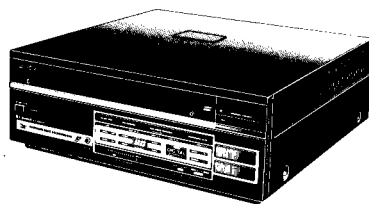


Service Manual

 PIONEER®



ORDER NO.
VRT-050-0

COMPACT DISC/LASERVISION PLAYER

CLD-900

NTSC

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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 INFORMATION 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

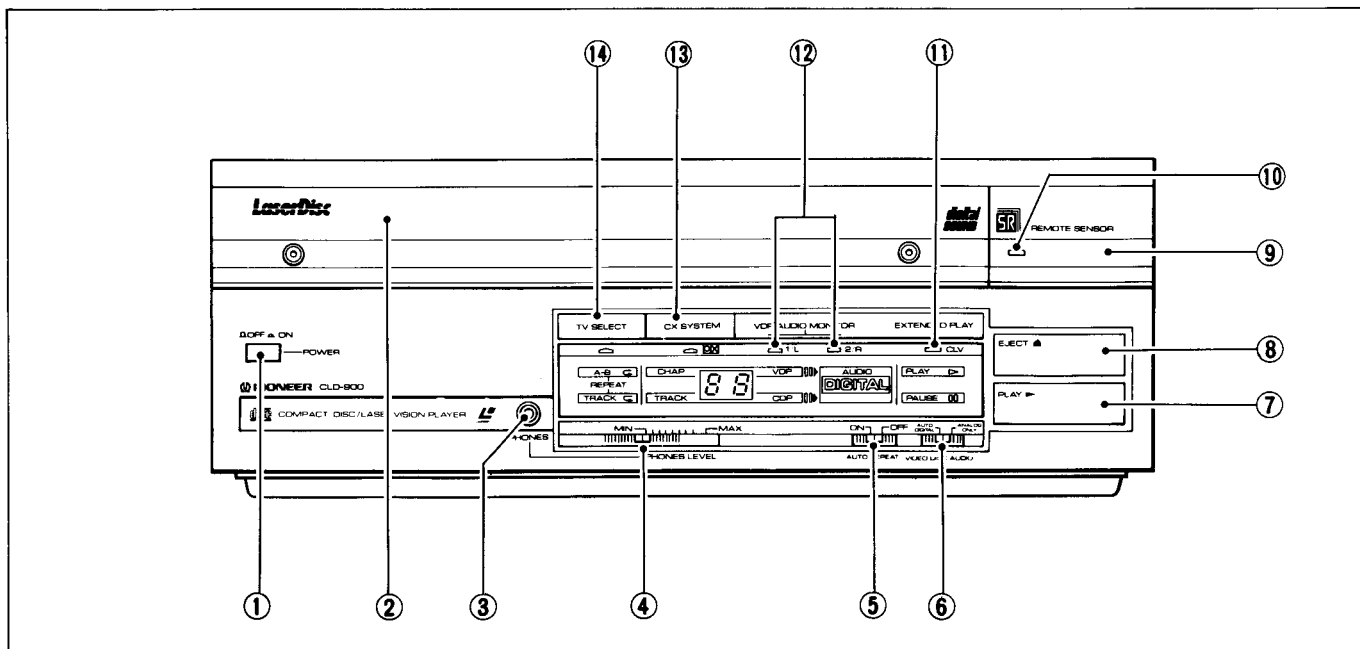
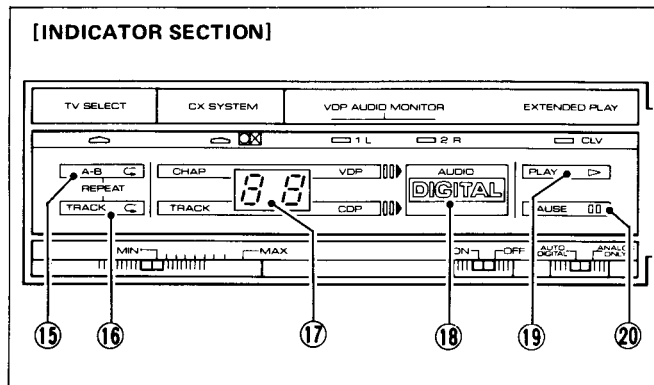
Operating instructions 1

Warranty card 1

NOTE:

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

2. FACILITIES



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.

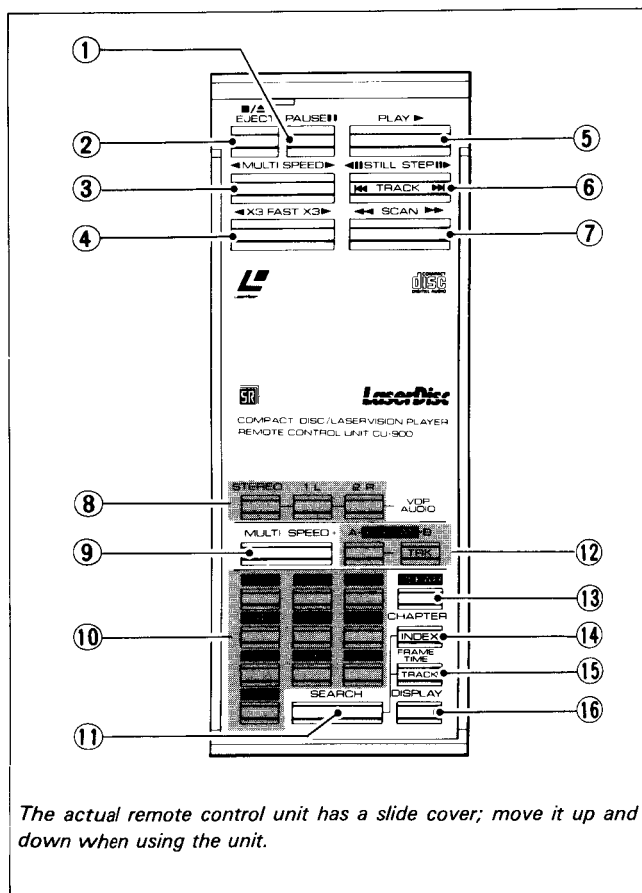
The accessory remote control unit can be used during playback of both LaserVision discs and Compact Discs. Some buttons have different functions when used with LaserVision discs and Compact Discs; these buttons appear in the following colors when used with the two disc modes:

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]



The actual remote control unit has a slide cover; move it up and down when using the unit.

① PAUSE (||)

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.

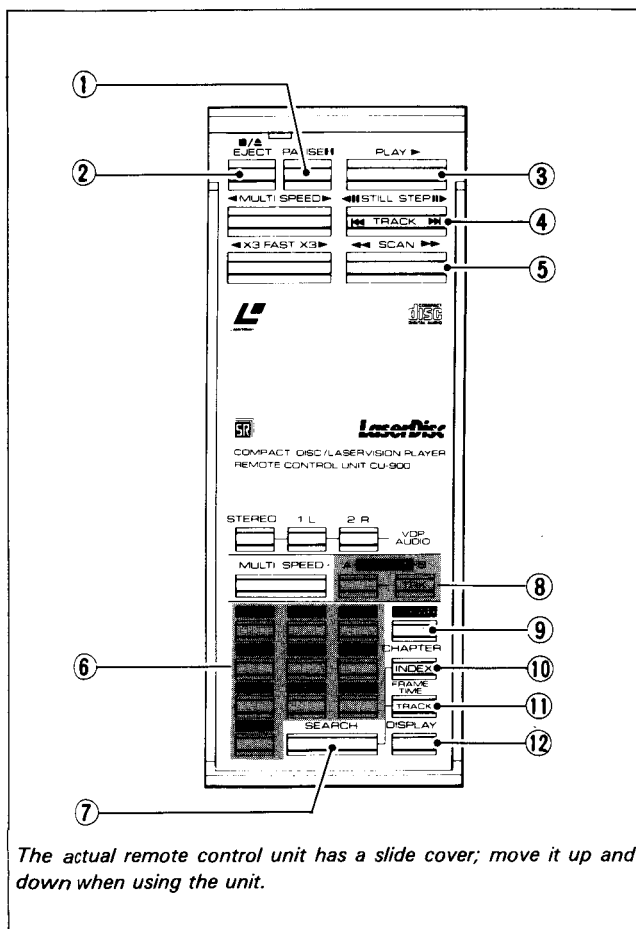
15 FRAME/TIME

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]



The actual remote control unit has a slide cover; move it up and down when using the unit.

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.

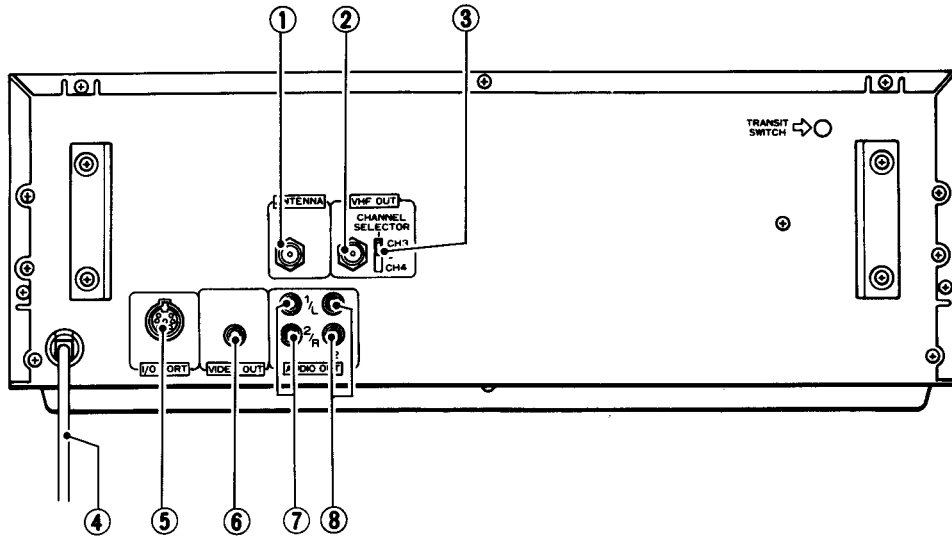
11 TRACK

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

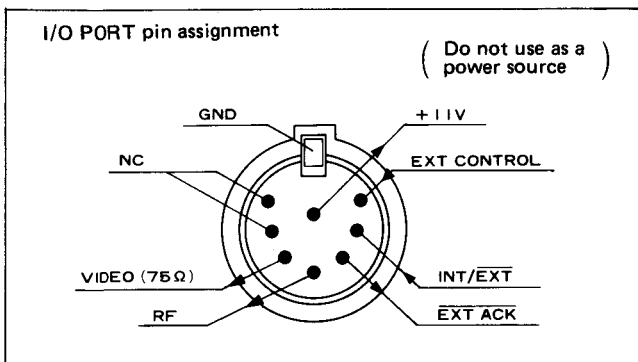
This selector is for switching the internal VHF converter. Set to the channel which is not used for TV broadcasts in your area.

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

- (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

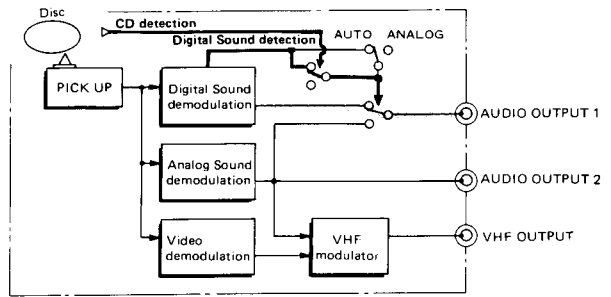
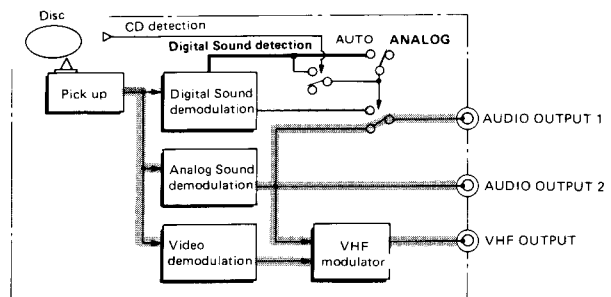
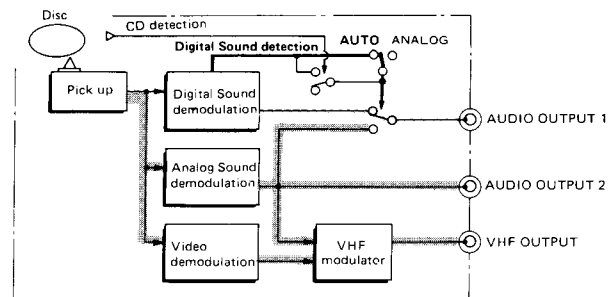
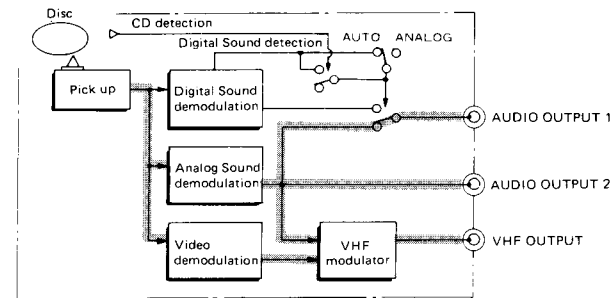
In the LaserVision with Digital Sound Disc, both the Digital sound and Analog Sound are recorded.

- (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

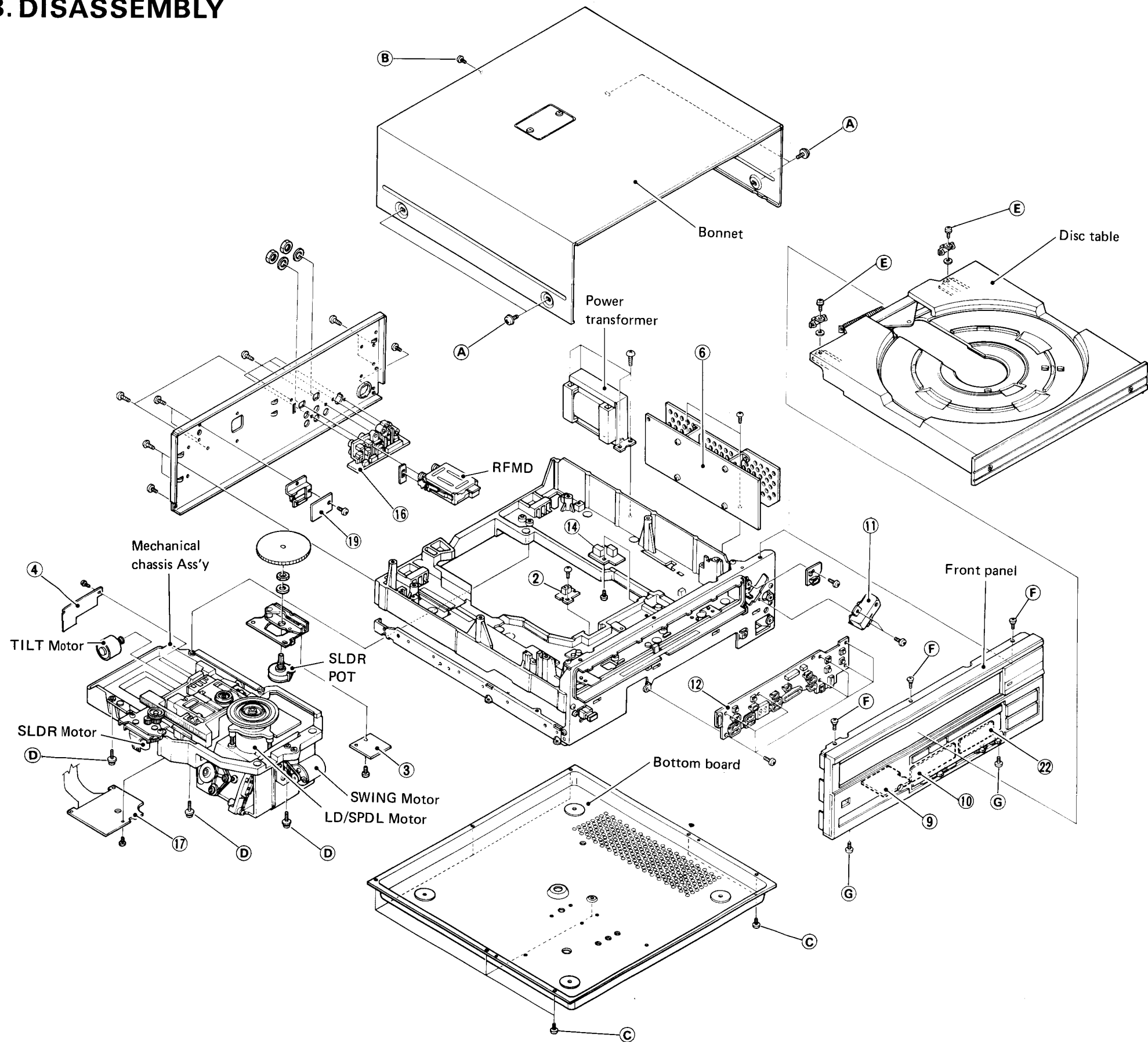
- (4) Compact Disc playback
 - AUDIO OUTPUT 1 Compact Disc
Digital Sound
 - AUDIO OUTPUT 2 no output
 - VHF OUT no output

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.*



3. DISASSEMBLY

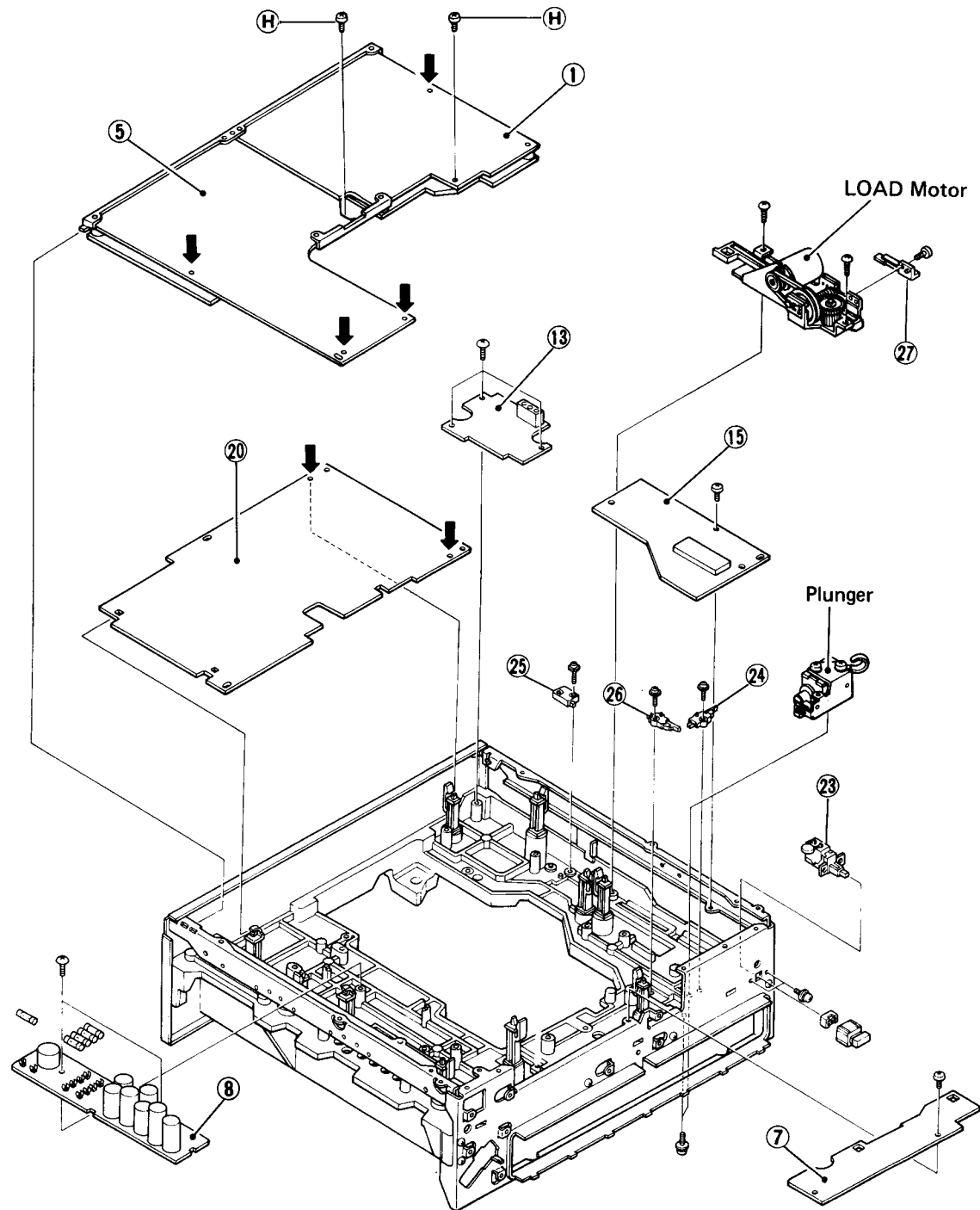


No. CIRCUIT BOARDS

- 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
- ⑱ SHPB
- ⑳ SRVB
- ㉑
- ㉒ SWTB

No. SWITCHES

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



[Bonnet]

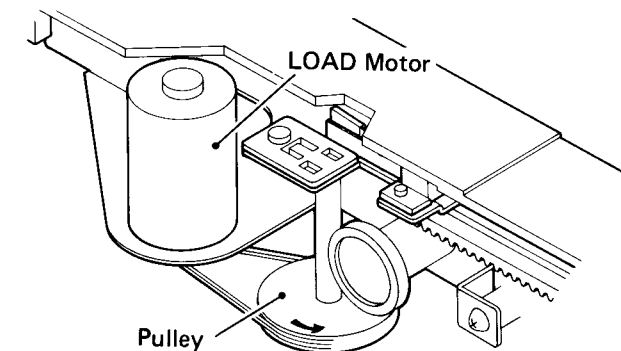
- Remove four side screws (A) (ABA-079).
- Remove a rear screw (B) (BCZ30P060FZK).

[Bottom board]

- Remove eight screws (C) (BCZ30P080FZK).

[Disc table]

- Remove the bonnet.
- Turn the POWER switch ON, press the EJECT key (▲) 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.



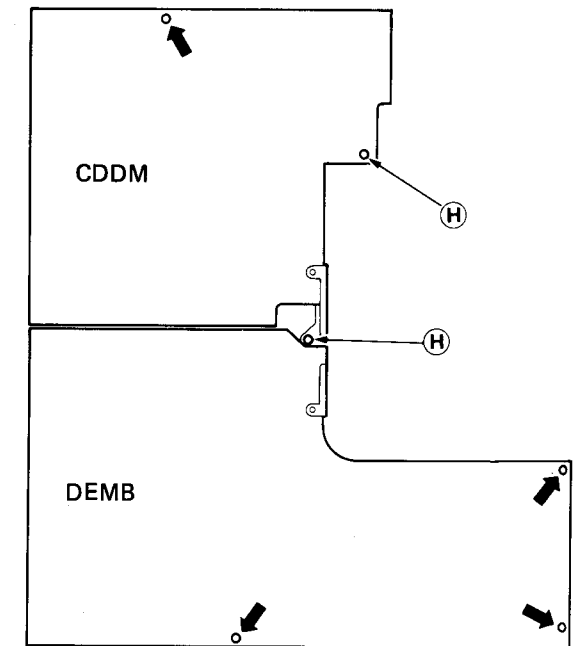
- ➔ Gear engaging part is coated with grease. Be careful not to apply grease to the belt.
- The disc clamber is raised after turning many times. In this way the CLAMP switch is pressed by the rack.
- Set the player upright and remove the bottom board.
- ➔ When the disc is set, handle carefully while 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.

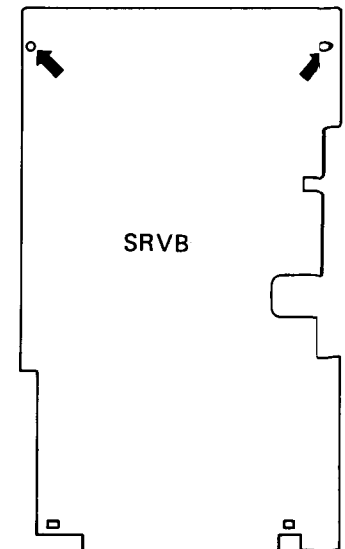
[CDDM, DEMB]

- 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) (PMB30P140FN C).

4. ADJUSTMENTS AND WAVEFORMS

4.1 NOTES FOR ADJUSTMENT

- For electrical adjustment, open the player in the figure below using the following procedures.
- 1. Remove the bonnet. (4 screws on the side and 1 screw on the rear)
- 2. Remove the bottom board. (8 screws)
- 3. Place the player in the direction shown in the figure, and loosen the 2 transit screws.
- 4. Remove the set-screws (2 pcs.) of the DEMB and CDDM, and detach the boards. (4 clips)
- 5. Detach the SRVB. (2 clips)

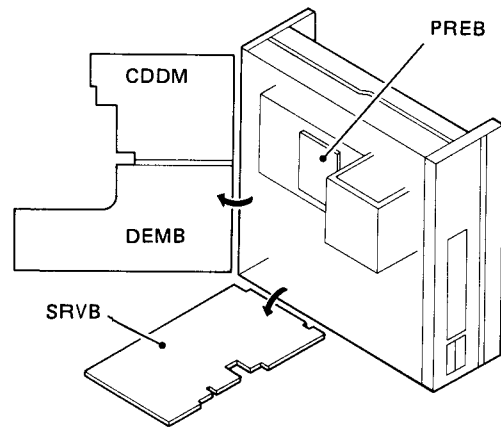


Fig. 3.1 Player Before Adjustment

- DRVB is adjustable after the bonnet is removed and the 2 transit screws are loosened.
- When replacing DRVB or the movement of focus lens is suspected to be abnormal, adjust DRVB (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.

- 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)

4.2 PREB ADJUSTMENT

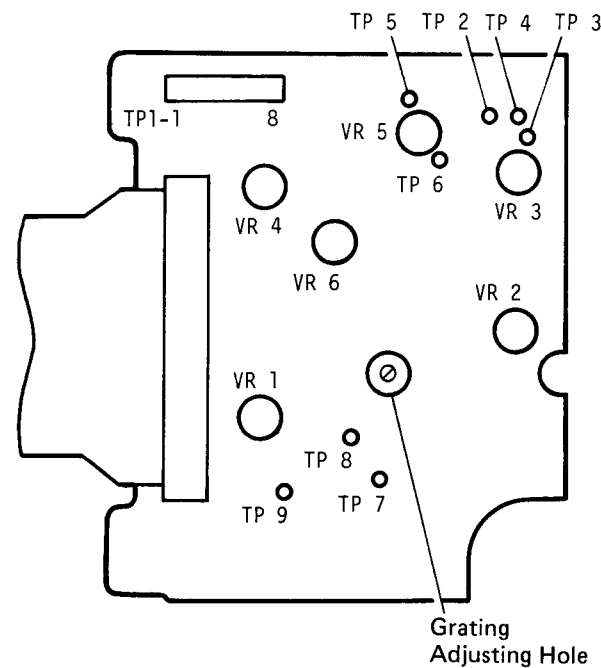


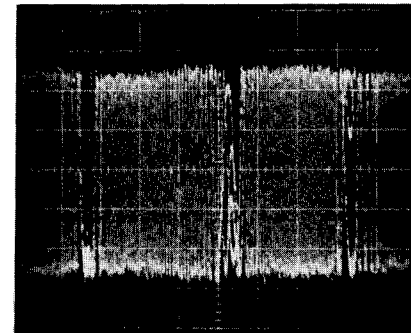
Fig. 3.2 Adjustment Positions of PREB

1. FOCUS Off-set Adjustment

- Set the VR2 to the center of the rotation range.
- Adjust the VR6 so that the TP3 voltage becomes 0V (±5mV) with the POWER switch ON.

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.



PREB, TP5
200mV/div
5mS/div

Photo 3.1 TRKG Error Waveform (with Loop Open)

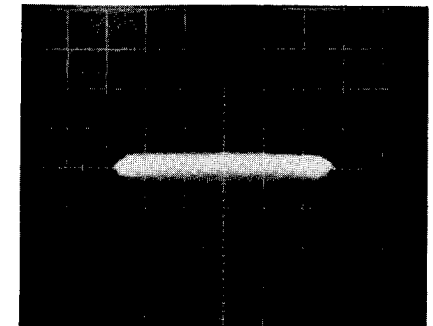
3. Grating Initialization

- ➔ 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, Y:
200mV/div
X - Y Mode

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.

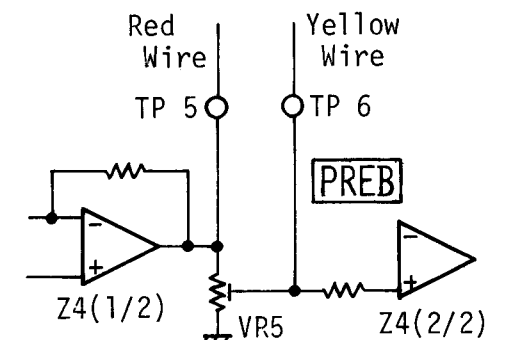


Fig. 3.4 TRKG Loop Gain Adjustment

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.

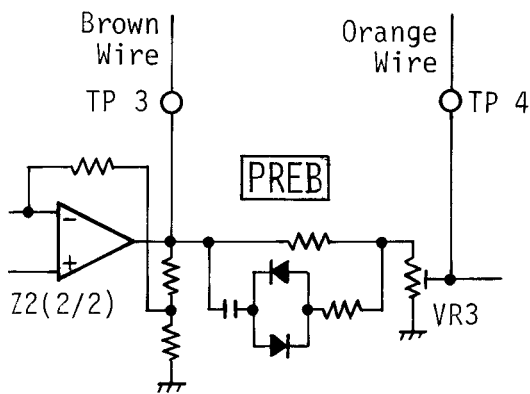
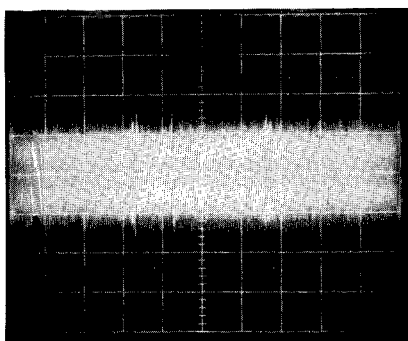


Fig. 3.5 FOCS Loop Gain Adjustment

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.



PREB, TP2

200mV/div
5mS/div

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.

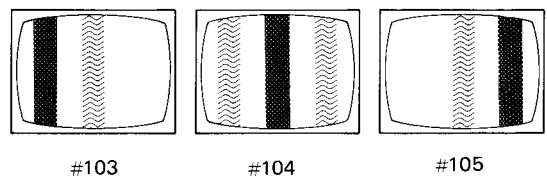


Fig. 3.6 Influence of Crosstalk

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).

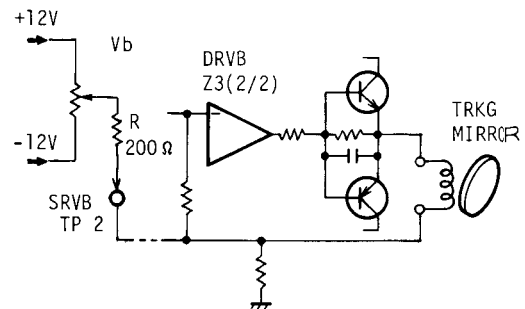


Fig. 3.7 TRKG Mirror Bias

- 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:

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

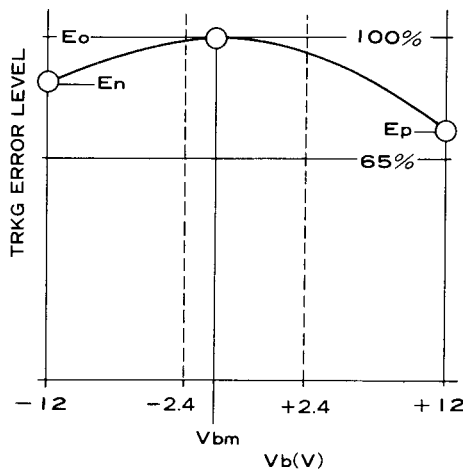


Fig. 3.8 Optical Axis Check

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.

