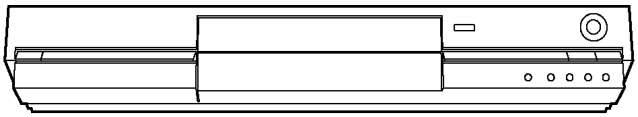
ORDER NO.MD0405181C3

Service Manual

DVD Video Recorder



Notes: The part of DVD Drive (VXY1794/ VXY1855) is listed separately. Please refer ORDER No. RAM0402001C0

DMR-E55PL

Colour

(S).....Silver Type

Specifications

n AMPLIFIER SECTION

Recording system	DVD video recording format (DVD-RAM), DVD video format (DVD-R)
Optical pick-up	Systemwith 1 lens, 2 integration units (658 nm wavelength for DVDs, 795 nm wavelength for CDs)
Recordable discs	12 cm 4.7 GB DVD-RAM discs 12 cm 9.4 GB DVD-RAM discs 8 cm 2.8 GB DVD-RAM discs 8 cm 1.4 GB DVD-R discs (for General Ver. 2.0) 12 cm 4.7 GB DVD-R discs (for General Ver. 2.0) 12 cm 4.7 GB DVD-R discs (for General Ver. 2.0/ 4X-SPEED DVD-R Revision 1.0)
Recording time	Max. 8 hours (using 4.7 GB disc) XP: 60 minutes SP: 120 minutes LP: 240 minutes EP: 360 minutes or 480 minutes
Discs played	12 cm 4.7 GB DVD-RAM discs 12 cm 9.4 GB DVD-RAM discs 8 cm 2.8 GB DVD-RAM discs 12 cm 4.7 GB DVD-R discs (for General Ver. 2.0) 8 cm 1.4 GB DVD-R discs (for General Ver. 2.0) 12 cm 4.7 GB DVD-R discs (for General Ver. 2.0/ 4X-SPEED DVD-R Revision 1.0) DVD-VIDEO discs DVD-Audio discs CD-Audio discs (CD-DA) Video CD discs CD-R/ CD-RW discs (CD-DA, Video CD, MP3 formatted discs)

n VIDEO SYSTEM

TV system	NTSC system, 525 lines, 60 fields PAL-M system, 525 lines, 60 fields (PAL-M: Entrance only)
Recording system	MPEG2 (Hybrid VBR)
Input	LINE (pin jack) x3, 1.0 Vp-p; 75 Ω S connector x3 Y: 1.0 Vp-p; 75 Ω C: 0.286 Vp-p; 75 Ω
Output	LINE (pin jack) x1, 1.0 Vp-p; 75 Ω S connector x1 Y: 1.0 Vp-p; 75 Ω C: 0.286 Vp-p; 75 Ω
Component video output (480P/480i)	Y: 1.0 Vp-p; 75 Ω PB: 0.7 Vp-p; 75 Ω PR: 0.7 Vp-p; 75 Ω
Antenna reception input	VHF Channel: 2ch-13ch, 75 Ω UHF Channel: 14ch-69ch, 75 Ω CATV Channel: 5A & A-5ch-EEEch, 75 Ω

n AUDIO SYSTEM

Recording system	Dolby Digital
Input	LINE (pin jack) x3 Reference input: 309mVrms FS: 2 Vrms (1 kHz, 0 dB)

Panasonic

	Output impedance: 47 kΩ
Output	LINE (pin jack) x1
	Reference output: 309mVrms
	FS: 2 Vrms (1 kHz, 0 dB)
	Output impedance: 1 kΩ
	(Load impedance: 10 kΩ
Number of channels	Recording: 2 channels
	Playback: 2 channels
Other input/output connectors	Digital audio optical output connector
Operating temperature range	5°C-40°C
Operating humidity range	10 %-80 % RH (no condensation)
Clock unit	Quartz-controlled 12-hiur digital display

n LASER SPECIFICATION (Class I LASER Product)

Wave length	795 nm 658 nm
Laser power	No hazardous radiation is emitted with the safety protection
Power supply	AC 110-240, 50/60 Hz
Power consumption	25 W
Dimensions	Approx. 430 (W) x 79 (H) x 274 (D) mm (excluding protrusions)
Mass	Approx. 3.3 kg
Power consumption in standby mode	approx. 2.9 W

Notes:

Mass and dimensions are aproximate.

Specifications are subject to change without notice.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

CONTENTS

1 Safety precautions

1.1. General guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. Leakage current cold check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to thechassis, the reading should be between 1MΩ and 5.2MΩ.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

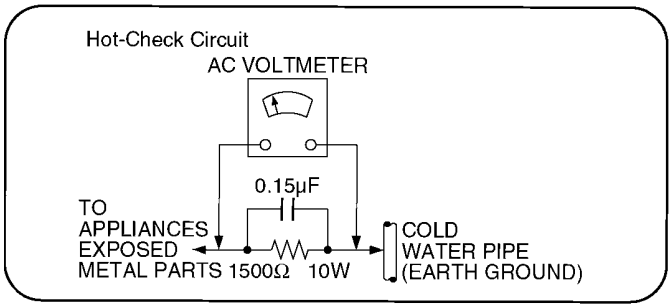


Figure 1

1.1.2. Leakage current hot check (See Figure 1 .)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15µF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1 .
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliampere. In case a measurement isoutside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

1.2. Caution for fuse replacement

(For English)
CAUTION:

Replace with the same type fuse:
(Manufacturer: SOC or Hollyland, Type: F1, F101, F102, F103 & F1101)

(For Canadian French)
ATTENTION:

Utiliser un fusible de rechange de même type:
(Fabricant: SOC ou Hollyland, Type: F1, F101, F102, F103 & F1101)

2 Prevention of Electrostatic Discharge (ESD) to Electrostatic Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatic Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistor-sandsemiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, whichshould be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparableconductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   Caution

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise hamless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficientto damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are imporant for safety.
These parts are marked by ⚠ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

3 Precaution of Laser Diode

CAUTION:

This product utilizes a laser diode with the unit turned “on”, invisible laser radiation is emitted from the pickup lens.
Wave length: 775-815 nm/655-666 nm
Maximum output radiation power from pickup: 100 μ W/VDE
Laser radiation from the pickup lens is safety level,but be sure the followings:

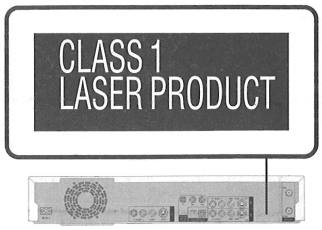
1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

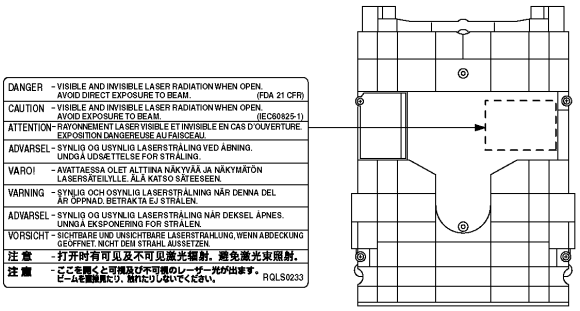
ACHTUNG:

Dieses Produkt enthält eine Laserdiode.
Im eingeschalteten Zustand wird unsichtbare Leserstrahlung von der Laserinheit adgestrahit.
Wellenlänge: 775-815 nm/655-666 nm
Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE
Die Strahlungan der Lasereinheit ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlines blicken.
4. Nicht über längere Zeit in die Fokussierlines blicken.

(Parte interior del aparato)





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

4 How to replace the Lithium Battery

REPLACEMENT PROCEDURE

1. Remove the Top case and DVD-RAM drive unit with Main P.C.B. by referring the Disassembling Procedure.
2. Unsolder the Lithium Batteries: B7501 and then replace it into new one.
   (As shown in 20.1. The Main P.C.B.)

NOTE:

The lithium battery is a critical component. (Type No.: CR2354-1GUF Manufactured by Panasonic.)

It must never be subjected to excessive heat or discharge.

It must therefore only be fitted in equipment designed specifically for its use.

Replacement batteries must be of the same type and manufacture.

They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose.

It should be disposed of in waste products destined for burial rather than incineration.

(For English)

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's instructions.

(For French)

PRECAUTION

Le fait de remplacer incorrectement la pile peut présenter des risques d'explosion.
Remplacer la pile uniquement par une pile identique ou de type équivalent recommandée par le fabricant. Se débarrasser des piles usagées conformément aux instructions du fabricant.

5 Handling the Lead-free Solder

5.1. About lead free solder (PbF)

Distinction of PbF P.C.B.:

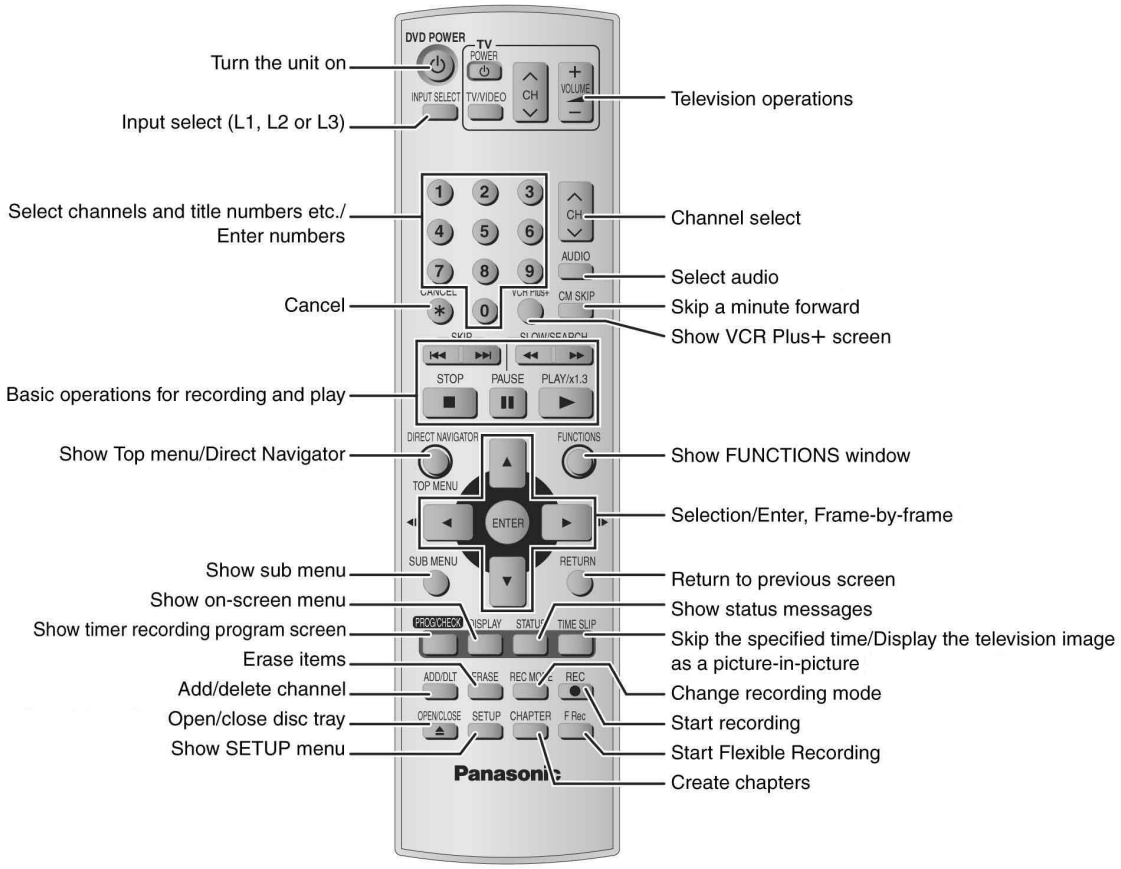
P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

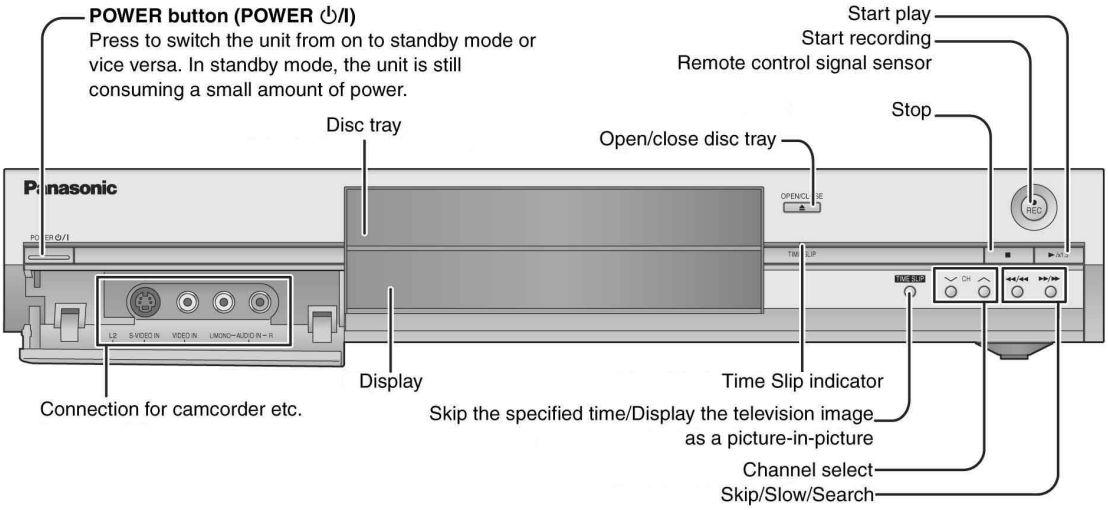
- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of the soldering iron with temperature control,please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

6 Each Buttons

Remote control

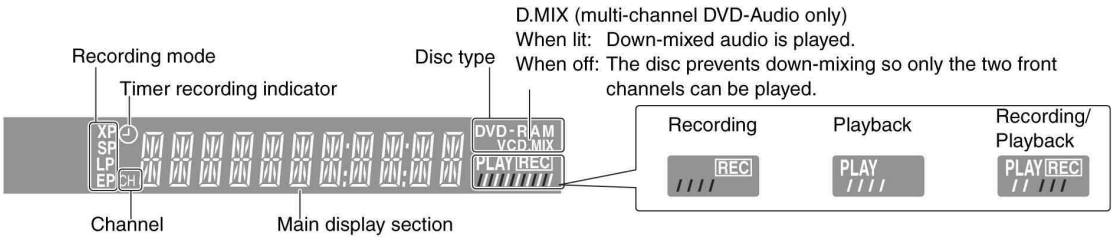


Main unit



Rear panel terminals

The unit's display



7 New Features

7.1. Function of Power Circuit (IC1150)

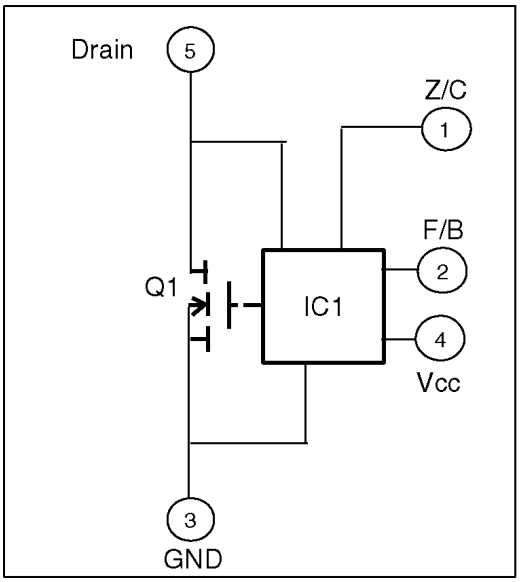
1. General

We adopted IC module as the Switching Power Circuit for lower power consumption.

IC1150 is constructed with Switching materials and Control IC, and is partial resonance module.

We realized Switching Power with high efficiency, low noise and low power consumption.

2. Equivalence Circuit to IC1150



Pin No.	Symbol	Description
1	Z/C	Trigger input terminal. Zero detection voltage: 0.25V It becomes less than 3V, the mode turns to standby.
2	F/B	Bias current feedback input terminal. ISwitching ON time (min.) ~ (max.) 1.5V ~ 4.5V / 0µsec. ~ 25µsec. IIn standby mode Oscillation stops:less than 0.8V Oscillation starts: over 1.8V
3	GND	GND terminal
4	Vcc	Power terminal of IC. Oscillation starting voltage: Vcc = and over 14.5V Oscillation stop voltage: Vcc = and less than 9.6V Over voltage latching voltage: Vcc = 20V
5	Drain	Drain terminal for Main switching material.

3. Startup Circuit

When power is turned on, input voltage of the Switching Transformer is supplied to IC1150 as the startup power.

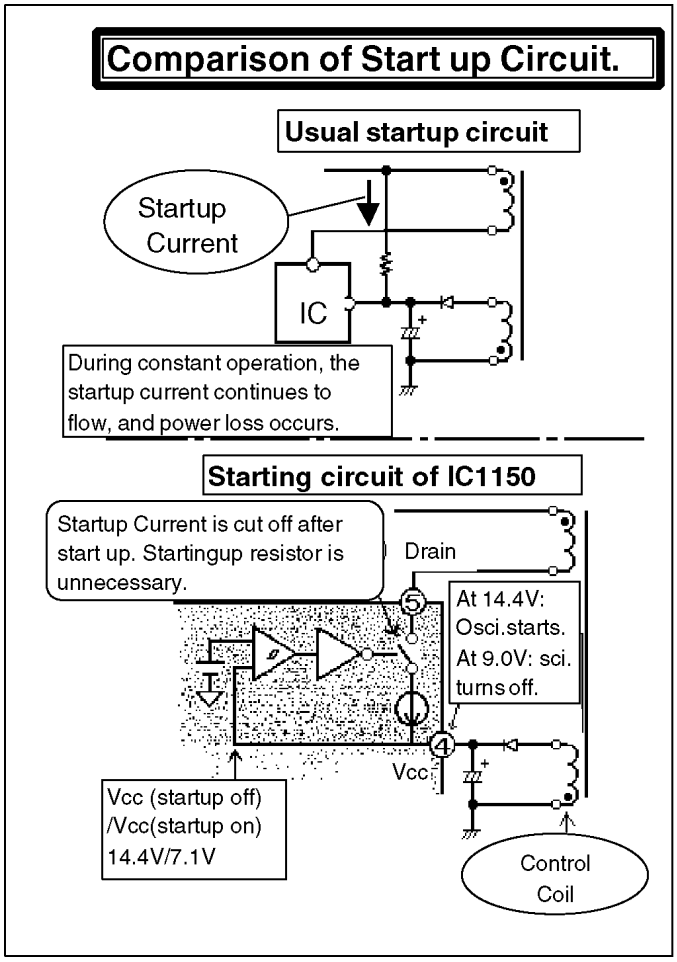
After IC1150 has started, the startup current is cut off.

The current of Startup Circuit is supplied as constant current source in IC1150 and as charge current for the capacitor connected between Vcc terminal and GND out side of IC1150 until Vcc reaches 14.4V.

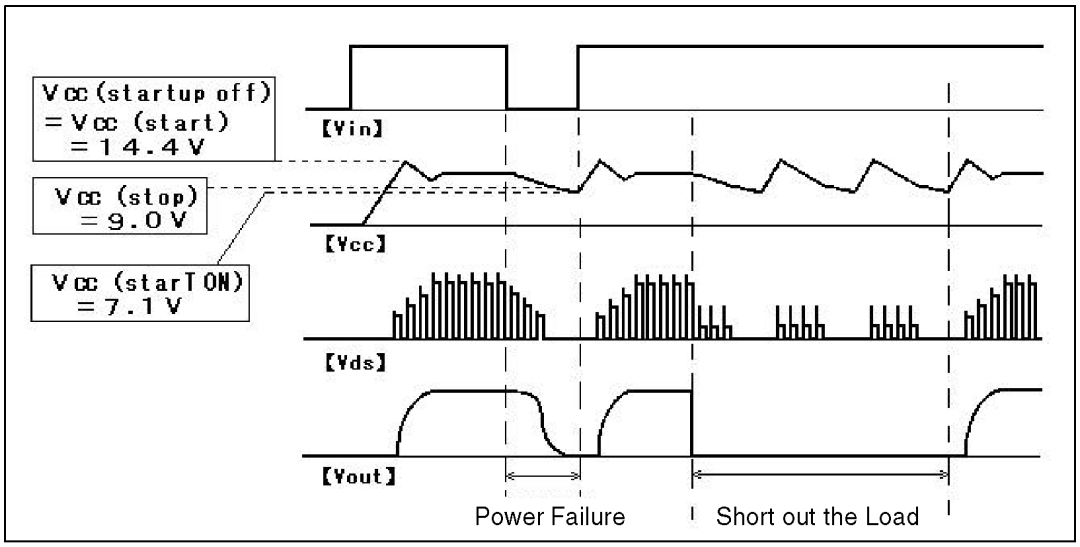
When Vcc reaches 14.4V, the Startup Circuit is cut off, then oscillation starts.

After then, power of IC1150 is supplied from control coil.

In case, the power failure or short out of the load, when Vcc becomes 9.0V; the oscillation stops, furthermore Vcc becomes 7.1V the Startup Circuit starts up and Vcc starts to rise.



Startup Circuit Timing Chart



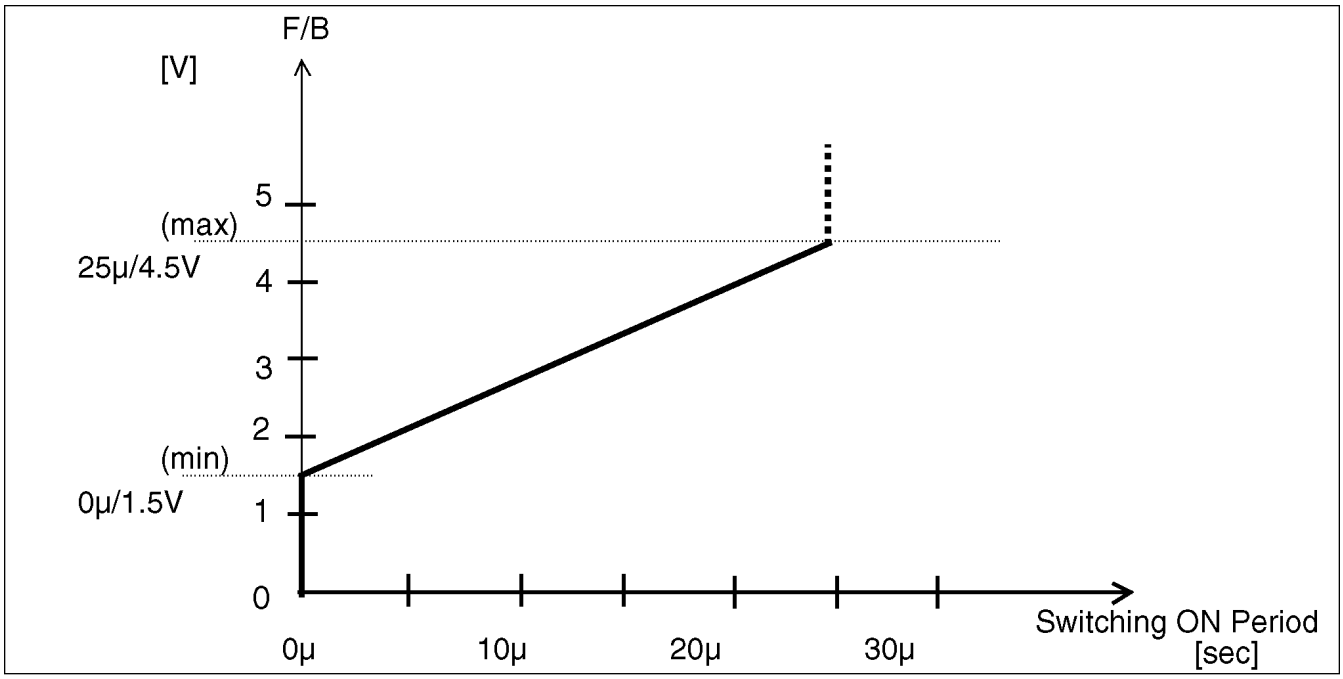
Function of Z/C Terminal

When voltage of Z/C reaches 0.25V, Gate signal is output and Drain current starts to flow.

Function of F/B terminal

F/B signal decides Switching ON width in low voltage controlling.

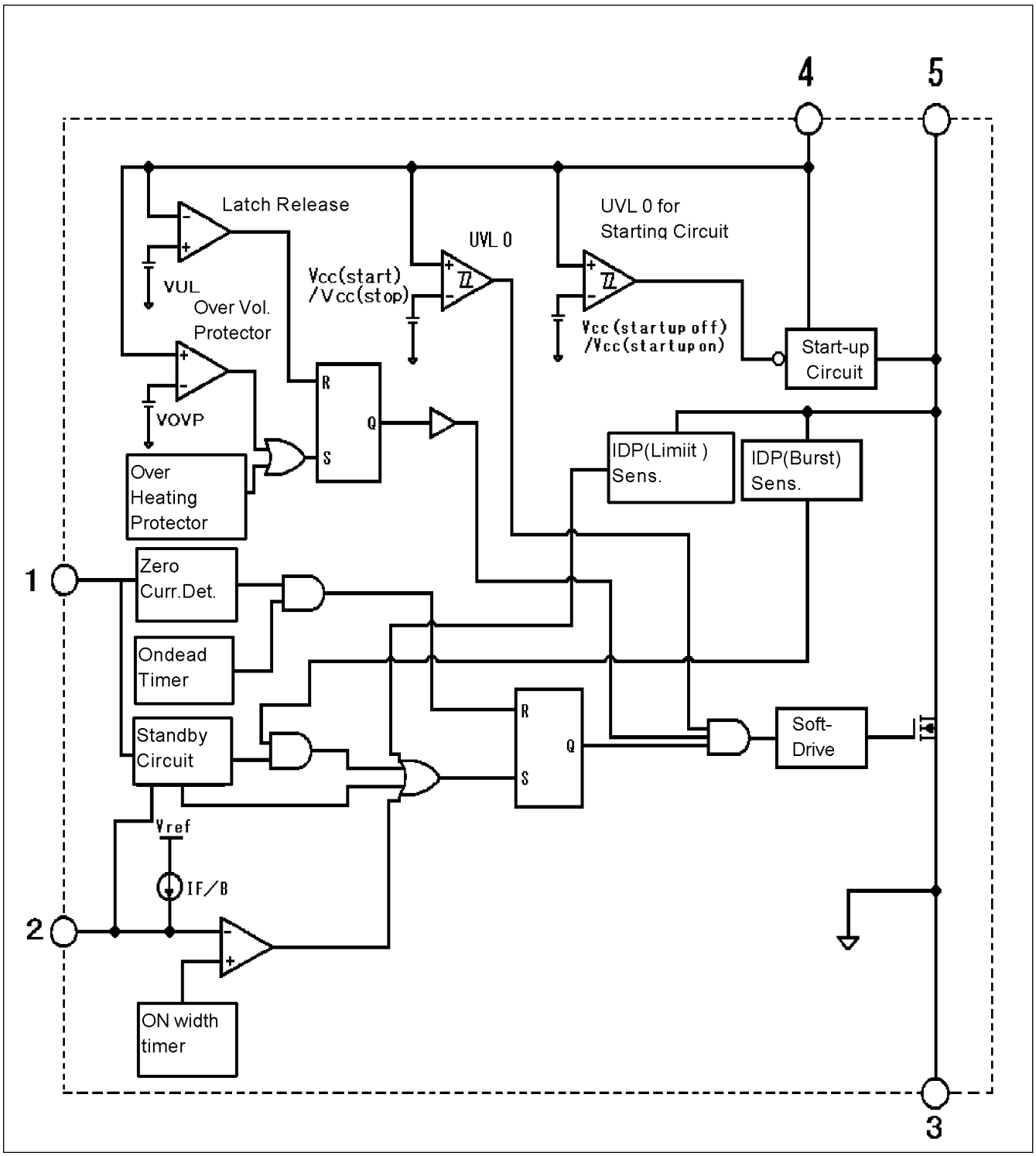
The Switching ON width responds to change of F/B Voltage.



Standby Function

When Z/C Voltage becomes less than 3V, the unit changes to Standby mode.

IC1150 Block Diagram



Signal name

Pin No.	Name	Symbol
1	Zero Current Det.	Z/C
2	Feed back	F/B
3	GND	GND
4	Vcc	Vcc
5	Drain	Drain

8 Taking out the Disc from RAM-Drive Unit when the Disc cannot be ejected by OPEN/CLOSE button

8.1. Forcible Disc Eject

8.1.1. When the power can be turned off.

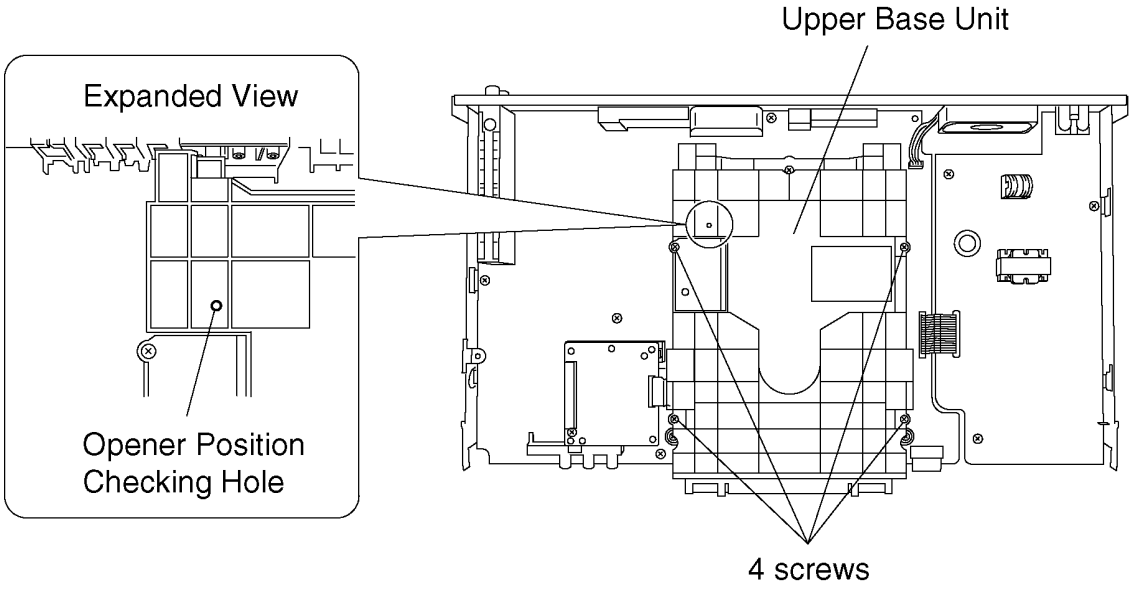
1. Turn off the power and press [STOP] [CH UP] keys on the front panel simultaneously for 5 seconds.

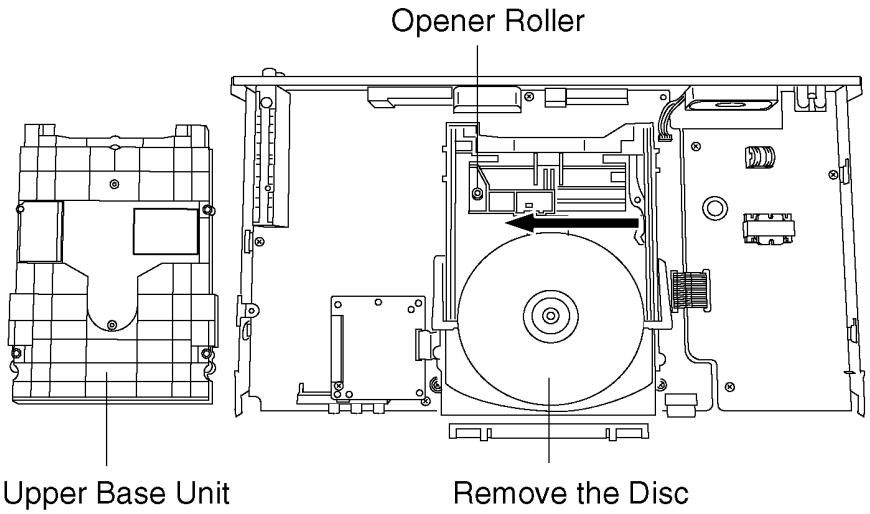
8.1.2. When the power can not be turned off.

1. Press [POWER] key on the front panel for over 10 seconds to turn off the power forcibly, and press [STOP] [CH UP] keys on the front panel simultaneously for 5 seconds.

8.2. When the Forcible Disc Eject can not be done.

1. Turn off the power and pull out AC cord.
2. Remove the Top Case.
3. Remove the Front Panel.
4. Remove 4 screws and Upper Base Unit from DVD-RAM Drive.
5. Take out the disc and put the Opener Roller on fully position for direction of Arrow.
6. Put the Upper Base Unit so that the Opener Roller is inserted into the groove.
7. Check center of Opener Roller is seen through the Opener position Checking Hole, and tighten 4 screws.





9 Service Explorer

Confirm "RAM-Drive Last Error" in Service Mode

Execute Service Mode

1. Press [STOP], [TIME SLIP] and [OPEN/CLOSE] simultaneously for 5 seconds when P-off.
   FL Display:

   SERVICE MODE

   *After finishing display "(7). Factor of Drive Error occurring", press [0] [2] ~[9] [9] keys of the Remote Controller so that 99 memories can be displayed as maximum.
2. Press [4] [2] keys of remote controller.

   Example of FL Display:

   (1) Error Number is displayed for 5 seconds.

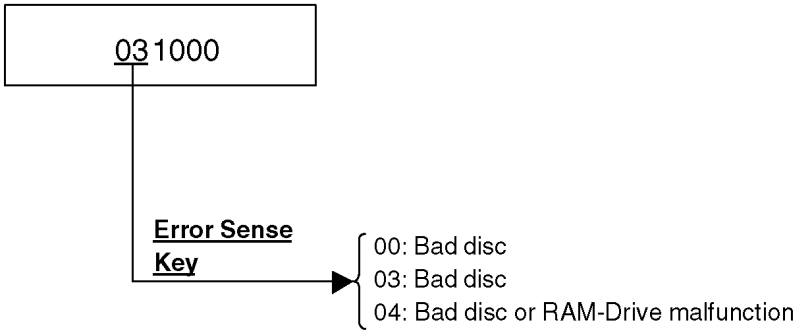
   NO 01

   (2) Time when the error has occurred is displayed for 5 seconds.

   40216191526

   The error has occurred at 2004(year)/Feb.(month)/16(day)/19(hour):15(minute):26(second)

   (3) Last Drive Error (1/2) is displayed for 5 seconds.

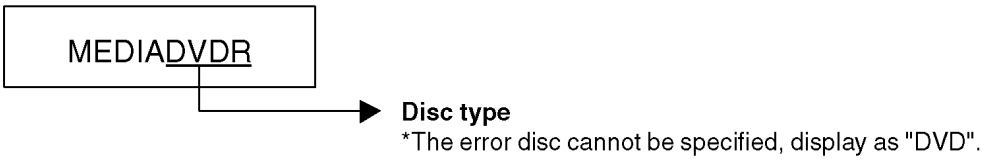
When above error codes are displayed, confirm operation with Panasonic RAM disc or Panasonic DVD-R disc.
***If the operation is OK, judge the error is due to media.**
***If the operation is NG and symptom as BLOCK NOISES and so on that are particular symptom of Digital appears, judge the error is due to RAM-Drive or Digital PCB.**

   (4) Last Drive Error (2/2) is displayed for 5 seconds.

   00 13 00 00

   *This error code is unnecessary for service.

(5) Error occurring Disc type is displayed for 5 seconds.



(6) Disc Maker´s ID is displayed for 5 seconds.

Example of Disc Maker´s ID:

DVD-R Disc

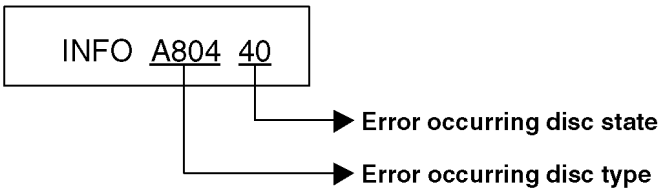
No.	FL Display (Disc Maker´s ID)	Disc Maker	Country
1	MEI	Panasonic	Japan
2	PVC	Pioneer	Japan
3	MCC	Mitsubishi Chemical Corporation	Japan
4	TDK	TDK	Japan
5	MXL	Maxell	Japan
6	MCI	MITUI CHEMICALS	Japan
7	JVC	Victor JVC	Japan
8	TAIYOYUDEN	Taiyo yuden	Japan
	TYG		
9	GSC	Giga Storage	Taiwan
10	PRODISC	Prodisc	Taiwan
11	PRINCO	PRINCO	Taiwan
12	RITEK	RITEK	Taiwan
13	OPTDISC	OPTDISC	Taiwan
14	LEAD DATA	LEAD DATA	Taiwan
15	CMC	CMC	Taiwan
16	AUVISTAR	AUVISTAR	Taiwan
17	ACER	Acer	Taiwan
18	VIVASTAR	VIVASTAR	Switzerlan d
19	LGE	LG Electronics	Korea

DVD-RAM Disc

No.	FL Display (Disc Maker´s ID)	Disc Maker	Country
1	MEI	Panasonic	
2	MATSUSHITA	Panasonic	Japan
3	MXL	Maxell	Japan
4	PRODISC	Prodisc	Taiwan
5	OPTDISC	OPTDISC	Taiwan
6	CMC	CMC	Taiwan

*Since an display is arbitrarily set up by the disk producer side, the above-mentioned display may be changed. Please make it reference as an example of a display.

(7) Factor of Drive Error occurring is left displayed



Error Occurring Disc Type

FL Display	Disc Type
00	DVD-ROM/Video
01	Audio-CD
02	2.6GB DVD-RAM
03	4.7GB DVD-RAM
04	DVD-R

Error Occurring Disc State

FL Displays (Hexadecimal)	Description			
	Disc distinction state	Cartridge disc state	Cartridge disc state	Disc size
00	OK	With cartridge	Has not been opened yet.	12 cm
10	OK	With cartridge	Has not been opened yet.	8 cm
20	OK	With cartridge	Has been opened.	12 cm
30	OK	With cartridge	Has been opened.	8 cm
40	OK	Bare	Has not been opened yet.	12 cm
50	OK	Bare	Has not been opened yet.	8 cm
60	OK	Bare	Has been opened.	12 cm
70	OK	Bare	Has been opened.	8 cm
80	NG	With cartridge	Has not been opened yet.	12 cm
90	NG	With cartridge	Has not been opened yet.	8 cm
A0	NG	With cartridge	Has been opened.	12 cm
B0	NG	With cartridge	Has been opened.	8 cm
C0	NG	Bare	Has not been opened yet.	12 cm
D0	NG	Bare	Has not been opened yet.	8 cm
E0	NG	Bare	Has been opened.	12 cm
F0	NG	Bare	Has been opened.	8 cm

10 Self-Diagnosis and Special Mode Setting

10.1. Self-Diagnosis Functions

Self-Diagnosis Function provides information for errors to service personnel by “Self-Diagnosis Display” when any error has occurred.

U14, H and F** are stored in memory and held.**

Display on FL will be cancelled when the power is turned off or AC input is turned off during self-diagnosis display is ON.

Error Code	Diagnosis contents	Description	Monitor Display	FL display
U12	Remote control code error	Display appears when main unit and remote controller codes are not matched.	No display	*CHK REMOTE “*” is remote controller code of the main unit. Display for 5 seconds.
U14	Abnormal inner temperature detected	Display appears when the drive temperature exceeds 70°C. The power is turned off forcibly. For 30 minutes after this, all key entries are disabled. (Fan motor operates at the highest speedfor the first 5 minutes. For the remaining 25 minutes, fan motor is also stopped.) The event is saved in memory as well.	No display	U14 “U14” is displayed for 30 minutes.
U99	Hang-up	Displayed when communication error has occurred between Main microprocessor and Timer microprocessor.	No display	U99 Displayed is left until the [POWER] key is pressed.
H01	Inoperative fan motor	Display appears when inoperative fan motor is detected after powered on. The power is turned off when detecting.	No display	H01 Displayed is left.
F00	No error information	Initial setting for error code in memory (Error code Initialization is possible with error code initialization and main unit initialization.)	No display	F00 Displayed is left.
F01	Drive hardware error	Display appears when drive unit error is detected. The event is saved in memory.	No display	F01 Displayed is left.
F12	Initialization error when main microprocessor is started up for program recording	Display appears when initialization error is detected after starting up main microprocessor for program recording. The event is saved in memory. The power is turned off when detecting.	No display	F12 Displayed is left.
UNSUP-PORT	Unsupported disc error	*An unsupported format disc was played, although the drive starts normally. *The data format is not supported, although the media type is supported. *Exceptionally incase of the disc is dirty.	**“This disc is incompatible.”**	UNSUPPORT Display for 5 seconds.
NO READ	Disc read error	*A disc is flawed or dirty. *A poor quality failed to start. *The track information could not be read.	**“Cannot read. Please check the disc.”**	NOREAD
HARD ERR	Drive error	The drive detected a hard error.	“**DVD drive** error.”	Display for 5 seconds. HARD ERR
SELF CHECK	Restoration operation	Since the power cord fell out during a power failure or operation, it is under restoration operation. *It will OK, if a display disappears automatically. If a display does not disappear, thereis the possibility that defective Digital P.C.B. / RAM drive.	No display	SELF CHECK
Full Program	16 programs are already set.	16 programs are already set.	No display	PROG FULL

10.2. Special Modes Setting

Item		FL display	Key operation
Mode name	Description		Front Key
TEST Mode	*All the main unit´s parameters (include tuner) are initialized.	TEST L1	Press [SKIP (REV)], [TIME SLIP] and [OPEN/CLOSE] keys simultaneously for five seconds when power is off.
Service Mode	Setting every kind of modes for servicing. *Details are described in "**10.3. Service Mode** ".	SERVICE MODE	When the power is off, press [STOP], [TIME SLIP] and [OPEN/CLOSE] keys simultaneously for 5 seconds.
Rating password	The audiovisual level setting password is initialized to "Level 8".	INIT	Open the tray, and press [SKIP (REV)] and [SKIP (FWD)] simultaneously for five seconds.
Forced disc eject	Removing a disc that cannot be ejected. The tray will open and unit will shift to P-off mode. *When Timer REC is ON or EXT-LINK is ON, execute " Forced disc eject " after releasing TimerREC or EXT-LINK. *This command is not effective during "Child lock" is ON.	The display before execution leaves. **********	When the power is off, press [STOP] and [CH UP] keys simultaneously for five seconds.
Forced power-off	When the power button is not effective while power is ON, turn off the power forcibly.*When Timer REC is ON or EXT-LINK is ON, execute "Forced Power-off" after releasing Timer RECor EXT-LINK. Action: The tray will open, and the power will turn off.	Display in P-off mode.	Press [Power] key over than 10 seconds.
Aging	Perform sequence of modes as * Aging Description shown below continually.	Display following the then mode.	When the power is ON, press [CH DOWN], TIME SLIP] and [OPEN / CLOSE] simultaneously for over five seconds and less than 10 seconds. *The [REC MODE] should be set to EP or LP. *Whenthe unit has hung-up because of pressing keys for over 10 seconds, once turn off the power, and re-execute this command. "When releasing Aging mode, press [POWER] key.
Demonstration lock/unlock	Ejection of the disc is prohibited. The lock setting is effective until unlocking the tray and not released by "Main unit initialization" of service mode.	*When lock the tray. LOCK "LOCK" is displayed for 3 seconds.	When the power is on, press [STOP] and [POWER] keys simultaneously for five seconds.
		*When unlock the tray. UNLOCK "UNLOCK" is displayed for 3 seconds.	When the power is on, press [STOP] and [POWER] keys simultaneously for five seconds.
		*When press OPEN/CLOSE key while the tray being locked. LOCK Display "LOCK" for 3 seconds.	Press [OPEN/CLOSE] key while the tray being locked.
ATP Initialization	ATP setting is initialized, and the unit turns off automatically.	It is same with display in stop mode. **********	When the power is on (E-E mode), press [CH UP] and [CH DOWN] simultaneously for five seconds.
Progressive initialization	The progressive setting is initialized to Interlace.	The display before execution leaves. **********	When the power is on (E-E mode), press [STOP] and [TIME SLIP] simultaneously for five seconds.

Aging Contents (Example):

Format→REC→Play→STOP→Play→Skip(R)→Cue
↑ ↓
Stop←Play←R-Slow←Slow←Pause←Play←Rev
*The unit repeats above sequence.

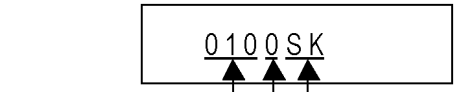
10.3. Service Modes

Service mode setting: While the power is off, press TIME SLIP, STOP and OPEN / CLOSE simultaneously for five seconds.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Release Items	Item of Service Mode executing is cancelled.	SERVICE MODE	Press [0] [0] or [Return] in service mode.
Error Code Display	Last Error Code of U14/H/F held by Timer is displayed on FL. *Details are described in **"10.1. Self-Diagnosis Functions".**	♣□□ *♣ shows U/H/F. □□ shows number.	Press [0] [1] in service mode
ROM Version Display	Region code, MAIN firm version, TIMER firm version and DRIVE firmware versions are displayed on FL for five seconds per each version in order, but ROM version will be left displayed.	REGION* MAIN ****** TIMER****** DRIVE **** ROM * *** are version displays.	Press [0] [2] in service mode

Version Display of <u>Main Microprocessor</u>

Example of FL Display



Version

OEM Code

0: Matsushita Electric
1: Hitachi
2: Samsung
3: DENON

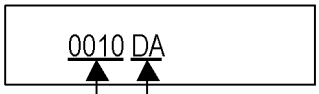
Destination Code and Model Code

For Japan	**For North America/Canada /Latin America**
SK: DMR-E55	DK: DMR-E55P/PC/PL/PX
SL: DMR-E85H	DP: DMR-E65P
SR: DMR-E95H	DL: DMR-E85HP/HPC
SS: DMR-E300H	DR: DMR-E95HP
SU: DMR-E500H	DU: DMR-E500HP/HPC
SQ: DMR-E75V	DQ DMR-E75VP/VPC/VPL
SV: DMR-E150V	

For Europe/Asia/
EK: DMR-E55EG/EB/EBL/EP/EE/GCS/GN/GK/GC, DMR-E53EG
EP: DMR-E65EG/EB/EP/EE/GCS/GN/GK/GC
EL: DMR-E85HEG/HEB/HEP/HEE/HGCS/HGN
ER: DMR-E95HEG/HEB
EU: DMR-E500HEG/HEB/HGCS/HGN/HGK
EQ: DMR-E75VEG/VEB

Version Display of <u>Timer Microprocessor</u>

Example of FL Display



Version: 0.01

Bottom 2 figures of Part Number of Timer Microprocessor: M306H3R<u>DA</u>

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
White Picture Output	White picture is output as component Output from AV Decoder. *White picture (Saturation rate : 100%) *It is enable to switch Interlace/Progressive by "I/Pswitch: [1] [4]"	*Initial mode is "Interlace". WHIT I	Press [1] [1] in service mode.
		Switch Interlace/Progressive WHIT P	Press [1] [4] in White Picture Output mode. *I/P are switched alternately.
Magenta Picture Output	Magenta picture is output with Component Output from AV Decoder. *Magenta picture (Saturation rate: 100%) *It is enable to switch Interlace/Progressive by "I/Pswitch: [1] [4]"	*Initial mode is "Interlace". MAGE I	Press [1] [2] in service mode.
		Switch Interlace/Progressive MAGE P	Press [1] [4] in Magenta Picture Output mode. *I/P are switched alternately.
RTSC Return in XP (A & V)	L1 input signal is encoded (XP), decoded (XP) and output decoded signal to external without DISC recording and DISC playback.	Initial mode: EE2/ Interlace/ XP/ Audio 48kHz EE2 I XP 48	Press [1] [3] in service mode.
		Switch Interlace/Progressive EE2 P XP 48	Press [1] [4] in RTSC Return XP mode. *I/P are switched alternately.
		Audio 44.1 kHz/ 48 kHz Switch EE2 P XP 44	Press [2] [4] in RTSC Return XP mode. *48 kHz / 44.1 kHz are switched alternately.
I/P Switch	Switch Interlace and Progressive in EE mode. *Initial setting is "Interlace". *This command is effective during executing "White Picture Output", "MagentaPicture Output" and "RTSC Return in XP (A & V)" modes.	Initial mode is Interlace SERVICE I Switch Interlace/Progressive SERVICE P	Press [1] [4] in I/P Switch mode. *I/P are switched alternately.
Audio Mute (XTMUTE)	Check whether mute is applied normally by the timer microprocessor.	TIMER MUTE	Press [2] [1] in service mode.
Audio Mute (XDMUTE)	Check whether mute is applied normally by the Digital P.C.B. (GLUE IC).	MAIN MUTE	Press [2] [2] in service mode.
Audio Pattern Output	The audio pattern stored in the internal memory is output (Lch: 1kHz/-18dB) (Rch: 400Hz/-18dB) *Audio sound clock switching operation of DAC can beconfirmed by sub command [2] [4].	Initial mode (Audio 48kHz) AUDIO 48	Press [2] [3] in service mode.
		Audio 44.1kHz/48kHz switching AUDIO 44	Press [2] [4] in Audio Pattern Output mode. *48 kHz / 44.1 kHz are switched alternately.
Laser Used Time Indiction	Check laser used time (hours) of drive.	LASER*****	Press [4] [1] in service mode.
		l(*****) is the used time display in hour. lLaser used time ofDVD/ CD in Playback/Recording mode is counted.	
Delete the Laser Used Time	Laser used time stored in the memory of the unit is deleted.	CLR LASER	Press [9] [5] in service mode.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
RAM Drive Last Error	RAM Drive error code display. *For details about the drive error code, refer to the Service Manual for the specific RAM Drive. *Details are described in "**9. Service Explorer** ".	1. Error Number is displayed for 5 seconds. NO ** 2. Time when the error has occurred is displayed for 5 seconds. YMMDDhhmmss Y: Year MM: Month DD: Day hh: Hour mm: Minute ss: Second 3. Last Drive Error (1/2) is displayed for 5 seconds. ****** 4. Last Drive Error (2/2) is displayed for 5 seconds. ******** 5. Error occurring Disc type is displayedfor 5 seconds. MEDIA****** 6. Disc Maker ID is displayed for 5 seconds. ********** 7. Factor of Drive Erroroccurring is left displayed INFO*******	Press [4] [2] in service mode. Then press [0] [1] ~ [9] [9], the past 99 errors are displayed. Incase that the supplier cannot be identified, display is black out.
Delete the Last Drive Error	Delete the Last Drive Error information stored on the DVD RAM-Drive.	CLR DRIVE	Press [9] [6] in service mode.
Turn on all FL/LEDs	All segments of FL and all LEDs are turned on.	All segments are turned on.	Press [5] [1] in service mode.
S1 signal output	Forcibly superimpose the S1 signal (approx. 4.5V DC) on the EE chroma signal, and check the output on the S terminal.	S1 OUTPUT	Press [5] [2] in service mode.
S2 signal output	Forcibly superimpose the S2 signal (approx. 2V DC) on the EE chroma signal, and check the output on the S terminal.	S2 OUTPUT	Press [5] [3] in service mode.
Front connection inspection	Press all front keys and check the connection between Main P.C.B. and Front P.C.B.	000r ** (1) (2) (1) Each time a key is pressed, segment turned on increases one by one. (2) Total umber of keys that have been pressed.	Press [5] [4] in service mode.
Production Date Display	Display the date when the unit was produced.	PD YYYYMMDD YYY: Year MM: Month DD: Day	Press [6] [1] in service mode.

