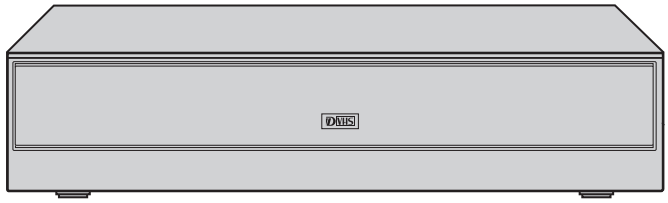
JVC

SERVICE MANUAL

D-VHS DIGITAL RECORDER

HM-DH40000U



SPECIFICATION

GENERAL

Power requirement	AC 120 V~, 60 Hz
Power consumption	
Power on	42 W
Power off	18 W
Temperature	
Operating	5°C to 40°C (41°F to 104°F)
Storage	-20°C to 60°C (-4°F to 140°F)
Operating position	Horizontal only
Dimensions (W x H x D)	435 mm x 94 mm x 383 mm (17-3/16" x 3-3/4" x 15-1/8")
Weight	5.5 kg (12.2 lbs)
Maximum recording time	
D-VHS (HS)	210 min. with DF-420 video cassette
D-VHS (STD)	420 min. with DF-420 video cassette
D-VHS (LS3)	1260 min. with DF-420 video cassette
D-VHS (LS5)	2100 min. with DF-420 video cassette
S-VHS/VHS (SP)	210 min. with ST-210 video cassette
S-VHS/VHS (EP)	630 min. with ST-210 video cassette

VIDEO/AUDIO (D-VHS)

Video format	MPEG2 standard
Audio format	Encode MPEG1 Layer2 Decode MPEG1 Layer2/Dolby Digital LINEAR PCM (HS/STD)
Track composition	
Tape speed	33.4 mm/sec (HS mode) 16.67 mm/sec (STD mode) 5.55 mm/sec (LS3 mode) 3.33 mm/sec (LS5 mode)
Head azimuth	±30 deg
Drum rotation	1800 rpm
Tracking system	CTL track system
Recording specification	
Main data input rate	28.2 Mbps (HS mode) 14.1 Mbps (STD mode) 4.7 Mbps (LS3 mode) 2.8 Mbps (LS5 mode)
Interface	IEEE1394 compliant DTCP digital copy protection compatible

VIDEO/AUDIO (S-VHS/VHS)

Format	S-VHS/VHS NTSC standard
Signal system	NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording/Playback system	DA-4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	45 dB
Frequency range	
Normal audio	70 Hz to 10,000 Hz
Hi-Fi audio	20 Hz to 20,000 Hz

TUNER

Tuning system	Frequency-synthesized tuner
Channel coverage	
VHF	Channels 2-13
UHF	Channels 14-69
CATV	113 Channels

TIMER

Clock reference	Quartz
Program capacity	1-year programmable timer/24 programs
Memory backup time	Approx. 10 min.

CONNECTOR

Input/Output	i.LINK IN/OUT (DV IN) x 2 (4-pin, S400) RCA connectors (IN x 3, OUT x 2) S-video connectors (IN x 3, OUT x 2) Component video OUT (Y, PB/CB, PR/CR) x 1 Digital OUT (optical) x 1

ACCESSORIES

Provided accessories	Infrared remote control unit, “AA” battery x 2, Audio cable, RF cable (F-type), S-video cable (4-pin), Controller

D2D4

No.82933
2003/06

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SECTION 1
PRECAUTIONS

1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold.However,in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

1.1.1 Precautions during Servicing

(1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product.When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

(2) Parts identified by the ⚠symbol and shaded ( ) parts are critical for safety.
Replace only with specified part numbers.
NOTE :
Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

(3) Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

(4) Use specified internal wiring. Note especially:
- Wires covered with PVC tubing
- Double insulated wires
- High voltage leads

(5) Use specified insulating materials for hazardous live parts. Note especially:
- Insulation Tape
- PVC tubing
- Spacers
- Insulation sheets for transistors
- Barrier

(6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

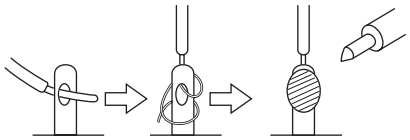


Fig.1-1-1

(7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

(8) Check that replaced wires do not contact sharp edged or pointed parts.

(9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

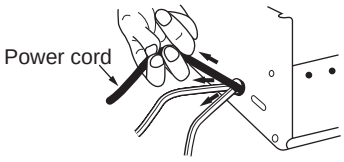


Fig.1-1-2

(10) Also check areas surrounding repaired locations.

(11) Products using cathode ray tubes (CRTs)In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

(12) Crimp type wire connector
In such cases as when replacing the power transformer in sets where the connections between the power cord and power trans former primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
- **Connector part number** :E03830-001
- **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
- **Replacement procedure**
  a) Remove the old connector by cutting the wires at a point close to the connector.
  Important : Do not reuse a connector (discard it).

Fig.1-1-3

  b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

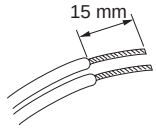


Fig.1-1-4

  c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

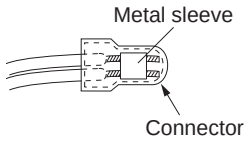


Fig.1-1-5

  d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

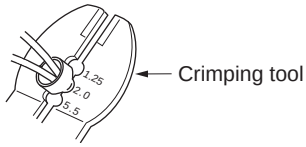


Fig.1-1-6

  e) Check the four points noted in Fig.1-1-7.

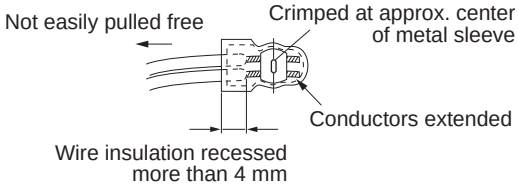


Fig.1-1-7

1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

(1) Insulation resistance test
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
See table 1 below.

(2) Dielectric strength test
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

(3) Clearance distance
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

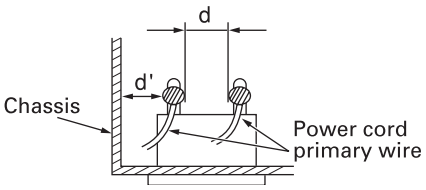


Fig.1-1-8

(4) Leakage current test
Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
Measuring Method : (Power ON)
Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

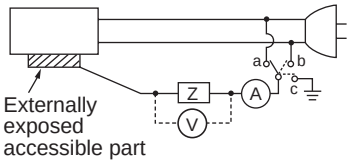
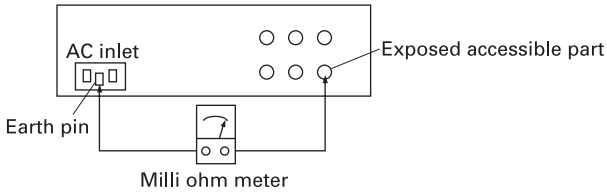


Fig.1-1-9

(5) Grounding (Class 1 model only)
Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
Measuring Method:
Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Fig.1-1-12

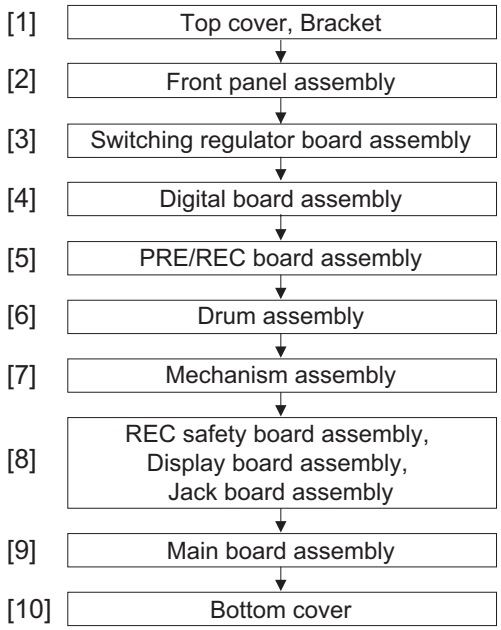
NOTE :

These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 Disassembly flow chart

This flowchart lists the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



2.2 How to read the disassembly and assembly

<Example>

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover, Bracket	D1	4(S1a),(S1b),3(L1a), 2(SD1a),(P1a),(W1a), CN1(WR1a), 2(S1c)	<Note 1a>

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order.
These numbers are also used as the identification (location) No.of parts Figures.
(2) Part name to be removed or installed.
(3) Fig. No. showing procedure or part location.
(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered. P= Spring, W= Washer, S= Screw, L= Locking tab, SD= Solder, CN**(WR**) = Remove the wire (WR**) from the connector (CN**).

Note:

- **The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.**

(5) Adjustment information for installation

2.3 Disassembly/assembly method

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover, Bracket	D1	4(S1a), (S1b), 2(S1c)	
[2]	Front panel assembly	D2	CN901(WR2a), 4(L2a), 2(L2b), 3(L2c)	<Note 2a> <Note 2b>
[3]	Switching regulator board assembly	D3	CN5303(WR3a), CN5301 CN5305 3(S3a)	<Note 2a>
[4]	Digital board assembly	D4	CN401(WR4a), CN402(WR4b), CN8003(WR4c), CN9301(WR4d), CN9001(WR4e), CN8001(WR4f), CN8002(WR4g) 3(S4a), (S4b),	<Note 2a>
[5]	PRE/REC board assembly	D5	(S5a), (S5b), L5a(WR5a), Shield case(PRE), CN604(WR5b), CN603	<Note 2a> <Note 4a>
[6]	Drum assembly, (Inertia plate), (Roller arm assembly), (Cleaner assembly)	D6	CON1(WR6a), CN1(WR6b), (S6a), (S6b), (S6c) 4(L6a) (P6a), (L6b) (L6c)	<Note 2a> <Note 5a>
[7]	Mechanism assembly	D7	CN1(WR7a), (S7a), (S7b), (S7c), (S7d), S7e(WR7b), 2(L7a)	<Note 2a> <Note 6a>
[8]	REC safety board assembly, Display board assembly	D8	(S8a) CN7002(WR8a), CN7005(WR8b) 4(L8a)	<Note 2a> <Note 7a>
[9]	Main board assembly	D9	2(S9a)	
[10]	Bottom cover	D10	(S10a), 2(S10b), 4(L10a), 3(L10b)	

<Note 2a>

- Be careful not to damage the connector and wire etc. during connection and disconnection.
- When connecting the flat wire to the connector, be careful with the wire direction.

<Note 2b>

- When reattaching the Front panel assembly, make sure that the door opener “a” of the Cassette holder assembly is lowered in position prior to the reinstallation.

<Note 4a>

- When securing the screw (S5a), be sure to connect the lug wire (WR5a) together it.

<Note 5a>

- When installing the drum assembly, secure the screws (S6a to S6c) in the order of a,b,c.

<Note 6a>

- When it is required to remove the screws (S7a to S7b) retaining the Mechanism assembly, please refer to the “Procedures for Lowering the Cassette holder assembly” (See on page 1-6).
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors and switch on the Main board assembly.
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.

<Note 7a>

- After removing the REC safety board assembly, remove the display board assembly.

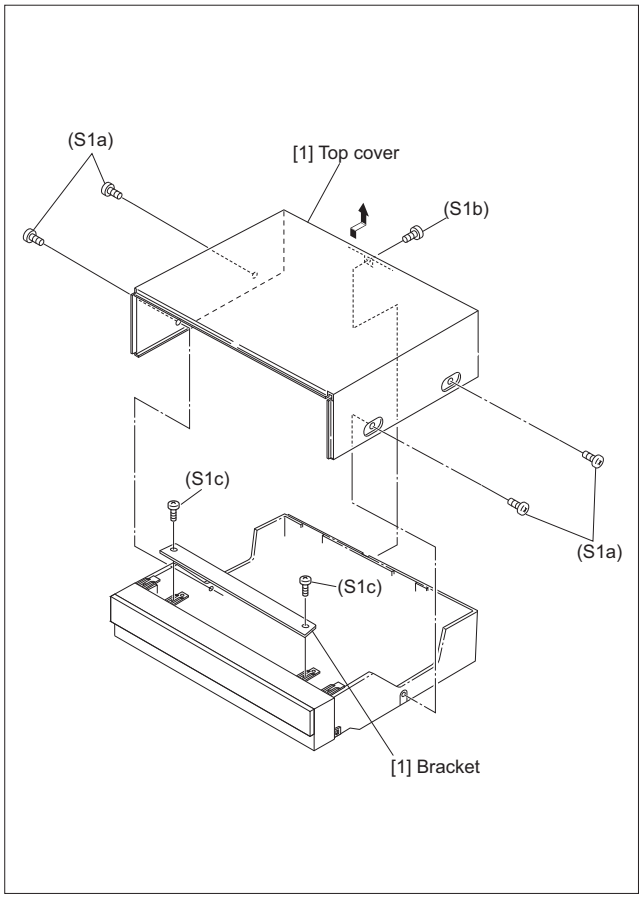


Fig.D1

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.

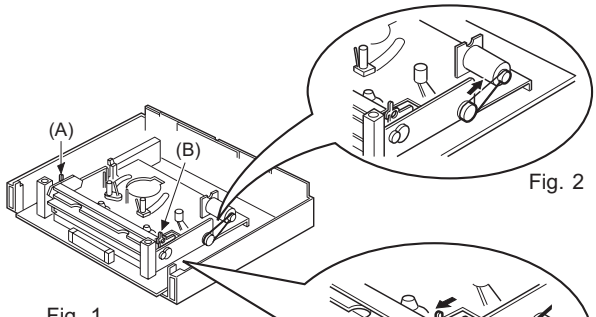


Fig. 1

Fig. 2

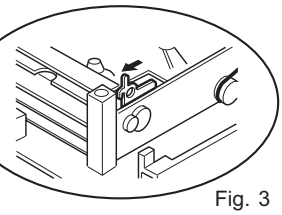


Fig. 3

Turn the loading motor pulley in the direction as indicated by Fig.2. As both (A) and (B) levers are lodged twice, push thelevers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of (A), (B), (B), (A). When the holder has been lowered, turn the pulley untilthe cassette holder is securely in place without allowing any up/down movement.

Fig.Procedures for Lowering the Cassette holder assembly

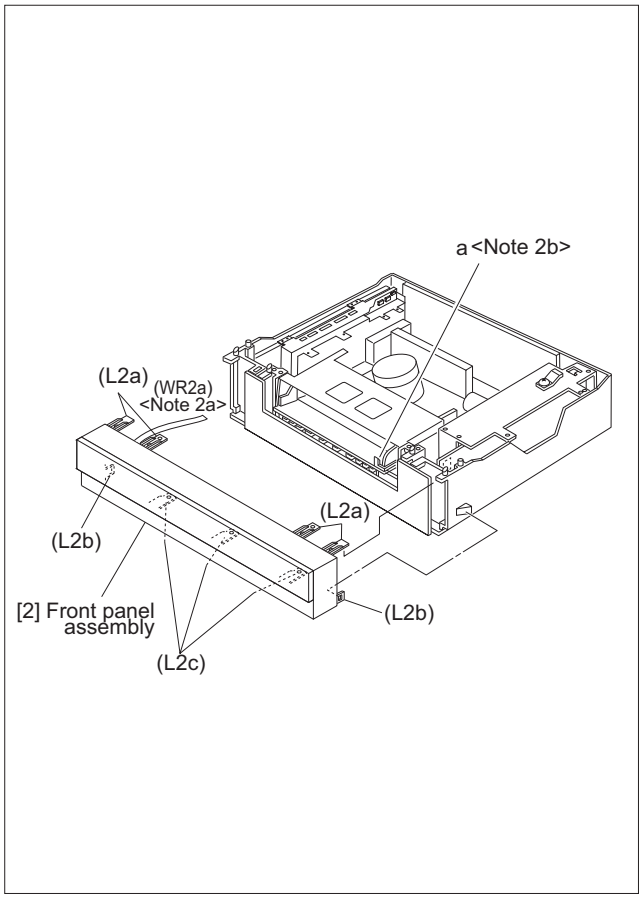


Fig.D2

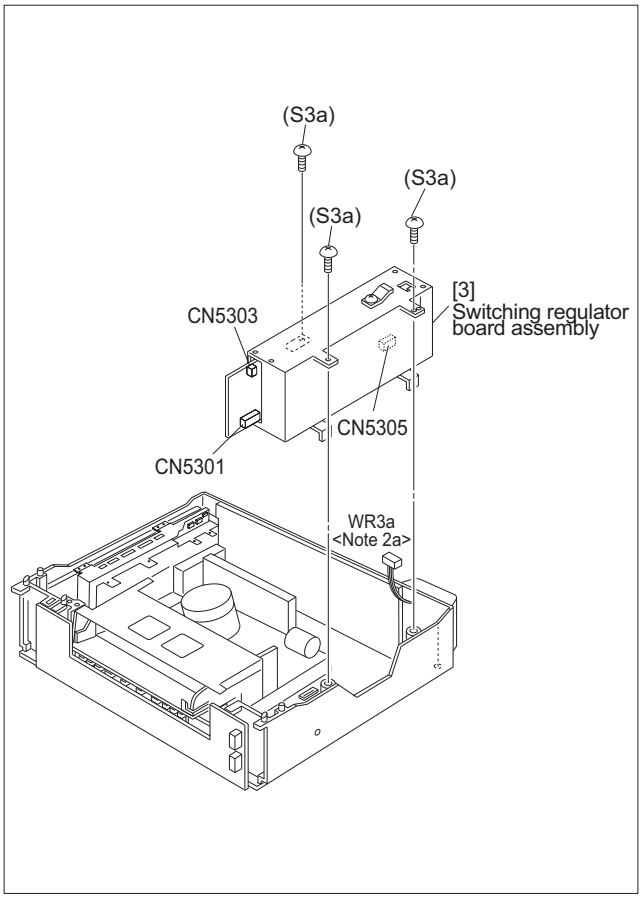


Fig.D3

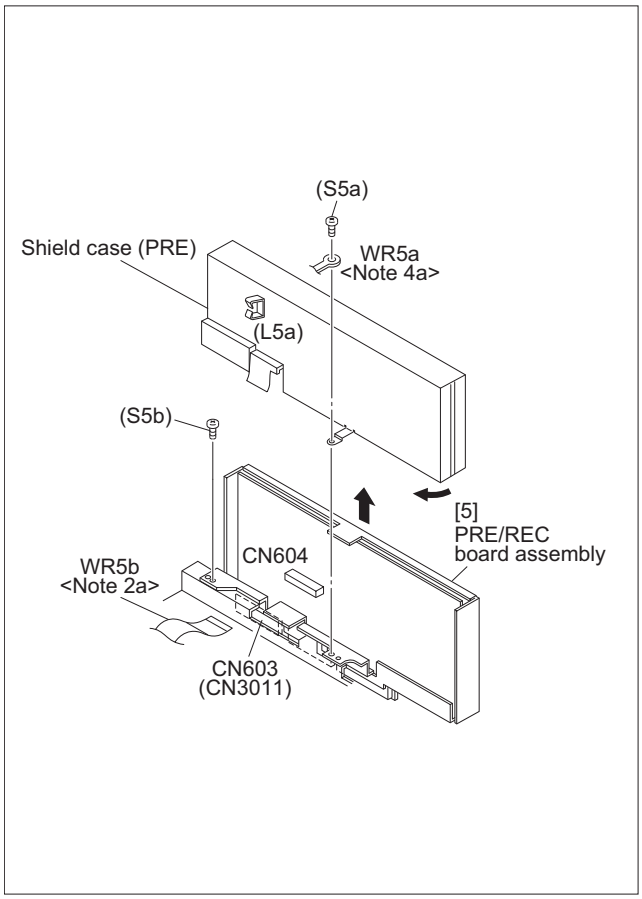


Fig.D5

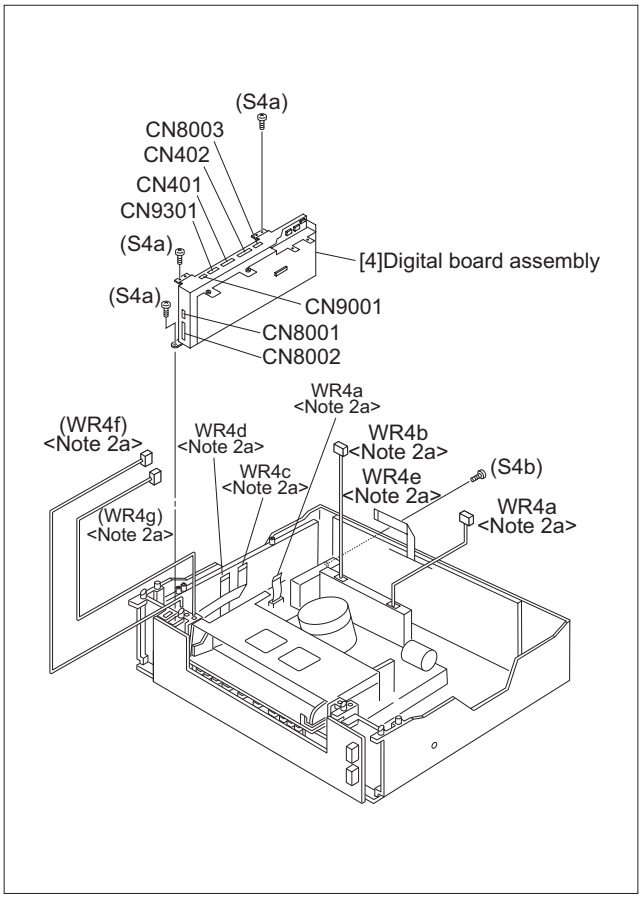


Fig.D4

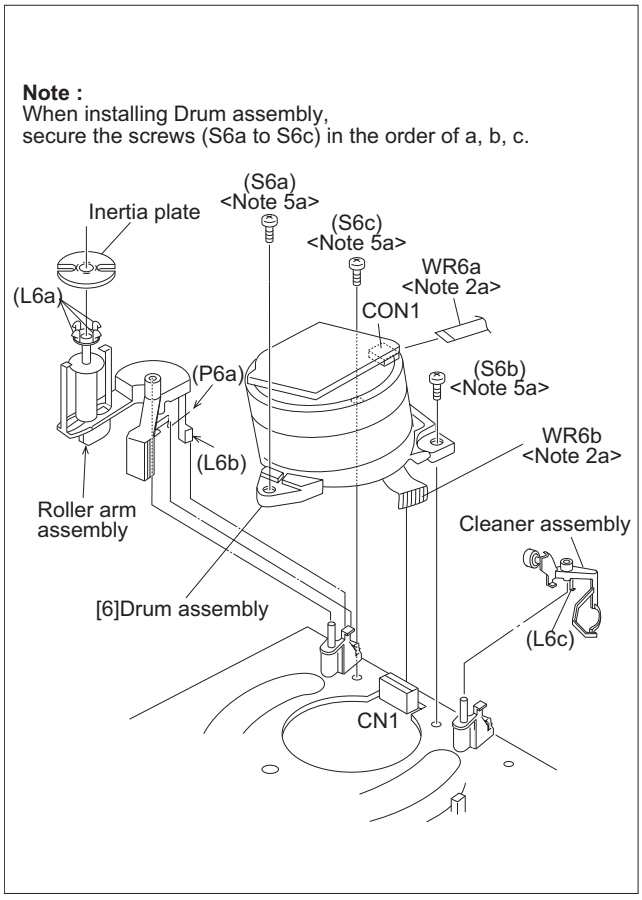


Fig.D6

Note :
When installing the Mechanism assembly,
secure the screws (S7a to S7b) in order of a, b.

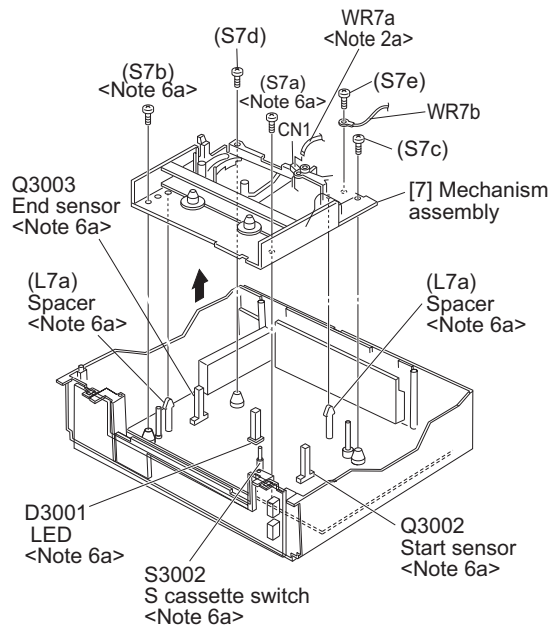


Fig.D7

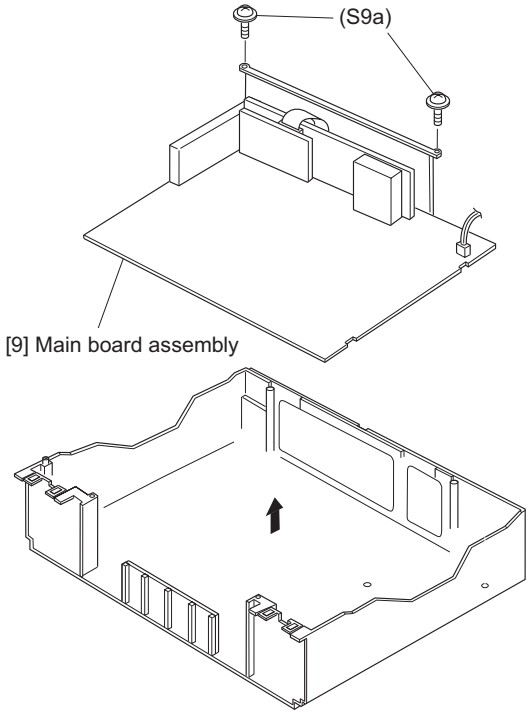


Fig.D9

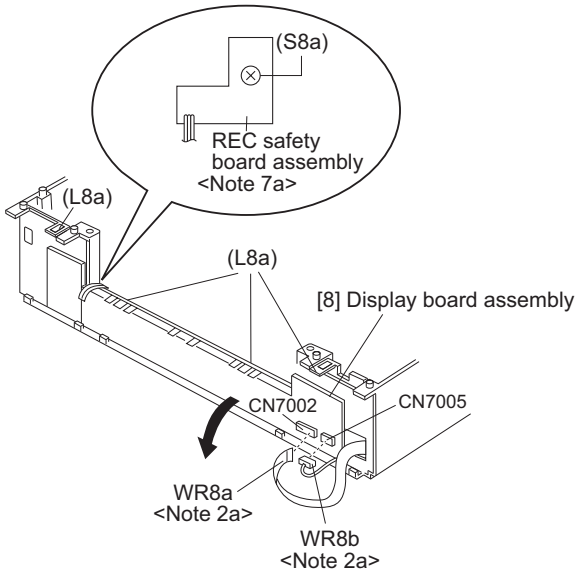


Fig.D8

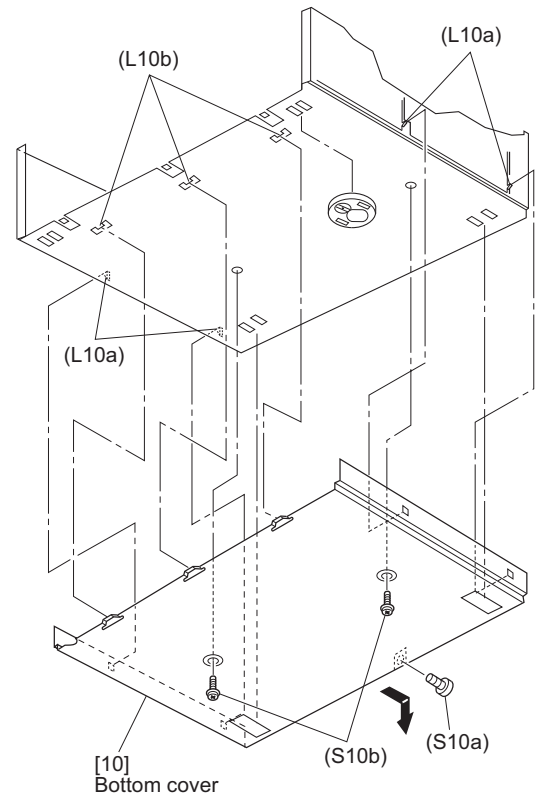


Fig.D10

2.4 Service position

This unit has been designed so that the Mechanism and Main board assemblies can be removed together from the chassis assembly. Before diagnosing or servicing the circuit boards, take out the major parts from the chassis assembly.

2.4.1 How to set the "Service position"

(1) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the PRE/REC board assembly.
(2) Remove the screws attaching the mechanism assembly with the chassis assembly. Remove the screws attaching the board assembly, if necessary.
(3) Remove the combined Mechanism and Main board assemblies.
(4) Connect the wires and connectors of the major parts that have been removed in step (1). (Refer to Fig.2-4-1a.)
(5) Place the combined Mechanism and Main board assemblies upside down.
(6) Insert the power cord plug into the power outlet and then proceed with the diagnostics and servicing of the board assembly.

Notes:

- **Before inserting the power cord plug into the power outlet, make sure that none of the electrical parts are able to short-circuit between the workbench and the board assembly.**
- **For the disassembly procedure of the major parts and details of the precautions to be taken, see "2.3 Disassembly/assembly method".**
- **If there are wire connections from the Main board and Mechanism assemblies to the other major parts, besure to remove them (including wires connected to the major parts) first before performing step (2).**
- **When carrying out diagnosis and repair of the Main board assembly in the "Service position", be sure to ground both the Main board and Mechanism assemblies. If they are improperly grounded, there may benoise on the playback picture or FDP counter displaymay move even when the mechanism is kept in an inoperative status.**
- **In order to diagnose the playback or recording of thecassette tape, set the Mechanism assembly to the required mode before placing it upside down. If the mechanism mode is changed (including ejection) while it is in an upside down position the tape inside may be damaged.**

2.4.2 Precautions for cassette loading in the "Service position"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "Service position", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

2.4.3 Cassette loading and ejection methods in the "Service position"

(1) Insert a cassette halfway in the Cassette holder assembly.
(2) Set the switch on the REC safety board assembly to on (by pressing the switch).
(3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to off (by releasing the switch).
(4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status.
(5) The switch on the REC safety board assembly does nothave to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

Note:

- In the "Service position", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be verycareful not to erase important tapes.

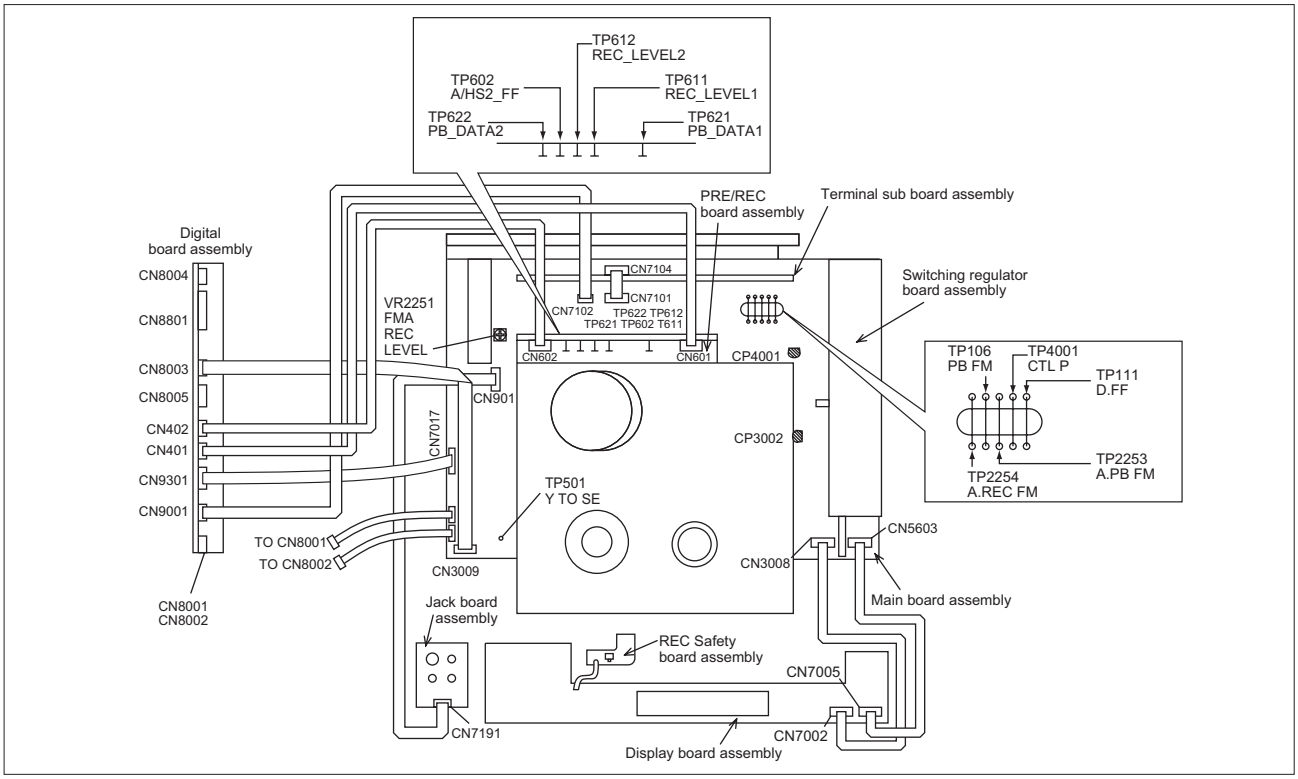


Fig.2-4-1a

2.5 Mechanism service mode

This model has a unique function to enter the mechanisminto every operation mode without loading of any cassette tape. This function is called the “Mechanism service mode”.

2.5.1 How to set the “Mechanism service mode”

(1) Set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received).
(2) Transmit the code “E5” from the Jig RCU.
(3) With lock levers (A) (B) on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers (A) (B), refer to the “Procedures for Lowering the Cassette holder assembly” of 2.3 Disassembly/assembly method.)
(4) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

2.6 Jig RCU mode

This unit uses the following two modes for receiving remote control codes.

1) User RCU mode : Ordinary mode for use by the user.
2) Jig RCU mode : Mode for use in production and servicing.

When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). As both of the above two modes are stored in the EEPROM, it is required to set the VCR back to the User RCU mode each time that an adjustment is made or to check that the necessary operations have been completed. These modes can be set by the operations described below.

Note:

- **Confirm the RCU mode when exchanged parts. Since some SERVICE PARTS set the VCR to the Jig RCU mode as initial setting.**

2.6.1 Setting the Jig RCU mode

(1) Unplug the power cord plug from the power outlet.
(2) Press and hold the “REC” and “PAUSE” buttons on the VCR simultaneously, while plugging the power cord plugin-to the power outlet. When the VCR is set to the Jig RCU mode, the symbols (“ : ”) in the time display of the FDP are blinking.

2.6.2 Setting the User RCU mode

(1) Turn off the power.
(2) Press the “REC” and “PAUSE” buttons of the VCR simultaneously. Alternatively, transmit the code “80” from the Jig RCU.

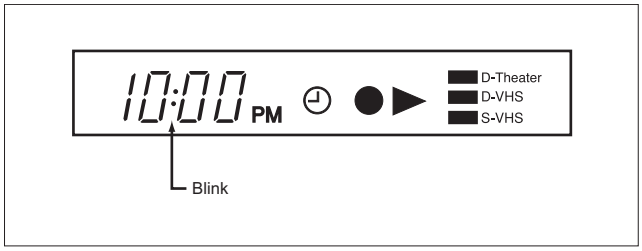


Fig.2-6-2a User/Jig RCU mode

2.7 Opening on the chassis

The chassis of this VCR has openings for diagnosis of some parts on the board assembly.

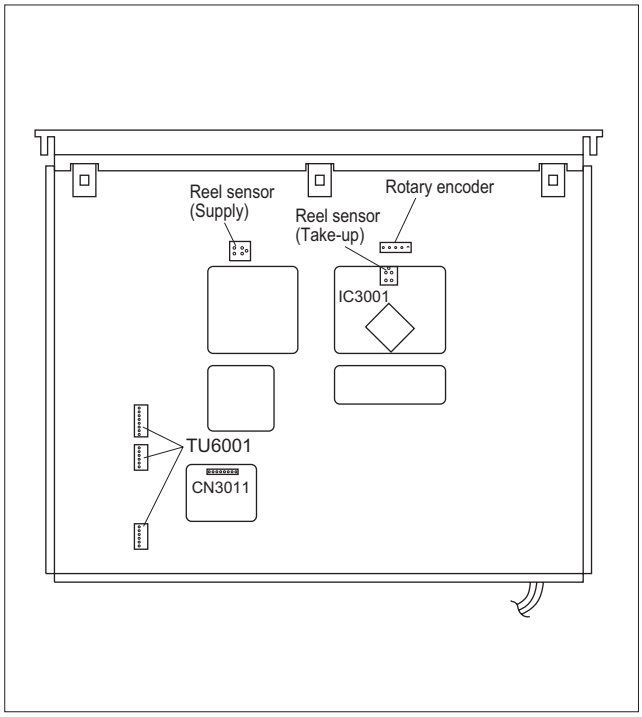
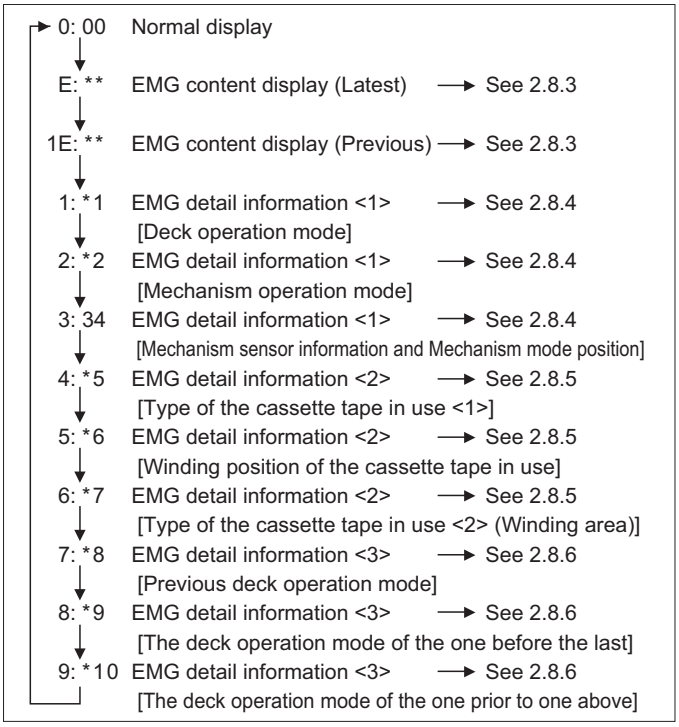


Fig.2-7-1a

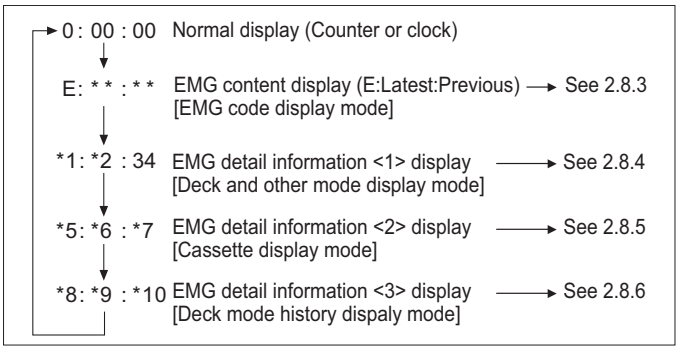
2.8 Emergency display function

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP (or OSD). With the status of the VCR and mechanism at the moment an emergency occurred can also be confirmed.

FDP display model [FDP display]



FDP (7segment LED) display model [FDP display]



Notes:

- **The EMG detail information <1><2> show the information on the latest EMG.**
  It becomes " - - : - - : - -" when there is no latest EMG record.
- **When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received).**

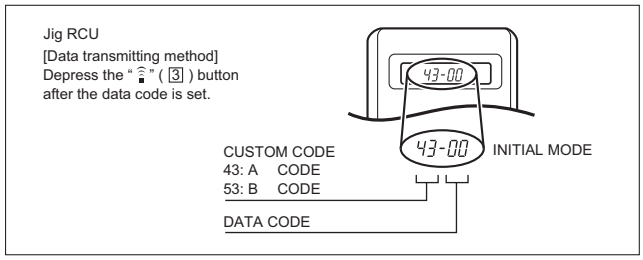


Fig.2-8a Jig RCU [PTU94023B]

2.8.1 Displaying the EMG information

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the EMG content in the form of "E: * * : * * ".

<Example 1> E : 01 : 03
Previous EMG
Latest EMG

<Example 2> E : – – : – – ← No EMG record

(2) Transmit the code "59" from the Jig RCU again.The FDP shows the EMG detail information <1> in the form of " * 1 : * 2 : 34 ".

* 1 : Deck operation mode at the moment of EMG
* 2 : Mechanism operation mode at the moment of EMG
3- : Mechanism sensor information at the moment of EMG
-4 : Mechanism mode position at the moment of EMG

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <2> in the form of " * 5 : * 6 : * 7 ".

* 5 : Type of the cassette tape in use <1>.
* 6 : Winding position of the cassette tape in use
* 7 : Type of the cassette tape in use <2> (Winding area)

(4) Transmit the code "59" from the Jig RCU once again. The FDP shows the EMG detail information <3> in the form of "*8 : *9 : *10".

* 8 : Previous deck operation mode at the moment of EMG
* 9 : The deck operation mode of the one before the last at the moment of EMG
* 10 : The deck operation mode of the one prior to one above at the moment of EMG

(5) Transmit the code "59" from the Jig RCU once again to reset the display.

Notes:

- For the EMG content, see "2.8.3 EMG content description".
- For the EMG detail information <1> , see "2.8.4 EMG detail information <1> ".
- For the EMG detail information <2> , see "2.8.5 EMG detail information <2>".

2.8.2 Clearing the EMG history

(1) Display the EMG history.
(2) Transmit the code "36" from the Jig RCU.
(3) Reset the EMG display.

2.8.3 EMG content description

Note: EMG contents “E08/E09” are for the model with Dynamic Drum (DD).

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotatedfor more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. The mechanism is locked at the loading end due to the encoder position reading error during mode transition. 3. Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to an-other mode even when the loading motor has rotatedfor more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. The mechanism is locked at the unloading end due to the encoder position reading error during mode transition. 3. Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped,and the power is turned off. However, the reel EMG isnot detected in STILL/SLOW modes.	1. The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of wind-ing due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. 2. The supply reel pulse is not generated in the REV transport modes (REVSEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of wind-ing due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. 3. Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is iden-tified, the pinch rollers are turned off and stopped, and the power is turned off.	1. The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. 2. The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. 3. The drum control voltage (DRUM CTL V) is not supplied to the MDA. 4. Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	1. The cassette cannot be ejected due to a failure in the drive mechanism of the housing. 2. When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. 3. The sensor/switch for detecting the end of ejection are not functioning normally. 4. The loading motor drive voltage is lower than specified or power is not sup-plied to the motor (MDA). 5. When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the capstan EMG is not detected in STILL/SLOW/FF/REW modes.	1. The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). 2. The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. 3. The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. 4. Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	1. The SW 5 V power supply circuit is shorted with GND. 2. The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	1. The absolute value sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. 4. The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	1. The FG sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. 4. The power to the sensor is not supplied. (Connection failure/soldering failure) 5. The FG pulse is not sent to the System Controller CPU. 6. The tilt motor is defective. (The soldered parts have separated.) 7. The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) 8. The tilt motor drive MDA - IC is defective. 9. Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). However, note that the reel EMG is not detected in the SLOW/STILL mode.	1. The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. 2. The take-up reel pulse is not generated in the REV transport mode (REVSEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassettehas been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. 3. The power to a reel sensor is not supplied.
EC1 or EU1: Head clog warning	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:C1] or [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

2.8.4 EMG detail information <1>

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest EMG can be confirmed based on the figure in EMG detail information <1> .

[FDP/OSD display]

*1 : *2 : 34

* 1 : Deck operation mode at the moment of EMG
* 2 : Mechanism operation mode at the moment of EMG
3- : Mechanism sensor information at the moment of EMG
-4 : Mechanism mode pos ition at the moment of EMG

Note:

- **For EMG detailed information <1>, the content of the code that is shown on the FDP (or OS D) differs depending on the parts number of the system control microprocessor (IC3001) of the VCR . The system control microprocessor parts number starts with two letters, refer these to the corres ponding table.**

***1 : Deck operation mode**
[Common table of MN*, HD* and M3*]

Display		Deck operation mode
MN*/M3*	HD*	
00	-	Mechanism being initialized
01	00	STOP with pinch roller pressure off (or tape present with P.OFF)
02	01	STOP with pinch roller pressure on
03	-	POWER OFF as a result of EMG
04	04	PLAY
0C	0E	REC
10	11	Cassette ejected
20	22	FF
21	-	Tape fully loaded, START sensor ON, short FF
22	-	Cassette identification FWD SEARCH before transition to FF (SP x7-speed)
24	26	FWD SEARCH (variable speed) including x2-speed
2C	2E	INSERT REC
40	43	REW
42	-	Cassette identification REV SEARCH before transition to REW (SP x7-speed)
44	47	REV SEARCH (variable speed)
4C	4C	AUDIO DUB
6C	6E	INSERT REC (VIDEO + AUDIO)
84	84	FWD STILL / SLOW
85	85	REV STILL / SLOW
8C	8F	REC PAUSE
8D	-	Back spacing
8E	-	Forward spacing (FWD transport mode with BEST function)
AC	AF	INSERT REC PAUSE
AD	-	INSERT REC back spacing
CC	CD	AUDIO DUB PAUSE
CD	-	AUDIO DUB back spacing
EC	EF	INSERT REC (VIDEO + AUDIO) PAUSE
ED	-	INSERT REC (VIDEO + AUDIO) back spacing

***2 : Mechanism operation mode**
[Common table of MN* and M3*]

Display		Mechanism operation mode
MN*	M3*	
00	00	Command standby (Status without executing command)
02	02	POWER OFF by EMG occurrence
04	04	Moving to the adjacent position in the LOAD direction
06	06	Moving to the adjacent position in the UNLOAD direction
08	08	Cassette ejection being executed / Cassette housing ejection being executed
-	0A	Mode transition to STOP with cassette ejection end
0A	0C	Cassette insertion being executed
0C	0E	Tape being loaded
0E	10	Tape being unloaded
10	12	Mode transition to STOP with pinch roller compression ON
12	14	Mode transition to STOP with pinch roller compression OFF
14	16	Mode transition to STOP with pinch roller compression OFF as a result of POWER OFF
16	18	Mode transition to STOP with pinch roller compression ON as a result of POWER ON
18	1A	Mode transition to PLAY
1A	1C	Mode transition to FWD SEARCH
1C	1E	Mode transition to REC
1E	20	Mode transition to FWD STILL / SLOW
20	22	Mode transition to REV STILL / SLOW
22	24	Mode transition to REV SEARCH
24	26	Mode transition from FF / REW to STOP
26	28	Mode transition to FF
28	2A	Mode transition to REW
2A	2C	4 sec. of REV as a result of END sensor going ON during loading
2C	2E	Short FF / REV as a result of END sensor going ON during unloading
2E	30	Mechanism position being corrected due to overrun
80	80	Mechanism in initial position (Dummy command)

[Table of HD*]

Display	Mechanism operation mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)

3- : Mechanism sensor information
[Common table of MN*, HD* and M3*]

Display	Mechanism sensor information				
	MN* / HD* S-VHS SW	M3* CASS SW	REC safety SW	Start sensor	End sensor
0-	VHS	Cassette insertion	Tab broken	ON	ON
1-	VHS	Cassette insertion	Tab broken	ON	OFF
2-	VHS	Cassette insertion	Tab broken	OFF	ON
3-	VHS	Cassette insertion	Tab broken	OFF	OFF
4-	VHS	Cassette insertion	Tab present	ON	ON
5-	VHS	Cassette insertion	Tab present	ON	OFF
6-	VHS	Cassette insertion	Tab present	OFF	ON
7-	VHS	Cassette insertion	Tab present	OFF	OFF
8-	S-VHS	Cassette ejection	Tab broken	ON	ON
9-	S-VHS	Cassette ejection	Tab broken	ON	OFF
A-	S-VHS	Cassette ejection	Tab broken	OFF	ON
B-	S-VHS	Cassette ejection	Tab broken	OFF	OFF
C-	S-VHS	Cassette ejection	Tab present	ON	ON
D-	S-VHS	Cassette ejection	Tab present	ON	OFF
E-	S-VHS	Cassette ejection	Tab present	OFF	ON
F-	S-VHS	Cassette ejection	Tab present	OFF	OFF

-4 : Mechanism mode position
[Common table of MN*, HD* and M3*]

Display			Mechanism mode position
MN*	HD*	M3*	
-0	-7	-	Initial value
-1	-0	-	EJECT position
-	-	-0	EJECT position (Cassette housing drive mode)
-2	-7	-	Housing operating
-	-	-1	Between EJECT and U / L STOP
-3	-1	-2	U / L STOP position
-	-	-3	Guide arm drive position
-4	-7	-4	Tape being loaded / unloaded (When the pole base is located on the front side of the position just beside the drum)
-5	-2	-5	Tape being loaded / unloaded (When the pole base is located on the rear side of the position just beside the drum)
-6	-7	-6	Pole base compressed position
-7	-3	-F	FF / REW position
-8	-7	-F	Between FF / REW and STOP with pinch roller compression ON
-9	-4	-F	STOP with pinch roller compression OFF
-A	-7	-E	Between STOP with pinch roller compression OFF and REV
-B	-5	-	REV (REV STILL / SLOW) position
-	-	-D	REV position
-	-	-C	Between REV and REV STILL / SLOW
-	-	-B	REV STILL / SLOW position
-C	-7	-	Between REV and FWD
-	-	-A	Between REV STILL / SLOW and FWD STILL / SLOW
-D	-6	-	FWD (FWD STILL / SLOW) position
-	-	-9	FWD STILL / SLOW position
-E	-7	-	Between FWD and PLAY
-	-	-8	Between FWD STILL / SLOW and PLAY
-F	-6	-7	PLAY position

Note:

- **In the case of the "HD*" microprocessor, as the dis play is always "-7" at any intermediate position between modes, the position of transitory EMG may sometimes not be located.**

2.8.5 EMG detail information <2>

The type of the cas sette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information<2>.

[FDP /OS D dis play]

*5 : *6 : *7

* 5 : Type of the cas sette tape in use <1>
* 6 : Winding pos ition of the cas sette tape in use
* 7 : Type of the cas sette tape in use <2> (Winding area)

Note:

- **EMG detail information <2> is the reference informations tored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.**

***5 : Cassette tape type <1>**

Display	Cassette tape type <1>
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:

- **Cassette tape type <1> is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.**
- **If other value than those listed in the above table is displayed, the cassette tape type is not identified.**

***6 : Cassette tape winding position**

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 22 sections using a hex number from "00" to "15".

"00" : End of winding
"15" : Beginning of winding
"FF or - -" : Tape position not identified

***7 : Cassette tape type <2> (Winding area)**

Display	Cassette tape type <2>	
00	Cassette type not identified	
07	Small reel, thick tape	T-5
08 - 0E	C cassette, thick tape	TC-10
09 - 15	C cassette, thick tape	TC-20P
0A - 0B	Small reel, thick tape	T-20
0A - 16	C cassette, thin tape	TC-30
0A - 16	C cassette, thin tape	TC-40
0D - 0F	Small reel, thick tape	T-40
11 - 14	Small reel, thick tape	T-60
15 - 18	Small reel, thick tape	T-80 / DF-160
17 - 1A	Small reel, thick tape	T-90 / DF-180
19 - 1D	Small reel, thick tape	T-100
1D - 21	Small reel, thick tape	T-120 / DF-240
1E - 1F	Small reel, thin tape	T-140
1F - 23	Small reel, thick tape	T-130
21 - 23	Small reel, thin tape	T-160
21 - 23	Small reel, thin tape	T-168
22 - 24	Small reel, thick tape	DF-300
22 - 24	Small reel, thin tape	T-180 / DF-360
22 - 24	Small reel, thin tape	T-210 / DF-420
22 - 23	Large reel	T-5
23 - 24	Large reel	T-10
25 - 26	Large reel	T-20
27 - 29	Large reel	T-30
29 - 2B	Large reel	T-40
2D - 2F	Large reel	T-60

Note:

- **The values of cassette tape type <2> in the above table are typical values with representative cassette tapes.**

2.8.6 EMG detail information <3>

Three deck operation modes preceding the deck operation mode in which the EMG occurs may be confirmed based on the figures in the EMG information detail <3>. For the contents of the displayed information, see the table "Deck operation mode" in section "2.8.4 EMG detail information <1>".

SECTION 3
MECHANISM ADJUSTMENT

3.1 Before starting repair and adjustment

3.1.1 Precautions

(1) Unplug the power cord plug of the VCR before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When reattaching the front panel assembly, make sure that the door opener of the cassette holder assembly is lowered in position prior to the reinstallation. (See SECTION 2 SPECIFIC SERVICE INSTRUCTIONS.)
(6) When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 2 SPECIFIC SERVICE INSTRUCTIONS.)

3.1.2 Checking for proper mechanical operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See SECTION 2 SPECIFIC SERVICE INSTRUCTIONS.)

3.1.3 Jigs and tools required for adjustment

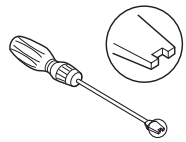
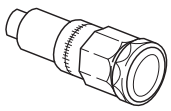
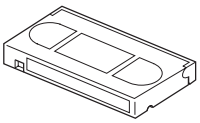
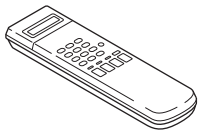
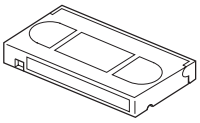
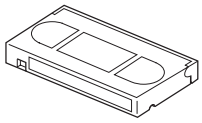
Roller driver PTU94002	A/C head positioning tool PTU94010	Torque gauge PUJ48075-2
		
Back tension cassette gauge PUJ48076-2	Jig RCU PTU94023B	
		
Alignment tape (SP, stairstep, NTSC) MHP	Alignment tape (EP, stairstep, NTSC) MHP-L	
		

Fig.3-1-3

3.1.4 Manually removing the cassette tape

3.1.4.1 In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cord plug from the power outlet.
(2) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the drum assembly.
(3) Unload the pole base assembly by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.3-1-4a.)
(4) Bring the pole base assembly to a pause when it reaches the position where it is hidden behind the cassette tape.
(5) Move the top guide toward the drum while holding down the lug (A) of the bracket retaining the top guide. Likewise hold part (B) down and remove the top guide.
Section (C) of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.3-1-4b.)
(6) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(7) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

Note:

- **For the disassembly procedure of the major parts and details of the precautions to be taken, see "SECTION 2 SPECIFIC SERVICE INSTRUCTIONS".**

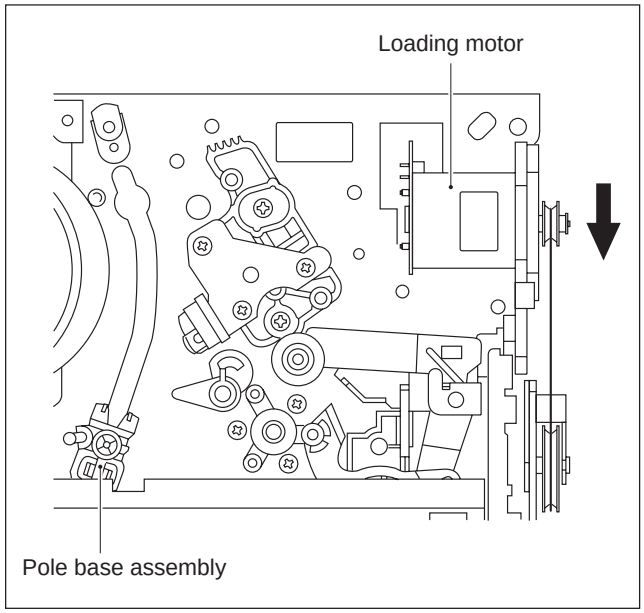


Fig.3-1-4a

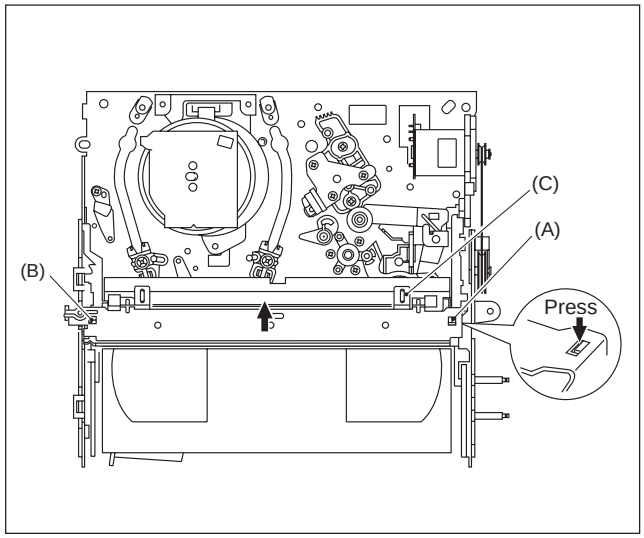


Fig.3-1-4b

3.1.4.2 In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See SECTION 1 DISASSEMBLY.)
(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.3-1-4c.)
(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.3-1-4d.)
(4) In the same way as in the electrical failure instructions in 2.1.3-1(5), remove the top guide.
(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.
(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

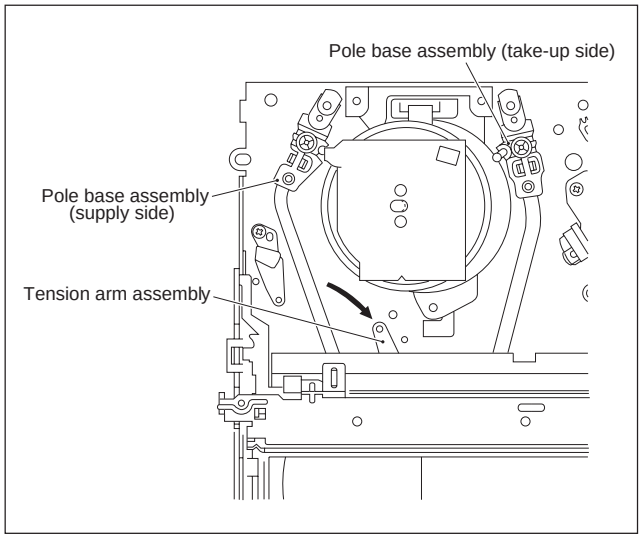


Fig.3-1-4c

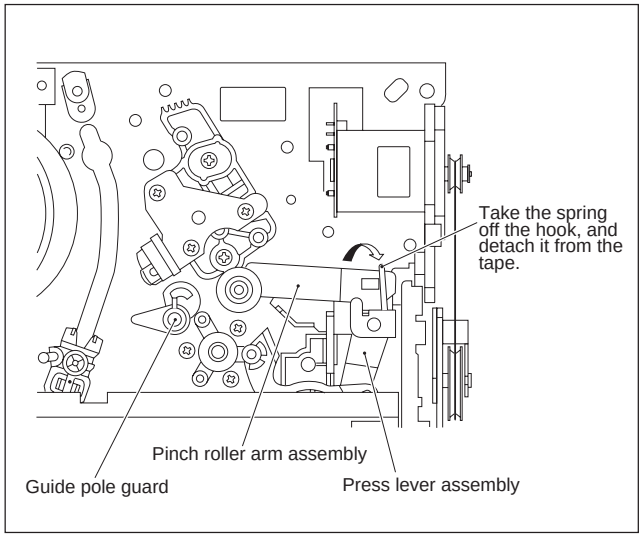


Fig.3-1-4d

3.1.5 Maintenance and inspection

3.1.5.1 Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.
When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

Note:

- **Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.**

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.
(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.
(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3.1.5.2 Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- **See the "mechanism assembly" diagram of the parts list for the lubricating or greasing spots, and for the types of oil or grease to be used.**

3.1.6 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement.
In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if
the set is not used.