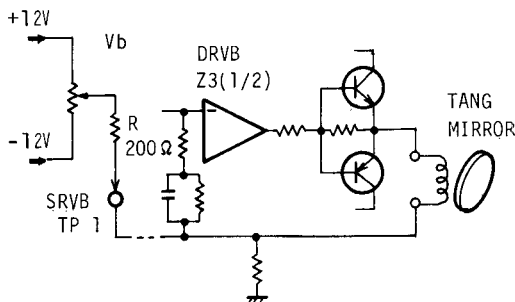


Fig. 3.9 TANG Mirror Bias

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 DRV B ADJUSTMENT

1. FOCS Bridge Balance Adjustment

- ➔ This adjustment should be made immediately after the power switch is turned ON. The FOCS bridge balance circuit (DRV B, 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 DRV B becomes -300mV ($\pm 50mV$).

2. Initialization of Adjustment

- ➔ When the DRV B 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 DRV B is removed and the POWER switch is turned ON, finish the operation quickly and return to the original condition.

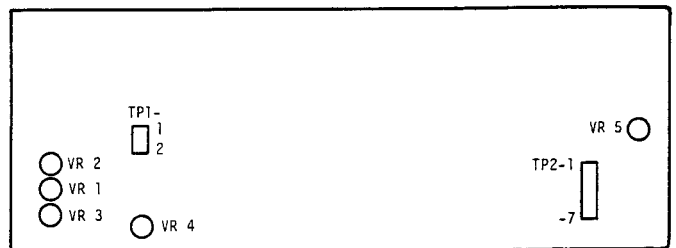


Fig. 3.10 Adjustment Positions of DRV B

3. Adjustment for Detecting the LD Inside Position

- ➔ When the ◀x3 FAST REV key (◀x3) 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 x3 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.

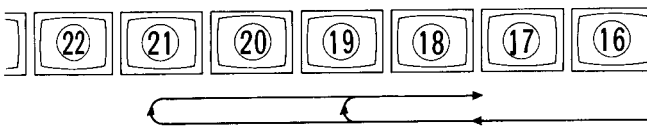


Fig. 3.11 Adjustment for Detecting the LD Inside Position

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 x3 FAST FWD key (x3 ▶). 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 x3 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.

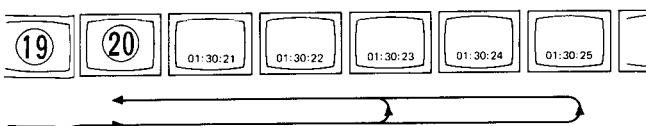


Fig. 3.12 Adjustment for Detecting Outside Position of 12 in. LD

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 x3 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.

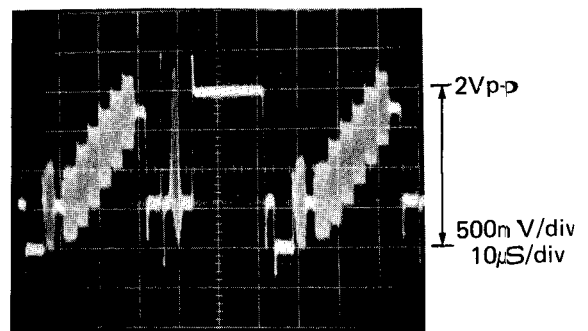
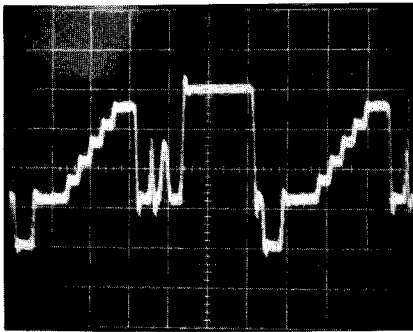


Photo 3.4 Demodulating Video Signal Waveform

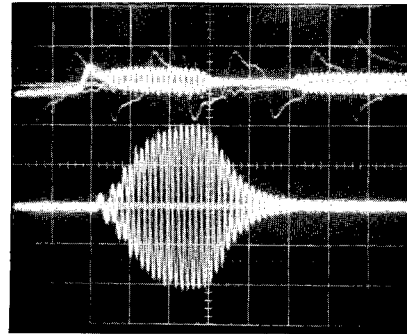
2. Adjustment of 1H Delay Video Level

- 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



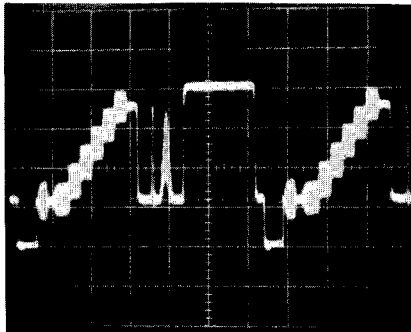
Upper: 1V/div
Lower: 200mV/div
1μS/div

Upper; Video signal
Lower; Color burst signal

Photo 3.7 Waveform of Color Burst 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.

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 μF 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.

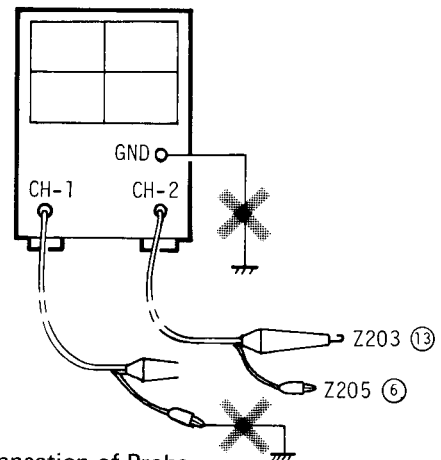


Fig. 3.14 Connection of Probe

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 0.047μF 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.

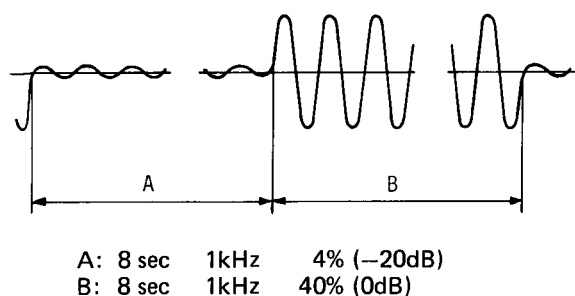


Fig. 3.15 CX System Check Signal

- 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.

4.6 SRVB ADJUSTMENT

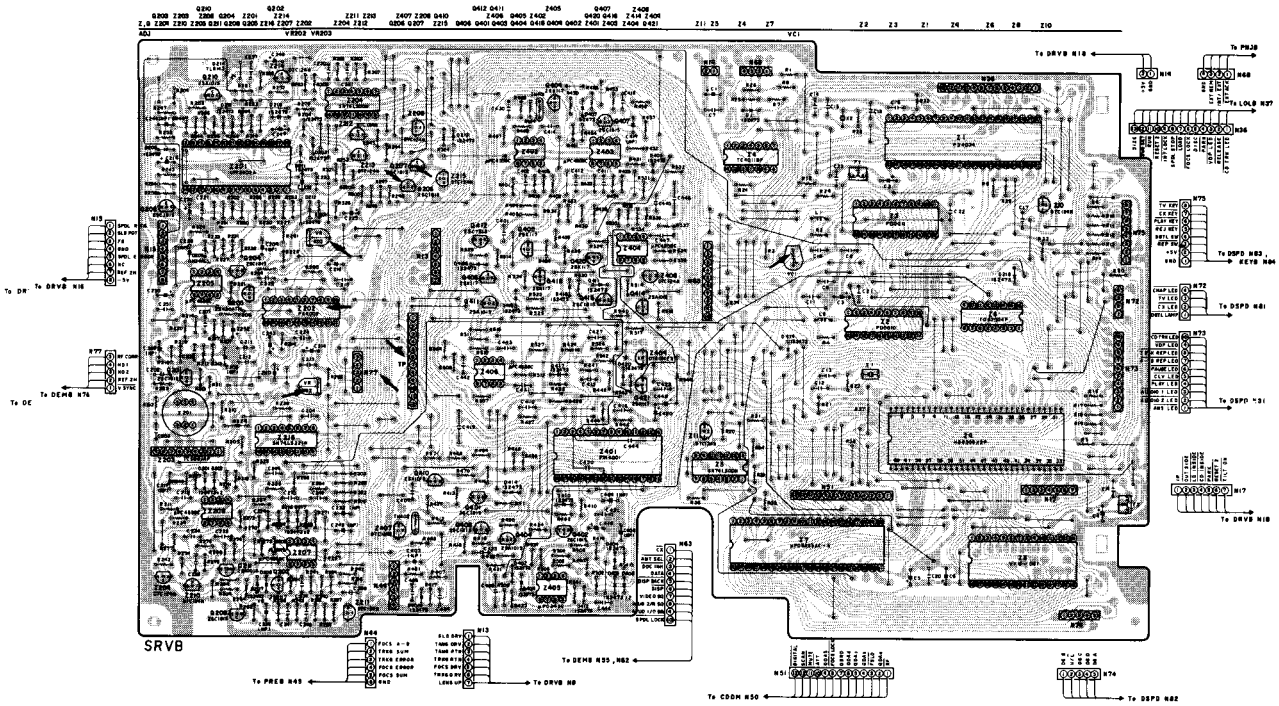


Fig. 3.16 SRVB Adjustment Position

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.

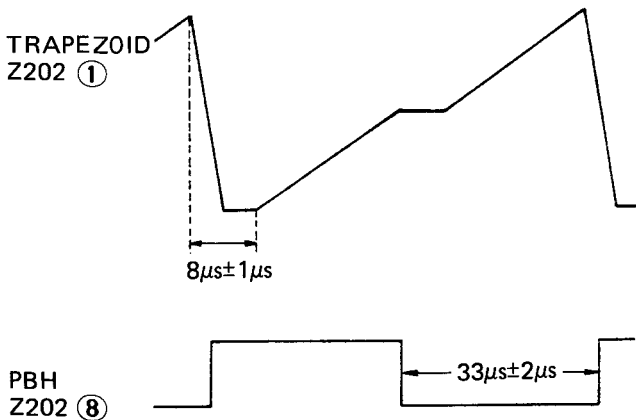


Fig. 3.17 SYNC GATE ADJUSTMENT

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.

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.

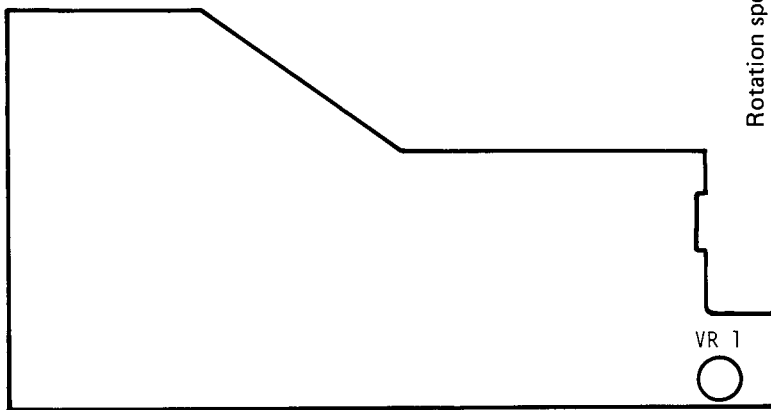


Fig. 3.18 LOLB Adjustment Position

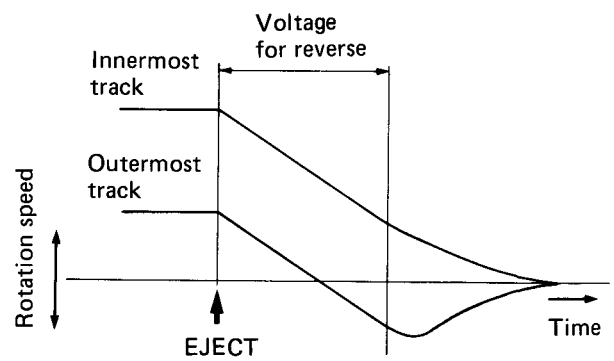


Fig. 3.19 CD/SPDL Motor Stop

4.8 CDDM ADJUSTMENT

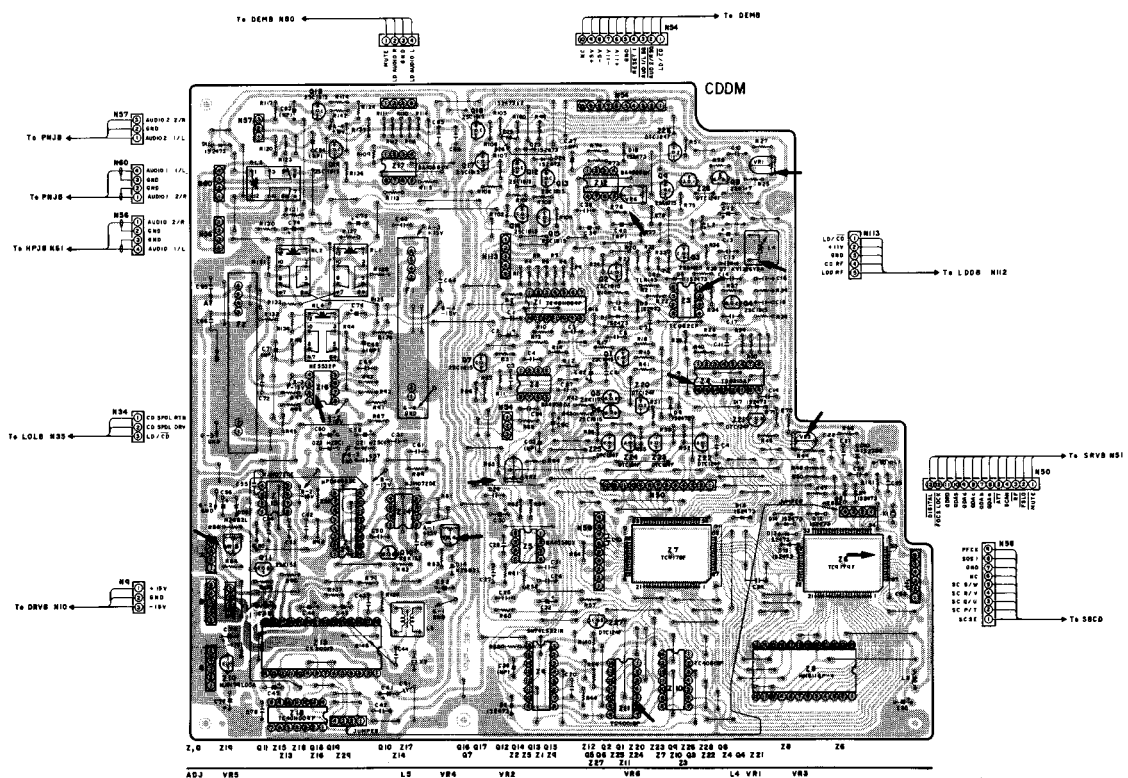


Fig. 3.20 CDDM Adjustment Positions

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 (± 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.

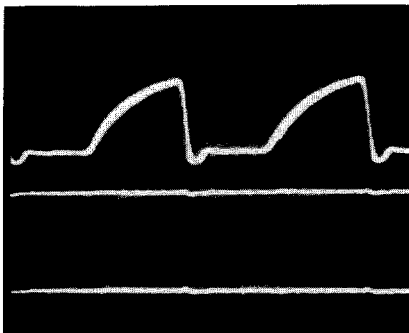
**digital
SOUND**

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 (\leftarrow) 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.



Upper, Lower:
2V/div
0.05 μ S/div
(x10 MAG)

Upper: PLCK signal
Lower: EFM2 signal

Photo 3.8 PLCK, EFM2 Signal Waveform

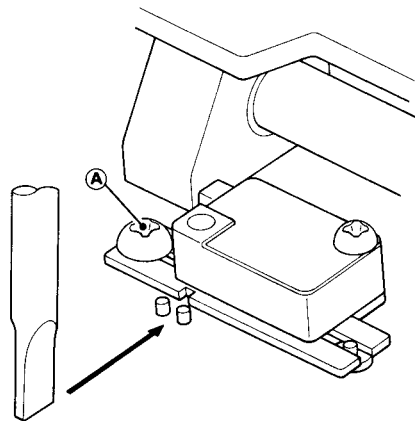


Fig. 3.22 INSIDE Switch Adjustment

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 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%.

- 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. (± 8 sec.) when the slider stops.

Note: A time of 4 minutes and 46 sec. relates to Version A of test disc YEDS-7. (The time of Version E is 4 minutes and 49 sec. ± 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.

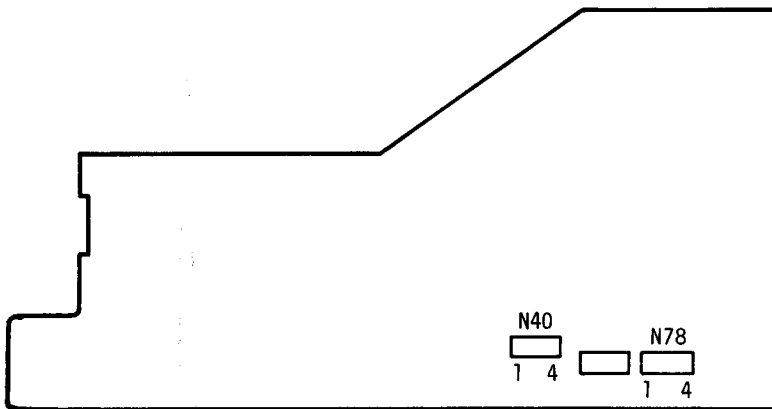


Fig. 3.23 LOLB, N40 and N78 (pattern side)

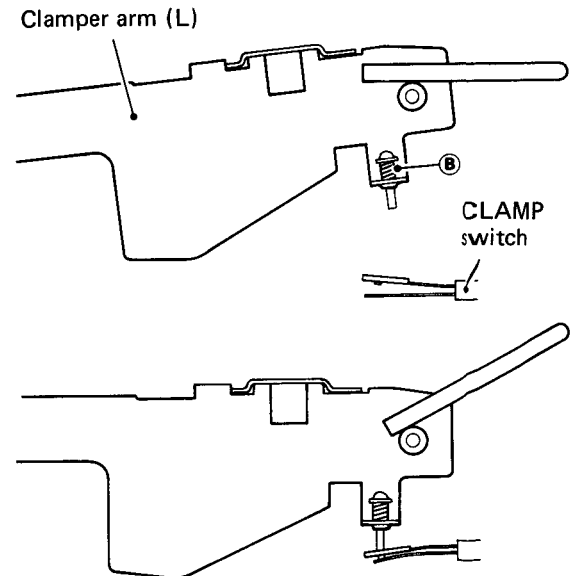
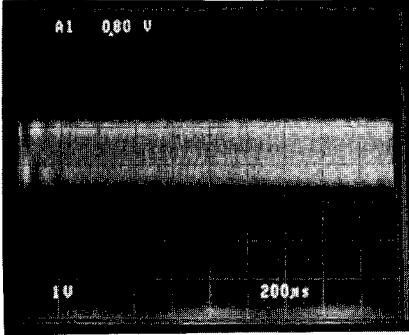
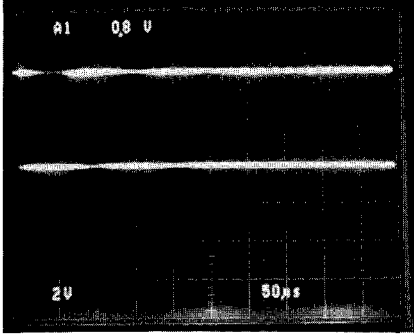
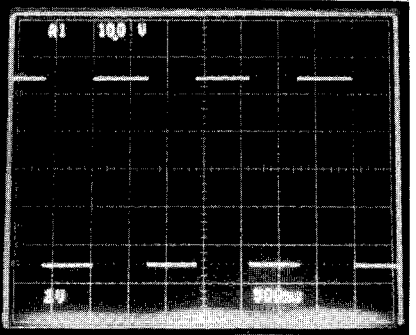
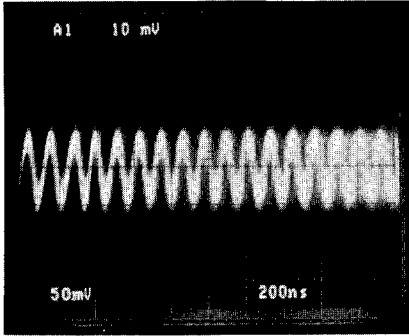
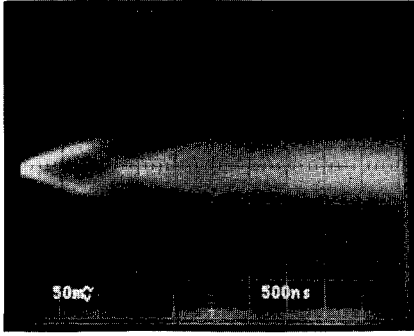
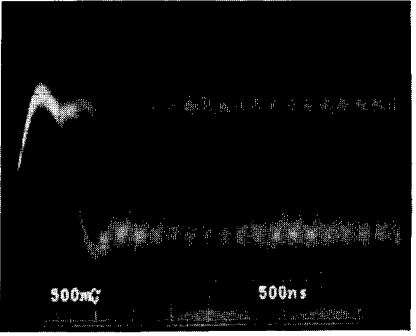
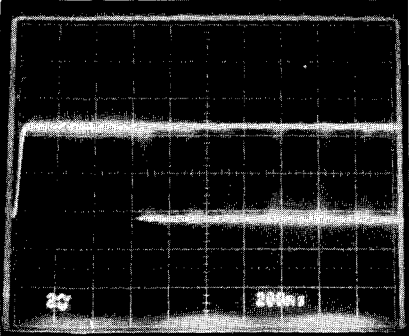
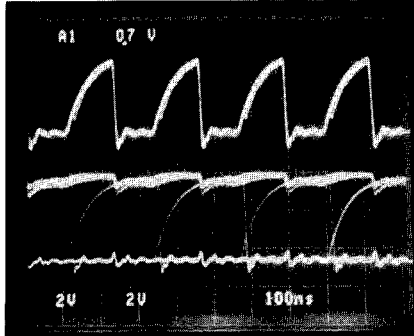
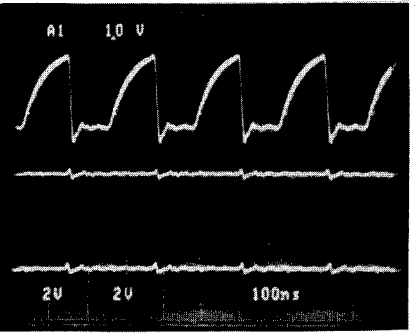
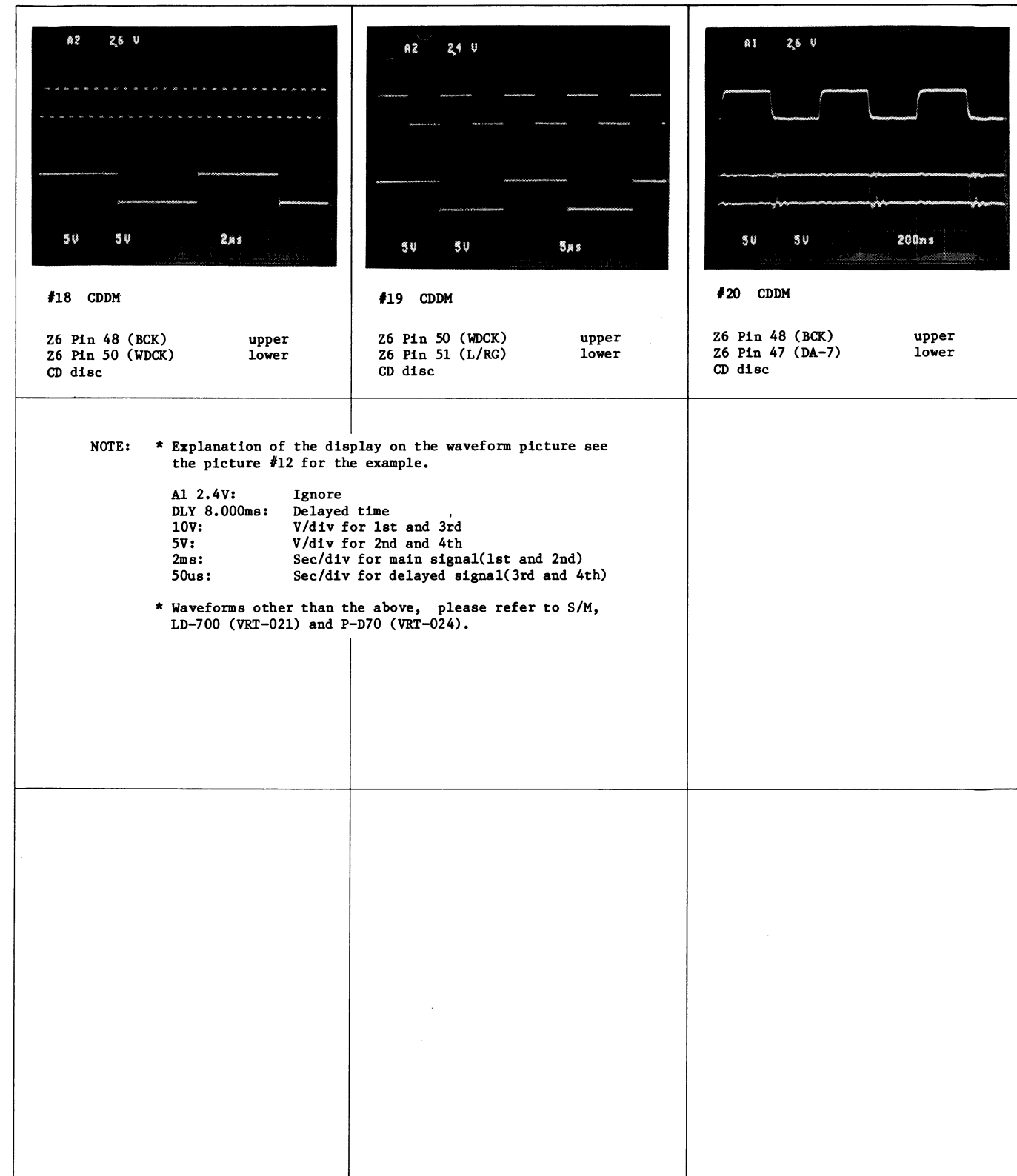
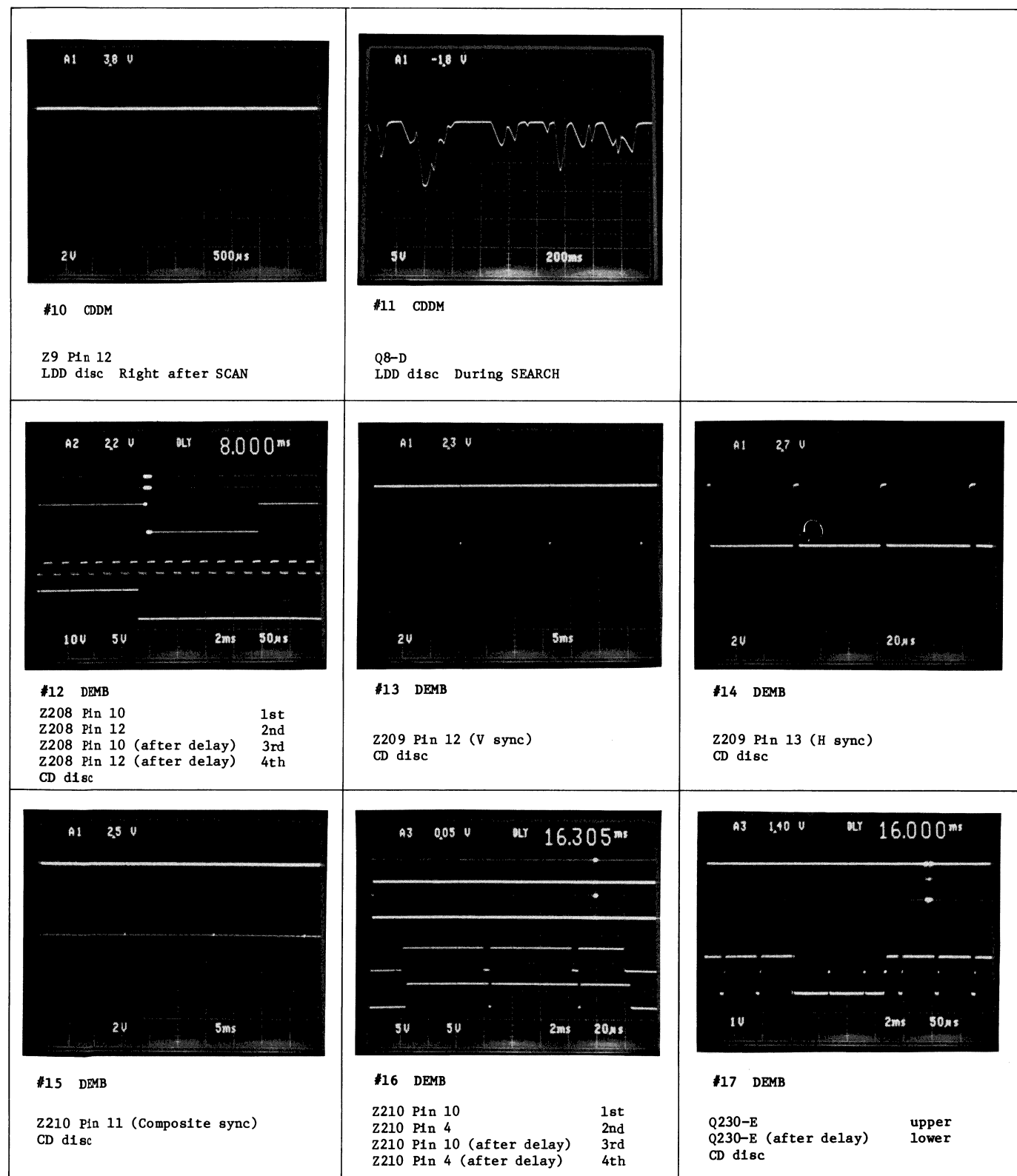


