Film-Tech

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SONY

SDDS Player System

DIGITAL FILM SOUND READER

DFP-R3000

SDDS Sony Dynamic Digital Sound

MAINTENANCE MANUAL
1st Edition
Serial No. 10001 and Higher

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

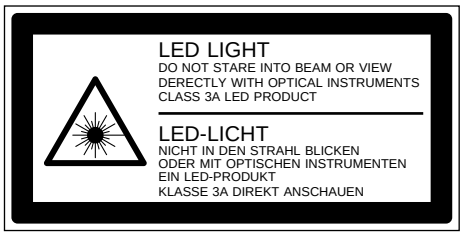
Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

LED Properties

Material	: InGaAIP
Peak Wave length	: 644 nm (Spectral Line Half Width Δλ 18nm)
Emission duration	: Continuous
LED output power	: 2.41 mW (max)
Beam divergence	: (H) 60 ° (V) 10 °



This Digital Film Reader is classified as a CLASS 3A
LED PRODUCT.
Label is located on the top.

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Manual Structure

Purpose of this manual

This manual is the Maintenance Manual of the Digital Film Sound Reader DFP-R3000.
This manual is intended for use by trained system and service engineers, and describes the detailed service information with the intention of servicing based on the component parts (schematic diagrams, board layouts, detailed spare parts list and so on).

Contents

This manual is organized by following sections.

1. Service Overview

This section describes the service information (board location, cabinet removal and the tools).

2. Periodical Inspection and Maintenance

This section describes the cleaning and schedule of periodical Inspection.

3. Mechanical Replacement and Alignment

This section describes the procedures for the parts at periodical replacement, and checks and adjustments required after replacement.

4. Spare Parts

This section describes spare parts (mechanical parts list, electrical parts list and supplied accessories list).

5. Semiconductor Pin Assignment

This section describes the appearance, pin assignments, and function descriptions of semiconductors.

6. Block Diagrams

This section describes the block diagrams of circuit board and circuit description.

7. Board Layouts

This section describes board layouts (the printed circuit patterns and printed symbols).

8. Schematic Diagrams

This section describes the schematic diagrams of circuit board.

Related manuals

- **DFP-R3000/DFP-D3000 Operation Manual (Supplied with the DFP-D3000)**
  This manual is necessary for application and operation of the DFP-R3000.

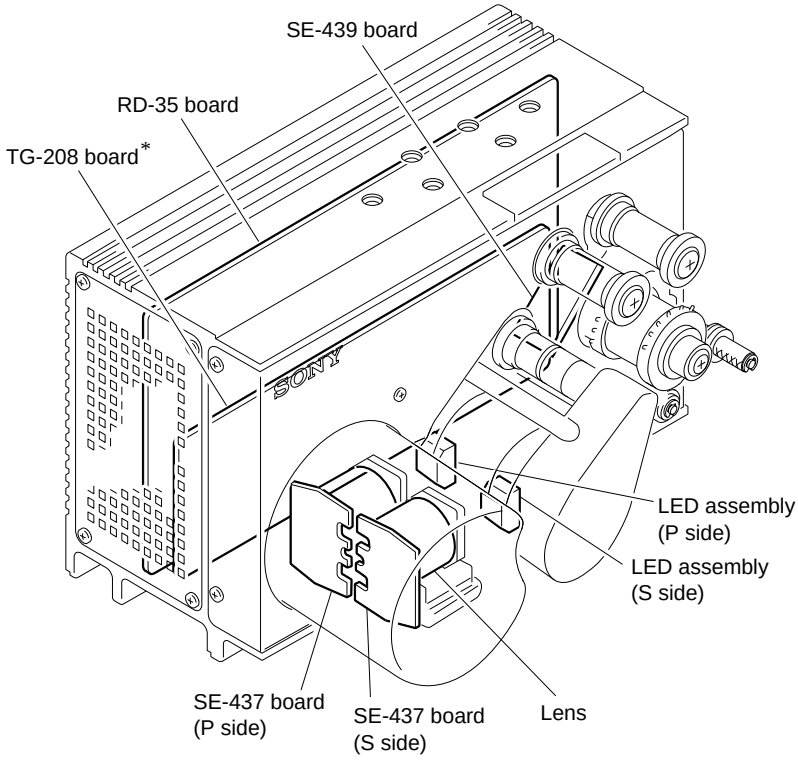
- **DFP-R3000 Installation Manual (Prepared separately)**
  This manual describes the information when installing DFP-R3000.

- **DFP-D3000 Maintenance Manual (Prepared separately)**
  This manual describes the inspection of the DFP-D3000 and the information that premise the service based on parts.

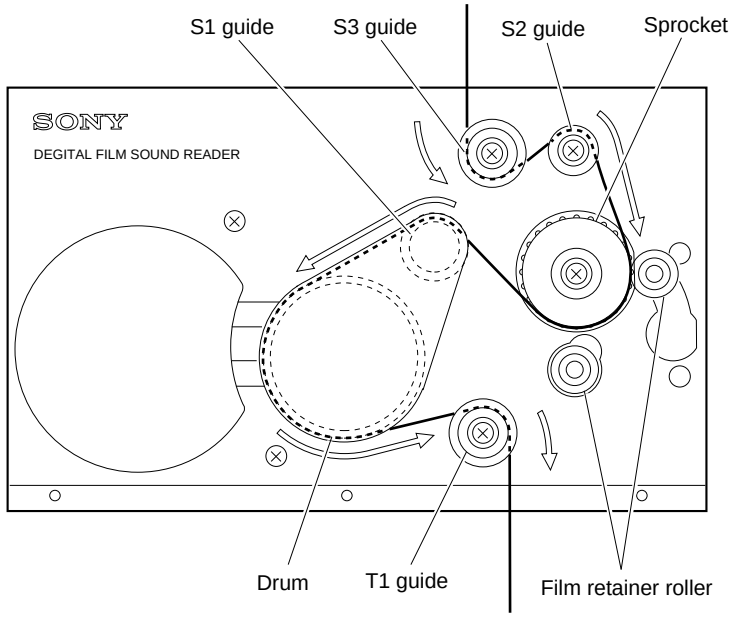
Note

Section 1
Service Overview

1-1. Main Parts Location



* Applied Serial No. 10001 to 10150



1-2. Removal of Cabinet

Front panel assembly

(1) Remove the two screws (B3 × 4) and four screws (B2.6 × 6).
(2) While holding the S2 guide to the direction of the arrow ①, remove the front panel assembly in the direction of the arrow ②.

Optics cover

(1) Remove the front panel assembly.
(Refer to the procedure of the removal of the front panel assembly.)
(2) Remove the four screws (PSW3 × 8), and then remove the optics cover.

Drum cover

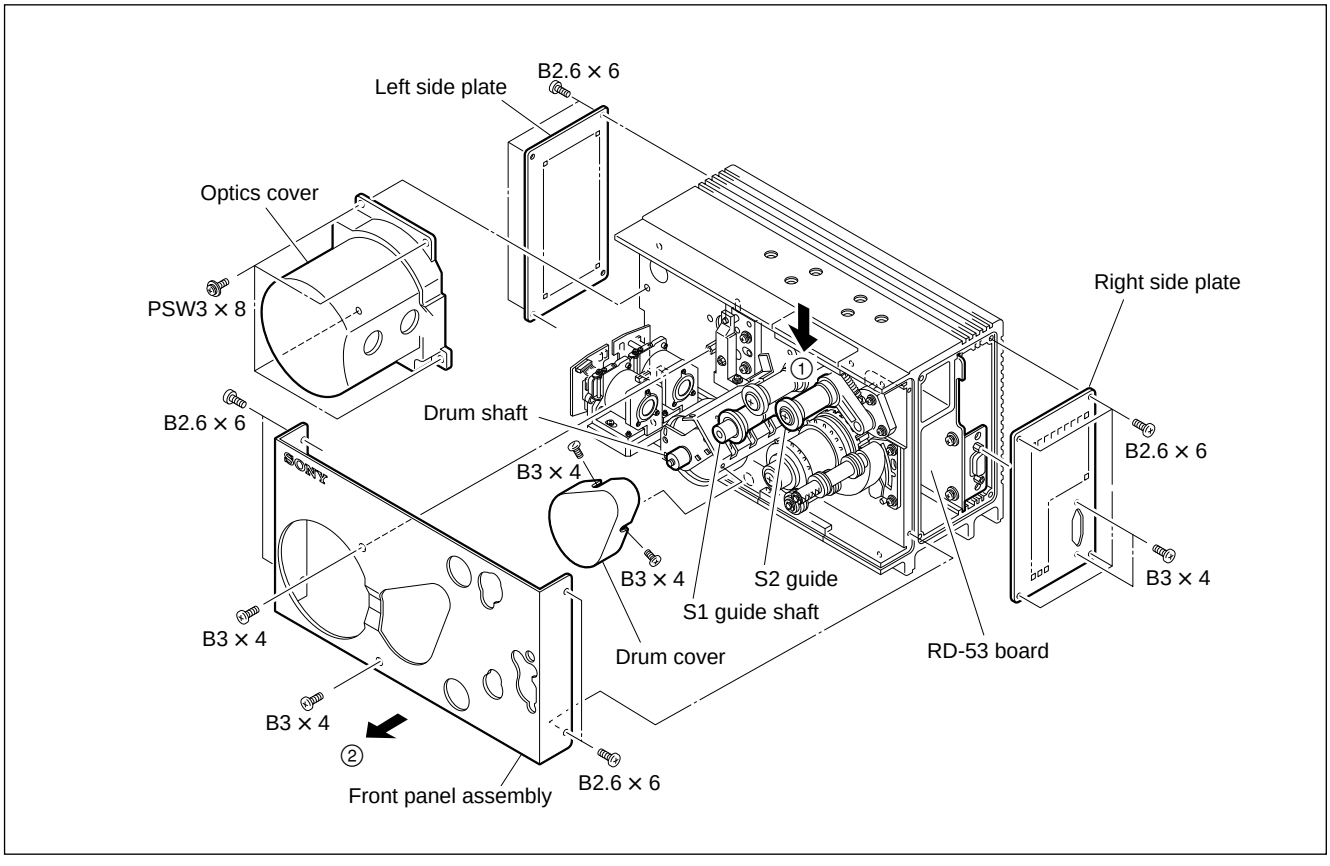
(1) Remove the two screws (B3 × 4), and then remove the drum cover from the S1 guide shaft and drum shaft.

Right side plate

(1) Remove the two screws (B3 × 4) and four screws (B2.6 × 6), and then remove the right side plate.

Left side plate

(1) Remove the four screws (B2.6 × 6), and then remove the left side plate.



1-3. Note on RD-35 Board Replacement

The DFP-R3000 serial number and following hours meter setting data are stored in the NVSRAM STK22C48(IC14) on the RD-35 board.
The setting data is reset when the RD-35 board or the NVSRAM is replaced.
Therefore, set the serial number and the following hours meter again when the RD-35 board or NVSRAM has been replaced.

Hours meter item

Code	Description
0	Accumulated power ON time
1	Accumulated film running time
2	Accumulated S side LED lighting time
3	Accumulated P side LED lighting time

Serial number and hours meter setting

Set or reset the serial number and hours meter with following procedure using personal computer and terminal software.

Required equipment and tools

Personal computer : IBM PC/AT compatible
Terminal software : Communication format (Baud rate ; 9600 baud, Data length ; 8 bits, None parity, Stop bit ; Fixed to one bit)
RS-232C cable (for DFP-D2000)

Preparation

(1) Remove the right side plate.
(2) Connect the D-sub 9pin connector on the RD-35 board and serial port on personal computer using RS-232C cable (for DFP-D2000).
(3) Start up the terminal software of personal computer.

1. Serial number setting

Input the following commands at the screen of the terminal software started and set the serial number.
Set the serial number indicated on the label of DFP-R3000.
Be sure to set 6 digits for the serial number.
(X : serial number)

(^o^) /nXXXXXX

Ex.) When a serial number 10123 : (^0^) /n10123

2. Hours meter setting

Checking of hours meter

(1) Input the following commands at the screen of the terminal software.

(^o^) /h

(2) Each hours meter will be displayed on the screen by eight-digit hexadecimal as shown below.
(X : any hexadecimal digit)

Power ON Time = XXXXXXXX
(display of accumulated power ON time)
FILM RUN Time = XXXXXXXX
(display of accumulated film running time)
LED S ON Time = XXXXXXXX
(display of accumulated S side LED lighting time)
LED P ON Time = XXXXXXXX
(display of accumulated P side LED lighting time)

Hours meter setting

Input the following commands at the screen of the terminal software started and set the hours meter.
Input eight digits (hexadecimal) for the time to be set at X.

(^o^) /h0, XXXXXXXX
(setting of accumulated power ON time)
(^o^) /h1, XXXXXXXX
(setting of accumulated film running time)
(^o^) /h2, XXXXXXXX
(setting of accumulated S side LED lighting time)
(^o^) /h3, XXXXXXXX
(setting of accumulated P side LED lighting time)

Hours meter resetting

Input the following commands at the screen of the terminal software started and reset the hours meter.
Each hours meter can be reset independently.

(^o^) /h0, 00000000
(resetting of accumulated power ON time)
(^o^) /h1, 00000000
(resetting of accumulated film running time)
(^o^) /h2, 00000000
(resetting of accumulated S side LED lighting time)
(^o^) /h3, 00000000
(resetting of accumulated P side LED lighting time)

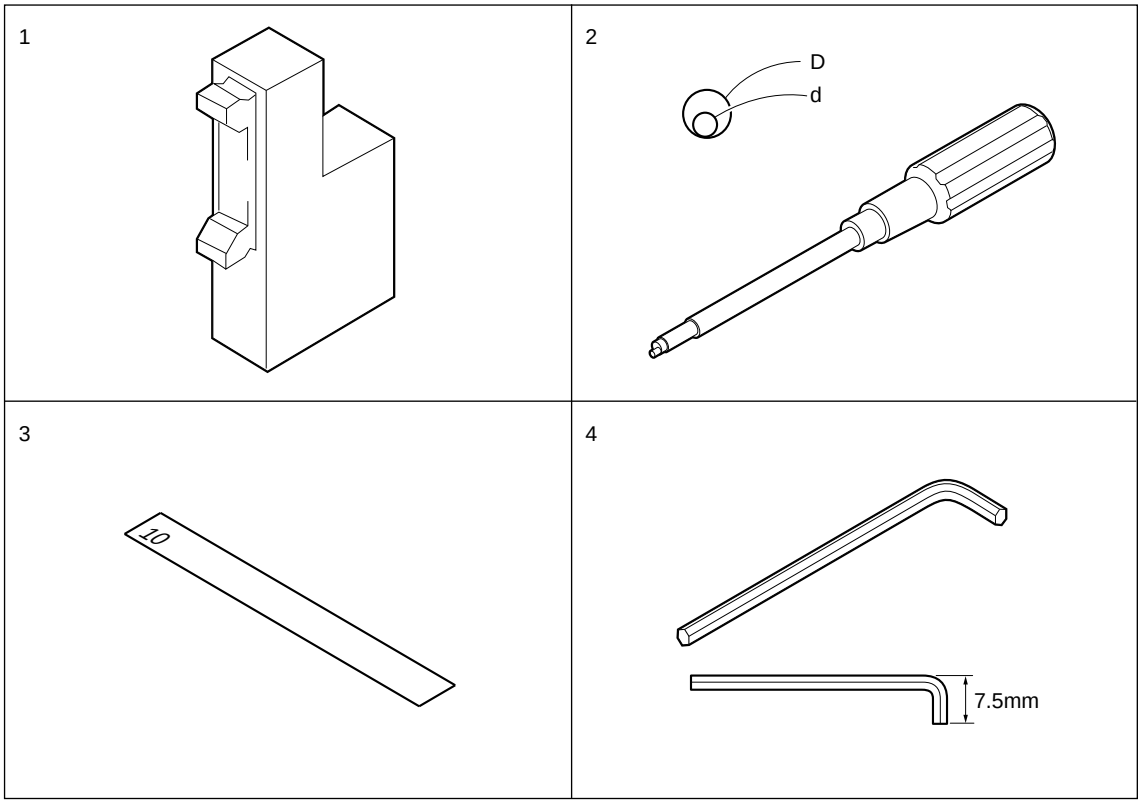
1-4. LED Function on the Board

- RD-35 board
  D5 (GRN) (B2) : 5 V
  Light when +5 V power supply is provided correctly
  D5 (GRN) (H3) : 12 V
  Light when +12 V power supply is provided correctly

- TG-208 board
  D5 (GRN) (A1) : 12 V
  Light when +12 V power supply is provided correctly

1-5. Tools

Fig.	Description	Part No.
1	Guide Height Adjustment Tool	J-6187-860-A
2	Eccentric Driver (d = ø1.5, D = ø2.5) Eccentric Driver (d = ø2, D = ø4) Eccentric Driver (d = ø3, D = ø5)	J-6187-880-A 3-702-390-01 3-702-391-01
3	Thickness Gauge	J-6188-000-A
4	L Shaped Hex. Wrench M3	J-6510-180-A



Section 2
Periodic Maintenance and Inspection

To make the most of the functions, fully realize the performances of this unit and to lengthen the life of the unit, check and clean the parts every time before film setting, and perform the periodic maintenance.

2-1. Checking and Cleaning before Film Setting

We recommend to perform the checking and cleaning for the main components every time before film setting.
Check that the each part shown in the “index (illustration on next page)” has not the scratch and the dust, and perform the cleaning by the following procedures.

Notes

- Be sure to turn the power off before cleaning.
- Each block of the unit consists of the precision parts, and adjusts precisely.
  During cleaning, be careful not to damage against the parts, and not to apply an excessive force.

Required Tools

Tooth brush (commercially available goods)
Cleaning cloth : J-6090-011-A
blower brush (commercially available goods)

Preparation

- Turn the DFP-R3000 power off.

Cleaning before film setting

- **Cleaning of film running system**
  Clean the roller guides (S1, S2, S3 and T1), sprocket and film retainer rollers before film setting.

  Procedure

  1. Dust the parts shown in the “index (illustration on next page)” using a tooth brush.
     Note
     Be careful not to scratch the parts by rubbing hard using a tooth brush.
  2. Clean the shaded portions ▭ shown in the “index” using a dry cleaning cloth.

- **Cleaning of film running surface of drum**
  Clean the film running surface of the drum before film setting.

  Procedure

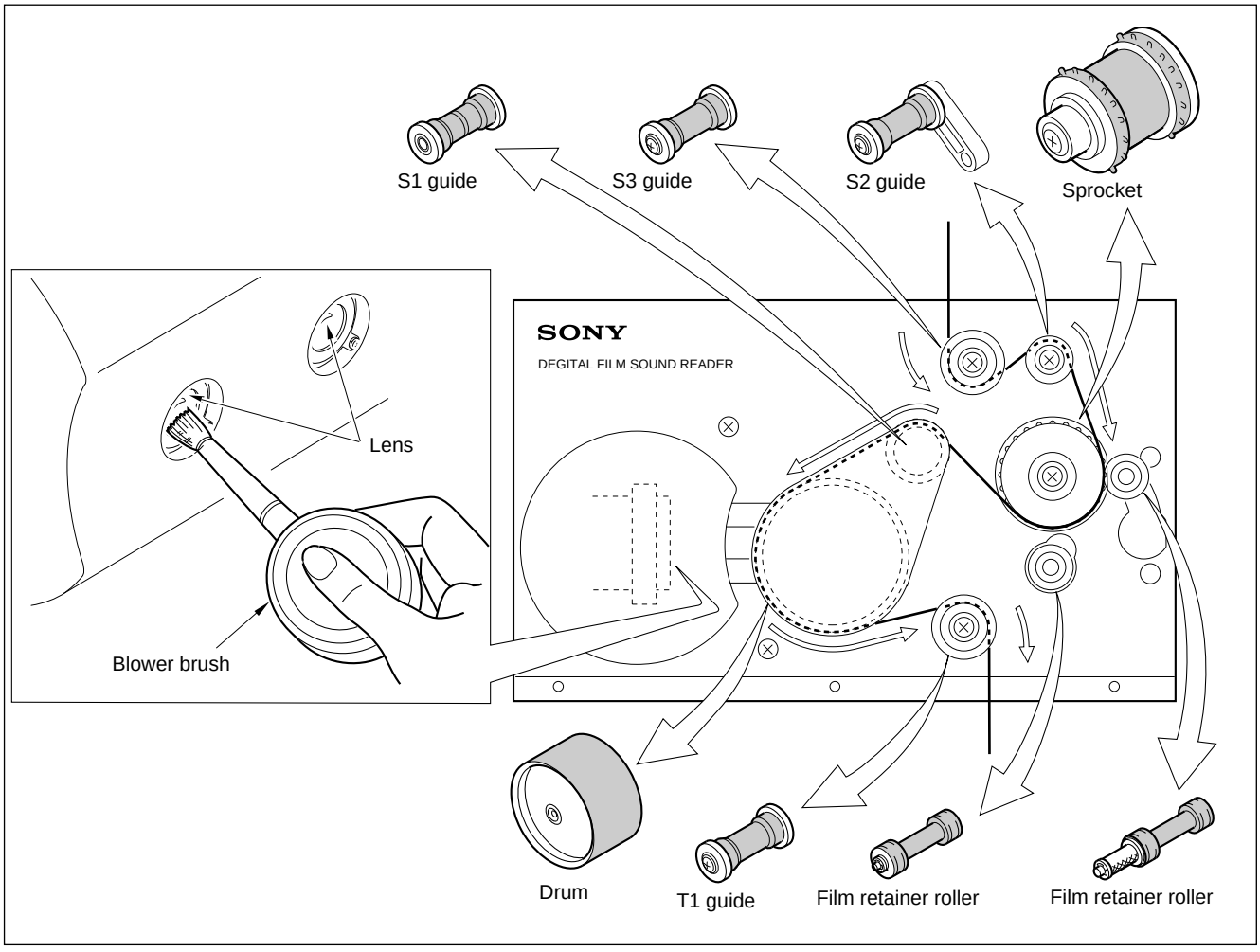
  Tools and procedures are the same as “Cleaning of film running system”.
  Clean the shaded portions ▭ of the drum shown in the “index”.

- **Cleaning of lens**
  Clean the lens before film setting.
  The lens is the most important parts in the unit. Be sure to clean the one.

  Procedure

  1. Dust the lens using a blower brush (commercially available goods).
     (Refer to “Index” on next page.)

Index


S1 guide
S3 guide
S2 guide
Sprocket
Lens
Blower brush
SONY
DEGITAL FILM SOUND READER
Drum
T1 guide
Film retainer roller
Film retainer roller

2-2. Periodic Maintenance Schedule

The following table shows the schedule for periodically checking the main parts of the unit to ensure its full functions and performance.
It is recommended to use the film running hours of DFP-R3000 as a reference for periodic inspections.
The replacing and adjusting of the following parts are described in “Section 3 Mechanical Parts Replacement and Alignment”.

Checking of the film running hours

To check the film running hours, open the “STATUS” menu of the LCD Panel Menu of the DFP-D3000 connected to the DFP-R3000, and check at the FILMRUN item.
(Refer to “LCD Panel Menu” of DFP-D3000/R3000 OPERATION MANUAL for the details of LCD panel menu.)

Periodic Check Parts List

Note

The replacement hours shown in the following list are not the guarantee term parts.
Use this list as guidelines for the maintenance and inspection. The replacement hours of the parts vary depending on the operation environment and conditions of the unit.
The replacement hours shown in the following list are tentative.

○ : Checking and Cleaning
△ : Checking
◇ : Checking (Adjustment)
◆ : Checking (Grease up)
☆ : Replacement

	Check Item	C.C.F.S.[(Note 1)]	Inspection Hours (h)			Part No.
			2500	5000	7500	
LED assembly block	LED assembly	—	◇	◇	◇	A-8318-476-
Roller guide assembly block	Roller guide assembly	○	△	△	☆	X-3167-637-
	Roller guide (S) assembly	○	△	△	☆	X-3168-031-
Sprocket block	Sprocket sub assembly	○	△	△	☆	X-3168-029-
	Sprocket holder assembly	○	△	△	☆	X-3168-033-
	Brake	—	△	△	☆	3-194-805-
	Film retainer roller (PAD roller)	○	◆	◆	☆	3-185-158-
Tension regulator block	Tension regulator holder (B) sub assembly	—	—	—	☆	X-3167-617-
Drum block	Drum assembly	—	—	—	☆	X-3168-030-

(Note 1) “C.C.F.S.” means “Checking and Cleaning before Film Setting”.
(Refer to the section 2-1)

Section 3
Mechanical Parts Replacement and Alignment

This section describes the information for the mechanical parts replacement and the required adjustment after the following parts replacement.

1. LED assembly (S and P sides)
2. Roller guide S1
3. Roller guide S2
4. Roller guide S3
5. Roller guide T1
6. Tension regulator holder assembly
7. Drum assembly
8. Sprocket SUB assembly
9. Sprocket holder assembly
10. Brake
11. Film retainer roller (PAD roller)
12. CCD (SE-437 board) (S and P sides)

Replacement parts	Required adjustment after parts replacement
1. LED assembly (S side)	→ 3-2. Light Source Adjustment (1. S side Shading Adjustment → 3. Shading Correction)
2. LED assembly (P side)	→ 3-2. Light Source Adjustment (1. S side Shading Adjustment → 2. S side Shading Adjustment → 3. Shading Compensation)
3. Roller guide S1	→ 2. Roller guide S1 height adjustment → 3-4. Film Running Checking → 3-5. Optics Adjustment (S and P sides) → 3-7. Error Rate Checking
4. Roller guide S2, S3 or T1	→ 3-4. Film Running Checking → 3-5. Optics Adjustment (S and P sides)
5. Tension regulator holder assembly	→ 3-4. Film Running Checking → 3-5. Optics Adjustment (S and P sides)
6. Drum assembly	→ 3-2. Light Source Adjustment (S side) → 3-3. CCD Azimuth Adjustment (S side) → 3-7. Error Rate Checking
7. Sprocket SUB assembly, Sprocket holder assembly, Brake	→ 3-4. Film Running Checking → 3-6. FG Checking → 3-5. Optics Adjustment (S and P sides)
8. Film retainer roller	→ 2. Clearance adjustment → 3-4. Film Running Checking
9. CCD (S-side)	→ 3-3. CCD Azimuth Adjustment (S side) → 3-5. Optics Adjustment (S side) → 3-2. Light Source Adjustment (3. Shading Compensation) → 3-7. Error Rate Checking
10. CCD (P side)	→ 3-3. CCD Azimuth Adjustment (P side) → 3-5. Optics Adjustment (P side) → 3-2. Light Source Adjustment (3. Shading Compensation) → 3-7. Error Rate Checking
11. SE-437 board (S side)	→ 3-3. CCD Azimuth Adjustment (S side) → 3-5. Optics Adjustment (S side) → 3-2. Light Source Adjustment (3. Shading Compensation) → 3-7. Error Rate Checking
12. SE-437 board (P side)	→ 3-3. CCD Azimuth Adjustment (S side) → 3-5. Optics Adjustment (S side) → 3-2. Light Source Adjustment (3. Shading Compensation) → 3-7. Error Rate Checking

Required equipment

Equipment	Specification	Model name
Oscilloscope	DC to 250 MHz four channels	TEKTRONIX 2465B or equivalent
DFP-D3000	—	—
Projector	—	—
Personal computer	MS-DOS 5.0V or higher	IBM PC/AT compatible
Terminal software	Communication format (Baud rate ; 9600 baud, Data length ; 8 bits, Non parity, Stop bit ; Fixed to one bit)	—
SDDS Setup Software	—	—

Required Tools

Name	Part number	Remarks
Connection cable		Supplied with DFP-R3000
RS-232C Null modem cable	—	—
Alignment film	1-759-836-11	with data sheet
Guide height adjustment tool	J-6187-860-A	
Filter tool	Pending	
Thickness gauge (10 μm)	J-6188-000-A	Required 2 pcs
Thickness gauge	9-911-053-00	
L shaped hex. wrench (across ; 2 mm)	7-770-736-03	
L shaped hex. wrench (across ; 2.5 mm)	7-770-736-04	
L shaped hex. wrench (across ; 3 mm)	J-6510-180-A	7.5 mm (Refer to “1-4. Tools”.)
Hex. head screw driver (across ; 1.27 mm)	—	
Hex. head screw driver (across ; 2.5 mm)	7-700-766-05	
Nut driver (across ; 5 mm)	7-721-052-05	
Eccentric driver (ø1.5-ø2.5)	J-6187-880-A	
Eccentric driver (ø2-ø4)	3-702-390-01	
Eccentric driver (ø3-ø5)	3-702-391-01	
Cleaning cloth	3-184-527-01	
Cleaning fluid	9-919-573-01	
Screw locking compound	7-432-114-11	
Installation reels (A)	9-936-836-01	Error rate checking
Installation reels (SR)	9-936-837-01	Error rate checking

3-1. Mechanical Parts Replacement

3-1-1. LED assembly (S and P sides)

The two LED assemblies use for the S (sound) and P (picture) sides.

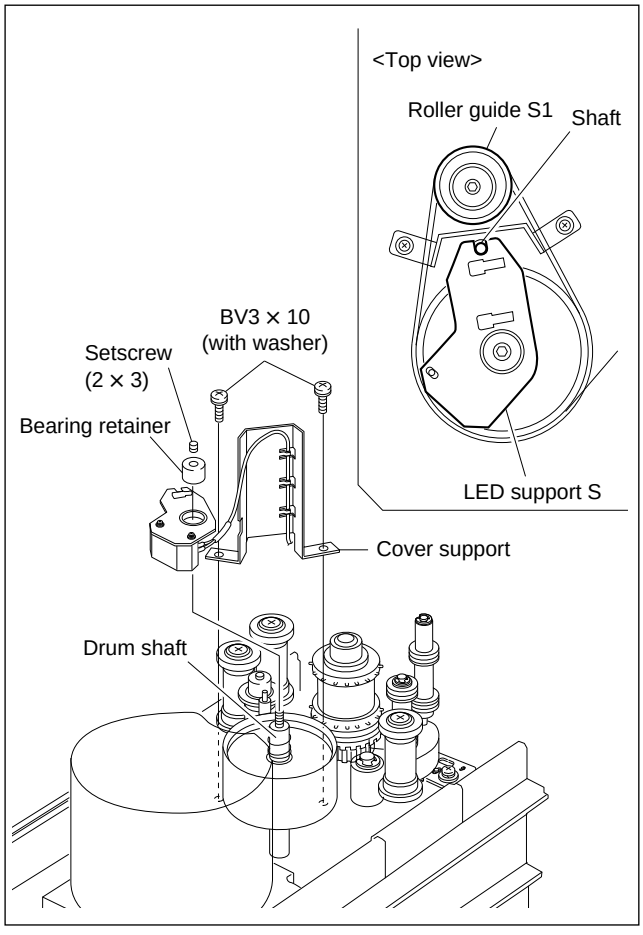
Required tool

L shaped hex. wrench (across ; 2 mm) : 7-770-736-03

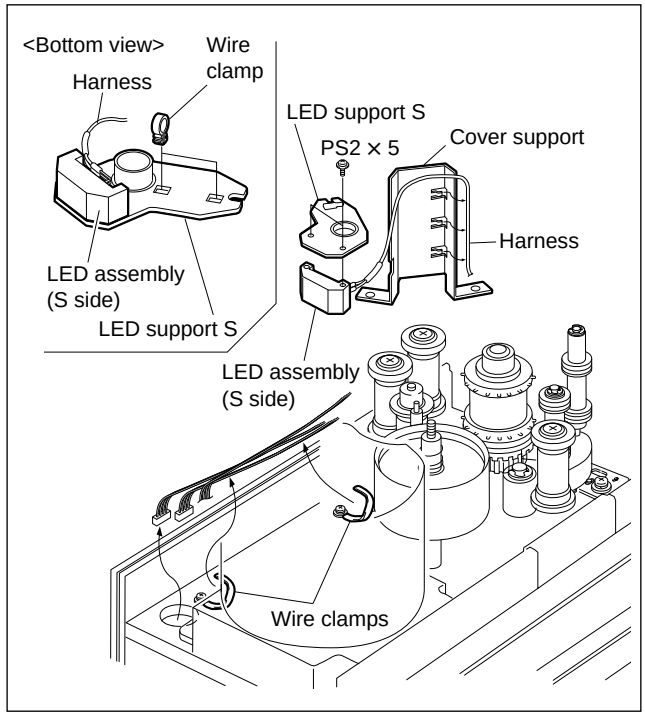
1. LED assembly (S-side)

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly, drum cover and left side plate.
   (Refer to the section “1-2. Cabinet Removal”.)
3. Remove the set screw (2 × 3) using L shaped hex. wrench (across ; 2 mm) and take out the bearing retainer.
4. Pull out the LED support S with LED assembly (S side) from the drum shaft.
5. Remove the two screws (BV3 × 10 with washer) and take out the cover support.



6. Remove the harness from the three hooks of cover support.
7. Disconnect the harnesses of LED assemblies from the connectors (CN5 and CN6) on the RD-35 board, and pull out the harnesses from the hole of base.
8. Remove the two wire clamps from the LED support S and remove the harness from the wire clamps.
9. Remove the two screws (PS2 × 5), and take out the LED assembly (S side) from the LED support S.



Reassembling

Install the new LED assembly in the reverse orders of procedures 1 through 9 above.

Adjustment after the replacement

After the replacing has been completed, perform the following adjustments.

3-2. Light Source Adjustment (1. S side Shading Adjustment → 3. Shading Compensation)

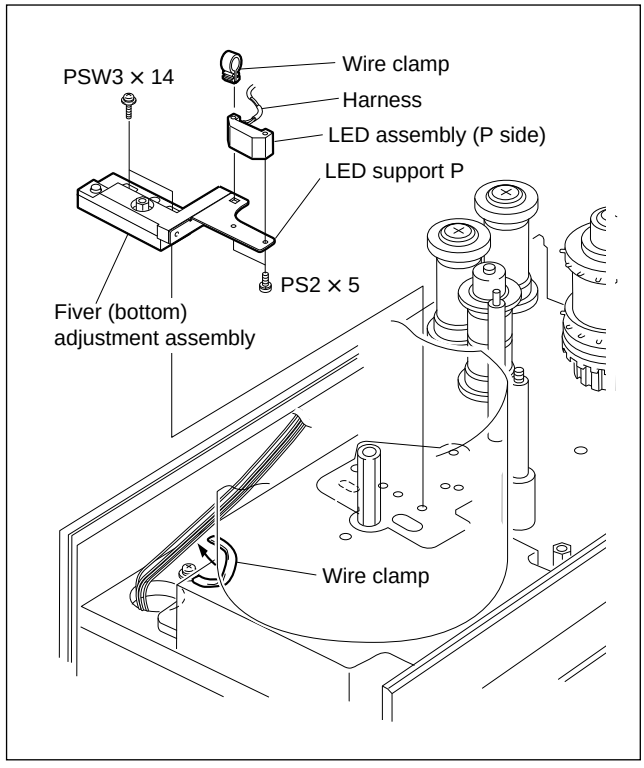
Note

When the LED (S side) is replaced, reset the S side LED lighting time stored in memory on the RD-35 board. Refer to “1-3. Note on RD-35 Board Replacement” for method of resetting.

2. LED assembly (P side)

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly, drum cover and left side plate.
   (Refer to the section “1-2. Cabinet Removal”.)
3. Remove the LED assembly (S side).
   (Perform the procedure 3 through 9 of “Removal of 1. LED assembly (S side)”.
4. Remove he drum assembly.
   (See the section “3-1-5. Drum assembly”.)
5. Remove the two screws (PSW3 × 14) to take out the fiber (bottom side) adjustment assembly with LED support P.
6. Remove the wire clamp from the LED support P and remove the harness from the wire clamp.
7. Remove the two screws (PS2 × 5), and take out the LED assembly (P side) from the LED support P.



Reassembling

Install the new LED assembly in the reverse orders of procedures 1 through 7 above.

Adjustment after the replacement

After the replacing has been completed, perform the following adjustments.

3-2. Light Source Adjustment (1. S side Shading Adjustment → 2. S side Shading Adjustment → 3. Shading Compensation)

Note

When the LED (P side) is replaced, reset the P side LED lighting time stored in memory on the RD-35 board. Refer to “1-3. Note on RD-35 Board Replacement” for method of resetting.

3-1-2. Roller guide S1 assembly

The height of this roller guide is to be made the reference for the film running.
Perform the replacement and the adjustment with care.

Required Tools

Cleaning cloth :	3-184-527-01
L shaped hex. wrench (across 2 mm) :	7-700-736-03
Screw locking compound :	7-432-114-11
Cleaning fluid :	9-919-573-01
Guide height adjustment tool :	J-6187-860-A
Thickness gauge (10 μm) :	J-6188-000-A (Required 2 pcs.)

1. Removal/Reassembling

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly.
   (Refer to the section "1-2. Cabinet Removal".)
3. Remove the set screw (2 × 3) using L shaped hex. wrench (across 2 mm), and take out the ball bearing retainer.
4. Pull out the one roller guide S (upper side), two spacers (ø8) and one spring from the roller guide shaft.
5. While pushing down the roller guide S assembly (lower side), remove the E ring from the roller guide shaft.

   Note

   In order to protect the roller guide shaft from a damage, be sure to wrap a vinyl tape around the tip of pliers.

6. Pull out the roller guide S assembly (lower side), two spacers (ø8), and one spring from the roller guide shaft.

Reassembling

7. Wipe the roller guide shaft (marked by ▭) indicated in the figure with a cleaning cloth moistened with the cleaning fluid.
8. Insert the roller guide S assembly (lower side), two spacers (ø8), and one spring into the roller guide shaft.
9. While pushing down the roller guide S assembly (lower side), attach the E ring to the grooved portion of the roller guide shaft by using a pair of pliers with tip both side with which vinyl tape is wrapped.

   Note

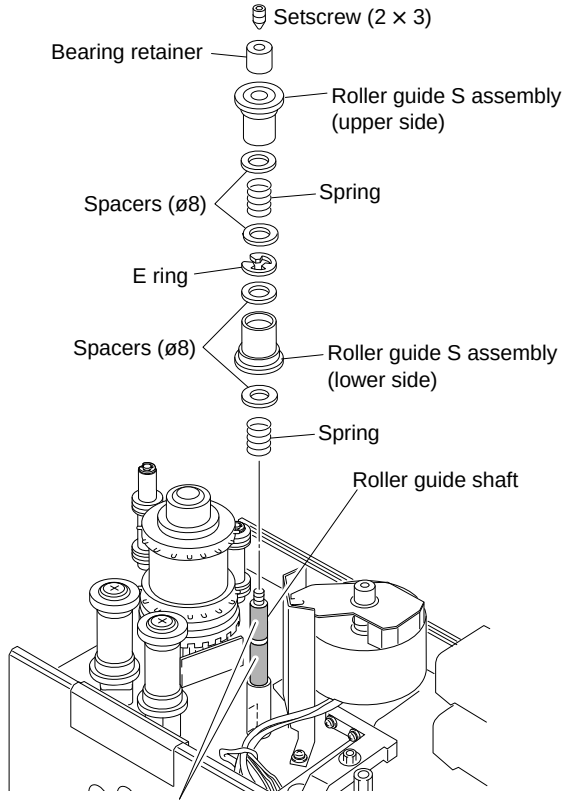
   Use the side wrapped with vinyl tape so that the roller guide shaft is not damaged.

10. Insert the roller guide S assembly (upper side), two spacers (ø8), and one spring, and screw in the bearing holder into the roller guide shaft.

Adjustment after the replacement

After the replacing has been completed, perform the following adjustments.

2. Roller guide S1 height adjustment → 3-4. Film Running Checking → 3-5. Optics Adjustment → 3-7. Error Rate Checking



2. Roller guide S1 height adjustment

Required Tools

Cleaning cloth :	3-184-527-01
L shaped hex. wrench (across 2 mm) :	7-700-736-03
Screw locking compound :	7-432-114-11
Cleaning fluid :	9-919-573-01
Guide height adjustment tool :	J-6187-860-A
Thickness gauge (10 µm) :	J-6188-000-A (Required 2 pcs.)

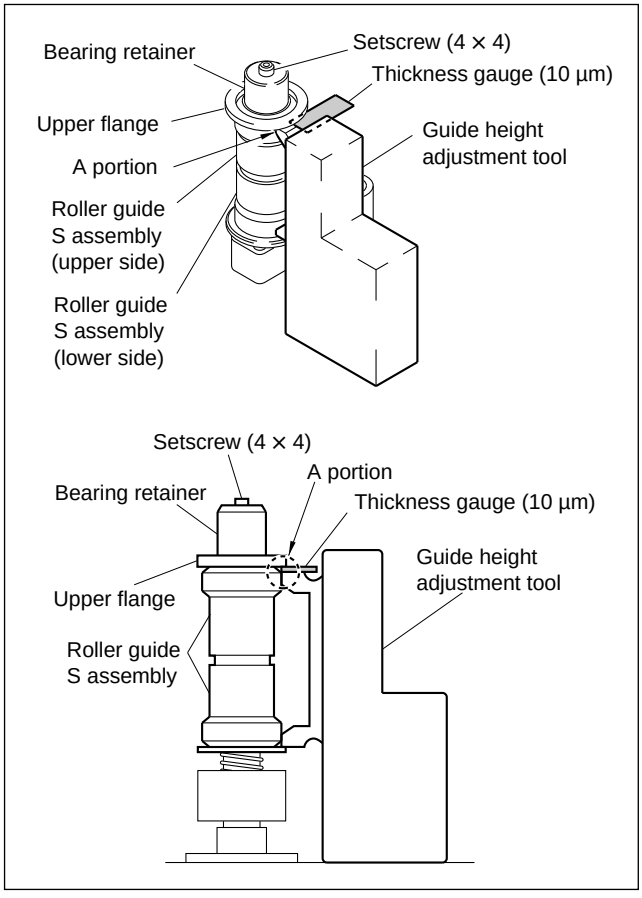
Procedure

(1) Attach the guide height adjustment tool as shown in the figure.

Note

Insert the guide height adjustment tool while pushing down the roller guide S assembly (lower side).

(2) Pinch the thickness gauge (10 µm) between A portion of the guide height adjustment tool and upper flange of the roller guide assembly, and turn lightly the roller guide assembly by finger.
Turn the bearing retainer and adjust the height of the roller guide assembly to the position that the roller guide assembly begins to turn.



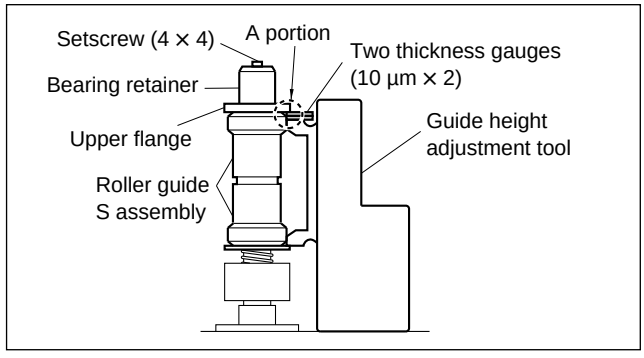
(3) While holding the bearing retainer, tighten the set screw using the L shaped hex wrench (across 2 mm).

Tightening torque :
1.22 ±0.10 N • m (12 ±1 kgf • cm)

Note

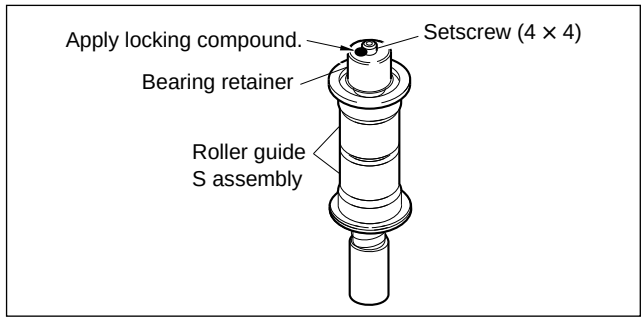
When tightening the set screw, the roller guide assembly (upper side) may move upward.
Therefore, be sure to perform the following procedures after tightening the set screw.

(4) Re-attach the guide height adjustment tool as shown in the figure. Pinch the two thickness gauges (10 µm × 2) between A portion of the guide height adjustment tool and upper flange of the roller guide assembly, and try to turn lightly the roller guide assembly. At this time, check that the roller guide assembly is turned.
If not turning, perform the steps (2) and (3) again.



(5) After the adjustment, remove the guide height adjustment tool.

(6) Apply the coating of the locking compound to the set screw and bearing retainer as shown in the figure.



(7) Perform the film running checking.
(See the section “3-4. Film Running Checking”.)

(8) Perform the optics adjustment.
(See the section “3-5. Optics Adjustment”.)

(9) Perform the error rate checking.
(See the section “3-7. Error Rate Checking”.)

3-1-3. Roller guides S2, S3 and T1

The replacement of the roller guide S2, S3 and T1 are the same.

Required Tools

Cleaning cloth : 3-184-527-01
Cleaning fluid : 9-919-573-01

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly. (Refer to the section "1-2. Cabinet Removal".)
3. Remove the screw (RK4 × 8) and take out the ornamental washer (ø4), stopper (ø4) and roller guide S2 (or S3 or T1) from the roller guide shaft.

Reassembling

4. Wipe the roller guide shaft (marked by ▭) as shown in figure using the cleaning cloth moistened with the cleaning fluid.
5. Attach the ornamental washer (ø4), stopper (ø4) and roller guide S2 (or S3 or T1) in the reverse orders of procedure 1 through 3 above, and tighten the screw (RK4 × 8) on the top of the roller guide.