System	Parts name	Operation hours	
		1000H	2000H
Tape transport	Drum assembly	C,X	X
	A/C head	C,X	C,X
	Pinch roller arm assembly	C	C
	Full erase head	C	C
	Tension arm assembly	C	C
	Capstan motor (Shaft)	C	C
	Guide arm assembly	C	C
Drive	Capstan motor		X
	Capstan brake assembly		X
	Main brake assembly		X
	Belt (Capstan)	X	X
	Loading motor		X
	Clutch unit		X
	Worm gear		X
	Control plate		X
Other	Rotary encoder		X

C : Cleaning
X : Inspection or Replacement if necessary

3.1.7 Location of major mechanical parts

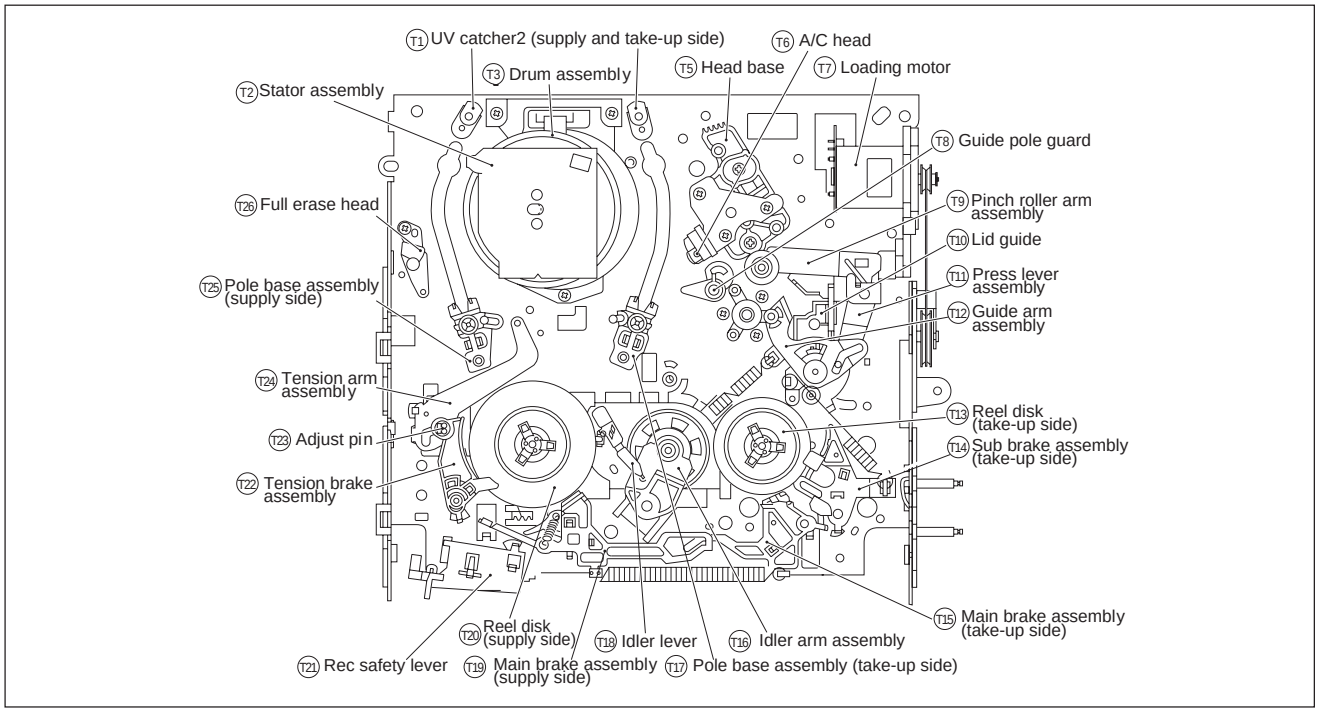


Fig.3-1-7a Mechanism assembly top side

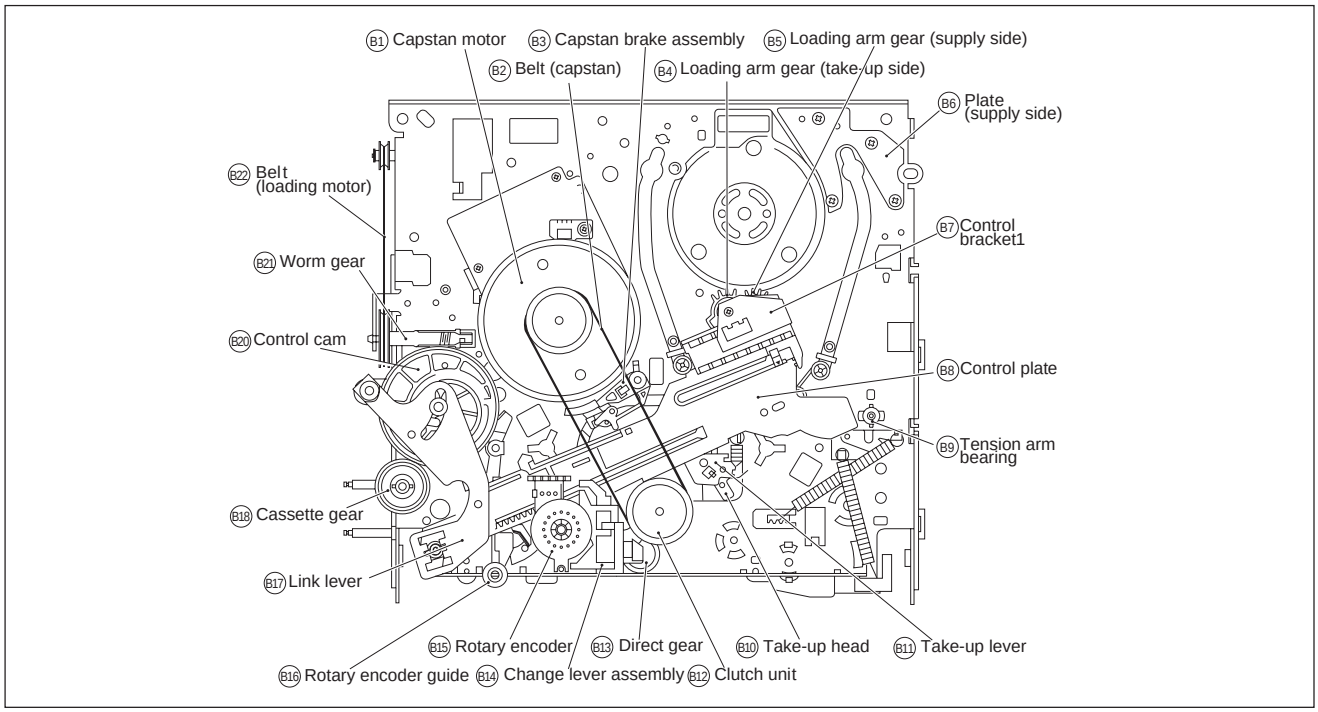


Fig.3-1-7b Mechanism assembly bottom side

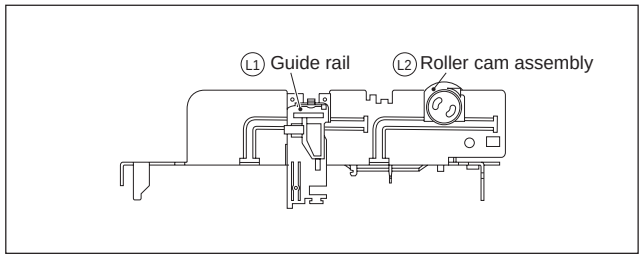


Fig.3-1-7c Mechanism assembly left side

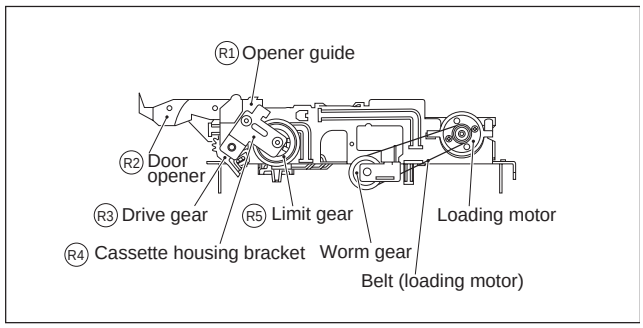


Fig.3-1-7d Mechanism assembly right side

3.1.8 Disassembling procedure table

The following table indicates the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.

The symbols and numbers preceding the individual part names represent the numbers in the “Location of major mechanical parts” table. Also, the “T”, “B”, and “T/B” on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

Symbols and numbers				L1	L2	R4	R1	—	—	R3	—	T9	T12	T11	T1	B15	B12	B14	B13	—	B17	B21	B7	B8	B5	B4	B11	T14	T15	T13	T22	T24	T18	
Symbols and numbers / Removal parts / (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Number of removal steps	Guide rail	Roller cam assembly	Cassette housing bracket	Opener guide	Relay gear	Cassette holder assembly	Drive gear	Drive arm	Pinch roller arm assembly	Guide arm assembly	Press lever assembly	UV catcher2	Rotary encoder	Clutch unit	Change lever assembly	Direct gear	Coupling gear	Link lever	Worm gear	Control bracket1	Control plate	Loading arm gear (supply side)	Loading arm gear (take-up side)	Take-up lever	Sub brake assembly (take-up side)	Main brake assembly (take-up side)	Reel disk (take-up side)	Tension brake assembly	Tension arm assembly	Idler lever		
L1 3.2.3 Guide rail	T	1																															
L2 3.2.3 Roller cam assembly	T	1																															
R4 3.2.3 Cassette housing bracket	T	1																															
R1 3.2.3 Opener guide	T	2			1																												
R2 3.2.3 Door opener	T	3			1	2																											
— 3.2.3 Relay gear	T	3			1	2																											
R5 3.2.3 Limit gear	T	3			1	2																											
— 3.2.3 Cassette holder assembly	T	6	1	2	3	4	5																										
R3 3.2.3 Drive gear	T	4			1	2	3																										
— 3.2.3 Drive arm	T	8	1	2	3	4	5	6	7																								
T9 3.2.4 Pinch roller arm assembly	T	1																															
T12 3.2.5 Guide arm assembly	T	1																															
T11 3.2.5 Press lever assembly	T	3									1	2																					
T6 3.2.6 A/C head	T	1																															
T7 3.2.7 Loading motor	T	1																															
B1 3.2.8 Capstan motor	T/B	1																															
T1 3.2.9 UV catcher2	T	1																															
T17 3.2.9 Pole base assembly (take-up side)	T/B	2												1																			
T25 3.2.9 Pole base assembly (supply side)	T/B	2												1																			
B15 3.2.10 Rotary encoder	B	1																															
B12 3.2.11 Clutch unit	B	1																															
B14 3.2.12 Change lever assembly	B	3													1	2																	
B13 3.2.12 Direct gear	B	4													1	2	3																
— 3.2.12 Coupling gear	B	5													1	2	3	4															
— 3.2.12 Clutch gear	B	6													1	2	3	4	5														
B17 3.2.13 Link lever	B	1																															
B18 3.2.14 Cassette gear	B	2																		1													
B20 3.2.14 Control cam	B	2																		1													
B21 3.2.14 Worm gear	B	1																															
T10 - Lid guide	T/B	5									1	2	3								4												
B7 3.2.15 Control bracket1	B	1																															
B8 3.2.15 Control plate	B	6													1	2	3			4		5											
B5 3.2.16 Loading arm gear (supply side)	B	7													1	2	3			4		5	6										
B4 3.2.16 Loading arm gear (take-up side)	B	8													1	2	3			4		5	6	7									
— 3.2.16 Loading arm gear shaft	B	9													1	2	3			4		5	6	7	8								
B11 3.2.17 Take-up lever	T/B	7													1	2	3			4		5	6										
B10 3.2.17 Take-up head	T/B	8													1	2	3			4		5	6			7							
— 3.2.17 Control plate guide	T/B	8													1	2	3			4		5	6			7							
B3 3.2.18 Capstan brake assembly	T/B	7													1	2	3			4		5	6										
T14 3.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11			12		13	14										
T15 3.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T19 3.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																							
T13 3.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T22 3.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																							
T20 3.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																				9			
T24 3.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																				9			
B9 3.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																				9			
T18 3.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11			12		13	14							15	16		
T16 3.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14							15	16	17	
B16 - Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				

Fig.3-1-8a

3.2 Replacement of major parts

3.2.1 Before starting disassembling (Phase matching between mechanical parts)

Before starting disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.

Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear,

relay gear and drive gear are installed in their correct positions.

Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another. (For information on phase matching of the mechanism, see the instructions on how to install individual parts.)

This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.

This mode is usually not in use, manually set it when it is required.

3.2.2 How to set the “Mechanism assembling mode”

Remove the mechanism assembly and place it bottom side up. (See SECTION 2 SPECIFIC SERVICE INSTRUCTIONS.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.3-2-2a.)

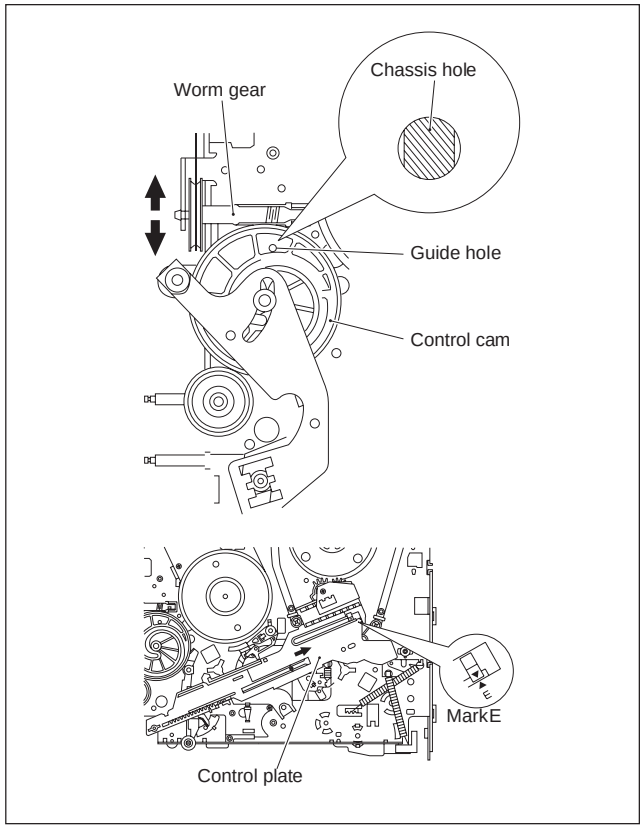


Fig.3-2-2a

3.2.3 Cassette holder assembly

3.2.3.1 How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.3-2-3a.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

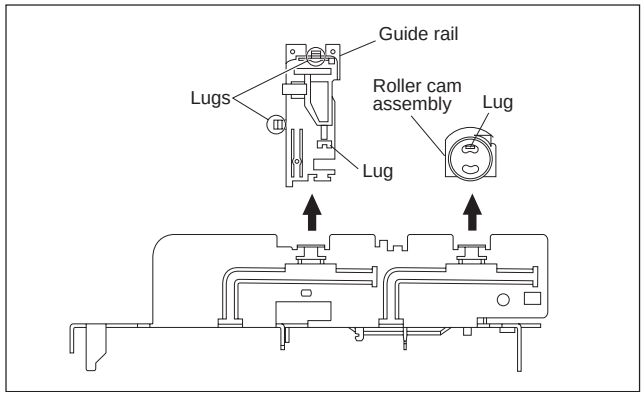


Fig.3-2-3a

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.3-2-3b.)

(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.3-2-3b.)

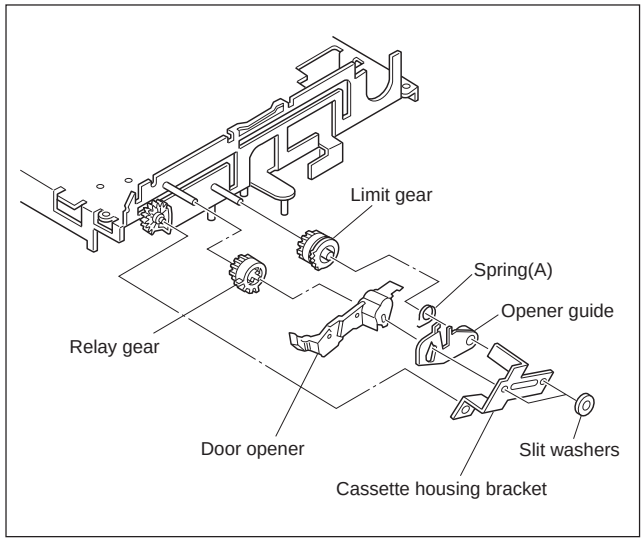


Fig.3-2-3b

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.3-2-3c.)

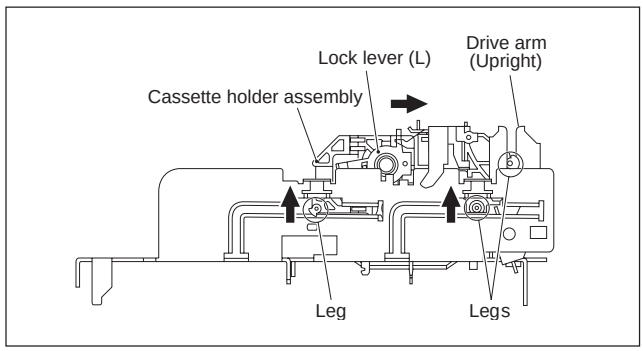


Fig.3-2-3c

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs (A) and (B) on the right side out of the rail and also pull up the leg(C). (See Fig.3-2-3d and Fig.3-2-3f.)
(6) Draw out the drive gear, and remove the drive arm.

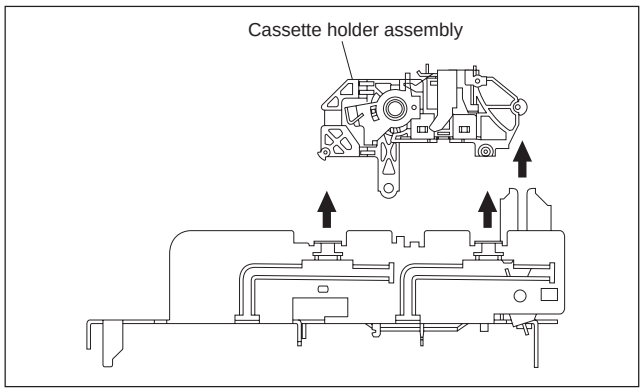


Fig.3-2-3d

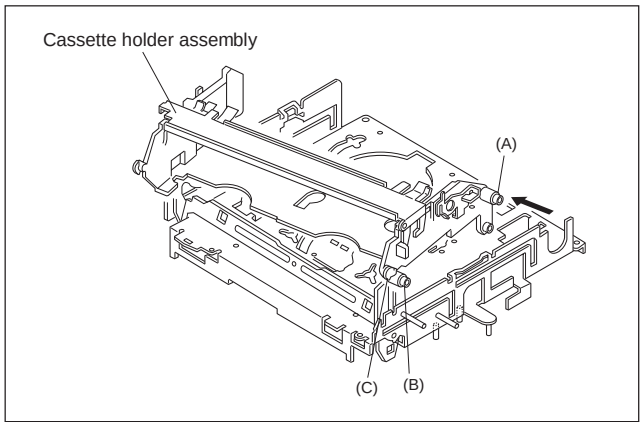


Fig.3-2-3e

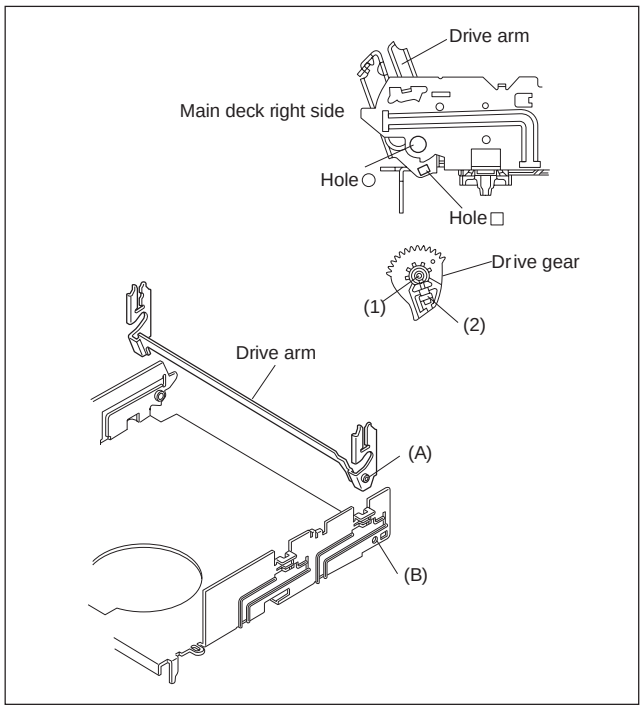


Fig.3-2-3f

3.2.3.2 How to install (Phase matching)

(1) Insert the section (A) of the drive arm into the section (B) of the main deck.
(2) Insert the section (1) of the drive gear into the round hole, and the section (2) into the square hole on the drive arm. (See Fig.3-2-3f.)
(3) Hold the drive arm upright and fit the leg (C) on the right side of the cassette holder assembly into the groove. (See Fig.3-2-3g.)
(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs (A) and (B) into the rail. (See Fig.3-2-3g.)
(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.3-2-3h.)
(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.
(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.3-2-3i.)
(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.3-2-3i.)
(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

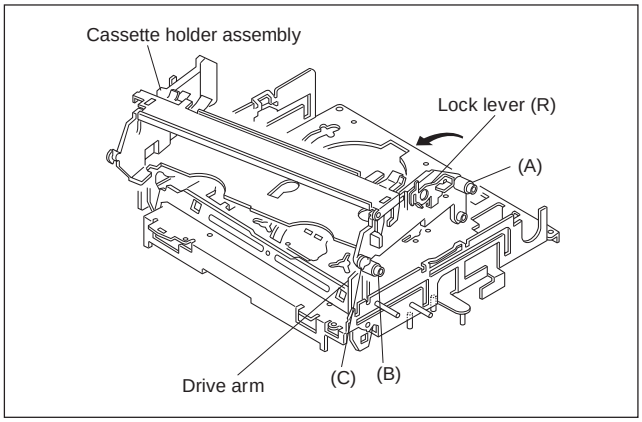


Fig.3-2-3g

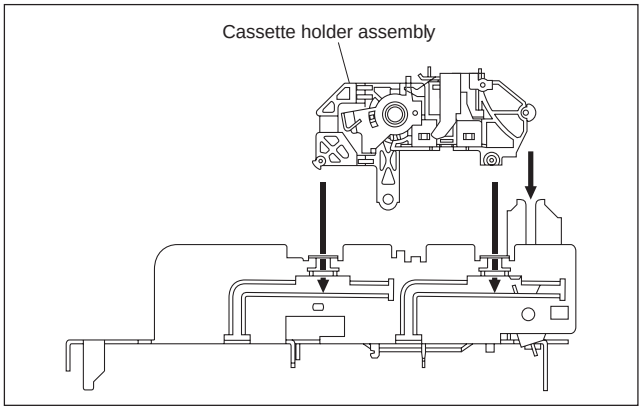


Fig.3-2-3h

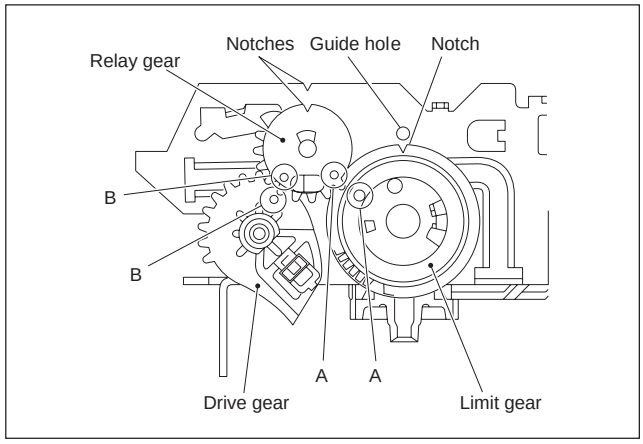


Fig.3-2-3i

3.2.4 Pinch roller arm assembly

(1) Remove the spring from the hook of the press lever assembly.
(2) Remove the slit washer and remove the pinch roller seat 3. (See Fig.3-2-4a.)
(3) Remove the pinch roller arm assembly by pulling it up.

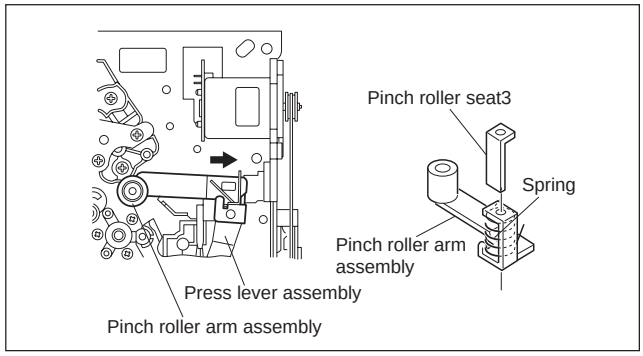


Fig.3-2-4a

3.2.5 Guide arm assembly and press lever assembly

3.2.5.1 How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.
(2) Remove the press lever assembly by pulling it up. (See Fig.3-2-5a.)

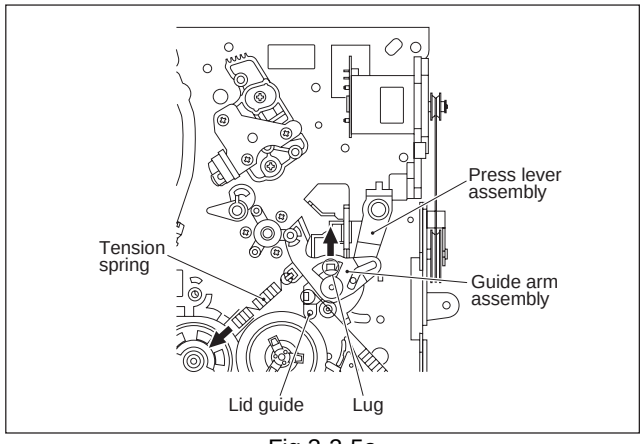


Fig.3-2-5a

3.2.6 A/C head

3.2.6.1 How to remove

(1) Remove the two screws (A) and remove the A/C head together with the head base.
(2) When replacing only the A/C head, remove the three screws (B) while controlling the compression spring.

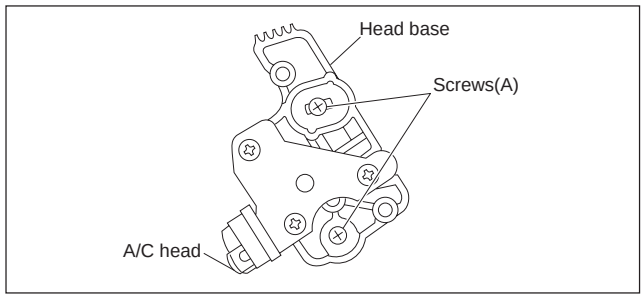


Fig.3-2-6a

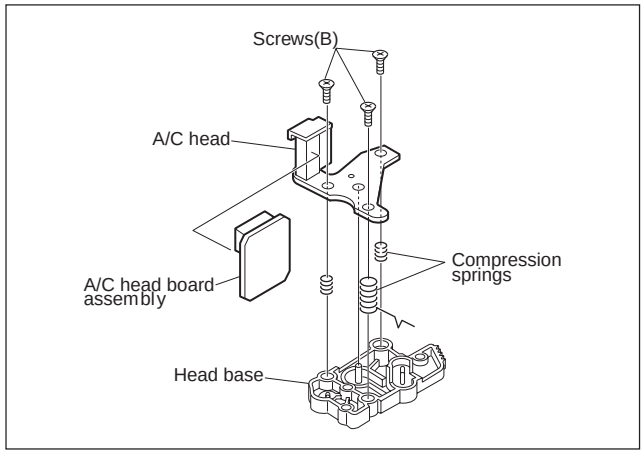


Fig.3-2-6b

3.2.6.2 How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.3-2-6c. Also make sure that the screw center (centre) is brought into alignment with the center (centre) position of the slot.

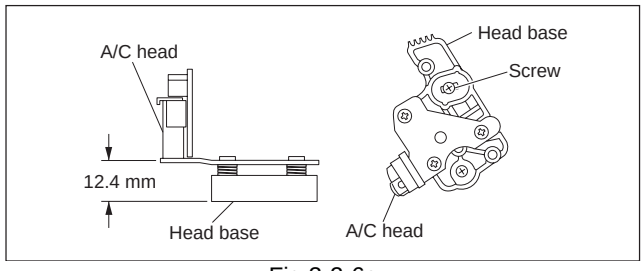


Fig.3-2-6c

3.2.7 Loading motor

3.2.7.1 How to remove

(1) Remove the belt wound around the worm gear.
(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.
(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)
(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.3-2-7a.

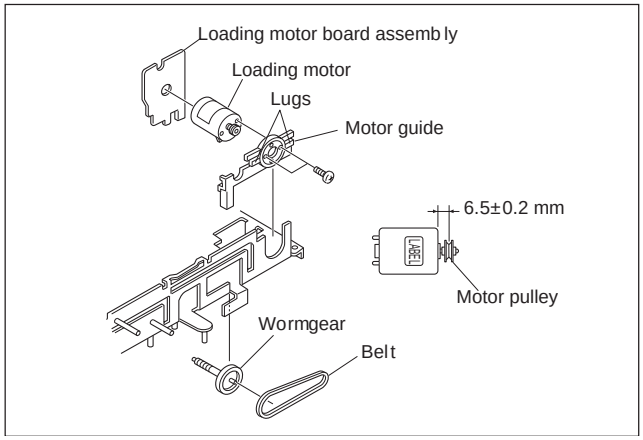


Fig.3-2-7a

3.2.8 Capstan motor

3.2.8.1 How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.
(2) Remove the three screws (A) and remove the capstan motor.

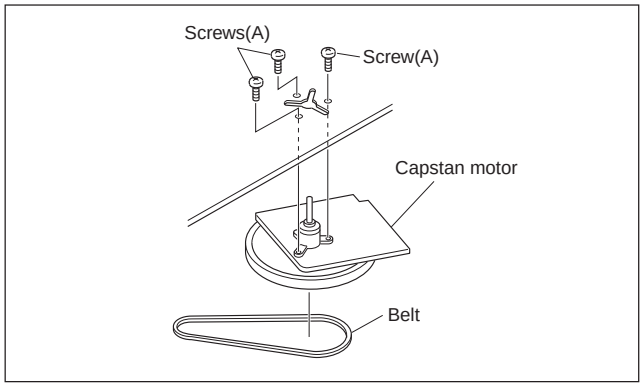


Fig.3-2-8a

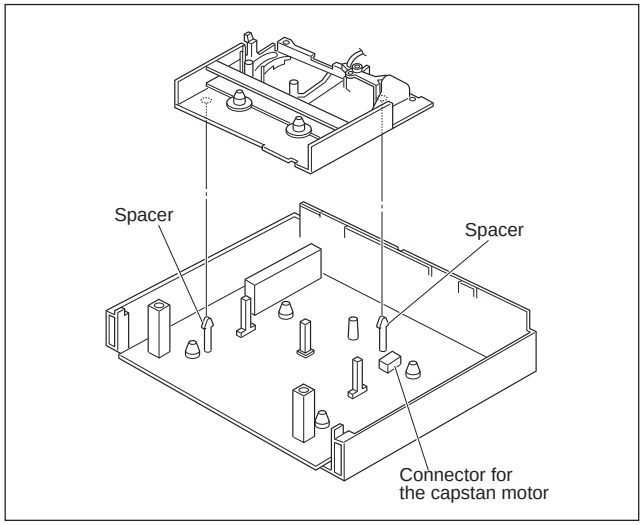


Fig.3-2-8b

3.2.8.2 How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown
because of current over - load. Install the capstan motor while following the procedure given below.
(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.
(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.)
Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 3-2-8b.
(3) Making sure that the connector for the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note:

- **When the capstan motor has been replaced with a new one, perform recording in the EP(or LP) mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).**

3.2.9 Pole base assembly (supply or take-up side)

3.2.9.1 How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).
(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.
(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the “Procedures for Lowering the Cassette holder assembly” of 2.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

Note:

- **After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.**

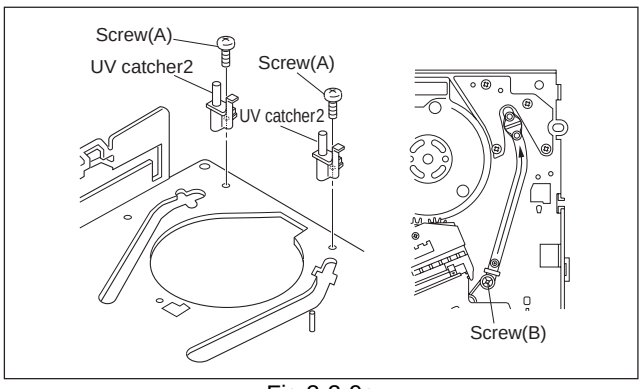


Fig.3-2-9a

3.2.10 Rotary encoder

3.2.10.1 How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 3-2-10a.)

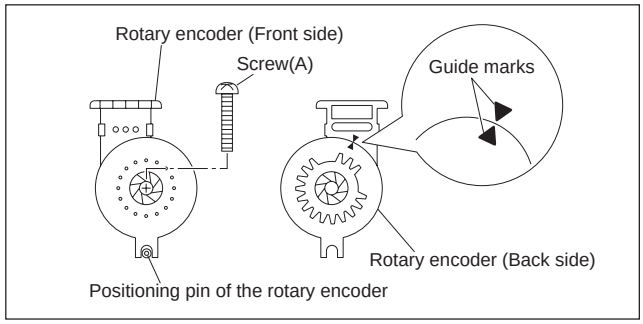


Fig.3-2-10a

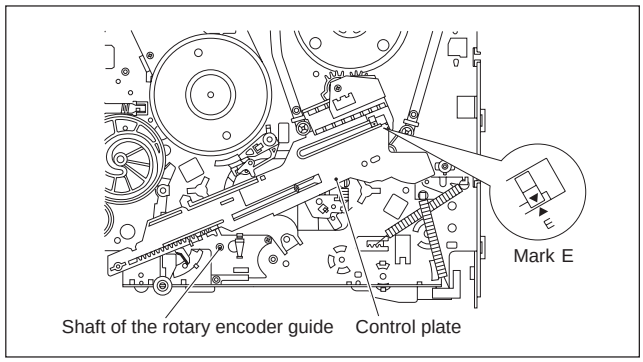


Fig.3-2-10b

3.2.10.2 How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.3-2-10a. (See Fig. 3-2-10a and Fig. 3-2-10b.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

3.2.11 Clutch unit

(1) Remove the belt wound around the capstan motor and the clutch unit.

(2) Remove the slit washer and remove the clutch unit.

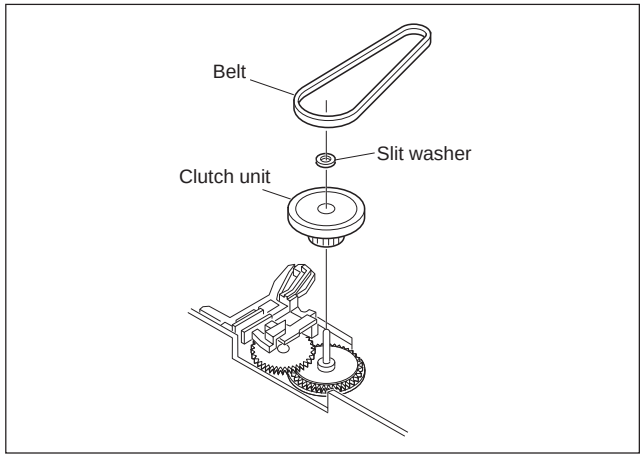


Fig.3-2-11a

3.2.12 Change lever assembly, direct gear, clutch gear and coupling gear

3.2.12.1 How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.

(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.3-2-12a.)

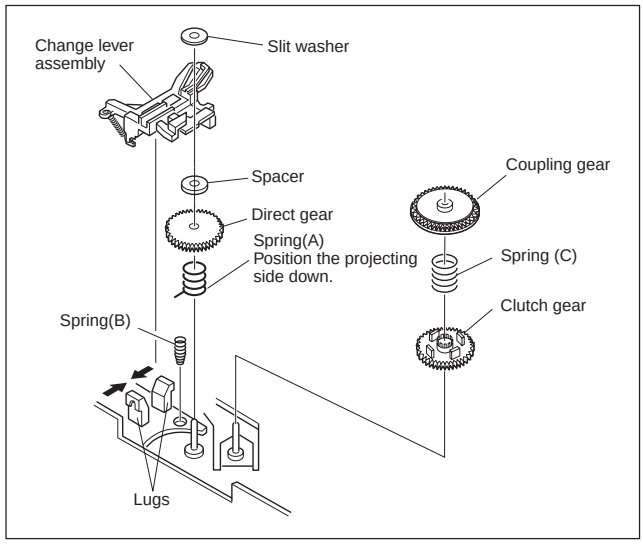


Fig.3-2-12a

3.2.12.2 How to install

(1) Install the clutch gear, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.3-2-12a.)

(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the coupling gear and catch it from the both sides with the assembly. (See Fig.3-2-12b.)

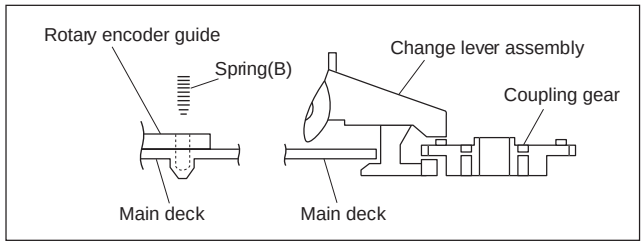


Fig.3-2-12b

3.2.13 Link lever

3.2.13.1 How to remove

(1) Remove the two slit washers.
(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

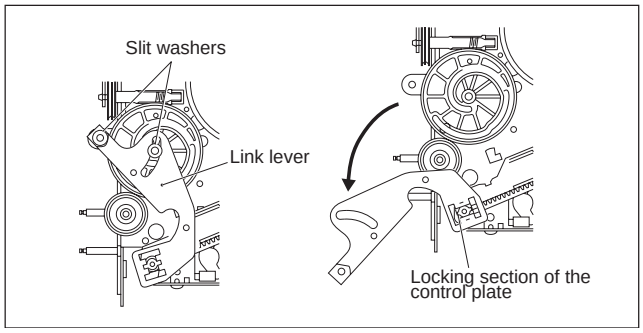


Fig.3-2-13a

3.2.13.2 How to install (Phase matching)

(1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.3-2-13b.)
(2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.3-2-13c.)
(3) Insert the link lever into the locking section of the control plate. (See Fig.3-2-13a.)
(4) Rotate the link lever clockwise so that it is installed on the shafts in the center (centre) and on the left of the control cam.
(5) Fasten the slit washers at these two points.

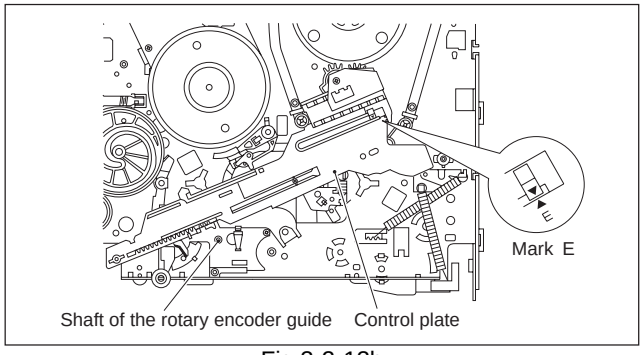


Fig.3-2-13b

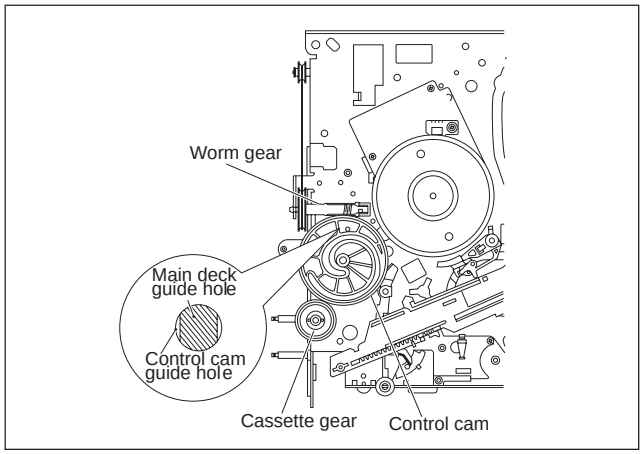


Fig.3-2-13c

3.2.14 Cassette gear, control cam and worm gear

3.2.14.1 How to remove

(1) Remove the control cam by lifting it.
(2) Open the two lugs of the cassette gear outward and pull the latter off.
(3) Remove the belt wound around the worm gear and the loading motor.
(4) Open the lug of the lid guide outward and remove the worm gear.

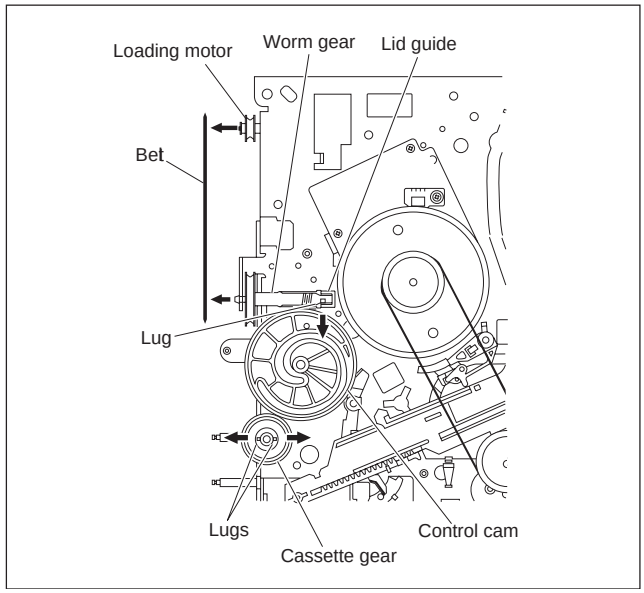


Fig.3-2-14a

3.2.15 Control plate

3.2.15.1 How to remove

(1) Remove the screw (A) retaining the control bracket 1 and remove the latter.
(2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.3-2-15a.)

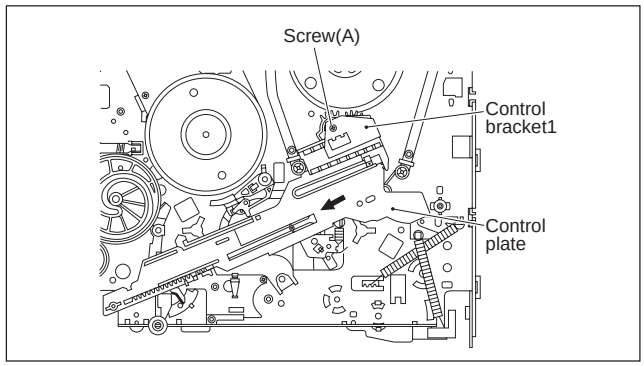


Fig.3-2-15a

3.2.15.2 How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.3-2-15b (to the left of center (centre) of the R section).
(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.3-2-15c.)

(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.3-2-15c.)

(5) Pull off the hexagonal wrench for positioning.

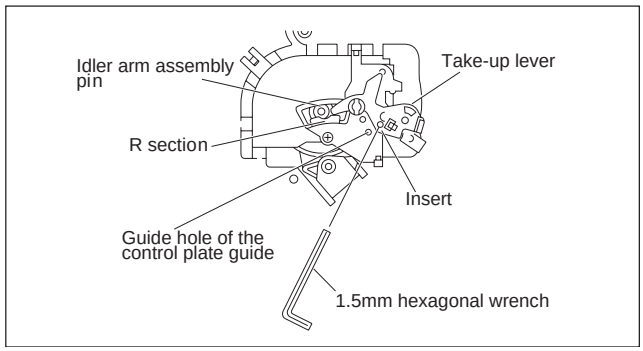


Fig.3-2-15b

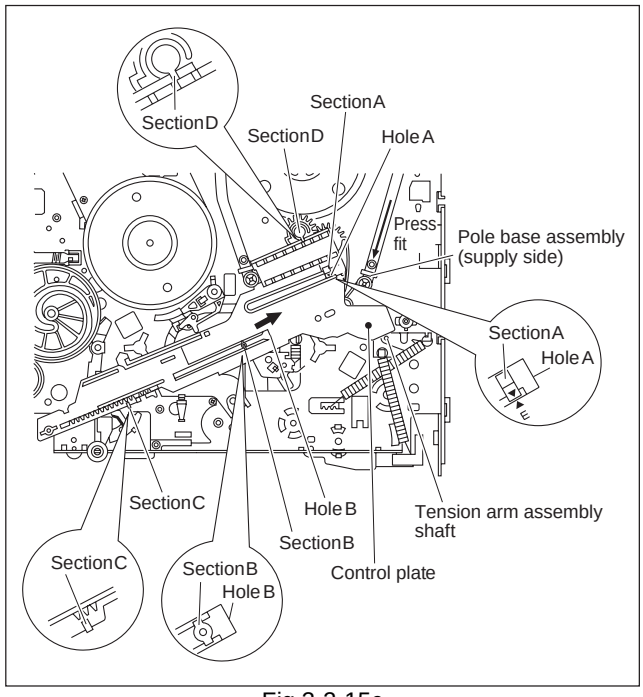


Fig.3-2-15c

3.2.16 Loading arm gear (supply or take-up side) and loading arm gear shaft

3.2.16.1 How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 3-2-16a.)

(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.3-2-16a.)

(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.3-2-16a and Fig. 3-2-16b.)

(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

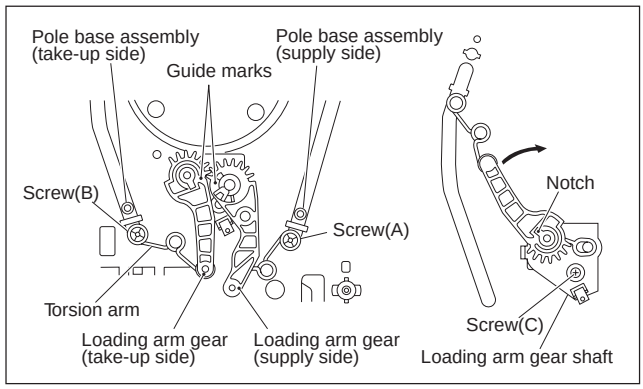


Fig.3-2-16a

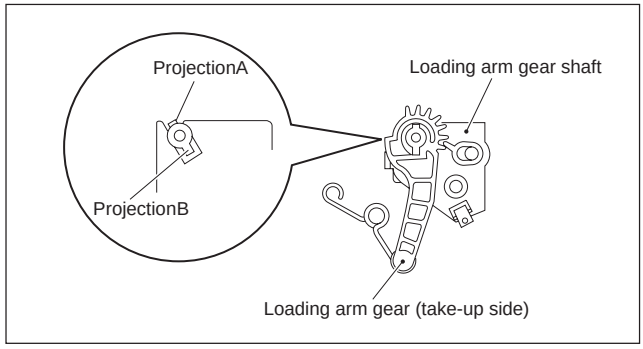


Fig.3-2-16b

3.2.16.2 How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.3-2-16b.)

(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).

(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.3-2-16a.)

3.2.17 Take-up lever, take-up head and control plate

3.2.17.1 How to remove

(1) Remove the spring of the take-up lever from the main deck.
(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.
(3) Remove the screw (A).
(4) Align the idler arm assembly pin in the center (centre) of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

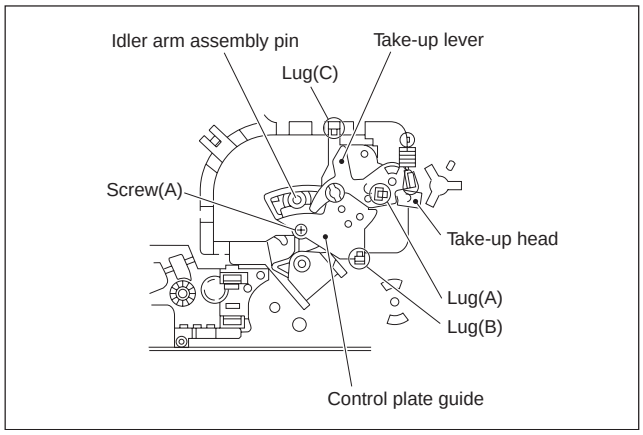


Fig.3-2-17a

3.2.18 Capstan brake assembly

3.2.18.1 How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 3-2-18a.)
(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

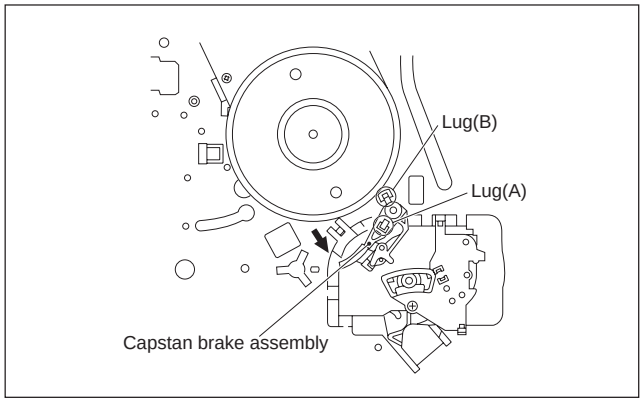


Fig.3-2-18a

3.2.19 Sub brake assembly (take-up side)

3.2.19.1 How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).
(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.
(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

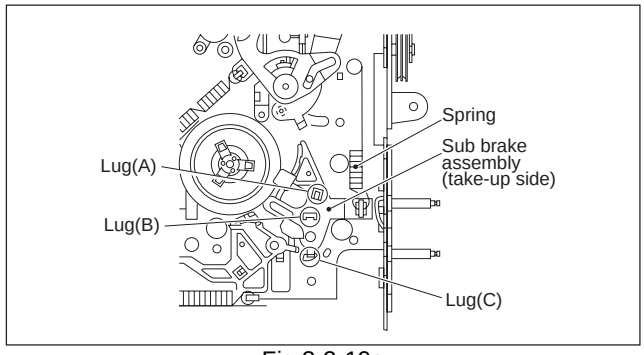


Fig.3-2-19a

3.2.20 Main brake assembly (take-up side), reel disk (take-up side) and main brake assembly (supply side)

3.2.20.1 How to remove

(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).
(2) Remove the spring attached to the main brake assembly.
(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.
(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.3-2-20a.)

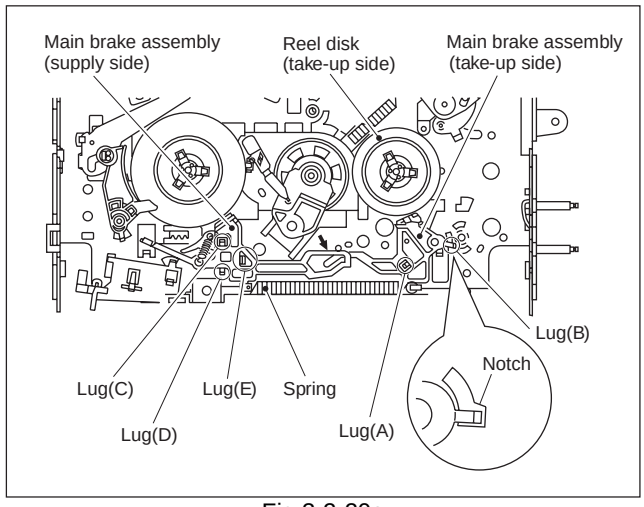


Fig.3-2-20a

3.2.21 Tension brake assembly, reel disk (supply side) and tension arm assembly

3.2.21.1 How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.
(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).
(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 3-2-21a.)

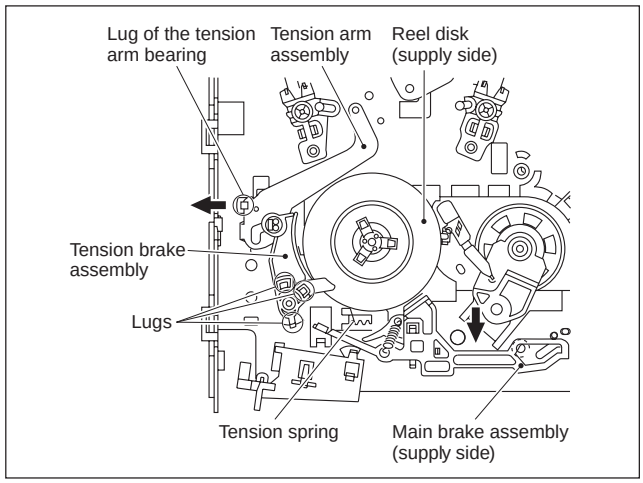


Fig.3-2-21a

3.2.22 Idler lever, idler arm assembly

3.2.22.1 How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.
(2) Remove the slit washer and pull out the idler arm assembly.

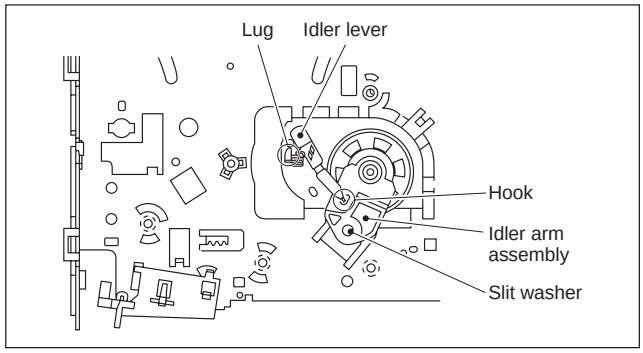


Fig.3-2-22a

3.2.23 Stator assembly

(1) Remove the flat cable.
(2) Remove the two screws (A), (B) and remove the lug wire.
(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)

Notes:

- **Be careful not to lose the brush and spring.**
- **There are some models that do not use the lug wire. Refer to the parts list for these models.**
- **When tightening the screw (B), place the caulked part of the lug terminal near to the shaft of the drum and then tighten it.**
- **After installation, be sure to perform the switching point adjustment according to the electrical adjustment procedure.**

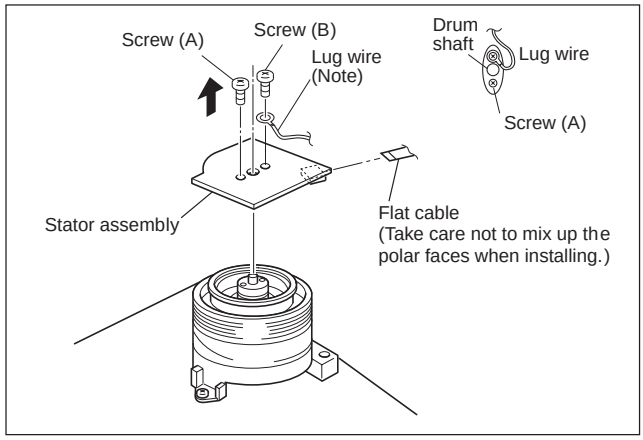


Fig.3-2-23a

3.2.24 Rotor assembly

3.2.24.1 How to remove

(1) Remove the stator assembly.
(2) Remove the two screws (B) and remove the rotor assembly.

3.2.24.2 How to install

(1) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.3-2-24a.
(2) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.3-2-24a.)

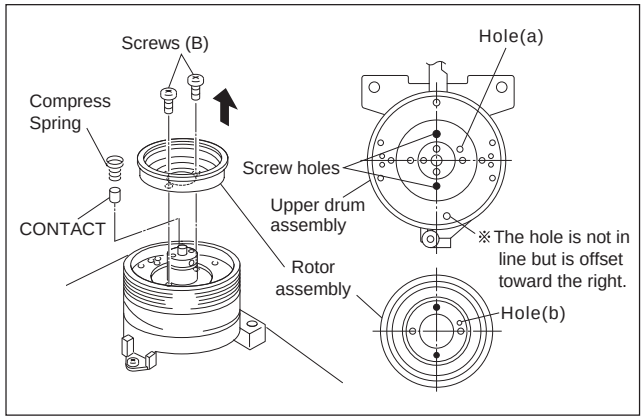


Fig.3-2-24a

3.3 Compatibility adjustment

Notes:

- **Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the A/C head, drum assembly or any part of the tape transport system.**
- **To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.**
- **Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.**
- **When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 2 SPECIFIC SERVICE INSTRUCTIONS.)**

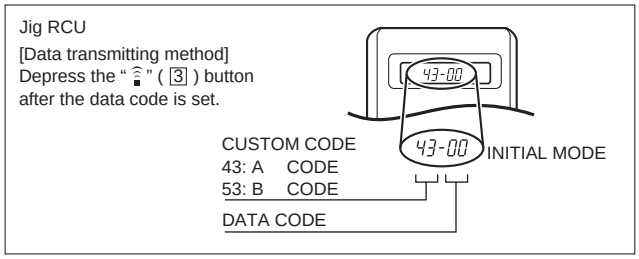


Fig.3-3a Jig RCU [PTU94023B]

3.3.1 Tension pole position

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B)	• PB
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gf•cm (2.45 – 5 x 10^{-3} Nm]

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.
  a) Set the VCR to the mechanism service mode. (See SECTION 2 SPECIFIC SERVICE INSTRUCTIONS.)
  b) Set the VCR to the play back mode and adjust by turning adjustment pin to align the tension arm assembly edge with the main deck hole (A) on the right edge marker. (See Fig. 3-3-1a.)

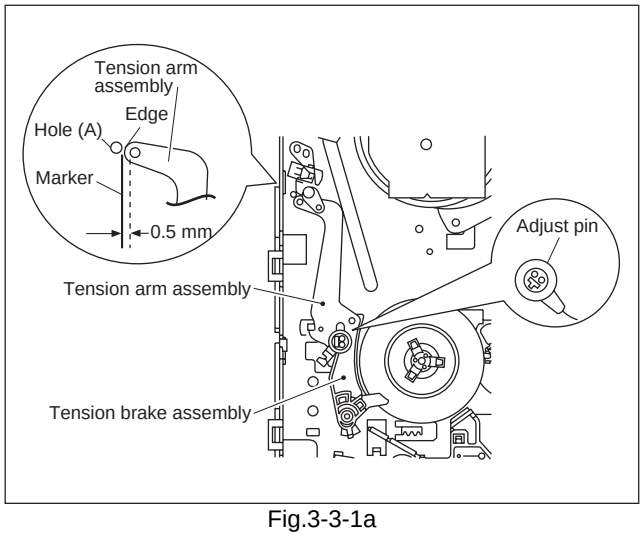


Fig.3-3-1a

3.3.2 FM waveform linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, NTSC) [MHP] • Alignment tape(EP, stairstep, NTSC) [MHP-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 3-3-2a.)
(5) Reduce the V.PB FM waveform by the tracking operation. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
  If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 3-3-3a.)
(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.
(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 3-3-2b.)

  [Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]
(9) Repeat steps (1) to (8) by using the alignment tape (A2).

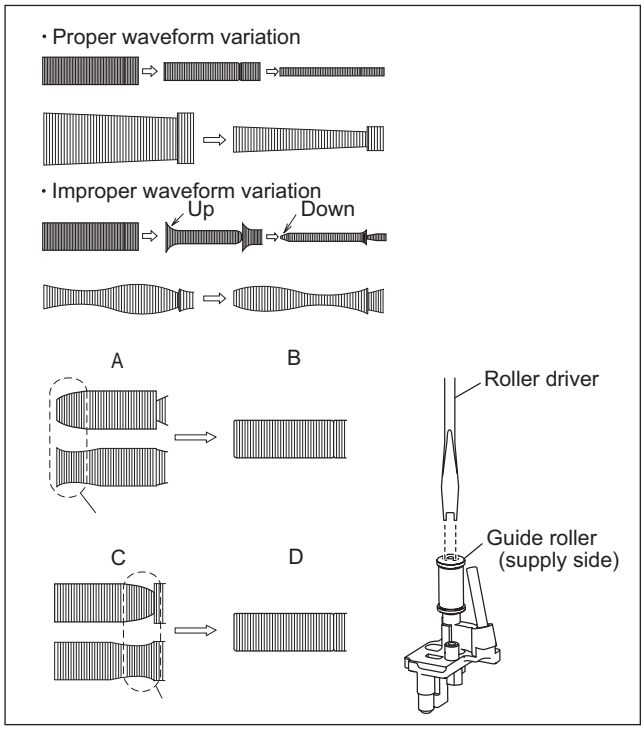


Fig.3-3-2a

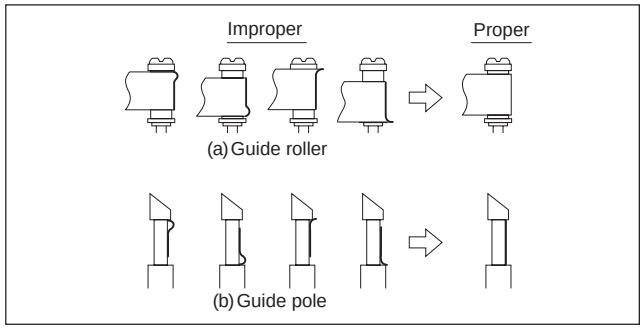


Fig.3-3-2b

3.3.3 Height and tilt of the A/C head

Note:

- Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.3-2-6c.)

