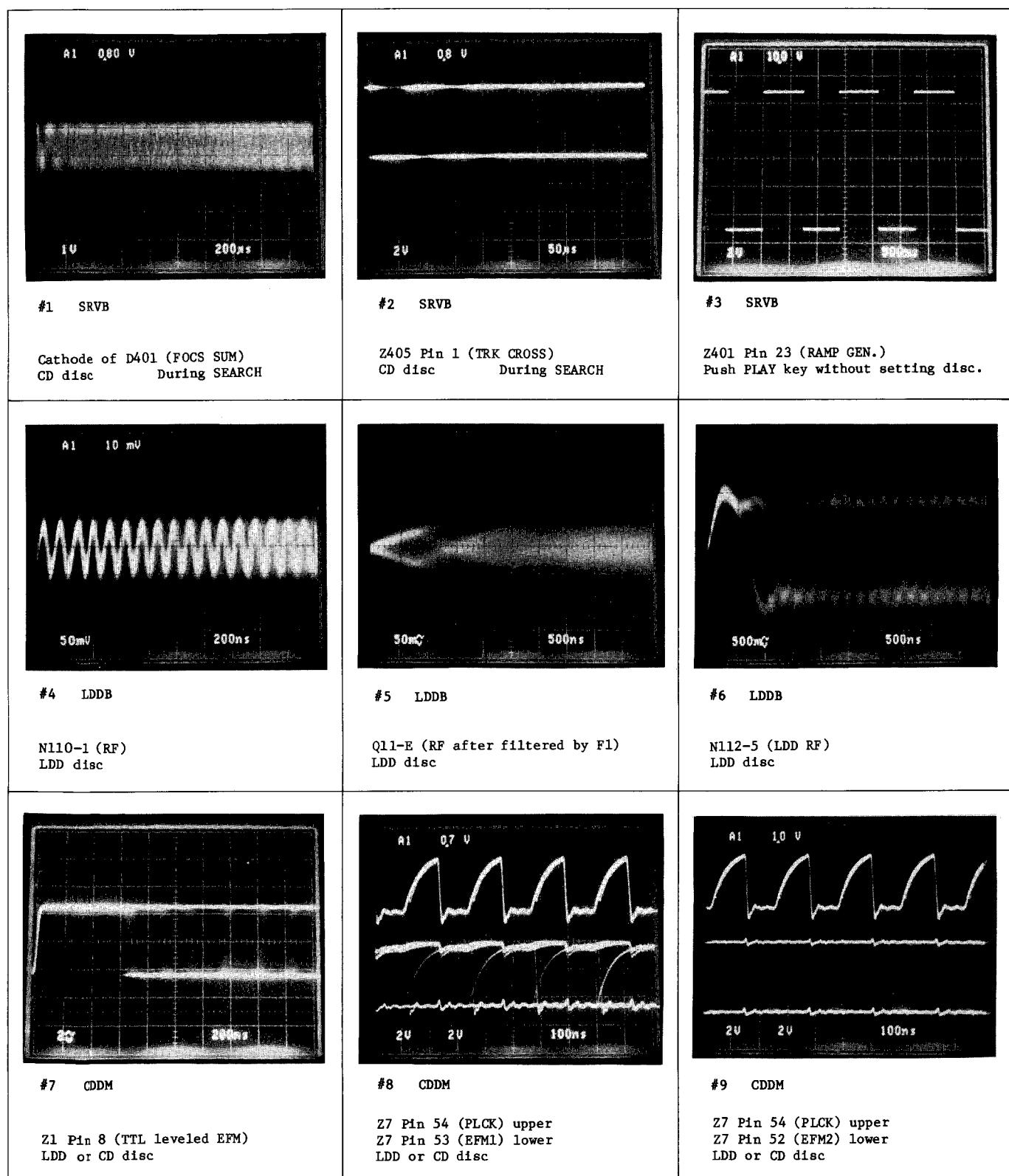
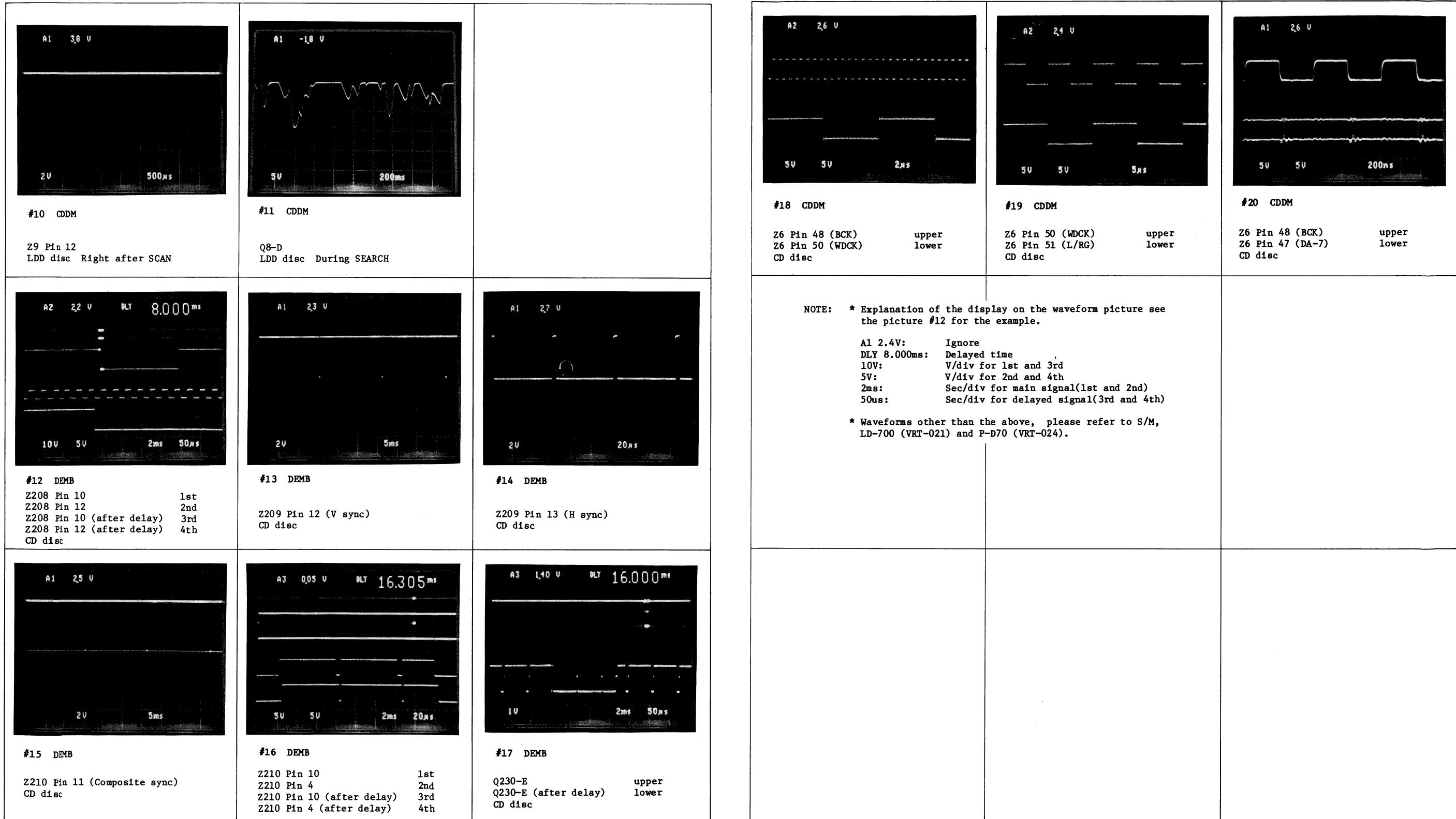


Fig. 3.24 Clamp Detection of Disc

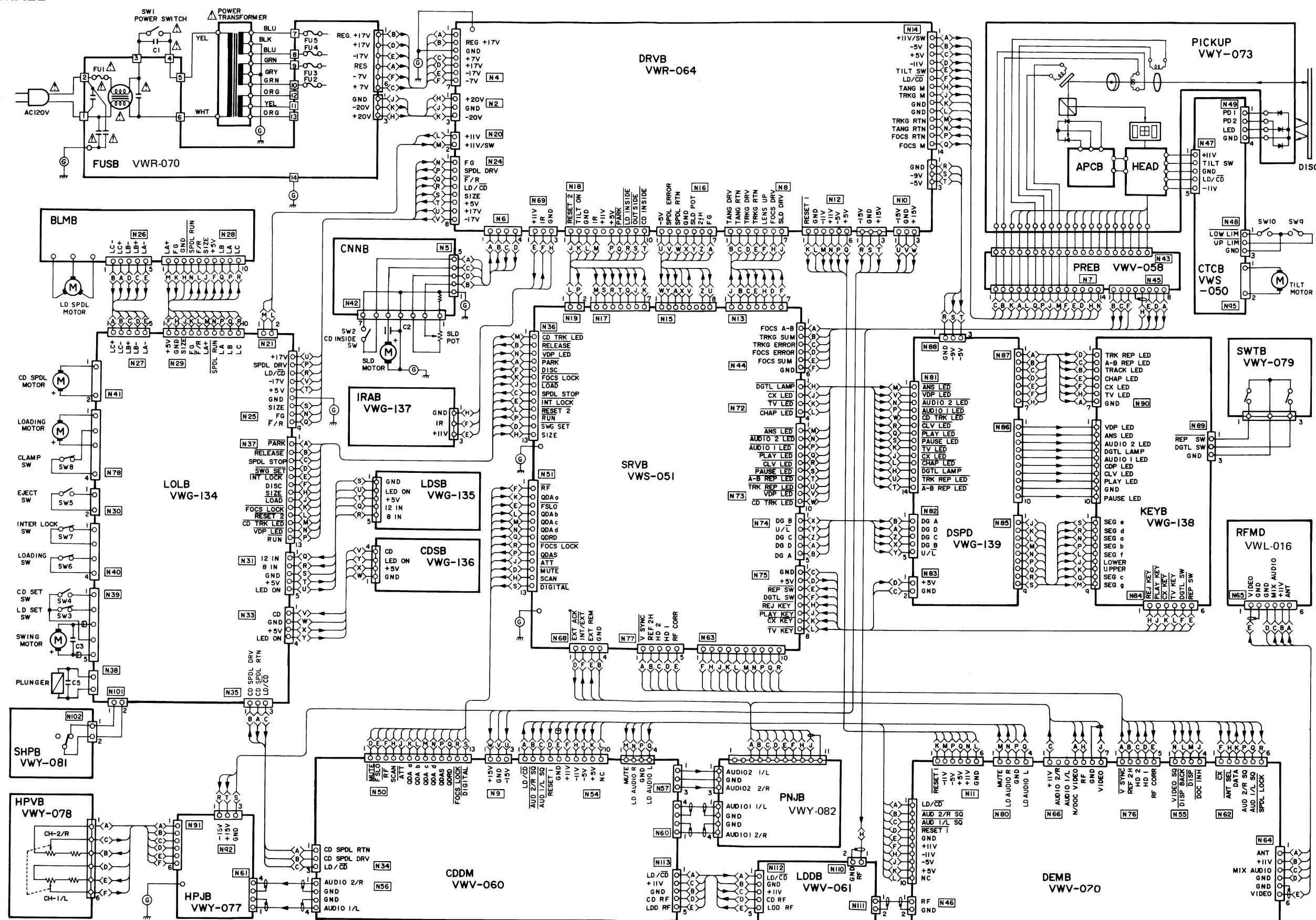
## WAVEFORMS





## **5. SCHEMATIC DIAGRAM, PCB PATTERN & PARTS LIST**

## 5.1 OVERALL



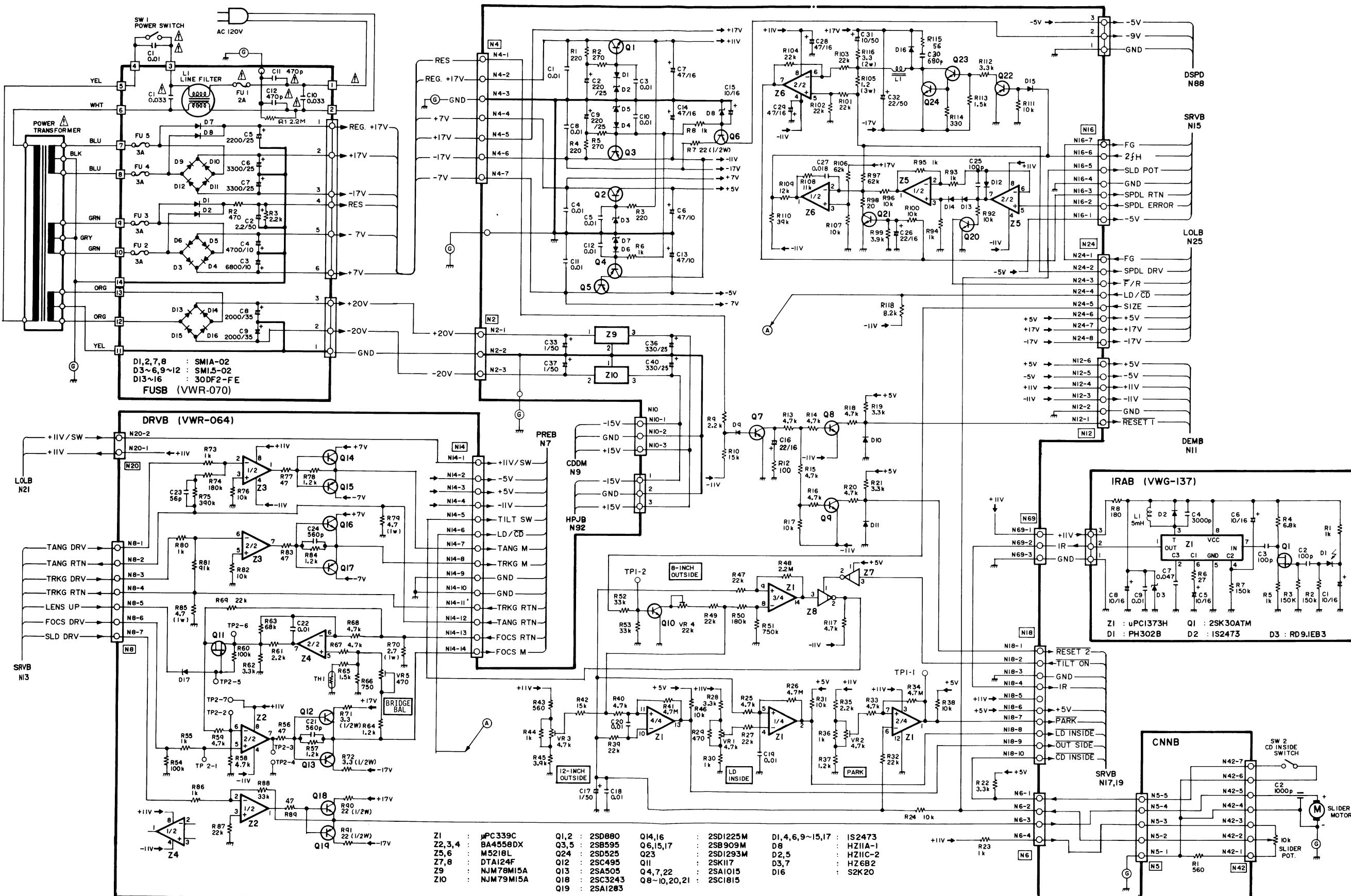
- NOTES:**
- Parts without part number cannot be supplied.
  - The **▲** mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
  - When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

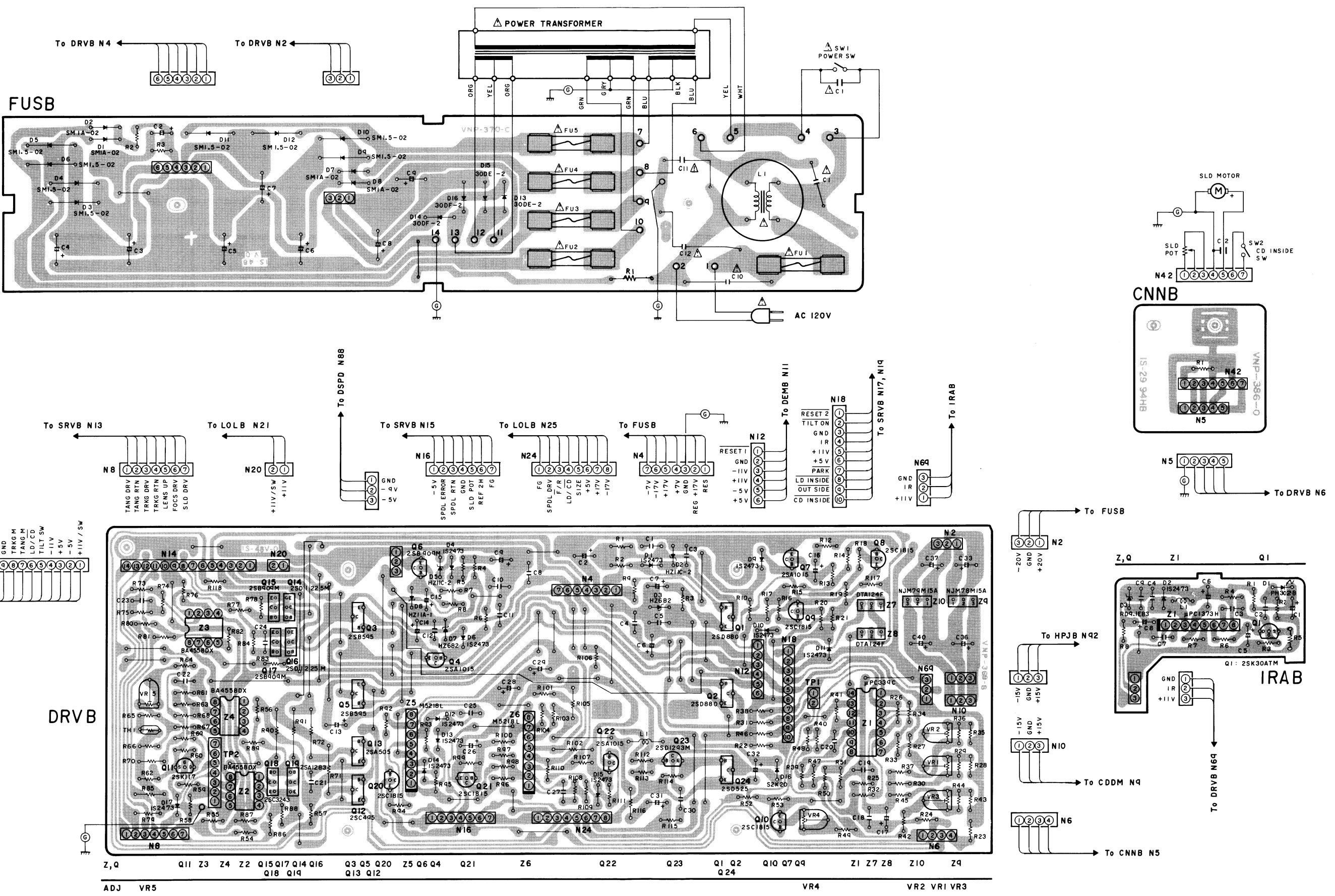
CLD-900/KU	Parts list	1
(MK)	PART No.	(IT) REF Nos. & DESCRIPTION
▲ VWR-070	FUSB	
VWR-064	DRVB	
N.S.P.	CNNB	
VWG-137	IRAB	
VWV-058	PREB	
VWS-050	CTCB	
VWG-134	LOLB	
VWG-135	LDSB	
VWG-136	CDSB	
VWY-081	SHPB	
VWS-051	SRVB	
VWG-139	DSPD	
VWG-138	KEYB	
VWY-079	SWTB	
VWV-060	CDDM	
VWV-061	LDDB	
VWV-070	DEMB	
VWY-077	HPJB	
VWY-078	HPVB	
VWY-082	PNJB	
VWL-016	RFMD	
VWY-073	Pick up	
VXM-043	LD/SPDL motor	
VXM-044	CD/SPDL motor	
VXM-028	LOAD motor	
VXM-045	SWING motor	
VXM-020	SLDR motor	
VXM-046	TILT motor	
VCS-017	Slider pot	
▲ VCG-018	C1	
VCG-005	C2	
CKDYB102K50	C3	
CKDYF223Z50	C5	
▲ VSA-006	Power switch	
VSF-009	SW2,5	
VSK-003	SW3,4,9,10	
VSK-004	SW6,7	
VSK-008	SW8	
▲ VTT-056	Power transformer	
VXP-009	Plunger	
▲ VDG-030	Power cord	

## ABBR. AND CONTENTS OF BOARDS

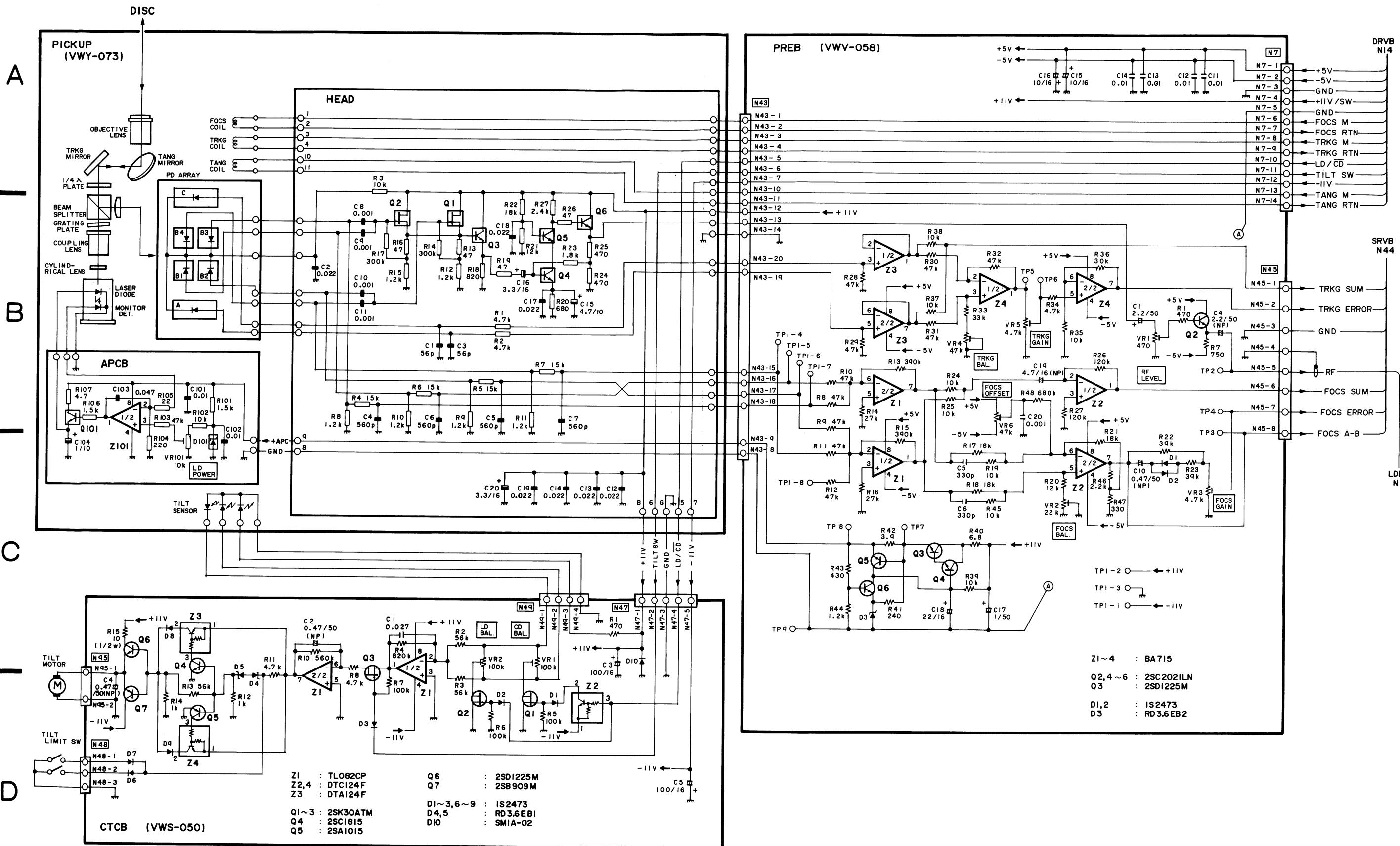
- FUSB** ; FUSE Board  
: Fuse, Line filter, rectifying circuits
- DRVB** ; DRIVER Board  
: Servo unit drivers (TANG, TRKG, FOCS, SLDR),  
Slider position detectors, Reset signal generator,  
SPDL motor driver, Voltage regulators
- CNNB** ; CONNECTING Board  
: Connectors between DRVB and SLDR motor, etc.
- IRAB** ; INFRARED Board  
: Infrared receiver and amplifier
- PREB** ; PRE-amplifiers Board  
: RF signal and servo error signal processors and  
amplifiers
- CTCB** ; CROSS-TALK CANCELLER Board  
: Cross-talk cancelling servo (TILT) circuit
- LOLB** ; LOADING LOGIC Board  
: Disc table loading and ejection controller, LD and  
CD SPDL motor running controller, LD/SPDL  
motor 3-phase switches
- LDSB** ; LD SENSOR Board  
: LD disc detector (8in. or 12in.)
- CDSB** ; CD SENSOR Board  
: CD disc detector
- SHPB** ; SHIPPING switch Board  
: Transit switch
- SRVB** ; SERVO circuit Board  
CONT section ; CONTROLLER  
: System controlling microcomputer,  
Extended I/O ports, Data decoder,  
Character generator
- FTS section ; FOCS, TRKG, SLDR servo circuits.  
: Focus servo (FOCS), Tracking servo  
(TRKG), Slider servo (SLDR) circuits
- TBC section ; TIME BASE error Correctors  
: Tangential servo (TANG), Spindle  
servo (SPDL) circuits
- DSPD** ; DISPLAY Drivers board  
: Indicator drivers
- KEYB** ; KEY Board  
: Indicators and keys
- SWTB** ; SWITCH Board  
: "AUTO REPEAT" and "VIDEO DISC AUDIO"  
switches
- CDDM** ; CD DEMODULATOR board  
DCDR section ; DECODER  
: Clock signal generator, EFM signal  
demodulator, Error corrector,  
CD/SPDL motor servo circuit
- AUDF section ; AUDIO and FILTER  
: D/A converter, Audio output switcher
- LDDB** ; LASERVISION WITH DIGITAL SOUND Disc Board  
: RF signal compensator and amplifier of CD and  
LDD
- DEMB** ; DEMODULATOR Board  
VIDEO section (VDEM)  
: Video demodulator, Drop-out com-  
pensator, Sync separator, Hue com-  
pensator, Video output controller
- AUDIO section (ADEM)  
: Audio (LD) demodulator, Drop-out  
switcher, CX system decoder
- HPJB** ; HEAD PHONES JACK Board  
: Audio signal amplifier for "PHONES" output,  
"PHONES" output terminal
- HPVB** ; HEAD PHONES VOLUME Board  
: "PHONE LEVEL" volume
- PNJB** ; PIN JACK Board  
: "AUDIO OUTPUT" 1 and 2 output terminals,  
"VIDEO OUTPUT" terminal, "I/O PORT"  
terminal