Fig. 3.24 Clamp Detection of Disc

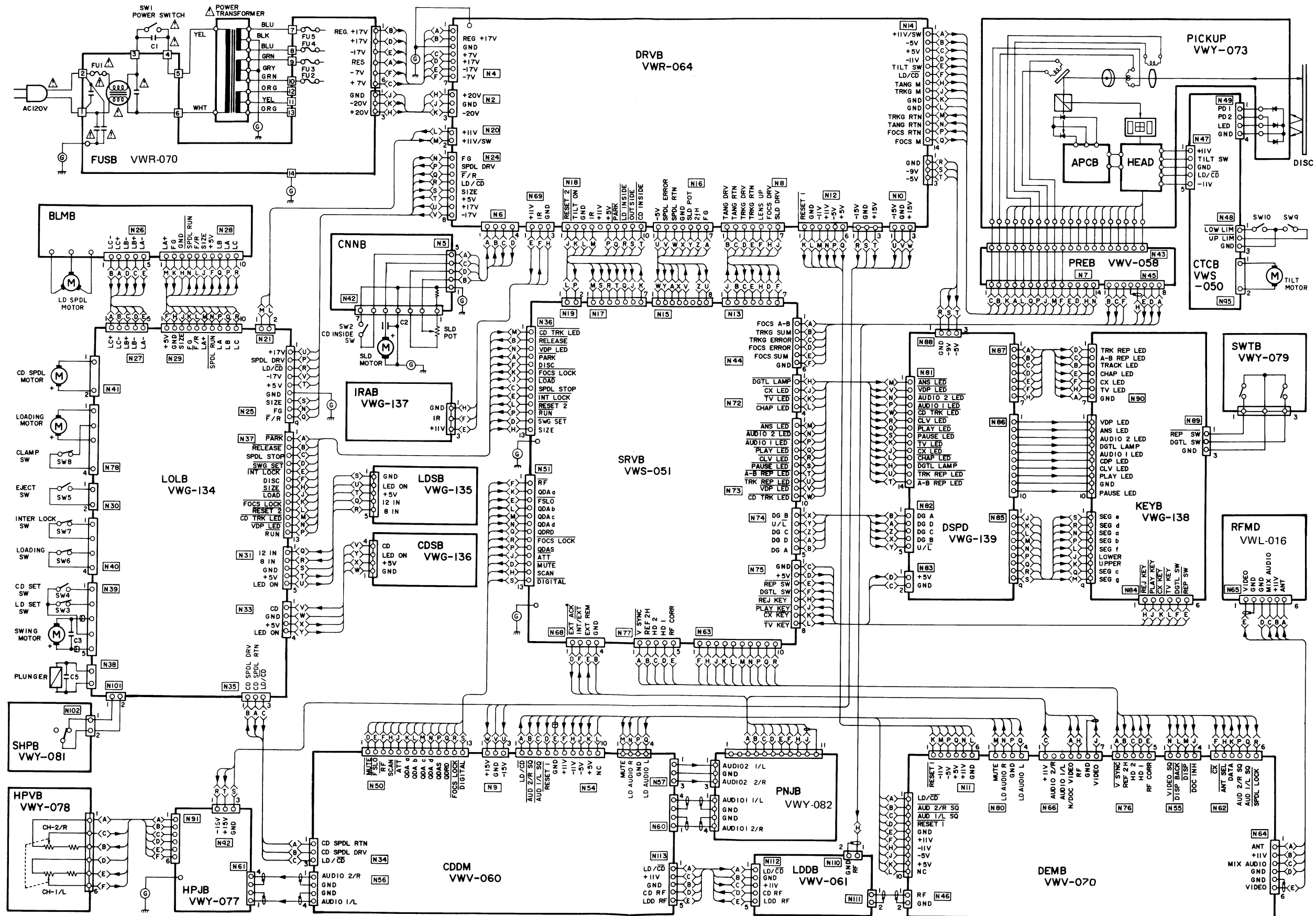
WAVEFORMS

 <p>#1 SRVB</p> <p>Cathode of D401 (FOCS SUM) CD disc During SEARCH</p>	 <p>#2 SRVB</p> <p>Z405 Pin 1 (TRK CROSS) CD disc During SEARCH</p>	 <p>#3 SRVB</p> <p>Z401 Pin 23 (RAMP GEN.) Push PLAY key without setting disc.</p>
 <p>#4 LDDB</p> <p>N110-1 (RF) LDD disc</p>	 <p>#5 LDDB</p> <p>Q11-E (RF after filtered by F1) LDD disc</p>	 <p>#6 LDDB</p> <p>N112-5 (LDD RF) LDD disc</p>
 <p>#7 CDDM</p> <p>Z1 Pin 8 (TTL leveled EFM) LDD or CD disc</p>	 <p>#8 CDDM</p> <p>Z7 Pin 54 (PLCK) upper Z7 Pin 53 (EFM1) lower LDD or CD disc</p>	 <p>#9 CDDM</p> <p>Z7 Pin 54 (PLCK) upper Z7 Pin 52 (EFM2) lower LDD or CD disc</p>



5. SCHEMATIC DIAGRAM, PCB PATTERN & PARTS LIST

5.1 OVERALL



NOTES:

- Parts without part number cannot be supplied.
- The Δ 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)

Δ	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
Δ	VCG-018	C1
	VCG-005	C2
	CKDYB102K50	C3
	CKDYF223Z50	C5
Δ	VSA-006	Power switch
	VSF-009	SW2,5
	VSK-003	SW3,4,9,10
	VSK-004	SW6,7
	VSK-008	SW8
Δ	VTT-056	Power transformer
	VXP-009	Plunger
Δ	VDG-030	Power cord

ABBR. AND CONTENTS OF BOARDS

FUSB ; FUSE Board
: Fuse, Line filter, rectifying circuits

DRVB ; DRiVers 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 Cancellor 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 switchers

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 ; **CONTr**oller
: 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 ; **Ti**me Base error **Co**rrectors
: 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 ; **AUD**io and **F**ilter
: 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 compensator, Sync separator, Hue compensator, 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

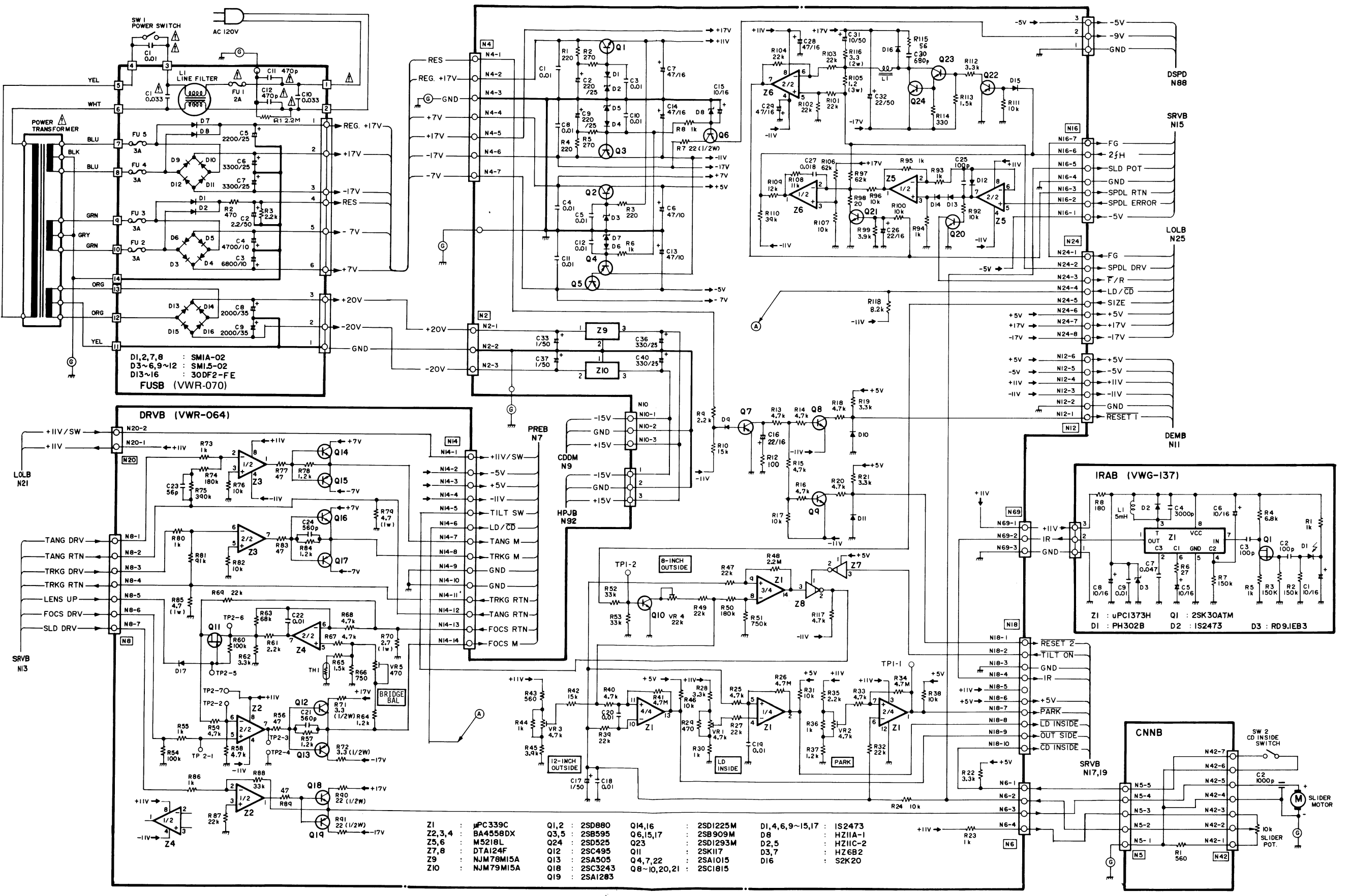
5.2 FUSB, DRVB, CNNB, IRAB

A

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D



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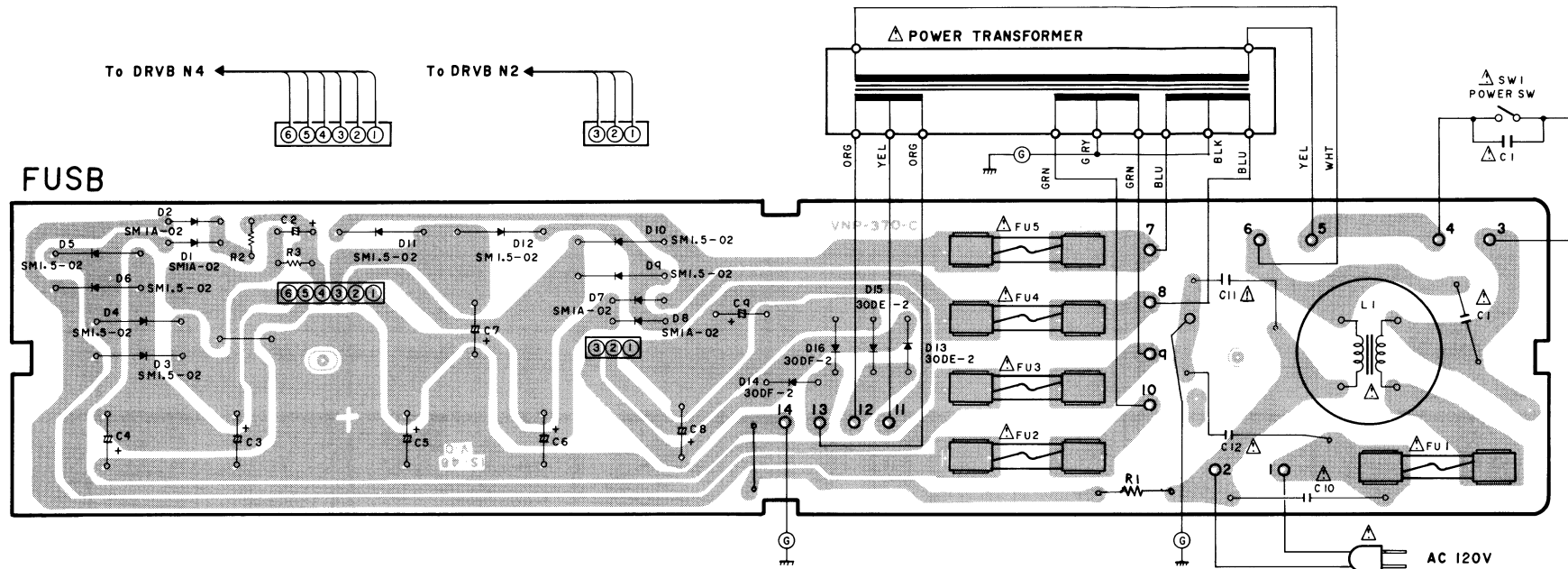
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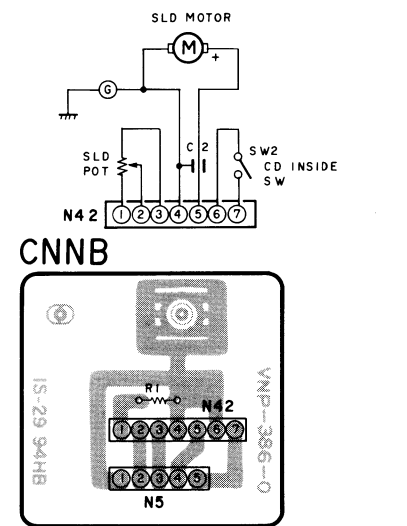
A

A



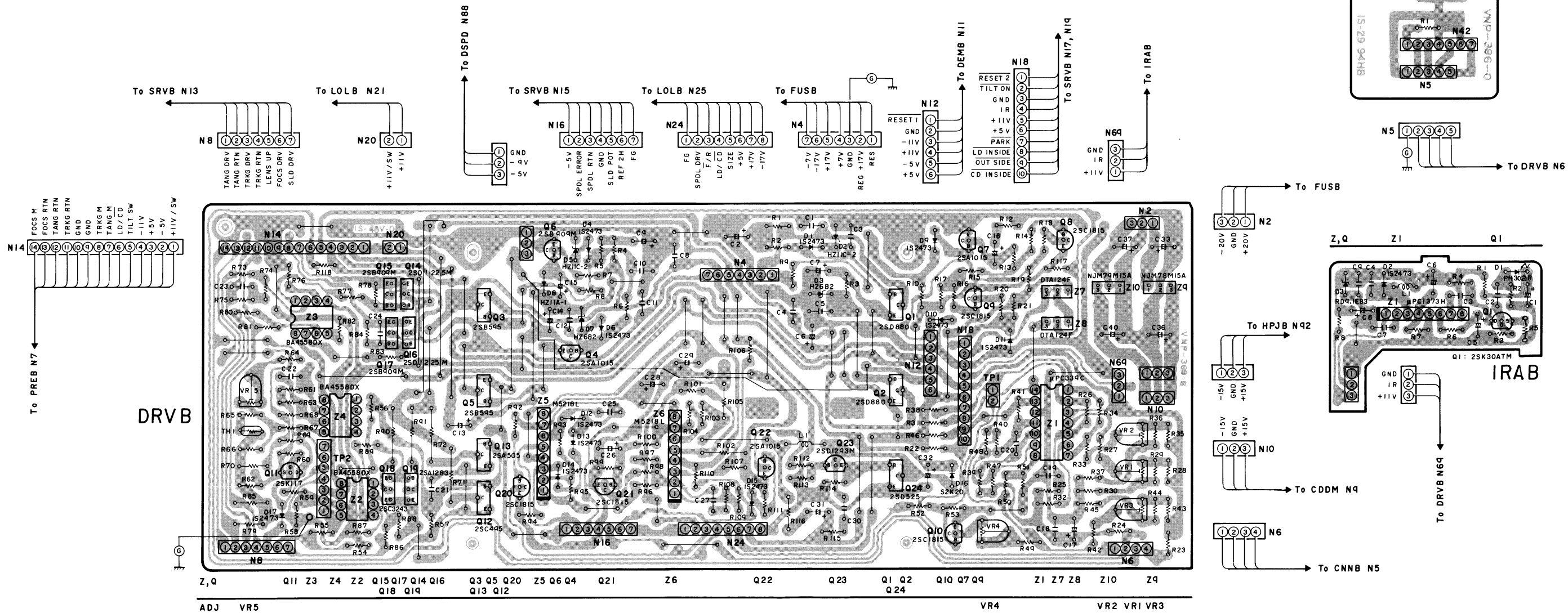
B

B



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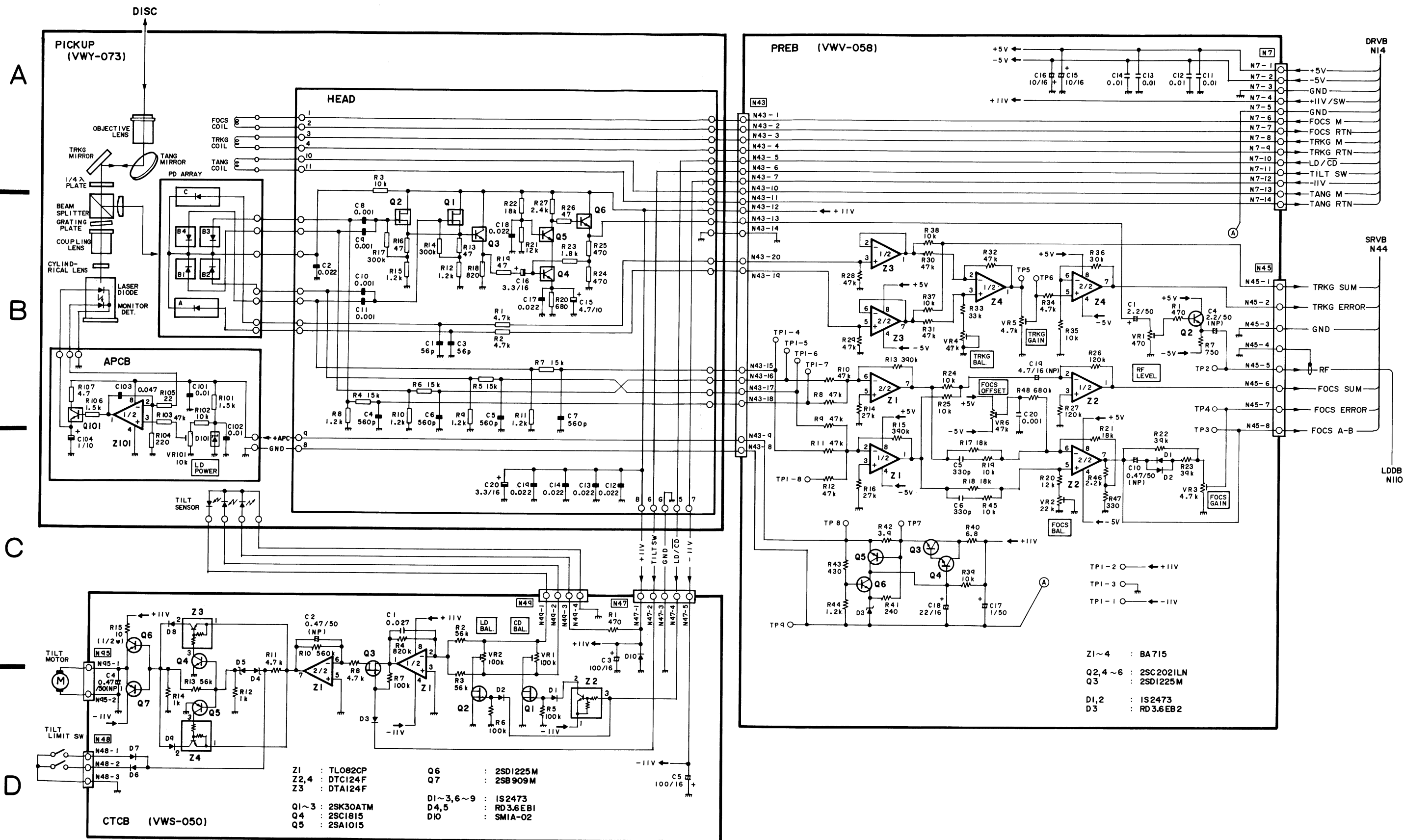
4

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5-8

5.3 PICKUP, HEAD, APCB, PREB, CTCB



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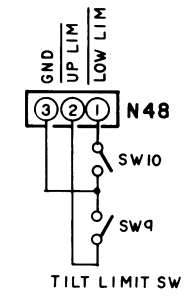
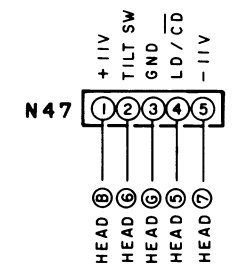
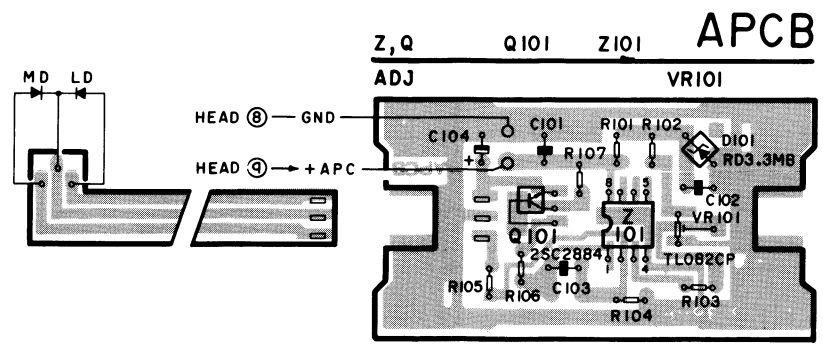
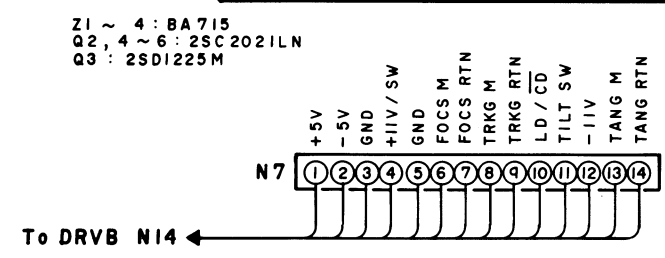
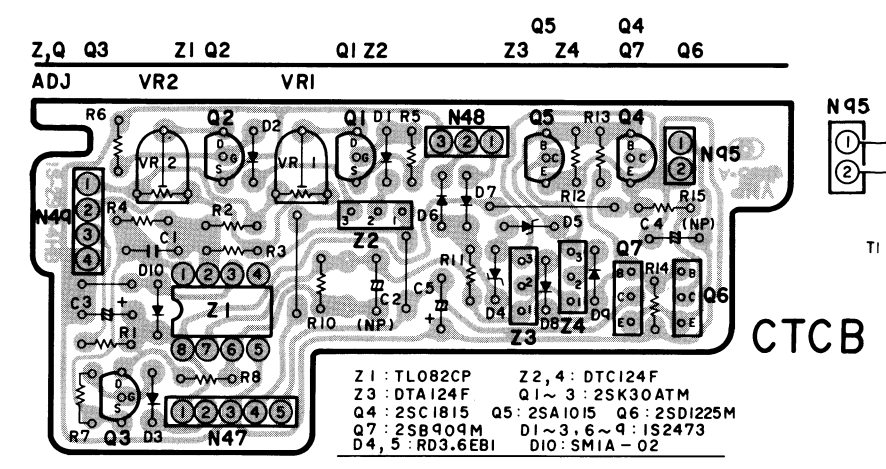
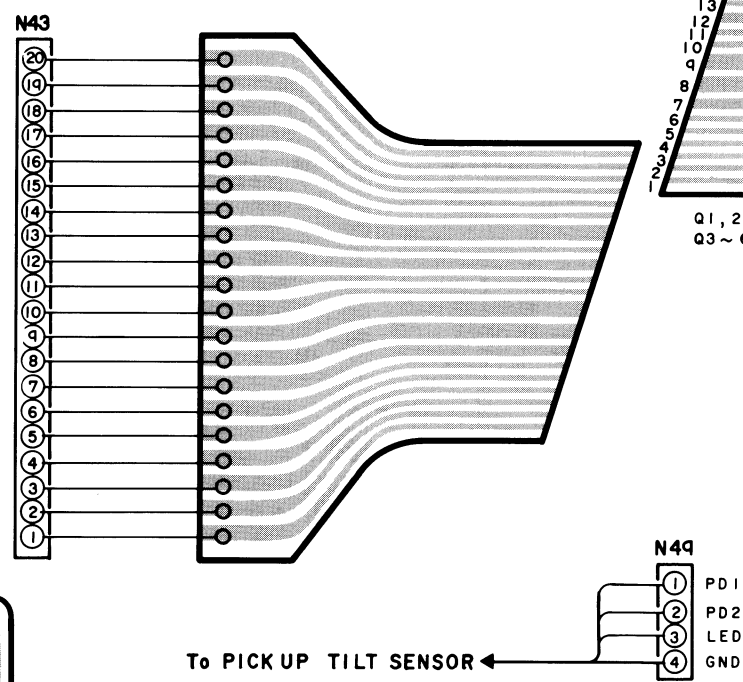
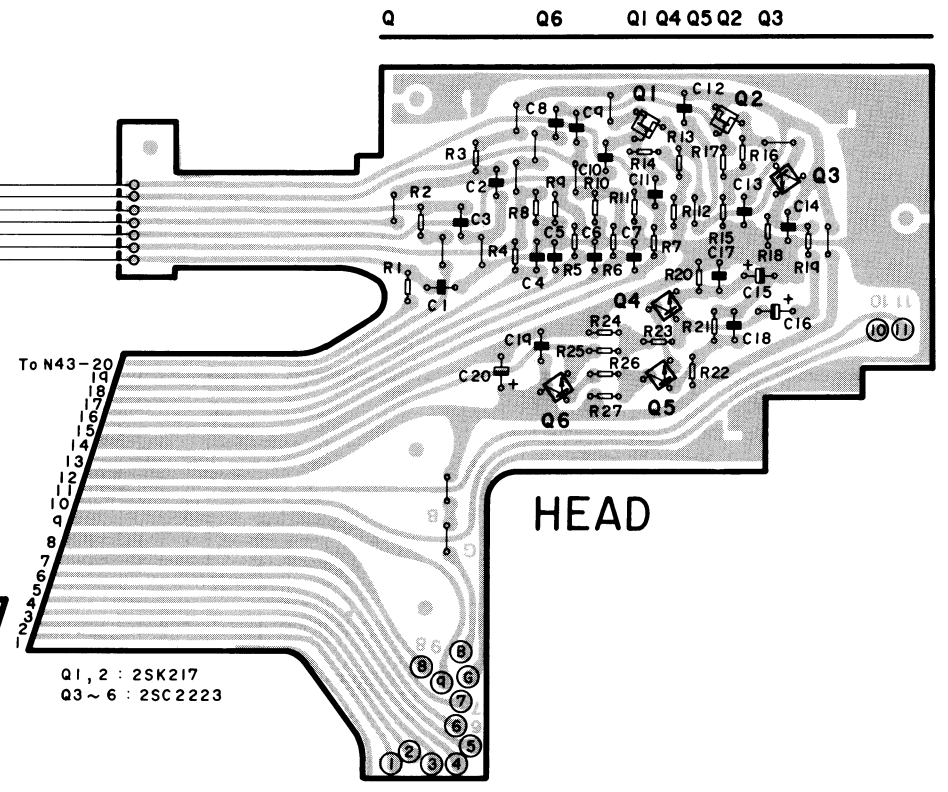
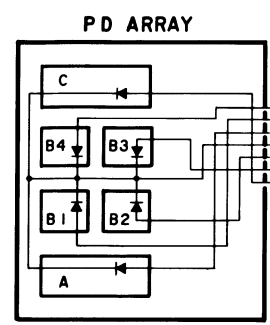
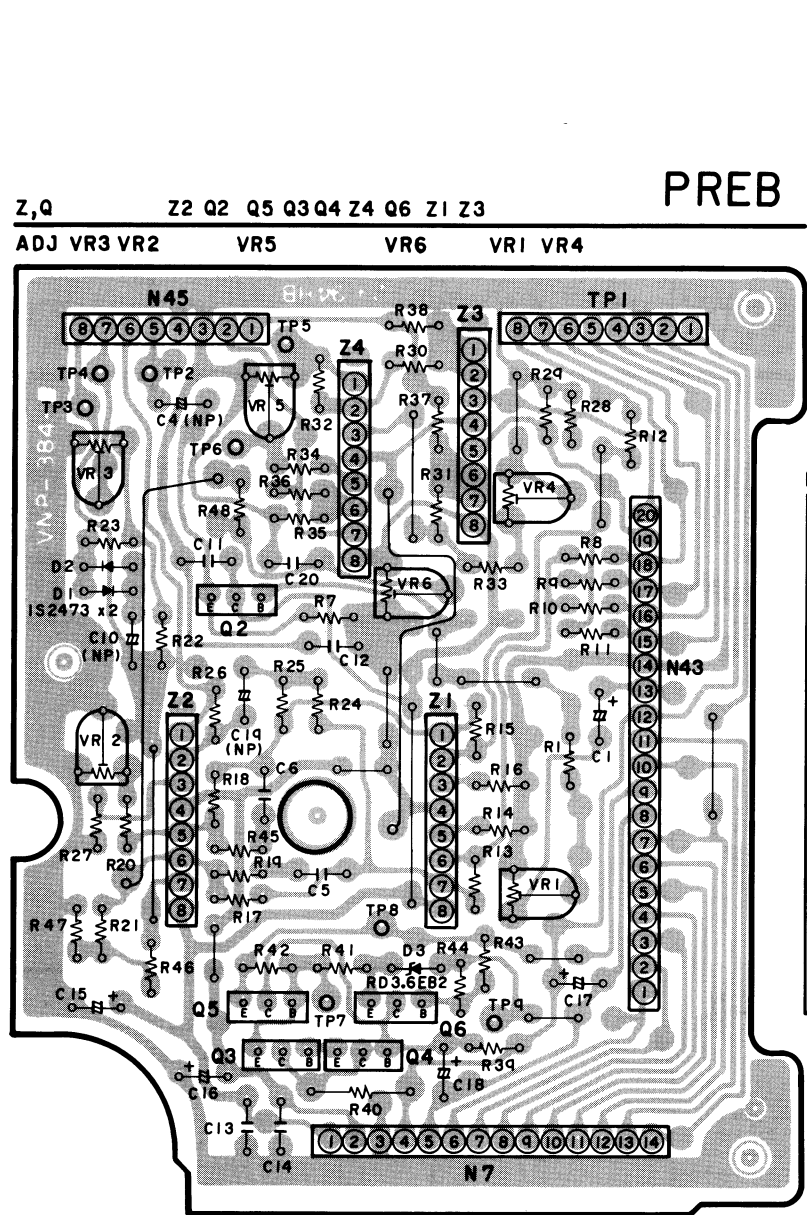
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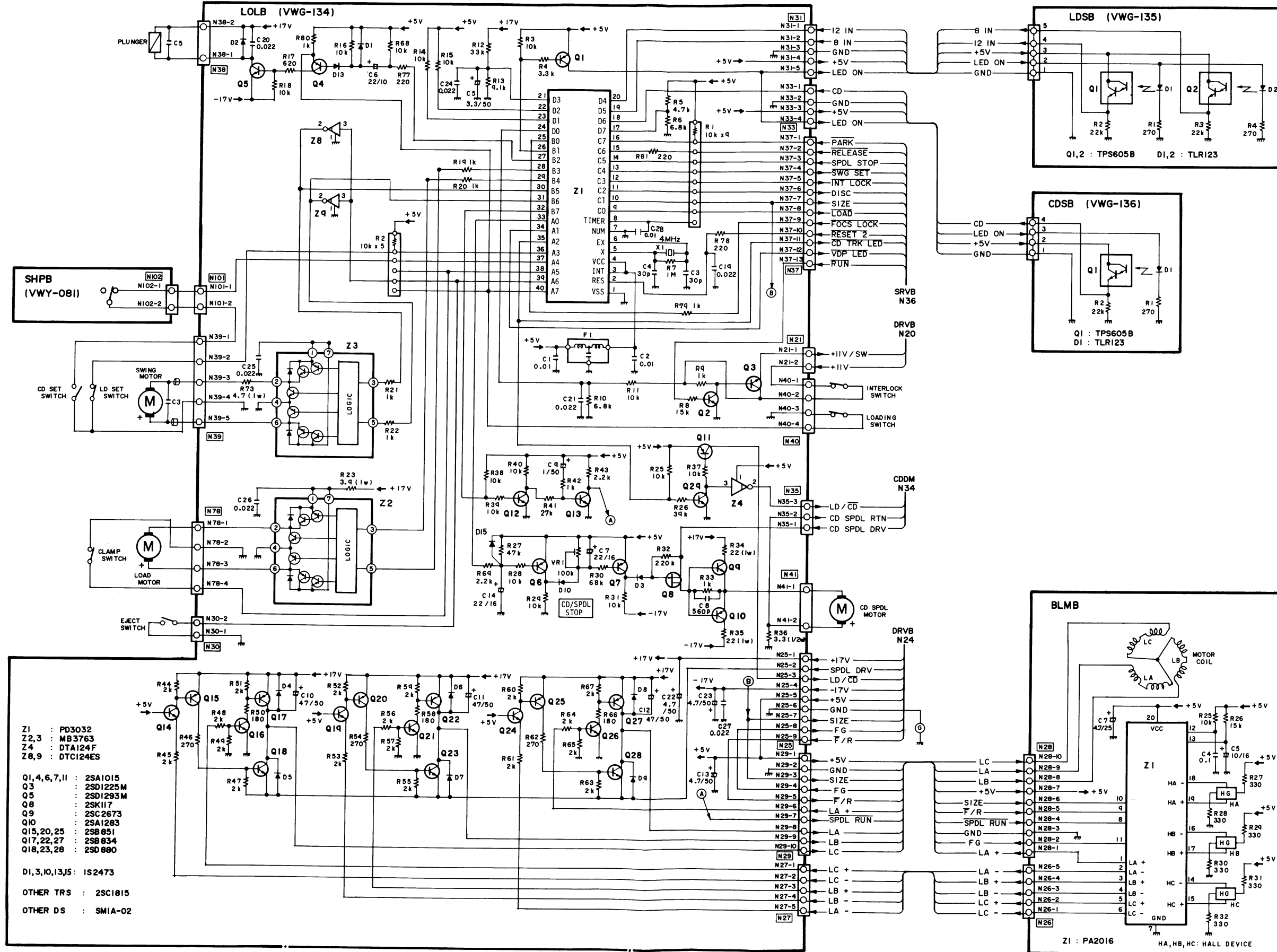
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A