Signal	(A)	• Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Set the VCR to the manual tracking mode.
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

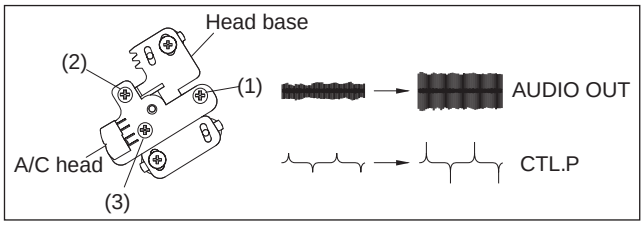


Fig.3-3-3a

3.3.4 A/C head phase (X-value)

Signal	(A1)	• Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Maximum V.PB FM waveform
Adjustment tool	(H)	• A/C head positioning tool [PTU94010]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Loosen the screws (4) and (5), then set the A/C head positioning tool to the innermost projected part of the A/C head. (See Fig. 3-3-4a.)
(5) Turn the A/C head positioning tool fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the V.PB FM waveform output level. Then tighten the screws (4) and (5).
(6) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

Note:

- **After adjusting, always perform the confirmation and readjustment of the item 3.3.5.**

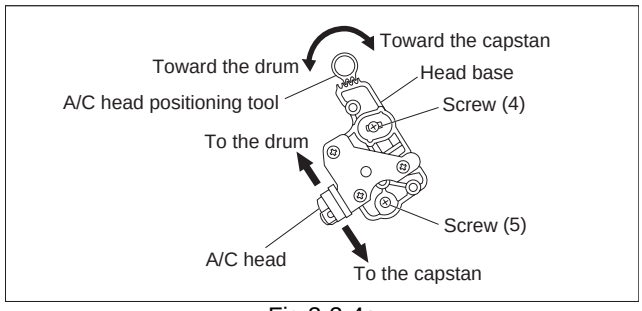


Fig.3-3-4a

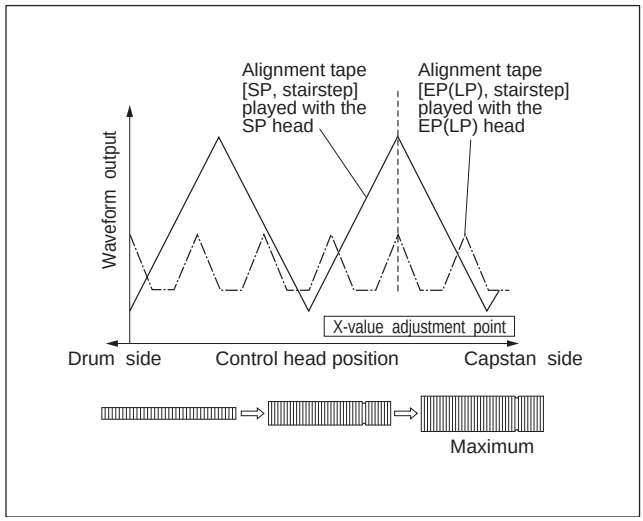


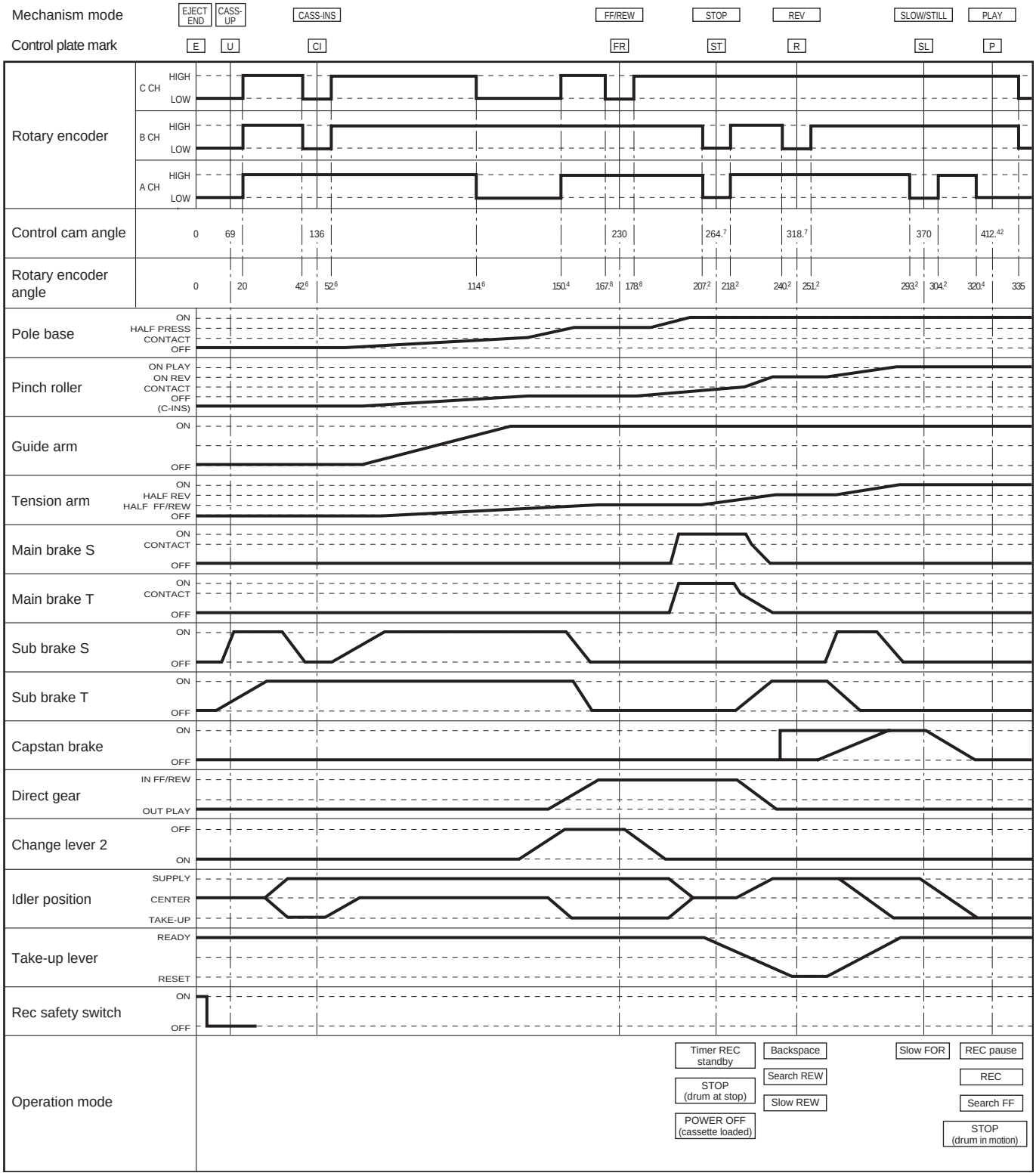
Fig.3-3-4b

3.3.5 Standard tracking preset

Signal	(A)	• Alignment tape(EP, stairstep, NTSC) [MHP-L]
Mode	(B)	• PB ⟶ Auto adjust
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Jig RCU: Code “50”
Specified value	(G)	• STOP mode (Maximum V.PB FM waveform)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Confirm that the automatic tracking operation is completed.
(4) Set the VCR to the Auto adjust mode by transmitting the code (F) twice from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(5) If the VCR enters the eject mode, perform adjustment for the audio control head phase (X-value) again.

Mechanism Timing Chart



SECTION 4
ELECTRICAL ADJUSTMENT

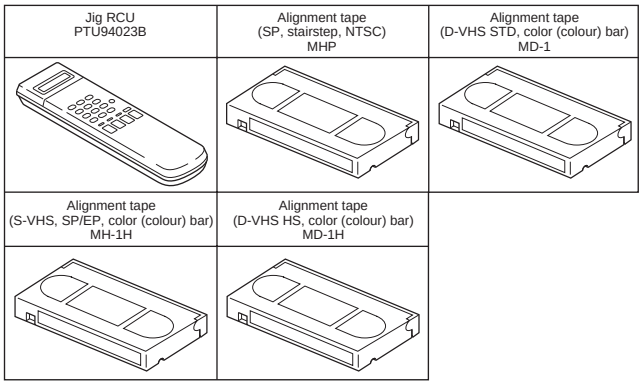
4.1 Precaution

The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

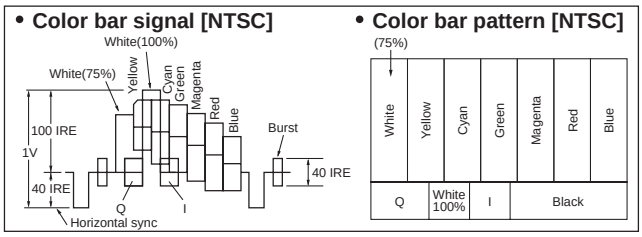
4.1.1 Required test equipments

- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Frequency counter
- Audio level meter
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [NTSC]
- Recording tape (VHS/SVHS)
- Digit-key remote controller (provided)

4.1.2 Required adjustment tools



4.1.3 Color (colour) bar signal,Color (colour) bar pattern



4.1.4 Switch settings and standard precautions

The SW settings of the VCR and the standard precautions for the electrical adjustments are as follows.

- **When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 2 SPECIFIC SERVICE INSTRUCTIONS.)**

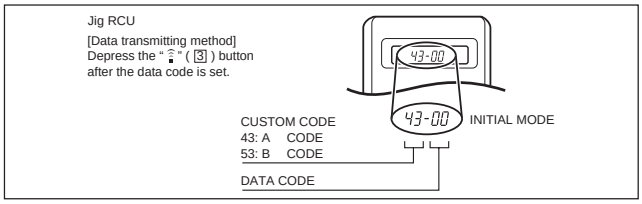


Fig.4-1-4a Jig RCU [PTU94023B]

- **Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.**
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF

- **If there is a reference to a signal input methed in the signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.**
- **Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.**

4.1.5 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The main unit have EEPROMs for storing the EVR adjustment data and user setups.

Notes:

- **In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.**
- **When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input.**
  The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- **As the counter indication and remaining tape indication are not displayed FDP during the EVR adjustment mode, check them on the TV monitor screen.**
- **When performing the EVR adjustment, confirm that the FDP indication is changed to the EVR mode, as shown below.**

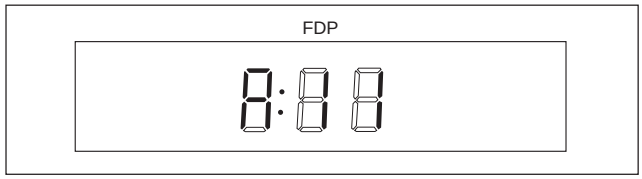


Fig.4-1-5a EVR mode

4.2 Servo circuit

4.2.1 Switching point

Signal	(A1) (A2)	• Stairstep signal Alignment tape (SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP501 (Y TO SE) [Main board] • TP106 (PB-FM) [Main board]
External trigger	(E)	• TP111 (D.FF)/slope : –
Adjustment part	(F1)	• Jig RCU: Code “51” or “52”
Specified value	(G)	• 7.5 ± 0.5H
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the V.PB FM waveform becomes maximum.
(5) Transmit the code (F1) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V.sync signal becomes the specified value (G).
(6) Set the VCR to the stop mode.

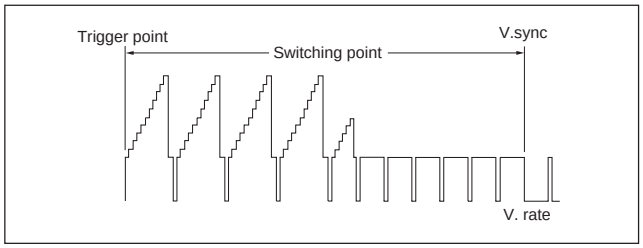


Fig.4-2-1a Switching point

4.2.2 D-VHS switching point

Signal	(A1) (A2) (A3)	• Color (colour) bar • (STD) Alignment tape [MD-1] • (HS) Alignment tape [MD-1H]
Mode	(B1) (B2) (B3)	• PB • D-VHS STD • D-VHS HS
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• (STD) TP621 (PB DATA1) • (HS) TP622 (PB DATA2)
External trigger	(E)	• (STD) TP111 (VIDEO/STD/HS1 FF) • (HS) TP602 (A/HS2 FF)
Adjustment part	(F)	• Jig RCU: Code “51” or “52”
Specified value	(G)	• 230 ± 20µsec
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the D-VHS envelope waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the D-VHS envelope waveform becomes maximum.
(5) Transmit the code (F) from the Jig RCU to adjust so that the duration “a” from the waveform end (Hi/Low switching point of D.FF) to the rising edge of subcode area becomes the specified value (G).
(6) Set the VCR to the stop mode or eject mode.
(7) Play back the signal (A1) of the alignment tape (A3).
(8) Repeat steps (2) to (6) in the mode (B3).

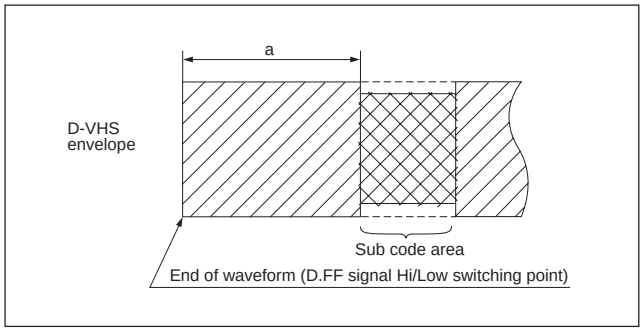


Fig.4-2-2a D-VHS switching point

4.2.3 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [NTSC]
Mode	(B1) (B2)	• VHS SP • VHS EP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig code “71“ or “72”
Specified value	(G)	• Minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Set the VCR to the manual tracking mode.
(3) Set the VCR to the FWD slow (+1/6x) mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow (–1/6x) mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- **For FWD slow (+1/6x) playback, transmit the code “08” from the Jig RCU to enter the slow playback mode, and transmit the code “D0” for REV slow (–1/6x) mode.**

4.3 Video circuit

4.3.1 SD EE COMPONENT Y level

Signal	(A1) (A2)	• Internal color bar • S-VHS
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• COMPONENT Y terminal
EVR mode EVR address	(F1) (F2) (F3) (F4) (F5)	• Jig code “95” • "01 : **" • Jig code “21” • Jig code “18” or “19” (Channel +/-) • Jig code “3C”
Specified value	(G)	• 1.00 ± 0.02 Vp-p (terminated)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A2) to enter the mode (B).
(2) Observe the Y OUT waveform at the measuring point (D).

(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the Y level of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F5) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

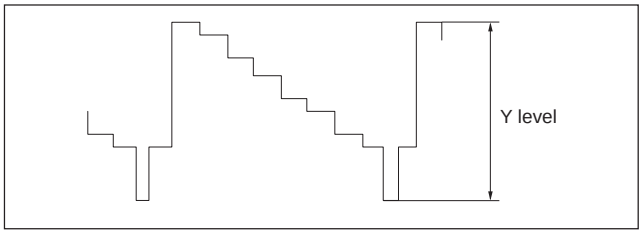


Fig.4-3-1a

4.3.2 EE Y (S-VHS) level

Signal	(A1) (A2) (A3)	• Ext. input • Color (colour) bar signal [NTSC] • S-VHS
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT (S terminal)
EVR mode EVR address	(F1) (F2) (F3) (F4) (F5)	• Jig code “95” • "02 : **" • Jig code “22” • Jig code “18” or “19” (Channel +/-) • Jig code “3C”
Specified value	(G)	• 1.00 ± 0.02 Vp-p (terminated)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to enter the mode (B).
(2) Observe the Y OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the Y level of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F5) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

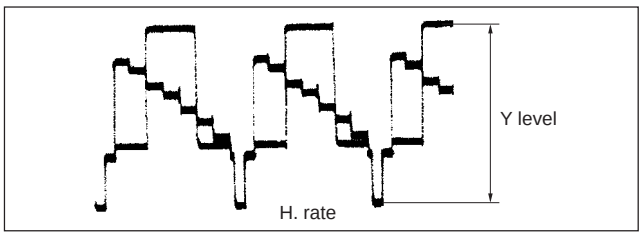


Fig.4-3-2a

4.3.3 EE Y (VHS) level

Signal	(A1) (A2) (A3)	• Ext. input • Color (colour) bar signal [NTSC] • VHS
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP501 (Y TO SE) [Main board]
EVR mode EVR address	(F1) (F2) (F3) (F4) (F5)	• Jig code “95” • "03 : **" • Jig code “23” • Jig code “18” or “19” (Channel +/-) • Jig code “3C”
Specified value	(G)	• 0.40 ± 0.02 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to enter the mode (B).
(2) Observe the Y OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the Y level of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F5) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

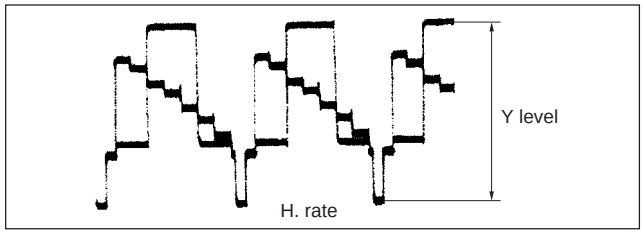


Fig.4-3-3a

4.3.4 SD EE COMPONENT CB level

Signal	(A1) (A2)	• Internal color bar • S-VHS
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• COMPONENT PB/CB terminal
EVR mode EVR address	(F1) (F2) (F3) (F4) (F5)	• Jig code “95” • "06 : **" • Jig code “26” • Jig code “18” or “19” (Channel +/-) • Jig code “3C”
Specified value	(G)	• 0.70 ± 20 Vp-p (terminated)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A2) to enter the mode (B).
(2) Observe the CB OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the CB level of the CB OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F5) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

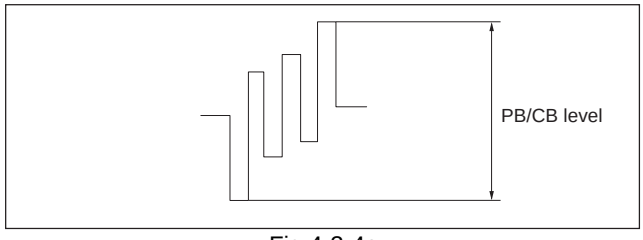


Fig.4-3-4a

4.3.5 EE COLOR (S-VHS) level

Signal	(A1) (A2)	• Internal color bar • S-VHS
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• C OUT (S terminal)
EVR mode EVR address	(F1) (F2) (F3) (F4) (F5)	• Jig code “95” • "00 : **" • Jig code “20” • Jig code “18” or “19” (Channel +/-) • Jig code “3C”
Specified value	(G)	• 0.286 ± 0.01 Vp-p (terminated)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A2) to enter the mode (B).
(2) Observe the COLOR OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the BURST level of the COLOR OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F5) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

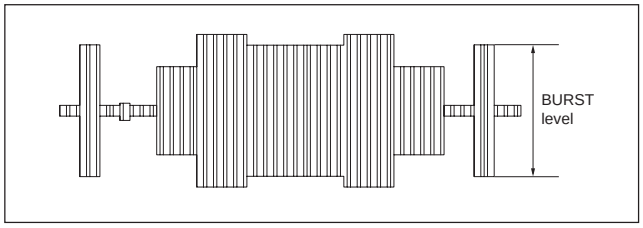


Fig.4-3-5a

4.4 Audio circuit

Note:

- **GND (Ground) should be taken from the Tuner shield case.**

4.4.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Color (colour) bar signal [NTSC]
Mode	(B)	• S-VHS EP • TBC:OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. PB FM) [Main board]
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• VR2251 (FMA REC LEVEL)
Specified value	(G1) (G2)	• 350 ± 50 mVp-p • More than 200 mVp-p

(1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).
(2) Record the signal (A3) with no audio signal input in the mode (B), and play back the recorded signal.
(3) Set the VCR to the manual tracking mode.
(4) If the A.PB FM level is not within the specified value (G1), perform the adjustment in a following procedure.
(5) Adjust the Adjustment part (F) so that the A. PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)
(6) If the specified value (G1) is not obtained, adjust the Adjustment part (F) so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)

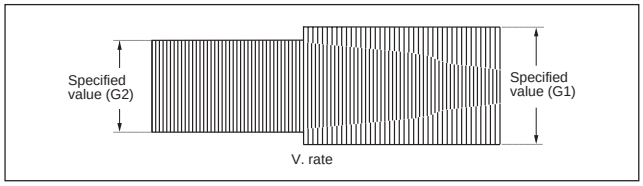


Fig.4-4-1a Audio REC FM

4.5 Digital circuit

4.5.1 HD EE COMPONENT Y level

Signal	(A1) (A2)	• Ext. input (i. LINK) • HD color bar signal
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• COMPONENT Y terminal
EVR mode EVR address	(F1) (F2) (F3) (F4) (F5)	• Jig code “95” • "07 : **" • Jig code “27” • Jig code “18” or “19” (Channel +/-) • Jig code “3C”
Specified value	(G)	• 0.70 ± 0.02 Vp-p (terminated)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

Notes:

How to input the HD color bar signal.

- **Connect an i.LINK cable between the another playback VCR's i.LINK input/output connector and this VCR's i.LINK input/output connector.**
- **Select input location"I-1 etc." on this VCR.**
- **Playback the color bar portion of the alignment tape[MD-1H] on another playback VCR.**

(1) Input the signal (A2) to enter the mode (B).
(2) Observe the Y OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the Y level (a) of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F5) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

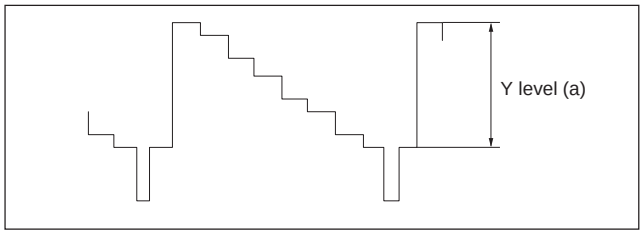


Fig.4-3-2a

4.5.2 HD EE COMPONENT CB level

Signal	(A1) (A2)	• Ext. input (i. LINK) • HD color bar signal
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• COMPONENT PB/CB terminal
EVR mode EVR address	(F1) (F2) (F3) (F4) (F5)	• Jig code “95” • "08 : **" • Jig code “28” • Jig code “18” or “19” (Channel +/-) • Jig code “3C”
Specified value	(G)	• 0.525 ± 0.020 Vp-p (terminated)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

Notes:

How to input the HD color bar signal.

- **Connect an i.LINK cable between the another playback VCR's i.LINK input/output connector and this VCR's i.LINK input/output connector.**
- **Select input location"I-1 etc." on this VCR.**
- **Playback the color bar portion of the alignment tape[MD-1H] on another playback VCR.**

(1) Input the signal (A2) to enter the mode (B).
(2) Observe the PB/CB OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the PB/CB level of the PB/CB OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F5) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

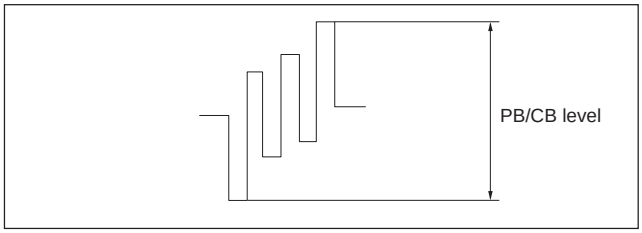


Fig.4-3-2a

4.5.3 D-VHS REC level

Signal	(A1) (A2) (A3)	• Ext. input • Optional • DF-300
Mode	(B1) (B2)	• D-VHS STD REC • D-VHS HS REC
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• (STD) TP611 (REC LEVEL1) • (HS) TP612 (REC LEVEL2)
External trigger	(E)	• (STD) TP111 (VIDEO/STD/HS1 FF) [Main board] • (HS) TP602 (A/HS2 FF)
Adjustment part	(F1) (F2) (F3) (F4)	• Jig code “57” • (STD) A:8 • (HS) A:9 • (STD) Jig code “28” • (HS) Jig code “29” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 120±5mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to enter the mode (B1).
(2) Apply the external trigger signal to D.FF (E) to observe the waveform appeared at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the waveform signal level “a” becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Repeat steps (2) to (6) in the mode (B2).

Notes:

- **GND (Ground) should be taken from the PRE/REC board shield case.**
- **The signal level adjustment should be performed by setting the center (centre) of the darkened section on the CRT bright line.**
- **After adjusting, always perform the confirmation and re-adjustment of the item 4.5.4.**

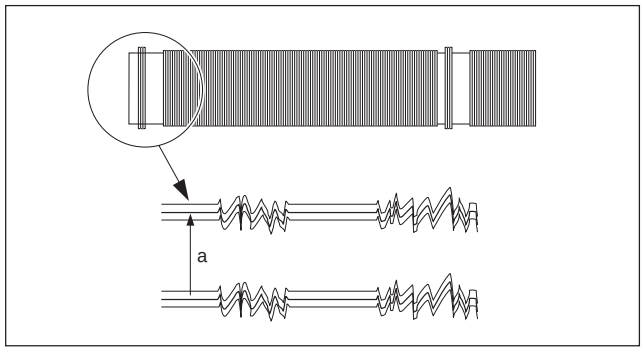


Fig.4-5-1a D-VHS REC level

4.5.4 PLL f0

Notes:

- **This adjustment should be done after the “D-VHS REC level adjustment” for the Digital circuit has been completed.**
- **Do not connect the probe or any other jig to the TP or shield case of the PRE/REC board during adjustment.**
- **If auto adjustment is not completed by the above procedure, re-adjust the adjustment item 4.5.3 again.**

Signal	(A1) (A2) (A3)	• Ext. input • Optional • DF-300
Mode	(B1) (B2)	• D-VHS STD • D-VHS HS
Adjustment part	(F1) (F2)	• (STD) Jig code “96” • (HS) Jig code “91” • Jig code “9B”
Specified value	(G)	• STOP mode
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to enter the mode (B1).
(2) Set the VCR to the Auto adjust mode by transmitting the code (F1) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, insert the cassette tape again.
(3) Release the Auto adjust mode of the VCR by transmitting the code (F2) from the Jig RCU.
(4) Repeat steps (2) to (3) in the mode (B2).

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CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

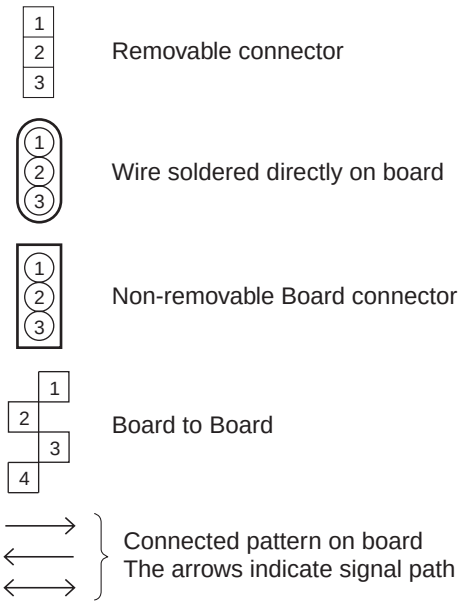
Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

AUX : Active at high.

$\overline{\text{AUX}}$ or AUX(L) : Active at low.

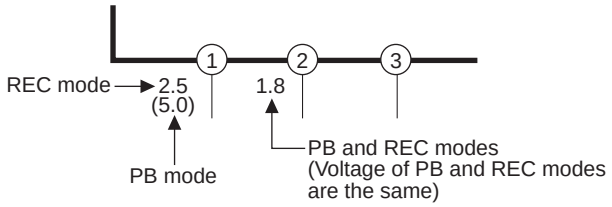
3. Interpreting Connector indications



Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

1) Regulator (DC/DC CONV) circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar).
   — : Unmeasurable or unnecessary to measure.
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.

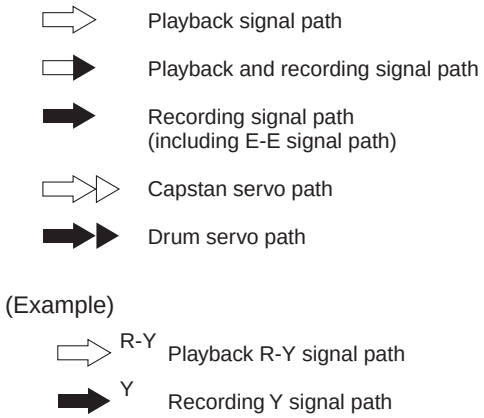


Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

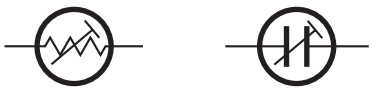
The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.



6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

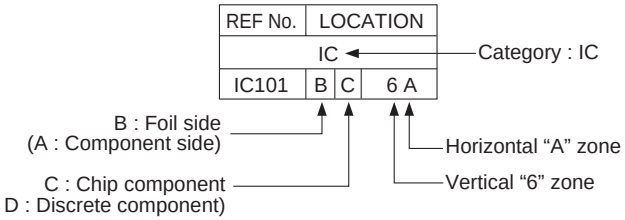
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

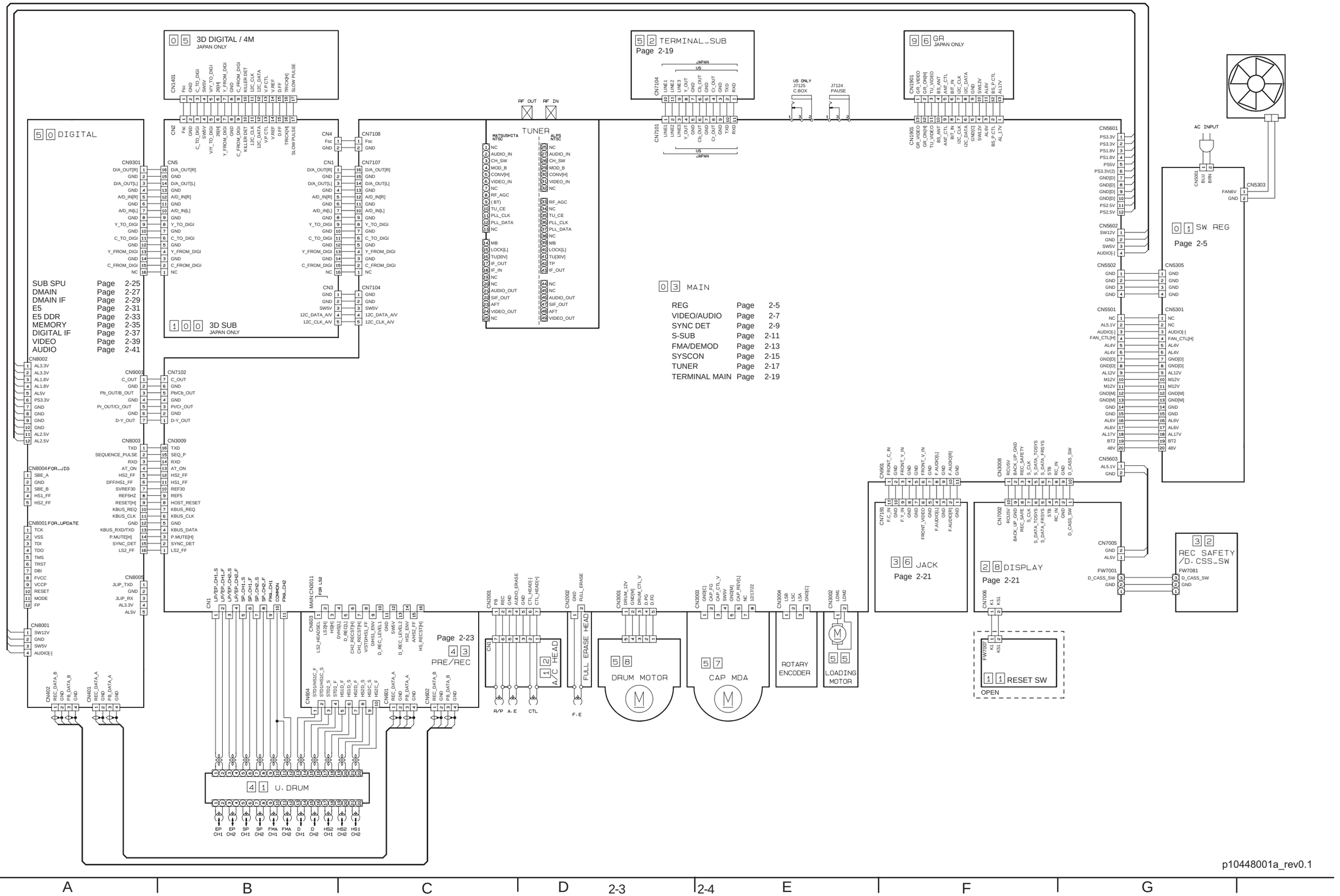
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.

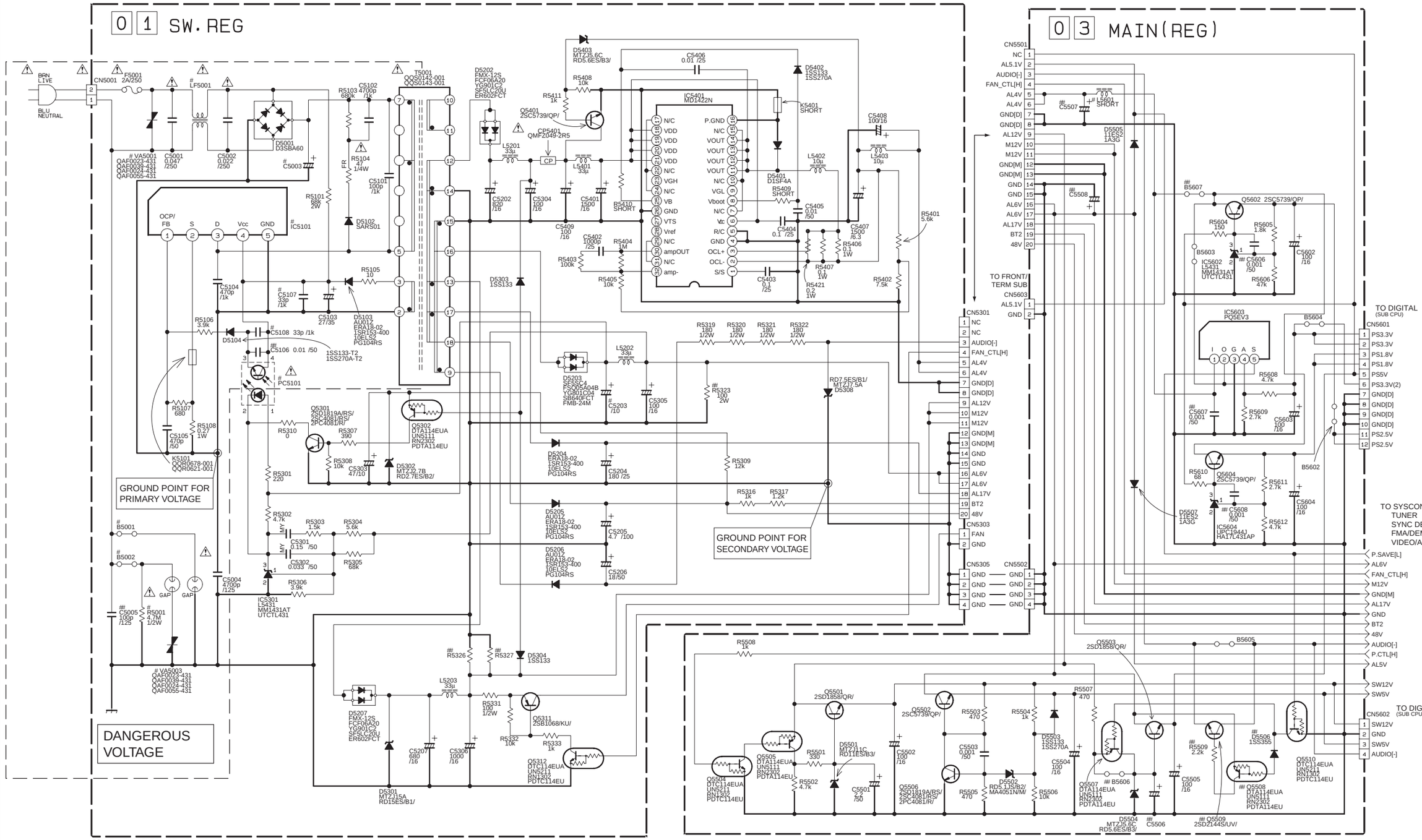


Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

■ BOARD INTERCONNECTIONS



■ SW.REG AND MAIN(REG) SCHEMATIC DIAGRAMS



##MARK ELEMENTS ARE NOT MOUNTED.

MODEL	B5001 B5002	C5003	C5107 C5108	IC5101	C5203	R5001	LF5001	PC5101	VA5001 VA5003
US	YES	330/200	NO	STR-F6555	2200	YES	QQR0908-001 QQR0984-001 QQR1215-001	PS2501-1 PC817 ON3131/RS/ PC817X PS2561-1	NO
JPN			YES		2700	NO			YES
KR	NO	150/400	NO	STR-F6552	2200	NO	QQR1031-001	PC123F2 PS2561L1-1/L/ ON3171/R/ LTV-817M/BC/	NO

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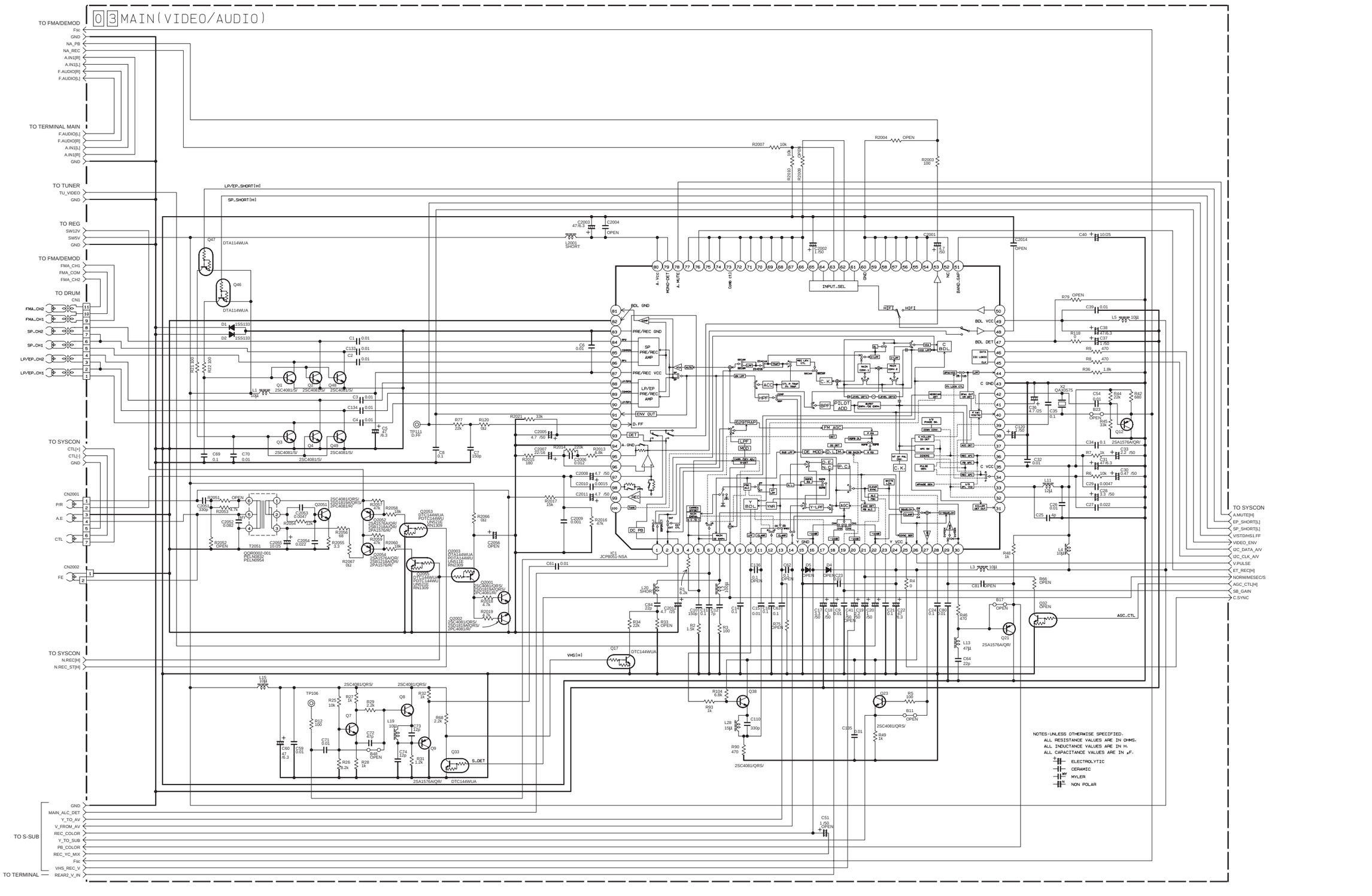
■ MAIN (VIDEO/AUDIO) SCHEMATIC DIAGRAM



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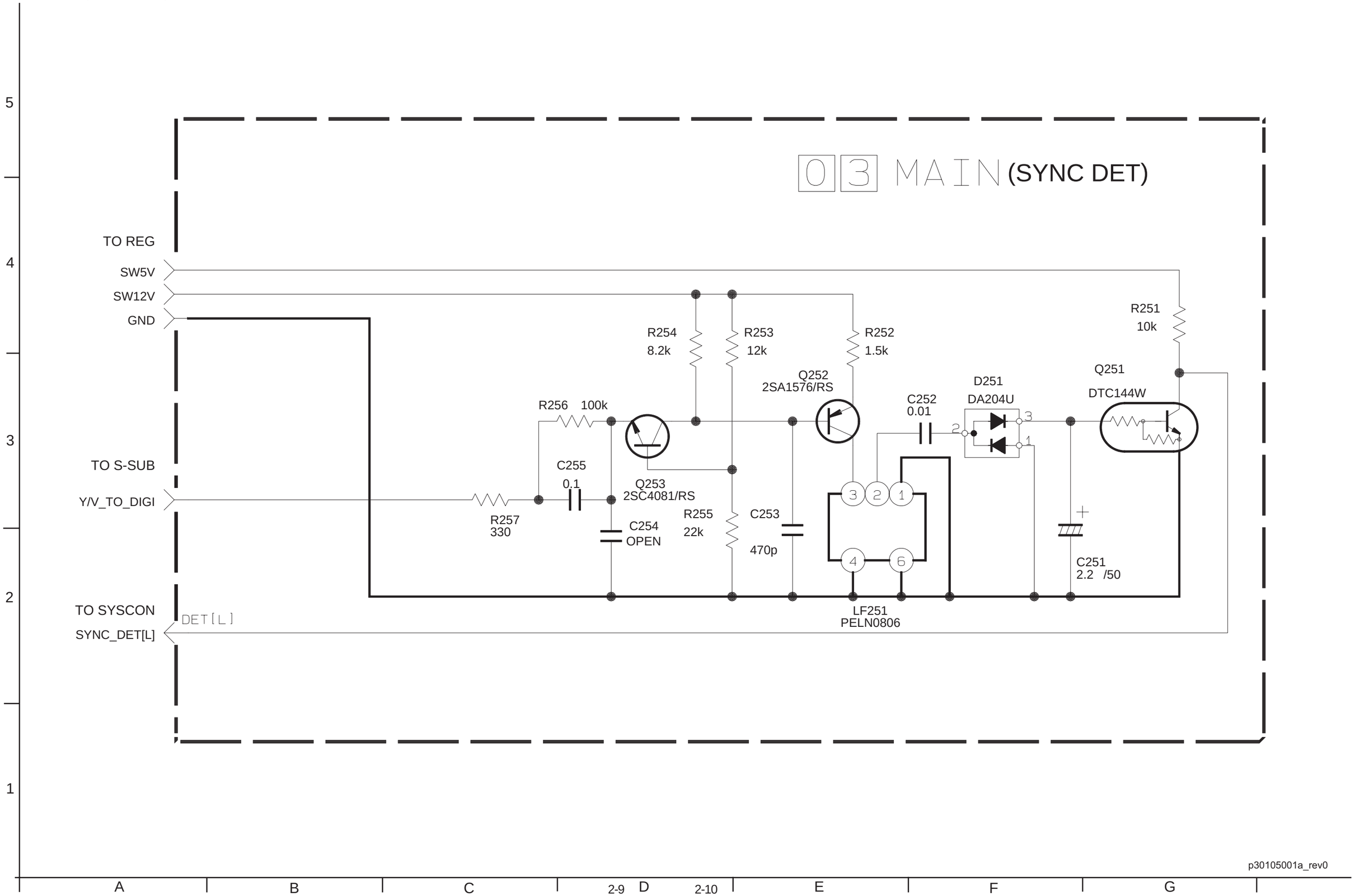
■ MAIN (SYNC DET) SCHEMATIC DIAGRAM



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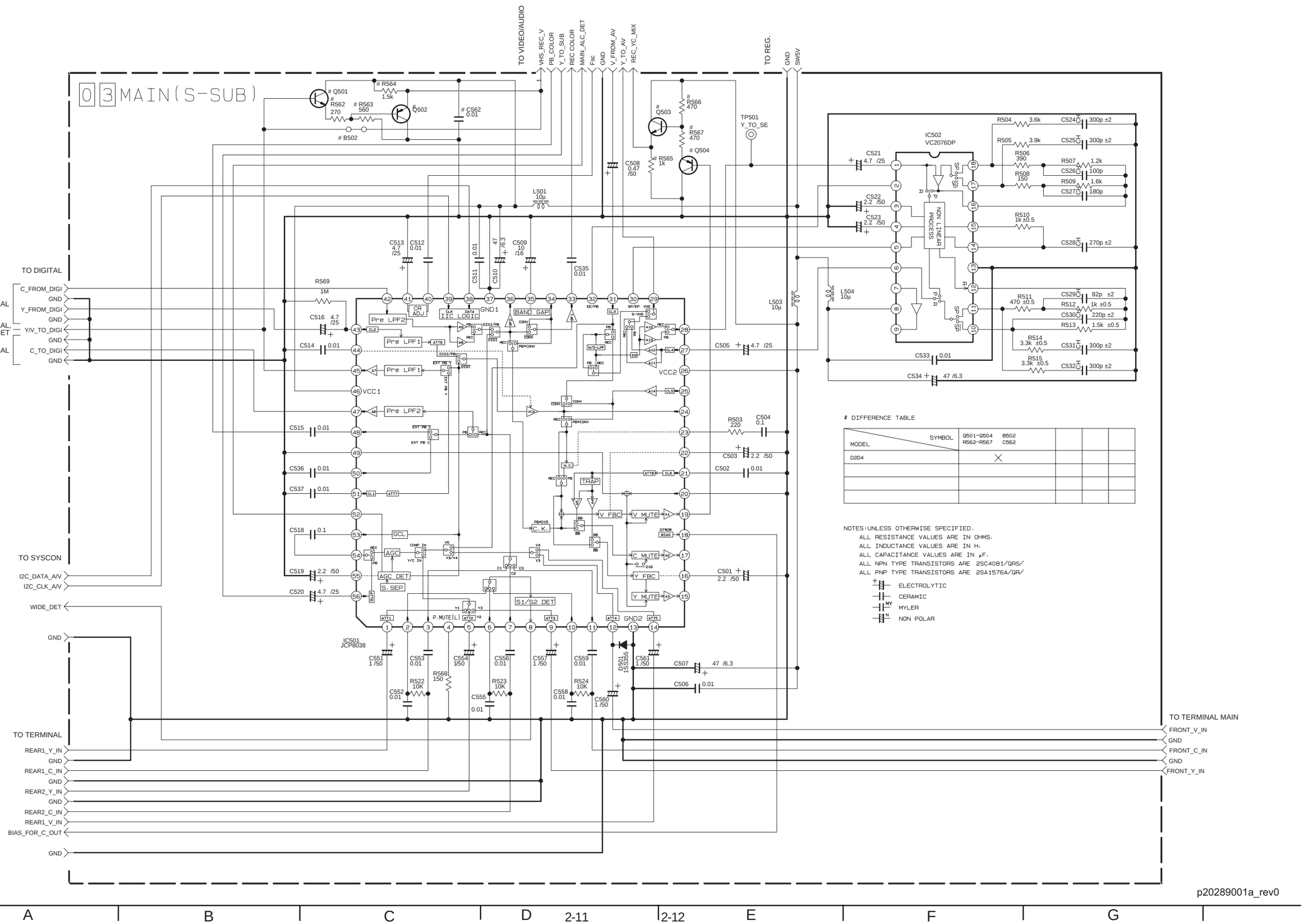
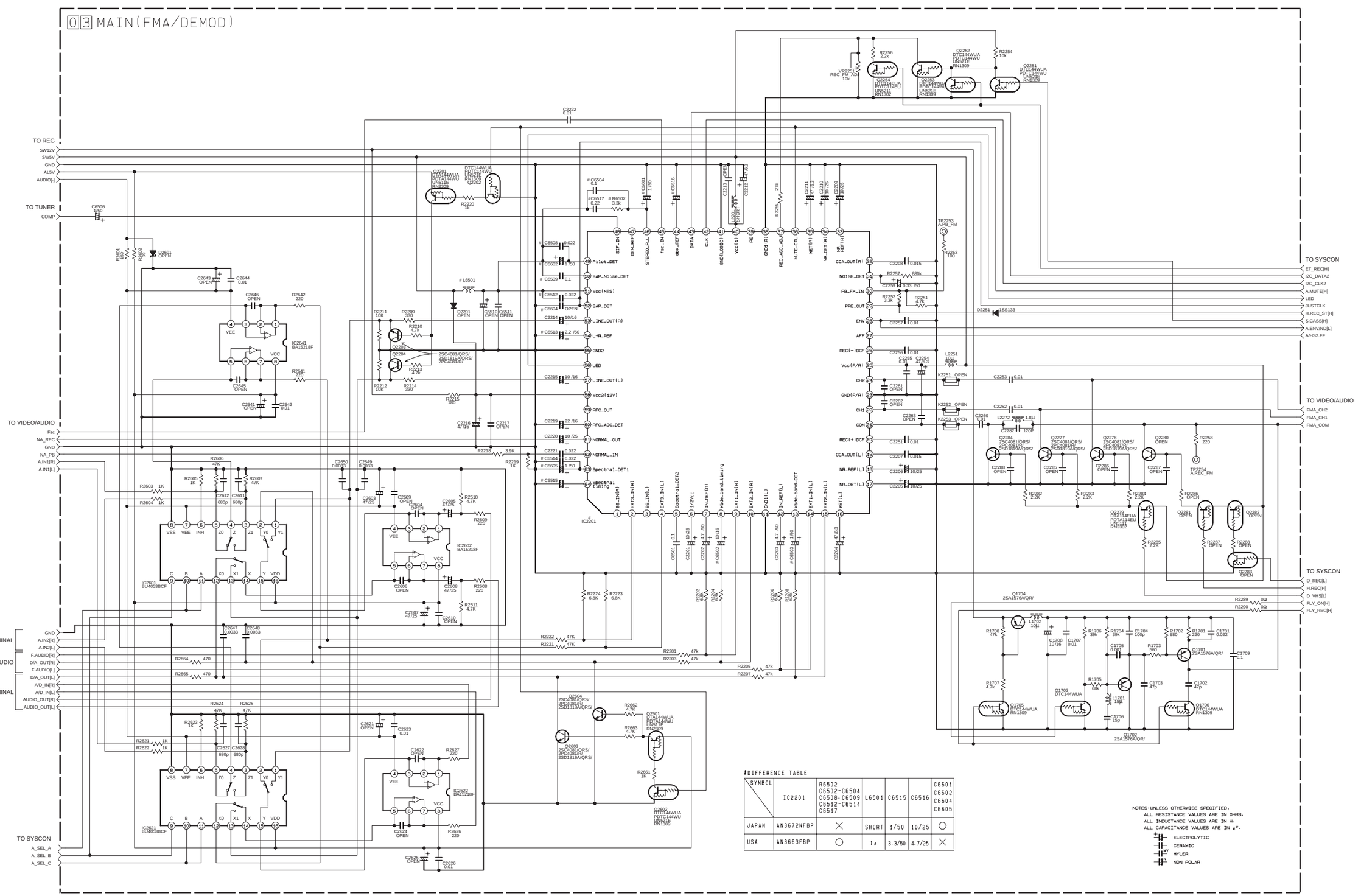
■ MAIN (S-SUB) SCHEMATIC DIAGRAM



■ MAIN (FMA/DEMOD) SCHEMATIC DIAGRAM



DIFFERENCE TABLE

SYMBOL	IC2201	R6502 C6502-C6504 C6508-C6509 C6512-C6514 C6517	L6501	C6515	C6516	C6601 C6602 C6604 C6605
JAPAN	AN3672NFBP	×	SHORT	1/50	10/25	○
USA	AN3663FBP	○	1μ	3.3/50	4.7/25	×

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

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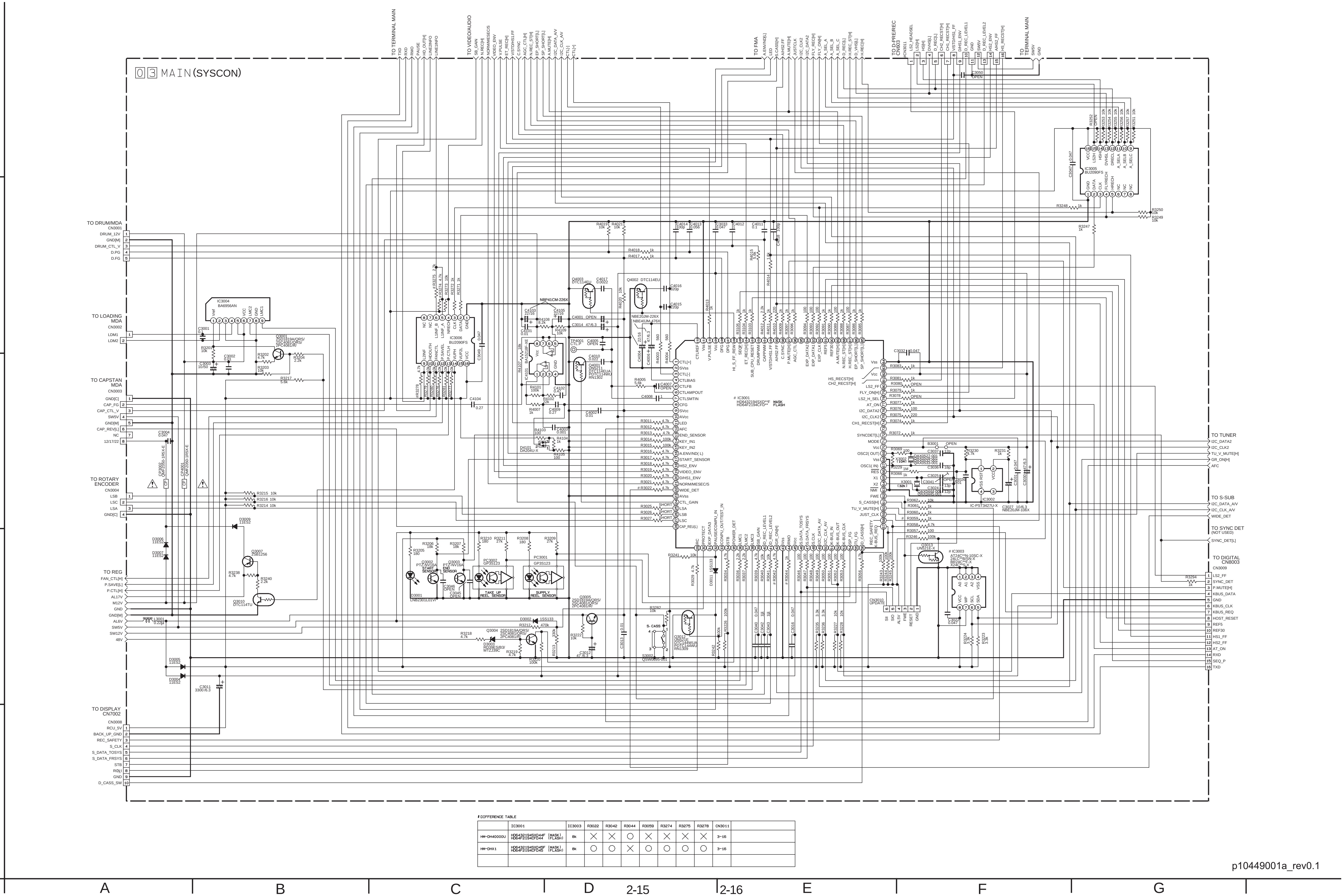
2-13 2-14

■ MAIN (SYSCON) SCHEMATIC DIAGRAM



DIFFERENCE TABLE

	IC3001	IC3003	R3022	R3042	R3044	R3059	R3274	R3275	R3278	CN3011
HM-DH40000U	HD6432194SXD44F (MASK) HD64F2194CFD44 (FLASH)	8k	×	×	○	×	×	×	×	3-16
HM-DHX1	HD6432194SXD45F (MASK) HD64F2194CFD45 (FLASH)	8k	○	○	×	○	○	○	○	3-16

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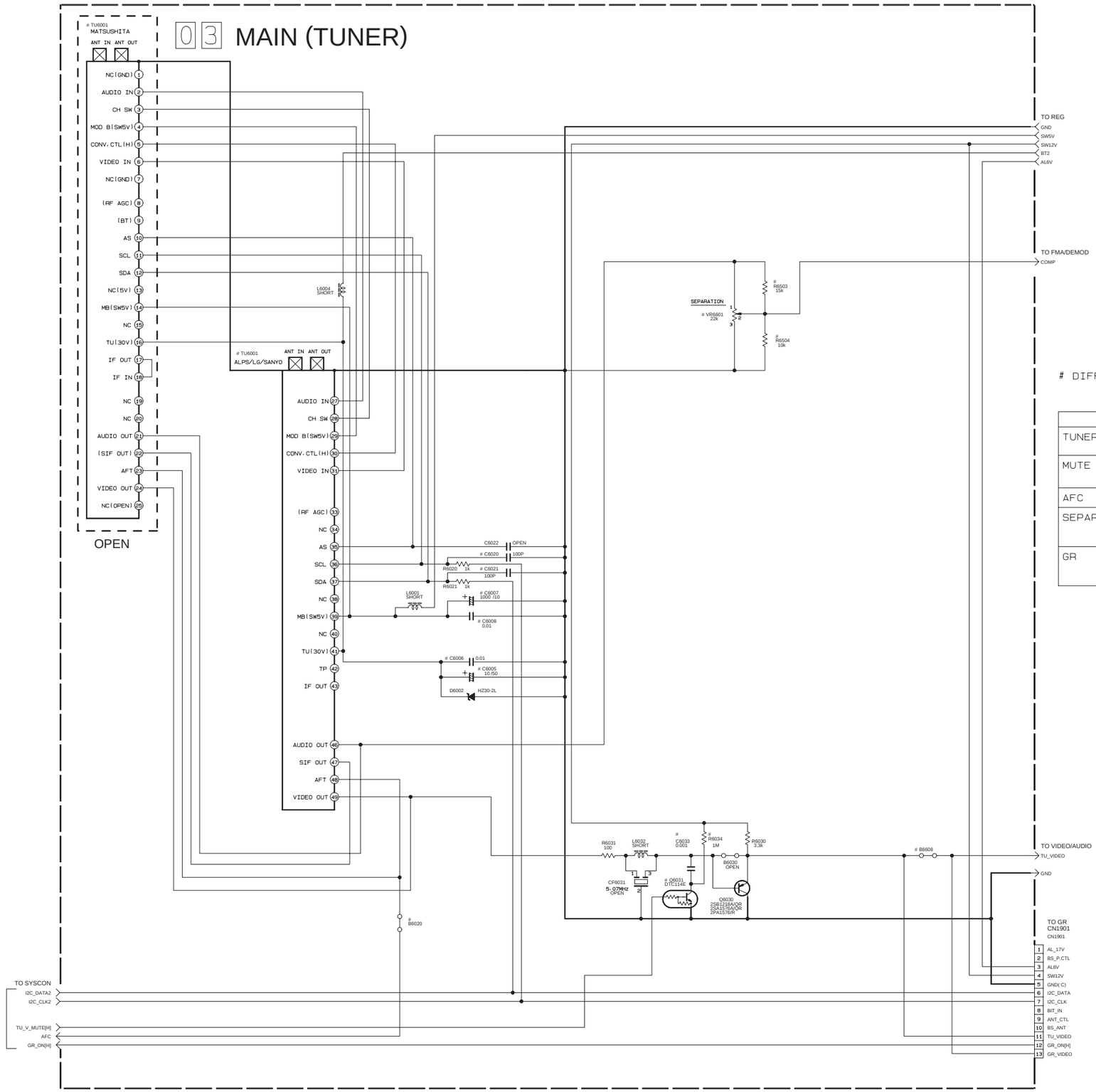
■ MAIN (TUNER) SCHEMATIC DIAGRAM