## 5.2 FUSB, DRVB, CNNB, IRAB





### 5.3 PICKUP, HEAD, APCB, PREB, CTCB



1

2

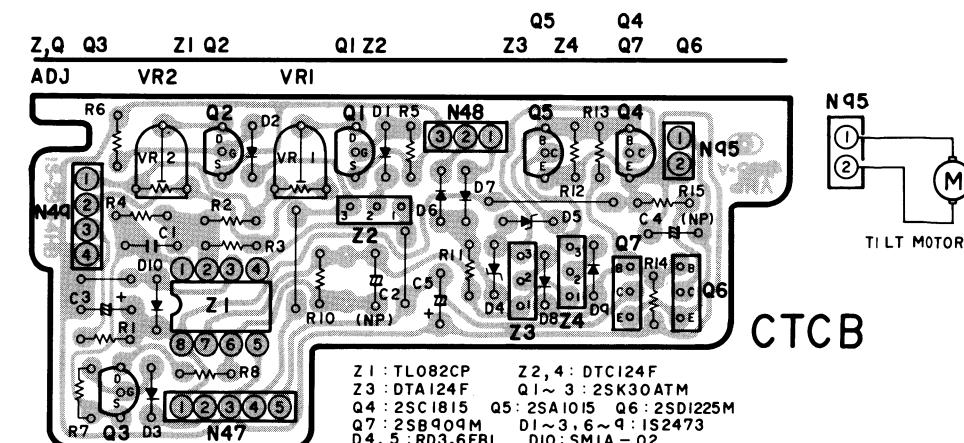
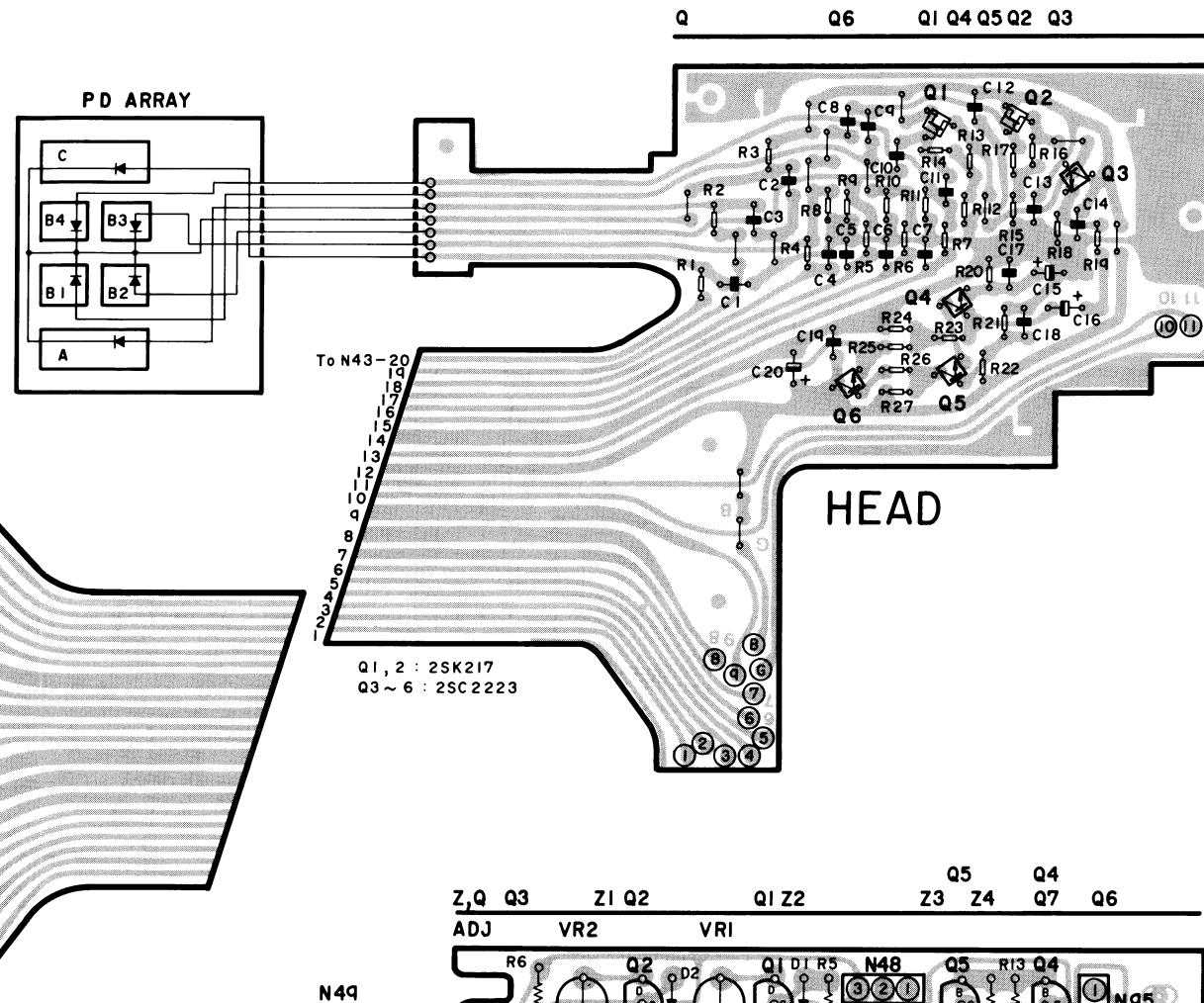
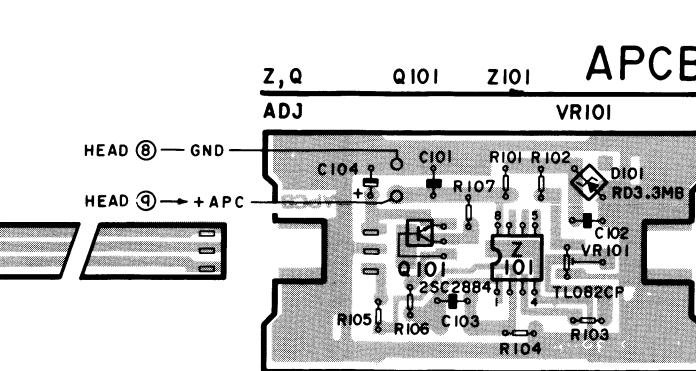
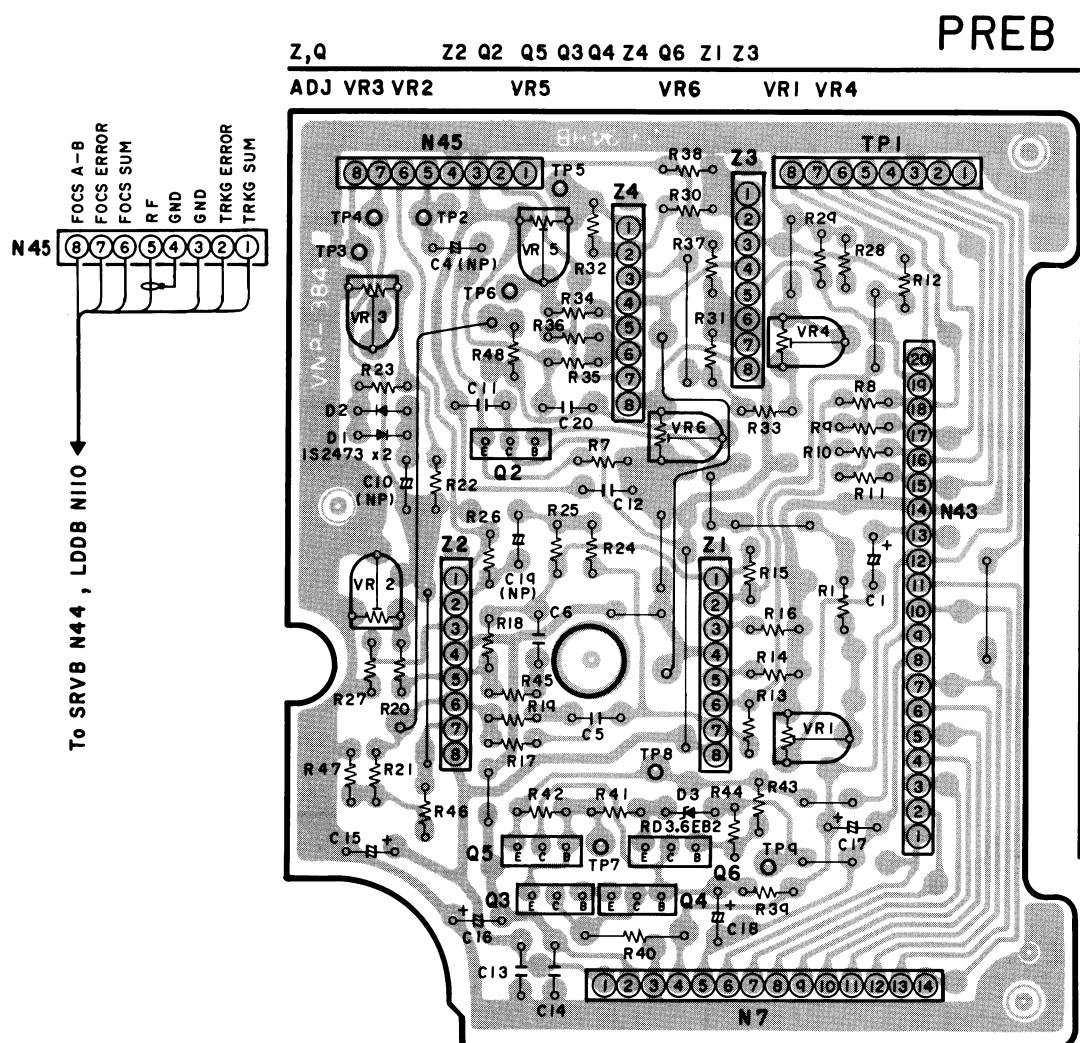
3

4

5

A

A



Z1 ~ 4 : BA 715  
Q2 , 4 ~ 6 : 2SC2021LN  
Q3 : 2SD1225M

To DRVR N14

N7	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	+ 5V	- 5V	GND	+11V / SW	GND	FOCS M	FOCS RTN	TRKG M	TRKG RTN	LD / CD	TILT SW	-11V	TANG M	TANG RTN

Z1 : TL082CP Z2,4 : DTCI24F  
Z3 : DTA124F Q1 ~ 3 : 2SK30ATM  
Q4 : 2SC1815 Q5 : 2SA1015 Q6 : 2SD1225M  
Q7 : 2SB909M D1 ~ 3, 6 ~ 9 : IS2473  
D4, 5 : RD3.6FBI D10 : SMIA - 02

**N47**

①	②	③	④	⑤
HEAD 8	HEAD 6	HEAD 5	HEAD 5	HEAD 7

+11V    TILT SW    GND    LD / CD    -11V

**N48**

③	②	①		
GND	UP LIM	LOW LIM	SW10	SW9

TILT LIMIT SW

1

2

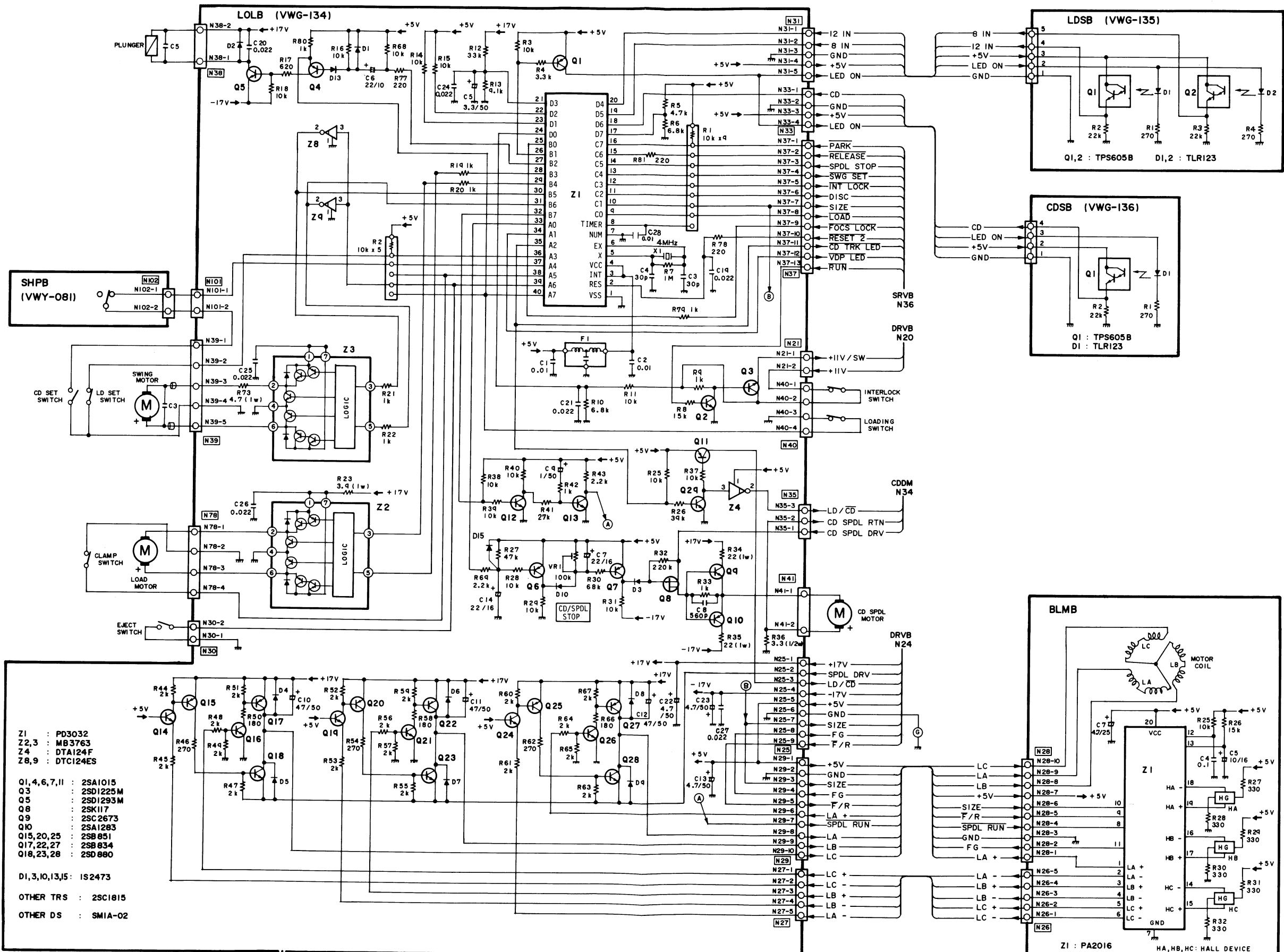
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## 5.4 LOLB, BLMB, LDSB, CDSB, SHPB

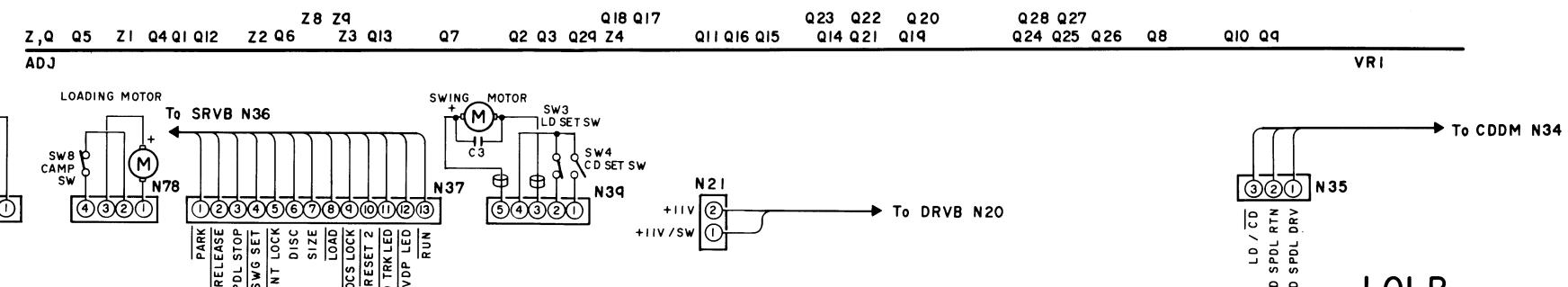


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B

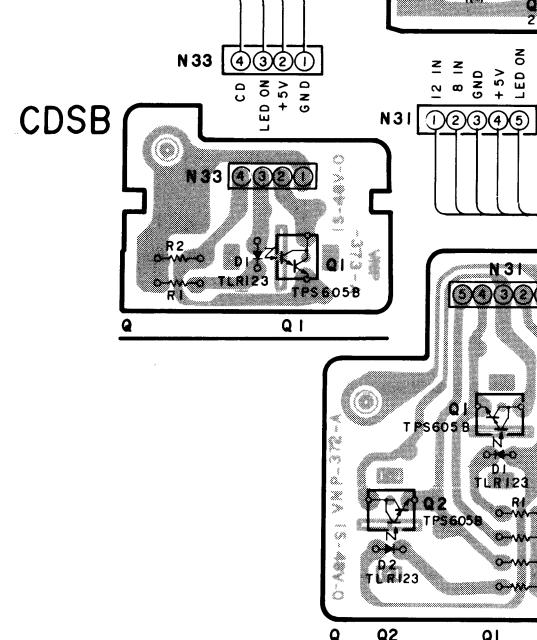
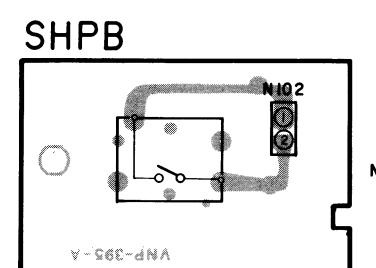
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C

C

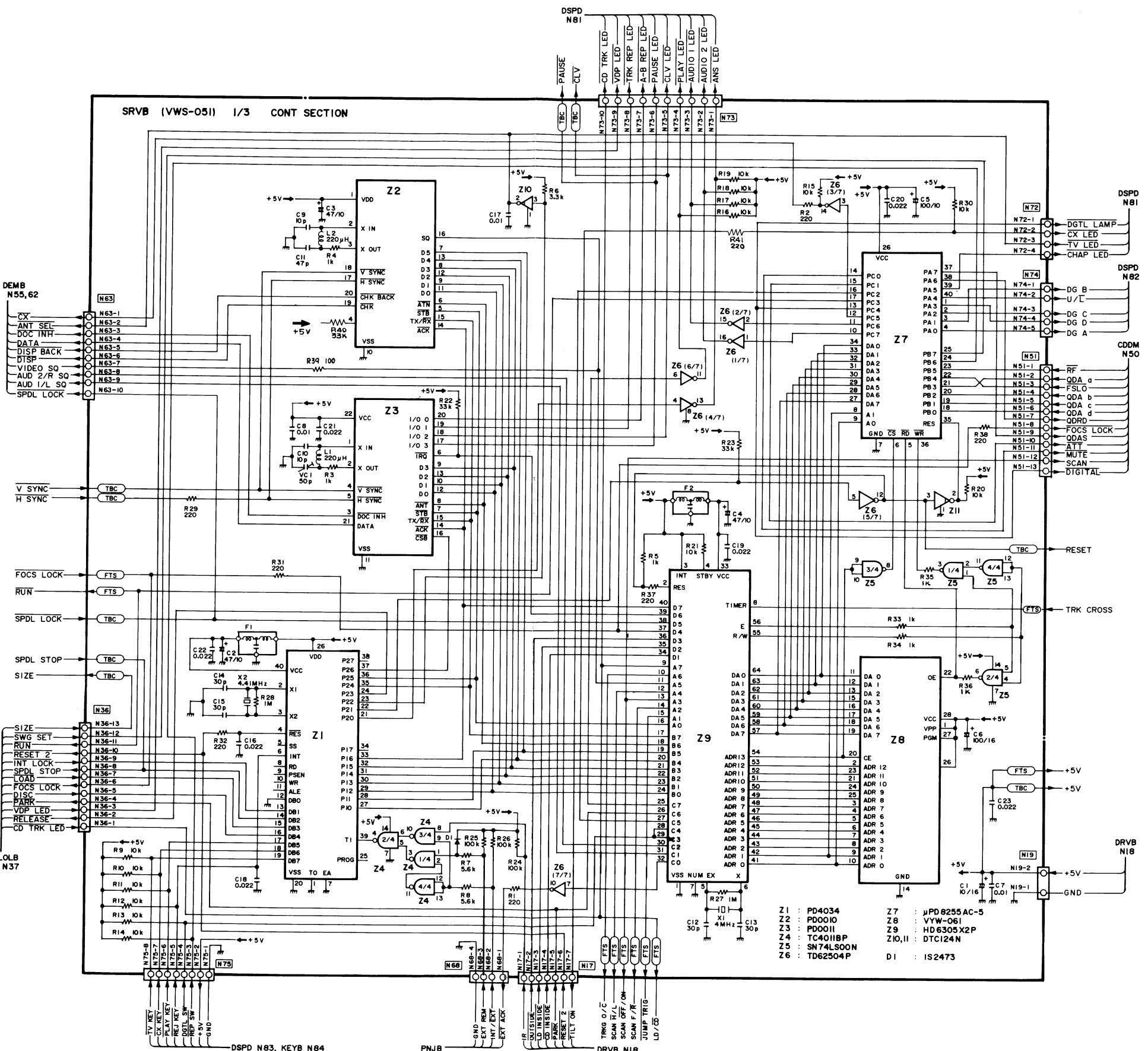
D

D



LDSB

## 5.5 SRVB (1/3) CONT SECTION



1

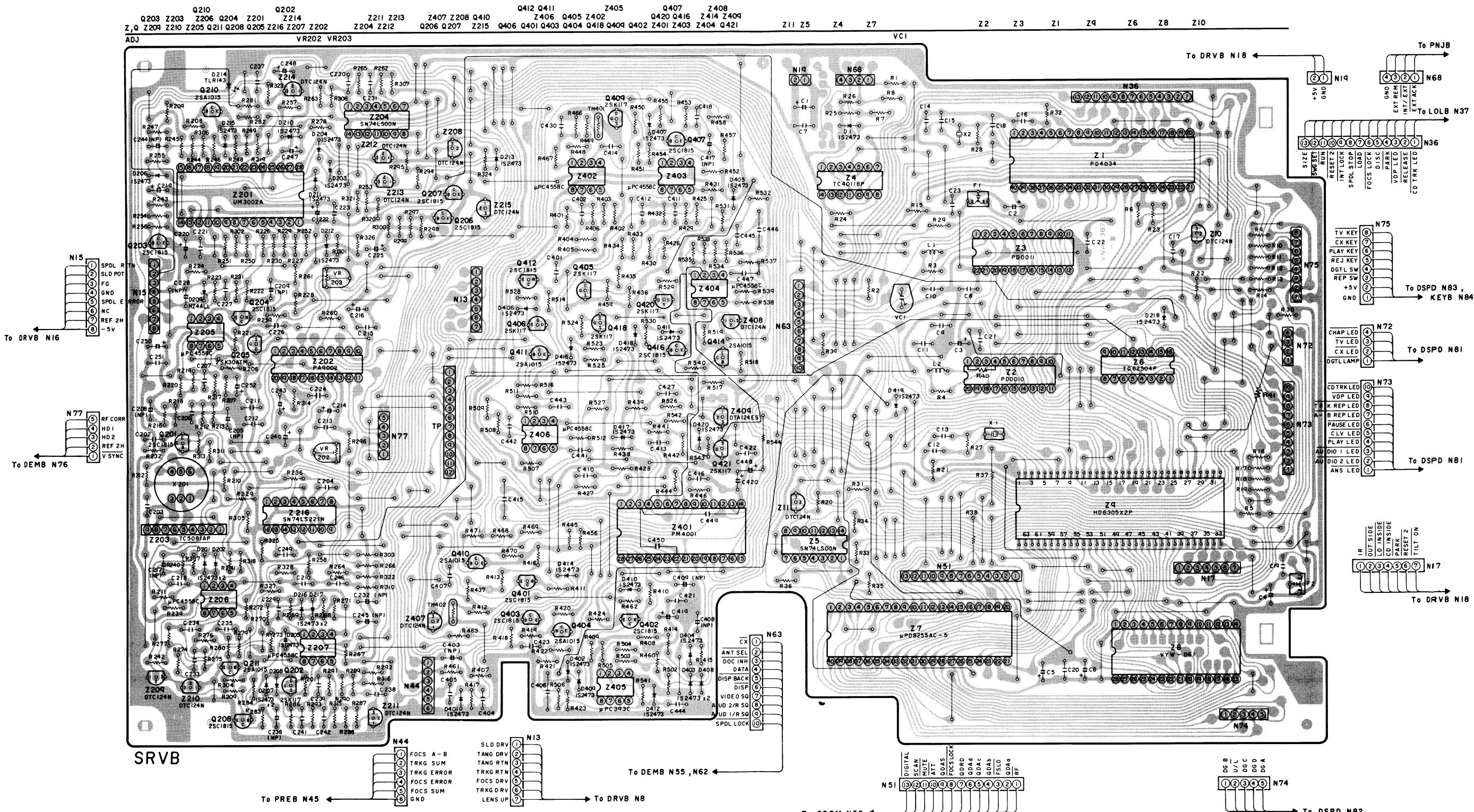
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A