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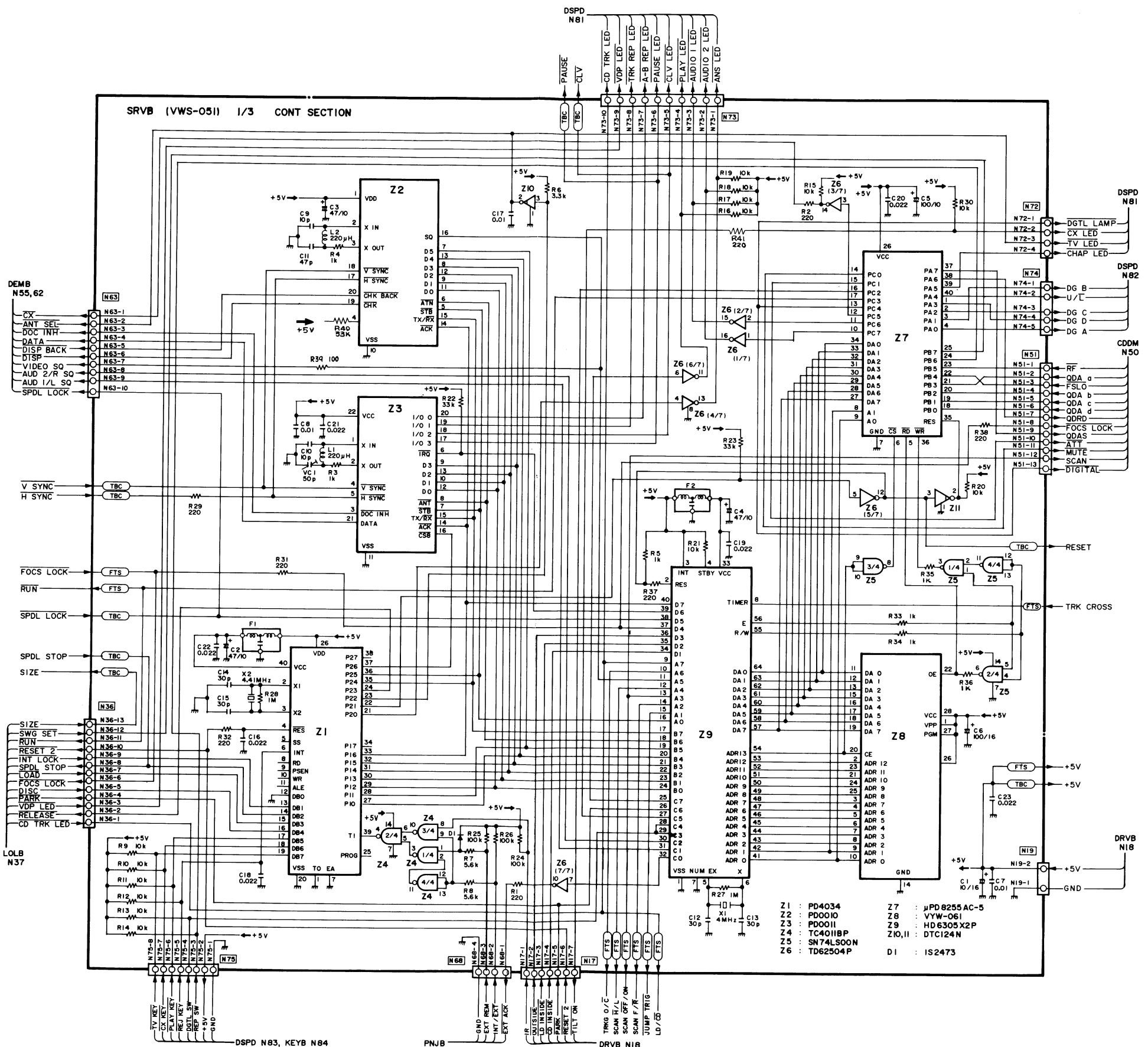
D

A

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B

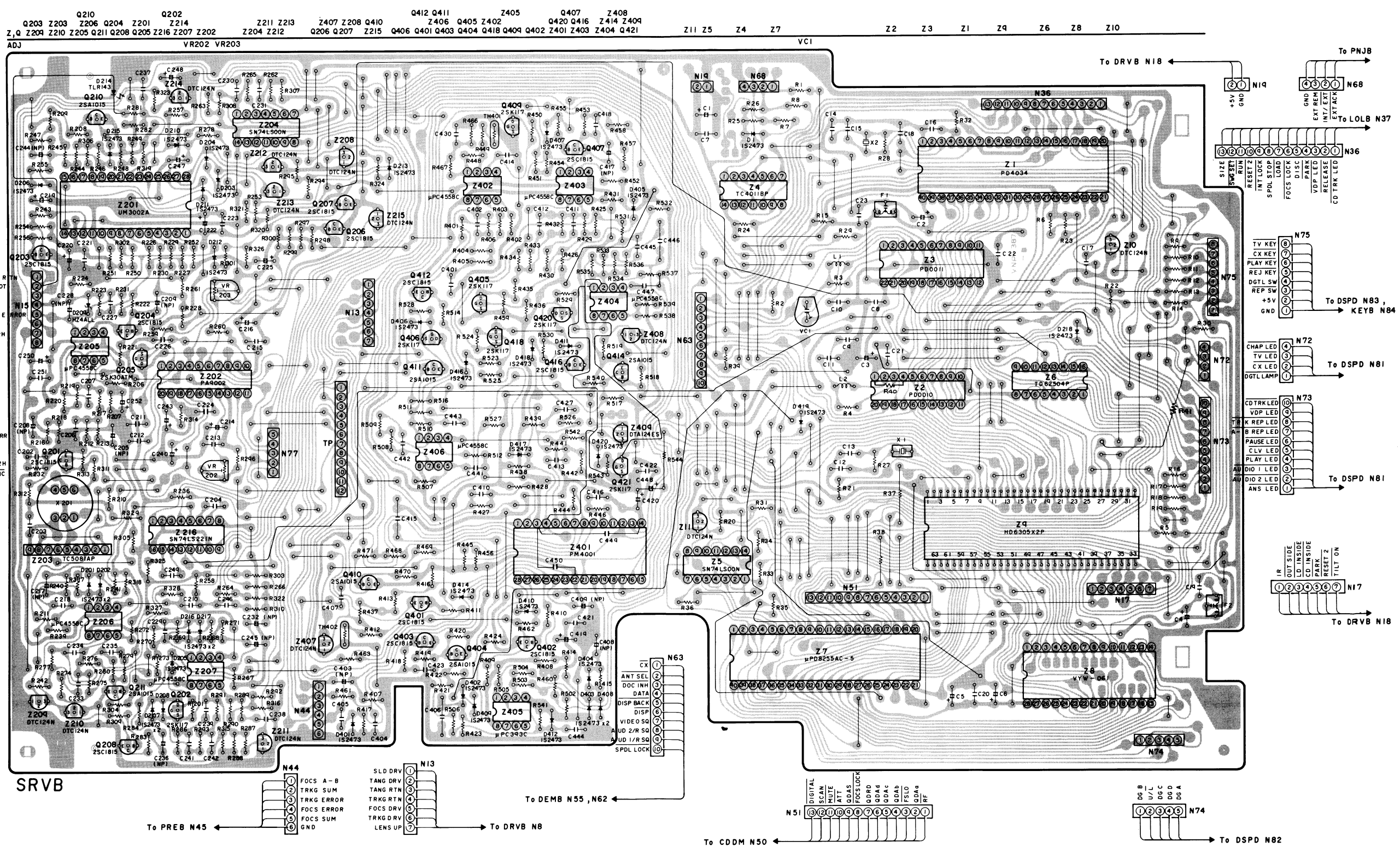
B

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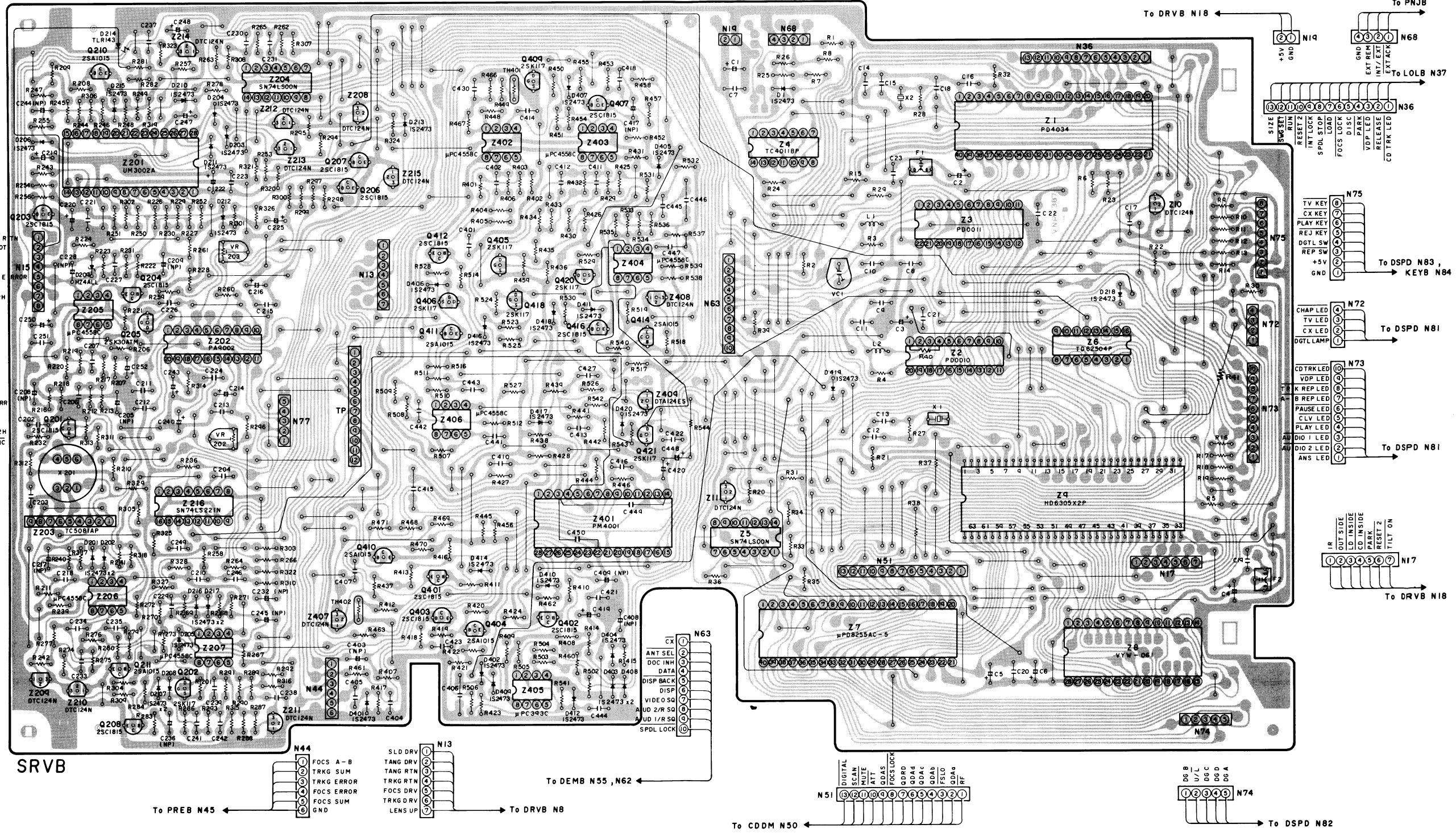
C

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Q203 Z203 Q210 Z206 Q204 Z201 Z214 Q202 Z211 Z213 Z407 Z208 Q410 Z405 Q407 Z408
 Z1 Q Z209 Z210 Z205 Q211 Q208 Q205 Z216 Z207 Z202 Z204 Z212 Q206 Q207 Z215 Q406 Q401 Q403 Q404 Q418 Q409 Q402 Z401 Z403 Z404 Q421



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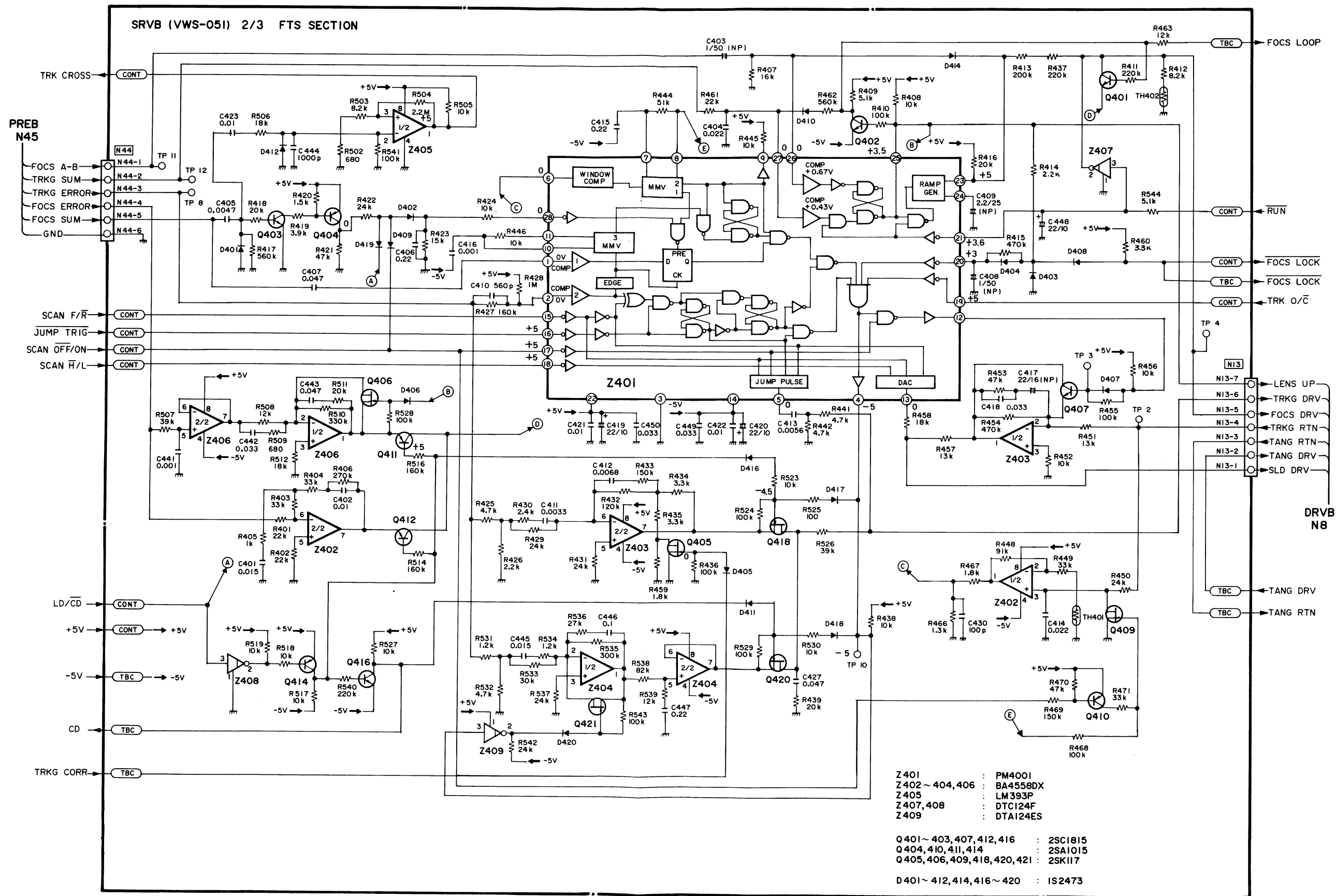
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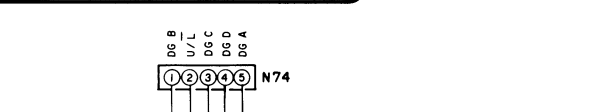
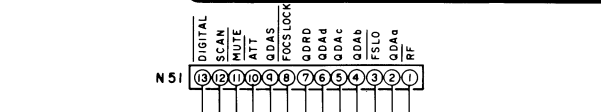
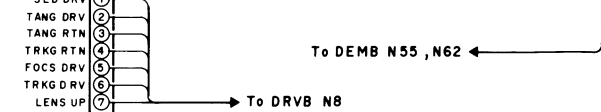
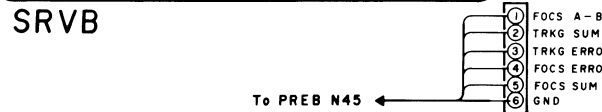
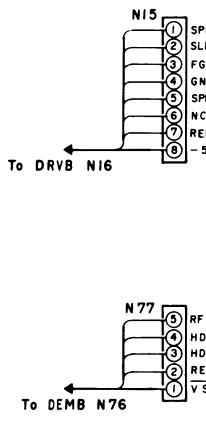
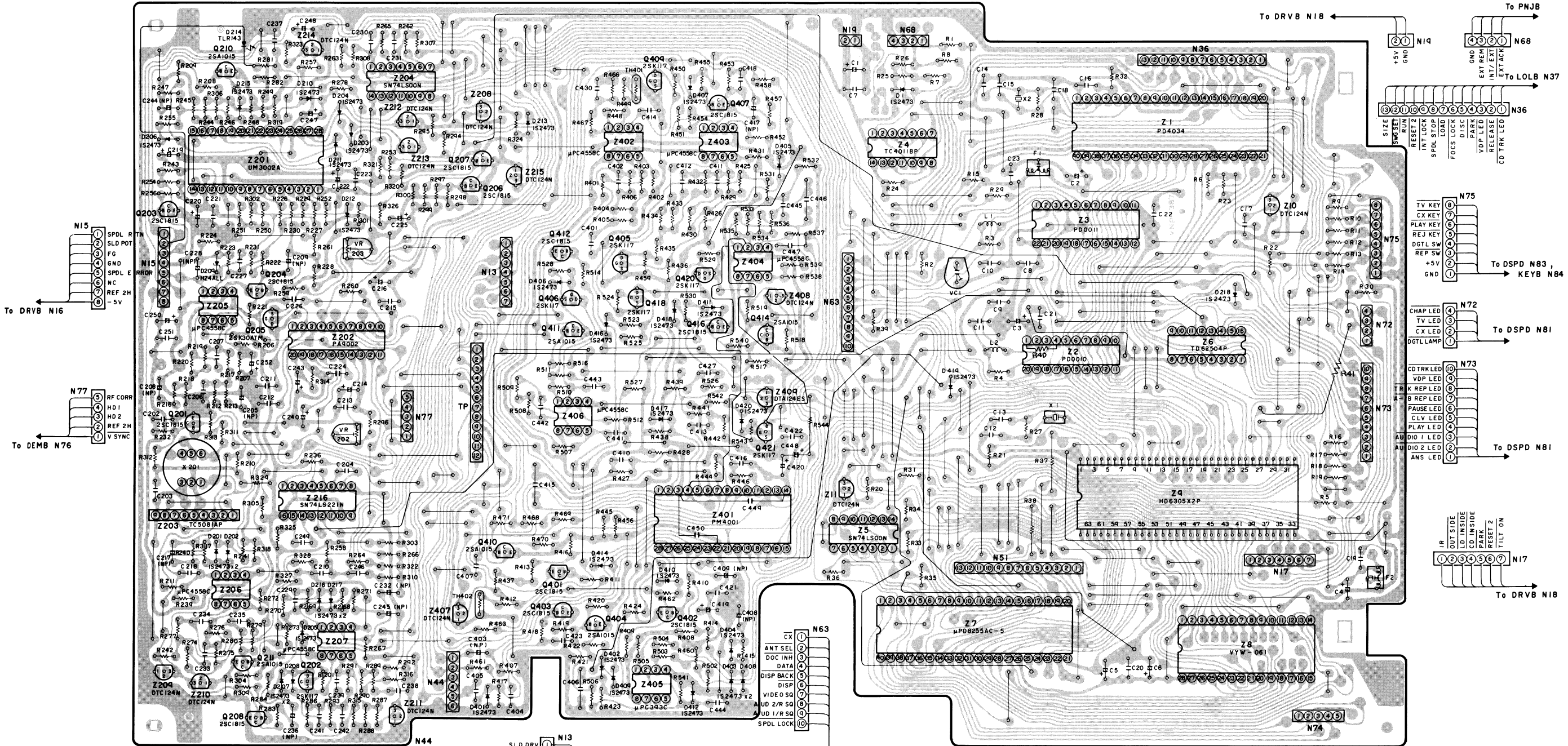
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A

A

Q203 Z203 Q210 Q202 Z206 Q204 Z201 Z214 Z211 Z213 Z407 Z208 Q410 Q412 Q411 Z405 Q407 Z408
 Z1, Q Z204 Z210 Z205 Q211 Q208 Q205 Z216 Z207 Z202 Z204 Z212 Q206 Q207 Z215 Q406 Q401 Q403 Q404 Q418 Q409 Q402 Z401 Z403 Z404 Q421
 ADJ VR202 VR203 VCI Z11 Z5 Z4 Z7 Z2 Z3 Z1 Z9 Z6 Z8 Z10



1

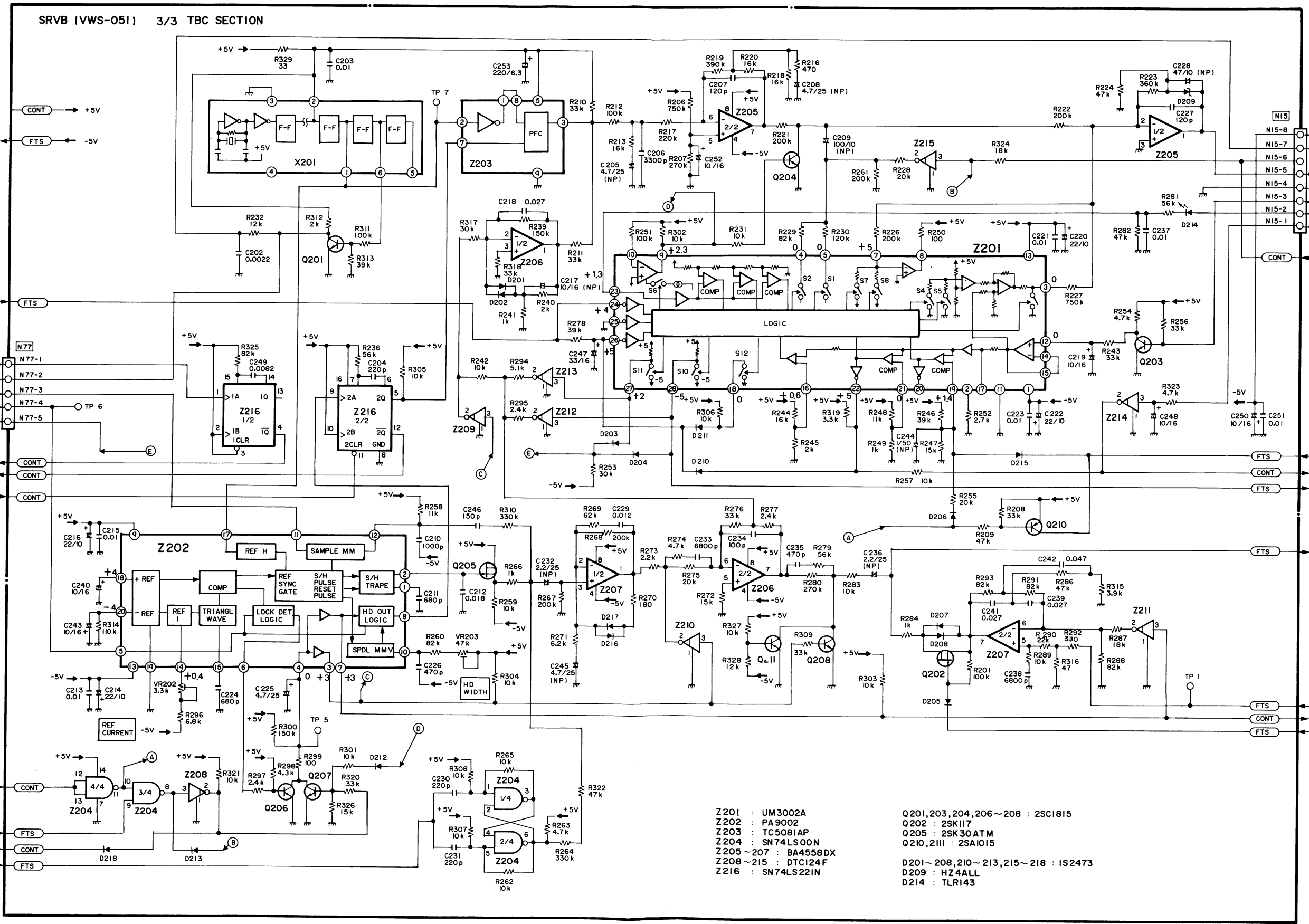
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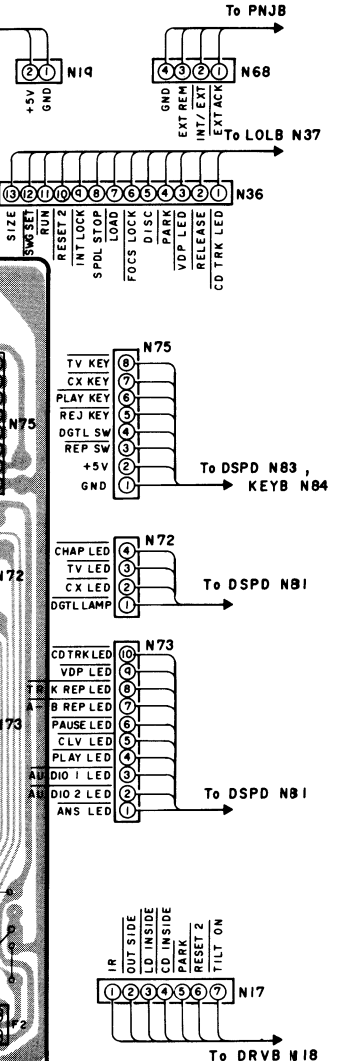
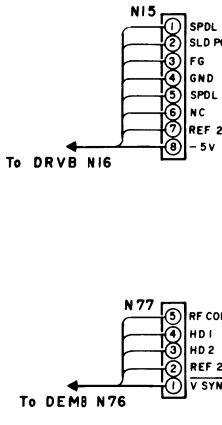
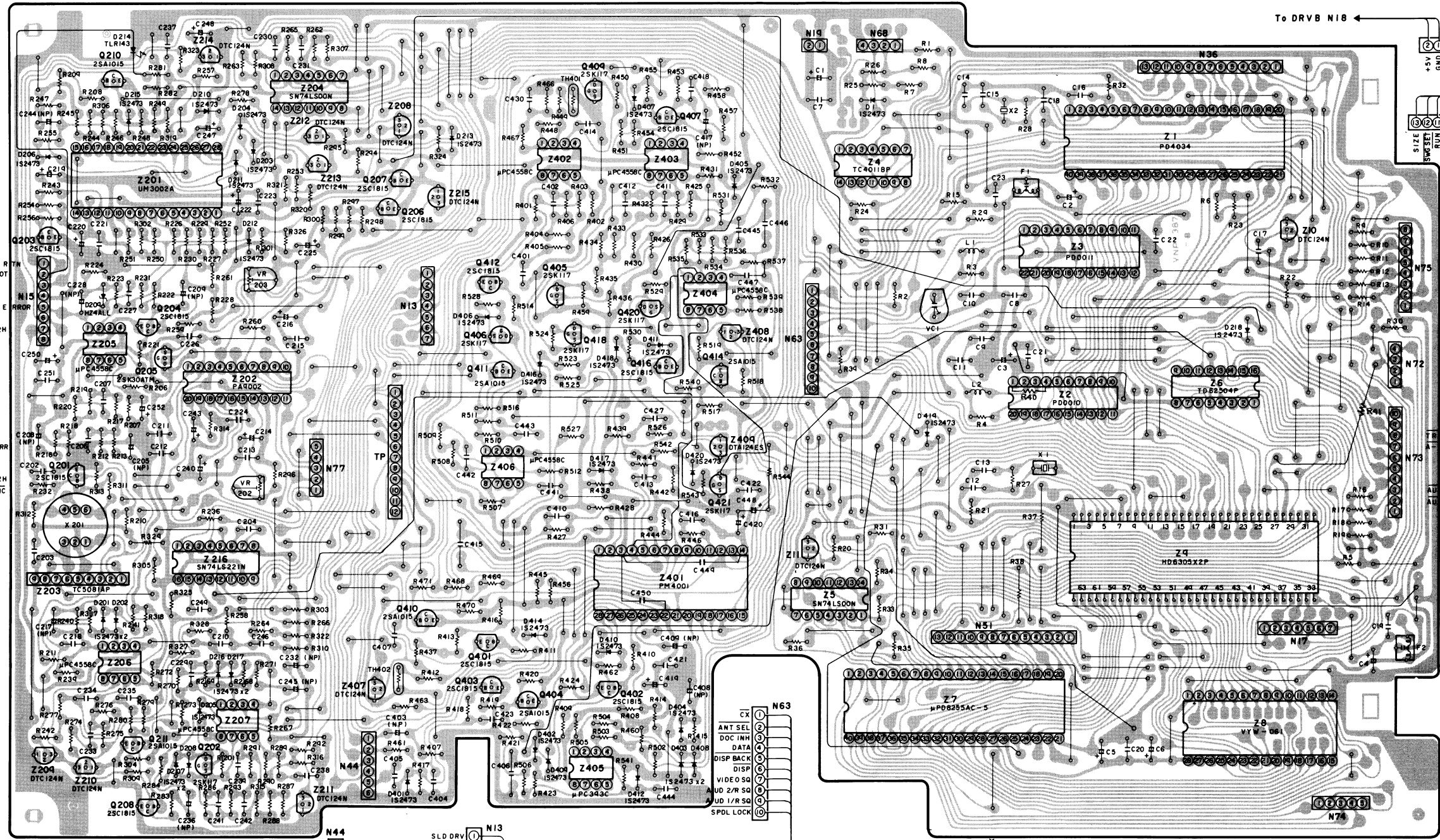
5