DIFFERENCE TABLE

		JPN	US
TUNER	TU6001	MATSUSHITA QAU0224	ALPS QAU0255
MUTE	Q6031, R6034 C6033	X	X
AFC	B6020	X	O
SEPARATION	VR6601	X	X
	R6503, R6504	O	O
GR	B6608	X	O
	CN1901	O	X

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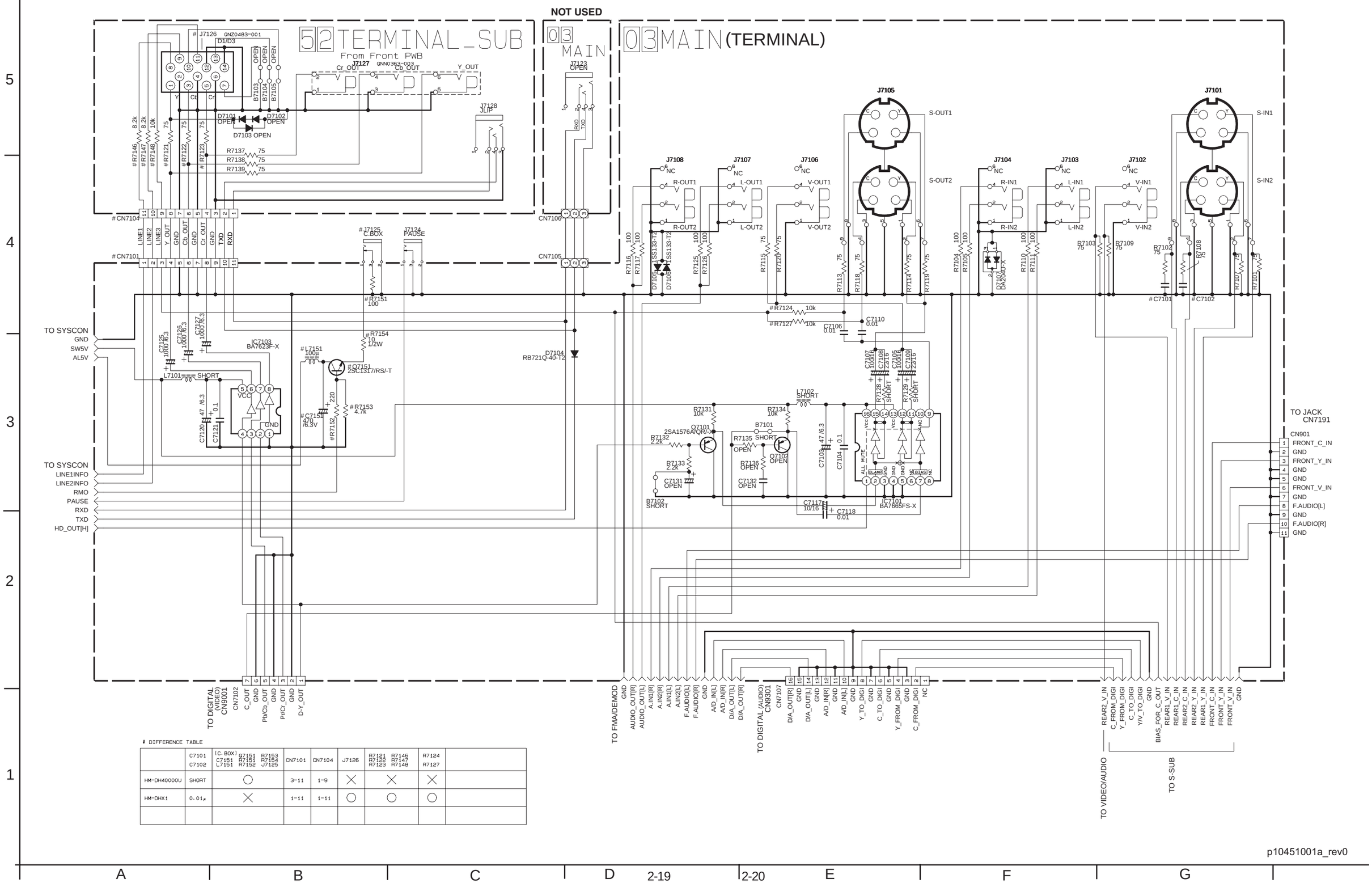
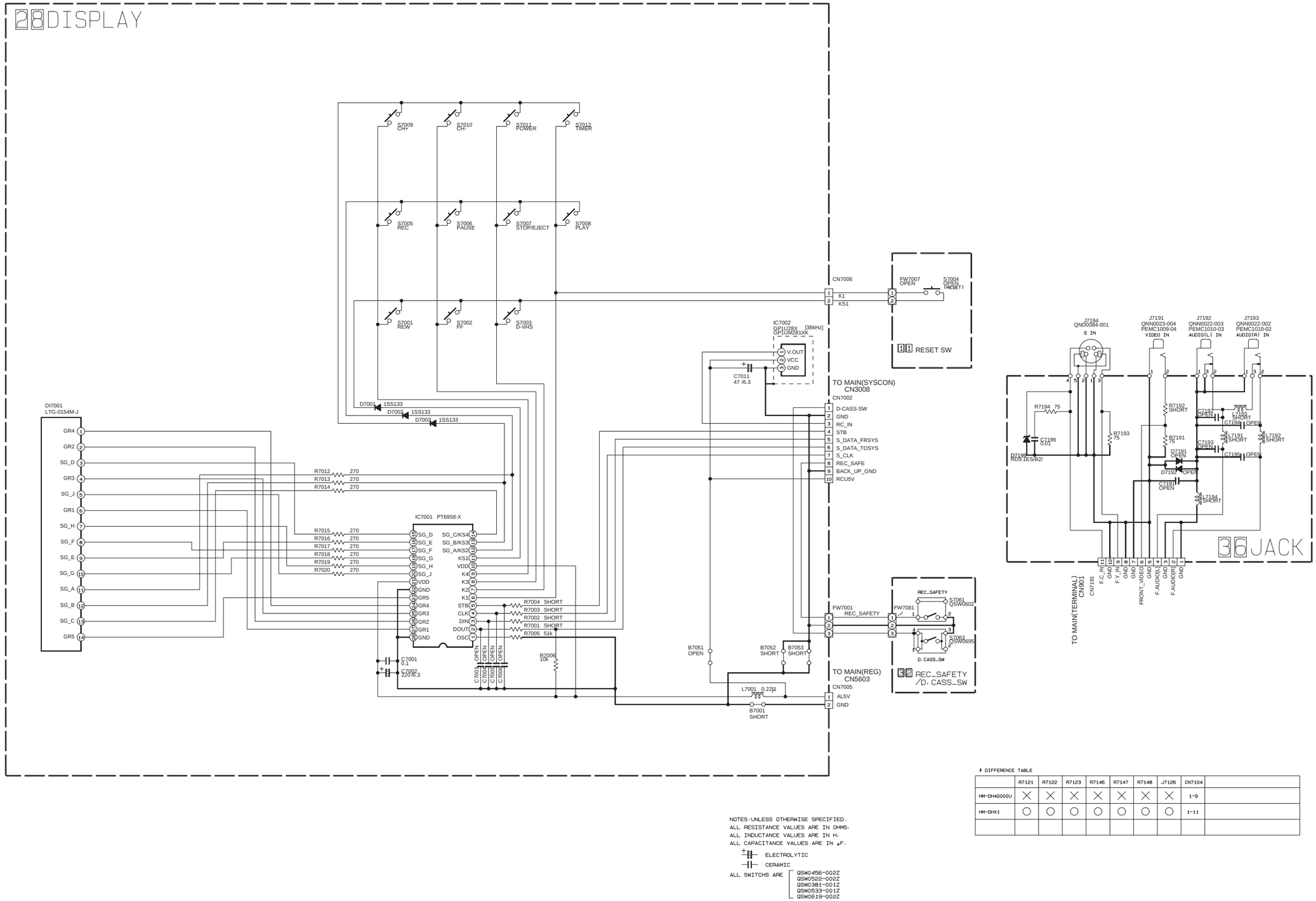
■ MAIN (TERMINAL) AND TERMINAL SUB SCHEMATIC DIAGRAMS



	C7101 C7102	(C.BOX) R7151 R7153 C7151 R7154 L7151 R7152	CN7101	CN7104	J7126	R7121 R7146 R7122 R7147 R7123 R7148	R7124 R7127	
HM-DH40000U	SHORT	○	3-11	1-9	×	×	×	
HM-DHX1	0.01μ	×	1-11	1-11	○	○	○	

■ RESET SW,REC SAFETY/D.CASS_SW,DISPLAY AND JACK SCHEMATIC DIAGRAMS



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.
ELECTROLYTIC
CERAMIC
ALL SWITCHS ARE QSW0456-002Z, QSW0522-002Z, QSW0381-001Z, QSW0533-001Z, QSW0619-002Z

DIFFERENCE TABLE

	R7121	R7122	R7123	R7146	R7147	R7148	J7126	CN7104	
HM-DH40000U	×	×	×	×	×	×	×	1-9	
HM-DHX1	○	○	○	○	○	○	○	1-11	

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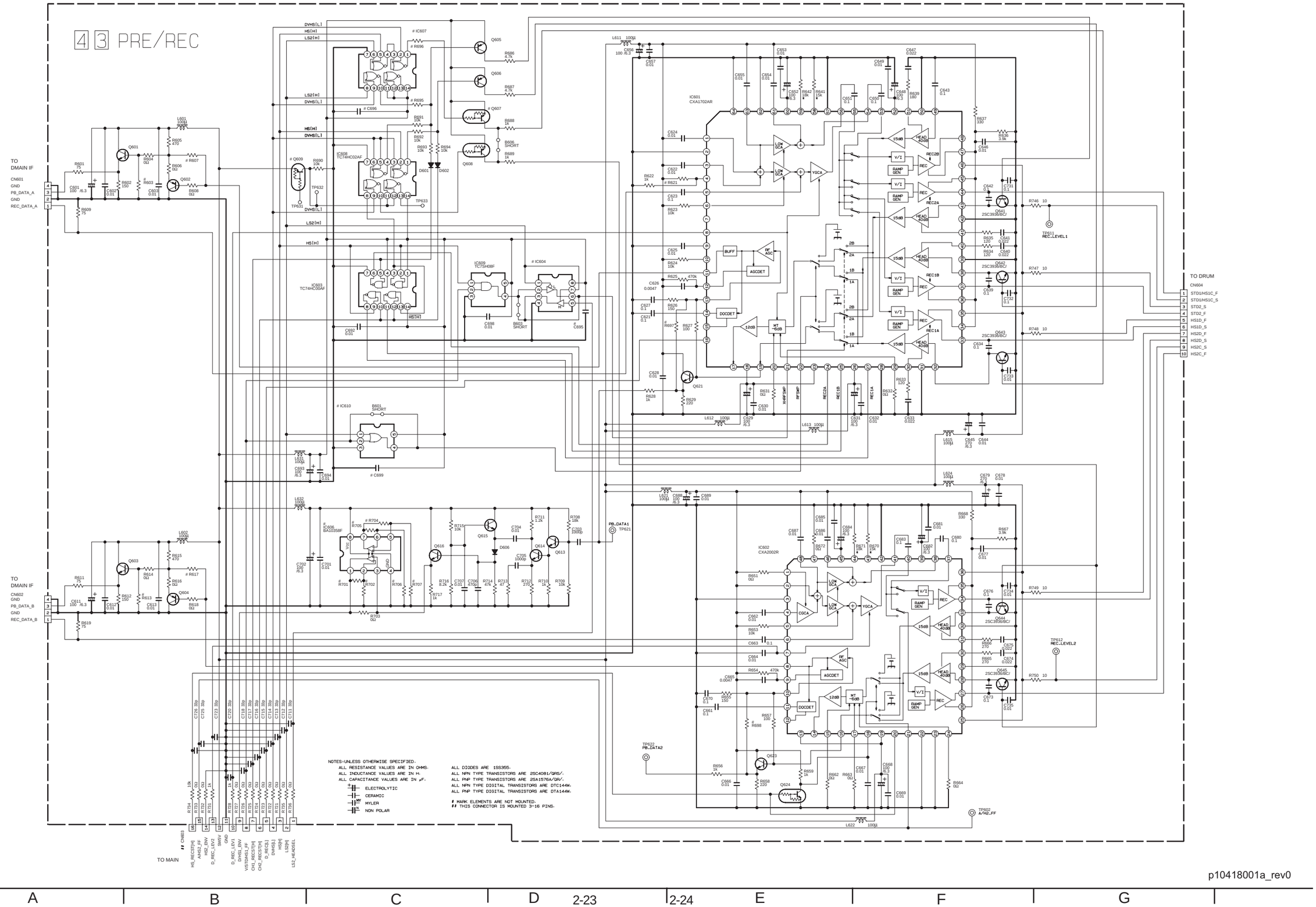
5 4 3 2 1 — A B C 2-21 D 2-22 E F G

■ PRE/REC SCHEMATIC DIAGRAM



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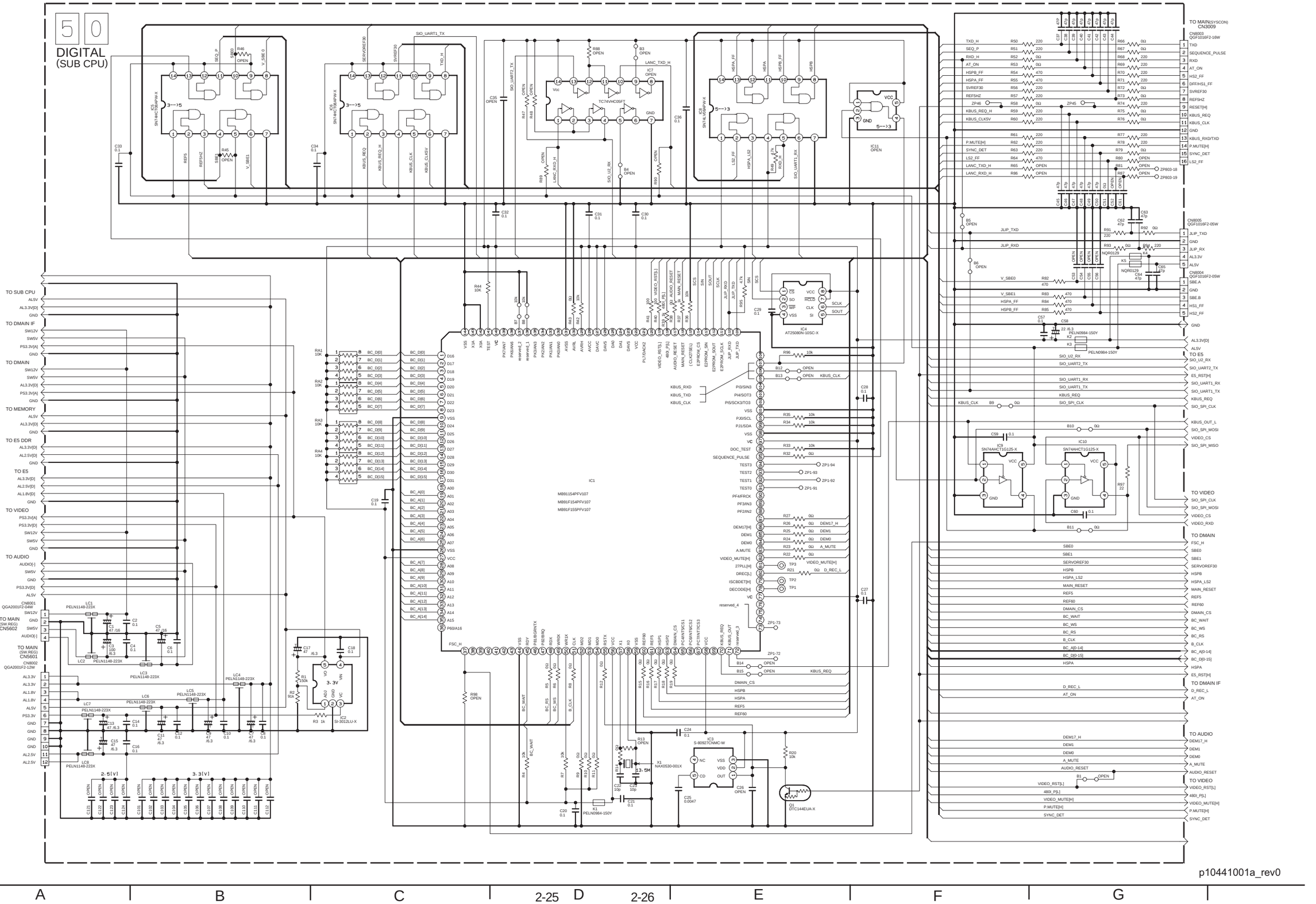
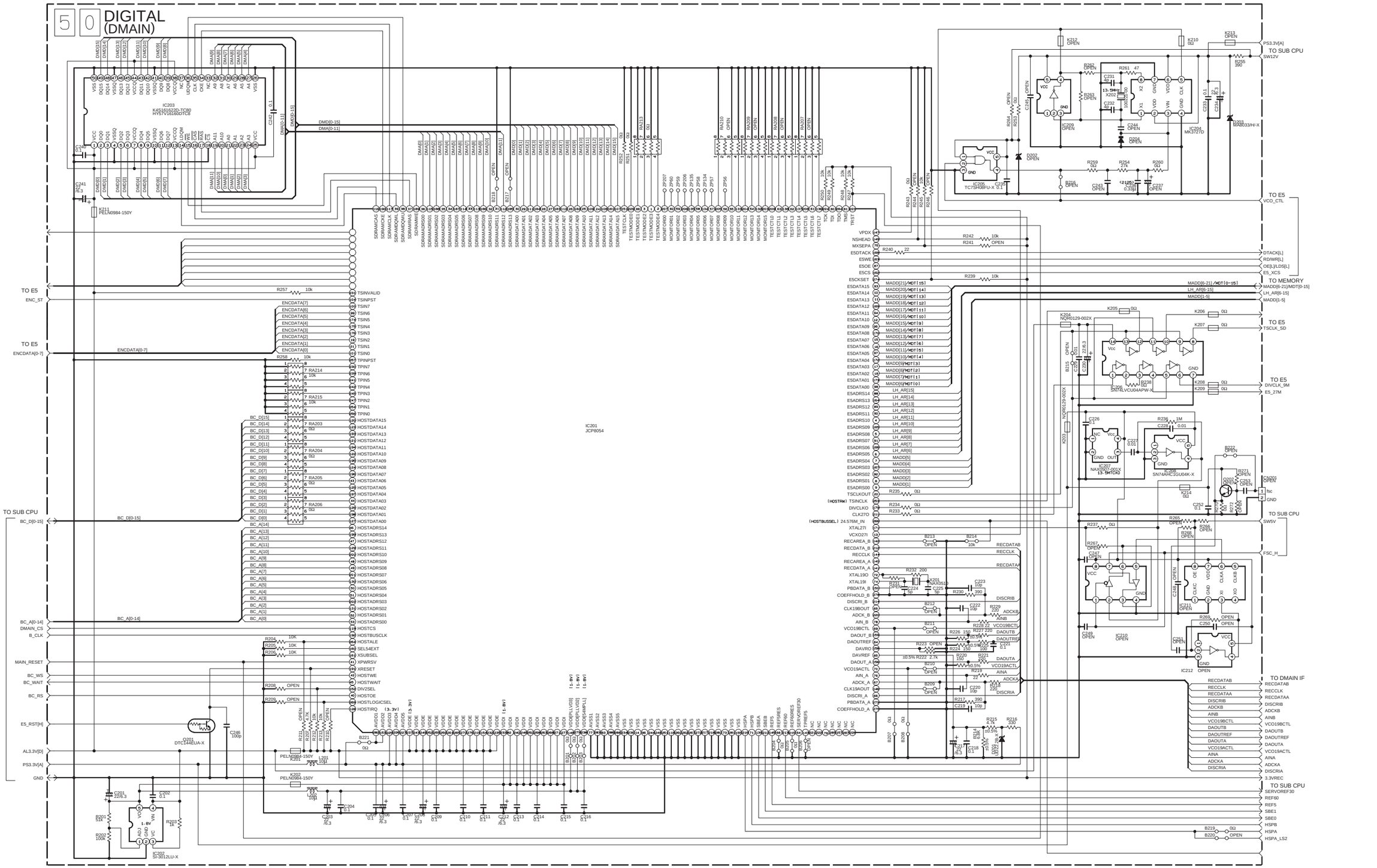
5 4 3 2 1 — A B C D 2-23 2-24 E F G

■ DIGITAL (SUB CPU) SCHEMATIC DIAGRAM



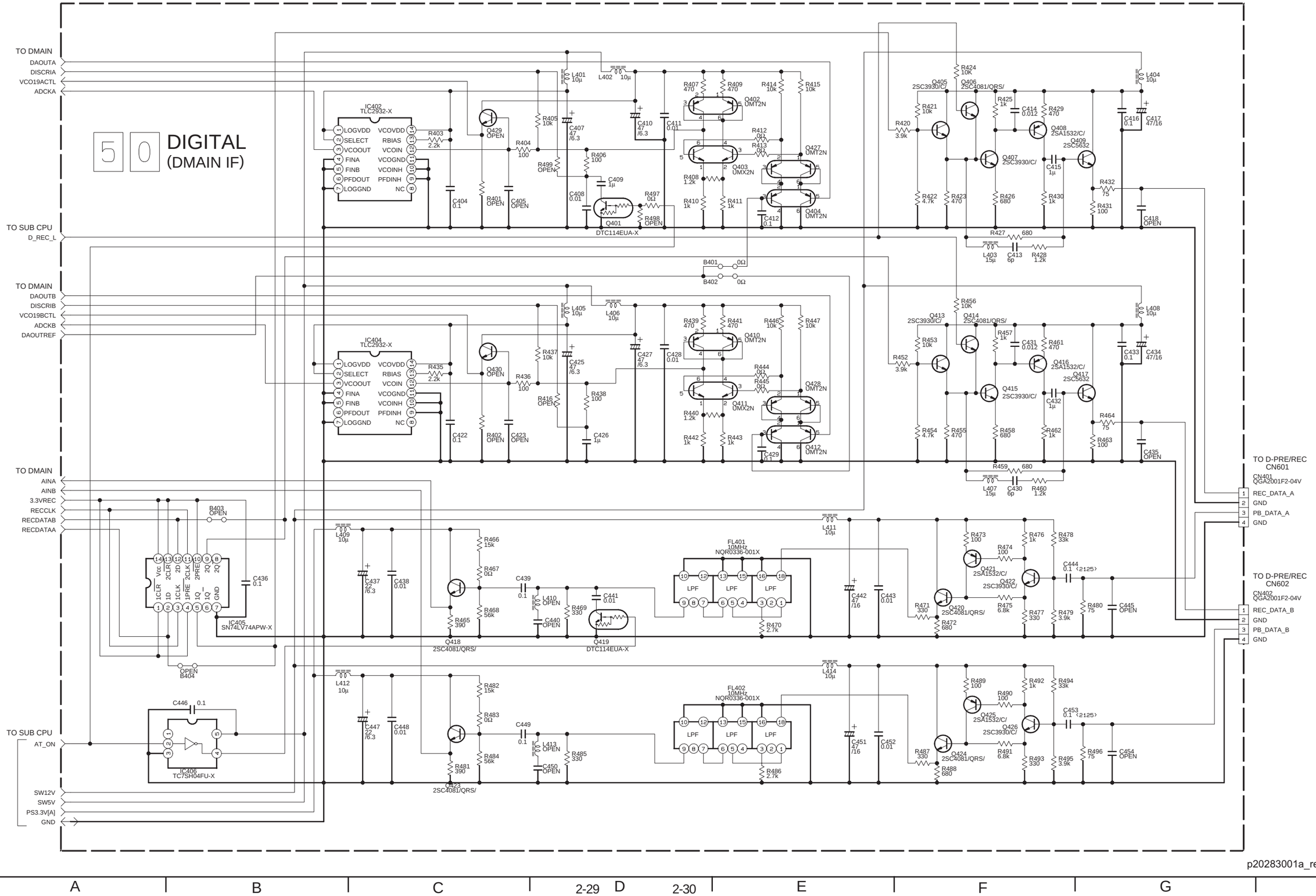
A	B	C	D	E	F	G
			2-25 / 2-26			

■ DIGITAL (DMAIN) SCHEMATIC DIAGRAM

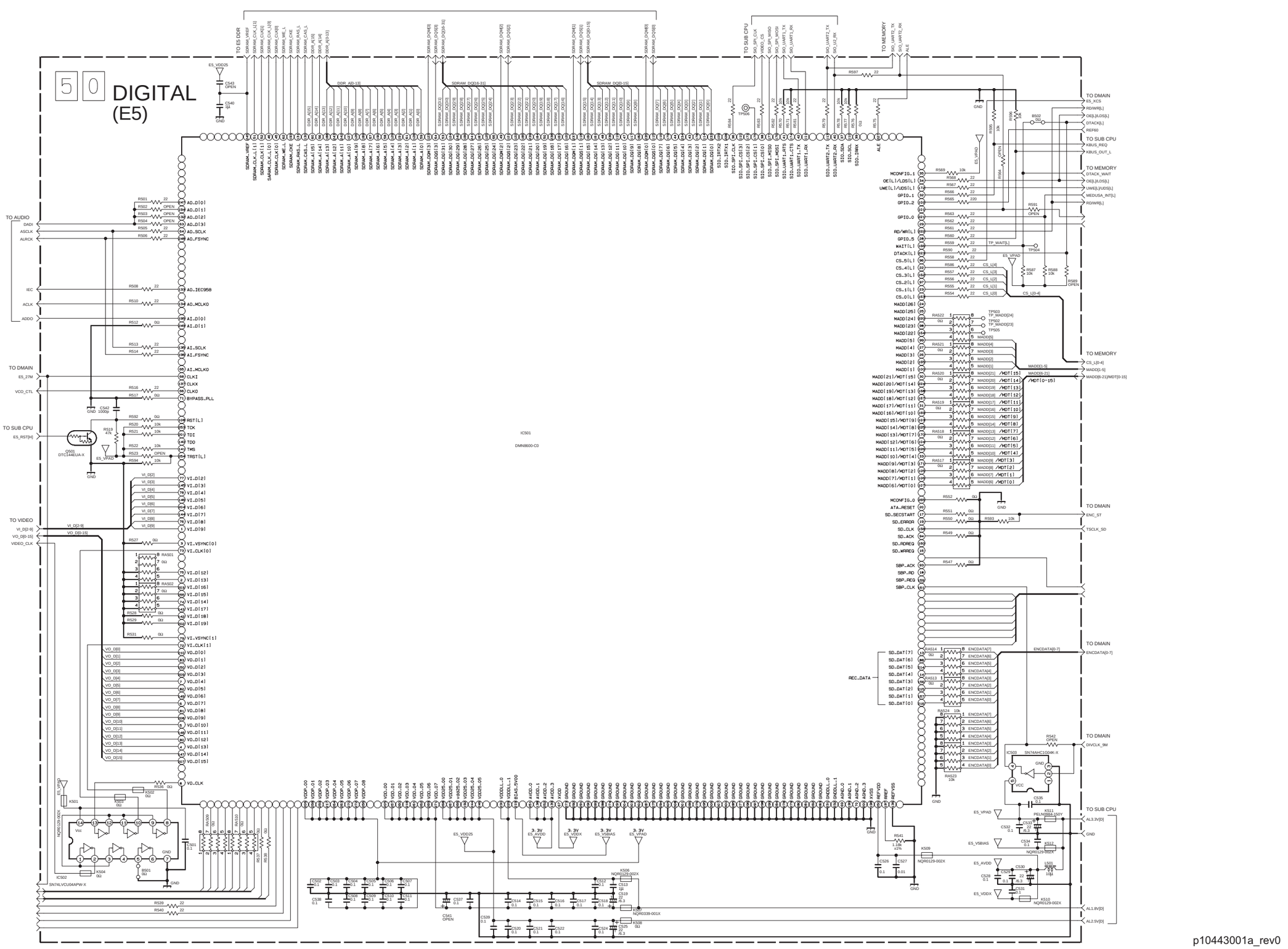


■ DIGITAL (DMAIN IF) SCHEMATIC DIAGRAM

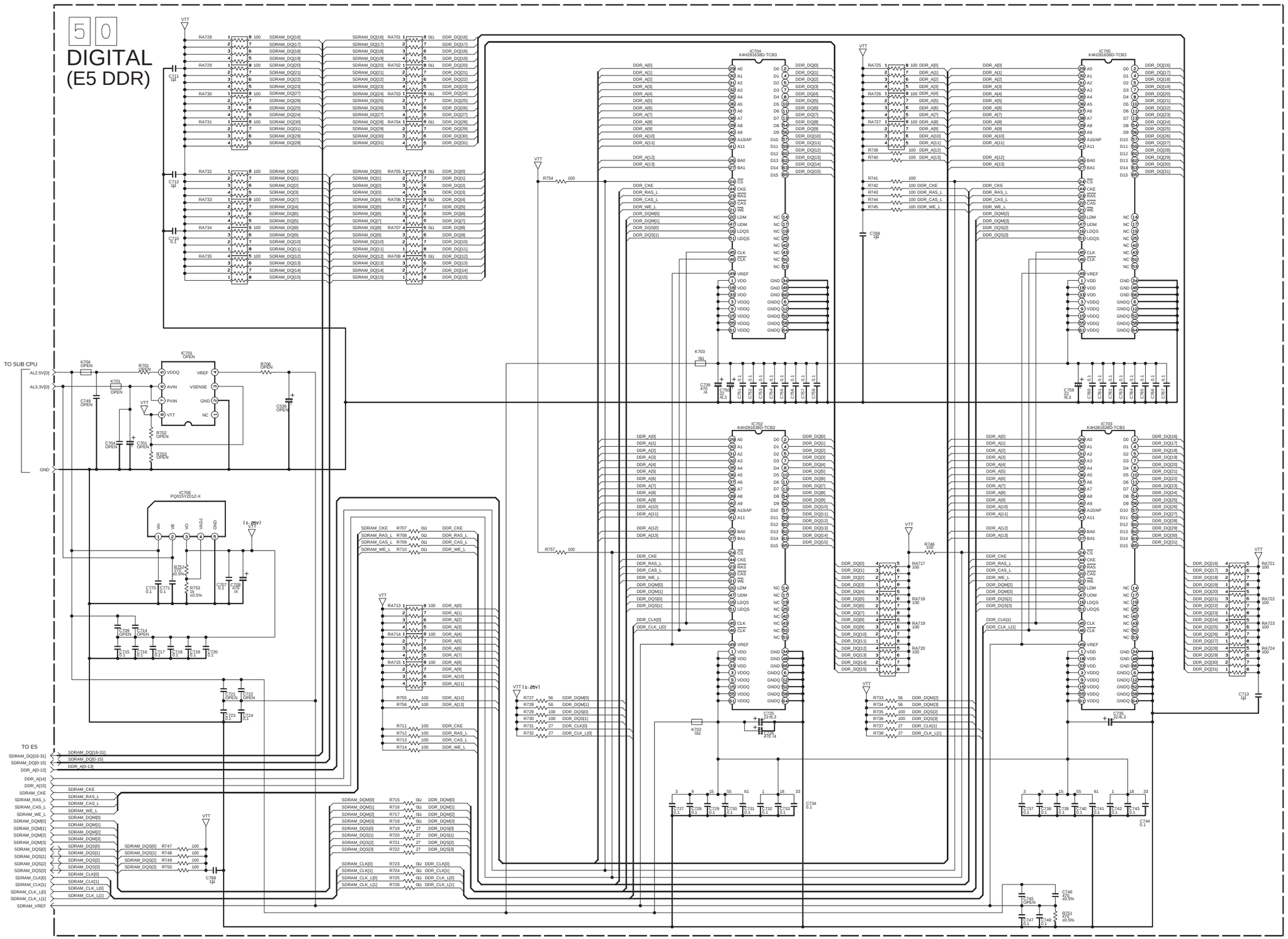
5 0 DIGITAL (DMAIN IF)



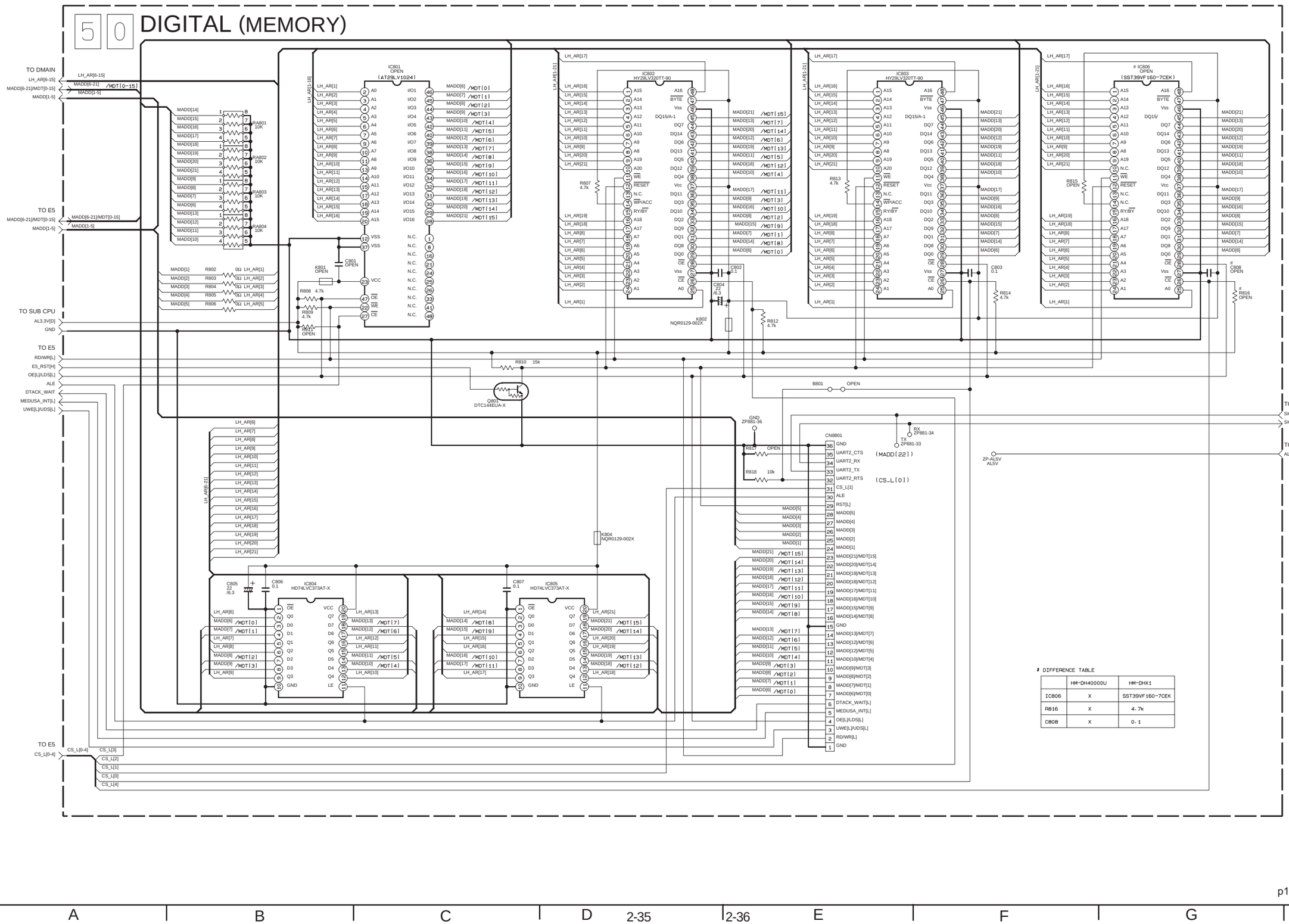
■ DIGITAL (E5) SCHEMATIC DIAGRAM



■ DIGITAL (E5 DDR) SCHEMATIC DIAGRAM



■ DIGITAL (MEMORY) SCHEMATIC DIAGRAM



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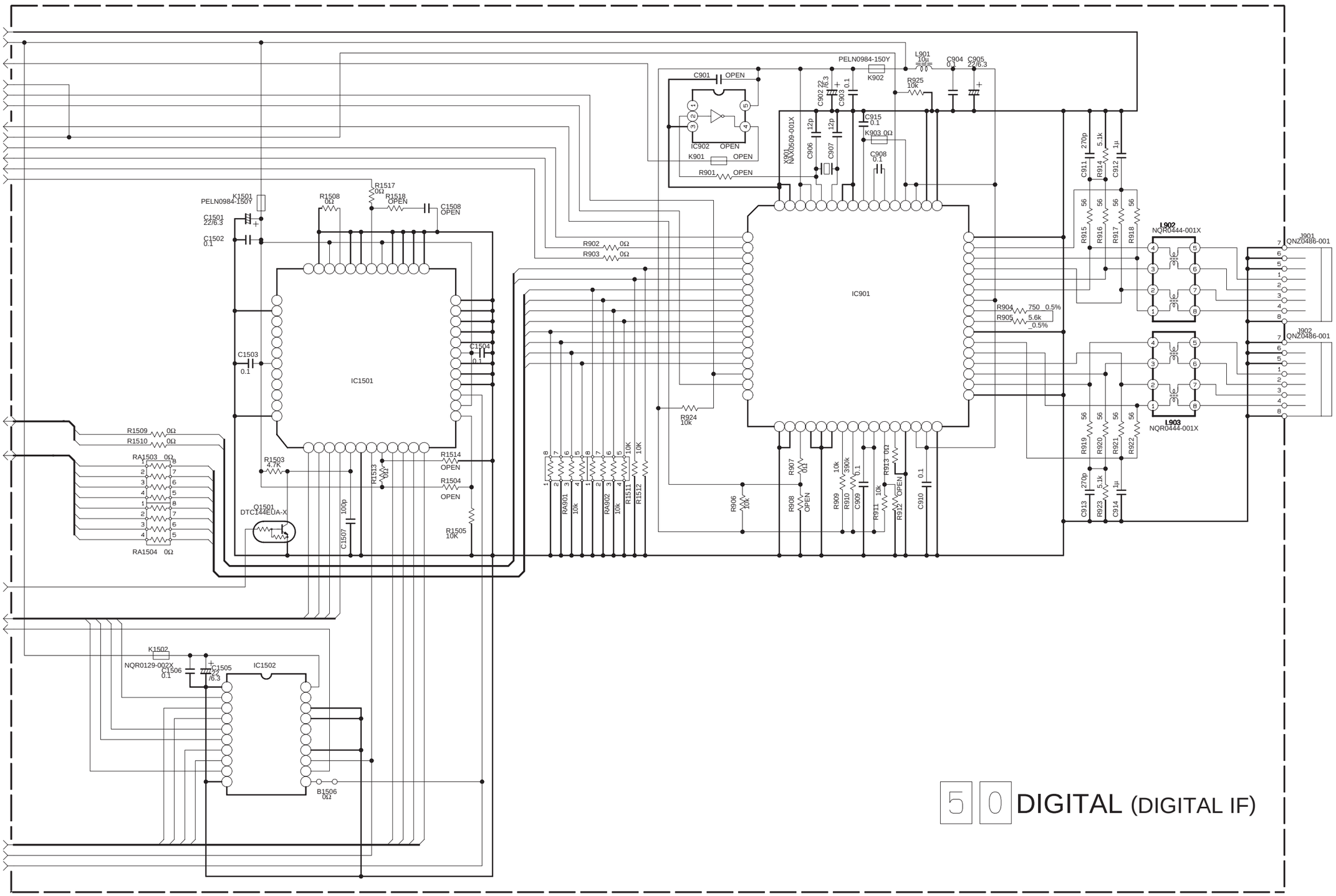
■ DIGITAL (DIGITAL IF) SCHEMATIC DIAGRAM



5 0 DIGITAL (DIGITAL IF)

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■ DIGITAL (VIDEO) SCHEMATIC DIAGRAM

5 0 DIGITAL (VIDEO)

PARTS ARE NOT MOUNTED.

ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/.
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/.
ALL DIODES ARE 1SS355.

IC1002 HY57V161610DTC8 K4S161622D-TC80

IC1001 JCP8039-4

K1001 PELN0984-150Y

TO SUB CPU
SW12V
PS3.3V[D]
PS3.3V[A]
SW5V
GND

TO MAIN (TERMINAL) CN7102
CN9001
C_OUT/R_OUT
GND
Pb_OUT/B_OUT
GND
Pr_OUT/G_OUT
GND
D-Y_OUT

TO AUDIO
C_FROM_DIGI
GND
Y_FROM_DIGI
GND
Y_TO_DIGI
GND
C_TO_DIGI
GND

TO SUB CPU
SYNC_DET
P.MUTE[H]

TO SUB CPU
480I_P[L]
VIDEO_RST[L]
VIDEO_MUTE[H]
VIDEO_CLK
VIDEO_CS
SIO_SPI_MOSI
SIO_SPI_CLK
VIDEO_RXD

TO E5
VI_D[2-9]
VO_D[0-15]

Y_IN
C_IN

p10446001a_rev0

■ DIGITAL (AUDIO) SCHEMATIC DIAGRAM

5 0 DIGITAL (AUDIO)

TO MAIN (TERMINAL) CN7107

CN9301 QGF1224F1-16X

D/A_OUT[R] 1
GND 2
D/A_OUT[L] 3
GND 4
A/D_IN[R] 5
GND 6
A/D_IN[L] 7
GND 8
Y_TO_DIGI 9
GND 10
C_TO_DIGI 11
GND 12
Y_FROM_DIGI 13
GND 14
C_FROM_DIGI 15
NC 16

TO VIDEO
GND
Y_TO_DIGI
C_TO_DIGI
Y_FROM_DIGI
C_FROM_DIGI

IC1303 BA15218F
IC1302 BA15218F
IC1301 AK4522VF-X
IC1304 GP1FA511TZ

TO SUB CPU
SW5V
AL5V
AUDIO[-]
PS3.3V[D]
GND

TO SUB CPU
A_MUTE

TO SUB CPU
AUDIO_RESET
DEM17_H
DEM0
DEM1

TO E5
DADI
ADDO
ASCLK
ALRCK
ACLK
IEC

MARK ELEMENTS ARE NOT MOUNTED

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

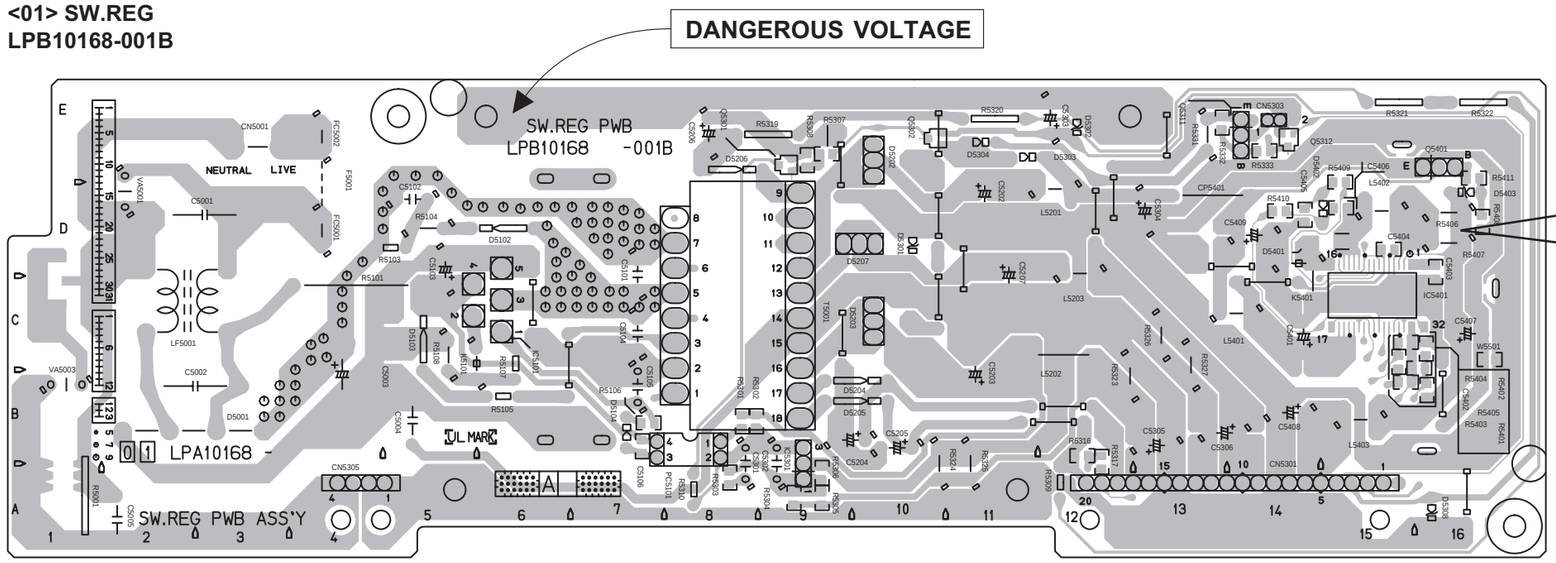
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20285001a_rev0

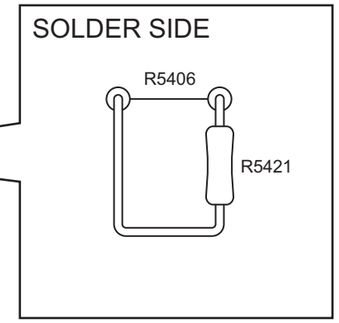
■ SW.REG, DISPLAY, REC SAFETY, JACK AND TERMINAL SUB CIRCUIT BOARDS

CAUTION :
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
ATTENTION :
REPLACER PAR DES FUSIBLE DE MEME TYPE.

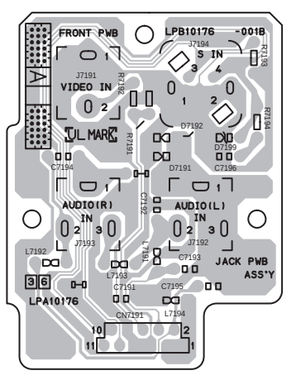
<01> SW.REG
LPB10168-001B



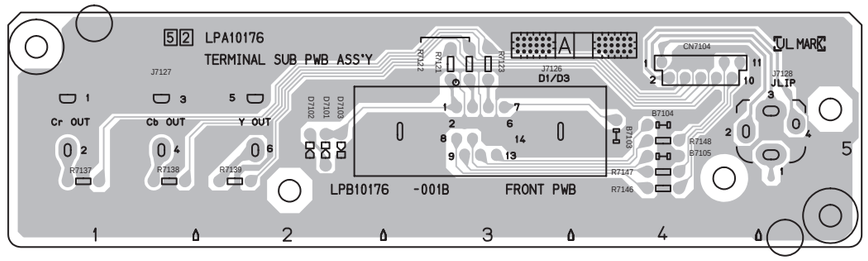
R5421 is attached to either the solder side or the parts side.



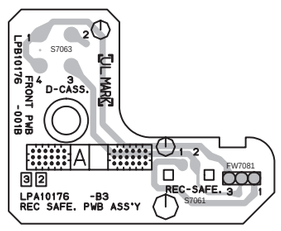
<36>JACK
LPB10176-001B



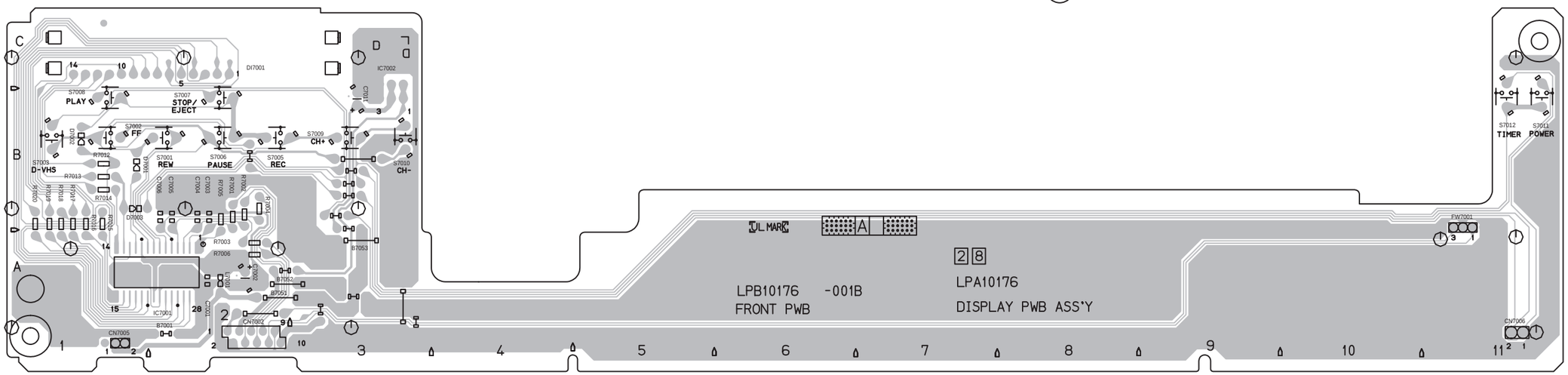
<52>TERMINAL SUB
LPB10176-001B



<32>REC SAFE
LPB10176-001B

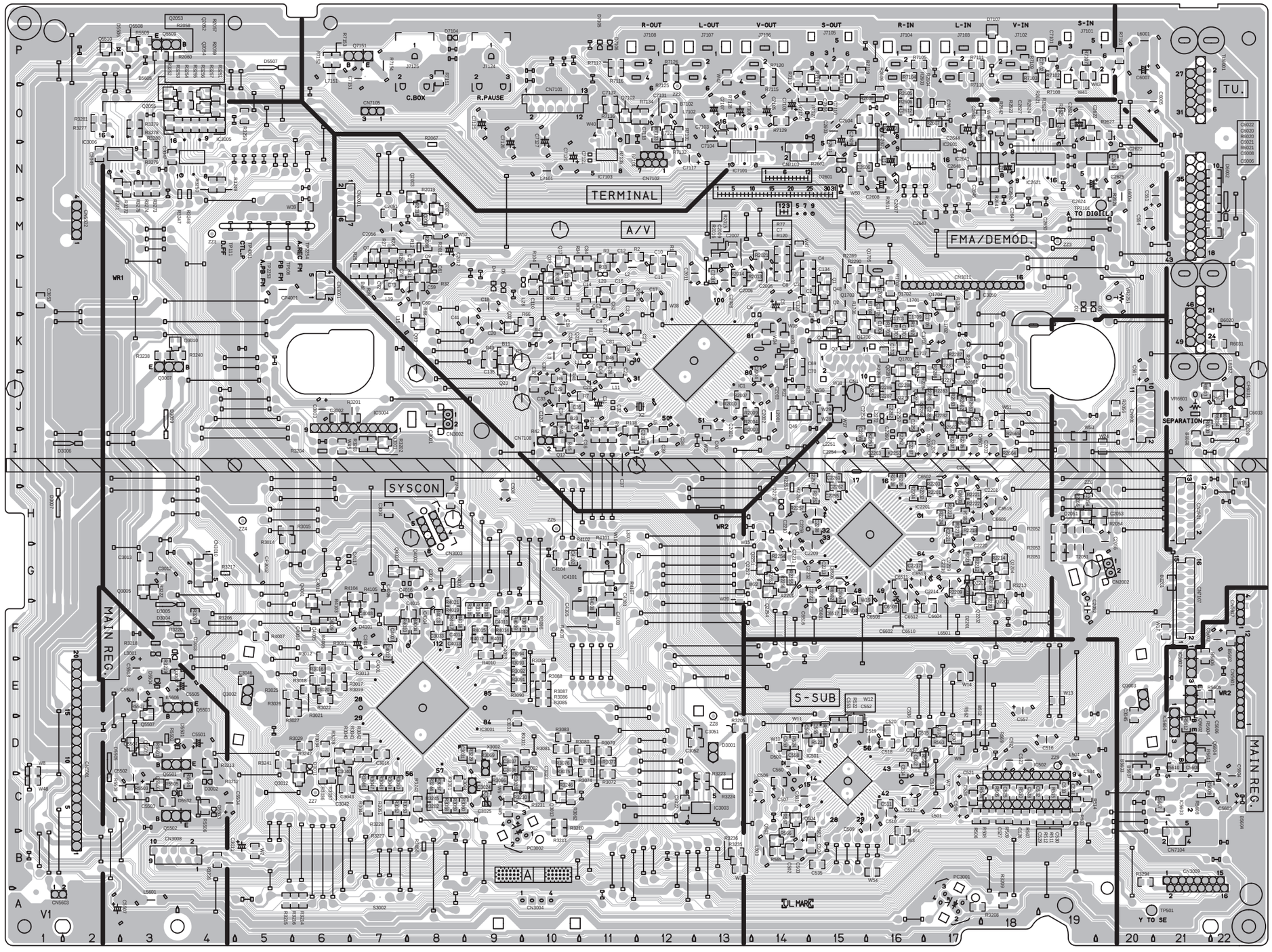


<28>DISPLAY
LPB10176-001B



■ MAIN CIRCUIT BOARD

<03>MAIN
LPB10177-001C



COMPONENT PARTS LOCATION GUIDE <MAIN> LPB10177-001C

REF.NO.	LOCATION
CAPACITOR	
C1	B C 15L
C2	B C 14L
C3	B C 14L
C4	B C 14L
C5	A D 14L
C6	A D 14K
C7	B C 14L
C8	B C 14L
C9	B C 11L
C10	B C 12L
C11	B C 12L
C12	B C 11L
C14	B C 11L
C15	B C 10L
C16	B C 11L
C17	A D 12L
C18	A D 9L
C19	A D 10K
C20	A D 9K
C21	B C 11K
C22	A D 11K
C23	B C 12K
C24	B C 10K
C25	B C 11K
C26	B C 11K
C27	B C 10J
C28	A D 11J
C29	B C 10J
C30	A D 10J
C31	A D 11J
C32	A D 11J
C33	A D 10J
C34	B C 10J
C35	B C 10J
C36	A D 11I
C37	A D 11I
C38	A D 12I
C39	B C 12I
C40	A D 13J
C41	A D 9K
C51	A D 14C
C54	B C 10J
C59	B C 8L
C60	A D 8L
C61	A D 8L
C62	B C 11L
C63	B C 11L
C64	B C 11K
C69	B C 14K
C70	B C 14K
C71	B C 8L
C72	B C 7L
C73	B C 7L
C74	B C 7L
C80	B C 11K
C81	B C 11K
C84	B C 11L
C110	B C 10L
C120	A D 10J
C133	B C 15L
C134	B C 14L
C135	B C 9K
C136	B C 10L
C501	A D 14C
C502	B C 14B
C503	A D 14B
C504	B C 15B
C505	A D 17C
C506	B C 14C
C507	A D 14C
C508	A D 9H
C509	A D 15C
C510	A D 16C
C511	B C 16C
C512	B C 16C
C513	A D 16C
C514	B C 16D
C515	B C 17D
C516	A D 19D
C518	B C 16D
C519	A D 16D
C520	B C 16D
C521	A D 17C
C522	A D 18D
C523	A D 18D
C524	B C 17C
C525	B C 18C
C526	B C 18C
C527	B C 18C
C528	B C 18C
C529	B C 19C
C530	B C 19C
C531	B C 19C
C532	B C 19C
C533	B C 19C
C534	A D 19C
C535	B C 15B
C536	B C 16D
C537	B C 16D
C551	A D 21M
C552	B C 15D
C553	B C 15D
C554	A D 20M
C555	B C 15D
C556	B C 14D
C557	A D 18E
C558	B C 14D
C559	B C 14D
C560	A D 14D
C561	A D 20J
C562	B C 16D
C1701	B C 16K
C1702	B C 16K
C1703	B C 16K
C1704	B C 16K
C1705	B C 16L
C1706	B C 17K

REF.NO.	LOCATION
C1707	B C 16K
C1708	A D 17K
C1709	B C 16K
C2001	A D 13J
C2002	A D 14J
C2003	A D 14J
C2004	B C 14J
C2005	A D 14L
C2006	B C 13L
C2007	A D 13L
C2008	A D 13L
C2009	B C 13L
C2010	B C 13L
C2011	A D 13L
C2012	A D 8L
C2014	B C 12I
C2051	B C 7M
C2052	A D 19F
C2053	B C 20H
C2054	B C 19H
C2055	A D 20H
C2056	A D 7M
C2201	A D 18I
C2202	A D 17I
C2203	A D 18I
C2204	A D 17I
C2205	A D 16I
C2206	A D 17J
C2207	B C 16I
C2208	B C 15H
C2209	A D 14G
C2210	A D 14H
C2211	A D 14H
C2212	A D 15G
C2213	B C 15G
C2214	A D 17G
C2215	A D 18G
C2216	A D 17G
C2217	B C 16G
C2219	A D 17G
C2220	A D 17H
C2221	B C 17H
C2222	B C 15G
C2251	B C 16J
C2252	A D 16J
C2253	A D 16J
C2254	A D 15I
C2255	B C 15H
C2256	B C 15I
C2257	B C 15I
C2259	A D 15H
C2260	A D 16I
C2261	B C 15I
C2262	B C 15I
C2263	B C 16I
C2282	B C 16J
C2285	B C 17J
C2286	B C 16J
C2287	B C 16J
C2288	B C 17J
C2603	A D 15N
C2604	B C 15O
C2605	A D 16O
C2606	B C 15N
C2607	A D 16N
C2608	A D 16N
C2609	B C 15O
C2610	B C 16N
C2611	B C 17O
C2612	B C 16O
C2621	A D 19O
C2622	B C 19O
C2623	B C 19O
C2624	B C 19N
C2625	A D 20N
C2626	B C 20N
C2627	B C 18O
C2628	B C 19O
C2641	A D 18N
C2642	B C 18N
C2643	A D 17O
C2644	B C 17O
C2645	B C 17N
C2646	B C 18O
C2647	B C 17M
C2648	B C 17N
C2649	B C 18M
C2650	B C 18M
C3001	B C 8J
C3002	B C 6J
C3003	A D 6J
C3004	B C 7H
C3011	A D 5B
C3012	A D 3G
C3013	B C 3G
C3014	A D 7F
C3016	B C 7D
C3022	B C 12C
C3024	B C 9C
C3025	A D 9C
C3026	B C 9C
C3027	B C 10C
C3030	A D 8G
C3031	B C 8D
C3032	B C 9D
C3033	B C 8F
C3036	B C 9D
C3037	B C 9D
C3040	B C 6D
C3041	B C 9C
C3042	B C 6C
C3043	B C 6C
C3045	B C 20E
C3046	B C 5E
C3047	B C 3N
C3049	B C 2N
C3050	B C 17L
C3051	B C 13D