1

2

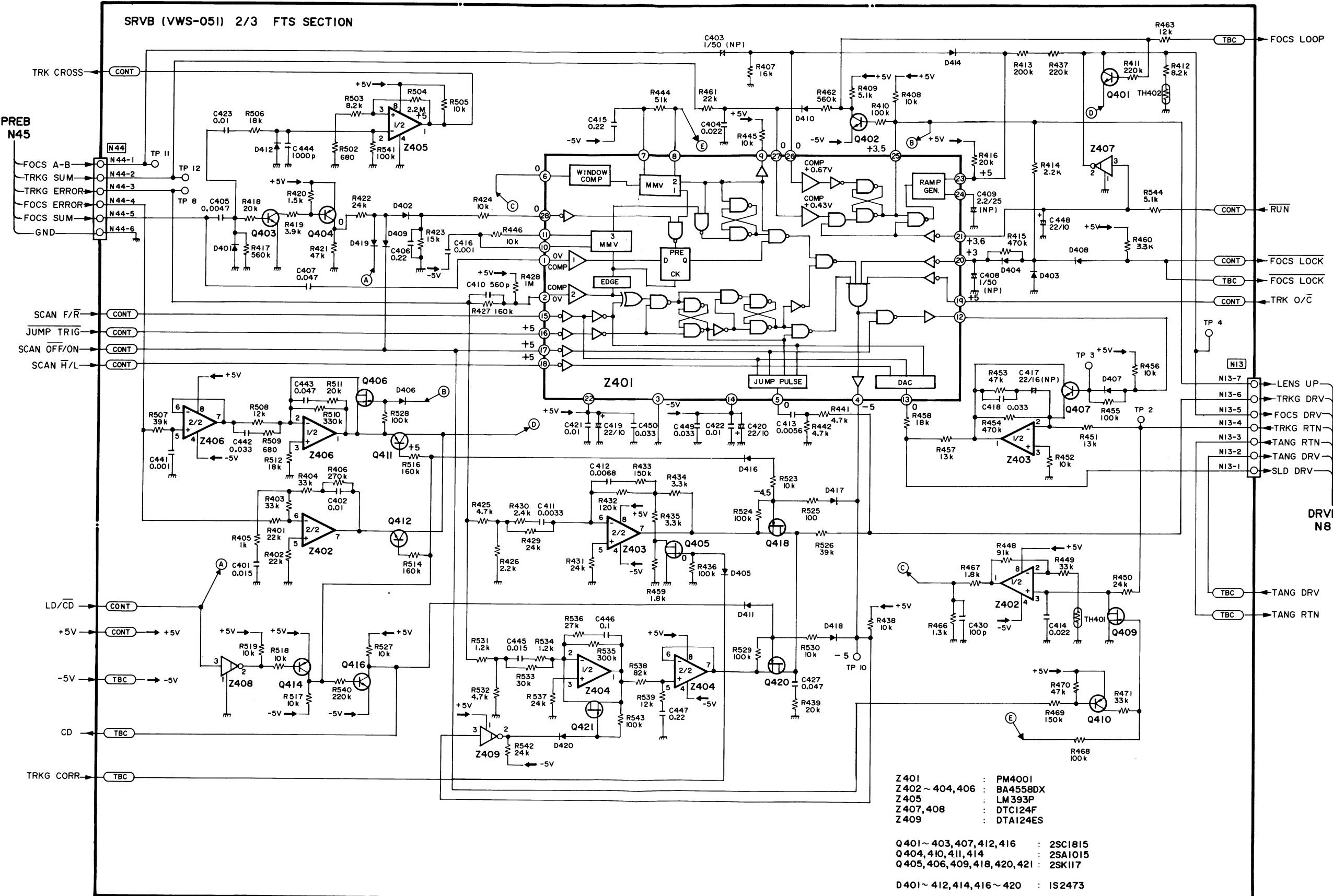
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## 5.6 SRVB (2/3) FTS SECTION



1

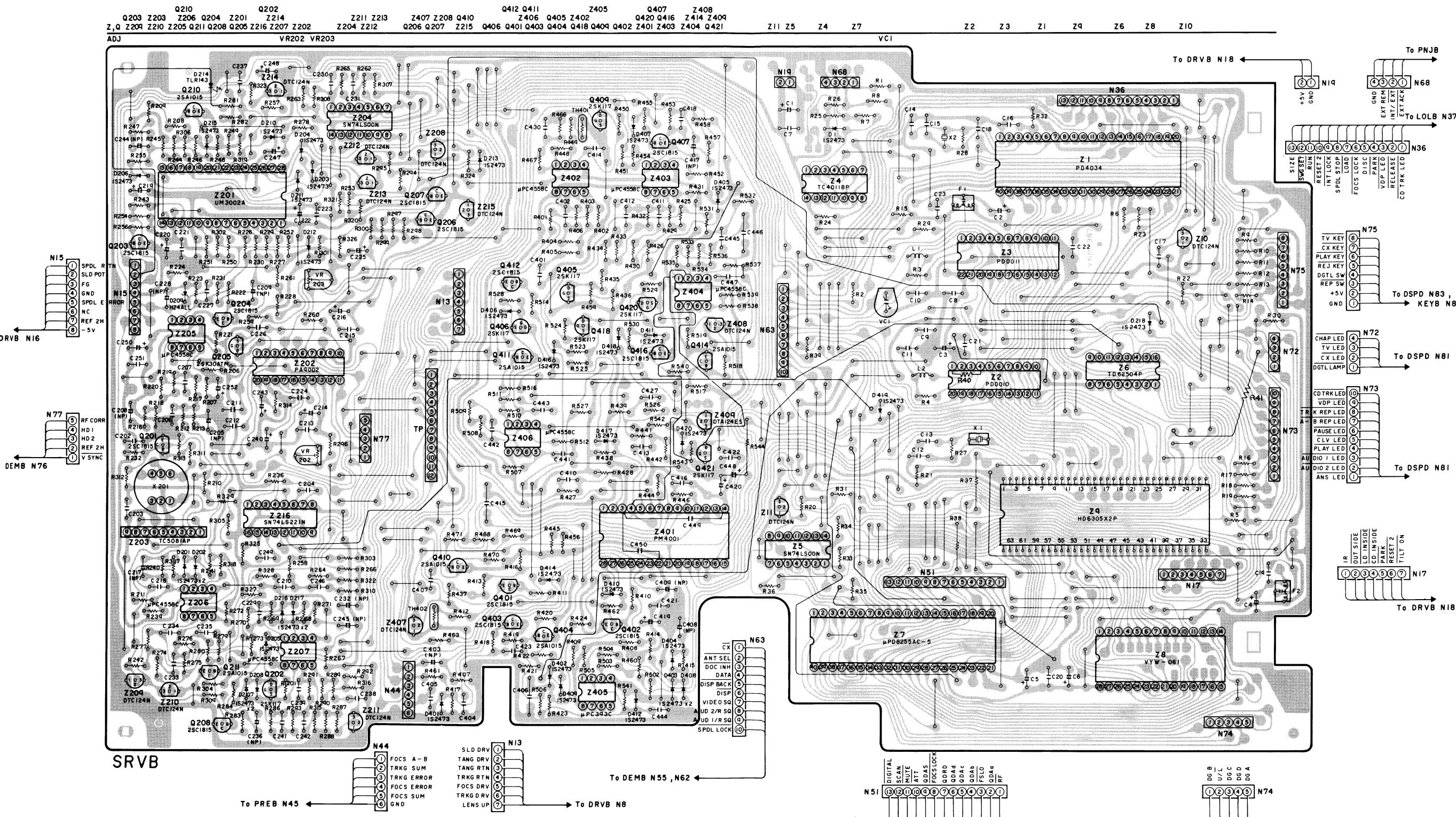
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D

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3

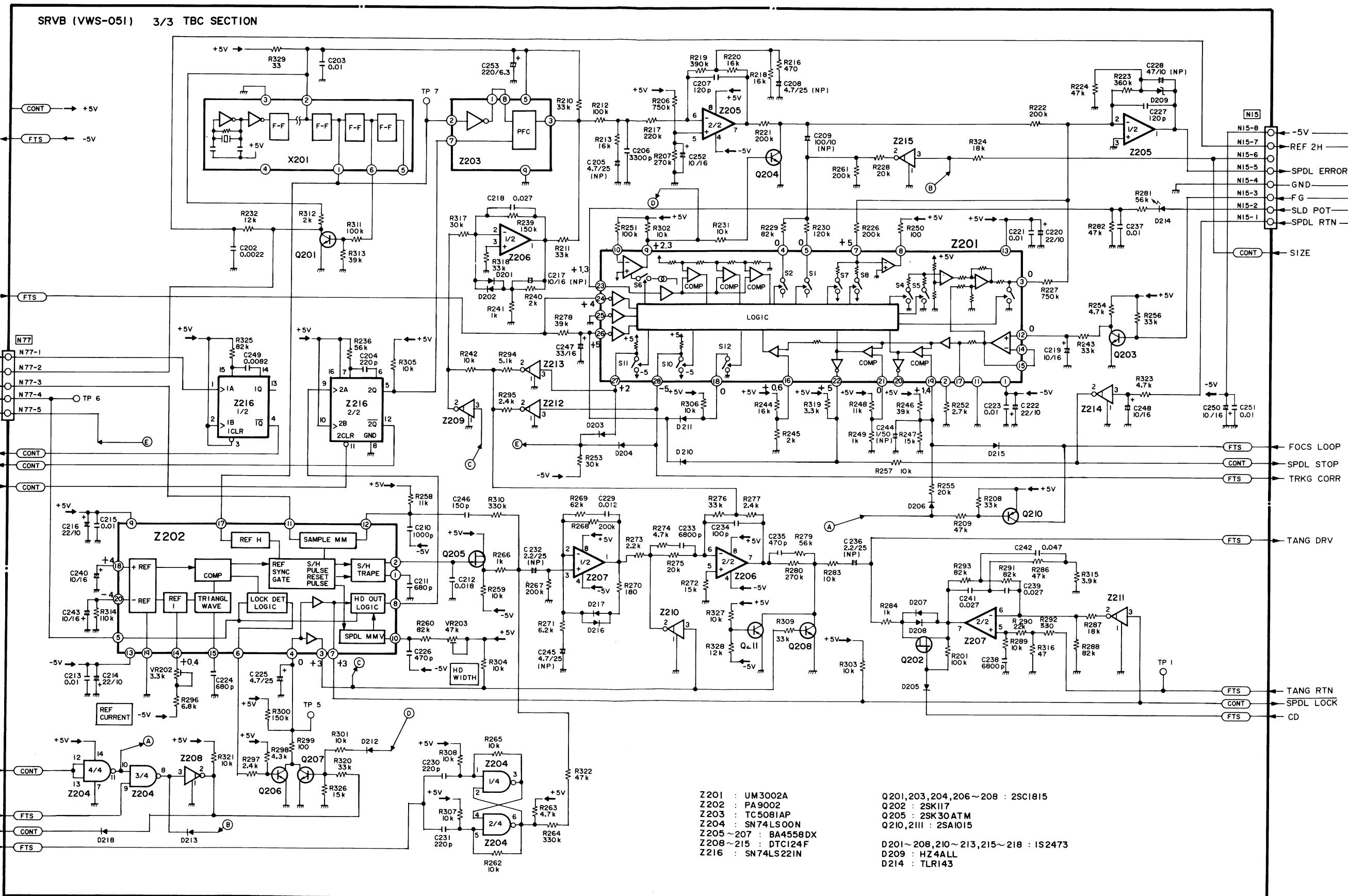
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5-24

## 5.7 SRVB (3/3) TBC SECTION



1

2

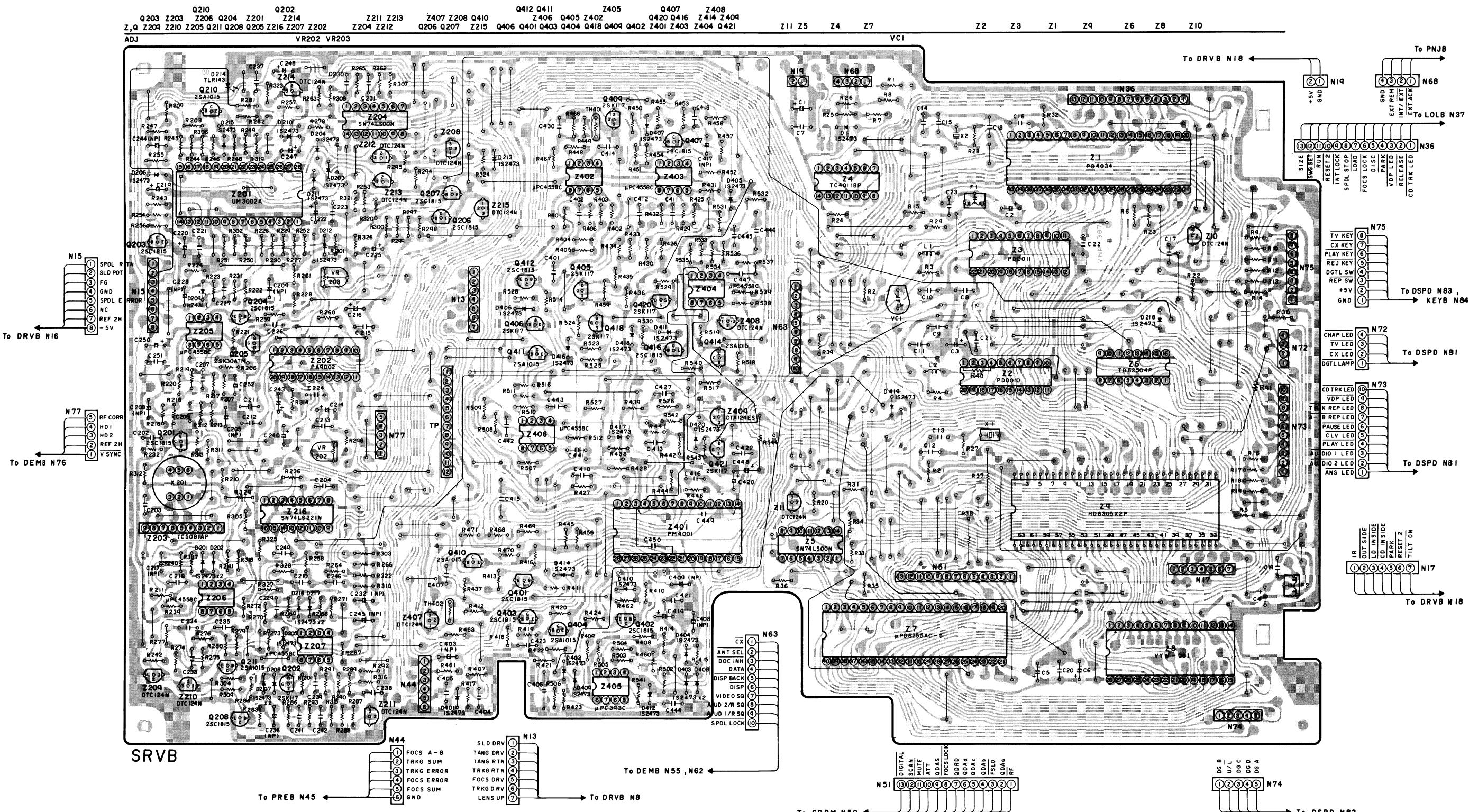
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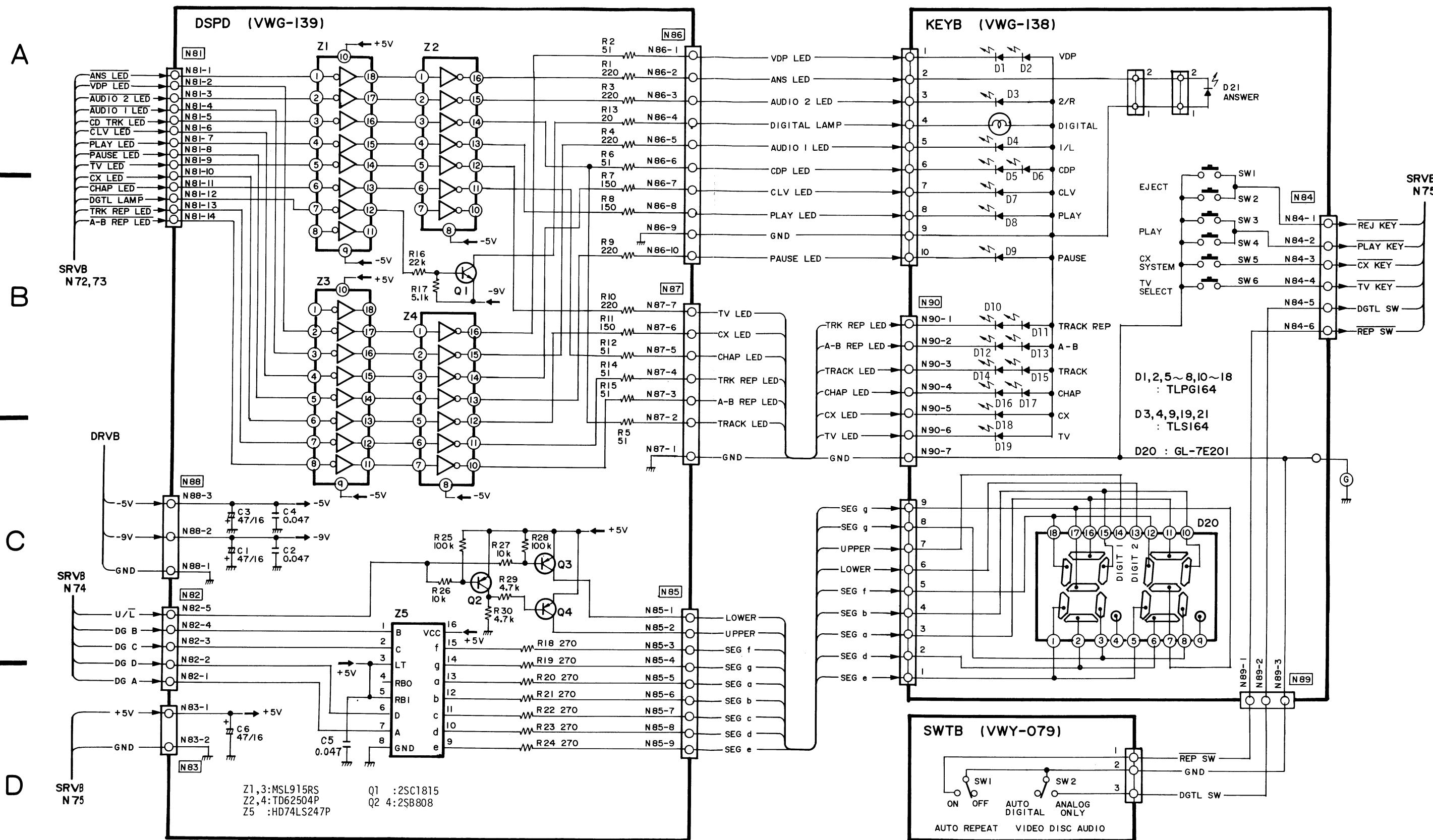
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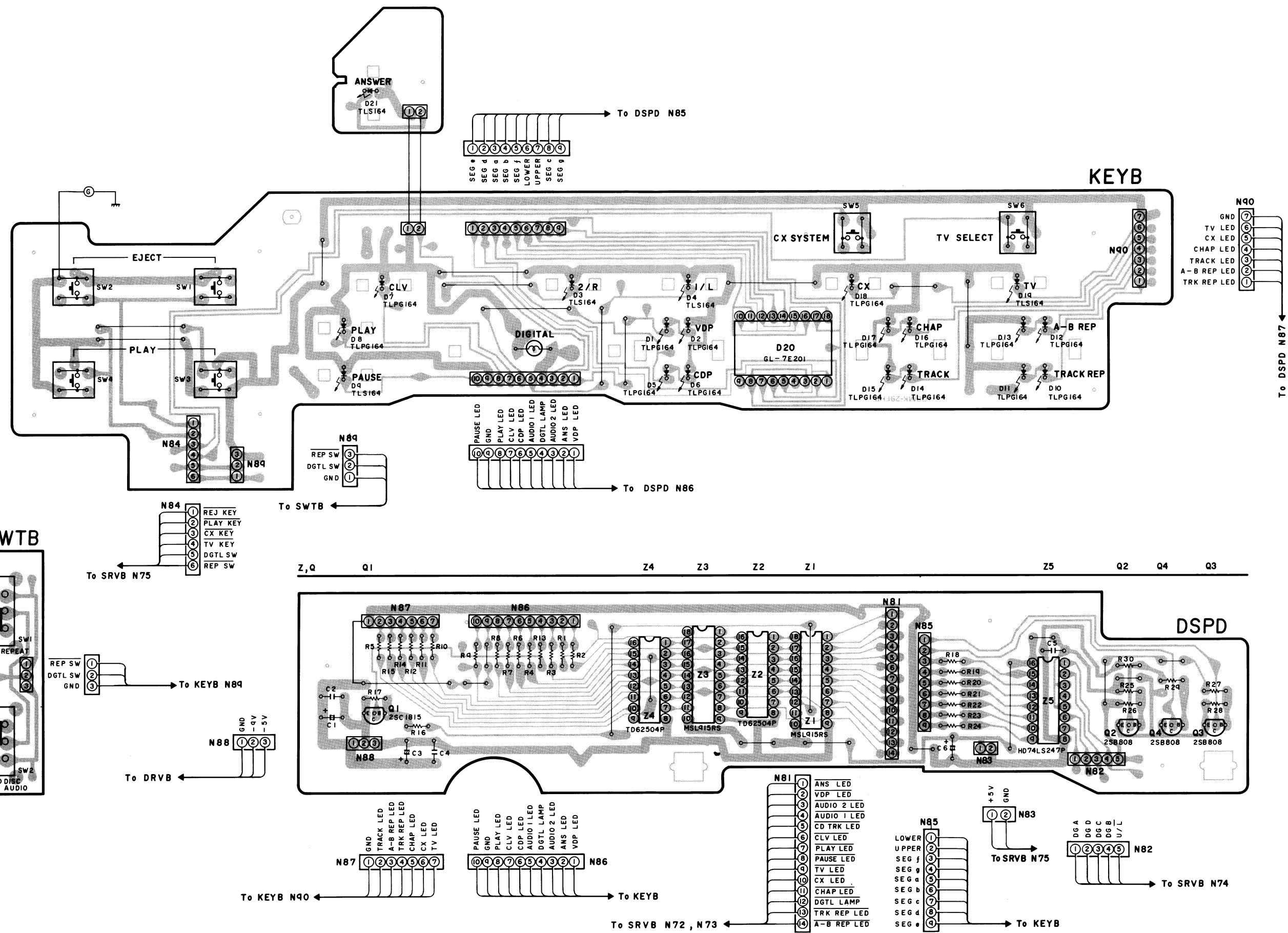
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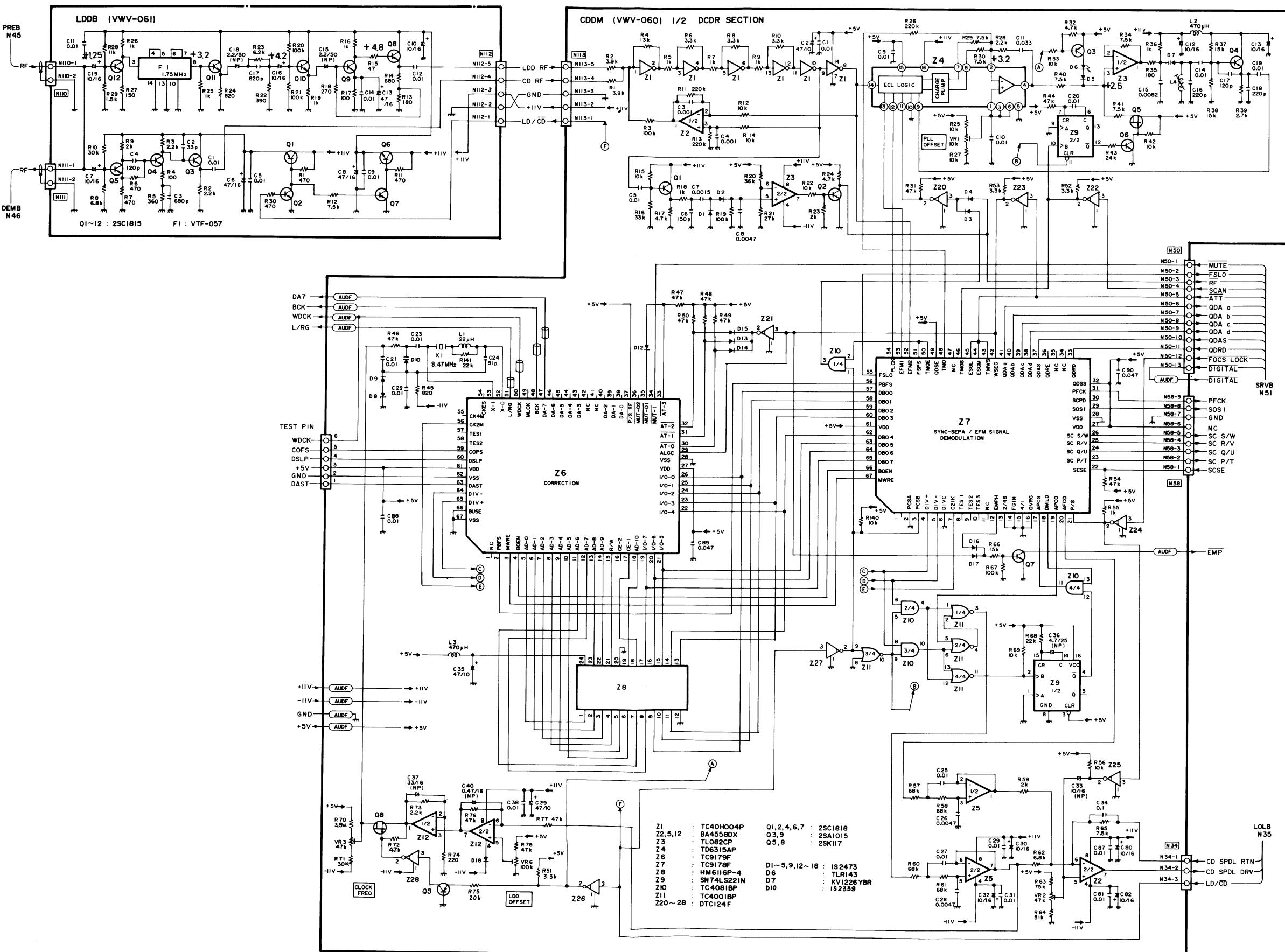
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## 5.8 DSPD, KEYB, SWTB