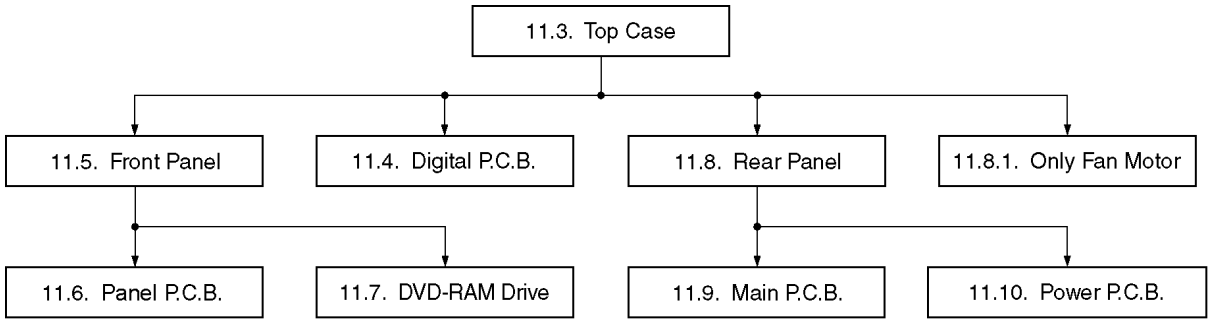
Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Display the accumlated working time	Display the accumulated unit´s working time.	********** (Indicating unit: Second)	Press [6] [4] in service mode.
Display the Error History	Display the Error History stored on the unit.	Display reason of error for 5 seconds. FTREC*** Display the time when the error has occurred for 5 seconds.. YYMMDDHHMM YY: Year MM: Month DD: Day HH: Hour MM: Minute Display the accumlated working time to occurring of the error for 5 seconds.. ********** (Indicating unit: Second)	Press [6] [5] in service mode. Then press [0] [1] ~ [1] [9], the past 19 error histories are displayed.
Delete the Error History	Delete Error History information stored on the unit.	CLR FTREC	Press [9] [7] in service mode.
Tray OPEN/CLOSE Test	The RAM drive tray is opened and closed repeatedly.	NO********* "*" is number of open/close cycle times.	Press [9] [1] in service mode *When releasing this mode, press the [POWER] button on Front Panel more than 10 seconds.
Error code initialization	Initialization of the last error code held by timer (Write in F00)	CLR E-CODE	Press [9] [8] in service mode.
Initialize Service	Last Drive Error, Error history and Error Codes stored on the unit are initialized to factory setting.	CLR SERV	Press [9] [9] in service mode.
Finishing service mode	Release Service Mode.	Display in STOP (E-E) mode. **********	Press power button on the front panel in service mode.

11 Assembling and Disassembling

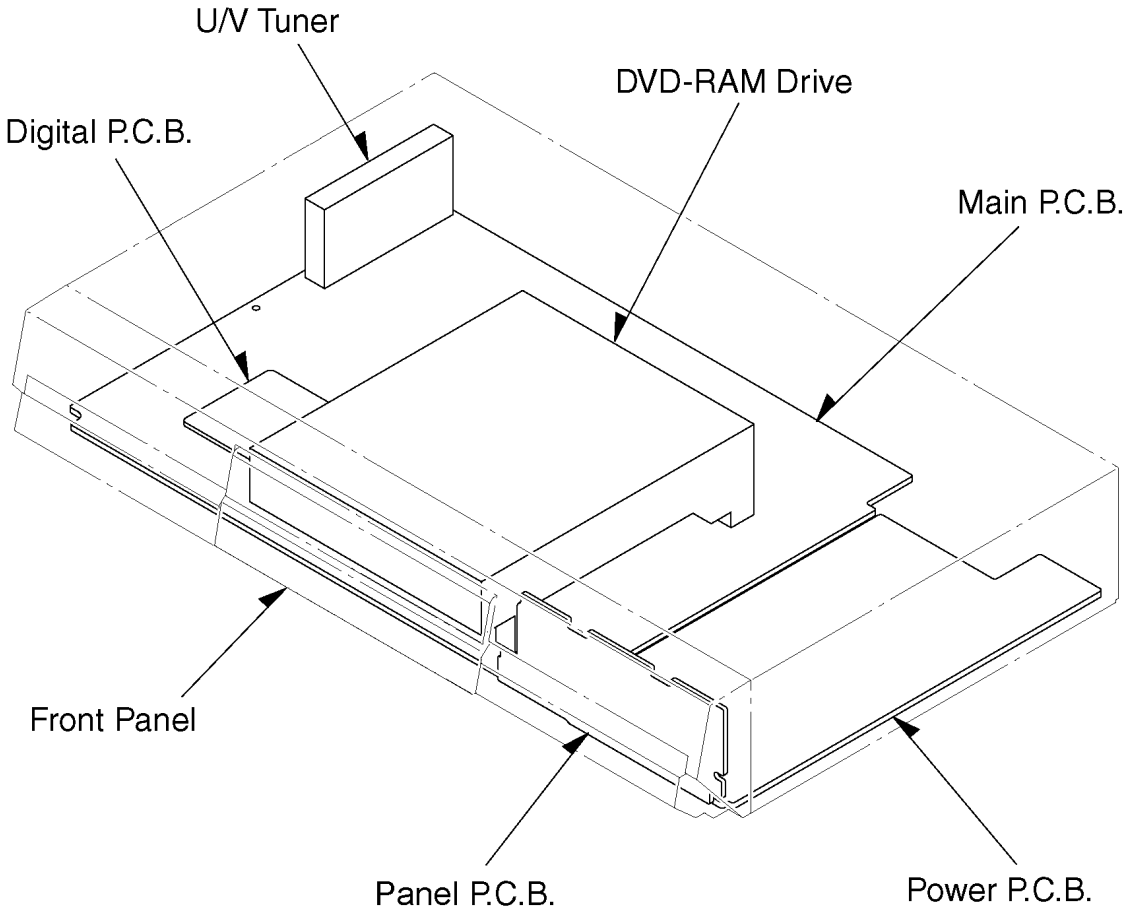
11.1. Disassembly Flow Chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.

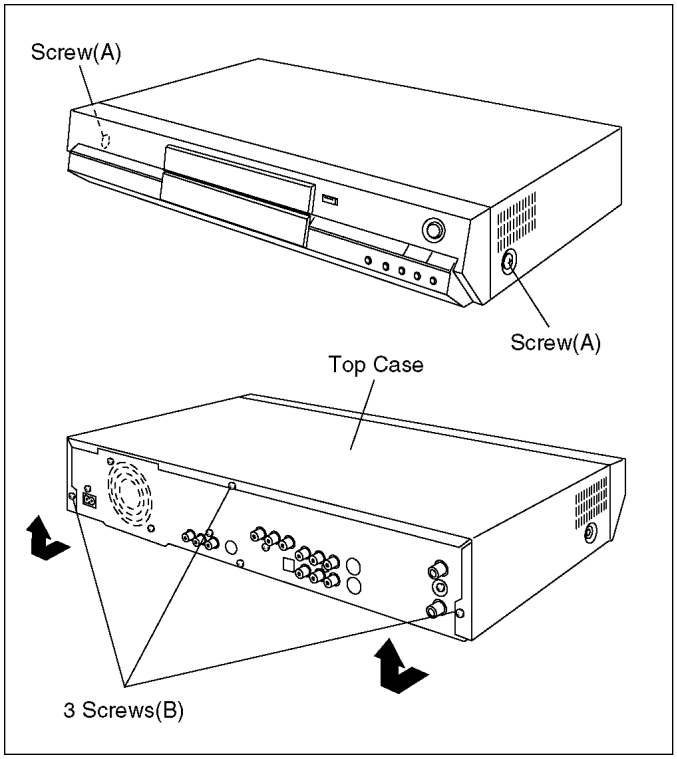


11.2. P.C.B. Positions



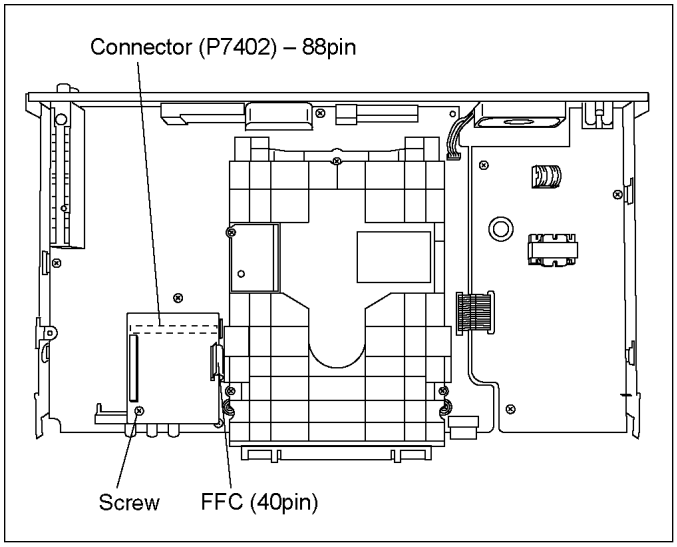
11.3. Top Case

1. Remove the 2 screws (A) and 3 screws (B).
2. Open the both ends at rear side of the Top Case a little and lift the Top Case in the direction of the arrows.



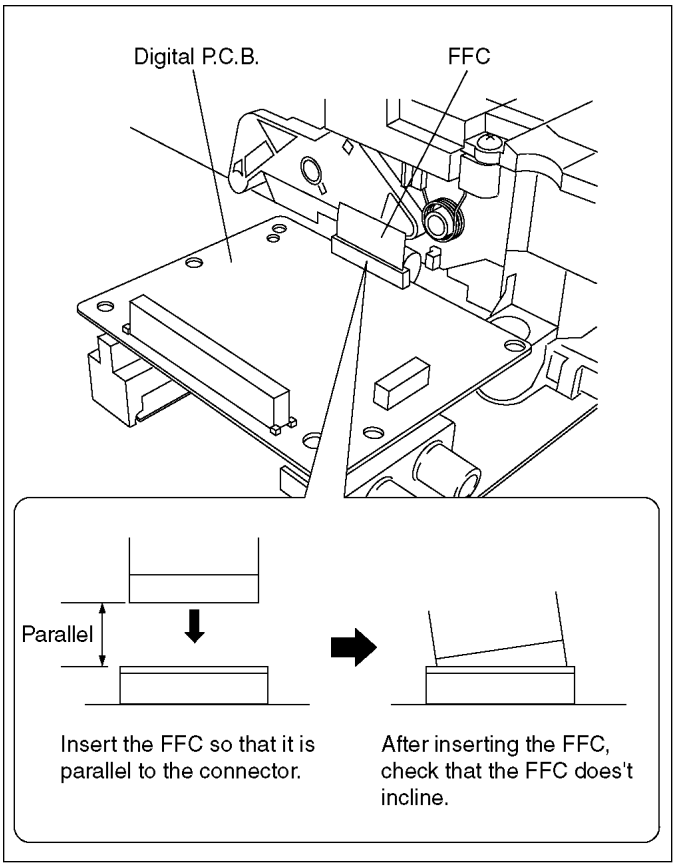
11.4. Digital P.C.B.

1. Remove the FFC and a Screw.
2. Lift up Digital P.C.B. slightly so to disconnect Connector to remove Digital P.C.B.



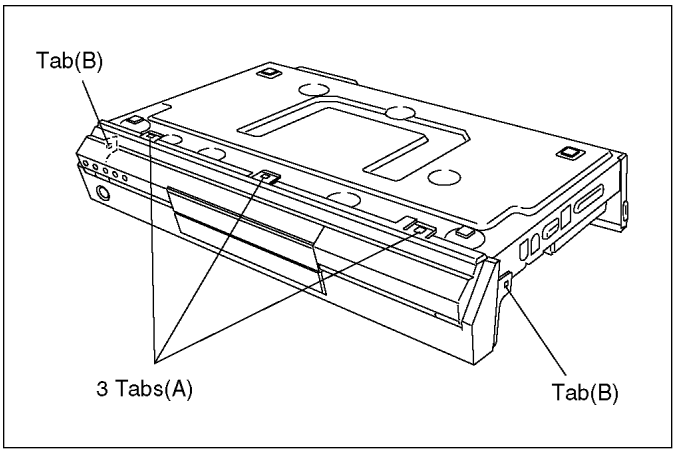
CAUTION:

When replacing Digital P.C.B., pay attention as below.

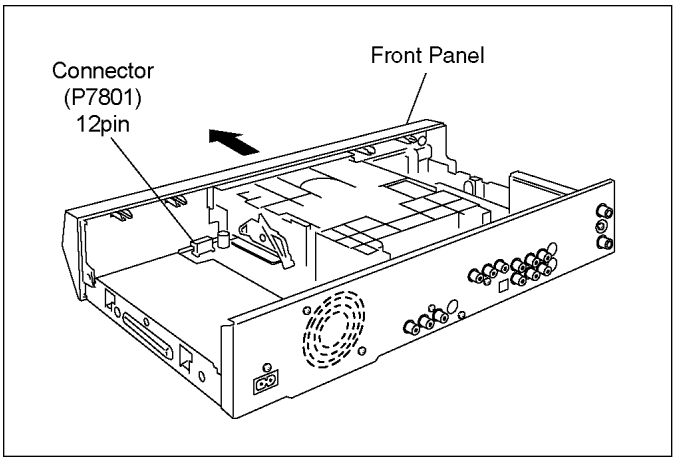


11.5. Front Panel

1. Remove 3 tabs (A) and 2 tabs (B) in this order. (The tab (A) and (B) should be removed at the same time, respectively.)

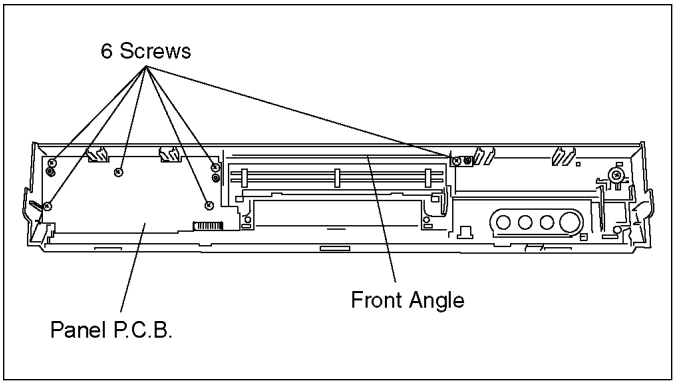


2. Move the front panel to front side straight and slowly so to remove it with Connector.



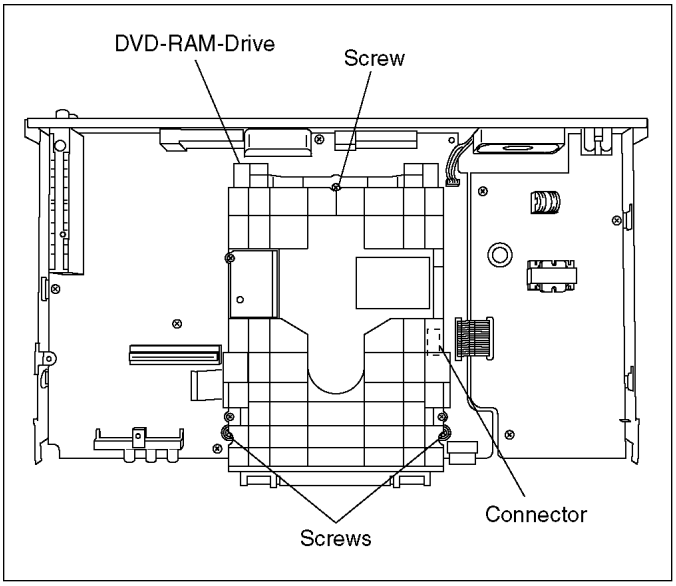
11.6. Panel P.C.B.

1. Remove 6 screws and Front Angle.



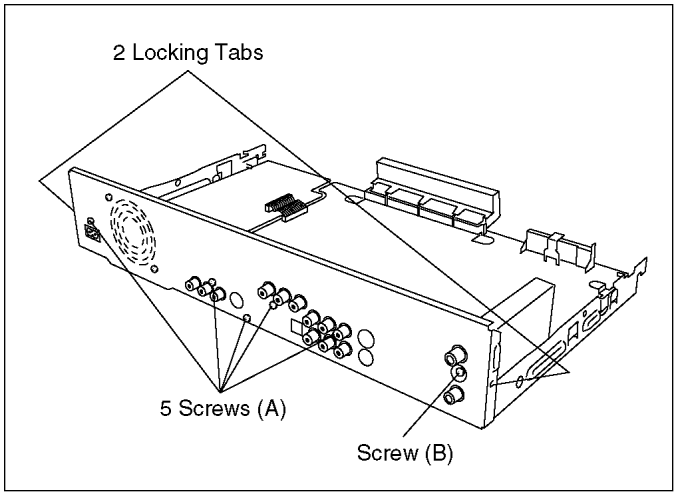
11.7. DVD-RAM Drive

1. Remove 3 Screws.
2. Pull out DVD-RAM Drive vertically so to remove it with Connector.



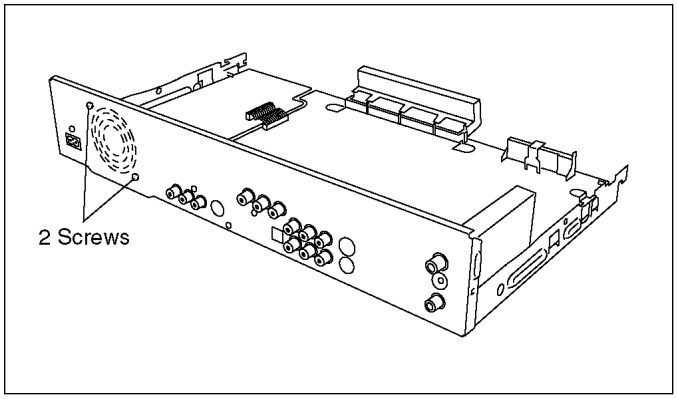
11.8. Rear Panel

1. Remove the 5 screws (A) and screw (B).
2. Unlock 2 Locking Tabs to remove Rear Panel.

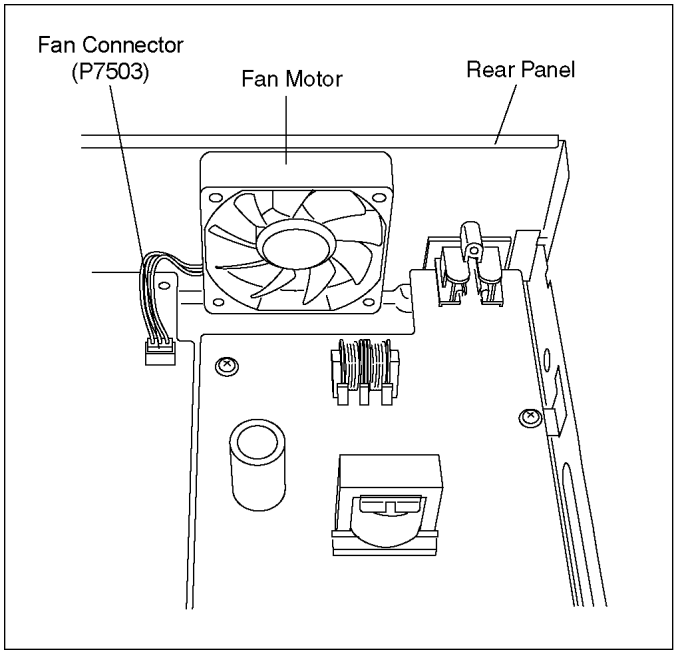


11.8.1. Only Fan Motor

1. Remove the 2 screws.

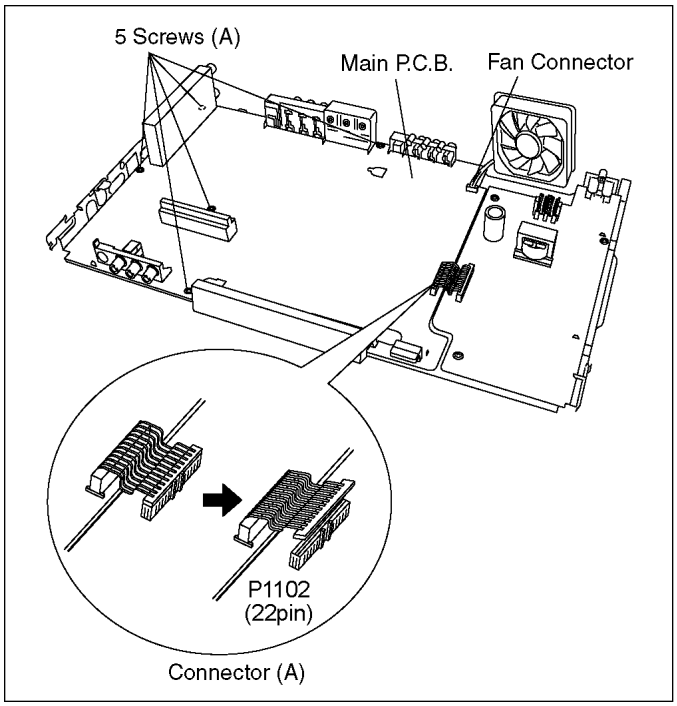


2. Remove Fan Connector to remove Fan Motor.

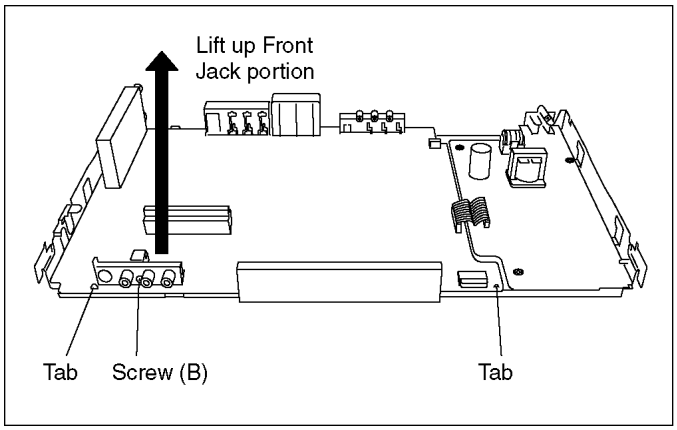


11.9. Main P.C.B.

1. Remove the 5 screws (A), Connector (A) and Fan Connector.

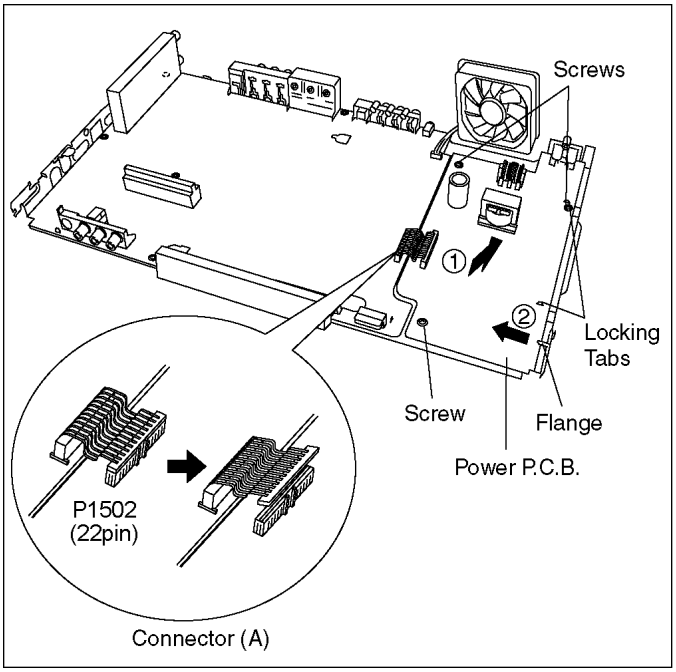


2. Remove a Screw (B) and lift up Front Jack portion of Main P.C.B. slightly so to unlock Tab to remove Main P.C.B..



11.10. Power P.C.B.

1. Remove 3 Screws and Connector (A).
2. Lift up Power P.C.B. a little so to unlock 2 Tabs and slide Power P.C.B. so to unlock Flange to remove Power P.C.B.



12 Service Fixture and Tools

Part Number	Description	Compatibility
RFKZ0125	Extension FFC (Digital P.C.B. - DVD-RAM Drive / 40 Pin)	Same as E50 series
RFKZ0168	Extension Cable (Main P.C.B. - Fan / 3 Pin)	Same as E50 series
RFKZ0197	Extension Cable (Main P.C.B. - DVD-RAM Drive / 8 Pin)	Same as E55P series
RFKZ0214	Extension Cable (MainP.C.B. - Digital P.C.B. / 88 Pin)	Same as E55P series
RFKZ0215	Extension Cable (MainP.C.B. - Panel P.C.B. / 12 Pin)	Same as E55P series
RFKZ0216	Extension Cable (MainP.C.B. - Power P.C.B. / 23 Pin)	Same as E55P series

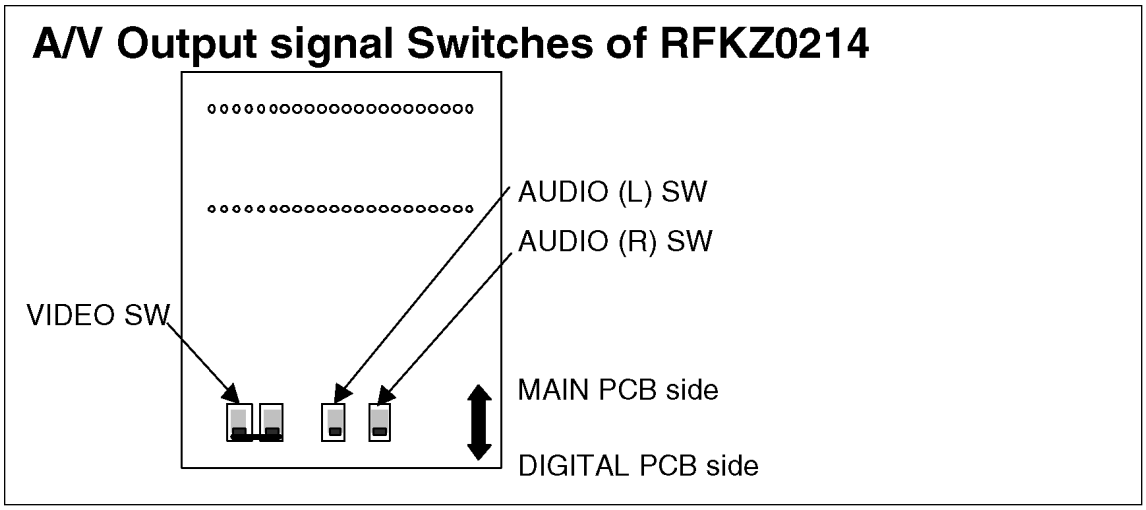
NOTE:

Extension Cable RFKZ0214 has A/V Output Signal switches.

Output signals can be switched from MAIN PCB side or DIGITAL PCB side.

When checking MAIN PCB, turn switches to MAIN PCB side.

When checking DIGITAL PCB, turn switches to DIGITAL P.C.B. side.



13 Service Positions

Note:

For description of the disassembling procedure, see the section 11.

13.1. Checking and Repairing of Power P.C.B.

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B) on rear
- Remove Top Case

2. Front Panel

- Unlock 2 Locking Tabs on side
- Unlock 3 Locking Tabs on bottom
- Remove Front Panel

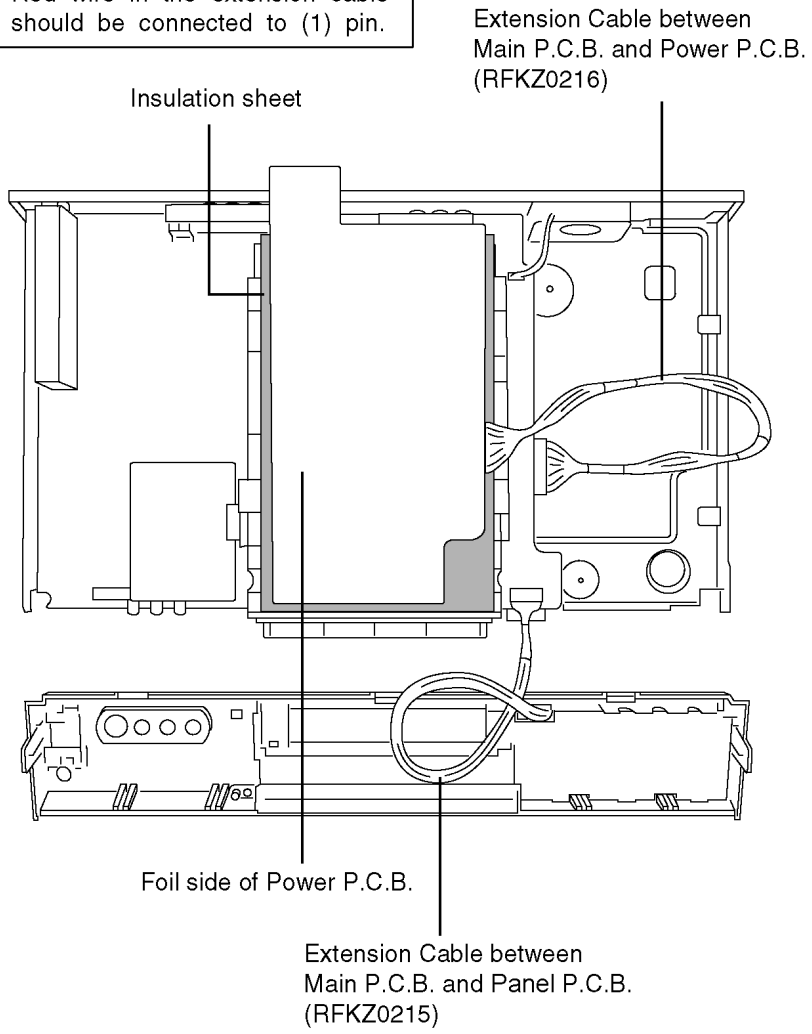
3. Power P.C.B.

- Remove 1 Screw for AC Inlet fixing
- Remove 3 Screws fixing Power P.C.B.
- Remove Connector to Main P.C.B.
- Unlock 2 Locking Tabs and a Flange
- Remove Power P.C.B.

- Connect Extension Cables between Main P.C.B. and Power P.C.B. (RFKZ0216), and between Main P.C.B. and Panel P.C.B. (RFKZ0215)

- Put Power P.C.B. on insulation sheet so that it's foil side faces top.

Caution:
Red wire in the extension cable should be connected to (1) pin.



13.2. Checking and Repairing of Main P.C.B.

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B) on rear
- Remove Top Case

2. Front Panel

- Unlock 2 Locking Tabs on side
- Unlock 3 Locking Tabs on bottom
- Remove Front Panel

3. Rear Panel

- Remove 5 Screws(A) and Screw(B)
- Remove Fan Connector
- Unlock 2 Locking Tabs on side
- Remove Rear Panel with FAN

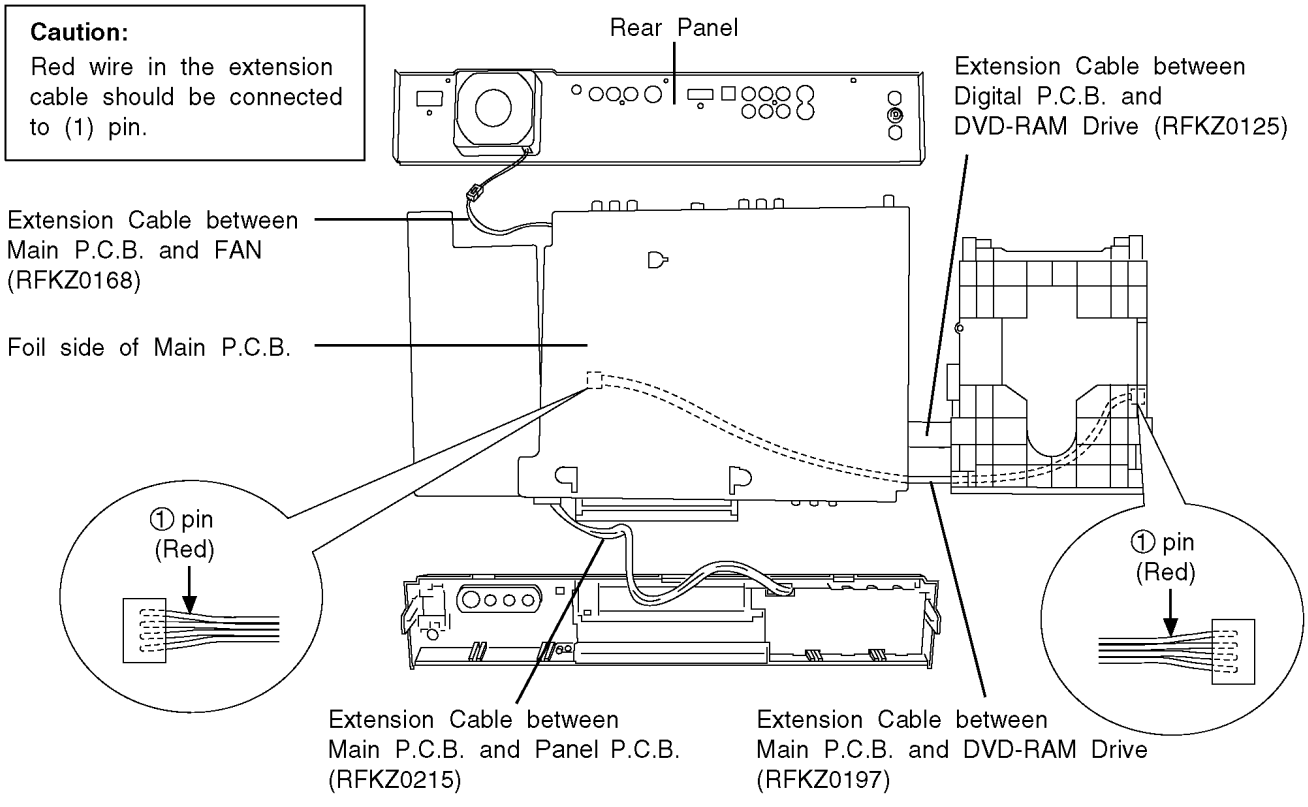
4. DVD-RAM Drive

- Remove FFC to Digital P.C.B.
- Remove 3 Screws fixing RAM-Drive
- Lift up DVD-RAM Drive to remove it

5. Main P.C.B. and Power P.C.B.

- Remove 5 Screws (A) fixing Main P.C.B.
- Remove 3 Screws fixing Power P.C.B.
- Unlock 2 Locking Tabs for Power P.C.B.
- Remove a Flange for Power P.C.B.
- Remove Main P.C.B. with Power P.C.B. from Chassis, and put it so that it's foil side faces top.
- Connect Extension Cables between Main P.C.B. and Panel P.C.B. (RFKZ0215), between Main P.C.B. and DVD-RAM Drive (RFKZ0197), and between Digital P.C.B. and DVD-RAM Drive (RFKZ0125), and between Main P.C.B. and Fan (RFKZ0168)

Caution:
Red wire in the extension cable should be connected to (1) pin.



13.3. Checking and Repairing of Digital P.C.B.

1. Top Case

Remove 2 Screws (A) on side

Remove 3 rear Screws (B) on rear

Remove Top Case

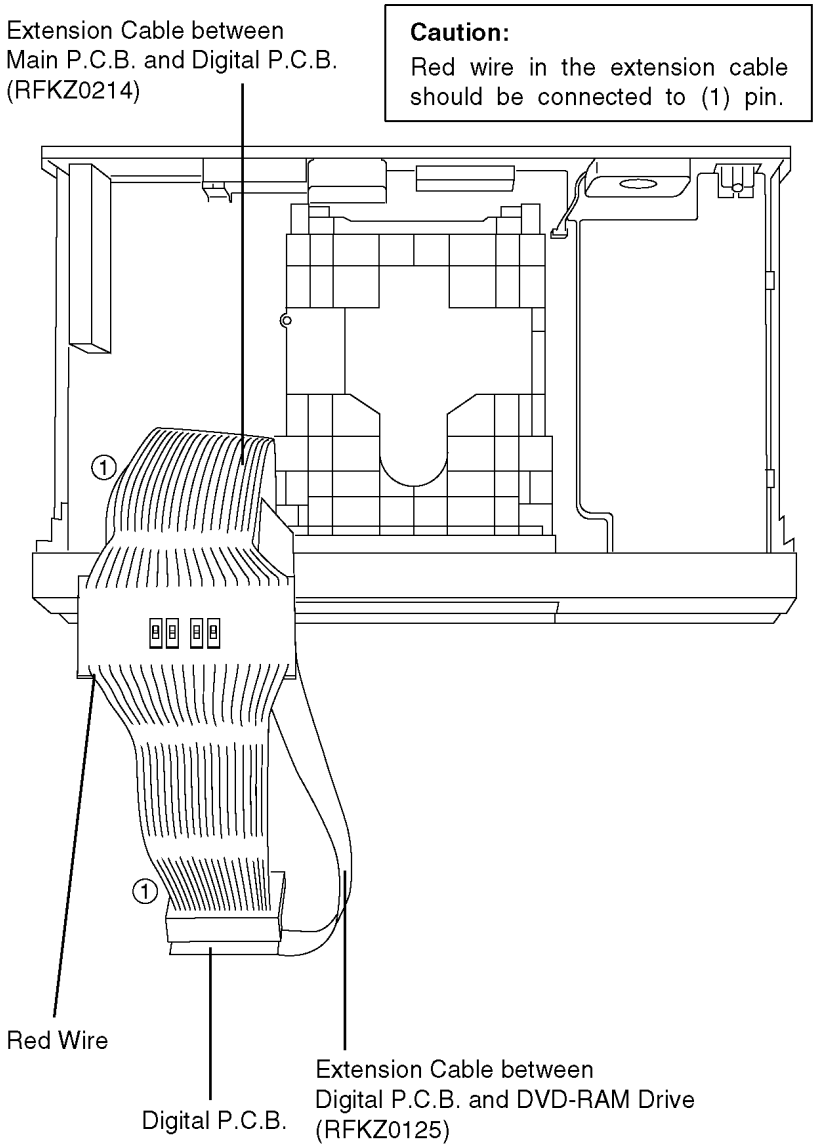
2. Digital P.C.B.

Remove FFC to RAM-Drive

Remove a Screw fixing Digital P.C.B.

Lift up Digital P.C.B. to remove it

Connect Extension Cables between Main P.C.B. and Digital P.C.B. (RFKZ0214), and between Digital P.C.B. and DVD-RAM Drive (RFKZ0125).



13.4. Checking and Repairing of DVD-RAM Drive

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B).on rear
- Remove Top Case

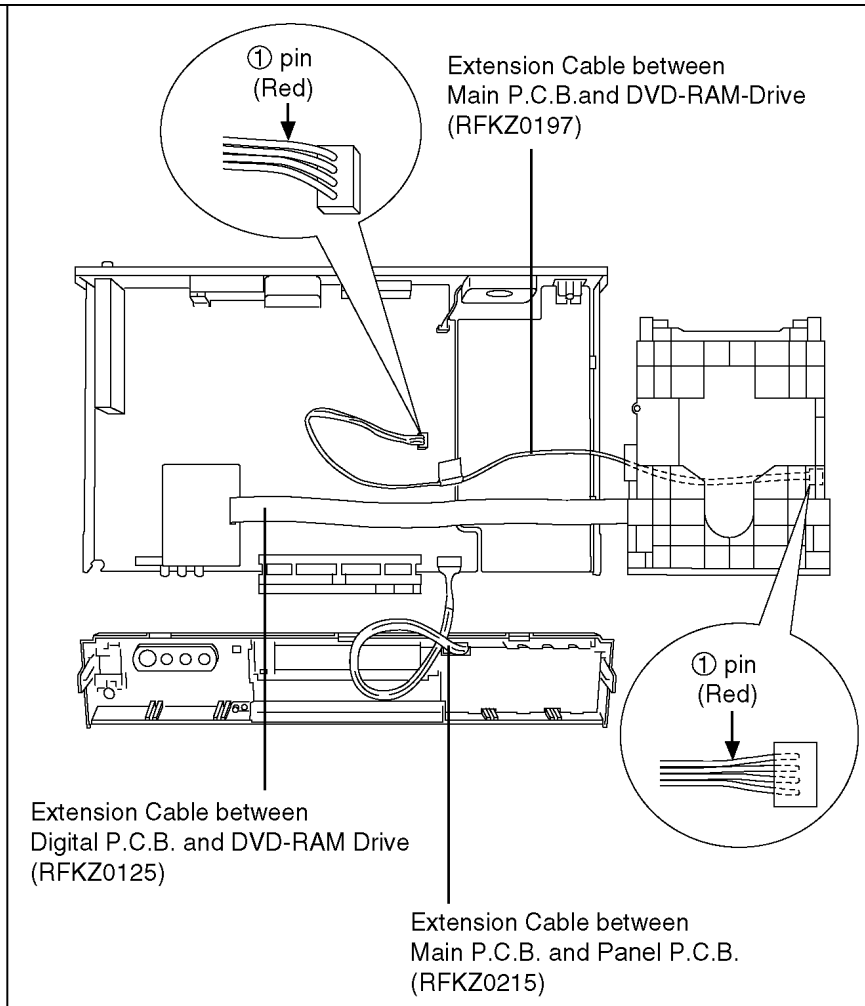
2. Front Panel

- Unlock 2 Locking Tabs on side
- Unlock 3 Locking Tabs on bottom
- Remove Front Panel

3. DVD-RAM Drive

- Remove 3 Screws fixing RAM Drive
- Remove FFC to Digital P.C.B.
- Lift up DVD-RAM Drive to remove it

Connect Extension Cables between Main P.C.B. and DVD-RAM Drive (RFKZ0197), between Digital P.C.B. and DVD-RAM Drive (RFKZ0125), and between Main P.C.B. and Panel P.C.B. (RFKZ0215).



14 Adjustment Procedures

14.1. After replacing the RAM Drive with new one

After replacing of RAM drive unit, TEST mode is not necessary. Please confirm operation for RAM drive

Caution:

In this case, all parameters are initialized.

14.2. When the unit does not operate normally after replacing the Timer Microprocessor with new one

in order to transmit the

Step	Operation	Descriptions
1	While power is ON, short IC7501-1 pin (RESET) and the GND.	“RESET (L)” is transmitted to the reset terminal of Timer Microprocessor (IC7501-80 pin), then the unit operates normally.

15 Standard Inspection Specifications after Making Repairs

After making repairs, we recommend performing the following inspection, to check normal operation.

No.	Procedure	Item to Check
1	Turn on the power, and confirm items pointed out.	Items pointed out should reappear.
2	Insert RAM disc.	The Panasonic RAM disc should be recognized.
3	Enter the EE (TU IN / AV IN - AV OUT) mode.	No abnormality should be seen in the picture, sound or operation.
4	Perform auto recording and playback for one minute using the RAM disc.	No abnormality should be seen in the picture, sound or operation.
5	If a problem is caused by a VCD, DVD-R, DVD-Video, Audio-CD, or MP3, playback the test disc.	No abnormality should be seen in the picture, sound or operation.
6	After checking and making repairs, upgrade the firmware to the latest version.	Make sure that [FIRM_SUCCESS] appears in the FL displays. *[UNSUPPORT] display means the unit is already updated to newest same version. Then version up is not necessary.
7	Transfer [9][9] in the service mode setting, and initialize the service settings (return various settings and error information to their default values. The laser time is not included in this initialization).	Make sure that [CLR SERV] appears in the FL display. After checking it, turn the power off.
8	When replacing of RAM drive, transfer [9] [5] in the service mode setting to delete Laser used time.	Make sure that [CLR LASER] appears in the FL display. After that, turn power off.

Use the following checklist to establish the judgement criteria for the picture and sound.

Item	Contents	Check	Item	Contents	Check
Picture	Block noise		Sound	Distorted sound	
	Crosscut noise			Noise (static, background noise, etc.)	
	Dot noise			The sound level is too low.	
	Picture disruption			The sound level is too high.	
	Not bright enough			The sound level changes.	
	Too bright				
	Flickering color				
	Color fading				

16 Voltage and Waveform Chart

Note)

・Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.

Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

16.1. Power P.C.B.

Ref No.	IC1150						IC1200				IC1270									
MODE	1	2	3	4	5		1	2	3		1	2	3	4	5					
REC	2.4	1.9	0	13.6	-359		4.9	2.4	0		0	1.8	12.0	12.0	13.5					
PLAY	2.4	1.9	0	13.6	-450		4.9	2.4	0		0	1.8	12.0	12.0	13.5					
STOP	2.4	1.9	0	13.6	-400		4.9	2.4	0		0	1.8	12.0	12.0	13.4					
Ref No.	IC1302						IC1400													
MODE	1	2	3	4	5		1	2	3	4	5	6	7	8						
REC	5.7	5.8	0	5.1	5.0		12.7	0	1.3	4.1	-0.1	1.0	0.7	3.3						
PLAY	5.7	5.8	0	5.1	5.0		12.8	0	1.3	4.1	-0.1	1.0	0.7	3.2						
STOP	5.7	5.9	0	5.1	5.0		12.7	0	1.3	4.1	-0.1	1.0	0.7	3.2						
Ref No.	IC1401																			
MODE	1	2	3	4	5	6	7	8												
REC	13.5	4.5	1.2	1.3	1.2	-0.1	12.0	13.5												
PLAY	13.5	4.5	1.2	1.2	1.2	-0.1	12.0	13.5												
STOP	13.4	4.5	1.2	1.2	1.2	-0.1	12.0	13.4												
Ref No.	Q1200					Q1201					Q1400									
MODE	1	2	3	4		1	2	3	4		1	2	3	4	5	6				
REC	5.9	4.9	0	1.8		0	0	0	7.3		0.8	0.8	12.0	13.5	0.8	0.8				
PLAY	5.9	4.9	0	1.8		0	0	0	7.3		0.8	0.8	12.0	13.4	0.8	0.8				
STOP	5.9	4.9	0	1.8		0	0	0	7.3		0.8	0.8	12.0	13.4	0.8	0.8				
Ref No.	QR1200				QR1300				QR1301				QR1302				QR1303			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
REC	0	0	4.3		0	4.5	0		0	0	3.3		0	5.7	0		0	0	5.0	
PLAY	0	0	4.3		0	4.5	0		0	0	3.3		0	5.7	0		0	0	5.0	
STOP	0	0	4.3		0	4.5	0		0	0	3.3		0	5.7	0		0	0	5.0	
Ref No.	QR1304				QR1307				QR1308											
MODE	E	C	B		E	C	B		E	C	B									
REC	0	0	5.0		0	0	3.3		0	1.8	0									
PLAY	0	0	5.0		0	0	3.3		0	1.8	0									
STOP	0	0	5.0		0	0	3.3		0	1.8	0									

16.2. Main P.C.B.

Ref No.	IC1502						IC1505									IC1506				
MODE	1	2	3	4	5		1	2	3	4	5	6	7	8		1	2	3	4	5
REC	6.0	4.9	5.0	-	0		5.2	-	0	3.6	6.0	-	-	6.0		1.2	0	4.9	6.0	5.0
PLAY	6.0	4.9	5.0	-	0		5.2	-	0	3.6	6.0	-	-	6.0		1.2	0	4.9	6.0	5.0
STOP	6.0	4.9	5.0	-	0		5.2	-	0	3.6	6.0	-	-	6.0		1.2	0	4.9	6.0	5.0
Ref No.	IC1507									IC1508						IC1509				
MODE	1	2	3	4	5	6	7	8		1	2	3	4	5		1	2	3	4	5
REC	5.0	-	0	3.4	4.9	-	-	6.0		6.0	4.9	3.3	-	0		1.8	3.3	1.2	1.0	0
PLAY	5.0	-	0	3.4	4.9	-	-	6.0		6.0	4.9	3.3	-	0		1.8	3.3	1.2	1.0	0
STOP	5.0	-	0	3.4	4.9	-	-	6.0		6.0	4.9	3.3	-	0		1.8	3.3	1.2	1.0	0
Ref No.	IC1510																			
MODE	1	2	3	4	5	6	7	8												
REC	1.5	0.8	3.3	3.3	0	0	1.8	1.8												
PLAY	1.5	0.8	3.3	3.3	0	0	1.8	1.8												
STOP	1.5	0.8	3.3	3.3	0	0	1.8	1.8												
Ref No.	IC3001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	1.3	0	1.7	4.9	1.3	4.8	1.4	4.6	0.1	2.6	0	1.3	4.8	1.3	0	0.1	2.6	0	1.7	4.8
PLAY	1.4	0	1.8	4.9	1.4	4.8	1.4	4.6	0.1	2.6	0	1.4	4.8	1.4	0	0.1	2.6	0	1.8	4.8
STOP	1.3	0	1.8	4.9	1.3	4.8	1.3	4.6	0.1	2.6	0	1.3	4.8	1.3	0	0.1	2.6	0	1.8	4.8
Ref No.	IC3001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	1.3	0	0.1	2.6	4.9	1.6	1.6	1.8	1.8	2.1	0	2.1	2.1	2.1	2.1	1.6	1.5	0	1.8	4.9
PLAY	1.4	0	0.1	2.6	4.9	1.6	1.6	1.8	1.8	2.1	0	2.1	2.1	2.1	2.1	1.6	1.5	0	1.8	4.9
STOP	1.3	0	0.1	2.6	4.9	1.6	1.6	1.8	1.8	2.1	0	2.1	2.1	2.1	2.1	1.6	1.5	0	1.8	4.9
Ref No.	IC3001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	2.7	0	2.7	4.9	2.7	2.7	1.7	4.6	2.7	0	2.7	4.9	2.7	2.9	1.0	0	4.9	4.9	4.9	0.1
PLAY	2.7	0	2.7	4.9	2.7	2.7	1.8	4.6	2.7	0	2.7	4.9	2.7	2.9	1.0	0	4.9	4.9	4.9	0.1
STOP	2.7	0	2.7	4.9	2.7	2.7	1.7	4.6	2.7	0	2.7	4.9	2.7	3.0	1.0	0	4.9	4.9	4.9	0.1
Ref No.	IC3001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
REC	0	0.8	0.8	4.9	1.2	0	1.6	0	2.0	0	0.8	4.9	0.8	0	2.0	0	0	4.9	0	0
PLAY	0	1.6	0.8	4.9	1.6	0	1.6	0	2.0	0	0.8	4.9	0.8	0	2.0	0	0	4.9	0	0
STOP	0	0.8	0.8	4.9	1.2	0	1.6	0	2.0	0	0.8	4.9	0.8	0	2.0	0	0	4.9	0	0
Ref No.	IC4001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	1.5	4.4	4.4	1.5	1.5	4.4	4.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4	0	4.4	0	4.4	0	4.9
PLAY	1.9	4.4	4.4	1.5	1.6	4.4	4.4	3.4	4.4	4.4	4.4	4.4	4.4	4.4	0	4.4	0	4.4	0	4.9
STOP	0.1	4.4	4.4	0.1	0.1	4.5	4.5	3.4	4.4	4.4	4.4	4.4	4.4	4.4	0	4.5	0	4.4	0	4.9

Ref No.	IC4001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
REC	4.9	0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	8.9	4.4	4.4								
PLAY	4.9	0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	8.9	4.4	4.4								
STOP	4.9	0	4.5	4.4	4.4	4.4	4.4	4.4	4.5	8.9	4.4	4.4								
Ref No.	IC4004						IC4005						IC7404							
MODE	1	2	3	4	5		1	2	3	4	5		1	2	3	4	5	6	7	8
REC	4.9	0	1.2	4.9	6.0		4.9	0	1.2	8.9	13.4		0	2.5	1.9	0	2.8	2.5	3.3	5.0
PLAY	4.9	0	1.2	4.9	6.0		4.9	0	1.2	8.9	13.4		0	2.5	1.9	0	2.8	2.5	3.3	5.0
STOP	4.9	0	1.2	4.9	6.0		4.9	0	1.2	8.9	13.4		0	2.5	1.9	0	2.8	2.5	3.3	5.0
Ref No.	IC7501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	4.9	4.9	0	1.6	1.6	4.4	0	0	1.5	0.5	4.8	1.2	0	2.1	4.9	4.9	5.0	0	0.3	4.9
PLAY	4.9	4.9	0	1.5	1.4	4.4	0	0	1.1	0.5	4.8	1.2	0	2.1	4.9	4.9	5.0	0	0.3	4.9
STOP	5.0	4.9	0	0.7	0.7	4.4	0	0	0.6	0.6	4.8	1.6	0	2.1	5.0	5.0	5.0	0	0.3	4.9
Ref No.	IC7501																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	0	0	1.8	0	4.9	0	0	0	0	0	1.8	1.7	0	4.9	2.5	0	0.3	4.9	5.0	5.0
PLAY	0	0	1.8	0	4.9	0	0	0	0	0	1.8	1.7	0	4.9	2.5	0	0.3	4.9	5.0	5.0
STOP	0	0	1.8	0	4.9	0	0	0	0	0	1.8	1.7	0	5.0	2.5	0	0.3	5.0	5.0	5.0
Ref No.	IC7501																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	5.0	0	0	0	0	0	0	0	0	0	0	0	5.0	0	0	4.9	0	0	4.9	4.9
PLAY	5.0	0	0	0	0	0	0	0	0	0	0	0	5.0	0	0	4.9	0	0	4.9	4.9
STOP	5.0	0	0	0	0	0	0	0	0	0	0	0	5.0	0	0	4.9	0	0	4.9	5.0
Ref No.	IC7501																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
REC	0	0	0	2.5	5.0	0	0	0	4.9	5.0	0	0	0	0	5.0	5.0	0	0	4.9	4.9
PLAY	0	0	0	2.5	4.9	0	0	0	5.0	4.9	0	0	0	0	5.0	5.0	0	0	4.9	4.9
STOP	0	0	0	2.5	5.0	0	0	0	5.0	4.9	0	0	0	0	5.0	5.0	0	0	5.0	5.0
Ref No.	IC7501																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
REC	0	5.0	0	4.9	0	4.9	3.0	4.9	4.9	0	0	0	0	4.9	5.0	5.0	5.0	4.9	4.6	0
PLAY	0	5.0	0	4.9	0	4.9	3.0	4.9	4.9	0	0	0	0	4.9	5.0	5.0	5.0	4.9	4.6	0
STOP	0	5.0	0	5.0	0	4.9	3.0	4.9	4.9	0	0	0	0	5.0	5.0	5.0	5.0	5.0	4.6	0
Ref No.	IC7501																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116				
REC	0	0	0	5.0	5.0	4.9	5.0	0	1.7	1.7	0	4.9	1.7	0	0	4.9				
PLAY	0	0	0	5.0	5.0	4.9	5.0	0	1.7	1.3	0	4.9	1.7	0	0	4.9				
STOP	0	0	0	5.0	5.0	5.0	5.0	0	1.8	1.3	0	5.0	1.8	0	0	5.0				
Ref No.	IC7502																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	4.9	3.0	4.4	1.5	0	2.2	2.2	5.0	-28.5	-28.5	-28.5	-28.5	-28.5	-24.8	-24.8	-21.0	-28.6	5.0	-28.5	-28.6
PLAY	4.9	3.0	4.4	0.8	0	2.2	2.2	5.0	-28.4	-28.5	-28.5	-28.4	-28.5	-24.8	-21.1	-21.1	-28.4	5.0	-24.8	-24.8
STOP	5.0	3.0	4.4	1.1	0	2.2	2.2	5.0	-28.5	-28.5	-28.5	-28.5	-28.5	-28.5	-28.5	-17.5	-28.5	5.0	-24.8	-28.5
Ref No.	IC7502																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	-28.6	-28.6	-28.6	-28.6	-24.8	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6	-21.0	-17.3	-21.1	-24.8	-24.8	-24.8	-28.6	-17.3
PLAY	-24.8	-28.5	-28.5	-17.4	-17.4	-28.5	-28.5	-28.5	-28.5	-28.5	-28.5	-28.5	-21.1	-13.7	-24.8	-24.8	-24.8	-21.1	-17.4	-13.7
STOP	-28.5	-28.5	-28.5	-28.5	-21.1	-28.5	-28.5	-28.5	-28.5	-28.5	-28.5	-28.5	-21.1	-21.1	-24.8	-17.5	-28.5	-17.5	-28.5	-13.7
Ref No.	IC7502																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	-13.6	-21.1	-28.6	-28.6	-28.6	-28.6	-21.1	-24.8	-24.8	-17.4	-21.1	-28.6	-28.6	-28.6	-28.6	-24.9	-24.9	-24.9	-24.9	-24.9
PLAY	-17.4	-13.7	-28.5	-28.5	-24.8	-28.5	-21.1	-24.8	-10.1	-10.2	-21.1	-28.5	-28.5	-28.5	-28.5	-24.8	-24.8	-24.8	-24.8	-24.8
STOP	-21.1	-21.1	-28.5	-28.5	-28.5	-28.5	-21.1	-24.8	-24.9	-13.8	-21.1	-28.5	-28.5	-28.5	-28.5	-24.9	-24.9	-24.9	-24.9	-24.9
Ref No.	IC7502																			
MODE	61	62	63	64																
REC	-24.9	-24.9	-24.9	-28.8																
PLAY	-24.8	-24.8	-24.8	-28.7																
STOP	-24.9	-24.9	-24.9	-28.7																
Ref No.	IC7503						IC7505						IC7506							
MODE	1	2	3	4	5		1	2	3	4	5		1	2	3	4	5	6	7	8
REC	4.9	5.2	0	-	-		2.2	3.3	0	-	-		5.8	1.8	1.8	0	1.8	1.8	1.8	13.3
PLAY	4.9	5.2	0	-	-		2.2	3.3	0	-	-		5.8	1.8	1.8	0	1.8	1.8	1.8	13.4
STOP	5.0	5.2	0	-	-		2.2	3.3	0	-	-		5.8	1.8	1.8	0	1.8	1.8	1.8	13.4
Ref No.	Q4001				Q4002				Q4003				Q7401				Q7503			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
REC	5.2	-1.5	5.2		0	0	-1.4		0	0	-1.9		2.7	0	2.0		0	4.5	-1.0	
PLAY	5.2	-4.1	5.2		0	0	0		0	0	-0.3		2.7	0	2.1		0	4.5	-0.9	
STOP	5.2	-2.2	5.2		0	0	-0.3		0	0	0		2.7	0	2.1		0	4.3	-1.0	
Ref No.	Q7504				Q7507				Q7508				Q7512							
MODE	E	C	B		1	2	3		E	C	B		1	2	3					
REC	0	-1.0	-1.0		2.3	0	1.6		1.7	5.0	1.6		5.0	13.4	5.7					
PLAY	0	-0.9	-1.0		2.3	0	1.6		1.8	5.0	1.6		5.0	13.4	5.7					
STOP	0	-1.0	-1.0		2.3	0	1.6		1.8	5.0	1.6		5.0	13.4	5.7					
Ref No.	QR4001				QR4002				QR4003				QR4004				QR7501			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
REC	0	0	4.9		0	0	2.3		0	5.2	0		0	5.2	0		5.0	0	5.0	
PLAY	0	0	4.9		0	0	2.4		0	5.2	0		0	5.2	0		5.0	0	5.0	
STOP	0	0	4.9		0	0	2.4		0	5.2	0		0	5.2	0		5.0	0	5.0	
Ref No.	QR7502																			
MODE	E	C	B																	
REC	0	0	2.2																	
PLAY	0	0	2.2																	
STOP	0	0	2.2																	

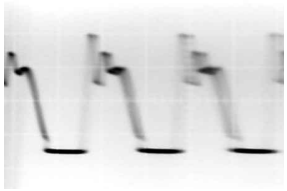
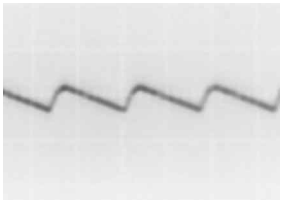
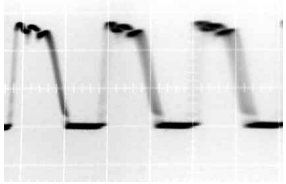
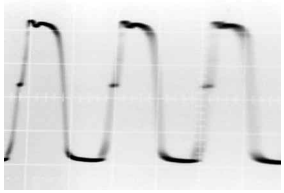
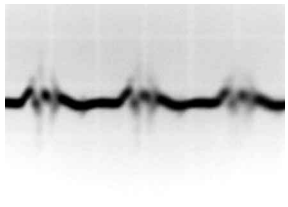
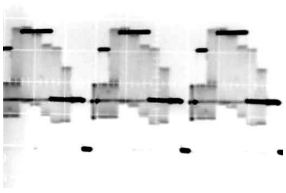
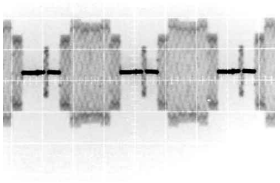
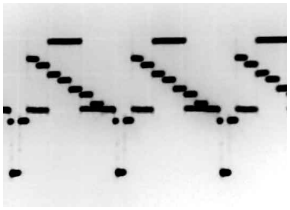
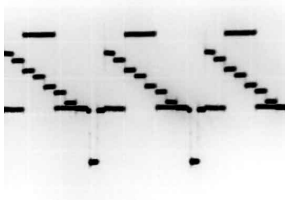
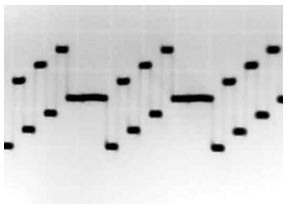
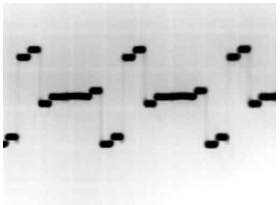
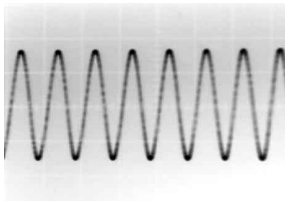
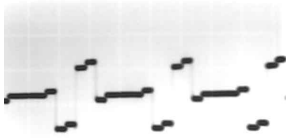
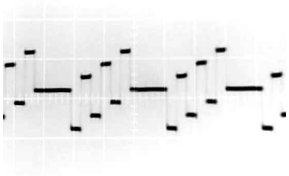
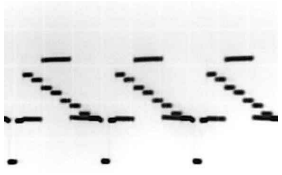
16.3. Panel P.C.B.

Ref No.	QR7801		
MODE	E	C	B
REC	0	3.5	0
PLAY	0	3.5	0
STOP	0	3.5	0

16.4. P9001 Connector

Ref No.	P9001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	2.0	1.2	0	0	0	0	0	0	0	-	0	0	0	0	3.3	0	4.9	1.5	4.9	0
PLAY	2.0	1.2	0	0	0	0	0	0	0	-	0	0	0	0	3.3	0	4.9	1.1	4.9	0
STOP	2.0	1.2	0	0	0	0	0	0	0	-	0	0	0	0	3.3	0	4.9	1.5	4.9	0
Ref No.	P9001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	4.9	1.1	3.3	0	0	1.0	5.0	0	4.9	1.0	5.0	0	4.9	1.0	5.0	0	5.0	0	4.9	0
PLAY	4.9	1.0	3.3	0	0	1.0	5.0	0	5.0	1.0	5.0	0	5.0	1.0	5.0	0	5.0	0	5.0	0
STOP	4.9	1.1	3.3	0	0	1.0	5.0	0	5.0	1.0	5.0	0	5.0	1.0	5.0	0	5.0	0	4.9	0
Ref No.	P9001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	3.3	3.3	0	0	3.3	0	3.0	2.5	0	2.5	0	0	0	0	0	0	0	2.4	0	0
PLAY	3.3	3.3	0	0	3.3	0	3.0	2.5	0	2.5	0	0	0	0	0	0	0	2.4	0	0
STOP	3.3	3.3	0	0	3.3	0	3.0	2.5	0	2.5	0	0	0	0	0	0	0	2.4	0	0
Ref No.	P9001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
REC	0	2.5	0	0	4.9	0	0	4.9	5.0	2.3	0	1.6	0	3.3	3.3	3.3	0	1.5	5.0	1.5
PLAY	0	2.5	0	0	5.0	0	0	5.0	5.0	2.3	0	1.6	0	3.3	3.3	3.3	0	1.5	5.0	1.5
STOP	0	2.5	0	0	5.0	0	0	4.9	5.0	2.4	0	1.6	0	3.3	3.3	3.3	0	1.5	5.0	1.5
Ref No.	P9001																			
MODE	81	82	83	84	85	86	87	88												
REC	6.0	1.2	5.0	1.5	6.0	1.2	6.0	1.2												
PLAY	6.0	1.2	5.0	1.5	6.0	1.2	6.0	1.2												
STOP	6.0	1.2	5.0	1.5	6.0	1.2	6.0	1.2												

16.5. P9001 Waveform

 T1150-3 STOP 29Vp-p (5 μ sec.div)	 T1150-4 STOP 330Vp-p (5 μ sec.div)	 T1150-6 STOP 11Vp-p (5m sec.div)	 T1150-8 STOP 15Vp-p (5 μ sec.div)
 T1150-9,10 STOP 15Vp-p (5 μ sec.div)	 IC1150-1 STOP 8.0Vp-p (5 μ sec.div)	 IC1150-2 STOP 1.9Vp-p (5 μ sec.div)	 P7402-2 REC/PLAY 0.8Vp-p (20 μ sec.div)
 P7402-18 REC/PLAY 0.7Vp-p (20 μ sec.div)	 P7402-22 REC/PLAY 0.8Vp-p (20 μ sec.div)	 P7402-26 REC/PLAY 0.8Vp-p (20 μ sec.div)	 P7402-30 REC/PLAY 0.5Vp-p (20 μ sec.div)
 P7402-34 REC/PLAY 0.5Vp-p (20 μ sec.div)	 P7402-48,50 REC/PLAY 1.6Vp-p (1m sec.div)	 JK3903-18 REC/PLAY 1.0Vp-p (20 μ sec.div)	 JK3903-19 REC/PLAY 1.0Vp-p (20 μ sec.div)
 JK3903-20 REC/PLAY 1.5Vp-p (20 μ sec.div)			

17 Abbreviations

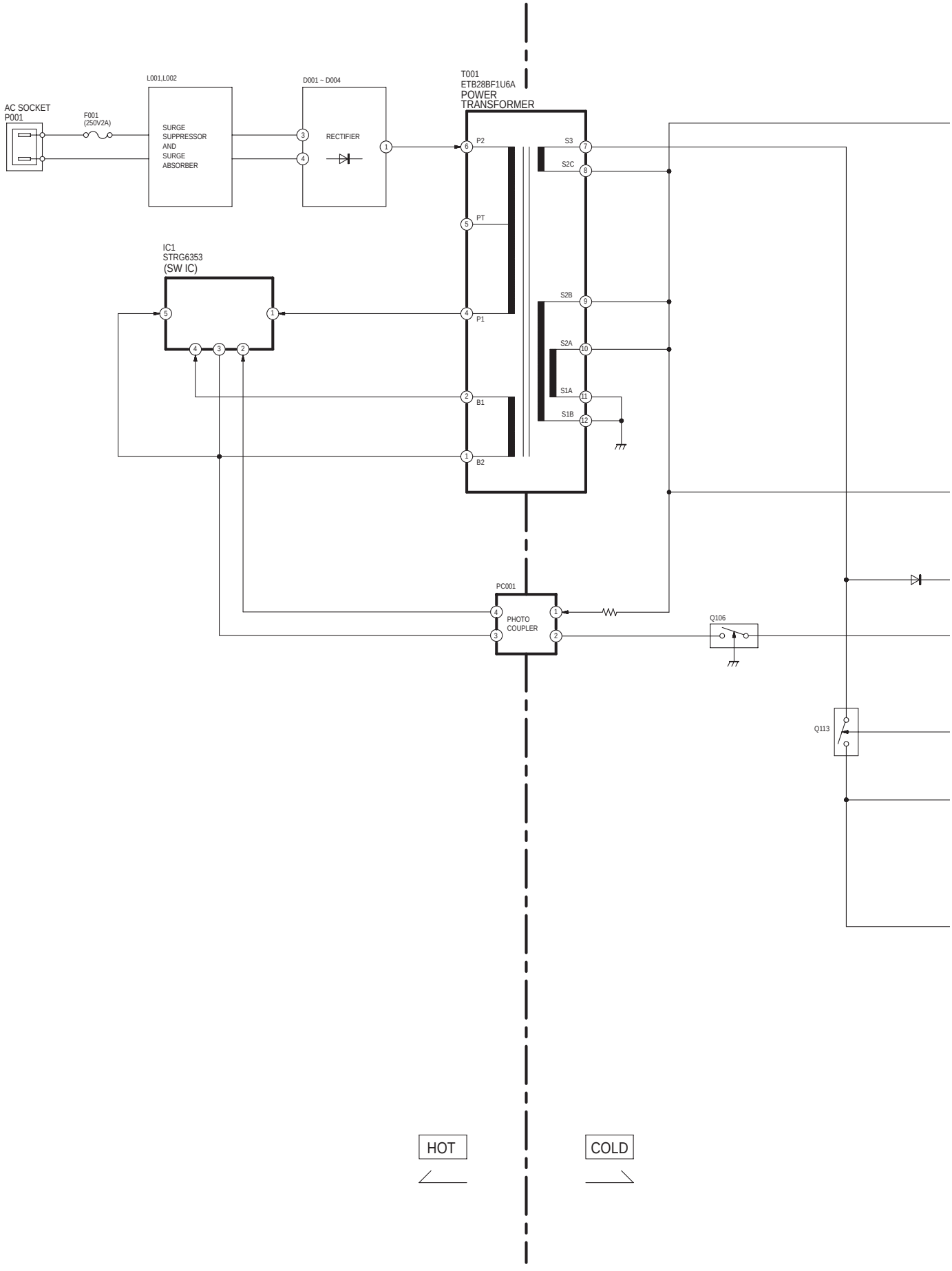
INITIAL/LOGO		ABBREVIATIONS
A	A0~UP	ADDRESS
	ACLK	AUDIO CLOCK
	AD0~UP	ADDRESS BUS
	ADATA	AUDIO PES PACKET DATA
	ALE	ADDRESS LATCH ENABLE
	AMUTE	AUDIO MUTE
	AREQ	AUDIO PES PACKET REQUEST
	ARF	AUDIO RF
	ASI	SERVO AMP INVERTED INPUT
	ASO	SERVO AMPOUTPUT
	ASYNC	AUDIO WORD DISTINCTION SYNC
B	BCK	BIT CLOCK (PCM)
	BCKIN	BIT CLOCK INPUT
	BDO	BLACK DROP OUT
	BLKCK	SUB CODE BLOCK CLOCK
	BOTTOM	CAP. FOR BOTTOM HOLD
	BYP	BYPATH
	BYTCK	BYTE CLOCK
C	CAV	CONSTANT ANGULAR VELOCITY
	CBDO	CAP. BLACK DROP OUT
	CD	COMPACT DISC
	CDSCK	CD SERIAL DATA CLOCK
	CDSRDATA	CD SERIAL DATA
	CDRF	CD RF (EFM) SIGNAL
	CDV	COMPACT DISC-VIDEO
	CHNDATA	CHANNEL DATA
	CKSL	SYSTEM CLOCKSELECT
	CLV	CONSTANT LINEAR VELOCITY
	COFTR	CAP. OFF TRACK
	CPA	CPU ADDRESS
	CPCS	CPU CHIP SELECT
	CPDT	CPU DATA
	CPUADR	CPU ADDRESS LATCH
	CPUADT	CPU ADDRESS DATA BUS
	CPUIRQ	CPU INTERRUPT REQUEST
	CPRD	CPU READ ENABLE
	CPWR	CPU WRITE ENABLE
	CS	CHIPSELECT
	CSYNCIN	COMPOSITE SYNC IN
	CSYNCOUT	COMPOSITE SYNC OUT
D	DACCK	D/A CONVERTER CLOCK
	DEEMP	DEEMPHASIS BIT ON/OFF
	DEMPH	DEEMPHASIS SWITCHING
	DIG0~UP	FL DIGIT OUTPUT
	DIN	DATA INPUT
	DMSRCK	DM SERIAL DATA READ CLOCK
	DMUTE	DIGITAL MUTE CONTROL
	DO	DROP OUT
	DOUT0~UP	DATAOUTPUT
	DRF	DATA SLICE RF (BIAS)
	DRPOUT	DROP OUT SIGNAL
	DREQ	DATA REQUEST
	DRESP	DATA RESPONSE
	DSC	DIGITAL SERVO CONTROLLER
	DSLF	DATA SLICE LOOP FILTER
	DVD	DIGITAL VIDEO DISC

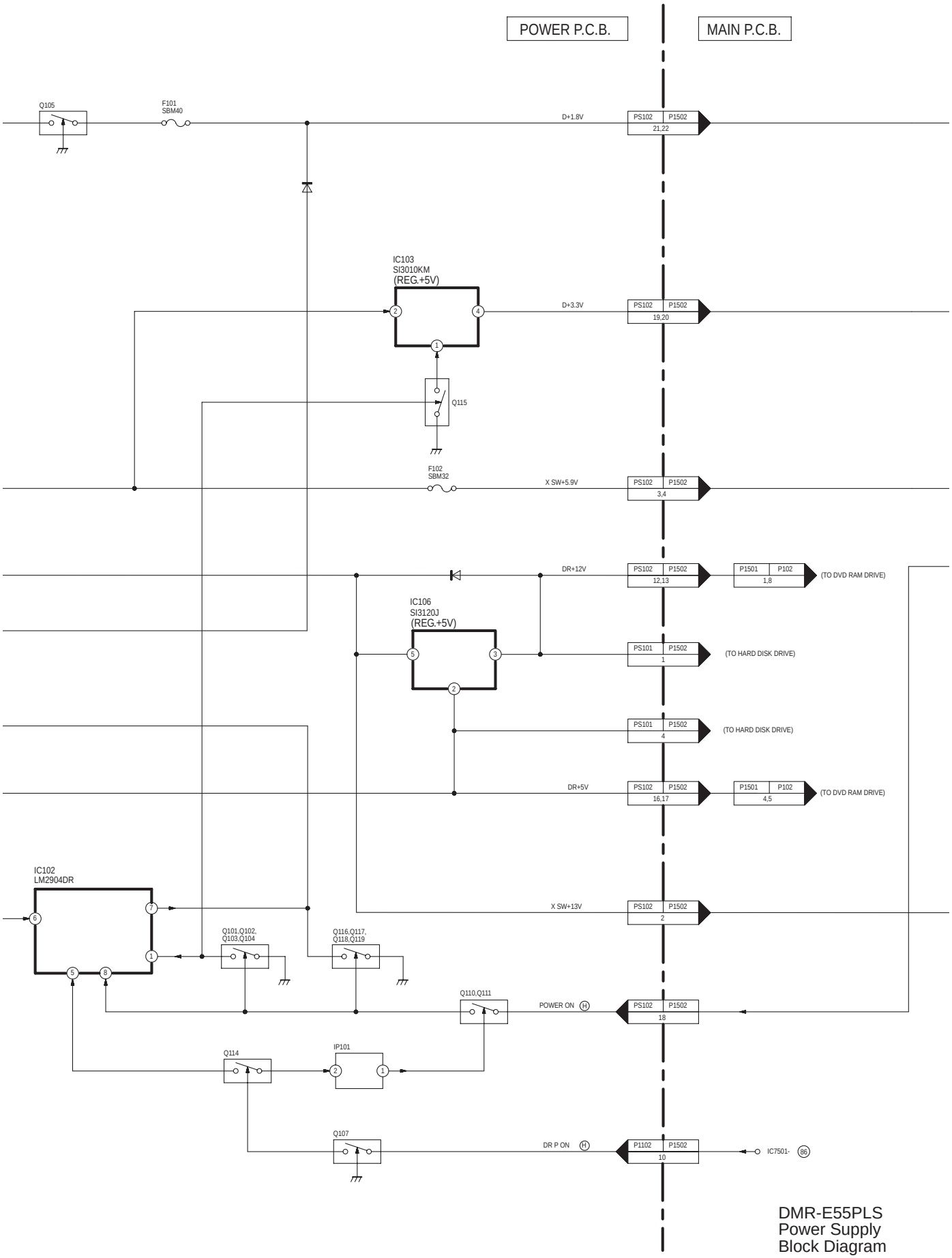
INITIAL/LOGO		ABBREVIATIONS
E	EC	ERROR TORQUE CONTROL
	ECR	ERROR TORQUE CONTROL REFERENCE
	ENCSEL	ENCODER SELECT
	ETMCLK	EXTERNAL M CLOCK (81MHz/40.5MHz)
	ETSCLK	EXTERNAL S CLOCK (54MHz)
F	FBAL	FOCUS BALANCE
	FCLK	FRAME CLOCK
	FE	FOCUS ERROR
	FFI	FOCUS ERROR AMP INVERTED INPUT
	FEO	FOCUS ERROR AMP OUTPUT
	FG	FREQUENCY GENERATOR
	FSC	FREQUENCY SUB CARRIER
	FSCK	FS (384 OVER SAMPLING) CLOCK
G	GND	COMMON GROUNDING (EARTH)
H	HA0~UP	HOST ADDRESS
	HD0~UP	HOST DATA
	HINT	HOST INTERRUPT
	HRXW	HOST READ/WRITE
I	IECOUT	IEC958 FORMAT DATA OUTPUT
	IPFRAG	INTERPOLATION FLAG
	IREF	I (CURRENT) REFERENCE
	ISEL	INTERFACE MODE SELECT
L	LDON	LASER DIODE CONTROL
	LPC	LASER POWER CONTROL
	LRCK	L CH/R CH DISTINCTION CLOCK
M	MA0~UP	MEMORY ADDRESS
	MCK	MEMORY CLOCK
	MCKI	MEMORY CLOCK INPUT
	MCLK	MEMORY SERIAL COMMAND CLOCK
	MDATA	MEMORY SERIAL COMMAND DATA
	MDQ0~UP	MEMORY DATA INPUT/OUTPUT
	MDQM	MEMORY DATA I/O MASK
	MLD	MEMORYSERIAL COMMAND LOAD
	MPEG	MOVING PICTURE EXPERTS GROUP
O	ODC	OPTICAL DISC CONTROLLER
	OFTR	OFF TRACKING
	OSCI	OSCILLATOR INPUT
	OSCO	OSCILLATOR OUTPUT
	OSD	ON SCREEN DISPLAY
P	P1~UP	PORT
	PCD	CD TRACKING PHASE DIFFERENCE
	PCK	PLL CLOCK
	PDVD	DVD TRACKING PHASE DIFFERENCE
	PEAK	CAP. FOR PEAK HOLD
	PLLCLK	CHANNEL PLL CLOCK
	PLLOK	PLL LOCK
	PWMCTL	PWM OUTPUT CONTROL
	PWMDA	PULSE WAVE MOTOR DRIVEA
	PWMOA, B	PULSE WAVE MOTOR OUT A, B

INITIAL/LOGO		ABBREVIATIONS
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO	RF PHASE DIFFERENCE OUTPUT
	RS	(CD-ROM) REGISTER SELECT
	RSEL	RF POLARITY SELECT
	RST	RESET
	RSV	RESERVE
S	SBI0, 1	SERIAL DATA INPUT
	SBO0	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR	AUDIO SERIAL CLOCK RECEIVER
	SCL	SERIAL CLOCK
	SCLK	SERIAL CLOCK
	SDA	SERIAL DATA
	SEG0~UP	FL SEGMENT OUTPUT
	SELCLK	SELECTCLOCK
	SEN	SERIAL PORT ENABLE
	SIN1, 2	SERIAL DATA IN
	SOUT1, 2	SERIAL DATA OUT
	SPDI	SERIAL PORT DATA INPUT
	SPDO	SERIAL PORT DATA OUTPUT
	SPEN	SERIAL PORT R/W ENABLE
	SPRCLK	SERIAL PORT READ CLOCK
	SPWCLK	SERIAL PORT WRITE CLOCK
	SQCK	SUB CODE Q CLOCK
	SQCX	SUBCODE Q DATA READ CLOCK
	SRDATA	SERIAL DATA
	SRMADR	SRAM ADDRESS BUS
	SRMDT0~7	SRAM DATA BUS 0~7
	SS	START/STOP
	STAT	STATUS
	STCLK	STREAM DATA CLOCK
	STD0~UP	STREAM DATA
	STENABLE	STREAM DATA INPUT ENABLE
	STSEL	STREAM DATA POLARITY SELECT
	STVALID	STREAM DATAVALIDITY
	SUBC	SUB CODE SERIAL
	SBCK	SUB CODE CLOCK
	SUBQ	SUB CODE Q DATA
	SYSCLK	SYSTEM CLOCK
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACK CROSSSIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON

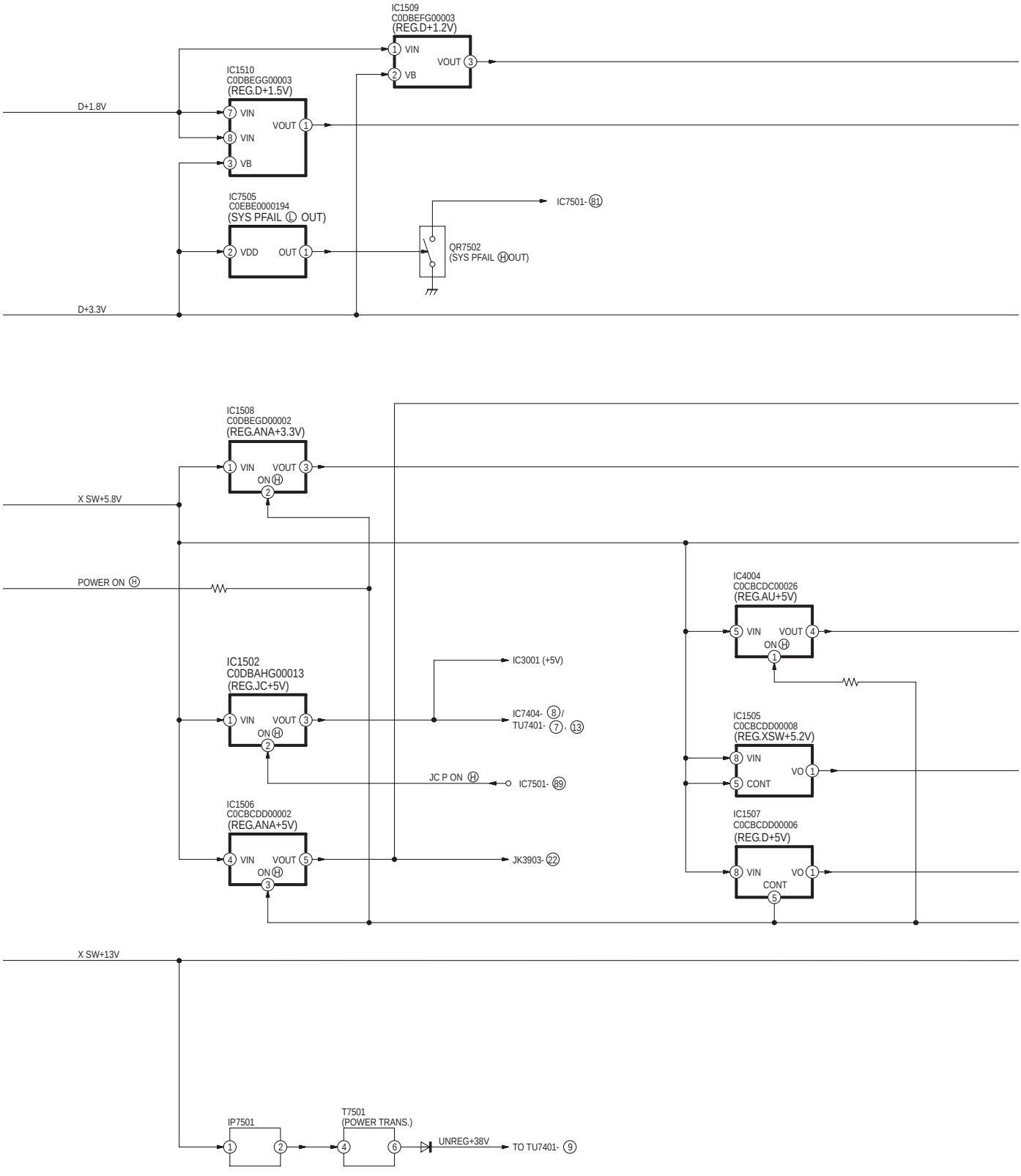
INITIAL/LOGO		ABBREVIATIONS
V	VBLANK	V BLANKING
	VCC	COLLECTOR POWER SUPPLY VOLTAGE
	VCDCONT	VIDEO CD CONTROL (TRACKING BALANCE)
	VDD	DRAIN POWER SUPPLY VOLTAGE
	VFB	VIDEO FEED BACK
	VREF	VOLTAGE REFERENCE
	VSS	SOURCE POWER SUPPLYVOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER
X	X	X´ TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPTREQUEST
	XI	X´ TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X´ TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIPSELECT
	XVDS	X V-DEC CONTROL BUS STROBE
	XVSYNCO	X VERTICAL SYNC OUTPUT

18 Block Diagram

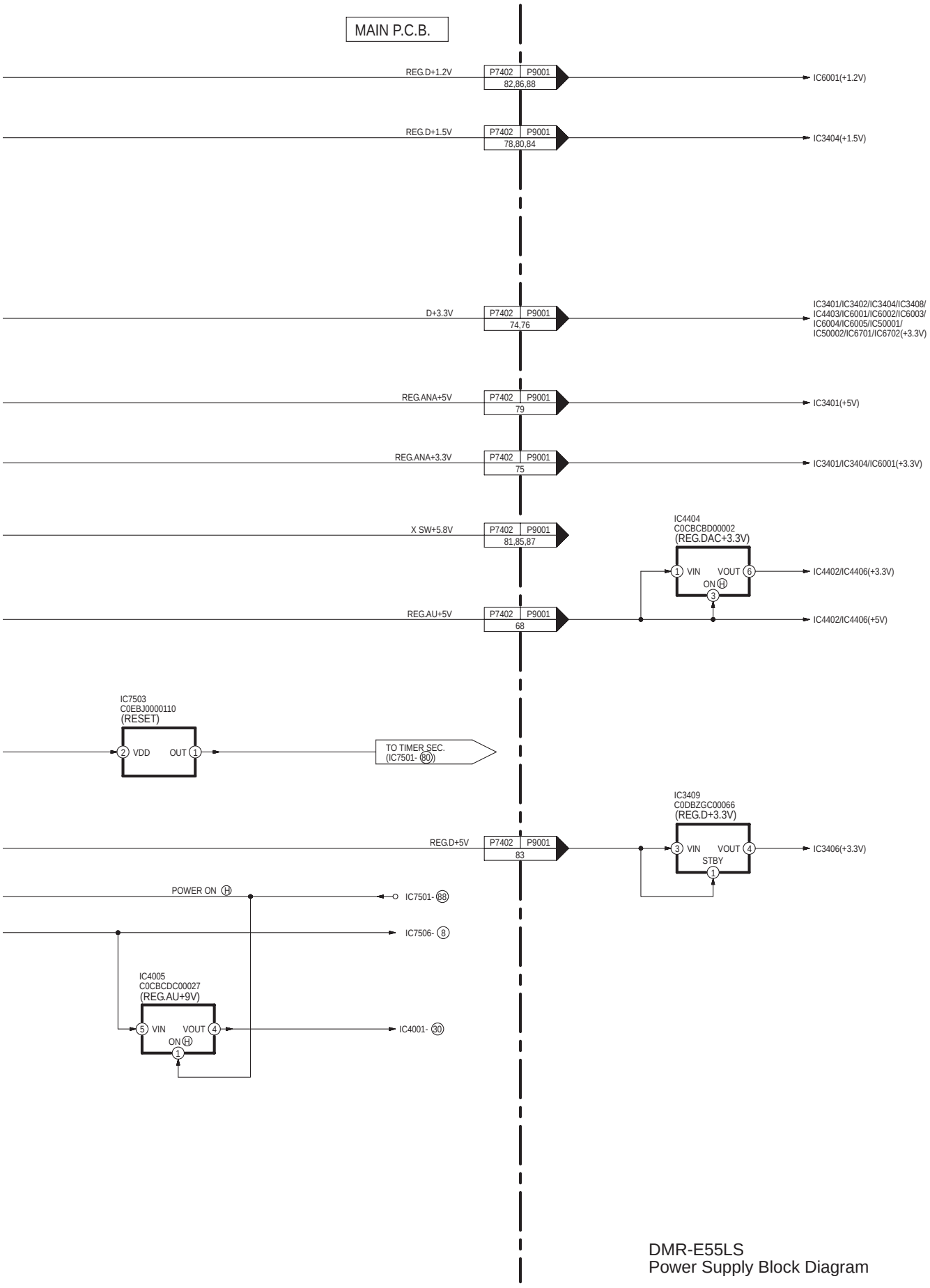




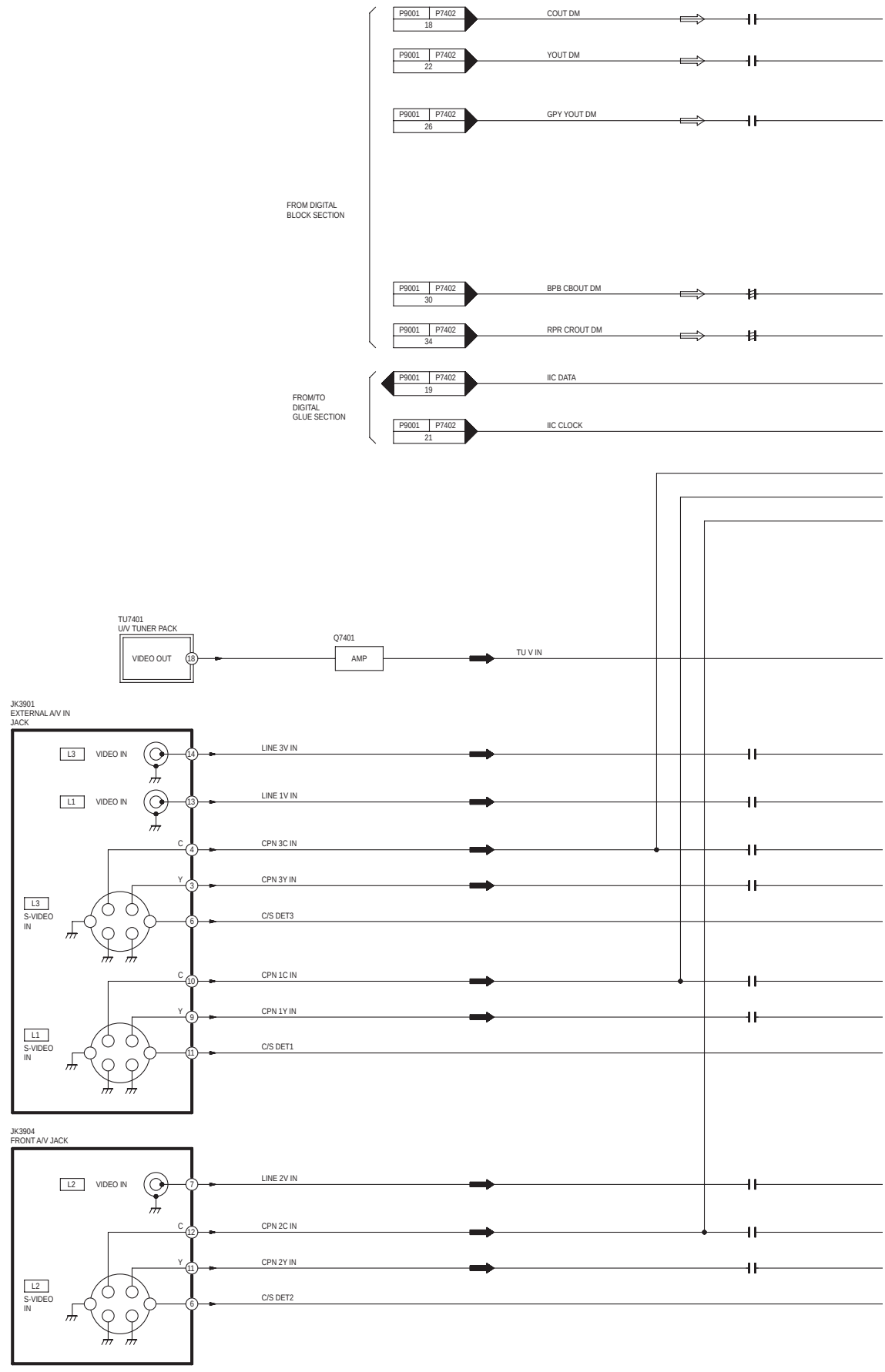
DMR-E55PLS
Power Supply
Block Diagram

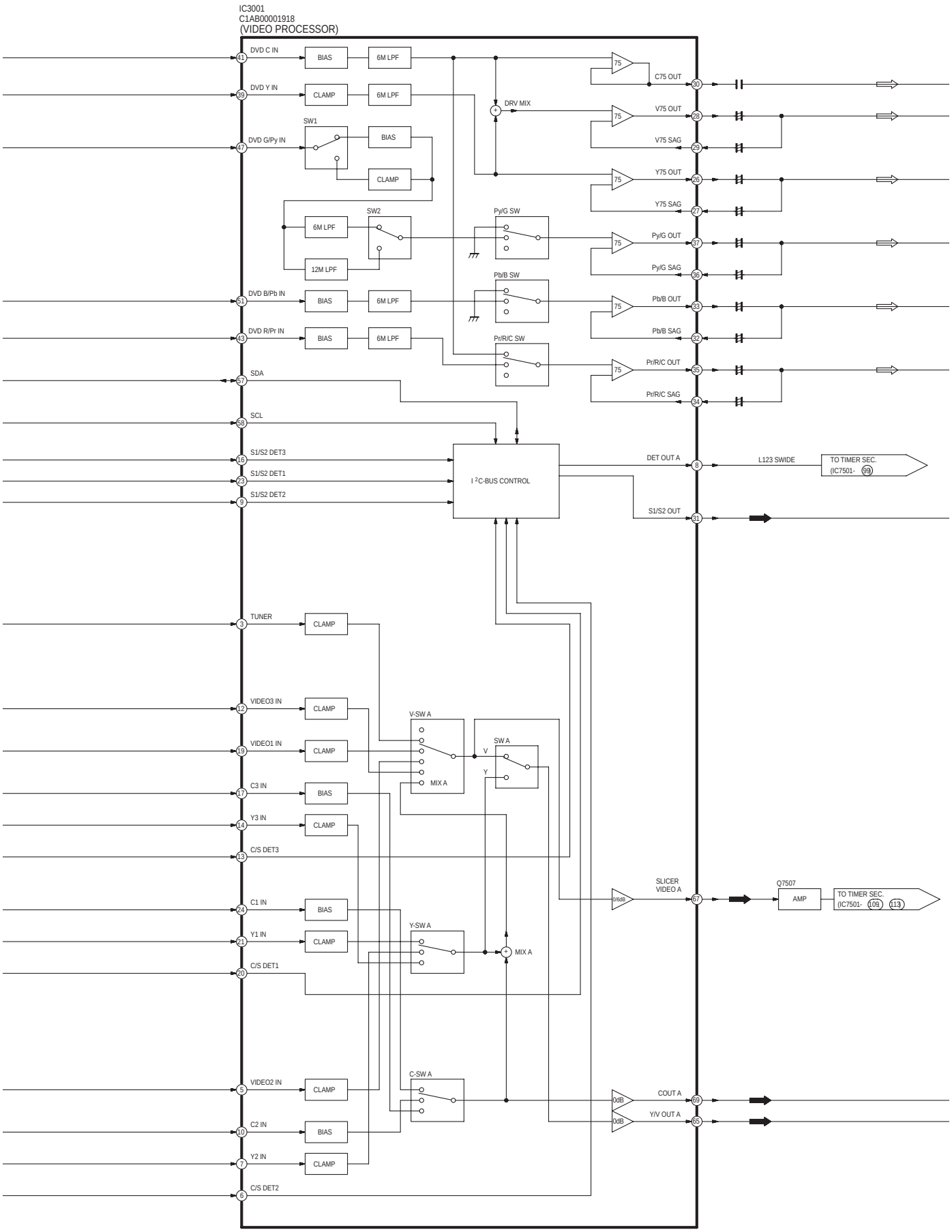


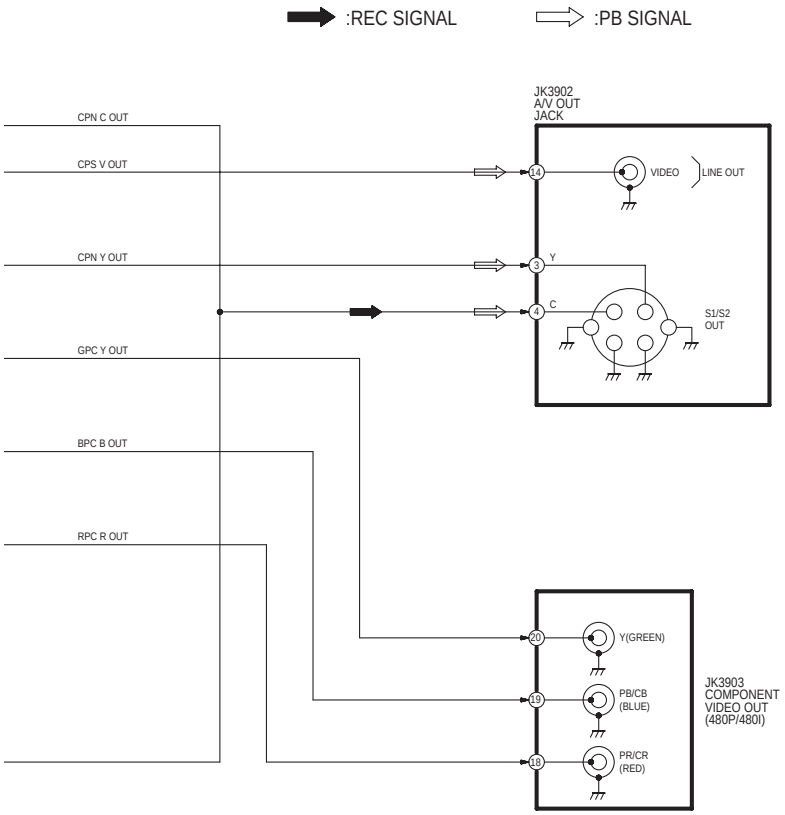
DMR-E55PLS
Power Supply Block Diagram

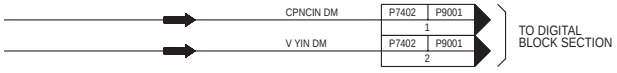


DMR-E55LS
Power Supply Block Diagram

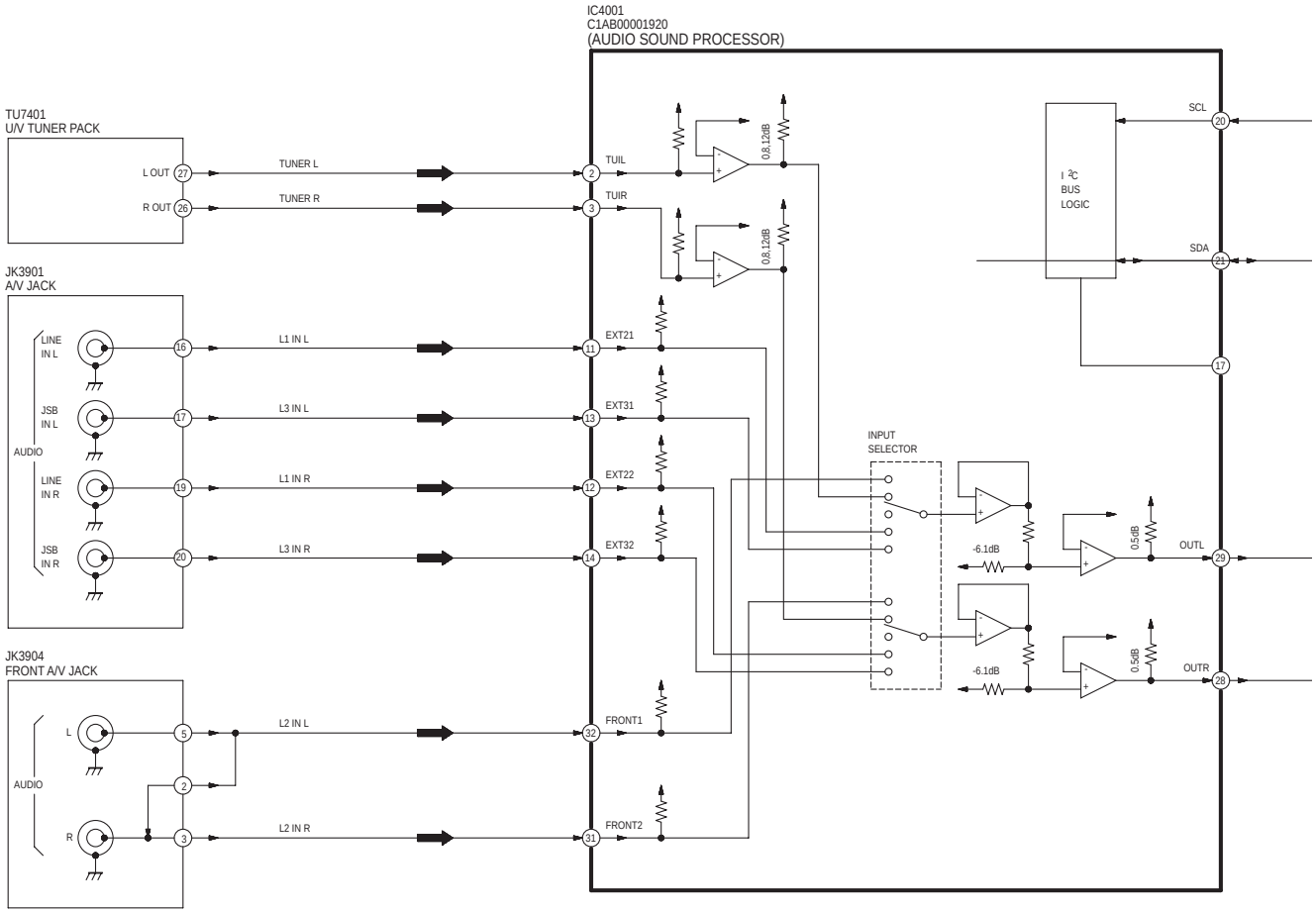

P9001 P7402 18
COUT DM
P9001 P7402 22
YOUT DM
P9001 P7402 26
GPY YOUT DM
FROM DIGITAL BLOCK SECTION
P9001 P7402 30
BPB CBOUT DM
P9001 P7402 34
RPR CROUT DM
P9001 P7402 19
IIC DATA
FROM/TO DIGITAL GLUE SECTION
P9001 P7402 21
IIC CLOCK
TU7401 U/V TUNER PACK
VIDEO OUT 18
Q7401
AMP
TU V IN
JK3901 EXTERNAL A/V IN JACK
L3 VIDEO IN 14
LINE 3V IN
L1 VIDEO IN 13
LINE 1V IN
L3 S-VIDEO IN
C 4
CPN 3C IN
Y 3
CPN 3Y IN
6
C/S DET3
L1 S-VIDEO IN
C 10
CPN 1C IN
Y 9
CPN 1Y IN
11
C/S DET1
JK3904 FRONT A/V JACK
L2 VIDEO IN 7
LINE 2V IN
L2 S-VIDEO IN
C 12
CPN 2C IN
Y 11
CPN 2Y IN
6
C/S DET2