REF.NO.	LOCATION
C3052	B C 13D
C3053	B C 1L
C4001	A D 7F
C4002	B C 7F
C4003	B C 7F
C4004	B C 8F
C4005	B C 6F
C4006	B C 7F
C4007	B C 7F
C4008	B C 6F
C4009	B C 6F
C4010	B C 6G
C4011	B C 9F
C4012	B C 9F
C4013	B C 8F
C4014	B C 8F
C4015	B C 8F
C4016	A D 8G
C4017	A D 6G
C4018	B C 9F
C4101	B C 11G
C4102	B C 10G
C4103	B C 11F
C4104	B C 10G
C4105	B C 11F
C5501	A D 4D
C5502	A D 3C
C5503	B C 3C
C5504	A D 4C
C5505	A D 3E
C5506	A D 3E
C5507	A D 2A
C5508	A D 3E
C5602	A D 22F
C5603	A D 22C
C5604	A D 22C
C5606	B C 22E
C5607	B C 21C
C5608	B C 21D
C6005	A D 21O
C6006	B C 22M
C6007	A D 21P
C6008	B C 22M
C6020	B C 22N
C6021	B C 22N
C6022	B C 22N
C6033	B C 22J
C6501	B C 17H
C6502	A D 17H
C6503	A D 17I
C6504	B C 15G
C6506	A D 15G
C6508	B C 16F
C6509	B C 16F
C6510	A D 16G
C6511	B C 16G
C6512	B C 16F
C6513	A D 16G
C6514	B C 17H
C6515	A D 18H
C6516	A D 14G
C6517	B C 15F
C6601	A D 15G
C6602	A D 16G
C6604	B C 17F
C6605	A D 17H
C7101	B C 19P
C7102	B C 19P
C7103	A D 13O
C7104	B C 13O
C7105	A D 14O
C7106	A D 15O
C7107	A D 13O
C7108	A D 13O
C7109	A D 14O
C7110	A D 15O
C7117	A D 13N
C7118	B C 12O
C7120	A D 10N
C7121	A D 11N
C7125	A D 9O
C7126	A D 9N
C7127	A D 10N
C7131	A D 12O
C7132	B C 11O
C7151	A D 7P
CONNECTOR	
CN1	A D 15K
CN1901	A D 21H
CN2001	A D 7N
CN2002	A D 20G
CN3001	A D 6L
CN3002	A D 8J
CN3003	A D 8H
CN3004	A D 10A
CN3008	A D 4B
CN3009	A D 21B
CN3010	A D 4G
CN3011	A D 16L
CN5501	A D 2B
CN5502	A D 2M
CN5601	A D 22D
CN5602	A D 22F
CN5603	A D 1A
CN7101	A D 10O
CN7102	A D 12N
CN7103	A D 14N
CN7104	A D 21B
CN7105	A D 7O
CN7107	A D 21F
CN7108	A D 10I
CN901	A D 20I
CP3002	A D 5G
CP4001	A D 6L
DIODE	
D1	A D 19K

REF.NO.	LOCATION
D2	A D 19L
D2201	A D 17F
D2251	A D 14H
D2601	A D 15N
D3001	A D 13D
D3002	A D 4C
D3003	A D 3E
D3004	A D 3F
D3005	A D 3F
D3006	A D 1I
D3007	A D 1H
D3009	A D 3J
D3011	A D 6D
D4	A D 9L
D4101	B C 7F
D5	A D 9L
D501	B C 14D
D5501	A D 4D
D5502	A D 3C
D5503	A D 4C
D5504	A D 3E
D5505	A D 2D
D5506	B C 2P
D5507	A D 5P
D6002	A D 22N
D7104	A D 8P
D7105	A D 11P
D7106	A D 11P
D7107	B C 18P
IC	
IC1	B C 13K
IC501	B C 15C
IC502	A D 18C
IC2201	B C 16H
IC2601	B C 16N
IC2602	B C 16N
IC2621	B C 18N
IC2622	B C 20N
IC2641	B C 18N
IC3001	B C 8E
IC3002	B C 10C
IC3003	B C 13C
IC3004	A D 7J
IC3005	B C 4N
IC3006	B C 3N
IC4101	B C 11G
IC5602	A D 21F
IC5603	A D 21C
IC5604	A D 21E
IC7101	B C 13N
IC7103	B C 11N
COIL	
L1	A D 14K
L2	A D 11L
L3	A D 10K
L4	A D 10K
L5	A D 12I
L11	A D 11J
L13	A D 11K
L15	A D 7K
L19	A D 7L
L20	A D 11L
L28	A D 10L
L501	A D 17C
L503	A D 14B
L504	A D 19D
L1701	A D 16L
L1702	A D 17K
L2001	A D 14J
L2201	A D 14G
L2251	A D 15I
L2272	A D 16J
L3001	A D 3F
L3002	A D 11G
L5601	A D 3A
L6001	A D 21P
L6004	A D 20M
L6032	A D 22J
L6501	A D 17G
L7101	A D 10N
L7102	A D 12O
L7151	A D 6P
TRANSISTOR	
Q1	B C 15L
Q2	B C 15L
Q3	B C 15K
Q4	B C 15K
Q7	B C 7M
Q8	B C 7L
Q9	B C 8L
Q12	B C 10I
Q17	B C 10L
Q21	B C 11K
Q23	B C 9K
Q32	B C 9K
Q33	B C 8K
Q38	B C 10L
Q46	B C 14J
Q47	B C 14J
Q48	B C 15L
Q49	B C 15K
Q501	B C 17D
Q502	B C 17D
Q503	B C 14B
Q504	B C 14C
Q1701	B C 16K
Q1702	B C 16L
Q1703	B C 15L
Q1704	B C 17L
Q1705	B C 16L
Q1706	B C 15K
Q2001	B C 8M
Q2002	B C 8M
Q2003	B C 8N
Q2051	B C 19H

REF.NO.	LOCATION
Q2052	B C 4O
Q2053	B C 3O
Q2054	B C 4O
Q2055	B C 3O
Q2201	B C 18F
Q2202	B C 17G
Q2203	B C 17G
Q2204	B C 18G
Q2251	B C 14G
Q2252	B C 14G
Q2253	B C 14G
Q2254	B C 14G
Q2277	B C 16J
Q2278	B C 16J
Q2279	B C 17J
Q2280	B C 16J
Q2281	B C 16K
Q2282	B C 16K
Q2283	B C 17K
Q2284	B C 16J
Q2601	B C 17J
Q2602	B C 17J
Q2603	B C 17J
Q2604	B C 17J
Q3001	B C 7I
Q3002	A D 5E
Q3003	A D 20E
Q3004	B C 4E
Q3005	B C 3G
Q3007	A D 3K
Q3010	B C 3K
Q3012	B C 6C
Q3013	B C 10C
Q4001	B C 6G
Q4002	B C 8G
Q4003	B C 7G
Q5501	A D 4D
Q5502	A D 4C
Q5503	A D 4E
Q5504	B C 3D
Q5505	B C 3D
Q5506	B C 3C
Q5507	B C 3E
Q5508	B C 3P
Q5509	A D 3P
Q5510	B C 2P
Q5602	A D 21E
Q5604	A D 21D
Q6030	B C 22J
Q6031	B C 22J
Q7101	B C 12O
Q7102	B C 11O
Q7151	A D 7P
RESISTOR	
R1	B C 12L
R2	B C 11M
R3	B C 11L
R4	A D 10K
R5	B C 9K
R6	B C 10J
R7	B C 11J
R8	B C 11I
R9	B C 11I
R12	A D 8M
R21	B C 14J
R22	B C 14J
R25	B C 7L
R26	B C 7L
R27	B C 7M
R28	B C 7M
R29	B C 7L
R31	B C 8L
R32	B C 8L
R33	B C 11L
R34	B C 10L
R36	B C 11I
R42	B C 10I
R44	B C 10I
R45	B C 10I
R46	B C 11K
R48	B C 11J
R49	B C 9K
R66	B C 10K
R68	B C 8L
R75	B C 11L
R77	B C 14M
R79	B C 11I
R90	B C 10L
R93	B C 10L
R104	B C 10L
R118	B C 11I
R120	B C 14L
R503	B C 15C
R504	B C 18C
R505	B C 18C
R506	B C 17C
R507	B C 18C
R508	B C 18C
R509	B C 18C
R510	B C 18C
R511	B C 19C
R512	B C 19C
R513	B C 19C
R514	B C 19C
R515	B C 19C
R522	B C 15D
R523	B C 15D
R524	B C 14D
R562	B C 17D
R563	B C 17D
R564	B C 17D
R565	B C 14B
R566	B C 14B
R567	B C 14C
R568	B C 15D
R569	B C 18D
R1701	B C 16K

REF.NO.	LOCATION
R1702	B C 16K
R1703	B C 16K
R1704	B C 16L
R1705	B C 16L
R1706	B C 15L
R1707	B C 16L
R1708	B C 17L
R2003	B C 14J
R2004	B C 14J
R2007	B C 13J
R2009	B C 13J
R2010	B C 13J
R2013	B C 14L
R2014	B C 13L
R2015	B C 13M
R2016	B C 13L
R2017	B C 8M
R2018	B C 8M
R2019	B C 8N
R2021	B C 14M
R2051	B C 19G
R2052	B C 19H
R2053	B C 19G
R2054	B C 20H
R2055	B C 19H
R2056	B C 20J
R2057	B C 4O
R2058	B C 4O
R2059	B C 4O
R2060	B C 4O
R2066	B C 8M
R2067	A D 8N
R2201	B C 17H
R2202	B C 16H
R2203	B C 17I
R2204	B C 16H
R2205	B C 17I
R2206	B C 16I
R2207	B C 17I
R2208	B C 16I
R2209	B C 17G
R2210	B C 18G
R2211	B C 17G
R2212	B C 17G
R2213	B C 18G
R2214	B C 18G
R2215	B C 17G
R2218	B C 17H
R2219	B C 17H
R2220	B C 18F
R2221	B C 17H
R2222	B C 17H
R2223	B C 17H
R2224	B C 17H
R2251	B C 14H
R2252	B C 15H
R2253	A D 14I
R2254	B C 14G
R2255	B C 14G
R2256	B C 14G
R2257	B C 14H
R2258	B C 16K
R2282	B C 17J
R2283	B C 17J
R2284	B C 16J
R2285	B C 17K
R2286	B C 16J
R2287	B C 17K
R2288	B C 17J
R2289	B C 15L
R2290	B C 15L
R2601	B C 15N
R2602	A D 15N
R2603	A D 16O
R2604	A D 17O
R2605	B C 16O
R2606	B C 16O
R2607	B C 17O
R2608	B C 16O
R2609	B C 16O
R2610	B C 16O
R2611	B C 16N
R2621	A D 18O
R2622	A D 19O
R2623	B C 18O
R2624	B C 18O
R2625	B C 19O
R2626	B C 20N
R2627	B C 20O
R2641	B C 18N
R2642	B C 18O
R2661	B C 17J
R2662	B C 17J
R2663	B C 17J
R2664	B C 18I
R2665	B C 18I
R3011	B C 6F
R3012	B C 6F
R3013	B C 7E
R3014	B C 5H
R3015	B C 5H
R3016	B C 6E
R3017	B C 6E
R3018	B C 6E
R3019	B C 6E
R3020	B C 6E
R3021	B C 6E
R3022	B C 6E
R3025	B C 5E
R3026	B C 6E
R3027	B C 6E
R3029	B C 6D
R3034	B C 6D
R3036	B C 6C
R3037	B C 6C
R3039	B C 6D
R3040	B C 6D
R3041	B C 7D

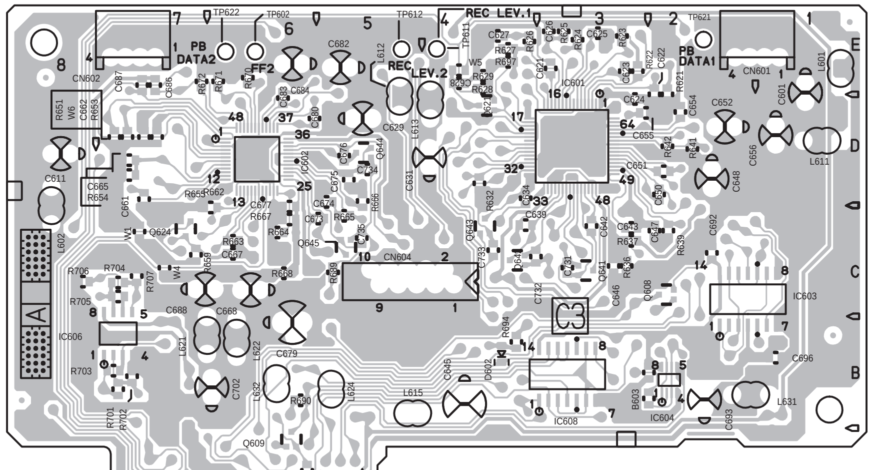
REF.NO.	LOCATION
R3042	B C 7D
R3044	B C 7C
R3046	B C 7C
R3047	B C 7C
R3048	B C 7C
R3049	B C 7C
R3050	B C 7C
R3051	B C 7C
R3052	B C 7C
R3053	B C 7C
R3056	A D 8B
R3057	B C 8C
R3058	B C 8C
R3059	B C 8C
R3060	B C 8C
R3061	B C 8C
R3062	B C 10C
R3066	B C 9C
R3069	B C 9D
R3072	B C 11C
R3074	B C 11D
R3075	B C 10D
R3076	B C 10D
R3077	B C 11D
R3078	B C 11D
R3079	B C 11D
R3080	B C 11D
R3081	B C 10D
R3083	B C 10D
R3085	B C 10E
R3086	B C 10E
R3087	B C 10E
R3088	B C 10E
R3089	B C 10E
R3090	B C 9E
R3091	B C 9E
R3092	B C 9E
R3093	B C 9E
R3094	B C 9F
R3096	B C 10F
R3097	B C 10F
R3103	B C 9F
R3104	B C 9F
R3105	B C 9F
R3201	B C 7J
R3202	B C 7I
R3203	B C 7I
R3204	A D 6I
R3205	B C 13D
R3206	A D 4F
R3207	B C 4F
R3208	B C 17A
R3209	B C 18A
R3210	B C 10C
R3211	B C 10B
R3212	A D 4D
R3213	B C 4D
R3214	B C 6A
R3215	B C 5A
R3216	B C 6A
R3217	A D 4G
R3218	A D 3F
R3219	B C 3E
R3220	A D 3F
R3222	B C 3G
R3223	B C 13C
R3224	B C 13C
R3226	B C 4B
R3227	B C 7B
R3228	B C 7C
R3229	B C 9D
R3230	B C 9C
R3231	B C 10C
R3235	B C 13B
R3236	B C 13B
R3238	B C 3K
R3240	B C 4K
R3241	B C 5D
R3242	B C 6D
R3243	B C 8C
R3244	B C 8C
R3245	B C 8C
R3246	B C 10C
R3247	A D 4N
R3248	A D 4N
R3249	B C 4N
R3250	B C 4N
R3251	B C 4O
R3252	B C 3O
R3253	B C 4O
R3254	B C 4O
R3255	B C 4O
R3256	B C 4O
R3257	B C 4O
R3258	B C 5O
R3271	B C 2N
R3272	B C 3N
R3273	B C 3N
R3274	B C 3N
R3275	B C 3N
R3276	B C 3N
R3277	B C 2O
R3278	B C 3O
R3279	B C 3O
R3280	B C 3N
R3281	B C 2O
R3282	B C 8C
R3294	B C 20B
R4003	B C 7F
R4004	B C 8F
R4005	B C 6F
R4007	B C 5F
R4009	B C 9F
R4010	B C 9F
R4011	B C 9F
R4012	B C 9F
R4013	B C 8F
R4014	B C 9F

REF.NO.	LOCATION
R4015	B C 9F
R4017	B C 8F
R4018	B C 8F
R4019	B C 8F
R4020	A D 8G
R4021	B C 8F
R4101	B C 11G
R4102	B C 11G
R4103	B C 6F
R4104	B C 7G
R4105	B C 7G
R4107	B C 11G
R4108	B C 11F
R4109	B C 11F
R5501	B C 3D
R5502	A D 3D
R5503	B C 3C
R5504	B C 4C
R5505	B C 3C
R5506	B C 4C
R5507	B C 3E
R5508	B C 3C
R5509	B C 3P
R5604	B C 21E
R5605	B C 21E
R5606	B C 21F
R5608	B C 21C
R5609	B C 21C
R5610	B C 21D
R5611	B C 21D
R5612	B C 21D
R6020	B C 22N
R6021	B C 22M
R6030	B C 21J
R6031	B C 22K
R6034	B C 22J
R6502	B C 15G
R6503	B C 21J
R6504	B C 15F
R7101	B C 20P
R7102	B C 19P
R7103	B C 18P
R7104	B C 16P
R7105	B C 16P
R7107	B C 19P
R7108	B C 19P
R7109	B C 18P
R7110	B C 17P
R7111	B C 17P
R7113	B C 14P
R7114	B C 15P
R7115	B C 14P
R7116	B C 11P
R7117	B C 11P
R7118	B C 15P
R7119	B C 15P
R7120	B C 14P
R7124	B C 14O
R7125	B C 12P
R7126	B C 12P
R7127	B C 15O
R7128	B C 13O
R7129	B C 14O
R7131	B C 12O
R7132	B C 12N
R7133	B C 12O
R7134	B C 11O
R7135	A D 11N
R7136	B C 11O
R7151	B C 8P
R7152	B C 6P
R7153	B C 6P
R7154	A D 7P
TEST POINT	
TP106	A D 5M
TP111	A D 4M
TP2253	A D 5M
TP2254	A D 6M
TP4001	A D 5M
TP501	A D 20A
TP7101	A D 20M
OTHER	
B11	B C 9K
B17	B C 11K
B23	B C 10J
B48	B C 7L
B502	B C 17D
B2201	B C 21G
B3001	B C 10D
B5602	B C 22F
B5603	B C 20D
B5605	B C 3P
B5606	B C 3E
B5607	B C 20D
B6020	A D 22K
B6030	B C 22J
B6608	B C 21I
B7101	A D 12N
B7102	B C 12O
CF6031	A D 22J
J7101	A D 19P
J7102	A D 18P
J7103	A D 17P
J7104	A D 16P
J7105	A D 15P
J7106	A D 14P
J7107	A D 13P
J7108	A D 12P
J7124	A D 9P
J7125	A D 8P
K2251	B C 16I
K2252	B C 16I
K2253	B C 16I
PC3001	A D 17A
PC3002	A D 9C
S3002	A D 7A

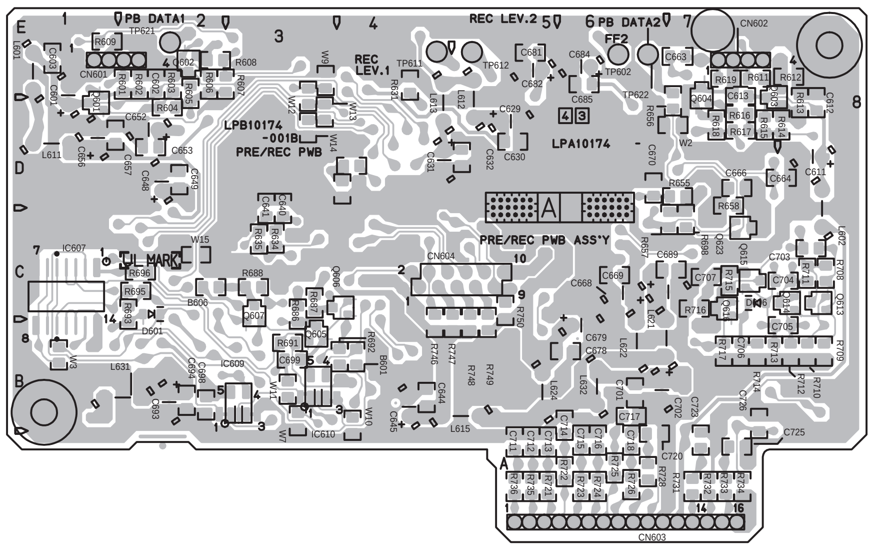
REF.NO.	LOCATION
T2051	A D 19H
TU6001	A D 21P
VR2251	A D 20L
VR6601	A D 21J
X2	A D 12J
X3001	A D 9C
X3002	A D 9D

■ PRE/REC CIRCUIT BOARD

<43> PRE/REC LPB10174-001B — COMPONENT SIDE(A)



<43> PRE/REC LPB10174-001B — FOIL SIDE(B)



COMPONENT PARTS LOCATION GUIDE <PRE/REC> LPB10174-001B

REF.NO.	LOCATION
CAPACITOR	
C601	A D 1D
C602	B C 2E
C603	B C 1E
C611	A D 8D
C612	B C 8D
C613	B C 7E
C621	A C 3E
C622	A C 3E
C623	A C 3E
C624	A C 3D
C625	A C 3E
C626	A C 3E
C627	A C 4E
C628	A C 4E
C629	A D 5D
C630	B C 5D
C631	A D 5D
C632	B C 5D
C633	B C 4D
C634	A C 4D
C639	A C 4C
C640	B C 3D
C641	B C 3D
C642	A C 3C
C643	A C 3C
C644	B C 4B
C645	A D 4B
C646	A C 3C
C647	A C 3C
C648	A D 2D

REF.NO.	LOCATION
C649	B C 2D
C650	A C 3D
C651	A C 2D
C652	A D 2D
C653	B C 2D
C654	A C 2D
C655	A C 3D
C656	A D 1D
C657	B C 2D
C661	A C 7D
C662	A C 7D
C663	B C 7E
C664	B C 8D
C665	A C 7D
C666	B C 7D
C667	A C 6C
C668	A D 6C
C669	B C 6C
C670	B C 6D
C673	A C 6C
C674	A C 5D
C675	A C 5D
C676	A C 5D
C677	A C 6C
C678	B C 6B
C679	A D 6B
C680	A C 6D
C681	B C 5E
C682	A D 5E
C683	A C 6D
C684	A D 6E

REF.NO.	LOCATION
C685	B C 6E
C686	A C 7E
C687	A C 7E
C688	A D 7C
C689	B C 7C
C692	A C 2C
C693	A D 2B
C694	B C 2B
C695	A C 3B
C696	A C 1B
C698	B C 2B
C699	B C 3B
C701	B C 6B
C702	A D 7B
C703	B C 8C
C704	B C 8C
C705	B C 8B
C706	B C 7B
C707	B C 7C
C711	B C 5A
C712	B C 5A
C713	B C 6A
C714	B C 6B
C715	B C 6A
C716	B C 6A
C717	B C 6B
C718	B C 6A
C720	B C 6A
C723	B C 7A
C725	B C 7A
C726	B C 7B

REF.NO.	LOCATION
C731	A C 3C
C732	A C 4C
C733	A C 4C
C734	A C 5D
C735	A C 5C
CONNECTOR	
CN601	A D 1E
CN602	A D 7E
CN603	A D 5A
CN604	A D 4C
DIODE	
D601	B C 2C
D602	A C 4B
D606	B C 7C
IC	
IC601	A C 3D
IC602	A C 6D
IC603	A C 2C
IC604	A C 2B
IC606	A C 7B
IC607	B C 1C
IC608	A C 3B
IC609	B C 3B
IC610	B C 3B
COIL	
L601	A D 1E
L602	A D 8D

REF.NO.	LOCATION
L611	A D 1D
L612	A D 5E
L613	A D 5E
L615	A D 5B
L621	A D 7B
L622	A D 6B
L624	A D 5B
L631	A D 2B
L632	A D 6B
TRANSISTOR	
Q601	B C 1D
Q602	B C 2E
Q603	B C 8E
Q604	B C 7E
Q605	B C 3B
Q606	B C 4C
Q607	B C 3C
Q608	A C 2C
Q609	A C 6A
Q613	B C 8C
Q614	B C 8C
Q615	B C 7C
Q616	B C 7C
Q621	A C 4D
Q623	B C 7C
Q624	A C 7C
Q641	A C 3C
Q642	A C 4C
Q643	A C 4C
Q644	A C 5D

REF.NO.	LOCATION
Q645	A C 5C
RESISTOR	
R601	B C 2E
R602	B C 2E
R603	B C 2E
R604	B C 2D
R605	B C 2E
R606	B C 2E
R607	B C 3E
R608	B C 3E
R609	B C 2E
R611	B C 7E
R612	B C 8E
R613	B C 8D
R614	B C 8D
R615	B C 7D
R616	B C 7D
R617	B C 7D
R618	B C 7D
R619	B C 7E
R621	A C 2E
R622	A C 3E
R623	A C 3E
R624	A C 3E
R625	A C 3E
R626	A C 4E
R627	A C 4E
R628	A C 4E
R629	A C 4E
R631	B C 4E

REF.NO.	LOCATION
R632	A C 4D
R633	B C 4D
R634	B C 3C
R635	B C 3C
R636	A C 3C
R637	A C 3C
R639	A C 2C
R641	A C 2D
R642	A C 2D
R651	A C 7D
R653	A C 7D
R654	A C 7D
R655	B C 7D
R656	B C 7D
R657	B C 7C
R658	B C 7D
R659	A C 7C
R662	A C 7C
R663	A C 6C
R664	A C 6C
R665	A C 5C
R666	A C 5D
R667	A C 6C
R668	A C 6C
R670	A C 6E
R671	A C 6E
R672	A C 7E
R686	B C 3C
R687	B C 3C
R688	B C 3C
R689	A C 5C

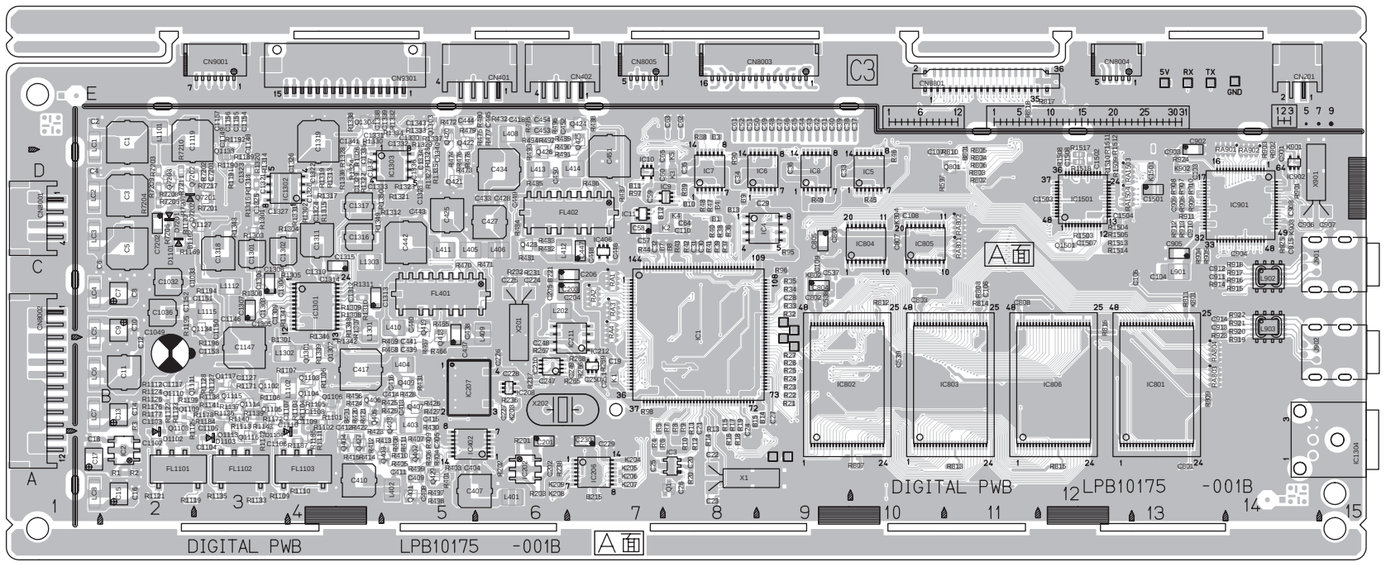
REF.NO.	LOCATION
R690	A C 6B
R691	B C 3B
R692	B C 4B
R693	B C 2C
R694	A C 4B
R695	B C 2C
R696	B C 2C
R697	A C 4E
R698	B C 7C
R701	A C 7B
R702	A C 7B
R703	A C 7B
R704	A C 7C
R705	A C 7C
R706	A C 8C
R707	A C 7C
R708	B C 8C
R709	B C 8B
R710	B C 8B
R711	B C 8C
R712	B C 8B
R713	B C 8B
R714	B C 7B
R715	B C 7C
R716	B C 7C
R717	B C 7B
R721	B C 6A
R722	B C 6A
R723	B C 6A
R724	B C 6A
R725	B C 6A

REF.NO.	LOCATION
R726	B C 6A
R727	A C 7A
R728	B C 6A
R731	B C 7A
R732	B C 7A
R733	B C 7A
R734	B C 7A
R735	B C 5A
R736	B C 5A
R746	B C 4B
R747	B C 5B
R748	B C 5B
R749	B C 5B
R750	B C 5C
TEST POINT	
TP602	A D 6E
TP611	A D 5E
TP612	A D 5E
TP621	A D 2E
TP622	A D 6E
TP631	A C 6A
TP632	A C 6B
TP633	A C 6B

■ DIGITAL CIRCUIT BOARD

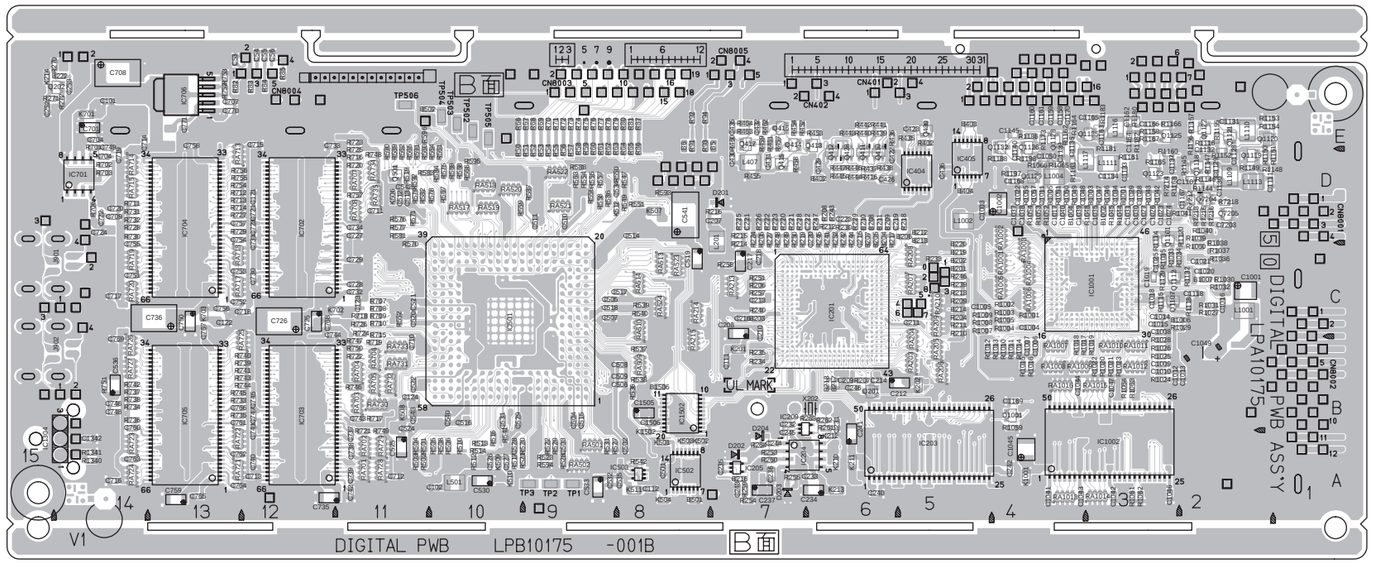
<50> DIGITAL
LPB10175-001B

COMPONENT SIDE(A)



<50> DIGITAL
LPB10175-001B

FOIL SIDE(B)



COMPONENT PARTS LOCATION GUIDE <DIGITAL> LPB10175-001B

REF.NO.	LOCATION
CAPACITOR	
C1	A C 2D
C2	A C 1E
C3	A C 2D
C4	A C 1D
C5	A C 2C
C6	A C 1C
C7	A C 2C
C8	A C 2C
C9	A C 2B
C10	A C 2B
C11	A C 2B
C12	A C 2B
C13	A C 2B
C14	A C 2B
C15	A C 2A
C16	A C 2A
C17	A C 1A
C18	A C 1A
C19	A C 7B
C20	A C 8A
C21	A C 8A
C22	A C 8A
C23	A C 8A
C24	A C 8A
C25	A C 7A
C26	A C 8A
C27	A C 9A
C28	A C 9C
C29	A C 9D
C30	A C 8C
C31	A C 8C
C32	A C 7C
C33	A C 9D
C34	A C 8D
C35	A C 8D
C36	A C 9D
C37	A C 10E
C38	A C 9E
C39	A C 9E
C40	A C 9E
C41	A C 9E
C42	A C 9E
C43	A C 9E
C44	A C 9E
C45	A C 9E
C46	A C 9E
C47	A C 9E
C48	A C 9E
C49	A C 9E
C50	A C 9E
C51	A C 8E
C52	A C 8E
C53	B C 13E
C54	B C 12E
C55	B C 12E
C56	B C 12E
C57	A C 7C
C58	A C 7D
C59	A C 7D
C60	A C 8D
C61	A C 8E
C62	A C 8E
C63	A C 8E
C64	A C 8D
C65	A C 8D
C101	B C 14E
C102	B C 10A
C103	A C 13D
C104	A C 13C
C105	A C 13C
C106	A C 11C
C107	A C 10D
C108	A C 10D
C109	A C 9C
C110	A C 8C
C111	B C 7B
C112	B C 8A
C121	B C 12D
C122	B C 13B
C123	B C 11C
C124	B C 11B
C201	A C 6A
C202	A C 6A
C203	A C 7C
C204	A C 7C
C205	A C 6C
C206	A C 7C
C207	B C 7D
C208	B C 7B
C209	B C 6B
C210	B C 7B
C211	B C 5B
C212	B C 5B
C213	B C 7C
C214	B C 6B
C215	B C 6C
C216	B C 7C
C217	B C 7C
C218	B C 7C
C219	B C 6D
C220	B C 6C
C221	B C 7D
C222	B C 6D
C223	B C 6D
C224	A C 6C
C225	A C 6C
C226	A C 6B
C227	A C 6B
C228	A C 6B
C229	A C 7A
C230	A C 7A
C231	B C 6A
C232	B C 7A
C233	B C 6A
C234	B C 6A
C235	B C 7A
C236	B C 7A

REF.NO.	LOCATION
C237	B C 7A
C240	B C 6A
C241	B C 6A
C242	B C 4A
C243	B C 7A
C244	B C 7A
C245	B C 7A
C246	B C 6B
C247	A C 6B
C248	A C 6B
C249	A C 7B
C250	A C 7B
C251	A C 7B
C252	B C 15E
C253	B C 14E
C404	A C 5A
C405	A C 5A
C407	A C 5A
C408	A C 5A
C409	A C 5A
C410	A C 4A
C411	A C 5A
C412	A C 4A
C413	A C 5B
C414	A C 5B
C415	A C 5A
C416	A C 5B
C417	A C 4B
C418	A C 6E
C422	B C 6D
C423	B C 5E
C425	A C 5D
C426	B C 6D
C427	A C 6D
C428	A C 6D
C429	B C 6D
C430	B C 7D
C431	B C 7D
C432	B C 7E
C433	A C 6D
C434	A C 6D
C435	B C 7E
C436	B C 5D
C437	A C 5B
C438	A C 5B
C439	A C 5B
C440	A C 5B
C441	A C 5B
C442	A C 5C
C443	A C 5D
C444	A C 5E
C445	A C 6E
C446	A C 7C
C447	A C 7C
C448	A C 7C
C449	A C 6D
C450	A C 6D
C451	A C 7D
C452	A C 6E
C453	A C 6E
C454	A C 6E
C501	B C 8A
C502	B C 8A
C503	B C 9A
C504	B C 9A
C505	B C 9C
C506	B C 8B
C507	B C 9C
C508	B C 8B
C509	B C 8B
C510	B C 9D
C511	B C 9D
C512	B C 11D
C513	B C 11D
C514	B C 8C
C515	B C 9A
C516	B C 10A
C517	B C 8C
C518	B C 9C
C519	B C 8C
C520	B C 11C
C521	B C 11C
C522	B C 11B
C524	B C 11A
C525	B C 11A
C526	B C 10A
C527	B C 10A
C528	B C 10A
C529	B C 10A
C530	B C 10A
C531	B C 10A
C532	B C 9A
C533	B C 9A
C534	B C 9D
C535	B C 8A
C536	B C 14B
C537	A C 9C
C538	A C 9C
C539	A C 10B
C540	B C 10A
C541	B C 8D
C542	B C 11D
C543	B C 11A
C701	B C 14E
C704	B C 14D
C707	B C 13E
C708	B C 14E
C709	B C 14D
C710	B C 11B
C711	B C 11D
C712	B C 11A
C713	B C 12A
C714	B C 14D
C715	B C 12D
C716	B C 14A
C717	B C 14C
C718	B C 12C
C719	B C 14D

REF.NO.	LOCATION
C720	B C 14D
C721	B C 12D
C722	B C 14D
C723	B C 12D
C724	B C 14C
C725	B C 12C
C726	B C 12C
C727	B C 11C
C728	B C 11C
C729	B C 11C
C730	B C 12C
C731	B C 12C
C732	B C 11C
C733	B C 12D
C734	B C 11D
C735	B C 12A
C736	B C 13C
C737	B C 11A
C738	B C 11A
C739	B C 11A
C740	B C 12A
C741	B C 12A
C742	B C 11A
C743	B C 11A
C744	B C 12B
C745	B C 12B
C746	B C 14B
C747	B C 12A
C748	B C 14B
C749	B C 14D
C750	B C 13C
C751	B C 14C
C752	B C 13C
C753	B C 13C
C754	B C 13C
C755	B C 14C
C756	B C 13C
C757	B C 13D
C758	B C 13D
C759	B C 13A
C760	B C 14A
C761	B C 13A
C762	B C 13A
C763	B C 14A
C764	B C 13A
C765	B C 13A
C766	B C 13B
C767	B C 13B
C768	B C 12B
C769	B C 14B
C770	B C 13E
C771	B C 13E
C801	A C 13A
C802	A C 9C
C803	A C 10C
C804	A C 9C
C805	A C 9C
C806	A C 9C
C807	A C 10C
C808	A C 11C
C901	A C 14D
C902	A C 13D
C903	A C 13D
C904	A C 14C
C905	A C 13C
C906	A C 14D
C907	A C 15D
C908	A C 14D
C909	A C 13D
C910	A C 13C
C911	A C 13C
C912	A C 13C
C913	A C 13B
C914	A C 13C
C915	A C 14C
C1001	B C 2C
C1002	B C 4D
C1003	B C 5D
C1004	B C 4B
C1005	B C 5C
C1006	B C 4B
C1007	B C 4B
C1008	B C 3B
C1009	B C 3B
C1010	B C 3B
C1011	B C 4D
C1012	B C 3B
C1013	B C 2B
C1014	B C 3C
C1015	B C 3B
C1016	B C 2C
C1017	B C 4D
C1018	B C 3C
C1019	B C 3C
C1020	B C 2C
C1021	B C 2C
C1022	B C 4D
C1023	B C 3D
C1024	B C 3D
C1025	B C 3C
C1026	B C 3D
C1027	B C 3D
C1028	B C 3D
C1029	B C 3D
C1030	B C 3D
C1031	B C 3D
C1032	A C 2C
C1033	A C 2C
C1034	B C 3D
C1035	B C 3D
C1036	A C 2C
C1037	B C 4D
C1038	B C 4D
C1039	B C 4D
C1040	B C 4D
C1041	B C 4A
C1042	B C 3A
C1043	B C 4A

REF.NO.	LOCATION
C1044	B C 4B
C1045	B C 4A
C1046	B C 3A
C1047	B C 3B
C1048	B C 4D
C1050	B C 4D
C1101	B C 2D
C1102	A C 2A
C1103	A C 2A
C1104	A C 3A
C1105	A C 3A
C1106	A C 3A
C1107	A C 3B
C1108	A C 4B
C1109	A C 4A
C1110	A C 4A
C1111	B C 2D
C1117	A C 2B
C1118	B C 2C
C1119	A C 2D
C1127	A C 3B
C1128	B C 2D
C1129	B C 2D
C1130	B C 2D
C1131	B C 2E
C1132	B C 2D
C1133	B C 3D
C1134	B C 3D
C1135	B C 4D
C1137	B C 3D
C1139	B C 4D
C1140	B C 4D
C1145	B C 4E
C1146	A C 3C
C1147	A C 3B
C1148	A C 3D
C1149	A C 3D
C1150	A C 3B
C1151	A C 3C
C1152	A C 2C
C1153	A C 3B
C1154	A C 3E
C1155	A C 3E
C1156	A C 3E
C1157	A C 3E
C1158	B C 4E
C1159	B C 4E
C1160	B C 4E
C1161	B C 4E
C1162	B C 3E
C1163	B C 3D
C1164	B C 3D
C1165	B C 3E
C1166	B C 3E
C1167	B C 2D
C1168	B C 4D
C1169	B C 4B
C1170	B C 4E
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C1302	A C 3C
C1303	A C 3C
C1304	A C 3C
C1305	A C 3C
C1306	A C 3C
C1307	A C 3C
C1308	A C 3C
C1309	A C 3C
C1310	A C 4C
C1311	A C 4C
C1312	A C 4C
C1313	A C 4C
C1314	A C 4C
C1315	A C 4C
C1316	A C 4C
C1317	A C 4D
C1318	A C 3C
C1319	A C 4D
C1320	A C 4D
C1321	A C 3D
C1322	A C 4D
C1323	A C 3D
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C1325	A C 3D
C1326	A C 4D
C1327	A C 3D
C1328	A C 5D
C1329	A C 4D
C1330	A C 5D
C1331	A C 4D
C1332	A C 5D
C1333	A C 4D
C1334	A C 5D
C1335	A C 4D
C1336	A C 5D
C1337	A C 4D
C1338	A C 4E
C1339	A C 5E
C1340	A C 5D
C1341	A C 4D
C1342	B C 14A
C1343	A C 5E
C1501	A C 13D
C1502	A C 12D
C1503	A C 12D
C1504	A C 12D
C1505	B C 8B
C1506	B C 8A
C1507	A C 12C
C1508	A C 12D
C7201	A C 3D
C7202	A C 2D
C7203	B C 2D
CONNECTOR	
CN201	A C 14E
CN401	A C 6E
CN402	A C 7E
CN8001	A C 1D

REF.NO.	LOCATION
CN8002	A C 1C
CN8003	A C 9E
CN8004	A C 12E
CN8005	A C 7E
CN8801	A C 10E
CN9001	A C 3E
CN9301	A C 5E
DIODE	
D201	B C 7D
D202	B C 7A
D203	B C 7A
D204	B C 7A
D1001	B C 4B
D1101	A C 2C
D1102	A C 2A
D1103	A C 3A
D1104	A C 4A
D7201	A C 2D
D7202	A C 2D
IC	
IC1	A C 8B
IC2	A C 2A
IC3	A C 8A
IC4	A C 9D
IC5	A C 10D
IC6	A C 9D
IC7	A C 8D
IC8	A C 9D
IC9	A C 8D
IC10	A C 7D
IC11	A C 7D
IC201	B C 6C
IC202	A C 6A
IC203	B C 5A
IC204	B C 7A
IC205	B C 7A
IC206	A C 7A
IC207	A C 5B
IC208	A C 6B
IC209	B C 6A
IC210	A C 6B
IC211	A C 7B
IC212	A C 7B
IC402	A C 5A
IC404	B C 5D
IC405	B C 5D
IC406	A C 7C
IC501	B C 10C
IC502	B C 8A
IC503	B C 8A
IC701	B C 14D
IC702	B C 12D
IC703	B C 12B
IC704	B C 13D
IC705	B C 13B
IC706	B C 13E
IC801	A C 13B
IC802	A C 9B
IC803	A C 11B
IC804	A C 10C
IC805	A C 10C
IC806	A C 12B
IC901	A C 14D
IC902	A C 14D
IC1001	B C 3C
IC1002	B C 3A
IC1301	A C 4C
IC1302	A C 3D
IC1303	A C 5D
IC1304	A D 15A
IC1501	A C 12D
IC1502	B C 8B
COIL	
L201	B C 7C
L202	A C 6C
L401	A C 6A
L402	A C 5A
L403	A C 5A
L404	A C 5B
L405	A C 5C
L406	A C 6C
L407	B C 7D
L408	A C 6E
L409	A C 6B
L410	A C 5B
L411	A C 5C
L412	A C 6C
L413	A C 6D
L414	A C 7D
L501	B C 10A
L901	A C 13C
L902	A C 14C
L903	A C 14B
L1001	B C 2C
L1002	B C 5D
L1004	B C 4D
L1101	A C 2E
L1102	A C 4B
L1109	B C 2D
L1110	B C 2E
L1111	B C 3D
L1112	A C 3C
L1113	B C 2D
L1115	A C 3C
L1116	B C 3E
L1117	B C 3D
L1301	A C 4B
L1302	A C 3B
L1303	A C 4C
TRANSISTOR	
Q1	A C 8A
Q201	B C 6B
Q202	B C 14E
Q401	A C 5A

REF.NO.	LOCATION
Q402	A C 5A
Q403	A C 5A
Q404	A C 4A
Q405	A C 4A
Q406	A C 4B
Q407	A C 5B
Q408	A C 5A
Q409	A C 5B
Q410	B C 6D
Q411	B C 6D
Q412	B C 6D
Q413	B C 6D
Q414	B C 7D
Q415	B C 7D
Q416	B C 7E
Q417	B C 7D
Q418	A C 5B
Q419	A C 5B
Q420	A C 5D
Q421	A C 5D
Q422	A C 5D
Q423	A C 6C
Q424	A C 7E
Q425	A C 7D
Q426	A C 6D
Q427	A C 4A
Q428	B C 6D
Q429	A C 5A
Q430	B C 5E
Q501	B C 11D
Q801	A C 11D
Q1101	B C 3C
Q1102	A C 3B
Q1103	A C 4B
Q1104	A C 4B
Q1105	A C 3B
Q1106	A C 4B
Q1107	B C 3C
Q1108	A C 2A
Q1109	A C 2B
Q1110	A C 2B
Q1111	A C 2B
Q1112	B C 3C
Q1113	A C 3A
Q1114	A C 3B
Q1115	A C 3B
Q1116	A C 3A
Q1117	A C 3B
Q1118	B C 2D
Q1119	B C 2D
Q1120	B C 2D
Q1121	B C 2D
Q1122	B C 2E
Q1123	B C 3D
Q1125	B C 3D
Q1126	B C 4D
Q1127	A C 3D
Q1128	B C 4D
Q1129	B C 4D
Q1132	B C 4D
Q1133	A C 3D
Q1134	A C 3B
Q1135	B C 3E
Q1301	A C 4B
Q1302	A C 4B
Q1303	A C 5E
Q1304	A C 4E
Q1501	A C 12C
Q7201	A C 3D
Q7202	A C 2D
Q7203	A C 2D
Q7204	B C 2D
Q7205	B C 2D
RESISTOR	
R1	A C 2A
R2	A C 2A
R3	A C 2A
R4	A C 7A
R5	A C 7A
R6	A C 8A
R7	A C 8A
R8	A C 8A
R9	A C 8A
R10	A C 8A
R11	A C 8A
R12	A C 8A
R13	A C 8A
R14	A C 8A
R15	A C 8A
R16	A C 8A
R17	A C 8A
R18	A C 8A
R19	A C 8A
R20	A C 8A
R21	A C 9B
R22	A C 9B
R23	A C 9B
R24	A C 9B
R25	A C 9B
R26	A C 9B
R27	A C 9B
R32	A C 9C
R33	A C 9C
R34	A C 9C
R35	A C 9C
R36	A C 8C
R37	A C 8C
R38	A C 8C
R39	A C 8C
R40	A C 8C
R41	A C 8C
R42	A C 8C
R43	A C 8C
R44	A C 7C
R45	A C 10D
R46	A C 10D
R47	A C 8D

REF.NO.	LOCATION
R48	A C 8D
R49	A C 9D
R50	B C 10D
R51	B C 9D
R52	B C 9D
R53	B C 9D
R54	B C 9D
R55	B C 9D
R56	B C 9D
R57	B C 9D
R58	B C 9D
R59	B C 9D
R60	B C 9D
R61	B C 9D
R62	B C 9D
R63	B C 9D
R64	B C 8D
R65	B C 8D
R66	B C 10E
R67	B C 9E
R68	B C 9E
R69	B C 9E
R70	B C 9E
R71	B C 9E
R72	B C 9E
R73	B C 9E
R74	B C 9E
R75	B C 9E
R76	B C 9E
R77	B C 9E
R78	B C 9E
R79	B C 9E
R80	B C 8E
R81	B C 8E
R82	B C 13E
R83	B C 12E
R84	B C 12E
R85	B C 12E
R86	B C 8D
R87	B C 8E
R88	A C 8D
R89	A C 8D
R90	A C 8D
R91	B C 8D
R92	B C 8E
R93	B C 8D
R94	B C 8E
R95	A C 9C
R96	A C 9C
R97	A C 7D
R98	A C 7B
R201	A C 6A
R202	A C 6A
R203	A C 6A
R204	B C 5C
R205	B C 7C
R206	B C 7C
R207	B C 6B
R208	B C 6D
R209	B C 5C
R210	B C 5B
R211	B C 5B
R212	B C 6D
R213	B C 5C
R214	B C 7C
R215	B C 7C
R216	B C 7D
R217	B C 6C
R218	B C 5D
R219	B C 7C
R220	B C 7D
R221	B C 7D
R222	B C 7D
R223	B C 7D
R224	B C 7C
R225	B C 7D
R226	B C 7D
R227	B C 7C
R228	B C 7D
R229	B C 6D
R230	B C 6D
R231	A C 6C
R232	A C 6C
R233	B C 5C
R234	B C 7B
R235	B C 7B
R236	A C 6B
R237	A C 6B
R238	A C 6A
R239	B C 5C
R240	B C 7C
R241	B C 6C
R242	B C 6C
R243	B C 6D
R244	B C 6C
R245	B C 6C
R246	B C 5C
R247	B C 6D
R248	B C 7C
R249	B C 7C
R250	B C 7C
R251	B C 7C
R252	B C 6C
R253	B C 7A
R254	B C 7A
R255	B C 7A
R257	B C 7C
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R260	B C 7A
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R262	B C 6A
R263	B C 6A
R264	B C 7A
R265	A C 7B
R266	A C 7B
R267	A C 6B
R268	A C 7B

REF.NO.	LOCATION
R269	A C 7B
R270	B C 14E
R271	B C 15E
R272	B C 14E
R401	A C 5A
R402	B C 5D
R403	A C 5A
R404	A C 5A
R405	A C 5A
R406	A C 5A
R407	A C 5A
R408	A C 5A
R409	A C 5A
R410	A C 5A
R411	A C 5A
R412	A C 4A
R413	A C 5A
R414	A C 4A
R415	A C 4A
R416	B C 6D
R420	A C 4B
R421	A C 4B
R422	A C 4A
R423	A C 4A
R424	A C 4B
R425	A C 5B
R426	A C 5B
R427	A C 5B
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R429	A C 5B
R430	A C 5A
R431	A C 5B
R432	A C 6E
R435	B C 5D
R436	B C 6D
R437	B C 6D
R438	B C 6D
R439	B C 6E
R440	B C 6E
R441	B C 6E
R442	B C 6E
R443	B C 6E
R444	B C 6D
R445	B C 6D
R446	B C 6D
R447	B C 6D
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R453	B C 6E
R454	B C 7E
R455	B C 7D
R456	A C 4B
R457	B C 7D
R458	B C 7D
R459	B C 7D
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R463	B C 7E
R464	B C 7E
R465	A C 5B
R466	A C 5B
R467	A C 5B
R468	A C 5B
R469	A C 5B
R470	A C 5C
R471	A C 6C
R472	A C 5E
R473	A C 5D
R474	A C 5D
R475	A C 6D
R476	A C 5D
R477	A C 6D
R478	A C 5D
R479	A C 5E
R480	A C 6E
R481	A C 6C
R482	A C 6C
R483	A C 6C
R484	A C 6D
R485	A C 6D
R486	A C 7D
R487	A C 7D
R488	A C 7E
R489	A C 6D
R490	A C 6D
R491	A C 6D
R492	A C 6D
R493	A C 6D
R494	A C 6D
R495	A C 6E
R496	A C 6E
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R514	B C 10A
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R517	B C 10A
R519	B C 11D
R520	B C 10A
R521	B C 10A
R522	B C 9A
R523	B C 9A
R527	B C 9A
R528	B C 9A
R529	B C 9A
R531	B C 9A
R536	B C 8B
R537	B C 8B

REF.NO.	LOCATION
R538	B C 8B
R539	B C 8C
R540	B C 8C
R541	B C 10A
R542	B C 8A
R547	B C 8D
R549	B C 8D
R550	B C 9D
R551	B C 8D
R552	B C 11C
R554	B C 9D
R555	B C 9D
R556	B C 9D
R557	B C 9D
R558	B C 9D
R559	B C 10D
R560	B C 11D
R561	B C 10D
R562	B C 11D
R563	B C 9D
R564	B C 10D
R565	B C 11D
R566	B C 10D
R567	B C 10D
R568	B C 10D
R569	B C 10D
R570	B C 11C
R571	B C 11D
R575	B C 10D
R576	B C 11D
R577	B C 11D
R578	B C 10D
R579	B C 11D
R581	B C 11C
R582	B C 11D
R583	B C 11D
R584	B C 10D
R586	B C 9D
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R591	B C 11D
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R593	B C 8D
R594	B C 9A
R595	B C 10D
R596	B C 11D
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R703	B C 14D
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R709	B C 11C
R710	B C 11B
R711	B C 14D
R712	B C 13D
R713	B C 13D
R714	B C 13D
R715	B C 11B
R716	B C 11D
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R718	B C 11C
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R722	B C 11B
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R724	B C 11B
R725	B C 11D
R726	B C 11B
R727	B C 13D
R728	B C 14D
R729	B C 13C
R730	B C 14C
R731	B C 14D
R732	B C 14D
R733	B C 13B
R734	B C 14B
R735	B C 13A
R736	B C 14A
R737	B C 14B
R738	B C 14B
R739	B C 12B
R740	B C 12B
R741	B C 12B
R742	B C 14B
R743	B C 12B
R744	B C 12B
R745	B C 13B
R746	B C 11B
R747	B C 11B
R748	B C 11D
R749	B C 11A
R750	B C 11B
R751	B C 14B
R752	B C 13E
R753	B C 13E
R754	B C 13D
R755	B C 13D
R756	B C 13D
R757	B C 11D
R802	A C 11D
R803	A C 11D
R804	A C 11D
R805	A C 11D
R806	A C 11D
R807	A C 10A
R808	A C 11C
R809	A C 13B
R810	A C 11D
R811	A C 13C
R812	A C 10C
R813	A C 11A
R814	A C 11C
R815	A C 12A

REF.NO.	LOCATION
R816	A C 12B
R817	A C 12E
R818	A C 11E
R901	A C 14D
R902	A C 14D
R903	A C 14D
R904	A C 13C
R905	A C 13C
R906	A C 13D
R907	A C 13D
R908	A C 13D
R909	A C 13D
R910	A C 13D
R911	A C 13D
R912	A C 13C
R913	A C 13C
R914	A C 13C
R915	A C 14C
R916	A C 14C
R917	A C 14C
R918	A C 14C
R919	A C 14B
R920	A C 14B
R921	A C 14B
R922	A C 14C
R923	A C 13B
R924	A C 13D
R925	A C 14C
R1001	B C 4C
R1002	B C 4C
R1003	B C 4C
R1004	B C 4B
R1005	B C 4C
R1007	B C 5B
R1008	B C 5B
R1009	B C 5C
R1010	B C 4B
R1011	B C 4B
R1012	B C 5B
R1013	B C 4B
R1014	B C 4B
R1015	B C 4B
R1016	B C 4B
R1017	B C 4B
R1018	B C 4B
R1019	B C 3B
R1020	B C 3B
R1021	B C 3B
R1022	B C 3B
R1023	B C 3B
R1024	B C 3B
R1025	B C 3B
R1026	B C 3B
R1027	B C 2C
R1028	B C 3B
R1029	B C 3B
R1030	B C 2C
R1031	B C 2C
R1032	B C 2C
R1033	B C 3C
R1034	B C 3C
R1035	B C 3C
R1036	B C 2C
R1037	B C 2C
R1038	B C 2C
R1039	B C 2C
R1040	B C 2C
R1041	B C 2D
R1042	B C 3D
R1043	B C 3D
R1044	B C 3D
R1045	B C 3D
R1046	B C 3D
R1047	B C 3D
R1048	B C 3D
R1049	B C 4D
R1050	B C 4D
R1051	B C 4D
R1052	B C 4D
R1053	B C 4D
R1054	B C 4D
R1055	B C 4D
R1057	B C 4D
R1059	B C 4A
R1060	B C 2C
R1061	B C 3A
R1062	B C 3A
R1063	B C 3B
R1064	B C 3B
R1065	B C 4D
R1066	B C 4D
R1101	A C 4B
R1102	A C 4A
R1103	A C 4B
R1104	A C 4B
R1105	A C 4B
R1106	A C 4B
R1107	A C 3B
R1108	A C 3B
R1109	A C 3A
R1110	A C 4A
R1111	A C 4A
R1112	A C 2B
R1113	A C 3A
R1114	B C 3C
R1115	B C 3C
R1116	B C 2D
R1118	B C 2C
R1119	A C 2A
R1120	B C 2C
R1121	A C 2A
R1122	A C 2B
R1123	A C 2B
R1124	A C 2B
R1125	A C 2A
R1126	A C 2B
R1127	A C 3B
R1128	A C 3B

REF.NO.	LOCATION
R1129	B C 3C
R1132	B C 2C
R1133	A C 3A
R1135	A C 3A
R1136	A C 3A
R1137	A C 3B
R1138	A C 3B
R1139	A C 3A
R1140	A C 3A
R1141	A C 3B
R1142	A C 3A
R1143	A C 3A
R1144	B C 2D
R1145	B C 2D
R1146	B C 2D
R1147	B C 2D
R1148	B C 2D
R1149	B C 2D
R1150	B C 2D
R1151	B C 1D
R1152	B C 2D
R1153	B C 2E
R1154	B C 2E
R1155	B C 2D
R1156	B C 2D
R1157	B C 2E
R1158	B C 3E
R1160	B C 3D
R1161	B C 3D
R1162	B C 4D
R1163	B C 4D
R1164	B C 4E
R1165	B C 3D
R1166	B C 3E
R1167	B C 3D
R1168	B C 3D
R1169	A C 2C
R1170	A C 2D
R1171	A C 3B
R1172	A C 3A
R1173	B C 4D
R1176	A C 2B
R1177	A C 2B
R1178	A C 3B
R1180	B C 3E
R1181	B C 3D
R1182	B C 3D
R1183	B C 3E
R1184	A C 3A
R1185	A C 4A
R1186	B C 4D
R1187	A C 4A
R1188	B C 4D
R1189	A C 3D
R1190	A C 3D
R1191	A C 3D
R1192	A C 3D
R1194	A C 3C
R1195	A C 2C
R1196	A C 3B
R1197	B C 4D
R1198	B C 4D
R1199	A C 2B
R1301	A C 3D
R1302	A C 4D
R1303	A C 3C
R1304	A C 4C
R1305	A C 4C
R1306	A C 3C
R1307	A C 4B
R1308	A C 4C
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R1312	A C 5D
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R1331	A C 4D
R1332	A C 5E
R1333	A C 5E
R1334	A C 5E
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R1336	A C 4D
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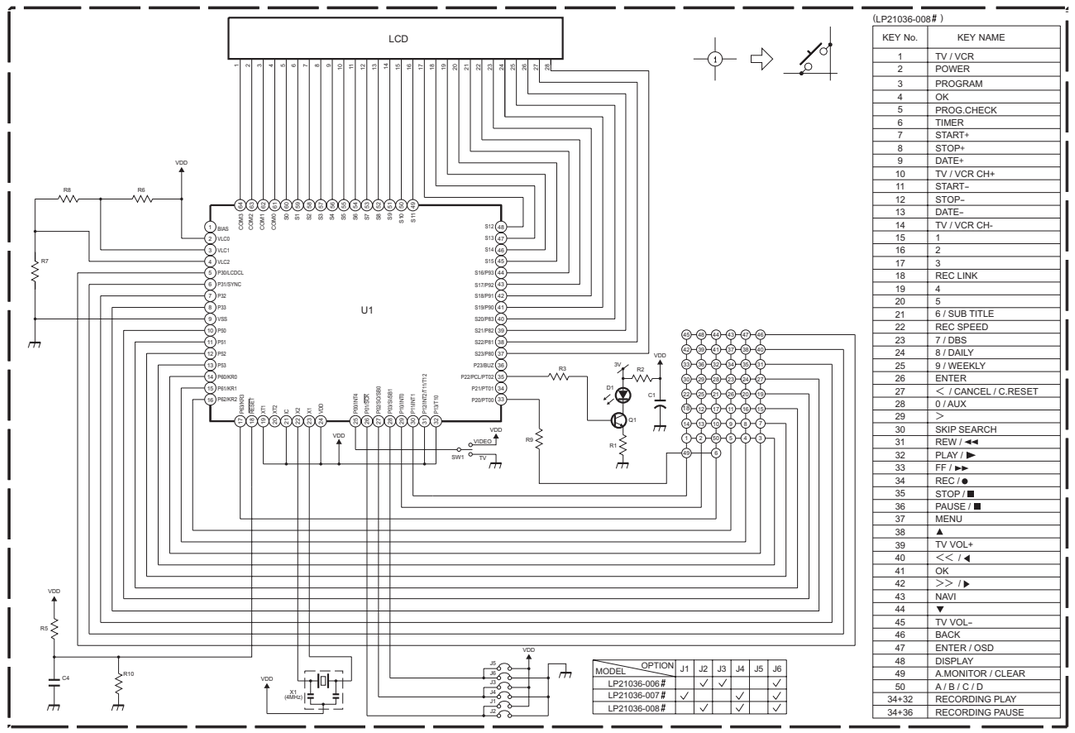
R1342	A C 4B
R1343	A C 3D
R1346	A C 4B
R1347	A C 3C
R1348	A C 4B
R1349	A C 4D
R1350	A C 5D
R1503	A C 12C
R1504	A C 12D
R1505	A C 12C
R1508	A C 12D
R1509	A C 12D
R1510	A C 12D
R1511	A C 12D

REF.NO.	LOCATION
R1512	A C 12D
R1513	A C 12C
R1514	A C 12C
R1517	A C 12D
R1518	A C 12D
R7201	A C 3D
R7202	A C 3D
R7203	A C 2D
R7204	A C 2D
R7205	A C 2D
R7206	A C 2C
R7207	A C 2D
R7208	A C 2D
R7209	A C 2D
R7210	A C 2D
R7211	A C 2D
R7212	B C 2D
R7213	B C 2D
R7214	B C 3D
R7215	B C 2D
R7216	B C 2D
R7217	A C 3D
R7218	B C 2D
RA1	A C 7C
RA2	A C 7C
RA3	A C 7C
RA4	A C 7B
RA203	B C 5B
RA204	B C 5B
RA205	B C 5B
RA206	B C 5B
RA207	B C 5C
RA208	B C 5C
RA209	B C 5B
RA210	B C 5C
RA213	B C 7C
RA214	B C 8C
RA215	B C 8B
RA501	B C 9A
RA502	B C 9A
RA509	B C 8B
RA510	B C 8B
RA513	B C 8C
RA514	B C 8C
RA517	B C 10D
RA518	B C 10D
RA519	B C 10D
RA520	B C 10D
RA521	B C 9D
RA522	B C 9D
RA523	B C 8C
RA524	B C 8C
RA701	B C 11A
RA702	B C 11A
RA703	B C 11B
RA704	B C 11B
RA705	B C 11B
RA706	B C 11B
RA707	B C 11D
RA708	B C 11D
RA713	B C 13D
RA714	B C 14D
RA715	B C 14D
RA717	B C 13C
RA718	B C 13C
RA719	B C 14C
RA720	B C 14C
RA721	B C 13A
RA722	B C 13A
RA723	B C 14A
RA724	B C 14A
RA725	B C 12B
RA726	B C 14B
RA727	B C 14B
RA728	B C 11A
RA729	B C 11A
RA730	B C 11B
RA731	B C 11B
RA732	B C 11B
RA733	B C 11B
RA734	B C 11D
RA735	B C 11D
RA801	A C 11C
RA802	A C 11D
RA803	A C 13B
RA804	A C 13B
RA901	A C 14D
RA902	A C 14D
RA1001	B C 4C
RA1002	B C 4C
RA1003	B C 4C
RA1004	B C 4C
RA1005	B C 4C
RA1006	B C 4C
RA1007	B C 4B
RA1008	B C 4B
RA1009	B C 4B
RA1010	B C 3B
RA1011	B C 3B
RA1012	B C 3B
RA1013	B C 4A
RA1014	B C 3A
RA1015	B C 3B
RA1016	B C 4B
RA1503	A C 12D
RA1504	A C 12D
TEST POINT	
TP1	B C 9A
TP2	B C 9A
TP3	B C 9A
TP502	B C 10E
TP503	B C 10E
TP504	B C 10E
TP505	B C 10D
TP506	B C 11E

REF.NO.	LOCATION
OTHER	
FL401	A C 5C
FL402	A C 7D
FL1101	A C 2A
FL1102	A C 3A
FL1103	A C 4A
J901	A D 14C
J902	A D 14B
K1	A C 7B
K2	A C 8D
K3	A C 8D
K4	A C 8D
K5	A C 8D
K201	B C 7B
K202	B C 5B
K203	A C 6B
K204	A C 7A
K205	A C 7A
K206	A C 7A
K207	A C 7A
K208	A C 6A
K209	A C 6A
K210	B C 6A
K211	B C 6A
K212	B C 6A
K213	B C 6A
K214	B C 15E
K501	B C 8A
K502	B C 8A
K503	B C 8A
K504	B C 8A
K506	B C 11D
K507	B C 8D
K508	B C 11B
K509	B C 10A
K510	B C 10A
K511	B C 8A
K512	B C 9D
K701	B C 14E
K702	B C 11C
K703	B C 13C
K704	B C 14D
K801	A C 13C
K802	A C 9C
K804	A C 10D
K901	A C 14D
K902	A C 13D
K903	A C 14D
K1001	B C 4A
K1501	A C 13D
K1502	B C 8A
LC1	A C 1D
LC2	A C 1D
LC3	A C 1C
LC4	A C 1C
LC5	A C 1B
LC6	A C 1B
LC7	A C 1B
LC8	A C 1A
PC01405	A C 14A
PC01406	A C 1E
PC01407	A C 14A
PC01408	A C 1E
X1	A C 8A
X201	A C 6B
X202	A D 6B
X901	A C 14D

■ REMOTE CONTROLLER SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.