6



- Z201 : UM3002A
- Z202 : PA9002
- Z203 : TC5081AP
- Z204 : SN74LS00N
- Z205~207 : BA4558DX
- Z208~215 : DTC124F
- Z216 : SN74LS221N
- Q201,203,204,206~208 : 2SC1815
- Q202 : 2SK117
- Q205 : 2SK30ATM
- Q210,211 : 2SA1015
- D201~208,210~213,215~218 : IS2473
- D209 : HZ4ALL
- D214 : TLR143

Q203 Z203 Q210 Q202 Q204 Z201 Q214 Z211 Z213 Z207 Z208 Q410 Q412 Q411 Z405 Q407 Q408
 Z,Q Z204 Z210 Z205 Q211 Q208 Q205 Z216 Z207 Z202 Z204 Z212 Q206 Q207 Z215 Q406 Q401 Q403 Q404 Q418 Q409 Q402 Z401 Z403 Z404 Q421
 ADJ VR202 VR203 VCI Z11 Z5 Z4 Z7 Z2 Z3 Z1 Z9 Z6 Z8 Z10



A

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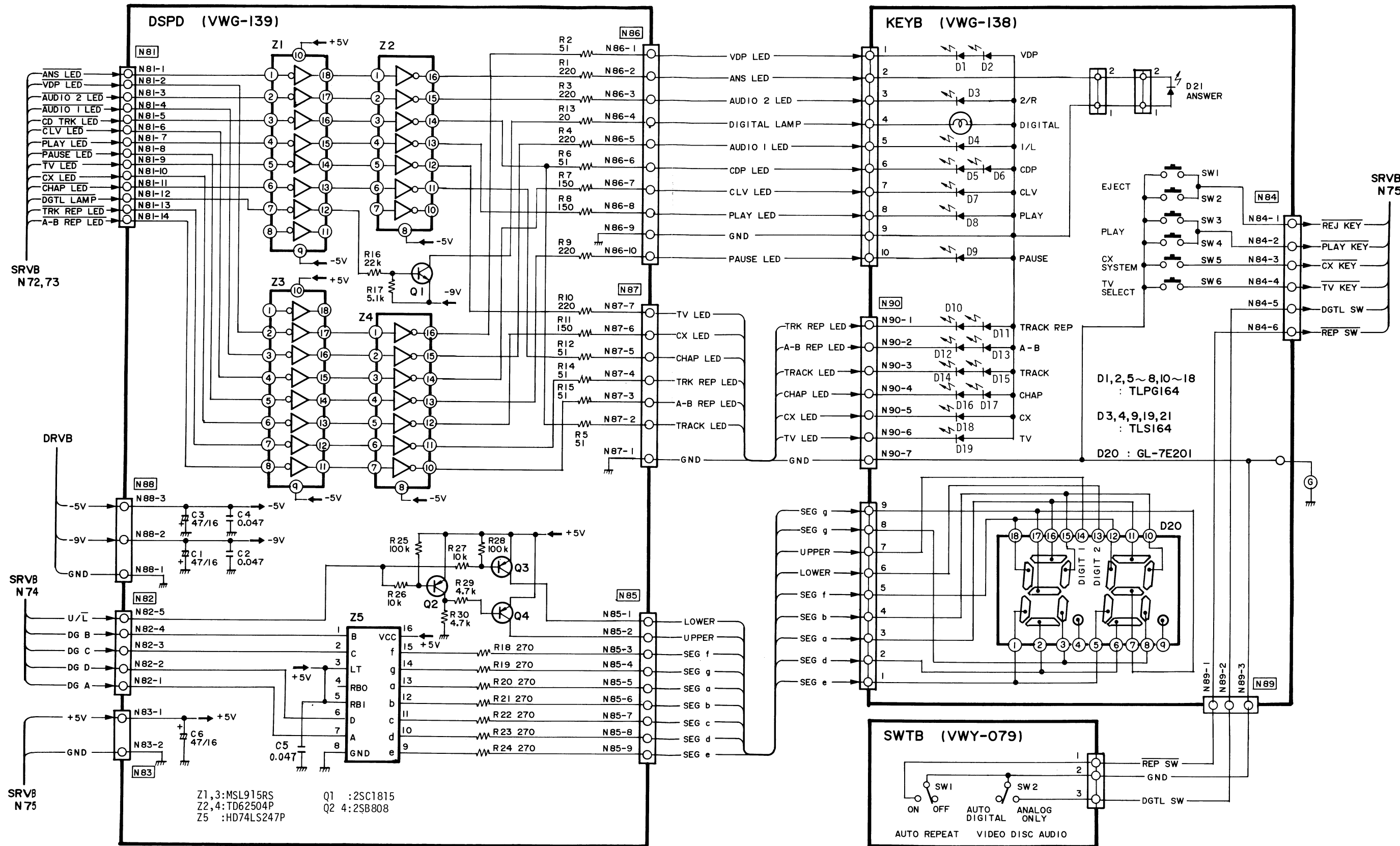
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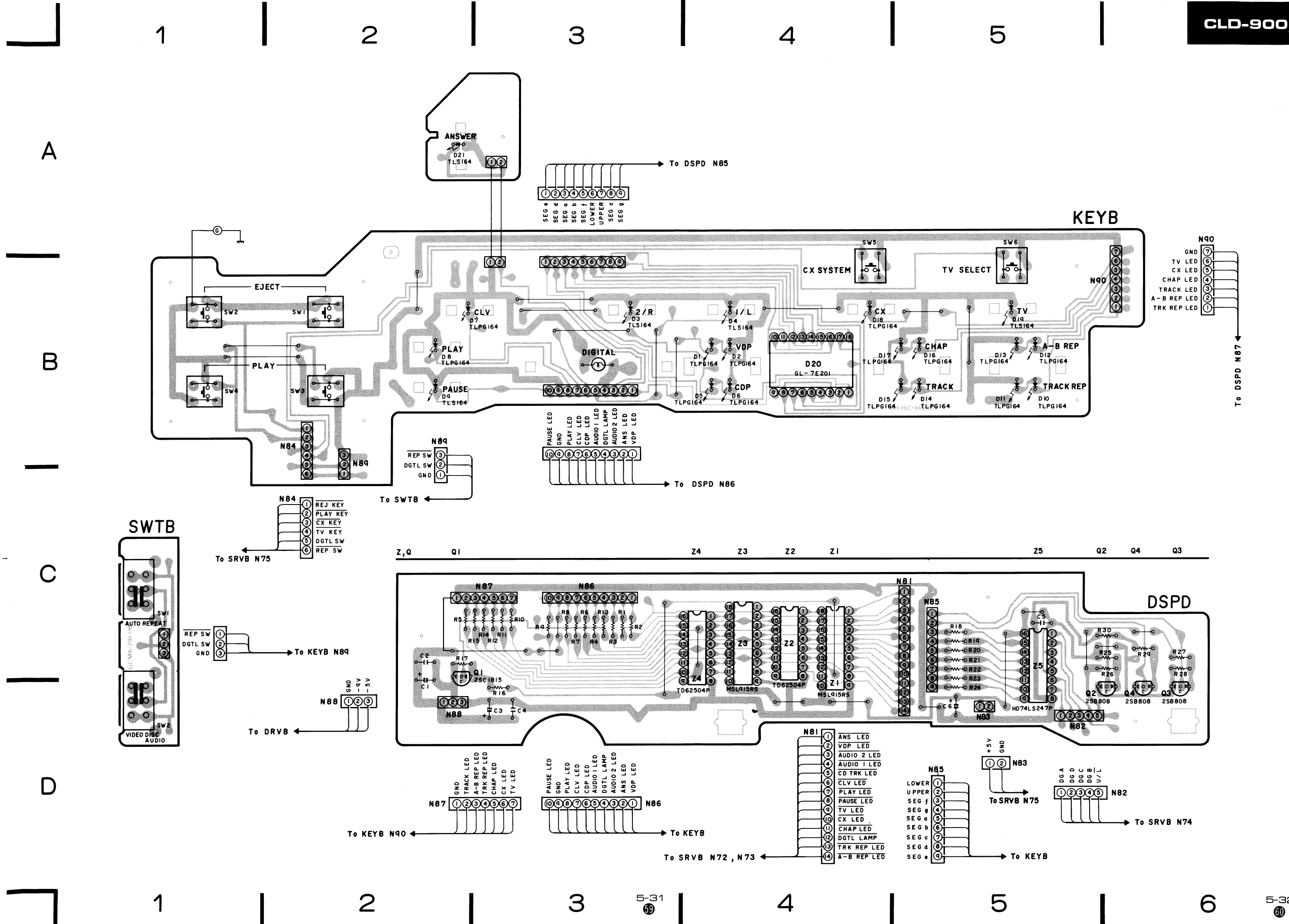
A

B

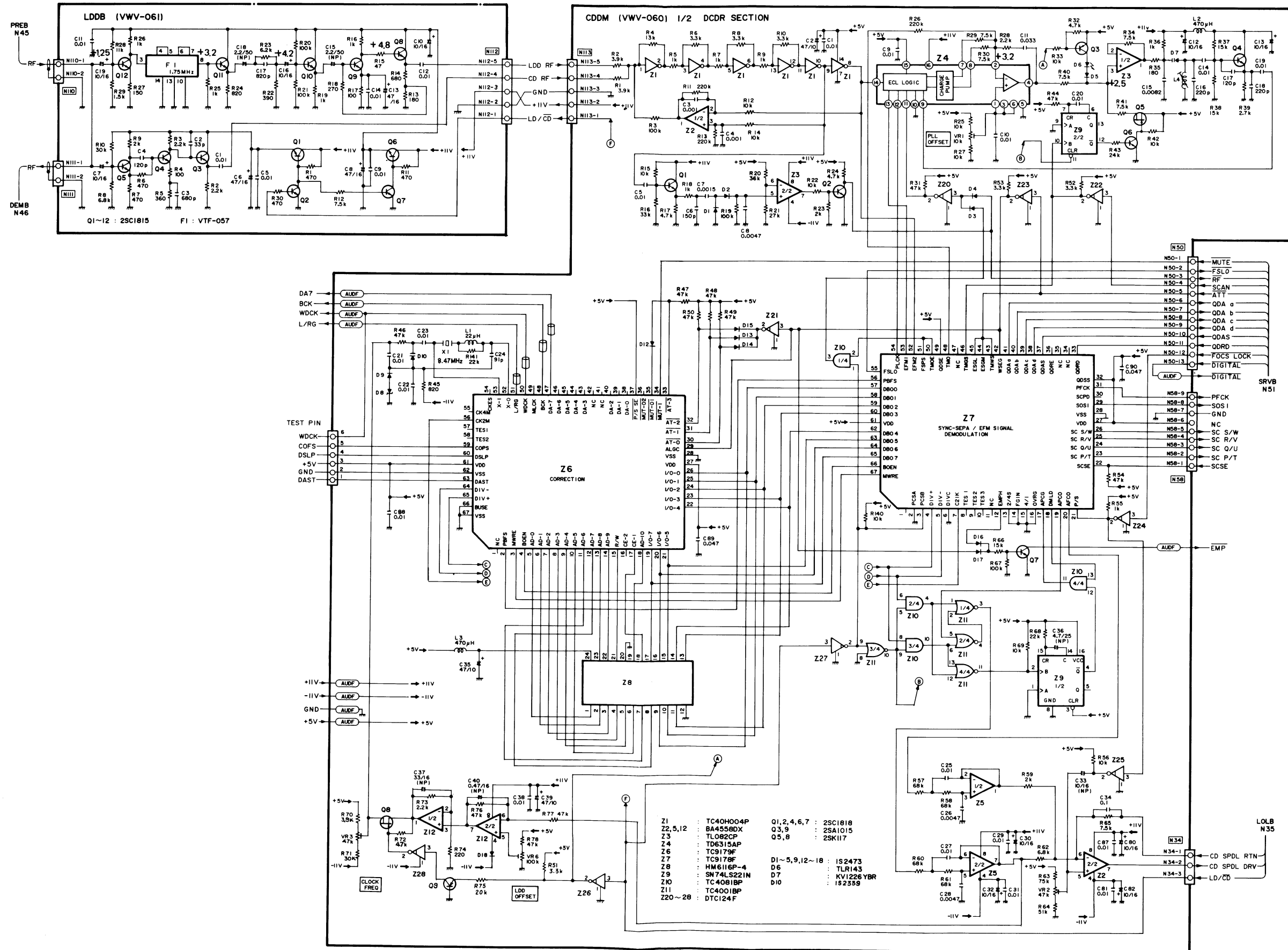
C

D





5.9 CDDM (1/2) DCDR SECTION, LDDB



A

B

C

D

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A

A

B

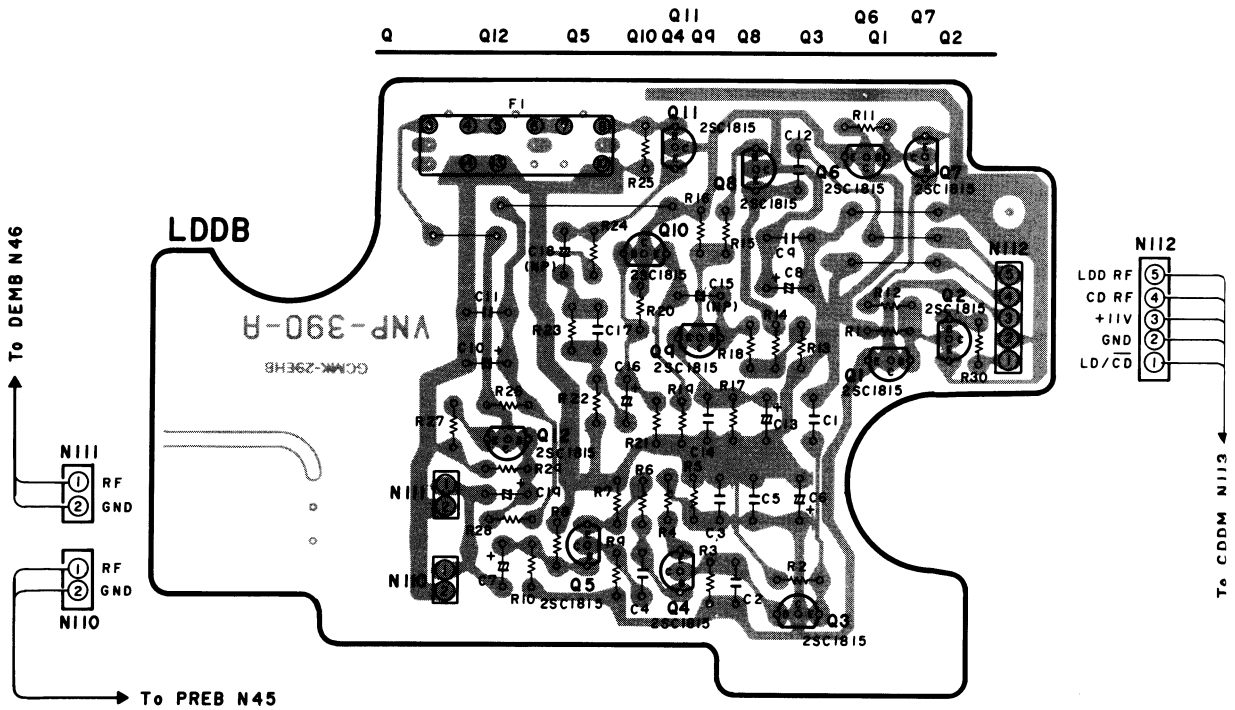
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D



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CLD-900/KU

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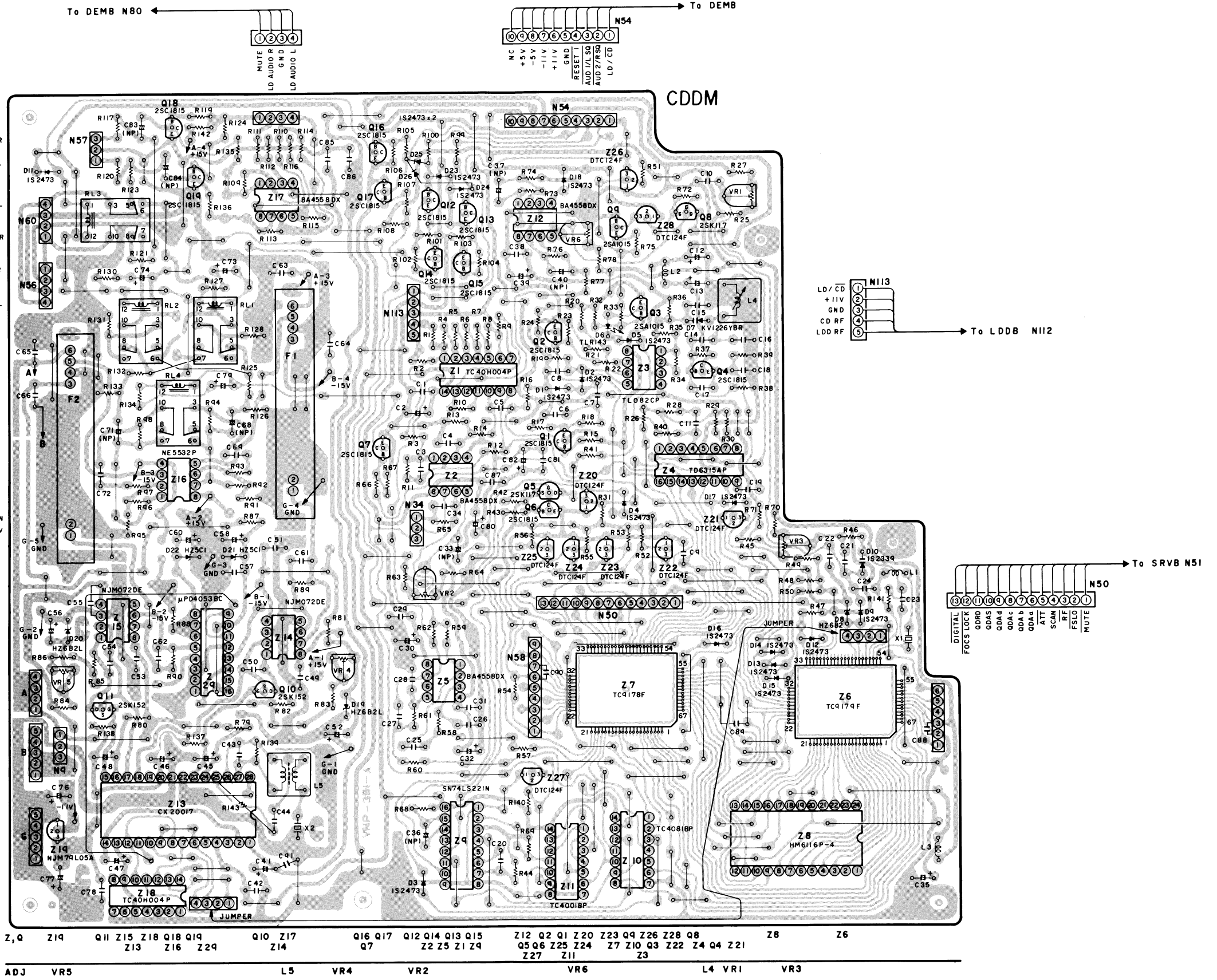
5

A

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D



A

B

C

D

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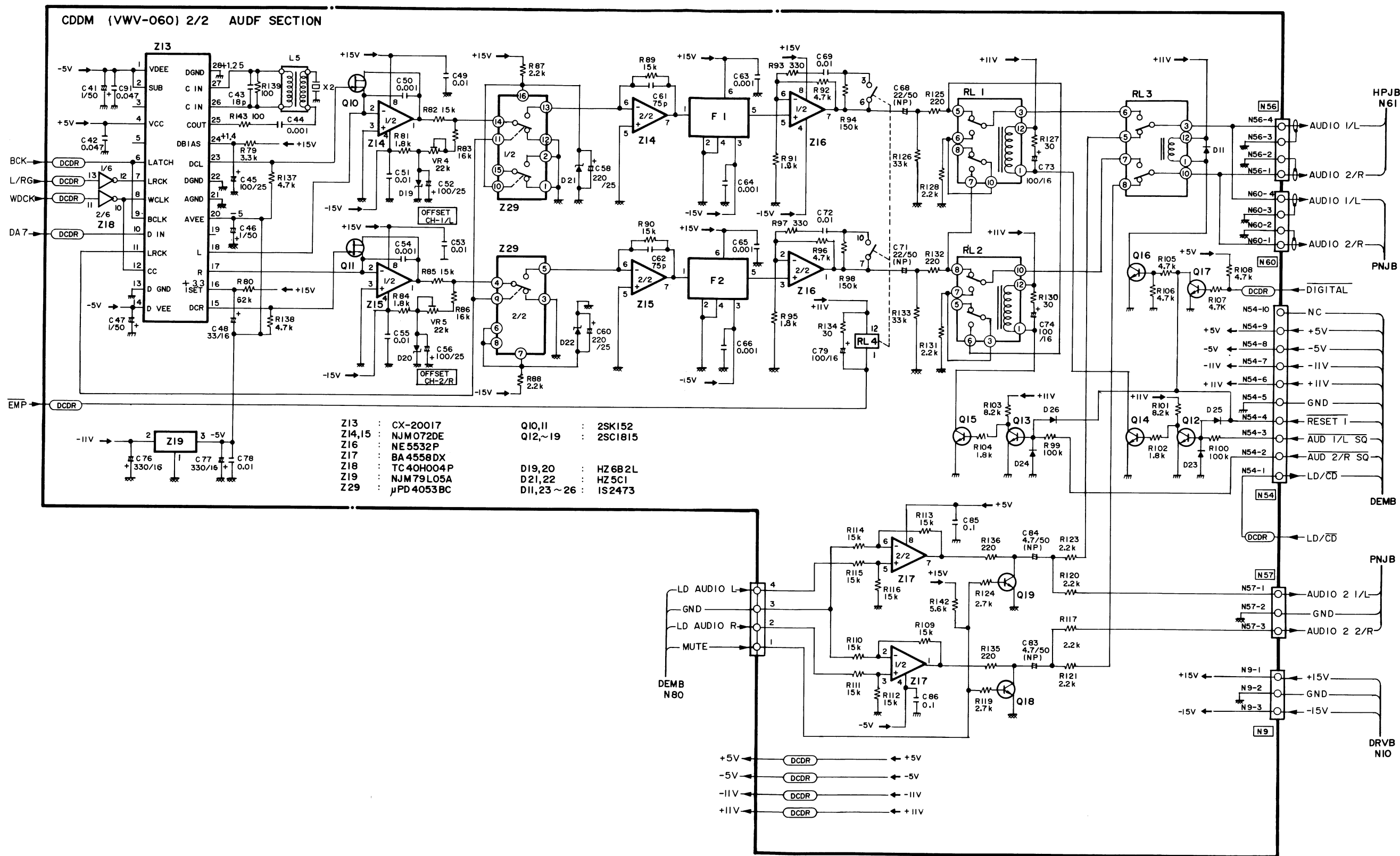
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A

A



B

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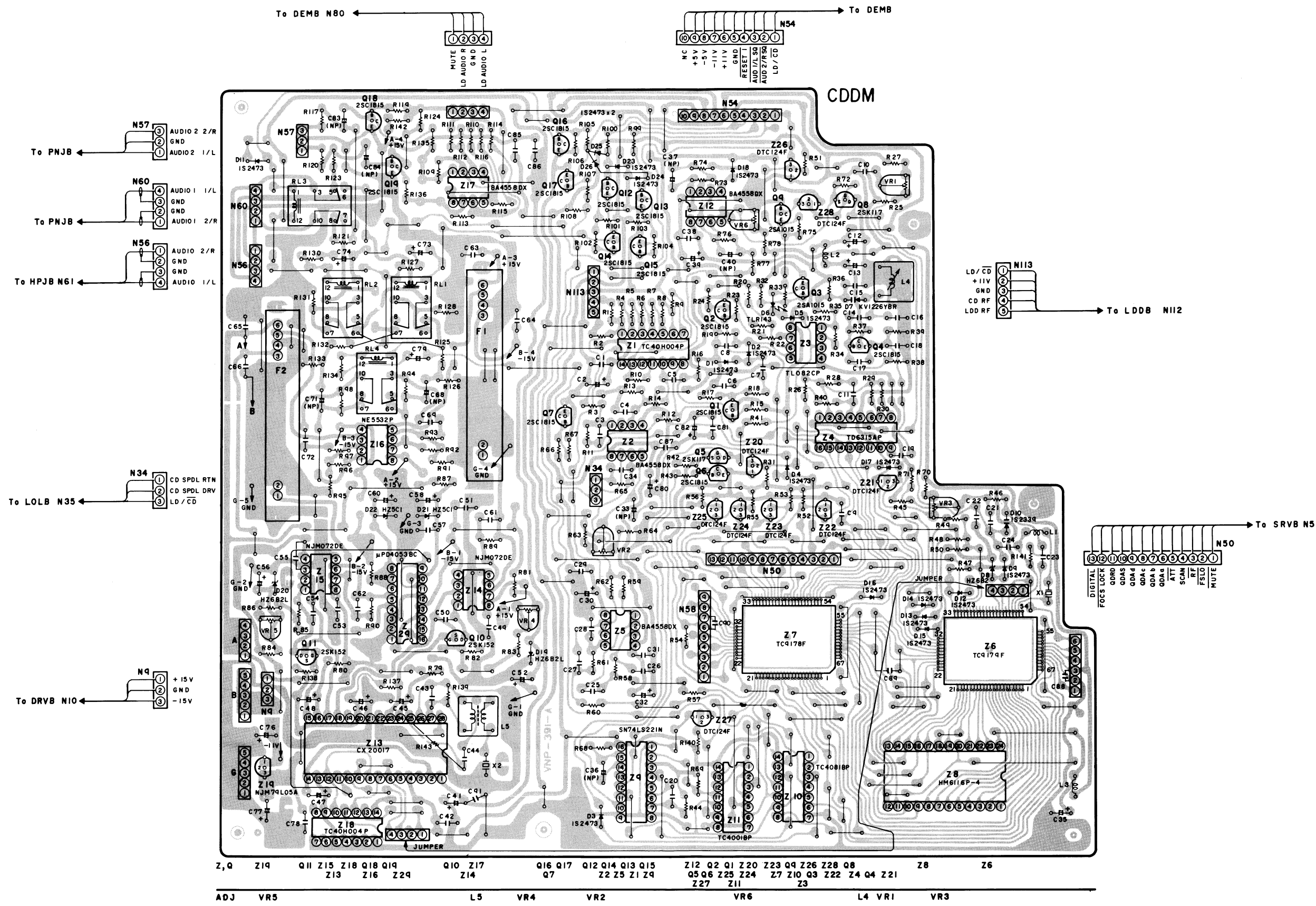
B

C

C

D

D



Z1, Q Z19 Q11 Z15 Z18 Q18 Q19 Q10 Z17 Q16 Q17 Q12 Q14 Q13 Q15 Z12 Q2 Q1 Z20 Z23 Q9 Z26 Z28 Q8 Z8 Z6
 Z13 Z16 Z29 Z14 Q7 Z2 Z5 Z1 Z9 Q5 Q6 Z25 Z24 Z7 Z10 Q3 Z22 Z4 Q4 Z21
 L5 VR4 VR2 VR6 L4 VR1 VR3
 ADJ VR5

1

2

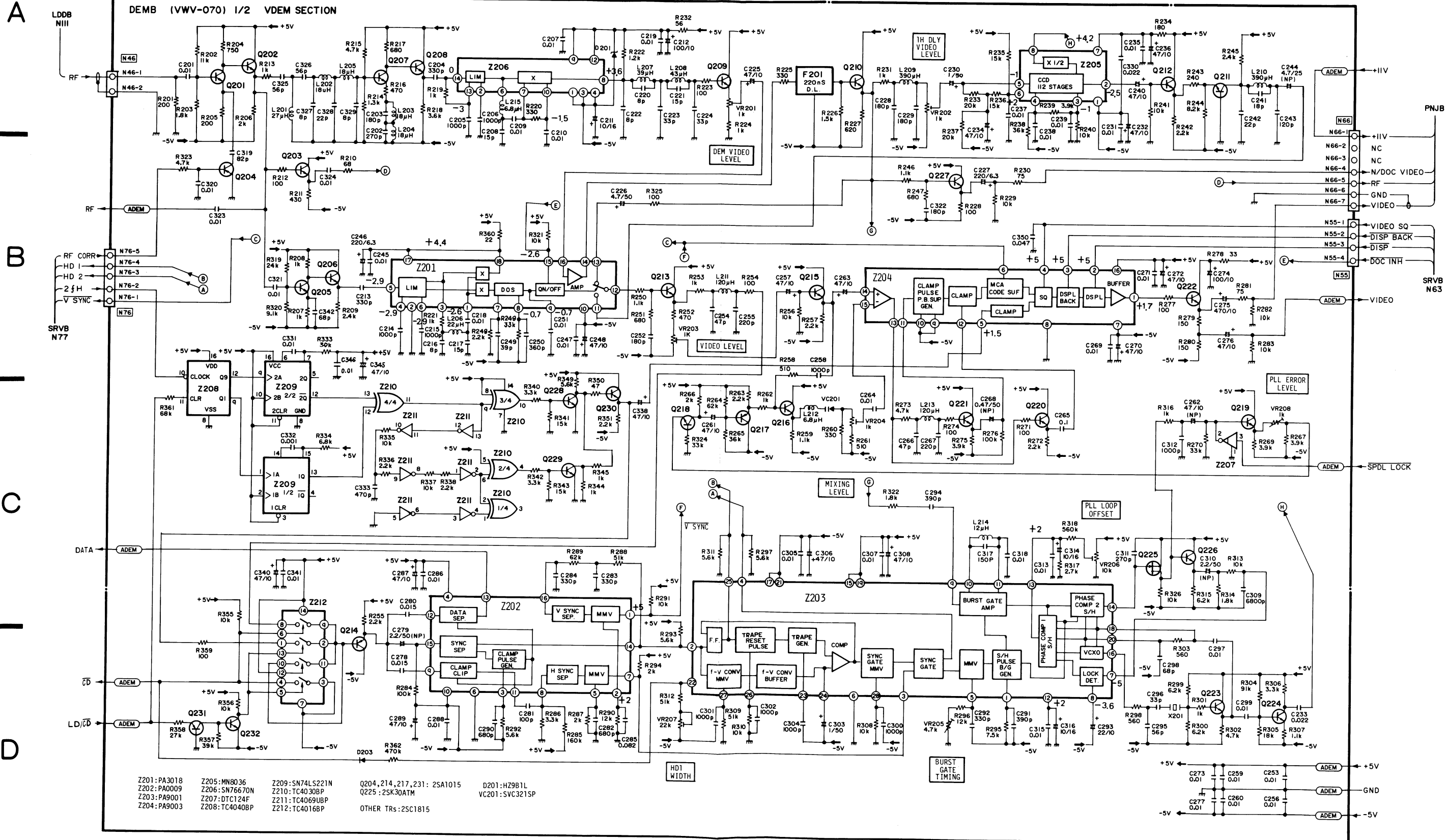
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6

5.11 DEMB (1/2) VIDEO SECTION



- Z201: PA3018
- Z202: PA0009
- Z203: PA9001
- Z204: PA9003
- Z205: MN8036
- Z206: SN76670N
- Z207: DTC124F
- Z208: TC4040BP
- Z209: SN74LS221N
- Z210: TC4030BP
- Z211: TC4069UBP
- Z212: TC4016BP
- Q204, 214, 217, 231: 2SA1015
- Q225: 2SK30ATH
- OTHER TRs: 2SC1815
- D201: HZ981L
- VC201: SVC321SP