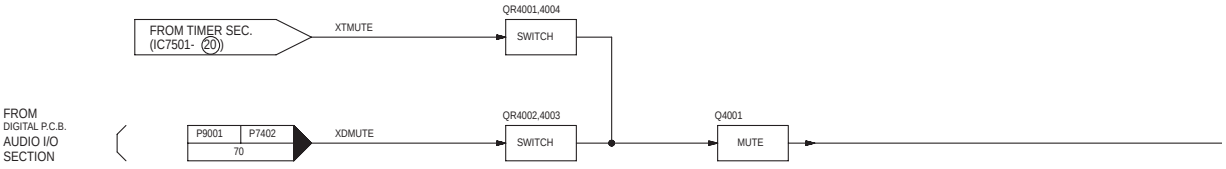

IC3001
C1AB00001918
(VIDEO PROCESSOR)
DVD C IN
DVD Y IN
DVD G/Py IN
DVD B/Pb IN
DVD R/Pr IN
SDA
SCL
S1/S2 DET3
S1/S2 DET1
S1/S2 DET2
TUNER
VIDEO3 IN
VIDEO1 IN
C3 IN
Y3 IN
C/S DET3
C1 IN
Y1 IN
C/S DET1
VIDEO2 IN
C2 IN
Y2 IN
C/S DET2
BIAS
CLAMP
6M LPF
12M LPF
SW1
SW2
DRV MIX
Py/G SW
Pb/B SW
Pr/R/C SW
75
C75 OUT
V75 OUT
V75 SAG
Y75 OUT
Y75 SAG
Py/G OUT
Py/G SAG
Pb/B OUT
Pb/B SAG
Pr/R/C OUT
Pr/R/C SAG
I ²C-BUS CONTROL
DET OUT A
L123 SWIDE
TO TIMER SEC.
(IC7501- 99)
S1/S2 OUT
V-SW A
SW A
V
Y
MIX A
Y-SW A
C-SW A
SLICER
VIDEO A
0/6dB
Q7507
AMP
TO TIMER SEC.
(IC7501- 109 113)
COUT A
Y/V OUT A
0dB

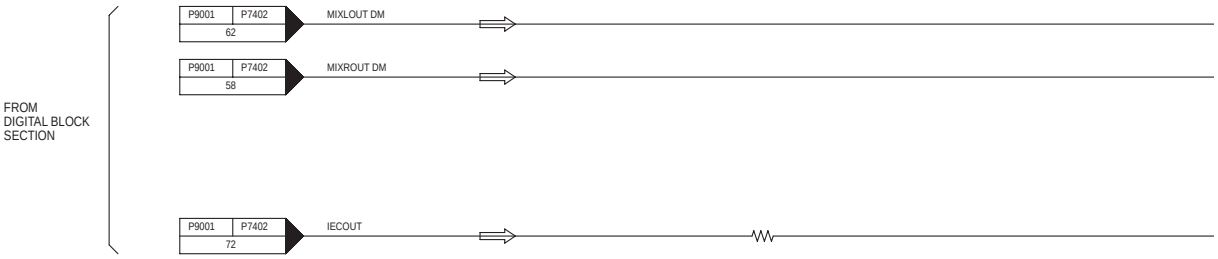


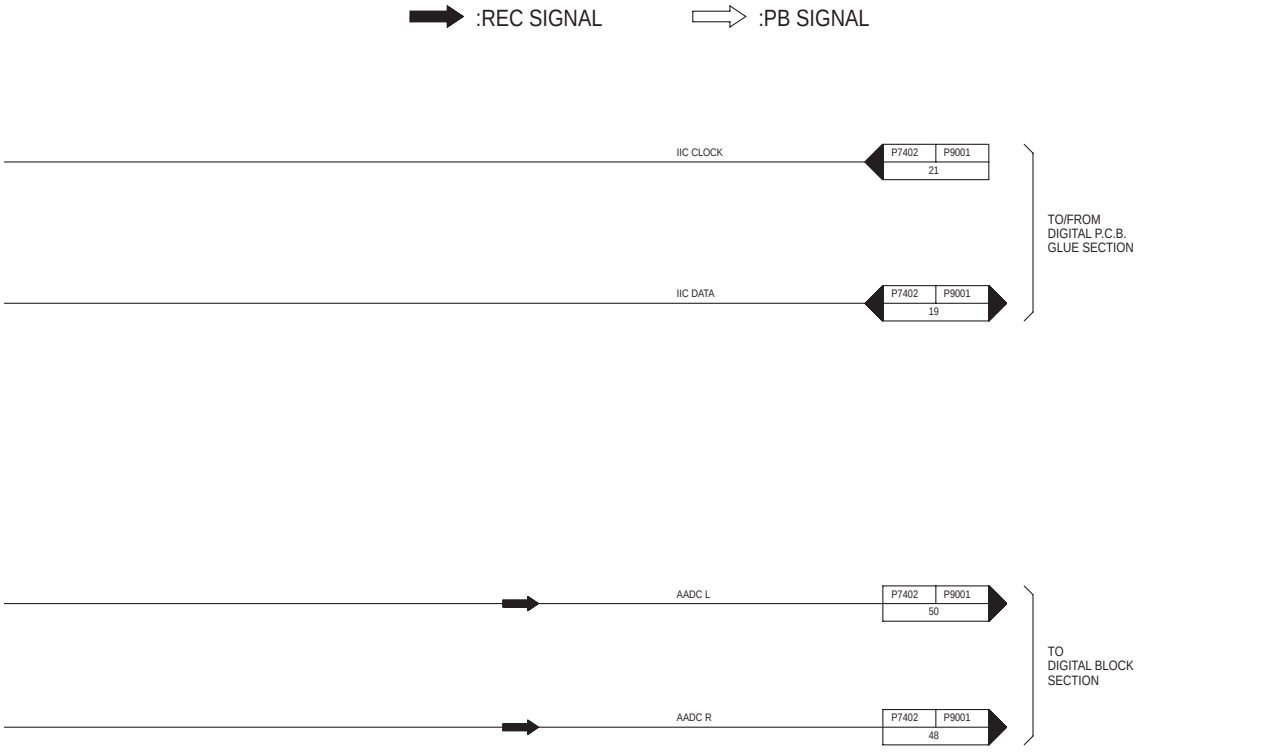


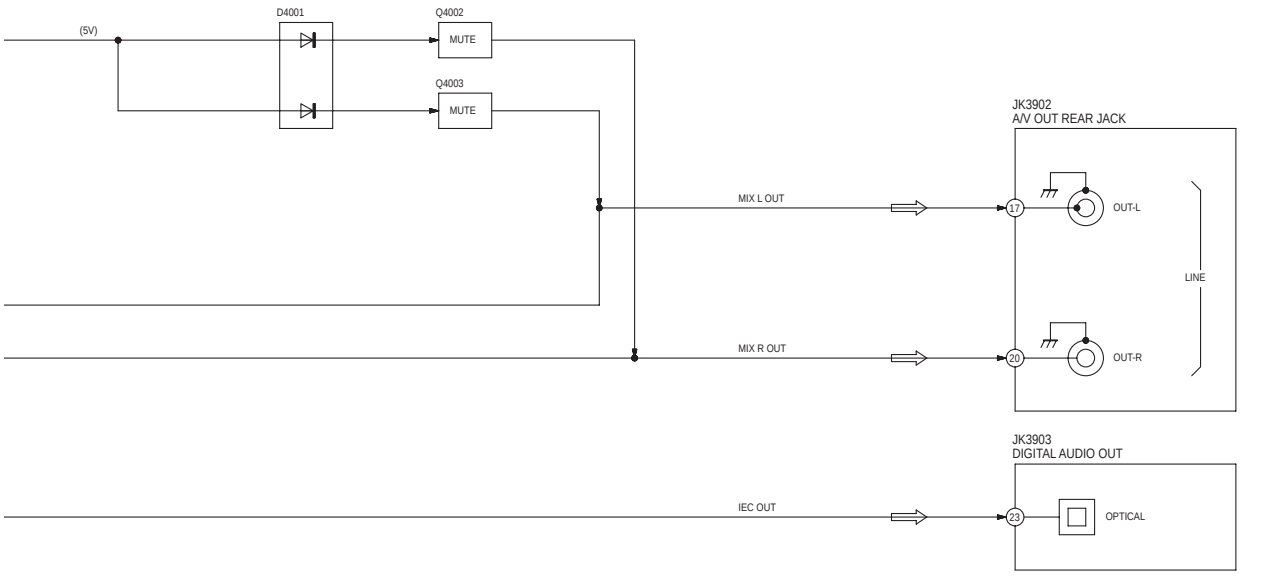
DMR-E55PLS
ANALOG VIDEO
BLOCK DIAGRAM


IC4001
C1AB00001920
(AUDIO SOUND PROCESSOR)
TU7401
U/V TUNER PACK
L OUT
R OUT
TUNER L
TUNER R
TUIL
TUIR
0,8,12dB
JK3901
A/V JACK
AUDIO
LINE IN L
JSB IN L
LINE IN R
JSB IN R
L1 IN L
L3 IN L
L1 IN R
L3 IN R
EXT21
EXT31
EXT22
EXT32
I 2C BUS LOGIC
SCL
SDA
INPUT SELECTOR
-6.1dB
0.5dB
OUTL
OUTR
JK3904
FRONT A/V JACK
L
R
L2 IN L
L2 IN R
FRONT1
FRONT2

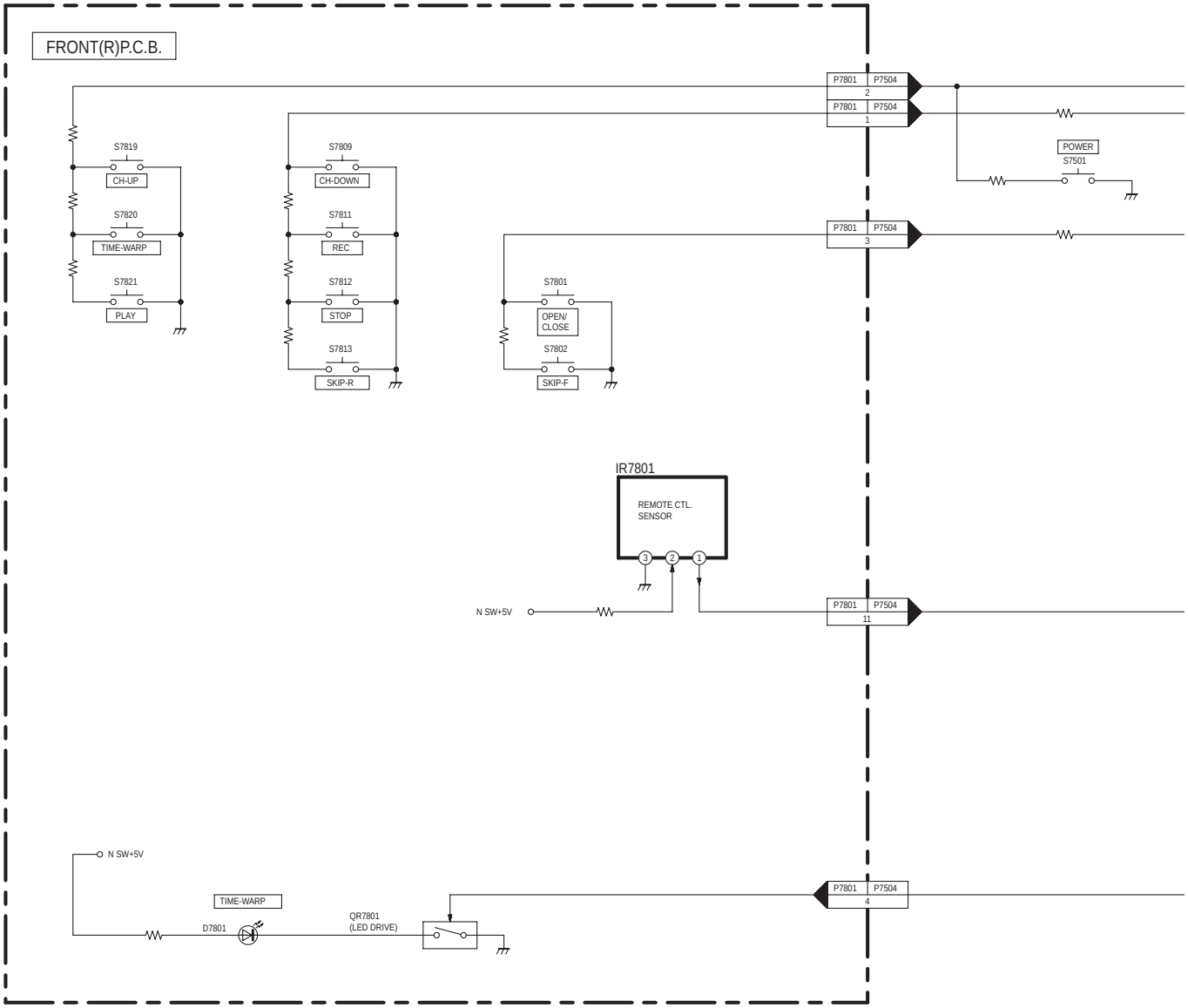

FROM TIMER SEC.
(IC7501- 20)
XTMUTE
QR4001,4004
SWITCH
FROM
DIGITAL P.C.B.
AUDIO I/O
SECTION
P9001
P7402
70
XDMUTE
QR4002,4003
SWITCH
Q4001
MUTE

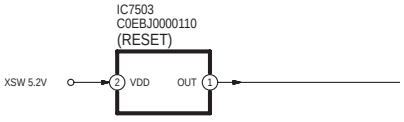

FROM
DIGITAL BLOCK
SECTION
P9001
P7402
62
MIXLOUT DM
58
MIXROUT DM
72
IECOUT

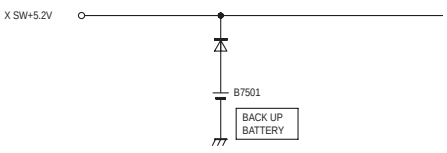


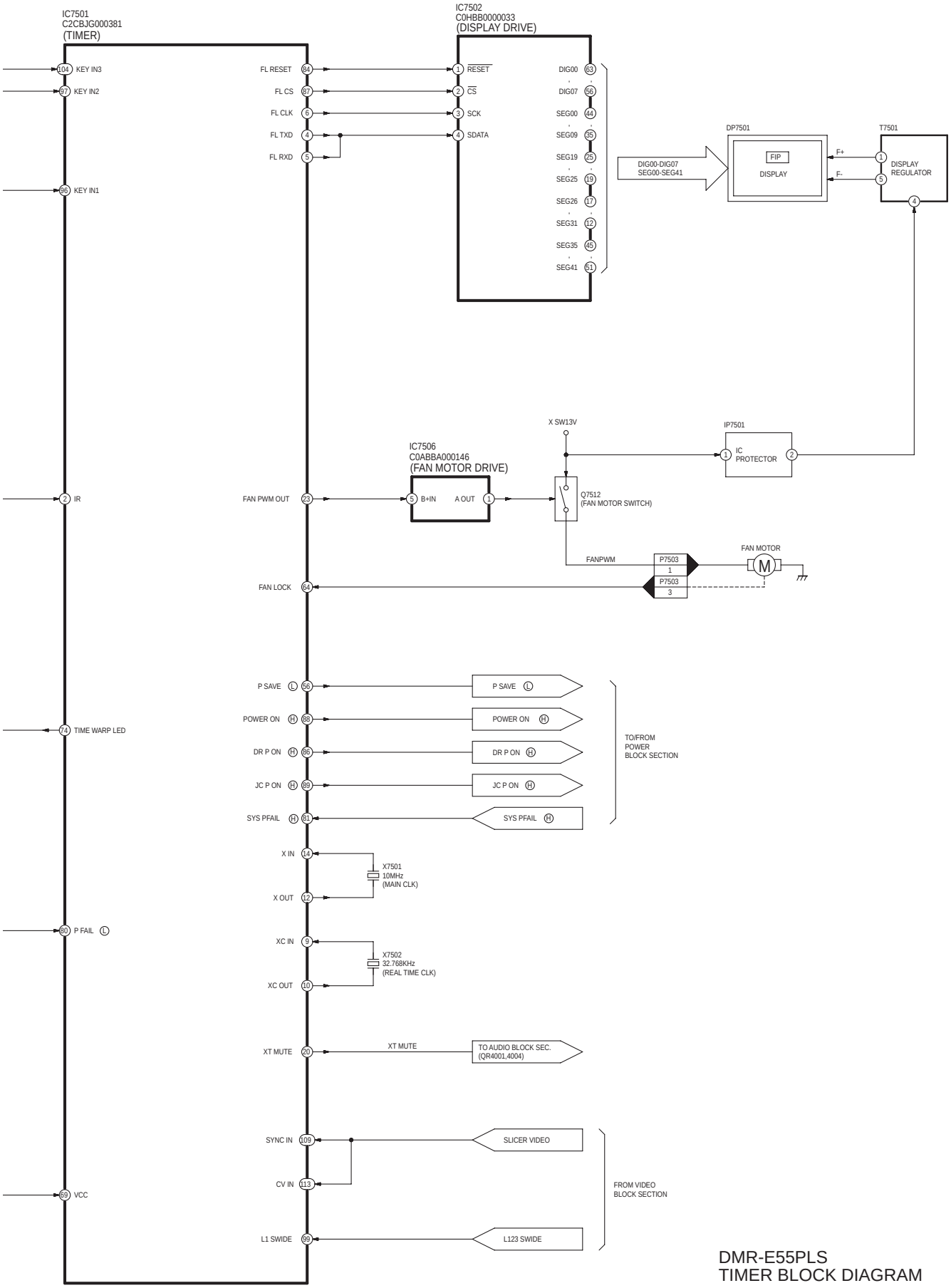


DMR-E55PLS
ANALOG AUDIO
BLOCK DIAGRAM

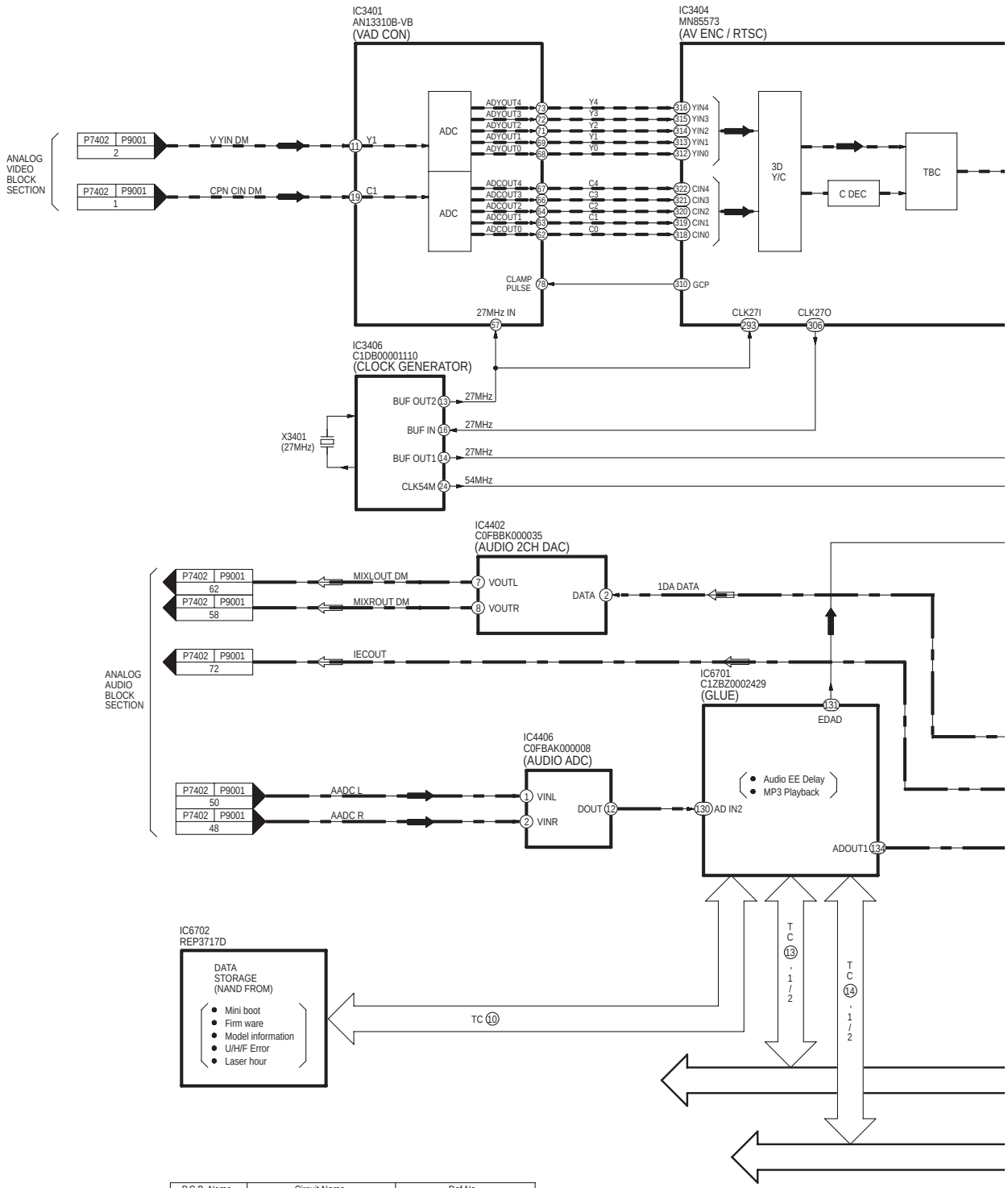

FRONT(R)P.C.B.
P7801 P7504 2
P7801 P7504 1
P7801 P7504 3
P7801 P7504 11
P7801 P7504 4
S7819
CH-UP
S7820
TIME-WARP
S7821
PLAY
S7809
CH-DOWN
S7811
REC
S7812
STOP
S7813
SKIP-R
S7801
OPEN/ CLOSE
S7802
SKIP-F
POWER
S7501
IR7801
REMOTE CTL. SENSOR
3
2
1
N SW+5V
N SW+5V
TIME-WARP
D7801
QR7801 (LED DRIVE)


IC7503
C0EBJ0000110
(RESET)
XSW 5.2V
2
VDD
OUT
1

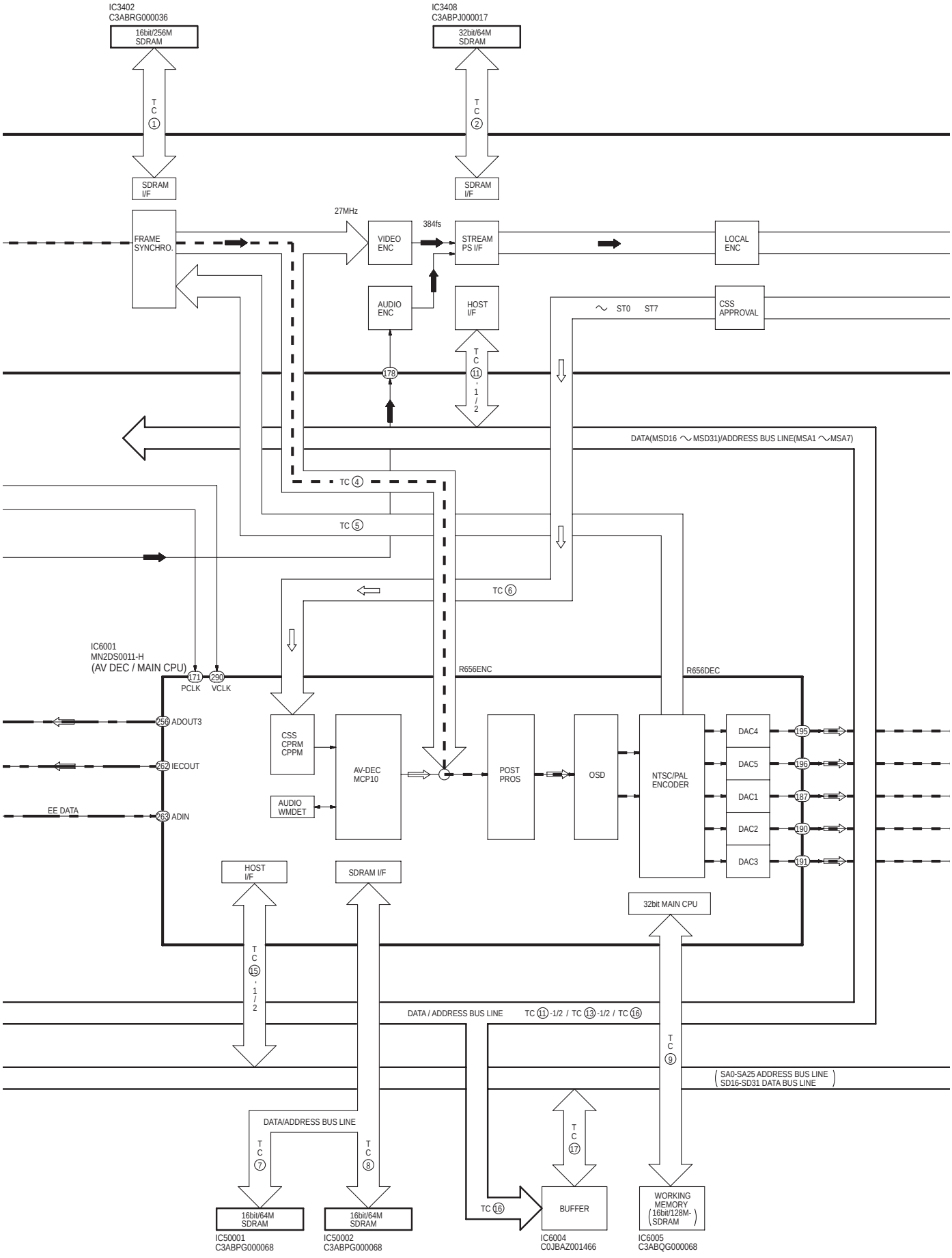

X SW+5.2V
B7501
BACK UP BATTERY

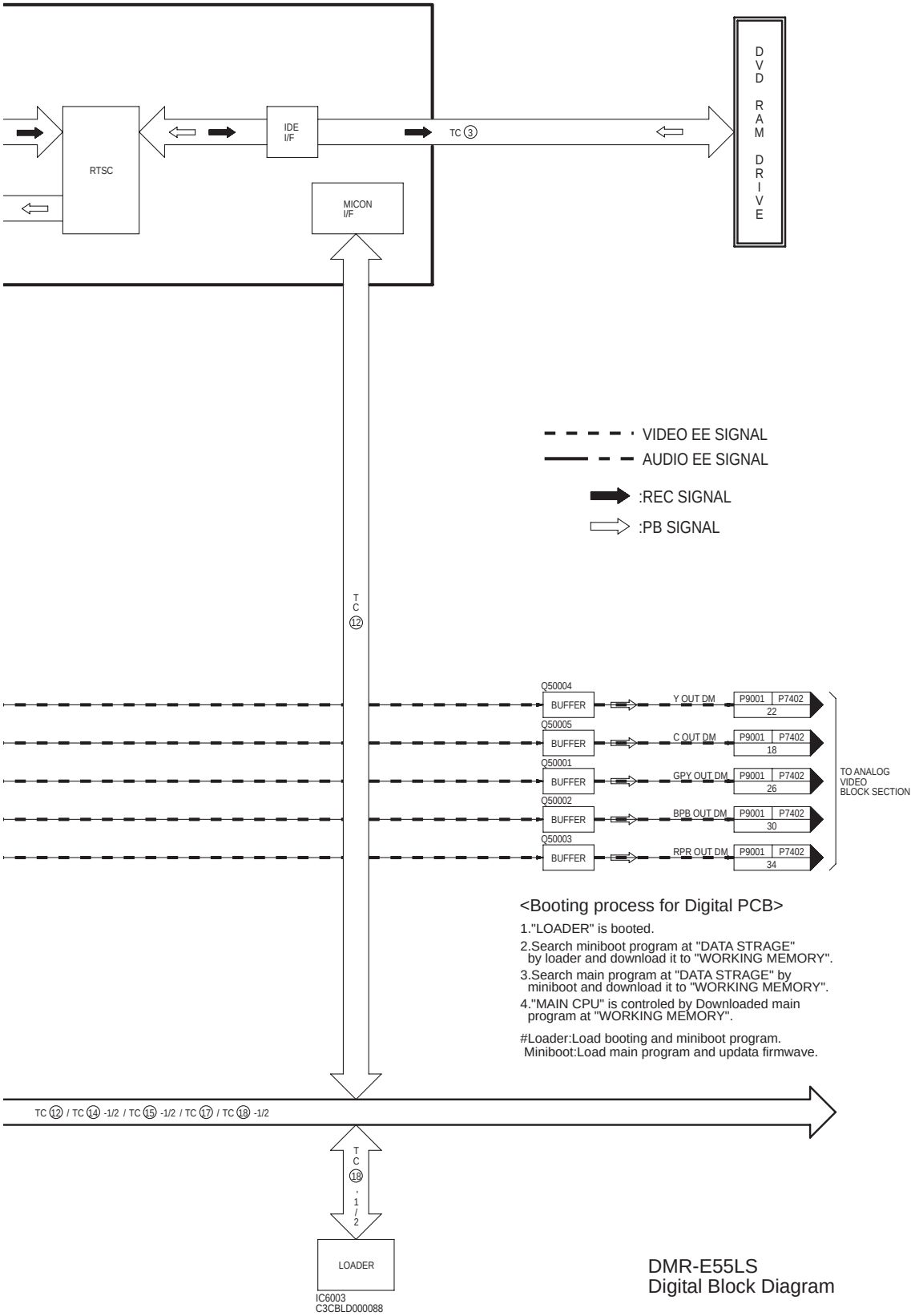


DMR-E55PLS
TIMER BLOCK DIAGRAM



P.C.B. Name	Circuit Name	Ref.No.
Digital P.C.B.	Glue Net	Ref.No.6700,9000 SERIES
	Main P.C.B.connect circuit	P9001
	AV ENC / RTSC	Ref.No.3400 SERIES
	AVDEC / MAIN CPU	Ref.No.6000,50000 SERIES
	Audio I/O	Ref.No.4400 SERIES
Main P.C.B.	Sub Power Supply	Ref.No.1500 SERIES
	Main Net	Ref.No.7400 SERIES
	Digital P.C.B.connect circuit	P7402
	Video I/O	Ref.No.3000,3900,4900 SERIES
	Audio Main	Ref.No.4000 SERIES
	Timer	Ref.No.7500,7600 SERIES


IC3402
C3ABRG000036
16bit/256M SDRAM
IC3408
C3ABPJ000017
32bit/64M SDRAM
TC 1
TC 2
SDRAM I/F
SDRAM I/F
27MHz
384fs
FRAME SYNCHRO.
VIDEO ENC
STREAM PS I/F
LOCAL ENC
AUDIO ENC
HOST I/F
ST0 ST7
CSS APPROVAL
178
TC 11 - 1/2
DATA(MSD16 ~ MSD31)/ADDRESS BUS LINE(MSA1 ~ MSA7)
TC 4
TC 5
TC 6
IC6001
MN2DS0011-H
(AV DEC / MAIN CPU)
171 PCLK
290 VCLK
R656ENC
R656DEC
256 ADOUT3
262 IECOUT
EE DATA
263 ADIN
CSS CPRM CPPM
AUDIO WMDET
AV-DEC MCP10
POST PROS
OSD
NTSC/PAL ENCODER
DAC4
DAC5
DAC1
DAC2
DAC3
195
196
187
190
191
HOST I/F
SDRAM I/F
32bit MAIN CPU
TC 15 - 1/2
DATA / ADDRESS BUS LINE
TC 11 -1/2 / TC 13 -1/2 / TC 16
TC 9
SA0-SA25 ADDRESS BUS LINE
SD16-SD31 DATA BUS LINE
DATA/ADDRESS BUS LINE
TC 17
TC 7
TC 8
TC 16
16bit/64M SDRAM
16bit/64M SDRAM
BUFFER
WORKING MEMORY (16bit/128M-SDRAM)
IC50001
C3ABPG000068
IC50002
C3ABPG000068
IC6004
C0JBAZ001466
IC6005
C3ABQG000068



<Booting process for Digital PCB>

1."LOADER" is booted.
2.Search miniboot program at "DATA STRAGE" by loader and download it to "WORKING MEMORY".
3.Search main program at "DATA STRAGE" by miniboot and download it to "WORKING MEMORY".
4."MAIN CPU" is controled by Downloaded main program at "WORKING MEMORY".

#Loader:Load booting and miniboot program.
Miniboot:Load main program and updata firmwave.

DMR-E55LS
Digital Block Diagram

18.1. Digital Block IC Pin Terminal Chart (TC1-18)

IC Pin Terminal Chart (TC 1 - TC 6)

TC	IC3404 / AVENC&RTSC		SIGNAL NAME	IC3402 / SDRAM	
	Port Name	Pin No		Pin No	Port Name
1	ARDQ0	334	MADQB0	2	DQ0
	ARDQ1	335	MADQB1	4	DQ1
	ARDQ2	336	MADQB2	5	DQ2
	ARDQ3	2	MADQB3	7	DQ3
	ARDQ4	4	MADQB4	8	DQ4
	ARDQ5	5	MADQB5	10	DQ5
	ARDQ6	7	MADQB6	11	DQ6
	ARDQ7	9	MADQB7	13	DQ7
	ARDQ8	16	MADQB8	42	DQ8
	ARDQ9	17	MADQB9	44	DQ9
	ARDQ10	19	MADQB10	45	DQ10
	ARDQ11	20	MADQB11	47	DQ11
	ARDQ12	22	MADQB12	48	DQ12
	ARDQ13	23	MADQB13	50	DQ13
	ARDQ14	25	MADQB14	51	DQ14
	ARDQ15	26	MADQB15	53	DQ15
	ARA0	28	MAB0	23	A0
	ARA1	29	MAB1	24	A1
	ARA2	31	MAB2	25	A2
	ARA3	32	MAB3	26	A3
	ARA4	34	MAB4	29	A4
	ARA5	35	MAB5	30	A5
	ARA6	37	MAB6	31	A6
	ARA7	38	MAB7	32	A7
	ARA8	41	MAB8	33	A8
	ARA9	42	MAB9	34	A9
	ARA10	44	MAB10	35	A10
	ARA11	45	MAB11	22	A11
	ARA12	47	MAB12	36	A12

TC	IC3404 / AV ENC&RTSC		SIGNAL NAME	IC3408 / SDRAM	
	Port Name	Pin No		Pin No	Port Name
2	MDQ0	88	MDQA0	2	DQ0
	MDQ1	89	MDQA1	4	DQ1
	MDQ2	91	MDQA2	5	DQ2
	MDQ3	92	MDQA3	7	DQ3
	MDQ4	93	MDQA4	8	DQ4
	MDQ5	95	MDQA5	10	DQ5
	MDQ6	96	MDQA6	11	DQ6
	MDQ7	97	MDQA7	13	DQ7
	MDQ8	99	MDQA8	74	DQ8
	MDQ9	100	MDQA9	76	DQ9
	MDQ10	101	MDQA10	77	DQ10
	MDQ11	103	MDQA11	79	DQ11
	MDQ12	104	MDQA12	80	DQ12
	MDQ13	105	MDQA13	82	DQ13
	MDQ14	108	MDQA14	83	DQ14
	MDQ15	109	MDQA15	85	DQ15
	MDQ16	115	MDQA16	31	DQ16
	MDQ17	116	MDQA17	33	DQ17
	MDQ18	118	MDQA18	34	DQ18
	MDQ19	119	MDQA19	36	DQ19
	MDQ20	120	MDQA20	37	DQ20
	MDQ21	122	MDQA21	39	DQ21
	MDQ22	123	MDQA22	40	DQ22
	MDQ23	124	MDQA23	42	DQ23
	MDQ24	127	MDQA24	45	DQ24
	MDQ25	128	MDQA25	47	DQ25
	MDQ26	129	MDQA26	48	DQ26
	MDQ27	131	MDQA27	50	DQ27
	MDQ28	132	MDQA28	51	DQ28
	MDQ29	133	MDQA29	53	DQ29
	MDQ30	135	MDQA30	54	DQ30
	MDQ31	136	MDQA31	56	DQ31
	MA0	147	MAA0	25	A0
	MA1	148	MAA1	26	A1
	MA2	149	MAA2	27	A2
	MA3	152	MAA3	60	A3
	MA4	153	MAA4	61	A4
	MA5	154	MAA5	62	A5
	MA6	156	MAA6	63	A6
	MA7	157	MAA7	64	A7
	MA8	158	MAA8	65	A8
	MA9	160	MAA9	66	A9
	MA10	161	MAA10	24	A10

TC	IC3404 / AVENC&RTSC		SIGNAL NAME	FP3401 (DVD RAM)	
	Port Name	Pin No		Pin No	Port Name
3	S1DB0	258	RAMD0	24	DD0
	S1DB1	259	RAMD1	26	DD1
	S1DB2	260	RAMD2	28	DD2
	S1DB3	261	RAMD3	30	DD3
	S1DB4	263	RAMD4	32	DD4
	S1DB5	264	RAMD5	34	DD5
	S1DB6	265	RAMD6	36	DD6
	S1DB7	266	RAMD7	38	DD7
	S1DB8	268	RAMD8	37	DD8
	S1DB9	269	RAMD9	35	DD9
	S1DB10	271	RAMD10	33	DD10
	S1DB11	272	RAMD11	31	DD11
	S1DB12	274	RAMD12	29	DD12
	S1DB13	275	RAMD13	27	DD13
	S1DB14	276	RAMD14	25	DD14
	S1DB15	277	RAMD15	23	DD15

TC	IC3404 / AVENC&RTSC		SIGNAL NAME	IC6001 / AV DEC&MAIN CPU	
	Port Name	Pin No		Pin No	Port Name
4	R656OUT0	296	R656ENC0	278	VDIN0
	R656OUT1	297	R656ENC1	277	VDIN1
	R656OUT2	298	R656ENC2	272	VDIN2
	R656OUT3	299	R656ENC3	271	VDIN3
	R656OUT4	301	R656ENC4	270	VDIN4
	R656OUT5	302	R656ENC5	269	VDIN5
	R656OUT6	303	R656ENC6	268	VDIN6
	R656OUT7	304	R656ENC7	266	VDIN7

TC	IC6001/AV DEC&MAIN CPU		SIGNAL NAME	IC3404 / AVENC&RTSC	
	Port Name	Pin No		Pin No	Port Name
5	VDOUT0	289	R656DEC0	283	R656IN0
	VDOUT1	288	R656DEC1	284	R656IN1
	VDOUT2	286	R656DEC2	285	R656IN2
	VDOUT3	285	R656DEC3	286	R656IN3
	VDOUT4	284	R656DEC4	288	R656IN4
	VDOUT5	283	R656DEC5	289	R656IN5
	VDOUT6	282	R656DEC6	290	R656IN6
	VDOUT7	281	R656DEC7	291	R656IN7

TC	IC3404 / AVENC&RTSC		SIGNAL NAME	IC6001/AV DEC&MAIN CPU	
	Port Name	Pin No		Pin No	Port Name
6	STD0	229	STD0	251	STD0
	STD1	230	STD1	250	STD1
	STD2	231	STD2	249	STD2
	STD3	233	STD3	248	STD3
	STD4	234	STD4	247	STD4
	STD5	235	STD5	245	STD5
	STD6	238	STD6	244	STD6
	STD7	239	STD7	243	STD7

IC Pin Terminal Chart (TC7 - TC10)

TC	IC6001 / AV DEC&MAIN CPU		SIGNAL NAME	IC50001 / SDRAM	
	Port Name	Pin No		Pin No	Port Name
7	MDQM0	343	DQ0	2	DQ0
	MDQM1	346	DQ1	4	DQ1
	MDQM2	348	DQ2	5	DQ2
	MDQM3	350	DQ3	7	DQ3
	MDQM4	353	DQ4	8	DQ4
	MDQM5	355	DQ5	10	DQ5
	MDQM6	358	DQ6	11	DQ6
	MDQM7	360	DQ7	13	DQ7
	MDQM8	359	DQ8	42	DQ8
	MDQM9	356	DQ9	44	DQ9
	MDQM10	354	DQ10	45	DQ10
	MDQM11	352	DQ11	47	DQ11
	MDQM12	349	DQ12	48	DQ12
	MDQM13	347	DQ13	50	DQ13
	MDQM14	344	DQ14	51	DQ14
	MDQM15	342	DQ15	53	DQ15
	MAM0	317	A0	23	A0
	MAM1	320	A1	24	A1
	MAM2	322	A2	25	A2
	MAM3	328	A3	26	A3
	MAM4	330	A4	29	A4
	MAM5	332	A5	30	A5
	MAM6	331	A6	31	A6
	MAM7	329	A7	32	A7
	MAM8	323	A8	33	A8
	MAM9	321	A9	34	A9
	MAM10	318	A10	22	A10
	MAM11	316	A11	35	A11

TC	IC6001 / AV DEC&MAIN CPU		SIGNAL NAME	IC50002 / SDRAM	
	Port Name	Pin No		Pin No	Port Name
8	MDQM16	292	DQ16	2	DQ0
	MDQM17	295	DQ17	4	DQ1
	MDQM18	297	DQ18	5	DQ2
	MDQM19	299	DQ19	7	DQ3
	MDQM20	302	DQ20	8	DQ4
	MDQM21	304	DQ21	10	DQ5
	MDQM22	308	DQ22	11	DQ6
	MDQM23	310	DQ23	13	DQ7
	MDQM24	309	DQ24	42	DQ8
	MDQM25	305	DQ25	44	DQ9
	MDQM26	303	DQ26	45	DQ10
	MDQM27	301	DQ27	47	DQ11
	MDQM28	298	DQ28	48	DQ12
	MDQM29	296	DQ29	50	DQ13
	MDQM30	293	DQ30	51	DQ14
	MDQM31	291	DQ31	53	DQ15
	MAM0	317	A0	23	A0
	MAM1	320	A1	24	A1
	MAM2	322	A2	25	A2
	MAM3	328	A3	26	A3
	MAM4	330	A4	29	A4
	MAM5	332	A5	30	A5
	MAM6	331	A6	31	A6
	MAM7	329	A7	32	A7
	MAM8	323	A8	33	A8
	MAM9	321	A9	34	A9
	MAM10	318	A10	22	A10
	MAM11	316	A11	35	A11

TC	IC6001 / AV DEC&MAIN CPU		SIGNAL NAME	IC6005 / W-MEMORY	
	Port Name	Pin No		Pin No	Port Name
9	MD0	118	MD0	2	DQ0
	MD1	121	MD1	4	DQ1
	MD2	123	MD2	5	DQ2
	MD3	125	MD3	7	DQ3
	MD4	128	MD4	8	DQ4
	MD5	130	MD5	10	DQ5
	MD6	133	MD6	11	DQ6
	MD7	135	MD7	13	DQ7
	MD8	134	MD8	42	DQ8
	MD9	131	MD9	44	DQ9
	MD10	129	MD10	45	DQ10
	MD11	127	MD11	47	DQ11
	MD12	124	MD12	48	DQ12
	MD13	122	MD13	50	DQ13
	MD14	119	MD14	51	DQ14
	MD15	117	MD15	53	DQ15
	MA0	160	MA0	23	A0
	MA1	163	MA1	24	A1
	MA2	165	MA2	25	A2
	MA3	167	MA3	26	A3
	MA4	166	MA4	29	A4
	MA5	164	MA5	30	A5
	MA6	161	MA6	31	A6
	MA7	159	MA7	32	A7
	MA8	156	MA8	33	A8
	MA9	153	MA9	34	A9
	MA10	157	MA10	22	A10
	MA11	151	MA11	35	A11
	MA12	147	MA12	36	NC
	MA13	154	MA13	21	A12
	MA14	152	MA14	20	A13

TC	IC6701 / GLUE		SIGNAL NAME	IC6702 / DATA STRAGE	
	Port Name	Pin No		Pin No	Port Name
10	ECCD0	109	DE0	18	D0
	ECCD1	110	DE1	19	D1
	ECCD2	111	DE2	20	D2
	ECCD3	112	DE3	21	D3
	ECCD4	113	DE4	24	D4
	ECCD5	114	DE5	25	D5
	ECCD6	115	DE6	26	D6
	ECCD7	116	DE7	27	D7

SA0 - SA25 ADDRESS BUS LINE (TC12, TC14-1, TC15-1)