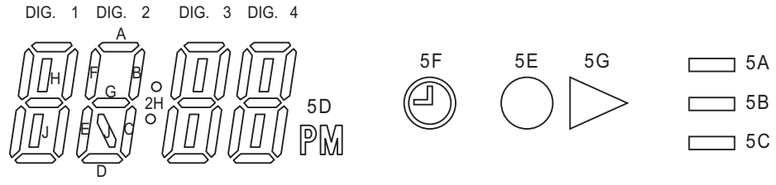
(LP21036-008#)

KEY No.	KEY NAME
1	TV / VCR
2	POWER
3	PROGRAM
4	OK
5	PROG.CHECK
6	TIMER
7	START+
8	STOP+
9	DATE+
10	TV / VCR CH+
11	START–
12	STOP–
13	DATE–
14	TV / VCR CH-
15	1
16	2
17	3
18	REC LINK
19	4
20	5
21	6 / SUB TITLE
22	REC SPEED
23	7 / DBS
24	8 / DAILY
25	9 / WEEKLY
26	ENTER
27	< / CANCEL / C.RESET
28	0 / AUX
29	>
30	SKIP SEARCH
31	REW / ◄◄
32	PLAY / ►
33	FF / ►►
34	REC / ●
35	STOP / ■
36	PAUSE / ■
37	MENU
38	▲
39	TV VOL+
40	<< / ◄
41	OK
42	>> / ►
43	NAVI
44	▼
45	TV VOL–
46	BACK
47	ENTER / OSD
48	DISPLAY
49	A.MONITOR / CLEAR
50	A / B / C / D
34+32	RECORDING PLAY
34+36	RECORDING PAUSE

MODEL \ OPTION	J1	J2	J3	J4	J5	J6
LP21036-006#		✓	✓			✓
LP21036-007#	✓			✓		✓
LP21036-008#		✓		✓		✓

■ FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



ANODE CONNECTION

No.	CONNECTION
1	Common Cathode DIGIT 4
2	Common Cathode DIGIT 2
3	Anode D
4	Common Cathode DIGIT 3
5	Anode J
6	Common Cathode DIGIT 1
7	Anode H
8	Anode F
9	Anode E
10	Anode G
11	Anode A
12	Anode B
13	Anode C
14	Common Cathode DIGIT 5

■ CPU PIN FUNCTION

<SYSCON IC3001>

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVcc	-	SYSTEM POWER
10	Avcc	-	ANALOG POWER
11	LED	IN	DETECT THE HTS MODE
12	AFC	IN	TUNING CHECK
13	END SENSOR	IN	END SENSOR
14	KEY_IN1	-	NOT USED
15	KEY_IN2	-	NOT USED
16	A.ENV/ND(L)	IN	AUDIO PB FM ENV. INPUT/NON HiFi MODEL:L
17	START SENSOR	IN	START SENSOR
18	HS2_ENV	IN	AT DETECTION
19	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
20	D/HS1_ENV	IN	PB FM INPUT / AT DETECTION
21	NORM/MESEC/S	IN	S.VHS MODE:H (NORMAL MODE:L/MESECAM MODE:L/NC)
22	WAID_DET	IN	WIDE ASPECT DETECTION
23	Avss	-	GND FOR ANALOG CIRCUIT
24	CTL GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	PROTECT	IN	DETECTION SIGNAL FOR SWITCHING POWER SUPPLY
31	EXP_DATA3	IN	NC/CONTROL SIGNAL FOR TV LINK/NC
32	PAUSE/COMPU_IN	IN	REMOTE PAUSE CONTROL/NC
33	COMPU_OUT/TEST_IN	OUT	CONTROL SIGNAL FOR TV LINK/MECHA TEST MODE
34	STB	OUT	STROBE SIGNAL
35	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
36	LMC1	OUT	LOADING MOTOR DRIVE(1)
37	LMC2	OUT	LOADING MOTOR DRIVE(2)
38	LMC3	OUT	LOADING MOTOR DRIVE(3)
39	SB_GAIN	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
40	D_REC_LEVEL1	OUT	LEVEL1 CONTROL SIGNAL OF D-VHS RECORDING
41	D_REC_LEVEL2	OUT	LEVEL2 CONTROL SIGNAL OF D-VHS RECORDING
42	GR_ON(H)	OUT	GHOST REDUCTION MODE:H
43	Vss	-	GND
44	RMO	OUT	REMOTE CONTROL OUTPUT FOR SATELLITE RECEIVER
45	Vcc	-	SYSTEM POWER
46	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
47	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
48	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
49	I2C DATA_AV	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
50	I2C CLK_AV	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
51	K-BUS_IN	IN	SERIAL DATA INPUT FOR THE D-VHS HOST CPU
52	K-BUS_OUT	OUT	SERIAL DATA OUTPUT FOR THE D-VHS HOST CPU
53	K-BUS_CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FOR THE D-VHS HOST CPU
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	D_CASS(H)	IN	DETECTION SIGNAL FOR D-VHS CASSETTE (DERECTION:H)
57	K-BUS_REQ	OUT	REQUEST OF SERIAL DATA FOR THE D-VHS HOST CPU
58	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
59	JUST_CLK	IN	CLOCK ADJUST SIGNAL
60	TU_V_MUTE(H)	OUT	TUNER VIDEO MUTE CONTROL (MUTE: H)
61	S_CASS(H)	OUT	DETECTION FOR S-VHS CASSETTE(DETECTION:H)
62	FWE	-	NC
63	NMI	-	NC
64	X2	-	TIMER CLOCK(32kHz)
65	X1	-	TIMER CLOCK(32kHz)
66	RES	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK (10MHZ)
68	Vss	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK (10MHZ)
70	Vcc	-	SYSTEM POWER
71	MODE	-	NC
72	SYNC_DET(L)	-	DETECTION OF VIDEO SYNC SIGNAL(DETECTION:L)
73	NC	-	NC
74	CH1_RECST(H)	OUT	REC START CONTROL FOR CH1
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	AT_ON	OUT	D-VHS LS3 REC TIMING CONTROL
78	LS2_H_SEL	OUT	LS2 HEAD SELECT
79	FLY_ON (H)	OUT	FLY REC START: FH
80	LS2_FF	OUT	LS2 FF OUTPUT
81	CH2_RECST(H)	OUT	REC START CONTROL FOR CH2
82	Vcc	-	SYSTEM POWER
83	HS_RECST(H)	OUT	D-VHS HS RECORDING START
84	Vss	-	GND
85	SP_SHORT(L)	OUT	MODE SELECT
86	EP_SHORT(H)	OUT	MODE SELECT
87	H.REC_ST(H)	OUT	Hi-Fi AUDIO SOUND RECORDING START
88	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
89	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE ON: H)
90	REF30	IN	REFERENCE SIGNAL INPUT (30HZ)
91	REF5	IN	REFERENCE SIGNAL INPUT (5HZ)
92	EXP_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR AUDIO/VIDEO AND TUNER/ REG CONTROL
93	EXP_DATA1	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR AUDIO/VIDEO CONTROL
94	EXP_DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER/REG CONTROL
95	NC	-	NC
96	AGC_CTL	OUT	AGC OUTPUT(AGC ON:H)
97	P.MUTE	OUT	PICTURE MUTE CONTROL(MUTE ON:H)
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF/HS2.FF	OUT	AUDIO FF OUTPUT
100	V.FF/STD.FF/HS1.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SUB_CPU_RESET	OUT	RESET CONTROL FOR D-VHS HOST CPU
104	ET_REC(H)	OUT	S-VHS ET REC MODE:H
105	SEQP	OUT	SEQUENCE PULSE OUTPUT
106	HI_S_FF_REW	OUT	DETECTION OF HIGH SPEED FF/REW SIGNAL
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	Vcc	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	Vss	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

■ VOLTAGE CHARTS

<SW.REG>

MODE PIN NO.	REC	PLAY
IC5101		
1	0	0
2	0	0
3	133	133
4	16.7	16.7
5	0	0
IC5301		
1	-	-
2	0	0
3	4.6	4.6
Q5311		
E	10.4	10.4
C	10.4	10.4
B	9.7	9.7
Q5312		
E	0	0
C	0	0
B	-	-
Q5401		
E	0	0
C	8.5	8.5
B	0	0

<MAIN>

MODE PIN NO.	REC	PLAY
IC1		
1	1.8	2.1
2	2.7	2.7
3	2.3	2.3
4	1.8	18
5	1.8	1.4
6	2.3	1.4
7	1.8	0
8	0	4.0
9	2.5	1.9
10	2.2	2.2
11	3.0	2.7
12	2.6	2.6
13	2.9	2.4
14	3.5	2.2
15	0	0
16	2.7	1.7
17	1.4	1.4
18	2.7	3.2
19	0	3.2
20	2.7	2.4
21	1.5	1.5
22	2.7	2.7
23	3.0	2.2
24	4.9	4.9
25	0	4.4
26	0	1.5
27	1.3	1.3
28	2.7	2.1
29	1.8	1.8
30	2.0	2.0
31	4.1	4.1
32	4.0	3.5
33	4.9	4.9
34	2.6	2.0
35	4.9	4.9
36	4.9	0
37	2.4	1.4
38	2.3	0
39	1.2	1.2
40	1.5	1.5
41	2.5	2.5
42	2.0	2.0
43	0	0
44	0	2.1
45	2.1	4.8
46	4.9	4.9
47	4.0	0
48	2.3	2.3
49	4.8	4.8
50	4.8	2.4
51	2.7	2.7
52	0	0
53	2.2	2.5
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	0
65	0	0
66	0	0
67	0	0
68	0	0
69	0	0
70	0	0
71	0	0
72	0	0
73	2.9	0
74	0	0
75	0	0
76	0	4.4
77	0	0
78	0	0
79	4.9	4.9
80	4.9	4.9
81	4.9	0
82	0	0
83	0	0
84	0	2.2
85	0	2.2
86	0	2.2
87	4.9	4.9
88	2.2	0

MODE PIN NO.	REC	PLAY
89	2.2	0
90	2.2	0
91	3.9	0
92	2.5	2.5
93	0	0
94	0	0
95	2.8	2.5
96	2.7	2.4
97	2.4	2.4
98	0	0
99	2.4	2.4
100	0	0
IC501		
1	2.8	0
2	0	0
3	12.0	2.1
4	0	0
5	16.5	2.7
6	0	0
7	12.6	2.1
8	0	0
9	15.7	1.9
10	0	1.9
11	10.3	2.1
12	14.0	2.8
13	0	0
14	13.4	2.7
15	4.6	2.0
16	5.0	2.6
17	0	2.3
18	0	0
19	0	1.5
20	0	0
21	0	2.6
22	4.0	2.6
23	0	2.9
24	3.3	2.4
25	4.8	3.9
26	17.0	4.9
27	10.8	3.2
28	5.5	2.5
29	2.7	2.7
30	0	4.9
31	2.7	3.3
32	0	4.8
33	7.2	2.8
34	0	2.8
35	2.8	2.8
36	2.8	2.8
37	0	0
38	0	4.8
39	0	4.8
40	2.8	2.8
41	2.6	2.6
42	2.8	2.8
43	3.2	2.9
44	2.0	2.0
45	2.0	1.4
46	4.9	4.9
47	0.7	2.5
48	2.8	2.8
49	0	0
50	2.5	2.8
51	2.5	2.8
52	1.5	1.5
53	2.9	2.9
54	2.1	2.1
55	2.0	1.7
56	4.4	2.7
IC502		
1	2.0	2.0
2	0	4.8
3	3.3	3.3
4	3.3	3.3
5	0	0
6	2.1	2.1
7	2.0	2.0
8	4.9	4.9
9	1.4	0
10	2.8	2.8
11	2.8	2.8
12	2.8	2.8
13	0	0
14	2.8	2.8
15	2.8	2.8
16	2.0	2.0
17	2.0	2.0
18	2.0	2.0
IC2201		
1	2.0	2.3
2	0	0
3	2.0	2.3
4	0	0
5	2.2	2.2
6	2.3	2.3
7	1.9	1.9
8	0	0
9	0	0
10	0	0
11	0	0
12	0	2.1
13	0	0
14	0	0
15	0	0
16	2.3	2.5
17	0	0
18	2.3	2.3
19	0	2.4
20	1.9	0
21	2.0	0
22	1.9	0
23	0	0
24	1.9	0
25	4.8	4.8
26	1.9	0

MODE PIN NO.	REC	PLAY
27	2.4	2.4
28	4.0	0
29	1.7	1.7
30	1.0	0
31	0	3.0
32	2.3	2.3
33	0	2.4
34	0	0
35	0	2.4
36	0	0
37	0	1.6
38	0	0
39	0	0
40	0	4.9
41	0	0
42	0	4.6
43	0	0
44	4.0	2.3
45	2.2	0
46	2.0	3.4
47	3.3	1.7
48	2.0	2.2
49	3.3	3.3
50	3.3	3.3
51	4.7	4.7
52	3.3	3.3
53	0	4.3
54	4.2	2.4
55	0	0
56	0	0
57	0	4.3
58	0	9.1
59	0	4.5
60	0	0
61	4.3	2.4
62	2.3	2.3
63	2.3	2.3
64	0	0
IC2601		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-5.8	-5.8
8	0	0
9	5.0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	4.7	4.7
IC2602		
1	0	0
2	0	0
3	0	0
4	-5.8	-5.8
5	0	0
6	0	0
7	0	0
8	4.7	4.7
IC2621		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	-5.8
8	0	0
9	5.0	0
10	5.0	5.0
11	5.0	5.0
12	0	0
13	0	0
14	0	0
15	0	0
16	4.7	4.7
IC2622		
1	0	0
2	0	0
3	0	0
4	-5.8	-5.8
5	0	0
6	0	0
7	0	0
8	4.7	4.7
IC2641		
1	0	0
2	0	0
3	0	0
4	0	-5.8
5	0	0
6	0	0
7	0	0
8	4.7	4.7
IC3001		
1	-	2.4
2	0	0
3	-	2.4
4	2.4	2.4
5	2.5	2.0
6	2.6	2.6
7	2.4	2.4
8	2.4	2.4
9	4.9	4.9
10	5.0	5.0
11	0	0
12	0	0
13	5.0	5.0
14	0	0
15	0	0

MODE PIN NO.	REC	PLAY
16	4.1	0
17	4.9	4.9
18	0	0
19	3.9	0
20	0	0
21	0	4.1
22	2.0	2.0
23	0	0
24	4.9	4.9
25	0	0
26	5.0	5.0
27	5.0	5.0
28	5.0	5.0
29	5.0	5.0
30	4.9	4.0
31	0	0
32	0	0
33	0	0
34	4.6	4.6
35	0	0
36	0	0
37	0	0
38	0	0
39	0	3.3
40	4.4	4.9
41	4.1	4.1
42	0	0
43	0	0
44	0	0
45	5.0	5.0
46	5.0	5.0
47	0	0
48	4.8	4.8
49	4.8	4.8
50	4.8	4.8
51	3.4	3.4
52	3.5	3.5
53	4.8	4.8
54	-	-
55	-	-
56	-	4.8
57	4.5	4.5
58	4.8	4.8
59	0	0
60	0	4.8
61	0	0
62	0	0
63	0	0
64	0	1.5
65	2.1	2.1
66	5.0	5.0
67	2.5	2.5
68	2.5	2.5
69	2.5	2.5
70	5.0	5.0
71	4.6	4.9
72	0	4.9
73	0	0
74	5.0	5.0
75	4.0	4.5
76	3.8	4.5
77	4.9	4.9
78	0	0
79	0	0
80	0	0
81	5.0	5.0
82	5.0	5.0
83	0	0
84	0	0
85	0	0
86	0	0
87	1.9	0
88	5.0	0
89	0	0
90	2.4	2.4
91	-	0
92	0	0
93	0	0
94	0	0
95	0	0
96	0	0
97	0	0
98	0	4.5
99	2.4	2.4
100	2.5	2.5
101	2.6	2.6
102	1.4	1.4
103	0	2.0
104	0	4.9
105	0	4.3
106	4.8	4.8
107	0	0
108	1.6	4.9
109	0	4.9
110	0	0
111	0	0
112	2.4	2.4
IC3002		
1	0	0
2	0	0
3	5.2	0
4	5.2	5.2
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.1	4.5
6	4.1	4.1
7	0	0
8	5.2	5.2
IC3004		
1	12.0	12.0
2	4.5	0
3	0	0

MODE PIN NO.	REC	PLAY
4	4.6	0
5	12.0	12.0
6	12.0	12.0
7	0	0
8	0	0
9	0	0
IC3005		
1	0	0
2	0	0
3	0	0
4	0	0
5	5.0	0
6	0	0
7	0	0
8	0	0
9	5.0	5.0
10	5.0	0
11	0	0
12	5.0	5.0
13	5.0	0
14	0	0
15	0	0
16	5.0	5.0
IC3006		
1	0	0
2	0	0
3	0	0
4	4.3	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	2.7	2.7
12	2.7	2.7
13	2.8	2.8
14	0	0
15	1.9	1.9
16	5.0	5.0
IC4101		
1	6.5	6.5
2	6.0	6.6
3	6.5	6.5
4	0	0
5	6.5	6.5
6	6.5	6.5
7	6.5	0
8	11.9	11.9
IC5602		
1	2.4	2.4
2	0	0
3	3.1	3.1
IC5603		
1	3.9	3.9
2	3.3	3.3
3	0	0
4	1.2	1.2
5	2.7	2.7
IC5604		
1	1.2	2.3
2	0	0
3	2.6	2.6
IC7101		
1	0	4.9
2	2.2	1.8
3	0	1.7
4	0	4.9
5	0	2.1
6	0	2.0
7	2.0	0
8	0	2.9
9	2.4	0
10	0	2.0
11	0	0
12	0	0
13	4.9	0
14	1.8	0
15	1.8	2.3
16	4.9	0
IC7103		
1	0	0
2	1.0	1.0
3	1.0	1.0
4	1.9	1.9
5	4.9	4.9
6	1.8	1.8
7	1.0	1.0
8	1.0	1.0
Q1		
E	0	-5.3
C	0	-5.3
B	0	-4.0
Q2		
E	0	-5.3
C	0	-5.1
B	0	-4.3
Q3		
E	0	-2.5
C	0	-2.4
B	0	0
Q4		
E	0	-3.9
C	0	-4.0
B	0	-3.1
Q7		
E	1.6	1.6
C	3.3	3.3
B	2.1	2.1
Q8		
E	2.7	0
C	4.9	4.9
B	3.3	3.3
Q9		
E	3.3	3.3

MODE PIN NO.	REC	PLAY
C	0	0
B	2.7	2.7
Q12		
E	3.6	3.6
C	0	0
B	3.0	3.0
Q17		
E	0	0
C	0	1.8
B	-	0
Q21		
E	4.0	2.7
C	0	0
B	2.1	2.1
Q23		
E	0	1.0
C	16.0	4.9
B	1.3	1.3
Q33		
E	0	0
C	4.7	0
B	0	4.0
Q38		
E	12.0	1.9
C	-	4.9
B	16.0	2.7
Q46		
E	4.8	-
C	1.2	-
B	0	0
Q47		
E	4.8	-
C	4.1	-2.0
B	0	0
Q48		
E	0	-5.3
C	0	-5.3
B	0	-4.5
Q49		
E	0	-4.8
C	0	-5.3
B	0	-4.4
Q1701		
E	9.9	7.4
C	0	-2.2
B	9.6	7.3
Q1702		
E	10.0	-5.1
C	0	-5.2
B	9.7	4.9
Q1703		
E	0	-5.4
C	9.5	5.3
B	0	-5.3
Q1704		
E	10.5	8.8
C	9.4	8.0
B	10.5	8.4
Q1705		
E	0	-3.0
C	10.5	7.2
B	0	-4.0
Q1706		
E	0	-5.0
C	4.7	-3.0
B	0	-4.7
Q2001		
E	-13.6	0
C	0	0
B	-19.4	0
Q2002		
E	-13.6	0
C	0	0
B	-19.1	0
Q2003		
E	4.9	4.9
C	-19.0	4.9
B	4.2	0
Q2051		
E	0	0
C	8.0	0
B	0	0
Q2052		
E	0	10.5
C	10.4	0
B	9.8	10.5
Q2053		
E	0	0
C	0	10.5
B	4.8	0
Q2054		
E	10.4	1.8
C	10.2	0
B	9.6	2.5
Q2055		
E	0	0
C	0	2.0
B	4.3	0
Q2201		
E	6.2	4.7
C	0	-2.5
B	5.3	0
Q2202		
E	0	0
C	4.5	4.5
B	0	0
Q2203		
E	0	0
C	0	0
B	-3.0	-2.6
Q2204		
E	0	0
C	0	0
B	0	-2.6

MODE PIN NO.	REC	PLAY
Q2251		
E	0	0
C	4.2	0
B	0	0
Q2252		
E	0	0
C	4.2	0
B	0	4.4
Q2253		
E	0	0
C	0	0
B	4.1	0
Q2254		
E	0	0
C	0	0
B	0	4.4
Q2277		
E	0	0
C	0	0
B	0	0
Q2278		
E	0	0
C	0	0
B	0	0
Q2279		
E	4.8	2.9
C	4.7	-
B	1.0	0
Q2284		
E	0	0
C	0	0
B	0	0
Q2601		
E	4.6	2.8
C	-3.4	-4.2
B	4.6	2.8
Q2602		
E	0	0
C	4.6	3.0
B	0	0
Q2603		
E	0	0
C	0	0
B	-3.1	-4.1
Q2604		
E	0	0
C	0	0
B	-3.2	-3.8
Q3001		
E	0	0
C	12.0	12.0
B	0	0
Q3003		
1	0	0
2	5.0	5.0
Q3005		
E	4.9	4.9
C	5.7	5.7
B	5.6	5.6
Q3007		
E	26.0	23.9
C	-4.0	0
B	25.2	23.9
Q3010		
E	0	0
C	24.3	23.9
B	0	0
Q3012		
E	0	0
C	0	0
B	0	0
Q3013		
E	0	0
C	5.0	5.0
B	0	0
Q4001		
E	0	0
C	0	0
B	4.9	4.9
Q4002		
E	0	0
C	0	0
B	4.8	4.8
Q4003		
E	0	0
C	0	0
B	4.8	4.8
Q5501		
E	10.6	10.6
C	12.0	12.0
B	11.2	11.2
Q5502		
E	5.1	5.1
C	5.7	5.7
B	5.1	5.7
Q5503		
E	5.0	5.0
C	5.7	5.7
B	5.7	5.7
Q5504		
E	0	0
C	0	0
B	2.6	2.6
Q5505		
E	12.0	12.0
C	12.0	12.0
B	0	0
Q5506		
E	0	0
C	5.8	5.8
B	0	0
Q5507		
E	5.8	5.8
C	5.7	5.7
B	0	0

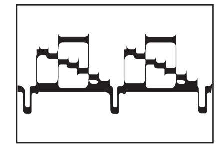
MODE PIN NO.	REC	PLAY
Q5510		
E	0	0
C	0	0
B	2.8	0
Q5602		
E	2.5	2.5
C	3.2	3.2
B	3.1	3.1
Q5604		
E	2.0	2.0
C	3.2	3.2
B	2.6	2.6
Q6030		
E	2.0	2.0
C	0	0
B	0	1.3
Q6031		
E	0	0
C	9.6	0
B	0	0
Q7101		
E	1.5	1.5
C	0	0
B	0	0
Q7151		
E	0	0
C	5.0	5.0
B	0	0
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11		
CN901		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.1	2.4
7	2.3	2.3
CN2002		
1	0	0
2	0	0
CN3001		
1	12.0	12.0
2	0	0
3	1.3	1.3
4	0	0
5	1.6	1.6
CN3002		
1	3.0	1.3
2	3.0	1.3
CN3003		
1	0	0
2	2.5	2.5
3	2.6	2.6
4	4.9	4.9
5	0	10.4
6	5.0	0
7	0	4.9
8	10.4	0
CN3004		
1	5.0	5.0
2	5.0	5.0
3	0	0
4	0	0
CN3008		
1	5.0	5.0
2	0	0
3	4.9	4.9
4	4.8	4.8
5	5.0	5.0
6	0	0
7	4.5	4.5
8	5.0	5.0
9	0	0
10	4.8	4.8
CN3009		
1	0	0
2	0	4.9
3	0	0
4	3.4	3.4
5	0	0
6	4.7	4.7
7	4.5	4.5
8	0	0
9	-	-
10	2.4	2.4
11	2.4	2.4
12	2.4	2.4
13	4.4	4.4
14	3.2	3.2
15	0	0
16	4.8	0

MODE PIN NO.	REC	PLAY
CN3010		
1	0	0
2	5.0	5.0
3	0	0
4	5.0	5.0
5	0	0
6	5.0	5.0
CN3011		
3	0	0
4	0	0
5	0	4.9
6	4.9	4.9
7	4.9	4.9
8	2.4	2.4
9	0	1.4
10	4.3	4.8
11	0	0
12	4.8	4.8
13	3.8	3.8
14	0	0
15	2.4	2.4
16	0	0
CN5501		
1	5.0	5.0
2	5.0	5.0
3	-7.2	-7.2
4	2.7	2.7
5	4.2	4.2
6	4.2	4.2
7	0	0
8	0	0
9	12.0	12.0
10	12.0	12.0
11	12.0	12.0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.7	5.7
17	5.7	5.7
18	23.8	23.8
19	31.7	31.7
20	47.4	47.4
CN5502		
1	0	0
2	0	0
3	0	0
4	0	0
CN5601		
1	3.3	3.3
2	3.3	3.3
3	2.0	2.0
4	2.0	2.0
5	5.0	5.0
6	3.3	3.3
7	0	0
8	0	0
9	0	0
10	0	0
11	2.5	0
12	2.5	2.5
CN5602		
1	10.5	10.5
2	2.0	0
3	4.9	0
4	-7.1	0
CN5603		
1	5.0	5.0
2	0	0
CN7101		
1	0	0
2	0	1.7
3	0	0
4	0	1.0
5	0	0
6	1.0	1.0
7	0	0
8	1.0	0
9	0	3.3
10	0	
11	3.2	
12	0	
CN7102		
1	1.8	1.8
2	0	0
3	1.0	1.0
4	0	0
5	1.0	1.0
6	0	0
7	1.7	1.7
CN7107		
1	0	0
2	2.8	2.8
3	0	0
4	2.3	2.3
5	0	0
6	0.7	2.5
7	0	0
8	2.0	1.3
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0

■ WAVEFORMS

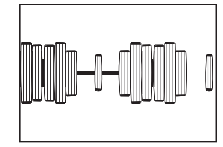
< VIDEO (MAIN) >

WF1 IC1-27



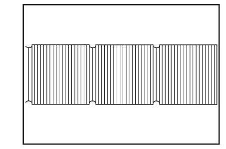
PB 2.3 Vp-p
50 mV/20 µsec/DIV

WF2 IC1-30



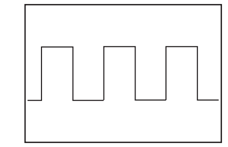
PB 0.72 Vp-p
20 mV/20 µsec/DIV

WF3 TP106 PB FM



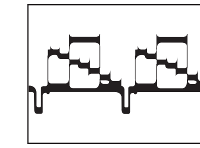
PB 0.7 Vp-p
50 mV/5 msec/DIV

WF4 TP111 D.FF



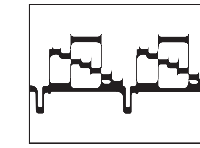
REC/PB 4.3 Vp-p
0.1 V/10 msec/DIV

WF5 IC1-14



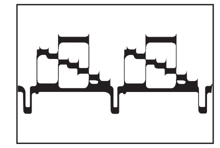
PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF6 IC1-13



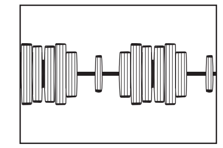
REC/PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF7 IC1-11



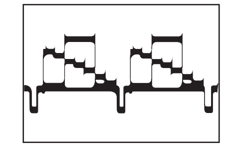
REC/PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF8 IC1-16



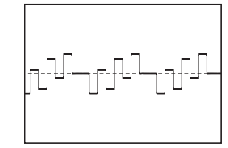
REC 0.1 Vp-p
20 mV/20 µsec/DIV

WF9 CN7102-1



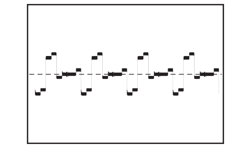
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF10 CN7102-5



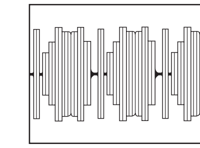
REC/PB 1.2 Vp-p
50 mV/20 µsec/DIV

WF11 CN7102-3



REC/PB 1.3 Vp-p
50 mV/20 µsec/DIV

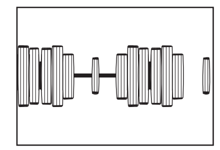
WF12 CN7102-7



REC/PB 0.6 Vp-p
50 mV/20 µsec/DIV

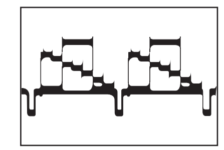
< VIDEO (S-SUB) >

WF1 IC501-3



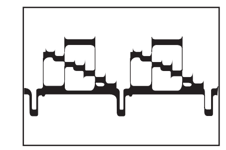
REC 0.7 Vp-p
20 mV/20 µsec/DIV

WF2 IC501-1



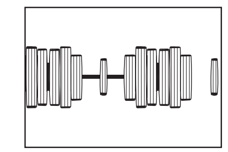
REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF3 IC501-56



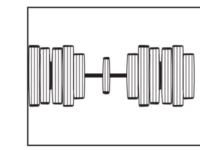
PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF4 IC501-48



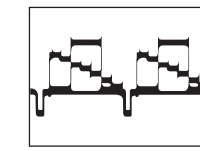
PB 0.7 Vp-p
20 mV/20 µsec/DIV

WF5 IC501-47



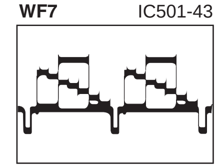
REC 1.5 V p-p
50 mV/20 µsec/DIV

WF6 IC501-45



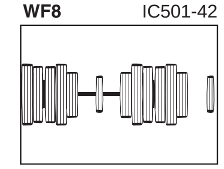
REC/PB 2.0 Vp-p
50 mV/20 µsec/DIV

WF7 IC501-43



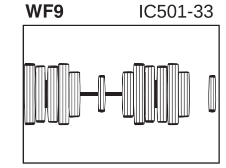
REC 0.8 Vp-p
20 mV/20 µsec/DIV

WF8 IC501-42



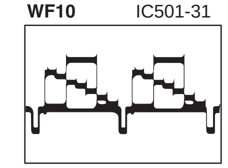
REC/PB 1.5 Vp-p
50 mV/20 µsec/DIV

WF9 IC501-33



REC 0.76 Vp-p
20 mV/20 µsec/DIV

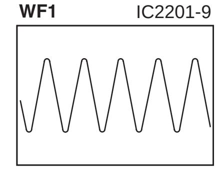
WF10 IC501-31



PB 0.7 Vp-p
20 mV/20 µsec/DIV

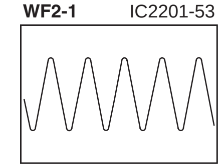
< AUDIO >

WF1 IC2201-9



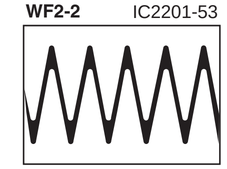
REC 0.47 Vp-p
10 mV/0.2 msec/DIV

WF2-1 IC2201-53



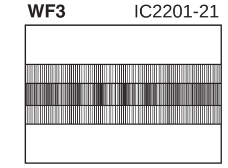
REC 4.0 Vp-p
0.1 V/0.2 msec/DIV

WF2-2 IC2201-53



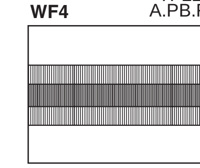
PB 1.1 Vp-p
20 mV/0.2 msec/DIV

WF3 IC2201-21



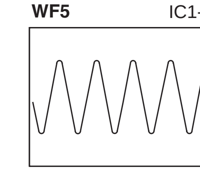
REC 1.0 Vp-p
50 mV/2 msec/DIV

WF4 TP2253 A.PB.FM



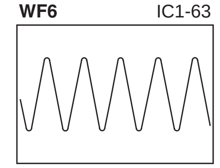
PB 0.6 Vp-p
20 mV/0.2 msec/DIV

WF5 IC1-53



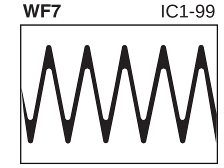
REC 0.3 Vp-p/PB 0.7 Vp-p
0.1 V/0.5 msec/DIV

WF6 IC1-63



REC 25 mVp-p
10 mV/0.2 msec/DIV

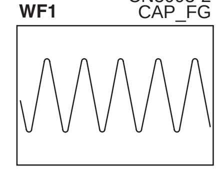
WF7 IC1-99



REC 0.6 Vp-p
0.1 V/0.2 msec/DIV

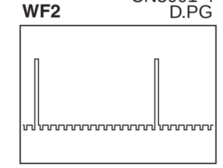
< SYSCON >

WF1 CN3003-2 CAP_FG



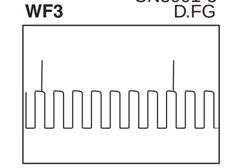
REC/PB 0.8 Vp-p
50 mV/0.5 msec/DIV

WF2 CN3001-4 D.PG



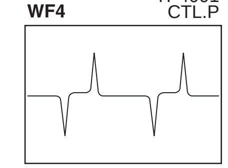
REC/PB 4.8 Vp-p
0.1 V/10 msec/DIV

WF3 CN3001-5 D.FG



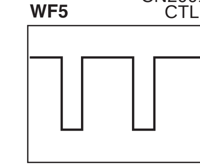
REC/PB 4.6 Vp-p
0.1 V/10 msec/DIV

WF4 TP4001 CTL.P



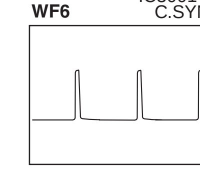
PB 4.5 Vp-p
50 mV/10 msec/DIV

WF5 CN2001-7 CTL(+)



REC 1.2 Vp-p
50mV/10 msec/DIV

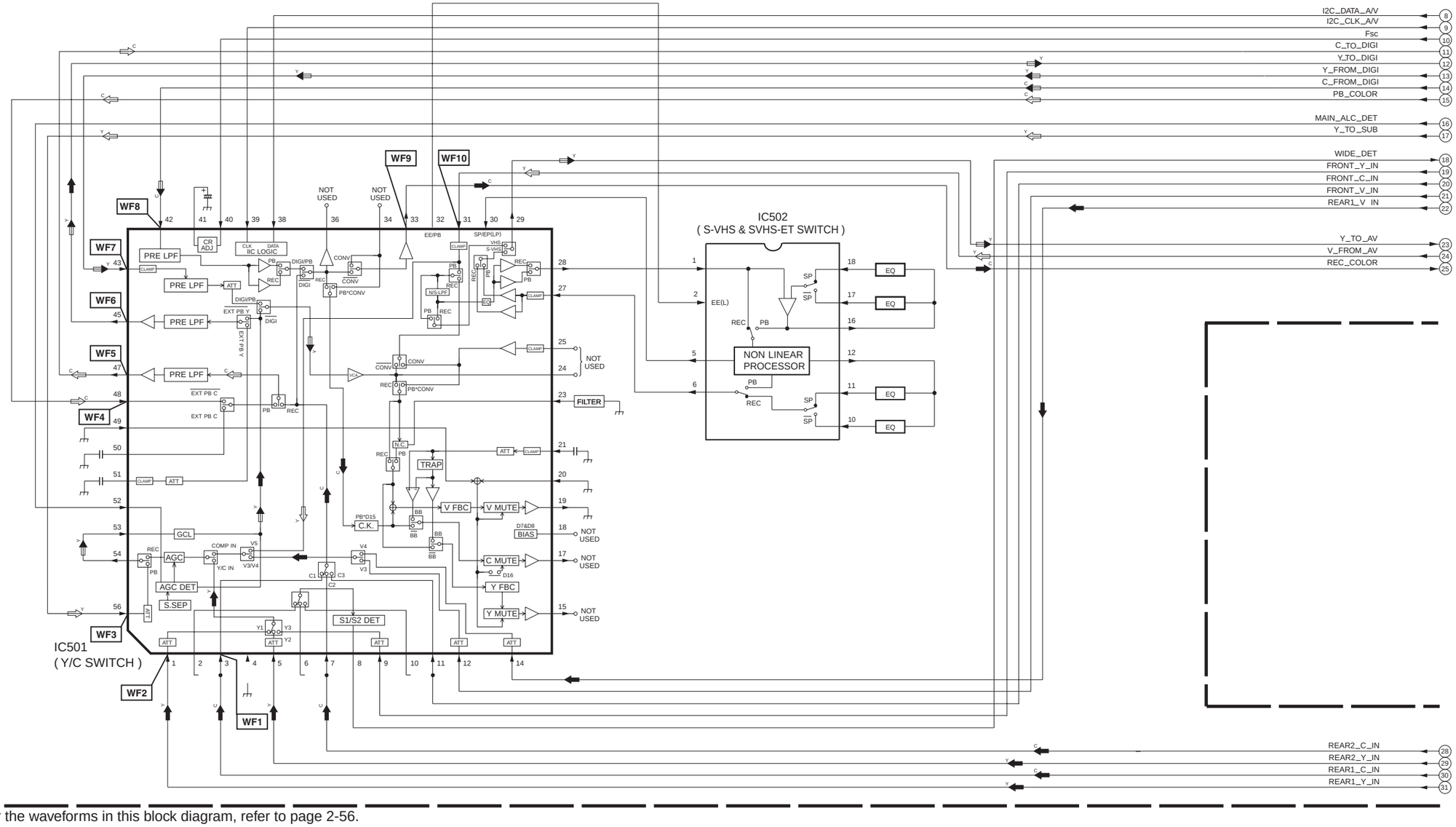
WF6 IC3001-98 C.SYNC



REC/PB 6.0 Vp-p
0.1 V/20 µsec/DIV

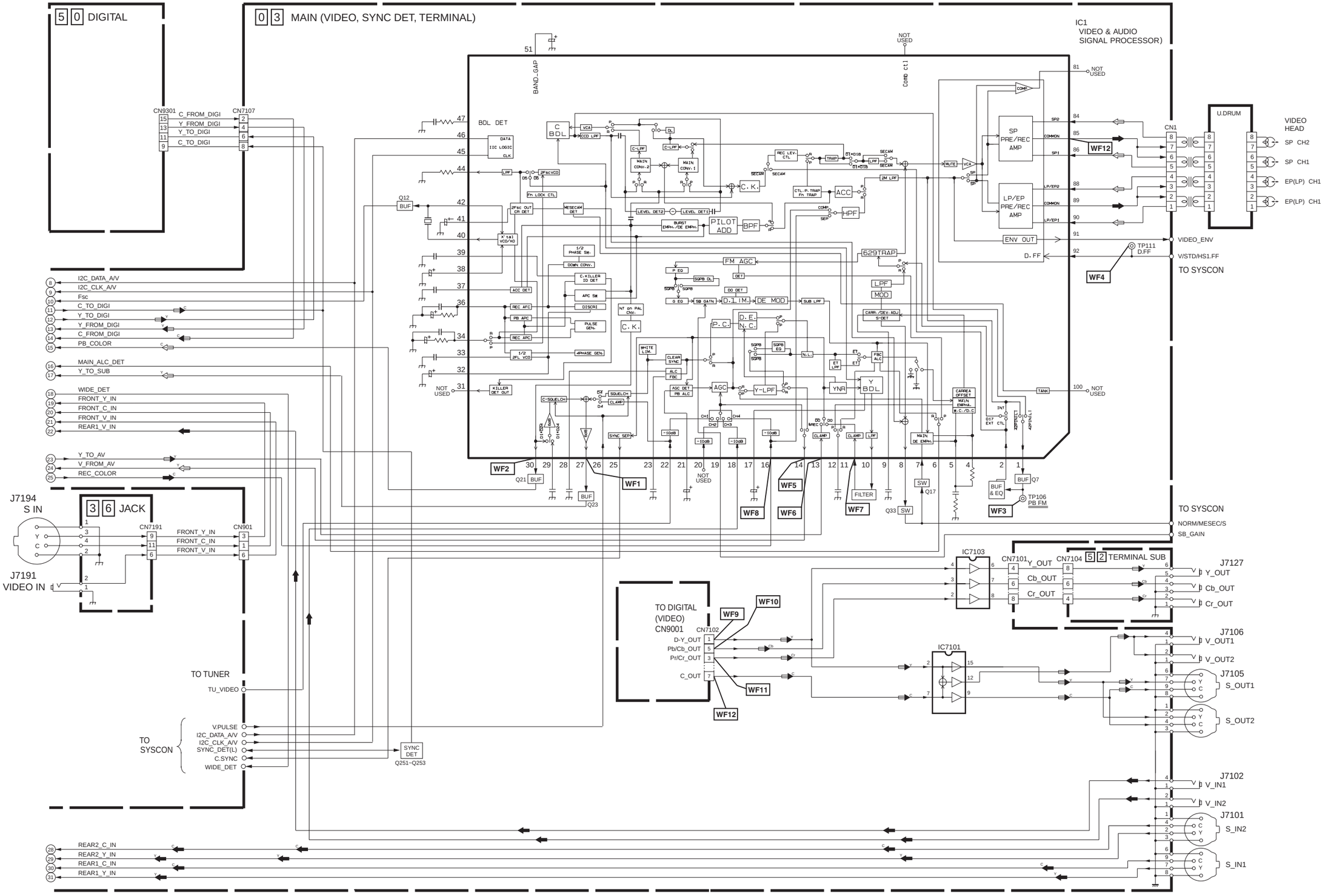
■ VIDEO BLOCK DIAGRAM(1)

0 3 MAIN (S-SUB)



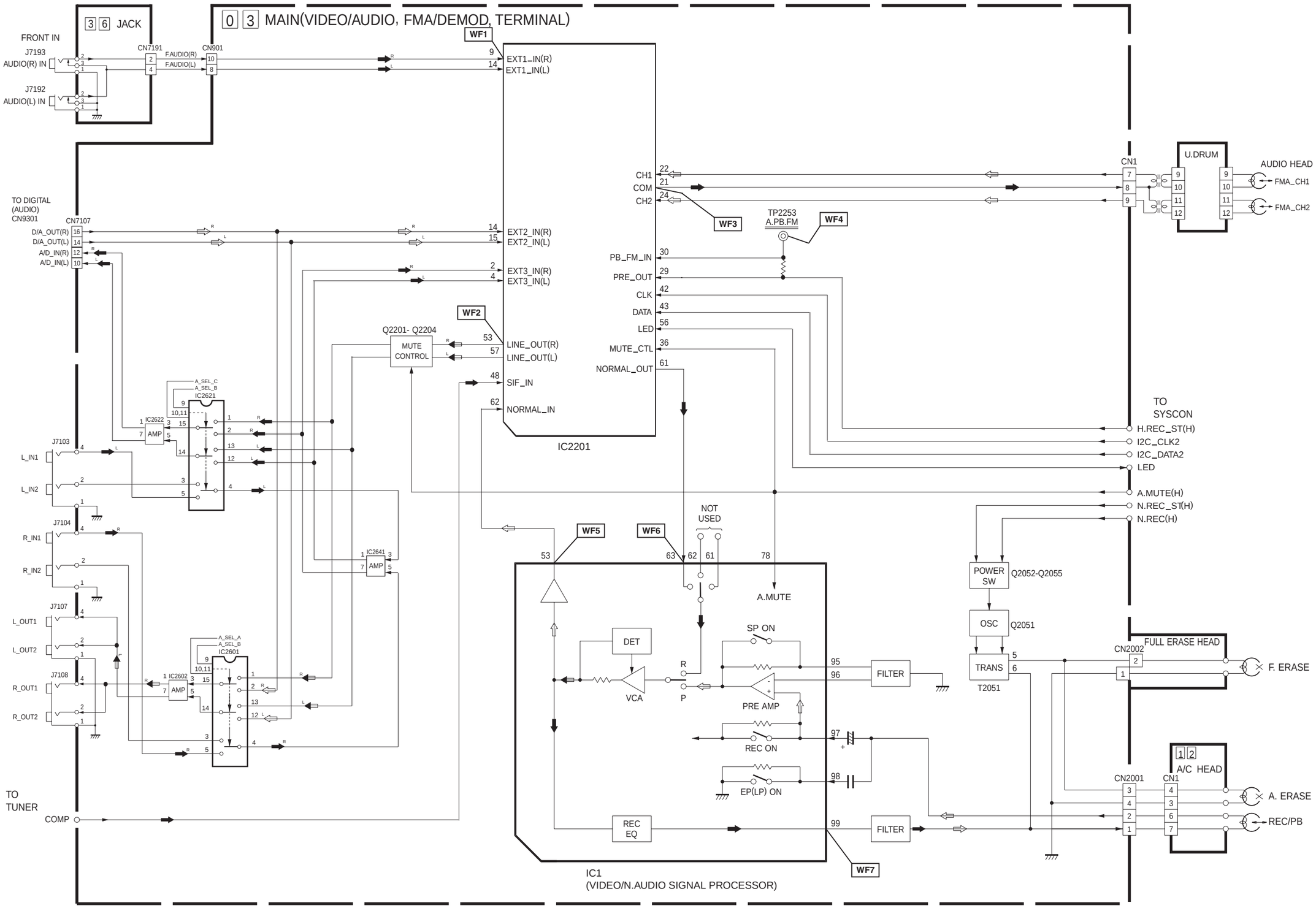
Note : For the waveforms in this block diagram, refer to page 2-56.

■ VIDEO BLOCK DIAGRAM(2)



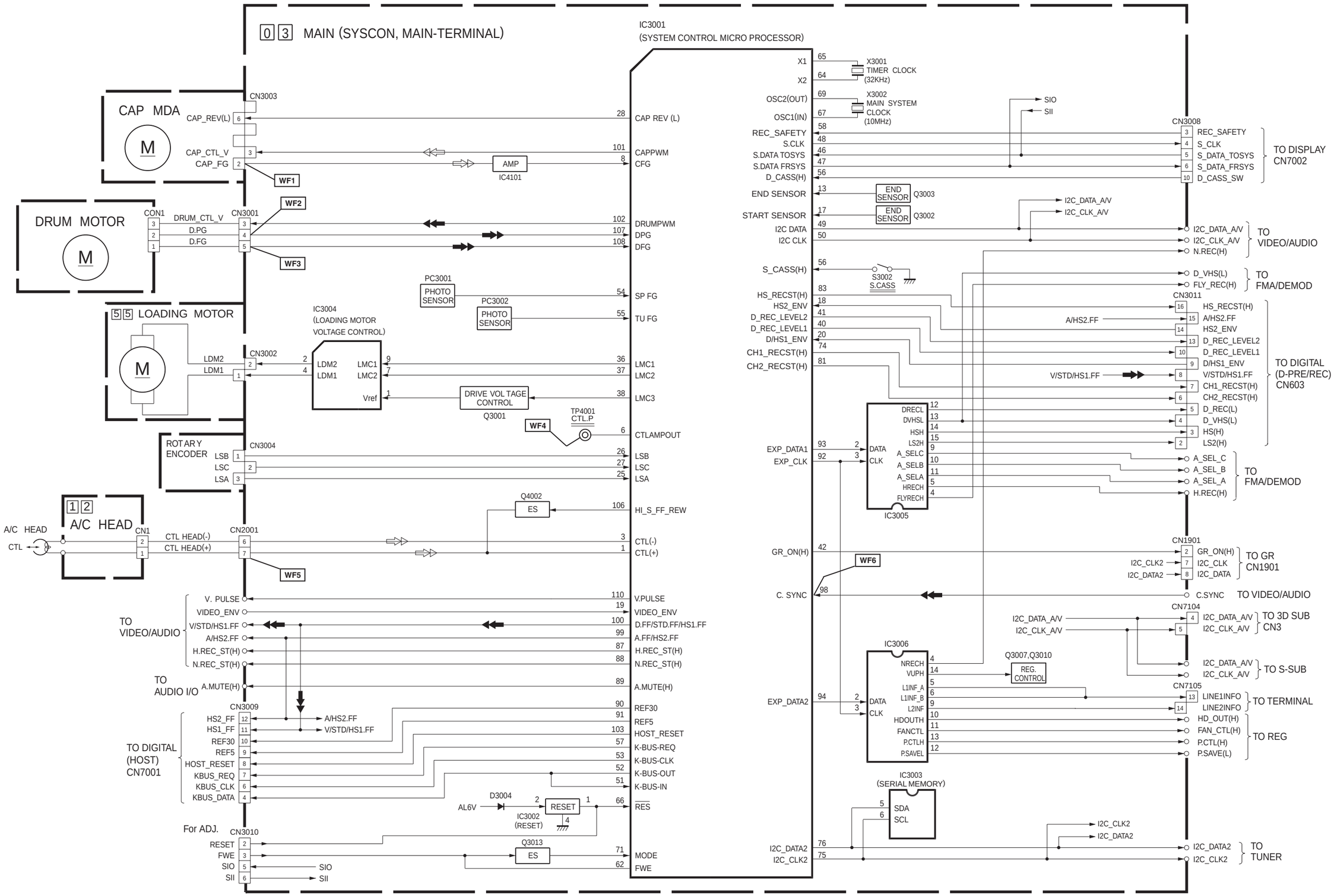
Note : For the waveforms in this block diagram, refer to page 2-56.

■ AUDIO BLOCK DIAGRAM



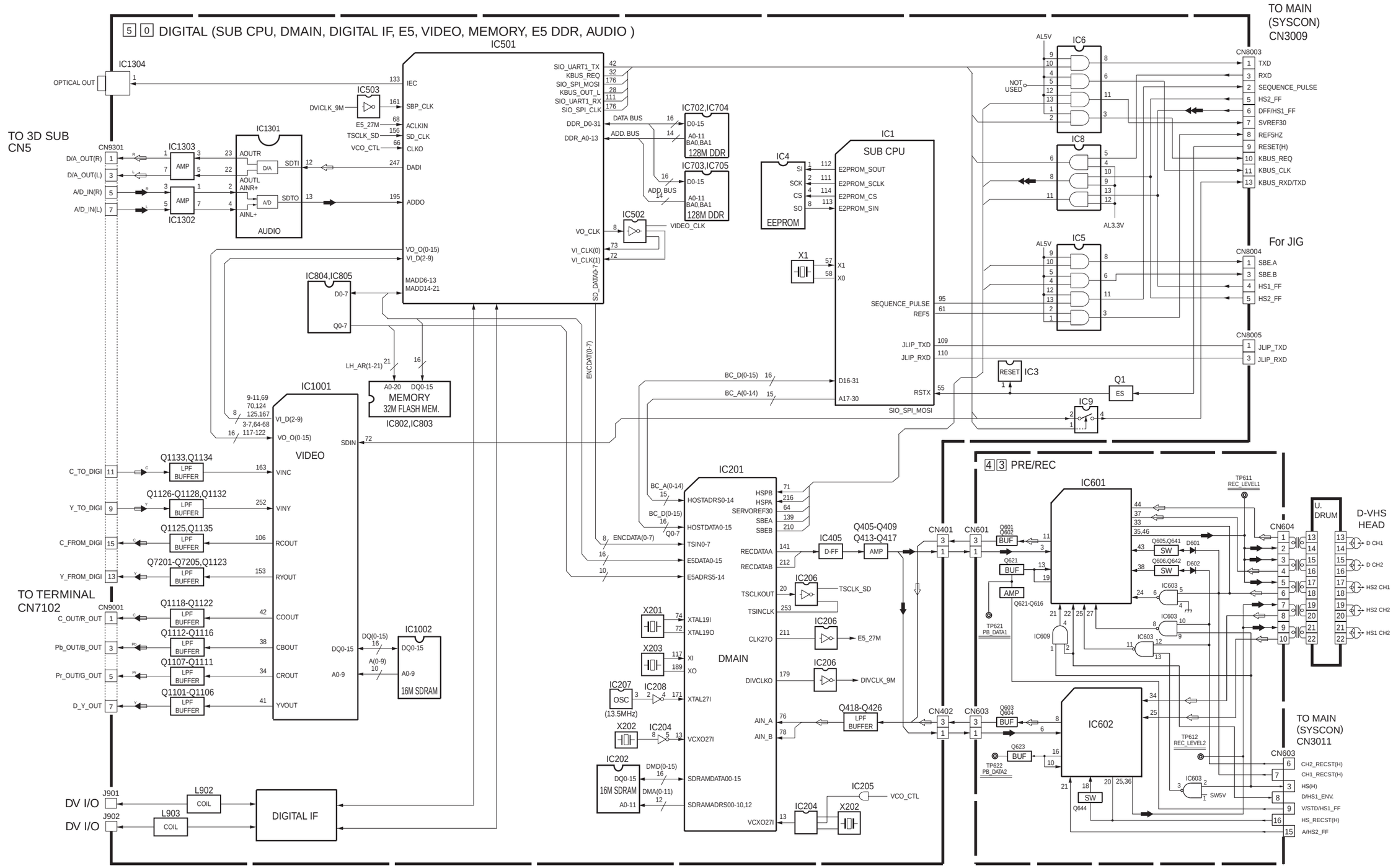
Note : For the waveforms in this block diagram, refer to page 2-56.

■ SYSTEM CONTROL BLOCK DIAGRAM



Note : For the waveforms in this block diagram, refer to page 2-56.