## 5.9 CDDM (1/2) DCDR SECTION, LDDB



A

A

B

B

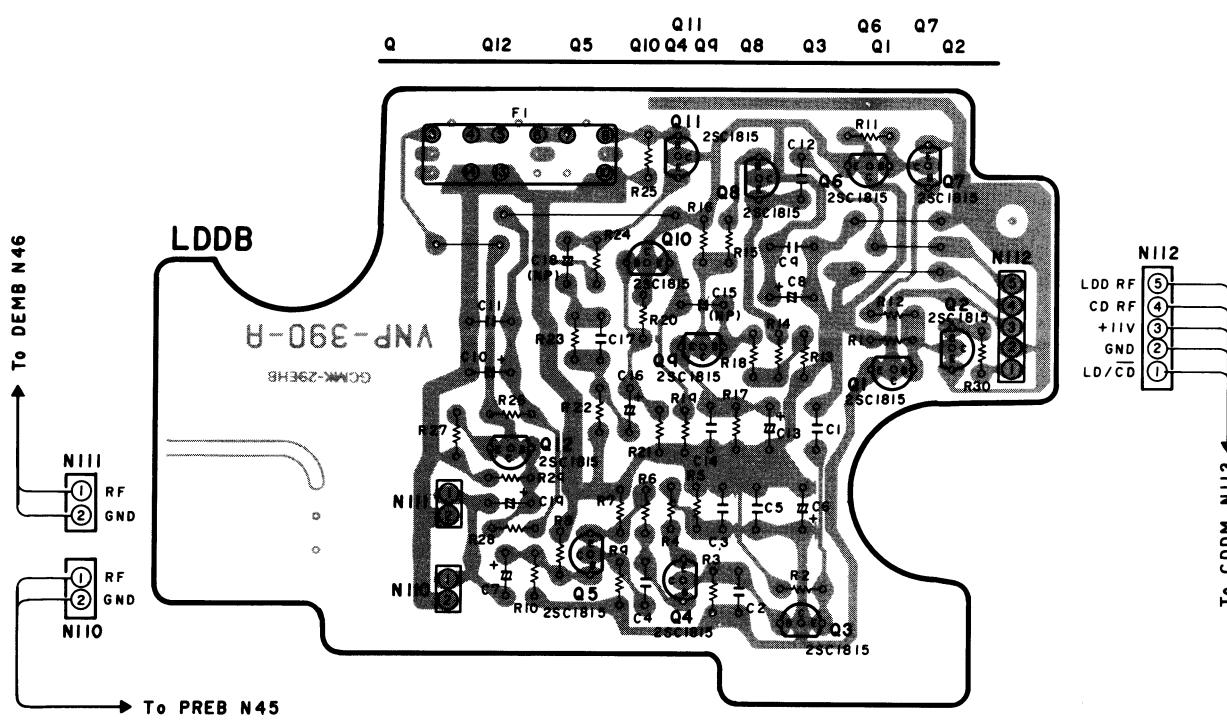
C

C

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**CLD-900/KU**

1

2

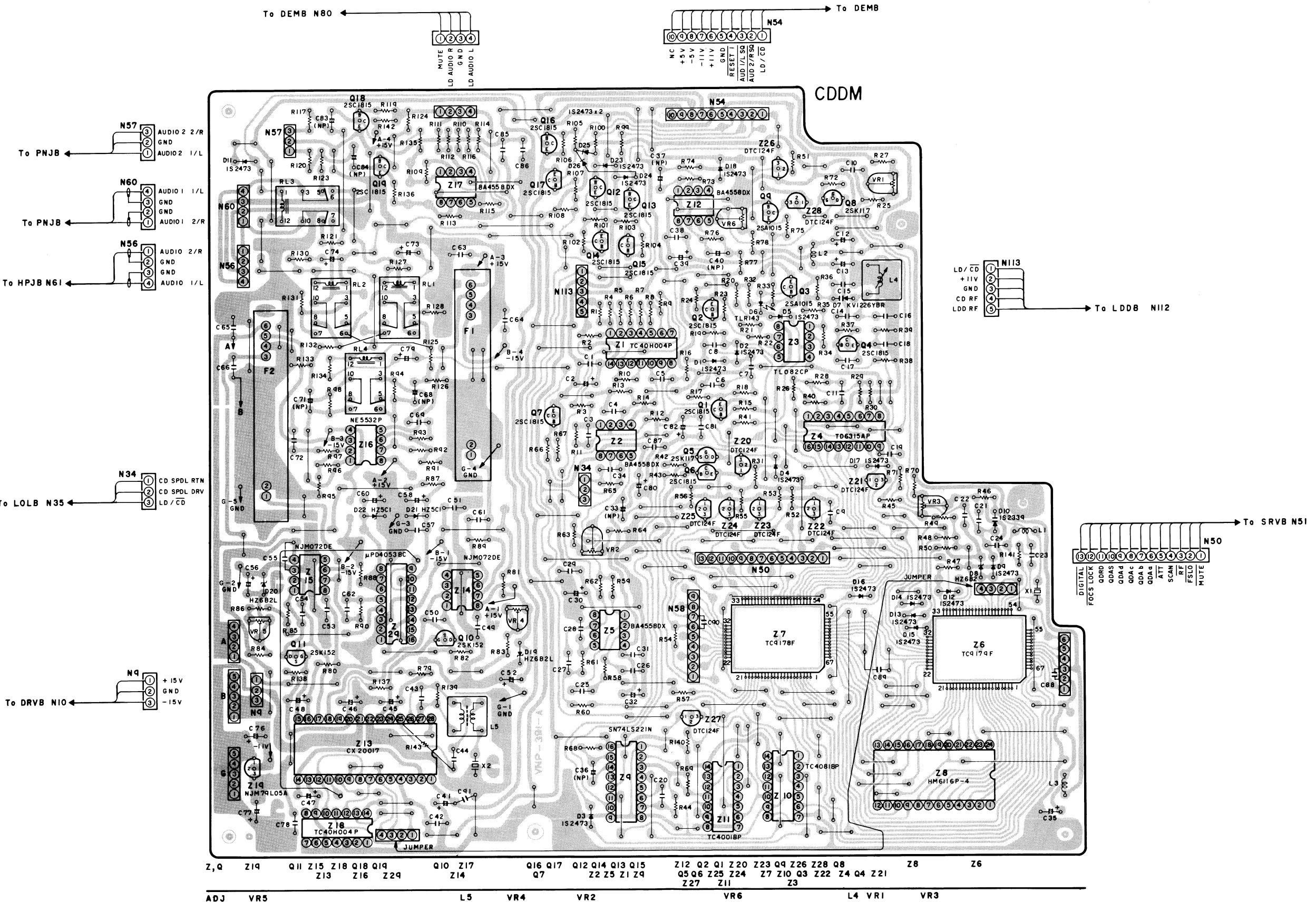
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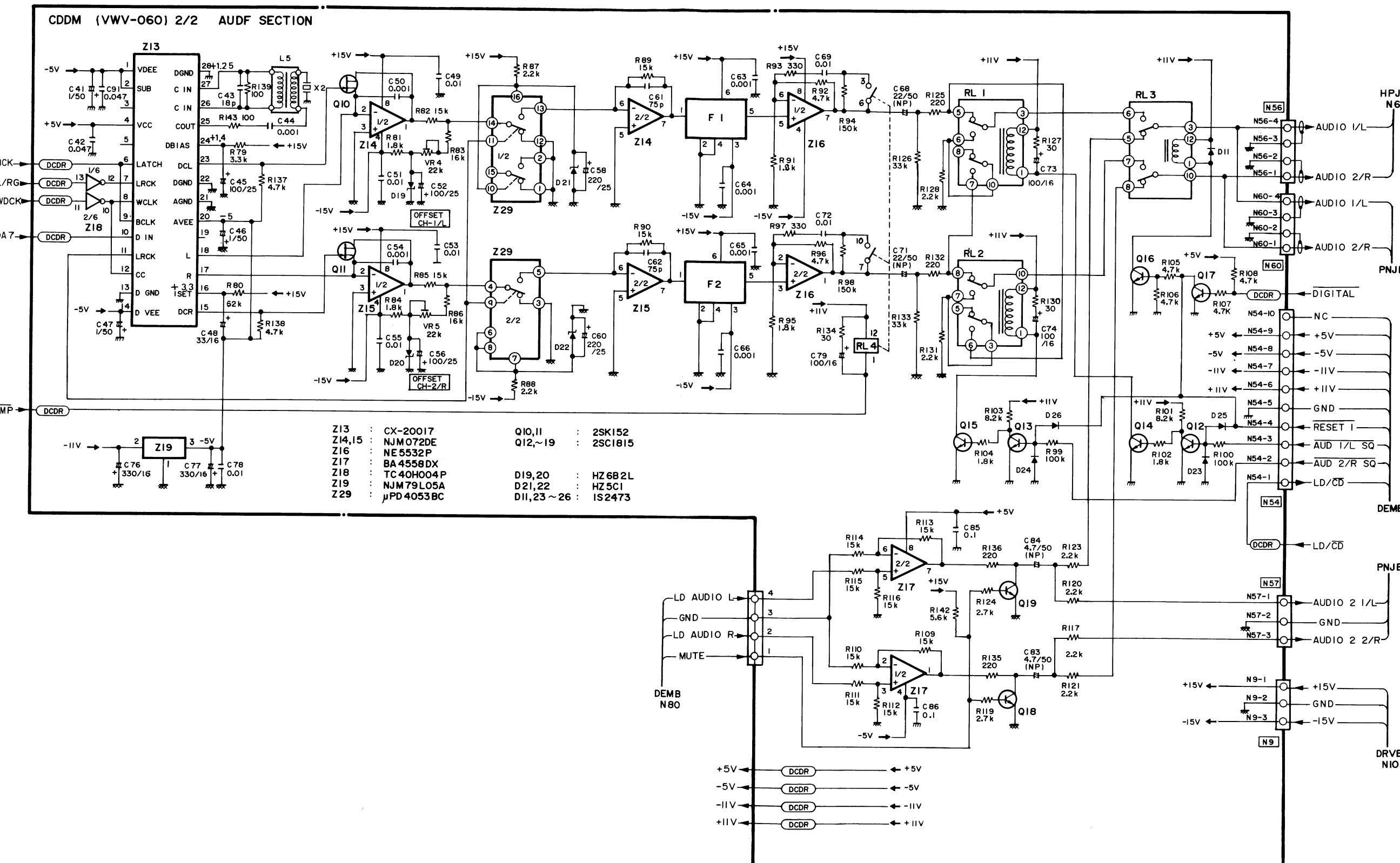
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## 5.10 CDDM (2/2) AUDF SECTION



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2

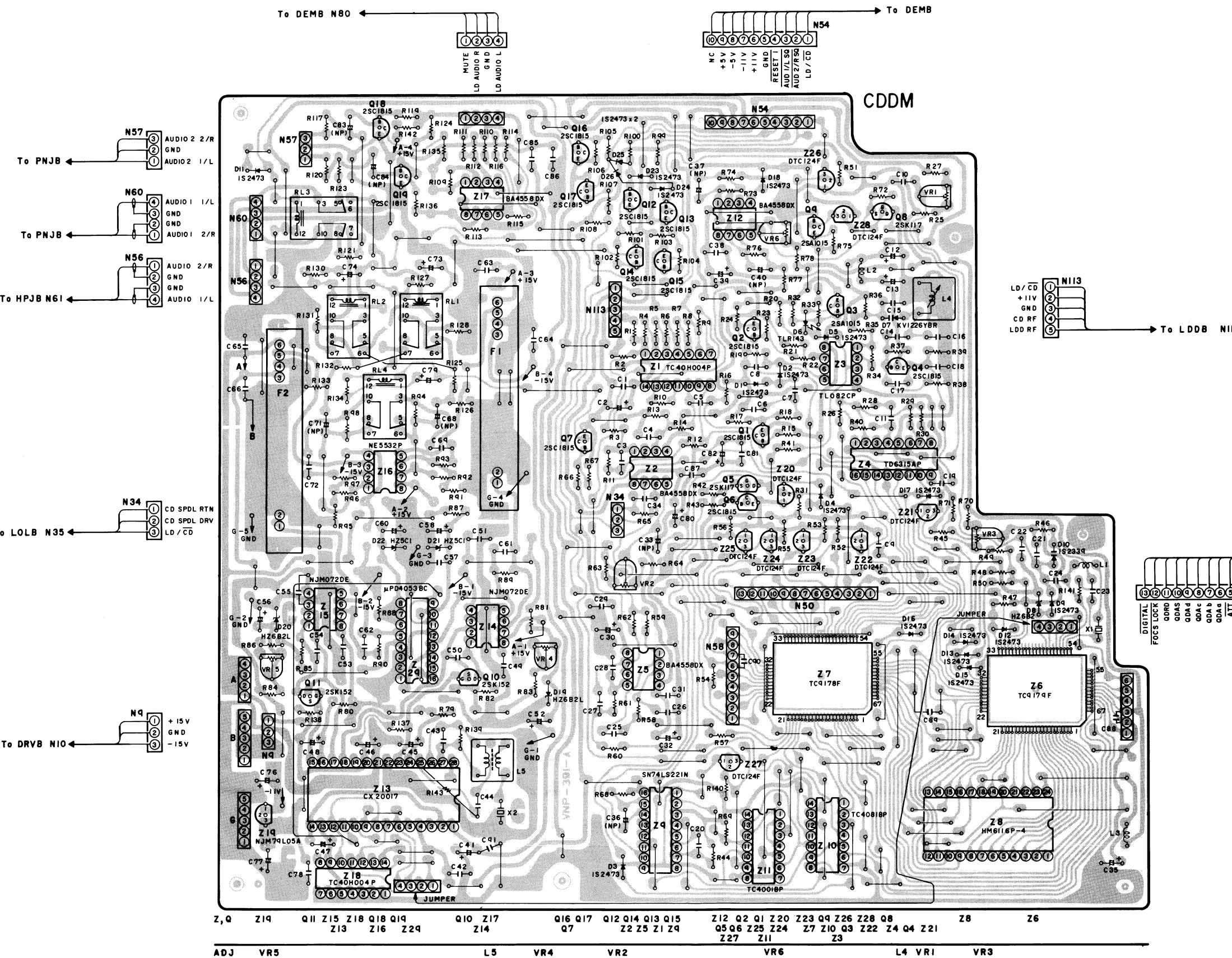
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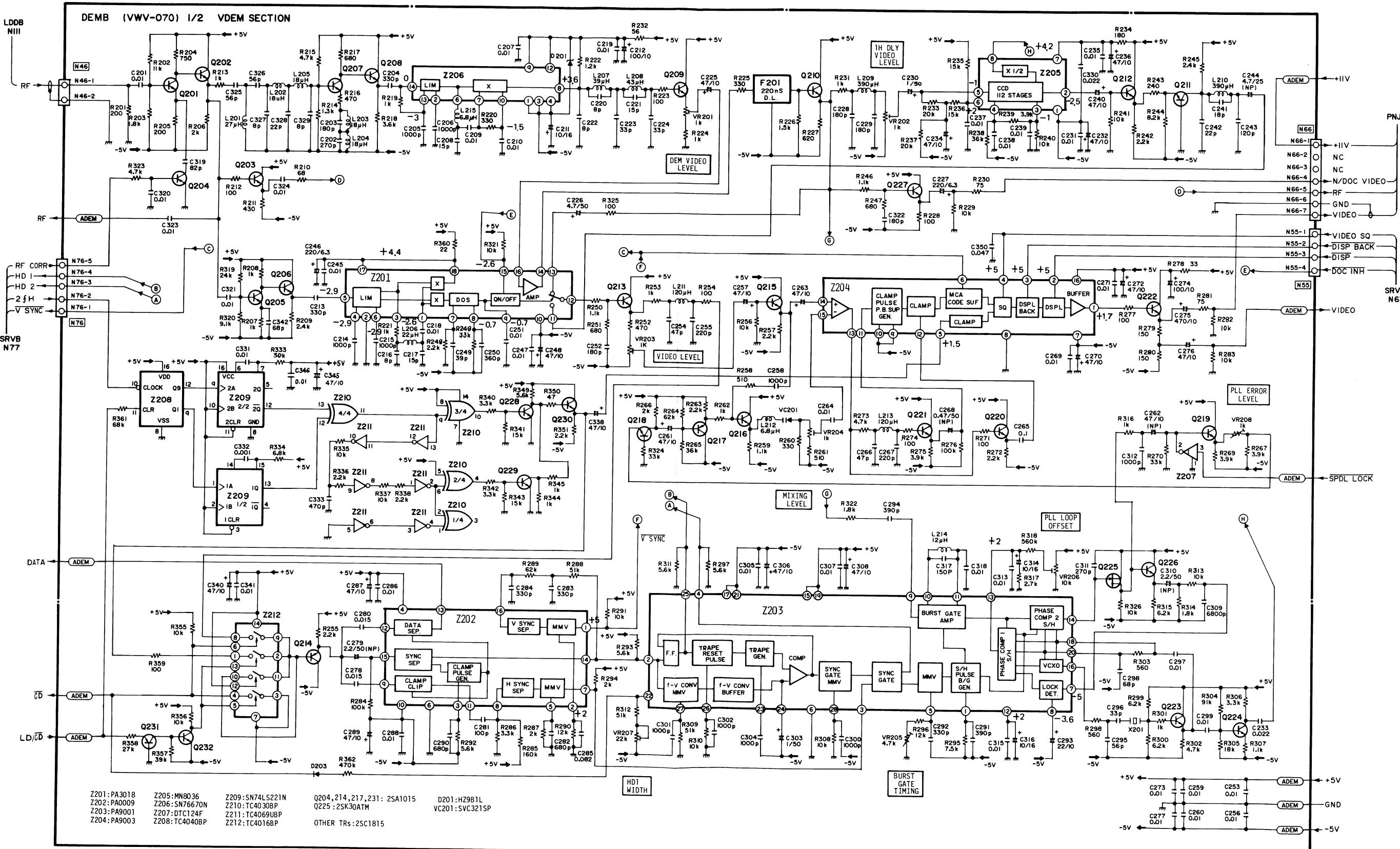
5

A

A



## 5.11 DEMB (1/2) VIDEO SECTION



1

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△

5

A

A

B

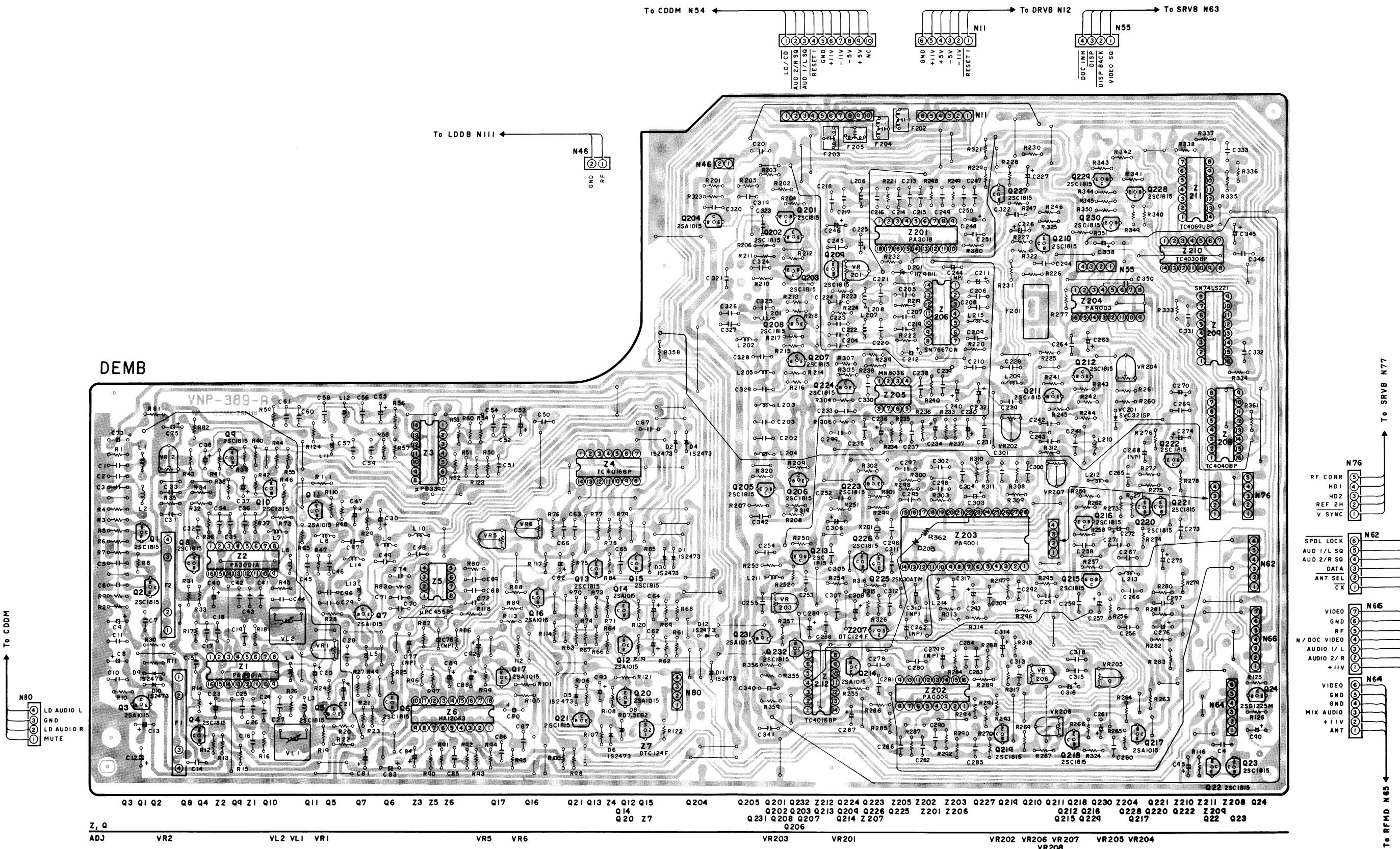
B

C

C

D

D



1

?

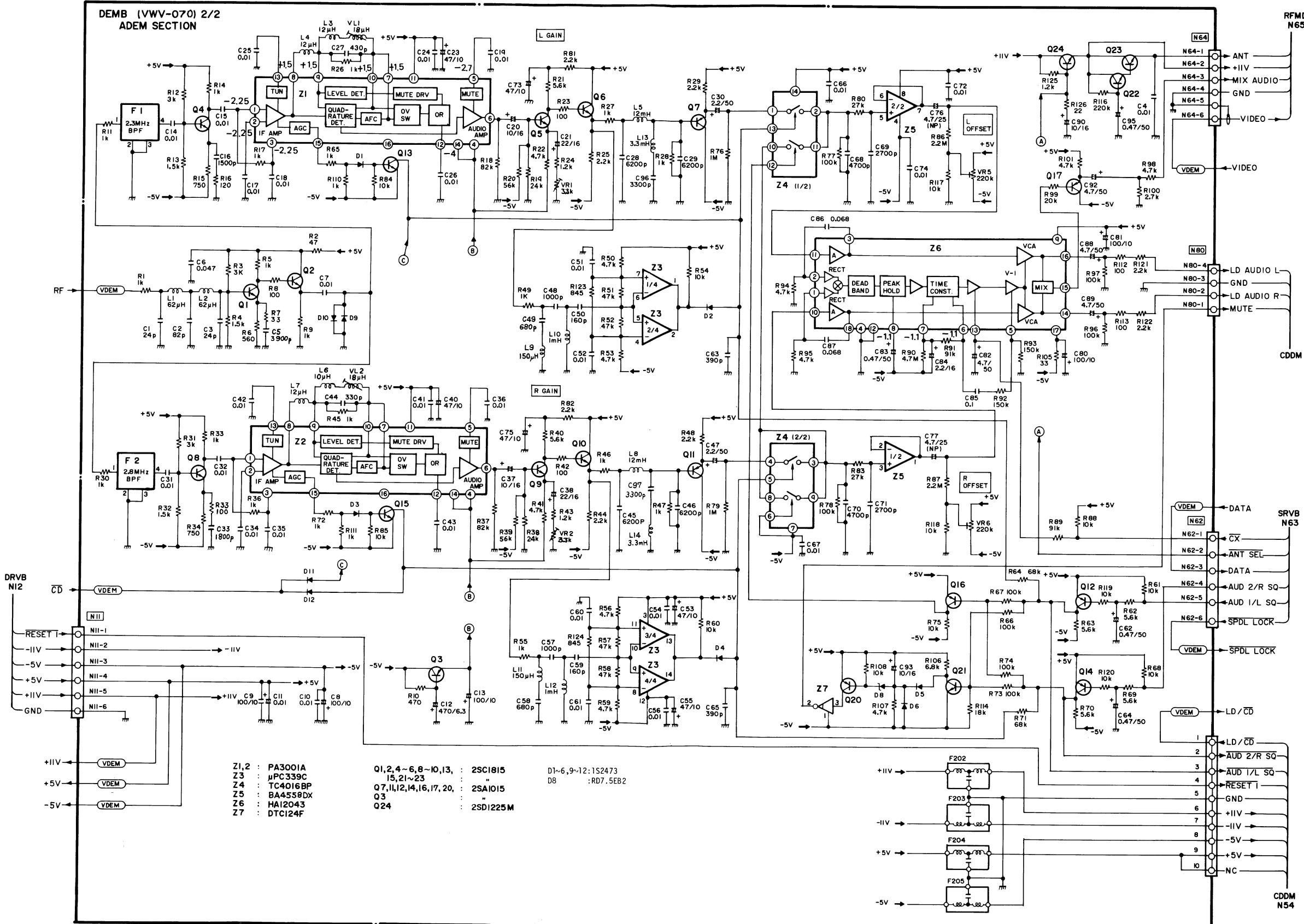
3

△

1

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## 5.12 DEMB (2/2) AUDIO SECTION