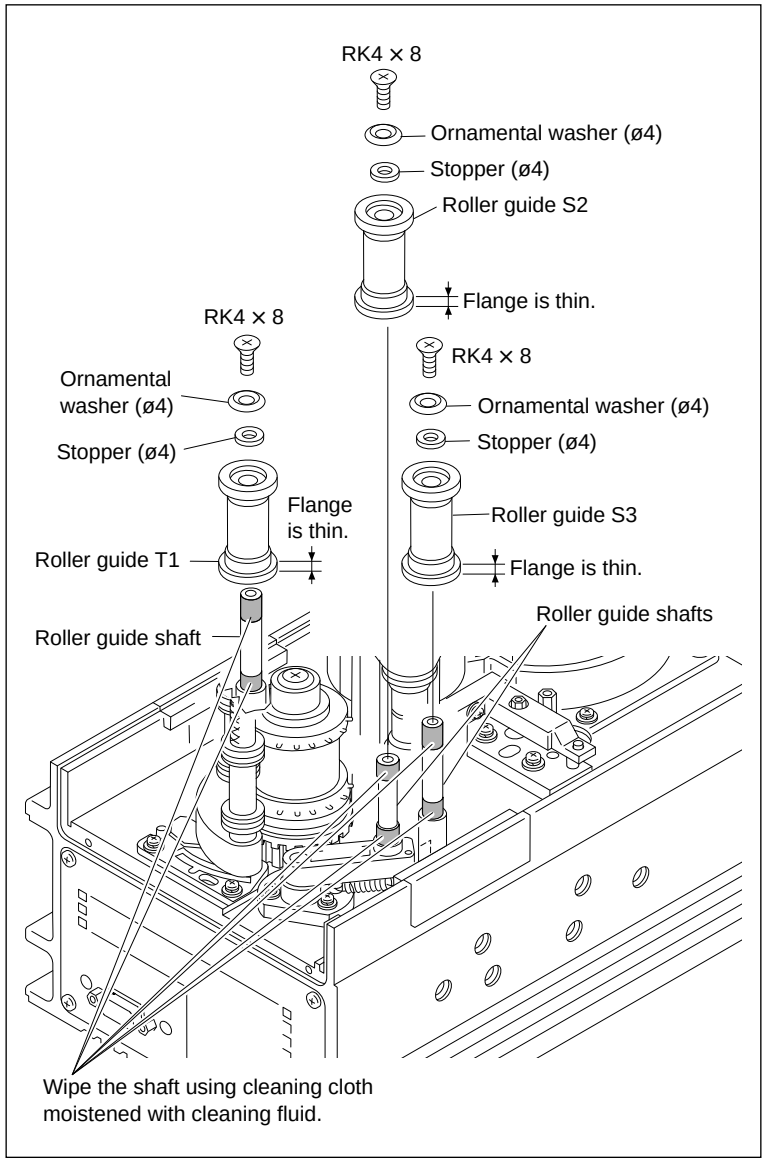
Note

Attach the roller guide assembly with the narrower side of the flange facing down.

Adjustment after the replacement

After the replacing has been completed, perform the following adjustment/checking.

3-4. Film Running Checking → 3-5. Optics Adjustment (S and P sides)



3-1-4. Tension regulator holder assembly

Required Tools

Cleaning cloth : 3-184-527-01
Cleaning fluid : 9-919-573-01

Removal

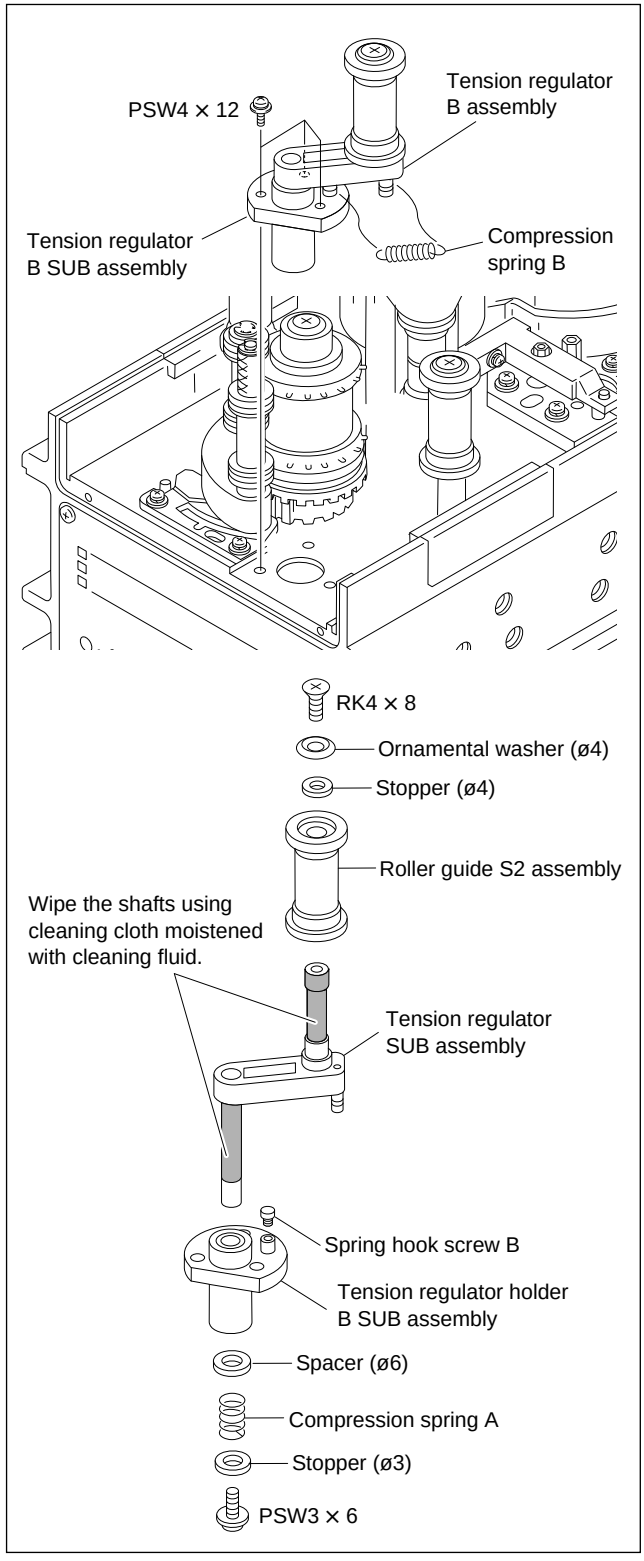
1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly.
   (Refer to the section “1-2. Cabinet Removal”.)
3. Remove the tension spring B of the tension regulator B assembly.
4. Remove the three screws (PSW4 × 12) and take out the tension regulator B assembly.
5. Remove the spring hook screw B from the flange of the tension regulator holder B SUB assembly.
6. Remove the screw (PSW3 × 6) from the bottom of the tension regulator holder B SUB assembly and take out the stopper (ø3), compression spring A, spacer and tension regulator holder B SUB assembly from the tension regulator B assembly.
7. Remove the screw (RK4 × 8), and take out the ornamental washer (ø4), stopper (ø4) and roller guide S2 assembly from the tension regulator SUB assembly.

Reassembling

8. Wipe the tension regulator sub assembly (marked by ▭) as shown in the figure using the cleaning cloth moistened with the cleaning fluid.
9. Reassemble the tension regulator assembly in the reverse orders of procedure 1 through 7 above.

Adjustment after the replacement

3-4. Film Running Checking → 3-5. Optics Adjustment (S and P sides)



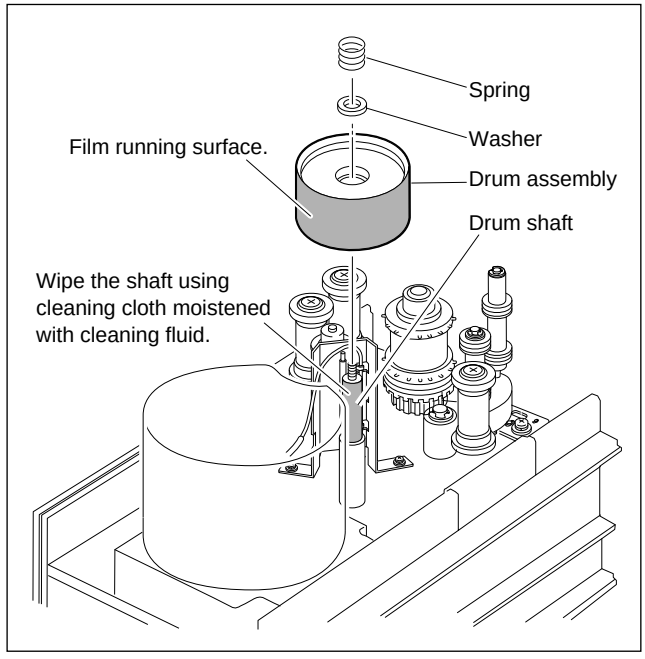
3-1-5. Drum assembly

Required Tools

Cleaning cloth : 3-184-527-01
Cleaning fluid : 9-919-573-01

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly, drum cover, and left side plate.
   (Refer to the section “1-2. Cabinet Removal”.)
3. Remove the LED assembly (S side).
   Refer to the “1. LED assembly (S side) replacement of section 3-1-1. LED assembly (S and P sides)”.
4. Remove the spring and washer, and pull out the drum assembly from the drum shaft.



Reassembling

5. Clean the drum shaft (marked by ▭) as shown in the figure using the cleaning cloth moistened with the cleaning fluid.
6. Reassemble the drum assembly, washer, spring washer, and LED assembly (S side) to the drum shaft.
7. Wipe onto the film running surface of the drum assembly (marked by ▭) as shown in the figure using a cleaning cloth moistened with cleaning fluid.

Adjustments after the replacement

After the replacing has been completed, perform the following adjustments.

3-2. Light Source Adjustment (S side) → 3-3. CCD Azimuth Adjustment (S side) → 3-7. Error Rate Checking

3-1-6. Sprocket SUB assembly, sprocket holder assembly and brake

Required Tools

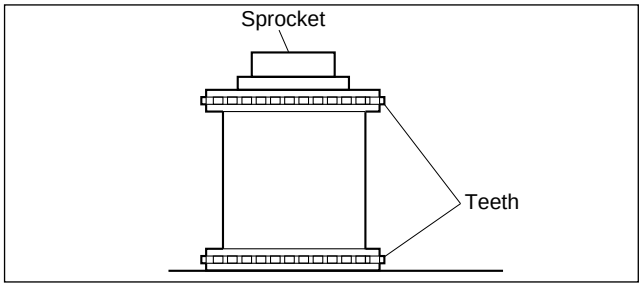
Cleaning cloth : 3-184-527-01
Cleaning fluid : 9-919-573-01

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly.
   (Refer to the “1-2. Cabinet Removal”.)
3. Remove the screw (RK4 × 8), and take out the ornamental washer (ø4), spring washer, spacer (ø6) and sprocket SUB assembly from the sprocket shaft.

   Note

   To avoid being damaged to the sprocket, be sure to put the sprocket on the workbench as shown in the figure.



4. Remove the five screws (PS2 × 10) and washer (W2, CSMALL), and take out the sprocket holder assembly from the sprocket SUB assembly.
5. Pull out the brake from the sprocket SUB assembly.

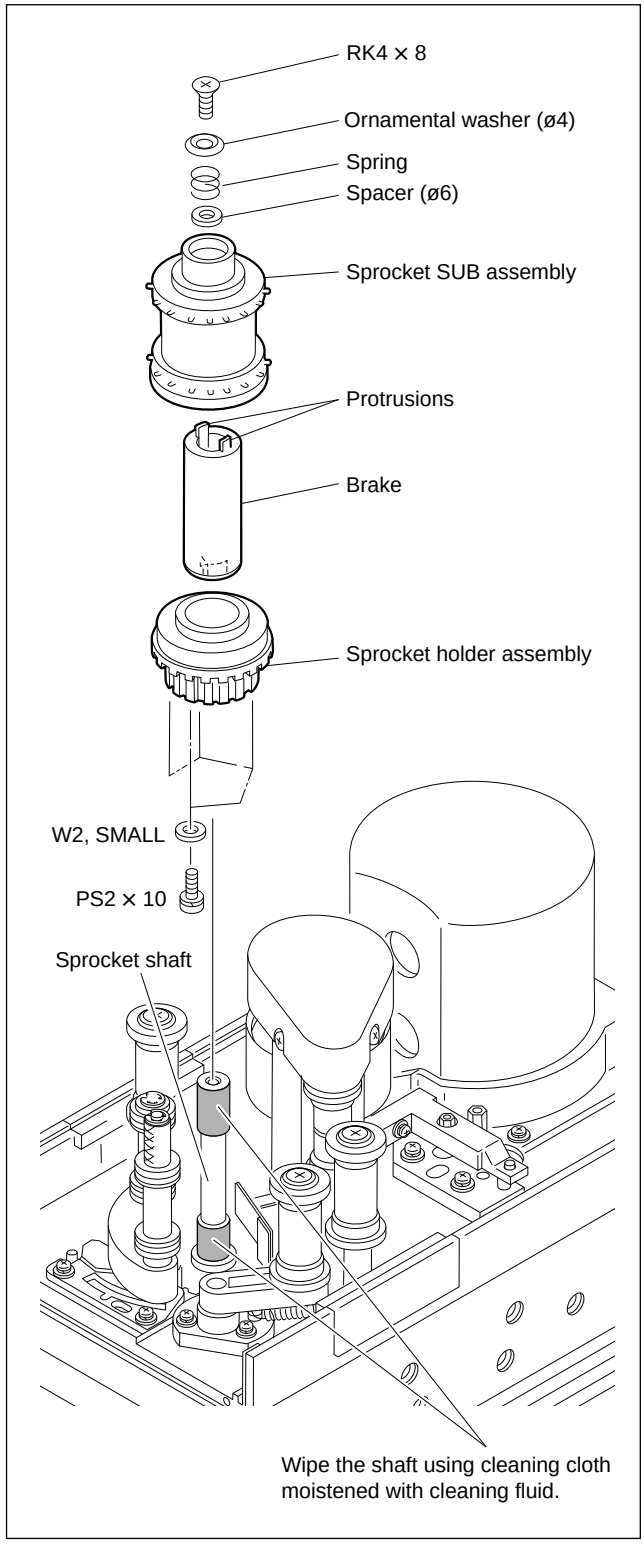
Reassembling

6. Clean the sprocket shaft (marked by ▭) as shown in the figure using cleaning cloth moistened with the cleaning fluid.
7. Insert the two protrusions of the brake into the two holes inside the sprocket SUB assembly.
8. Adjust the screw holes of the sprocket SUB assembly and sprocket holder assembly together, and secure the five screws (PS2 × 10) and washers (W2, small).
9. Insert the sprocket SUB assembly, spacer (ø6), spring, and ornamental washer (ø4) into the sprocket shaft in the reverse order of procedures 1 to 5 above, and tighten the screw (RK4 × 8).

Adjustment/Checking after the replacement

After the replacing has been completed, perform the following adjustment and checking.

3-4. Film Running Checking → 3-6. FG Checking
→ 3-5. Optics Adjustment (S and P side)



3-1-7. Film retainer rollers (A and B)

Two film retainer rollers A and B are used.

Required Tools

Cleaning cloth : 3-184-527-01
Molytone grease : 7-662-001-41
Cleaning fluid : 9-919-573-01
Eccentric driver : J-6187-880-A
Thickness gauge : 9-911-053-00

1. Removal/Reassembling

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly.
   (Refer to the section "1-2. Cabinet Removal".)
3. Open the arm assembly in the arrow direction, and release the film retainer rollers from the sprocket.

• Film retainer roller A

4. Remove the E-ring (ø3), and pull out the stopper (ø4) and film retainer roller A from the PR (S) shaft.

• Film retainer roller B

4. Remove the E-ring (ø3), and pull out the PR knob shaft and film retainer roller B from the PR shaft.

Reassembling

• Film retainer roller A

5. Wipe the PR (S) shaft (marked by ▭) as shown in the figure using a cleaning cloth moistened with the cleaning fluid and be sure to re-wipe it using a dry cleaning cloth.
6. Apply a light coarting of grease to the cleaned portion of the PR (S) shaft, and be sure to wipe dry with a dry gauze or paper (so that only a very light coarting of grease remains).
7. Attach the film retainer roller A in the reverse orders of the removal.

• Film retainer roller B

5. Wipe the PR shaft (marked by ▭) as shown in the figure using a cleaning cloth moistened with the cleaning fluid and be sure to re-wipe it using a dry cleaning cloth.
6. Apply a light coarting of grease to the cleaned portion of the PR shaft, and be sure to wipe dry with a dry gauze or paper (so that only a very light coarting of grease remains).
7. Attach the film retainer roller B in the reverse orders of the removal.

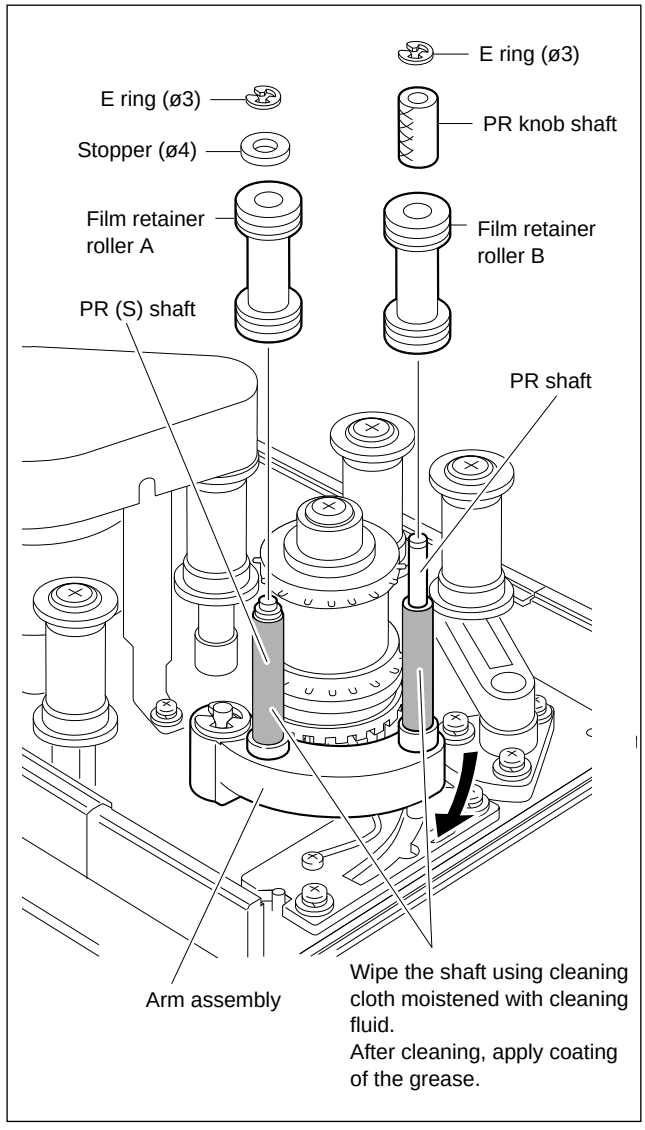
Note

Do not apply the coating of the grease to the sprocket and rim of the film retainer rollers A and B.

Adjustment/Checking after the replacement

After the replacing has been completed, perform the following adjustment and checking.

2. Clearance adjustment → 3-4. Film Running Checking



2. Clearance adjustment

Required Tools

Eccentric driver : J-6187-880-A
Thickness gauge : 9-911-053-00

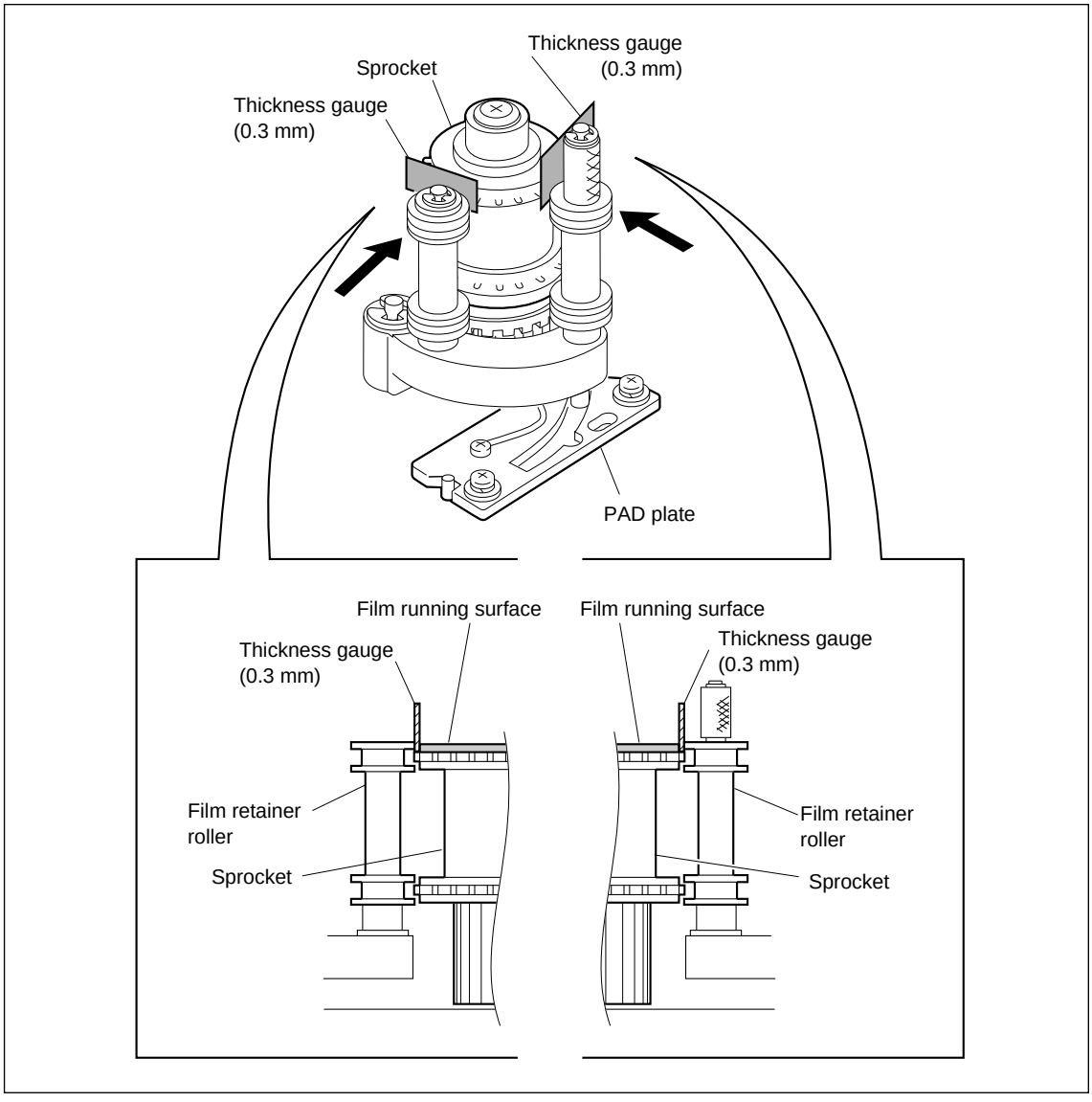
Procedure

Note

Do not damage onto the film running surface of the sprocket by moving the thickness gauge too hard.

(1) Checking 1

Insert a 0.3 mm thickness gauge between the film retainer rollers (A and B) and the film running surface of the sprocket.
While lightly pressing the film retainer rollers in the direction arrow, turn the film retainer rollers.
In this condition, check that the film retainer rollers rotate and that the film retainer rollers and sprocket do not catch the thickness gauges.



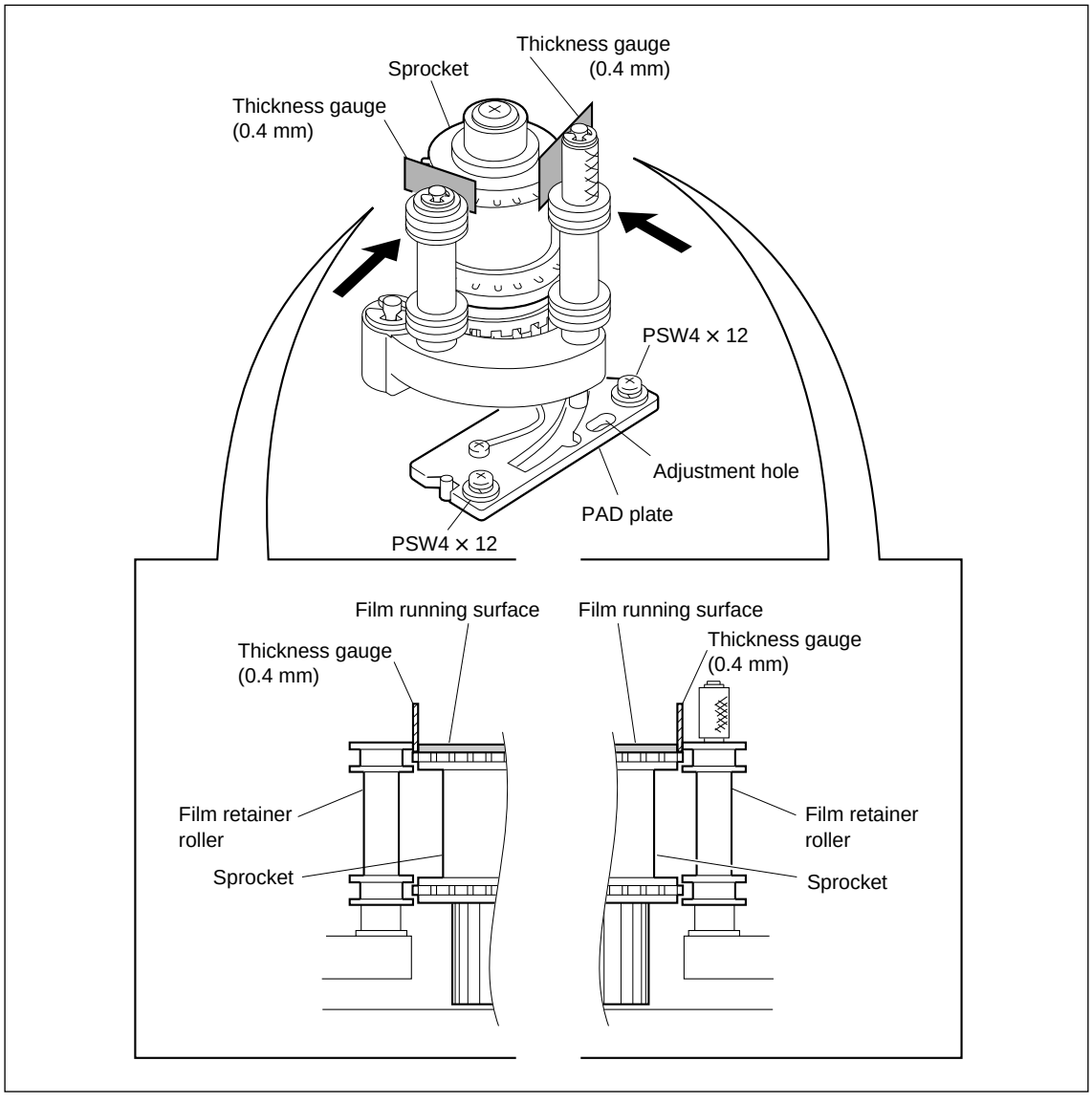
(2) Checking 2
Insert a 0.4 mm thickness gauge between the film retainer rollers (A and B) and the film running surface of the sprocket.
While lightly pressing the film retainer rollers in the direction arrow, turn the film retainer rollers.
In this condition, check that the film retainer rollers do not rotate and that the film retainer rollers and sprocket catch the thickness gauges.

(3) If the checkings 1 and 2 in steps (1) and (2) were not satisfactory, loosen the two screws (PSW4 × 12) of the PAD plate by half a turn, insert an eccentric screwdriver into the adjustment hole of the PAD plate, and adjust the position of the PAD plate.
After adjusting, tighten the two screws (PSW4 × 12) loosened temporarily and perform the checkings 1 and 2 in steps (1) and (2) again.

(4) If the checkings 1 and 2 are satisfactory, tighten the two screws (PSW4 × 12).

(5) Perform the checkings 1 and 2 again.

(6) Perform the film running checking.
(See the section " 3-4. Film Running Checking".)



3-1-8. CCD (S and P sides)

The S and P sides of the CCD are replaced in the same way.

Note

Perform anti-static measures when handling the CCD.

Removal

1. Turn the DFP-R3000 power off.
2. Remove the front panel assembly and optics cover. (Refer to the section "1-2. Cabinet Removal".)
3. Disconnect the harness from the connector (CN1) on the SE-437 board.
4. Remove the two screws (PSW2.6 × 6) fixing the SW-437 board.
5. Remove the four screws (PS2 × 4) fixing the CCD retainer spring assembly to take out the SE-437 board with CCD.
6. Remove the CCD from the SE-437 board.

Reassembling

7. Mount new CCD to the socket on the SE-437 board with CCD retainer spring assembly.

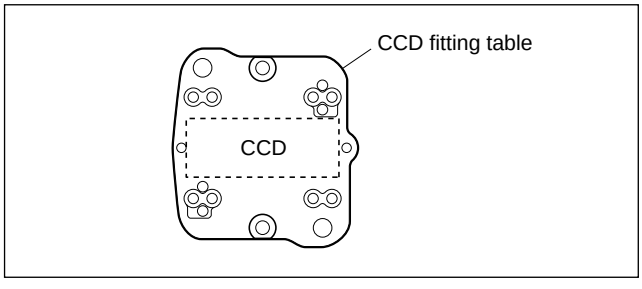
   Note

   As the CCD glass plate is easy to break, handle it with care.

8. Attach the SE-437 board (CCD) to the CCD fitting table (optics block) using two screws (PSW2.6 × 6).

   Note

   Be sure to attach the SE-437 board to the place where the CCD is fit into the CCD fitting table as shown in figure.



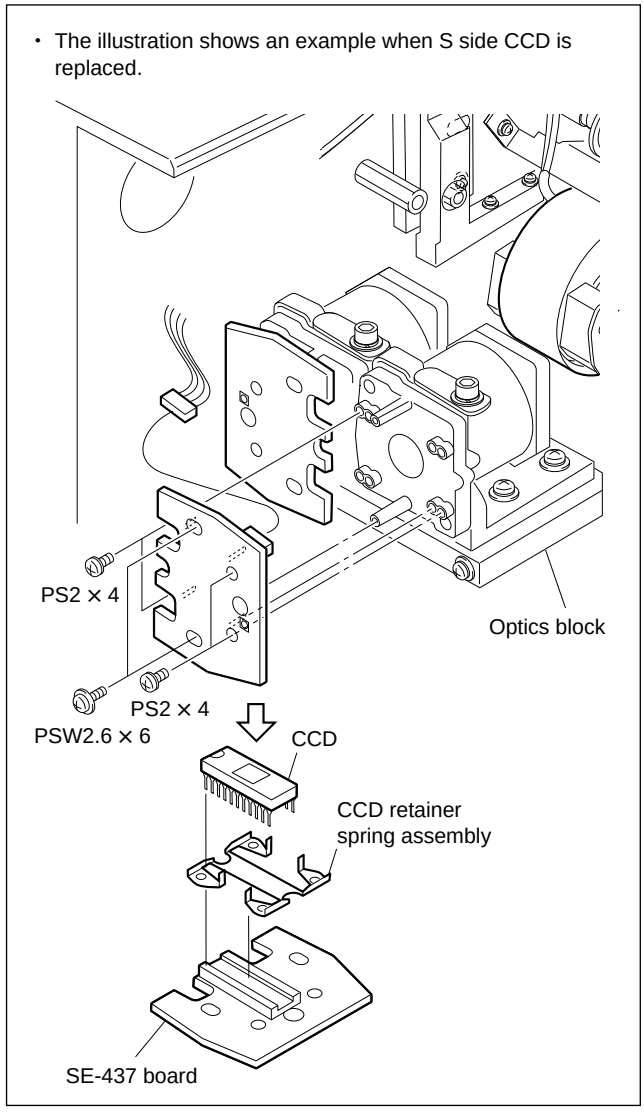
9. Fix the CCD retainer spring assembly (SE-437 board) to the CCD fitting table (optics block) using four screws (PS2 × 4).

Adjustment after the replacement

After the replacing has been completed, perform the following adjustment.

CCD (S-side)
3-3. CCD Azimuth Adjustment (S side) → 3-5. Optics Adjustment (S side) → 3-2. Light Source Adjustment (3. Shading Compensation) → 3-7. Error Rate Checking

CCD (P side)
3-3. CCD Azimuth Adjustment (P side) → 3-5. Optics Adjustment (P side) → 3-2. Light Source Adjustment (3. Shading Compensation) → 3-7. Error Rate Checking



3-2. Optical Source Adjustment

Perform the optical source adjustment when the S and P sides LED assemblies are replaced.

Note

Perform the optical source adjustment with no film loaded.

- Adjustment when S side LED assembly is replaced.
  1. S side shading adjustment
     ↓
  3. Shading Compensation (S and P sides)

- Adjustment when P (S and P) side LED assembly is replaced.
  1. S side shading adjustment
     ↓
  2. P side shading adjustment
     ↓
  3. Shading Compensation (S and P sides)

Required Equipment and Tools

DFP-D3000
Oscilloscope

Personal computer : IBM PC/AT compatible
Terminal software

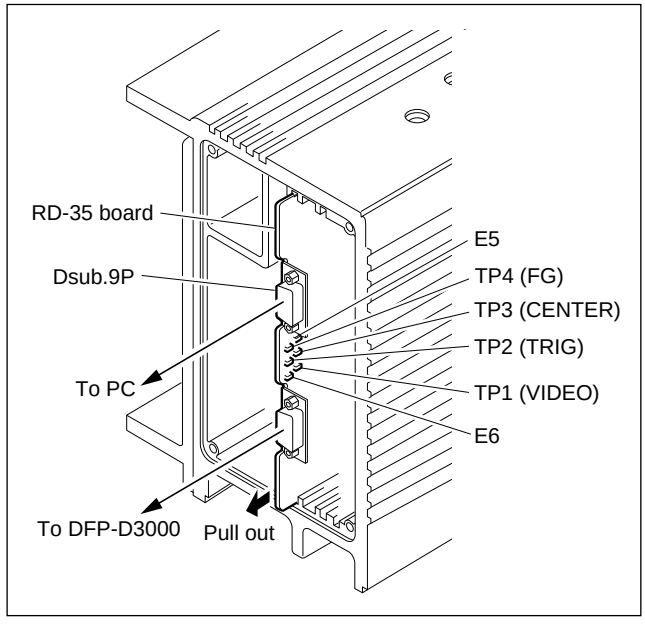
Connection cable (Supplied with DFP-R3000)
RS-232C Null modem cable
Eccentric driver (ø2-ø4) (part No. 3-702-390-01)
Eccentric driver (ø3-ø5) (part No. 3-702-391-01)
Hex wrench driver (across 2.5 mm)
Hex wrench driver (across 1.27 mm)

Preparation

Remove the OPT cover, drum cover, front panel assembly and left side panel, and then perform the followings.

(1) Pull out the RD-35 board as shown in the figure below so that the oscilloscope, etc. can be connected to the TP terminal.
(2) Connect the DFP-R3000 to the DFP-D3000 READER connector using connection cable.
(3) Connect the D-sub 9pin connector and a serial port of PC (personal computer) using RS-232C Null modem cable.
(4) Start up the terminal software of the PC.
(5) Connect the oscilloscope to the following points on the RD-35 board.

Oscilloscope		RD-35 board
CH1	→	TP1 (VIDEO)
CH2	→	TP2 (Trigger)

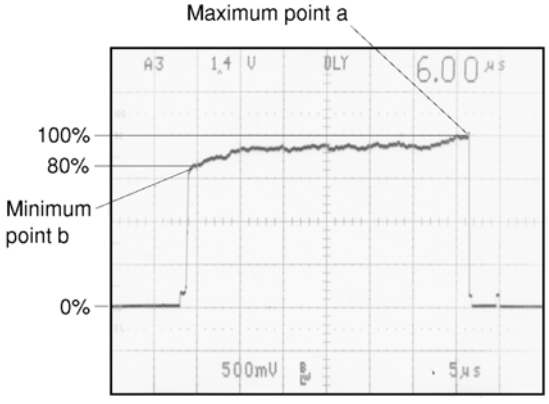


1. S side shading adjustment

Procedure

(1) Input the command **C1** (press the "C" key and "1" key) from the PC keyboard at the screen of the terminal software started and then press the Enter key.
(2) Input the command **m0** from the PC keyboard and then press the Enter key.
(3) Input the command **k0, 70** from the PC keyboard and then press the Enter key.
(4) Adjust the installed position of the S side LED assembly as follows so that the output waveform of the oscilloscope CH1 is in the specification mentioned below.

Specification : The minimum b of the CH1 output waveform should be above 80% of maximum a.



CH1 : 500 mV/div, VAR
A ; 10 µs/div
B ; 5 µs/div
CH2 (Trigger) : 2 V/div

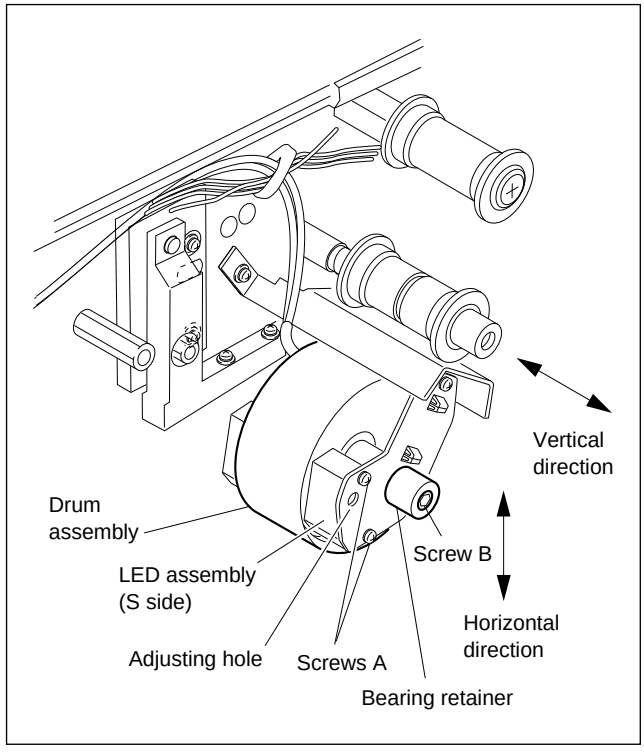
Adjustment :

Adjustment of horizontal direction

① Loosen the two screws A about a half turn.
② Insert the eccentric driver (ø2-ø4) into the adjustment hole and perform the adjustment.

Adjustment of vertical direction

① Loosen the screw B about a half turn.
② Turn the bearing retainer to adjust.



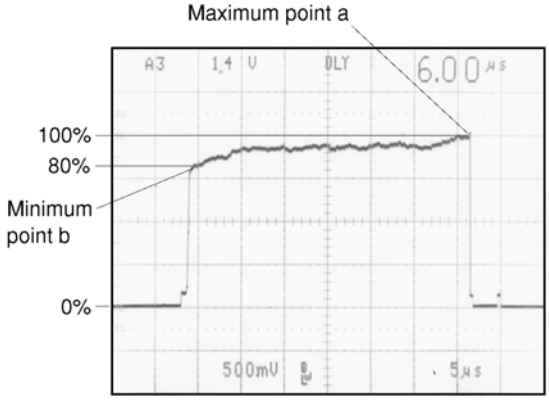
(5) After adjustment has been completed, tighten the loosened screws.
Check that the output waveform of the oscilloscope CH1 after tightening meets the specification in the above step (4).

2. P side shading adjustment

Procedure

(1) Input the command **C1** (press the "C" key and "1" key) from the PC keyboard at the screen of the terminal software started and then press the Enter key.
(2) Input the command **m100** from the PC keyboard and then press the Enter key.
(3) Input the command **k1, 70** from the PC keyboard and then press the Enter key.
(4) Adjust the installed position of the P side LED assembly as follows so that the output waveform of the oscilloscope CH1 is in the specification mentioned below.

Specification : The minimum b of the CH1 output waveform should be above 80% of maximum a.



CH1 : 500 mV/div, VAR
A ; 10 µs/div
B ; 5 µs/div
CH2 (Trigger) : 2 V/div

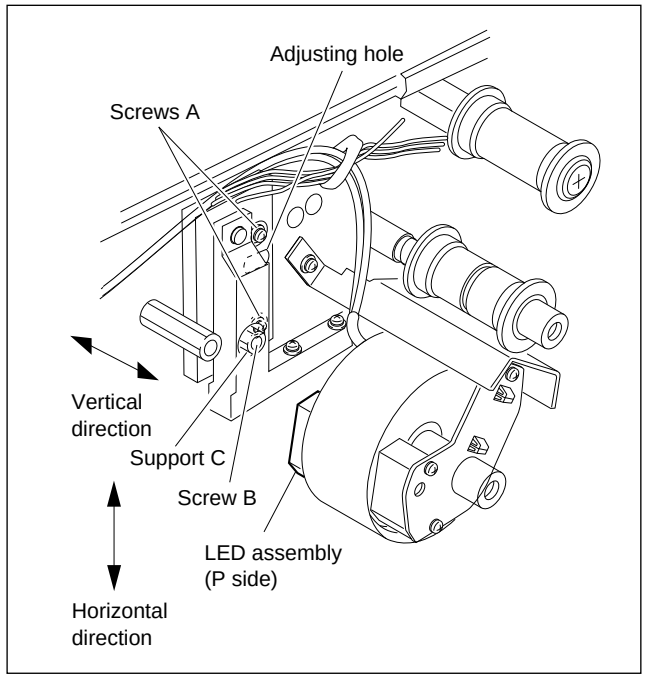
Adjustment :

Adjustment of horizontal direction

① Loosen the two screws A about a half turn.
② Insert the eccentric driver (ø3-ø5) into the adjustment hole, and perform the adjustment.

Adjustment of vertical direction

① Loosen the screw B about a half turn using hex wrench driver (across 1.27 mm).
② Turn the support C using nut driver (across 5 mm) to adjust.



(5) After adjustment has been completed, tighten the loosened screws.
Check that the output waveform of the oscilloscope CH1 after tightening meets the specification in the above step (4).

3. Shading Compensation (S and P sides)

Procedure

(1) Input the command **a** from PC and then press the Enter key.

(2) Check that the following message (error message in the following table is not displayed) will be displayed on the screen of PC.

- Examples of messages

Note

1. The following are examples of messages displayed when there is no error in the shading compensation. The values of each item differs according to the LED assembly (value after "=", etc.).
2. Replace the LED assembly when the value of the "AD GAIN Setting" is above "00B0".

```
(^0^)/a
Adjust AD gain S side
AD GAIN Setting   = 0076
Finish adjust max = 03FF min = 032F
clamp out max = 03F8 min = 0324
Adjust shading S side
Adjust AD gain P side
AD GAIN Setting   = 007B
Finish adjust max = 03F4 min = 033A
clamp out max = 03F5 min = 0339
Adjust shading P side
AF   BC   DE   HL   SP
0044 FF81 FFF9 FFFF 1084
(^0^)/
```

S side information

P side information

The following will be displayed when errors occur in shading compensation.

Display	Description	Remedy
1. S (P) LED Current limit over	The light amount of the LED does not meet the specification.	Replace the S (or P) side LED.
2. S (P) LED dark error		
3. S (P) LED shading limit over error	The difference between the maximum and minimum light amounts of the LED does not meet the specification.	Re-adjust the LED assembly.
4. Sampling time out	Fault of RD-35 board.	Check the RD-35 board.
5. Dark level too high		

Example error display

- S side LED dark error

```
(^0^)/a
Adjust AD gain S side
AD GAIN Setting   = 0100
Finish adjust max = 0190 min = 013B
S LED dark error

AF    BC   DE   HL   SP
0044  FE81 FFF1 FFFF 1084
(^0^)/
```

- S side LED shading limit over error

```
(^0^)/a
Adjust AD gain S side
AD GAIN Setting   = 0074
Finish adjust max = 03F2 min = 004B
S LED shading limit over error

AF    BC   DE   HL   SP
0044  FE81 FFF1 FFFF 1084
(^0^)/
```

3-3. CCD Bias Adjustment (SE-437 board Adjustment)

Perform the CCD bias adjustment when CCD and SE-437 board are replaced.

Required Equipment and Tools

DFP-D3000
Oscilloscope

Personal computer: IBM PC/AT compatible
Terminal software

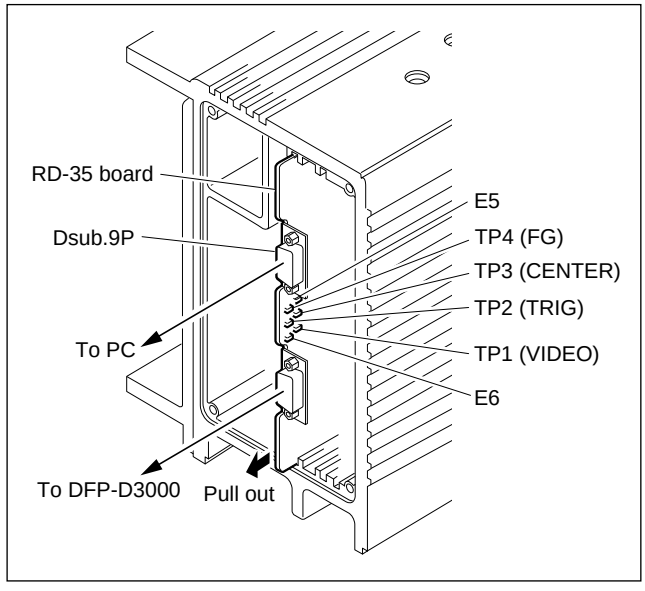
RS-232C Null modem cable
Paper (Thickness ; 0.5 mm or more, size ; 100 × 100 mm)
: The paper is able to shut off the light.

Preparation

Remove the OPT cover, drum cover, front panel assembly and left side panel, and then perform the followings.

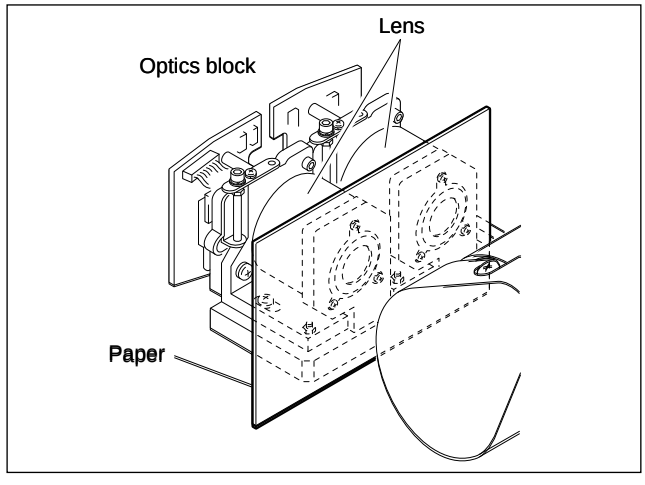
(1) Pull out the RD-35 board as shown in the figure below so that the oscilloscope, etc. can be connected to the TP terminal.
(2) Connect the DFP-R3000 to the DFP-D3000 READER connector using connection cable.
(3) Connect the D-sub 9pin connector and a serial port of PC (personal computer) using RS-232C Null modem cable.
(4) Start up the terminal software of the PC.
(5) Connect the oscilloscope to the following points on the RD-35 board.