TC	12		14-1		15-1	
SIGNAL NAME	**IC3404 / AVENC&RTSC**		**IC6701 / GLUE**		**IC6001 / AVDEC&MAIN CPU**	
	Pin No	Port Name	Pin No	Port Name	Pin No	Port Name
SA0	-	-	-	-	28	SA0
SA1	-	-	-	-	27	SA1
SA2	-	-	-	-	26	SA2
SA3	-	-	-	-	25	SA3
SA4	-	-	-	-	24	SA4
SA5	186	HA4	6	ADRL5	22	SA5
SA6	187	HA5	5	ADRL6	20	SA6
SA7	188	HA6	4	ADRL7	19	SA7
SA8	189	HA7	-	-	18	SA8
SA9	191	HA8	-	-	17	SA9
SA10	192	HA9	-	-	16	SA10
SA11	194	HA10	-	-	15	SA11
SA12	195	HA11	-	-	14	SA12
SA13	-	-	-	-	12	SA13
SA14	-	-	-	-	11	SA14
SA15	-	-	-	-	10	SA15
SA16	-	-	-	-	9	SA16
SA17	-	-	-	-	8	SA17
SA18	-	-	-	-	7	SA18
SA19	-	-	-	-	6	SA19
SA20	-	-	-	-	3	SA20
SA21	-	-	-	-	2	SA21
SA22	-	-	12	ADR22	1	SA22
SA23	-	-	13	ADRH0	363	SA23
SA24	-	-	14	ADRH1	362	SA24
SA25	-	-	15	ADRH2	361	SA25

MSD16 - MSD31 DATA BUS LINE (TC11-1, TC13-1)

TC	11-1		13-1	
SIGNAL NAME	**IC3404 / AVENC&RTSC**		**IC6701 / GLUE**	
	Pin No	Port Name	Pin No	Port Name
MSD16	203	HD0	74	LDEV0
MSD17	204	HD1	73	LDEV1
MSD18	206	HD2	72	LDEV2
MSD19	207	HD3	71	LDEV3
MSD20	209	HD4	69	LDEV4
MSD21	210	HD5	68	LDEV5
MSD22	212	HD6	67	LDEV6
MSD23	213	HD7	64	LDEV7
MSD24	215	HD8	63	LDEV8
MSD25	216	HD9	61	LDEV9
MSD26	217	HD10	60	LDEV10
MSD27	218	HD11	59	LDEV11
MSD28	220	HD12	56	LDEV12
MSD29	221	HD13	54	LDEV13
MSD30	223	HD14	53	LDEV14
MSD31	224	HD15	52	LDEV15

MSA1 - MSA4 ADDRESS BUS LINE (TC11, TC13-2, TC16)

TC	11		13-2		16	
SIGNAL NAME	**IC3404/AVENC&RTSC**		**IC6701/GLUE**		**IC6004/BUFFER**	
	Pin No	Port Name	Pin No	Port Name	Pin No	Port Name
MSA1	107	HA0	10	ADRL1	18	1Y1
MSA2	106	HA1	9	ADRL2	16	1Y2
MSA3	105	HA2	8	ADRL3	14	1Y3
MSA4	104	HA3	7	ADRL4	12	1Y4

SA0 - SA25 ADDRESS BUS LINE (TC17, TC18-1)

TC	17		18-1	
SIGNAL NAME	**IC6004 / BUFFER**		**IC6003 / LOADER**	
	Pin No	Port Name	Pin No	Port Name
SA0	-	-	-	-
SA1	2	1A1	25	A0
SA2	4	1A2	24	A1
SA3	6	1A3	23	A2
SA4	8	1A4	22	A3
SA5	-	-	21	A4
SA6	-	-	20	A5
SA7	-	-	19	A6
SA8	-	-	18	A7
SA9	-	-	8	A8
SA10	-	-	7	A9
SA11	-	-	6	A10
SA12	-	-	5	A11
SA13	-	-	4	A12
SA14	-	-	3	A13
SA15	-	-	2	A14
SA16	-	-	1	A15
SA17	-	-	48	A16
SA18	-	-	17	A17
SA19	-	-	16	A18
SA20	-	-	-	-
SA21	-	-	-	-
SA22	-	-	-	-
SA23	-	-	-	-
SA24	-	-	-	-
SA25	-	-	-	-

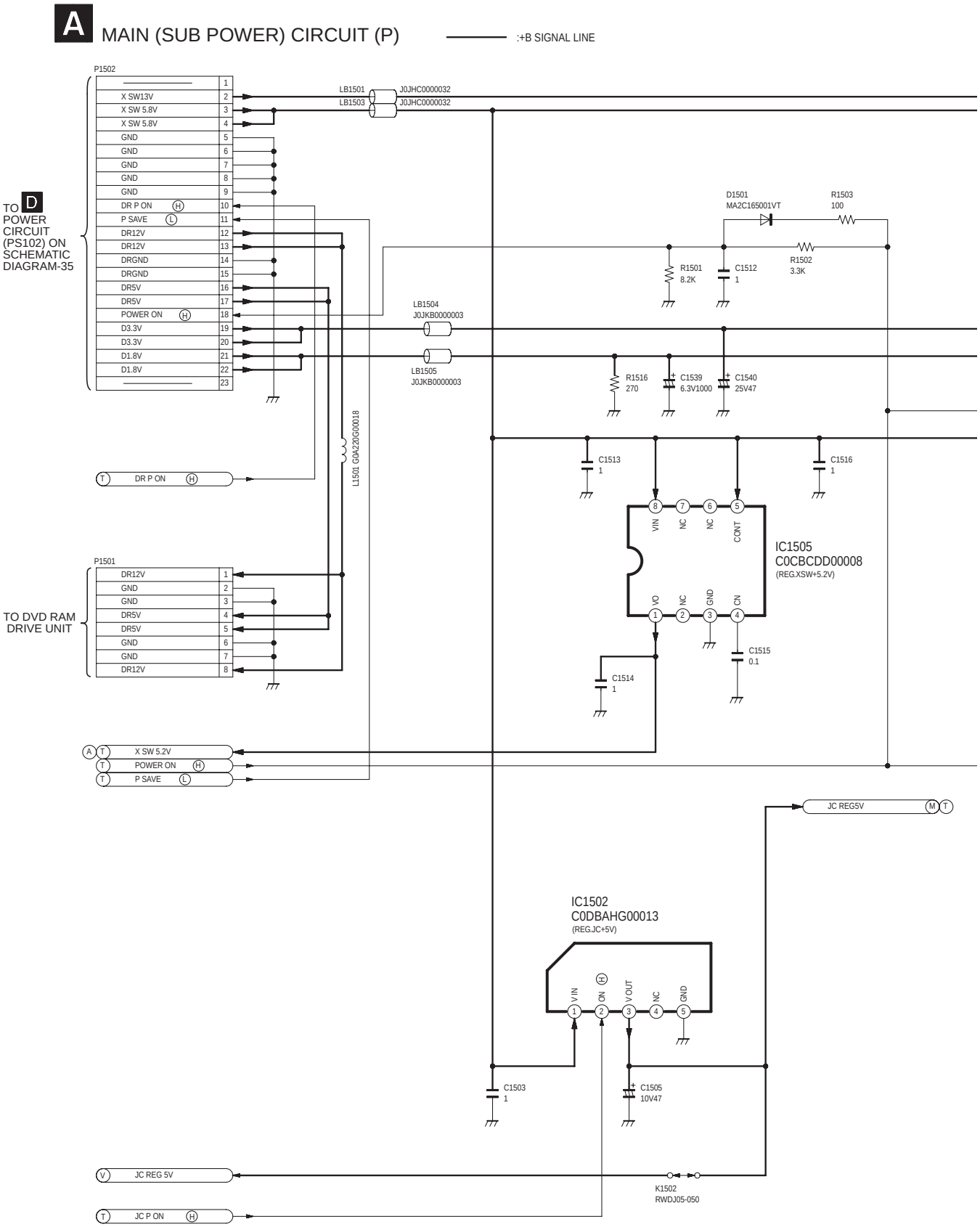
SD16 - SD31 DATA BUS LINE (TC14-2, TC15-2, TC18-2)

TC	14-2		15-2		18-2	
SIGNAL NAME	**IC6701 / GLUE**		**IC6001 / AVDEC&MAIN CPU**		**IC6003 / LOADER**	
	Pin No	Port Name	Pin No	Port Name	Pin No	Port Name
SD16	50	LDTI0	67	SD16	29	I/O0
SD17	49	LDTI1	66	SD17	31	I/O1
SD18	47	LDTI2	65	SD18	33	I/O2
SD19	45	LDTI3	64	SD19	35	I/O3
SD20	43	LDTI4	63	SD20	38	I/O4
SD21	42	LDTI5	62	SD21	40	I/O5
SD22	40	LDTI6	61	SD22	42	I/O6
SD23	36	LDTI7	59	SD23	44	I/O7
SD24	35	LDTI8	58	SD24	30	I/O8
SD25	34	LDTI9	57	SD25	32	I/O9
SD26	33	LDTI10	56	SD26	34	I/O10
SD27	31	LDTI11	55	SD27	36	I/O11
SD28	29	LDTI12	54	SD28	39	I/O12
SD29	28	LDTI13	53	SD29	41	I/O13
SD30	27	LDTI14	51	SD30	43	I/O14
SD31	26	LDTI15	50	SD31	45	I/O15

19 Schematic Diagram

19.1. MAIN (SUB POWER) CIRCUIT (P)

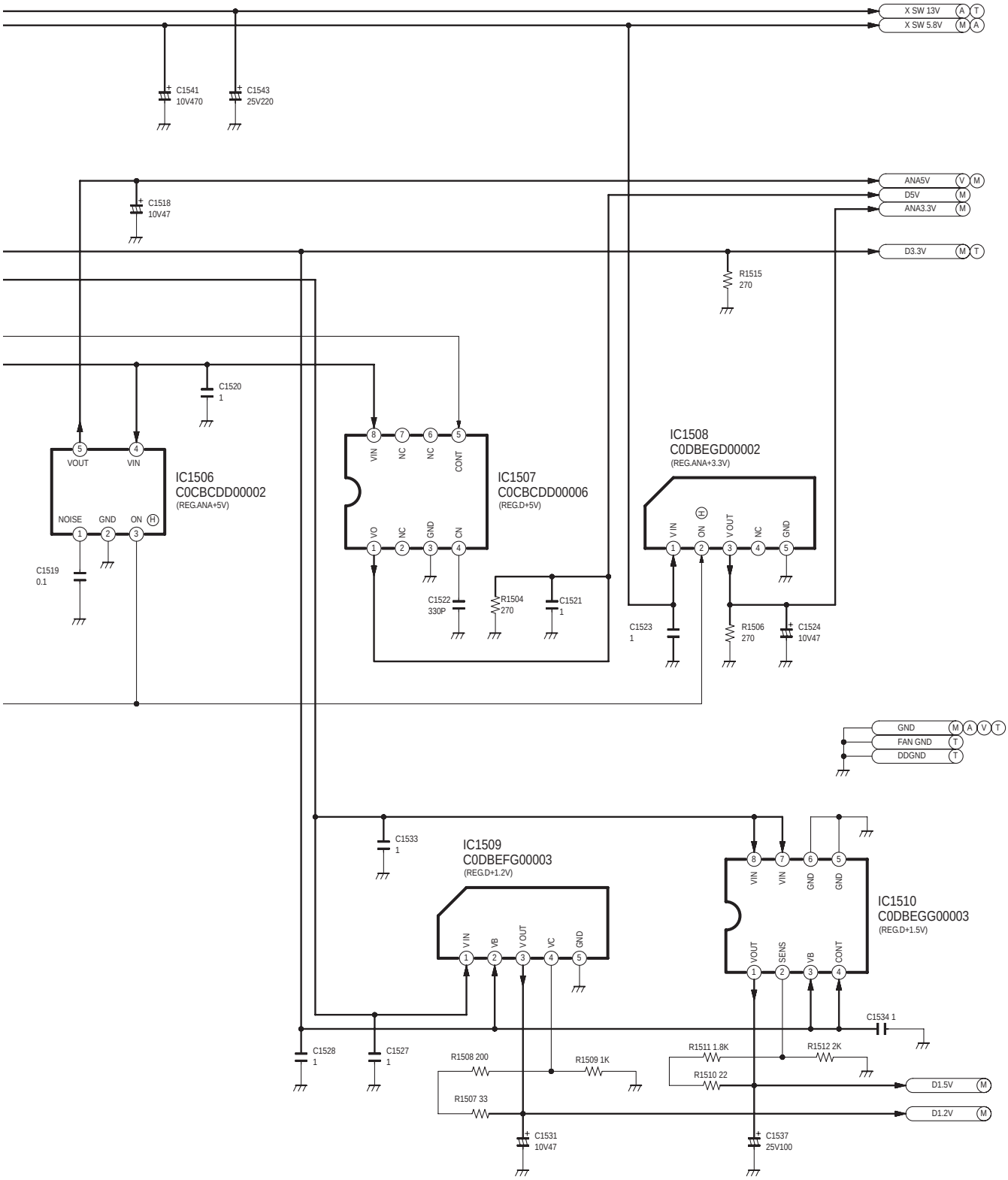
SCHEMATIC DIAGRAM - 1



SCHEMATIC DIAGRAM - 2

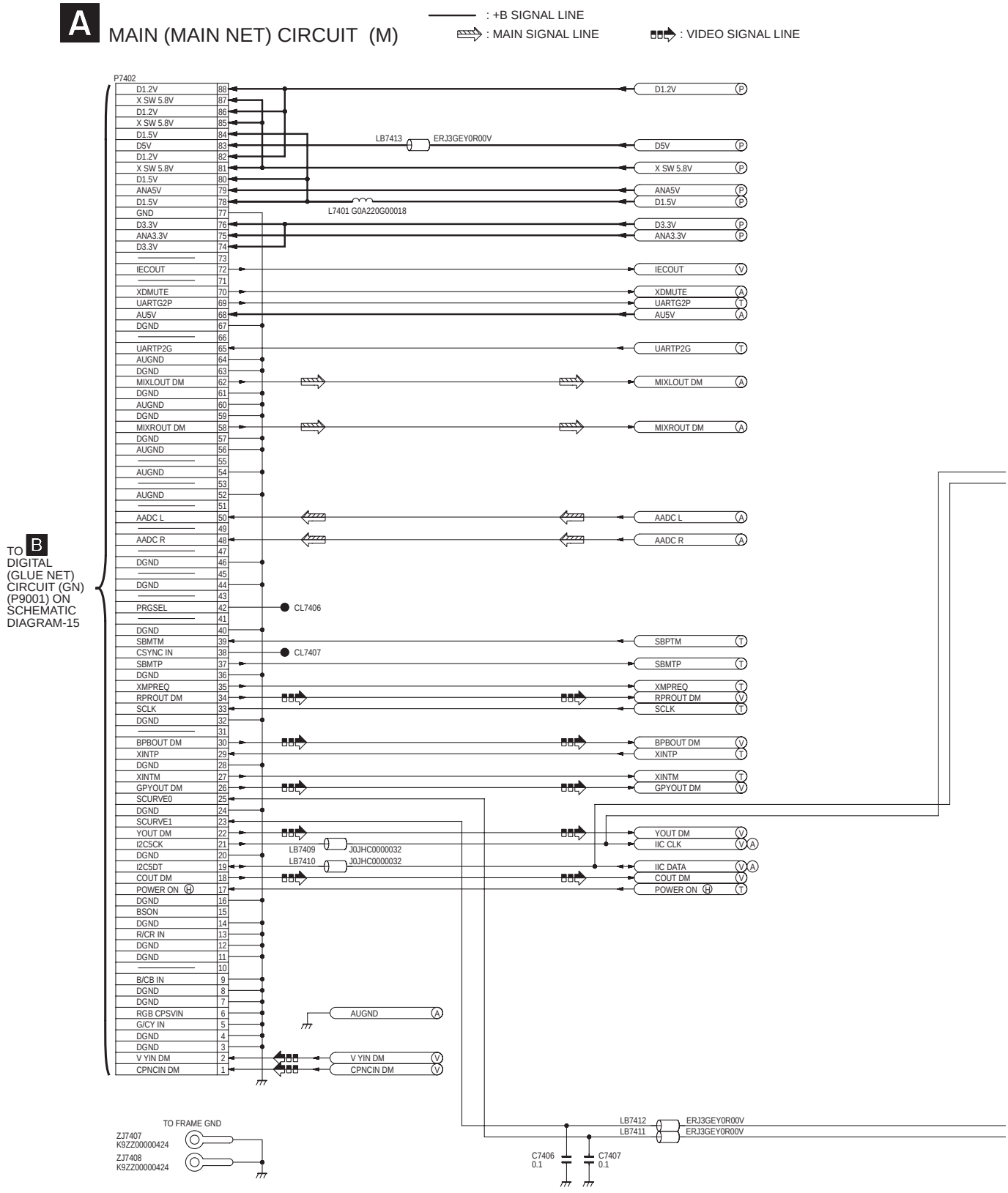
A MAIN (SUB POWER) CIRCUIT (P)

:+B SIGNAL LINE



19.2. MAIN (MAIN NET) CIRCUIT (M)

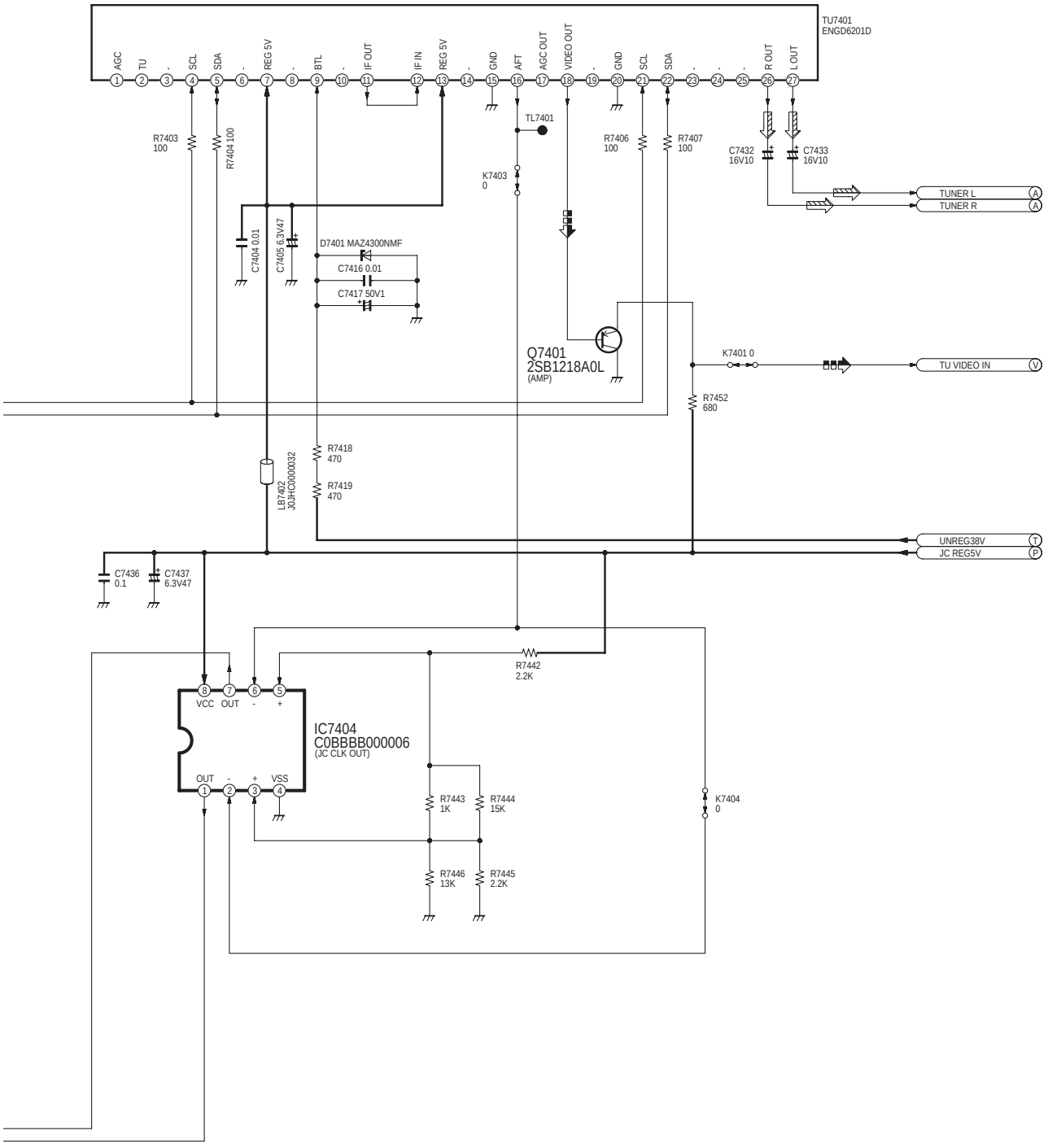
SCHEMATIC DIAGRAM - 3



SCHEMATIC DIAGRAM - 4

A MAIN (MAIN NET) CIRCUIT (M)

: +B SIGNAL LINE
: MAIN SIGNAL LINE
: VIDEO SIGNAL LINE

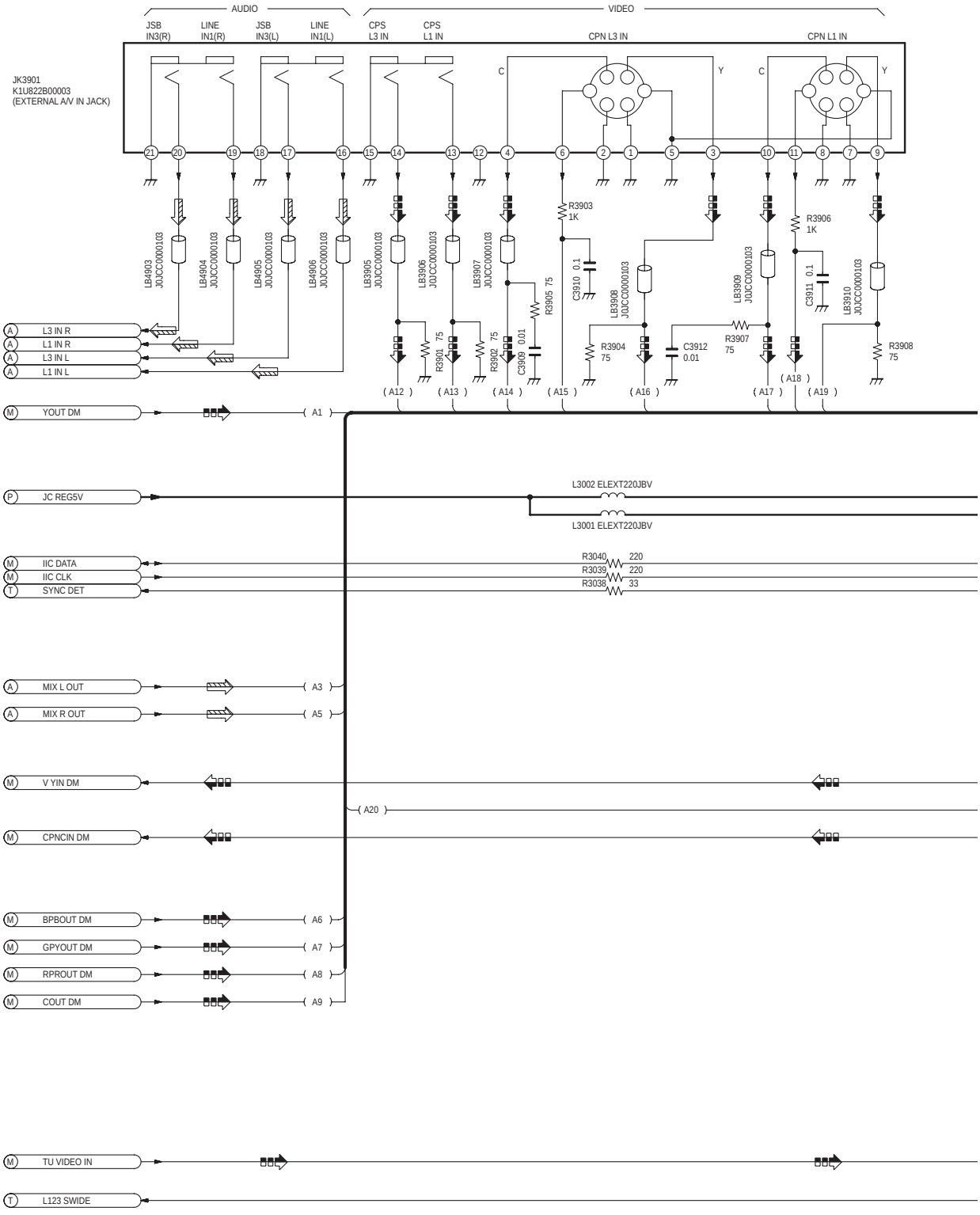


19.3. MAIN (VIDEO I/O) CIRCUIT (V)

SCHEMATIC DIAGRAM - 5

A MAIN (VIDEO I/O) CIRCUIT (V)

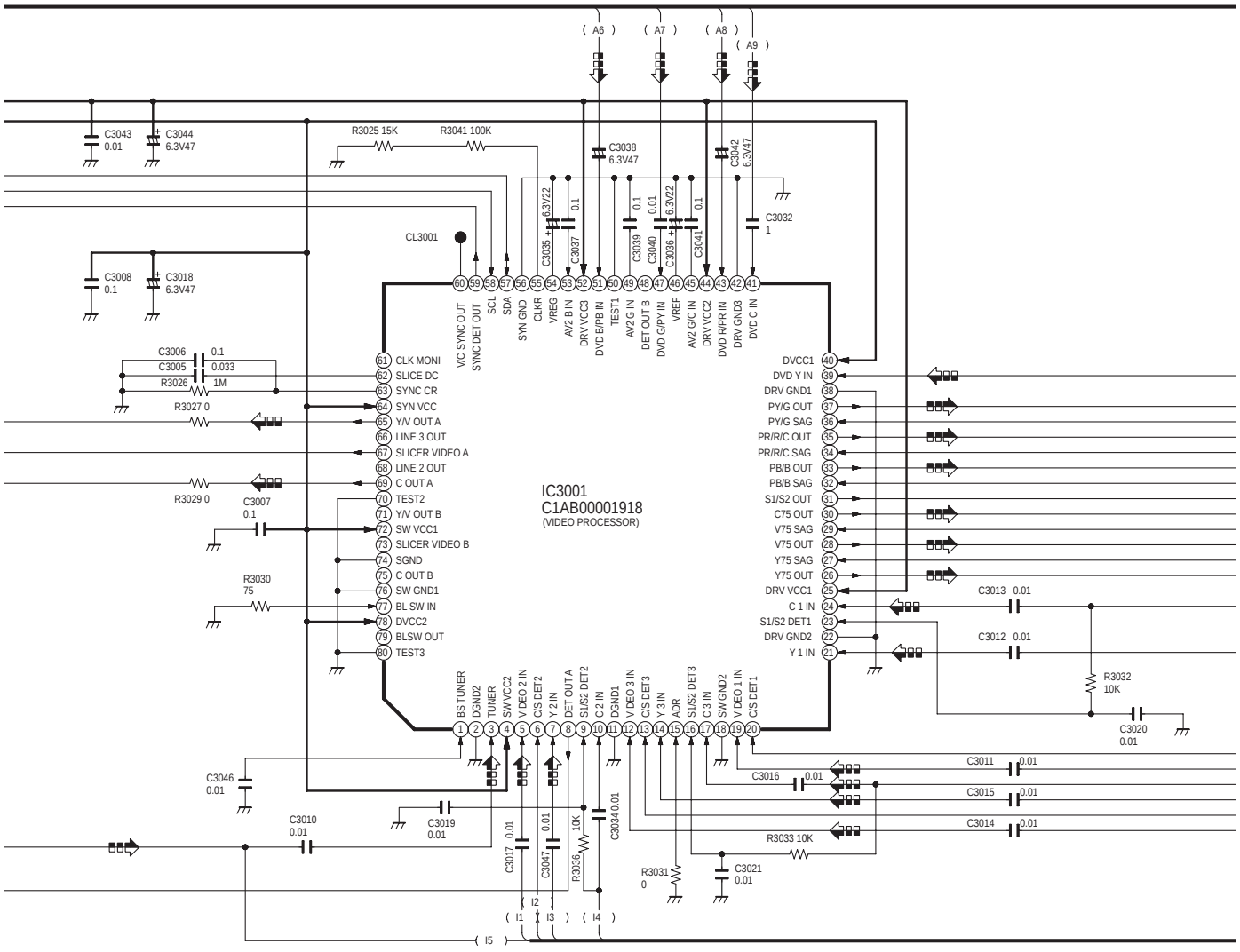
: +B SIGNAL LINE
: MAIN SIGNAL LINE
: VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM - 6

A MAIN (VIDEO I/O) CIRCUIT (V)

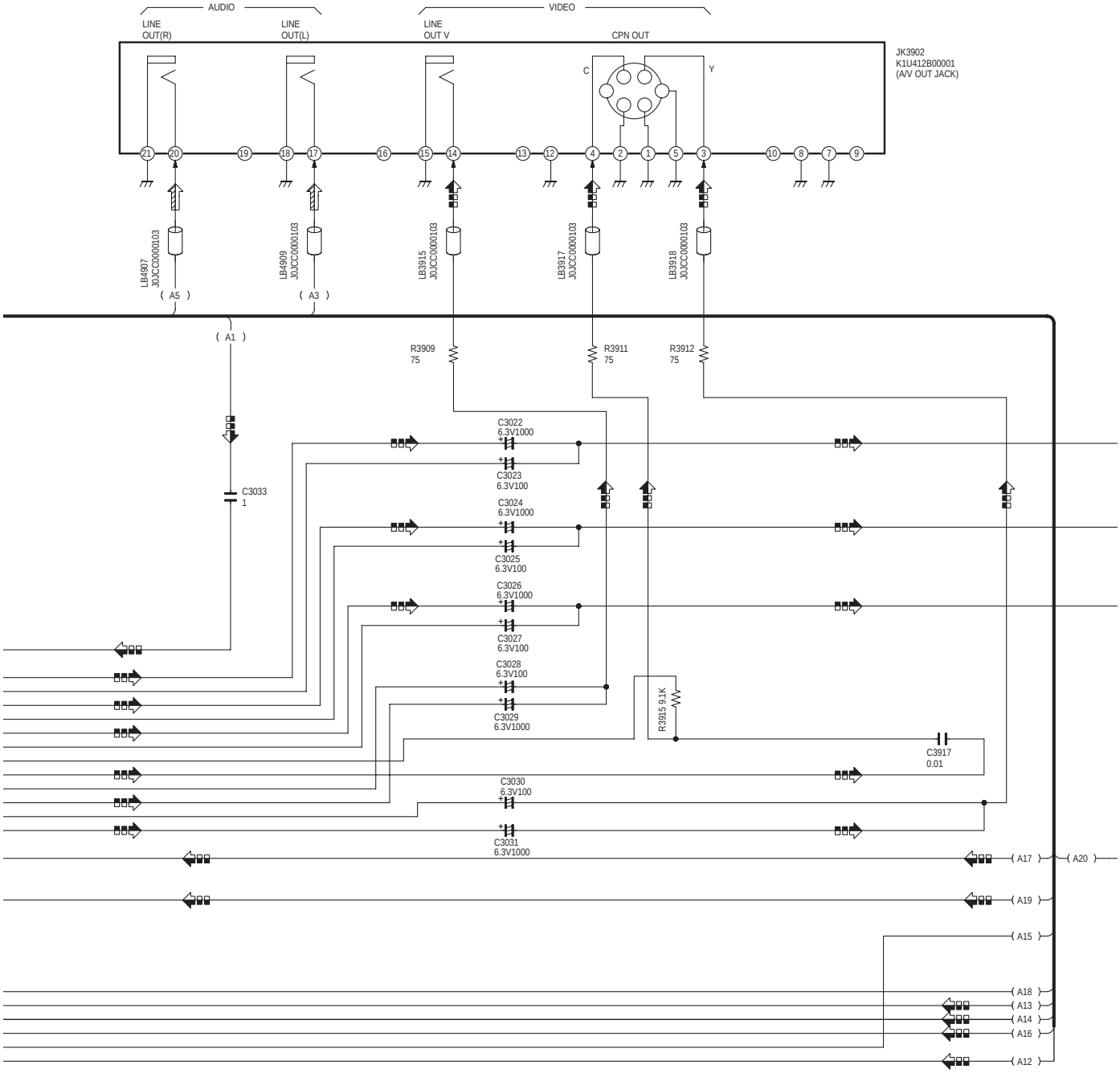
: +B SIGNAL LINE
: VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM - 7

A MAIN (VIDEO I/O) CIRCUIT (V)

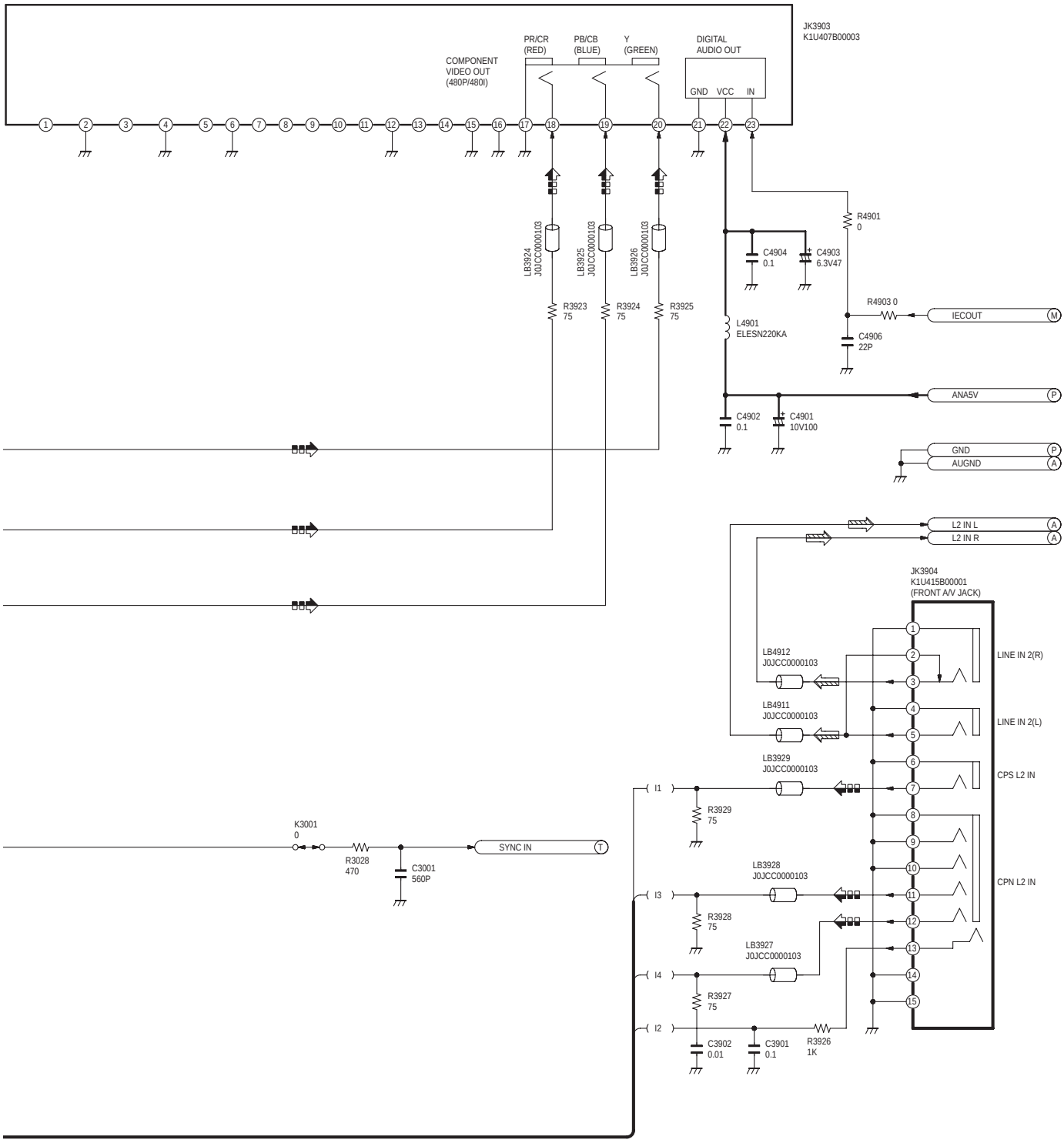
: +B SIGNAL LINE
: MAIN SIGNAL LINE
: VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM - 8

A MAIN (VIDEO I/O) CIRCUIT (V)

: +B SIGNAL LINE
: MAIN SIGNAL LINE
: VIDEO SIGNAL LINE

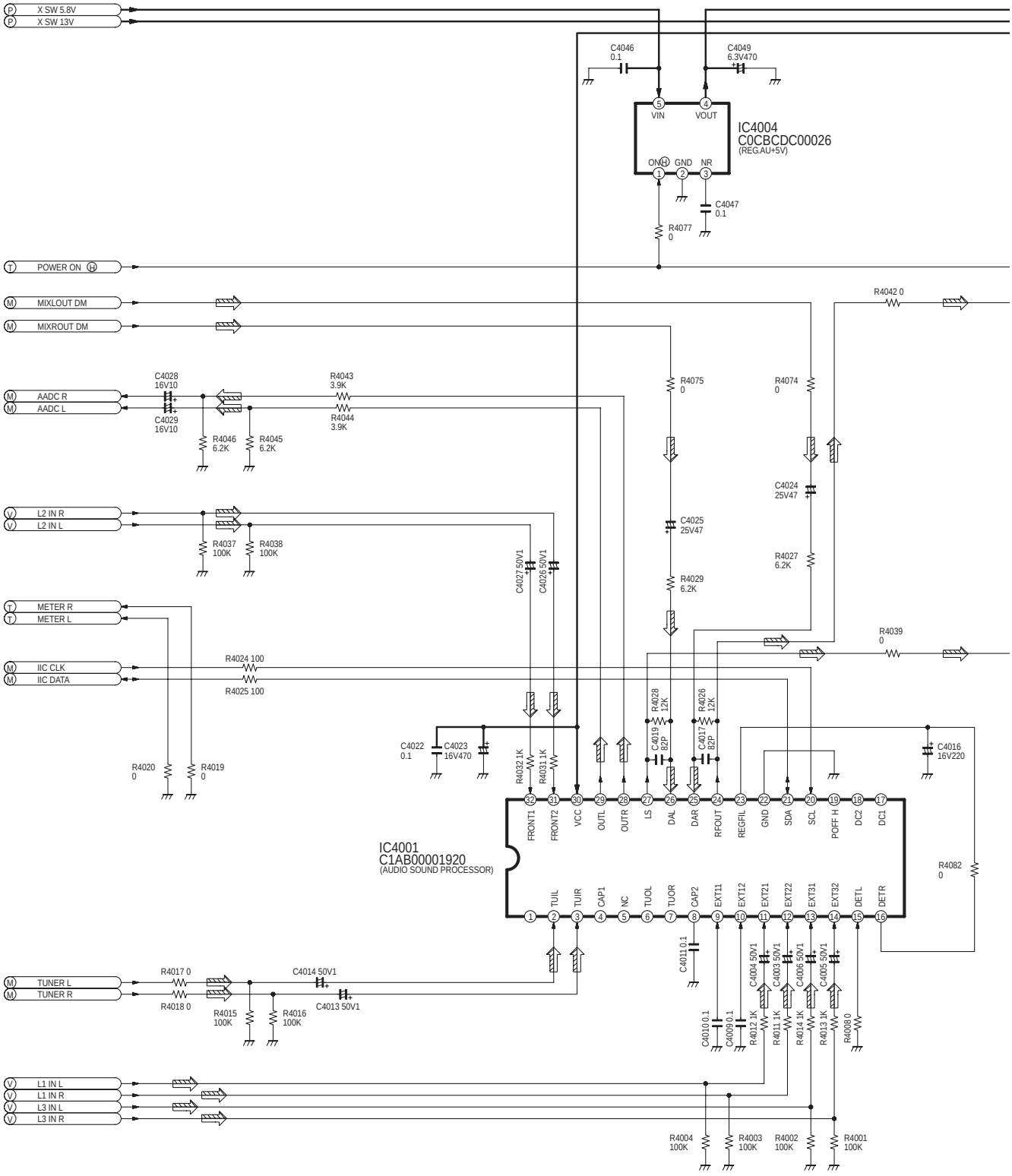


19.4. MAIN (AUDIO MAIN) CIRCUIT (A)

SCHEMATIC DIAGRAM - 9

A MAIN (AUDIO MAIN) CIRCUIT (A)

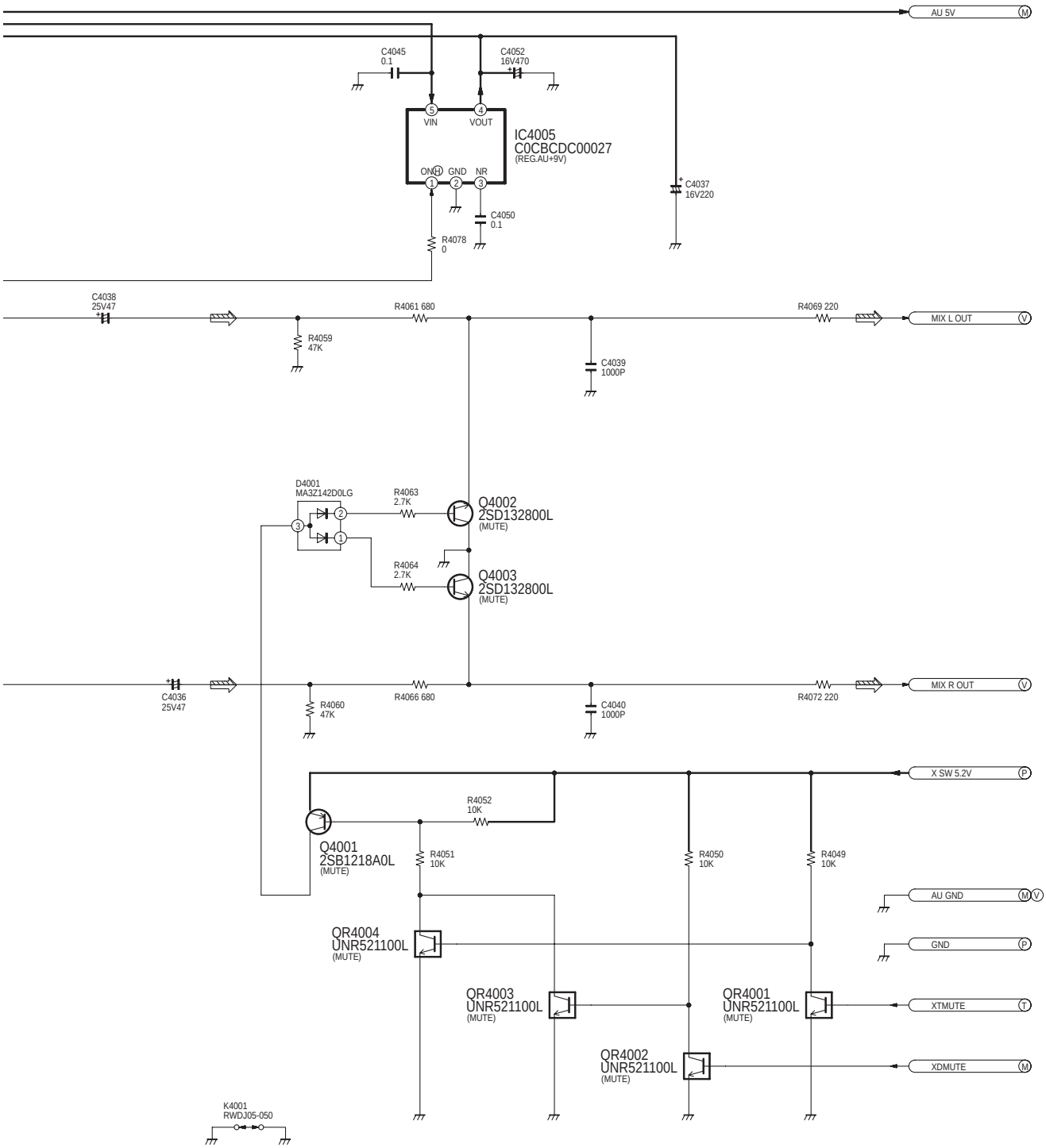
: +B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 10

A MAIN (AUDIO MAIN) CIRCUIT (A)

: +B SIGNAL LINE
: MAIN SIGNAL LINE

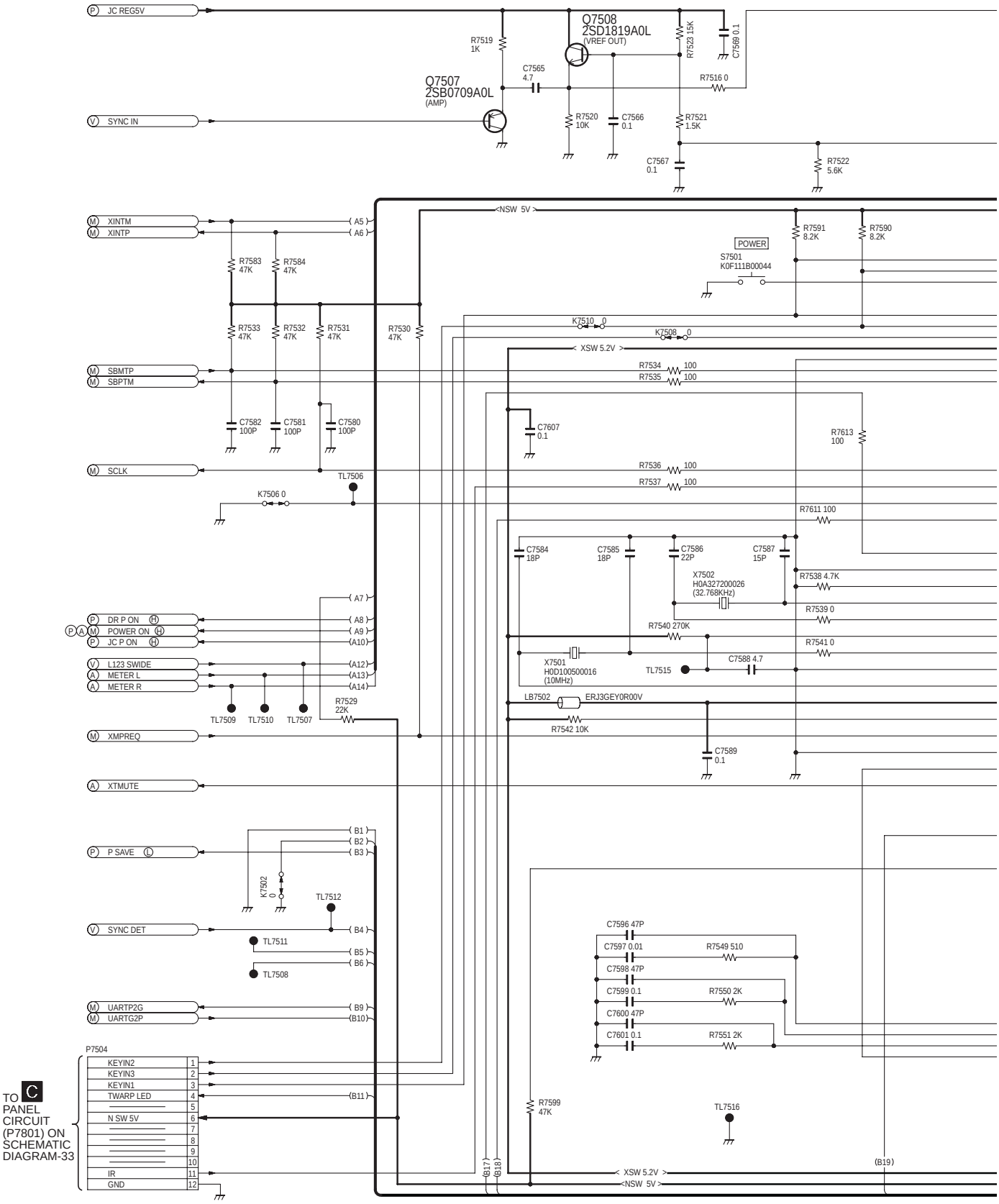


19.5. MAIN (TIMER) CIRCUIT (T)

SCHEMATIC DIAGRAM - 11

A MAIN (TIMER) CIRCUIT (T)