1

2

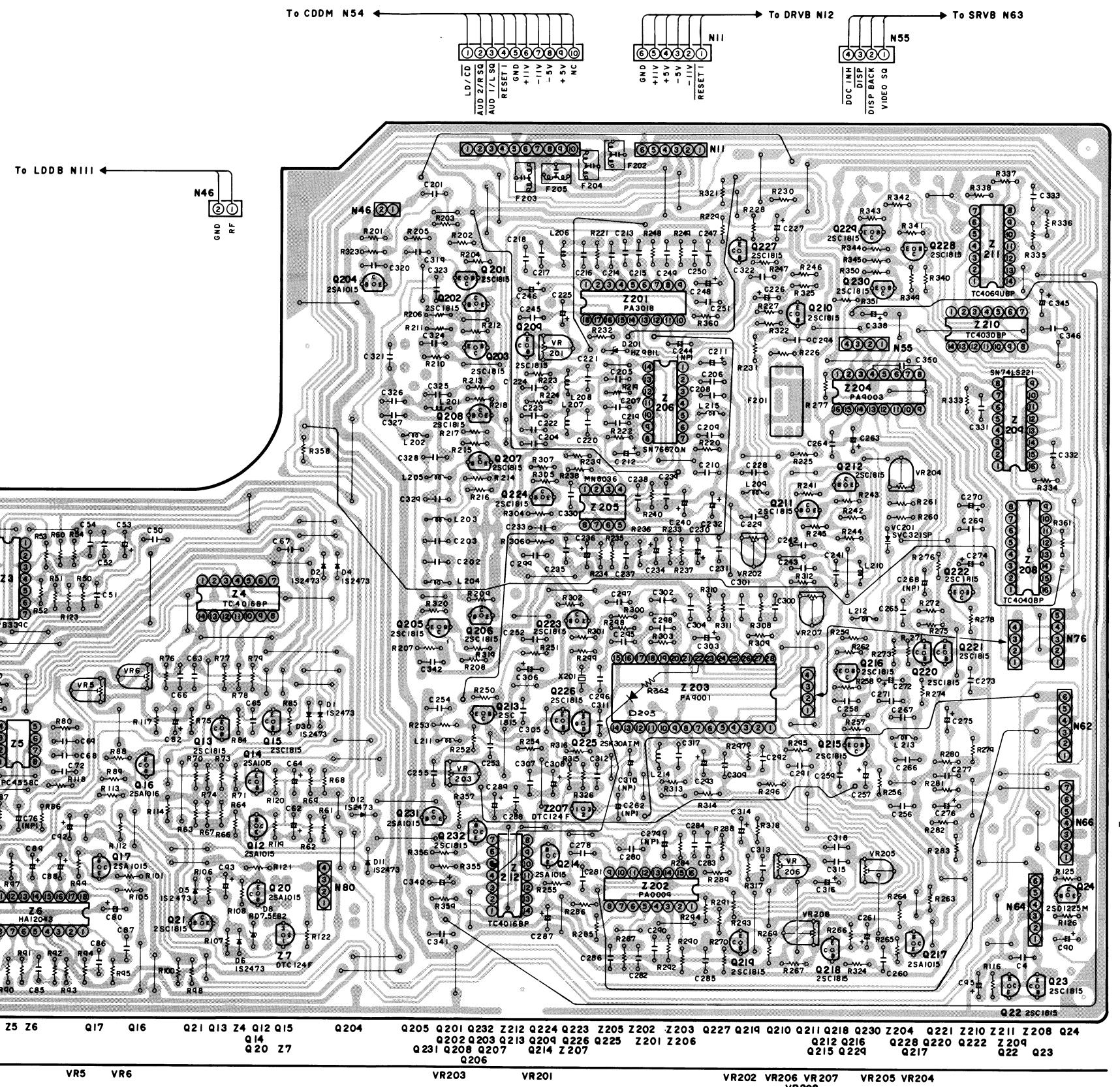
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A

A



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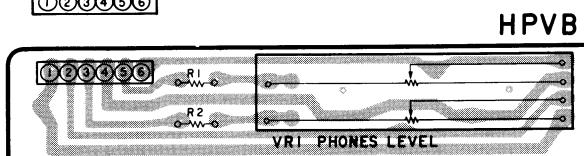
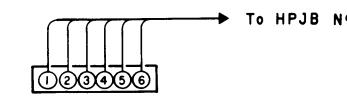
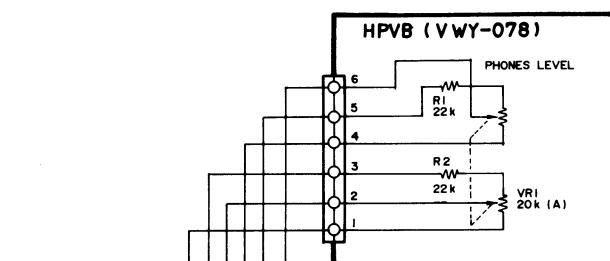
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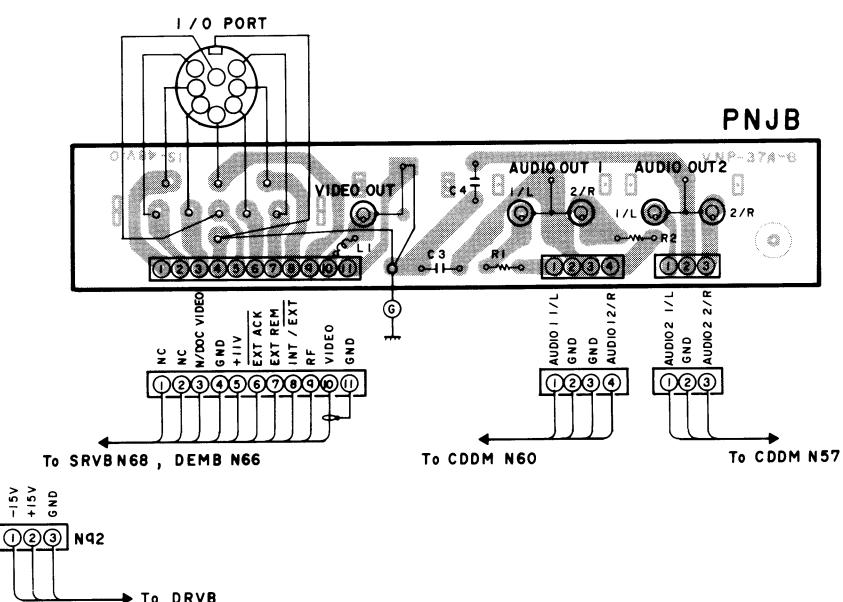
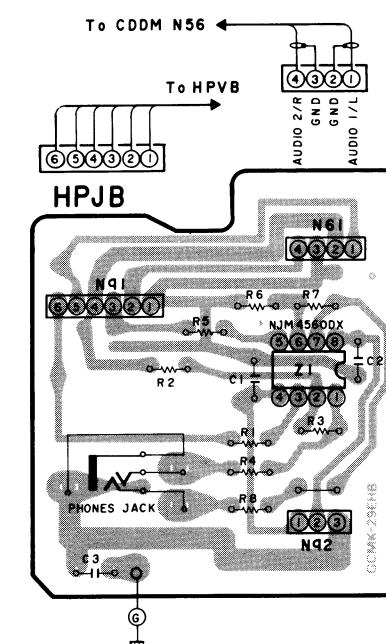
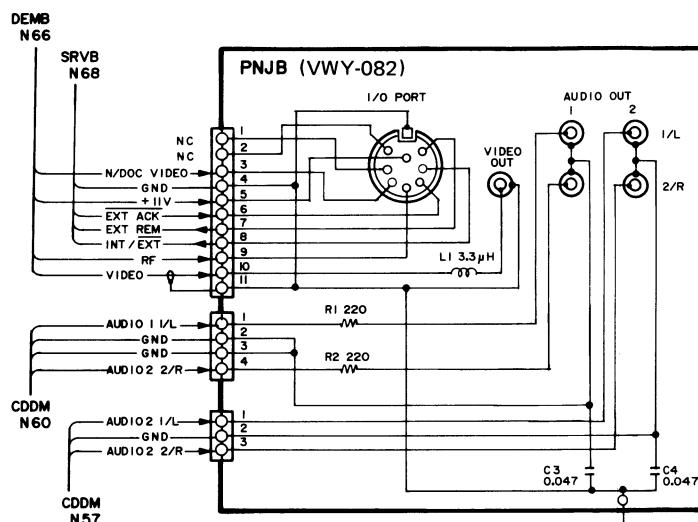
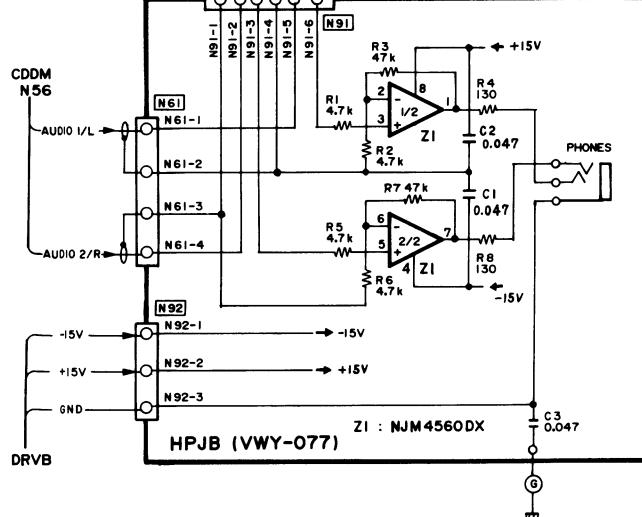
6

## 5.13 HPJB, HPVB, PNJB

A



B



C

A

B

C

D

1

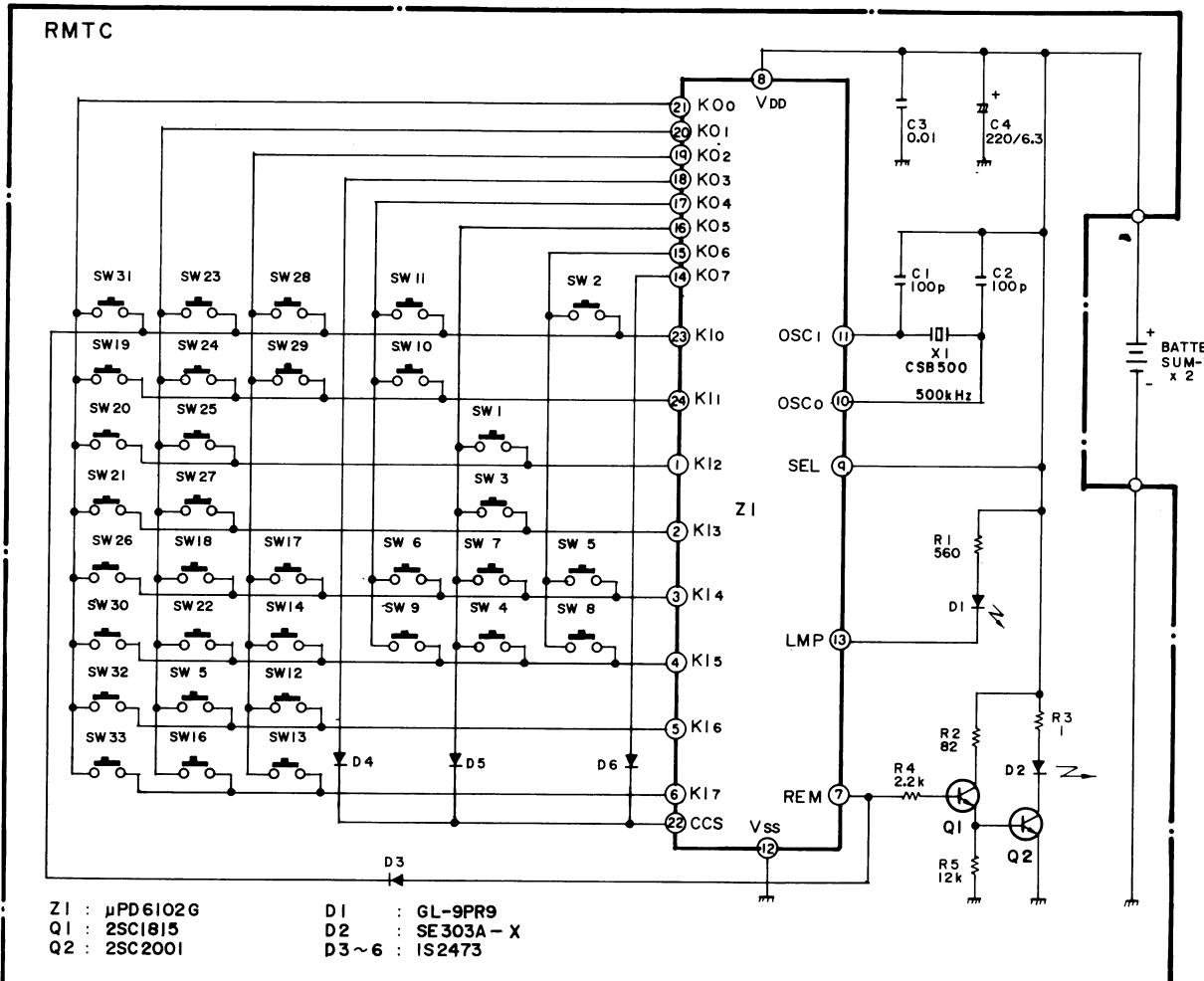
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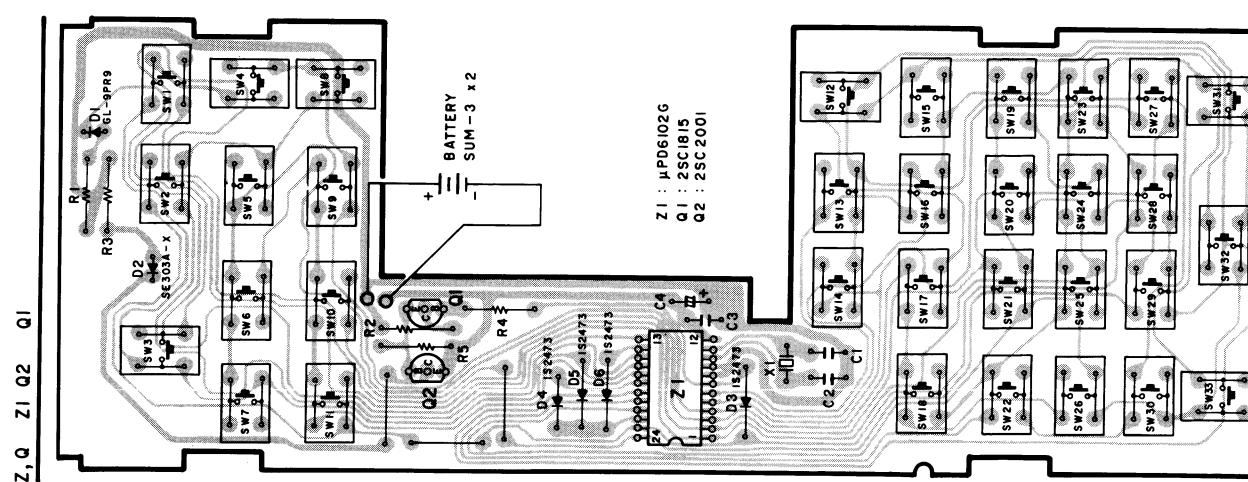
4

5

## 5.14 RMTC



SW NO.	Function/Data
1	EJECT ( ■/▲ )
2	PAUSE ( ■ )
3	PLAY ( ▶ )
4	MULTI-SPEED (REV, ◀ )
5	MULTI-SPEED (FWD, ▶ )
6	STILL/STEP (REV, ◀■ )
7	STILL/STEP (FWD, ■▶ )
8	FAST (REV, ◀x3)
9	FAST (FWD, x3▶ )
10	SCAN (REV, ◀◀ )
11	SCAN (FWD, ▶▶ )
12	STEREO
13	1/L
14	2/L
15	MULTI-SPEED (DOWN, -)
16	MULTI-SPEED (UP, +)
17	REPEAT A
18	REPEAT B
19	1
20	2
21	3
22	CLEAR
23	4
24	5
25	6
26	CHAPTER
27	7
28	8
29	9
30	FRAME/TIME
31	0
32	SEARCH
33	DISPLAY



1

2

3

5-53  
81

4

5

6

5-54  
82

## NOTES:

- Parts without part number cannot be supplied.
- The **▲** mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

FUSB ( VWR-070 ) Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
SM1A-02	D	1, 2, 7, 8	
SM1.5-02	D	3- 6, 9- 12	
30DF2	D	13- 16	
RD1/2PM225J	R	1	
RD1/6PS000J	R	2, 3	
▲ VCG-035	C	1, 10	0.033uF
CEA2R2M50	C	2	
CEA682M10	C	3	
CEA472M10	C	4	
CEA222M25	C	5	
VCH-009	C	6, 7	3300uF/25V
VCH-019	C	8, 9	2000uF/35V
VCG-042 (VCG-043)	C	11, 12	470pF
▲ VTL-157 (VTL-003) (VTL-004)	L	1	
▲ ● VEK-022	F	1	Fuse (2A)
▲ ● VEK-018	F	2- 5	Fuse (3A)

DRVB ( VWR-064 ) Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
RD1/6PS000J	R	1- 6, 8- 10, 12- 25, 27-	
		33, 35- 40, 42- 69, 73- 78,	
		80- 84, 86- 89, 92-100, 106-	
		115, 117, 118	
RD1/2PMF000J	R	7, 90, 91	
RD1/4PM000J	R	26, 34, 41	
VCN-100	R	70	2.7(1W)
RD1/2PS000J	R	71, 72	
VCN-099	R	79, 85	4.7(1W)
RN1/4PQ2202F	R	104	
VCN-131	R	105	1.2(3W)
VCN-132	R	116	3.3(2W)
VCP-074	VR	1- 3	4.7k
VCP-078	VR	4	22k
VCP-068	VR	5	470
CKDYF103Z50	C	1, 3- 5, 8, 10- 12, 18-	
		20, 22	
CEA221M25	C	2, 9	
CEA470M10	C	6, 13	
CEA470M16	C	7, 14, 28, 29	
CEA100M16	C	15	
CEA220M16	C	16, 26	
CEA010M50	C	17	
CKDYB561K50	C	21, 24	
CCDSL560J50	C	23	
CKDYB101K50	C	25	
CQMA183J50	C	27	
CKDYB681K50	C	30	
CEA100M50	C	31	
CEA220M50	C	32	
CEYA010M50	C	33, 37	
CEYA331M25	C	36, 40	
VTT-057	L	1	Choke coil
D33A	TH	1	
VEC-072			Mica insulator
VEC-101			Silicone insulator
VEC-102			Spacer
BMZ30P080FMC			
VBZ30P060FMC			

IRAB ( VWG-137 ) Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
uPC1373H (uPC1373HA)	Z	1	
2SK117	Q	11	
2SC495	Q	12	
2SA505	Q	13	
2SD1225M	Q	14, 16	
2SC3243	Q	18	
2SA1293	Q	19	
2SD1293M (2SC1627)	Q	23	
2SD525	Q	24	
RN1/6PQ2202F	Q	101, 103, 104	
1S2473	D	1, 4, 6, 9- 15, 17	
HZ11C-2	D	2, 5	
HZ6B2	D	3, 7	
HZ11A-1	D	8	
S2K20	D	16	

● Fuses are not included in FUSB (VWR-070).

CNNB Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
RD1/6PS561J	R	1	

PREB ( VVV-058 ) Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
M5218L (BA715)	Z	1- 4	

2SC2021LNF Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
2SD1225M	Q	2, 4- 6	

1S2473 Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
RD1/6PS000J	R	1, 7- 39, 41- 48	

RD1/4PM000J Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
VCP-068	VR	1	470

CEA2R2M50 Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
CEA100M16	C	15, 16	

CTCB ( VWS-050 ) Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
TL082CP	Z	1	

DTC124F Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
DTA124F	Z	2, 4	

2SK30ATM Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
2SC1815	Q	4	

1S2473 Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
RD1/6PS000J	R	1- 6, 8, 10- 14	

VCP-082 Parts list			
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
VCP-082	VR	1, 2	100k

**NOTES:**

- *Parts without part number cannot be supplied.*
- *The ▲ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.*

**BLMB**      **Parts list**    **1**  
 -----  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

PA2016	Z	1
RN1/4PR1002F	R	25
RD1/4VS000J	R	26- 32
CQPA104G100	C	4
CEANL100M16	C	5
CEANL4R7M25	C	6

**LDSB ( VWG-135 ) Parts list**    **1**  
 -----  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

TPS605B	Q	1, 2
TLR123	D	1, 2
RD1/6PS000J	R	1- 4

**CDSB ( VWG-136 ) Parts list**    **1**  
 -----  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

TPS605B	Q	1
TLR123	D	1
RD1/6PS000J	R	1, 2

**SHPB ( VVY-081 ) Parts list**    **1**  
 -----  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

VSC-008	SW	1	Tact switch
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## NOTES:

- Parts without part number cannot be supplied.
- The ▲ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

SRVB ( VWS-051 ) Parts list				1
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION	
PD4034 (PD8009)	Z	1		
PD0010	Z	2		
PD0011	Z	3		
TC4011BP (MSM4011BRS)	Z	4		
SN74LS00N (HD74LS00P)	Z	5,204		
TD62504P uPD8255AC-5 (M5L8255AP-5)	Z	6		
HD6305X2P	Z	7		
DTC124F	Z	9		
UM3002A	Z	10, 11, 208-215, 407, 408		
PA9002	Z	201		
TC5081AP	Z	202		
BA4558DX (M5218P)	Z	203		
SN74LS221N (HD74LS221P)	Z	204-207, 402-404, 406		
PM4001	Z	205		
LM393P (BA6993)	Z	206		
DTA124ES	Z	207		
2SC1815	Q	208		
2SK117	Q	209, 405, 406, 409, 418, 420, 421		
2SC1815 (2SC1740)	Q	210, 204, 206-208, 401-403, 407, 412, 416		
(2SC1740LN)				
2SK30ATM	Q	211		
2SA1015 (2SA933)	Q	212, 211, 404, 410, 411, 414		
1S2473	D	213, 216, 218, 220-224, 226-232, 236, 239-280	1, 201-208, 210-213, 215-218, 401-412, 414, 416-420	
HZ4ALL	D	214		
TLR143	D	215		
RD1/6PS000J	R	216	1- 36, 39, 40, 201, 208, 209, 213, 216, 218, 220-224, 226-232, 236, 239-280	
RD1/4VM000J	R	217	37, 38	
RD1/4PM000J	R	218	41, 544	
RN1/6PQ0000F	R	219	206, 207, 210-212, 217, 219, 314	
RD1/6PS000J	R	220	281-284, 286-313, 315-329, 401-439, 441, 442, 444-446, 448-456	
RD1/6PS000J	R	221	457-463, 466-471, 502-512, 514, 516-519, 523-543	
VCP-073	VR	222	3.3k	
VCP-080	VR	223	47k	
CEA100M16	C	224	1, 219, 240, 243, 248, 250	
CEA470M10	C	225	2- 4	
CEA101M10	C	226	5, 6	
CKDYF103Z50	C	227	7, 8, 17, 203, 213, 215, 221, 223, 237, 251, 421-423	
CCDCH100D50	C	228	9, 10	
CCDCH470J50	C	229	11	

SRVB ( VWS-051 ) Parts list				2
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION	
CCDSL300J50	C	12-	15	
CKDYF223Z50	C	16, 18-	23	
CQMA222J50	C	202		
CCDSL221J50	C	204, 230	, 231	
CEANP4R7M25	C	205, 208,	245	
CQMA332J50	C	206, 411		
CCDSL121J50	C	207, 227		
CEANP101M6R3	C	209		
CQMA102J50	C	210, 416,	441	
CQSH681J50	C	211, 224		
CQMA183J50	C	212		
CEA220M10	C	214, 216,	220, 222, 419, 420, 448	
CEANP100M16	C	217		
CQMA273J50	C	218, 239,	241	
CEA4R7M50	C	225		
CQSH471J50	C	226		
CEANP470M10	C	228		
CQMA123J50	C	229		
CEANP2R2M25	C	232, 236,	409	
CQMA682J50	C	233, 238,	412	
CCDSL101J50	C	234, 430		
CCDSL471J50	C	235		
CQMA473J50	C	242, 407,	427, 443	
CEANP010M50	C	244, 403,	408	
CCDSL151J50	C	246		
CEA330M16	C	247		
CQMA822J50	C	249		
CEA100M16	C	252		
CEA221M6R3	C	253		
CQMA153J50	C	401, 445		
CQMA103J50	C	402		
CQMA223J50	C	404, 414		
CQMA472J50	C	405		
CQMA224J50	C	406, 415,	447	
CCDSL561J50	C	410		
CQMA562J50	C	413		
CEANP220M16	C	417		
CQMA333J50	C	418, 442		
CKDYB102K50	C	444		
CQMA104J50	C	446		
CKDYF473Z50	C	449, 450		
VCM-003	VC	1	50pF	
VTL-039	L	1, 2	220uH	
VTH-005	F	1, 2	Noise filter	
VSS-018	X	1	4.00MHz	
VSS-021	X	2	4.41MHz	
VSS-020	X	201	2fH	
(VSS-024)				
D33A	TH	401, 402		
VKH-023			28P IC socket	

DSPD ( VWG-139 ) Parts list 1  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

MSL915RS	Z	1, 3
TD62504P	Z	2, 4
HD74LS247P (SN74LS247N)	Z	5
2SC1740 (2SC1815)	Q	1
2SA854 (2SB808)	Q	2- 4
RD1/6PS000J	R	1- 30
CEA470M16	C	1, 3, 6
CKDYX473M25	C	2, 4, 5

KEYB ( VWG-138 ) Parts list 1  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

TLPG164	D	1, 2, 5- 8, 10- 18
TLS164	D	3, 4, 9, 19, 21
GL-7E201	D	20
RSG-143	SW	1- 6 Tact switch
VEL-005		Lamp

SWTB ( VVY-079 ) Parts list 1  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

VSH-006	SW	1, 2
<hr/>		
TC40H004P	Z	1, 18
BA4558DX (M5218P)	Z	2, 5, 12
TL082CP	Z	3
TD6315AP	Z	4
TC9179F	Z	6
TC9178F	Z	7
HM6116P-4	Z	8
SN74LS221N (HD74LS221P)	Z	9
TC4081BP	Z	10
TC4001BP (MSM4001BRS)	Z	11

CDDM ( VVW-060 ) Parts list 1  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

CX-20017	Z	13
NJM072DE	Z	14, 15
NE5532P	Z	16
BA4558DX	Z	17
NJM79L05A	Z	19
DTC124F	Z	20- 28
uPD4053BC	Z	29
2SC1815 (2SC1740)	Q	1, 2, 4, 6, 7, 12- 19
2SA1015 (2SA933)	Q	3, 9
2SK117	Q	5, 8
2SK152	Q	10, 11
1S2473	D	1- 5, 9, 11- 18, 23- 27
TLR143	D	6
KV1226YBR (KV1225YBR)	D	7
HZ6B2	D	8
1S2339	D	10

CDDM ( VVW-060 ) Parts list 2  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