Oscilloscope		RD-35 board
CH1	→	TP1 (VIDEO)
CH2	→	TP2 (Trigger)

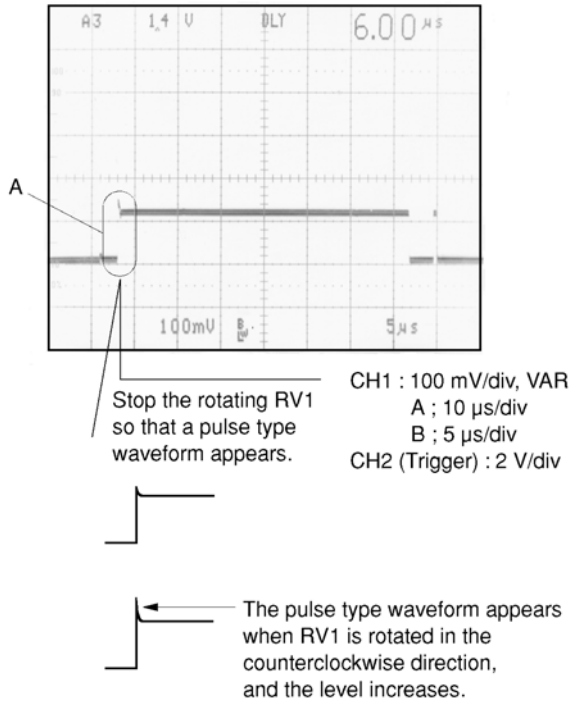


1. S side adjustment

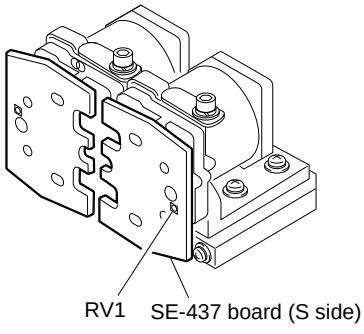
(1) Input the command **C1** (press the "C" key and "1" key) from the PC keyboard at the screen of the terminal software started and then press the Enter key.
(2) Input the command **m0** from the PC keyboard and then press the Enter key.
(3) Shut off the light incident upon the CCD lens by using a paper.



(4) Adjustment
Adjust RV1 of the SE-437 (S side) so that a pulse type waveform is generated at A portion of the output waveform.
The pulse type waveform appears when RV1 is rotated fully in the clockwise direction and then in the counterclockwise direction.



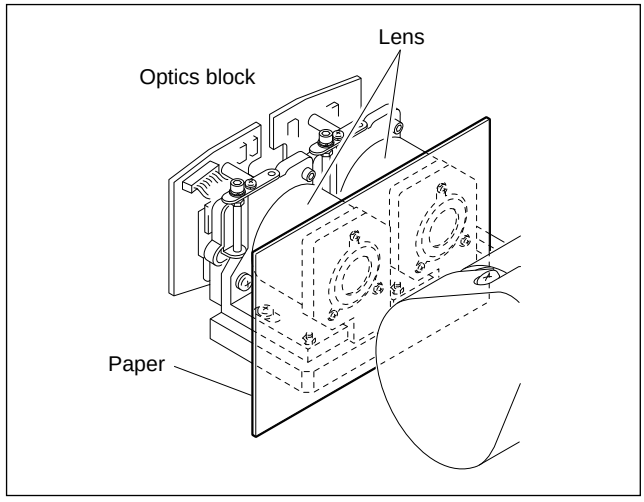
Adjustment



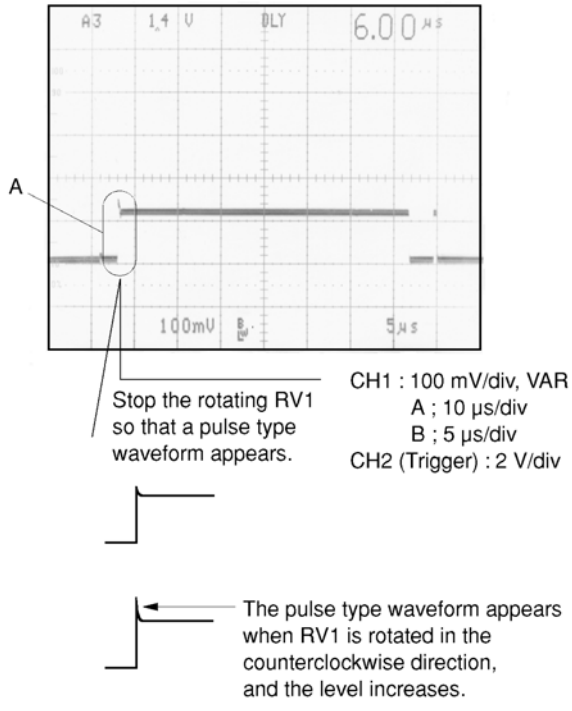
(5) After the adjustment has been completed, input the command **C0** from the PC keyboard, and then press the Enter key.

2. P side adjustment

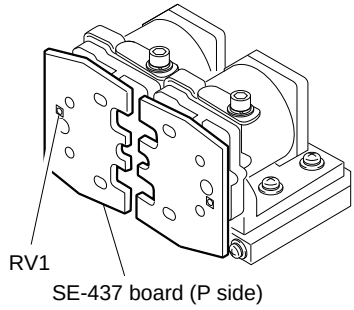
(1) Input the command **C1** (press the "C" key and "1" key) from the PC keyboard at the screen of the terminal software started and then press the Enter key.
(2) Input the command **m100** from the PC keyboard and then press the Enter key.
(3) Shut off the light incident upon the CCD lens by using a paper.



(4) Adjustment
Adjust RV1 of the SE-437 (P side) so that a pulse type waveform is generated at A portion of the output waveform.
The pulse type waveform appears when RV1 is rotated fully in the clockwise direction and then in the counterclockwise direction.



Adjustment



(5) After the adjustment has been completed, input the command **C0** from the PC keyboard, and then press the Enter key.

3-4. Film Running Checking

Perform the film running checking when roller guides (S1, S2, S3 and T1), sprocket SUB assembly, sprocket holder assembly, brake, tension regulator holder and film retainer roller are replaced.
Perform the film running checking with DFP-R3000 installed to the projector.

Required Equipment and Tools

Projector
DFP-D3000

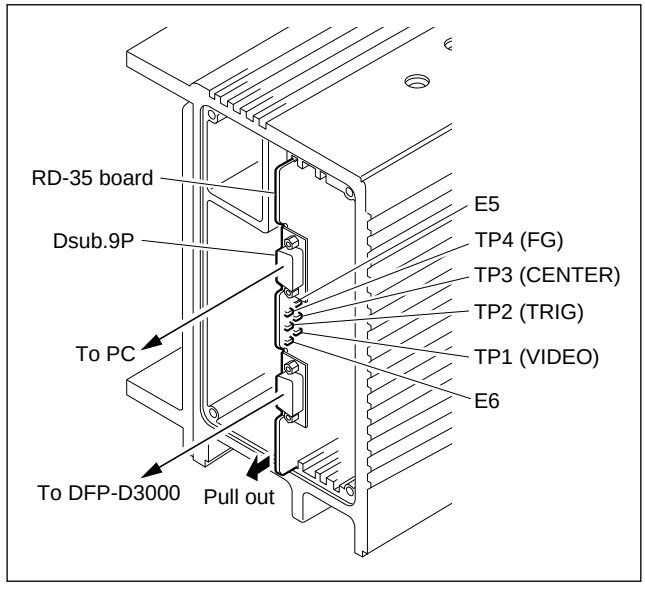
Connection cable (Supplied with DFP-R3000)
Alignment film (with data sheet)

Preparation

Remove the OPT cover, drum cover, front panel assembly and left side panel, and then perform the followings.

(1) Pull out the RD-35 board as shown in the figure below so that the oscilloscope, etc. can be connected to the TP terminal.
(2) Install the DFP-R3000 into the projector.
(3) Connect the DFP-R3000 to the DFP-D3000 READER connector using connection cable.
(4) Load the alignment film into the DFP-R3000 and projector, and the run the alignment film.
(5) Connect the oscilloscope to the following points on the RD-35 board.

Oscilloscope		RD-35 board
CH1	→	TP1 (VIDEO)
CH2	→	TP2 (Trigger)

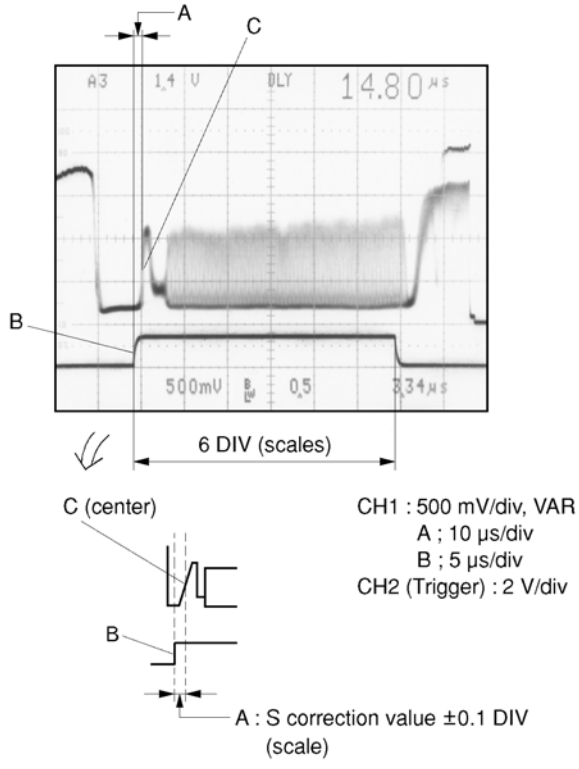


Procedure

(1) Set the sweep times of the oscilloscope so that the pulse width (high level) of the reference pulse (oscilloscope CH2).

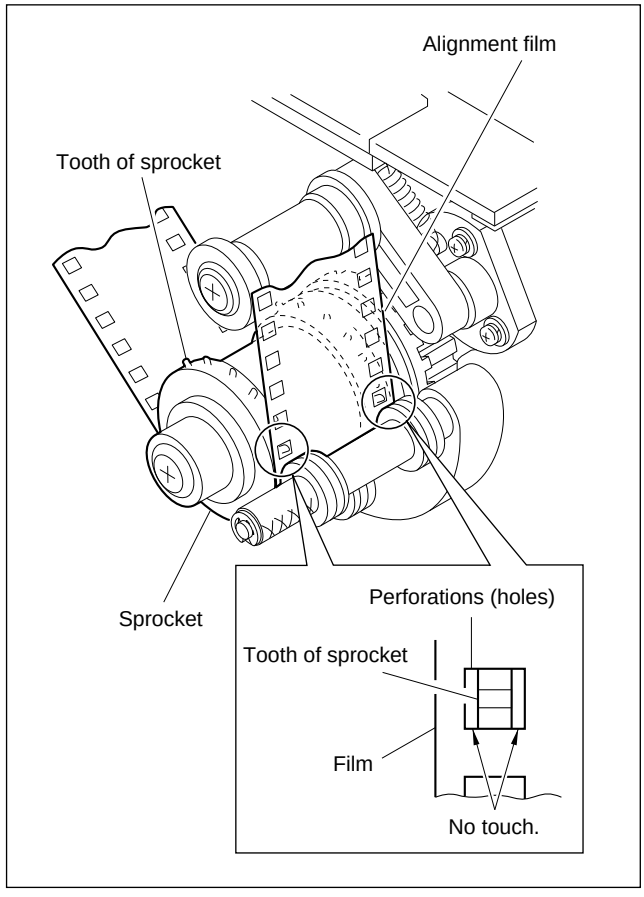
(2) Check that the deviation A of the output waveform (RF signal) of the oscilloscope CH1 meets the following specifications in respect to the S correction value in the data sheet provided with the alignment film.

Specification : A = S correction value ± 0.1 DIV (scales)



When the S correction value is + :
C portion of the signal leads B portion of the center of the rising pulse for the amount of the correction value.
When the S correction value is − :
C portion of the signal trails B portion of the center of the rising pulse for the amount of the correction value.

(3) Check that the teeth of the sprocket do not touch against the both sides of the perforations (holes) of the alignment film.
If it touches, adjust the installation of the sprocket again.



3-5. Optics Adjustment

Perform the optics adjustment when roller guides (S1, S2, S3 and T1), tension regulator holder and CCD (SE-437 board) (S and P sides) are replaced.
Perform the optics adjustment with DFP-R3000 installed to the projector.

Adjustment items (Procedure of S and P sides are the same.)
CCD magnification and focus rough adjustment
↓
CCD position rough adjustment
↓
CCD azimuth rough adjustment
↓
CCD focus fine adjustment
↓
CCD azimuth fine adjustment
↓
CCD magnification fine adjustment

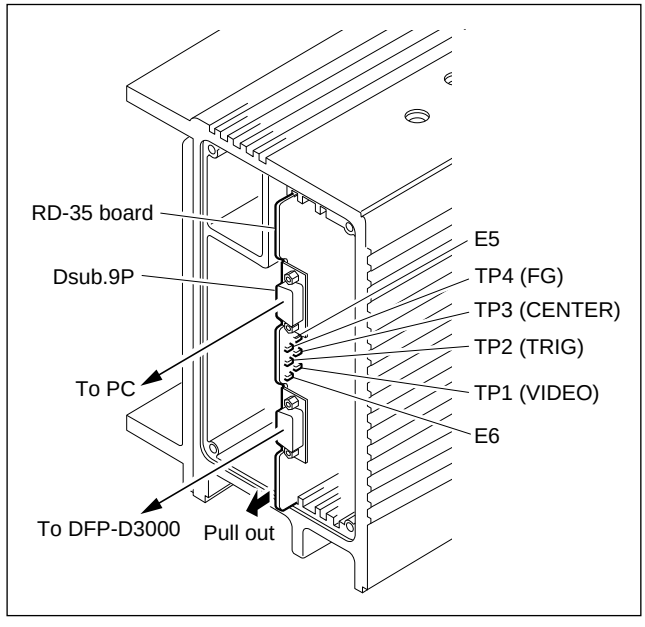
Required Equipment and Tools

DFP-D3000
Oscilloscope
Personal computer : IBM PC/AT compatible
Terminal software
Connection cable (Supplied with DFP-R3000)
RS-232C Null modem cable
Alignment film (with data sheet)
Filter tool
Eccentric driver (ø1.5-ø2.5) (part No. J-6187-880-A)
Hex wrench driver (across 2.5 mm)

Preparation

Remove the OPT cover, drum cover, front panel assembly and left side panel, and then perform the followings.
(1) Pull out the RD-35 board as shown in the figure below so that the oscilloscope, etc. can be connected to the TP terminal.
(2) Connect the DFP-R3000 to the DFP-D3000 READER connector using connection cable.
(3) Connect the D-sub 9pin connector and a serial port of PC (personal computer) using RS-232C Null modem cable.
(4) Start up the terminal software of the PC.
(5) Connect the oscilloscope to the following points on the RD-35 board.

Oscilloscope		RD-35 board
CH1	→	TP1 (VIDEO)
CH2	→	TP2 (Trigger)
CH3	→	TP3 (Center)



1. S side optics adjustment

Note

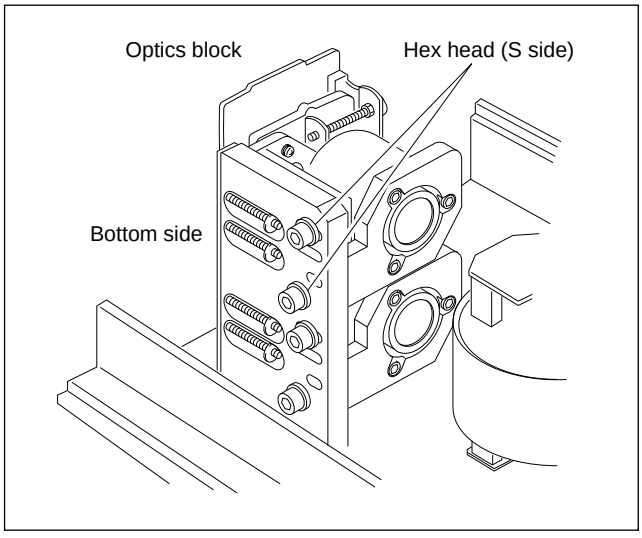
By touching against the lens and the protection glass of the CCD adjustment table, do not make them dirty.

Step 1. Preparation

(1) Load the alignment film into the DFP-R3000 and projector, and then run the alignment film.
(2) Input the command **C1** (press the "C" key and "1" key) from the PC keyboard at the screen of the terminal software started and then press the Enter key.

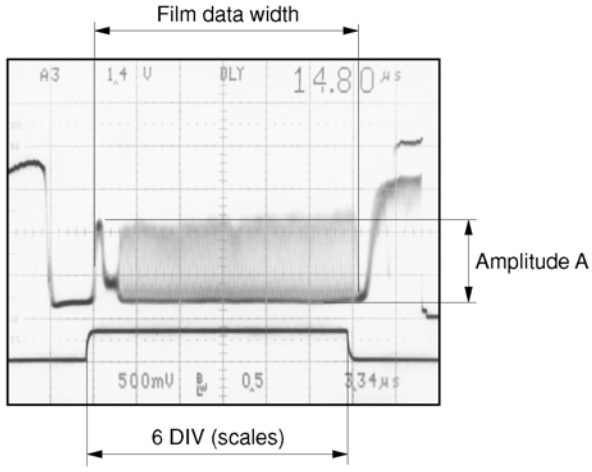
Step 2. CCD magnification and focus rough adjustment

(1) Input the command **m0** from the PC and then press the Enter key.
(2) Loosen the two hexagon cap screws as the bottom of the optics block about a half turn.



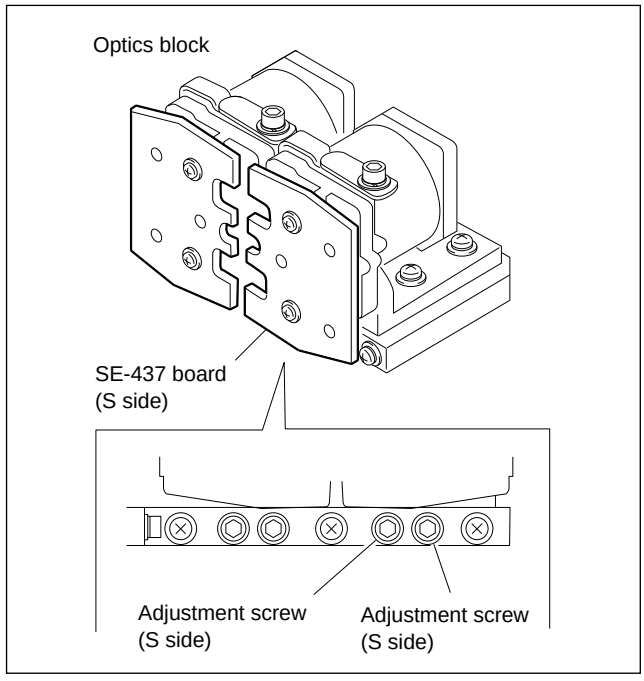
(3) Set the sweep times of the oscilloscope so that the pulse width (high level) of the oscilloscope CH2 output waveform is 6 DIV (scales).
(4) Rotate and adjust the fifth and sixth CCD adjustment screws from the mechanical deck chassis using a hex wrench driver so that amplitude A of the output waveform of the oscilloscope CH1 becomes maximum.
(5) Check that the film data width of the oscilloscope CH1 meets the following specification.

Specification : Film data width = 6 ±0.1 scales



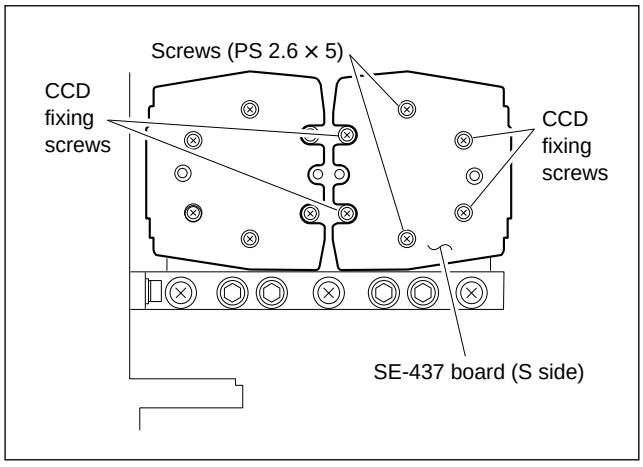
CH1, CH3 : 500 mV/div
3.34 ms/div
CH2 (Trigger) : 2 V/div

- When the film data width is narrower than the above specification, turn the adjustment screw at the sixth from the mechanical chassis counterclockwise and perform the procedure (4) and (5) above.
- When the film data width is wider than the above specification, turn the adjustment screw at the sixth from the mechanical chassis clockwise and perform the procedure (4) and (5) above.



Step 3. CCD position adjustment

(1) Loosen the two screws (PSW2.6 × 6) and four CCD fixing screws (PS2 × 4) on the SE-437 board (S side) abut a half turn.

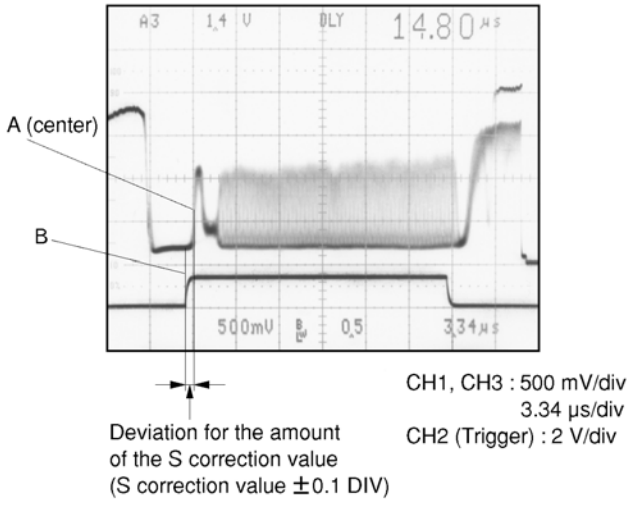


(2) Adjust the position to install the CCD using a eccentric screwdriver so that the following specification is met. Adjust according to the correction value in the data sheet provided with the alignment film as shown below.

Specification :

A portion of the film data signal of the oscilloscope CH1 should be deviated from center B of the rising pulse of the reference signal of CH2 for the amount of the S correction value (±0.1 mark).

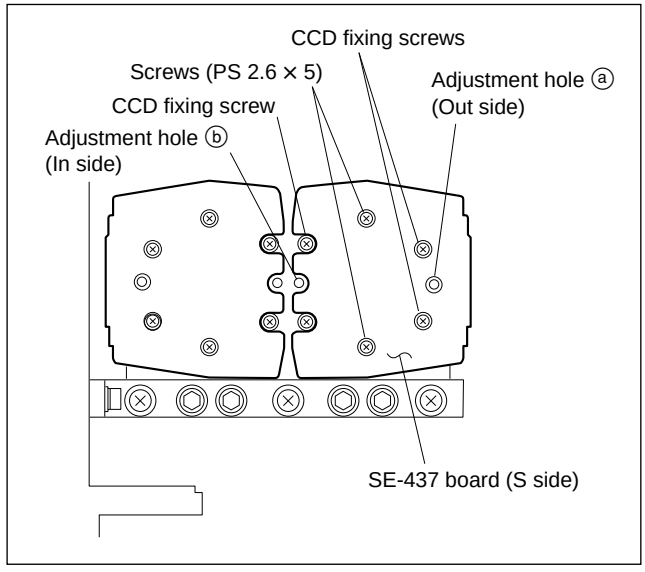
When the S correction value is + :
A portion of the signal leads B portion of the center of the rising pulse for the amount of the correction value.
When the S correction value is − :
A portion of the signal trails B portion of the center of the rising pulse for the amount of the correction value.



Adjustment

If A portion of the signal leads B portion of the center of the rising pulse more than the correction value, move the CCD from the outside of the optical block to the inside. Adjust by inserting the eccentric screwdriver in the adjustment hole ⓐ on the outside of the CCD.

When A portion of the signal trails B portion of the center of the rising pulse more than the correction value, move the CCD from the inside of the optical block to the outside. Adjust by inserting the eccentric screwdriver in the adjustment hole ⓑ on the inside of the CCD.



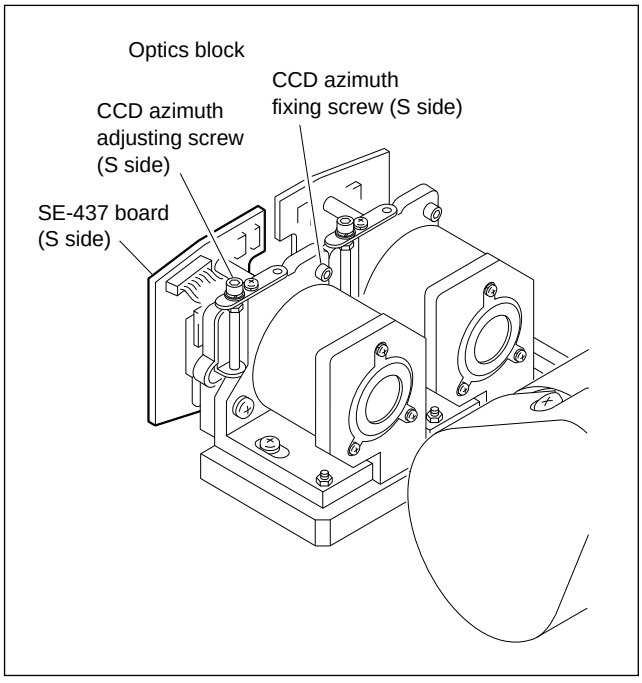
(3) Tighten the six screws loosened at the procedure (1) above.

(4) After the tightening the screws, re-check to meet the specification in the procedure (2) above.

Step 4. CCD azimuth rough adjustment

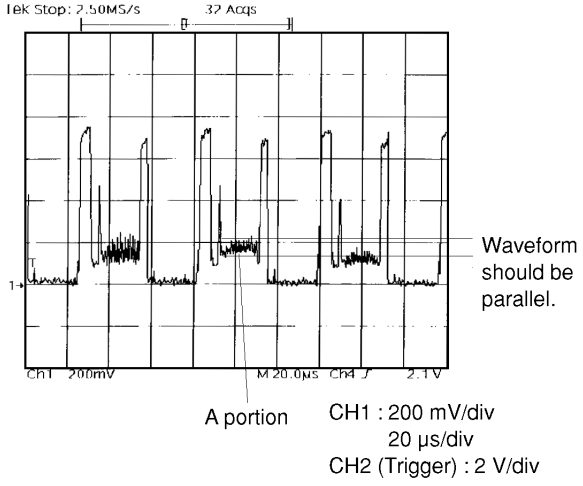
(1) Input the command **m10** from the PC keyboard and then press the Enter key.

(2) Loosen the S side azimuth fixing screw about a half turn using hex wrench driver (across 2.5 mm).



(3) Rotate and adjust the CCD azimuth adjustment screws so that the output waveform of the oscilloscope meets the following specification.

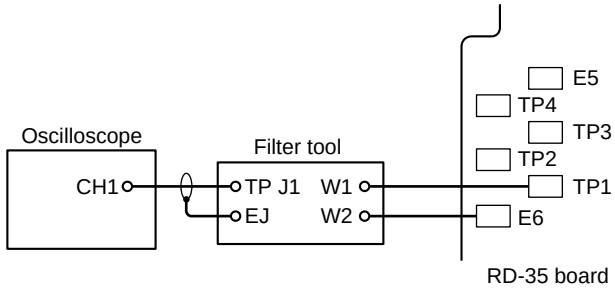
Specification : A portion (second) of the output waveform should be parallel.



(4) After the adjustment has been completed, tighten the CCD azimuth fixing screw loosened at the procedure (2) above.

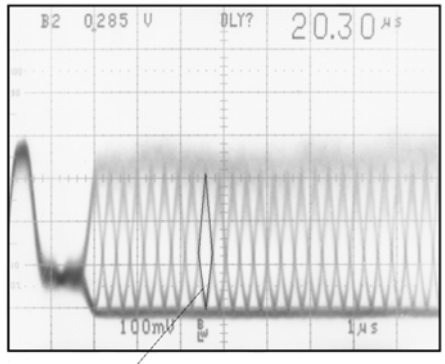
Step 5. CCD focus fine adjustment

(1) Connect the filter tool between the TP1 on the RD-35 board and oscilloscope CH1 as shown in the figure.



(2) Input the command **m0** from the PC and then press the Enter key.

(3) Rotate and adjust the fifth and sixth CCD adjustment screws from the mechanical deck chassis so that the ◊ part (eye patterns) of the output waveform (TP1) of the oscilloscope CH1 becomes maximum.



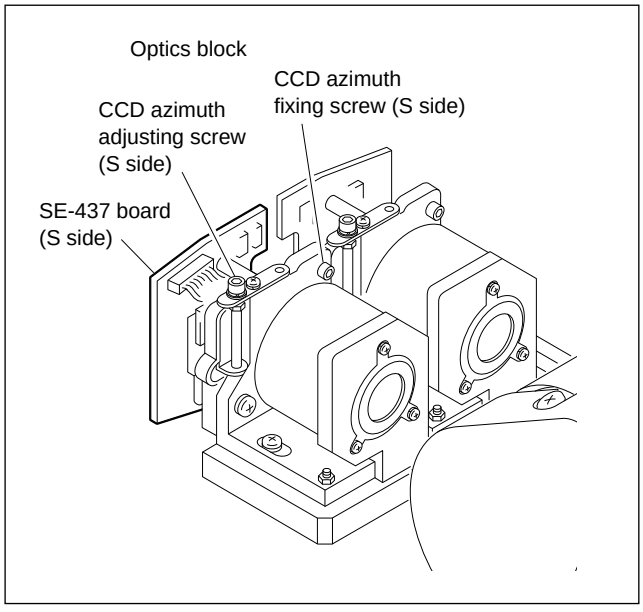
(4) Tighten the loosened two hexagon cap screws at the bottom of the optics block in “procedure (3) of Step 2” and check that the ◊ portions (eye patterns) do not change.

Step 6. CCD azimuth fine adjustment

(1) Connect the filter tool between the TP1 on the RD-35 board and oscilloscope CH1 as shown in the figure. (The same as “Step 5. CCD focus fine adjustment”.)

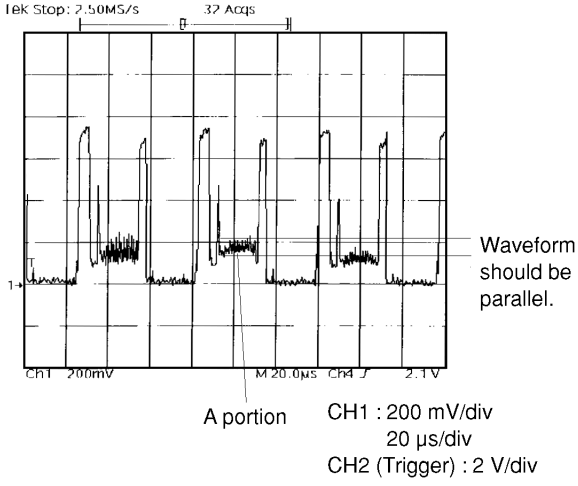
(2) Input the command **m10** from the PC keyboard and then press the Enter key.

(3) Loosen the S side CCD azimuth fixing screw about a half turn using hex wrench driver (across 2.5 mm).



(4) Rotate and adjust the CCD azimuth adjustment screws so that the output waveform of the oscilloscope meets the following specification.

Specification : A portion (second) of the output waveform should be parallel.



(5) After the adjustment has been completed, tighten the CCD azimuth fixing screw loosened at the procedure (3).

Step 7. CCD magnification fine adjustment

(1) Connect the filter tool between the TP1 on the RD-35 board and oscilloscope CH1 as shown in the figure. (The same as “Step 5. CCD focus fine adjustment”.)

(2) Input the command **w0** from the PC keyboard and then press the Enter key.

(3) Check that the displayed value of “LPF 2T1T” (▭ section in the figure) meets the following specification.

Specification :

Displayed value of LPF 2TIT

= S side magnification correction value* ±8

∗ S side magnification correction value :
Value indicated on the data sheet provided with the alignment film used in adjustments.

```
RF OFSET                      : 00F3
RF GAIN                       : 0024
VCO OFSET                     : 1D80
2TEDGE 1TEDGE LENGTH CL2T A2 : E2A1 E3C3 0906 E2A2 C3
RAW_VCO LP_32VCO CALC_FS ERR : 0051 0A1C 0886 0190
LPF_2T1T                      : ▭
DIF_LEVEL HANE_LEVEL          : 0960 01FF
3T_PEAK_AVE PK_GAIN_LIM       : 0275 005A
HIKIKOMI [5T/3T] [AFC]        : [OK] [OK]
3T LOCATION                   : E2D5 E2F3 E317 E33B E35D E37B E39F E3C3
3T PATTERN 1..DETECTED        : 1111 1110
```

(4) If the above specification is not met, perform steps 2 to 6 to meet it.

2. P side optics adjustment

Note

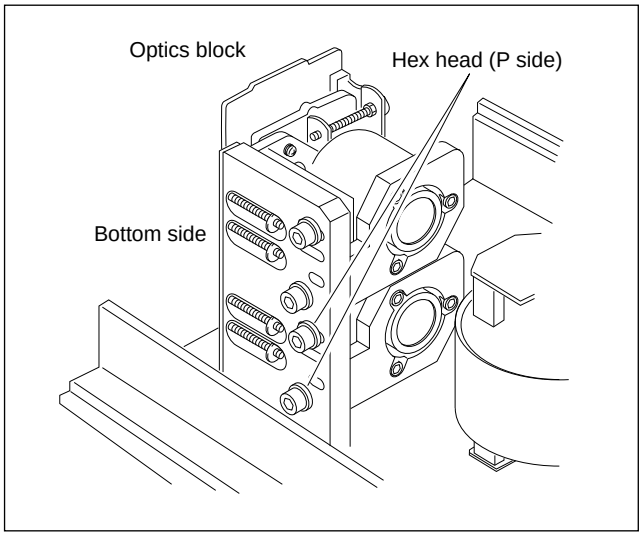
By touching against the lens and the protection glass of the CCD adjustment table, do not make them dirty.

Step 1. Preparation

(1) Load the alignment film into the DFP-R3000 and projector, and then run the alignment film.
(2) Input the command **C1** (press the "C" key and "1" key) from the PC keyboard at the screen of the terminal software started and then press the Enter key.

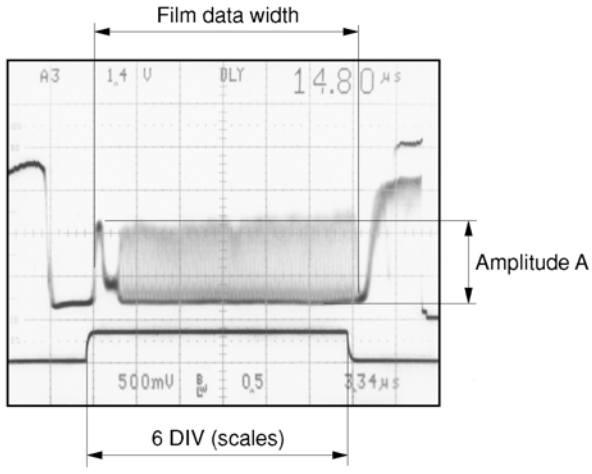
Step 2. CCD magnification and focus rough adjustment

(1) Input the command **m100** from the PC keyboard and then press the Enter key.
(2) Loosen the two hexagon cap screws as the bottom of the optics block about a half turn.



(3) Set the sweep times of the oscilloscope so that the pulse width (high level) of the oscilloscope CH2 output waveform is 6 DIV (scales).
(4) Rotate and adjust the second and third adjustment screws from the mechanical deck chassis using a hex wrench driver so that amplitude A of the output waveform of the oscilloscope CH1 becomes maximum.
(5) Check that the film data width of the oscilloscope CH1 meets the following specification.

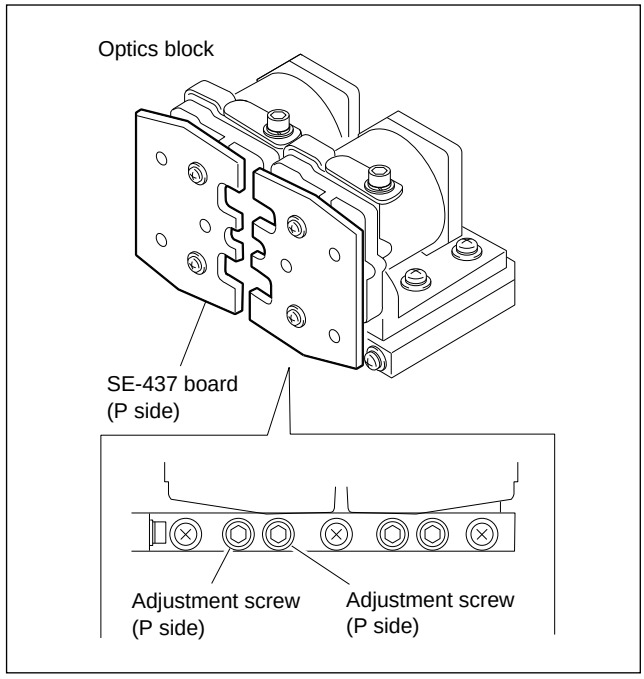
Specification : Film data width = 6 ±0.1 scales



CH1, CH3 : 500 mV/div
3.34 ms/div
CH2 (Trigger) : 2 V/div

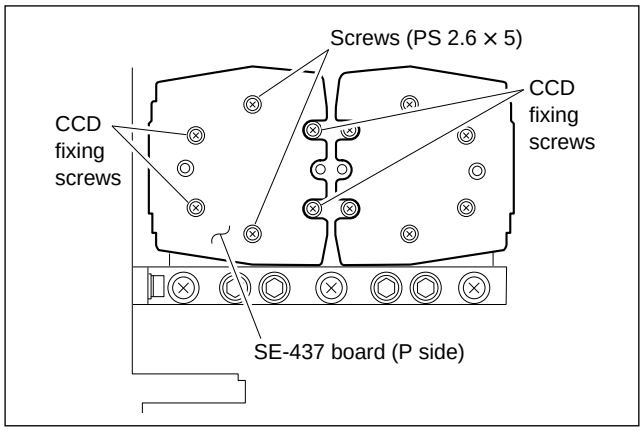
- When the film data width is narrower than the above specification, turn the adjustment screw at the third from the mechanical chassis counterclockwise and perform the procedure (4) and (5) above.

- When the film data width is wider than the above specification, turn the adjustment screw at the third from the mechanical chassis clockwise and perform the procedure (4) and (5) above.



Step 3. CCD position adjustment

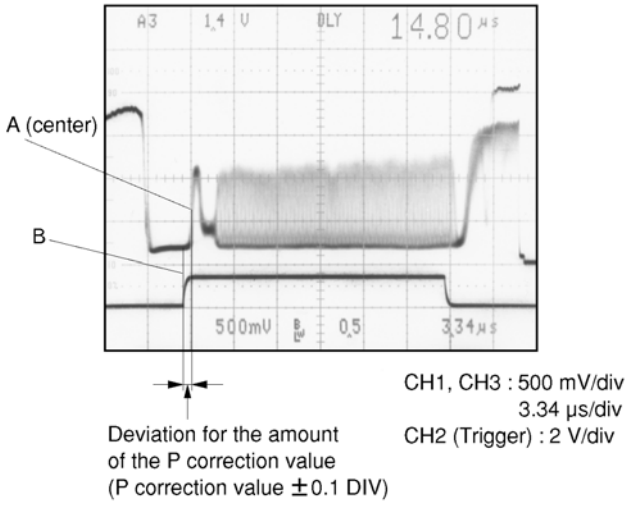
(1) Loosen the two screws (PSW2.6 × 6) and four CCD fixing screws (PS2 × 4) on the SE-437 board (P side) about a half turn.



(2) Adjust the position to install the CCD using a eccentric screwdriver so that the following specification is met. Adjust according to the correction value in the data sheet provided with the alignment film as shown below.

Specification : A portion of the film data signal of the oscilloscope CH1 should be deviated from center B of the rising pulse of the reference signal of CH2 for the amount of the P correction value (±0.1 mark).

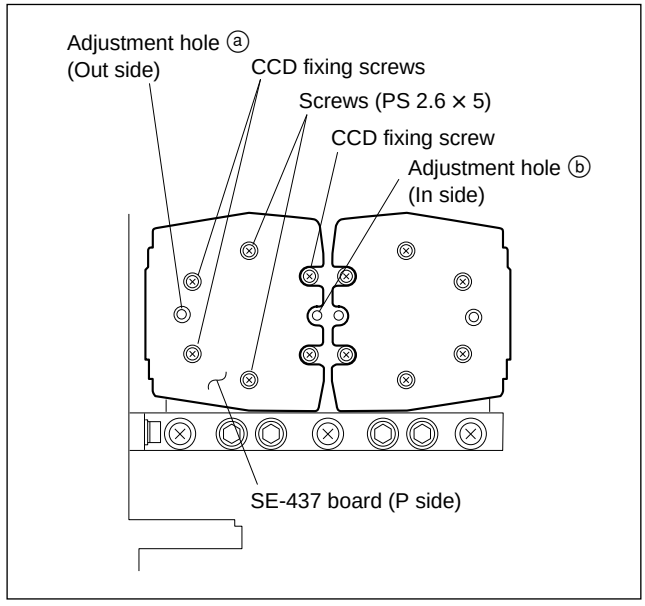
When the P correction value is + :
A portion of the signal leads B portion of the center of the rising pulse for the amount of the correction value.
When the P correction value is − :
A portion of the signal trails B portion of the center of the rising pulse for the amount of the correction value.



Adjustment

If A portion of the signal leads B portion of the center of the rising pulse more than the correction value, move the CCD from the outside of the optical block to the inside. Adjust by inserting the eccentric screwdriver in the adjustment hole ⓐ on the outside of the CCD.

When A portion of the signal trails B portion of the center of the rising pulse more than the correction value, move the CCD from the inside of the optical block to the outside. Adjust by inserting the eccentric screwdriver in the adjustment hole ⓑ on the inside of the CCD.

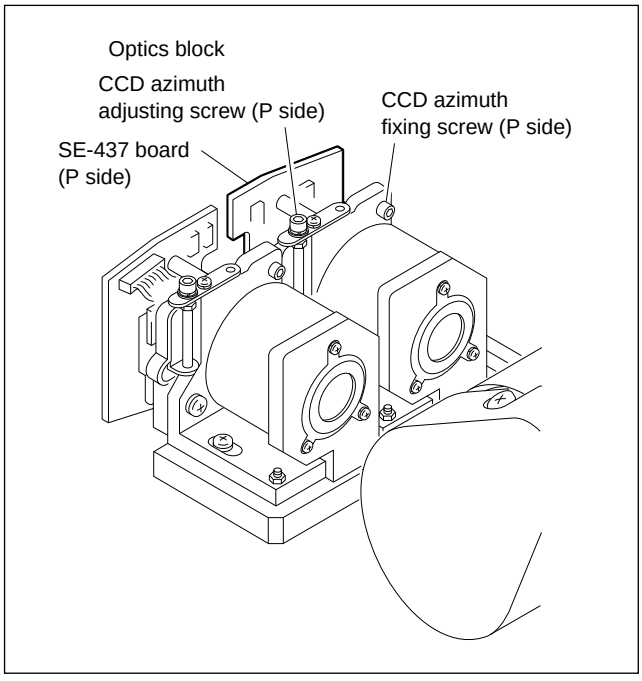


(3) Tighten the six screws loosened at the procedure (1) above.
(4) After the tightening the screws, re-check to meet the specification in the procedure (2) above.

Step 4. CCD azimuth rough adjustment

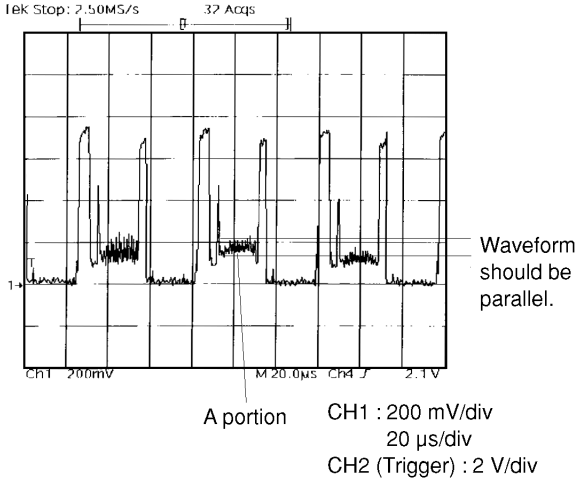
(1) Input the command **m110** from the PC keyboard and then press the Enter key.

(2) Loosen the P side azimuth fixing screw about a half turn using hex wrench driver (across 2.5 mm).



(3) Rotate and adjust the CCD azimuth adjustment screws so that the output waveform of the oscilloscope meets the following specification.

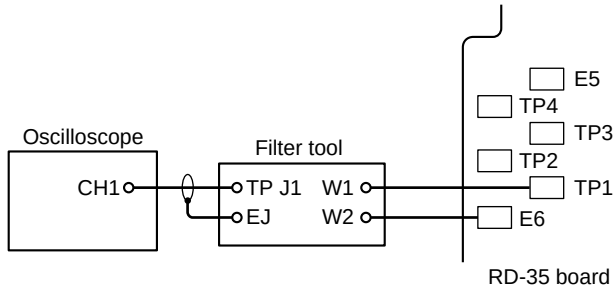
Specification : A portion (second) of the output waveform should be parallel.



(4) After the adjustment has been completed, tighten the CCD azimuth fixing screw loosened at the procedure (2) above.

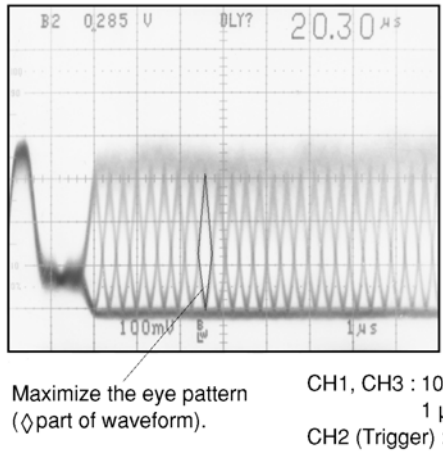
Step 5. CCD focus fine adjustment

(1) Connect the filter tool between the TP1 on the RD-35 board and oscilloscope CH1 as shown in the figure.