■ D-VHS BLOCK DIAGRAMS



PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

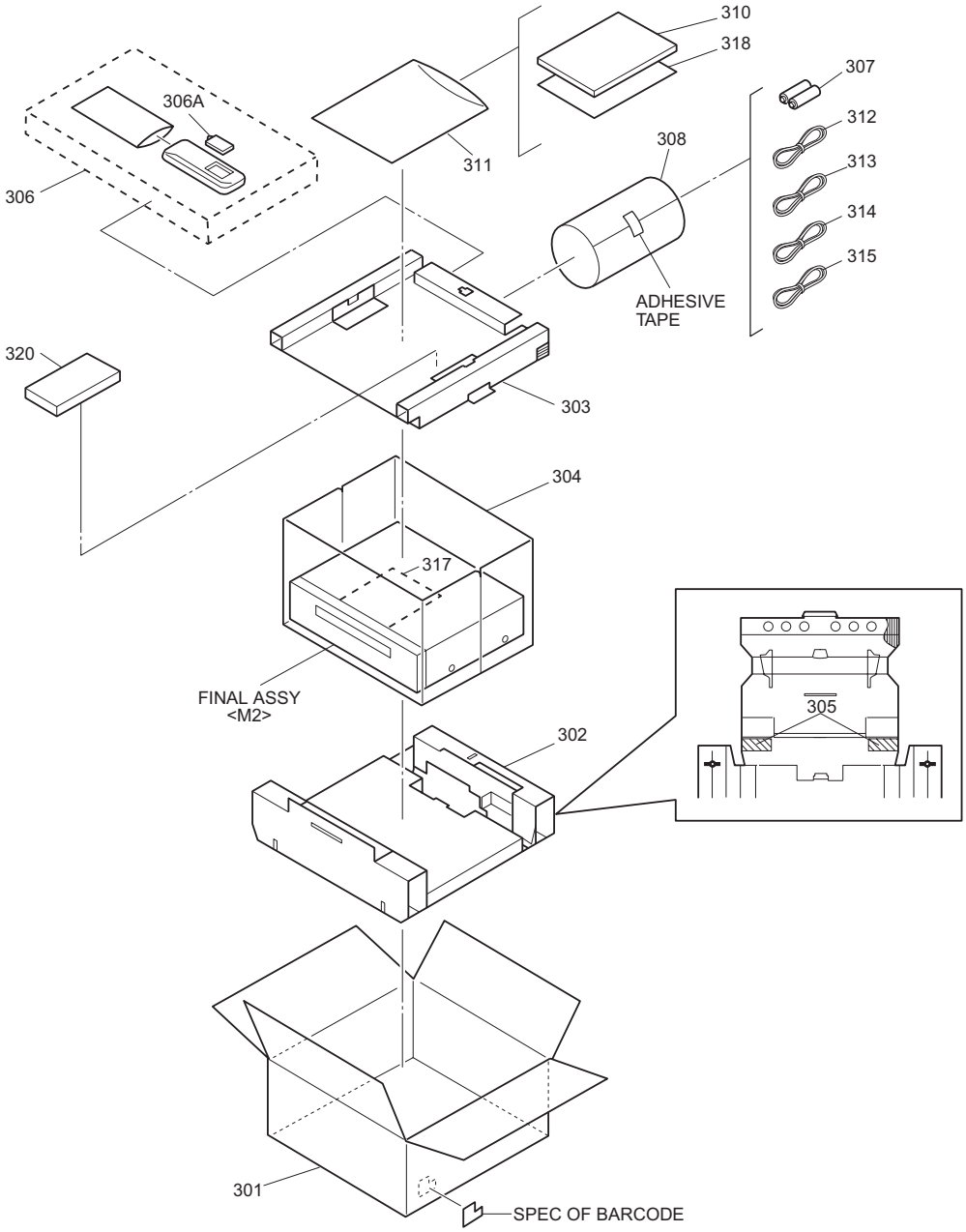
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

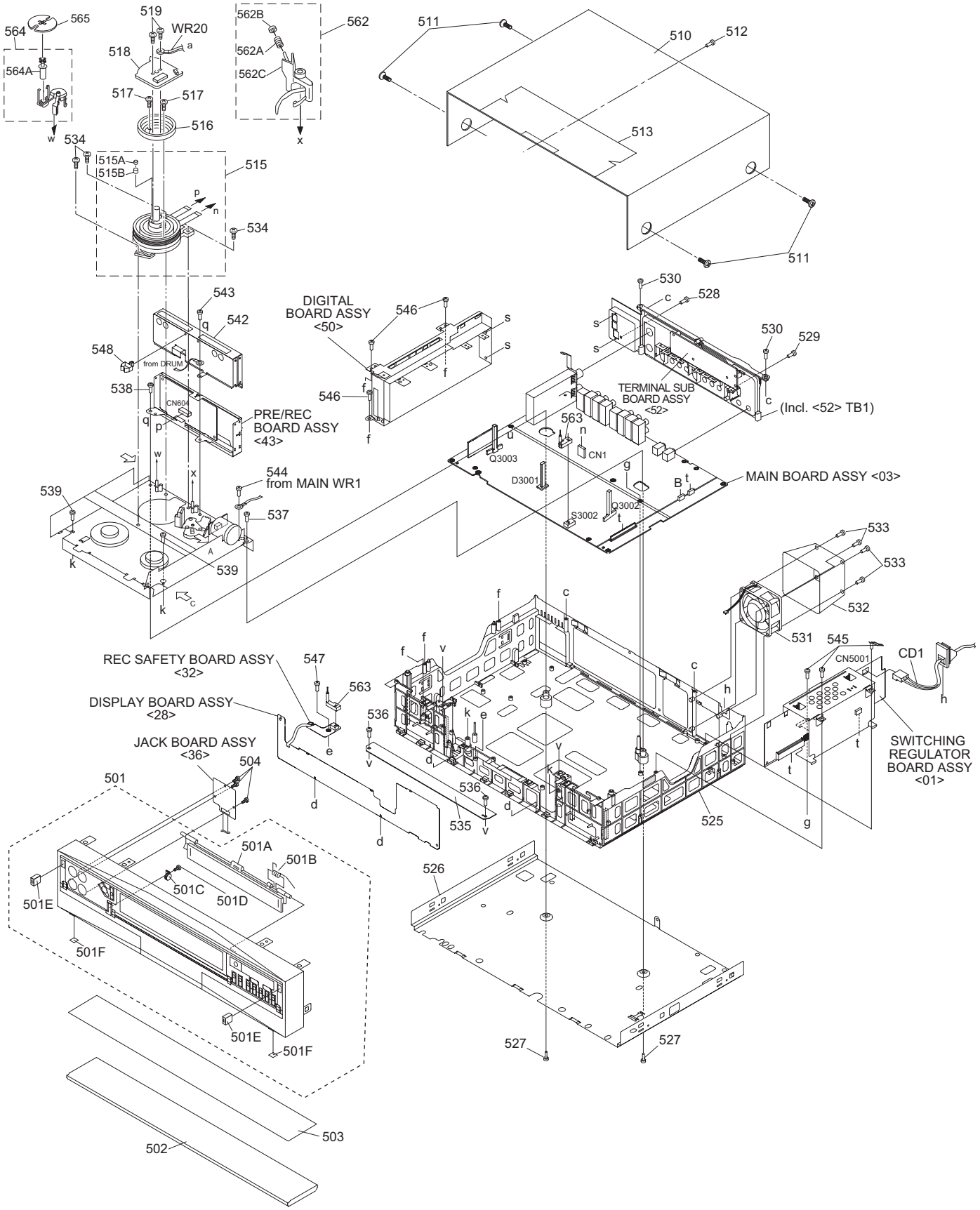
1. EXPLODED VIEW

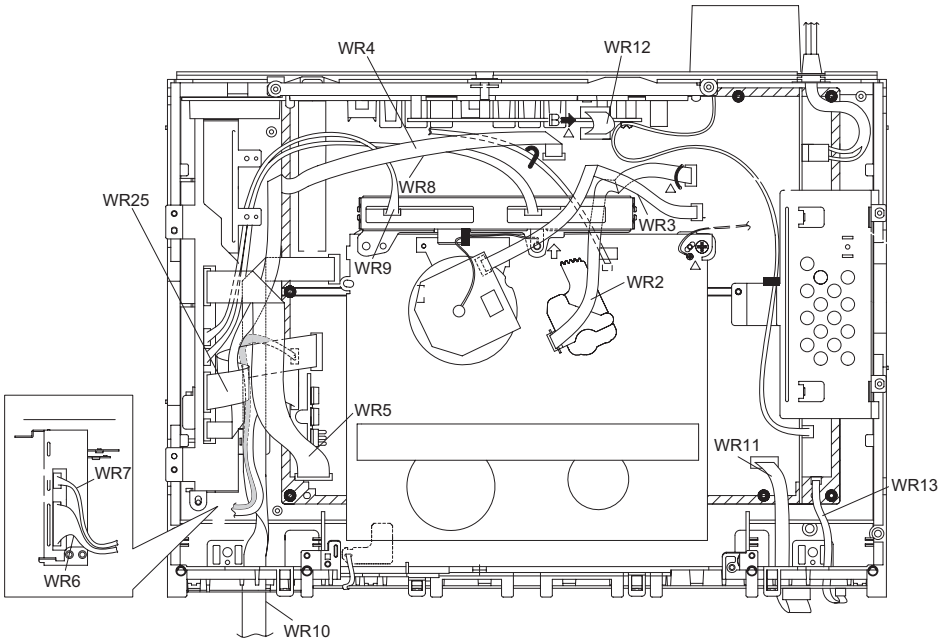
1.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



1.2 FINAL ASSEMBLY <M2>





PACKING AND ACCESSORY ASSEMBLY <M1>

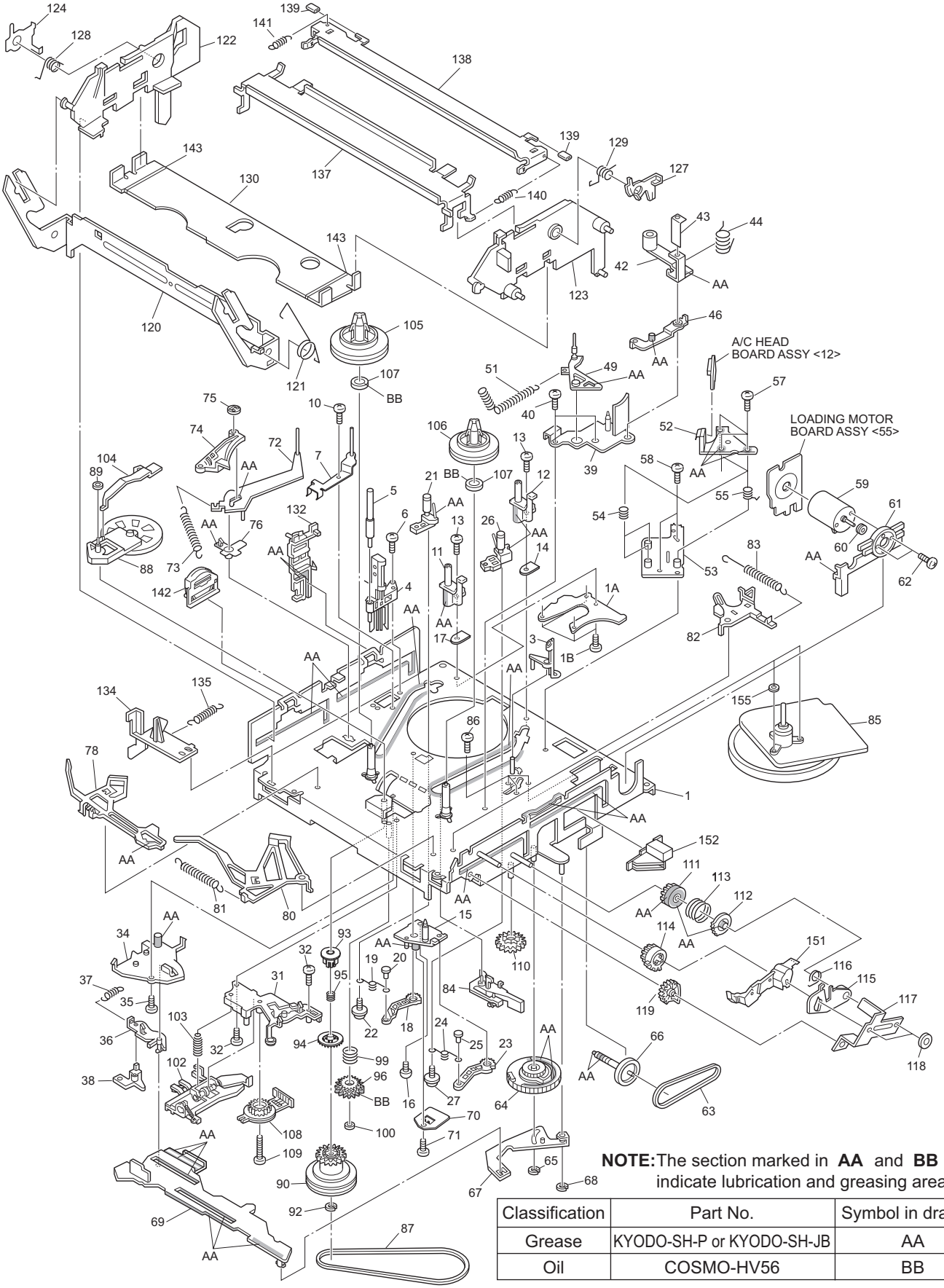
⚠ Symbol No.	Part No.	Part Name	Description Local
301	LP31128-001B	PACKING CASE	
302	LP31130-001C	CUSHION(BOTTOM)	
303	LP30934-002C	CUSHION(TOP)	
304	PQM30021-105	POLY BAG	
305	LP40967-005A	MINI CUSHION	(x2)
306	LP21036-013C	REMOCON	
306A	LP40254-010A	COVER(BATTERY)	
307	----------	BATTERY	(x2)
308	QPC02202230P	POLY BAG	22cm x 22cm
⚠ 310	LPT0698-001B	INST.BOOK	(ENGLISH)
⚠ 310	LPT0698-002B	INST.BOOK	(FRENCH)
311	QPC02503530P	POLY BAG	25cm x 35cm
312	PEAC0294-04	RF CABLE	
313	QAM0004-002	S CABLE	
314	QAM0207-001	AUDIO CABLE	
315	QAL0095-004	LED CABLE ASSY	
317	LPT0698-004A	SHEET(D-VHS)	
318	BT-51028-2	REGIST CARD	
320	QAM0492-001	CLEANING TAPE	

FINAL ASSEMBLY <M2>

⚠ Symbol No.	Part No.	Part Name	Description Local
⚠ 501	LP10437-001D	FRONT PANEL ASSY	
501A	LP21109-001B	CASSETTE DOOR	
501B	PQ46448	TORSION SPRING	
501C	QZW0055-003	DAMPER	
501D	DPSF3010Z	SCREW	
501E	QZW0063-001	MAGNET LATCH	(x2)
501F	PQ43013-7	FOOT	(x2)
502	LP21114-001D	DOOR ASSY	
503	QPH00504210	POLY SHEET	5cm x 42cm
504	QYTDSF2608Z	TAP SCREW	2.6mm x 8mm JACK(x3)
⚠ 510	PQ11922-52-13	TOP COVER	
511	QYTDSF3010R	TAP SCREW	3mm x 10mm TOP SIDE(x4)
512	QYTDSF3010M	TAP SCREW	3mm x 10mm TOP REAR
513	LP31153-001A	STICKER(TOP)	
515	LP21000-003A	DRUM SUB ASSY	
515A	LP40323-001A	CONTACT	
515B	LP30004-014A	COMPRES. SPRING	
516	PDZ0179-1-4	ROTOR ASSY	
517	QYSPSP3006Z	SCREW	3mm x 6mm(x2)

⚠ Symbol No.	Part No.	Part Name	Description Local
⚠ 518	QAR0119-001	STATOR ASSY	
519	QYSPSPH2606Z	SCREW	2.6mm x 6mm(x2)
⚠ 525	LP10140-011A	BOTTOM CHASSIS	
⚠ 526	PQ11921-1-4	BOTTOM COVER	
527	QYTDSF3010Z	TAP SCREW	3mm x 10mm BOTTOM COVER(x2)
528	QYTDSF3010M	TAP SCREW	3mm x 10mm DIGITAL
529	QYTDSF3010M	TAP SCREW	3mm x 10mm TERMINAL(REAR)
530	QYTPSFG3010Z	TAP SCREW	3mm x 10mm TERMINAL(TOP)(x2)
531	QAR0174-001	FAN MOTOR	
532	LP20838-002B	COVER(FAN)	
533	LP40587-002A	SPECIAL SCREW	FAN COVER(x4)
534	QYTDST2610Z	TAP SCREW	2.6mm x 10mm DRUM(x3)
535	LP30312-001B	BRACKET(CHASSIS)	
536	QYTDSF3010Z	STAP CREW	3mm x 10mm BRACKET(x2)
537	LP40700-001A	SPECIAL SCREW	MECHANISM
538	QYTDSF4012Z	TAP SCREW	4mm x 12mm MECHANISM
539	QYTDSF3010Z	TAP SCREW	3mm x 10mm MECHANISM(x2)
542	LP20941-001A	SHIELD CASE(PRE	
543	QYTDST2606Z	TAP SCREW	2.6mm x 6mm PRE/REC
544	QYTDST2606Z	TAP SCREW	2.6mm x 6mm MAIN
545	QYTDSF3010Z	TAP SCREW	3mm x 10mm SW REG(x3)
546	QYTDSF3010Z	TAP SCREW	3mm x 10mm DIGITAL(x3)
547	QYTDSF3010Z	TAP SCREW	3mm x 10mm REC SAFETY
548	PU59311	WIRE CLAMP	
562	LP40369-001D	CLEANER ASSY	
562A	PQ46418-1-2	CLEANER ROLLER	
562B	PQ46419-1-2	CLEANER	
562C	LP30407-001D	CLEANER ARM	
563	LP40407-001A	KNOB ASSY	(x2)
564	LP40370-001F	ROLLER ARM ASSY	
564A	PDM4311A-1	ROLLER ASSY	
565	PQ44230	INERTIA PLATE	
⚠ CD1	QMPD190-170-K	POWER CORD(JP)	1.7m BLACK
WR 2	QUQ112-0722CG	FFC WIRE	MAIN CN2001-A/C HEAD
WR 3	QUQ212-0520CG	FFC WIRE	MAIN CN3001-DRUM MDA
WR 4	QUQ210-0742CC	FFC WIRE	MAIN CN7102-DIGITAL CN9001
WR 5	QUQ210-1622CC	FFC WIRE	MAIN CN3009-DIGITAL CN8003
WR 6	QJJ001-121412	SIN CR C-C WIRE	MAIN CN5601-DIGITAL CN8002
WR 7	QJJ001-041514	SIN CR C-C WIRE	MAIN CN5602-DIGITAL CN8001
WR 8	WJN0051-001A	E-SH C WIRE C-C	PRE/REC CN601-DIGITAL CN401
WR 9	WJN0051-002A	E-SH C WIRE C-C	PRE/REC CN602-DIGITAL CN402
WR10	QUQ112-1130CG	FFC WIRE	MAIN CN901-JACK CN7191
WR11	QUQ112-1016CG	FFC WIRE	MAIN CN3008-DISPLAY CN7002
WR12	QUQ112-0914CG	FFC WIRE	MAIN CN7101-TER.SUB CN7104
WR13	QJJ001-021612	SIN CR C-C WIRE	MAIN CN5603-DISPLAY CN7005
WR20	QUB220-13RLRL	SIN TWIST WIRE	STATOR-PRE/REC
WR25	QUQ112-1615CG	FFC WIRE	MAIN CN7107-DIGITAL CN9301

1.3 MECHANISM ASSEMBLY <M4>



NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P or KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

MECHANISM ASSEMBLY <M4>

⚠ Symbol No.	Part No.	Part Name	Description Local
1	LP20884-002F	MAIN DECK ASSY	
1A	LP40275-002B	PLATE(SUPPLY)	
1B	QYTDST2606Z	TAP SCREW	2.6mm x 6mm(x4)
3	LP30492-002B	GUIDE POLE GUARD	
4	NAH0001-001	FULL ERASE HEAD	
5	LP40098-001B	GUIDE POLE(SUPPLY)	
6	QYTDST2608Z	TAP SCREW	2.6mm x 8mm
7	LP40637-002A	TENSION STUD BASE ASSY	
10	QYTDST2606Z	TAP SCREW	2.6mm x 6mm
11	LP30409-002C	UV CATCHER 2	
12	LP30409-002C	UV CATCHER 2	
13	QYTDST2606Z	TAP SCREW	2.6mm x 6mm(x2)
14	PQ40919-10	SPACER	
15	LP30223-003C	LOADING ARM GEAR SHAFT	
16	QYTDST2606Z	TAP SCREW	2.6mm x 6mm
17	PQ40919-10	SPACER	
18	LP30224-001B	LOADING ARM GEAR(SUPPLY)	
19	LP40099-001A	TORSION ARM	
20	LP40100-001A	PIN	
21	LP40101-007A	POLE BASE ASSY(SUPPLY)	
22	QYSPSTG2606Z	TAP SCREW	2.6mm x 6mm
23	LP40103-002B	LOADING ARM GEAR(TAKE UP)	
24	LP40099-001A	TORSION ARM	
25	LP40100-001A	PIN	
26	LP40104-008A	POLE BASE ASSY(TAKE UP)	
27	QYSPSTG2606Z	TAP SCREW	2.6mm x 6mm
31	LP20233-004C	ROTARY ENCODER GUIDE	
32	QYTPST2606Z	TAP SCREW	2.6mm x 6mm(x2)
34	LP30226-004E	CONTROL PLATE GUIDE	
35	QYTPST2605Z	TAP SCREW	2.6mm x 5mm
36	LP30249-003B	TAKE UP LEVER	
37	LP30003-006A	TENSION SPRING	
38	LP40119-002A	TAKE UP HEAD	
39	LP20234-004B	LID GUIDE	
40	QYTDST2606Z	TAP SCREW	2.6mm x 6mm(x2)
42	LP40105-003A	PINCH ROLLER ARM ASSY	
43	LP40753-001A	PINCH ROLLER SHEET 3	
44	LP40148-002A	TORSION SPRING	
46	LP40149-001C	PRESS LEVER ASSY	
49	LP40106-008A	GUIDE ARM ASSY	
51	LP40134-002A	TENSION SPRING	
52	QAH0010-005	AC HEAD	
53	LP30228-001C	HEAD BASE	
54	LP30004-013A	COMP.SPRING	(x2)
55	LP40236-001A	COMP.SPRING	
57	LP40213-002B	SPECIAL SCREW	(x3)
58	QYTDST2608Z	TAP SCREW	2.6mm x 8mm(x2)
59	QAR0023-001	LOADING MOTOR	
60	PQ43546-1-2	MOTOR PULLEY	
61	LP30230-003D	MOTOR GUIDE	
62	QYTPSP3003Z	SCREW	3mm x 3mm(x2)
63	LP30005-003A	BELT	
64	LP20791-002D	CTL.CAM	
65	PQM30017-24	SLIT WASHER	
66	LP40120-001A	WORM GEAR	
67	LP40107-002A	LINK LEVER ASSY	
68	PQM30017-24	SLIT WASHER	
69	LP10284-002E	CONTROL PLATE	
70	LP40379-001B	CONTROL BRACKET(1)	
71	QYTDSF2608M	TAP SCREW	2.6mm x 8mm
72	LP40108-001A	TENSION ARM ASSY	
73	LP30003-010A	TENSION SPRING	
74	LP40109-004A	TENSION BRAKE ASSY	
75	PQ46302-1-3	ADJUST PIN	
76	LP30232-002B	TENSION ARM BEARING	
78	LP40532-009B	MAIN BRAKE ASSY(SUPPLY)	
80	LP40111-014C	MAIN BRAKE ASSY(TAKE UP)	
81	LP30003-029A	TENSION SPRING	
82	LP30233-001C	SUB BRAKE(TAKE UP)	
83	LP40357-001B	TENSION SPRING	
84	LP40461-001A	CAPSTAN BRAKE ASSY	
85	QAR0234-001	CAPSTAN MOTOR	
86	QYTDSF2606M	TAP SCREW	2.6mm x 6mm(x3)
87	LP30005-008A	BELT	
88	LP40114-011B	IDLER ARM ASSY	
89	LP30016-001A	SLIT WASHER	
90	LP40593-004A	CLUTCH UNIT 3	
92	PQM30017-47	SLIT WASHER	
93	LP30696-002A	CLUTCH GEAR 4	
94	LP30697-003A	COUPLING GEAR	
95	LP40554-002A	COMP. SPRING	
96	LP40442-001A	DIRECT GEAR	
99	LP40483-002A	COMP.SPRING	
100	LP30016-001A	SLIT WASHER	
102	LP40484-003B	CHANGE LEV.ASSY	
103	LP40512-002B	COMP. SPRING	
104	LP30236-002C	IDLER LEVER	
105	LP20237-003B	REEL DISK(SUPPLY)	
106	LP20238-003B	REEL DISK(TAKE UP)	
107	LP30017-015A	SPACER	(x2)
108	QSW0554-003	ROTARY ENCODER	
109	LP40746-001A	SPECIAL SCREW	
110	LP30237-002B	CASSETTE GEAR	
111	LP30239-002G	LIMIT GEAR(1)	
112	LP30240-002G	LIMIT GEAR(2)	
113	LP40136-001E	TORSION SPRING	
114	LP30242-002C	RELAY GEAR	
115	LP30339-002F	OPENER GUIDE	
116	LP40545-001A	TORSION SPRING	
117	LP40214-001B	C.H.BRACKET	
118	PQM30017-47	SLIT WASHER	(x2)
119	LP30243-002A	DRIVE GEAR	
120	LP20240-001G	DRIVE ARM	
121	LP40137-001A	TORSION SPRING	
122	LP10081-002P	SIDE HOLDER(L)	
123	LP10082-002V	SIDE HOLDER(R)	
124	LP30255-006B	LOCK LEVER(L)	
127	LP30256-001H	LOCK LEVER(R)	
128	LP40168-003A	TORSION SPRING(L)	
129	LP40218-001B	TORSION SPRING(R)	
130	LP30257-001G	CASSETTE HOLDER	
132	LP30244-002H	GUIDE RAIL	
134	LP30245-002F	REC SAFETY LEVER	
135	LP30003-004A	TENSION SPRING	
137	LP20578-001C	TOP GUIDE	
138	LP30500-001D	HOLD PLATE	
139	LP40450-003A	PAD	(x2)
140	LP30003-025B	TENSION SPRING	
141	LP30003-024A	TENSION SPRING	
142	LP40481-003A	ROLLER CAM ASSY	
143	LP30019-014A	PAD	(x2)
151	LP20324-003B	DOOR OPENER	
152	LP30493-001B	START SENSOR CAP	
155	PDM4057-6	SPACER	

2. PARTS LIST

SWITCHING REGULATOR BOARD ASSEMBLY <01>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10168-01B	SWITCHING REGULATOR BOARD ASSY		
IC5101	STR-F6555	IC		
IC5301	UTCTL431-T	IC		
IC5301 or	L5431-T	IC		
IC5301 or	MM1431AT-T	IC		
IC5401	MD1422N-X	IC		
Q5301	2SD1819A/RS/-X	TRANSISTOR		
Q5301 or	2SC4081/RS/-X	TRANSISTOR		
Q5301 or	2PC4081/R/-X	TRANSISTOR		
Q5302	DTA114EUA-X	DIGI TRANSISTOR		
Q5302 or	UN5111-X	DIGI TRANSISTOR		
Q5302 or	RN2302-X	DIGI TRANSISTOR		
Q5302 or	PDTA114EU-X	DIGI TRANSISTOR		
Q5311	2SB1068/KU/-T	TRANSISTOR		
Q5311 or	2SA1585S/QR/-T	TRANSISTOR		
Q5312	DTC114EUA-X	DIGI TRANSISTOR		
Q5312 or	UN5211-X	DIGI TRANSISTOR		
Q5312 or	RN1302-X	DIGI TRANSISTOR		
Q5312 or	PDTC114EU-X	DIGI TRANSISTOR		
Q5401	2SC5739/QP/	TRANSISTOR		
D5001	D3SBA60	BRIDGE DIODE		
D5102	SARS01-T2	SI DIODE		
D5103	PG104RS-T2	FR DIODE		
D5103 or	AU01Z-T2	FR DIODE		
D5103 or	ERA18-02-T2	FR DIODE		
D5103 or	1SR153-400-T2	FR DIODE		
D5103 or	10ELS2-T2	FR DIODE		
D5104	1SS133-T2	SI DIODE		
D5104 or	1SS270A-T2	SI DIODE		
D5202	ER602FCT	FR DIODE		
D5202 or	FMX-12S	FR DIODE		
D5202 or	FCF06A20	FR DIODE		
D5202 or	YG901C2	FR DIODE		
D5202 or	SF5LC20U	FR DIODE		
D5203	SB640FCT	SB DIODE		
D5203 or	FMB-24M	SB DIODE		
D5203 or	FSQ05A04B	SB DIODE		
D5203 or	YG801C04	SB DIODE		
D5203 or	SF5SC4	SB DIODE		
D5204	PG104RS-T2	FR DIODE		
D5204 or	ERA18-02-T2	FR DIODE		
D5204 or	1SR153-400-T2	FR DIODE		
D5204 or	10ELS2-T2	FR DIODE		
D5205	PG104RS-T2	FR DIODE		
D5205 or	AU01Z-T2	FR DIODE		
D5205 or	ERA18-02-T2	FR DIODE		
D5205 or	1SR153-400-T2	FR DIODE		
D5205 or	10ELS2-T2	FR DIODE		
D5206	PG104RS-T2	FR DIODE		
D5206 or	AU01Z-T2	FR DIODE		
D5206 or	ERA18-02-T2	FR DIODE		
D5206 or	1SR153-400-T2	FR DIODE		
D5206 or	10ELS2-T2	FR DIODE		
D5207	FMX-12S	FR DIODE		
D5207 or	FCF06A20	FR DIODE		
D5207 or	YG901C2	FR DIODE		
D5207 or	SF5LC20U	FR DIODE		
D5207 or	ER602FCT	FR DIODE		
D5301	MTZJ15A-T2	Z DIODE		
D5301 or	RD15ES/B1/-T2	Z DIODE		
D5302	MTZJ2.7B-T2	Z DIODE		
D5302 or	RD2.7ES/B2/-T2	Z DIODE		
D5303	1SS133-T2	SI DIODE		
D5303 or	1SS270A-T2	SI DIODE		
D5304	1SS133-T2	SI DIODE		
D5304 or	1SS270A-T2	SI DIODE		
D5308	MTZJ7.5A-T2	Z DIODE		
D5308 or	RD7.5ES/B1/-T2	Z DIODE		
D5401	D1FS4A-X	SB DIODE		
D5401 or	RB051L-40-X	SB DIODE		
D5402	1SS133-T2	SI DIODE		
D5402 or	1SS270A-T2	SI DIODE		
D5403	MTZJ5.6C-T2	Z DIODE		
D5403 or	RD5.6ES/B3/-T2	Z DIODE		
⚠ PC5101	PS2501-1	IC(PHOTO COUPLER)		
⚠ C5001	QFZ9067-473	MM CAPACITOR	0.047uF	
⚠ C5002	QFZ9067-223	MM CAPACITOR	0.022uF	
C5003	QEZ0516-337	E CAPACITOR	330uF	
⚠ C5004	QCZ9094-472	C CAPACITOR	4700pF	
C5101	QCZ0136-101Z	C CAPACITOR	100pF 1kV K	
C5102	QCZ0349-472Z	C CAPACITOR	4700pF 1kV K	
C5103	QEMT1VM-276	E CAPACITOR	27uF 35V M	
C5104	QCZ0136-471Z	C CAPACITOR	470pF 1kV K	
C5105	QFLC1HJ-471Z	M CAPACITOR	470pF 50V J	
C5106	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C5202	QEMT1CM-827	E CAPACITOR	820uF 16V M	
C5203	QEMT1AM-228	E CAPACITOR	2200uF 10V M	
C5204	QEMU1EM-187Z	E CAPACITOR	180uF 25V M	
C5205	QETN2AM-475Z	E CAPACITOR	4.7uF 100V M	
C5206	QEMU1HM-186Z	E CAPACITOR	18uF 50V M	
C5207	QEMT1CM-687	E CAPACITOR	680uF 16V M	
C5301	QFVF1HJ-154Z	MF CAPACITOR	0.15uF 50V J	
C5302	QFLC1HJ-333Z	M CAPACITOR	0.033uF 50V J	
C5303	QETN1AM-476Z	E CAPACITOR	47uF 10V M	
C5304	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C5305	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5306	QETN1CM-108Z	E CAPACITOR	1000uF 16V M	
C5401	QEMT1CM-158	E CAPACITOR	1500uF 16V M	
C5402	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C5403	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5404	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C5405	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C5406	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C5407	QECP0JM-158	E CAPACITOR	1500uF 6.3V M	
C5408	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C5409	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
⚠ R5001	QRZ9046-475Z	C RESISTOR	4.7MΩ 1/2W K	
R5101	QRG02GJ-683	OMF RESISTOR	68kΩ 2W J	
R5103	QRE141J-684Y	C RESISTOR	680kΩ 1/4W J	
⚠ R5104	QRZ9051-470X	FUSI RESISTOR	47Ω 0.25W J	
R5105	QRE141J-100Y	C RESISTOR	10Ω 1/4W J	
R5106	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R5107	QRE141J-681Y	C RESISTOR	680Ω 1/4W J	
R5108	QRT01DJ-R27X	MF RESISTOR	0.27Ω 1W J	
R5301	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R5302	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R5303	NRSA63D-152X	MG RESISTOR	1.5kΩ 1/16W D	
R5304	NRVA02D-562X	CMF RESISTOR	5.6kΩ 1/10W D	
R5305	NRSA63D-683X	MG RESISTOR	68kΩ 1/16W D	
R5306	NRSA63D-392X	MG RESISTOR	3.9kΩ 1/16W D	
R5307	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R5308	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R5309	QRE141J-123Y	C RESISTOR	12kΩ 1/4W J	
R5310	QRE141J-0R0Y	C RESISTOR	0Ω 1/4W J	
R5316	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5317	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R5319	QRE121J-181Y	C RESISTOR	180Ω 1/2W J	
R5320	QRE121J-181Y	C RESISTOR	180Ω 1/2W J	
R5321	QRE121J-181Y	C RESISTOR	180Ω 1/2W J	
R5322	QRE121J-181Y	C RESISTOR	180Ω 1/2W J	
R5331	QRE123J-101X	C RESISTOR	100Ω 1/2W J	
R5332	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R5333	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5401	NRSA63D-562X	MG RESISTOR	5.6kΩ 1/16W D	
R5402	NRSA63D-682X	MG RESISTOR	6.8kΩ 1/16W D	
R5403	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R5404	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R5405	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R5406	QRZ0192-R10X	MF RESISTOR	0.1Ω 1W G	
R5407	QRZ0192-R10X	MF RESISTOR	0.1Ω 1W G	
R5408	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R5409	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R5410	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R5411	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5421	QRT01DJ-R27X	MF RESISTOR	0.27Ω 1W J	
L5201	PELN1184	CHOKE COIL		

⚠ Symbol No.	Part No.	Part Name	Description	Local
L5202	QQR1169-001	CHOKE COIL		
L5203	PELN1184	CHOKE COIL		
L5401	PELN1184	CHOKE COIL		
L5402	QQR1326-001	CHOKE COIL		
L5403	PU60944-100K	CHOKE COIL		
⚠ T5001	QQS0142-001	SW TRANSF		
⚠ CN5001	QGA7901C3-02	CONNECTOR	W-B (1-2)	
CN5301	QGB2510K2-20	CONNECTOR	B-B (1-20)	
CN5303	QGA2001F1-02	CONNECTOR	W-B (1-2)	
CN5305	QGB2510K2-04	CONNECTOR	B-B (1-4)	
⚠ CP5401	QMFZ049-2R5Z-E	FUSE	2.5A 125V	
⚠ F5001	QMF51N2-2R0J1	FUSE	2A AC250V	
FC5001	EMG7331-003Z	FUSE CLIP		
FC5002	EMG7331-003Z	FUSE CLIP		
HS1	PEME0889-01-01	HEAT SINK		
HS2	QZW0105-001	HEAT SINK		
HS3	QZW0105-001	HEAT SINK		
K5101	QQR0678-001Z	FERRITE BEADS		
⚠ LF5001	QQR0908-001	LINE FILTER		
OT1	QYTDST3006Z	TAP SCREW	3mm x 6mm(x4)	
OT2	PQ44695-1-1	EARTH PLATE		
OT3	QYTDST3006Z	TAP SCREW	3mm x 6mm	
OT4	PU59311	WIRE CLAMP		
⚠ OT5	LP40971-001A	SHEET(SW.REG)		
OT6	QYTDST3010Z	TAP SCREW	3mm x 10mm	
OT7	QYTDST3008Z	TAP SCREW	3mm x 8mm	
OT8	QYTDST3008Z	TAP SCREW	3mm x 8mm	
SD1	LP21111-001A	S.FRAME(REG)		
SD2	LP21112-001A	S.COVER(REG)		

MAIN BOARD ASSEMBLY <03>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10177-01C	MAIN BOARD ASSY		
IC1	JCP8051-NSA	IC		
IC1 or	JCP8051-MSA	IC		
IC501	JCP8038	IC		
IC502	VC2076DP	IC		
IC2201	AN3663FBP	IC		
IC2601	BU4053BCF-XE	IC		
IC2602	BA15218F-XE	IC		
IC2621	BU4053BCF-XE	IC		
IC2622	BA15218F-XE	IC		
IC2641	BA15218F-XE	IC		
IC3001	HD6432194SXD44F	IC(MCU)		
IC3001 or	HD64F2194CFD44	IC(MCU)		
IC3002	IC-PST3427U-X	IC		
IC3003	LPN0751-005A-01	IC(EEPROM)	(*REFER TO BELOW)	
IC3004	BA6956AN	IC		
IC3005	BU2090FS-X	IC		
IC3006	BU2090FS-X	IC		
IC4101	BA15218F-XE	IC		
IC5602	UTCTL431-T	IC		
IC5602 or	L5431-T	IC		
IC5602 or	MM1431AT-T	IC		
IC5603	PQ5EV3	IC		
IC5604	UPC1944J-T	IC		
IC5604 or	HA17L431AP-T	IC		
IC7101	BA7665FS-X	IC		
IC7103	BA7623F-X	SOP IC		
Q1	2SC4081/S/-X	TRANSISTOR		
Q2	2SC4081/S/-X	TRANSISTOR		
Q3	2SC4081/S/-X	TRANSISTOR		
Q4	2SC4081/S/-X	TRANSISTOR		
Q7	2SC4081/QRS/-X	TRANSISTOR		
Q7 or	2PC4081/R/-X	TRANSISTOR		
Q8	2SC4081/QRS/-X	TRANSISTOR		
Q8 or	2PC4081/R/-X	TRANSISTOR		
Q9	2SA1576A/QR/-X	TRANSISTOR		
Q9 or	2PA1576/R/-X	TRANSISTOR		
Q12	2SA1576A/QR/-X	TRANSISTOR		

⚠ Symbol No.	Part No.	Part Name	Description	Local
Q12 or	2PA1576/R/-X	TRANSISTOR		
Q17	DTC144WUA-X	DIGI TRANSISTOR		
Q17 or	PDTC144WU-X	DIGI TRANSISTOR		
Q17 or	UN521E-X	DIGI TRANSISTOR		
Q17 or	RN1309-X	DIGI TRANSISTOR		
Q21	2SA1576A/QR/-X	TRANSISTOR		
Q21 or	2PA1576/R/-X	TRANSISTOR		
Q23	2SC4081/QRS/-X	TRANSISTOR		
Q33	DTC144WUA-X	DIGI TRANSISTOR		
Q33 or	PDTC144WU-X	DIGI TRANSISTOR		
Q33 or	UN521E-X	DIGI TRANSISTOR		
Q33 or	RN1309-X	DIGI TRANSISTOR		
Q38	2SC4081/QRS/-X	TRANSISTOR		
Q38 or	2PC4081/R/-X	TRANSISTOR		
Q46	DTA114WUA-X	DIGI TRANSISTOR		
Q47	DTA114WUA-X	DIGI TRANSISTOR		
Q48	2SC4081/S/-X	TRANSISTOR		
Q49	2SC4081/S/-X	TRANSISTOR		
Q1701	2SA1576A/QR/-X	TRANSISTOR		
Q1702	2SA1576A/QR/-X	TRANSISTOR		
Q1703	DTC144WUA-X	DIGI TRANSISTOR		
Q1703 or	PDTC144WU-X	DIGI TRANSISTOR		
Q1703 or	UN521E-X	DIGI TRANSISTOR		
Q1704	2SA1576A/QR/-X	TRANSISTOR		
Q1705	DTC144WUA-X	DIGI TRANSISTOR		
Q1705 or	RN1309-X	DIGI TRANSISTOR		
Q1706	DTC144WUA-X	DIGI TRANSISTOR		
Q1706 or	RN1309-X	DIGI TRANSISTOR		
Q2001	2SC4081/QRS/-X	TRANSISTOR		
Q2001 or	2SD1819A/QRS/-X	TRANSISTOR		
Q2001 or	2PC4081/R/-X	TRANSISTOR		
Q2002	2SC4081/QRS/-X	TRANSISTOR		
Q2002 or	2SD1819A/QRS/-X	TRANSISTOR		
Q2002 or	2PC4081/R/-X	TRANSISTOR		
Q2003	DTA144WUA-X	DIGI TRANSISTOR		
Q2003 or	PDTA144WU-X	DIGI TRANSISTOR		
Q2003 or	UN511E-X	DIGI TRANSISTOR		
Q2003 or	RN2309-X	DIGI TRANSISTOR		
Q2051	2SC4081/QRS/-X	TRANSISTOR		
Q2051 or	2SD1819A/QRS/-X	TRANSISTOR		
Q2051 or	2PC4081/R/-X	TRANSISTOR		
Q2052	2SA1576A/QR/-X	TRANSISTOR		
Q2052 or	2SB1218A/QR/-X	TRANSISTOR		
Q2052 or	2PA1576/R/-X	TRANSISTOR		
Q2053	DTC144WUA-X	DIGI TRANSISTOR		
Q2053 or	PDTC144WU-X	DIGI TRANSISTOR		
Q2053 or	UN521E-X	DIGI TRANSISTOR		
Q2053 or	RN1309-X	DIGI TRANSISTOR		
Q2054	2SA1576A/QR/-X	TRANSISTOR		
Q2054 or	2SB1218A/QR/-X	TRANSISTOR		
Q2054 or	2PA1576/R/-X	TRANSISTOR		
Q2055	DTC144WUA-X	DIGI TRANSISTOR		
Q2055 or	PDTC144WU-X	DIGI TRANSISTOR		
Q2055 or	UN521E-X	DIGI TRANSISTOR		
Q2055 or	RN1309-X	DIGI TRANSISTOR		
Q2201	DTA144WUA-X	DIGI TRANSISTOR		
Q2201 or	PDTA144WU-X	DIGI TRANSISTOR		
Q2201 or	UN511E-X	DIGI TRANSISTOR		
Q2201 or	RN2309-X	DIGI TRANSISTOR		
Q2202	DTC144WUA-X	DIGI TRANSISTOR		
Q2202 or	PDTC144WU-X	DIGI TRANSISTOR		
Q2202 or	UN521E-X	DIGI TRANSISTOR		
Q2202 or	RN1309-X	DIGI TRANSISTOR		
Q2203	2SC4081/QRS/-X	TRANSISTOR		
Q2203 or	2PC4081/R/-X	TRANSISTOR		
Q2203 or	2SD1819A/QRS/-X	TRANSISTOR		
Q2204	2SC4081/QRS/-X	TRANSISTOR		
Q2204 or	2PC4081/R/-X	TRANSISTOR		
Q2204 or	2SD1819A/QRS/-X	TRANSISTOR		
Q2251	DTC144WUA-X	DIGI TRANSISTOR		
Q2251 or	PDTC144WU-X	DIGI TRANSISTOR		
Q2251 or	UN521E-X	DIGI TRANSISTOR		
Q2251 or	RN1309-X	DIGI TRANSISTOR		
Q2252	DTC144WUA-X	DIGI TRANSISTOR		
Q2252 or	PDTC144WU-X	DIGI TRANSISTOR		
Q2252 or	UN521E-X	DIGI TRANSISTOR		
Q2252 or	RN1309-X	DIGI TRANSISTOR		
Q2253	DTC144WUA-X	DIGI TRANSISTOR		

*The VCR goes to jig RCU mode after replacing the EEPROM and the VCR does not accept some RCU command.
Therefore please set the VCR to the user RCU mode after replacing the EEPROM.
The method of setting the VCR to the user RCU mode is written on the service manual.

⚠ Symbol No.	Part No.	Part Name	Description	Local
Q2253	or PDTC144WU-X	DIGI TRANSISTOR		
Q2253	or UN521E-X	DIGI TRANSISTOR		
Q2253	or RN1309-X	DIGI TRANSISTOR		
Q2254	DTC114EUA-X	DIGI TRANSISTOR		
Q2254	or PDTC114EU-X	DIGI TRANSISTOR		
Q2254	or UN5211-X	DIGI TRANSISTOR		
Q2254	or RN1302-X	DIGI TRANSISTOR		
Q2277	2SC4081/QRS/-X	TRANSISTOR		
Q2277	or 2PC4081/R/-X	TRANSISTOR		
Q2277	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2278	2SC4081/QRS/-X	TRANSISTOR		
Q2278	or 2PC4081/R/-X	TRANSISTOR		
Q2278	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2279	DTA114EUA-X	DIGI TRANSISTOR		
Q2279	or PDTA114EU-X	DIGI TRANSISTOR		
Q2279	or UN5111-X	DIGI TRANSISTOR		
Q2279	or RN2302-X	DIGI TRANSISTOR		
Q2284	2SC4081/QRS/-X	TRANSISTOR		
Q2284	or 2PC4081/R/-X	TRANSISTOR		
Q2284	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2601	DTA144WUA-X	DIGI TRANSISTOR		
Q2601	or PDTA144WU-X	DIGI TRANSISTOR		
Q2601	or UN511E-X	DIGI TRANSISTOR		
Q2601	or RN2309-X	DIGI TRANSISTOR		
Q2602	DTC144WUA-X	DIGI TRANSISTOR		
Q2602	or PDTC144WU-X	DIGI TRANSISTOR		
Q2602	or UN521E-X	DIGI TRANSISTOR		
Q2602	or RN1309-X	DIGI TRANSISTOR		
Q2603	2SC4081/QRS/-X	TRANSISTOR		
Q2603	or 2PC4081/R/-X	TRANSISTOR		
Q2603	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2604	2SC4081/QRS/-X	TRANSISTOR		
Q2604	or 2PC4081/R/-X	TRANSISTOR		
Q2604	or 2SD1819A/QRS/-X	TRANSISTOR		
Q3001	2SD1819A/QRS/-X	TRANSISTOR		
Q3001	or 2SC4081/QRS/-X	TRANSISTOR		
Q3001	or 2PC4081/R/-X	TRANSISTOR		
Q3002	PTZ-NV16	IC(PHOTO SENSOR)		
Q3002	or PTZ-NV16A	IC(PHOTO SENSOR)		
Q3003	PTZ-NV16	IC(PHOTO SENSOR)		
Q3003	or PTZ-NV16A	IC(PHOTO SENSOR)		
Q3004	2SD1819A/QRS/-X	TRANSISTOR		
Q3004	or 2SC4081/QRS/-X	TRANSISTOR		
Q3004	or 2PC4081/R/-X	TRANSISTOR		
Q3005	2SD1819A/QRS/-X	TRANSISTOR		
Q3005	or 2SC4081/QRS/-X	TRANSISTOR		
Q3005	or 2PC4081/R/-X	TRANSISTOR		
Q3007	2SB1256-T	TRANSISTOR		
Q3010	DTC114TUA-X	DIGI TRANSISTOR		
Q3010	or UN5215-X	DIGI TRANSISTOR		
Q3010	or PDTC114TU-X	DIGI TRANSISTOR		
Q3010	or RN1311-X	DIGI TRANSISTOR		
Q3012	UN521E-X	DIGI TRANSISTOR		
Q3012	or DTC144WUA-X	DIGI TRANSISTOR		
Q3012	or RN1309-X	DIGI TRANSISTOR		
Q3012	or PDTC144WU-X	DIGI TRANSISTOR		
Q3013	UN521E-X	DIGI TRANSISTOR		
Q3013	or DTC144WUA-X	DIGI TRANSISTOR		
Q3013	or RN1309-X	DIGI TRANSISTOR		
Q3013	or PDTC144WU-X	DIGI TRANSISTOR		
Q4001	UN5211-X	DIGI TRANSISTOR		
Q4001	or DTC114EUA-X	DIGI TRANSISTOR		
Q4001	or RN1302-X	DIGI TRANSISTOR		
Q4001	or PDTC114EU-X	DIGI TRANSISTOR		
Q4002	UN5211-X	DIGI TRANSISTOR		
Q4002	or DTC114EUA-X	DIGI TRANSISTOR		
Q4002	or RN1302-X	DIGI TRANSISTOR		
Q4002	or PDTC114EU-X	DIGI TRANSISTOR		
Q4003	UN5211-X	DIGI TRANSISTOR		
Q4003	or DTC114EUA-X	DIGI TRANSISTOR		
Q4003	or RN1302-X	DIGI TRANSISTOR		
Q4003	or PDTC114EU-X	DIGI TRANSISTOR		
Q5501	2SD1858/QR/-T	TRANSISTOR		
Q5502	2SC5739/QP/	TRANSISTOR		
Q5503	2SD1858/QR/-T	TRANSISTOR		
Q5504	DTC114EUA-X	DIGI TRANSISTOR		
Q5504	or UN5211-X	DIGI TRANSISTOR		
Q5504	or RN1302-X	DIGI TRANSISTOR		
Q5504	or PDTC114EU-X	DIGI TRANSISTOR		
Q5505	DTA114EUA-X	DIGI TRANSISTOR		
Q5505	or UN5111-X	DIGI TRANSISTOR		
Q5505	or RN2302-X	DIGI TRANSISTOR		
Q5505	or PDTA114EU-X	DIGI TRANSISTOR		
Q5506	2PC4081/R/-X	TRANSISTOR		
Q5506	or 2SD1819A/RS/-X	TRANSISTOR		
Q5506	or 2SC4081/RS/-X	TRANSISTOR		
Q5507	DTA114EUA-X	DIGI TRANSISTOR		
Q5507	or UN5111-X	DIGI TRANSISTOR		
Q5507	or RN2302-X	DIGI TRANSISTOR		
Q5507	or PDTA114EU-X	DIGI TRANSISTOR		
Q5510	DTC114EUA-X	DIGI TRANSISTOR		
Q5510	or UN5211-X	DIGI TRANSISTOR		
Q5510	or RN1302-X	DIGI TRANSISTOR		
Q5510	or PDTC114EU-X	DIGI TRANSISTOR		
Q5602	2SC5739/QP/	TRANSISTOR		
Q5604	2SC5739/QP/	TRANSISTOR		
Q6030	2SB1218A/QR/-X	TRANSISTOR		
Q6030	or 2SA1576A/QR/-X	TRANSISTOR		
Q6030	or 2PA1576/R/-X	TRANSISTOR		
Q6031	DTC114EUA-X	DIGI TRANSISTOR		
Q7101	2SA1576A/QR/-X	TRANSISTOR		
Q7101	or 2SB1218A/QR/-X	TRANSISTOR		
Q7101	or 2PA1576/R/-X	TRANSISTOR		
Q7151	2SC1317/RS/-T	TRANSISTOR		
D1	1SS133-T2	SI DIODE		
D1	or 1SS270A-T2	SI DIODE		
D2	1SS133-T2	SI DIODE		
D2	or 1SS270A-T2	SI DIODE		
D501	1SS355-X	SI DIODE		
D2251	1SS133-T2	SI DIODE		
D2251	or 1SS270A-T2	SI DIODE		
D3001	LNB2301L01VI	LED		
D3002	1SS133-T2	SI DIODE		
D3003	RD39ES/B3/-T2	Z DIODE		
D3003	or MTZJ39C-T2	Z DIODE		
D3004	11ES2-T2	SI DIODE		
D3005	11ES2-T2	SI DIODE		
D3006	11ES2-T2	SI DIODE		
D3007	11ES2-T2	SI DIODE		
D3009	11ES2-T2	SI DIODE		
D3011	1SS133-T2	SI DIODE		
D4101	DA204U-X	SI DIODE		
D5501	MTZJ11C-T2	Z DIODE		
D5501	or RD11ES/B3/-T2	Z DIODE		
D5502	RD5.1JS/B2/-T2	Z DIODE		
D5502	or MA4051N/M/-T2	Z DIODE		
D5503	1SS133-T2	SI DIODE		
D5503	or 1SS270A-T2	SI DIODE		
D5504	MTZJ5.6C-T2	Z DIODE		
D5504	or RD5.6ES/B3/-T2	Z DIODE		
D5505	11ES2-T2	SI DIODE		
D5505	or 1A3G-T2	SI DIODE		
D5507	11ES2-T2	SI DIODE		
D5507	or 1A3G-T2	SI DIODE		
D6002	HZ30-2L-T2	Z DIODE		
D6002	or HZ30-2LTD	Z DIODE (M)		
D7104	RB721Q-40-T2	SB DIODE		
D7105	1SS133-T2	SI DIODE		
D7105	or 1SS270A-T2	SI DIODE		
D7106	1SS133-T2	SI DIODE		
D7106	or 1SS270A-T2	SI DIODE		
D7107	DA204U-X	SI DIODE		
PC3001	GP3S123	IC(PHOTO SENSOR)		
PC3002	GP3S123	IC(PHOTO SENSOR)		
C1	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C3	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C4	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C5	QEKC0JM-476Z	E CAPACITOR	47uF 6.3V M	
C6	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C7	NDC21HJ-151X	C CAPACITOR	150pF 50V J	
C8	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C9	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C10	NDC21HJ-151X	C CAPACITOR	150pF 50V J	
C11	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C12	NDC21HJ-7R0X	C CAPACITOR	7pF 50V J	
C14	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C15	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C16	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C17	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C18	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C19	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C20	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C21	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C22	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C23	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C24	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C25	NDC21HJ-4R0X	C CAPACITOR	4pF 50V J	
C26	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C27	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C28	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C29	NCB21HK-472X	C CAPACITOR	4700pF 50V K	
C30	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
C31	QEKC0JM-476Z	E CAPACITOR	47uF 6.3V M	
C32	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C33	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C34	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C35	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C36	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C37	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C38	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C39	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C40	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C54	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C59	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C60	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C61	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C63	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C64	NDC21HJ-220X	C CAPACITOR	22pF 50V J	
C69	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C70	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C71	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C72	NDC21HJ-470X	C CAPACITOR	47pF 50V J	
C73	NDC21HJ-120X	C CAPACITOR	12pF 50V J	
C74	NDC21HJ-120X	C CAPACITOR	12pF 50V J	
C80	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C84	NDC21HJ-220X	C CAPACITOR	22pF 50V J	
C110	NCB21HK-331X	C CAPACITOR	330pF 50V K	
C120	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C133	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C134	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C135	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C501	QERF1HM-225Z	E CAPACITOR	2.2uF 50V M	
C502	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C503	QERF1HM-225Z	E CAPACITOR	2.2uF 50V M	
C504	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C505	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
C506	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C507	QERF0JM-476Z	E CAPACITOR	47uF 6.3V M	
C508	QERF1HM-474Z	E CAPACITOR	0.47uF 50V M	
C509	QERF1CM-106Z	E CAPACITOR	10uF 16V M	
C510	QERF0JM-476Z	E CAPACITOR	47uF 6.3V M	
C511	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C512	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C513	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
C514	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C515	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C516	QEQF1EM-475Z	E CAPACITOR	4.7uF 25V M	
C518	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C519	QERF1HM-225Z	E CAPACITOR	2.2uF 50V M	
C520	NBE20JM-475X	TA E CAPACITOR	4.7uF 6.3V M	
C521	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
C522	QERF1HM-225Z	E CAPACITOR	2.2uF 50V M	
C523	QERF1HM-225Z	E CAPACITOR	2.2uF 50V M	
C524	NDC21HG-301X	C CAPACITOR	300pF 50V G	
C525	NDC21HG-301X	C CAPACITOR	300pF 50V G	
C526	NDC21HJ-101X	C CAPACITOR	100pF 50V J	
C527	NDC21HJ-181X	C CAPACITOR	180pF 50V J	
C528	NDC21HG-271X	C CAPACITOR	270pF 50V G	
C529	NDC21HG-820X	C CAPACITOR	82pF 50V G	
C530	NDC21HG-221X	C CAPACITOR	220pF 50V G	
C531	NDC21HG-301X	C CAPACITOR	300pF 50V G	
C532	NDC21HG-301X	C CAPACITOR	300pF 50V G	
C533	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C534	QERF0JM-476Z	E CAPACITOR	47uF 6.3V M	
C535	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C536	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C537	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C551	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
C552	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C553	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C554	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
C555	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C556	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C557	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
C558	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C559	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C560	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
C561	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
C1701	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C1702	NDC21HJ-470X	C CAPACITOR	47pF 50V J	
C1703	NDC21HJ-470X	C CAPACITOR	47pF 50V J	
C1704	NDC21HJ-101X	C CAPACITOR	100pF 50V J	
C1705	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C1706	NDC21HJ-150X	C CAPACITOR	15pF 50V J	
C1707	NCB21EK-103X	C CAPACITOR	0.01uF 25V K	
C1708	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M	
C1709	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C2001	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2002	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C2003	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2005	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2006	NCB21HK-123X	C CAPACITOR	0.012uF 50V K	
C2007	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2008	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2009	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C2010	NCB21HK-152X	C CAPACITOR	1500pF 50V K	
C2011	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2012	QEKC1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2051	NCB21HK-331X	C CAPACITOR	330pF 50V K	
C2052	QFV61HJ-823Z	MF CAPACITOR	0.082uF 50V J	
C2053	NCB21HK-472X	C CAPACITOR	4700pF 50V K	
C2054	NCB21HK-223X	C CAPACITOR	0.022uF 50V K	
C2055	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2201	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2202	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2203	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2204	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2205	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2206	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2207	NCB21HK-153X	C CAPACITOR	0.015uF 50V K	
C2208	NCB21HK-153X	C CAPACITOR	0.015uF 50V K	
C2209	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2210	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2211	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2212	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2214	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M	
C2215	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M	
C2216	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C2219	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2220	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2221	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C2222	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2251	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2252	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C2253	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C2254	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2255	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2256	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2257	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2259	QEKJ1HM-334Z	E CAPACITOR	0.33uF 50V M	
C2260	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C2282	NDC21HJ-121X	C CAPACITOR	120pF 50V J	
C2603	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C2605	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C2607	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C2608	QETN1EM-476Z	E CAPACITOR	47uF 25V M	
C2611	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C2612	NCB21HK-681X	C CAPACITOR	680pF 50V K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C2623	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2626	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2627	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C2628	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C2642	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2644	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2647	NCB21HK-332X	C CAPACITOR	3300pF 50V K	
C2648	NCB21HK-332X	C CAPACITOR	3300pF 50V K	
C2649	NCB21HK-332X	C CAPACITOR	3300pF 50V K	
C2650	NCB21HK-332X	C CAPACITOR	3300pF 50V K	
C3001	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C3002	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C3003	QEKJ1HM-106Z	E CAPACITOR	10uF 50V M	
C3004	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3011	QETL0JM-478	E CAPACITOR	4700uF 6.3V M	
C3012	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3013	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C3014	QEKC0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3016	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3022	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3024	NDC21HJ-120X	C CAPACITOR	12pF 50V J	
C3026	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C3027	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C3030	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3031	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3032	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3033	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3036	NDC21HJ-180X	C CAPACITOR	18pF 50V J	
C3037	NDC21HJ-120X	C CAPACITOR	12pF 50V J	
C3040	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3041	NDC21HJ-130X	C CAPACITOR	13pF 50V J	
C3042	NCB21AK-105X	C CAPACITOR	1uF 10V K	
C3043	NCB21AK-105X	C CAPACITOR	1uF 10V K	
C3047	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3049	NCB21CK-473X	C CAPACITOR	0.047uF 16V K	
C3051	NDC21HJ-820X	C CAPACITOR	82pF 50V J	
C3052	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C3053	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C4002	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C4003	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C4004	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C4006	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C4008	NCB21AK-105X	C CAPACITOR	1uF 10V K	
C4009	NCB21CK-274X	C CAPACITOR	0.27uF 16V K	
C4010	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C4011	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C4012	NCB21AK-105X	C CAPACITOR	1uF 10V K	
C4013	NCB21HK-563X	C CAPACITOR	0.056uF 50V K	
C4014	NDC21HJ-101X	C CAPACITOR	100pF 50V J	
C4015	NCB21HK-221X	C CAPACITOR	220pF 50V K	
C4016	QCBB1HJ-821Y	C CAPACITOR	820pF 50V J	
C4017	QDXB1CM-222Y	C CAPACITOR	2200pF 16V M	
C4101	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C4102	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	
C4103	NBP41CM-226X	TA E CAPACITOR	22uF 16V M	
C4104	NCB21CK-274X	C CAPACITOR	0.27uF 16V K	
C4105	NBP41CM-226X	TA E CAPACITOR	22uF 16V M	
C5501	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	
C5502	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C5503	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C5504	QETJ1CM-107Z	E CAPACITOR	100uF 16V M	
C5505	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C5602	QETJ1CM-107Z	E CAPACITOR	100uF 16V M	
C5603	QETJ1CM-107Z	E CAPACITOR	100uF 16V M	
C5604	QETJ1CM-107Z	E CAPACITOR	100uF 16V M	
C6033	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C6501	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C6502	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M	
C6503	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C6504	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C6506	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C6508	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C6509	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C6512	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C6513	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C6514	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C6515	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C6516	QEKJ1EM-475Z	E CAPACITOR	4.7uF 25V M	
C6517	NCB21CK-224X	C CAPACITOR	0.22uF 16V K	
C7101	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
C7102	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
C7103	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C7104	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C7105	QEKC1CM-107Z	E CAPACITOR	100uF 16V M	
C7106	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C7107	QEKC1CM-107Z	E CAPACITOR	100uF 16V M	
C7108	QEKC1CM-226Z	E CAPACITOR	22uF 16V M	
C7109	QEKC1CM-226Z	E CAPACITOR	22uF 16V M	
C7110	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C7117	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M	
C7118	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C7120	QEKC0JM-476Z	E CAPACITOR	47uF 6.3V M	
C7121	QCBB1HK-104Y	C CAPACITOR	0.1uF 50V K	
C7125	QETN0JM-108Z	E CAPACITOR	1000uF 6.3V M	
C7126	QETN0JM-108Z	E CAPACITOR	1000uF 6.3V M	
C7127	QETN0JM-108Z	E CAPACITOR	1000uF 6.3V M	
C7151	QETJ0JM-477Z	E CAPACITOR	470uF 6.3V M	
R1	NRSA02J-622X	MG RESISTOR	6.2kΩ 1/10W J	
R2	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J	
R3	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R5	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R6	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R7	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R8	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R9	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R12	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R21	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R22	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R25	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R26	NRSA02J-822X	MG RESISTOR	8.2kΩ 1/10W J	
R27	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R28	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R29	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R31	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R32	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R34	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	
R36	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J	
R42	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	
R44	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	
R45	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J	
R46	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R48	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R49	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R68	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R77	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	
R90	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R93	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R104	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R118	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R120	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R503	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R504	NRSA02J-362X	MG RESISTOR	3.6kΩ 1/10W J	
R505	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J	
R506	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J	
R507	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	
R508	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R509	NRSA02J-162X	MG RESISTOR	1.6kΩ 1/10W J	
R510	NRVA02D-102X	CMF RESISTOR	1kΩ 1/10W D	
R511	NRVA02D-471X	CMF RESISTOR	470Ω 1/10W D	
R512	NRVA02D-102X	CMF RESISTOR	1kΩ 1/10W D	
R513	NRVA02D-152X	CMF RESISTOR	1.5kΩ 1/10W D	
R514	NRVA02D-332X	CMF RESISTOR	3.3kΩ 1/10W D	
R515	NRVA02D-332X	CMF RESISTOR	3.3kΩ 1/10W D	
R522	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R523	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R524	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R568	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R569	NRSA02J-105X	MG RESISTOR	1MΩ 1/10W J	
R1701	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R1702	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	
R1703	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	
R1704	NRSA02J-393X	MG RESISTOR	39kΩ 1/10W J	
R1705	NRSA02J-683X	MG RESISTOR	68kΩ 1/10W J	
R1706	NRSA02J-393X	MG RESISTOR	39kΩ 1/10W J	
R1707	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R1708	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2003	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R2007	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2010	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2013	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2014	NRSA02J-224X	MG RESISTOR	220kΩ 1/10W J	
R2015	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R2016	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2017	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J	
R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2021	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J	
R2053	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2054	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω 1/10W J	
R2056	NRSA02J-680X	MG RESISTOR	68Ω 1/10W J	
R2057	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2058	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R2059	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2060	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R2066	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R2201	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2202	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2203	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2204	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2205	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2206	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2207	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2208	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2209	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R2210	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2211	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2212	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2213	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2214	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R2215	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R2218	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J	
R2219	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R2220	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R2221	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2222	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2223	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2224	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2251	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2252	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R2253	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R2254	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2255	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	
R2256	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R2257	NRSA02J-684X	MG RESISTOR	680kΩ 1/10W J	
R2258	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2282	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R2283	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R2284	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R2285	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R2289	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R2290	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R2601	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R2602	QRE141J-390Y	C RESISTOR	39Ω 1/4W J	
R2603	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R2604	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R2605	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R2606	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2607	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2608	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2609	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2610	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2611	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2621	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R2622	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R2623	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R2624	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2625	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2626	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2627	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2641	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2642	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2661	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R2662	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2663	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2664	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R2665	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R3011	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3012	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3013	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3014	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3015	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3016	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3017	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3018	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3019	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3020	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3021	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3025	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3026	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3027	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3034	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3036	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R3037	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R3039	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3040	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3041	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3044	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3046	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3047	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3048	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3049	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3050	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3051	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R3052	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R3053	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R3056	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	
R3057	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3058	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3060	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3061	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3062	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3066	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3069	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3072	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3074	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3075	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R3076	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3077	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3079	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3081	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3083	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3085	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3086	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3087	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3088	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3089	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3090	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3091	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3092	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3093	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3094	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3096	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3097	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3103	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3104	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3105	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3201	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3203	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3204	QRE141J-222Y	C RESISTOR	2.2kΩ 1/4W J	
R3205	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R3206	QRE141J-183Y	C RESISTOR	18kΩ 1/4W J	
R3207	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R3208	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R3209	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	
R3210	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R3211	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	
R3212	QRE141J-474Y	C RESISTOR	470kΩ 1/4W J	
R3213	NRSA02J-334X	MG RESISTOR	330kΩ 1/10W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R3214	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3215	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3216	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3217	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	
R3218	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	
R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3220	QRE141J-104Y	C RESISTOR	100kΩ 1/4W J	
R3222	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3223	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3224	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3226	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3227	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3228	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3229	NRSA02J-105X	MG RESISTOR	1MΩ 1/10W J	
R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3231	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3238	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3240	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R3241	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3242	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3243	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3244	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3245	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3246	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3247	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R3248	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R3249	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3250	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3251	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3253	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3254	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3255	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3256	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3257	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3271	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3272	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3273	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3276	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3277	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3279	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3280	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3281	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3282	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3294	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R4003	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	
R4004	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	
R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J	
R4007	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4009	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4010	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4011	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R4013	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4014	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J	
R4015	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J	
R4017	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4018	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4019	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R4020	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R4021	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R4101	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R4102	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	
R4103	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R4104	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4105	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R4107	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R4108	NRSA02J-822X	MG RESISTOR	8.2kΩ 1/10W J	
R4109	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R5501	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R5502	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	
R5503	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R5504	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5505	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R5506	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R5507	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R5508	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R5604	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R5605	NRSA63D-182X	MG RESISTOR	1.8kΩ 1/16W D	
R5606	NRSA63D-473X	MG RESISTOR	47kΩ 1/16W D	
R5608	NRSA63D-472X	MG RESISTOR	4.7kΩ 1/16W D	
R5609	NRSA63D-272X	MG RESISTOR	2.7kΩ 1/16W D	
R5610	NRSA63J-680X	MG RESISTOR	68Ω 1/16W J	
R5611	NRSA63D-272X	MG RESISTOR	2.7kΩ 1/16W D	
R5612	NRSA63D-472X	MG RESISTOR	4.7kΩ 1/16W D	
R6020	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6021	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6030	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R6031	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R6034	NRSA02J-105X	MG RESISTOR	1MΩ 1/10W J	
R6502	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R6503	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J	
R6504	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R7101	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7102	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7103	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7104	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7105	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7107	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7108	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7109	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7110	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7111	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7113	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7114	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7115	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7116	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7117	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7118	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7119	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7120	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7125	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7126	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7128	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R7129	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R7131	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R7132	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R7133	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J	
R7151	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7152	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R7153	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R7154	QRE123J-100X	C RESISTOR	10Ω 1/2W J	
VR2251	QVP0039-103Z	TRIM RESISTOR	10kΩ,FMA REC LEVEL	
L1	QQL29BJ-100Z	P COIL	10uH J	
L2	QQL29BJ-101Z	P COIL	100uH J	
L3	QQL29BJ-100Z	P COIL	10uH J	
L4	QQL29BJ-100Z	P COIL	10uH J	
L5	QQL29BJ-100Z	P COIL	10uH J	
L11	QQL01BJ-120Z	P COIL	12uH J	
L13	QQL231J-470Y	COIL	47uH J	
L15	QQL29BJ-100Z	P COIL	10uH J	
L19	QQL29BJ-100Z	P COIL	10uH J	
L28	QQL231J-150Y	COIL	15uH J	
L501	QQL29BJ-100Z	P COIL	10uH J	
L503	QQL29BJ-100Z	P COIL	10uH J	
L504	QQL29BJ-100Z	P COIL	10uH J	
L1701	QQL071J-150Y	COIL	15uH J	
L1702	QQL29BJ-100Z	P COIL	10uH J	
L2251	QQL29BJ-100Z	P COIL	10uH J	
L2272	QQL231J-1R8Y	COIL	1.8uH J	
L3001	QQL231J-R22Y	COIL	0.22uH J	
L6001	QQL29BK-1R0Z	P COIL	1uH K	
L6004	QQL29BK-1R0Z	P COIL	1uH K	
L6501	QQL29BK-1R0Z	P COIL	1uH K	
L7151	QQL29BJ-101Z	P COIL	100uH J	
T2051	PELN0832	OSC TRANS		
B5602	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B5603	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B5605	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B6608	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B7102	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J	
CN1	QGF1028C1-11	CONNECTOR	FFC/FPC (1-11)	
CN901	QGF1207C1-11	CONNECTOR	FFC/FPC (1-11)	