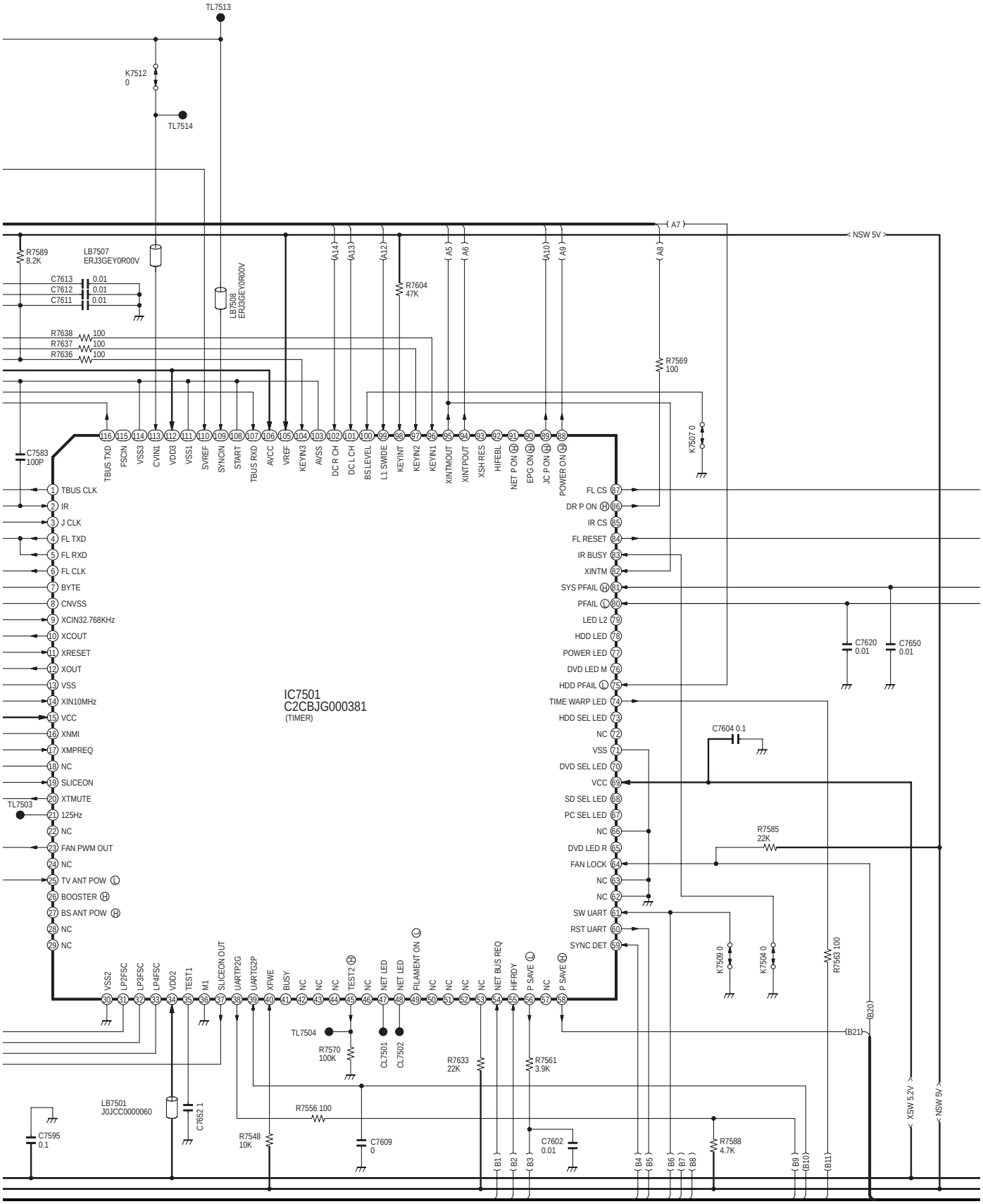
——— : +B SIGNAL LINE



SCHEMATIC DIAGRAM - 12

A MAIN (TIMER) CIRCUIT (T)

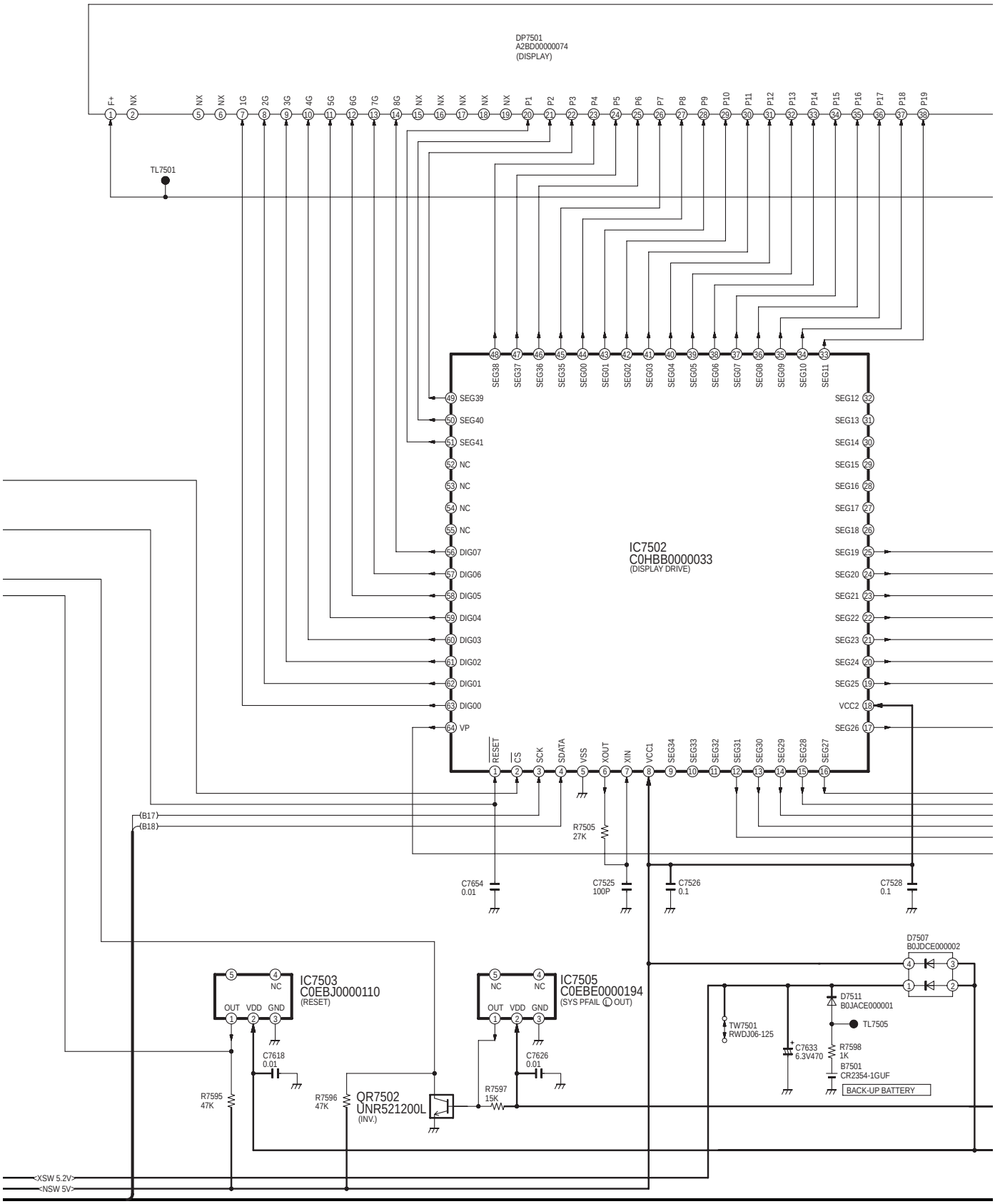
——— : +B SIGNAL LINE



SCHEMATIC DIAGRAM - 13

A MAIN (TIMER) CIRCUIT (T)

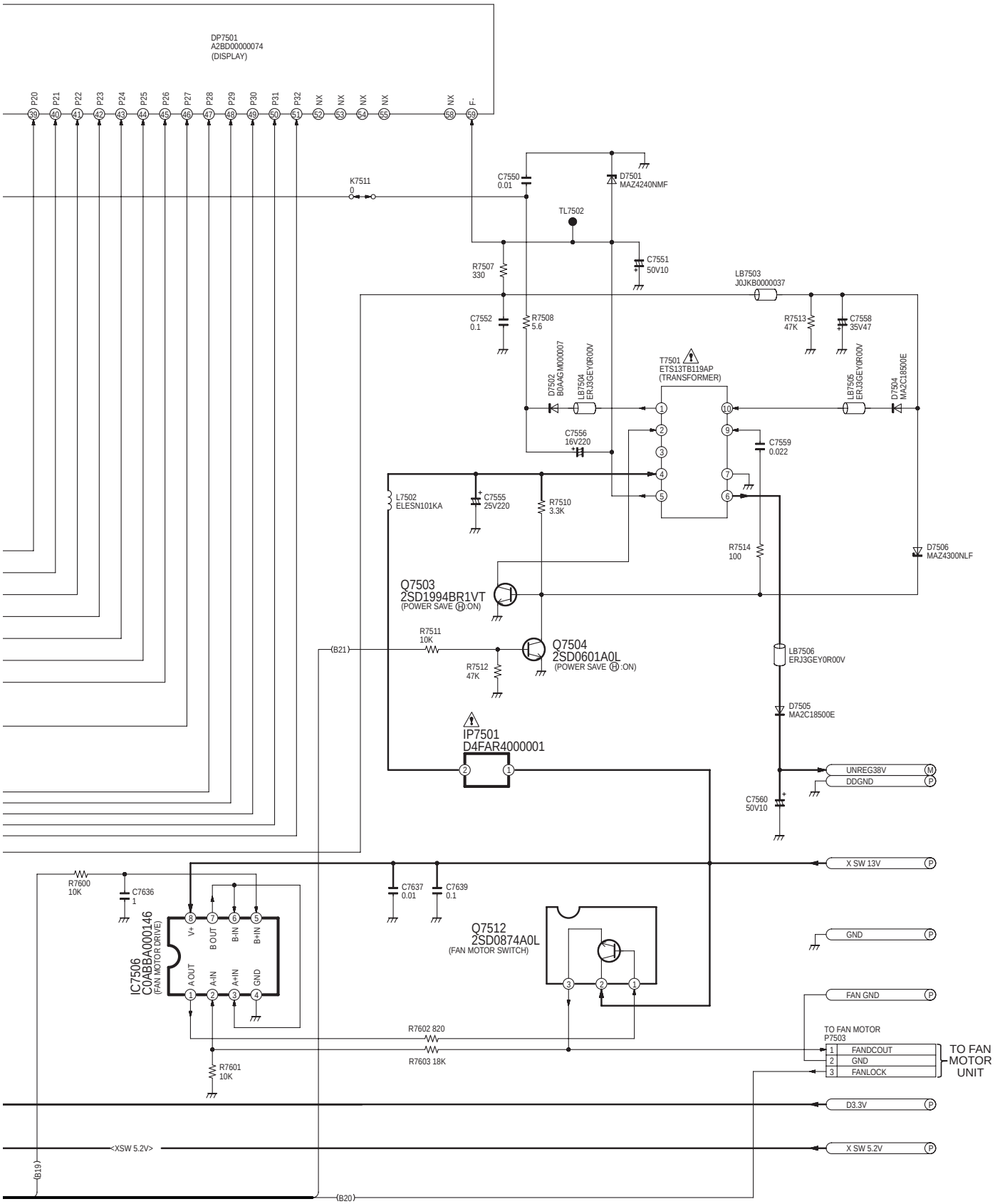
——— : +B SIGNAL LINE



SCHEMATIC DIAGRAM - 14

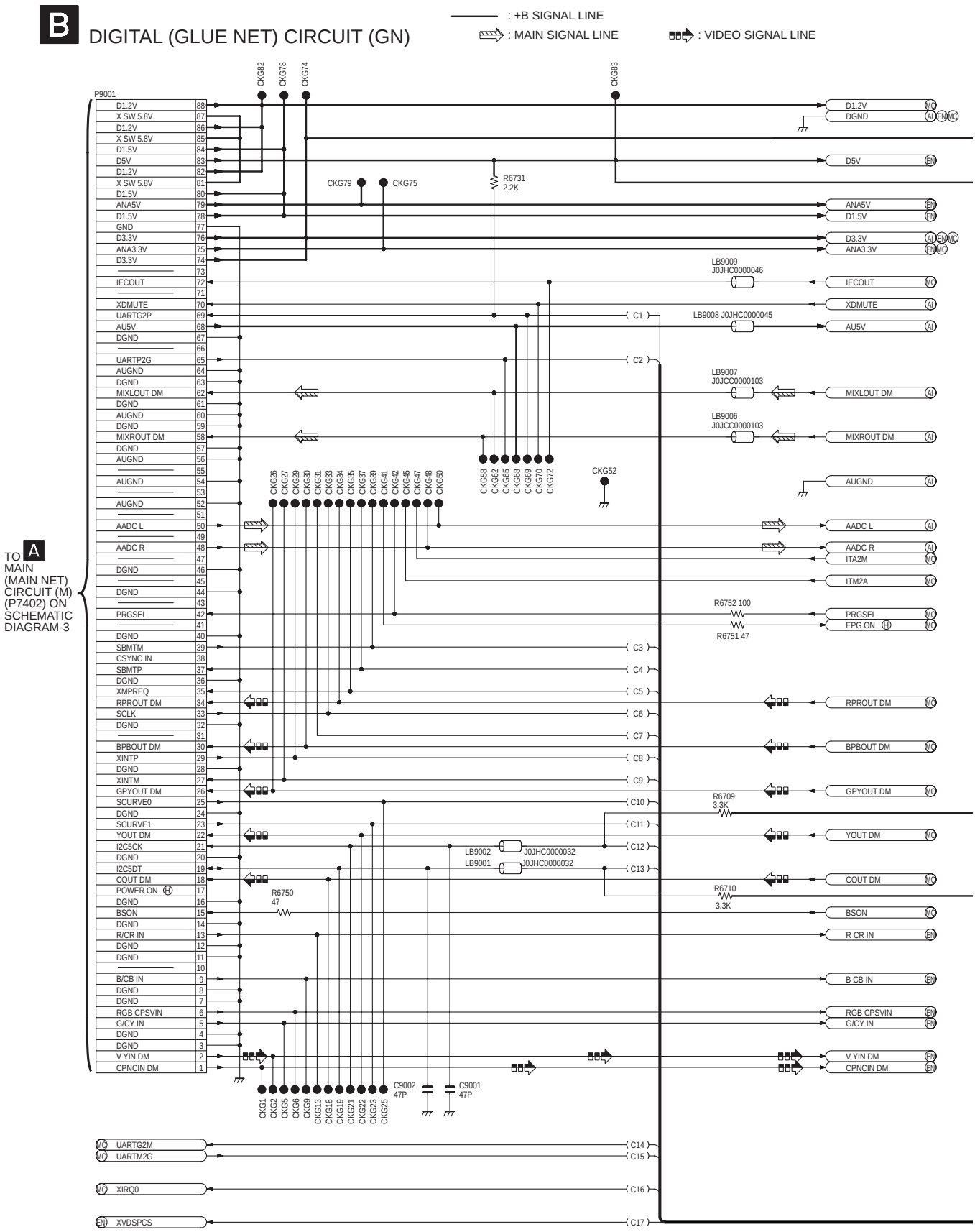
A MAIN (TIMER) CIRCUIT (T)

——— : +B SIGNAL LINE



19.6. DIGITAL (GLUE NET) CIRCUIT (GN)

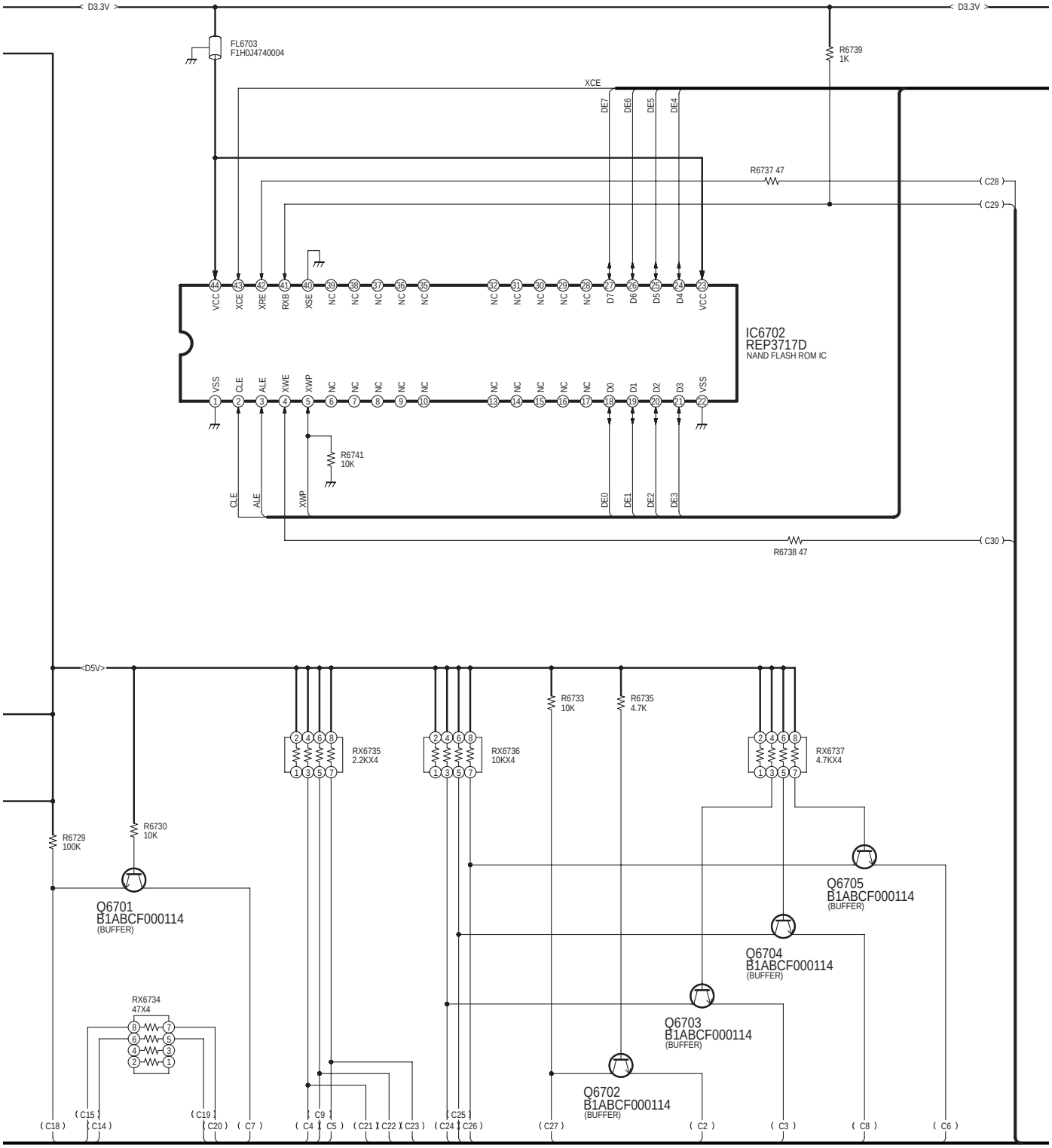
SCHEMATIC DIAGRAM - 15



SCHEMATIC DIAGRAM - 16

B DIGITAL (GLUE NET) CIRCUIT (GN)

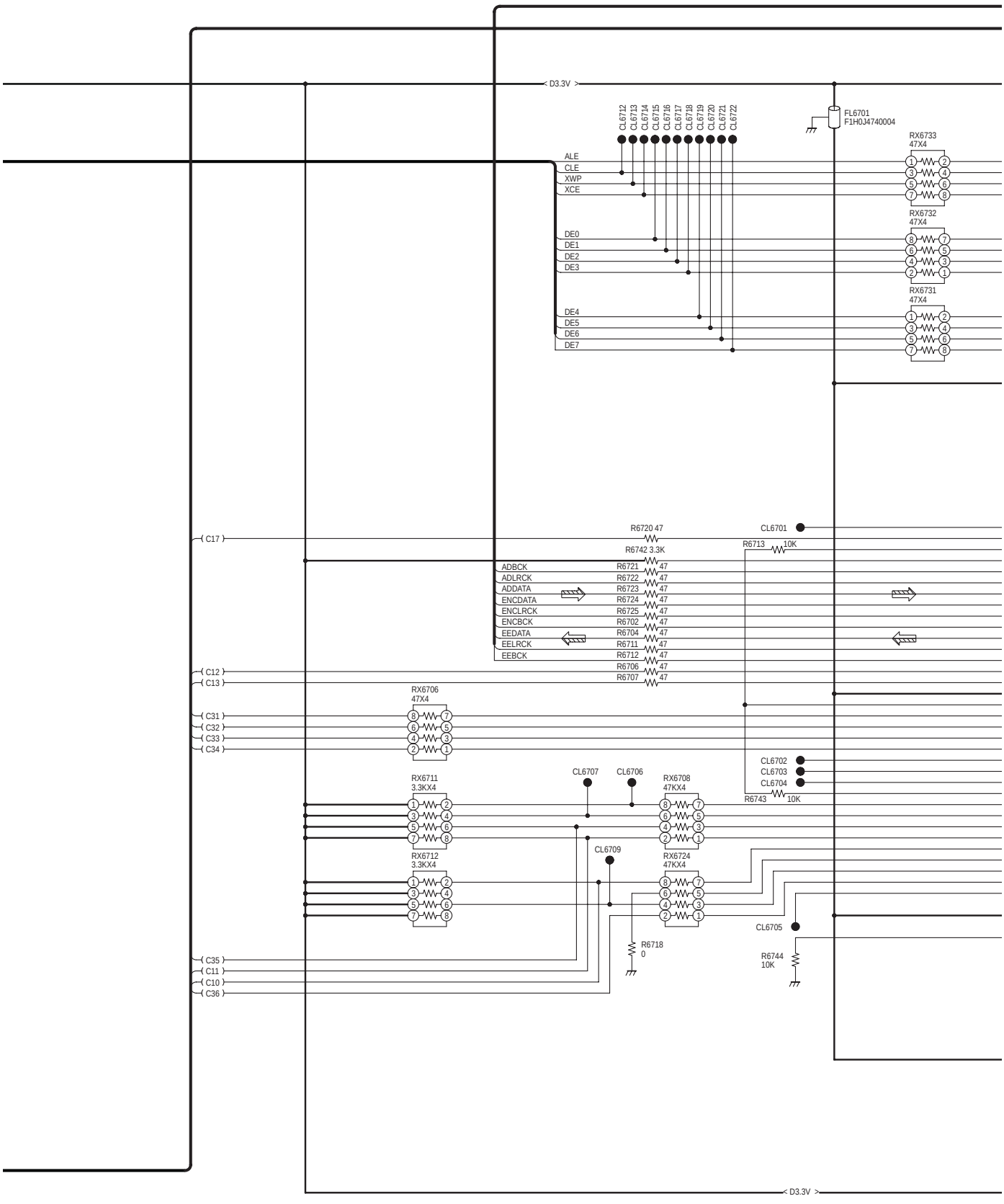
: +B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 17

B DIGITAL (GLUE NET) CIRCUIT (GN)

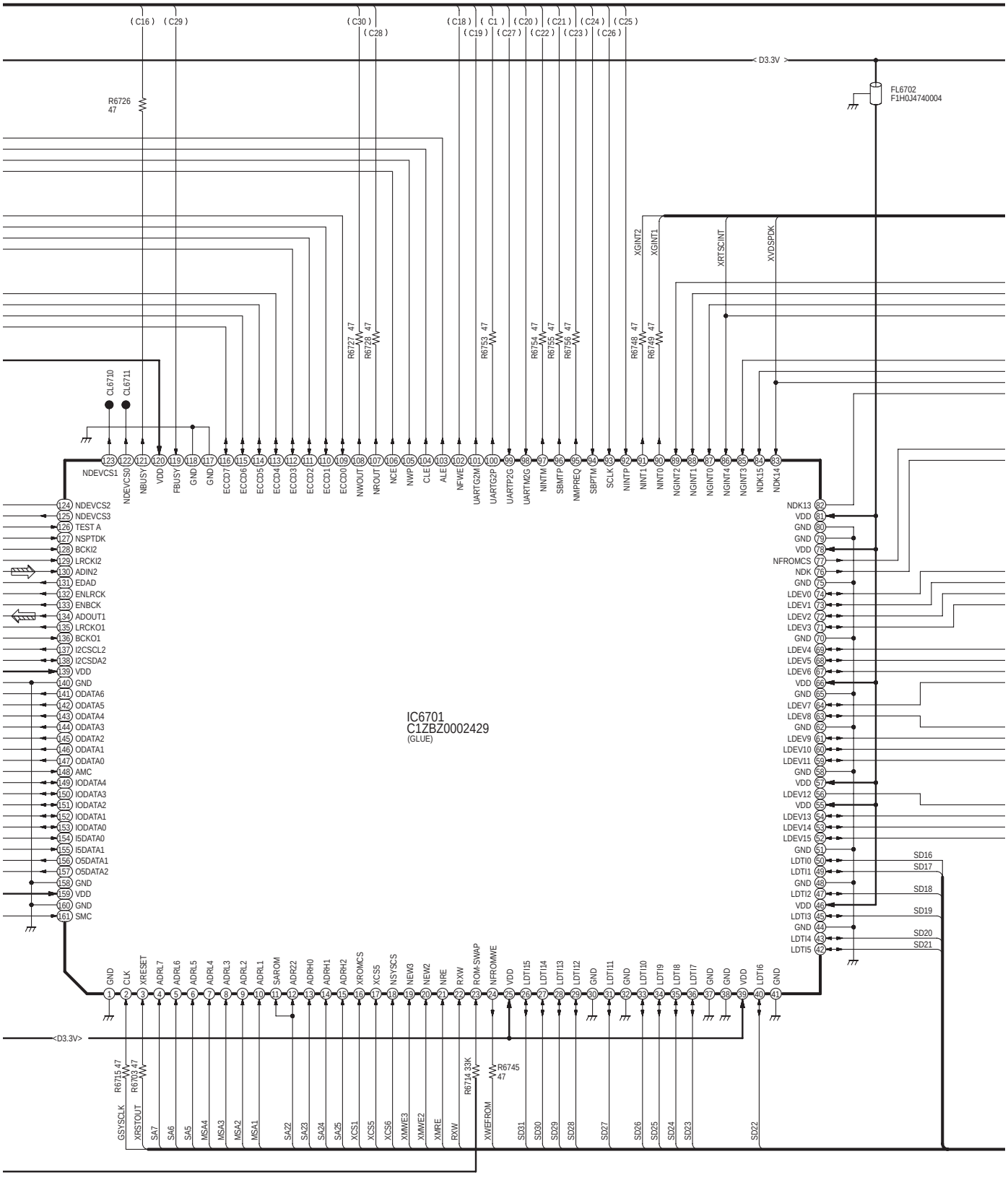
: +B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 18

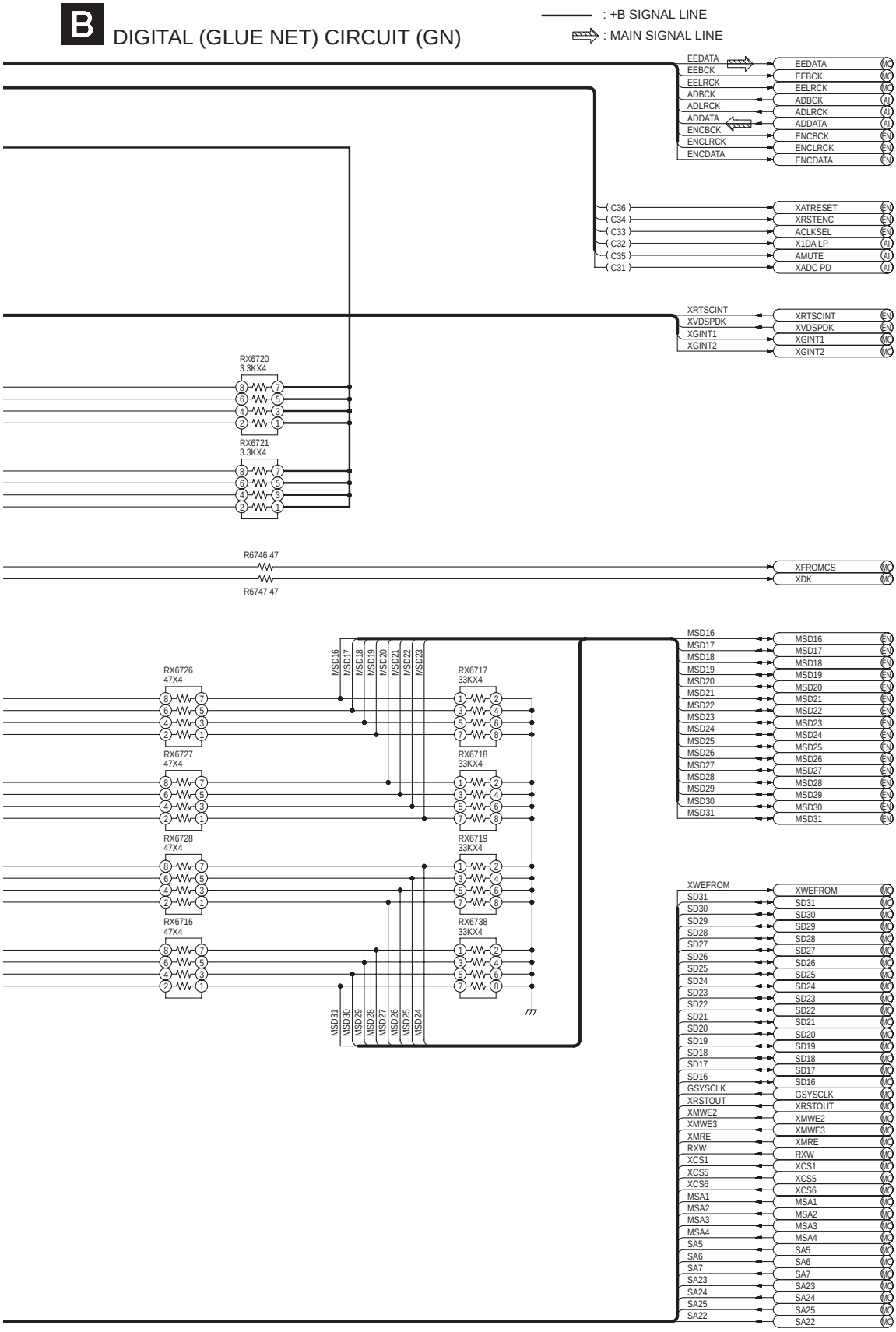
B DIGITAL (GLUE NET) CIRCUIT (GN)

: +B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 19

B DIGITAL (GLUE NET) CIRCUIT (GN)

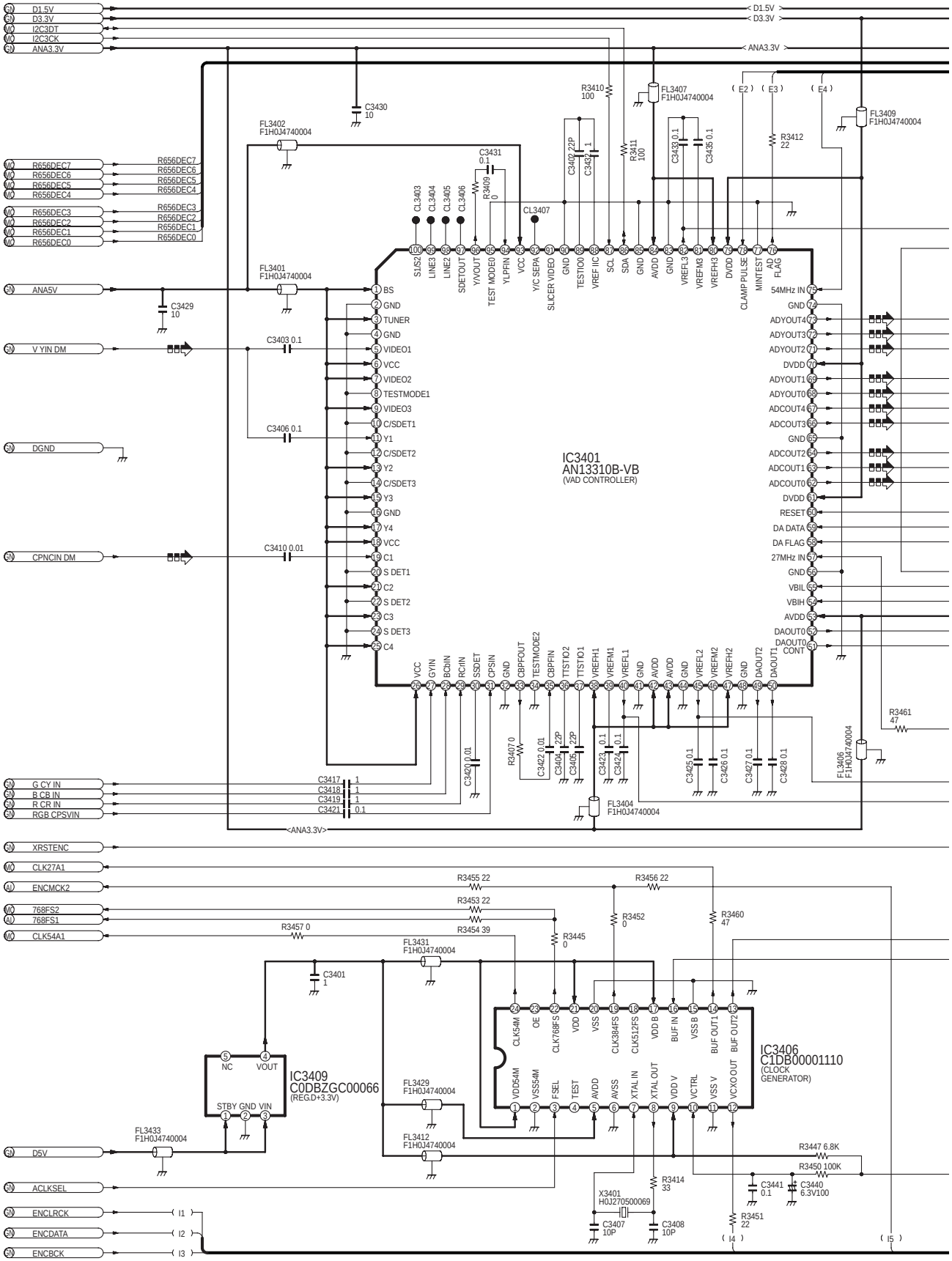


19.7. DIGITAL (RSTC) CIRCUIT (EN)

SCHEMATIC DIAGRAM - 20

B DIGITAL (RSTC) CIRCUIT (EN)

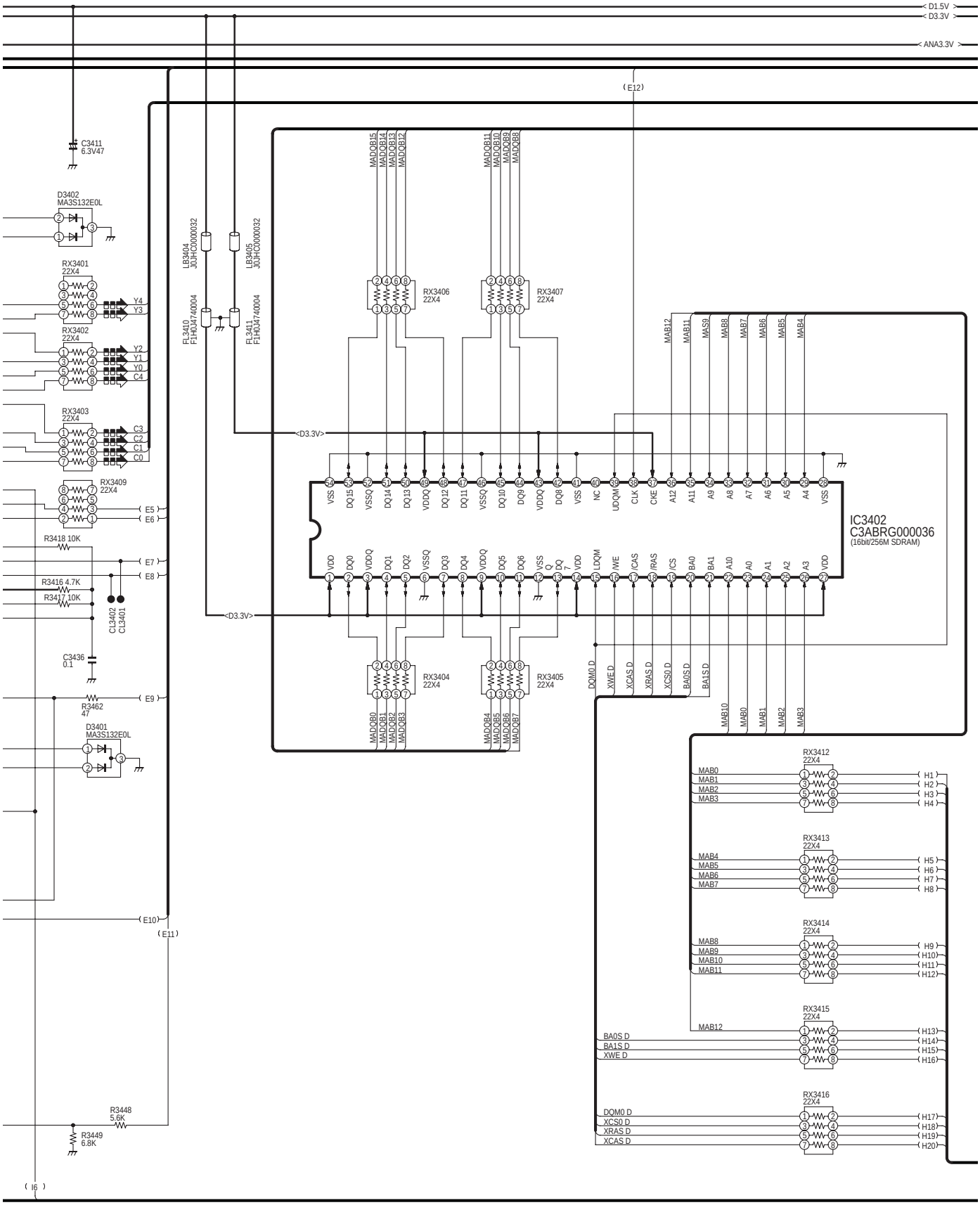
: +B SIGNAL LINE
: VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM - 21

B DIGITAL (RSTC) CIRCUIT (EN)

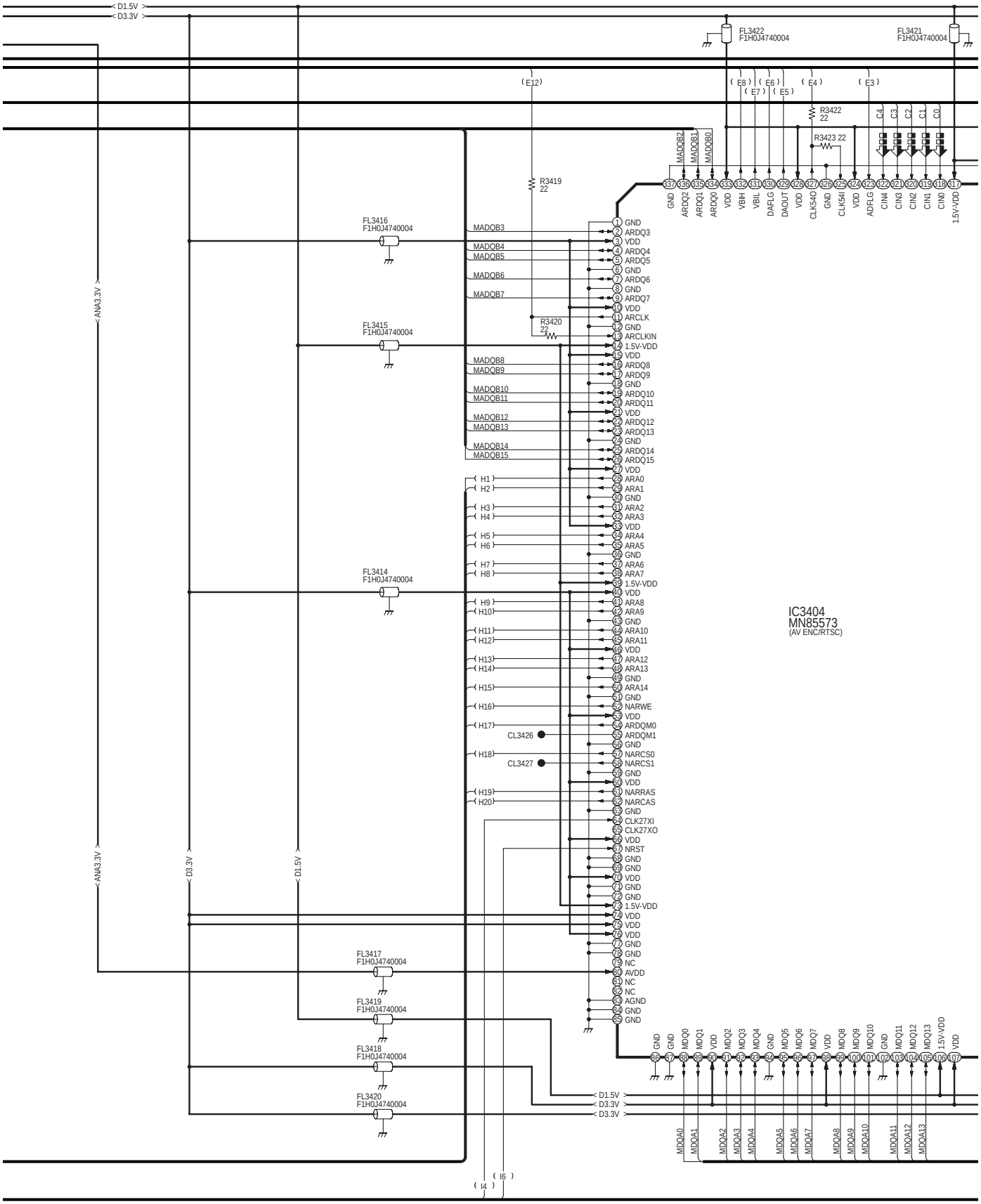
: +B SIGNAL LINE
: VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM - 22

B DIGITAL (RSTC) CIRCUIT (EN)

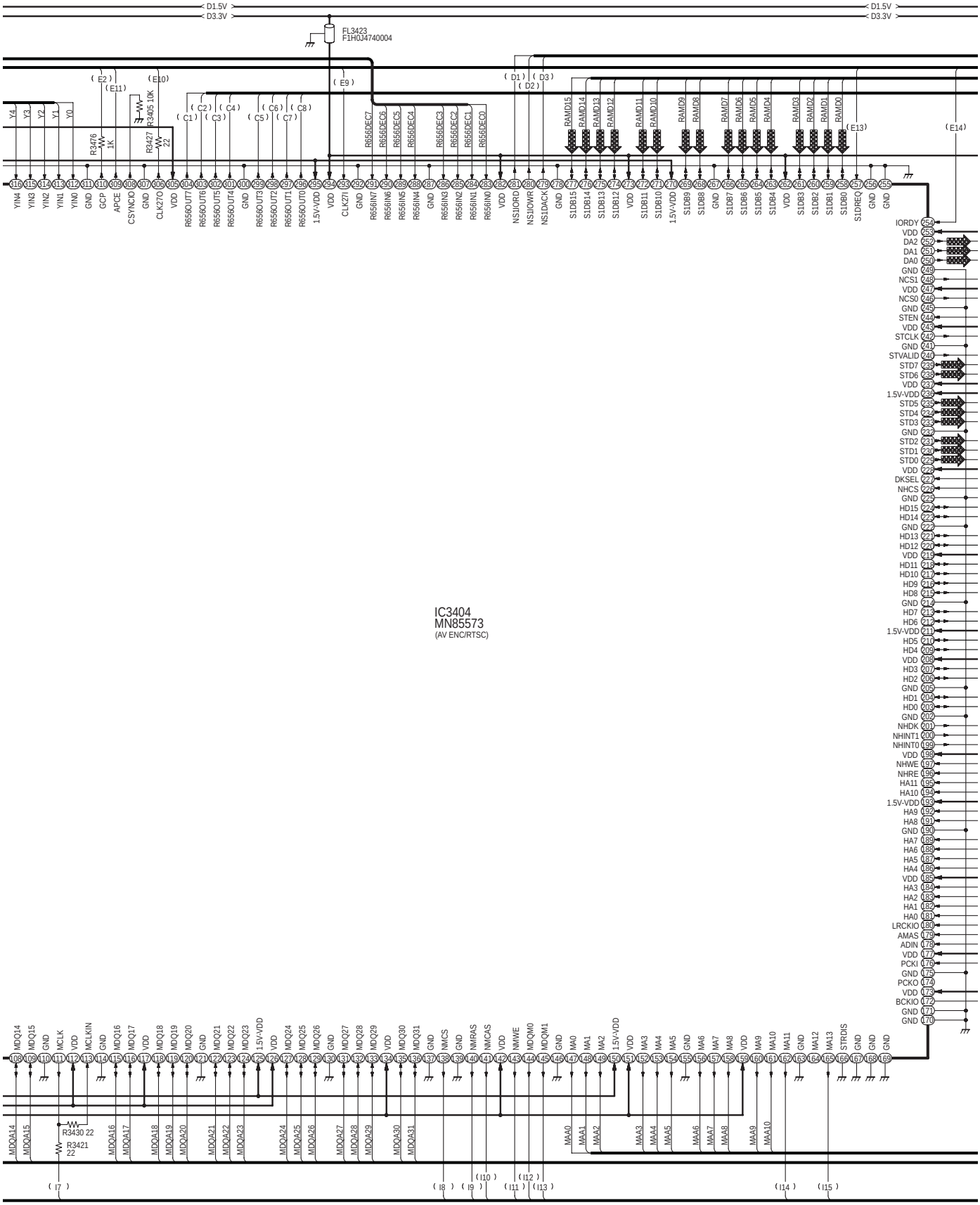
: +B SIGNAL LINE
: VIDEO SIGNAL LINE



SCHEMATIC DIAGRAM - 23

B DIGITAL (RSTC) CIRCUIT (EN)

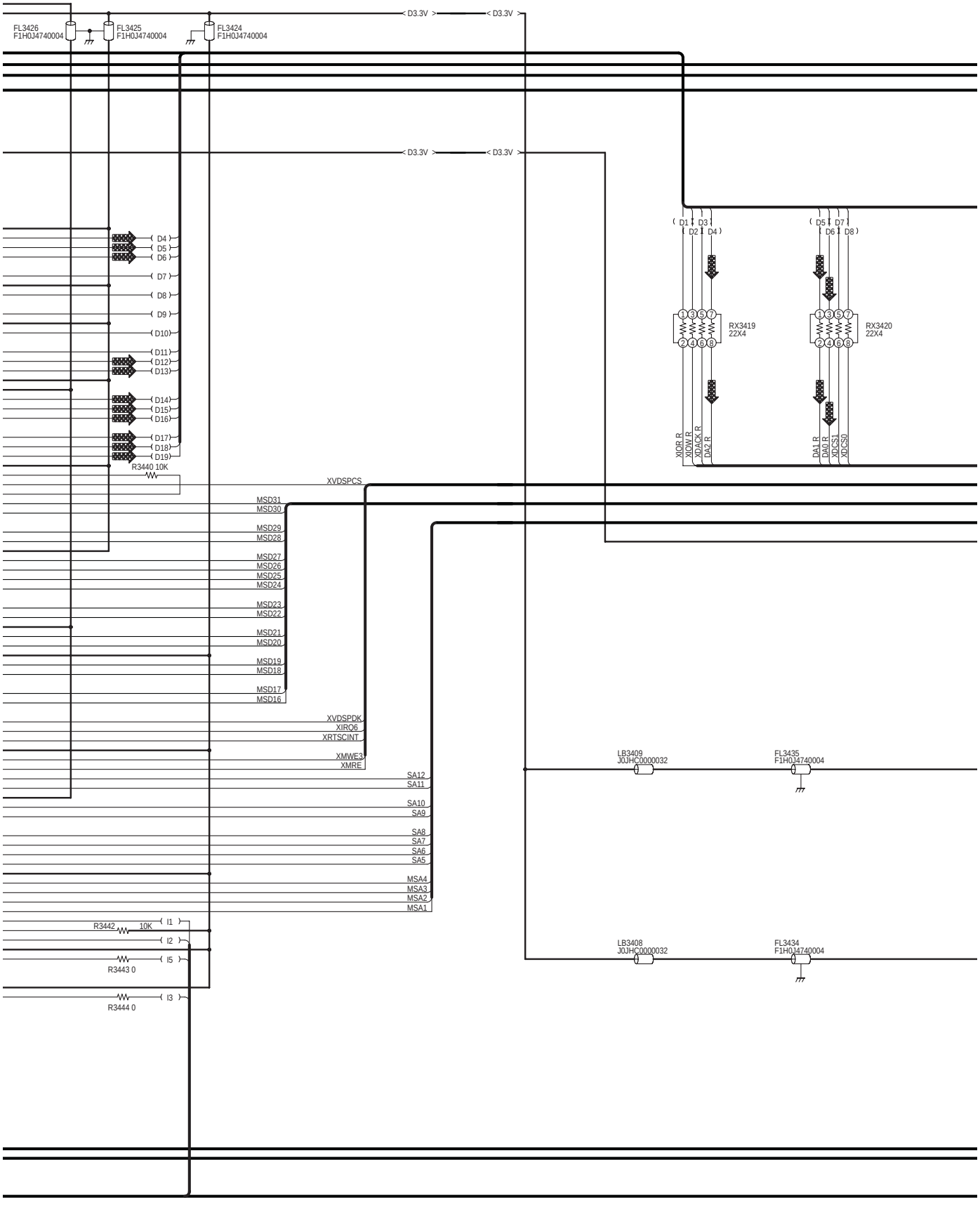
: +B SIGNAL LINE
: CD-DA SIGNAL LINE



SCHEMATIC DIAGRAM - 24

B DIGITAL (RSTC) CIRCUIT (EN)