(2) Input the command **m100** from the PC keyboard and then press the Enter key.

(3) Rotate and adjust the second and third CCD adjustment screws from the mechanical deck chassis so that the ◊ part (eye patterns) of the output waveform (TP1) of the oscilloscope CH1 becomes maximum.



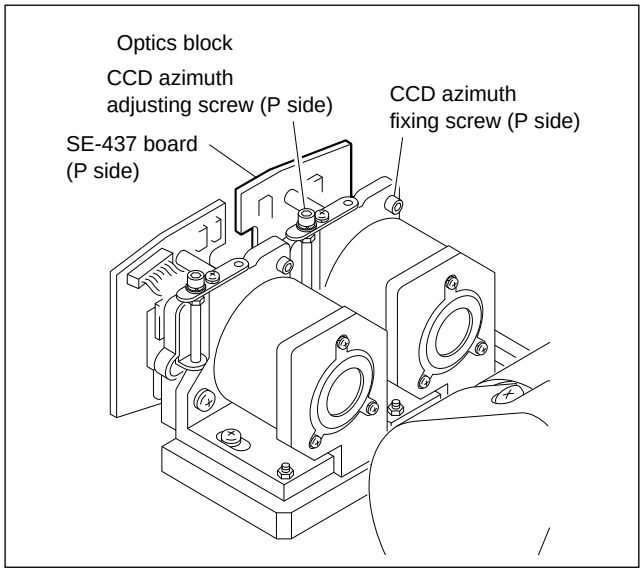
(4) Tighten the loosened two hexagon cap screws at the bottom of the optics block in “procedure (3) of Step 2”, and check that the ◊ portions (eye patterns) do not change.

Step 6. CCD azimuth fine adjustment

(1) Connect the filter tool between the TP1 on the RD-35 board and oscilloscope CH1 as shown in the figure. (The same as “Step 5. CCD focus fine adjustment”.)

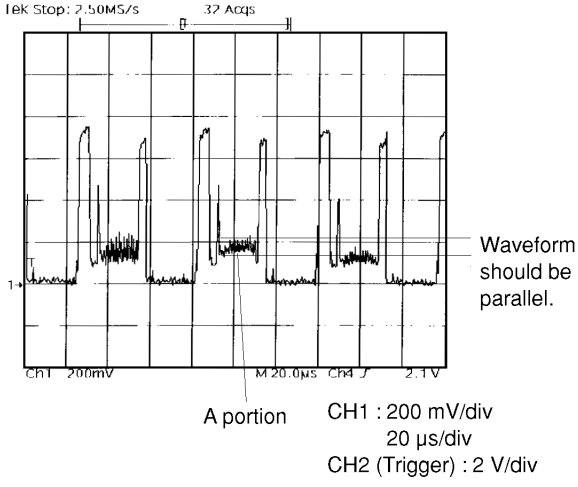
(2) Input the command **m110** from the PC keyboard and then press the Enter key.

(3) Loosen the P side CCD azimuth fixing screw about a half turn using hex wrench driver (across 2.5 mm).



(4) Rotate and adjust the CCD azimuth adjustment screws so that the output waveform of the oscilloscope meets the following specification.

Specification : A portion (second) of the output waveform should be parallel.



(5) After the adjustment has been completed, tighten the CCD azimuth fixing screw loosened at the procedure (3).

Step 7. CCD magnification fine adjustment

(1) Connect the filter tool between the TP1 on the RD-35 board and oscilloscope CH1.
(The same as “Step 5. CCD focus fine adjustment”.)

(2) Input the command **w1** from the PC keyboard and then press the Enter key.

(3) Check that the displayed value of “LPF 2T1T” (section in the figure) meets the following specification.

Specification :
Displayed value of LPF 2TIT
= P side magnification correction value* ±8

* P side magnification correction value :
Value indicated on the data sheet provided with the alignment film used in adjustments.

```
RF OFSET                      : 00F3
RF GAIN                       : 0024
VCO OFSET                     : 1D80
2TEDGE 1TEDGE LENGTH CL2T A2 : E2A1 E3C3 0906 E2A2 C3
RAW_VCO LP_32VCO CALC_FS ERR : 0051 0A1C 0886 0190
LPF_2T1T                      :
DIF_LEVEL HANE_LEVEL          : 0960 01FF
3T_PEAK_AVE PK_GAIN_LIM       : 0275 005A
HIKIKOMI [5T/3T] [AFC]        : [OK] [OK]
3T LOCATION                   : E2D5 E2F3 E317 E33B E35D E37B E39F E3C3
3T PATTERN 1..DETECTED        : 1111 1110
```

(4) If the above specification is not met, perform steps 2 to 6 to meet it.

3-6. FG checking

Perform the FG checking when sprocket SUB assembly, sprocket holder and brake are replaced.

Required Equipment and Tools

DFP-D3000
Projector
Oscilloscope
Connection cable (Supplied with DFP-R3000)
Alignment film (with data sheet)

Preparation

Remove the front panel assembly and left side panel and then connect the DFP-R3000 and DFP-D3000 READER connector using connection cable.

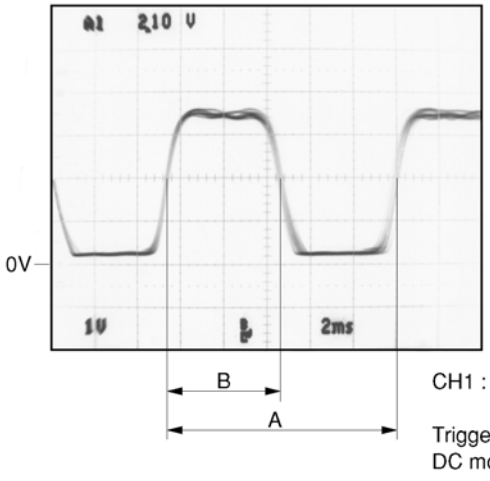
Procedure

(1) Connect the oscilloscope to the following points on the RD-35 board.

Oscilloscope	→	RD-35 board
CH1	→	TP4 (FG)

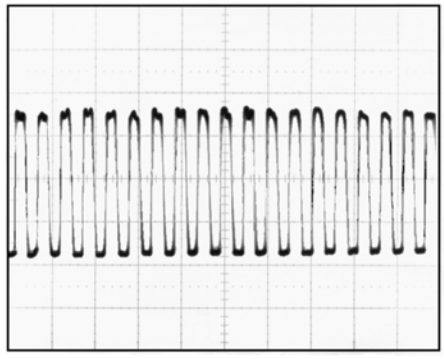
(2) Load the alignment film into the DFP-R3000 and projector, and then run the film.
(3) Check that the output (FG waveform) of oscilloscope meets the following specification.

Specification : Duty ratio $\frac{B}{A} = 50 \pm 10$ %



CH1 : 1 V/div
2 ms/div
Trigger CH1
DC mode

(4) Change the measuring range of the oscilloscope as shown below, and check that the FG waveform of the oscilloscope is not chipped.



CH1 : 1 V/div
20 ms/div
Trigger CH1
DC mode

(5) If the duty ratio does not meet the specification, perform the installation of the replaced part again.

3-7. Error Rate Checking

Check the error rate using the film for checking error rate. Check the error rate checking with DFP-R3000 installed to the projector and connected to DEP-D3000.

Required Equipment and Tools

DFP-D3000
Projector
Personal computer ; PC/AT compatible
(Operating system ; Microsoft Windows95)
Film for error rate checking
Installation reels (A) (part No. 9-936-836-01)
Installation reels (SR) (part No. 9-936-837-01)
SDDS Setup software
Connection cable (Supplied with DFP-D3000)
RS-232C Null modem cable

Procedure

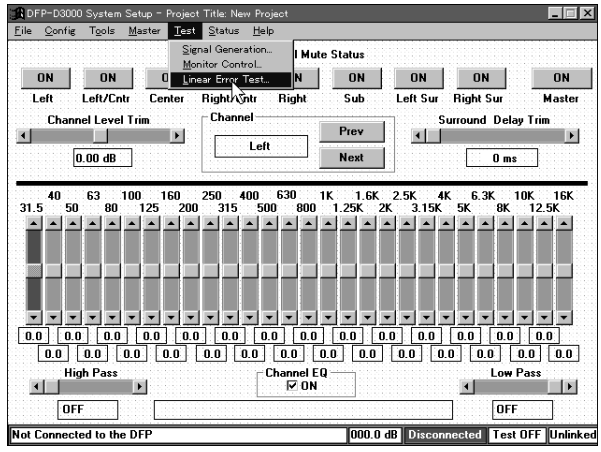
Step 1. Preparation

(1) Connect the DFP-R3000 to the DFP-D3000 READER connector using connection cable.
(2) Connect the RS-232C connector of the DFP-D3000 and a serial port of PC (personal computer) using RS-232C Null modem cable.
(3) Load the installation reels (A) or (SR) into the DFP-R3000 and projector.

Step 2. Checking the error rate

(1) Start up Windows95 in PC.
(2) Insert SDDS Setup software disk into floppy disk drive on PC.
(3) Open “3.5 inch FD” from “My Computer” of Windows95 and start up “Dfp.exe” of SDDS Setup software disk.
(4) Run the installation reels.
(5) Select the “Liner Error Test” command located under the “Test” menu of “DFP-D3000 System Setup” screen.

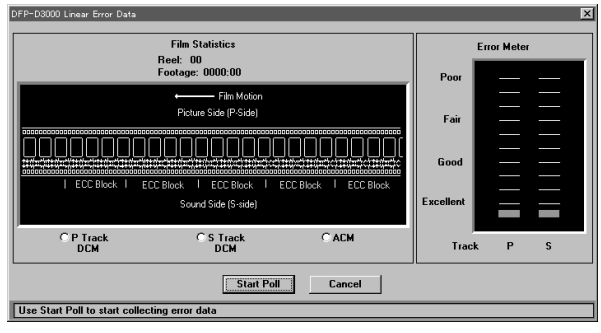
DFP-D3000 System Setup screen



(6) Select the error rate measurement track (P Track, S Track or ACM) on “DFP-D3000 Liner Error Data” dialog box.
(7) Click Start Poll button, and measure the error rate when the film is running. (Run the film about five minutes.)
Check that only the “Excellent” (Green) and “Good” (Yellow) indicators of the Error Meter display of the “DEP-D3000 Linear Error Data” dialog box light up.

If the “Fair” and “Poor” indicators also light up, adjust the installing position of DEP-R3000 again to meet the error rate.

DFP-D3000 Linear Error Data screen



Section 4
Spare Parts

4-1. 補修部品注意事項

1. 安全重要部品

⚠警告

⚠印のついた部品は安全性を維持するために重要な部品です。したがって，交換する時は必ず指定の部品を使ってください。

2. 部品の共通化

ソニーから供給する補修用部品は，セットに使われているものと異なることがあります。
これは部品の共通化，改良等によるものです。
部品表には現時点での共通化された補修用部品が記載されています。

3. 部品の在庫

部品表のSP (Supply code) 欄に“o”で示される部品は在庫していないことがあり，納期が長くなることがあります。

4. 単位の表記

下記の単位については，表記を変更または省略しています。

	単位	表記
静電容量	μF	uF
インダクタンス	μH	uH
抵抗値	Ω	省略
温度	℃	XXX-DEG-C

4-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.
Parts list has the present standardized repair parts.

3. Stock of Parts

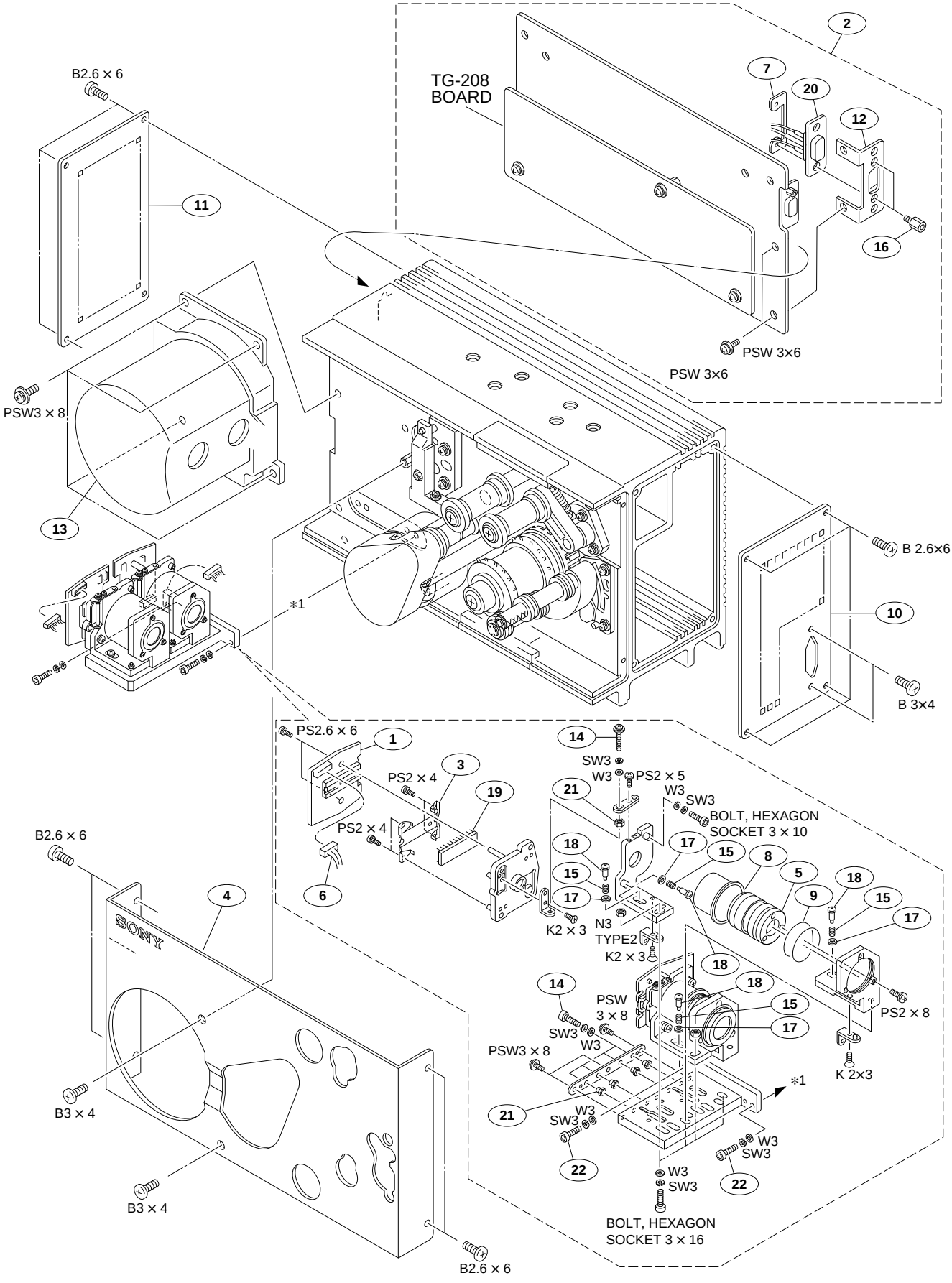
Parts marked with “o” at SP(Supply Code)column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

4. Units Representation

The following represented units are changed or omitted in writing.

	Units	Representation
Capacitance	μF	uF
Inductance	μH	uH
Resistance	Ω	Abbreviation
Temperature	℃	XXX-DEG-C

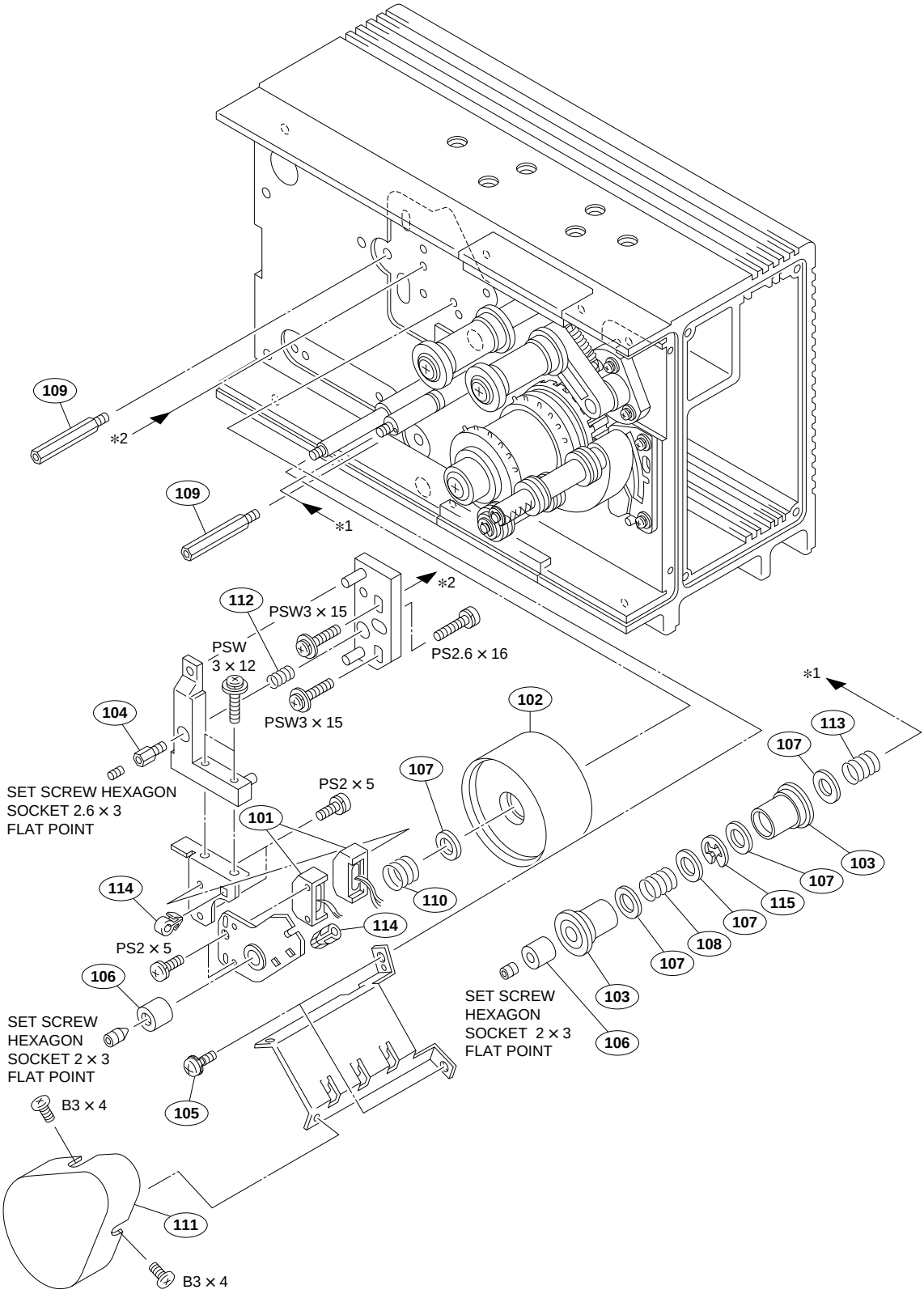
4-2. Exploded Views



No.	Part No.	SP	Description
1	A-8318-471-A	o	MOUNTED CIRCUIT BOARD, SE-437
2	✻ A-8318-474-A	o	MOUNTED CIRCUIT BOARD, RD-35
3	X-3167-697-1	o	SPRING ASSY, CCD RETAINER
4	X-3168-036-1	o	PANEL ASSY, FRONT
5	1-758-171-11	s	LENS, SDDS
6	1-958-555-14	o	HARNESS, SUB (CCD1)
7	2-139-018-02	s	NUT (D SUB 9P), PLATE
8	3-184-840-01	o	COVER, LENS
9	3-187-347-01	s	SPRING, COMPRESSION
10	3-194-784-01	o	PLATE, RIGHT SIDE
11	3-194-788-01	o	PLATE, LEFT SIDE
12	3-194-789-01	o	PANEL, CONNECTOR
13	3-194-830-01	o	COVER, OPT
14	3-200-272-01	s	CAP SCREW (3X25)
15	3-539-237-00	s	SPRING (3), COMPRESSION
16	3-673-910-21	o	SCREW, CONNECTOR
17	3-693-831-01	s	WASHER, GUIDE
18	4-931-471-01	s	SCREW (STEP)
19	8-759-493-44	s	IC RL0256DEG-011
20	1-958-635-11	o	HARNESS, SUB (CNSDIR)
21	3-185-241-01	s	NUT (M3), STEP
22	7-683-405-04	s	BOLT, HEXAGON SOCKET 3X10

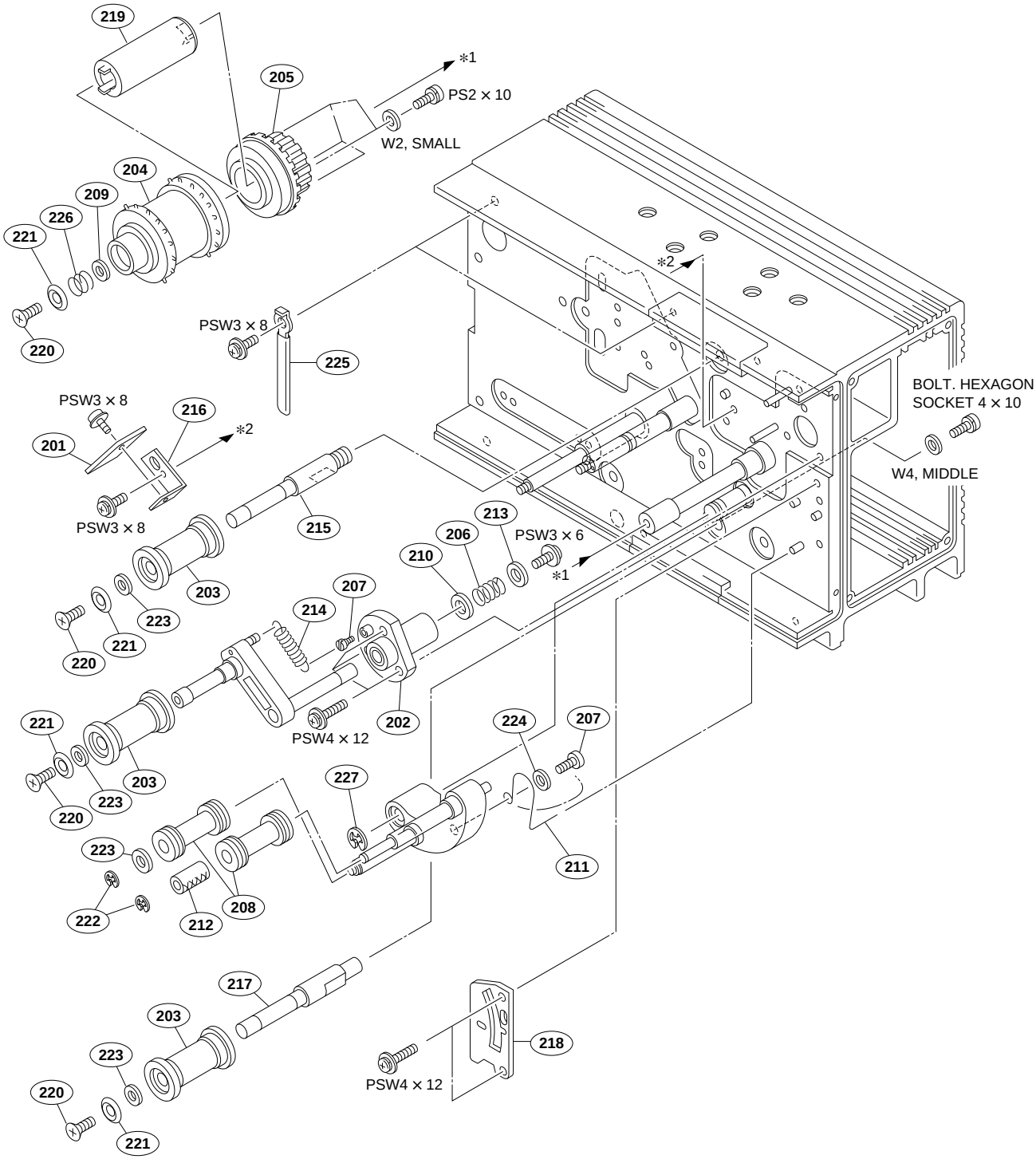
✻ RD-35 board (Suffix: -12, 13) includs TG-208 board.

DRUM, LED ASSEMBLY



No.	Part No.	SP	Description
101	⚠ A-8318-476-A	s	LED ASSY
102	X-3168-030-1	s	DRUM ASSY
103	X-3168-031-1	s	GUIDE (S) ASSY, ROLLER
104	2-144-109-01	s	SHAFT (MAIN)
105	3-178-213-21	s	SCREW B3X10 (WITH WASHER)
106	3-185-150-02	o	RETAINER, BEARING
107	3-185-161-01	o	SPACER (DAI 8)
108	3-186-836-01	s	SPRING, COMPRESSION
109	3-194-814-01	s	SUPPORT
110	3-194-816-01	s	SPRING, COMPRESSION
111	3-194-823-01	o	COVER, DRUM
112	3-534-235-00	s	SPRING, COMPRESSION
113	3-558-379-02	o	SPRING, COMPRESSION
114	3-660-815-00	s	CLIP, CABLE
115	7-624-111-04	s	STOP RING 7.0, TYPE-E

SPROCKET, ROLLER GUIDE, TENSION REGULATOR



No.	Part No.	SP	Description
201	A-8318-470-A	o	MOUNTED CIRCUIT BOARD, SE-439
202	X-3167-617-1	s	TENSION REGULATOR B SUB ASSY
203	X-3167-637-1	s	GUIDE ASSY, ROLLER
204	X-3168-029-2	s	SPROCKET SUB ASSY
205	X-3168-033-2	s	HOLDER ASSY, SPROCKET
206	2-623-515-02	s	SPRING (A), COMPRESSION
207	3-185-152-02	s	SPRING HOOK SCREW (B)
208	3-185-158-12	s	ROLLER, FILM RETAINER
209	3-185-161-01	o	SPACER (DAI 8)
210	3-185-167-01	o	SPACER (DIA 6)
211	3-185-289-03	s	SPRING, RING
212	3-186-589-01	o	SHAFT, PR KNOB
213	3-186-850-01	o	STOPPER (DIA 3)
214	3-187-701-01	s	SPRING, EXTENSION
215	3-194-786-01	o	SHAFT (S (35)), ROLLER GUIDE
216	3-194-787-02	o	BRACKET, FG
217	3-194-801-01	o	SHAFT (T (35)), ROLLER GUIDE
218	3-194-802-02	o	PLATE, PAD
219	3-194-805-01	s	BRAKE
220	3-194-809-01	s	SCREW RK 4X8
221	3-194-810-01	s	WASHER (DIA. 4), ORNAMENT
222	3-194-813-01	s	RING (DIA. 3),E TYPE RETAINING
223	3-194-815-01	o	STOPPER (DIA. 4)
224	3-654-058-01	o	SPACER 3X3
225	3-703-150-11	o	CLAMP
226	3-186-836-01	s	SPRING, COMPRESSION
227	7-624-111-04	s	STOP RING 7.0, TYPE-E

4-3. Electrical Parts List

RD-35 BOARD(Board No.Suffix:-12)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8318-474-A	o	MOUNTED CIURCUIT BOARD, RD-35 (This mounted circuit board includes TG-208, DUS-179, DUS-180, DUS-182 boards.)

The parts of following reference numbers are mounted on the RD-35 board(suffix:-12), but they do not fuction electricalley in DFP-R3000 with serial numbers(10001 to 10150).

Ref.Nos.:
- C24,C34-39,C45,C48,C50,C52,C55,C61-C67,C69-73,C104-134, C137,C138,C142-144,C153-158,C167-170
- D11,12
- E1-4
- L7-10
- IC6,IC7,IC19,IC23,IC26,IC28,IC32,IC35
- Q14,Q15
- R9,R10,R20,R26,R48,R54,R67,R77,R78,R81-90,R98,R105, R130-R149,R151-179,R214-217

Ref. No. or Q'ty	Part No.	SP	Description
1pc	2-139-018-01	s	NUT (D SUB 9P), PLATE
1pc	3-194-789-01	o	PANEL, CONNECTOR
2pcs	3-673-910-21	o	SCREW, CONNECTOR
2pcs	7-682-947-01	s	SCREW +PSW 3X6
1pc	8-759-197-33	s	IC AM29F010-70JC
C1	1-115-785-11	s	ELECT 470uF 20% 25V
C2	1-107-907-11	s	ELECT 22uF 20% 50V
C3	1-107-907-11	s	ELECT 22uF 20% 50V
C4	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C5	1-128-526-11	s	ELECT 100uF 20% 25V
C6	1-126-972-11	s	ELECT 1000uF 20% 25V
C7	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C8	1-128-526-11	s	ELECT 100uF 20% 25V
C9	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C10	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C11	1-128-526-11	s	ELECT 100uF 20% 25V
C12	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C13	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C14	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C15	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C16	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C17	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C18	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C19	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C20	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C21	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C22	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C23	1-164-346-11	s	CERAMIC 1uF 16V
C25	1-115-741-11	s	ELECT 0.0022F 20% 10V
C26	1-115-741-11	s	ELECT 0.0022F 20% 10V
C27	1-128-526-11	s	ELECT 100uF 20% 25V
C28	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C29	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C30	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C31	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C32	1-164-346-11	s	CERAMIC 1uF 16V
C33	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

(RD-35 BOARD(Board No.Suffix:-12))

Ref. No. or Q'ty	Part No.	SP	Description
C40	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C41	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C42	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C43	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C44	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C46	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C47	1-128-526-11	s	ELECT 100uF 20% 25V
C49	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C51	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C53	1-163-085-00	s	CERAMIC, CHIP 2PF 50V
C54	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C56	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C57	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C58	1-107-907-11	s	ELECT 22uF 20% 50V
C59	1-128-526-11	s	ELECT 100uF 20% 25V
C60	1-128-526-11	s	ELECT 100uF 20% 25V
C68	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C74	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C75	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C76	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C77	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C78	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C79	1-104-914-11	s	TANTALUM 22uF 20% 16V
C80	1-104-914-11	s	TANTALUM 22uF 20% 16V
C81	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C82	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C83	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C84	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C85	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C86	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C87	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C88	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C89	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C90	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C91	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C92	1-111-034-11	s	ELECT 220uF 20% 16V
C93	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C94	1-104-914-11	s	TANTALUM 22uF 20% 16V
C95	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C96	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C97	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C98	1-128-526-11	s	ELECT 100uF 20% 25V
C99	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C100	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C101	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C103	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C135	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C136	1-104-914-11	s	TANTALUM 22uF 20% 16V
C139	1-126-795-11	s	ELECT 10uF 20% 50V
C140	1-104-914-11	s	TANTALUM 22uF 20% 16V
C141	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C145	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C146	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C147	1-126-795-11	s	ELECT 10uF 20% 50V
C148	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C149	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C150	1-126-795-11	s	ELECT 10uF 20% 50V
C151	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

(RD-35 BOARD(Board No.Suffix:-12))

Ref. No. or Q'ty	Part No.	SP	Description
C152	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C160	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C161	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C162	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C163	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C164	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C165	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C166	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-958-635-11	o	HARNESS, SUB (CNSDIR)
CN2	1-764-079-21	s	PIN, CONNECTOR (PC BOARD) 4P, MALE
CN4	1-764-081-21	s	PIN, CONNECTOR (PC BOARD) 9P, MALE
CN5	1-764-078-11	s	PIN, CONNECTOR (PC BOARD) 3P, MALE
CN6	1-764-078-11	s	PIN, CONNECTOR (PC BOARD) 3P, MALE
CN7	1-564-004-11	o	PIN, CONNECTOR 5P
CN8	1-764-081-21	s	PIN, CONNECTOR (PC BOARD) 9P, MALE
CN9	1-573-566-11	s	CONNECTOR, D-SUB(ANGLE TYPE)9P, FEMALE
D1	8-719-068-70	s	DIODE RK39
D2	8-719-067-23	s	DIODE RD22FM-T1
D3	8-719-067-38	s	DIODE SFPB-74VL
D4	8-719-068-69	s	DIODE FMB-G24H
D5	8-719-987-43	s	DIODE CL-150PG-CD
D6	8-719-987-43	s	DIODE CL-150PG-CD
D7	8-719-941-23	s	DIODE DA204U
D8	8-719-941-23	s	DIODE DA204U
D9	8-719-941-23	s	DIODE DA204U
D10	8-719-941-23	s	DIODE DA204U
D11	8-719-941-23	s	DIODE DA204U
D12	8-719-941-23	s	DIODE DA204U
D13	8-719-941-23	s	DIODE DA204U
D14	8-719-941-23	s	DIODE DA204U
E5	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E6	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E7	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E8	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E9	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E10	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E11	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E12	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E13	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E14	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
FB1	1-543-309-21	s	BEAD, FERRITE
FB2	1-543-309-21	s	BEAD, FERRITE
IC1	8-759-988-13	s	IC LM393PS
IC2	8-759-477-81	s	IC TK11220BMCL
IC4	8-752-078-32	s	IC CXB1341R
IC5	8-759-493-43	s	IC LM2587SX-5.0
IC8	8-759-528-46	s	IC XRD44L60CIV
IC9	8-752-334-64	s	IC CXD1171M
IC10	8-759-347-83	s	IC TK11233AUTB
IC11	8-759-296-24	s	IC CY7C199-20VC
IC12	8-759-540-06	s	IC AM29F010-RD35IC12-V1.0
IC13	8-759-492-33	s	IC KL5C80A12CFP
IC14	8-759-477-48	s	IC STK22C48-S45
IC15	8-759-420-77	s	IC PST574CMT-T1
IC16	8-759-926-12	s	IC SN74HC139ANS
IC17	8-759-252-59	s	IC MAX202CSE
IC18	8-759-925-90	s	IC SN74HC74ANS

(RD-35 BOARD(Board No.Suffix:-12))

Ref. No. or Q'ty	Part No.	SP	Description
IC20	8-759-399-13	s	IC AD9696KR-REEL
IC21	8-752-334-64	s	IC CXD1171M
IC22	8-759-528-91	s	IC DS1000Z-150(TE2)
IC24	8-759-534-96	s	IC SN74AHCT125PW-E05
IC25	8-759-528-92	s	IC TK16111MTL
IC27	8-759-291-14	s	IC DS1000Z-25(TE2)
IC29	8-759-399-13	s	IC AD9696KR-REEL
IC30	8-752-334-64	s	IC CXD1171M
IC31	8-759-528-91	s	IC DS1000Z-150(TE2)
IC33	8-759-534-96	s	IC SN74AHCT125PW-E05
IC34	8-759-528-92	s	IC TK16111MTL
IC36	8-759-291-14	s	IC DS1000Z-25(TE2)
IC37	8-759-443-30	s	IC MC33269DTRK-3.3
IC38	8-759-528-73	s	IC CXD9067Q
IC39	8-759-424-30	s	IC MC74HC174AFEL
IC40	8-759-424-30	s	IC MC74HC174AFEL
IC41	8-759-175-30	s	IC NJM78L12UA-TE1
IC42	8-759-426-24	s	IC TC7ST08FU(TE85R)
IC43	8-759-426-24	s	IC TC7ST08FU(TE85R)
L1	1-424-643-11	s	COIL, CHOKE 10uH
L2	1-424-643-11	s	COIL, CHOKE 10uH
L3	1-424-643-11	s	COIL, CHOKE 10uH
L6	1-424-643-11	s	COIL, CHOKE 10uH
L7	1-424-643-11	s	COIL, CHOKE 10uH
L8	1-424-643-11	s	COIL, CHOKE 10uH
L9	1-424-643-11	s	COIL, CHOKE 10uH
L10	1-424-643-11	s	COIL, CHOKE 10uH
Q1	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q2	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q3	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q4	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q6	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q7	8-729-117-32	s	TRANSISTOR 2SC4177
Q8	8-729-117-32	s	TRANSISTOR 2SC4177
Q9	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q10	8-729-117-32	s	TRANSISTOR 2SC4177
Q12	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q13	8-729-117-32	s	TRANSISTOR 2SC4177
Q16	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q17	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q18	8-729-022-29	s	TRANSISTOR 2SJ332S
R1	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R2	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R3	1-216-097-91	s	RES, CHIP 100K 5% 1/10W
R4	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R5	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R6	1-216-097-91	s	RES, CHIP 100K 5% 1/10W
R7	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R8	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R11	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R13	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R14	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R15	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
R16	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R17	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R18	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R19	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R21	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W

(RD-35 BOARD(Board No.Suffix:-12))

Ref. No. or Q'ty	Part No.	SP	Description
R22	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R23	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R24	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R25	1-216-660-11	s	METAL, CHIP 2.4K 0.5% 1/10W
R27	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R28	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R29	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R30	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R31	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R32	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R33	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R34	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R35	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R36	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R37	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R39	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R40	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R43	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R44	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R45	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R46	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R47	1-216-619-11	s	METAL, CHIP 47 0.5% 1/10W
R49	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R50	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R51	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R52	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R53	1-216-611-11	s	METAL, CHIP 22 0.5% 1/10W
R55	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R56	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R57	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R58	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R59	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R60	1-216-611-11	s	METAL, CHIP 22 0.5% 1/10W
R61	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R62	1-216-625-11	s	METAL, CHIP 82 0.5% 1/10W
R63	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R64	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R65	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R66	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R68	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R69	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R70	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R71	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R72	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R73	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R74	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R75	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R79	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R80	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R91	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R92	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R95	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R96	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R99	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R100	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R101	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R102	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R103	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R104	1-216-033-00	s	METAL, CHIP 220 5% 1/10W

(RD-35 BOARD(Board No.Suffix:-12))

Ref. No. or Q'ty	Part No.	SP	Description
R106	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R107	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R108	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R109	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R110	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R111	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R112	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R113	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R115	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R116	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R117	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R118	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R119	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R120	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R121	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R122	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R123	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R124	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R125	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R126	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R127	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R128	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R129	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R180	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R181	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R182	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R183	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R184	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R185	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R186	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R187	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R189	1-216-105-91	s	METAL, CHIP 220K 5% 1/10W
R190	1-216-105-91	s	METAL, CHIP 220K 5% 1/10W
R191	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R192	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R193	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R194	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R195	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R196	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R197	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R198	1-216-065-91	s	RES, CHIP 4.7K 5% 1/10W
R199	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R200	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R201	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R202	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R203	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R204	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R205	1-216-065-91	s	RES, CHIP 4.7K 5% 1/10W
R206	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R207	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R208	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R209	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R210	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R211	1-216-097-91	s	RES, CHIP 100K 5% 1/10W
R212	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R213	1-218-477-11	s	RES, CHIP 220 5% 1/4W
S1	1-572-438-11	s	SWITCH, TACTIL

(RD-35 BOARD(Board No.Suffix:-12))

Ref. No. or Q'ty	Part No.	SP	Description
T1	1-475-738-11	s	TRANSFORMER, DC-DC CONVERTER
TP1	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP2	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP3	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP4	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
X1	1-760-527-11	s	OSCILLATOR, CRYSTAL 32.000MHz

DUS-179 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
This board is included in RD-35 board(board No.suffix:-12).			
C1	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
IC1	8-759-268-95	s	IC SN74HCT00ANS-E05

DUS-180 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
This board is included in RD-35 board(board No.suffix:-12).			
C1	1-164-156-11	s	CERAMIC, CHIP 0.1uF 25V
IC1	8-759-925-74	s	IC SN74HC04ANS

DUS-182 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
This board is included in RD-35 board(board No.suffix:-12).			
C1	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C2	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
R1	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R2	1-216-041-00	s	METAL, CHIP 470 5% 1/10W

RD-35 BOARD(Board No.Suffix:-13)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8318-474-A	o	MOUNTED CIRCUIT BOARD, RD-35
(This mounted circuit board includes TG-208 board.)			
1pc	2-139-018-01	s	NUT (D SUB 9P), PLATE
1pc	3-194-789-01	o	PANEL, CONNECTOR
3pcs	3-200-867-01	o	SUPPORT
2pcs	3-673-910-21	o	SCREW, CONNECTOR
3pcs	7-621-759-65	s	+PSW, 2.6X8
3pcs	7-621-773-95	s	SCREW +B 2.6X6
2pcs	7-682-947-01	s	SCREW +PSW 3X6
C1	1-115-785-11	s	ELECT 470uF 20% 25V
C2	1-107-907-11	s	ELECT 22uF 20% 50V
C3	1-107-907-11	s	ELECT 22uF 20% 50V
C4	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C5	1-128-526-11	s	ELECT 100uF 20% 25V
C6	1-126-972-11	s	ELECT 1000uF 20% 25V
C7	1-165-319-11	s	CHIP, CERAMIC 0.1MF 50V
C8	1-128-526-11	s	ELECT 100uF 20% 25V
C9	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C10	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C11	1-128-526-11	s	ELECT 100uF 20% 25V
C12	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C13	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C14	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C15	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C16	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C17	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C18	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C20	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C21	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C22	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C23	1-165-319-11	s	CHIP, CERAMIC 0.1uF 50V
C25	1-115-741-11	s	ELECT 0.0022F 20% 10V
C26	1-115-741-11	s	ELECT 0.0022F 20% 10V
C27	1-128-526-11	s	ELECT 100uF 20% 25V
C28	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C29	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C30	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C31	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C32	1-164-346-11	s	CERAMIC 1uF 16V
C33	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C40	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C41	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C42	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C43	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C44	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C46	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C47	1-128-526-11	s	ELECT 100uF 20% 25V
C49	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C51	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C53	1-163-085-00	s	CERAMIC, CHIP 2PF 50V
C54	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C56	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C57	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C58	1-107-907-11	s	ELECT 22uF 20% 50V
C59	1-128-526-11	s	ELECT 100uF 20% 25V
C60	1-128-526-11	s	ELECT 100uF 20% 25V
C68	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C74	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C75	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

(RD-35 BOARD(Board No.Suffix:-13))

Ref. No. or Q'ty	Part No.	SP	Description
C76	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C77	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C83	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C84	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C85	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C86	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C87	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C88	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C89	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C90	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C91	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C92	1-111-034-11	s	ELECT 220uF 20% 16V
C93	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C94	1-104-914-11	s	TANTALUM 22uF 20% 16V
C95	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C96	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C97	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C98	1-128-526-11	s	ELECT 100uF 20% 25V
C99	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C100	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C101	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C103	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C135	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C136	1-104-914-11	s	TANTALUM 22uF 20% 16V
C139	1-126-795-11	s	ELECT 10uF 20% 50V
C140	1-104-914-11	s	TANTALUM 22uF 20% 16V
C141	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C145	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C146	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C147	1-126-795-11	s	ELECT 10uF 20% 50V
C148	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C149	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C150	1-126-795-11	s	ELECT 10uF 20% 50V
C151	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C152	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C160	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C161	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C162	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C163	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C164	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C165	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C166	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-958-635-11	o	HARNESS, SUB (CNSDIR)
CN2	1-764-079-21	s	PIN, CONNECTOR (PC BOARD) 4P, MALE
CN4	1-764-081-21	s	PIN, CONNECTOR (PC BOARD) 9P, MALE
CN5	1-764-078-11	s	PIN, CONNECTOR (PC BOARD) 3P, MALE
CN6	1-764-078-11	s	PIN, CONNECTOR (PC BOARD) 3P, MALE
CN7	1-564-004-11	o	PIN, CONNECTOR 5P
CN8	1-764-081-21	s	PIN, CONNECTOR (PC BOARD) 9P, MALE
CN9	1-573-566-11	s	CONNECTOR, D-SUB(ANGLE TYPE)9P, FEMALE
CN100	1-784-088-11	o	CONNECTOR, BOARD TO BOARD 140P
D1	8-719-068-70	s	DIODE RK39
D2	8-719-067-23	s	DIODE RD22FM-T1
D3	8-719-067-38	s	DIODE SFPB-74VL
D4	8-719-068-69	s	DIODE FMB-G24H
D5	8-719-987-43	s	DIODE CL-150PG-CD
D6	8-719-987-43	s	DIODE CL-150PG-CD

(RD-35 BOARD(Board No.Suffix:-13))

Ref. No. or Q'ty	Part No.	SP	Description
D7	8-719-941-23	s	DIODE DA204U
D8	8-719-941-23	s	DIODE DA204U
D9	8-719-941-23	s	DIODE DA204U
D10	8-719-941-23	s	DIODE DA204U
D13	8-719-941-23	s	DIODE DA204U
D14	8-719-941-23	s	DIODE DA204U
E1	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E2	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E3	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E4	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E5	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E6	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E7	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E8	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E9	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E10	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E11	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E12	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E13	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E14	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
FB1	1-543-309-21	s	BEAD, FERRITE
FB2	1-543-309-21	s	BEAD, FERRITE
IC1	8-759-988-13	s	IC LM393PS
IC2	8-759-563-05	s	IC EPM7032STC44-10
IC4	8-752-078-32	s	IC CXB1341R
IC5	8-759-493-43	s	IC LM2587SX-5.0
IC9	8-752-334-64	s	IC CXD1171M
IC11	8-759-296-24	s	IC CY7C199-20VC
IC12	8-759-540-06	s	IC AM29F010-RD35IC12-V1.0
IC13	8-759-492-33	s	IC KL5C80A12CFP
IC14	8-759-477-48	s	IC STK22C48-S45
IC15	8-759-420-77	s	IC PST574CMT-T1
IC16	8-759-926-12	s	IC SN74HC139ANS
IC17	8-759-252-59	s	IC MAX202CSE
IC18	8-759-925-90	s	IC SN74HC74ANS
IC37	8-759-443-30	s	IC MC33269DTRK-3.3
IC38	8-759-528-73	s	IC CXD9067Q
IC39	8-759-424-30	s	IC MC74HC174AFEL
IC40	8-759-424-30	s	IC MC74HC174AFEL
IC41	8-759-175-30	s	IC NJM78L12UA-TE1
IC42	8-759-426-24	s	IC TC7ST08FU(TE85R)
IC43	8-759-426-24	s	IC TC7ST08FU(TE85R)
IC44	8-759-268-95	s	IC SN75HCT00ANS-E05
IC45	8-759-268-95	s	IC SN75HCT00ANS-E05
IC46	8-759-267-91	s	IC SN74HC04ANS-E05
L1	1-424-643-11	s	COIL, CHOKE 10uH
L2	1-424-643-11	s	COIL, CHOKE 10uH
L3	1-424-643-11	s	COIL, CHOKE 10uH
L6	1-424-643-11	s	COIL, CHOKE 10uH
Q1	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q2	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q3	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q4	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q6	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q7	8-729-117-32	s	TRANSISTOR 2SC4177
Q8	8-729-117-32	s	TRANSISTOR 2SC4177
Q9	8-729-807-51	s	TRANSISTOR 2SD1623-S

(RD-35 BOARD(Board No.Suffix:-13))

Ref. No. or Q'ty	Part No.	SP	Description
Q10	8-729-117-32	s	TRANSISTOR 2SC4177
Q12	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q13	8-729-117-32	s	TRANSISTOR 2SC4177
Q16	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q17	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q18	8-729-022-29	s	TRANSISTOR 2SJ332S
R1	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R2	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R3	1-216-097-91	s	RESCHIP 100K 5% 1/10W
R4	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R5	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R6	1-216-097-91	s	RESCHIP 100K 5% 1/10W
R7	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R8	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R11	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R13	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R14	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R15	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
R16	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R17	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R18	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R19	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R21	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R22	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R23	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R24	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R25	1-216-660-11	s	METAL, CHIP 2.4K 0.5% 1/10W
R27	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R28	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R29	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R30	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R32	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R33	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R34	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R35	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R36	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R37	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R39	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R40	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R43	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R44	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R45	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R46	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R47	1-216-619-11	s	METAL, CHIP 47 0.5% 1/10W
R49	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R50	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R51	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R52	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R53	1-216-611-11	s	METAL, CHIP 22 0.5% 1/10W
R55	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R56	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R57	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R58	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R59	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R60	1-216-611-11	s	METAL, CHIP 22 0.5% 1/10W
R61	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R62	1-216-625-11	s	METAL, CHIP 82 0.5% 1/10W
R63	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W

(RD-35 BOARD(Board No.Suffix:-13))

Ref. No. or Q'ty	Part No.	SP	Description
R64	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R65	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R66	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R68	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R69	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R70	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R71	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R72	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R73	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R74	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R75	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R78	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R79	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R80	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R91	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R92	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R95	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R96	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R99	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R101	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R102	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R103	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R104	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R106	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R107	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R108	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R109	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R110	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R111	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R112	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R113	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R115	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R116	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R117	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R118	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R119	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R120	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R121	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R122	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R123	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R124	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R125	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R126	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R127	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R128	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R129	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R146	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R150	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R171	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R175	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R179	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R180	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R181	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R182	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R183	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R184	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R185	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R186	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W

(RD-35 BOARD(Board No.Suffix:-13))

Ref. No. or Q'ty	Part No.	SP	Description
R187	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R188	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R189	1-216-105-91	s	METAL, CHIP 220K 5% 1/10W
R190	1-216-105-91	s	METAL, CHIP 220K 5% 1/10W
R191	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R192	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R193	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R194	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R195	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R196	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R197	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R198	1-216-065-91	s	RES, CHIP 4.7K 5% 1/10W
R199	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R200	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R201	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R202	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R203	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R204	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R205	1-216-065-91	s	RES, CHIP 4.7K 5% 1/10W
R206	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R207	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R208	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R209	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R210	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R211	1-216-097-91	s	RES, CHIP 100K 5% 1/10W
R212	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R213	1-218-477-11	s	RES, CHIP 220 5% 1/4W
S1	1-572-438-11	s	SWITCH, TACTIL
T1	1-475-738-11	s	TRANSFORMER, DC-DC CONVERTER
TP1	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP2	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP3	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP4	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
X1	1-760-527-11	s	OSCILLATOR, CRYSTAL 32.000MHz

TG-208 BOARD

Ref. No. or Q'ty	Part No.	SP	Description

This board is included in RD-35 board(suffix:-12,13).