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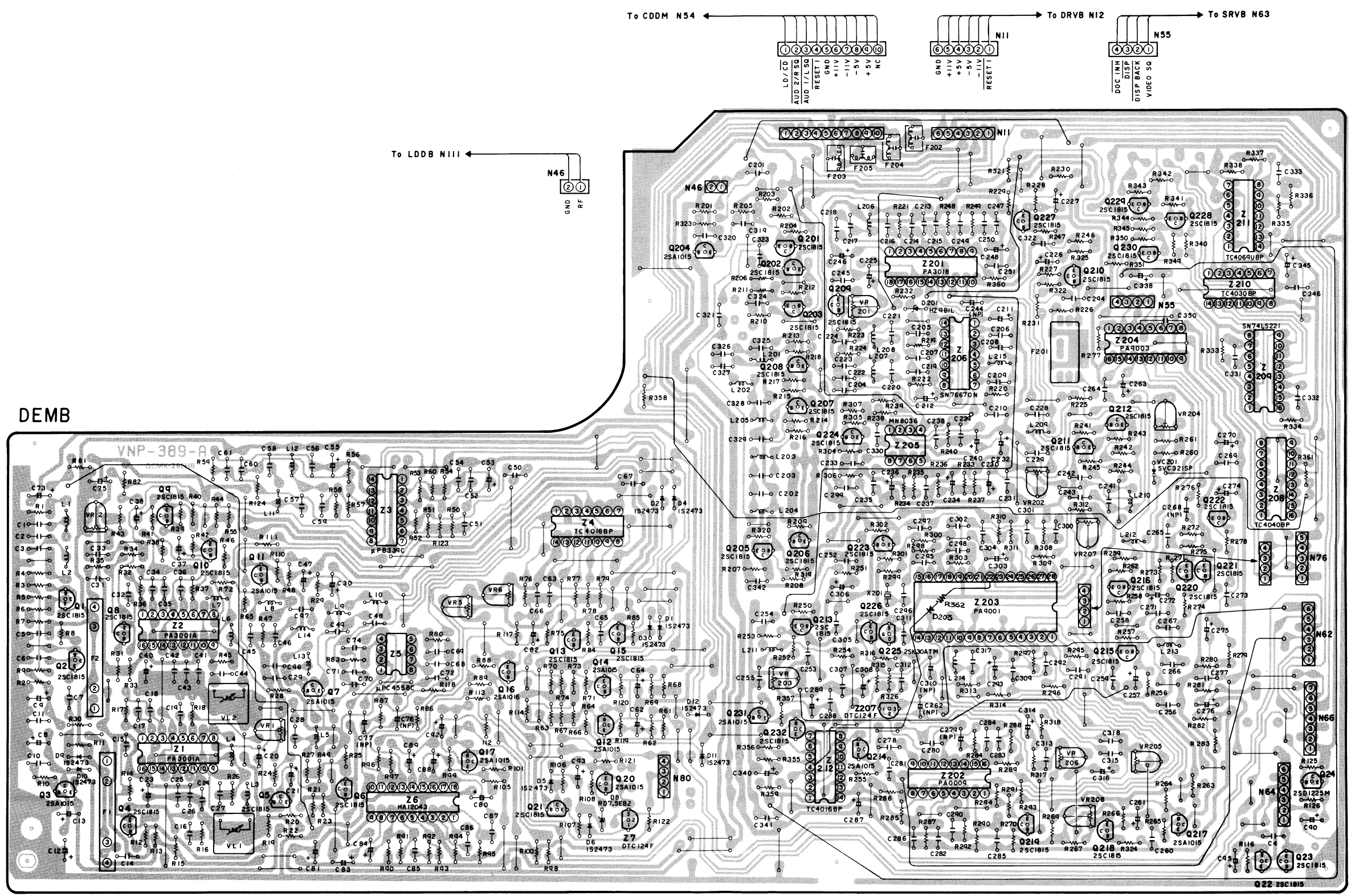
D

A

B

C

D



Q3 Q1 Q2 Q8 Q4 Z2 Q9 Z1 Q10 Q11 Q5 Q7 Q6 Z3 Z5 Z6 Q17 Q16 Q21 Q13 Z4 Q12 Q15 Q204 Q205 Q201 Q232 Z212 Q224 Q223 Z205 Z202 Z203 Q227 Q219 Q210 Q211 Q218 Q230 Z204 Q221 Z210 Z211 Z208 Q24
 Z, Q
 ADJ VR2 VL2 VLI VRI VR5 VR6 VR203 VR201 VR202 VR206 VR207 VR205 VR204 VR208
 Q14 Q20 Q27
 Q202 Q203 Q213 Q209 Q226 Q225 Z201 Z206
 Q231 Q208 Q207 Q214 Z207 Q206
 Q215 Q229 Q217
 Q22 Q23

1

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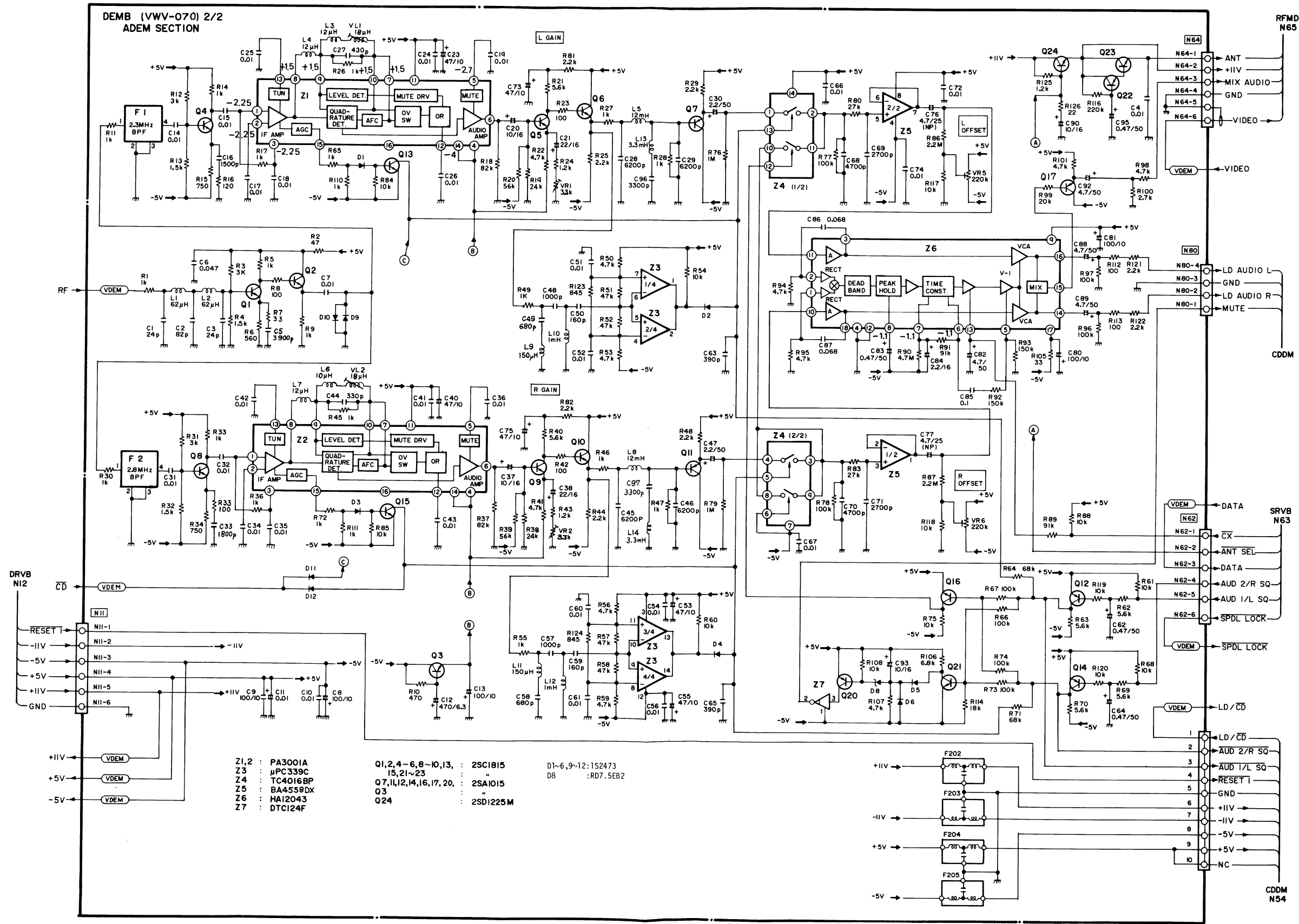
5-45

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5-46



- Z1, 2 : PA3001A
- Z3 : μ PC339C
- Z4 : TC4016BP
- Z5 : BA4558DX
- Z6 : HA12043
- Z7 : DTC124F
- Q1, 2, 4, 6, 8, 10, 13, 15, 21~23 : 2SC1815
- Q7, 11, 12, 14, 16, 17, 20, Q3 : 2SA1015
- Q24 : 2SD1225M
- D1~6, 9~12 : 1S2473
- D8 : .RD7.5E82

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D

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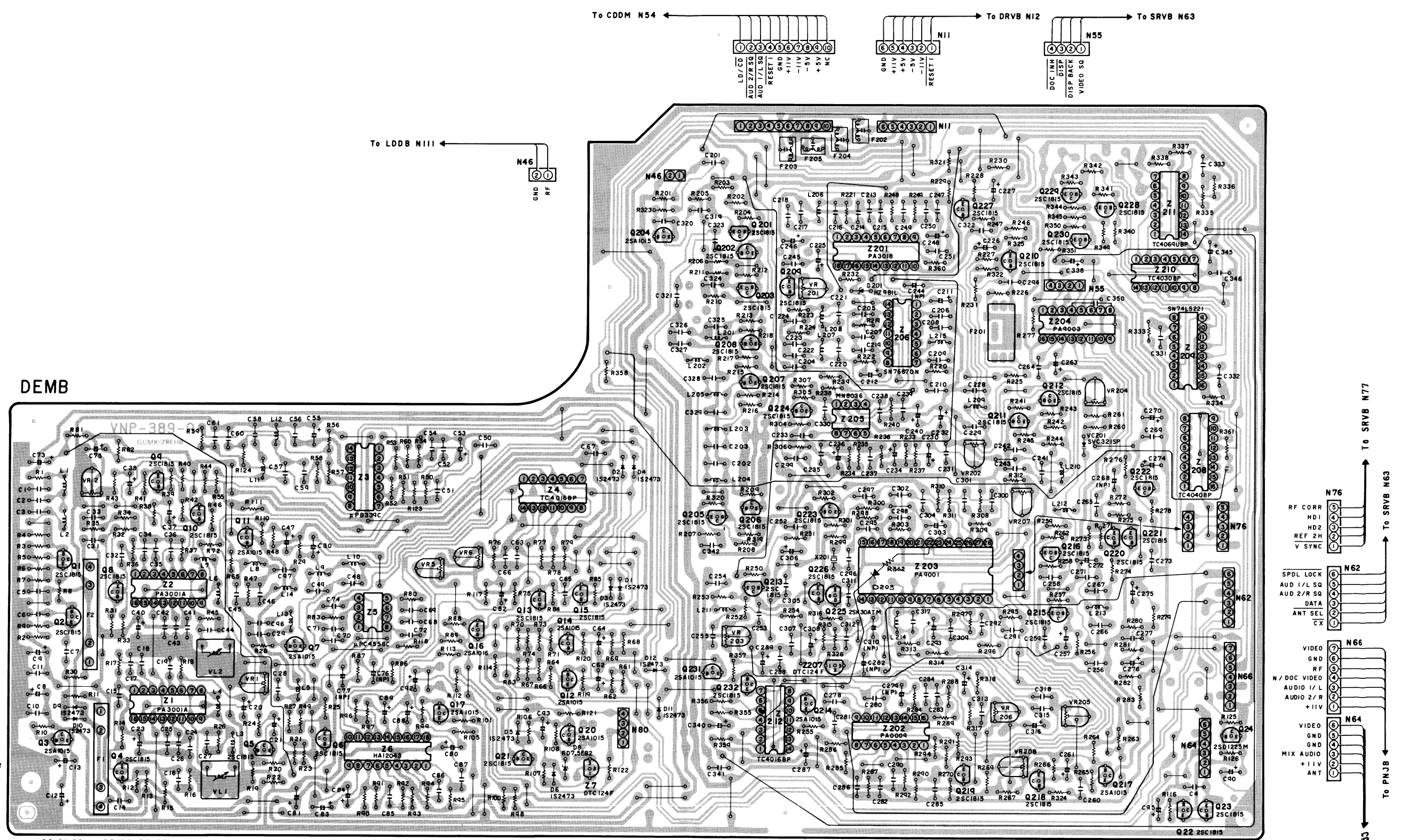
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C

D



Q3 Q1 Q2 Q8 Q4 Z2 Q9 Z1 Q10 Q11 Q5 Q7 Q6 Z3 Z5 Z6 Q17 Q16 Q21 Q13 Z4 Q12 Q15 Q14 Q20 Z7 Q204 Q205 Q201 Q232 Z212 Q224 Q223 Z205 Z202 Z203 Q227 Q219 Q210 Q211 Q218 Q230 Z204 Q221 Z210 Z211 Z208 Q24 Q202 Q203 Q213 Q209 Q226 Q225 Z201 Z206 Q231 Q208 Q207 Q214 Z207 Q206 Q221 Q215 Q229 Q217 Q228 Q22 Q23

Z1 Q ADJ VR2 VL2 VLI VRI VR5 VR6 VR203 VR201 VR202 VR206 VR207 VR205 VR204 VR208

1 | 2 | 3 | 4 | 5 | 6

5.13 HPJB, HPVB, PNJB

2

3

4

5

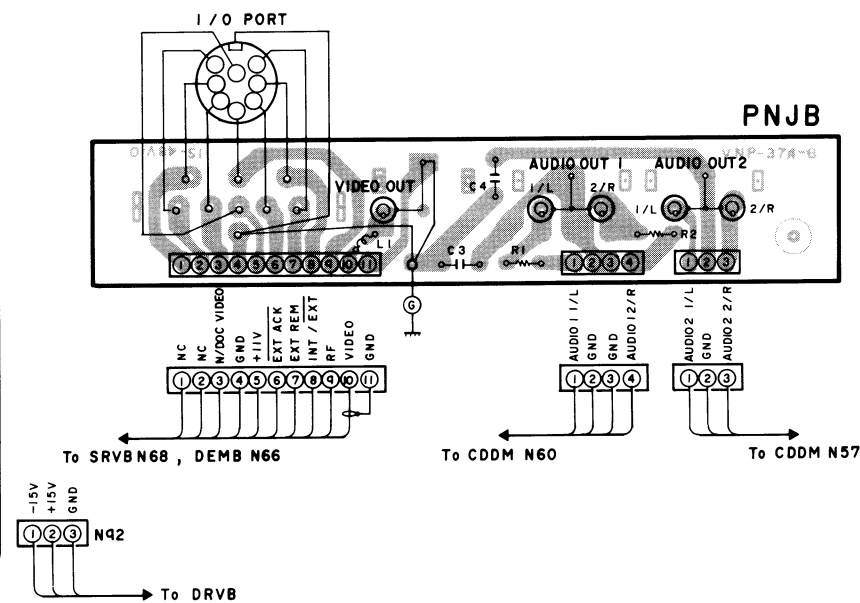
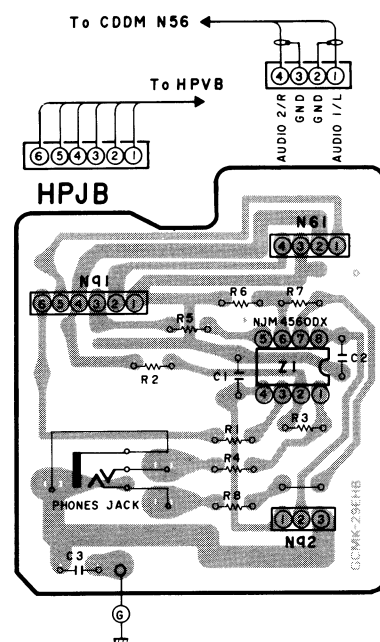
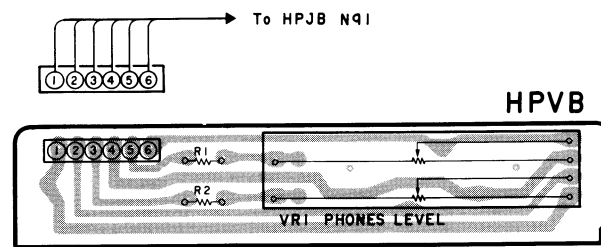
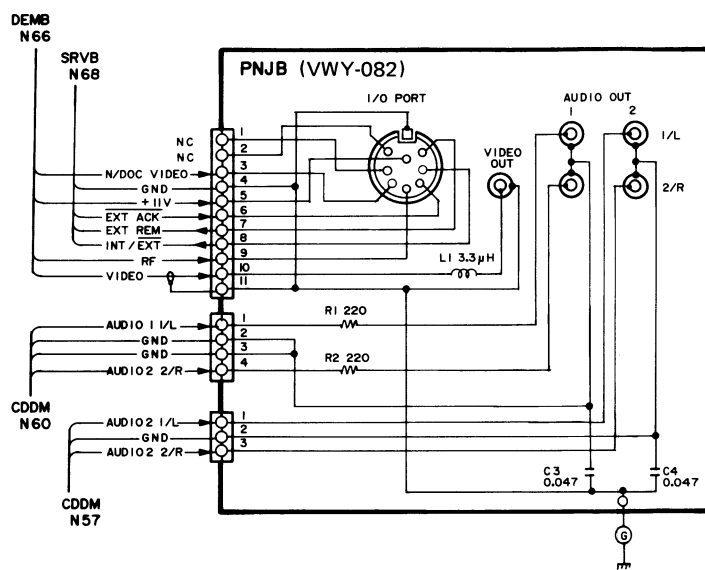
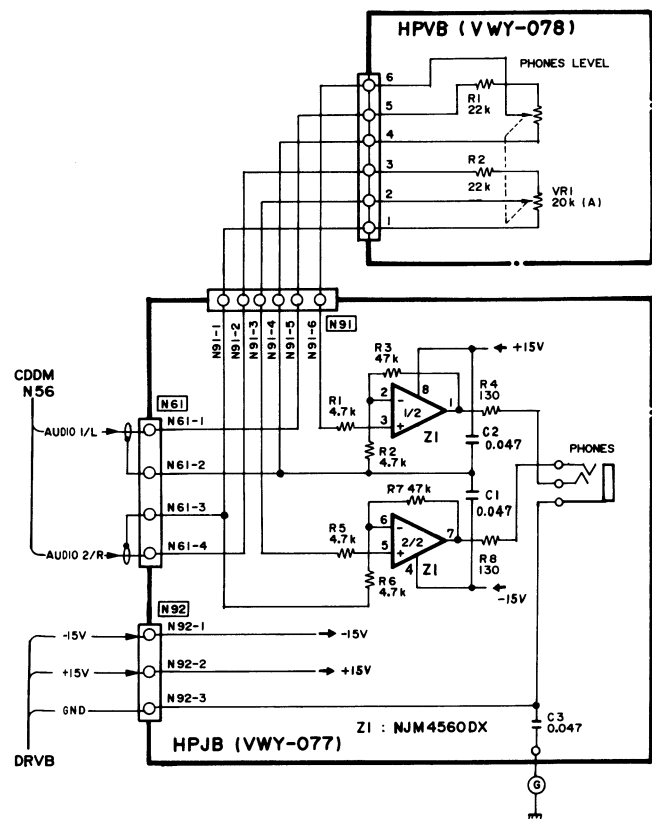
6

A

B

C

D



1

2

3

4

5

6

A

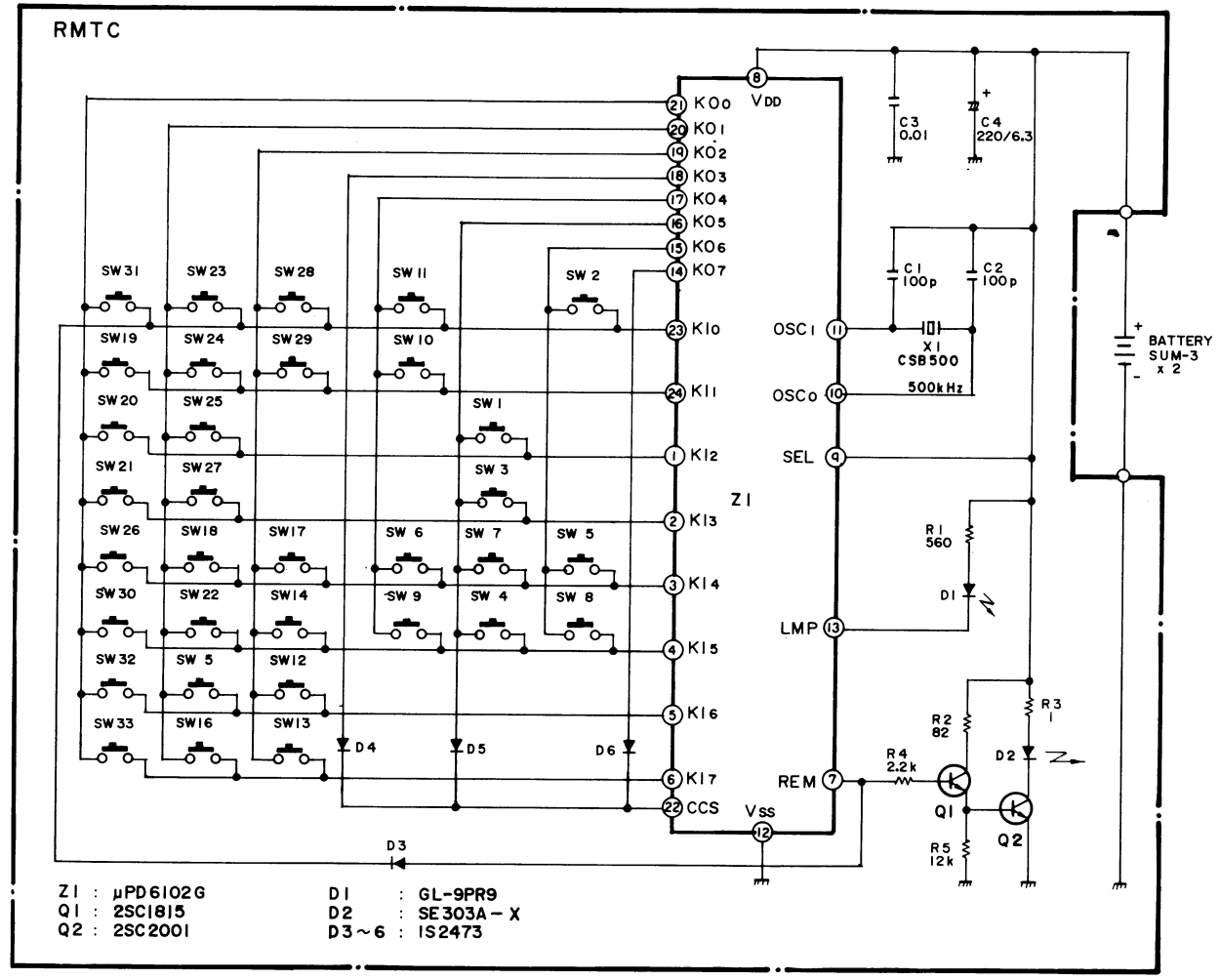
B

C

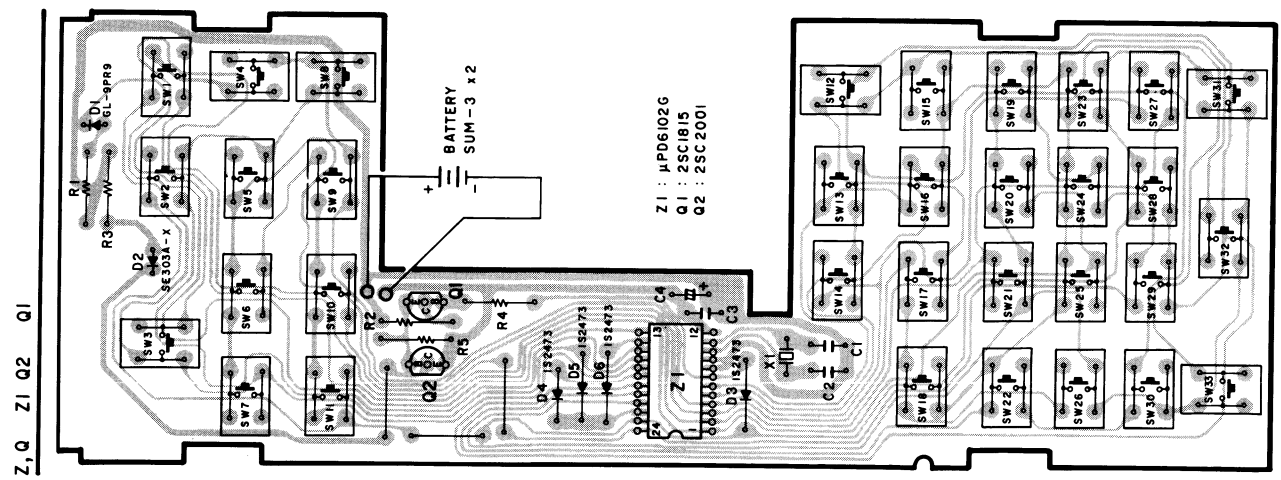
D

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



Z1 : μPD6102G
 Q1 : 2SC1815
 Q2 : 2SC2001
 D1 : GL-9PR9
 D2 : SE303A-X
 D3~6 : IS2473



Z1 : μPD6102G
 Q1 : 2SC1815
 Q2 : 2SC2001

NOTES:

- Parts without part number cannot be supplied.
- The Δ 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 1

(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
Δ	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	C	11, 12 470pF
	(VCG-043)		
Δ	VTL-157	L	1
	(VTL-003)		
	(VTL-004)		
Δ	• VEK-022	F	1 Fuse (2A)
Δ	• VEK-018	F	2- 5 Fuse (3A)

DRVB (VWR-064) Parts list 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	uPC339C	Z	1
	BA4558DX	Z	2- 4
	(M5218P)		
	M5218L	Z	5, 6
	(BA715)		
	DTA124F	Z	7, 8
	NJM78M15A	Z	9
	NJM79M15A	Z	10
	2SD880	Q	1, 2
	2SB595	Q	3, 5
	2SA1015	Q	4, 7, 22
	(2SA933)		
	2SB909M	Q	6, 15, 17
	2SC1815	Q	8- 10, 20, 21
	(2SC1740)		
	2SK117	Q	11
	2SC495	Q	12
	2SA505	Q	13
	2SD1225M	Q	14, 16
	2SC3243	Q	18
	2SA1283	Q	19
	2SD1293M	Q	23
	(2SC1627)		
	2SD525	Q	24
	RN1/4PQ2202F	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

• Fuse are not included in FUSB (VWR-070).

DRVB (VWR-064) Parts list 2

(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 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	uPC1373H	Z	1
	(uPC1373HA)		
	2SK30ATM	Q	1
	PH302B	D	1
	1S2473	D	2
	RD9.1EB3	D	3
	RD1/6PS000J	R	1- 8
	CEJA100M16	C	1, 5, 6, 8
	CCDSL101J50	C	2, 3
	CQMA302J50	C	4
	CQMA473J50	C	7
	CKDYF103Z50	C	9
	VTL-118	L	1 5mH

CNNB Parts list 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	RD1/6PS561J	R	1
	PREB (VWV-058) Parts list 1		
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	M5218L	Z	1- 4
	(BA715)		
	2SC2021LNF	Q	2, 4- 6
	2SD1225M	Q	3
	1S2473	D	1, 2
	RD3.6EB2	D	3
	RD1/6PS000J	R	1, 7- 39, 41- 48
	RD1/4PM000J	R	40
	VCP-068	VR	1 470
	VCP-078	VR	2 22k
	VCP-074	VR	3, 5 4.7k
	VCP-080	VR	4, 6 47k
	CEA2R2M50	C	1
	CEANP2R2M50	C	4
	CCDSL331J50	C	5, 6
	CEANPR47M50	C	10
	CKDYF103Z50	C	11- 14
	CEA100M16	C	15, 16
	CEA010M50	C	17
	CEJA220M16	C	18
	CEANP47M16	C	19
	CKDYB102K50	C	20

CTCB (VWS-050) Parts list 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	TL082CP	Z	1
	DTC124F	Z	2, 4
	DTA124F	Z	3
	2SK30ATM	Q	1- 3
	2SC1815	Q	4
	(2SC1740)		
	2SA1015	Q	5
	(2SA933)		
	2SD1225M	Q	6
	2SB909M	Q	7
	1S2473	D	1- 3, 6- 9
	RD3.6EB1	D	4, 5
	SM1A-02	D	10
	RD1/6PS000J	R	1- 6, 8, 10- 14
	RD1/4PM000J	R	7
	RD1/2VS000J	R	15
	VCP-082	VR	1, 2 100k
	CQMA273J50	C	1
	CEANPR47M50	C	2, 4
	CEJA101M16	C	3, 5

LOLB (VWG-134) Parts list 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	PD3032	Z	1
	MB3763	Z	2, 3
	DTA124F	Z	4
	DTC124ES	Z	8, 9
	2SA1015	Q	1, 4, 6, 7, 11
	(2SA933)		
	2SC1815	Q	2, 12- 14, 16, 19, 21, 24, 26, 29
	(2SC1740)		
	2SD1225M	Q	3
	2SD1293M	Q	5
	2SK117	Q	8
	2SC2673	Q	9
	2SA1283	Q	10
	2SB851	Q	15, 20, 25
	(2SA817)		
	2SB834	Q	17, 22, 27
	2SD880	Q	18, 23, 28
	1S2473	D	1, 3, 10, 13, 15
	SM1A-02	D	2, 4- 9
	RMLS9-103J	R	1
	RMLS5-103J	R	2
	RD1/6PS000J	R	3- 13, 15- 22, 25- 33, 37- 45, 47- 49, 51- 53, 55- 57, 59- 61, 63- 65, 67- 69, 77, 78, 80
	RD1/4VM000J	R	14, 74, 75, 79, 81, 82
	VCN-096	R	23 3.9(1W)
	VCN-083	R	34, 35 22(1W)
	RD1/2PM3R3J	R	36
	RD1/2VS000J	R	46, 50, 54, 58, 62, 66
	VCN-099	R	73 4.7(1W)
	VCP-137	VR	1 100k
	CKDYF103Z50	C	1, 2
	CCDSL300J50	C	3, 4
	CEA3R3M50	C	5
	CEA220M10	C	6, 7, 14
	CQSH561J50	C	8
	CEA010M50	C	9
	CEA470M50	C	10- 12
	CEA4R7M50	C	13, 22, 23
	CKDYF223Z50	C	19, 21, 24- 28
	VTH-005	F	1 Noise filter
	VSS-018	X	1 4.00MHz

NOTES:

- Parts without part number cannot be supplied.
- The Δ 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 (VWY-081) Parts list 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	VSC-008	SW	1 Tact switch

NOTES:

- Parts without part number cannot be supplied.
- The Δ 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	Z	1	
(PD8009)			
PD0010	Z	2	
PD0011	Z	3	
TC4011BP	Z	4	
(MSM4011BRS)			
SN74LS00N	Z	5,204	
(HD74LS00P)			
TD62504P	Z	6	
JPD8255AC-5	Z	7	
(M5L8255AP-5)			
HD6305X2P	Z	9	
DTC124F	Z	10, 11,208-215,407,408	
UM3002A	Z	201	
PA9002	Z	202	
TC5081AP	Z	203	
BA4558DX	Z	205-207,402-404,406	
(M5218P)			
SN74LS221N	Z	216	
(HD74LS221P)			
PM4001	Z	401	
LM393P	Z	405	
(BA6993)			
DTA124ES	Z	409	
2SC1815	Q	20	
2SK117	Q	202,405,406,409,418,420,421	
2SC1815	Q	203,204,206-208,401-403,407,412,416	
(2SC1740)			
(2SC1740LN)			
2SK30ATM	Q	205	
2SA1015	Q	210,211,404,410,411,414	
(2SA933)			
1S2473	D	1,201-208,210-213,215-218,401-412,414,416-420	
HZ4ALL	D	209	
TLR143	D	214	
RD1/6PS000J	R	1- 36, 39, 40,201,208,209,213,216,218,220-224,226-232,236,239-280	
RD1/4VM000J	R	37, 38	
RD1/4PM000J	R	41,544	
RN1/6PQ0000F	R	206,207,210-212,217,219,314	
RD1/6PS000J	R	281-284,286-313,315-329,401-439,441,442,444-446,448-456	
RD1/6PS000J	R	457-463,466-471,502-512,514,516-519,523-543	
VCP-073	VR	202 3.3k	
VCP-080	VR	203 47k	
CEA100M16	C	1,219,240,243,248,250	
CEA470M10	C	2- 4	
CEA101M10	C	5, 6	
CKDYF103Z50	C	7, 8, 17,203,213,215,221,223,237,251,421-423	
CCDCH100D50	C	9, 10	
CCDCH470J50	C	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)
	TLP6164	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 (VWY-079) Parts list 1

(MK)	(PART No.)	(IT)	(REF Nos. & DESCRIPTION)
	VSH-006	SW	1, 2

CDDM (VWV-060) Parts list 1

(MK)	(PART No.)	(IT)	(REF Nos. & DESCRIPTION)
	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
	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 (VWV-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
	VCN-138	R	93, 97 4.7k(1/4W) 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
	CCDSL151J50	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. 20kHz
	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 Δ 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.