HZ6B2L	D	19, 20
HZ5C1	D	21, 22
RD1/6PS000J	R	1- 78, 99-117, 119-121
RDH1/4P0000F	R	79, 81- 91, 94, 95, 98
VCN-141	R	80 62k (1/4W)
VCN-140	R	92, 96, 137, 138 4.7k(1/4W)
VCN-138	R	93, 97 330(1/4W)
RD1/6PS000J	R	123, 124, 127, 128, 130, 131, 134- 136, 139-143
VCN-136	R	126, 133 33k(1/2W)
VCP-076	VR	1 10k
VCP-080	VR	2, 3 47k
VCR-044	VR	4, 5 22k
VCP-082	VR	6 100k
CKDYF103Z50	C	1, 5, 9, 10, 14, 19- 23, 29, 31, 38, 81, 87
CEA470M10	C	2, 35, 39
CQMA102J50	C	3, 4
CCDRS151J50	C	6
CQMA152J50	C	7
CQMA472J50	C	8, 26, 28
CQMA333J50	C	11
CEA100M16	C	12, 13, 30, 32, 80, 82
CQMA822J50	C	15
CCDRH221J50	C	16, 18
CCDRH121J50	C	17
CCDCH910J50	C	24
CQMA103J50	C	25, 27
CEANP100M16	C	33
CEANP4R7M25	C	36, 83, 84
CEANP330M16	C	37
CEANPR47M50	C	40
CEA010M50	C	41, 47
VCG-025	C	42 0.047uF
VCF-005	C	43 18pF
VCE-021	C	44, 63- 66
CEYA101M25	C	45, 52, 56
CEYA010M50	C	46
CEA330M16	C	48
VCE-020	C	49, 51, 53, 55, 78 0.01uF
VCE-017	C	50, 54 1000pF
CEYA221M25	C	58, 60
VCF-004	C	61, 62 75pF
VCH-026	C	68, 71 23uF/50V
VCE-019	C	69, 72 0.01uF
CEA101M16	C	73, 74, 79
CEYA331M25	C	76, 77
CQMA104J50	C	85, 86
CKDYF473Z50	C	88- 91
VTL-052	L	1 22uH
VTL-043	L	2, 3 470uH
VTF-054	L	4
VTL-156	L	5
VTF-056	F	1, 2 L.P.F. z0kHz
VSS-037	X	1 8.47MHz
VSS-030	X	2 35.0MHz
VSR-005	RL	1- 4 Relay (12V)
VTH-003		Ferrite bees
VNF-086		Coil cap

## NOTES:

- Parts without part number cannot be supplied.
- The **A** mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

LDDB ( VVV-061 ) Parts list				1
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION	
	2SC1815 (2SC1740)	Q	1- 12	
	RD1/6PS000J RN1/4PQ0000F	R	1- 22, 24- 30	
	RN1/4PQ0000F	R	23	
	CKDYF103Z50	C	1, 5, 9, 11, 12, 14	
	CCDCH330J50	C	2	
	CCDSL681J50	C	3	
	CCDCH121J50	C	4	
	CEA470M16	C	6, 8, 13	
	CEA100M16	C	7, 10, 16, 19	
	CEANP2R2M50	C	15, 18	
	CQSH821J50	C	17	
	VTF-057	F	1 L.P.F. 1.75MHz	

DEMB ( VVV-070 ) Parts list				2
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION	
	RN1/4PQ0000F	R	27, 28, 46, 47, 50- 53, 56- 59, 123, 124, 235-237, 248, 290, 309, 312	
	RD1/4VM000J	R	90	
	RD1/6PS000J	R	118-122, 125, 126, 201-234, 238- 247, 249-267, 269-289, 291-299	
	RD1/6PS000J	R	300-308, 310, 311, 313-326, 333- 338, 340-345, 349-351, 355-361	
	RD1/4PM474J	R	362	
	VCP-073	VR	1, 2	3.3k
	VCP-084	VR	5, 6	220k
	VCP-070	VR	201-204, 208	1k
	VCP-074	VR	205	4.7k
	VCP-076	VR	206	10k
	VCP-078	VR	207	22k
	CCDCH240J50	C	1, 3	
	CCDCH820J50	C	2	
	CKDYF103Z50	C	4, 7, 10, 11, 14, 15, 17- 19, 24- 26, 31, 32, 34- 36, 41- 43, 51, 52, 54, 56, 60, 61, 66, 67, 72, 74, 201, 207, 209, 210, 218, 219, 231, 235, 237- 239, 245, 247, 251, 253, 256, 259, 260, 264, 269, 271, 273, 277, 286, 288, 297, 299, 305, 307, 315, 318, 320, 321, 323, 324, 341, 346	
	CKDYB392K50	C	5	
	CKDYF473Z50	C	6, 350	
	CEA101M10	C	8, 9, 13, 80, 81, 212, 274	
	CEA471M6R3	C	12	
	CKDYB152K50	C	16	
	CEA100M16	C	20, 37, 90, 93, 211, 314, 316	
	CEA220M10	C	21, 38, 293	
	CEA470M10	C	23, 40, 53, 55, 73, 75, 225, 232, 234, 236, 240, 248, 257, 261, 263, 270, 272, 276, 287, 289, 306, 308, 338, 340, 345	
	CCDSL431J50	C	27	
	CQMA622J50	C	28, 29, 45, 46	
	CEA2R2M50	C	30, 47	
	CKDYB182K50	C	33	
	CCDSL331J50	C	44, 204, 213, 283, 284	
	CQMA102J50	C	48, 57, 300, 302, 332	
	CKDYB681K50	C	49, 58, 282, 290	
	CCDSL161J50	C	50, 59	
	CEAR47M50	C	62, 64, 95	
	CCDSL391J50	C	63, 65, 294	
	CQMA472J50	C	68, 70	
	CQMA272J50	C	69, 71	
	CEANP4R7M25	C	76, 77, 244	
	CEA4R7M50	C	82, 88, 89, 92, 226	
	CEANLR47K50	C	83	
	CEANL220K16	C	84	
	CQMA104J50	C	85, 265	
	CQMA683J50	C	86, 87	
	CQMA103J50	C	91, 313, 331	
	CQMA332J50	C	96, 97	
	CCDSL271J50	C	202, 311	
	CCDSL181J50	C	203, 228, 229, 252, 322	

DEMB ( VVV-070 ) Parts list				1
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION	
	PA3001A (HA11225)	Z	1, 2	
	uPC339C	Z	3	
	TC4016BP	Z	4	
	BA4558DX (M5218P)	Z	5	
	HA12043	Z	6	
	DTC124F	Z	7, 207	
	PA3018	Z	201	
	PA0009	Z	202	
	PA9001	Z	203	
	PA9003	Z	204	
	MN8036	Z	205	
	SN76670N	Z	206	
	TC4040BP (M4040BP)	Z	208	
	SN74LS221N (HD74LS221P)	Z	209	
	TC4030BP (M4030BP)	Z	210	
	TC4069UBP	Z	211	
	M4016BP (TC4016BP)	Z	212	
	2SC1815 (2SC1740)	Q	1, 2, 4- 6, 8- 10, 13, 15, 21- 23, 201-203, 205-213, 215, 216, 218-224, 226-230, 232	
	2SA1015	Q	3	
	2SA1015 (2SA933)	Q	7, 11, 12, 14, 16, 17, 20, 204, 214, 217, 231	
	2SD1225M	Q	24	
	2SK30ATM	Q	225	
	1S2473	D	1- 6, 9- 12, 203	
	RD7.5EB2	D	8	
	HZ9B1L	D	201	
	RD1/6PS000J	R	1- 26, 29- 45, 48, 49, 54, 55, 60- 89, 91-102, 105-108, 110-114, 116, 117	

## NOTES:

- Parts without part number cannot be supplied.
- The  $\triangle$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

DEMB ( VVY-070 ) Parts list 3  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

CKDYB102K50 C 205,206,214,215,258,312  
 CCDCH150J50 C 208,217,221  
 CCDCH0800P50 C 216,220,222,327,329  
 CCDCH330J50 C 223,224,296  
 CEA221M6R3 C 227,246

CEA010M50 C 230,303  
 CKDYF223Z50 C 233,330  
 CCDSL180J50 C 241  
 CCDCH220J50 C 242,328  
 CCDSL121J50 C 243

CCDCH390J50 C 249  
 CCDSL361J50 C 250  
 CCDCH470J50 C 254,266  
 CCDSL221J50 C 255,267  
 CEANP470M10 C 262

CEANPR47M50 C 268  
 CEA471M10 C 275  
 CQMA153J50 C 278,280  
 CEANP2R2M50 C 279,310  
 CCDCH101J50 C 281

CQPA823G100 C 285  
 CQSH391J50 C 291  
 CQSH331J50 C 292  
 CCDCH560J50 C 295,325,326  
 CCDCH680J50 C 298,342  
 CQSH102J50 C 301,304  
 CQMA682J50 C 309

CCDSL151J50 C 317  
 CCDSL820J50 C 319  
 CCDSL471J50 C 333

SVC321SP  
 (SVC321SPZ) VC 201

VTL-048 L 1, 2 62uH  
 (VTL-068)  
 VTL-024 L 3, 4, 7,214 12uH  
 VTL-119 L 5, 8 12mH  
 VTL-023 L 6 10uH  
 VTL-154 L 9, 11 150uH  
 VTL-047 L 10, 12 1mH  
 (VTL-070)  
 VTL-139 L 13, 14 3.3mH  
 VTL-028 L 201 27uH  
 VTL-026 L 202-205 18uH  
 VTL-027 L 206 22uH  
 VTL-030 L 207 39uH  
 VTL-051 L 208 43uH  
 (VTL-067)  
 VTL-042 L 209,210 390uH  
 VTL-036 L 211,213 120uH  
 VTL-021 L 212,215 6.8uH  
 VTF-021 VL 1, 2 18uH  
 VTF-051 F 1 B.P.F. 2.3MHz  
 VTF-052 F 2 B.P.F. 2.8MHz  
 VTF-016 F 201 220nS  
 VTH-005 F 202-205  
 VSS-019 X 201 3.58MHz  
 (VSS-034)  
 (VSS-033)

HPJB ( VVY-077 ) Parts list 1  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

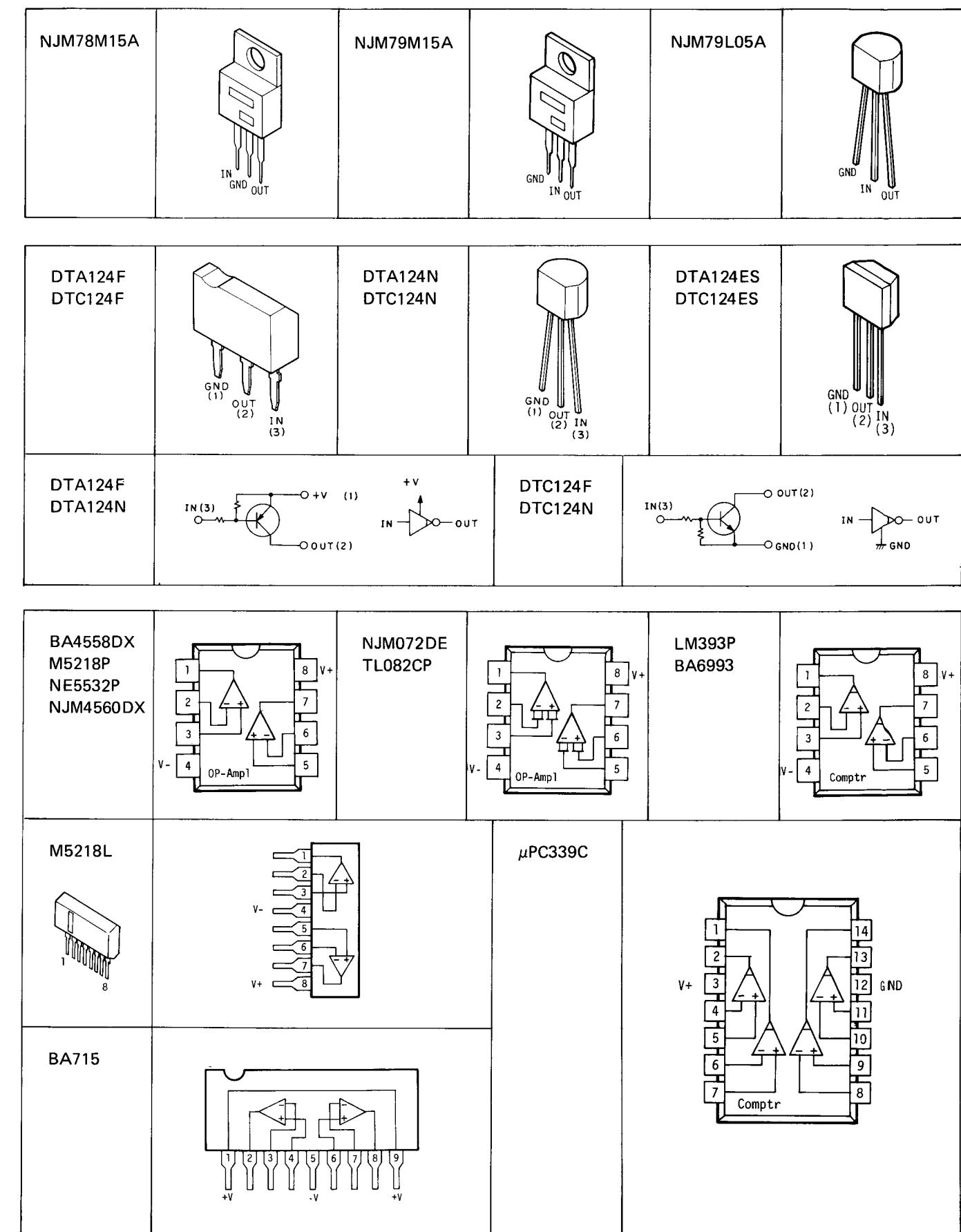
BA4560 Z 1  
 (NJM4560DX)  
 RD1/6PS000J R 1- 8  
 CQMA473J50 C 1, 2  
 VCG-025 C 3 0.047uF  
 VKN-160 Headphone jack

HPVB ( VVY-078 ) Parts list 1  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )

RD1/6PS000J R 1, 2  
 VCS-026 VR 1 20kx2(A)  
 PNJB ( VVY-082 ) Parts list 1  
 (MK)( PART No. )(IT)( REF Nos. & DESCRIPTION )  
 PCN-004 R 1, 2 220(1/2W)  
 CKDYF473Z50 C 3, 4  
 VTL-017 L 1 3.3uH  
 VKN-149 8P DIN socket  
 VKB-014 Video pin-jack  
 VKB-013 4P pin-jack

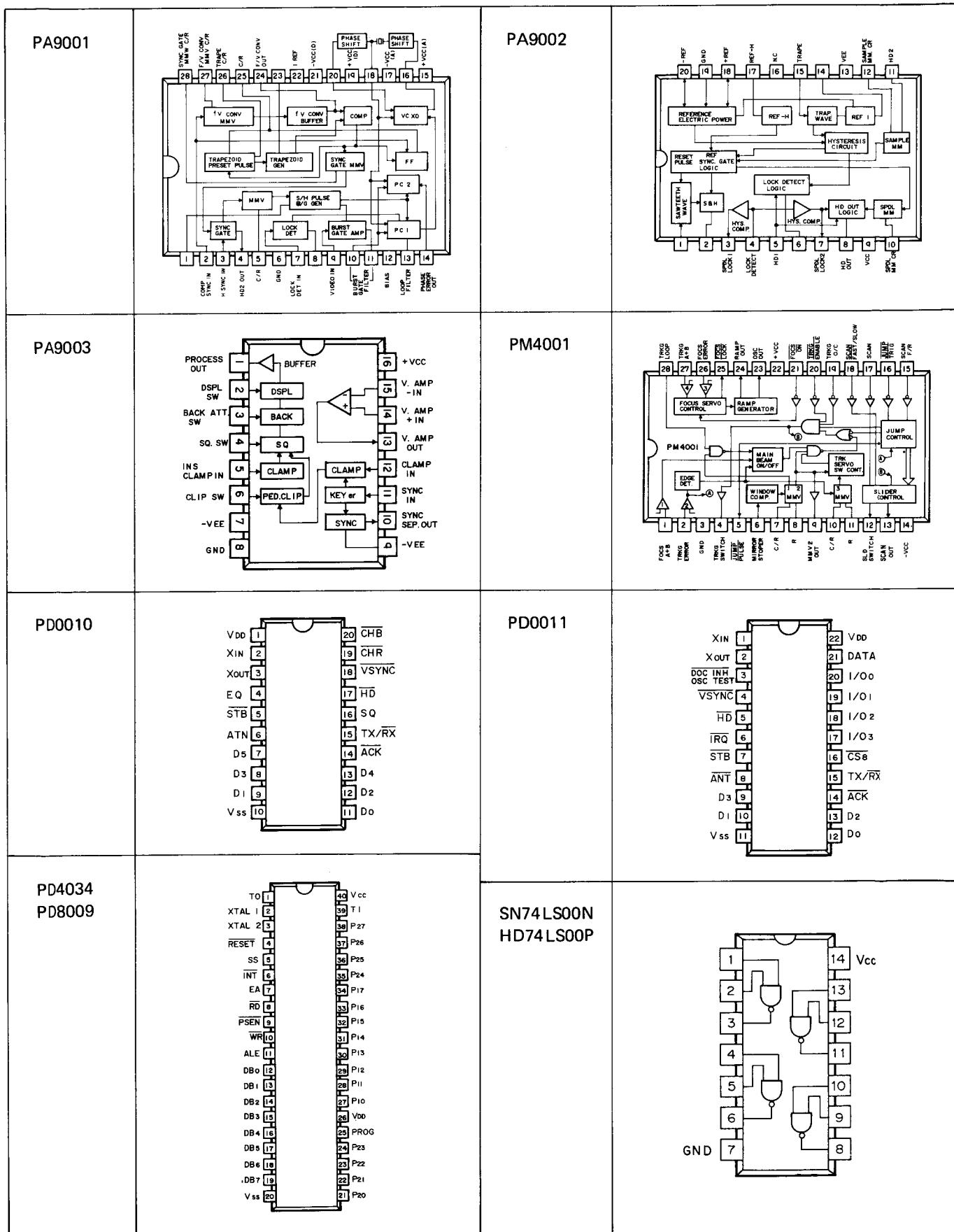
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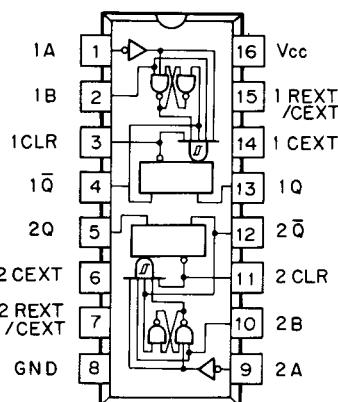
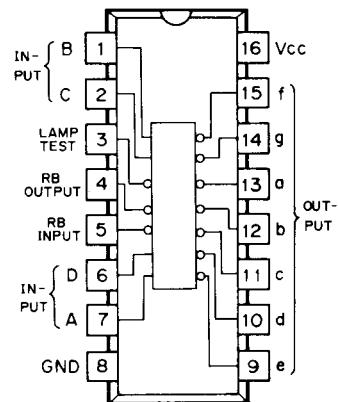
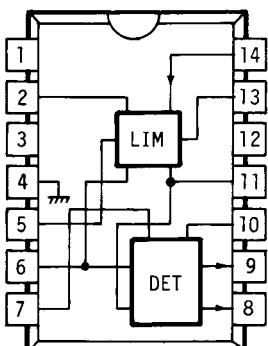
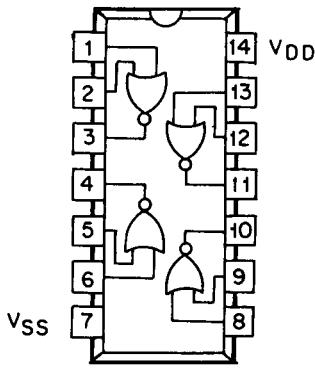
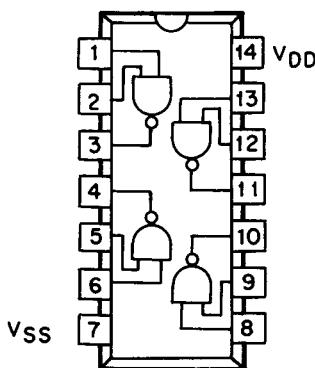
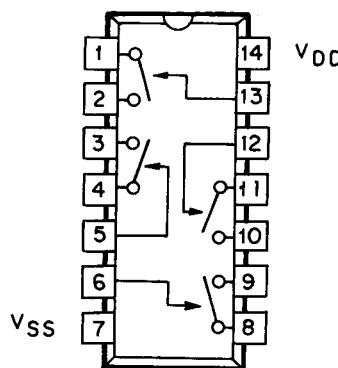
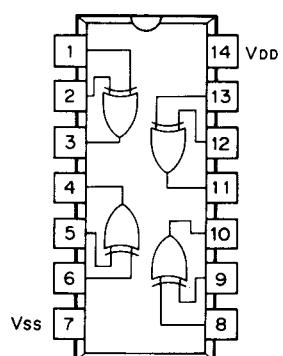
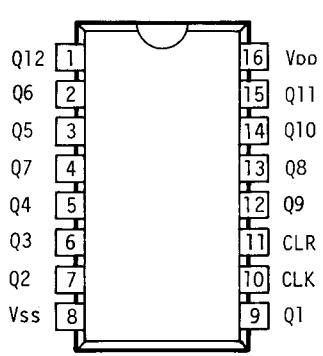
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2SB909M 2SD1225M 2SD1293M		2SA881 2SB851 2SC2021LN		2SA854 2SA1283 2SC3243	
2SB808					
2SK30ATM 2SK152		2SK117			
TPS605B					

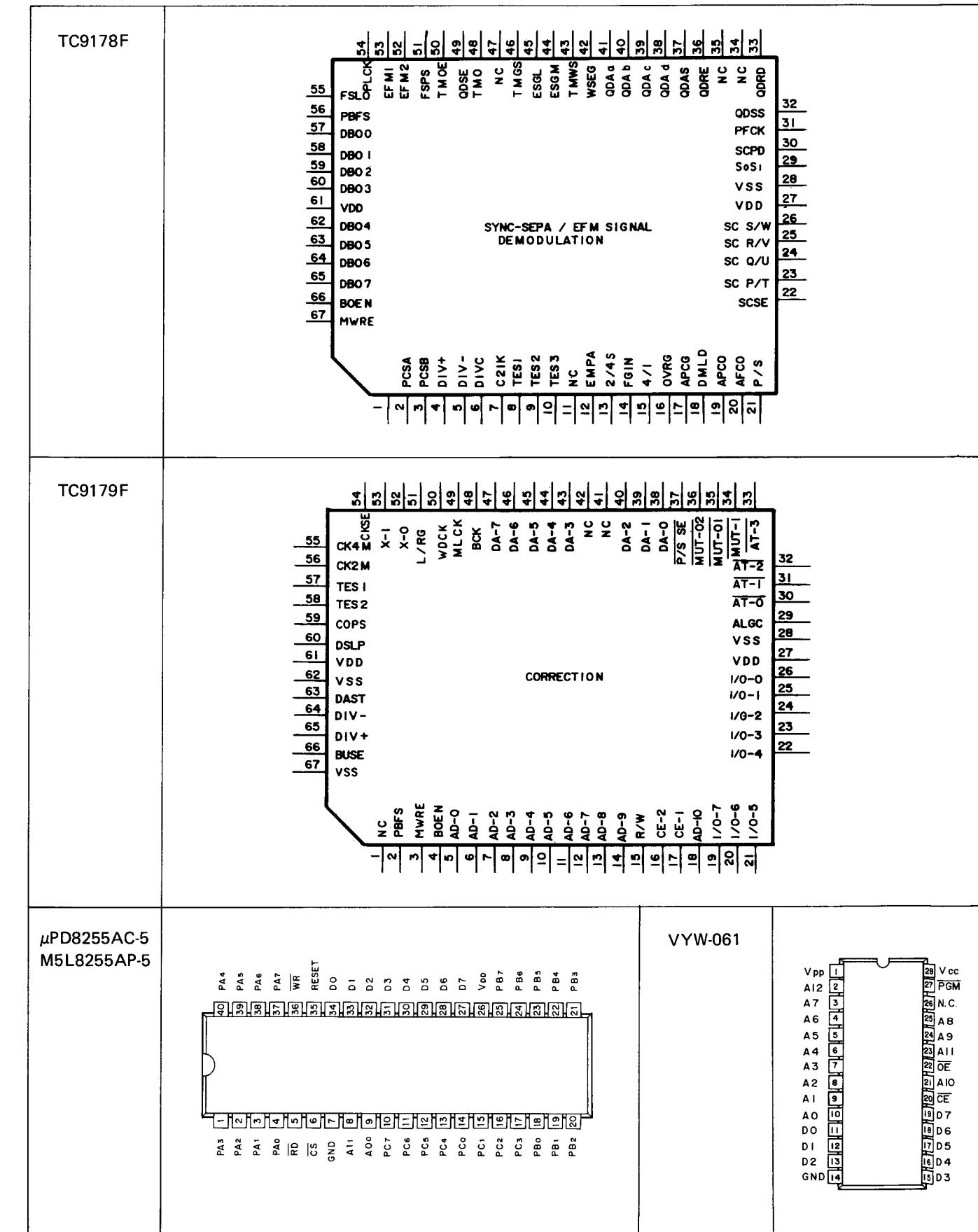
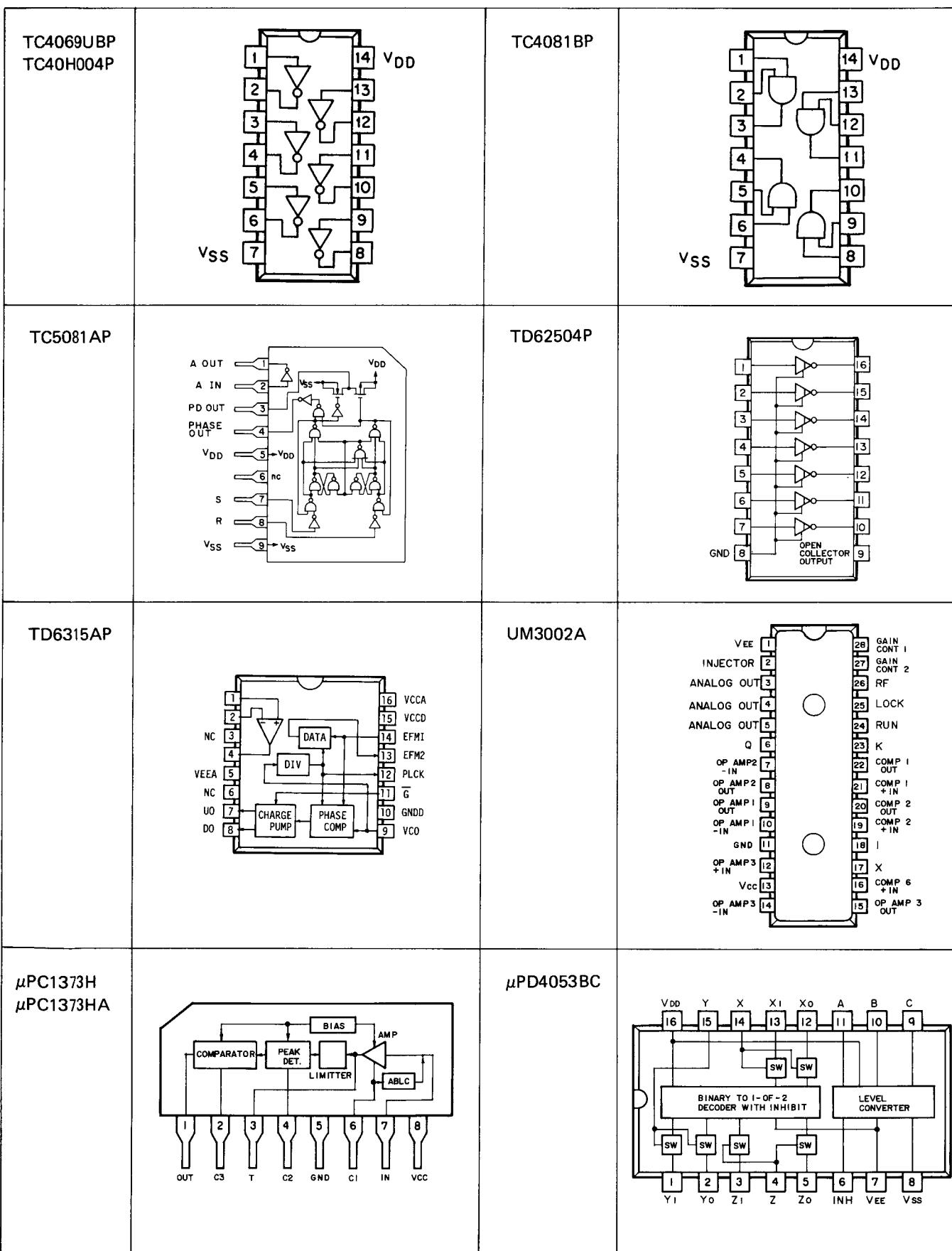