C1	1-107-690-11	s	TANTALUM, CHIP 6.8uF 20% 35V
C2	1-107-690-11	s	TANTALUM, CHIP 6.8uF 20% 35V
C3	1-107-690-11	s	TANTALUM, CHIP 6.8uF 20% 35V
C4	1-107-690-11	s	TANTALUM, CHIP 6.8uF 20% 35V
C5	1-107-690-11	s	TANTALUM, CHIP 6.8uF 20% 35V
C6	1-107-690-11	s	TANTALUM, CHIP 6.8uF 20% 35V
C7	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C8	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C10	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C11	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C12	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C13	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C14	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C15	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C16	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C18	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C19	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C20	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C21	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C22	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C23	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C24	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C25	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C26	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C27	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C28	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C29	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C30	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C31	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C34	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C35	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C36	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C37	1-104-914-11	s	TANTALUM 22uF 20% 16V
C38	1-104-914-11	s	TANTALUM 22uF 20% 16V
C39	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C45	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C50	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C52	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C55	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C61	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C62	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C63	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C64	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C65	1-104-914-11	s	TANTALUM 22uF 20% 16V
C66	1-104-914-11	s	TANTALUM 22uF 20% 16V
C67	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C69	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C71	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C72	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C73	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C78	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C79	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C80	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C81	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C82	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C104	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C105	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

(TG-208 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C106	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C107	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C108	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C109	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C111	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C112	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C113	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C114	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C115	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C116	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C117	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C118	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C119	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C120	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C121	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C122	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C123	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C125	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C126	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C127	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C128	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C129	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C130	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C131	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C132	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C133	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C134	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C137	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C138	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C142	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C143	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C144	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C153	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C154	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C155	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C157	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C158	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C167	1-115-340-11	s	CERAMIC 0.22uF 10% 25V
C168	1-115-340-11	s	CERAMIC 0.22uF 10% 25V
C169	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C170	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-506-487-11	o	CONNECTOR, 8P, MALE
D1	8-719-072-41	s	DIODE SFPB-52VL
D2	8-719-072-41	s	DIODE SFPB-52VL
D3	8-719-072-41	s	DIODE SFPB-52VL
D4	8-719-072-41	s	DIODE SFPB-52VL
D7	8-719-072-41	s	DIODE SFPB-52VL
D8	8-719-072-41	s	DIODE SFPB-52VL
D11	8-719-941-23	s	DIODE DA204U
D12	8-719-941-23	s	DIODE DA204U
FL1	1-239-933-12	s	FILTER, LOW PASS
FL2	1-239-933-12	s	FILTER, LOW PASS
IC1	8-759-563-05	s	IC EPM7032STC44-10
IC2	8-759-477-81	s	IC TK11220BMCL
IC3	8-759-386-31	s	IC 74LCX244SJX
IC4	8-759-563-05	s	IC EPM7032STC44-10
IC5	8-759-926-98	s	IC SN74HC4040ANS

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Ref. No. or Q'ty	Part No.	SP	Description
IC6	8-759-528-46	s	IC XRD44L60CIV
IC7	8-759-927-12	s	IC SN74HCT244ANS
IC8	8-759-528-46	s	IC XRD44L60CIV
IC9	8-759-485-28	s	IC W42C70-01GT1
IC10	8-759-347-83	s	IC TK11233AUTB
IC11	8-759-386-31	s	IC 74LCX244SJX
IC12	8-759-563-05	s	IC EPM7032STC44-10
IC20	8-759-399-13	s	IC AD9696KR-REEL
IC21	8-752-334-64	s	IC CXD1171M
IC22	8-759-528-91	s	IC DS1000Z-150(TE2)
IC24	8-759-534-96	s	IC SN74AHCT125PW-E05
IC25	8-759-528-92	s	IC TK16111MTL
IC26	8-759-510-71	s	IC BA10358F-E2
IC27	8-759-291-14	s	IC DS1000Z-25(TE2)
IC29	8-759-399-13	s	IC AD9696KR-REEL
IC30	8-752-334-64	s	IC CXD1171M
IC31	8-759-528-91	s	IC DS1000Z-150(TE2)
IC33	8-759-534-96	s	IC SN74AHCT125PW-E05
IC34	8-759-528-92	s	IC TK16111MTL
IC35	8-759-510-71	s	IC BA10358F-E2
IC36	8-759-291-14	s	IC DS1000Z-25(TE2)
L1	1-406-773-11	s	COIL, CHOKE 150uH
L7	1-424-643-11	s	COIL, CHOKE 10uH
L8	1-424-643-11	s	COIL, CHOKE 10uH
L9	1-424-643-11	s	COIL, CHOKE 10uH
L10	1-424-643-11	s	COIL, CHOKE 10uH
Q1	8-729-036-43	s	TRANSISTOR HAT1023R-EL
Q2	8-729-040-85	s	TRANSISTOR HAT2027R-EL
Q14	8-729-045-92	s	TRANSISTOR 2SK1070PIDTL
Q15	8-729-045-92	s	TRANSISTOR 2SK1070PIDTL
R1	1-218-231-11	s	RESCHIP 1 10% 1/2W
R2	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R4	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R5	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R6	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R7	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R8	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R9	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R10	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R11	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R12	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R13	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R14	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R15	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R16	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R17	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R18	1-218-231-11	s	RESCHIP 1 10% 1/2W
R20	1-218-231-11	s	RESCHIP 1 10% 1/2W
R26	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R31	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R38	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R48	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R54	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R67	1-216-065-91	s	RESCHIP 4.7K 5% 1/10W
R77	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R81	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R82	1-218-231-11	s	RESCHIP 1 10% 1/2W
R83	1-216-025-91	s	METAL, CHIP 100 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R84	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R85	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R86	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R87	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R88	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R89	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R90	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R97	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R98	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R100	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R105	1-216-065-91	s	RESCHIP 4.7K 5% 1/10W
R130	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R131	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R132	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R133	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R134	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R135	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R136	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R137	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R138	1-216-121-91	s	RESCHIP 1M 5% 1/10W
R139	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R140	1-216-672-11	s	METAL, CHIP 7.5K 0.5% 1/10W
R141	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R142	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R143	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R144	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R146	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R148	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R149	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R151	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R154	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R155	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R156	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R157	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R158	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R159	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R160	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R161	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R162	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R163	1-216-121-91	s	RESCHIP 1M 5% 1/10W
R164	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R165	1-216-672-11	s	METAL, CHIP 7.5K 0.5% 1/10W
R166	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R167	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R168	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R169	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R170	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R171	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R173	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R174	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R176	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R214	1-216-295-91	s	METAL, CHIP 0 5% 1/10W

RD-35 BOARD(Board No.Suffix:-14)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8318-474-A	s	MOUNTED CIRCUIT BOARD, RD-35
1pc	2-139-018-01	s	NUT (D SUB 9P), PLATE
1pc	3-194-789-01	o	PANEL, CONNECTOR
2pcs	3-673-910-21	o	SCREW, CONNECTOR
2pcs	7-682-947-01	s	SCREW +PSW 3X6
1pc	8-759-197-33	s	IC AM29F010-70JC
2pcs	8-759-563-05	s	IC EPM7032STC44-10
C1	1-115-785-11	s	ELECT 470uF 20% 25V
C2	1-107-907-11	s	ELECT 22uF 20% 50V
C3	1-107-907-11	s	ELECT 22uF 20% 50V
C4	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C5	1-128-526-11	s	ELECT 100uF 20% 25V
C6	1-126-972-11	s	ELECT 1000uF 20% 25V
C7	1-165-319-11	s	CHIP, CERAMIC 0.1MF 50V
C8	1-128-526-11	s	ELECT 100uF 20% 25V
C9	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C10	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C11	1-128-526-11	s	ELECT 100uF 20% 25V
C12	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C13	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C14	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C15	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C16	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C17	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C18	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C19	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C20	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C21	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C22	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C23	1-165-319-11	s	CHIP, CERAMIC 0.1MF 50V
C24	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C25	1-115-741-11	s	ELECT 0.0022F 20% 10V
C26	1-115-741-11	s	ELECT 0.0022F 20% 10V
C27	1-128-526-11	s	ELECT 100uF 20% 25V
C28	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C29	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C30	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C31	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C32	1-164-346-11	s	CERAMIC 1uF 16V
C33	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C34	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C35	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C36	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C37	1-104-914-11	s	TANTALUM 22uF 20% 16V
C38	1-104-914-11	s	TANTALUM 22uF 20% 16V
C39	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C40	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C41	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C42	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C43	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C44	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C45	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C46	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C47	1-128-526-11	s	ELECT 100uF 20% 25V
C49	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C50	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C51	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C52	1-163-021-91	s	CERAMIC 0.01uF 10% 50V

(RD-35 BOARD(Board No.Suffix:-14))

Ref. No. or Q'ty	Part No.	SP	Description
C53	1-163-085-00	s	CERAMIC, CHIP 2PF 50V
C54	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C55	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C56	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C57	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C58	1-107-907-11	s	ELECT 22uF 20% 50V
C61	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C62	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C63	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C64	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C65	1-104-914-11	s	TANTALUM 22uF 20% 16V
C66	1-104-914-11	s	TANTALUM 22uF 20% 16V
C67	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C68	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C69	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C71	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C72	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C73	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C74	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C75	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C76	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C77	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C78	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C79	1-104-914-11	s	TANTALUM 22uF 20% 16V
C80	1-104-914-11	s	TANTALUM 22uF 20% 16V
C81	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C82	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C83	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C84	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C85	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C86	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C87	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C88	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C89	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C90	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C91	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C92	1-111-034-11	s	ELECT 220uF 20% 16V
C93	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C94	1-104-914-11	s	TANTALUM 22uF 20% 16V
C95	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C96	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C97	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C98	1-128-526-11	s	ELECT 100uF 20% 25V
C99	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C100	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C101	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C103	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C104	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C105	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C106	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C107	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C108	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C109	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C110	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C111	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C112	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C113	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C114	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C115	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C116	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C117	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C118	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C119	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C120	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C121	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C122	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C123	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C124	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C125	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C126	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C127	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C128	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C129	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C130	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C131	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C132	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C133	1-126-795-11	s	ELECT 10uF 20% 50V
C134	1-126-795-11	s	ELECT 10uF 20% 50V
C135	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C136	1-104-914-11	s	TANTALUM 22uF 20% 16V
C137	1-126-795-11	s	ELECT 10uF 20% 50V
C138	1-126-795-11	s	ELECT 10uF 20% 50V
C139	1-126-795-11	s	ELECT 10uF 20% 50V
C140	1-104-914-11	s	TANTALUM 22uF 20% 16V
C141	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C142	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C143	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C144	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C145	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C146	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C153	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C154	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C155	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C157	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C158	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C160	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C161	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C162	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C163	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C164	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C165	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C166	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C167	1-115-340-11	s	CERAMIC 0.22uF 10% 25V
C168	1-115-340-11	s	CERAMIC 0.22uF 10% 25V
C169	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C170	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C173	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C174	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C177	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C178	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C179	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C180	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V
C181	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C182	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C183	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C184	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C185	1-135-259-11	s	TANTALUM, CHIP 10uF 20% 6.3V

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Ref. No. or Q'ty	Part No.	SP	Description
C186	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C187	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C188	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C189	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-506-473-11	s	CONNECTOR, 8P, MALE
CN2	1-764-079-21	s	PIN, CONNECTOR (PC BOARD) 4P, MALE
CN4	1-764-081-21	s	PIN, CONNECTOR (PC BOARD) 9P, MALE
CN5	1-764-078-11	s	PIN, CONNECTOR (PC BOARD) 3P, MALE
CN6	1-764-078-11	s	PIN, CONNECTOR (PC BOARD) 3P, MALE
CN8	1-764-081-21	s	PIN, CONNECTOR (PC BOARD) 9P, MALE
CN9	1-573-566-11	s	CONNECTOR, D-SUB(ANGLE TYPE)9P, FEMALE
D1	8-719-068-70	s	DIODE RK39
D2	8-719-067-23	s	DIODE RD22FM-T1
D3	8-719-067-38	s	DIODE SFPB-74VL
D4	8-719-068-69	s	DIODE FMB-G24H
D5	8-719-987-43	s	DIODE CL-150PG-CD
D6	8-719-987-43	s	DIODE CL-150PG-CD
D9	8-719-941-23	s	DIODE DA204U
D10	8-719-941-23	s	DIODE DA204U
D11	8-719-941-23	s	DIODE DA204U
D12	8-719-941-23	s	DIODE DA204U
E1	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E2	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E3	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E4	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E5	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E6	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E7	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E8	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E9	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E10	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E11	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E12	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E13	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
E14	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
FB1	1-543-309-21	s	BEAD, FERRITE
FB2	1-543-309-21	s	BEAD, FERRITE
FL1	1-239-933-12	s	FILTER, LOW PASS
FL2	1-239-933-12	s	FILTER, LOW PASS
IC1	8-759-988-13	s	IC LM393PS
IC2	8-759-477-81	s	IC TK11220BMCL
IC3	8-759-386-31	s	IC 74LCX244SJX
IC4	8-752-078-32	s	IC CXB1341R
IC5	8-759-493-43	s	IC LM2587SX-5.0
IC6	8-759-528-46	s	IC XRD44L60CIV
IC7	8-759-927-12	s	IC SN74HCT244ANS-E05
IC8	8-759-528-46	s	IC XRD44L60CIV
IC9	8-752-334-64	s	IC CXD1171M
IC10	8-759-347-83	s	IC TK11233AUTB
IC11	8-759-296-24	s	IC CY7C199-20VC
IC12	8-759-540-06	s	IC AM29F010-RD35IC12-V1.0
IC13	8-759-492-33	s	IC KL5C80A12CFP
IC14	8-759-399-56	s	IC STK12C68-S45
IC15	8-759-420-77	s	IC PST574CMT-T1
IC16	8-759-926-12	s	IC SN74HC139ANS
IC17	8-759-252-59	s	IC MAX202CSE
IC18	8-759-925-90	s	IC SN74HC74ANS

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Ref. No. or Q'ty	Part No.	SP	Description
IC19	8-759-058-58	s	IC TC7S04FU(TE85R)
IC20	8-759-563-07	s	IC AD8561AR-REEL7
IC21	8-752-334-64	s	IC CXD1171M
IC22	8-759-528-91	s	IC DS1000Z-150(TE2)
IC23	8-759-386-31	s	IC 74LCX244SJX
IC24	8-759-534-96	s	IC SN74AHCT125PW-E05
IC25	8-759-528-92	s	IC TK16111MTL
IC26	8-759-510-71	s	IC UPC358G2-E2
IC27	8-759-291-14	s	IC DS1000Z-25(TE2)
IC28	8-759-566-59	o	IC EPM7032STC-CCDV10
IC29	8-759-563-07	s	IC AD8561AR-REEL7
IC30	8-752-334-64	s	IC CXD1171M
IC31	8-759-528-91	s	IC DS1000Z-150(TE2)
IC32	8-759-485-28	s	IC W42C70-01GT1
IC33	8-759-534-96	s	IC SN74AHCT125PW-E05
IC34	8-759-528-92	s	IC TK16111MTL
IC35	8-759-510-71	s	IC UPC358G2-E2
IC36	8-759-291-14	s	IC DS1000Z-25(TE2)
IC37	8-759-443-30	s	IC MC33269DTRK-3.3
IC38	8-759-528-73	s	IC CXD9067Q
IC42	8-759-426-24	s	IC TC7ST08FU(TE85R)
IC43	8-759-426-24	s	IC TC7ST08FU(TE85R)
IC44	8-759-566-59	o	IC EPM7032STC-CCDV10
IC45	8-759-566-60	o	IC EPM7032STC-PDV10
IC46	8-759-566-60	o	IC EPM7032STC-PDV10
L1	1-424-643-11	s	COIL, CHOKE 10uH
L2	1-424-643-11	s	COIL, CHOKE 10uH
L3	1-424-643-11	s	COIL, CHOKE 10uH
L6	1-424-643-11	s	COIL, CHOKE 10uH
L7	1-424-643-11	s	COIL, CHOKE 10uH
L8	1-424-643-11	s	COIL, CHOKE 10uH
L9	1-424-643-11	s	COIL, CHOKE 10uH
L10	1-424-643-11	s	COIL, CHOKE 10uH
Q1	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q2	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q3	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q4	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q6	8-729-105-68	s	TRANSISTOR 2SC3356-K
Q7	8-729-117-32	s	TRANSISTOR 2SC4177
Q8	8-729-117-32	s	TRANSISTOR 2SC4177
Q9	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q10	8-729-117-32	s	TRANSISTOR 2SC4177
Q12	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q13	8-729-117-32	s	TRANSISTOR 2SC4177
Q14	8-729-045-92	s	TRANSISTOR 2SK1070PIDTL
Q15	8-729-045-92	s	TRANSISTOR 2SK1070PIDTL
Q18	8-729-022-29	s	TRANSISTOR 2SJ332S
R1	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R2	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R3	1-216-097-91	s	RES, CHIP 100K 5% 1/10W
R4	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R5	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R6	1-216-097-91	s	RES, CHIP 100K 5% 1/10W
R7	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R8	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R9	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R10	1-216-039-00	s	METAL, CHIP 390 5% 1/10W
R11	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R12	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R13	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R14	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R15	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
R16	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R17	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R18	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R19	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R20	1-218-231-11	s	RES, CHIP 1 10% 1/2W
R21	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R22	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R23	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R24	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R25	1-216-660-11	s	METAL, CHIP 2.4K 0.5% 1/10W
R26	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R27	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R28	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R29	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R30	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R31	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R32	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R33	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R34	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R35	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R36	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R37	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R38	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R39	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R40	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R41	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R42	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R43	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R44	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R45	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R46	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R47	1-216-619-11	s	METAL, CHIP 47 0.5% 1/10W
R48	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R49	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R50	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R51	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R52	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R53	1-216-611-11	s	METAL, CHIP 22 0.5% 1/10W
R54	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R55	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R56	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R57	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R58	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R59	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R60	1-216-611-11	s	METAL, CHIP 22 0.5% 1/10W
R61	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R62	1-216-625-11	s	METAL, CHIP 82 0.5% 1/10W
R63	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R64	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R65	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R66	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R67	1-216-065-91	s	RES, CHIP 4.7K 5% 1/10W
R70	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R73	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R74	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R75	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R77	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R78	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R81	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R82	1-218-231-11	s	RES, CHIP 1 10% 1/2W
R83	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R84	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R85	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R86	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R87	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R88	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R89	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R90	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R91	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R92	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R93	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R94	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R95	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R96	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R97	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R98	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R99	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R100	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R101	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R102	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R103	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R104	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R105	1-216-065-91	s	RES, CHIP 4.7K 5% 1/10W
R106	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R107	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R108	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R109	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R110	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R111	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R112	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R113	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R115	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R116	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R117	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R118	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R119	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R120	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R121	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R122	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R123	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R124	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R125	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R126	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R127	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R128	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R129	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R130	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R131	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R132	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R133	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R134	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R135	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R137	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W

(RD-35 BOARD(Board No.Suffix:-14))

Ref. No. or Q'ty	Part No.	SP	Description
R138	1-216-121-91	s	RES, CHIP 1M 5% 1/10W
R139	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R140	1-216-672-11	s	METAL, CHIP 7.5K 0.5% 1/10W
R141	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R142	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R143	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R144	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R147	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R148	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R149	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R150	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R151	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R154	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R155	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R156	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R157	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R158	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R159	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R160	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R162	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R163	1-216-121-91	s	RES, CHIP 1M 5% 1/10W
R164	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R165	1-216-672-11	s	METAL, CHIP 7.5K 0.5% 1/10W
R166	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R167	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R168	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R169	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R172	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R173	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R174	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R175	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R176	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R179	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R180	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R181	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R182	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R183	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R184	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R185	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R186	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R187	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R188	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R189	1-216-105-91	s	METAL, CHIP 220K 5% 1/10W
R190	1-216-105-91	s	METAL, CHIP 220K 5% 1/10W
R206	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R207	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R208	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R209	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R211	1-216-097-91	s	RES, CHIP 100K 5% 1/10W
R212	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R213	1-218-477-11	s	RES, CHIP 220 5% 1/4W
R218	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R219	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
R220	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R221	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R222	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R223	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R224	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R225	1-216-295-91	s	METAL, CHIP 0 5% 1/10W

(RD-35 BOARD(Board No.Suffix:-14))

Ref. No. or Q'ty	Part No.	SP	Description
R229	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R230	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R231	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R232	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R233	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R234	1-216-039-00	s	METAL, CHIP 390 5% 1/10W
R235	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R236	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R237	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R238	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R239	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R240	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R241	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R242	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R243	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R244	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R245	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R256	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R257	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
S1	1-572-438-11	s	SWITCH, TACTIL
T1	1-475-738-11	s	TRANSFORMER, DC-DC CONVERTER
TP1	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP2	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP3	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP4	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP50	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP52	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
TP53	1-535-881-21	o	TERMINAL, TP (AUTO INSERTION)
W1	1-958-635-11	o	HARNESS, SUB (CNSDIR)
X1	1-760-527-11	s	OSCILLATOR, CRYSTAL 32.000MHz

SE-437 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8318-471-A	o	MOUNTED CIRCUIT BOARD, SE-437
C1	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C2	1-164-346-11	s	CERAMIC 1uF 16V
C3	1-164-346-11	s	CERAMIC 1uF 16V
C4	1-164-346-11	s	CERAMIC 1uF 16V
C5	1-164-346-11	s	CERAMIC 1uF 16V
C6	1-163-127-00	s	CERAMIC, CHIP 270PF 5% 50V
C7	1-163-257-11	s	CERAMIC, CHIP 180PF 5% 50V
C8	1-163-127-00	s	CERAMIC, CHIP 270PF 5% 50V
C9	1-163-257-11	s	CERAMIC, CHIP 180PF 5% 50V
C10	1-163-259-91	s	CERAMIC 220PF 5% 50V
C11	1-163-259-91	s	CERAMIC 220PF 5% 50V
C12	1-163-127-00	s	CERAMIC, CHIP 270PF 5% 50V
C13	1-163-257-11	s	CERAMIC, CHIP 180PF 5% 50V
C14	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C15	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C16	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C17	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C18	1-107-826-11	s	CERAMIC 0.1uF 10% 16V
C19	1-126-398-11	s	ELECT, CHIP 4.7uF 20% 35V
C21	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C22	1-107-826-11	s	CERAMIC 0.1uF 10% 16V
C23	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C24	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C25	1-164-346-11	s	CERAMIC 1uF 16V
C26	1-164-346-11	s	CERAMIC 1uF 16V
C27	1-107-826-11	s	CERAMIC 0.1uF 10% 16V
C28	1-107-826-11	s	CERAMIC 0.1uF 10% 16V
C29	1-107-826-11	s	CERAMIC 0.1uF 10% 16V
C30	1-107-826-11	s	CERAMIC 0.1uF 10% 16V
C31	1-164-346-11	s	CERAMIC 1uF 16V
C32 ※1	1-162-899-11	s	CERAMIC,0.047uF 10% 50V
C32 ※2	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-764-081-21	s	PIN, CONNECTOR (PC BOARD) 9P, MALE
IC1	8-759-175-30	s	IC NJM78L12UA-TE1
IS2	1-526-657-21	s	SOCKET, IC (DP) 22P
Q1	8-729-031-57	s	TRANSISTOR FC154-TL
Q2	8-729-031-57	s	TRANSISTOR FC154-TL
Q3	8-729-117-32	s	TRANSISTOR 2SC4177
Q4	8-729-031-57	s	TRANSISTOR FC154-TL
Q5	8-729-031-57	s	TRANSISTOR FC154-TL
Q6	8-729-031-57	s	TRANSISTOR FC154-TL
Q7	8-729-031-57	s	TRANSISTOR FC154-TL
Q8	8-729-031-57	s	TRANSISTOR FC154-TL
Q9	8-729-031-57	s	TRANSISTOR FC154-TL
Q11	8-729-031-57	s	TRANSISTOR FC154-TL
Q12	8-729-031-57	s	TRANSISTOR FC154-TL
R1	1-218-652-11	s	METAL 22 0.50% 1/16W
R2	1-218-652-11	s	METAL 22 0.50% 1/16W
R3	1-218-652-11	s	METAL 22 0.50% 1/16W
R4	1-218-652-11	s	METAL 22 0.50% 1/16W
R5	1-218-652-11	s	METAL 22 0.50% 1/16W
R6	1-218-652-11	s	METAL 22 0.50% 1/16W
R7	1-218-652-11	s	METAL 22 0.50% 1/16W
R8	1-218-652-11	s	METAL 22 0.50% 1/16W

(SE-437 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R9	1-216-790-11	s	METAL, CHIP 2.7 5% 1/16W
R10	1-218-652-11	s	METAL 22 0.50% 1/16W
R11	1-218-712-11	s	METAL 6.8K 0.50% 1/16W
R12	1-216-790-11	s	METAL, CHIP 2.7 5% 1/16W
R13	1-218-652-11	s	METAL 22 0.50% 1/16W
R14	1-218-696-11	s	METAL 1.5K 0.50% 1/16W
R15	1-216-790-11	s	METAL, CHIP 2.7 5% 1/16W
R16	1-218-668-11	s	METAL 100 0.50% 1/16W
R17	1-218-716-11	s	METAL 10K 0.50% 1/16W
R18	1-216-790-11	s	METAL, CHIP 2.7 5% 1/16W
R19	1-218-668-11	s	METAL 100 0.50% 1/16W
R20	1-218-716-11	s	METAL 10K 0.50% 1/16W
R21	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R22 ※1	1-218-716-11	s	METAL 10K 0.50% 1/16W
R23 ※2	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R23 ※1	1-218-712-11	s	METAL 6.8k 0.50% 1/16W
R24	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R25	1-218-713-11	s	METAL 7.5K 0.50% 1/16W
R26 ※2	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R27	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R28	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R29	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R30	1-216-790-11	s	METAL, CHIP 2.7 5% 1/16W
R31	1-218-652-11	s	METAL 22 0.50% 1/16W
R32	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
RV1 ※1	1-237-035-11	s	RES, ADJ, METAL 5K
RV1 ※2	1-237-036-11	s	RES, ADJ, METAL 10K

※1 Board No.Suffix:-12
※2 Board No.Suffix:-13

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SE-439 BOARD
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 Ref. No.
 or Q'ty  Part No.    SP Description

 1pc      A-8318-470-A o MOUNTED CIRCUIT BOARD, SE-439
 1pc      1-695-215-11 o CONTACT, FEMALE
 1pc      1-764-194-11 o HOUSING, CONNECTOR 4P, FEMALE

 CN1      1-958-554-13 o HARNESS, SUB (FG1)

 PH1      8-759-245-23 s PHOTO REFLECTOR TLP908(LB)
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FRAME
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 Ref. No.
 or Q'ty  Part No.    SP Description

 2pcs     1-758-171-11 s LENS, SDDS
 2pcs     8-759-493-44 s IC RL0256DEG-011

 HN101    1-958-555-14 o HARNESS, SUB (CCD1)
  (TO CN4/RD-35 BOARD)
  1pc     1-764-197-11 o HOUSING, CONNECTOR 9P, FEMALE
  9pcs    1-695-215-11 o CONTACT, FEMALE
  (TO CN1/SE-437 BOARD)
  1pc     1-764-197-11 o HOUSING, CONNECTOR 9P, FEMALE
  9pcs    1-695-215-11 o CONTACT, FEMALE

 HN102    1-958-555-14 o HARNESS, SUB (CCD1)
  (TO CN8/RD-35 BOARD)
  1pc     1-764-197-11 o HOUSING, CONNECTOR 9P, FEMALE
  9pcs    1-695-215-11 o CONTACT, FEMALE
  (TO CN1/SE-437 BOARD)
  1pc     1-764-197-11 o HOUSING, CONNECTOR 9P, FEMALE
  9pcs    1-695-215-11 o CONTACT, FEMALE

 HN103    1-958-366-12 o HARNESS, SUB (LED1)
  (TO CN5/RD-35 BOARD)
  1pc     1-764-193-11 o HOUSING, CONNECTOR 3P, FEMALE
  4pcs    1-695-215-11 o CONTACT, FEMALE

 HN104    1-958-366-12 o HARNESS, SUB (LED1)
  (TO CN6/RD-35 BOARD)
  1pc      1-764-193-11 o HOUSING, CONNECTOR 3P, FEMALE
  4pcs     1-695-215-11 o CONTACT, FEMALE

 HN105 : Not Supplied Replace by Components.
  (TO CN2/RD-35 BOARD)
  1pc      1-764-194-11 o HOUSING, CONNECTOR 4P, FEMALE
  3pcs     1-695-215-11 o CONTACT, FEMALE
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4-4. Accessories Supplied

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 Ref. No.
 or Q'ty  Part No.    SP Description

 1pc      1-783-382-11 s CORD, CONNECTION (SDDS)
 4pcs     3-185-981-01 o BOLT, UNI DIA. SCREW 3/8
 1pc      3-194-819-03 o ADAPTOR (A)
 4pcs     7-623-710-57 s WASHER 10, WABE TYPE

 5pcs     7-682-963-09 s SCREW +PSW 4X12
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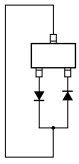
Section 5
Semiconductor Pin Assignments

ここに記載されている半導体は，それぞれの機能を等価的に表したものです。　なお，互換性のない型名を併記していることがありますので，部品を交換するときは，Spare Partsの章を参照してください。
等価回路はICメーカーのデータブックに従いました。

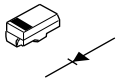
Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

DIODE

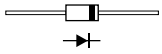
—TOP VIEW—



DA204U
DA204UT106

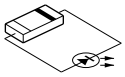


RD22FM-T1
SFPB-74VL

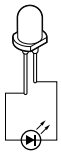


RK39

LED



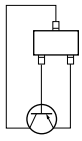
CL-150PG-CD
; GREEN
CL-150PG-CD-T



TLRH180P

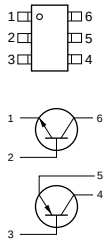
TRANSISTOR

—TOP VIEW—



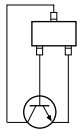
2SA1611-M5M6
2SA1611T1-M5M6

—TOP VIEW—



FC154-TL (SANYO)

—TOP VIEW—



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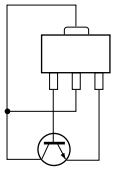
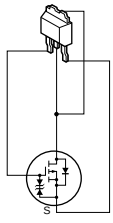
2SC3356-T1K
2SC4177-L6
2SC4177-T1L5L6

OTHERS

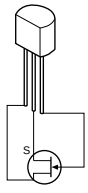
—TOP VIEW—



2SC2873Y-TE12L
2SD1623-S

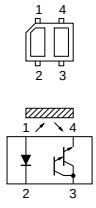


2SJ332S
2SJ332S-TL



2SK435D (HITACHI)

—TOP VIEW—

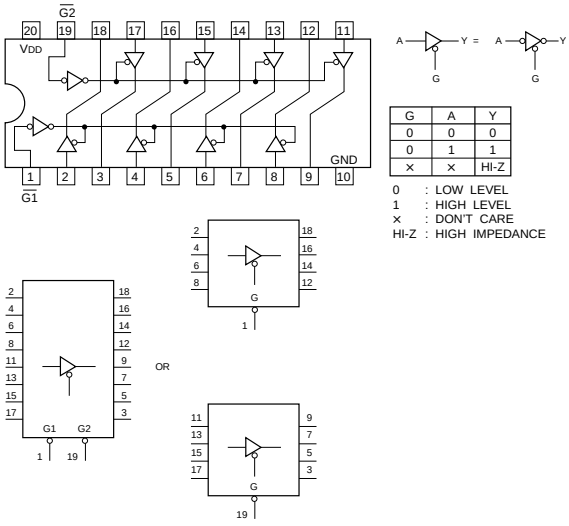


TLP907-OLB

IC

74LCX244SJX (NS)FLAT PACKAGE
SN74HCT244ANS (TI)FLAT PACKAGE
SN74HCT244ANS-E05

C-MOS BUS BUFFER WITH 3-STATE OUTPUTS
—TOP VIEW—

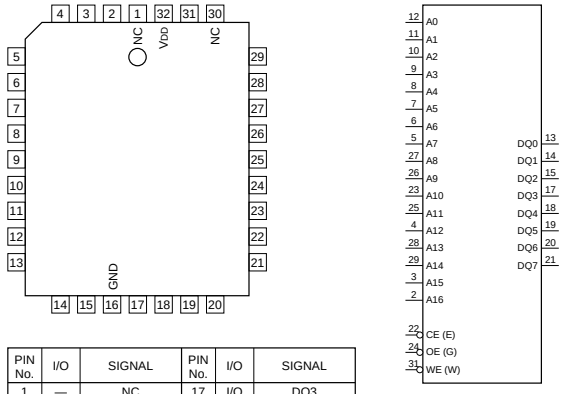


G	A	Y
0	0	0
0	1	1
×	×	HI-Z

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

AM29F010-70JC (AMD)

C-MOS 1 M (131,072 × 8)-BIT FLASH EEPROM
—TOP VIEW—



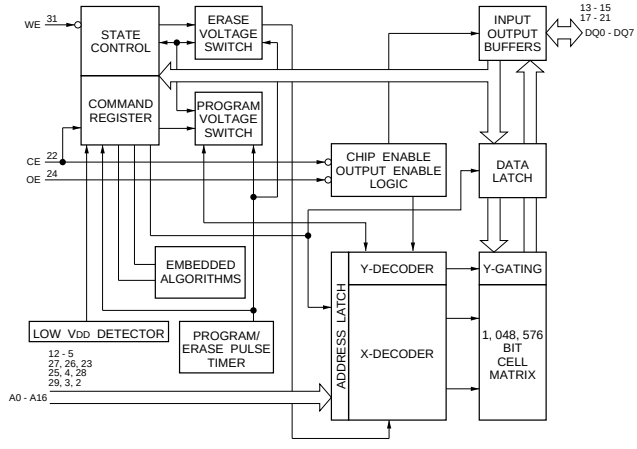
PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	—	NC	17	I/O	DQ3
2	I	A16	18	I/O	DQ4
3	I	A15	19	I/O	DQ5
4	I	A12	20	I/O	DQ6
5	I	A7	21	I/O	DQ7
6	I	A6	22	I	$\overline{CE}$ ($\overline{E}$)
7	I	A5	23	I	A10
8	I	A4	24	I	$\overline{OE}$ ($\overline{G}$)
9	I	A3	25	I	A11
10	I	A2	26	I	A9
11	I	A1	27	I	A8
12	I	A0	28	I	A13
13	I/O	DQ0	29	I	A14
14	I/O	DQ1	30	—	NC
15	I/O	DQ2	31	I	$\overline{WE}$ ($\overline{W}$)
16	—	GND	32	—	VDD

INPUT
A0 - A16 ; ADDRESS (0 - 16)
CE ; CHIP ENABLE
OE ; OUTPUT ENABLE
WE ; WRITE ENABLE

OUTPUT
DQ0 - DQ7 ; DATA (0 - 7)

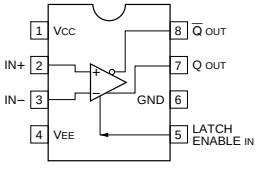
OPERATION	$\overline{CE}$	$\overline{OE}$	$\overline{WE}$	A0	A1	A9	I/O
AUTO-SELECT MANUFACTURER CODE (1)	0	0	1	0	0	VID	CODE
AUTO-SELECT DEVICE CODE (1)	0	0	1	1	0	VID	CODE
READ	0	0	1	A0	A1	A9	DOUT
STANDBY	1	×	×	×	×	×	HI-Z
OUTPUT DISABLE	0	1	1	×	×	×	HI-Z
WRITE	0	1	0	A0	A1	A9	DIN (2)
ENABLE SECTOR PROTECT	0	VID	0	×	×	VID	×
VERIFY SECTOR PROTECT (3)	0	0	1	0	1	VID	CODE

0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



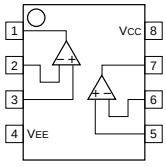
AD9696KR-REEL (AD)FLAT PACKAGE

ULTRAFAST TTL COMPARATOR
—TOP VIEW—



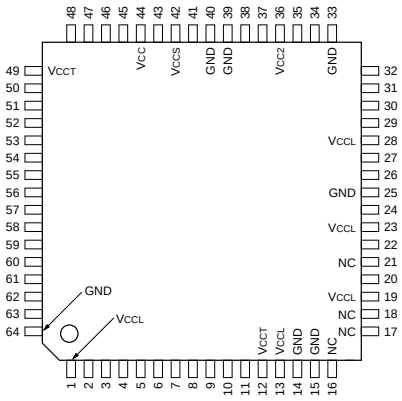
BA10358F-E2 (ROHM)FLAT PACKAGE
UPC358G2-E2

DUAL OPERATIONAL AMPLIFIERS
(SINGLE-SUPPLY TYPE)
—TOP VIEW—

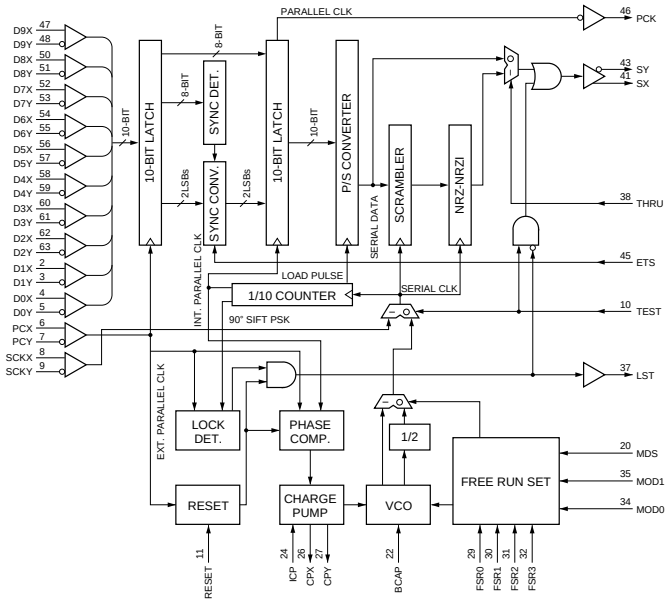


CXB1341R (SONY)

SERIAL DIGITAL INTERFACE TRANSMISSION ENCODER
—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	VCCL	17	—	NC	33	—	GND	49	—	VCCT
2	I	D1X	18	—	NC	34	I	MOD0	50	I	D8X
3	I	D1Y	19	—	VCCL	35	I	MOD1	51	I	D8Y
4	I	D0X	20	I	MDS	36	—	VCC2	52	I	D7X
5	I	D0Y	21	—	NC	37	O	LST	53	I	D7Y
6	I	PCX	22	I	BCAP	38	I	THRU	54	I	D6X
7	I	PCY	23	—	VCCL	39	—	GND	55	I	D6Y
8	I	SCKX	24	I	ICP	40	—	GND	56	I	D5X
9	I	SCKY	25	—	GND	41	O	SX	57	I	D5Y
10	I	TEST	26	O	CPX	42	—	VCCS	58	I	D4X
11	I	RESET	27	O	CPY	43	O	SY	59	I	D4Y
12	—	VCCT	28	—	VCCL	44	—	VCCL	60	I	D3X
13	—	VCCL	29	I	FSR0	45	I	ETS	61	I	D3Y
14	—	GND	30	I	FSR1	46	O	PCK	62	I	D2X
15	—	GND	31	I	FSR2	47	I	D9X	63	I	D2Y
16	—	NC	32	I	FSR3	48	I	D9Y	64	—	GND



INPUT

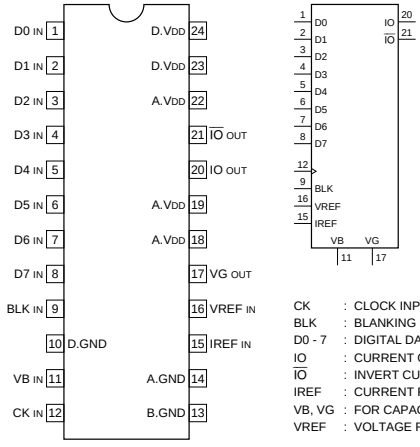
BCAP	:	EXTERNAL CAPACITOR FOR VCO
D9X - D0X	:	POSITIVE PARALLEL DATA
D9Y - D0Y	:	NEGATIVE PARALLEL DATA
ETS	:	8-BIT/10-BIT SELECT (L = 8-BIT, H OR OPEN = 10-BIT)
FSR0 - FSR3	:	EXTERNAL RESISTOR FOR SETTING THE FREE-RUN FREQUENCY OF VCO
ICP	:	EXTERNAL RESISTOR FOR CHARGE PUMP
MDS	:	TEST
MOD0, MOD1	:	VCO RATE SELECT
PCX	:	POSITIVE PARALLEL CLOCK
PCY	:	NEGATIVE PARALLEL CLOCK
RESET	:	PLL RESET
SCKX, SCKY	:	TEST
TEST	:	TEST
THRU	:	TEST

OUTPUT

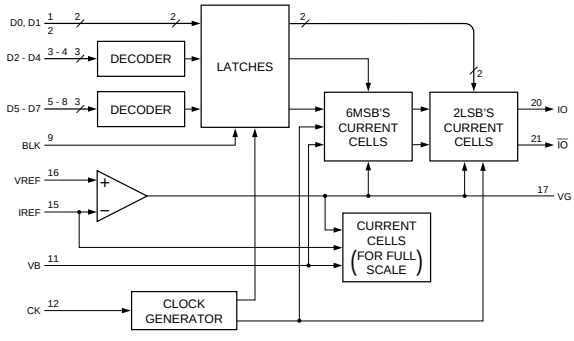
LST	:	PLL LOCK STATUS
PCK	:	PARALLEL CLOCK
CPX, CPY	:	CHARGE PUMP
SX, SY	:	EXTERNAL RESISTOR FOR SERIAL DIFFERENTIAL

CXD1171M (SONY)FLAT PACKAGE
CXD1171M-TH

C-MOS 8-BIT D/A CONVERTER
—TOP VIEW—

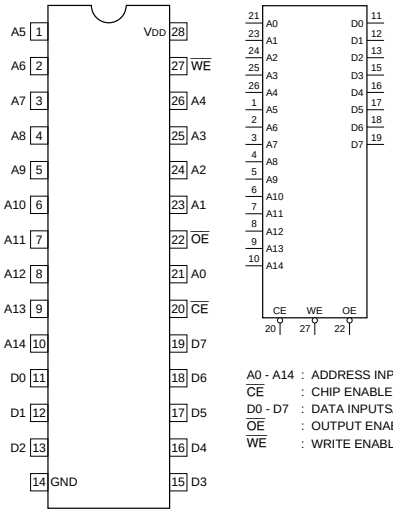


CK	:	CLOCK INPUT
BLK	:	BLANKING PULSE INPUT
D0 - 7	:	DIGITAL DATA INPUT
IO	:	CURRENT OUTPUT
$\overline{IO}$	:	INVERT CURRENT OUTPUT
IREF	:	CURRENT REFERENCE INPUT
VB, VG	:	FOR CAPACITOR
VREF	:	VOLTAGE REFERENCE INPUT