LDGB (VWV-061) Parts list 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	2SC1815 (2SC1740)	Q	1- 12
	RD1/6PS000J	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 (VWV-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 (H074LS221P)	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

DEMB (VWV-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

NOTES:

- Parts without part number cannot be supplied.
- The Δ 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 (VWV-070) Parts list 3

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	CKDYB102K50	C	205,206,214,215,258,312
	CCDCH150J50	C	208,217,221
	CCDCH080D50	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
	CQPA023G100	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 (VTL-068)	L	1, 2 62uH
	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 (VTL-070)	L	10, 12 1mH
	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 (VTL-067)	L	208 43uH
	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 (VSS-034) (VSS-033)	X	201 3.58MHz

HPJB (VWY-077) Parts list 1

(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	BA4560 (NJM4560DX)	Z	1
	RD1/6PS000J	R	1- 8
	CQMA473J50	C	1, 2
	VCG-025	C	3 0.047uF
	VKN-160		Headphone jack

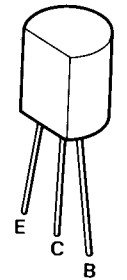
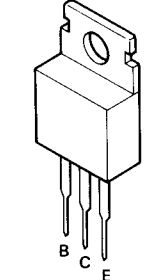
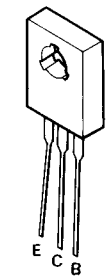
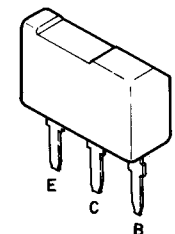
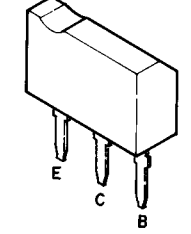
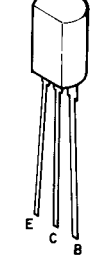
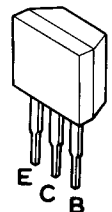
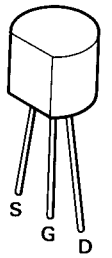
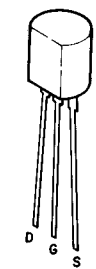
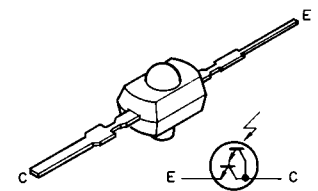
HPVB (VWY-078) Parts list 1

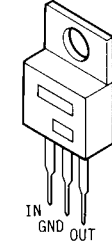
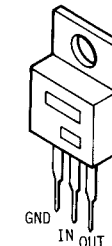

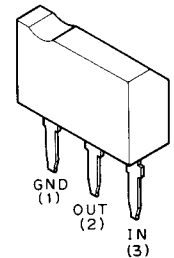
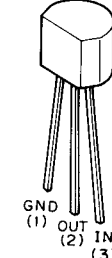
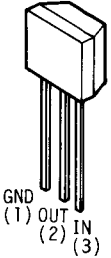
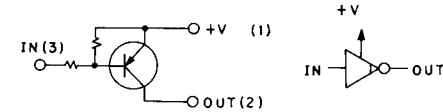
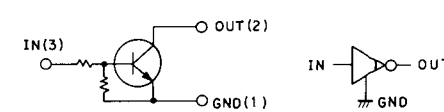
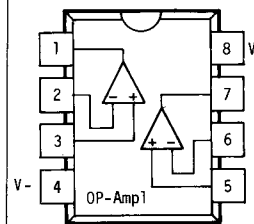
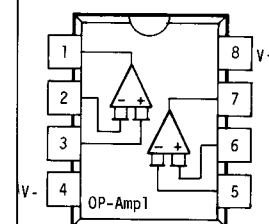
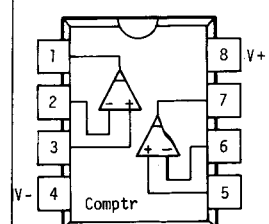
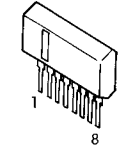
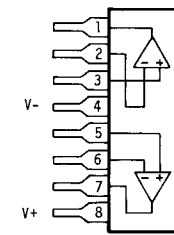
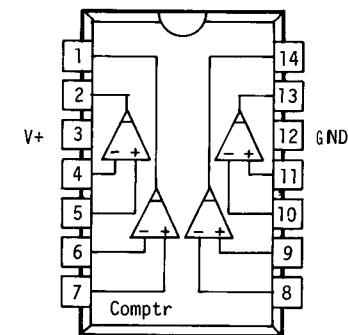
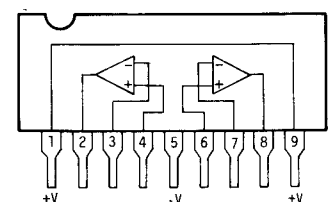
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	RD1/6PS000J	R	1, 2
	VCS-026	VR	1 20kx2(A)

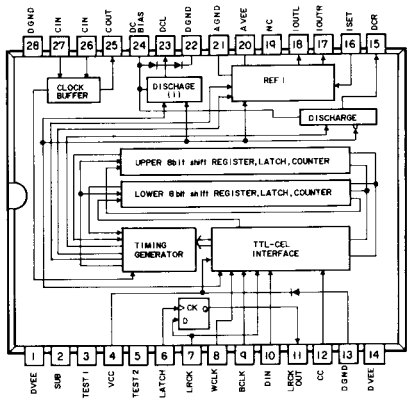
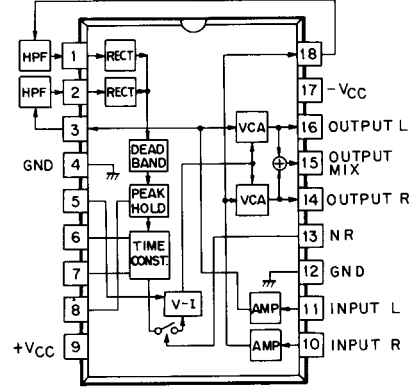
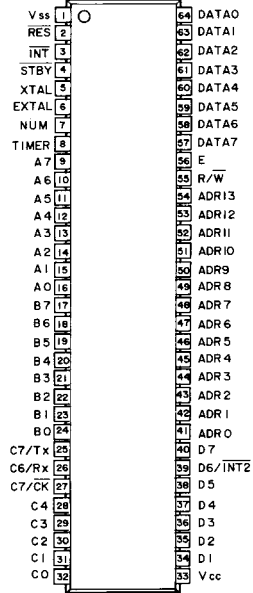
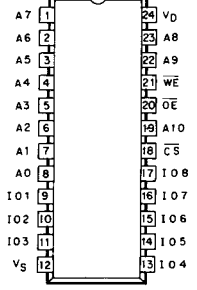
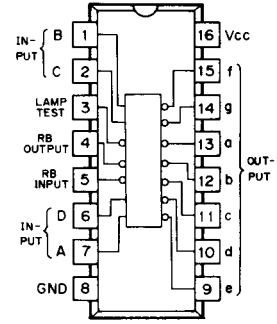
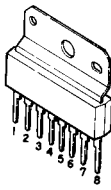
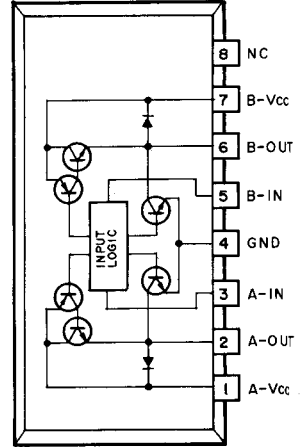
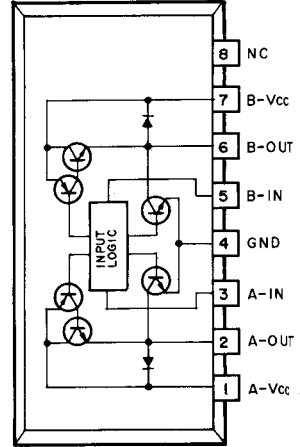
PNJB (VWY-082) Parts list 1

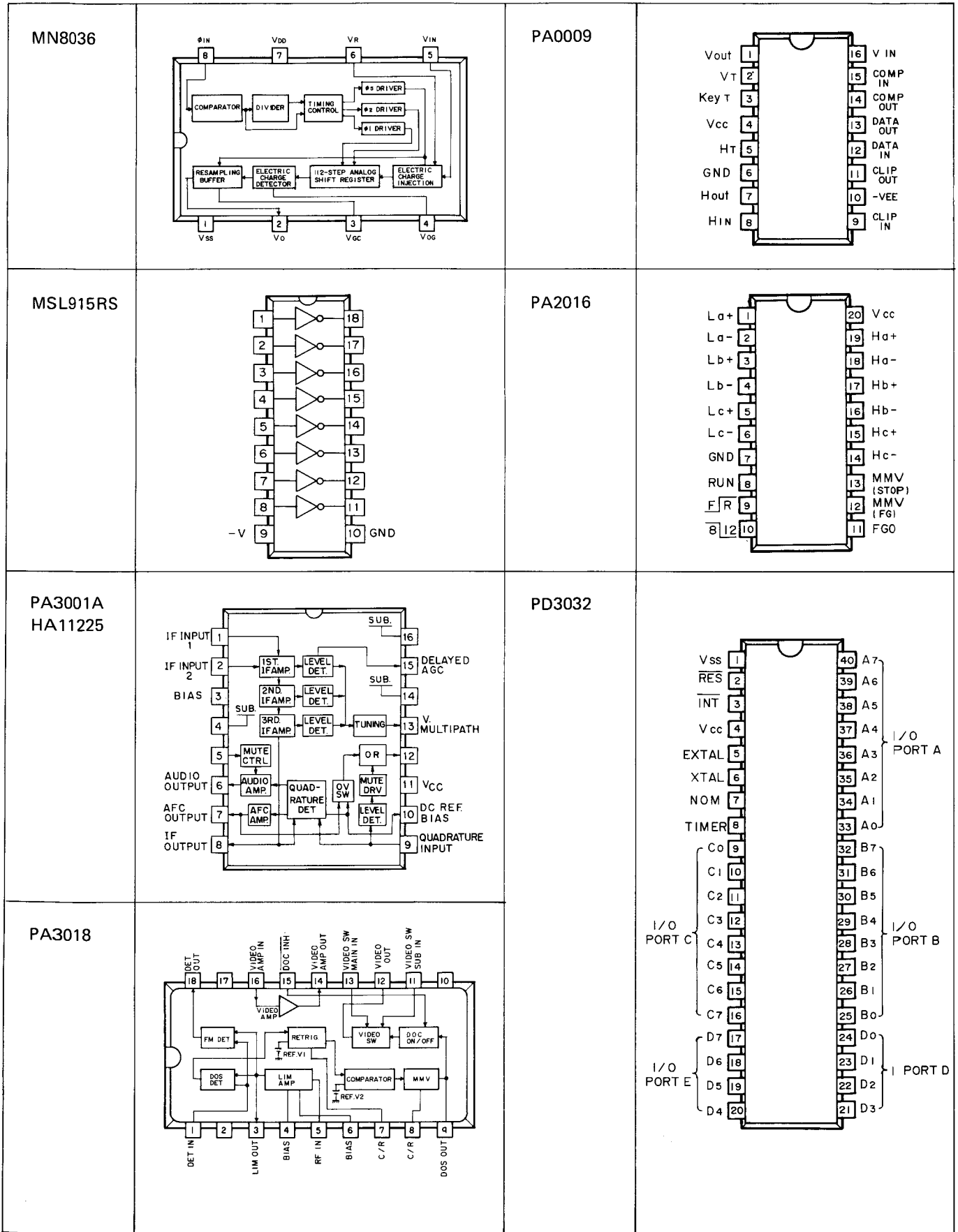
(MK)	PART No.	(IT)	REF Nos. & DESCRIPTION
	PCN-004	R	1, 2 220(1/2W)
	CKDYF473Z50	C	3, 4
	VTL-017	L	1 3.3uH
	VKN-149		8P DIN socket
	VKB-014		Video pin-jack
	VKB-013		4P pin-jack

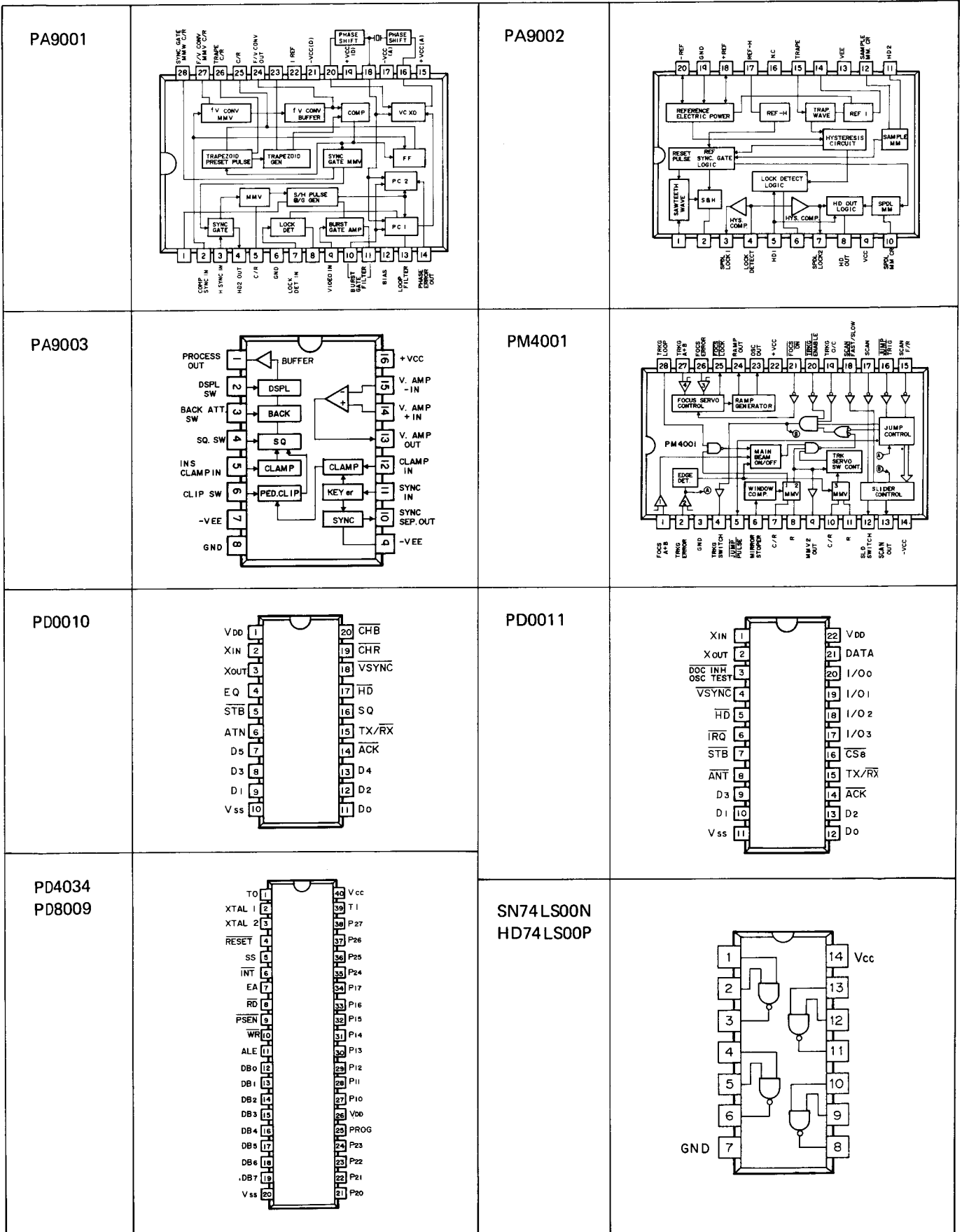
6. IC & TRANSISTOR

2SA933 2SA1015 2SC1627 2SC1740 2SC1815		2SB595 2SB834 2SD525 2SD880		2SA505 2SC495	
2SB909M 2SD1225M 2SD1293M		2SA881 2SB851 2SC2021LN		2SA854 2SA1283 2SC3243	
2SB808					
2SK30ATM 2SK152		2SK117			
TPS6058					

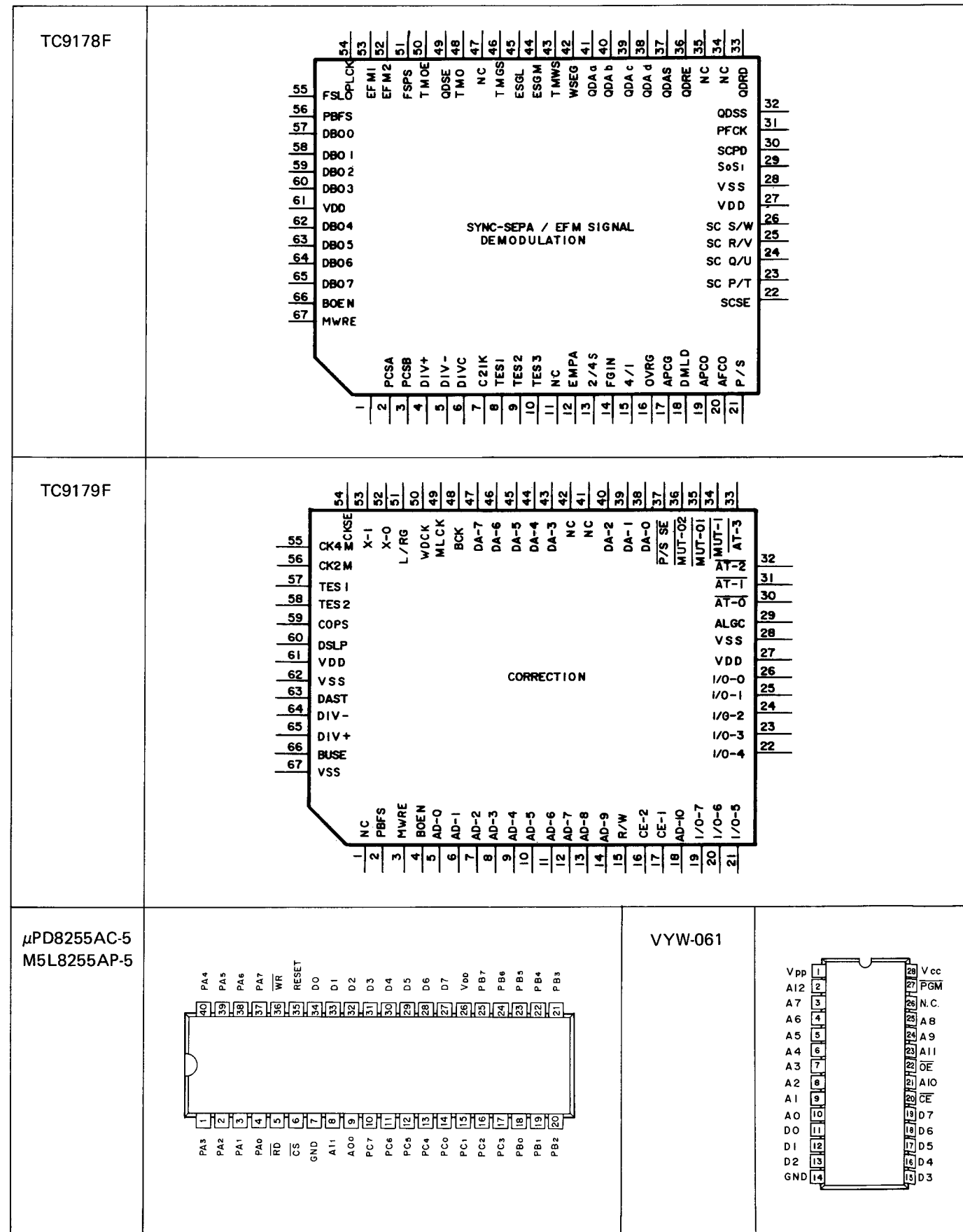
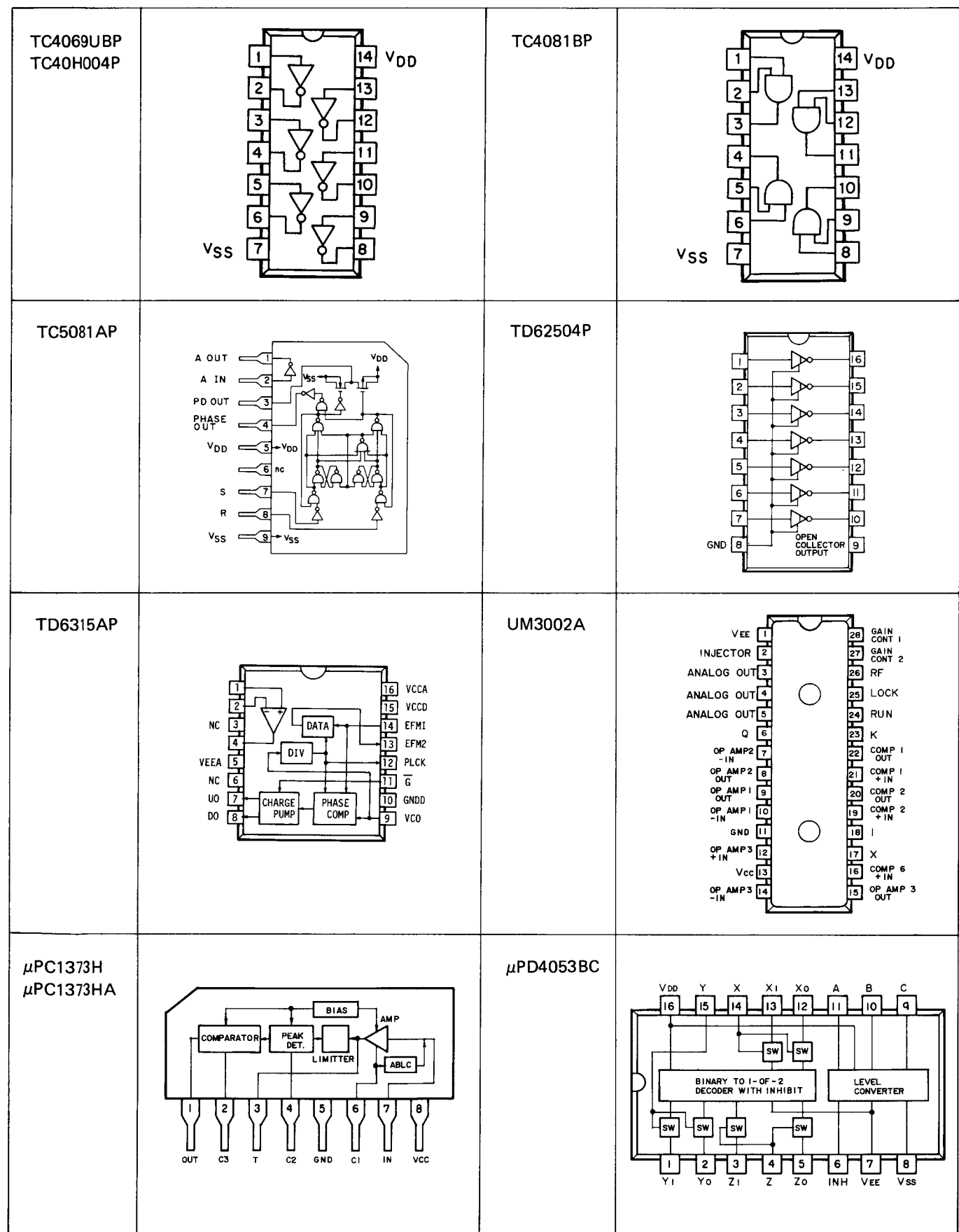
NJM78M15A		NJM79M15A		NJM79L05A	
DTA124F DTC124F		DTA124N DTC124N		DTA124ES DTC124ES	
DTA124F DTA124N			DTC124F DTC124N		
BA4558DX M5218P NE5532P NJM4560DX		NJM072DE TL082CP		LM393P BA6993	
M5218L			μ PC339C		
BA715					

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



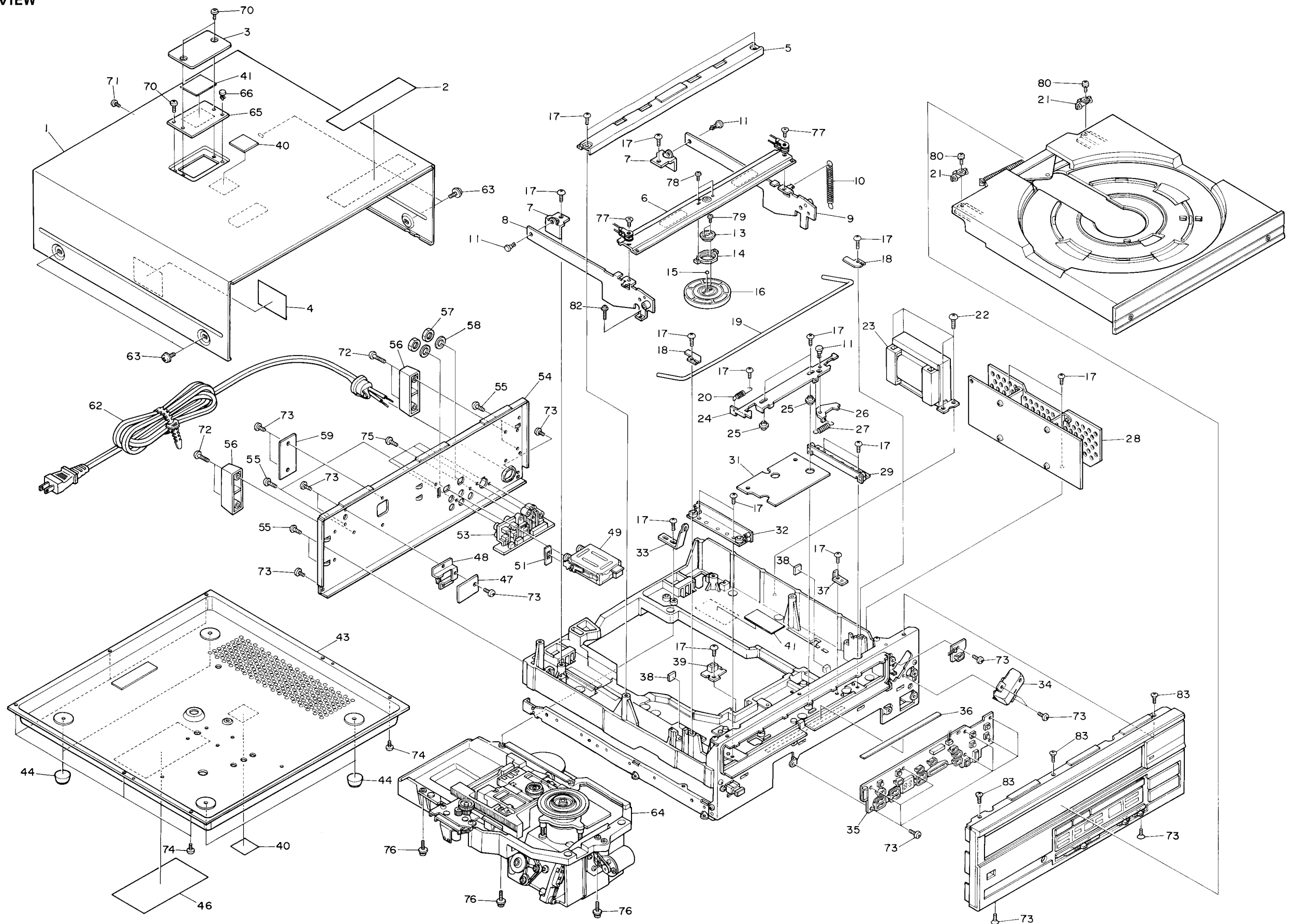


<p>SN74LS221N HD74LS221N</p>		<p>SN74LS247N HD74LS247N</p>	
<p>SN76670N</p>		<p>TC4001BP MSM4001BRS</p>	
<p>TC4011BP MSM4011BRS</p>		<p>TC4016BP M4016BP</p>	
<p>TC4030BP M4030BP</p>		<p>TC4040BP</p>	



7. EXPLODED VIEW AND PARTS LIST

7.1 TOP VIEW



NOTES:

- Parts without part number cannot be supplied.
- The Δ 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.