CX-20017		HA12043	
HD6305X2P		HA11225	→ PA3001A
		HD74LS00P	→ SN74LS00P
		HD74LS221P	→ SN74LS221N
		HD74LS247P SN74LS247N	
HM6116P-4		M4030BP	→ TC4030BP
M5L8255AP-5	→ μPD8255AC-5	MB3763	
MSM4001BRS	→ TC4001BP		
MSM4011BRS	→ TC4011BP		

MN8036	<p>Block diagram of MN8036 showing internal functional blocks: COMPARATOR, DIVIDER, TIMING CONTROL, 8 DRIVER, 8 DRIVER, 8 DRIVER, RESAMPLING BUFFER, ELECTRIC CHARGE DETECTOR, 12-STEP ANALOG SHIFT REGISTER, and ELECTRIC CHARGE INJECTION. Power supply pins include V<sub>DD</sub>, VR, VIN, V<sub>SS</sub>, V<sub>O</sub>, V<sub>CC</sub>, and V<sub>OG</sub>.</p>	PA0009	<p>Pinout diagram of PA0009 showing 16 pins. Pin 1: V<sub>IN</sub>, Pin 2: VT, Pin 3: Key T, Pin 4: V<sub>CC</sub>, Pin 5: HT, Pin 6: GND, Pin 7: H<sub>OUT</sub>, Pin 8: H<sub>IN</sub>, Pin 9: CLIP IN, Pin 10: -VEE, Pin 11: CLIP OUT, Pin 12: DATA IN, Pin 13: DATA OUT, Pin 14: COMP OUT, Pin 15: COMP IN.</p>
MSL915RS	<p>Block diagram of MSL915RS showing a series of eight operational amplifiers (op-amps) connected in a chain. The inputs are numbered 1 through 8, and the outputs are numbered 11 through 18. Power supply pin -V is connected to the negative input of op-amp 9, and GND is connected to the negative output of op-amp 10.</p>	PA2016	<p>Pinout diagram of PA2016 showing 20 pins. Pin 1: L<sub>a+</sub>, Pin 2: L<sub>a-</sub>, Pin 3: L<sub>b+</sub>, Pin 4: L<sub>b-</sub>, Pin 5: L<sub>c+</sub>, Pin 6: L<sub>c-</sub>, Pin 7: GND, Pin 8: RUN, Pin 9: F/R, Pin 10: FGO, Pin 11: MMV (FG), Pin 12: MMV (STOP), Pin 13: MMV (STOP), Pin 14: H<sub>c-</sub>, Pin 15: H<sub>c+</sub>, Pin 16: H<sub>b-</sub>, Pin 17: H<sub>b+</sub>, Pin 18: H<sub>a-</sub>, Pin 19: H<sub>a+</sub>, Pin 20: V<sub>CC</sub>.</p>
PA3001A HA11225	<p>Block diagram of PA3001A/HA11225 showing various signal paths. Key components include IF INPUT, 1ST, 2ND, and 3RD IFAMP, LEVEL DET., SUB., DELAYED AGC, SUB., TUNING, MULTIPATH, MUTE CTRL, AUDIO AMP, QUADRATURE DET., OR, MUTE DRV, LEVEL DET., VCC, DC REF., AFC AMP, AFC OUTPUT, and IF OUTPUT.</p>	PD3032	<p>Pinout diagram of PD3032 showing 40 pins. Pin 1: V<sub>SS</sub>, Pin 2: RES, Pin 3: INT, Pin 4: V<sub>CC</sub>, Pin 5: EXTAL, Pin 6: XTAL, Pin 7: NOM, Pin 8: TIMER, Pin 9: C<sub>0</sub>, Pin 10: C<sub>1</sub>, Pin 11: C<sub>2</sub>, Pin 12: C<sub>3</sub>, Pin 13: C<sub>4</sub>, Pin 14: C<sub>5</sub>, Pin 15: C<sub>6</sub>, Pin 16: C<sub>7</sub>, Pin 17: D<sub>7</sub>, Pin 18: D<sub>6</sub>, Pin 19: D<sub>5</sub>, Pin 20: D<sub>4</sub>, Pin 21: D<sub>3</sub>, Pin 22: D<sub>2</sub>, Pin 23: D<sub>1</sub>, Pin 24: D<sub>0</sub>, Pin 25: B<sub>0</sub>, Pin 26: B<sub>1</sub>, Pin 27: B<sub>2</sub>, Pin 28: B<sub>3</sub>, Pin 29: B<sub>4</sub>, Pin 30: B<sub>5</sub>, Pin 31: B<sub>6</sub>, Pin 32: B<sub>7</sub>, Pin 33: A<sub>0</sub>, Pin 34: A<sub>1</sub>, Pin 35: A<sub>2</sub>, Pin 36: A<sub>3</sub>, Pin 37: A<sub>4</sub>, Pin 38: A<sub>5</sub>, Pin 39: A<sub>6</sub>, Pin 40: A<sub>7</sub>. I/O PORT A includes pins 1-4, I/O PORT B includes pins 5-8, I/O PORT C includes pins 9-12, I/O PORT D includes pins 13-16, and I/O PORT E includes pins 17-20.</p>
PA3018	<p>Block diagram of PA3018 showing video signal processing. Key components include DET OUT, VIDEO AMP, VIDEO INH, VIDEO SW IN, VIDEO SW OUT, VIDEO SW MAIN IN, FM DET, RETRIG, T REF.V1, LIM. AMP, DDS DET, COMPARATOR, REF.V2, MMV, and DOS OUT.</p>		

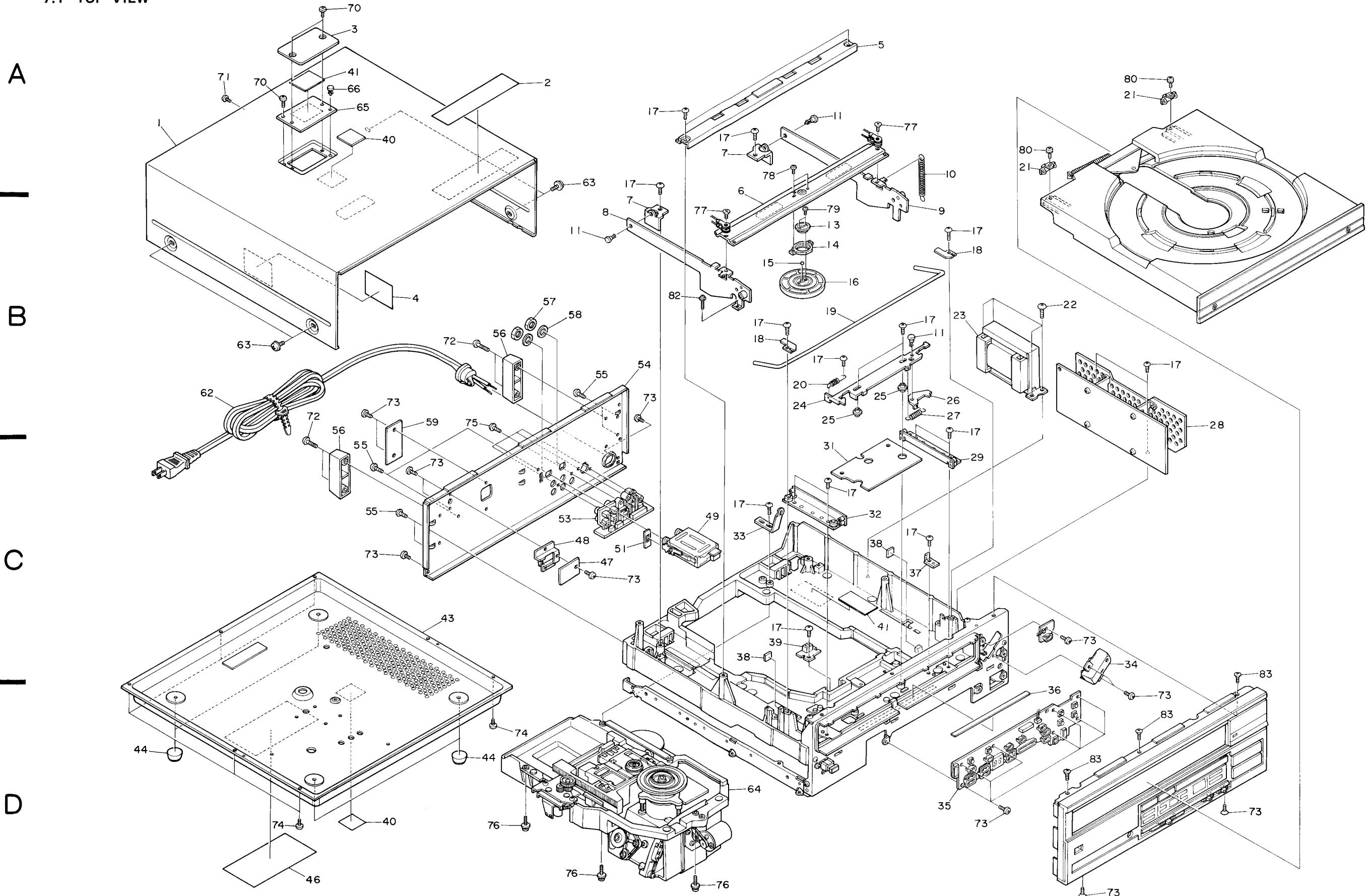


SN74LS221N HD74LS221N		SN74LS247N HD74LS247N	
SN76670N		TC4001BP MSM4001BRS	
TC4011BP MSM4011BRS		TC4016BP M4016BP	
TC4030BP M4030BP		TC4040BP	



## **7. EXPLODED VIEW AND PARTS LIST**

## 7.1 TOP VIEW



## NOTES:

- Parts without part number cannot be supplied.
- The ▲ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

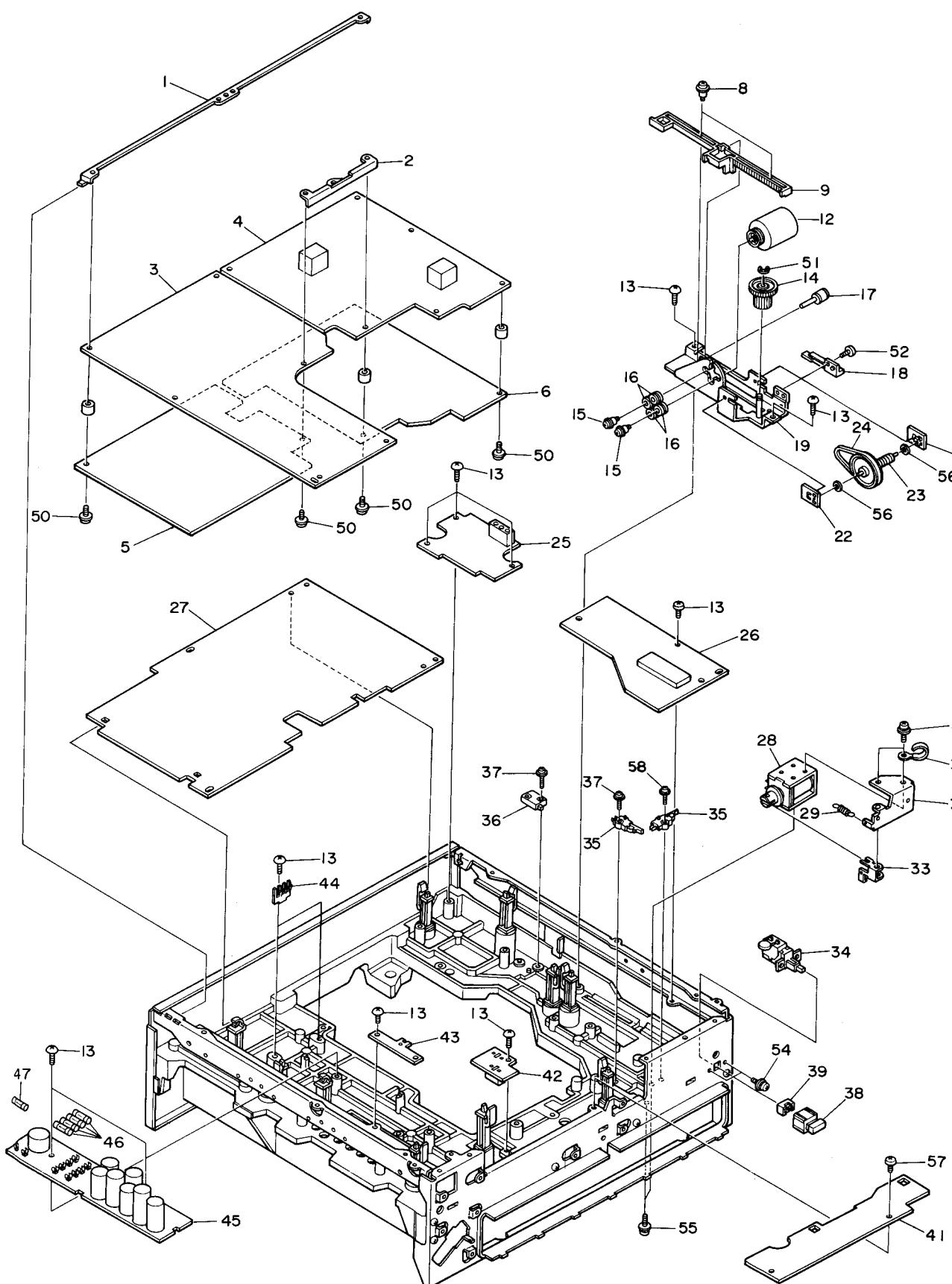
CLD-900/KU ( TOP ) Parts list 1

(MK)	(KEY)	( PART NUMBER )	( DESCRIPTION )
1	VNA-047	Bonnet	56 VNL-181
2	VRW-296	Caution label	57 VLL-082
3	VNK-301	Bonnet cover	58 VNE-270
4	N.S.P.	Gard sheet	59 VEC-199
5	N.S.P.	Bridge	60 vacant
6	N.S.P.	Clamper holder (A)	61 vacant
7	VNE-600	Arm holder	▲ 62 VDG-030
8	VXA-229	Clamper arm (L)	63 ABA-079
9	VXA-228	Clamper arm (R)	64 VXX-356
10	VBH-087	Spring	65 VEC-188
11	VEC-143	Prastic rivet	66 VEC-179
12	vacant		67 vacant
13	N.S.P.	Clamper head	68 vacant
14	N.S.P.	Clamper lifter	69 vacant
15	N.S.P.	Steel ball	70 BCZ30P080FZK
16	VNL-320	Clamper	71 BCZ30P060FZK
17	VBA-010	Screw	72 VCZ30P200FZK
18	N.S.P.	Rod holder	73 BCZ30P060FZK
19	N.S.P.	Rod	74 BCZ30P080FZK
20	VBH-136	Slide spring	75 BPZ30P080FZK
21	VNL-176	Stopper	76 PMB30P140FMC
22	VBA-011	Screw	77 CMZ30P050FMC
23	VTT-056	Power transformer	78 BPZ20P040FZK
24	VNE-674	Slide board	79 PPZ20P050FMC
25	VLL-266	Slide color	80 PMB26P060FMC
26	VNE-427	Lock sensor board	81 vacant
27	VBH-083	Cum spring	82 AMZ20P120FMC
28	VWR-064	DRVB	83 CBZ30P080FZK
29	VXA-288	Roller plate (L)	
30	vacant		
31	N.S.P.	Black sheet	
32	VXA-287	Roller plate (R)	
33	VBK-020	Eject plate	
34	VWG-137	IRAB	
35	VWG-138	KEYB	
36	N.S.P.	Panel plate	
37	N.S.P.	Stopper	
38	N.S.P.	Stopper rubber	
39	VWG-136	CDSB	
40	VRW-386	Caution label	
41	VRW-431	Caution label	
42	vacant		
43	N.S.P.	Bottom board	
44	VNL-218	Foot	
45	vacant		
46	VRW-402	Caution label (A)	
47	VWY-081	SHPB	
48	N.S.P.	SHPB holder	
49	VWL-016	RFMD	
50	vacant		
51	N.S.P.	Blind	
52	vacant		
53	VWY-082	PNJB	
54	VNA-064	Rear panel	
55	VBA-009	Screw	

CLD-900/KU ( TOP ) Parts list 2

(MK)	(KEY)	( PART NUMBER )	( DESCRIPTION )
56	VNL-181	Protector	
57	VLL-082	F nut	
58	VNE-270	F washer	
59	VEC-199	Tilt plate	
60	vacant		
61	vacant		
62	VDG-030	Power cord	
63	ABA-079	Screw	
64	VXX-356	Mech. chassis ass y	
65	VEC-188	Black sheet	
66	VEC-179	Plastic rivet	
67	vacant		
68	vacant		
69	vacant		
70	BCZ30P080FZK		
71	BCZ30P060FZK		
72	VCZ30P200FZK		
73	BCZ30P060FZK		
74	BCZ30P080FZK		
75	BPZ30P080FZK		
76	PMB30P140FMC		
77	CMZ30P050FMC		
78	BPZ20P040FZK		
79	PPZ20P050FMC		
80	PMB26P060FMC		
81	vacant		
82	AMZ20P120FMC		
83	CBZ30P080FZK		

## 7.2 BOTTOM VIEW



## NOTES:

- Parts without part number cannot be supplied.
- The **▲** mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

CLD-900/KU ( BOTTOM ) Parts list

(MK)	(KEY)	( PART NUMBER )	( DESCRIPTION )
------	-------	-----------------	-----------------

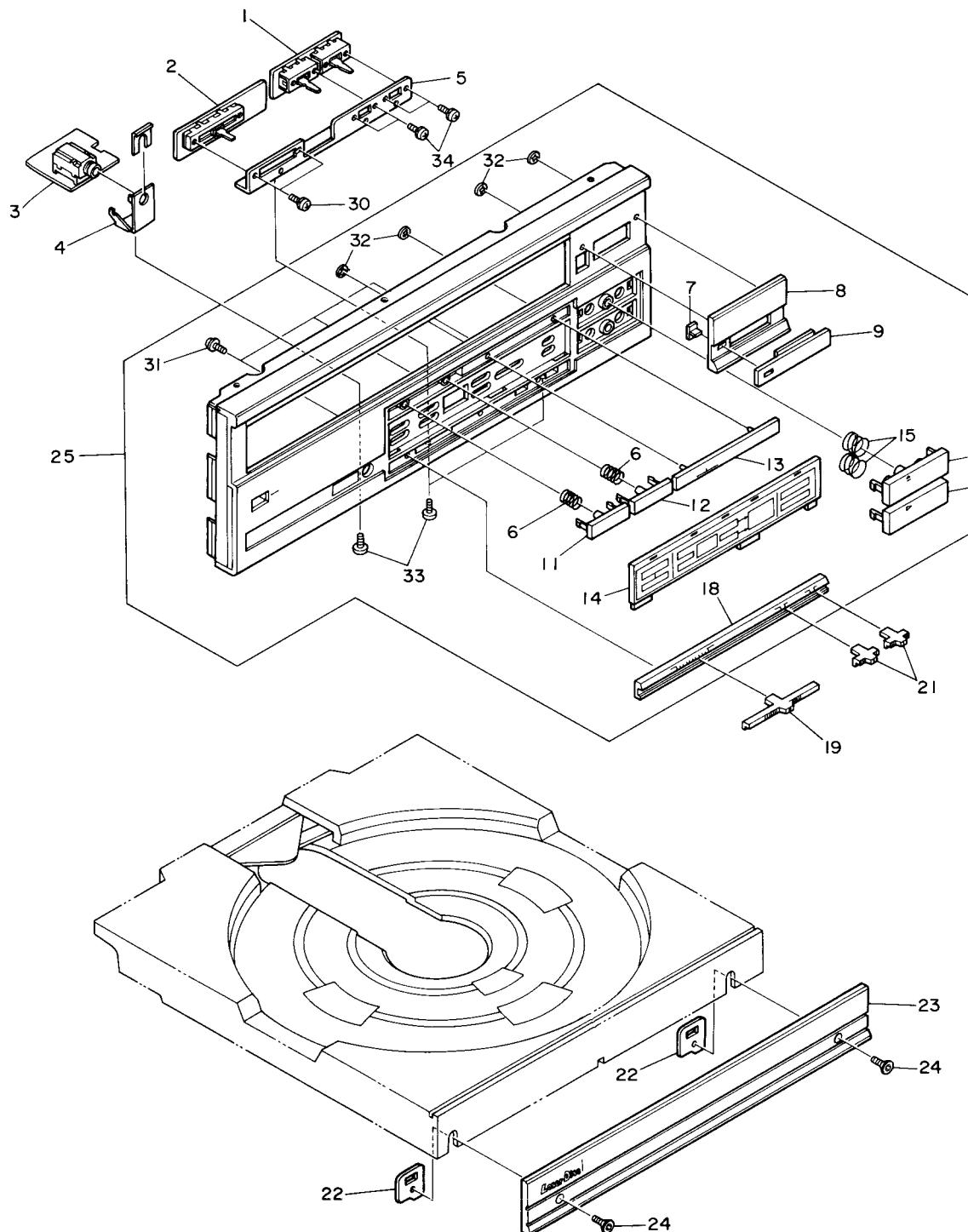
1	VNE-616	PCB holder (B)
2	VNE-615	PCB holder (A)
3	VUV-070	DEMB
4	VUV-060	CDOM
5	N.S.P.	Shield sheet (A)
6	N.S.P.	Shield sheet (B)
7	vacant	
8	VLL-184	Screw
9	VNL-174	FL rack
10	vacant	
11	vacant	Loading motor
12	VXM-028	Screw
13	VBA-010	Worm wheel
14	VNL-173	Screw
15	VLL-183	
16	VEB-084	Rubber bushing
17	VXA-175	Arm roller ass'y
18	VSK-008	Leaf switch
19	VXA-225	L motor holder
20	vacant	
21	vacant	Shaft holder
22	VNL-172	Worm ass'y
23	VXA-127	FL belt
24	VEB-071	LDDB
25	VUV-061	
26	VWG-134	LOLB
27	VWS-051	SRVB
28	VXP-009	Plunger
29	VBH-085	P spring
30	vacant	
31	N.S.P.	Cord holder
32	VXA-123	P holder ass'y
33	VNE-426	Plunger lever
34	VSA-006	Power switch
35	VSK-004	Lever switch
36	VSF-009	
37	VBA-013	Slide switch
38	VXA-214	Screw
39	VEC-151	Power button ass'y
40	vacant	Flexible ring
41	VWG-139	
42	VWG-135	DSPD
43	N.S.P.	LDSB
44	N.S.P.	Spring holder
45	VWR-070	4P terminal
46	VEK-018	FUSB
47	VEK-022	
48	vacant	Fuse (3A)
49	vacant	Fuse (2A)
50	ACZ30P150FMC	
51	YE30FUC	
52	PCZ26P060FMC	
53	vacant	
54	PMB30P060FMC	
55	PMB30P120FMC	