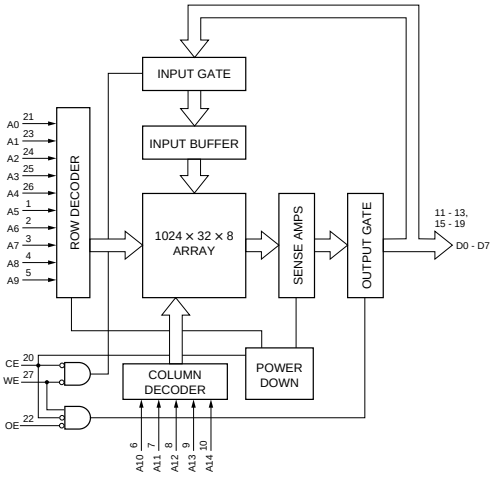


CY7C199-20VC (CYPRESS)J-LEADED PACKAGE

C-MOS 256 K (32,768 × 8)-BIT SRAM
—TOP VIEW—

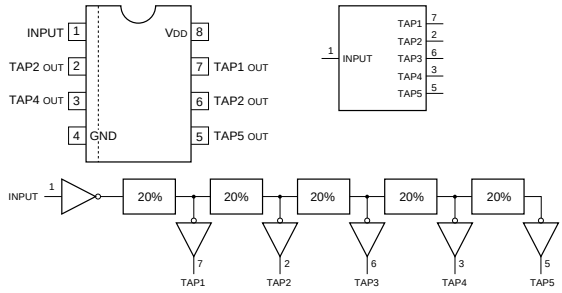


A0 - A14 : ADDRESS INPUTS
$\overline{CE}$: CHIP ENABLE
D0 - D7 : DATA INPUTS/OUTPUTS
$\overline{OE}$: OUTPUT ENABLE
$\overline{WE}$: WRITE ENABLE



DS1000Z-150(TE2)
DS1000Z-25 (DALLAS)FLAT PACKAGE
DS1000Z-25(TE2)

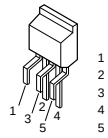
C-MOS DELAY LINE
—TOP VIEW—



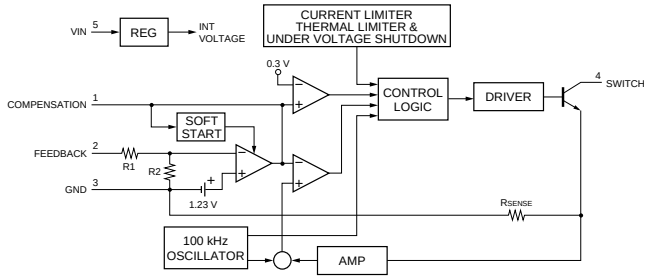
TYPE. NO.	DELAY TIME (ns)				
	TAP1	TAP2	TAP3	TAP4	TAP5
DS1000M-50	10	20	30	40	50
DS1000M-60	12	24	36	48	60
DS1000M-75	15	30	45	60	75
DS1000M-100	20	40	60	80	100
DS1000M-125	25	50	75	100	125
DS1000M-150	30	60	90	120	150
DS1000M-175	35	70	105	140	175
DS1000M-200	40	80	120	160	200
DS1000M-250	50	100	150	200	250
DS1000M-500	100	200	300	400	500
DS1000Z-25	5	10	15	20	25
DS1000Z-100	20	40	60	80	100
DS1000Z-150	30	60	90	120	150

LM2587SX-5.0 (NS)

FLYBACK REGULATOR
—SIDE VIEW—



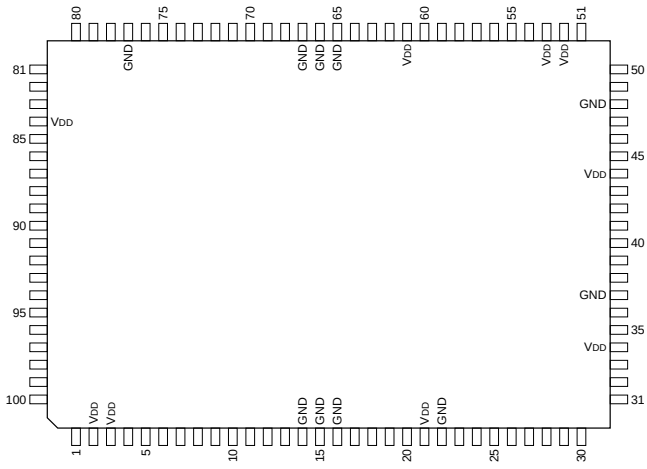
1 : COMPENSATION
2 : FEED BACK
3 : GND
4 : SWITCH
5 : VIN



KL5C80A12CFP (KAWASAKI STEEL)

C-MOS HIGH SPEED 8-BIT MPU

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I/O	P33/OUTBP2	26	I	MODE1	51	I/O	D7	76	I/O	P12/GATEA1
2	—	VDD	27	I	MODE0	52	—	VDD	77	—	GND
3	—	VDD	28	I	ERDY	53	—	VDD	78	I/O	P11/XCLK0
4	I/O	P32/OUTBP1	29	I	RXD	54	I/O	D6	79	I/O	P10/GATEA0
5	I/O	P31/SYNC	30	O	TXD	55	I/O	D5	80	I/O	P07/IR7
6	I/O	P30/OUTBS0	31	O	A15	56	I/O	D4	81	I/O	P06/IR6
7	O	$\overline{\text{EMRD}}$	32	O	A14	57	I/O	D3	82	I/O	P05/IR5
8	O	$\overline{\text{EMWR}}$	33	O	A13	58	I/O	D2	83	I/O	P04/IR4
9	O	$\overline{\text{EIORD}}$	34	—	VDD	59	I	$\overline{\text{RESET}}$	84	—	VDD
10	O	$\overline{\text{EIOWR}}$	35	O	A12	60	I/O	D1	85	I/O	P03/IR3/$\overline{\text{NMI}}$
11	I/O	P27	36	O	A11	61	—	VDD	86	I/O	P02/IR2/GATEB2
12	I/O	P26	37	—	GND	62	I/O	D0	87	I/O	P01/IR1/GATEB1
13	I/O	P25	38	O	A10	63	I	XIN	88	I/O	P00/IR0/GATEB0
14	—	GND	39	O	A9	64	O	XOUT	89	I/O	P47/SYNDBD
15	—	GND	40	O	A8	65	—	GND	90	I/O	P46/$\overline{\text{RTS}}$
16	—	GND	41	O	A7	66	—	GND	91	I/O	P45/$\overline{\text{DTR}}$
17	I/O	P24	42	O	A6	67	—	GND	92	I/O	P44/$\overline{\text{BACK}}$
18	I/O	P23	43	O	A5	68	O	A18/$\overline{\text{M1CS}}$	93	I/O	P43/SYDTIN
19	I/O	P22	44	—	VDD	69	O	A17/$\overline{\text{M0CS}}$	94	I/O	P42/$\overline{\text{CTS}}$
20	I/O	P21	45	O	A4	70	O	A16	95	I/O	P41/$\overline{\text{DSR}}$
21	—	VDD	46	O	A3	71	I/O	P17/$\overline{\text{HALT}}$	96	I/O	P40/$\overline{\text{BREQ}}$
22	—	GND	47	O	A2	72	I/O	P16/$\overline{\text{M1}}$	97	I/O	P37/OUTBS2
23	I/O	P20	48	—	GND	73	I/O	P15/RXC	98	I/O	P36/OUTBP0
24	O	CLK	49	O	A1	74	I/O	P14/TXC	99	I/O	P35/OUTA1
25	I/O	BFSIO	50	O	A0	75	I/O	P13/XCLK1	100	I/O	P34/OUTA0

INPUT

$\overline{\text{BREQ}}$	: BUS REQUEST FOR CPU
$\overline{\text{CTS}}$	: CLEAR-TO-SEND SIGNAL FOR USART
$\overline{\text{DSR}}$	: DATA SET READY SIGNAL FOR USART
ERDY	: WAIT REQUEST FROM THE EXTERNAL DEVICE
GATEA0	: GATE INPUT FOR COUNTER A CHANNEL 0
GATEA1	: GATE INPUT FOR COUNTER A CHANNEL 1
GATEB0	: GATE INPUT FOR COUNTER B CHANNEL 0
GATEB1	: GATE INPUT FOR COUNTER B CHANNEL 1
GATEB2	: GATE INPUT FOR COUNTER B CHANNEL 2
IR0 - IR7	: EXTERNAL INTERRUPT INPUT LEVEL
MODE0, MODE1	: MODE SELECT
$\overline{\text{NMI}}$	: NON-MASKABLE INTERRUPT FOR CPU
$\overline{\text{RESET}}$	: RESET
RXC	: RECEIVE CLOCK FOR USART
RXD	: SERIAL DATA FOR USART
SYDTIN	: EXTERNAL SYNC DETECT SIGNAL FOR USART
TXC	: TRANSMIT CLOCK FOR USART
XCLK0	: EXTERNAL COUNTER CLOCK FOR COUNTER A CHANNEL0
XCLK1	: EXTERNAL COUNTER CLOCK FOR COUNTER A CHANNEL1
XIN	: EXTERNAL CRYSTAL OSCILLATOR

OUTPUT

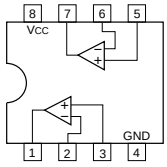
A0 - A18	: ADDRESS
$\overline{\text{BACK}}$	: BUS ACKNOWLEDGE FOR CPU
CLK	: CLOCK
$\overline{\text{DTR}}$	: DATA TERMINAL READY FOR USART
$\overline{\text{EIORD}}$	: EXTERNAL I/O DEVICE READ SIGNAL
$\overline{\text{EIOWR}}$	: EXTERNAL I/O DEVICE WRITE SIGNAL
$\overline{\text{EMRD}}$	: EXTERNAL MEMORY READ SIGNAL
$\overline{\text{EMWR}}$	: EXTERNAL MEMORY WRITE SIGNAL
$\overline{\text{HALT}}$	: CPU HALT SIGNAL
$\overline{\text{M0CS}}$	: CHIP SELECT FOR EXTERNAL ROM
$\overline{\text{M1}}$	: M1 CYCLE FOR CPU
$\overline{\text{M1CS}}$	: CHIP SELECT FOR EXTERNAL RAM/ROM
OUTA0	: COUNTER A CHANNEL 0
OUTA1	: COUNTER A CHANNEL 1
OUTBP0	: PULSE FOR COUNTER B CHANNEL 0
OUTBP1	: PULSE FOR COUNTER B CHANNEL 1
OUTBP2	: PULSE FOR COUNTER B CHANNEL 2
OUTBS0	: STROBE FOR COUNTER B CHANNEL 0
OUTBS2	: STROBE FOR COUNTER B CHANNEL 2
$\overline{\text{RTS}}$	: REQUEST-TO-SEND SIGNAL
SYNC	: SYNC SIGNAL FOR PRE-SCALAR OF COUNTER B
SYNDBD	: SYNC DETECT SIGNAL/BREAK DETECT SIGNAL FOR USART
TXD	: SERIAL DATA FOR USART
XOUT	: EXTERNAL CRYSTAL OSCILLATOR

INPUT/OUTPUT

BFSIO	: BUG FINDER PORT
D0 - D7	: EXTERNAL DATA BUS
P00 - P07	: P0 PORT OF PARALLEL PORT BLOCK A
P10 - P17	: P1 PORT OF PARALLEL PORT BLOCK A
P20 - P27	: P0 PORT OF PARALLEL PORT BLOCK B
P30 - P37	: P1 PORT OF PARALLEL PORT BLOCK B
P40 - P47	: P2 PORT OF PARALLEL PORT BLOCK B

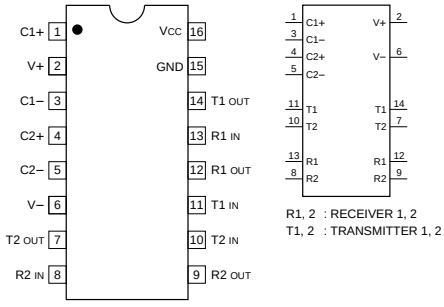
LM393PS (TI)FLAT PACKAGE
LM393PS-E05

DUAL VOLTAGE COMPARATORS
—TOP VIEW—

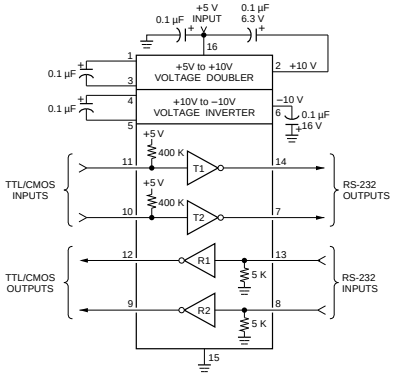


MAX202CSE (MAXIM)
MAX202CSE-T

RS-232 TRANSMITTER/RECEIVER
—TOP VIEW—

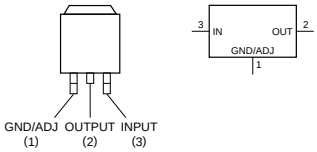


R1, 2 : RECEIVER 1, 2
T1, 2 : TRANSMITTER 1, 2



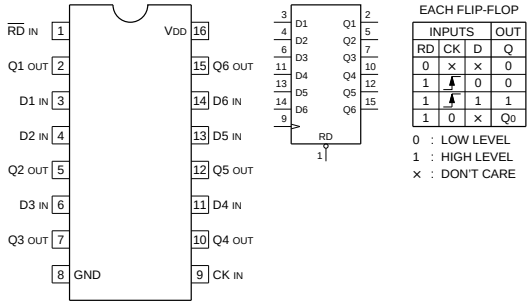
MC33269DTRK-3.3 (MOTOROLA)

VOLTAGE REGULATOR
—TOP VIEW—



MC74HC174AFEL

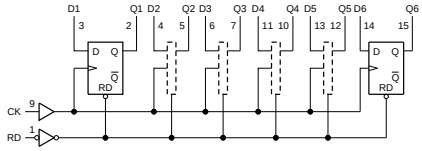
C-MOS D-TYPE FLIP-FLOP WITH RESET
—TOP VIEW—



EACH FLIP-FLOP

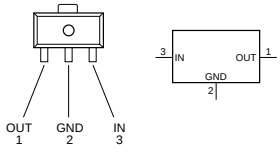
INPUTS			OUT
RD	CK	D	Q
0	×	×	0
1	↑	0	0
1	↑	1	1
1	0	×	Q_0

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE



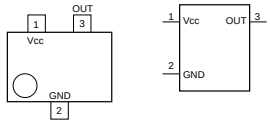
NJM78L12UA-TE1 (JRC)+12 V(0.1 A)

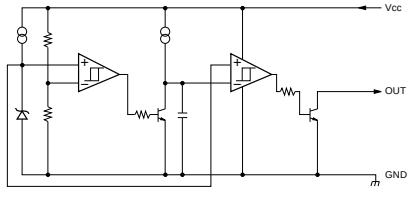
POSITIVE VOLTAGE REGULATOR
—SIDE VIEW—



PST574CMT-T1

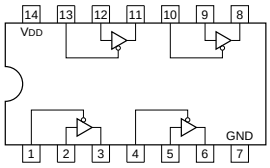
SYSTEM RESET IC
—TOP VIEW—





SN74AHCT125PW-E05

C-MOS BUS BUFFER GATES WITH 3-STATE OUTPUT
—TOP VIEW—

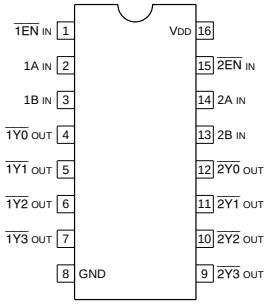


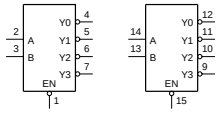
G	A	Y
0	0	0
0	1	1
1	×	HI-Z

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

SN74HC139ANS (TI)FLAT PACKAGE
SN74HC139ANS-E05

C-MOS DUAL 2-TO-4 DECODER/DEMULTIPLEXER
—TOP VIEW—



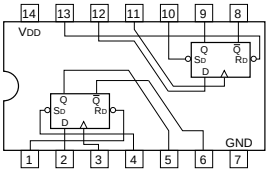


INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	×	×	1	1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE

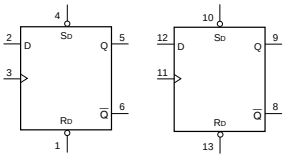
SN74HC74ANS (TI)FLAT PACKAGE
SN74HC74ANS-E05

C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET
—TOP VIEW—



INPUTS				OUTPUTS	
$\overline{SD}$	$\overline{RD}$	CK	D	Qn+1	$\overline{Qn+1}$
0	1	×	×	1	0
1	0	×	×	0	1
0	0	×	×	1	1
1	1	↓	1	1	0
1	1	↓	0	0	1
1	1	0	×	Qn	$\overline{Qn}$

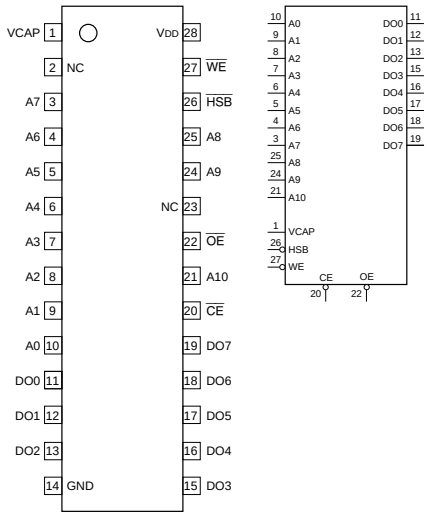
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE



STK22C48-S45 (SIMTEK)

STK22C48-S45
II 08

C-MOS (2 K × 8)-BIT NONVOLATILE SRAM
—TOP VIEW—



INPUT

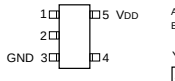
A0 - A10	: ADDRESS
$\overline{CE}$	: CHIP ENABLE
$\overline{HSB}$	: HARDWARE STROBE/BUSY
$\overline{OE}$	: OUTPUT ENABLE
VCAP	: CAPACITOR
$\overline{WE}$	: WRITE ENABLE

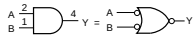
INPUT/OUTPUT

DO0 - DO7 : DATA

TC7ST08FU(TE85R)

C-MOS 2-INPUT AND GATE
—TOP VIEW—





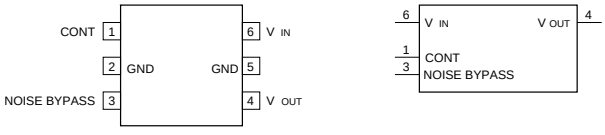
$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

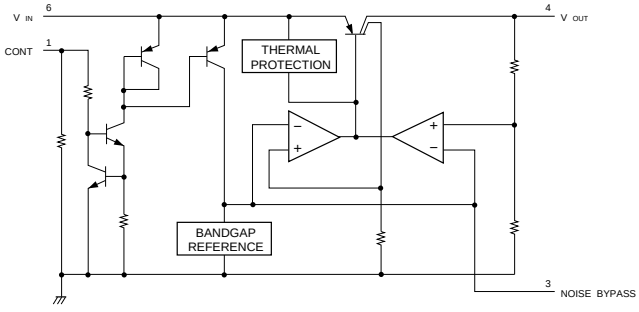
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

TK11220BMCL

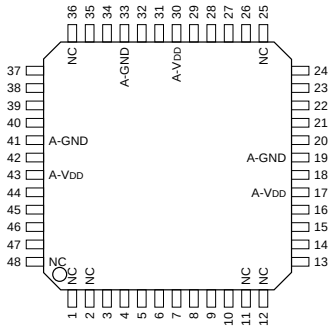
REGULATOR USED FOR POWER SUPPLY
—TOP VIEW—





XRD44L60CIV (EXAR)

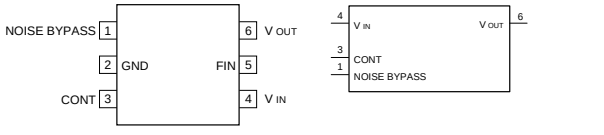
C-MOS CCD IMAGE DIGITIZERS
—TOP VIEW—

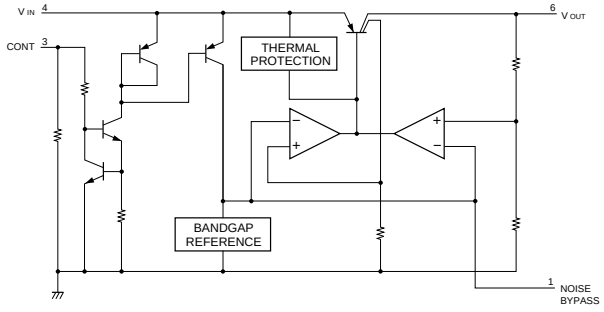


PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	NC	13	O	DB8	25	—	NC	37	I	CLAMP
2	—	NC	14	O	DB9	26	I	LOAD	38	I	SHD
3	O	DB2	15	O	OVER	27	I	SDI	39	I	SHP
4	O	DB3	16	I	$\overline{OE}$	28	I	VRT	40	I	RSTCCD
5	O	DB4	17	—	A-VDD	29	I	VRTO	41	—	A-GND
6	—	D-GND	18	I	ENABLECAL	30	—	A-VDD	42	I	CLK POL
7	—	D-VDD	19	—	A-GND	31	I	IN NEG	43	—	A-VDD
8	O	DB5	20	—	TEST	32	I	IN POS	44	O	SYNC
9	O	DB6	21	I	$\overline{STBY1}$	33	—	A-GND	45	O	UNDER
10	O	DB7	22	I	$\overline{STBY2}$	34	I	VRBO	46	O	DB0
11	—	NC	23	I	RESET	35	I	VRB	47	O	DB1
12	—	NC	24	I	SCLK	36	—	NC	48	—	NC

TK11233AUTB (TOKO)

REGULATOR USED FOR POWER SUPPLY
—TOP VIEW—



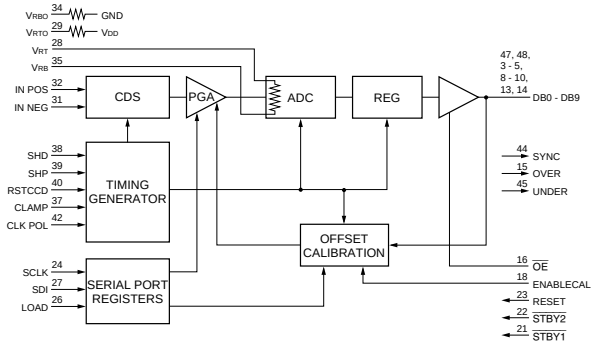


INPUT

CLAMP	:	CDS CLAMP CONTROL
CLK POL	:	CLOCK POLARITY
ENABLECAL	:	CALIBRATION ENABLE
IN NEG	:	CDS INVERTING INPUT
IN POS	:	CDS NON-INVERTING INPUT
LOAD	:	DATA LOAD
$\overline{OE}$	:	DIGITAL OUTPUT ENABLE
RESET	:	CHIP RESET
RSTCCD	:	CCD RESET PULSE DISCONNECT
SCLK	:	SHIFT CLOCK FOR SERIAL REGISTER
SDI	:	DATA INPUT FOR SERIAL REGISTER
SHD	:	CDS CLOCK
SHP	:	CDS CLOCK
$\overline{STBY1}$, $\overline{STBY2}$	:	STANDBY CONTROL
VRB	:	BOTTOM ADC REFERENCE
VRBO	:	INTERNAL BIAS FOR VRB
VRT	:	TOP ADC REFERENCE
VRTO	:	INTERNAL BIAS FOR VRT

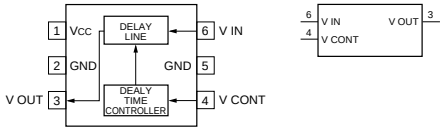
OUTPUT

DB0 - DB9	:	ANALOG-TO-DIGITAL CONVERTED DATA
OVR	:	OVER RANGE OUTPUT BIT
SYNC	:	DIGITAL OUTPUT FOR TESTING
UNDER	:	UNDER RANGE OUTPUT BIT



TK16111MTL

ANALOG VIDEO SIGNAL DELAYER
—TOP VIEW—



Section 6
Block Diagram

概要

SDDS PLAYERシステムは，READER DFP-R3000およびDECODER DFP-D3000により構成されている。
READER DFP-R3000は，映画フイルム上に記録されたSDDSデータを，CCDを使用してS (サウンド側) トラック/P (ピクチャー側) トラックごとに読みだす。
読み出されたデータは，波形等化後デジタル信号化されて，専用の接続ケーブルでDECODER DFP-D3000に送られる。
DECODER DFP-D3000に送られてきたデジタル信号は，エラー訂正された後，ATRAC DECODERで圧縮された信号から通常のリニアPCM信号になり，DSPブロックで信号処理された後,D/Aンバートされてアナログ信号として出力される。

READER DFP-R3000は以下の基板から構成されている。

- シリアルNo. 10001 ～ 10600
  RD-35基板： 1 (基板No末尾-12または-13)
  TG-208基板： 1
  SE-437基板： 2
  SE-439基板： 1
- シリアルNo. 10601以降
  RD-35基板： 1 (基板No末尾-14以降)
  SE-437基板： 2
  SE-439基板： 1

これらの基板の主な機能を以下に示す。

RD-35基板 (基板No末尾-12または-13)

(適用シリアルNo. 10001～10600)
RD-35基板 (基板No末尾-12または-13) はDC-DCコンバータ (IC5, T1)，シリアルインターフェース (IC4)，SDDS信号処理Gate Array（IC38)，システムコントロールマイコン (IC11, 12, 13, 14, 15, 16)，RS-232Cポート (IC17,CN9)，FG出力信号整形 (IC1)，LEDドライバ (IC46, S側; IC39, 42, Q8, 9, 10, 16/P側; IC40, 43, Q7, 12, 13, 17) 等のブロックから構成されている。

TG-208基板

(適用シリアルNo. 10001～10600)
TG-208基板はADコンバータ (IC6, IC8)，CCDタイミングジェネレータ (IC1, IC2, IC3, IC11)，データ再生 (S側; IC4, 20, 21, 22, Q14, FL1/P側; IC12, 29, 30, 31, Q15, FL2)，CCD電源 (IC5, Q1, Q2) およびサンプルクロック発生 (S側; IC24, 25, 26, 27/P側; IC33, 34, 35, 36) 等のブロックから構成されている。

RD-35基板 (基板No末尾-14以降)

(適用シリアルNo.10601以降)
RD-35基板 (基板No末尾-14) はDC-DCコンバータ (IC5, T1)，シリアルインターフェース (IC4)，SDDS信号処理Gate Array (IC38)，システムコントロールマイコン (IC11, 12, 13, 14, 15, 16)，RS-232Cポート (IC17, CN9)，FG出力信号整形 (IC1)，LEDドライバ (S側; IC42, Q8, 9, 10/P側; IC43, Q7, 12, 13)，ADコンバータ (IC6, IC8)，CCDタイミングジェネレータ (IC1, IC2, IC3, IC11)，データ再生 (S側; IC45, 20, 21, 22, Q14, FL1/P側; IC46, 29, 30, 31, Q15, FL2) およびサンプルクロック発生 (S側; IC24, 25, 26, 27/P側; IC33, 34, 35, 36) 等のブロックから構成されている。

SE-437基板

SE-437基板にはCCD (IC2)，CCDドライバ (Q2 to 12) およびCCD電源 (IC1) がマウントされている。
また，SE-439基板はSおよびPトラック用として2枚使用されている。

SE-439基板

SE-439基板には，FGセンサー用のフォトトランジスタ (PH1) がマウントされている。

Description

The SDDS PLAYER system consists of READER DFP-R3000 and DECODER DFP-D3000.
The recorded SDDS data in a cinema film is read in READER DFP-R3000 from each S (sound side) track and P (picture side) track by using the CCD.
The read SDDS data is processed as a digital signal after waveform equalization, and sent to DECODER DFP-D3000 using a dedicated connection cable.
In DECODER DFP-D3000, the sent digitized signal is processed error correction.
The error-corrected signal is converted into an ordinary liner PCM signal from the compressed signal in the ATRAC DECODER circuit, converted from digital to analog signal after it has been processed in the DSP block, and output as analog signal.

The READER DFP-R3000 consists of the following boards.

- Serial Nos.: 10001 to 10600
  RD-35 board : 1 (board No. suffix; -12 and -13)
  TG-208 board : 1
  SE-437 board : 2
  SE-439 board : 1
- Serial Nos.: 10601 and higher
  RD-35 board : 1 (board No. suffix; -14 and higher)
  SE-437 board : 2
  SE-439 board : 1

The functions of these boards are described as follows.

RD-35 board (board No. suffix; -12 and -13)

(Applicable serial Nos. 10001 to 10600)
RD-35 board (board No. suffix; -12 and -13) is composed of the following circuits;
DC-DC converter (IC5, T1)
Serial interface (IC4)
SDDS signal processing gate array (IC38)
System control micro computer (IC11, 12, 13, 14, 15 and 16)
RS-232C port (IC17, CN9)
FG output signal shaping (IC1)
LED driver (IC46, S side; IC39, 42, Q8, 9, 10 and 16/P side; IC40, 43, Q7, 12, 13 and 17)

TG-208 board

(Applicable serial Nos. 10001 to 10600)
TG-208 board is composed of the following circuits;
AD converter (IC6, IC8)
CCD timing generator (IC1, 2, 3 and 11)
CCD power supply (IC5, Q1, Q2)
Data reproducing (S side; IC4, 20, 21, 22, Q14 and FL1/P side; IC12, 29, 30, 31, Q15 and FL2)
Sampling clock generator (S side; IC24, 25, 26, 27/P side; IC33, 34, 35, 36)

RD-35 board(board No. suffix; -14 and higher)

(Applicable serial Nos. 10601 and higher)
RD-35 board(board No. suffix; -14) is composed of the following circuits;
DC-DC converter (IC5, T1)
Serial interface (IC4)
SDDS signal processing gate array (IC38)
System control micro computer (IC11, 12, 13, 14, 15 and 16)
RS-232C port (IC17, CN9)
FG output signal shaping (IC1)
LED driver (S side; IC42, Q8, 9 and 10/P side; IC43, Q7, 12 and 13)
AD converter (IC6, IC8)
CCD timing generator (IC1, 2, 3 and 11)
Data reproducing (S side; IC45, 20, 21, 22, Q14 and FL1/P side; IC46, 29, 30, 31, Q15 and FL2)
Sampling clock generator (S side; IC24, 25, 26, 27/P side; IC33, 34, 35, 36)

SE-437voard

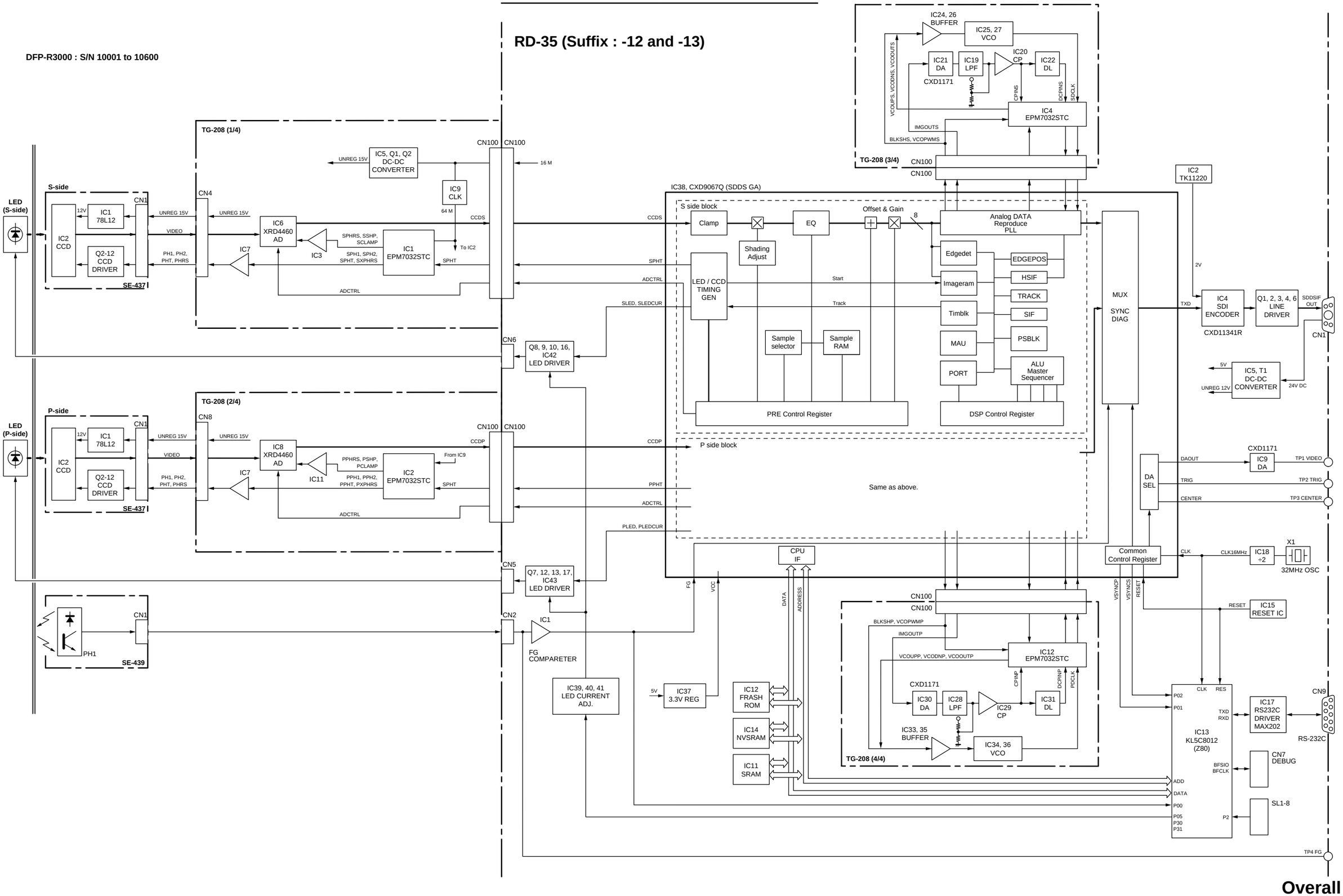
The CCD (IC2), CCD driver (Q2 to Q12) and CCD power supply (IC1) are mounted on the SE-437 board.
The two SE-437 boards are used for S side track and P side track.

SE-439 board

The photo transistor (PH1) for FG sensor is mounted on the SE-439 board.

RD-35 (Suffix : -12 and -13)

DFP-R3000 : S/N 10001 to 10600

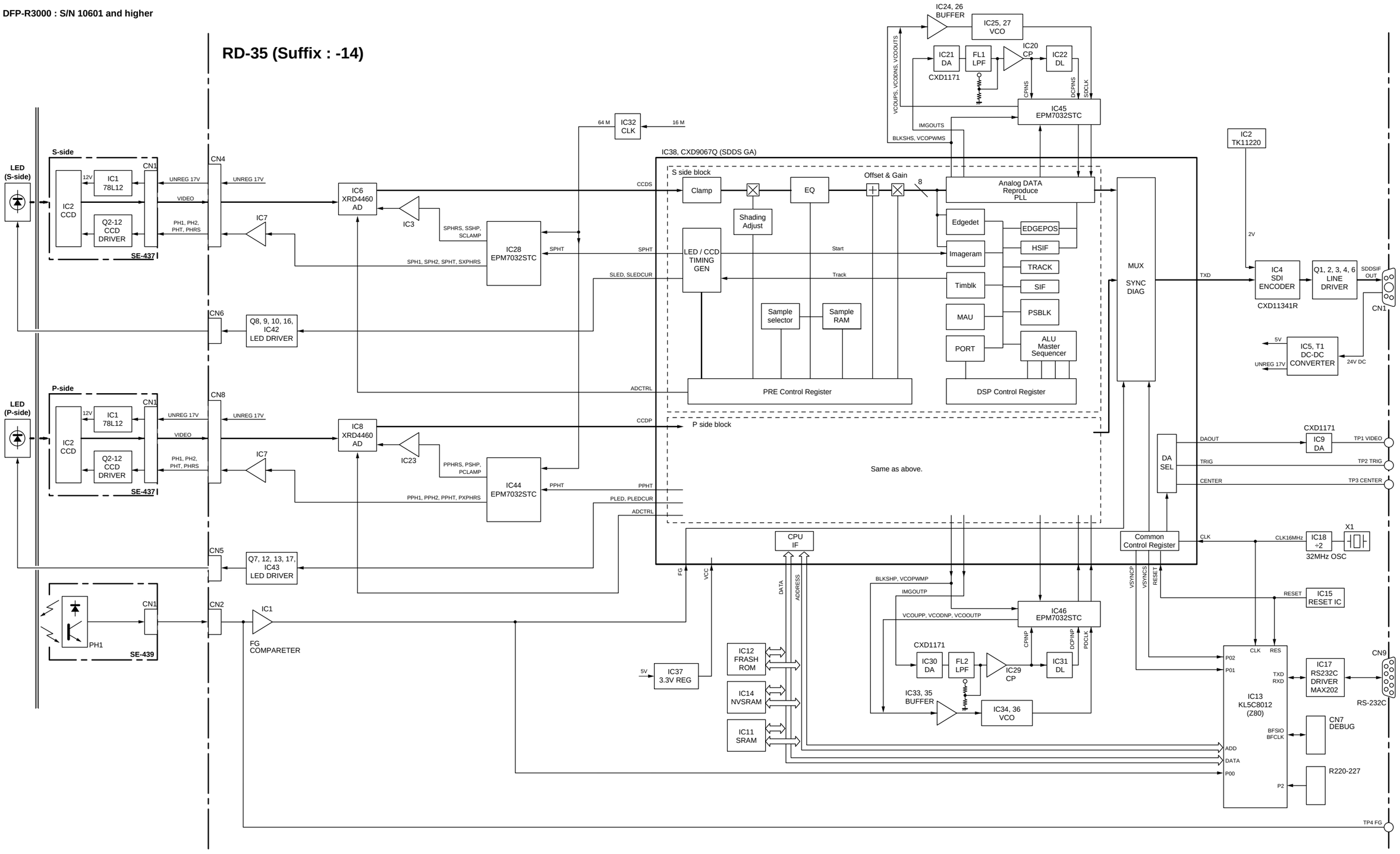


Overall

DFP-R3000

DFP-R3000 : S/N 10601 and higher

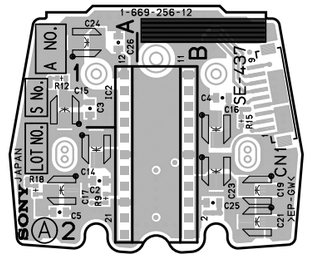
RD-35 (Suffix : -14)



Overall
DFP-R3000

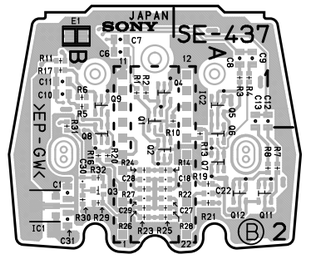
Section 7
Board Layouts

Index

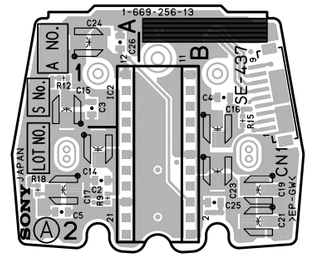


SE-437 -A SIDE-
SUFFIX : -12

DFP-R3000 (SY) : S/N 10001 to 10150

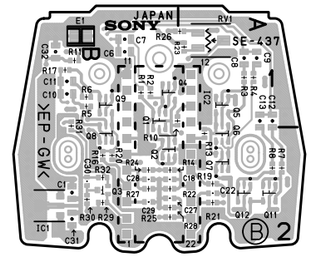


SE-437 -B SIDE-
SUFFIX : -12

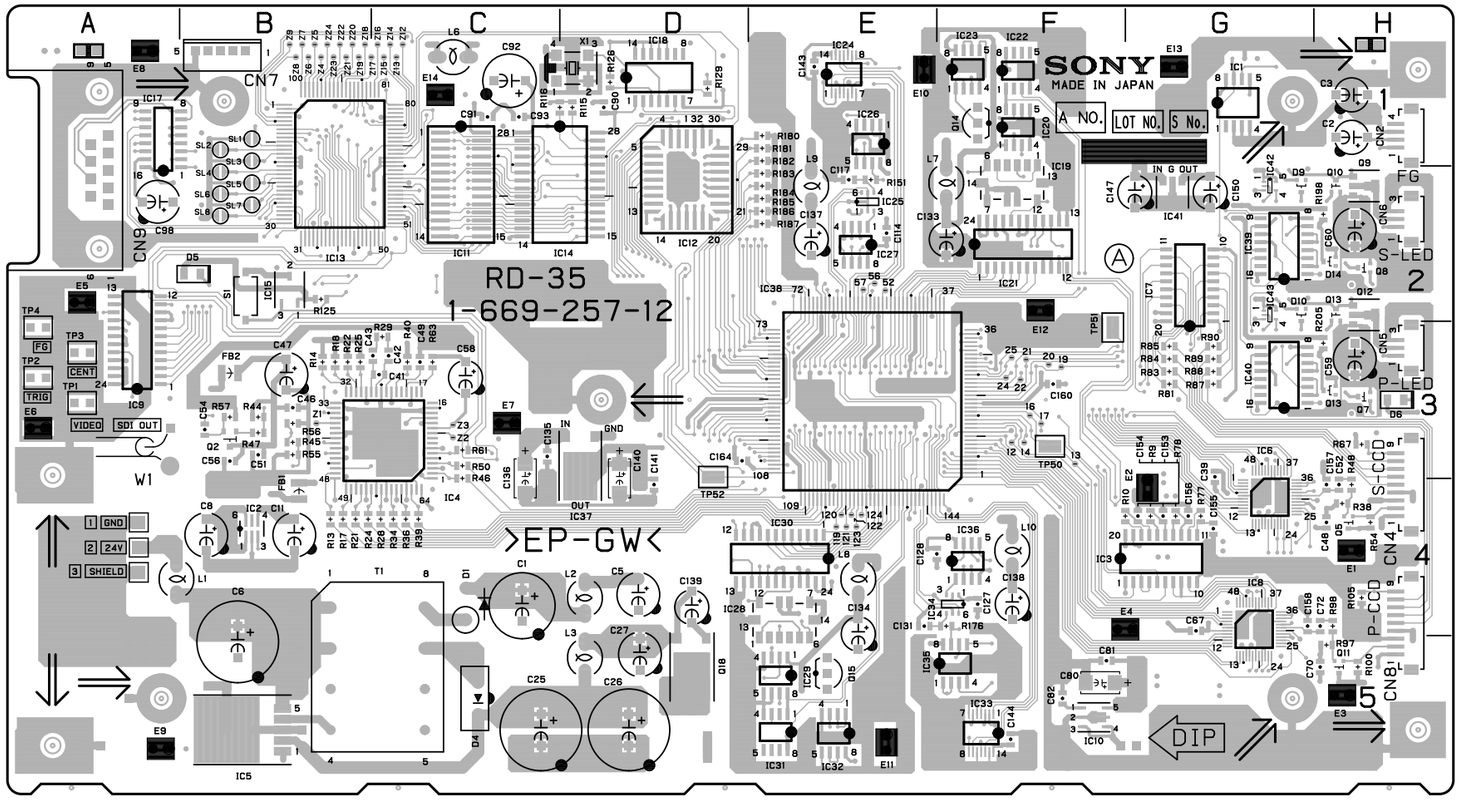


SE-437 -A SIDE-
SUFFIX : -13

DFP-R3000 (SY) : S/N 10151 and Higher



SE-437 -B SIDE-
SUFFIX : -13

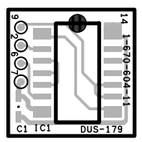


DFP-R3000 (SY) : S/N 10001 to 10150

RD-35 -A SIDE-
SUFFIX : -12

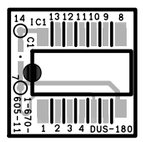
RD-35 (SUFFIX:-12)

CN4	H4	IC29	E5
CN5	H3	IC30	E4
CN6	H2	IC31	E5
CN7	B1	IC32	E5
CN8	H4	IC33	F5
CN9	A2	IC34	F4
		IC35	F5
D1	C4	IC36	F4
D2	＊B4	IC37	D3
D3	＊B5	IC38	E3
D4	C5	IC39	G2
D5	B2	IC40	G3
D6	H3	IC41	G2
D7	＊G3	IC42	G2
D8	＊G2	IC43	G2
D9	G2		
D10	G2	Q1	＊B3
D11	＊F1	Q2	B3
D12	＊E5	Q3	＊B3
D13	H3	Q4	＊B3
D14	H2	Q5	H4
		Q6	＊B3
E1	H4	Q7	H3
E2	G4	Q8	H2
E3	H5	Q9	H2
E4	G4	Q10	H2
E5	A2	Q11	H5
E6	A3	Q12	H2
E7	C3	Q13	H2
E8	A1	Q14	F1
E9	A5	Q15	E5
E10	E1	Q16	＊H2
E11	E5	Q17	＊H3
E12	F2	Q18	D5
E13	G1		
E14	C1	S1	B2
IC1	G1	TP1	A3
IC2	B4	TP2	A3
IC3	G4	TP3	A3
IC4	C3	TP4	A3
IC5	B5	TP50	F3
IC6	G4	TP51	F3
IC7	G3	TP52	D3
IC8	G4		
IC9	A3	T1	C5
IC10	F5		
IC11	C1	X1	D1
IC12	D2		
IC13	B1	＊: B SIDE	
IC14	C1		
IC15	B2		
IC16	＊D1		
IC17	B2		
IC18	D1		
IC19	F2		
IC20	F1		
IC21	F2		
IC22	F1		
IC23	F1		
IC24	E1		
IC25	E2		
IC26	E1		
IC27	E2		
IC28	E4		