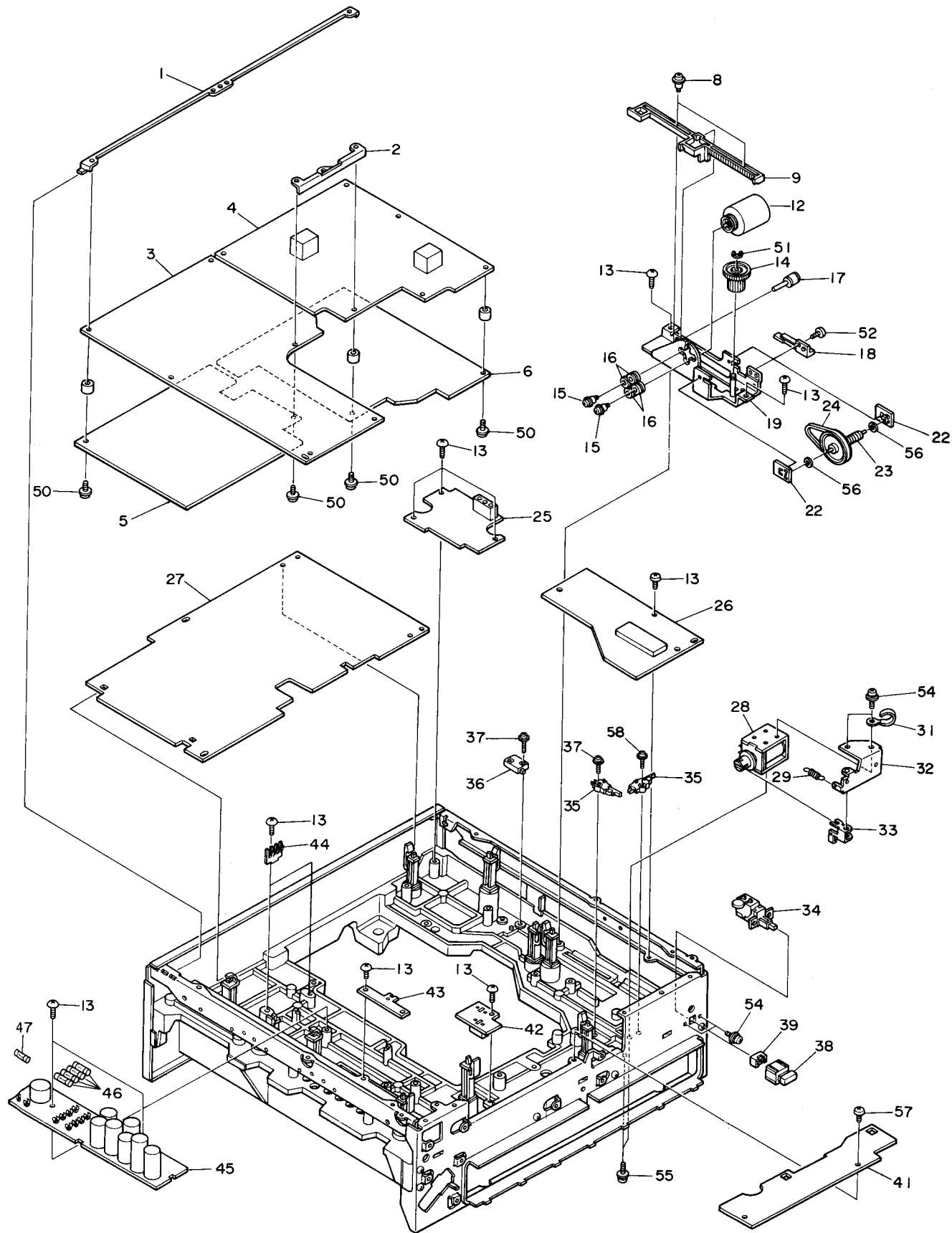
CLD-900/KU (TOP) Parts list 1

(MK)	(KEY)	(PART NUMBER)	(DESCRIPTION)
		1 VNA-047	Bonnet
		2 VRW-296	Caution label
		3 VNK-301	Bonnet cover
		4 N.S.P.	Gard sheet
		5 N.S.P.	Bridge
		6 N.S.P.	Clamper holder (A)
		7 VNE-600	Arm holder
		8 VXA-229	Clamper arm (L)
		9 VXA-228	Clamper arm (R)
		10 VBH-087	Spring
		11 VEC-143	Prastic rivet
		12 vacant	
		13 N.S.P.	Clamper head
		14 N.S.P.	Clamper lifter
		15 N.S.P.	Steel ball
		16 VNL-320	Clamper
		17 VBA-010	Screw
		18 N.S.P.	Rod holder
		19 N.S.P.	Rod
		20 VBH-136	Slide spring
		21 VNL-176	Stopper
		22 VBA-011	Screw
Δ		23 VTT-056	Power transformer
		24 VNE-674	Slide board
		25 VLL-266	Slide color
		26 VNE-427	Lock sensor board
		27 VBH-083	Cum spring
		28 VWR-064	DRVB
		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	
		Δ 62 VDG-030	Power cord
		63 ABA-079	Screw
		64 VXX-356	Mech. chasis 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 Δ 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.

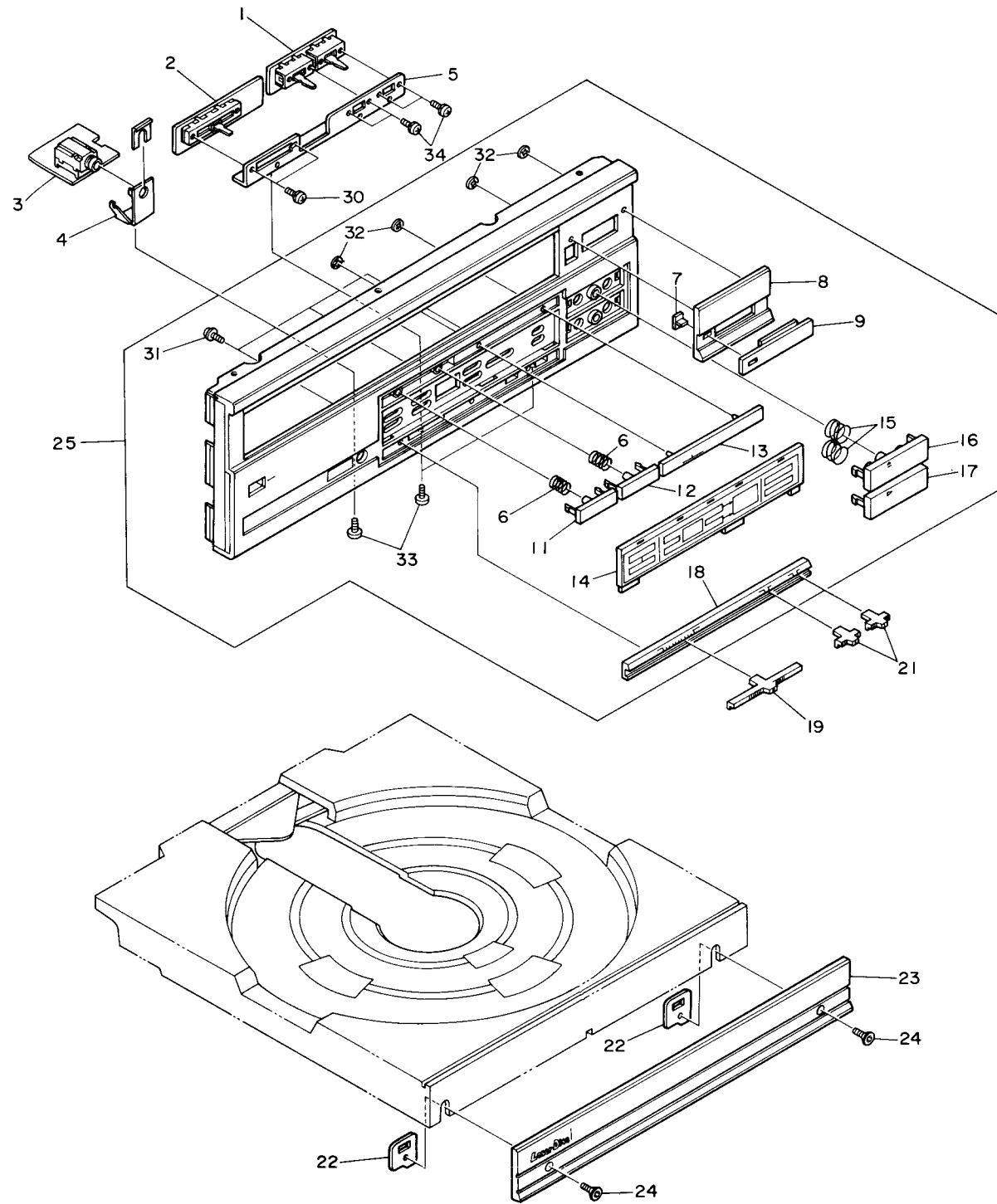
CLD-900/KU (BOTTOM) Parts list 1
 (MK) (KEY) (PART NUMBER) (DESCRIPTION)

CLD-900/KU (BOTTOM) Parts list 2
 (MK) (KEY) (PART NUMBER) (DESCRIPTION)

1	VNE-616	PCB holder (B)
2	VNE-615	PCB holder (A)
3	VWV-070	DEMB
4	VWV-060	CDDM
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	
12	VXM-028	Loading motor
13	VBA-010	Screw
14	VNL-173	Worm wheel
15	VLL-183	Screw
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	
22	VNL-172	Shaft holder
23	VXA-127	Worm ass'y
24	VEB-071	FL belt
25	VWV-061	LDSB
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
Δ 34	VSA-006	Power switch
35	VSK-004	Lever switch
36	VSF-009	Slide switch
37	VBA-013	Screw
38	VXA-214	Power button ass'y
39	VEC-151	Flexible ring
40	vacant	
41	VWG-139	DSPD
42	VWG-135	LDSB
43	N.S.P.	Spring holder
44	N.S.P.	4P terminal
Δ 45	VWR-070	FUSB
46	VEK-018	Fuse (3A)
47	VEK-022	Fuse (2A)
48	vacant	
49	vacant	
50	ACZ30P150FMC	
51	YE30FUC	
52	PCZ26P060FMC	
53	vacant	
54	PMB30P060FMC	
55	PMB30P120FMC	

56	WA20P060-010	
57	BCZ30P060FZK	
58	AMZ20P120FMC	

7.3 FRONT PANEL



NOTES:

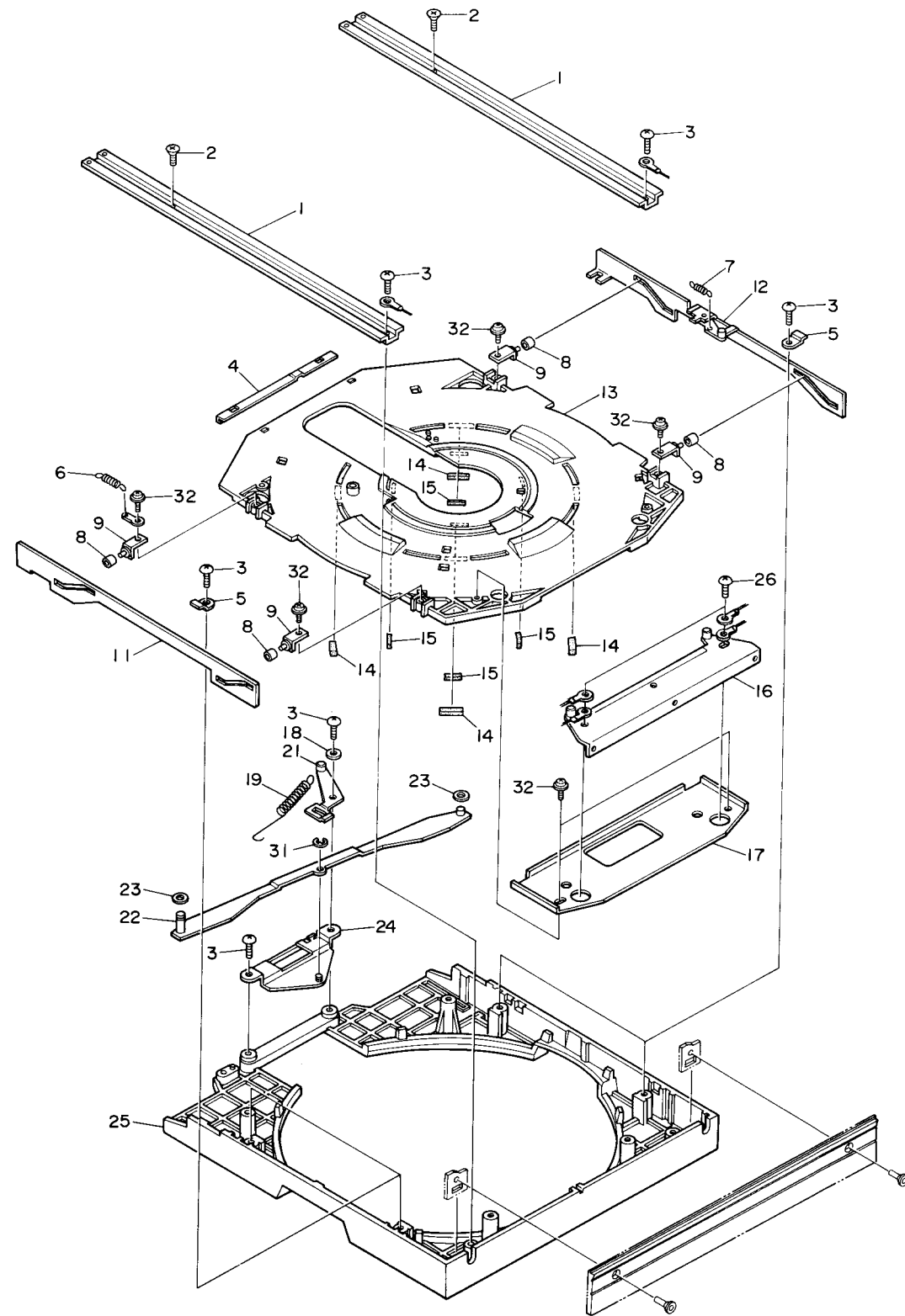
- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then 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:

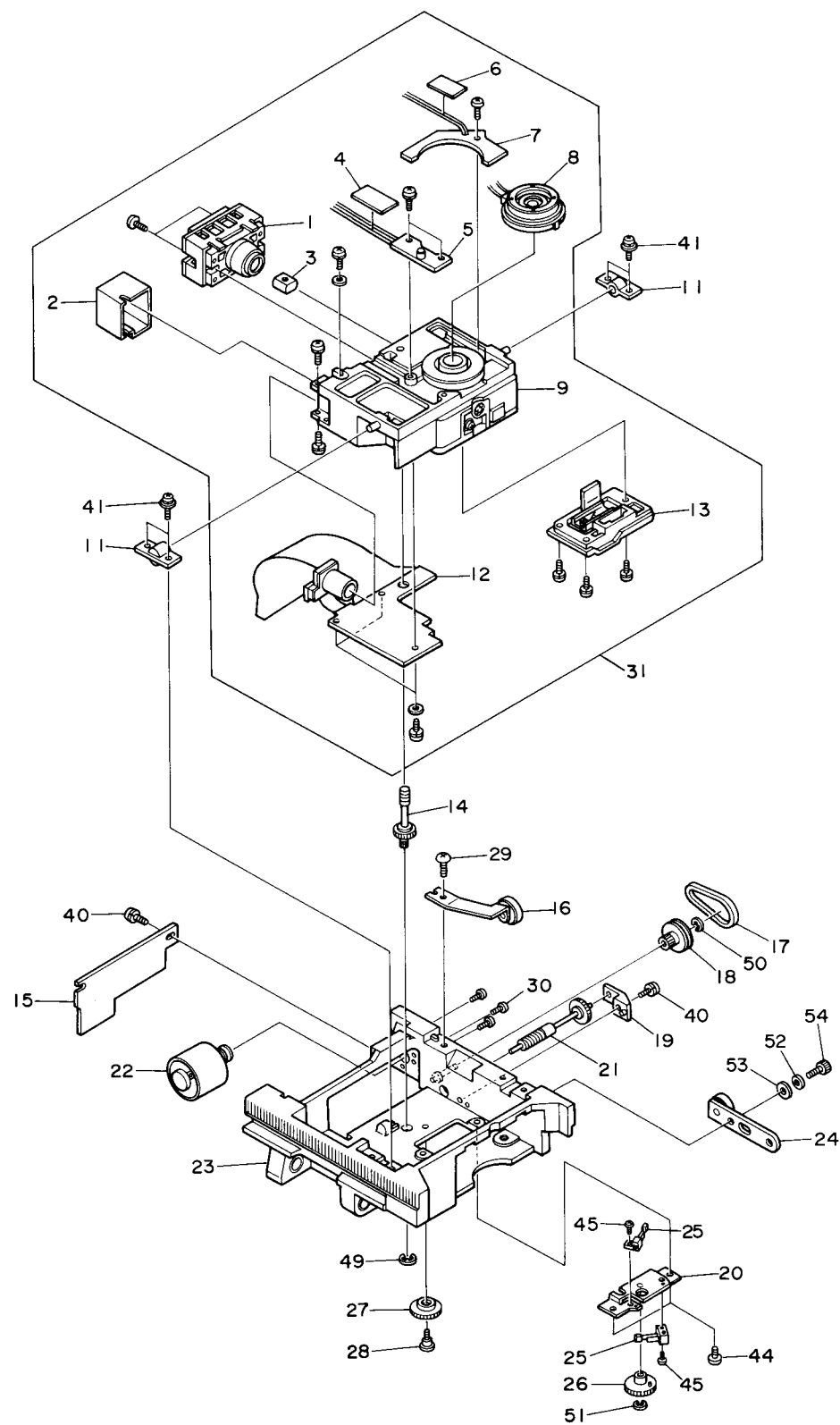
- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, convert the resistance value into code form, and then 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



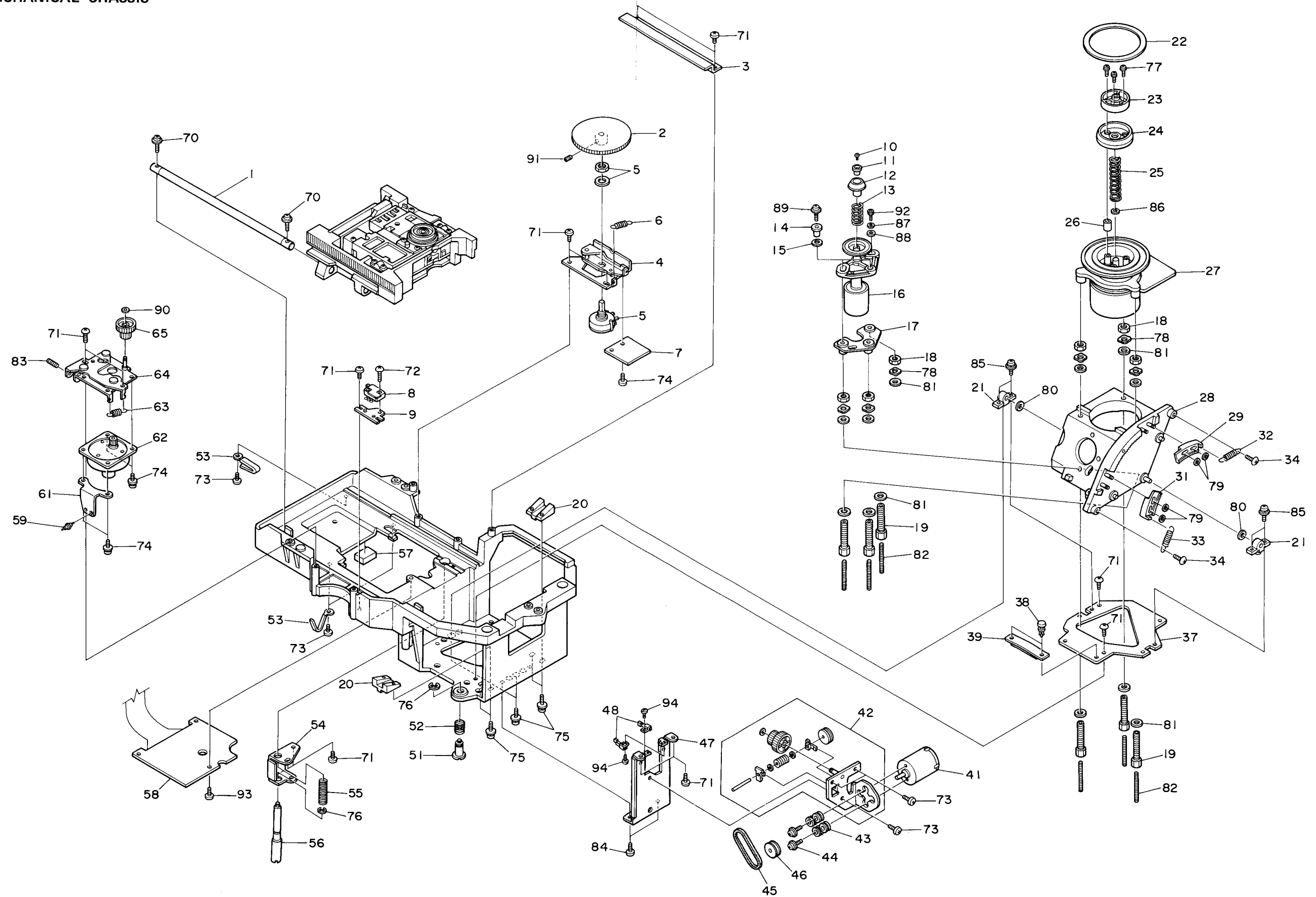
NOTES:

- Parts without part number cannot be supplied.
- The Δ 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 (SLIDER) Parts list 1
 (MK) (KEY) (PART NUMBER) (DESCRIPTION)

1	N.S.P.	CL ass'y
2	N.S.P.	PD shield case
3	N.S.P.	Shaft holder
4	N.S.P.	Sheet
5	VGX-060	Sensor ass'y
6	N.S.P.	Mask sheet
7	N.S.P.	FMCB
8	VGX-056	Objective lens
9	N.S.P.	Optical body ass'y
10	vacant	
11	VNL-299	Optical holder
12	N.S.P.	PD HEAD ass'y
13	VGX-057	Grating ass'y
14	VXA-161	Tilt adj.washer
15	VWS-050	CTCB
16	VXA-256	Spring ass'y
17	VEB-060	Tilt belt
18	VNL-222	Tilt adj. pulley
19	VNL-225	Worm shaft holder
20	VXA-232	Limit plate ass'y
21	VXA-160	Worm shaft ass'y
22	VXM-046	Tilt motor
23	N.S.P.	Slider ass'y
24	VXA-257	Plate ass'y
25	VSK-003	Leaf switch
26	VNL-228	Limit gear (C)
27	VNL-227	Limit gear (B)
28	VLL-228	Gear shaft (B)
29	VBA-010	CP screw
30	VBA-014	CP screw
31	VWY-073	Pick up
32	vacant	
33	vacant	
34	vacant	
35	vacant	
36	vacant	
37	vacant	
38	vacant	
39	vacant	
40	PMA26P060FMC	
41	PMB30P080FMC	
42	vacant	
43	vacant	
44	PMZ26P040FMC	
45	PMZ17P028FMC	
46	vacant	
47	vacant	
48	vacant	
49	YE30FUC	
50	YE20FUC	
51	YE15FUC	
52	WS30FMC	
53	WC30FMC	
54	SMZ30H080FBT	

7.6 MECHANICAL CHASSIS



NOTES:

- Parts without part number cannot be supplied.
- The Δ 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.

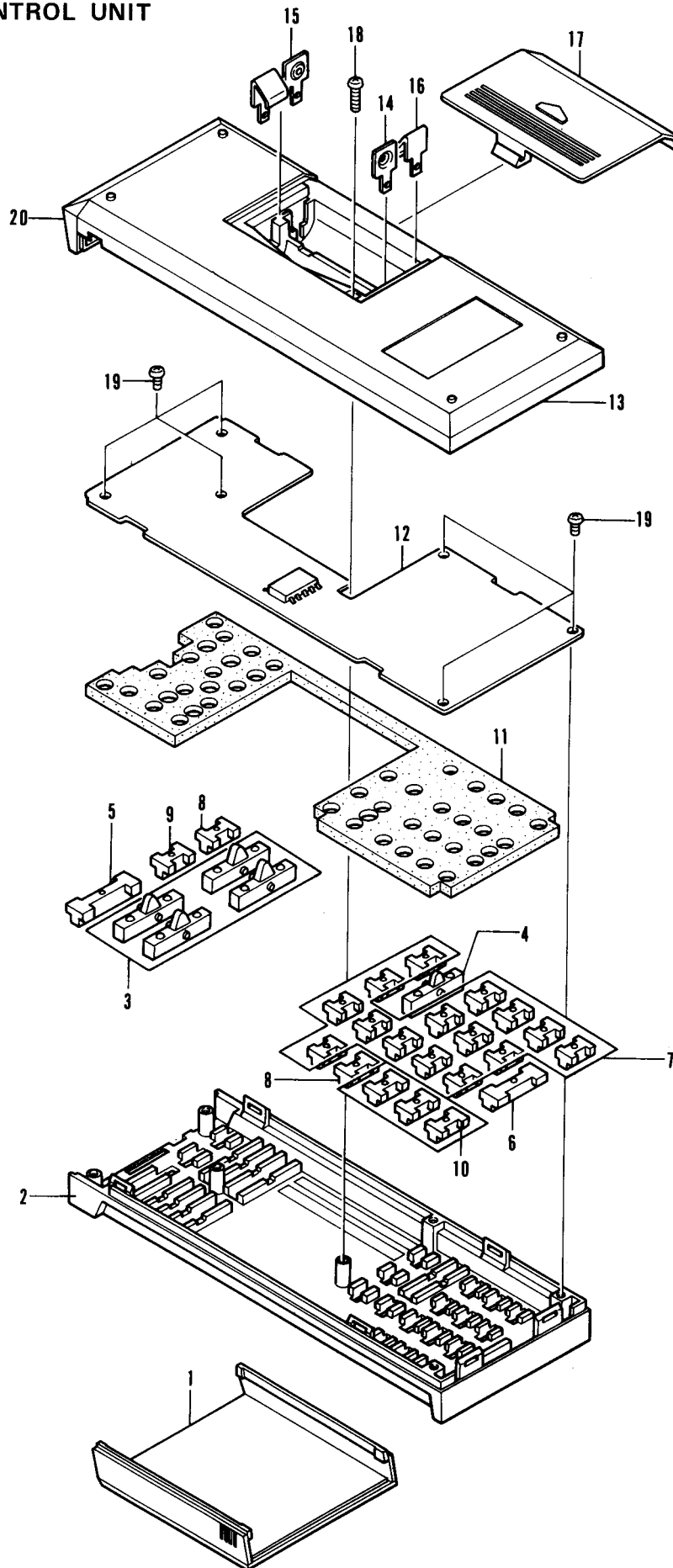
CLD-900/KU (MECH) Parts list 1

CLD-900/KU (MECH) Parts list 2

(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 hab
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

(MK)	(KEY)	(PART NUMBER)	(DESCRIPTION)
56		VLL-277	Shipping screw (A)
57		N.S.P.	Cushion
58		VWV-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		PMA26P060FMC	
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		WT17D0350025	
91		ZMD30H060FBT	
92		SMZ30H080FBT	
93		BCZ30P050FZK	
94		PMZ17P028FMC	

7.7 REMOTE CONTROL UNIT



NOTES:

- Parts without part number cannot be supplied.
- The Δ 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.

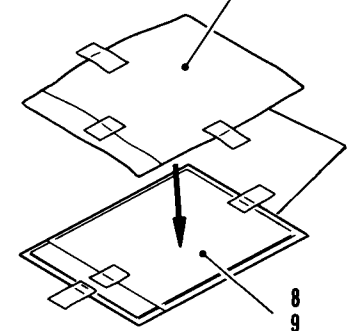
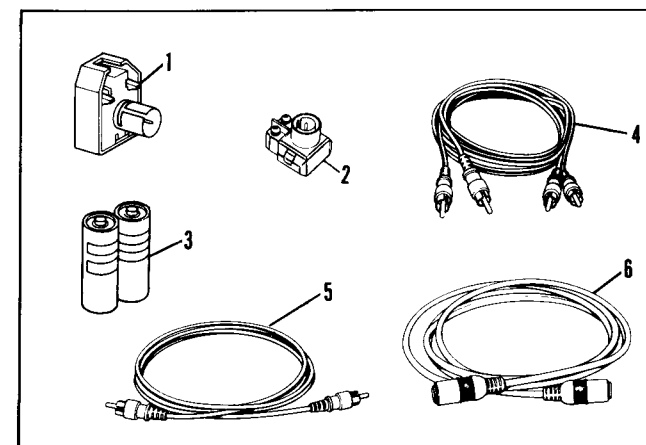
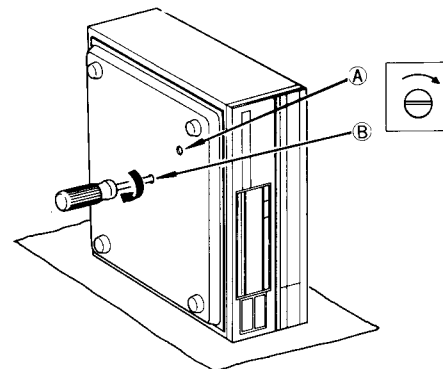
CLD-900/KU (REMOTE CONTROL) Parts list 1

(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.	RMTC
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

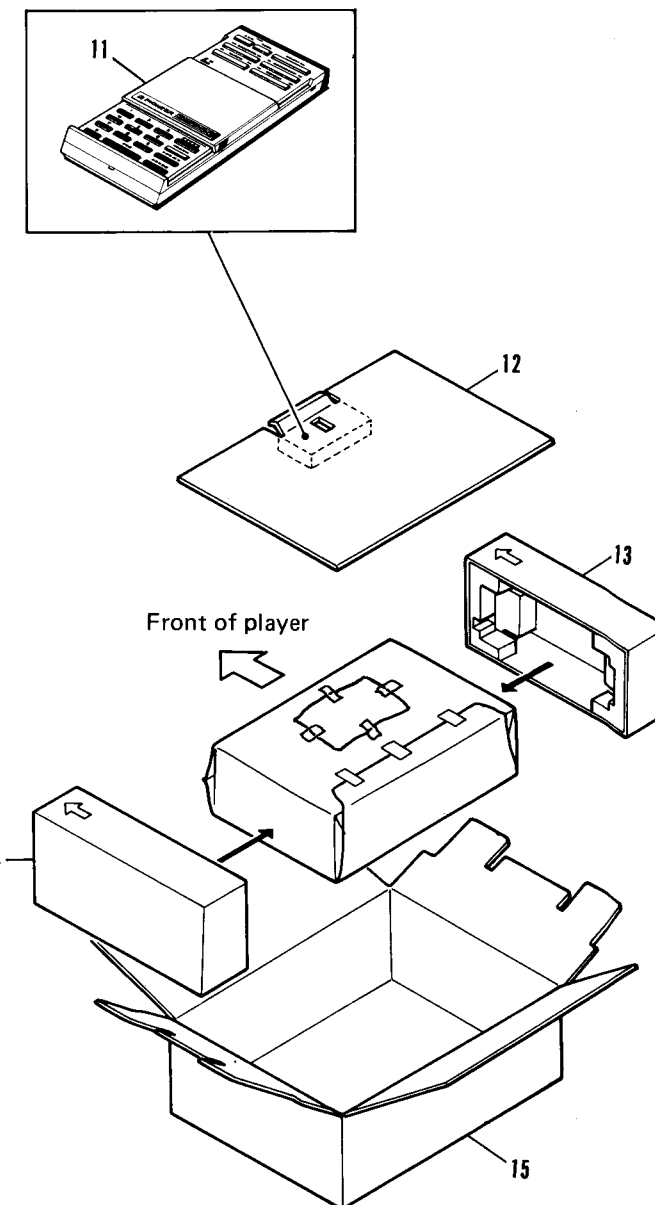
(MK)	(KEY)	PART NUMBER	DESCRIPTION
1		VKX-002	Antenna adaptor(B)
2		VKX-001	Antenna adaptor(A)
3		N.S.P.	Battery SUM-3
4		VDE-028	Audio cable
5		VDE-014	Video cable
6		VDE-039	Antenna cable
7		VHL-014	Polyethylene bag
8		VRB-041	Op. instructions
9		N.S.P.	Caution note
10		vacant	
11		VXX-354	Remote control
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.



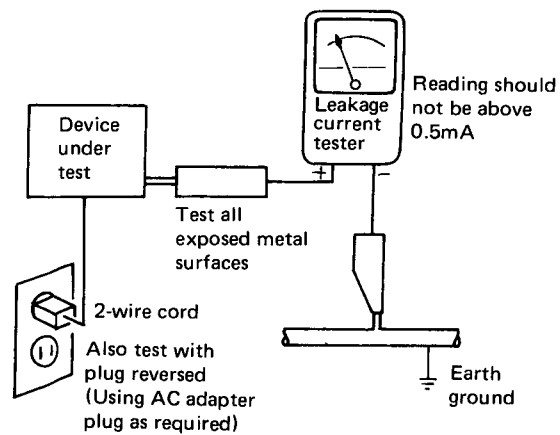
9. SAFETY INFORMATIONS

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.



AC Leakage Test

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 \square 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