: +B SIGNAL LINE
: CD-DA SIGNAL LINE

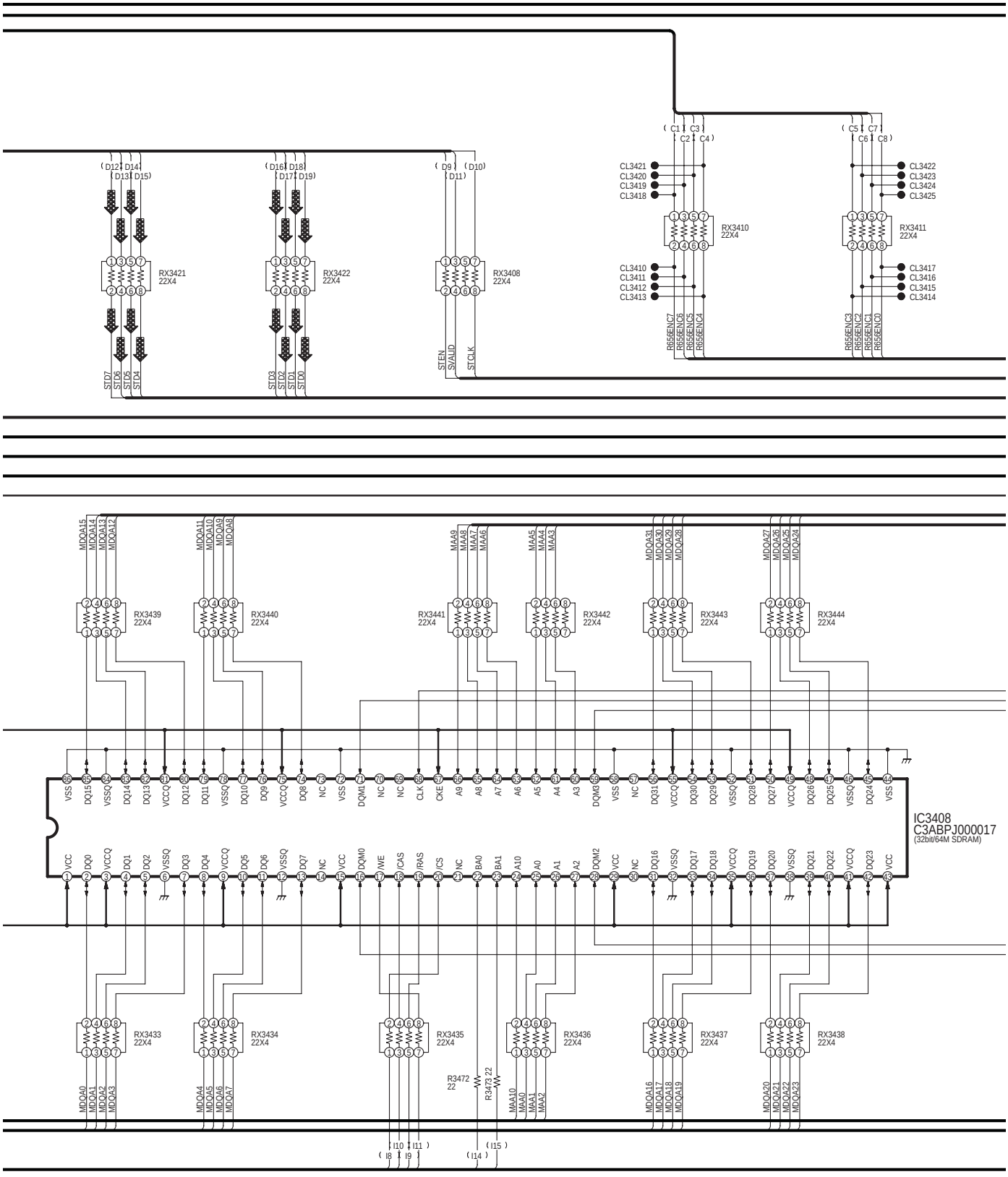


SCHEMATIC DIAGRAM - 25

B DIGITAL (RSTC) CIRCUIT (EN)

: +B SIGNAL LINE

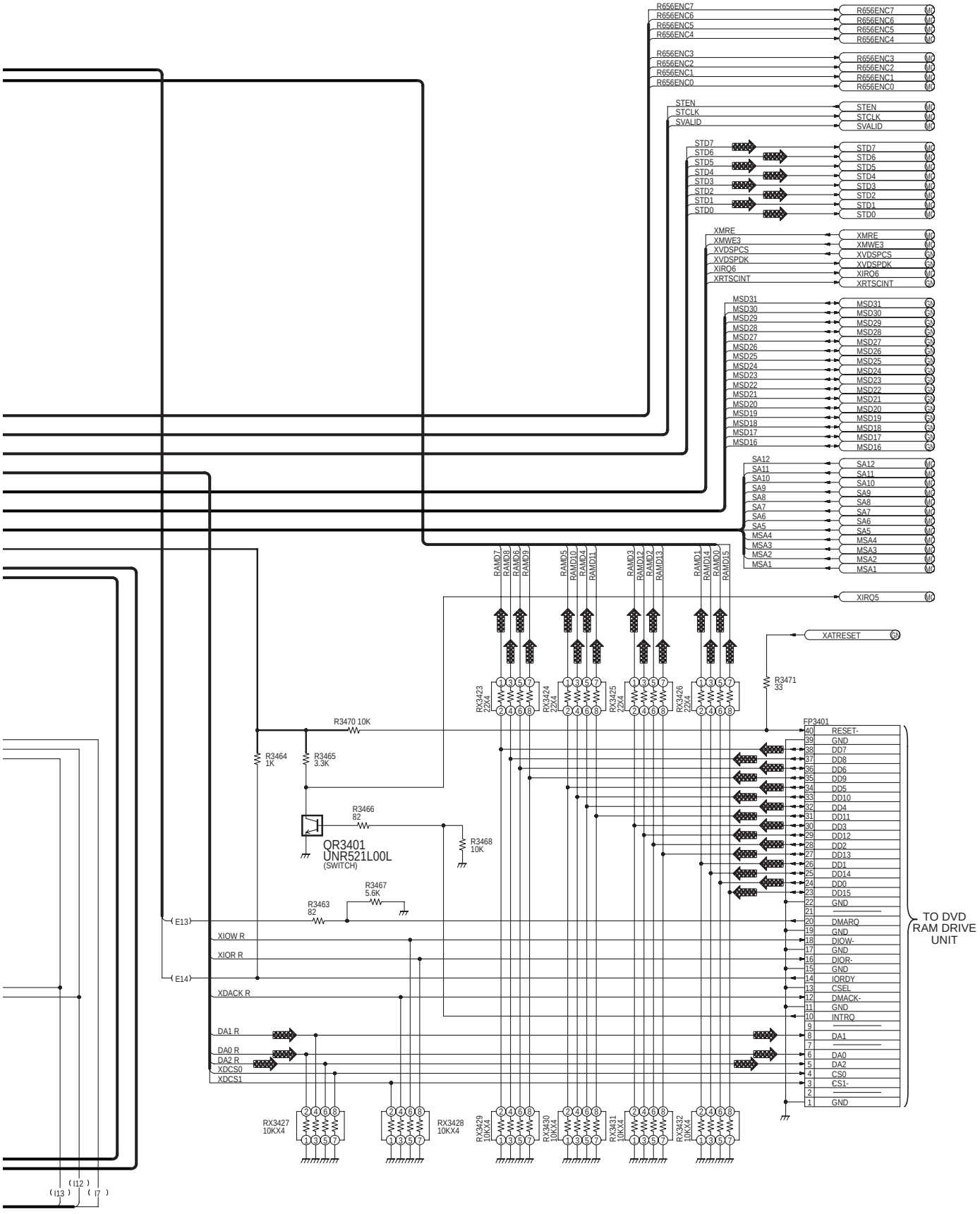
: CD-DA SIGNAL LINE



SCHEMATIC DIAGRAM - 26

B DIGITAL (RSTC) CIRCUIT (EN)

: +B SIGNAL LINE
: CD-DA SIGNAL LINE

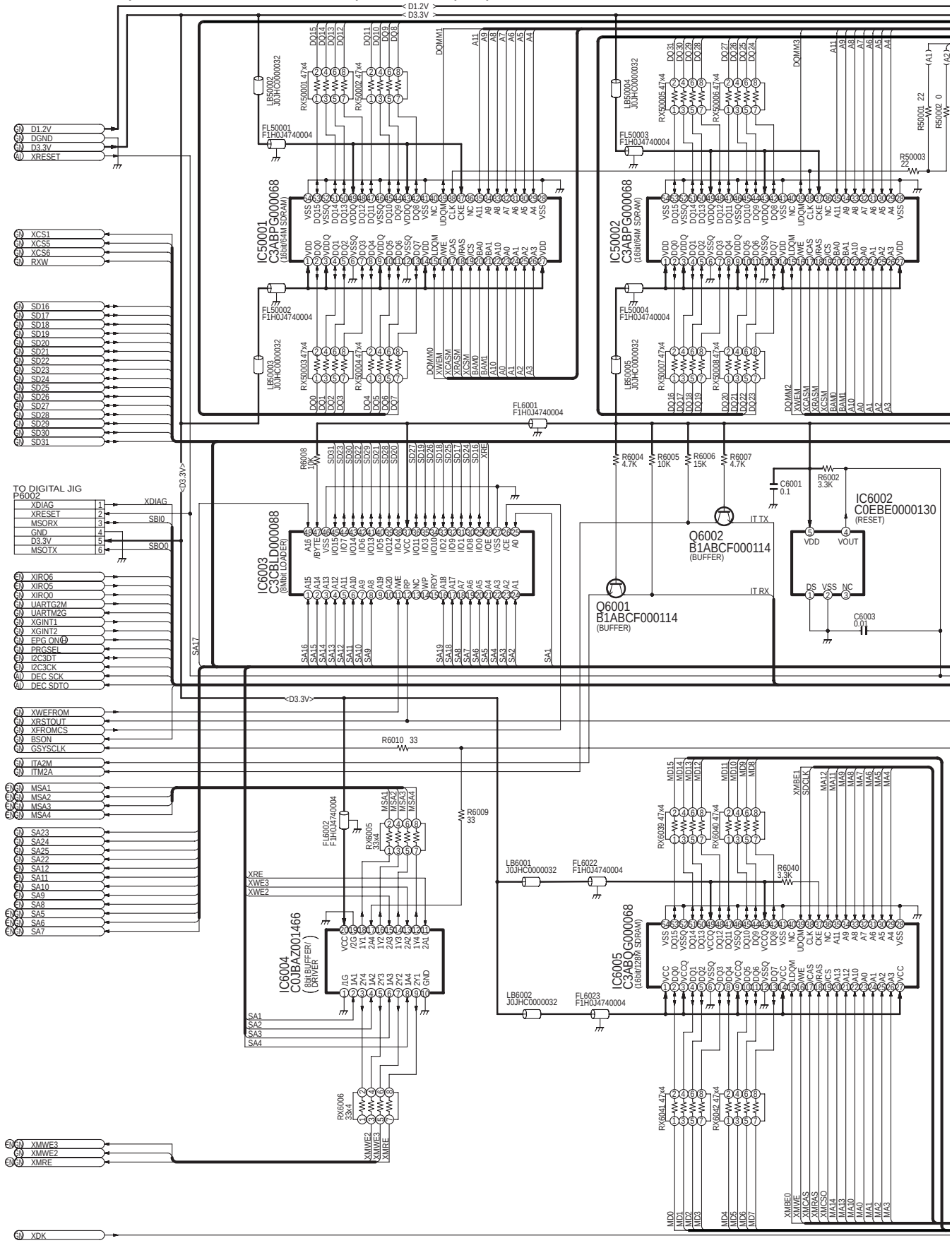


19.8. DIGITAL (AV DECODER/MAIN CPU) CIRCUIT (MC)

SCHEMATIC DIAGRAM - 27

B DIGITAL (AV DECODER/MAIN CPU) CIRCUIT (MC)

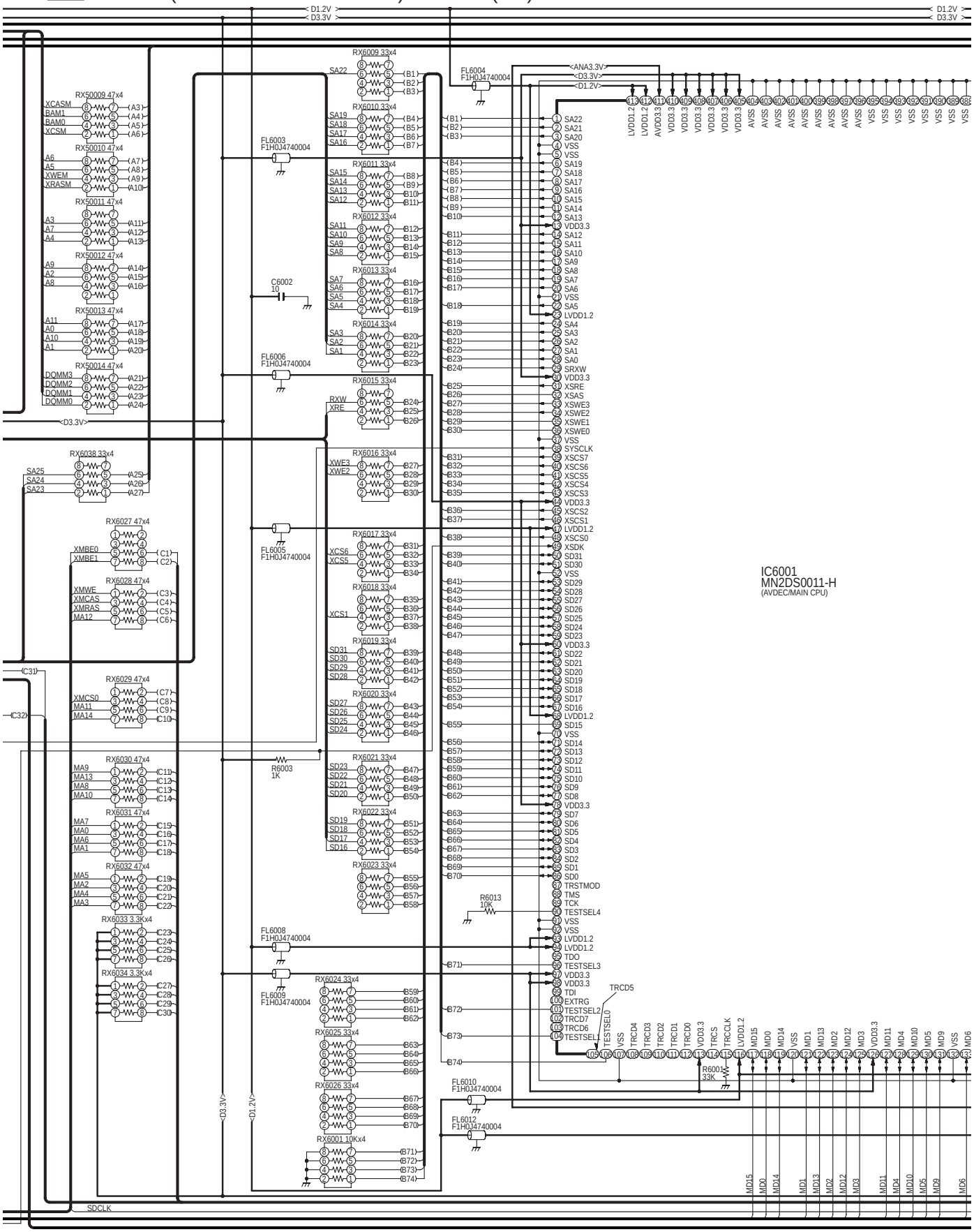
: +B SIGNAL LINE



SCHEMATIC DIAGRAM - 28

B DIGITAL (AV DECODER/MAIN CPU) CIRCUIT (MC)

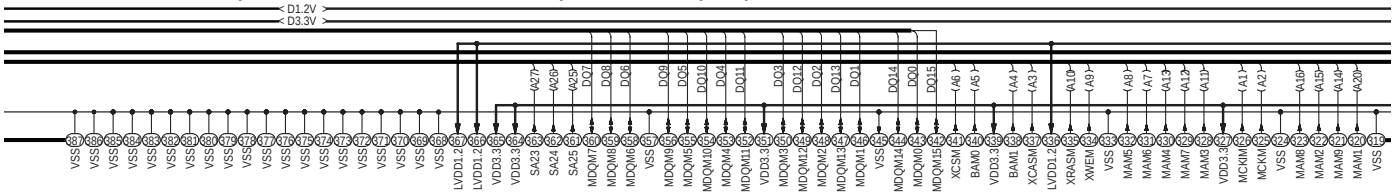
: +B SIGNAL LINE



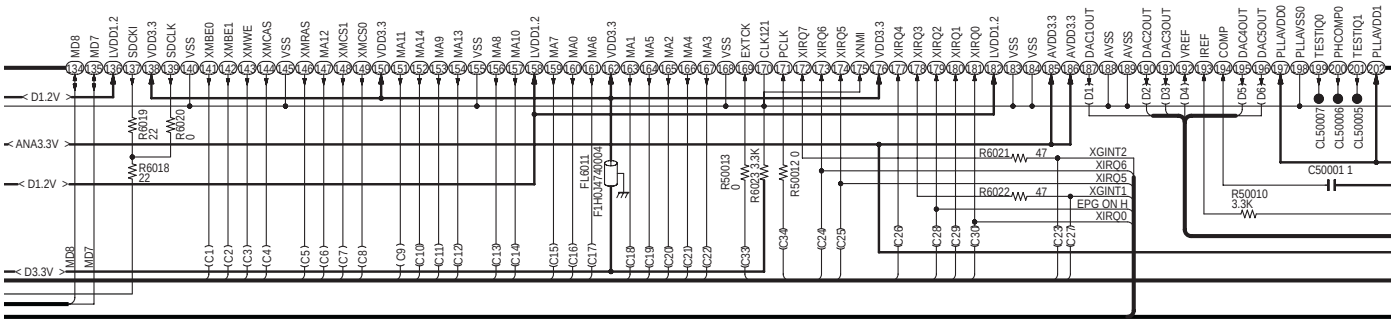
SCHEMATIC DIAGRAM - 29

B DIGITAL (AV DECODER/MAIN CPU) CIRCUIT (MC)

: +B SIGNAL LINE



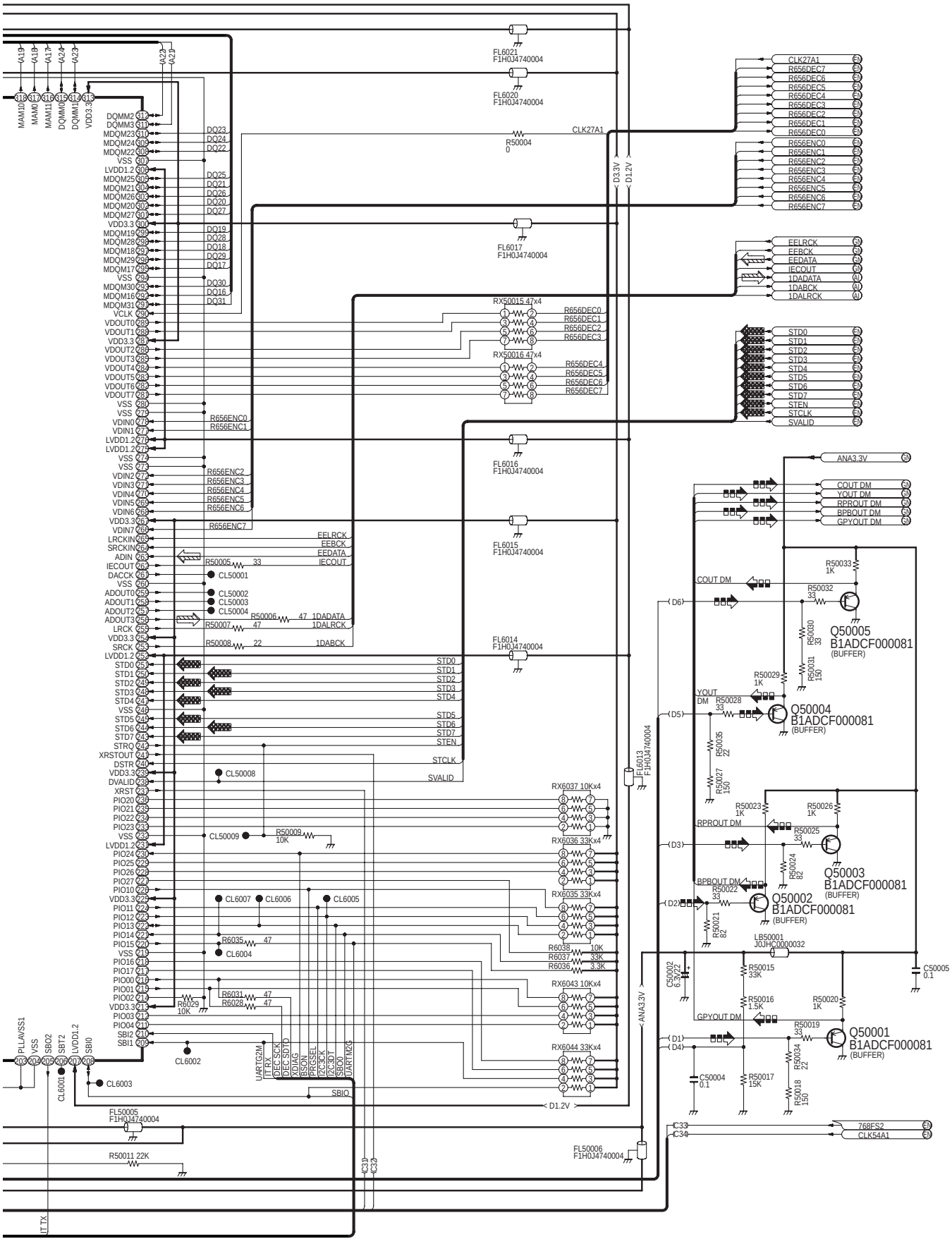
IC6001
MN2DS0011-H
(AVDEC/MAIN CPU)



SCHEMATIC DIAGRAM - 30

B DIGITAL (AV DECODER/MAIN CPU) CIRCUIT (MC)

: +B SIGNAL LINE
: MAIN SIGNAL LINE
: CD-DA SIGNAL LINE
: VIDEO SIGNAL LINE

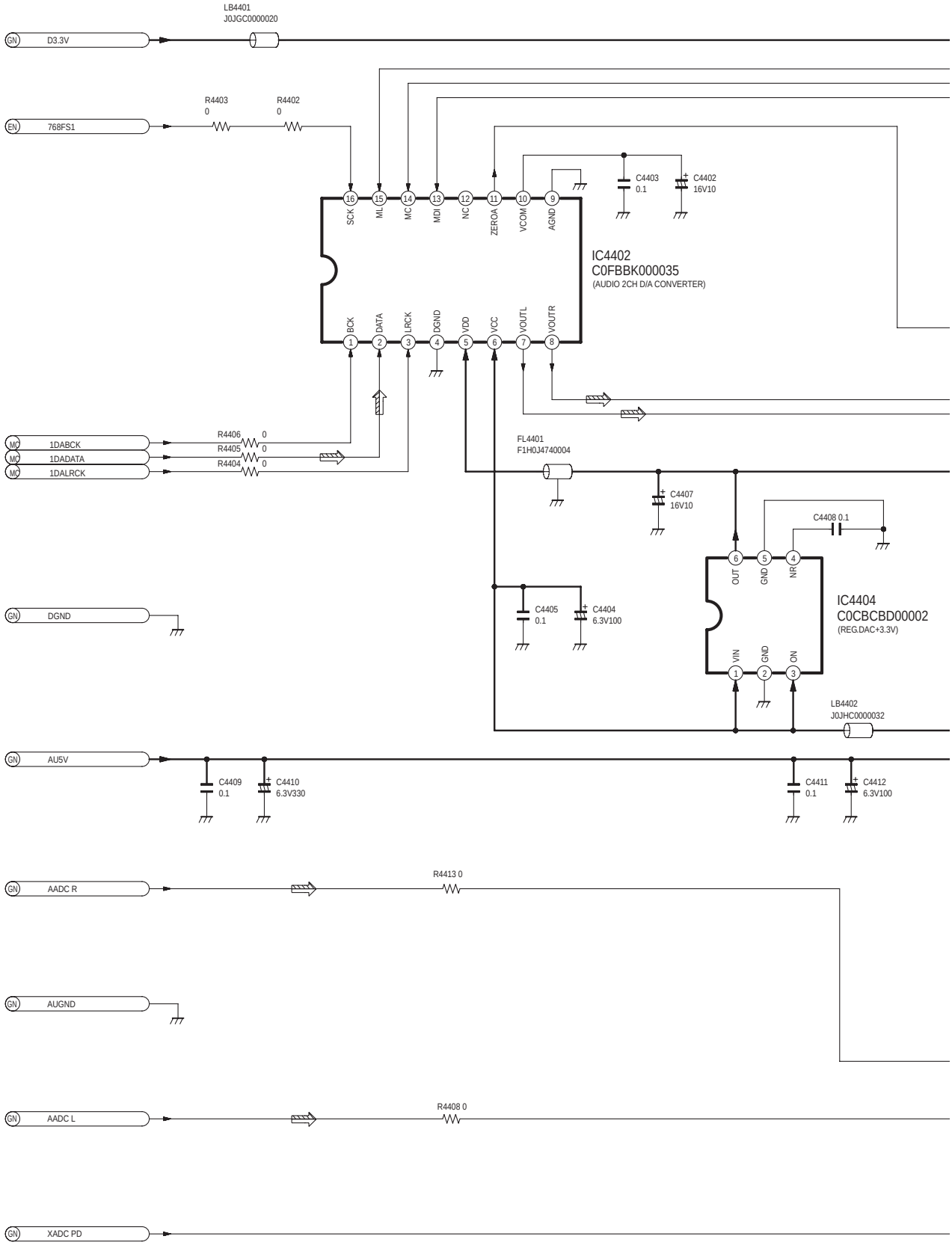


19.9. DIGITAL (AUDIO I/O) CIRCUIT (AI)

SCHEMATIC DIAGRAM - 31

B DIGITAL (AUDIO I/O) CIRCUIT (AI)

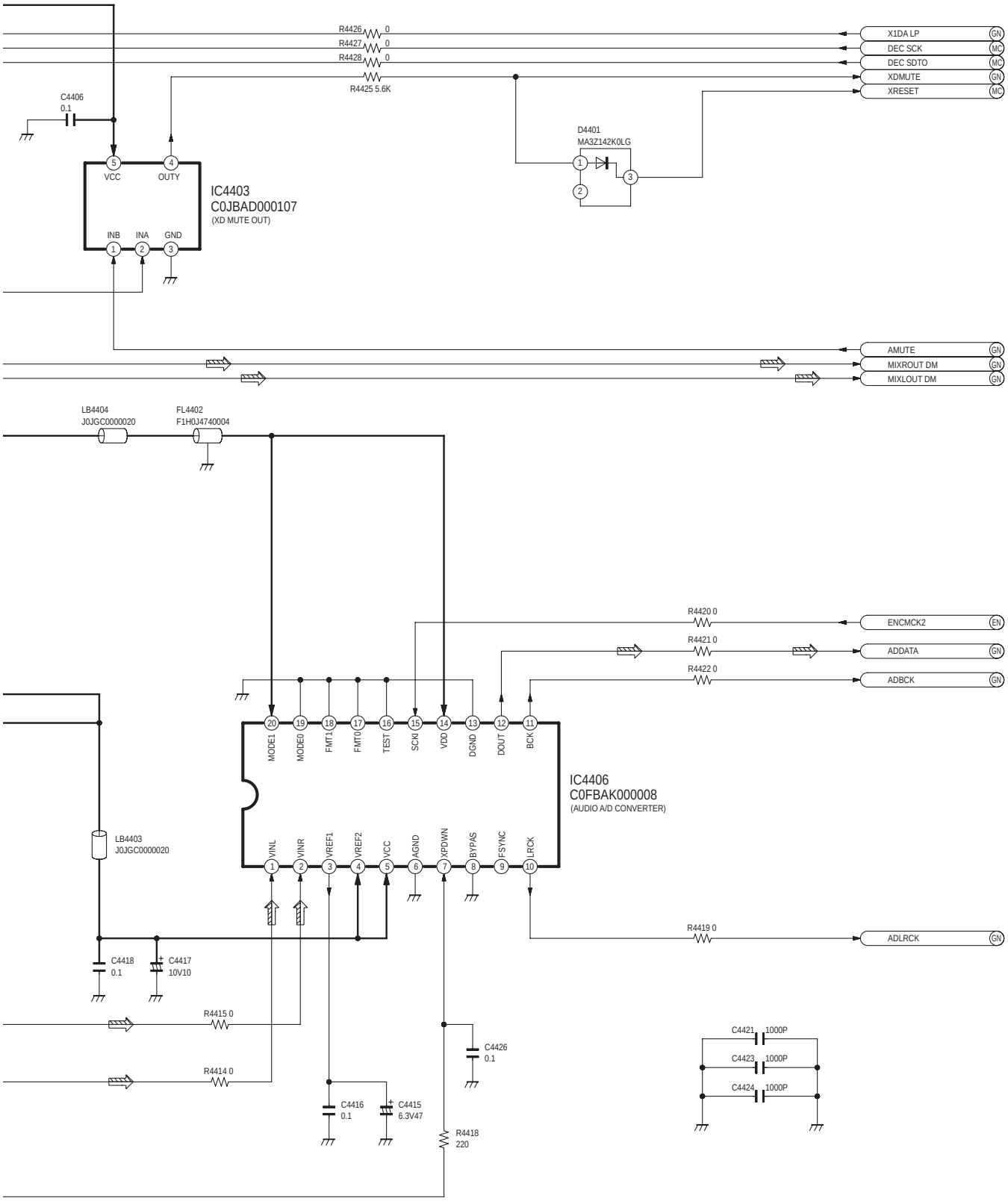
: +B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM - 32

B DIGITAL (AUDIO I/O) CIRCUIT (AI)

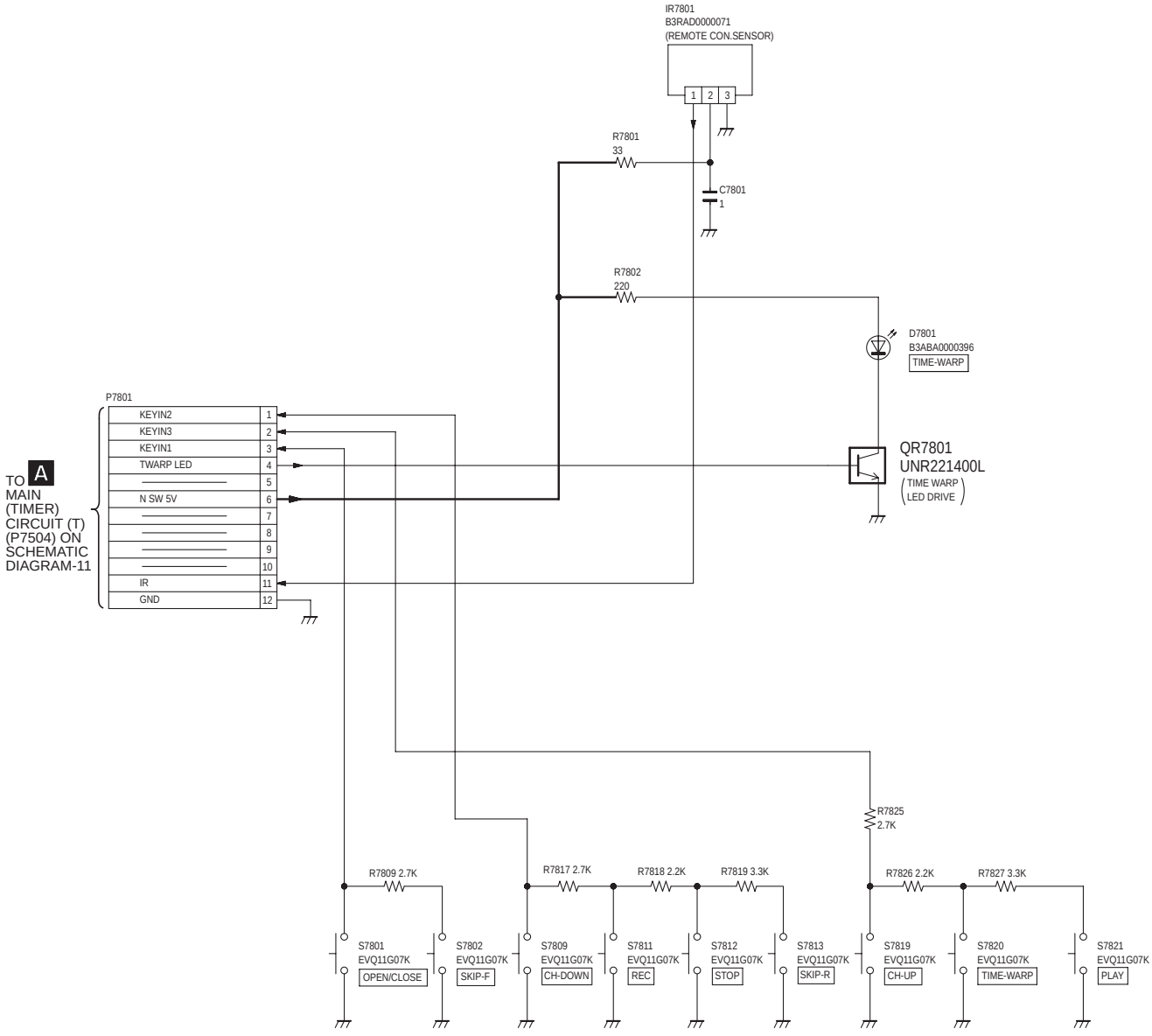
: +B SIGNAL LINE
: MAIN SIGNAL LINE



19.10. PANEL CIRCUIT

SCHEMATIC DIAGRAM - 33

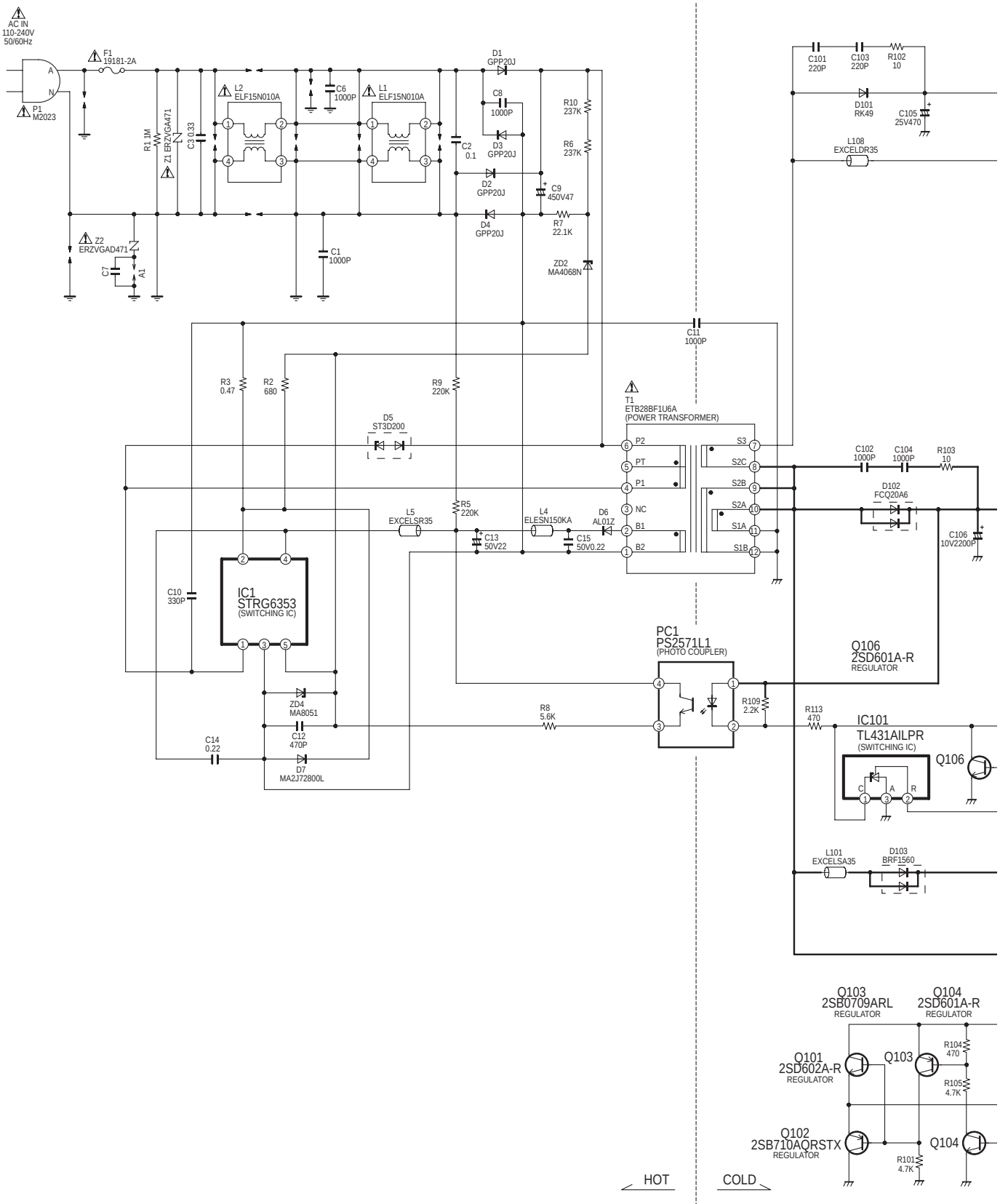
C PANEL CIRCUIT ——— : +B SIGNAL LINE



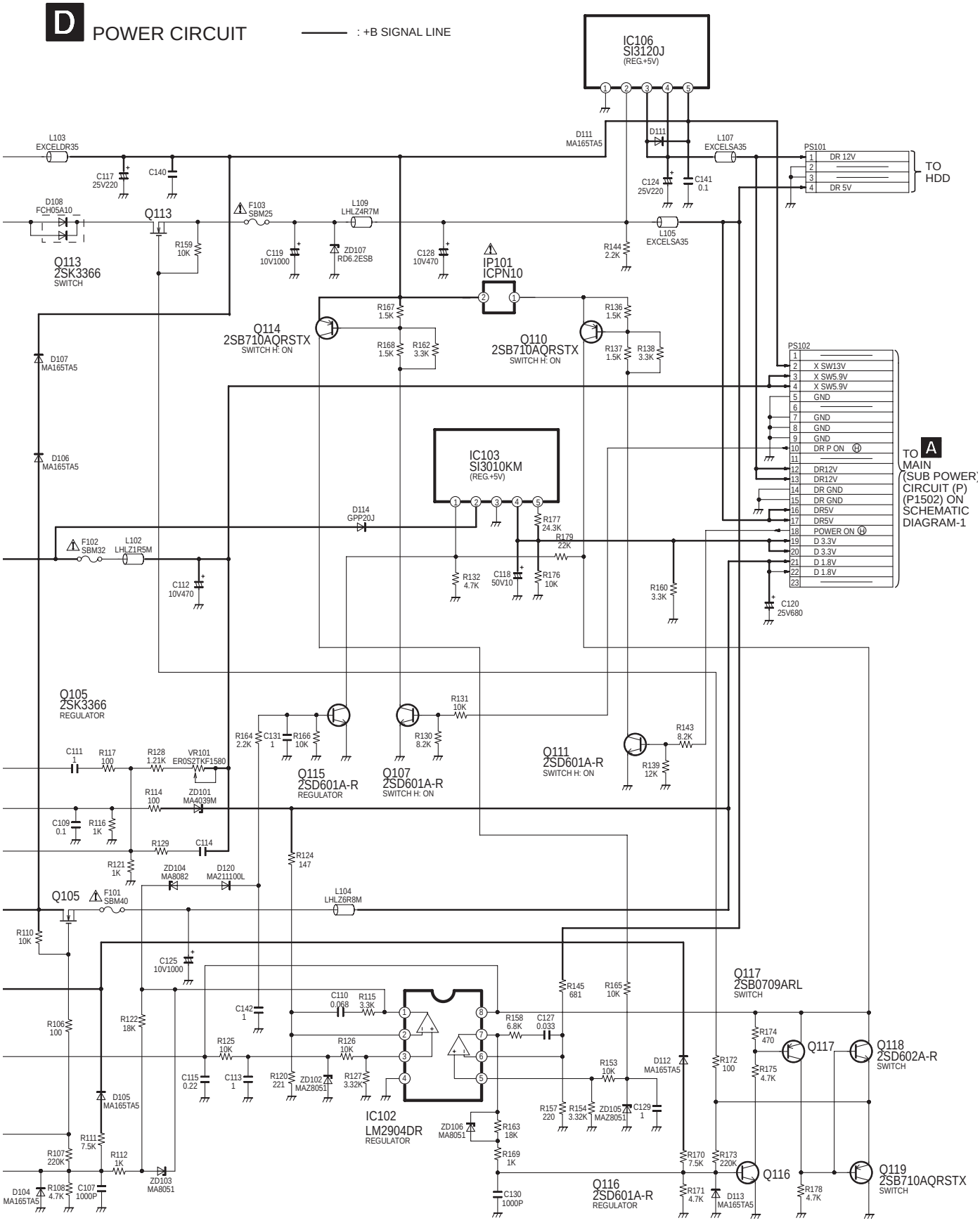
19.11. POWER CIRCUIT

SCHEMATIC DIAGRAM - 34

D POWER CIRCUIT ——— : +B SIGNAL LINE



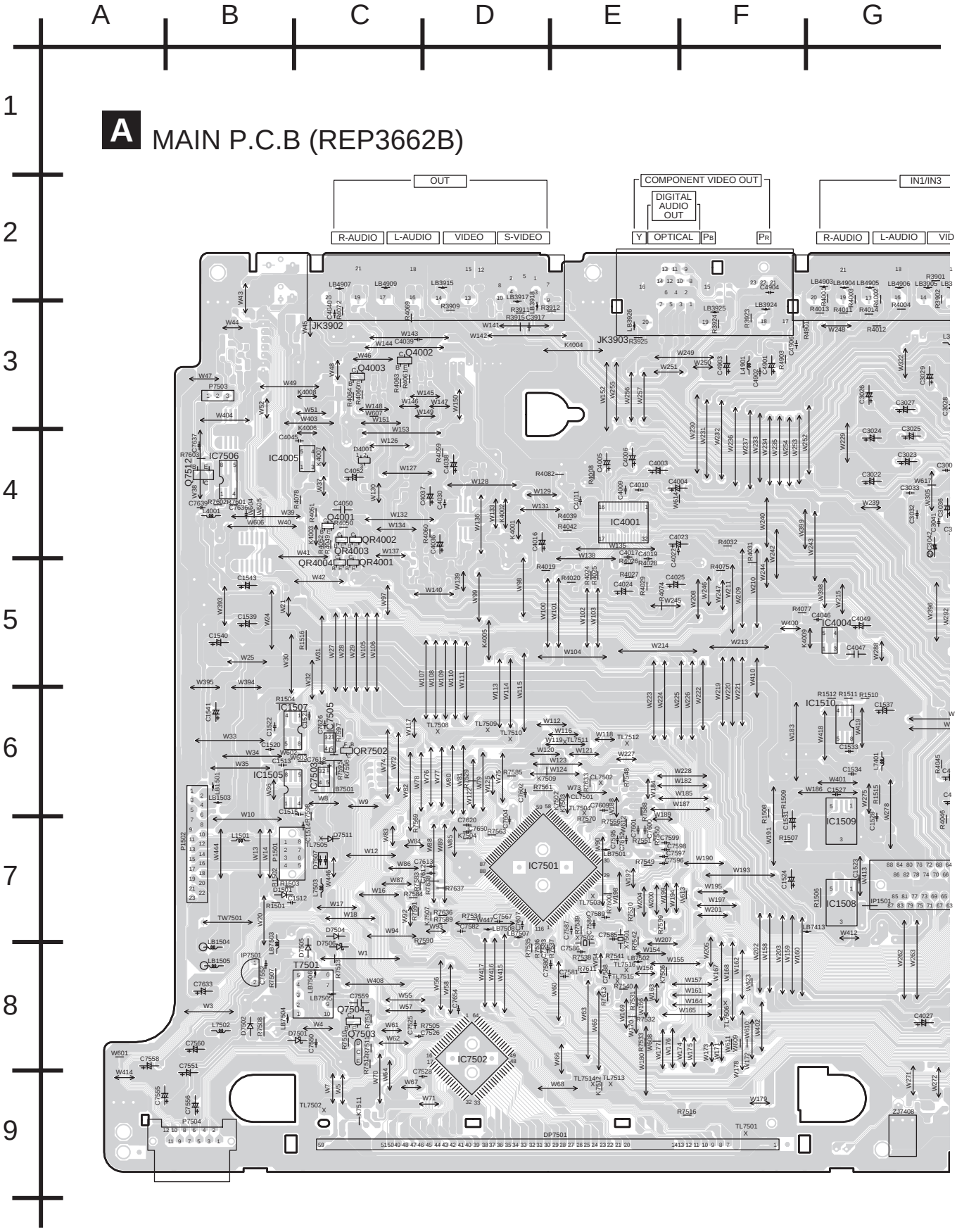
SCHEMATIC DIAGRAM - 35



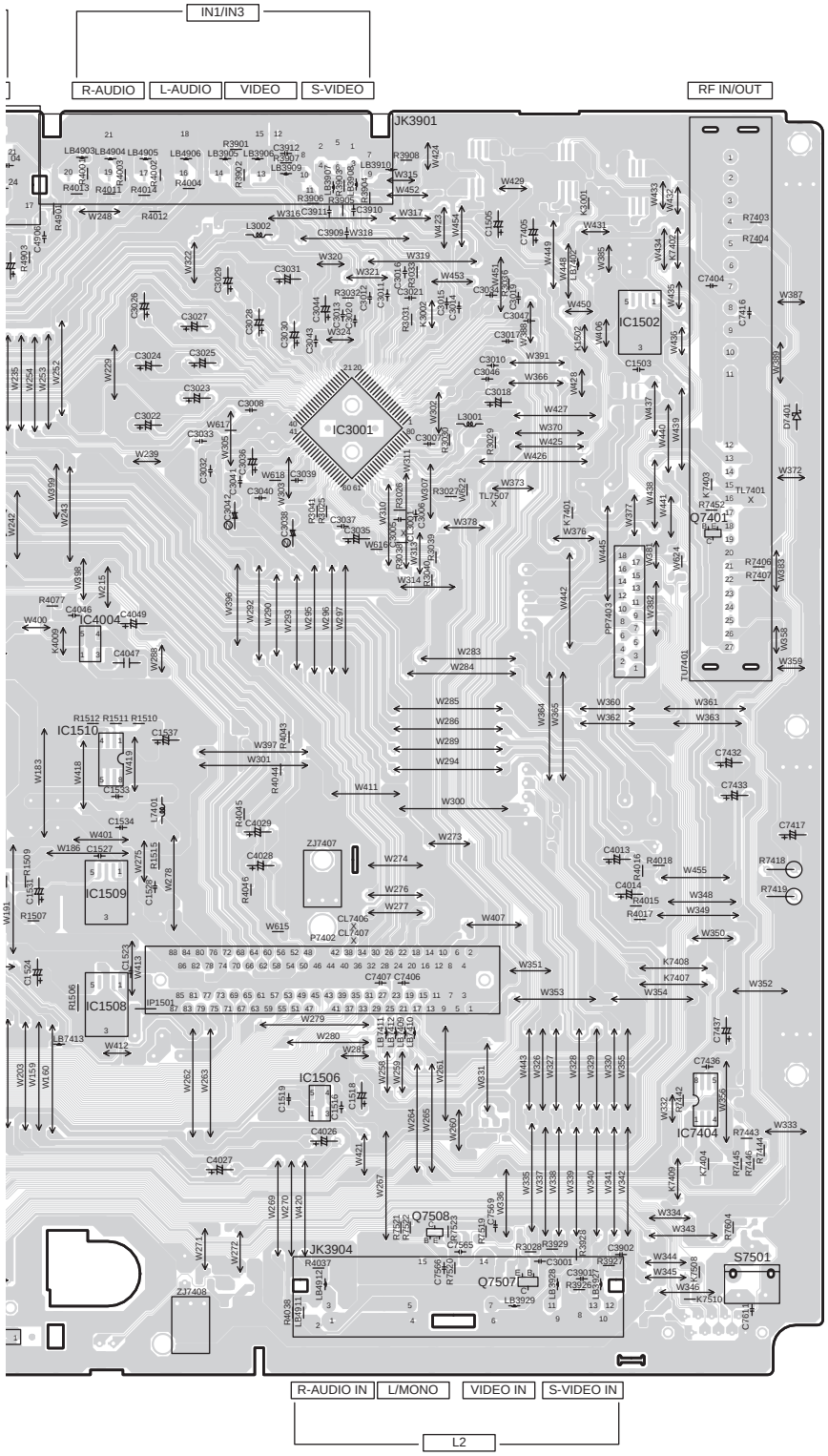
20 Print Circuit Board

20.1. Main P.C.B.

A MAIN P.C.B (REP3662B)