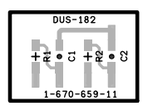
DUS-179 -B SIDE-
SUFFIX : -11

DFP-R3000 (SY) : S/N 10001 to 10150



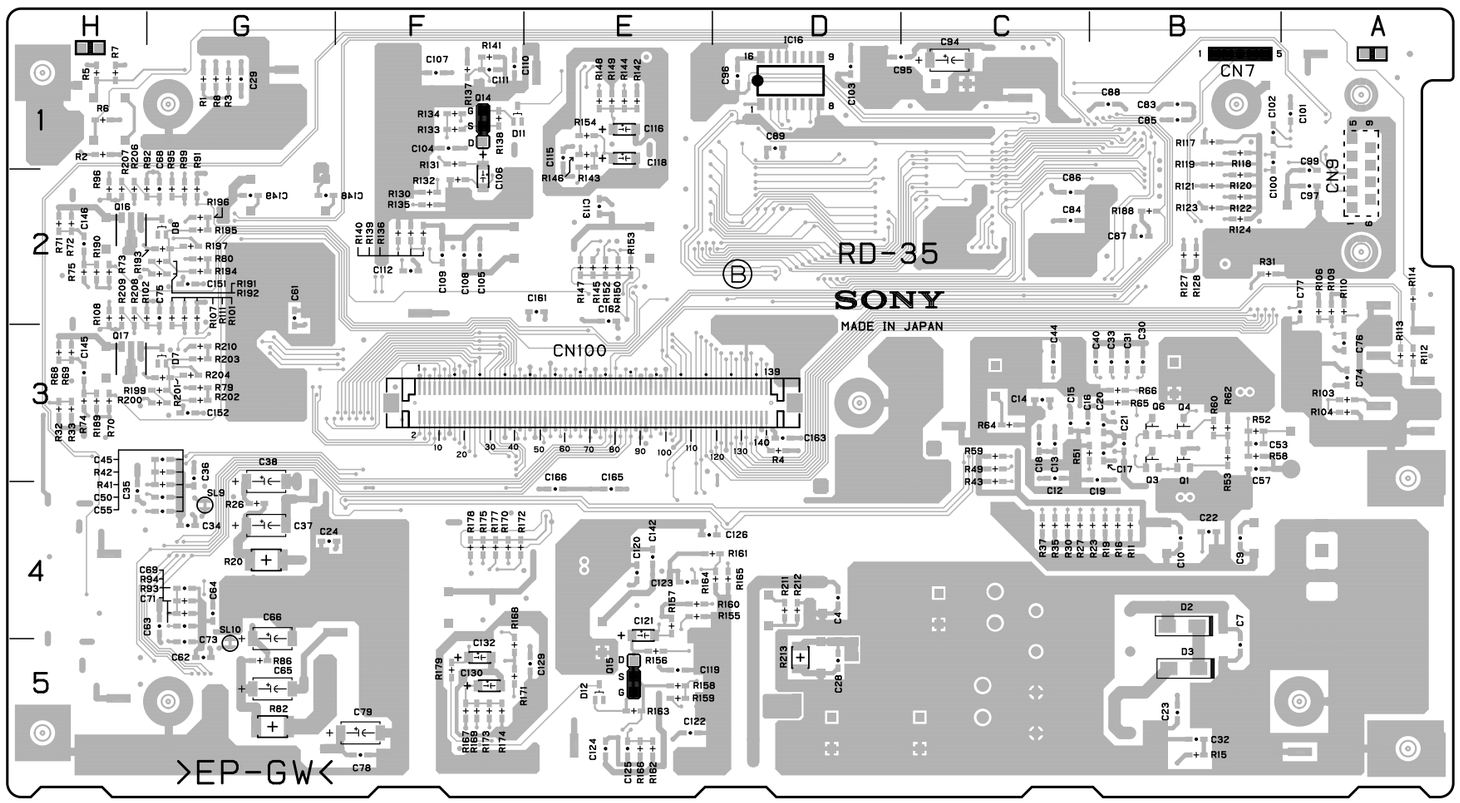
DUS-180 -B SIDE-
SUFFIX : -11

DFP-R3000 (SY) : S/N 10001 to 10150

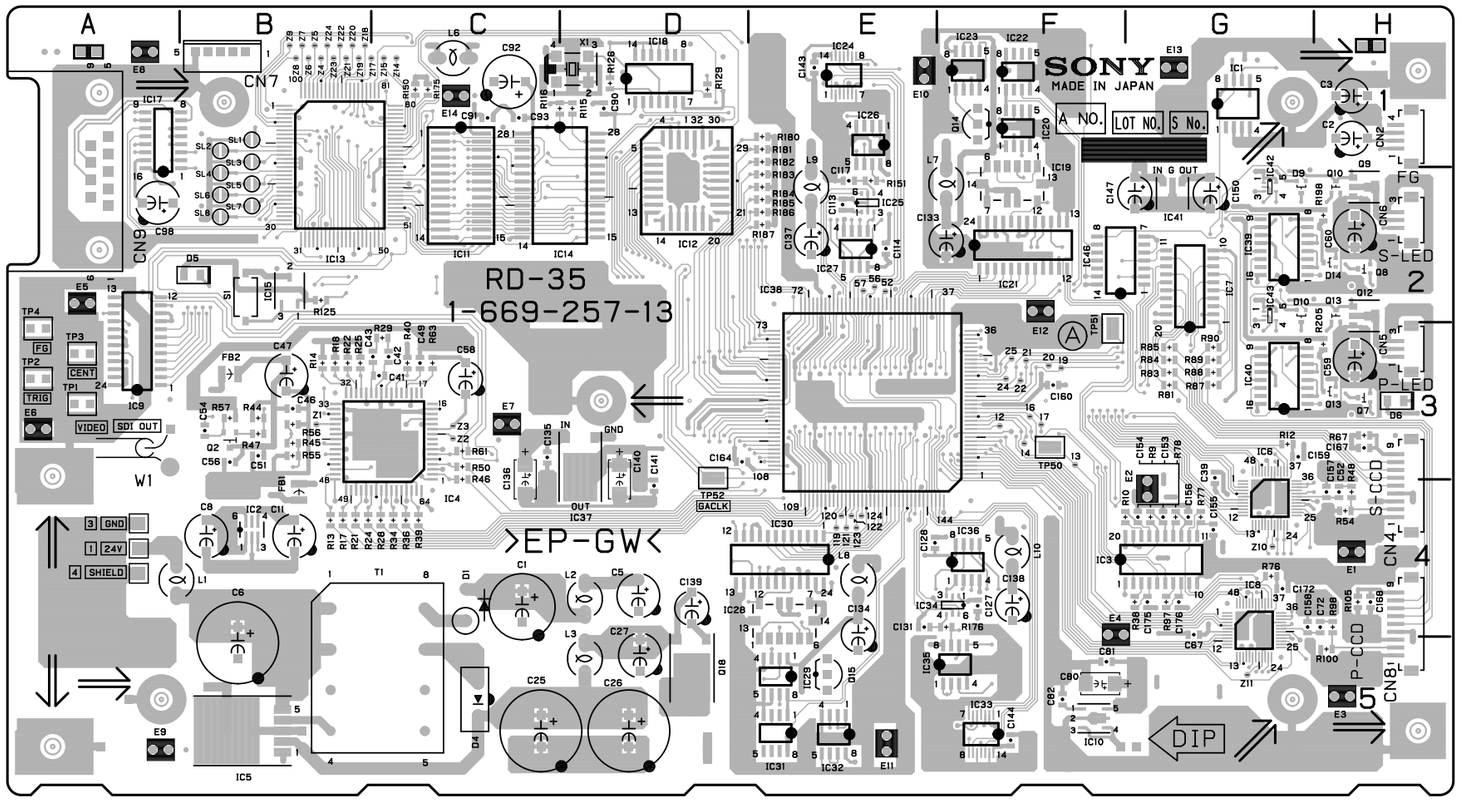


DUS-182 -B SIDE-
SUFFIX : -11

DFP-R3000 (SY) : S/N 10001 to 10150



RD-35 -B SIDE-
SUFFIX : -12

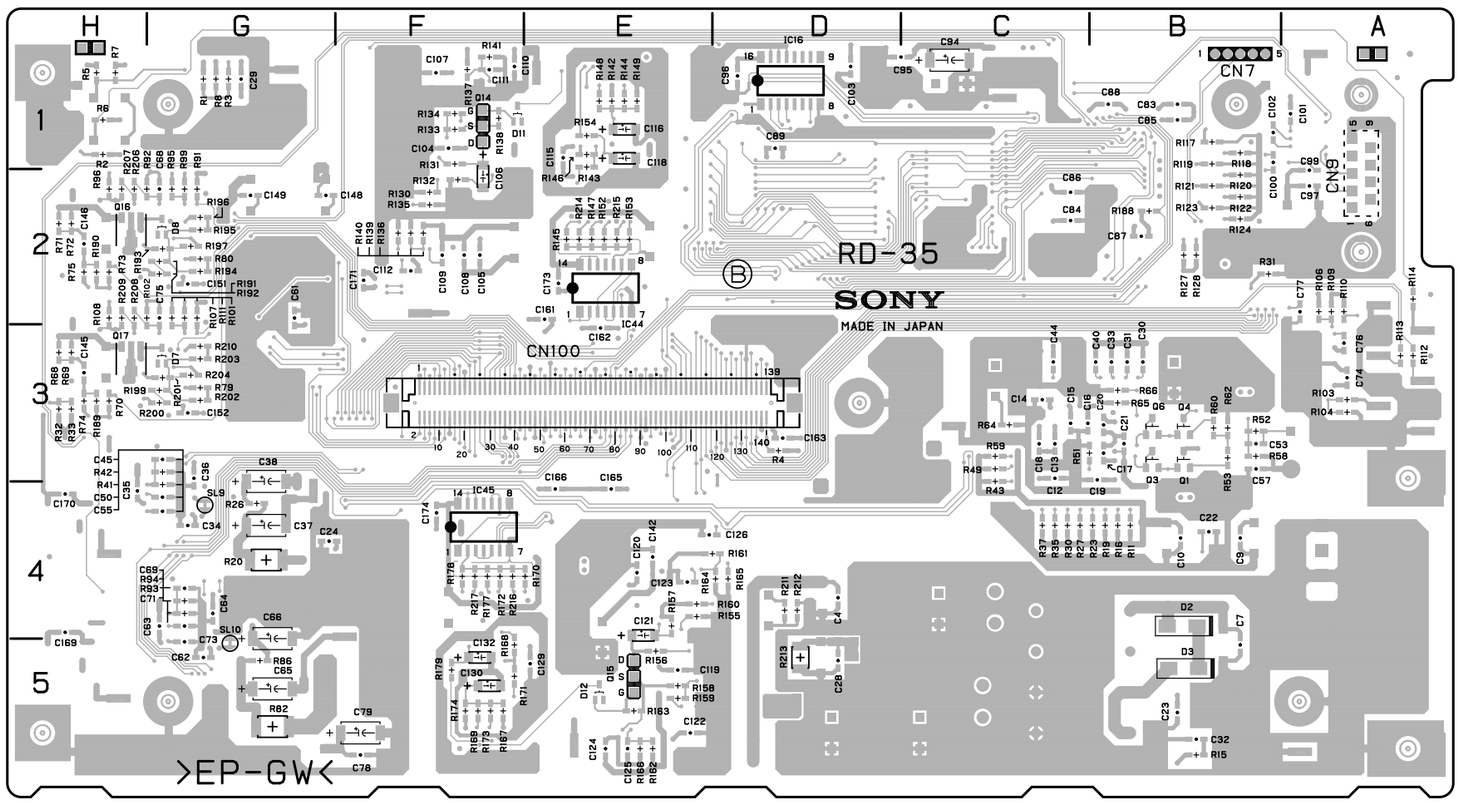


DFP-R3000 (SY) : S/N 10151 to 10600

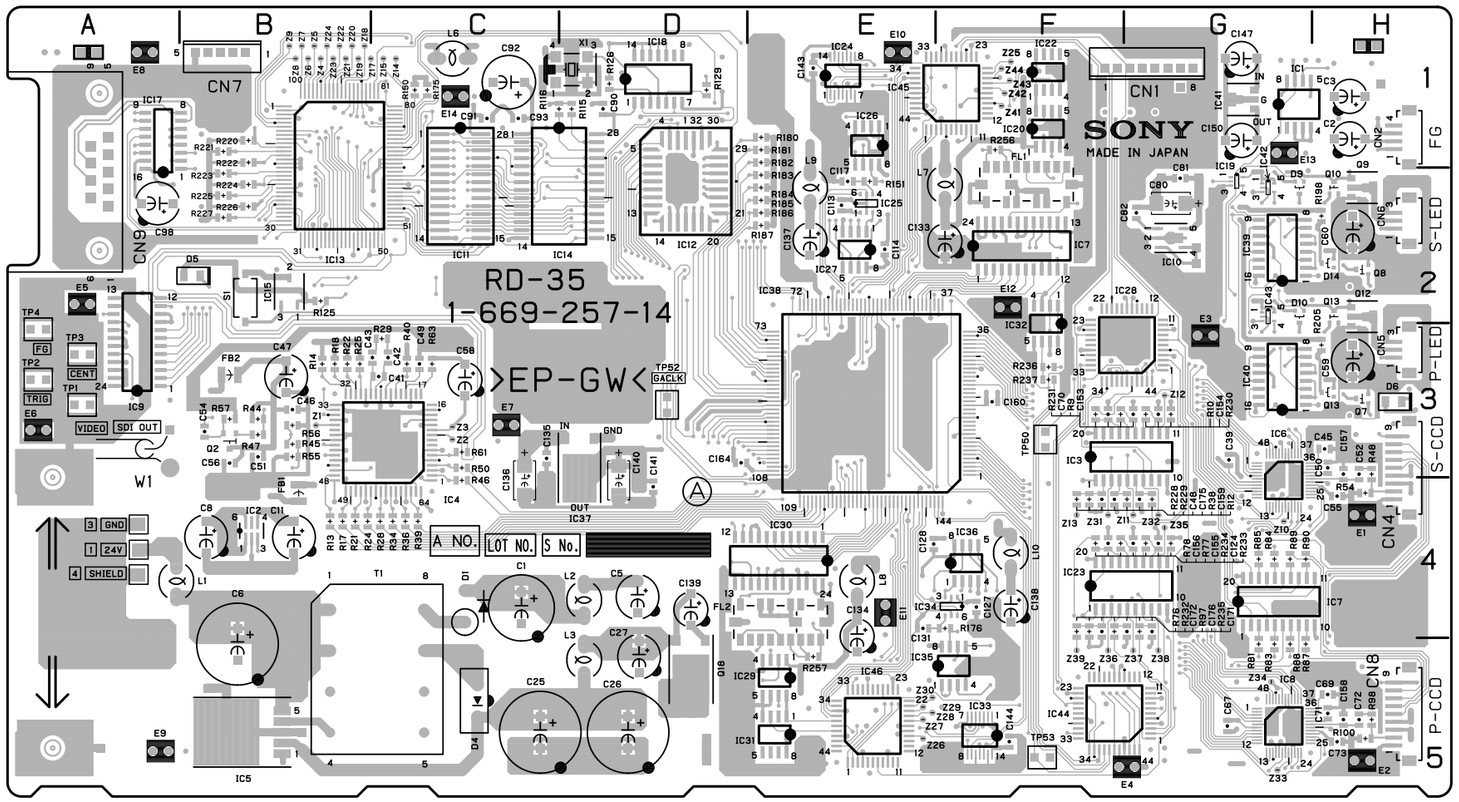
RD-35 -A SIDE-
SUFFIX : -13

RD-35 (SUFFIX:-13)

CN2	H1	IC28	E4		
CN4	H4	IC29	E5		
CN5	H3	IC30	E4		
CN6	H2	IC31	E5		
CN7	B1	IC32	E5		
CN8	H4	IC33	F5		
CN9	A2	IC34	F4		
		IC35	F5		
D1	C4	IC36	F4		
D2	＊B4	IC37	D3		
D3	＊B5	IC38	E3		
D4	C5	IC39	G2		
D5	B2	IC40	G3		
D6	H3	IC41	G2		
D7	＊G3	IC42	G2		
D8	＊G2	IC43	G2		
D9	G2	IC44	＊E2		
D10	G2	IC45	＊F4		
D11	＊F1	IC46	G2		
D12	＊E5				
D13	H3	Q1	＊B3		
D14	H2	Q2	B3		
		Q3	＊B3		
E1	H4	Q4	＊B3		
E2	G4	Q6	＊B3		
E3	H5	Q7	H3		
E4	F4	Q8	H2		
E5	A2	Q9	H2		
E6	A3	Q10	H2		
E7	C3	Q12	H2		
E8	A1	Q13	H2		
E9	A5	Q14	F1		
E10	E1	Q15	E5		
E11	E5	Q16	＊H2		
E12	F2	Q17	＊H3		
E13	G1	Q18	D5		
E14	C1				
		S1	B2		
IC1	G1				
IC2	B4	TP1	A3		
IC3	G4	TP2	A3		
IC4	C3	TP3	A3		
IC5	B5	TP4	A3		
IC6	G4	TP50	F3		
IC7	G2	TP51	F3		
IC8	G4	TP52	D3		
IC9	A3				
IC10	F5	T1	C5		
IC11	C1				
IC12	D2	X1	D1		
IC13	B1				
IC14	C1	＊: B SIDE			
IC15	B2				
IC16	＊D1				
IC17	B2				
IC18	D1				
IC19	F2				
IC20	F1				
IC21	F2				
IC22	F1				
IC23	F1				
IC24	E1				
IC25	E2				
IC26	E1				
IC27	E2				

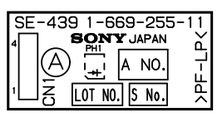


RD-35 -B SIDE-
SUFFIX : -13

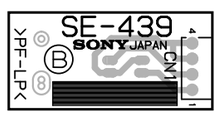


DFP-R3000 (SY) : S/N 10601 and higher

RD-35 -A SIDE-
SUFFIX : -14



SE-439 -A SIDE-
SUFFIX : -11

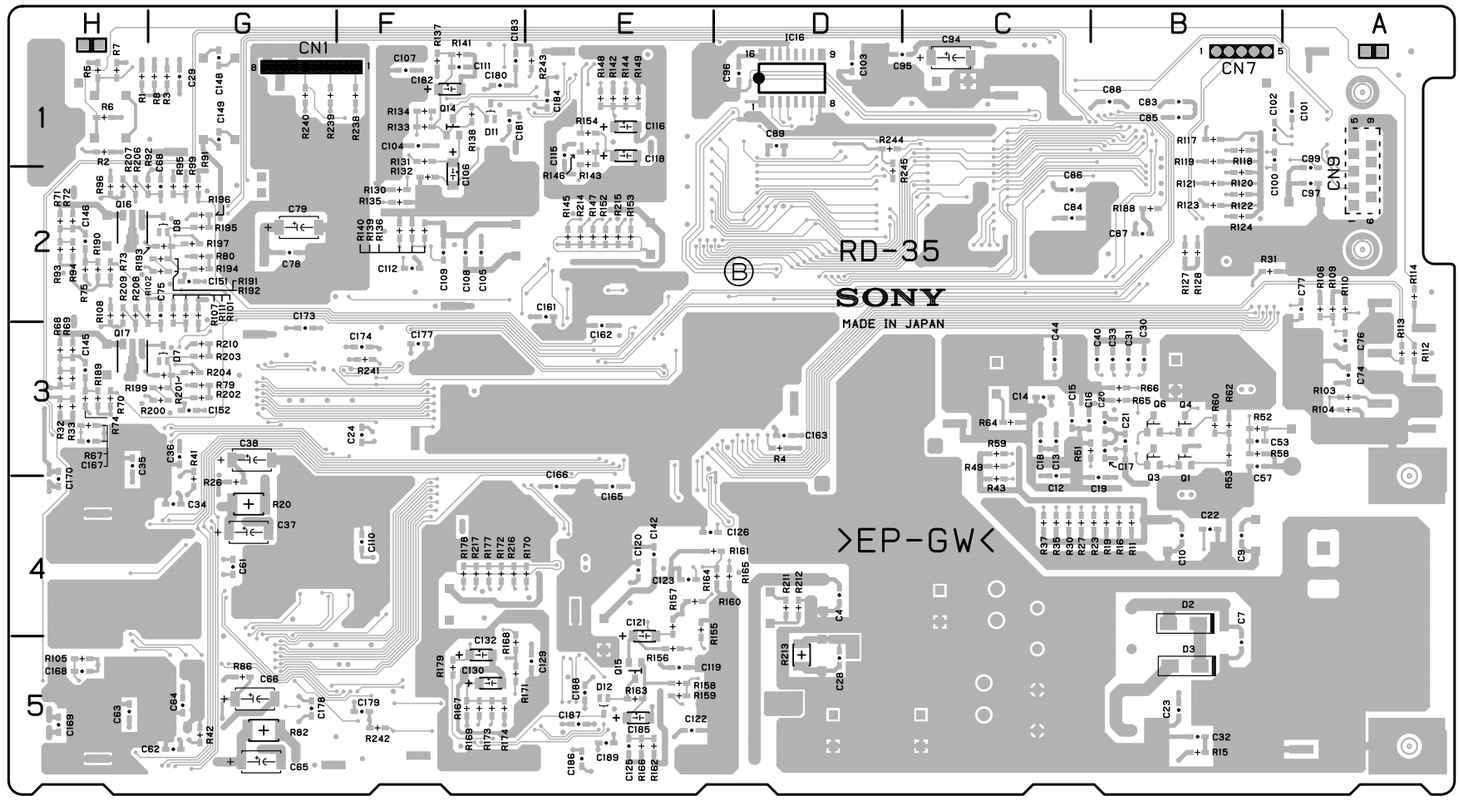


SE-439 -B SIDE-
SUFFIX : -11

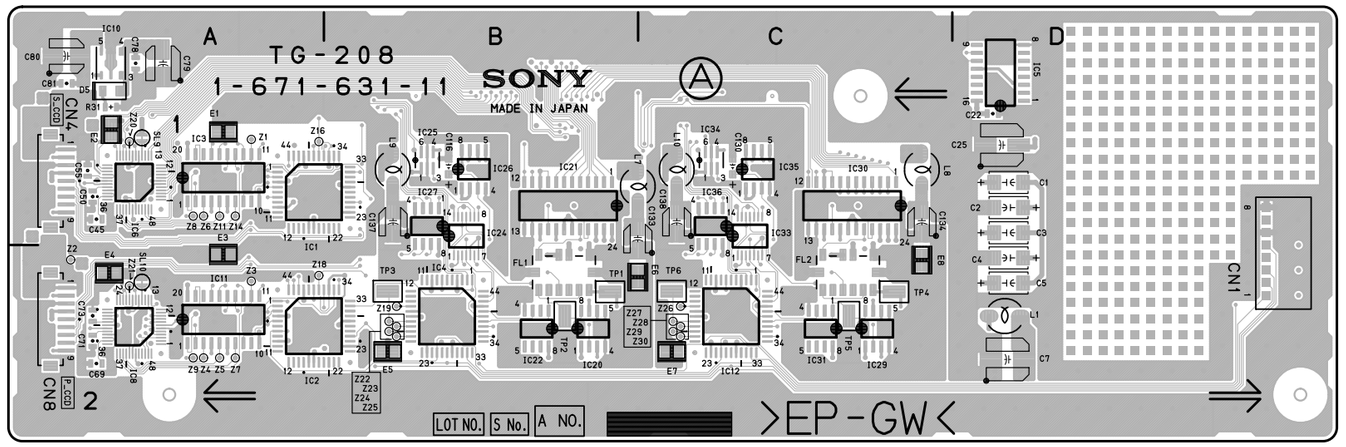
DFP-R3000 (SY) : S/N 10001 and Higher

RD-35 (SUFFIX:-14)

CN1	G1	IC23	F4
CN2	H1	IC24	E1
CN4	H3	IC25	E2
CN5	H3	IC26	E1
CN6	H2	IC27	E2
CN7	B1	IC28	G3
CN8	H5	IC29	E5
CN9	A2	IC30	E4
		IC31	E5
D1	C4	IC32	F2
D2	＊B4	IC33	F5
D3	＊B5	IC34	F4
D4	C5	IC35	F5
D5	B2	IC36	F4
D6	H3	IC37	D3
D7	＊G3	IC38	E3
D8	＊G2	IC39	G2
D9	G2	IC40	G3
D10	G2	IC41	G1
D11	＊F1	IC42	G2
D12	＊E5	IC43	G2
D13	H3	IC44	F5
D14	H2	IC45	F1
		IC46	E5
E1	H4		
E2	H5	L1	A4
E3	G3	L2	D4
E4	G5	L3	D5
E5	A2	L6	C1
E6	A3	L7	F2
E7	C3	L8	E4
E8	A1	L9	E2
E9	A5	L10	F4
E10	E1		
E11	E4	Q1	＊B3
E12	F2	Q2	B3
E13	G1	Q3	＊B3
E14	C1	Q4	＊B3
		Q6	＊B3
FB1	B4	Q7	H3
FB2	B3	Q8	H2
		Q9	H2
FL1	F2	Q10	H2
FL2	E4	Q12	H2
		Q13	H2
IC1	G1	Q14	＊F1
IC2	B4	Q15	＊E5
IC3	F4	Q16	＊H2
IC4	C3	Q17	＊H3
IC5	B5	Q18	D5
IC6	G4		
IC7	G4	S1	B2
IC8	G5		
IC9	A3	T1	C5
IC10	G2		
IC11	C1	TP1	A3
IC12	D2	TP2	A3
IC13	B1	TP3	A3
IC14	C1	TP4	A3
IC15	B2	TP50	F3
IC16	＊D1	TP52	D3
IC17	B2	TP53	F5
IC18	D1		
IC19	G2	X1	D1
IC20	F1		
IC21	F2	＊: B SIDE	
IC22	F1		

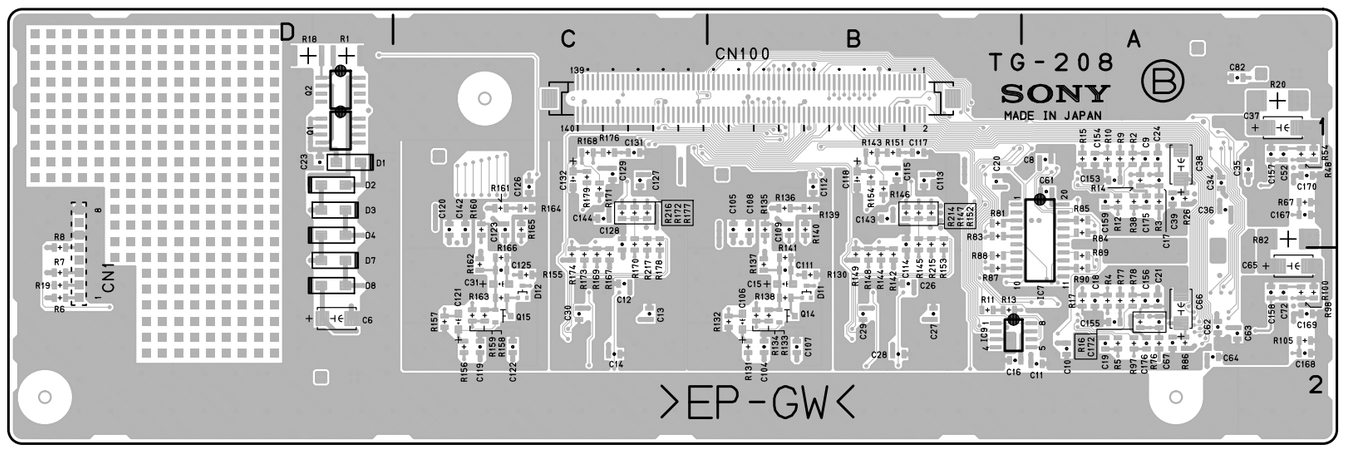


RD-35 -B SIDE-
SUFFIX : -14



DFP-R3000 (SY) : S/N 10001 to 10600

TG-208 -A SIDE-
SUFFIX : -11



TG-208 -B SIDE-
SUFFIX : -11

TG-208 (SUFFIX:-11)

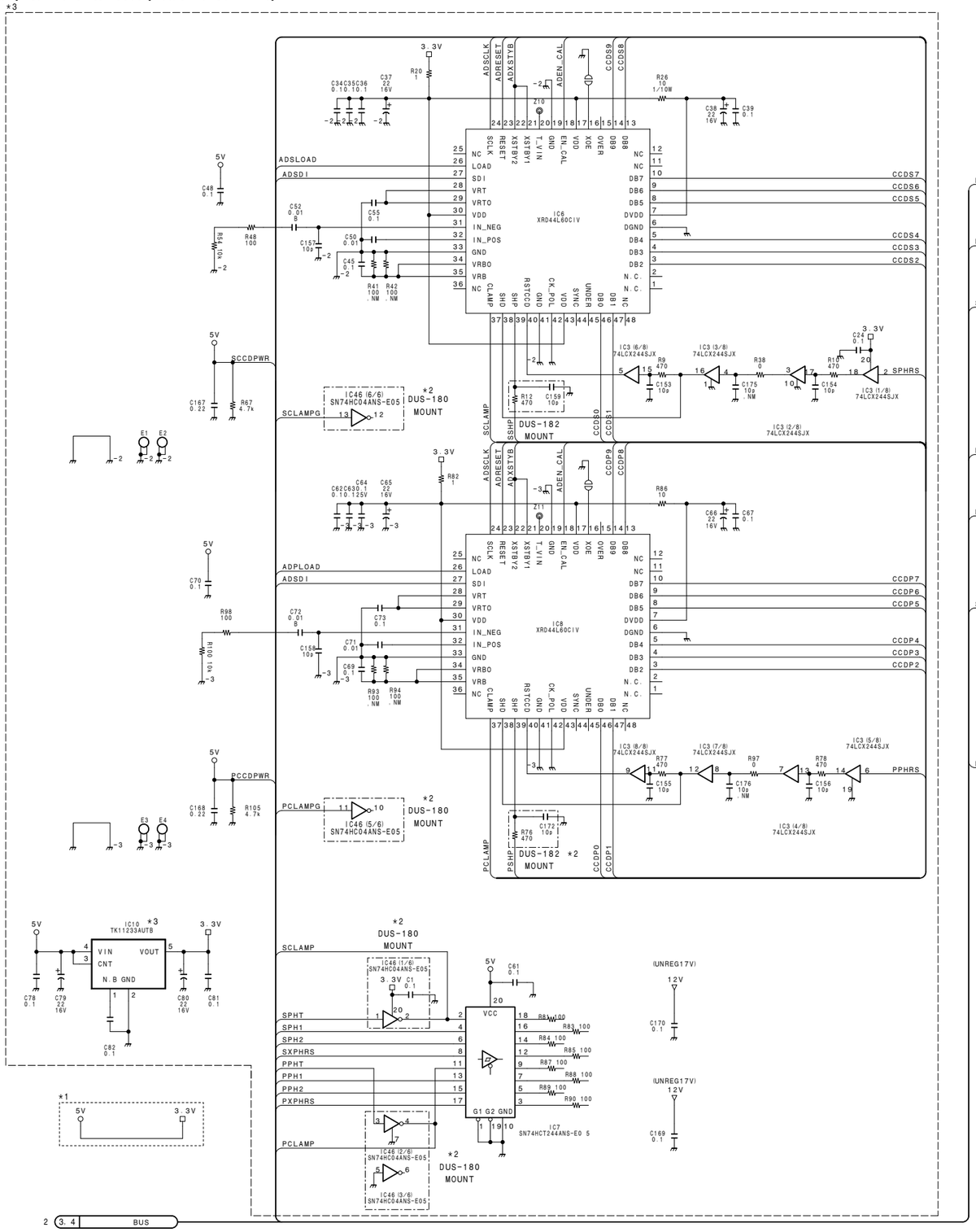
CN1	D2
CN4	A1
CN8	A2
CN100	＊B1
D1	＊D1
D2	＊D1
D3	＊D1
D4	＊D1
D5	A1
D7	＊D2
D8	＊D2
D11	＊B2
D12	＊C2
E1	A1
E2	A1
E3	A2
E4	A2
E5	B2
E6	B2
E7	C2
E8	C2
FL1	B2
FL2	C2
IC1	A1
IC2	A2
IC3	A1
IC4	B2
IC5	D1
IC6	A1
IC7	＊B1
IC8	A2
IC9	＊B2
IC10	A1
IC11	A2
IC12	C2
IC20	B2
IC21	B1
IC22	B2
IC24	B2
IC25	B1
IC26	B1
IC27	B1
IC29	C2
IC30	C1
IC31	C2
IC33	C2
IC34	C1
IC35	C1
IC36	C1
L1	D2
L7	B1
L8	C1
L9	B1
L10	C1
Q1	＊D1
Q2	＊D1
Q14	＊B2
Q15	＊C2
SL9	A1
SL10	A2
TP1	B2
TP2	B2
TP3	B2
TP4	C2
TP5	C2
TP6	C2

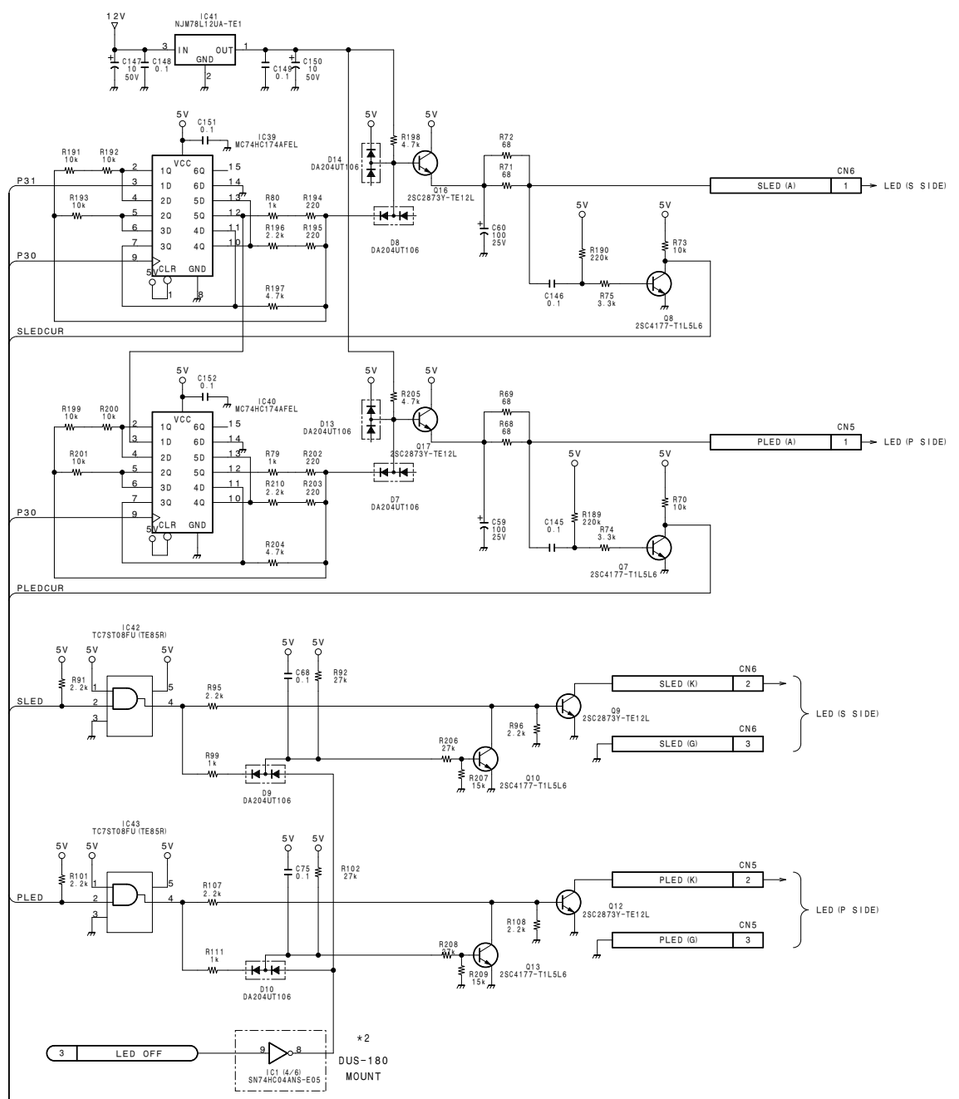
＊: B SIDE

Section 8
Schematic Diagrams

Index

DFP-R3000 (SY) : S/N 10001 to 10150 (Board No. Suffix -12)
DFP-R3000 (SY) : S/N 10151 to 10600 (Board No. Suffix -13)





NOTE:

MARK	CHANGED INFORMATION	APPLIED SERIAL NO. (BOARD NO.)
*1	JAMPER BETWEEN 5V AND 3.3V	10151 TO 10600
*2	DUS-180 BOARD ⟷ RD-35 BOARD	(SUFFIX:-13)

*3 These parts are mounted on the RD-35 board (Suffix:-12), but they do not function electricaly in DFP-R3000 with following Serial numbers.
Serial Nos.10001 to 10150

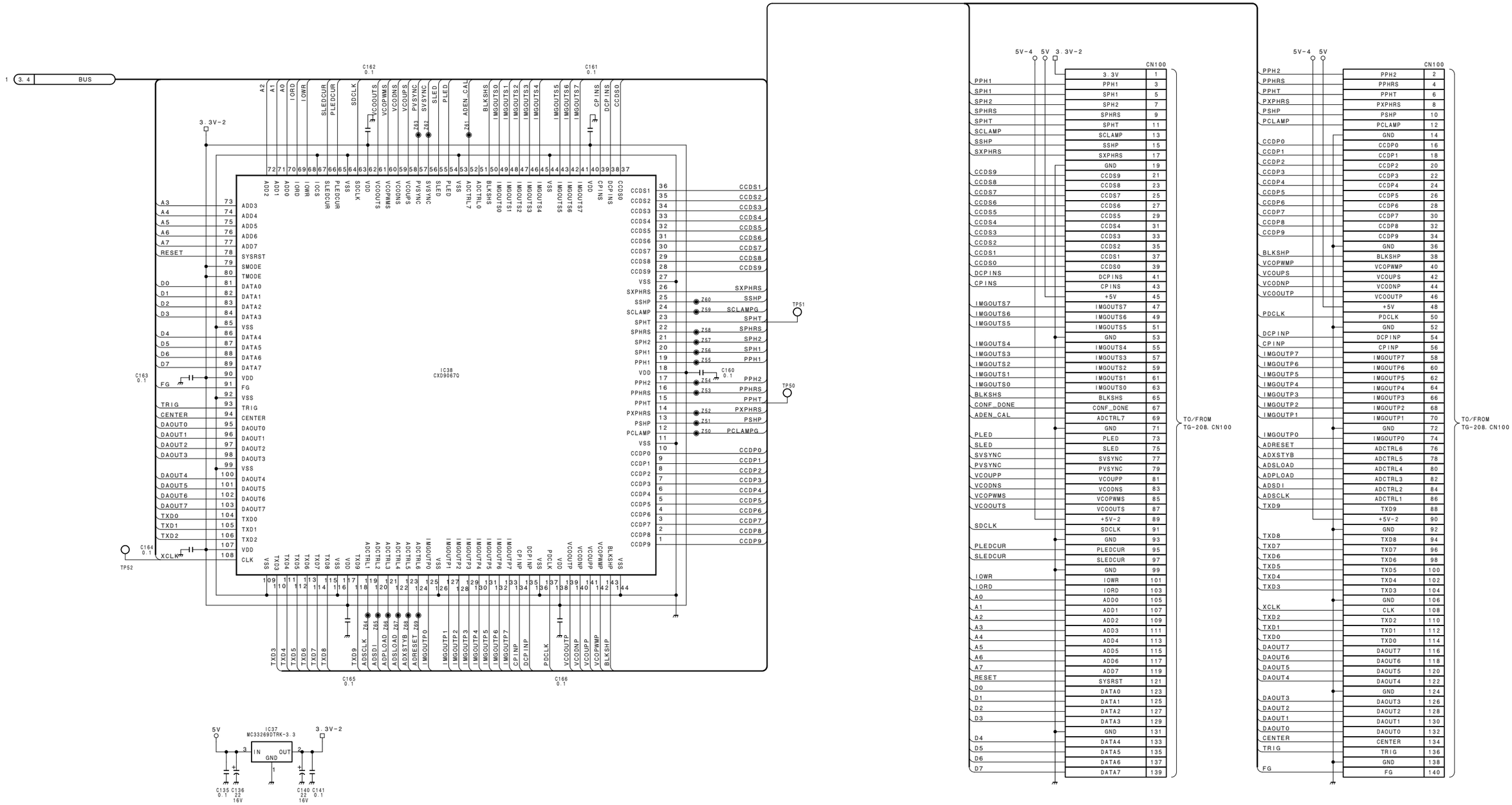
- The parts of following reference numbers are mounted on the RD-35 board (Suffix:-12), but they do not function electricalley in DFP-R3000 with Serial numbers (10001 to 10150).
  Ref Nos.:
  - C104 to 134, 137, 138, 142 to 144
  - D11, 12
  - L7 to 10
  - Q14, 15
  - R130 to 149, 151 to 179, 214 to 217

RD-35 (1/4)

BOARD NO. 1-669-257-12, 13

B-¥BCX145-RD35-1213-SM

DFP-R3000 (SY) : S/N 10001 to 10150 (Board No. Suffix -12)
DFP-R3000 (SY) : S/N 10151 to 10600 (Board No. Suffix -13)

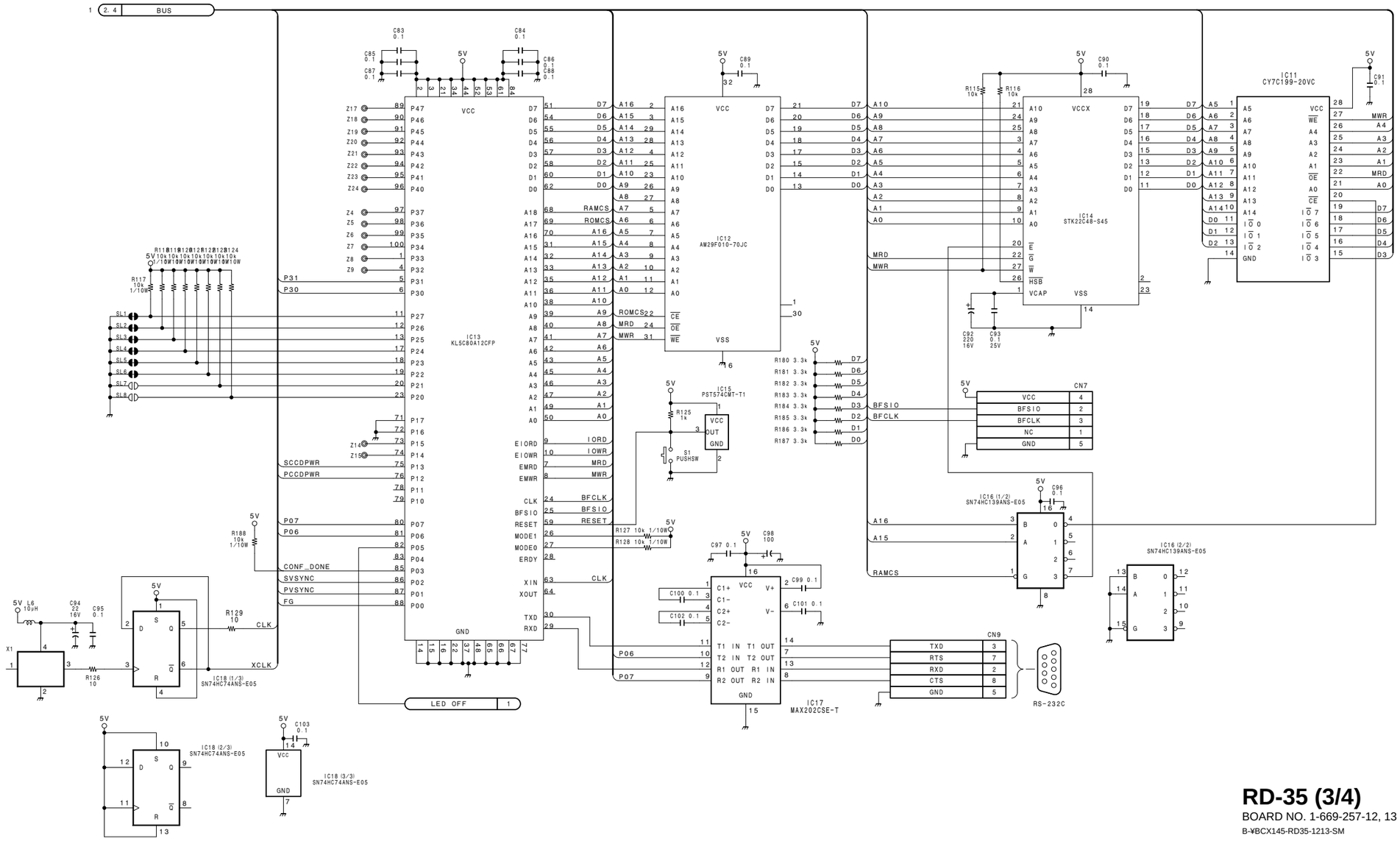


RD-35 (2/4)