CLD-900/KU ( BOTTOM ) Parts list

(MK)	(KEY)	( PART NUMBER )	( DESCRIPTION )
------	-------	-----------------	-----------------

56	WA20P060-010	
57	BCZ30P060FZK	
58	AMZ20P120FMC	

### 7.3 FRONT PANEL



#### NOTES:

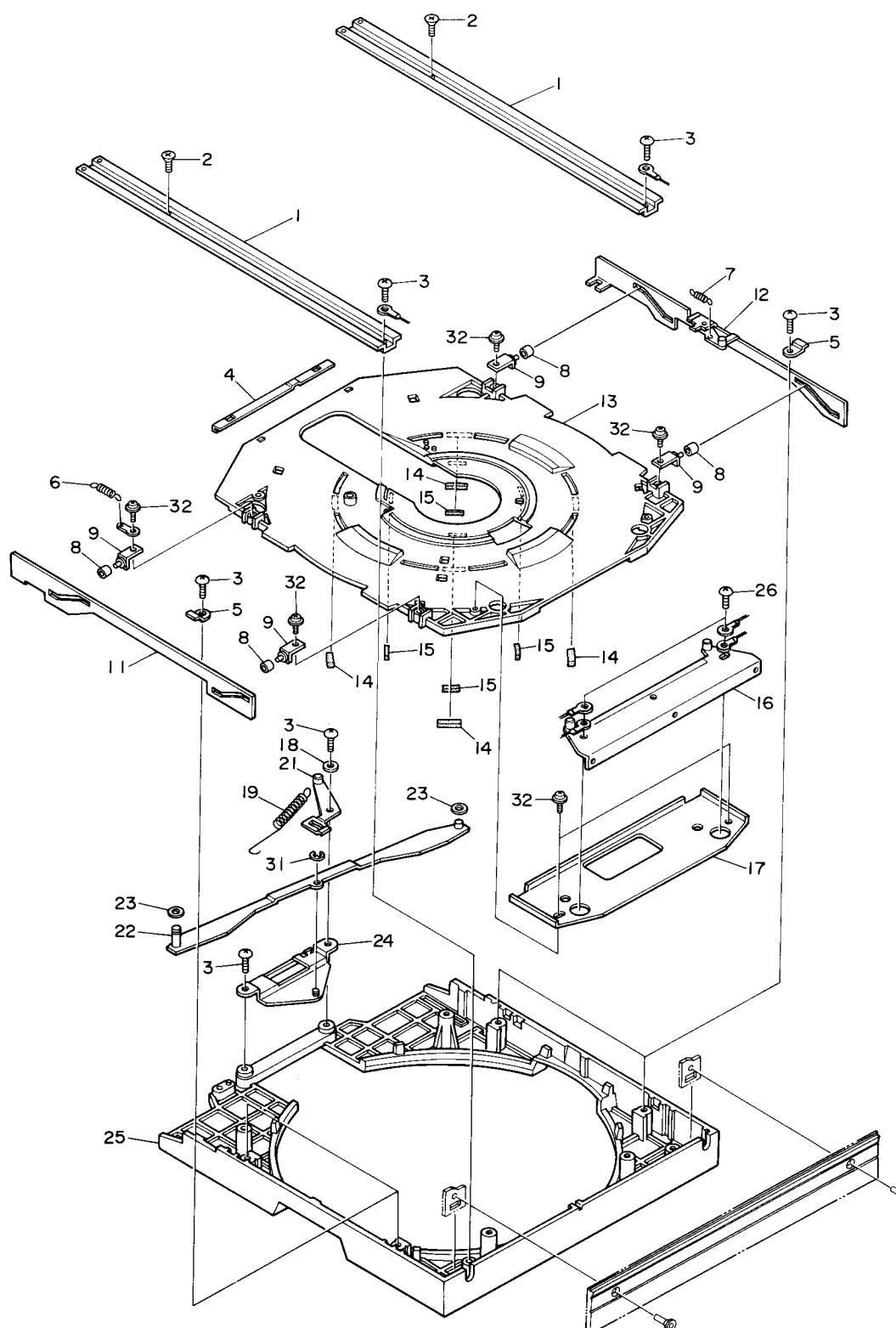
- Parts without part number cannot be supplied.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

CLD-900/KU ( FRONT PANEL ) Parts list 1

(MK) (KEY) ( PART NUMBER ) ( DESCRIPTION )

1	VWY-079	SWTB
2	VWY-078	HPVB
3	VWY-077	HPJB
4	N.S.P.	Jack holder
5	N.S.P.	Volume holder
6	VBH-119	Key spring (B)
7	N.S.P.	IR lens
8	N.S.P.	Sub panel
9	N.S.P.	IR filter
10	vacant	
11	VXA-278	TV button ass'y
12	VXA-276	CX button ass'y
13	N.S.P.	Audio panel ass'y
14	VNK-413	Acrylic display
15	VBH-118	Key spring (A)
16	VXA-275	REJ button ass'y
17	VXA-274	PLAY button ass'y
18	N.S.P.	Volume panel
19	VXA-304	Volume knob ass'y
20	vacant	
21	VNL-284	Slide knob
22	N.S.P.	L panel holder
23	VAH-083	Loading panel
24	VBA-007	Screw
25	VXA-315	Front panel ass'y
26	vacant	
27	vacant	
28	vacant	
29	vacant	
30	PMZ20P030FMC	
31	PMB30P060FMC	
32	YS20FBT	
33	BBZ30P060FZK	
34	BMZ26P040FMC	

## 7.4 DISC TABLE



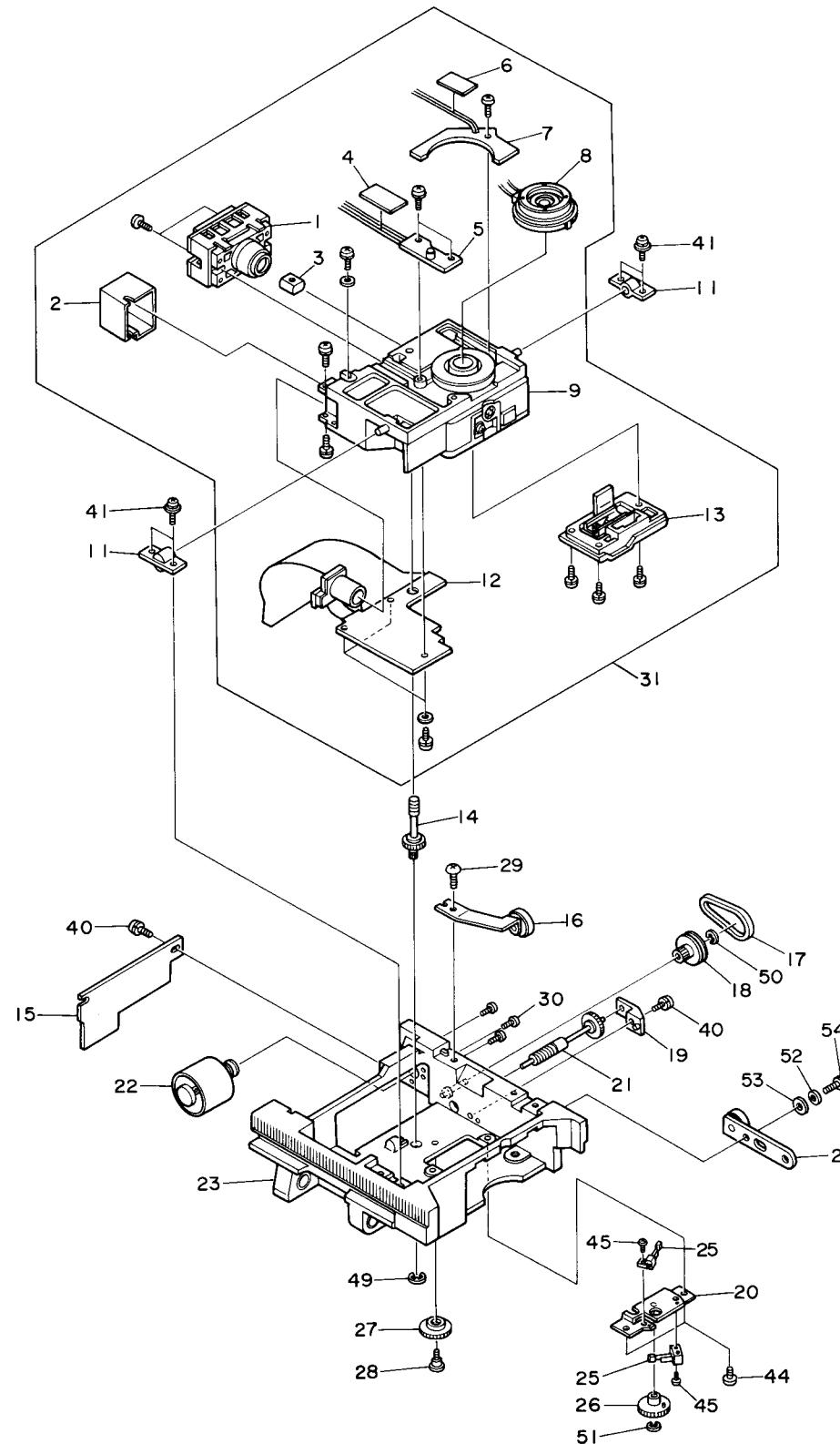
## NOTES:

- Parts without part number cannot be supplied.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

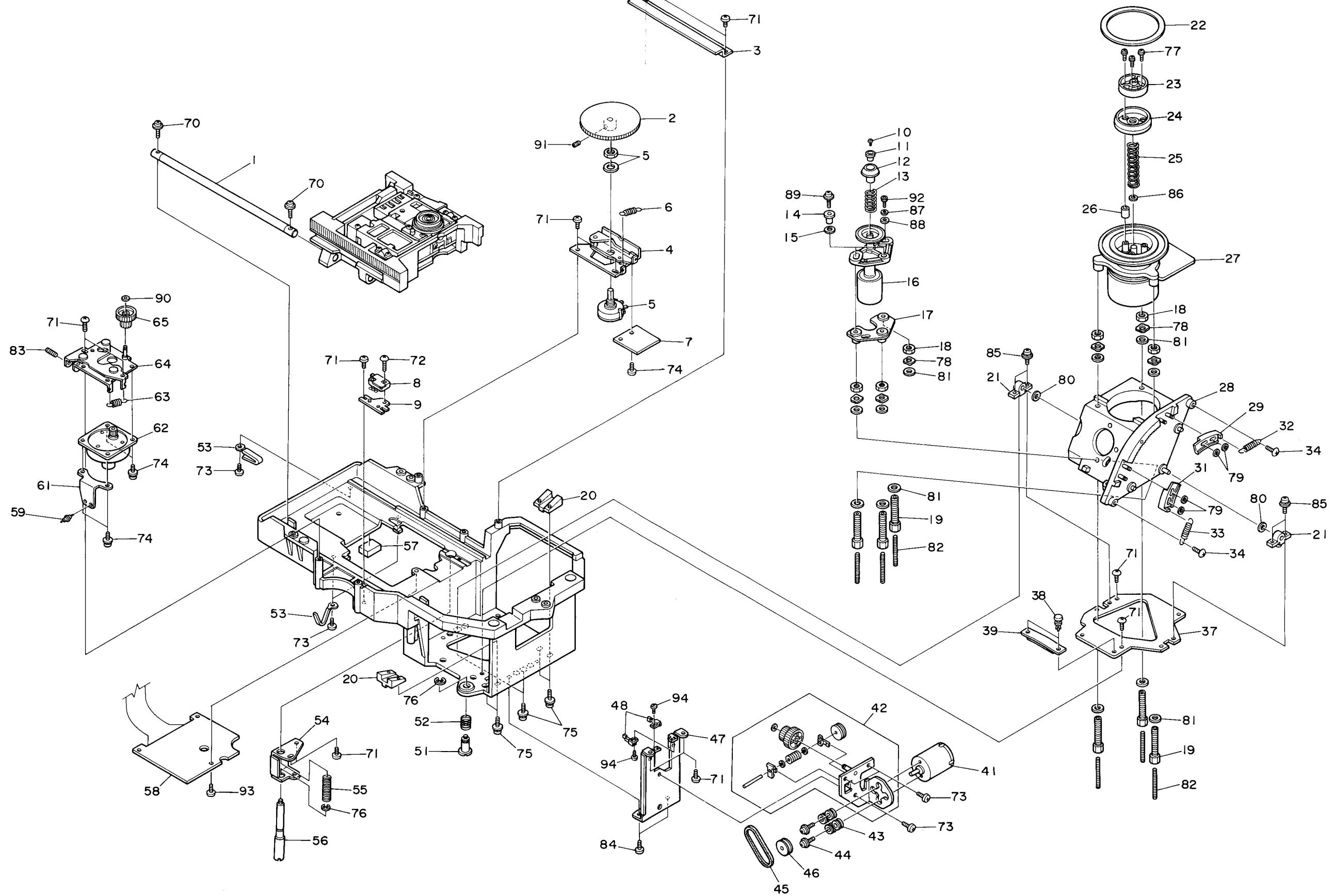
CLD-900/KU ( DISC TABLE ) Parts list 1  
 (MK) (KEY) ( PART NUMBER ) ( DESCRIPTION )

1	VNG-013	Rail
2	VBA-012	Screw
3	VBA-011	Screw
4	VNE-596	Support board
5	VNE-434	Cum guide
6	VBH-133	Link spring
7	VBH-083	Cum spring
8	VLL-179	Lifter roller
9	VXA-134	Container lifter
10	vacant	
11	VNE-601	Container cum (R)
12	VXA-282	Container cum (L)
13	VNK-315	Container
14	VEB-080	Container rubber
15	VEB-092	Disc cushion
16	N.S.P.	Caddy joint ass'y
17	VNE-467	C plate
18	VLL-180	Eject washer
19	VBH-128	EJ spring
20	vacant	
21	VXA-135	Ejecter ass'y
22	VXX-283	Link ass'y
23	VEB-069	Link spacer
24	VXA-286	Link holder ass'y
25	VNK-437	Caddy
26	VBA-010	Screw
27	vacant	
28	vacant	
29	vacant	
30	vacant	
31	YE30FUC	
32	IPZ30P080FMC	

## 7.5 SLIDER



## **7.6 MECHANICAL CHASSIS**



## NOTES:

- Parts without part number cannot be supplied.
- The ▲ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

CLD-900/KU ( MECH ) Parts list

1

(MK) (KEY) ( PART NUMBER ) ( DESCRIPTION )

1	VLL-270	Carriage shaft
2	VNL-300	Potentio gear
3	N.S.P.	Roller holder
4	VXA-235	Potentio ass'y
5	VCS-017	Potentio meter
6	VBH-130	Potentio spring
7	N.S.P.	CNNB
8	VSF-009	Slide switch
9	VNE-491	Limit SW holder
10	VBA-015	Screw
11	VLL-264	Yoke C
12	VLL-262	Taper wheel (C)
13	VBH-124	Centering spring
14	VLL-259	Color
15	VEF-023	Spring
16	VXM-044	Spindle motor
17	VXX-219	Motor holder ass'y
18	VLA-061	M5 nut
19	VLL-257	Height adj. screw
20	VNG-014	Stopper plate
21	VNV-022	Holder
22	VEB-048	Rubber spacer
23	N.S.P.	Yoke
24	VNV-012	Centering hub
25	VBH-081	Centering spring
26	VDM-007	Spacer tube
27	VXM-044	Spindle motor
28	VNK-314	Swing base
29	VNL-289	Rack (L)
30	vacant	
31	VNL-288	Rack (R)
32	VBH-131	Rack spring (A)
33	VBH-132	Rack spring (B)
34	VBA-010	Screw
35	vacant	
36	vacant	
37	N.S.P.	Swing plate
38	VEC-143	Plastic rivet
39	N.S.P.	Harness sheet
40	vacant	
41	VXM-045	Loading motor
42	VXA-258	Motor holder ass'y
43	VEB-084	Rubber bushing
44	VLL-183	Screw
45	VEB-085	Belt
46	VNL-207	Motor pulley
47	N.S.P.	Side board
48	VSK-003	Leaf switch
49	vacant	
50	vacant	
51	VLL-285	Shipping screw
52	VBH-137	Shipping spring
53	N.S.P.	Cord holder
54	VNE-618	Screw plate
55	VBH-126	Screw spring

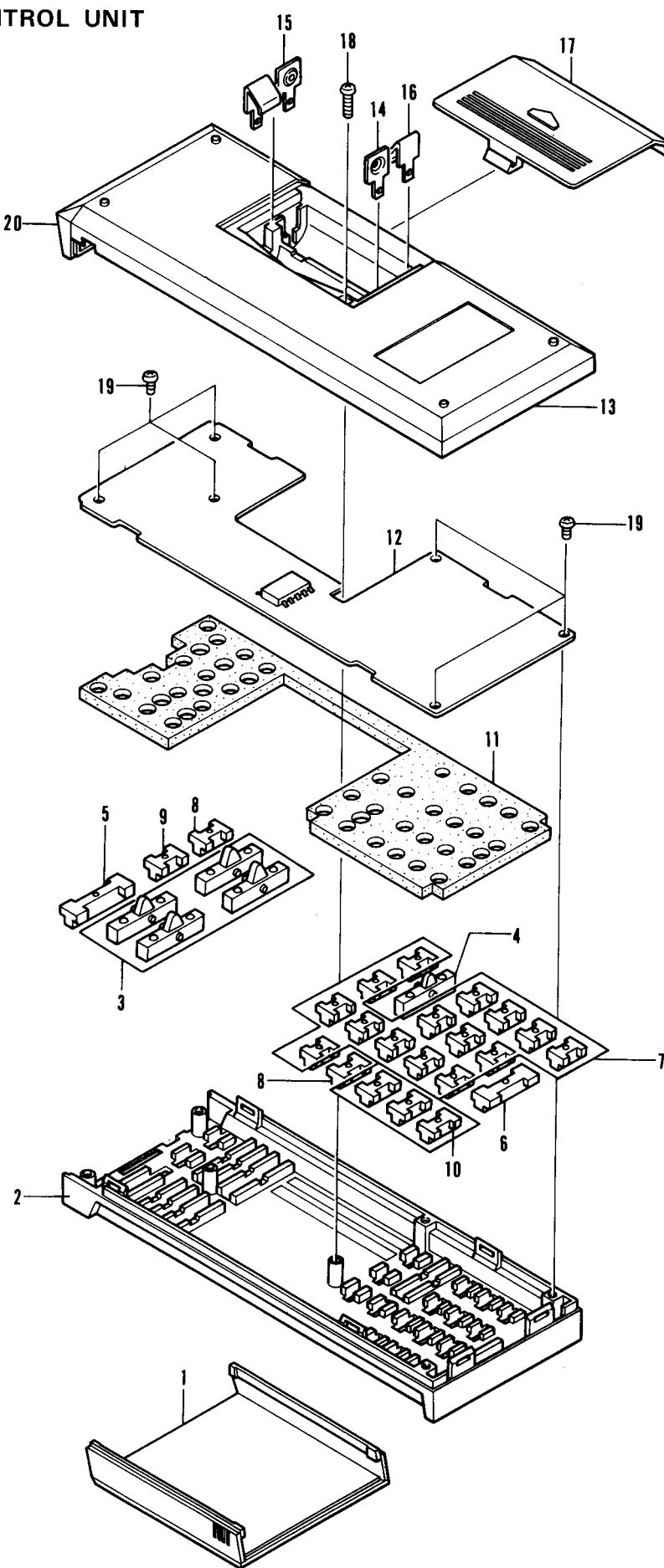
CLD-900/KU ( MECH ) Parts list

2

(MK) (KEY) ( PART NUMBER ) ( DESCRIPTION )

56	VLL-277	Shipping screw (A)
57	N.S.P.	Cushion
58	VUV-058	PREB
59	VCG-005	Capacitor
60	vacant	
61	VNE-248	Filter holder (A)
62	VXM-020	Slider motor
63	VBH-129	Carriage spring
64	VXA-233	Motor holder ass'y
65	VNL-297	Carriage gear
66	vacant	
67	vacant	
68	vacant	
69	vacant	
70	ACZ30P150FMC	
71	VCZ30P080FMC	
72	ACZ26P100FMC	
73	BCZ30P060FZK	
74	PMB30P060FMC	
75	PMB30P100FMC	
76	YE40FUC	
77	PM426P060FMC	
78	WW50FBT	
79	WA21D050D050	
80	WA42D080D050	
81	WB50FMC	
82	ZMD30H250FBT	
83	PMZ30P120FMC	
84	VCZ30P080FRD	
85	PMB30P060FMC	
86	WA65F115M080	
87	WS30FMC	
88	WC30FMC	
89	AMZ30P080FMC	
90	WT17D035D025	
91	ZMD30H060FBT	
92	SMZ30H080FBT	
93	BCZ30P050FZK	
94	PMZ17P028FMC	

## 7.7 REMOTE CONTROL UNIT



**NOTES:**

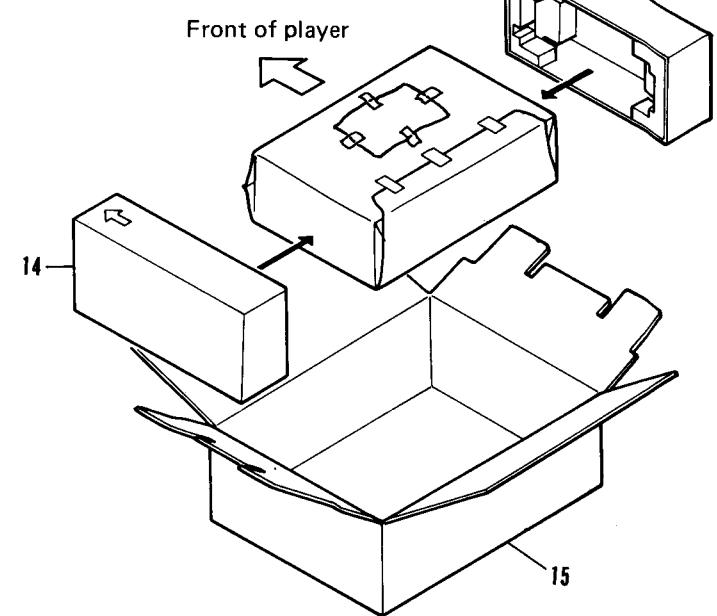
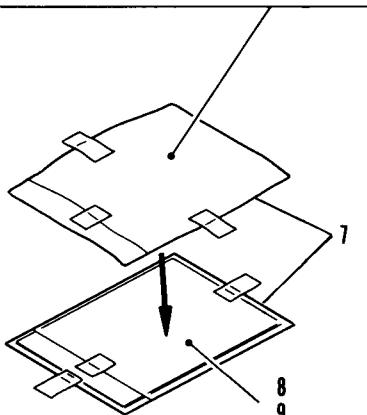
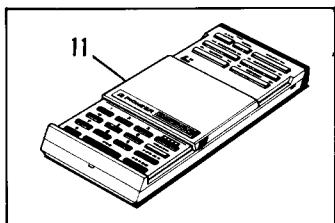
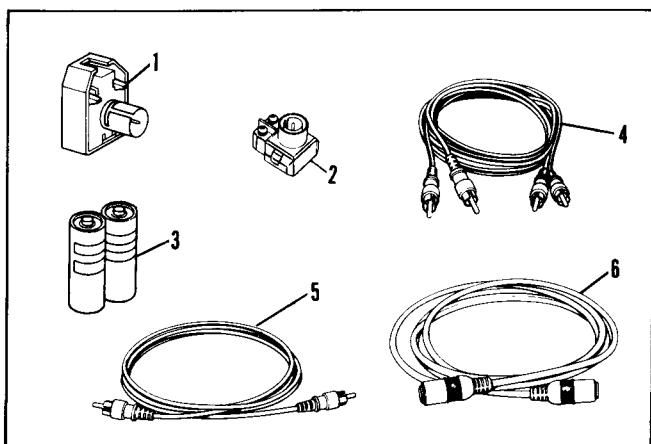
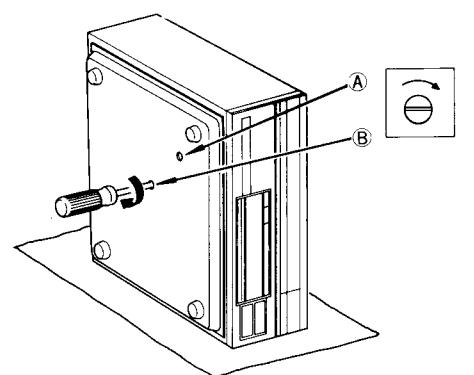
- Parts without part number cannot be supplied.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

CLD-900/KU ( REMOTE CONTROL ) Parts list 1		
(MK)	(KEY)	( PART NUMBER ) ( DESCRIPTION )
1	VNK-367	Slide cover
2	VNK-438	Top cover
3	VNL-193	Button A
4	VNL-194	Button B
5	VNL-195	Button C
6	VNL-196	Button D
7	VNL-197	Button E
8	VNL-198	Button F
9	VNL-199	Button G
10	VNL-200	Button H
11	N.S.P.	Spacer
12	N.S.P.	RMT
13	VNK-297	Under cover
14	VNE-527	Terminal +
15	VNE-528	Terminal --
16	VNE-529	Terminal -
17	VNK-299	Battery cover
18	PBZ20P100FMC	
19	PBZ20P050FMC	
20	VAP-020	IR filter

CLD-900/KU ( PACKING ) Parts list 1		
(MK)	(KEY)	( PART NUMBER ) ( DESCRIPTION )
1	VKX-002	Antenna adaptor(B)
2	VKX-001	Antenna adaptor(A)
3	N.S.P.	Battery SUM-3
4	VDE-028	Audio cable
5	VDE-014	Video cable
6	VDE-039	Antenna cable
7	VHL-014	Polyethylene bag
8	VRB-041	Op. instructions
9	N.S.P.	Caution note
10	vacant	
11	VXX-354	Remote control
12	VHX-006	Parts box
13	VHA-105	Side pad (L)
14	VHA-106	Side pad (R)
15	VHG-122	Packing case

**8. PACKING PROCEDURE****PACKING PROCEDURES**

1. Be sure to tighten Screws (A) and (B) for transportation. (The SPDL motor should always be located at the LD side.)
2. Put the player into the bag front first. Bind the power cord, then close the bag with adhesive tape.
3. Confirm accessories, place in a PVC bag and secure the bag together with an operating instructions on the upper side.
4. Pack the right and left pads and place in a carton.
5. Confirm that the remote control unit is packed and place the flat plate.
6. Fold and place the lid on the carton.



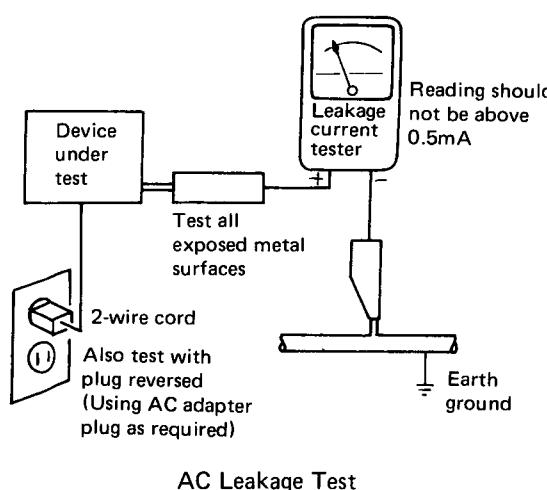
## 9. SAFETY INFORMATION

### 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

#### LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

### 2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## LABEL CHECK