⚠ Symbol No.	Part No.	Part Name	Description	Local
CN2001	QGF1207C1-07	CONNECTOR	FFC/FPC (1-7)	
CN2002	QGB2532J1-02	CONNECTOR	B-B (1-2)	
CN3001	QGF1207C1-05	CONNECTOR	FFC/FPC (1-5)	
CN3002	QGB2532J1-02	CONNECTOR	B-B (1-2)	
CN3003	QGB2015M2-08	CONNECTOR	B-B (1-8)	
CN3004	QGB2534J2-04	CONNECTOR	B-B (1-4)	
CN3008	QGF1207C1-10	CONNECTOR	FFC/FPC (1-10)	
CN3009	QGF1016C3-16	CONNECTOR	FFC/FPC (1-16)	
CN3010	QGF1207C1-06	CONNECTOR	FFC/FPC (1-6)	
CN3011	QGB2024K1-14S	CONNECTOR	B-B (1-14)	
CN5501	QGB2510J1-20	CONNECTOR	B-B (1-20)	
CN5502	QGB2510J1-04	CONNECTOR	B-B (1-4)	
CN5601	QGA2001C1-12	CONNECTOR	W-B (1-12)	
CN5602	QGA2001C1-04	CONNECTOR	W-B (1-4)	
CN5603	QGA2001C1-02	CONNECTOR	W-B (1-2)	
CN7101	QGF1207C1-09	CONNECTOR	FFC/FPC (1-9)	
CN7102	QGF1016C3-07	CONNECTOR	FFC/FPC (1-7)	
CN7107	QGF1207C1-16	CONNECTOR	FFC/FPC (1-16)	
⚠ CP3002	QMFZ050-1R5X-E	FUSE	1.5A 125V	
⚠ CP4001	QMFZ050-1R5X-E	FUSE	1.5A 125V	
ET1	PQ21623-1-5	EARTH PLATE(RF)		
HS1	LP40515-001B	HEAT SINK	IC5603	
J7101	QND0077-001	S JACK	S-VIDEO IN1/2	
J7102	QNN0292-004	PIN JACK	VIDEO IN1/2	
J7103	QNN0292-006	PIN JACK	AUDIO(L) IN1/2	
J7104	QNN0292-005	PIN JACK	AUDIO(R) IN1/2	
J7105	QND0077-001	S JACK	S-VIDEO OUT1/2	
J7106	QNN0292-004	PIN JACK	VIDEO OUT1/2	
J7107	QNN0292-006	PIN JACK	AUDIO(L) OUT1/2	
J7108	QNN0292-005	PIN JACK	AUDIO(R) OUT1/2	
J7124	PU60612	MINI JACK	REMOTE PAUSE	
J7125	PU60612	MINI JACK	CABLE BOX	
OT1	QYTDST3008Z	TAP SCREW	3mm x 8mm,IC5603	
OT2	QYTDST3008Z	TAP SCREW	3mm x 8mm,Q5602	
OT3	QYTDST3008Z	TAP SCREW	3mm x 8mm,Q5604	
OT4	LP40226-001A	PC SUPPORT	(x2)	
OT5	PU59311	WIRE CLAMP		
S3002	QSW0695-001	PUSH SWITCH	S.CASS SW	
SD1	LP31134-001A	S.PLATE(P/R)		
ST1	PU59391	STYLE PIN		
TP501	QNZ0059-001	TEST POINT	Y TO SE	
TU6001	QAU0255-002	TUNER		
W1	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W2	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W3	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W4	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W7	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W8	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W9	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W10	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W11	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W12	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W13	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W14	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W15	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W16	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W17	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W19	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W20	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W22	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W24	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W25	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W27	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W30	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W32	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W37	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W38	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W39	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W40	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W41	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W43	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W45	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W46	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W47	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W48	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W49	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W50	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W51	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W53	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W54	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
WR1	QUB220-10A4RL	SIN TWIST WIRE		
WR3	QUB320-19ZAZA	SIN TWIST WIRE		
X2	QAX0575-001	CRYSTAL	3579.545kHz	
X3001	QAX0444-001	CRYSTAL	32.768kHz	
X3002	QAX0527-001	CRYSTAL	10.000000MHz	

A/C HEAD BOARD ASSEMBLY <12>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10010-01A1	A/C HEAD BOARD ASSY		

DISPLAY BOARD ASSEMBLY <28>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10176-01B1	DISPLAY BOARD ASSY		
IC7001	PT6958-X	IC		
IC7002	GP1U281X	IR DETECT UNIT	38kHz	
IC7002 or	PNA4652M00XB	IR DETECT UNIT		
IC7002 or	GP1UM281XK	IR DETECT UNIT		
D7001	1SS133-T2	SI DIODE		
D7001 or	1N4148M-T2	DIODE		
D7002	1SS133-T2	SI DIODE		
D7002 or	1N4148M-T2	DIODE		
D7003	1SS133-T2	SI DIODE		
D7003 or	1N4148M-T2	DIODE		
C7001	QCBB1HK-104Y	C CAPACITOR	0.1uF 50V K	
C7002	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
C7011	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
R7005	QRE141J-513Y	C RESISTOR	51kΩ 1/4W J	
R7006	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R7012	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7013	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7014	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7015	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7016	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7017	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7018	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7019	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
R7020	QRE141J-271Y	C RESISTOR	270Ω 1/4W J	
L7001	QQL231J-R22Y	COIL	0.22uH J	
CN7002	QGF1201C2-10	CONNECTOR	FFC/FPC (1-10)	
CN7005	QGA2001C1-02	CONNECTOR	W-B (1-2)	
DI7001	LTG-0154M-J	LED		
S7001	QSW0456-002Z	TACT SWITCH	REW	
S7002	QSW0456-002Z	TACT SWITCH	FF	
S7003	QSW0456-002Z	TACT SWITCH	D-VHS	
S7005	QSW0456-002Z	TACT SWITCH	REC	
S7006	QSW0456-002Z	TACT SWITCH	PAUSE	
S7007	QSW0456-002Z	TACT SWITCH	STOP/EJECT	
S7008	QSW0456-002Z	TACT SWITCH	PLAY	
S7009	QSW0456-002Z	TACT SWITCH	CH +	
S7010	QSW0456-002Z	TACT SWITCH	CH -	
S7011	QSW0456-002Z	TACT SWITCH	POWER	
S7012	QSW0456-002Z	TACT SWITCH	TIMER	

REC SAFETY BOARD ASSEMBLY <32>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10176-01A3	REC SAFETY BOARD ASSY		

⚠ Symbol No.	Part No.	Part Name	Description	Local
FW7081	QUM033-07A4A4	PARA RIBON WIRE		
S7061	QSW0602-004	PUSH SWITCH	REC SAFETY	
S7063	QSW0695-001	PUSH SWITCH	D.CASSETTE	

JACK BOARD ASSEMBLY <36>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10176-01A2	JACK BOARD ASSY		
D7199	RD9.1ES/B2/-T2	Z DIODE		
C7196	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
R7191	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7193	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7194	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
CN7191	QGF1208F1-11	CONNECTOR	FFC/FPC (1-11)	
J7191	QNN0023-004	PIN JACK	VIDEO IN	
J7192	QNN0022-003	PIN JACK	AUDIO(L) IN	
J7193	QNN0022-002	PIN JACK	AUDIO(R) IN	
J7194	QND0084-001	S JACK	S-VIDEO IN	

PRE/REC BOARD ASSEMBLY <43>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10174-01B	PRE/REC BOARD ASSY		
IC601	CXA1702AR	IC		
IC602	CXA2002R	IC		
IC603	TC74HC00AF-X	SOP IC		
IC608	TC74HC02AF-X	SOP IC		
IC609	TC7SH08F-X	IC(DIGITAL)		
Q601	2SC4081/QRS/-X	TRANSISTOR		
Q601 or	2SD1819A/QRS/-X	TRANSISTOR		
Q601 or	2PC4081/R/-X	TRANSISTOR		
Q602	2SA1576A/QR/-X	TRANSISTOR		
Q602 or	2SB1218A/QR/-X	TRANSISTOR		
Q602 or	2PA1576/R/-X	TRANSISTOR		
Q603	2SC4081/QRS/-X	TRANSISTOR		
Q603 or	2SD1819A/QRS/-X	TRANSISTOR		
Q603 or	2PC4081/R/-X	TRANSISTOR		
Q604	2SA1576A/QR/-X	TRANSISTOR		
Q604 or	2SB1218A/QR/-X	TRANSISTOR		
Q604 or	2PA1576/R/-X	TRANSISTOR		
Q605	2SA1576A/QR/-X	TRANSISTOR		
Q605 or	2SB1218A/QR/-X	TRANSISTOR		
Q605 or	2PA1576/R/-X	TRANSISTOR		
Q606	2SA1576A/QR/-X	TRANSISTOR		
Q606 or	2SB1218A/QR/-X	TRANSISTOR		
Q606 or	2PA1576/R/-X	TRANSISTOR		
Q608	DTA144WUA-X	DIGI TRANSISTOR		
Q608 or	UN511E-X	DIGI TRANSISTOR		
Q608 or	PDTA144WU-X	DIGI TRANSISTOR		
Q608 or	RN2309-X	DIGI TRANSISTOR		
Q613	2SC4081/QRS/-X	TRANSISTOR		
Q613 or	2SD1819A/QRS/-X	TRANSISTOR		
Q613 or	2PC4081/R/-X	TRANSISTOR		
Q614	2SC4081/QRS/-X	TRANSISTOR		
Q614 or	2SD1819A/QRS/-X	TRANSISTOR		
Q614 or	2PC4081/R/-X	TRANSISTOR		
Q615	2SC4081/QRS/-X	TRANSISTOR		
Q615 or	2SD1819A/QRS/-X	TRANSISTOR		
Q615 or	2PC4081/R/-X	TRANSISTOR		
Q616	2SC4081/QRS/-X	TRANSISTOR		
Q616 or	2SD1819A/QRS/-X	TRANSISTOR		
Q616 or	2PC4081/R/-X	TRANSISTOR		
Q621	2SC4081/QRS/-X	TRANSISTOR		
Q621 or	2SD1819A/QRS/-X	TRANSISTOR		
Q621 or	2PC4081/R/-X	TRANSISTOR		
Q623	2SC4081/QRS/-X	TRANSISTOR		
Q623 or	2SD1819A/QRS/-X	TRANSISTOR		
Q623 or	2PC4081/R/-X	TRANSISTOR		
Q624	DTC144WUA-X	DIGI TRANSISTOR		
Q624 or	UN521E-X	DIGI TRANSISTOR		
Q624 or	PDTC144WU-X	DIGI TRANSISTOR		
Q624 or	RN1309-X	DIGI TRANSISTOR		
Q641	2SC3936/BC/-X	TRANSISTOR		
Q642	2SC3936/BC/-X	TRANSISTOR		
Q643	2SC3936/BC/-X	TRANSISTOR		
Q644	2SC3936/BC/-X	TRANSISTOR		
Q645	2SC3936/BC/-X	TRANSISTOR		
D601	1SS355-X	SI DIODE		
D602	1SS355-X	SI DIODE		
D606	1SS355-X	SI DIODE		
C601	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C602	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C603	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C611	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C612	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C613	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C621	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C622	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C623	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C624	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C625	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C626	NCB21HK-472X	C CAPACITOR	4700pF 50V K	
C627	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C628	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C629	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C630	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C631	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C632	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C633	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C634	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C639	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C640	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C641	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C642	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C643	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C644	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C645	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
C646	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C647	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C648	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C649	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C650	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C651	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C652	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C653	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C654	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C655	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C656	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C657	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C661	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C662	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C663	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C664	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C665	NCB21HK-472X	C CAPACITOR	4700pF 50V K	
C666	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C667	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C668	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C669	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C670	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C673	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C674	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C675	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C676	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C677	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C678	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C679	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
C680	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C681	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C682	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C683	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C684	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C685	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C686	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C687	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C688	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C689	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C692	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C693	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C694	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C698	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C701	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C702	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C703	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C704	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C705	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C706	NDC21HJ-471X	C CAPACITOR	470pF 50V J	
C707	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C711	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C712	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C713	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C714	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C715	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C716	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C717	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C718	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C720	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C723	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C725	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C726	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C731	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C732	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C733	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C734	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C735	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C750	QCBB1HK-104Y	C CAPACITOR	0.1uF 50V K	
R601	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R602	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R604	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R605	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R606	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R608	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R609	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R611	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R612	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R614	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R615	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R616	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R618	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R619	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R622	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R623	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R624	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R625	NRSA02J-124X	MG RESISTOR	120kΩ 1/10W J	
R626	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R627	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R628	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R629	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R631	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R632	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R633	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J	
R634	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J	
R635	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J	
R636	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J	
R637	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R639	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R641	NRVA02D-153X	CMF RESISTOR	15kΩ 1/10W D	
R642	NRVA02D-183X	CMF RESISTOR	18kΩ 1/10W D	
R651	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R653	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R654	NRSA02J-224X	MG RESISTOR	220kΩ 1/10W J	
R655	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R656	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R657	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R658	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R659	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R663	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R664	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	

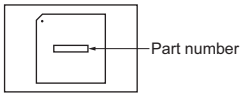
⚠ Symbol No.	Part No.	Part Name	Description	Local
R665	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J	
R666	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J	
R667	NRSA02J-392X	MG RESISTOR	3.9kΩ 1/10W J	
R668	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R670	NRVA02D-153X	CMF RESISTOR	15kΩ 1/10W D	
R671	NRVA02D-183X	CMF RESISTOR	18kΩ 1/10W D	
R672	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R686	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R687	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R688	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R689	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R690	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R691	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R692	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R693	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R694	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R703	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R708	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R709	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R710	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R711	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	
R712	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J	
R713	NRSA02J-470X	MG RESISTOR	47Ω 1/10W J	
R714	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R715	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R716	NRSA02J-822X	MG RESISTOR	8.2kΩ 1/10W J	
R717	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R721	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R722	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R723	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R724	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R725	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R726	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R727	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R728	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R731	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R732	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R733	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R734	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R735	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R736	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R746	NRVA02D-100X	CMF RESISTOR	10Ω 1/10W D	
R747	NRVA02D-100X	CMF RESISTOR	10Ω 1/10W D	
R748	NRVA02D-100X	CMF RESISTOR	10Ω 1/10W D	
R749	NRVA02D-100X	CMF RESISTOR	10Ω 1/10W D	
R750	NRVA02D-100X	CMF RESISTOR	10Ω 1/10W D	
L601	QQL29BJ-101Z	P COIL	100uH J	
L602	QQL29BJ-101Z	P COIL	100uH J	
L611	QQL29BJ-101Z	P COIL	100uH J	
L612	QQL29BJ-101Z	P COIL	100uH J	
L613	QQL29BJ-101Z	P COIL	100uH J	
L615	QQL29BJ-101Z	P COIL	100uH J	
L621	QQL29BJ-101Z	P COIL	100uH J	
L622	QQL29BJ-101Z	P COIL	100uH J	
L624	QQL29BJ-101Z	P COIL	100uH J	
L631	QQL29BJ-101Z	P COIL	100uH J	
L632	QQL29BJ-101Z	P COIL	100uH J	
B601	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B603	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B606	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
CN601	QGA2001F1-04	CONNECTOR	W-B (1-4)	
CN602	QGA2001F1-04	CONNECTOR	W-B (1-4)	
CN603	QGB2024J1-14S	CONNECTOR	B-B (1-14)	
CN604	QGF1202C1-10	CONNECTOR	FFC/FPC (1-10)	
SD1	LP20940-001A	SHIELD FRAME(PRE)		
TP602	QNZ0055-001	TEST POINT	A/HS2_FF	
TP611	QNZ0055-001	TEST POINT	REC_LEVEL1	
TP612	QNZ0055-001	TEST POINT	REC_LEVEL2	
TP621	QNZ0055-001	TEST POINT	PB_DATA1	
TP622	QNZ0055-001	TEST POINT	PB_DATA2	
W1	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W2	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W3	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W4	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W5	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W6	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
W7	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W9	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W10	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W11	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W12	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W13	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W14	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W15	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W16	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	

DIGITAL BOARD ASSEMBLY <50>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10175-01D	DIGITAL BOARD ASSY		A
PW1	LPA10175-01E	DIGITAL BOARD ASSY		B
IC1	MB91154PFV-107	IC(MCU)		
IC2	SI-3012LU-X	IC		
IC3	S-80927CNMC-W	IC		
IC4	AT25080N-10SC-X	IC		
IC5	SN74HCT08APW-X	IC		
IC6	SN74HCT08APW-X	IC		
IC8	SN74LV08APW-X	IC		
IC9	SN74AHCT1G125-X	IC(DIGITAL)		
IC10	SN74AHCT1G125-X	IC(DIGITAL)		
IC201	JCP8054	IC		
IC202	SI-3012LU-X	IC		
IC203	HY57V161610DTC8	IC		
IC203 or	K4S161622D-TC80	IC	16Mbit SDRAM	
IC204	MK3727D-X	IC		
IC205	TC7SH08FU-X	IC(DIGITAL)		
IC205 or	SN74AHC1G08K-X	IC		
IC206	SN74LVCU04APW-X	IC(DIGITAL)		
IC207	NAX0507-001X	CXO		
IC208	SN74AHC1GU04K-X	IC		
IC208 or	TC7SHU04FU-X	IC(DIGITAL)		
IC402	TLC2932-X	VSOP IC		
IC404	TLC2932-X	VSOP IC		
IC405	SN74LV74APW-X	IC		
IC406	SN74AHC1G04K-X	IC		
IC406 or	TC7SH04FU-X	IC(DIGITAL)		
IC501	DMN8600-C0	IC(DIGITAL)		
IC502	SN74LVCU04APW-X	IC(DIGITAL)		
IC503	SN74AHC1G04K-X	IC		
IC503 or	TC7SH04FU-X	IC(DIGITAL)		
IC702	K4H281638D-TCB3	IC		
IC703	K4H281638D-TCB3	IC		
IC704	K4H281638D-TCB3	IC		
IC705	K4H281638D-TCB3	IC		
IC706	PQ015YZ01Z-X	IC		
IC802	HY29LV320TT-90	IC(MICRO C ROM)		
IC802 or	MBM29LV320TE90N	IC(MICRO C ROM)		
IC802 or	D29F032203-A85T	IC(MCU)		
IC803	HY29LV320TT-90	IC(MICRO C ROM)		
IC803 or	MBM29LV320TE90N	IC(MICRO C ROM)		
IC803 or	D29F032203-A85T	IC(MCU)		
IC804	HD74LVC373AT-X	IC		
IC805	HD74LVC373AT-X	IC		
IC901	PDI1394P23BD	IC	*(REFER TO BELOW)	A
IC901	TSB41AB2PAP	IC	*(REFER TO BELOW)	B
IC1001	JCP8039-4	IC		
IC1002	HY57V161610DTC8	IC		
IC1002 or	K4S161622D-TC80	IC	16Mbit SDRAM	
IC1301	AK4522VF-X	IC		
IC1302	BA15218F-XE	IC		
IC1303	BA15218F-XE	IC		
IC1304	GP1FA511TZ	OPT TRANSMITTER		
IC1501	JCP8064-3	IC		
IC1502	HD74LVC373AT-X	IC		
Q1	DTC144EUA-X	DIGI TRANSISTOR		
Q201	DTC144EUA-X	DIGI TRANSISTOR		
Q401	DTC114EUA-X	DIGI TRANSISTOR		
Q401 or	PDTC114EU-X	DIGI TRANSISTOR		
Q401 or	UN5211-X	DIGI TRANSISTOR		
Q401 or	RN1302-X	DIGI TRANSISTOR		
Q402	UMT2N-W	PAIR TRANSISTOR		
Q403	UMX2N-W	PAIR TRANSISTOR		
Q404	UMT2N-W	PAIR TRANSISTOR		
Q405	2SC3930/C/-X	TRANSISTOR		
Q406	2SC4081/QRS/-X	TRANSISTOR		
Q406 or	2PC4081/R/-X	TRANSISTOR		
Q406 or	2SD1819A/QRS/-X	TRANSISTOR		
Q407	2SC3930/C/-X	TRANSISTOR		
Q408	2SA1532/C/-X	TRANSISTOR		
Q409	2SC5632-X	TRANSISTOR		
Q410	UMT2N-W	PAIR TRANSISTOR		
Q411	UMX2N-W	PAIR TRANSISTOR		
Q412	UMT2N-W	PAIR TRANSISTOR		
Q413	2SC3930/C/-X	TRANSISTOR		
Q414	2SC4081/QRS/-X	TRANSISTOR		
Q414 or	2PC4081/R/-X	TRANSISTOR		
Q414 or	2SD1819A/QRS/-X	TRANSISTOR		
Q415	2SC3930/C/-X	TRANSISTOR		
Q416	2SA1532/C/-X	TRANSISTOR		
Q417	2SC5632-X	TRANSISTOR		
Q418	2SC4081/QRS/-X	TRANSISTOR		
Q418 or	2PC4081/R/-X	TRANSISTOR		
Q418 or	2SD1819A/QRS/-X	TRANSISTOR		
Q419	DTC114EUA-X	DIGI TRANSISTOR		
Q419 or	PDTC114EU-X	DIGI TRANSISTOR		
Q419 or	UN5211-X	DIGI TRANSISTOR		
Q419 or	RN1302-X	DIGI TRANSISTOR		
Q420	2SC4081/QRS/-X	TRANSISTOR		
Q420 or	2PC4081/R/-X	TRANSISTOR		
Q420 or	2SD1819A/QRS/-X	TRANSISTOR		
Q421	2SA1532/C/-X	TRANSISTOR		
Q422	2SC3930/C/-X	TRANSISTOR		
Q423	2SC4081/QRS/-X	TRANSISTOR		
Q423 or	2PC4081/R/-X	TRANSISTOR		
Q423 or	2SD1819A/QRS/-X	TRANSISTOR		
Q424	2SC4081/QRS/-X	TRANSISTOR		
Q424 or	2PC4081/R/-X	TRANSISTOR		
Q424 or	2SD1819A/QRS/-X	TRANSISTOR		
Q425	2SA1532/C/-X	TRANSISTOR		
Q426	2SC3930/C/-X	TRANSISTOR		
Q427	UMT2N-W	PAIR TRANSISTOR		
Q428	UMT2N-W	PAIR TRANSISTOR		
Q501	DTC144EUA-X	DIGI TRANSISTOR		
Q801	DTC144EUA-X	DIGI TRANSISTOR		
Q1101	2SA1576A/QR/-X	TRANSISTOR		
Q1101 or	2PA1576/R/-X	TRANSISTOR		
Q1101 or	2SB1218A/QR/-X	TRANSISTOR		
Q1102	2SA1576A/QR/-X	TRANSISTOR		
Q1102 or	2PA1576/R/-X	TRANSISTOR		
Q1102 or	2SB1218A/QR/-X	TRANSISTOR		
Q1103	2SC4081/QRS/-X	TRANSISTOR		
Q1103 or	2PC4081/R/-X	TRANSISTOR		
Q1103 or	2SD1819A/QRS/-X	TRANSISTOR		
Q1104	2SA1576A/QR/-X	TRANSISTOR		
Q1104 or	2PA1576/R/-X	TRANSISTOR		
Q1104 or	2SB1218A/QR/-X	TRANSISTOR		
Q1106	2SC4081/QRS/-X	TRANSISTOR		
Q1106 or	2PC4081/R/-X	TRANSISTOR		
Q1106 or	2SD1819A/QRS/-X	TRANSISTOR		
Q1107	2SA1576A/QR/-X	TRANSISTOR		
Q1107 or	2PA1576/R/-X	TRANSISTOR		
Q1107 or	2SB1218A/QR/-X	TRANSISTOR		
Q1108	2SA1576A/QR/-X	TRANSISTOR		
Q1108 or	2PA1576/R/-X	TRANSISTOR		
Q1108 or	2SB1218A/QR/-X	TRANSISTOR		
Q1109	2SC4081/QRS/-X	TRANSISTOR		
Q1109 or	2PC4081/R/-X	TRANSISTOR		
Q1109 or	2SD1819A/QRS/-X	TRANSISTOR		
Q1110	2SA1576A/QR/-X	TRANSISTOR		
Q1110 or	2PA1576/R/-X	TRANSISTOR		
Q1110 or	2SB1218A/QR/-X	TRANSISTOR		
Q1111	2SC4081/QRS/-X	TRANSISTOR		
Q1111 or	2PC4081/R/-X	TRANSISTOR		
Q1111 or	2SD1819A/QRS/-X	TRANSISTOR		
Q1112	2SA1576A/QR/-X	TRANSISTOR		
Q1113	2SA1576A/QR/-X	TRANSISTOR		

*When replacing the IC901, be sure to confirm the part number of IC901.
If the part number is mistaken, rewritting of 1394 key will occur.



⚠ Symbol No.	Part No.	Part Name	Description	Local
Q1114	2SC4081/QRS/-X	TRANSISTOR		
Q1115	2SA1576A/QR/-X	TRANSISTOR		
Q1116	2SC4081/QRS/-X	TRANSISTOR		
Q1117	DTC144WUA-X	DIGI TRANSISTOR		
Q1117	or PDTC144WU-X	DIGI TRANSISTOR		
Q1117	or UN521E-X	DIGI TRANSISTOR		
Q1117	or RN1309-X	DIGI TRANSISTOR		
Q1118	2SA1576A/QR/-X	TRANSISTOR		
Q1119	2SA1576A/QR/-X	TRANSISTOR		
Q1120	2SC4081/QRS/-X	TRANSISTOR		
Q1121	2SA1576A/QR/-X	TRANSISTOR		
Q1122	2SC4081/QRS/-X	TRANSISTOR		
Q1123	2SA1576A/QR/-X	TRANSISTOR		
Q1125	2SA1576A/QR/-X	TRANSISTOR		
Q1126	2SC4081/QRS/-X	TRANSISTOR		
Q1127	2SA1576A/QR/-X	TRANSISTOR		
Q1128	2SA1576A/QR/-X	TRANSISTOR		
Q1129	DTC144WUA-X	DIGI TRANSISTOR		
Q1129	or PDTC144WU-X	DIGI TRANSISTOR		
Q1129	or UN521E-X	DIGI TRANSISTOR		
Q1129	or RN1309-X	DIGI TRANSISTOR		
Q1132	2SC4081/R/-X	TRANSISTOR		
Q1133	2SC4081/QRS/-X	TRANSISTOR		
Q1134	2SA1576A/QR/-X	TRANSISTOR		
Q1135	2SA1576A/QR/-X	TRANSISTOR		
Q1501	DTC144EUA-X	DIGI TRANSISTOR		
Q7201	2SA1576A/QR/-X	TRANSISTOR		
Q7202	2SA1576A/QR/-X	TRANSISTOR		
Q7203	UMZ1N-W	PAIR TRANSISTOR		
Q7204	UMX2N-W	PAIR TRANSISTOR		
Q7205	2SA1576A/QR/-X	TRANSISTOR		
D201	UDZ2.2B-X	Z DIODE		
D203	MA8033/H/-X	Z DIODE		
D1001	DAN202U-X	SI DIODE		
D1101	1SS355-X	SI DIODE		
D1102	1SS355-X	SI DIODE		
D1103	1SS355-X	SI DIODE		
D1104	1SS355-X	SI DIODE		
D7201	1SS355-X	SI DIODE		
D7202	1SS355-X	SI DIODE		
C1	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C2	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C3	NEH90JM-107X	E CAPACITOR	100uF 6.3V M	
C4	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C6	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C8	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C9	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C10	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C11	NEH90JM-476X	E CAPACITOR	47uF 6.3V M	
C12	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C13	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C14	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C15	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C16	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C17	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C18	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C19	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C20	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C21	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C22	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C23	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C24	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C25	NCB31HK-472X	C CAPACITOR	4700pF 50V K	
C27	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C28	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C29	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C30	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C31	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C32	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C33	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C34	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C36	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C37	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C38	NDC31HJ-470X	C CAPACITOR	47pF 50V J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C39	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C40	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C41	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C42	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C43	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C44	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C45	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C46	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C47	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C48	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C49	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C50	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C51	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C57	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C58	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C59	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C60	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C62	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C63	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C64	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C65	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
C201	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C202	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C203	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C204	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C205	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C206	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C207	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C208	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C209	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C210	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C211	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C212	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C213	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C214	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C215	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C216	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C217	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C218	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C219	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C220	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C221	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C222	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C223	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C224	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J	
C225	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J	
C226	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C227	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C228	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C229	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C230	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C231	NDC31HJ-4R0X	C CAPACITOR	4pF 50V J	
C232	NDC31HJ-4R0X	C CAPACITOR	4pF 50V J	
C233	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C234	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C235	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C236	NCB21CK-334X	C CAPACITOR	0.33uF 16V K	
C240	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C241	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C242	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C246	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C252	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C404	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C407	NEH90JM-476X	E CAPACITOR	47uF 6.3V M	
C408	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C409	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C410	NEH90JM-476X	E CAPACITOR	47uF 6.3V M	
C411	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C412	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C413	NDC31HJ-6R0X	C CAPACITOR	6pF 50V J	
C414	NCB31EK-123X	C CAPACITOR	0.012uF 25V K	
C415	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C416	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C417	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C422	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C425	NEH90JM-476X	E CAPACITOR	47uF 6.3V M	
C426	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C427	NEH90JM-476X	E CAPACITOR	47uF 6.3V M	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C428	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C429	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C430	NDC31HJ-6R0X	C CAPACITOR	6pF 50V J	
C431	NCB31EK-123X	C CAPACITOR	0.012uF 25V K	
C432	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C433	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C434	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C436	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C437	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C438	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C439	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C441	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C442	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C443	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C444	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C446	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C447	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C448	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C449	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C451	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C452	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C453	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C501	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C502	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C503	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C504	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C505	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C506	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C507	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C508	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C509	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C510	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C511	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C512	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C513	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C514	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C515	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C516	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C517	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C518	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C519	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C520	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C521	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C522	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C524	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C525	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C526	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C527	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C528	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C529	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C530	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C531	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C532	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C533	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C534	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C535	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C537	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C538	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C539	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C540	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C542	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C707	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C708	NBSH0GM-477X	OS E CAPACITOR	470uF 4V M	
C709	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C710	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C711	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C712	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C713	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C714	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C715	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C716	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C717	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C718	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C719	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C720	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C723	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C724	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C725	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C726	NBSH0GM-477X	OS E CAPACITOR	470uF 4V M	
C727	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C728	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C729	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C730	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C731	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C732	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C733	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C734	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C735	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C736	NBSH0GM-477X	OS E CAPACITOR	470uF 4V M	
C737	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C738	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C739	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C740	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C741	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C742	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C743	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C744	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C746	NRSA63D-471X	MG RESISTOR	470Ω 1/16W D	
C747	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C748	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C750	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C751	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C752	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C753	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C754	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C755	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C756	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C757	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C758	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C759	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C760	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C761	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C762	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C763	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C764	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C765	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C766	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C767	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C768	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C769	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C770	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C771	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C802	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C803	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C804	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C805	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C806	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C807	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C902	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C903	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C904	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C905	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C906	NDC31HJ-120X	C CAPACITOR	12pF 50V J	
C907	NDC31HJ-120X	C CAPACITOR	12pF 50V J	
C908	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	B
C909	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C910	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C911	NDC31HJ-271X	C CAPACITOR	270pF 50V J	
C912	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C913	NDC31HJ-271X	C CAPACITOR	270pF 50V J	
C914	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C915	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1001	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C1002	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C1003	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1006	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1007	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1008	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1009	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1010	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1011	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C1012	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1013	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1014	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1015	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1016	NDC31HJ-101X	C CAPACITOR	100pF 50V J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C1017	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1018	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1019	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1020	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1021	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1022	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1023	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1024	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1025	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1026	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1027	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1028	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1029	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1030	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1031	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1032	NEH91CM-106X	E CAPACITOR	10uF 16V M	
C1033	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1034	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1035	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1036	NEH91CM-106X	E CAPACITOR	10uF 16V M	
C1037	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1038	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1039	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1040	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1041	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1042	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1043	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1044	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1045	NBE40JM-476X	TA E CAPACITOR	47uF 6.3V M	
C1046	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1047	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1049	QETJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
C1101	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C1102	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C1103	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C1104	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C1105	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C1106	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C1109	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1110	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C1111	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C1117	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1118	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1119	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C1127	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1128	NDC31HJ-8R0X	C CAPACITOR	8pF 50V J	
C1129	NDC31HJ-150X	C CAPACITOR	15pF 50V J	
C1130	NDC31HJ-390X	C CAPACITOR	39pF 50V J	
C1131	NDC31HJ-180X	C CAPACITOR	18pF 50V J	
C1132	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1134	NDC31HJ-7R0X	C CAPACITOR	7pF 50V J	
C1135	NDC31HJ-100X	C CAPACITOR	10pF 50V J	
C1137	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1139	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1140	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1145	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C1146	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1147	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C1148	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C1149	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1151	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1153	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1163	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C1165	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C1166	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C1170	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C1301	NEH91CM-106X	E CAPACITOR	10uF 16V M	
C1302	NEH91CM-106X	E CAPACITOR	10uF 16V M	
C1303	NCB21HK-222X	C CAPACITOR	2200pF 50V K	
C1304	NCB21HK-222X	C CAPACITOR	2200pF 50V K	
C1305	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1306	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1307	NBE20JM-475X	TA E CAPACITOR	4.7uF 6.3V M	
C1308	NBE20JM-475X	TA E CAPACITOR	4.7uF 6.3V M	
C1309	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1310	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1311	NEH91CM-226X	E CAPACITOR	22uF 16V M	
C1312	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C1313	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C1314	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1315	NBE20JM-475X	TA E CAPACITOR	4.7uF 6.3V M	
C1316	NEH91CM-106X	E CAPACITOR	10uF 16V M	
C1317	NEH91CM-106X	E CAPACITOR	10uF 16V M	
C1318	NEH90JM-476X	E CAPACITOR	47uF 6.3V M	
C1319	NEH91CM-476X	E CAPACITOR	47uF 16V M	
C1322	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1323	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1324	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1325	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1328	NDC31HJ-471X	C CAPACITOR	470pF 50V J	
C1329	NDC31HJ-471X	C CAPACITOR	470pF 50V J	
C1330	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1331	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C1332	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1333	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1338	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C1342	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1501	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C1502	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1503	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1504	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1505	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C1506	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C1507	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C7201	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C7202	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C7203	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
R1	NRSA63J-154X	MG RESISTOR	150kΩ 1/16W J	
R2	NRSA63J-913X	MG RESISTOR	91kΩ 1/16W J	
R3	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R5	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R6	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R8	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R9	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R10	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R11	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R12	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R14	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R15	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R16	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R17	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R18	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R19	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R20	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R21	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R22	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R23	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R24	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R25	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R26	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R27	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R32	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R33	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R34	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R35	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R36	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R37	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R38	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R39	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R40	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R41	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R42	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R43	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R44	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R49	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R50	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R51	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R52	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R53	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R54	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R55	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R56	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R57	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R58	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R59	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R60	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R61	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R62	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R63	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R64	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R66	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R67	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R68	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R69	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R70	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R71	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R72	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R73	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R74	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R75	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R76	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R77	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R78	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R79	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R82	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R83	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R84	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R85	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R91	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R92	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R93	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R94	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R95	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R96	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R97	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R201	NRSA63J-513X	MG RESISTOR	51kΩ 1/16W J	
R202	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R203	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R204	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R205	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R206	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R207	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R212	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R213	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R214	NRSA63D-472X	MG RESISTOR	4.7kΩ 1/16W D	
R215	NRSA63D-472X	MG RESISTOR	4.7kΩ 1/16W D	
R216	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R217	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R218	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R219	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R220	NRSA63D-151X	MG RESISTOR	150Ω 1/16W D	
R221	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R222	NRSA63D-272X	MG RESISTOR	2.7kΩ 1/16W D	
R224	NRSA63D-151X	MG RESISTOR	150Ω 1/16W D	
R225	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R226	NRSA63D-151X	MG RESISTOR	150Ω 1/16W D	
R227	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R228	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R229	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R230	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R232	NRSA63J-201X	MG RESISTOR	200Ω 1/16W J	
R233	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R234	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R235	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R236	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R237	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R238	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R239	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R240	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R242	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R243	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R245	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R247	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R248	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R249	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R250	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R251	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R252	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R253	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R254	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R255	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R257	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R258	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R259	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R260	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R261	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R270	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R403	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R404	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R405	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R406	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R407	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R408	NRSA63J-911X	MG RESISTOR	910Ω 1/16W J	
R409	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R410	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R411	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R412	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R413	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R414	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R415	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R420	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R421	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R422	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R423	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R424	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R425	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R426	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R427	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R428	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R429	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R430	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R431	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R432	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R435	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R436	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R437	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R438	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R439	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R440	NRSA63J-911X	MG RESISTOR	910Ω 1/16W J	
R441	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R442	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R443	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R444	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R445	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R446	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R447	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R452	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R453	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R454	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R455	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R456	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R457	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R458	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R459	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R460	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R461	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R462	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R463	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R464	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R465	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R466	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R467	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R468	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J	
R469	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R470	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R471	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R472	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R473	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R474	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R475	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R476	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R477	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R478	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R479	NRSA63J-512X	MG RESISTOR	5.1kΩ 1/16W J	
R480	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R481	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R482	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R483	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R484	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R485	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R486	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R487	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R488	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R489	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R490	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R491	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R492	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R493	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R494	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R495	NRSA63J-512X	MG RESISTOR	5.1kΩ 1/16W J	
R496	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R497	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R501	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R505	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R506	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R508	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R510	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R512	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R513	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R514	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R516	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R517	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R519	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R520	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R521	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R522	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R527	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R528	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R529	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R531	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R536	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R537	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R538	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R539	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R540	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R541	NRSA63F-1181X	MG RESISTOR	1.18kΩ 1/16W F	
R547	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R549	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R550	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R551	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R552	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R554	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R555	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R556	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R557	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R558	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R559	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R560	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R561	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R562	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R563	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R565	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R566	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R567	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R568	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R569	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R570	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R571	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R575	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R576	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R577	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R578	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R579	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R581	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R582	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R583	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R584	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R586	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R587	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R588	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R590	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	
R592	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R593	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R594	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R595	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R596	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R597	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R707	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R708	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R709	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R710	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R711	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R712	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R713	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R714	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R715	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R716	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R717	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R718	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R719	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R720	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R721	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R722	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R723	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R724	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R725	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R726	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R727	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R728	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R729	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R730	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R731	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R732	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R733	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R734	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R735	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R736	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R737	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R738	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R739	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R740	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R741	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R742	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R743	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R744	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R745	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R746	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R747	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R748	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R749	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R750	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R751	NRSA63D-471X	MG RESISTOR	470Ω 1/16W D	
R752	NRSA63D-271X	MG RESISTOR	270Ω 1/16W D	
R753	NRSA63D-102X	MG RESISTOR	1kΩ 1/16W D	
R754	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R755	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R756	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R757	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R802	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R803	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R804	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R805	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R806	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R807	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R808	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R809	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R810	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R812	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R813	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R814	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R818	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R902	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R903	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R904	NRSA63D-751X	MG RESISTOR	750Ω 1/16W D	
R905	NRSA63D-562X	MG RESISTOR	5.6kΩ 1/16W D	
R906	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R907	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R909	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R910	NRSA63J-394X	MG RESISTOR	390kΩ 1/16W J	
R911	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R913	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R914	NRSA63J-512X	MG RESISTOR	5.1kΩ 1/16W J	
R915	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R916	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R917	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R918	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R919	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R920	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R921	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R922	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R923	NRSA63J-512X	MG RESISTOR	5.1kΩ 1/16W J	
R924	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R925	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1001	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1002	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1003	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1004	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1005	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1007	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1008	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1010	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1011	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1012	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1013	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1014	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1015	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1016	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1017	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1018	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1019	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1020	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1021	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1022	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1023	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1024	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1025	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R1026	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R1027	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R1028	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1031	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R1032	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1035	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R1036	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1037	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1039	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1041	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1042	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1043	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1048	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1052	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1053	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R1054	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1055	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1057	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1059	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1061	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1062	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1063	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1064	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	
R1065	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1101	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1102	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R1103	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R1104	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1105	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R1106	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R1107	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1108	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R1109	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R1110	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R1111	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1112	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1113	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1114	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J	
R1115	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R1116	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1118	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1119	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R1120	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1121	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R1122	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R1123	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1124	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1125	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1126	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R1127	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R1128	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1129	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R1132	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1133	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R1135	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R1136	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R1137	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1138	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1139	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1140	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R1141	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R1142	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R1143	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1144	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R1145	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R1146	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1147	NRSA63J-751X	MG RESISTOR	750Ω 1/16W J	
R1149	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R1150	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1151	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R1152	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1153	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1154	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R1155	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R1156	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R1157	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1158	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R1160	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1161	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1163	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R1164	NRSA63J-202X	MG RESISTOR	2kΩ 1/16W J	
R1165	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1166	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R1167	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1169	NRSA63D-822X	MG RESISTOR	8.2kΩ 1/16W D	
R1170	NRSA63D-511X	MG RESISTOR	510Ω 1/16W D	
R1171	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R1173	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R1176	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1177	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1178	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1180	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1183	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R1184	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1185	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1186	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1187	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1188	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R1189	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R1190	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R1191	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R1192	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1194	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1196	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R1197	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1199	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R1301	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R1302	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R1303	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R1304	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R1305	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1306	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1307	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1308	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1309	NRSA63J-150X	MG RESISTOR	15Ω 1/16W J	
R1310	NRSA63J-150X	MG RESISTOR	15Ω 1/16W J	
R1311	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R1313	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1314	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1315	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1316	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1317	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1318	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1319	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1320	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R1321	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R1322	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R1323	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1324	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1325	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1326	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1327	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R1328	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R1329	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R1330	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R1331	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R1332	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R1340	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1341	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R1342	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1343	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1346	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1349	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1350	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1503	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R1505	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1508	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1509	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1510	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1511	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1512	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R1513	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R1517	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7201	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7202	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7203	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7204	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R7205	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R7206	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R7207	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R7208	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R7209	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	
R7210	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R7211	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R7212	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R7213	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R7214	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R7215	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R7216	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7217	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	
R7218	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
RA1	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA2	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA3	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA4	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA203	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA204	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA205	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA206	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA213	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA214	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA215	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA501	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA502	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA509	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA510	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA513	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA514	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA517	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA518	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA519	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA520	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA521	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA522	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA523	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA524	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA701	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA702	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA703	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA704	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA705	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA706	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA707	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA708	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA713	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA714	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA715	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA717	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA718	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA719	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA720	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA721	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA722	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA723	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA724	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA725	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA726	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA727	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA728	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA729	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA730	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA731	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA732	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA733	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA734	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA735	NRZ0040-101X	NET RESISTOR	100Ω 1/16W J x4	
RA801	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA802	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA803	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA804	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA901	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA902	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA1001	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1002	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1003	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1004	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1005	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1006	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1007	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1008	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1009	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1010	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1011	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1012	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1013	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA1014	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA1015	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA1016	NRZ0040-103X	NET RESISTOR	10kΩ 1/16W J x4	
RA1503	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
RA1504	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J x4	
L201	NQL144K-100X	P COIL	10uH K	
L202	NQL144K-100X	P COIL	10uH K	
L401	NQL144K-100X	P COIL	10uH K	
L402	NQL144K-100X	P COIL	10uH K	
L403	NQL024J-150X	P COIL	15uH J	
L404	NQL144K-100X	P COIL	10uH K	
L405	NQL144K-100X	P COIL	10uH K	
L406	NQL144K-100X	P COIL	10uH K	
L407	NQL024J-150X	P COIL	15uH J	
L408	NQL144K-100X	P COIL	10uH K	
L409	NQL144K-100X	P COIL	10uH K	
L411	NQL144K-100X	P COIL	10uH K	
L412	NQL144K-100X	P COIL	10uH K	
L414	NQL144K-100X	P COIL	10uH K	
L501	NQL144K-100X	P COIL	10uH K	
L901	NQL144K-100X	P COIL	10uH K	
L902	NQR0444-001X	CHOKE COIL		
L903	NQR0444-001X	CHOKE COIL		
L1001	NQL144K-100X	P COIL	10uH K	
L1002	NQL144K-100X	P COIL	10uH K	
L1101	NQL144K-100X	P COIL	10uH K	
L1109	NQL024J-150X	P COIL	15uH J	
L1110	NQL024J-220X	P COIL	22uH J	
L1111	NQL024J-330X	P COIL	33uH J	
L1112	NQL144K-100X	P COIL	10uH K	
L1113	NQL024J-330X	P COIL	33uH J	
L1117	NQL024J-330X	P COIL	33uH J	
L1301	NQL144K-100X	P COIL	10uH K	
L1302	NQL144K-100X	P COIL	10uH K	
L1303	NQL144K-100X	P COIL	10uH K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
B7	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
B8	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
B9	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B10	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B11	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B201	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B202	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B203	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B204	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B205	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B207	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B208	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B214	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
B219	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B221	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B401	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B402	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B501	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B502	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B1001	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B1002	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B1004	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B1005	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B1006	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B1007	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B1506	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
CN401	QGA2001F2-04V	CONNECTOR	W-B (1-4)	
CN402	QGA2001F2-04V	CONNECTOR	W-B (1-4)	
CN8001	QGA2001F2-04V	CONNECTOR	W-B (1-4)	
CN8002	QGA2001F2-12V	CONNECTOR	W-B (1-12)	
CN8003	QGF1016F2-16W	CONNECTOR	FFC/FPC (1-16)	
CN8004	QGF1016F2-05W	CONNECTOR	FFC/FPC (1-5)	
CN8005	QGF1016F2-05W	CONNECTOR	FFC/FPC (1-5)	
CN9001	QGF1016F2-07W	CONNECTOR	FFC/FPC (1-7)	
CN9301	QGF1224F1-16X	CONNECTOR	FFC/FPC (1-16)	
ET1	PQ44695-1-1	EARTH PLATE	(x2)	
FL401	NQR0336-001X	LPF		
FL402	NQR0336-001X	LPF		
FL1101	NQR0393-001X	LPF		
FL1102	NQR0393-001X	LPF		
FL1103	NQR0393-001X	LPF		
J901	QNZ0486-001	D CONNECTOR		
J902	QNZ0486-001	D CONNECTOR		
K1	PELN0984-150Y	NOISE FILTER		
K2	PELN0984-150Y	NOISE FILTER		
K3	PELN0984-150Y	NOISE FILTER		
K4	NQR0129-002X	FERRITE BEADS		
K5	NQR0129-002X	FERRITE BEADS		
K201	PELN0984-150Y	NOISE FILTER		
K202	PELN0984-150Y	NOISE FILTER		
K203	NQR0129-002X	FERRITE BEADS		
K204	NQR0129-002X	FERRITE BEADS		
K205	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K206	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K207	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K208	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K209	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K210	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K211	PELN0984-150Y	NOISE FILTER		
K214	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K501	NQR0129-002X	FERRITE BEADS		
K502	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K503	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K504	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K506	NQR0129-002X	FERRITE BEADS		
K507	NQR0339-001X	FERRITE BEADS		
K508	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
K509	NQR0129-002X	FERRITE BEADS		
K510	NQR0129-002X	FERRITE BEADS		
K511	PELN0984-150Y	NOISE FILTER		
K512	NQR0129-002X	FERRITE BEADS		
K702	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
K703	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
K802	NQR0129-002X	FERRITE BEADS		
K804	NQR0129-002X	FERRITE BEADS		
K902	PELN0984-150Y	NOISE FILTER		
K903	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
K1001	PELN0984-150Y	NOISE FILTER		
K1501	PELN0984-150Y	NOISE FILTER		
K1502	NQR0129-002X	FERRITE BEADS		
LC1	PELN1148-223X	NOISE FILTER		
LC2	PELN1148-223X	NOISE FILTER		
LC3	PELN1148-223X	NOISE FILTER		
LC4	PELN1148-223X	NOISE FILTER		
LC5	PELN1148-223X	NOISE FILTER		
LC6	PELN1148-223X	NOISE FILTER		
LC7	PELN1148-223X	NOISE FILTER		
LC8	PELN1148-223X	NOISE FILTER		
OT1	LP40728-001A	SHEET(DIGITAL)		
OT2	LP40927-001A	THERMAL SHEET	(x3)	
OT3	QYTDST3006Z	TAP SCREW	3mm x 6mm(x2)	
OT4	LP40983-001A	SHIELD TIGHT	(x3)	
SD1	LP21115-001B	S.FRAME(D-VHS)		
SD2	LP20972-001A	S.COVER(D-VHS)		
SD3	LP21116-001A	S.COVER(D-VHS)		
X1	NAX0530-001X	CRYSTAL	13.500000MHz	
X201	NAX0510-001X	CRYSTAL	19.138560MHz	
X202	100221-00	CRYSTAL	13.500000MHz	
X901	NAX0509-001X	CRYSTAL	24.576000MHz	

TERMINAL SUB BOARD ASSEMBLY <52>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10176-01A4	TERMINAL SUB BOARD ASSY		
R7137	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7138	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7139	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
CN7104	QGF1207F1-09	CONNECTOR	FFC/FPC (1-9)	
J7127	QNN0363-003	PIN JACK	COMPONENT VIDEO OUT	
J7128	PEMC1190	MINI JACK	JLIP	
OT1	QYTDSF3010Z	TAP SCREW	3mm x 10mm(x4)	
OT2	PU59311	WIRE CLAMP		
TB1	LP31132-001B	TERMINAL BOARD ASSY		

LOADING MOTOR BOARD ASSEMBLY <55>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10010-01A2	LOADING MOTOR BOARD ASSY		