BOARD NO. 1-669-257-12, 13

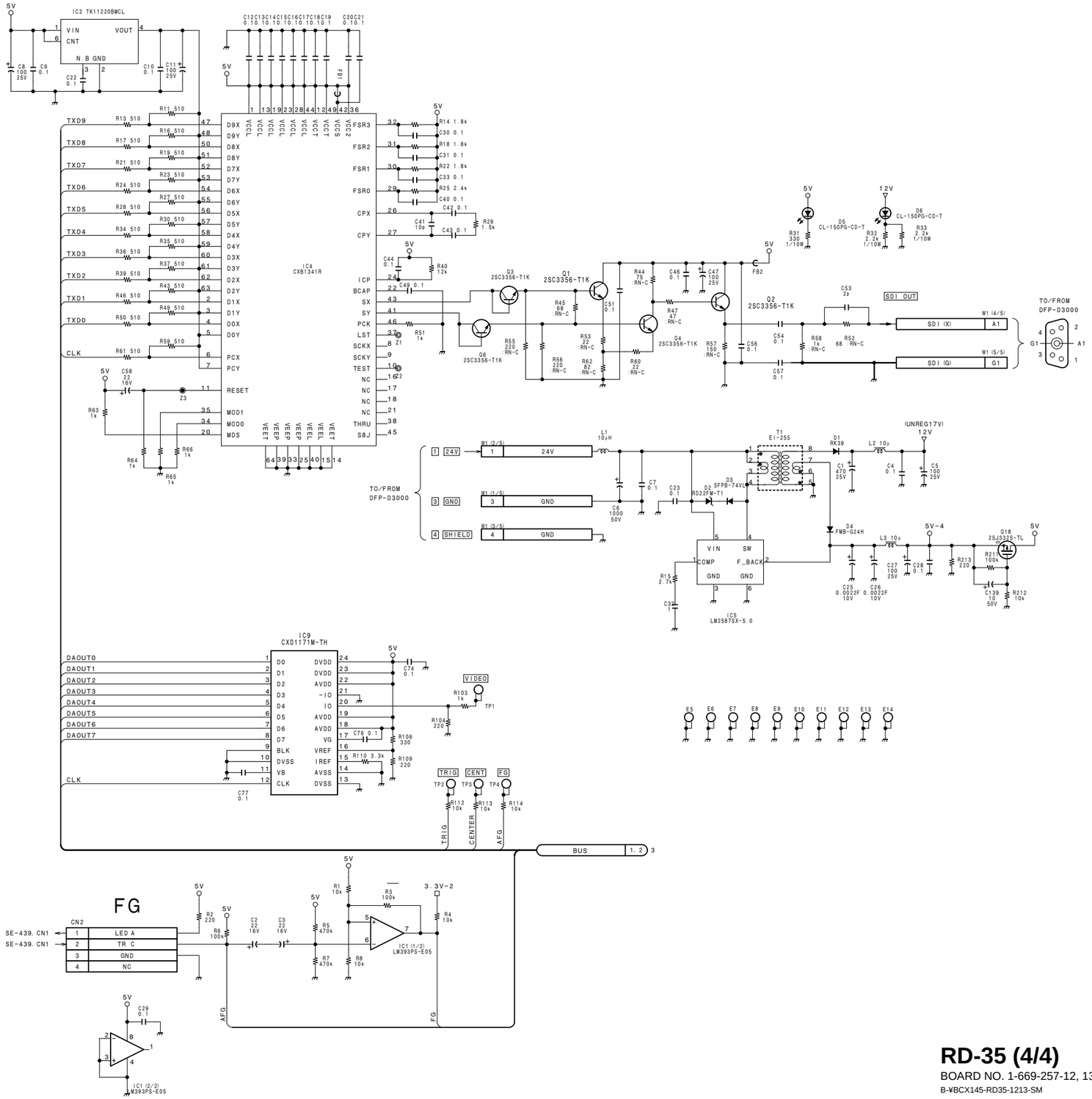
B-¥BCX145-RD35-1213-SM

DFP-R3000 (SY) : S/N 10001 to 10150 (Board No. Suffix -12)
DFP-R3000 (SY) : S/N 10151 to 10600 (Board No. Suffix -13)



RD-35 (3/4)
BOARD NO. 1-669-257-12, 13
B-¥BCX145-RD35-1213-SM

DFP-R3000 (SY) : S/N 10001 to 10150 (Board No. Suffix -12)
DFP-R3000 (SY) : S/N 10151 to 10600 (Board No. Suffix -13)



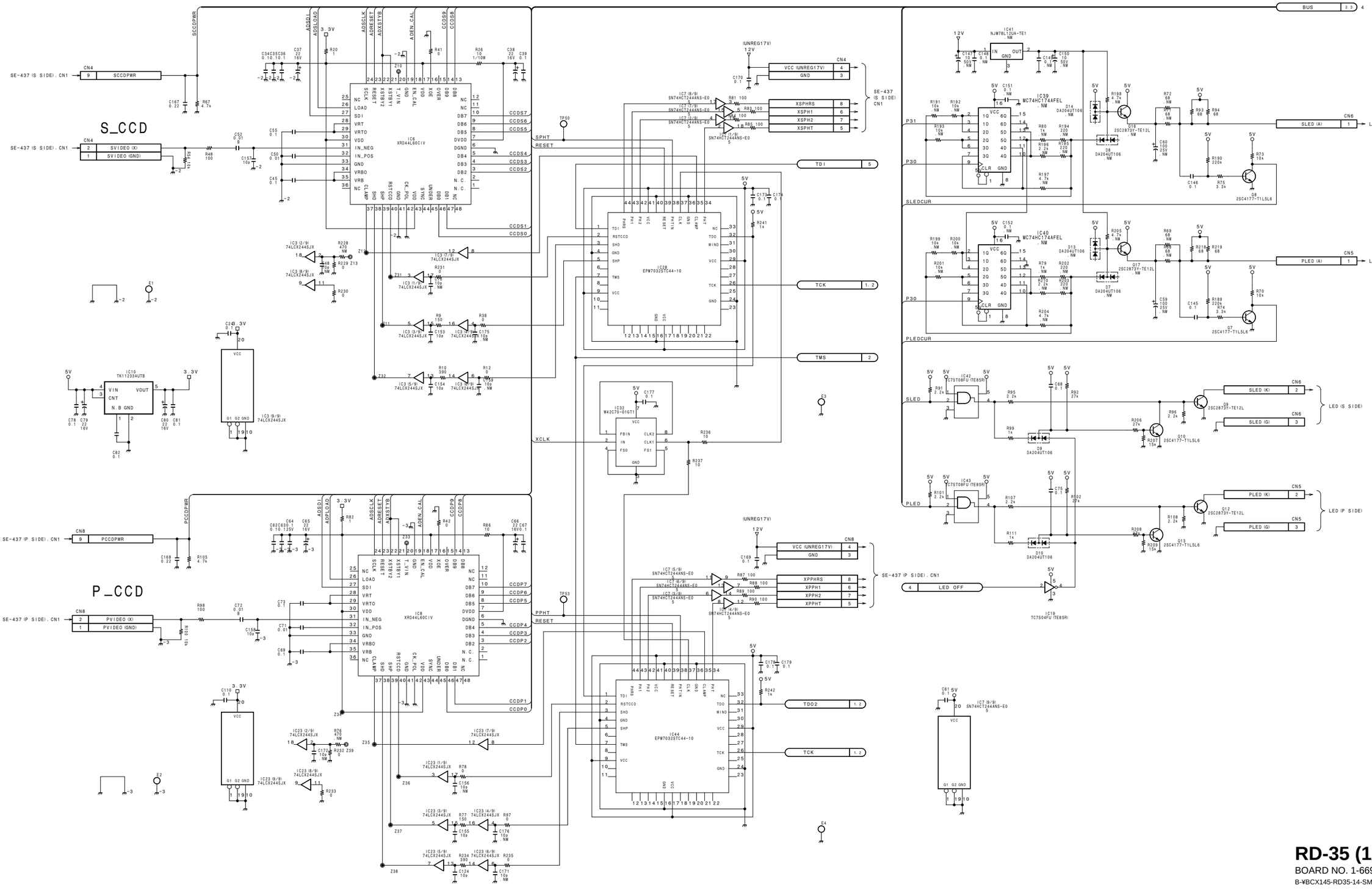
TO/FROM DFP-D3000

RD-35 (4/4)

BOARD NO. 1-669-257-12, 13

B-¥BCX145-RD35-1213-SM

DFP-R3000 (SY) : S/N 10601 and Higher



8-6 8-6

DFP-R3000

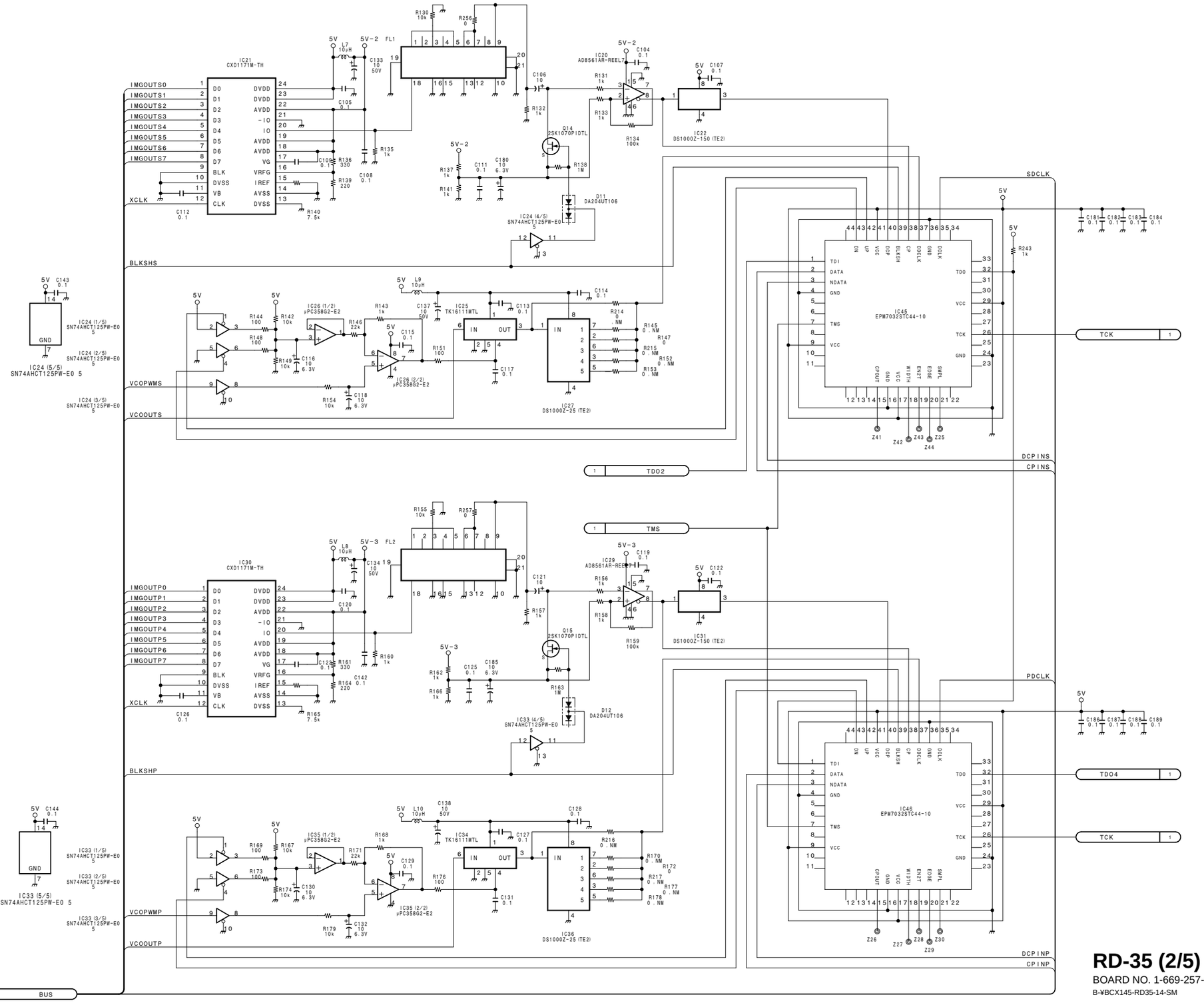
RD-35 (1/5)

BOARD NO. 1-669-257-14

B-¥BCX145-RD35-14-SM

RD-35 (2/5)

DFP-R3000 (SY) : S/N 10601 and Higher

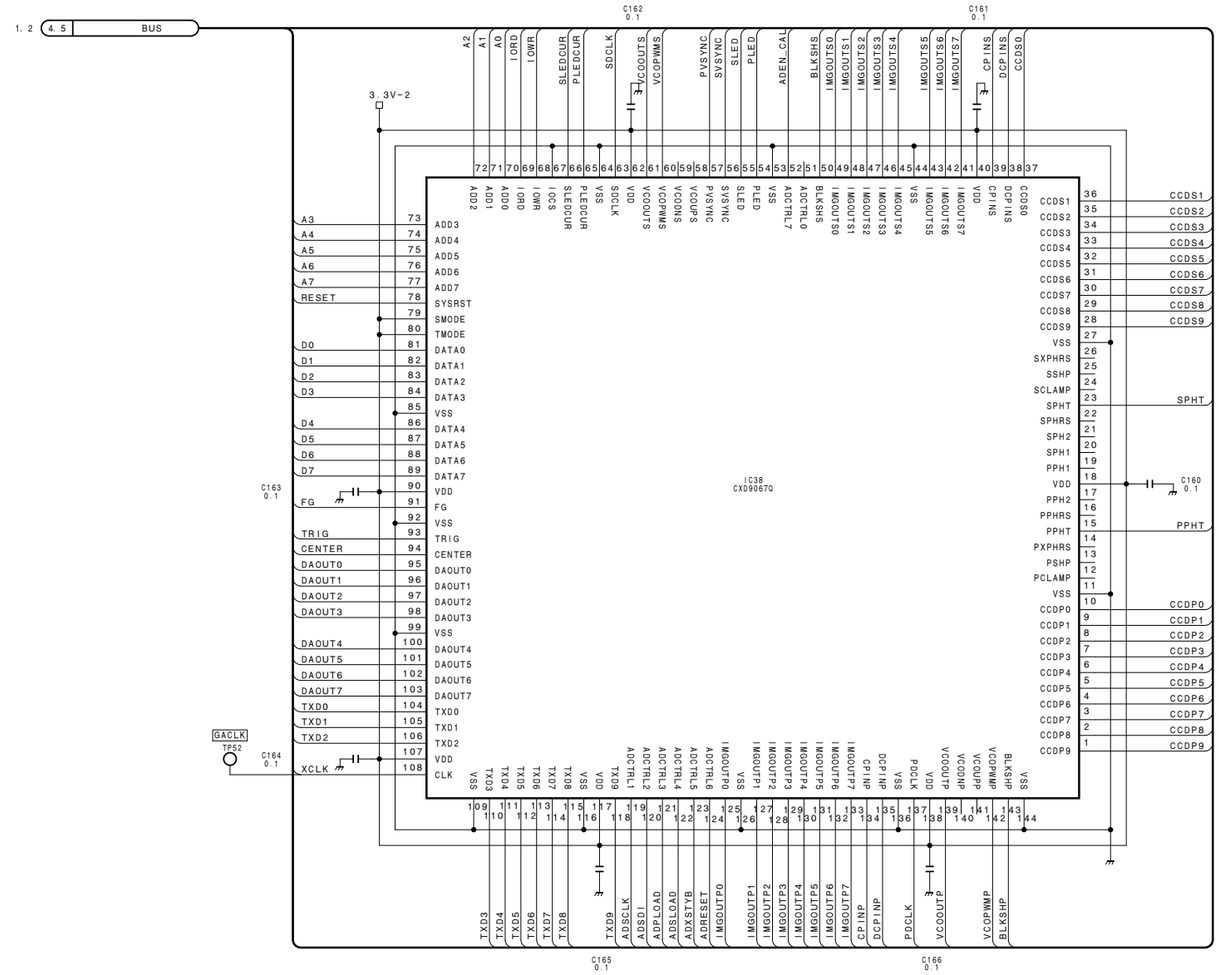


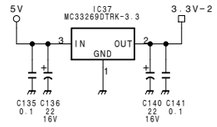
RD-35 (2/5)

BOARD NO. 1-669-257-14

B-¥BCX145-RD35-14-SM

DFP-R3000 (SY) : S/N 10601 and Higher

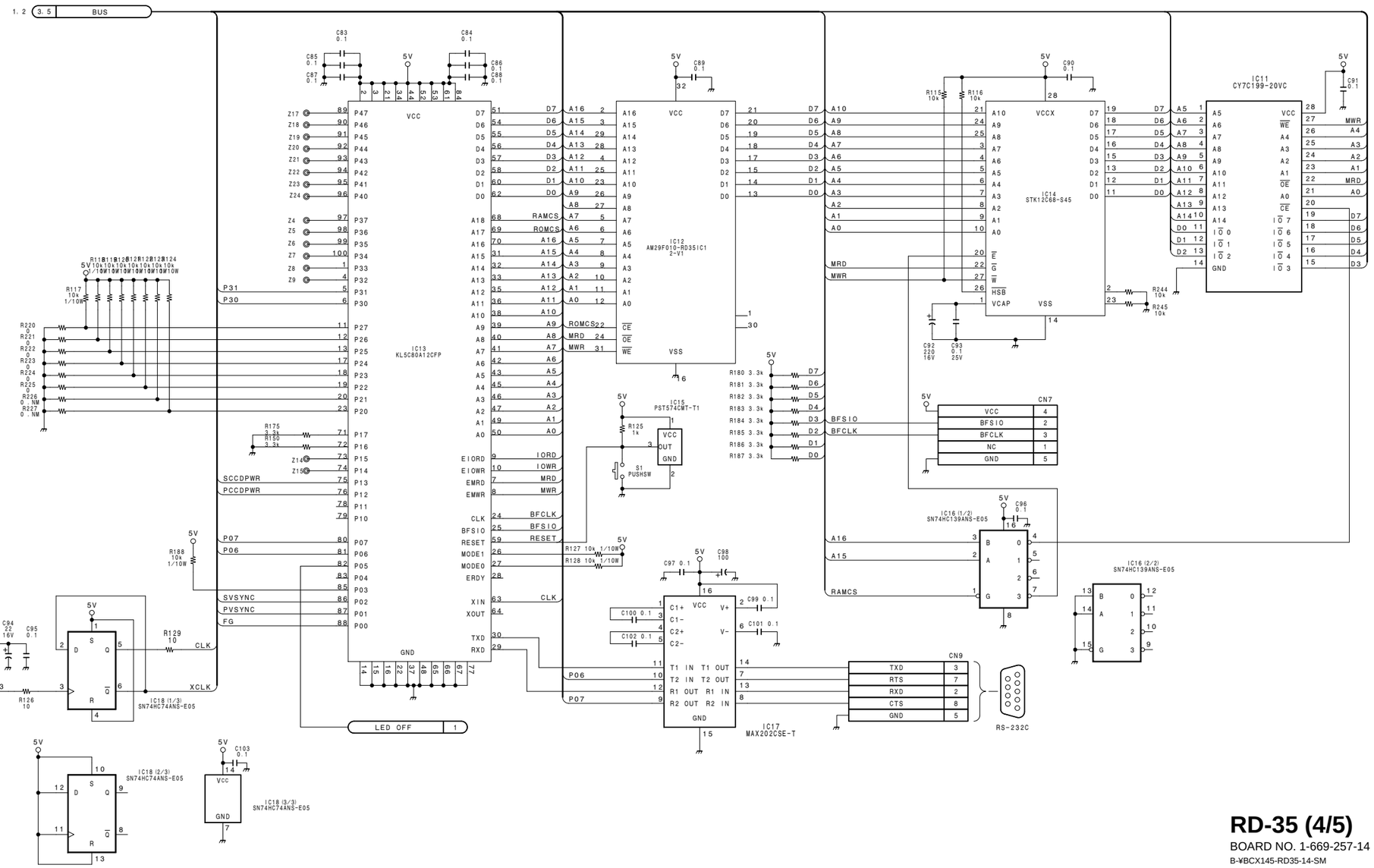




RD-35 (3/5)
BOARD NO. 1-669-257-14
B-¥BCX145-RD35-14-SM

RD-35 (4/5)

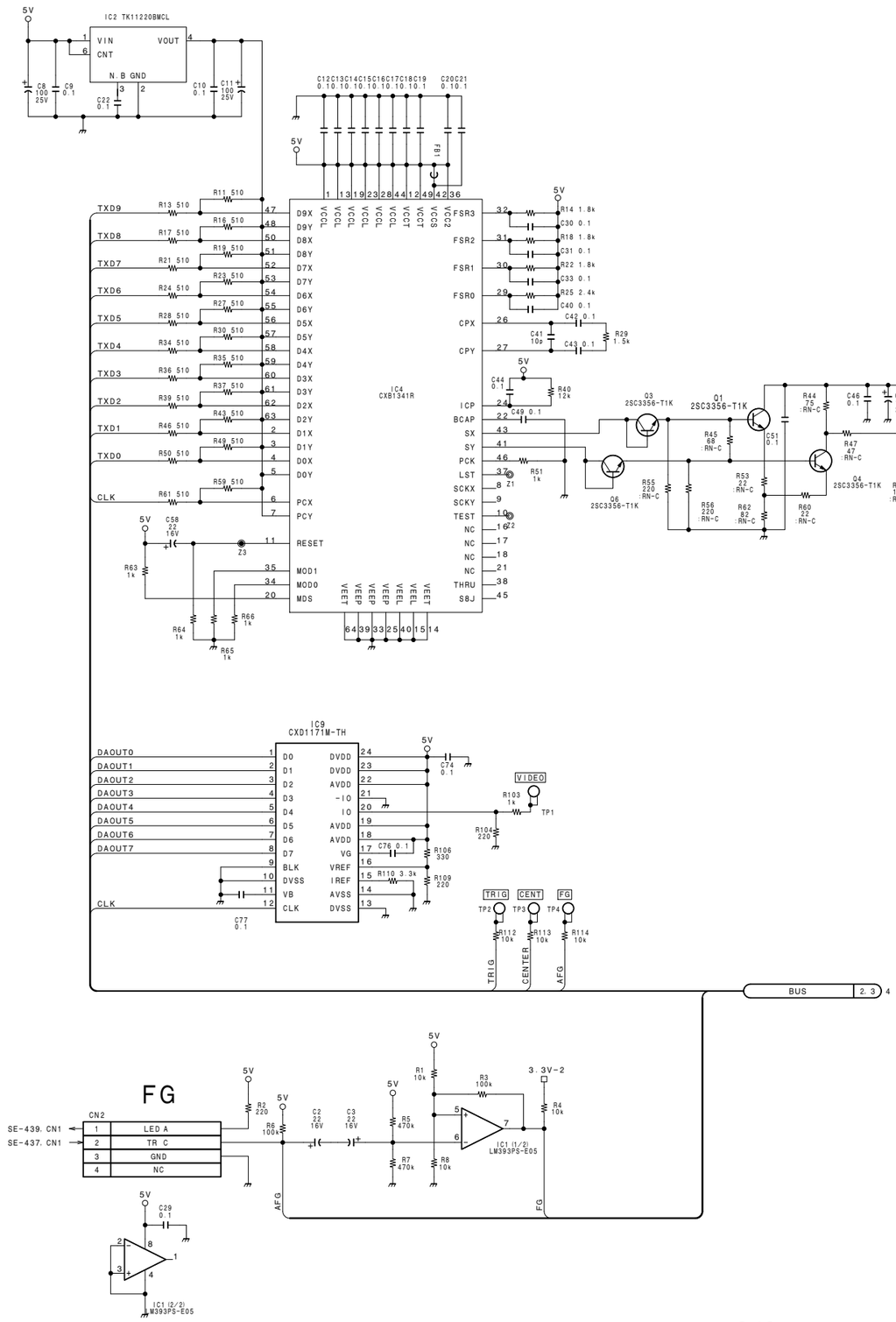
DFP-R3000 (SY) : S/N 10601 and Higher



RD-35 (4/5)
BOARD NO. 1-669-257-14
B-¥BCX145-RD35-14-SM

RD-35 (5/5)

DFP-R3000 (SY) : S/N 10601 and Higher



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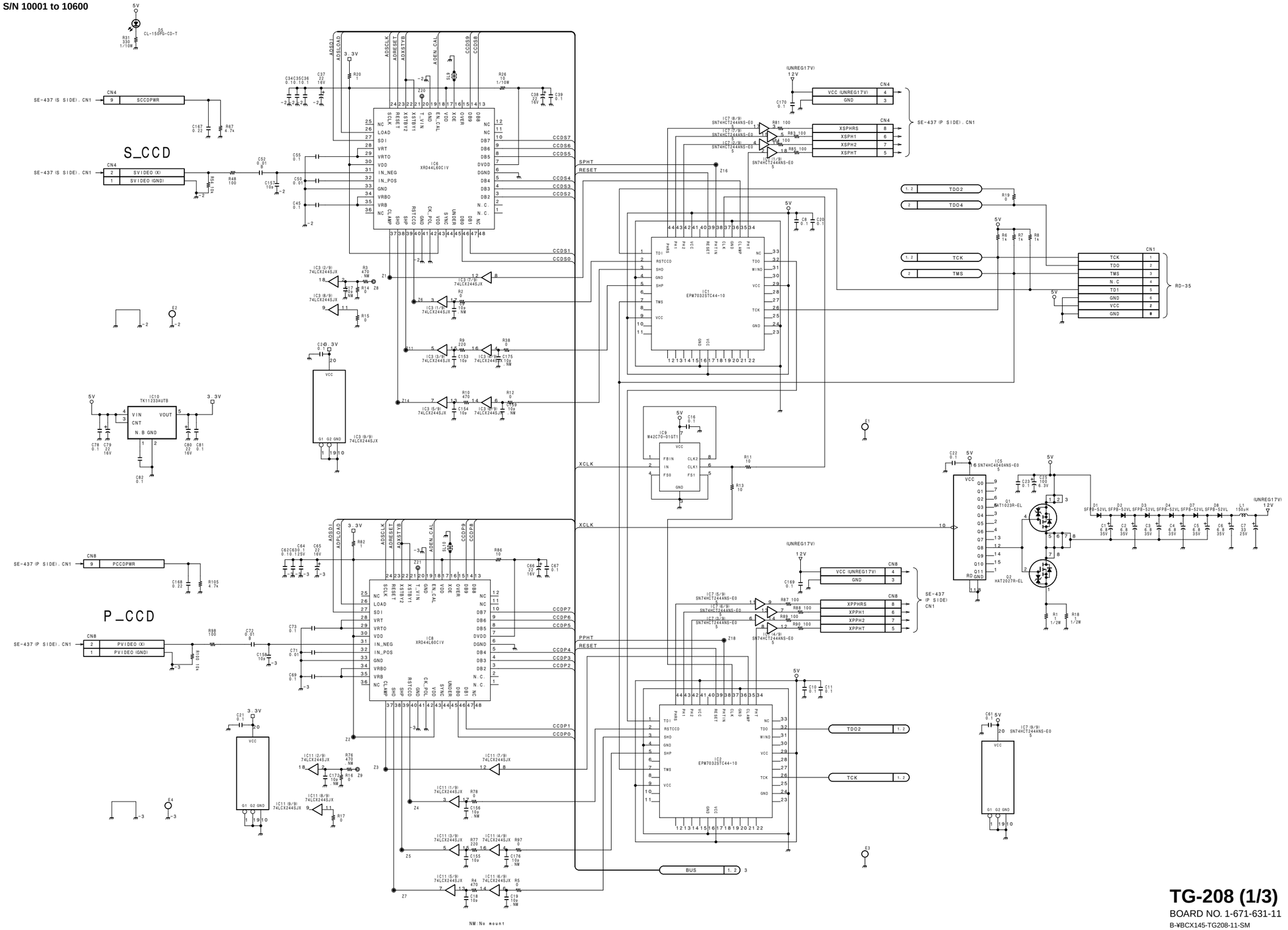
RD-35 (5/5)

BOARD NO. 1-669-257-14

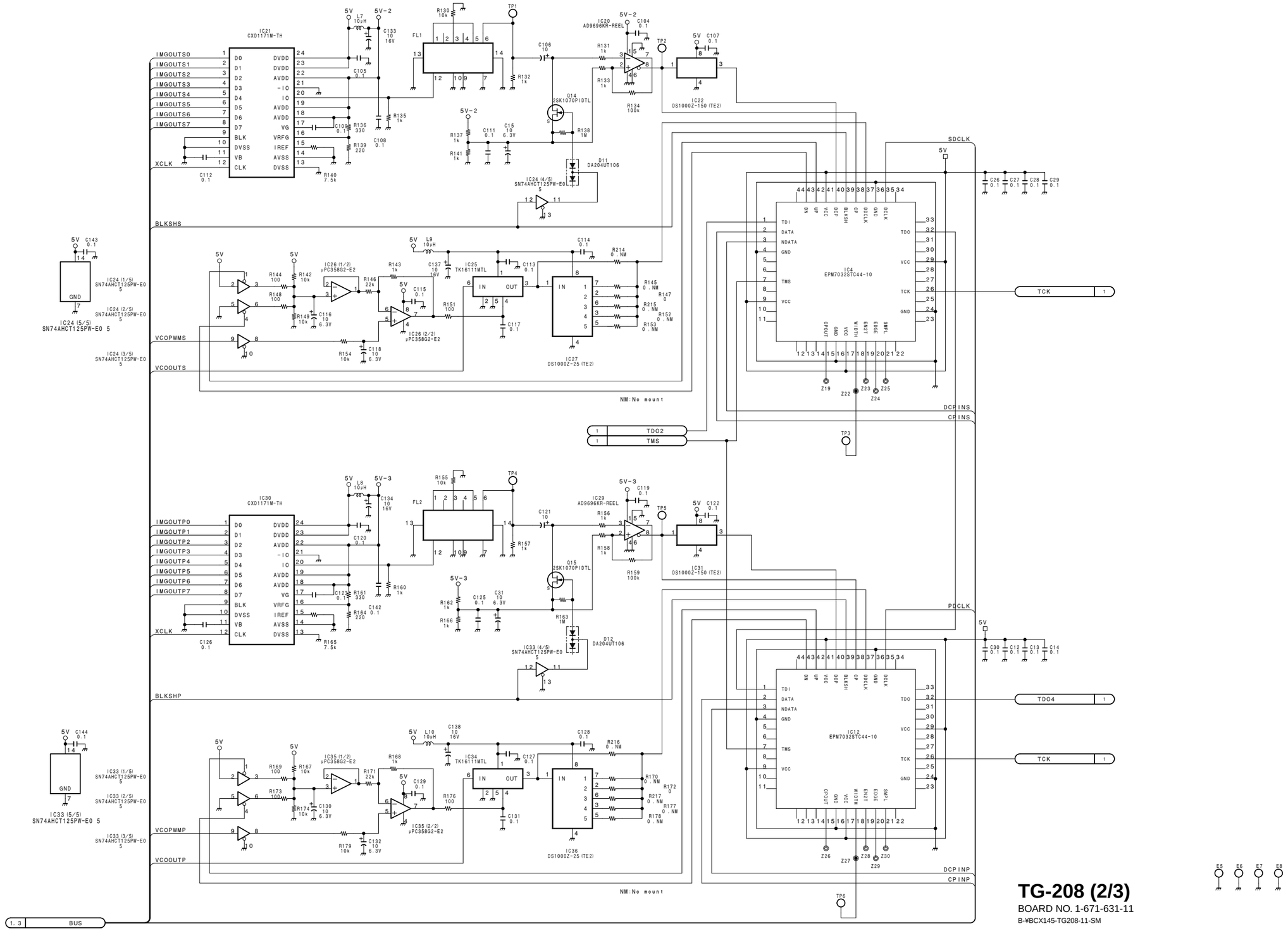
B-¥BCX145-RD35-14-SM

DFP-R3000 (SY) : S/N 10001 to 10600

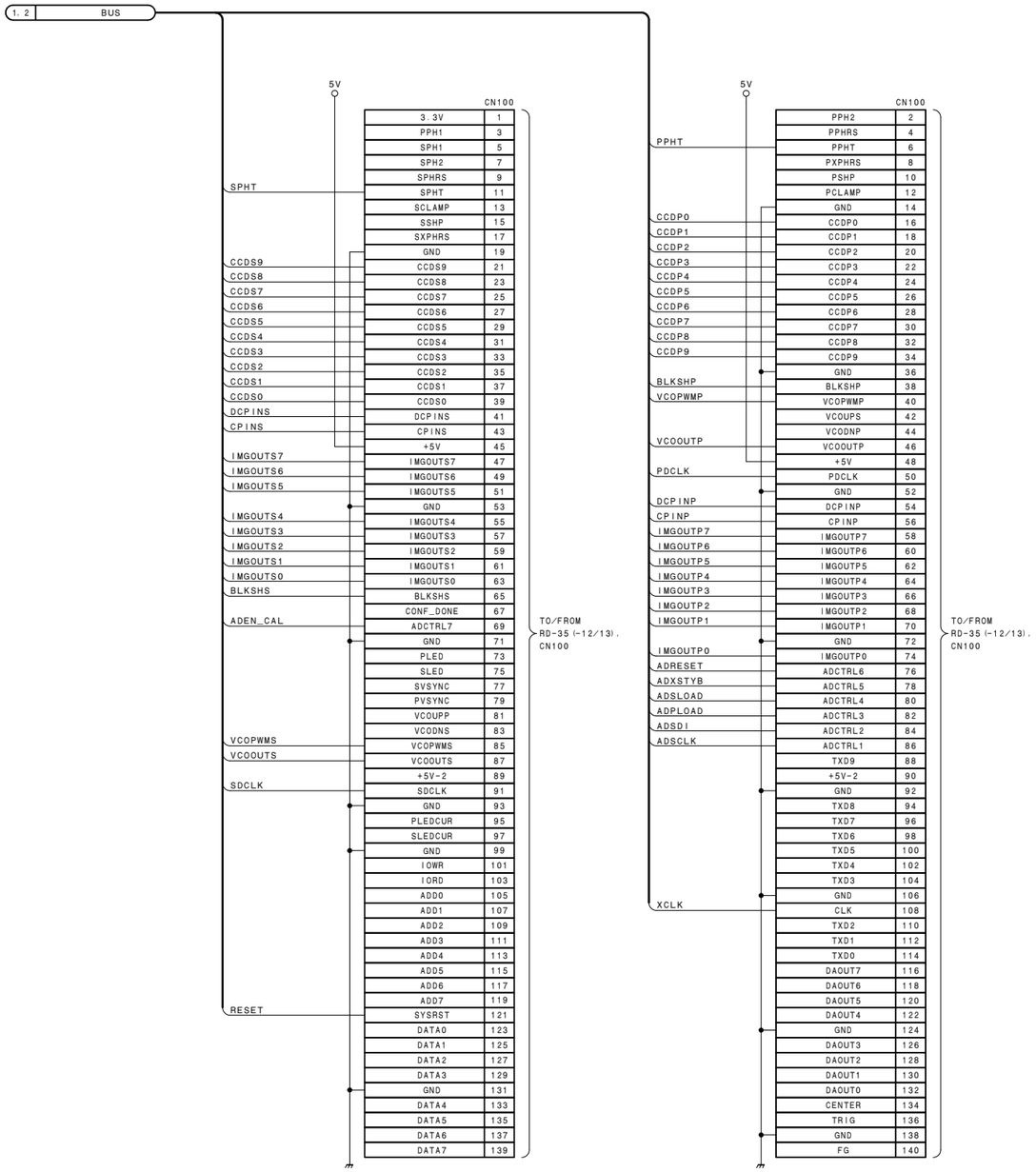


TG-208 (1/3)
BOARD NO. 1-671-631-11
B-¥BCX145-TG208-11-SM

DFP-R3000 (SY) : S/N 10001 to 10600



DFP-R3000 (SY) : S/N 10001 to 10600

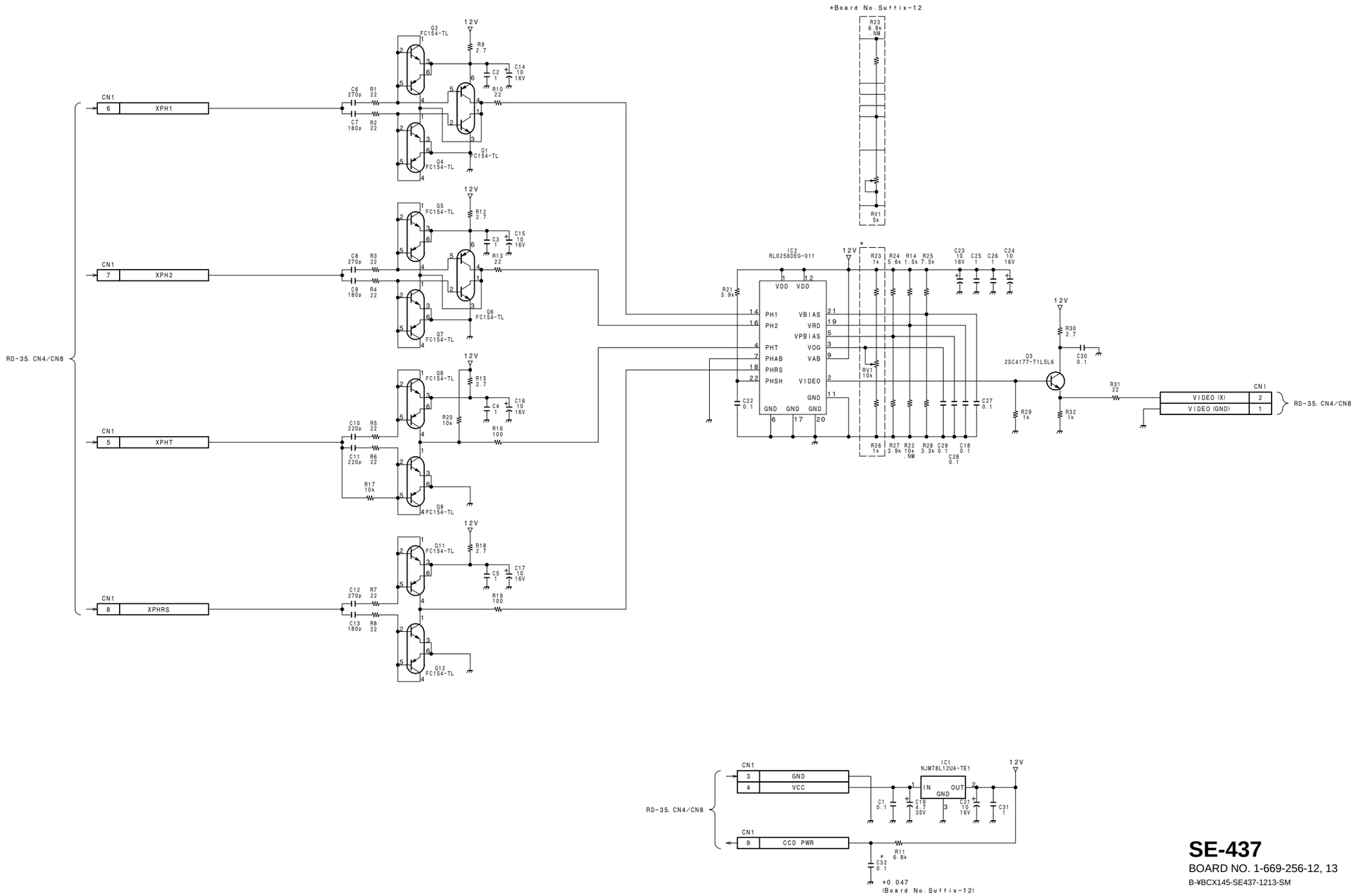


TG-208 (3/3)

BOARD NO. 1-671-631-11

B-¥BCX145-TG208-11-SM

DFP-R3000 (SY) : S/N 10001 and Higher

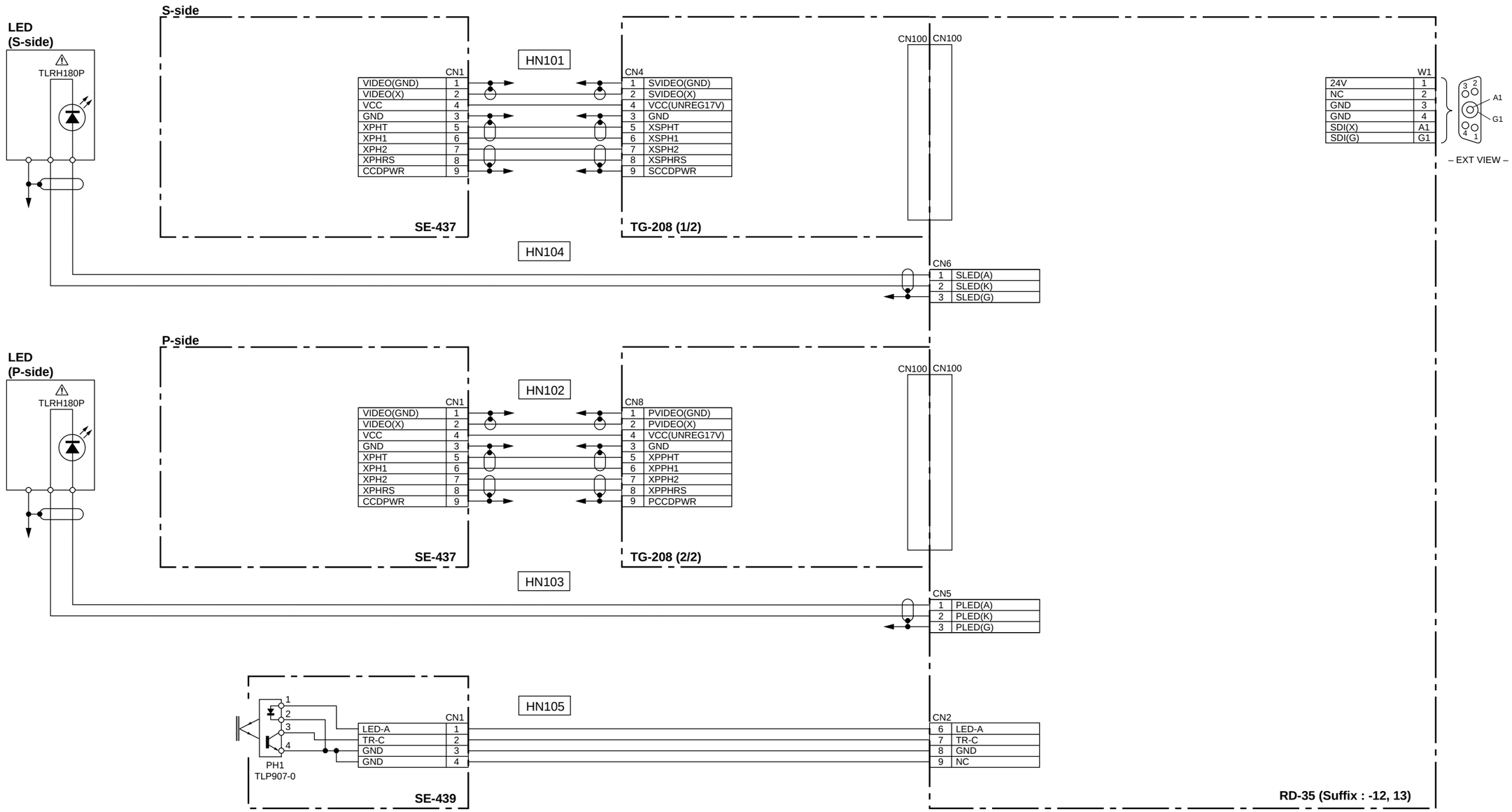


SE-437

BOARD NO. 1-669-256-12, 13

B-¥BCX145-SE437-1213-SM

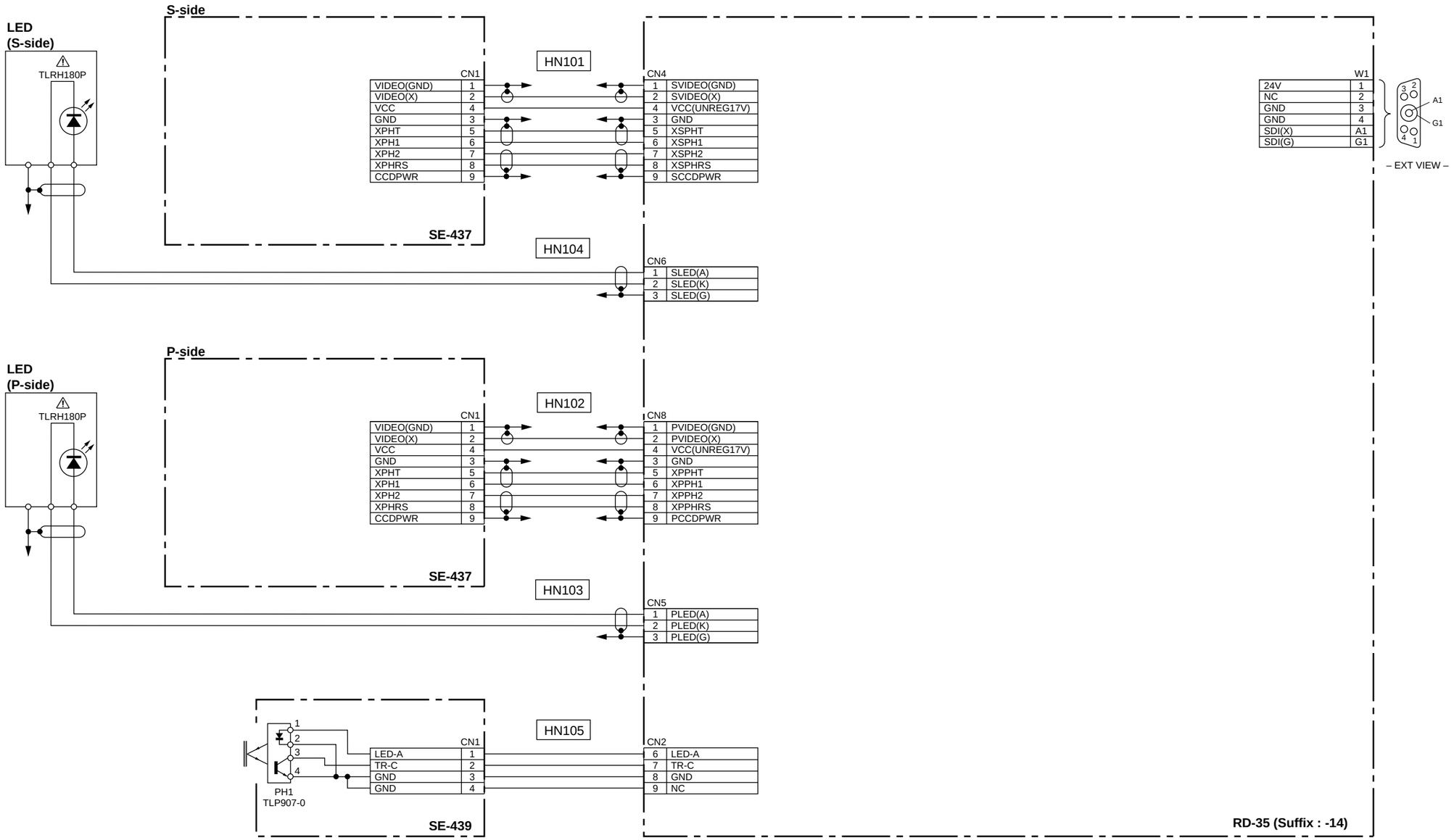
DFP-R3000 (SY) : S/N 10001 to 10600



Frame Wiring SE-439

BOARD NO. 1-669-255-11
DFP-R3000

DFP-R3000 (SY) : S/N 10601 and Higher



Frame Wiring
SE-439

BOARD NO. 1-669-255-11
DFP-R3000

DFP-R3000 (SY) J, E
9-968-523-01

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