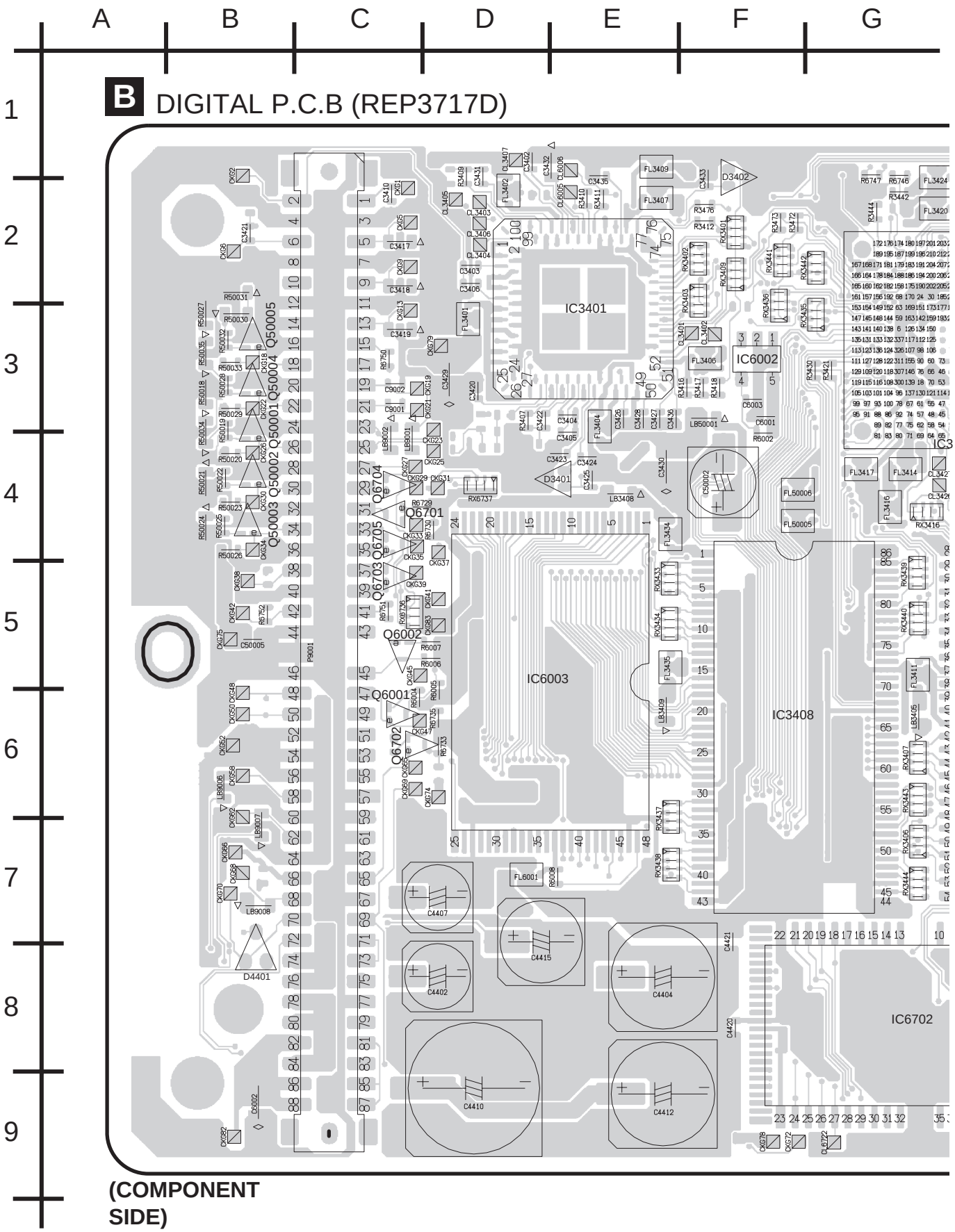


G H I J K L M

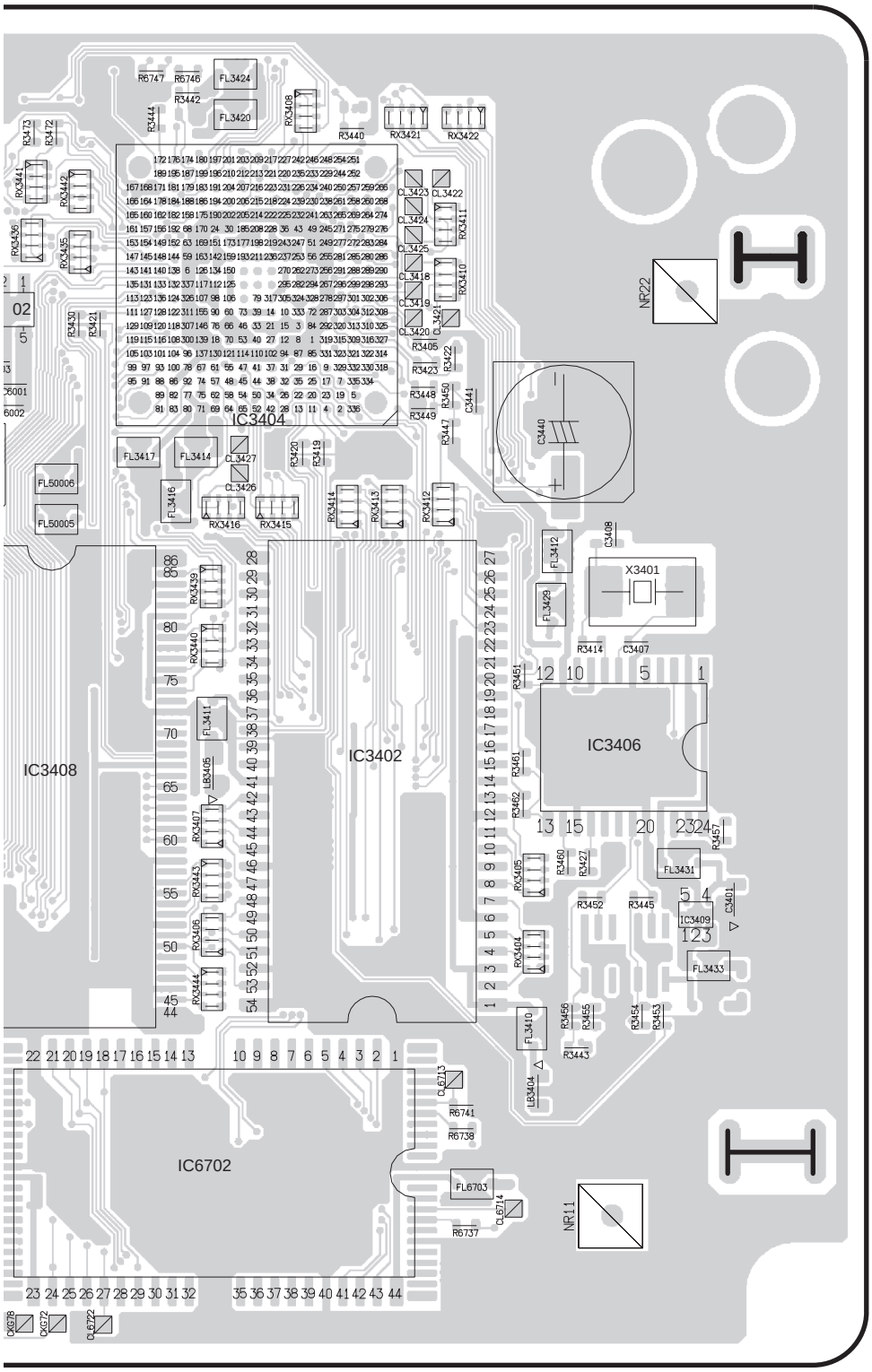

IN1/IN3
R-AUDIO
L-AUDIO
VIDEO
S-VIDEO
RF IN/OUT
JK3901
IC3001
IC1502
IC4004
IC1510
IC1509
IC1508
IC1506
IC7404
Q7401
Q7508
Q7507
JK3904
S7501
R-AUDIO IN
L/MONO
VIDEO IN
S-VIDEO IN
L2

20.2. Digital P.C.B.

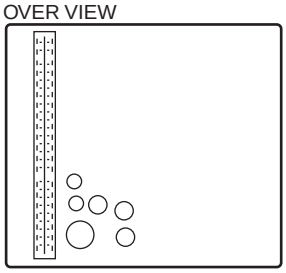
20.2.1. Digital P.C.B. (Component Side)



G H I J K L M



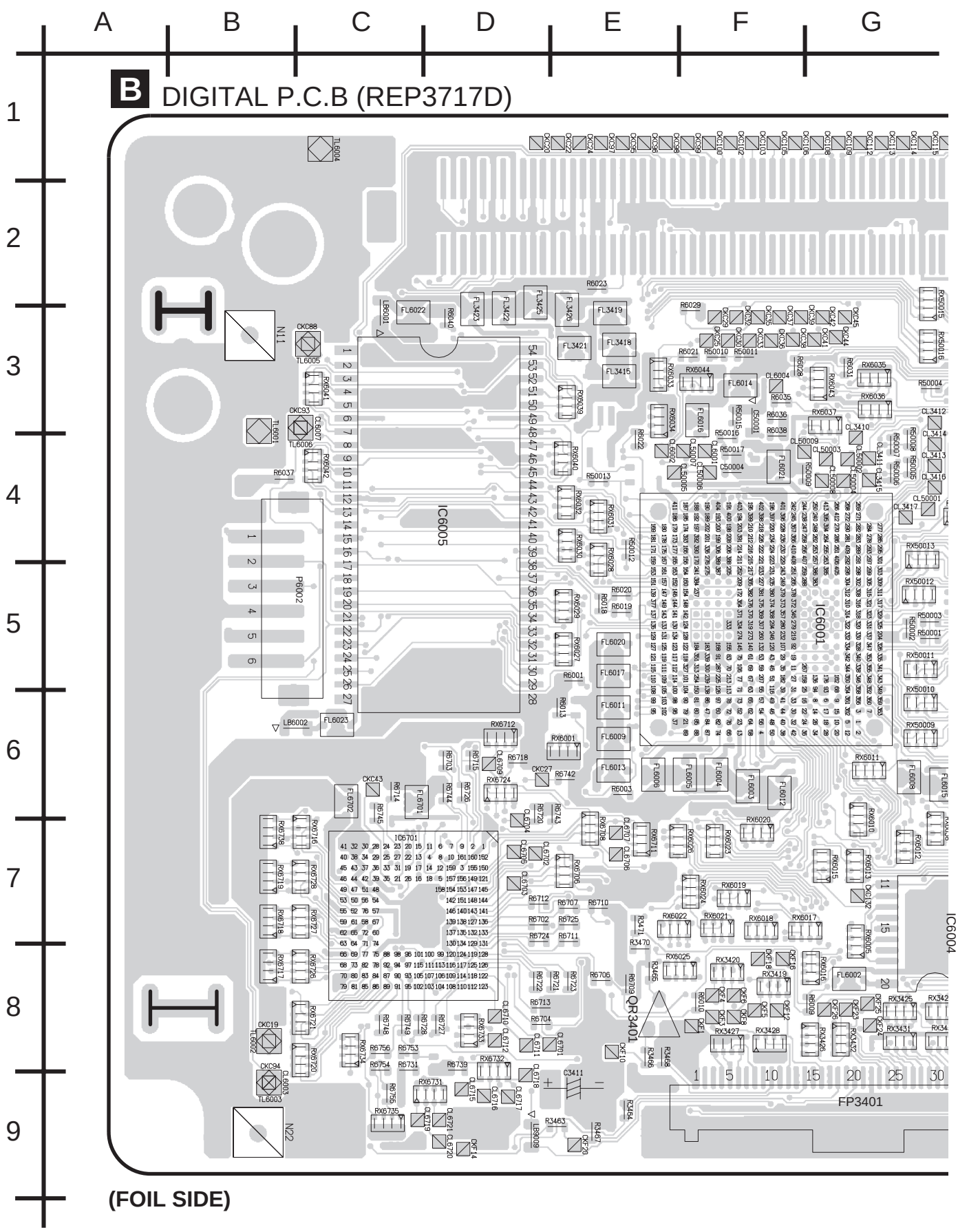
OVER VIEW



*IC6702 is not supplied in the form of an individual part.
When replacing, be sure to replace the digital p.c.b. and not IC6702 singly.

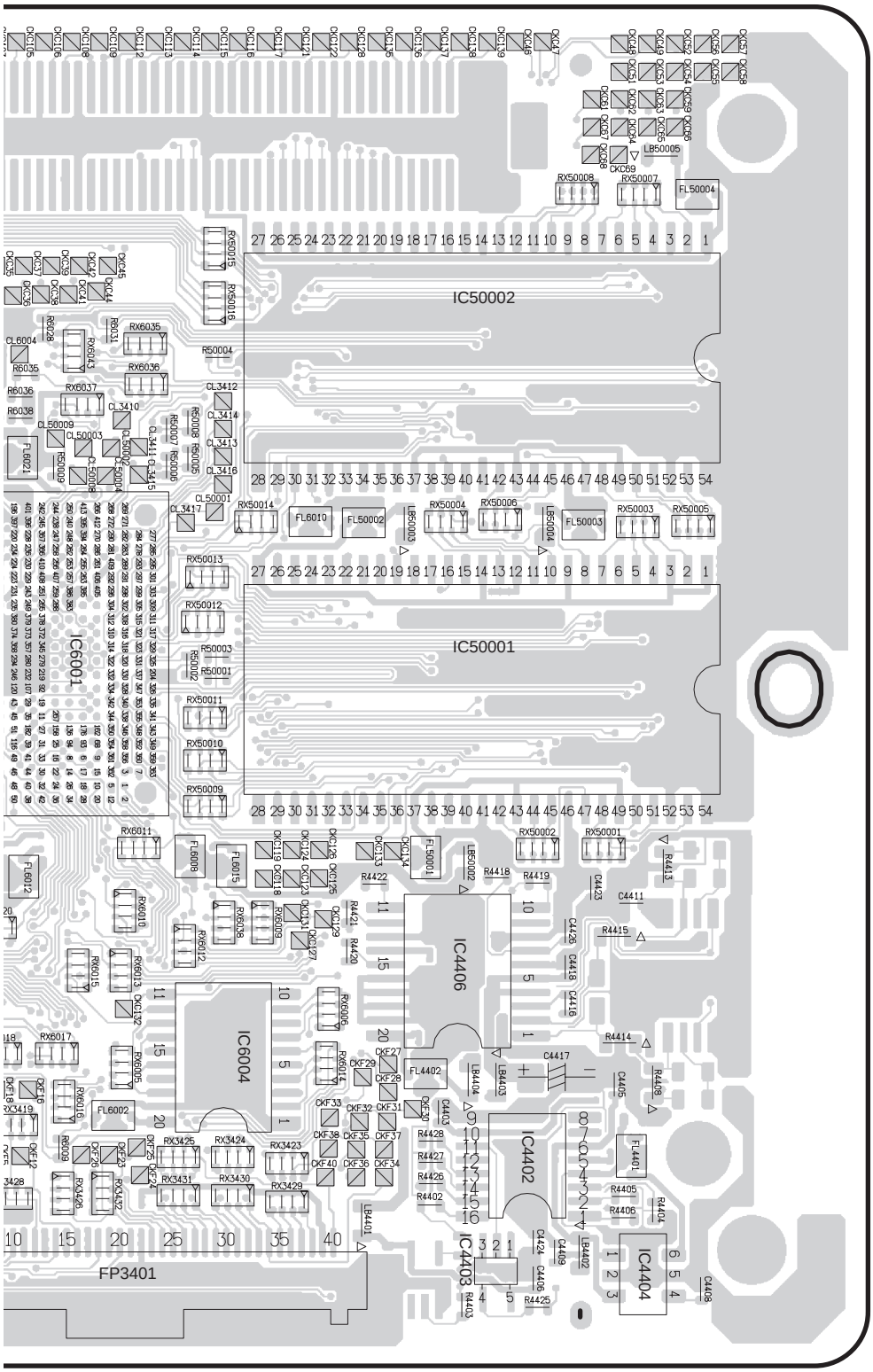
DMR-E55PL
DIGITAL P.C.B. (COMPONENT SIDE)

20.2.2. Digital P.C.B. (Foil Side)

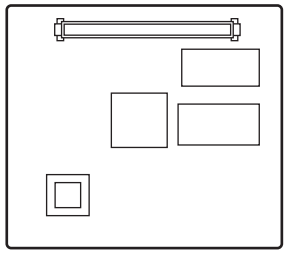


(FOIL SIDE)

G H I J K L M



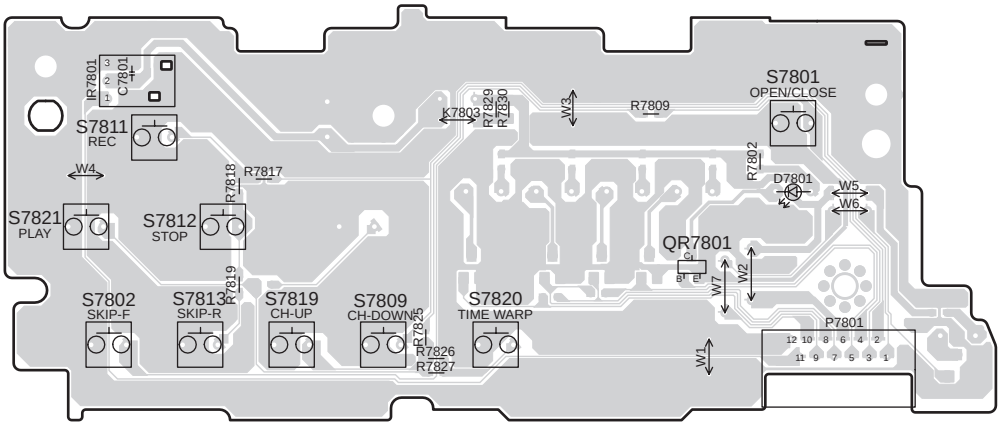
OVER VIEW



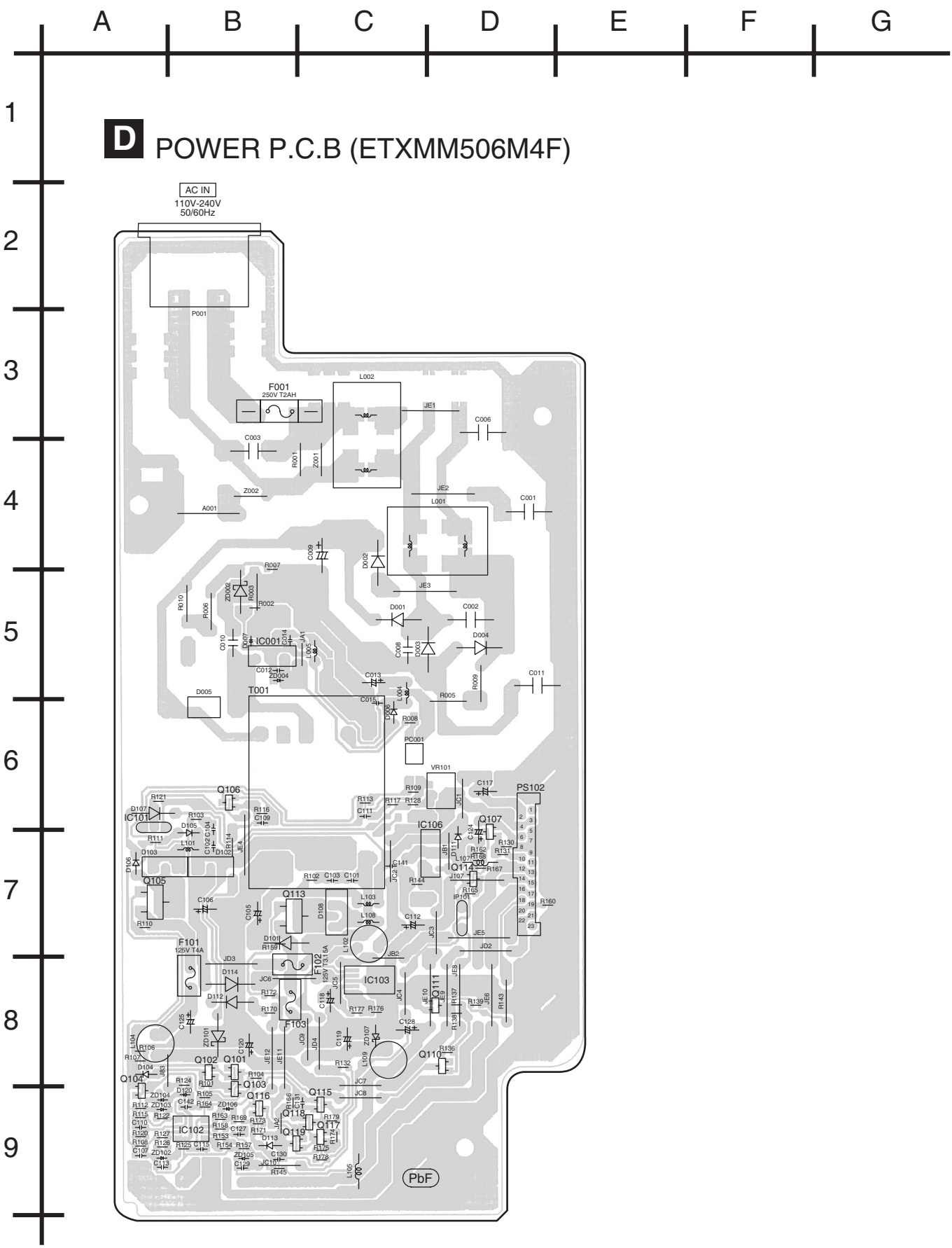
DMR-E55PL
DIGITAL P.C.B. (FOIL SIDE)

20.3. Panel P.C.B.

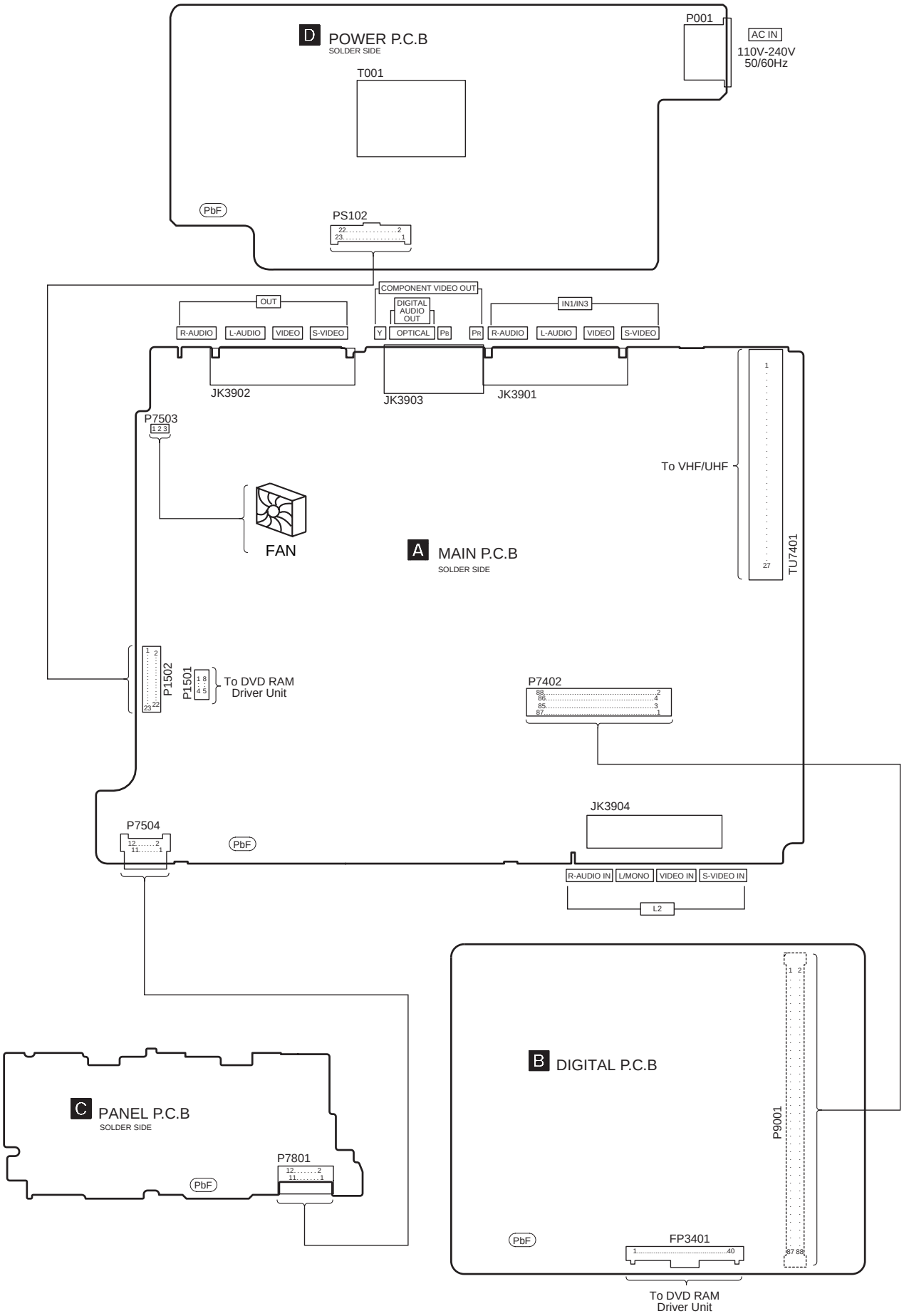
C PANEL P.C.B (REP3713A)



20.4. Power P.C.B.

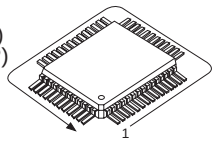


21 Wiring Connection Diagram

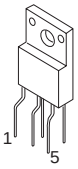


22 Illustration of IC's, Transistors and Diodes

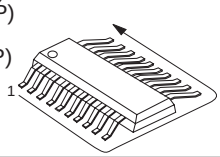
C1AB00001918 (80P)
AN13310B-VB (100P)
MN85573 (336P)
MN2DS0011-H (413P)
C1ZBZ0002429 (161P)
C2CBJG000381 (116P)
C0HBB0000033 (64P)



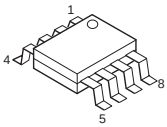
STRG6353
SI3120J



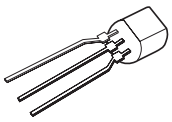
C3ABRG000036 (54P)
C1DB00001110 (24P)
C3ABPJ000017 (86P)
C1AB00001920 (32P)
C0FBBK000035 (16P)
C0CBCBD00002 (6P)
C0FBAK000008 (20P)
C3CBLD000088 (48P)
C0JBAZ001466 (20P)
C3ABQG000068 (54P)
RFKBE55PL (44P)
C3ABPG000068 (54P)



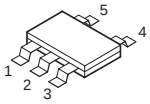
LM2904DR
C0CBCDD00008
C0CBCDD00006
C0BBBB000006
C0ABBA000146



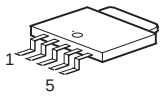
TL431AILPR



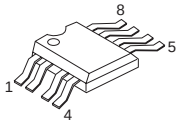
C0CBCDD00002
C0DBZGC00066
C0CBCDC00026
C0CBCDC00027
C0JBAD000107
C0EBE0000130
C0EBJ0000110
C0EBE0000194



SI3010KM
C0DBAHG00013
C0DBEGD00002
C0DBEFG00003

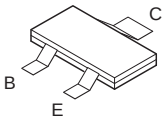


C0DBEGG00003

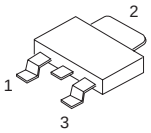


2SD602A-R
2SB710AQRSTX
2SB0709ARL
2SD601A-R
2SB1218A0L
2SD132800L
B1ABCF000114
2SD0601A0L
2SB0709A0L

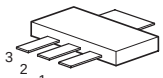
2SD1819A0L
B1ADCF000081
UNR521L00L
UNR521100L
UNR521200L
UNR221400L



2SK3366

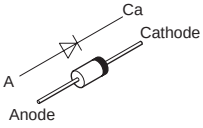


2SD0874A0L

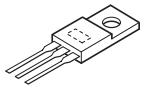


2SD1994BR1VT

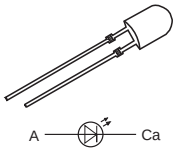
GPP20J
ST3D200
AL01Z
RK49
B0AAGM000007



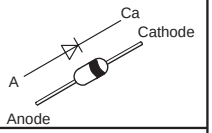
FCQ20A6
BRF1560
FCH05A10



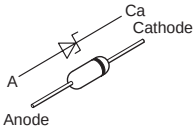
B3ABA0000396



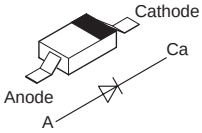
MA165TA5
MA2C165001VT
MA2C18500E
B0JACE000001



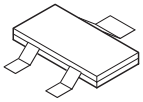
MAZ4300NMF
MAZ4240NMF
MAZ4300NLF
MA4068N
MA4039M
RD6.2ESB



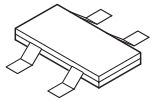
MA2J72800L
MA2J11100L
MA8051
MAZ8051
MA8082



MA3S132E0L
MA3Z142D0LG
MA3Z142K0LG

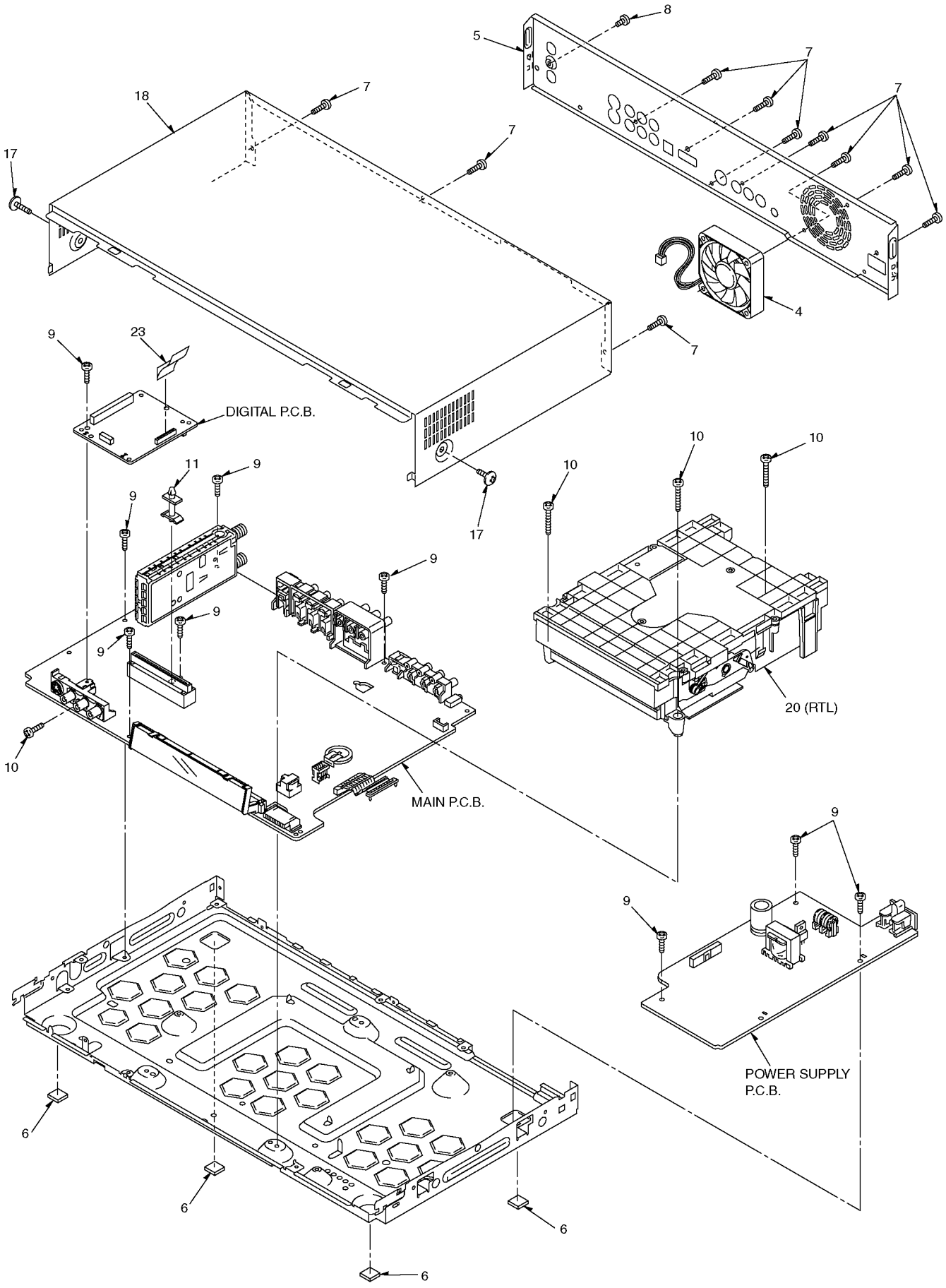


B0JDCE000002

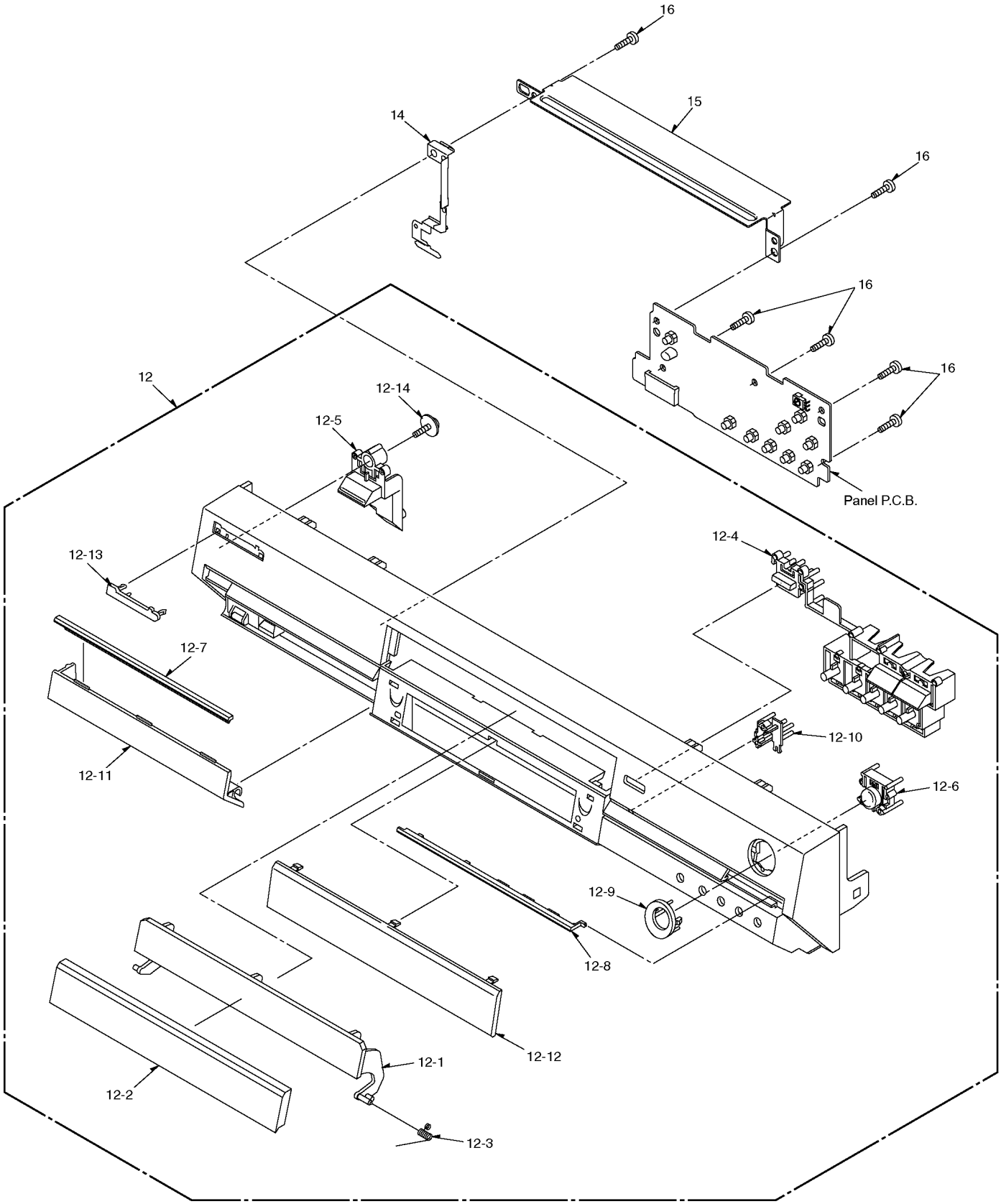


23 Exploded Views

23.1. Casing Parts & Mechanism Section 1



23.2. Casing Parts & Mechanism Section 2



24 Parts Location and Replacement Parts List

Notes:

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.

  When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)

  Parts without these indications can be used for all areas.
- Capacitor values are in microfarads (μF) unless specified otherwise, P= Pico-farads (pF), F= Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
- [M] Indicates in the Remarks columns indicates parts supplied by **PAVCSG**. Otherwise parts would be supplied by **PAVC** [SPC].
- Reference for O/I book languages are as follows:

Ar :	Arabic	Du :	Dutch	It :	Italian	Sp :	Spanish
Cf :	Canadian French	En :	English	Ko :	Korean	Sw :	Swedish
Cz :	Czech	Fr :	French	Po :	Polish	Co :	Traditional Chinese
Da :	Danish	Ge :	German	Ru :	Russian	Cn :	Simplified Chinese
Pe :	Persian						

24.1. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
	REP3713A	PANEL PCB	[M] (RTL)
	ETXMM506M4F	POWER PCB	[M] (RTL)
	REP3662B	MAIN PCB	[M] (RTL)
	REP3717D	DIGITAL PCB	[M] (RTL)
4	L6FAKCCE0002	DC FAN MOTOR	[M]
5	RGR0347B-C1	REAR PANEL	[M]
6	RKA0166-T	LEG RUBBER	[M]
7	XTBS3+8JFZ1	SCREW	[M]
8	XSN3+4FZ	SCREW	[M]
9	RHDX30005	SCREW	[M]
10	RHD30115-2	SCREW	[M]
11	RMX0298	LOCKING CARD SPACER	[M]
12	RYP1260-S	FRONT PANEL UNIT	[M]
12-1	RKF0690-K1	TRAY DOOR	[M]
12-10	RGL0658-Q	PANEL LIGHT	[M]
12-11	RKF0689A-S	PANEL DOOR	[M]
12-12	RGK1776-Q	FL ORNAMENT	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
12-13	VGB0560	PANASONIC BADGE	[M]
12-14	RHD26016	SCREW	[M]
12-2	RGK1777-Q	TRAY ORNAMENT	[M]
12-3	VMB3410	BLINDER SPRING	[M]
12-4	RGU2290A-S	OPERATION BUTTON	[M]
12-5	RGU2289-S	POWER BUTTON	[M]
12-6	RGU2291A-Q	REC BUTTON	[M]
12-7	RGK1774-S	FRONT ORNAMENT L	[M]
12-8	RGK1775-S	FRONT ORNAMENT R	[M]
12-9	RGK1773-S	REC BUTTON RING	[M]
14	RMC0595	EARTH PLATE	[M]
15	RMA1778	FRONT ANGLE	[M]
16	XTV26+10G	SCREW (ORNAMENT)	[M]
17	RHD30113	SCREW(SIDE)	[M]
18	RKM0508-S	TOP CABINET	[M]
20	VXY1855	RAM DRIVE UNIT	[M] (RTL) compatible with VXY1794
23	VWJ1731	DIGITAL-RAM DRIVE FF	[M]

24.2. Electrical Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC1	STRG6353	IC SWITCHING	[SPC]
IC101	TL431AILPR	IC SWITCHING	[SPC]
IC102	LM2904DR	IC REGULATOR	[SPC]
IC103	SI3010KM	IC REG.+5V	[SPC]
IC106	SI3120J	IC REG.+5V	[SPC]
IC1502	C0DBAHG00013	IC REG.JC+5V	[M]
IC1505	C0CBCDD00008	IC REG.XSW+5.2V	[M]
IC1506	C0CBCDD00002	IC REG.ANA+5V	[M]
IC1507	C0CBCDD00006	IC REG.D+5V	[M]
IC1508	C0DBEGD00002	IC REG.ANA+3.3V	[M]
IC1509	C0DBEFG00003	IC REG.D+1.2V	[M]
IC1510	C0DBEGG00003	IC REG.D+1.5V	[M]
IC3001	C1AB00001918	IC VIDEO PROCESSOR	[M]
IC3401	AN13310B-VB	IC VAD CONTROLLER	[M]
IC3402	C3ABRG000036	IC 16BIT/256M SDRAM	[M]
IC3404	MN85573	IC AV ENC/RTSC	[M]
IC3406	C1DB00001110	IC CLOCK GENERATOR	[M]
IC3408	C3ABPJ000017	IC 32BIT/64M SDRAM	[M]
IC3409	C0DBZGC00066	IC REG.D+3.3V	[M]
IC4001	C1AB00001920	IC AUDIO SOUND PROCESSOR	[M]
IC4004	C0CBCDC00026	IC REG.AU+5V	[M]
IC4005	C0CBCDC00027	IC REG.AU+9V	[M]
IC4402	C0FBBK000035	IC AUDIO 2CH D/A CONVERTER	[M]
IC4403	C0JBAD000107	IC XD MUTE OUT	[M]
IC4404	C0CBCBD00002	IC REG.DAC+3.3V	[M]
IC4406	C0FBAK000008	IC AUDIO A/D CONVERTER	[M]
IC6001	MN2DS0011-H	IC AVDEC/MAIN CPU	[M]
IC6002	C0EBE0000130	IC RESET	[M]
IC6003	C3CBLD000088	IC 8MBIT LOADER	[M]
IC6004	C0JBAZ001466	IC 8BIT BUFFER/DRIVER	[M]
IC6005	C3ABQG000068	IC 16BIT/128M SDRAM	[M]
IC6701	C1ZBZ0002429	IC GLUE	[M]
IC6702	REP3717D	DIGITAL P.C.B	[M]
IC7404	C0BBBB000006	IC JC CLK OUT	[M]
IC7501	C2CBJG000381	IC TIMER	[M]
IC7502	C0HBB0000033	IC DISPLAY DRIVE	[M]
IC7503	C0EBJ0000110	IC RESET	[M]
IC7505	C0EBE0000194	IC SYS PFAIL (L) OUT	[M]
IC7506	C0ABBA000146	IC FAN MOTOR DRIVE	[M]
IC50001	C3ABPG000068	IC 16BIT/64M SDRAM	[M]
IC50002	C3ABPG000068	IC 16BIT/64M SDRAM	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
IR7801	B3RAD0000071	INFRARED RAYS	[M]
		TRANSISTORS	
Q101	2SD602A-R	TRANSISTOR	[SPC]
Q102	2SB710AQRSTX	TRANSISTOR	[SPC]
Q103	2SB0709ARL	TRANSISTOR	[SPC]
Q104	2SD601A-R	TRANSISTOR	[SPC]
Q105	2SK3366	TRANSISTOR	[SPC]
Q106	2SD601A-R	TRANSISTOR	[SPC]
Q107	2SD601A-R	TRANSISTOR	[SPC]
Q110	2SB710AQRSTX	TRANSISTOR	[SPC]
Q111	2SD601A-R	TRANSISTOR	[SPC]
Q113	2SK3366	TRANSISTOR	[SPC]
Q114	2SB710AQRSTX	TRANSISTOR	[SPC]
Q115	2SD601A-R	TRANSISTOR	[SPC]
Q116	2SD601A-R	TRANSISTOR	[SPC]
Q117	2SB0709ARL	TRANSISTOR	[SPC]
Q118	2SD602A-R	TRANSISTOR	[SPC]
Q119	2SB710AQRSTX	TRANSISTOR	[SPC]
Q4001	2SB1218A0L	TRANSISTOR	[M]
Q4002	2SD132800L	TRANSISTOR	[M]
Q4003	2SD132800L	TRANSISTOR	[M]
Q6001	B1ABCF000114	TRANSISTOR	[M]
Q6002	B1ABCF000114	TRANSISTOR	[M]
Q6701	B1ABCF000114	TRANSISTOR	[M]
Q6702	B1ABCF000114	TRANSISTOR	[M]
Q6703	B1ABCF000114	TRANSISTOR	[M]
Q6704	B1ABCF000114	TRANSISTOR	[M]
Q6705	B1ABCF000114	TRANSISTOR	[M]
Q7401	2SB1218A0L	TRANSISTOR	[M]
Q7503	2SD1994BR1VT	TRANSISTOR	[M]
Q7504	2SD0601A0L	TRANSISTOR	[M]
Q7507	2SB0709A0L	TRANSISTOR	[M]
Q7508	2SD1819A0L	TRANSISTOR	[M]
Q7512	2SD0874A0L	TRANSISTOR	[M]
Q50001	B1ADCF000081	TRANSISTOR	[M]
Q50002	B1ADCF000081	TRANSISTOR	[M]
Q50003	B1ADCF000081	TRANSISTOR	[M]
Q50004	B1ADCF000081	TRANSISTOR	[M]
Q50005	B1ADCF000081	TRANSISTOR	[M]
QR3401	UNR521L00L	TRANSISTOR	[M]
QR4001	UNR521100L	CHIP TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
QR4002	UNR521100L	CHIP TRANSISTOR	[M]
QR4003	UNR521100L	CHIP TRANSISTOR	[M]
QR4004	UNR521100L	CHIP TRANSISTOR	[M]
QR7502	UNR521200L	CHIP TRANSISTOR	[M]
QR7801	UNR221400L	TRANSISTOR	[M]
		DIODES	
D1	GPP20J	DIODE	[SPC]
D2	GPP20J	DIODE	[SPC]
D3	GPP20J	DIODE	[SPC]
D4	GPP20J	DIODE	[SPC]
D5	ST3D200	CLAMPER	[SPC]
D6	AL01Z	DIODE	[SPC]
D7	MA2J72800L	DIODE	[SPC]
D101	RK49	DIODE	[SPC]
D102	FCQ20A6	DIODE	[SPC]
D103	BRF1560	DIODE	[SPC]
D104	MA165TA5	DIODE	[SPC]
D105	MA165TA5	DIODE	[SPC]
D106	MA165TA5	DIODE	[SPC]
D107	MA165TA5	DIODE	[SPC]
D108	FCH05A10	DIODE	[SPC]
D111	MA165TA5	DIODE	[SPC]
D112	MA165TA5	DIODE	[SPC]
D113	MA165TA5	DIODE	[SPC]
D114	GPP20J	DIODE	[SPC]
D120	MA2J11100L	DIODE	[SPC]
D1501	MA2C165001VT	DIODE	[M]
D3401	MA3S132E0L	DIODE	[M]
D3402	MA3S132E0L	DIODE	[M]
D4001	MA3Z142D0LG	DIODE	[M]
D4401	MA3Z142K0LG	DIODE	[M]
D7401	MAZ4300NMF	DIODE	[M]
D7501	MAZ4240NMF	DIODE	[M]
D7502	B0AAGM000007	DIODE	[M]
D7504	MA2C18500E	DIODE	[M]
D7505	MA2C18500E	DIODE	[M]
D7506	MAZ4300NLF	DIODE	[M]
D7507	B0JDCE000002	DIODE	[M]
D7511	B0JACE000001	DIODE	[M]
D7801	B3ABA0000396	DIODE	[M]
ZD2	MA4068N	DIODE	[SPC]
ZD4	MA8051	DIODE	[SPC]
ZD101	MA4039M	DIODE	[SPC]
ZD102	MAZ8051	DIODE	[SPC]
ZD103	MA8051	DIODE	[SPC]
ZD104	MA8082	DIODE	[SPC]
ZD105	MAZ8051	DIODE	[SPC]
ZD106	MA8051	DIODE	[SPC]
ZD107	RD6.2ESB	DIODE	[SPC]
		INDUCTORS	
LB1501	J0JHC0000032	FILTER	[M]
LB1503	J0JHC0000032	FILTER	[M]
LB1504	VLP0056-T	INDUCTOR	[M]
LB1505	VLP0056-T	INDUCTOR	[M]
LB3404	J0JHC0000032	FILTER	[M]
LB3405	J0JHC0000032	FILTER	[M]
LB3408	J0JHC0000032	FILTER	[M]
LB3409	J0JHC0000032	FILTER	[M]
LB3905	J0JCC0000103	FILTER	[M]
LB3906	J0JCC0000103	FILTER	[M]
LB3907	J0JCC0000103	FILTER	[M]
LB3908	J0JCC0000103	FILTER	[M]
LB3909	J0JCC0000103	FILTER	[M]
LB3910	J0JCC0000103	FILTER	[M]
LB3915	J0JCC0000103	FILTER	[M]
LB3917	J0JCC0000103	FILTER	[M]
LB3918	J0JCC0000103	FILTER	[M]
LB3924	J0JCC0000103	FILTER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
LB3925	J0JCC0000103	FILTER	[M]
LB3926	J0JCC0000103	FILTER	[M]
LB3927	J0JCC0000103	FILTER	[M]
LB3928	J0JCC0000103	FILTER	[M]
LB3929	J0JCC0000103	FILTER	[M]
LB4401	J0JGC0000020	FILTER	[M]
LB4402	J0JHC0000032	FILTER	[M]
LB4403	J0JGC0000020	FILTER	[M]
LB4404	J0JGC0000020	FILTER	[M]
LB4903	J0JCC0000103	FILTER	[M]
LB4904	J0JCC0000103	FILTER	[M]
LB4905	J0JCC0000103	FILTER	[M]
LB4906	J0JCC0000103	FILTER	[M]
LB4907	J0JCC0000103	FILTER	[M]
LB4909	J0JCC0000103	FILTER	[M]
LB4911	J0JCC0000103	FILTER	[M]
LB4912	J0JCC0000103	FILTER	[M]
LB6001	J0JHC0000032	FILTER	[M]
LB6002	J0JHC0000032	FILTER	[M]
LB7402	J0JHC0000032	FILTER	[M]
LB7409	J0JHC0000032	FILTER	[M]
LB7410	J0JHC0000032	FILTER	[M]
LB7411	ERJ3GEY0R00V	0 1/16W	[M]
LB7412	ERJ3GEY0R00V	0 1/16W	[M]
LB7413	ERJ3GEY0R00V	0 1/16W	[M]
LB7501	J0JCC0000060	FILTER	[M]
LB7502	ERJ3GEY0R00V	0 1/16W	[M]
LB7503	J0JKB0000037	FILTER	[M]
LB7504	ERJ3GEY0R00V	0 1/16W	[M]
LB7505	ERJ3GEY0R00V	0 1/16W	[M]
LB7506	ERJ3GEY0R00V	0 1/16W	[M]
LB7507	ERJ3GEY0R00V	0 1/16W	[M]
LB7508	ERJ3GEY0R00V	0 1/16W	[M]
LB9001	J0JHC0000032	FILTER	[M]
LB9002	J0JHC0000032	FILTER	[M]
LB9006	J0JCC0000103	FILTER	[M]
LB9007	J0JCC0000103	FILTER	[M]
LB9008	J0JHC0000045	CHIP CAPACITOR	[M]
LB9009	J0JHC0000046	FILTER	[M]
LB50001	J0JHC0000032	FILTER	[M]
LB50002	J0JHC0000032	FILTER	[M]
LB50003	J0JHC0000032	FILTER	[M]
LB50004	J0JHC0000032	FILTER	[M]
LB50005	J0JHC0000032	FILTER	[M]
		SWITCHES	
S7501	K0F111B00044	SW POWER	[M]
S7801	EVQ11G07K	SW OPEN/CLOSE	[M]
S7802	EVQ11G07K	SW SKIP-F	[M]
S7809	EVQ11G07K	SW CH-DOWN	[M]
S7811	EVQ11G07K	SW REC	[M]
S7812	EVQ11G07K	SW STOP	[M]
S7813	EVQ11G07K	SW SKIP-R	[M]
S7819	EVQ11G07K	SW CH-UP	[M]
S7820	EVQ11G07K	SW TIME-WARP	[M]
S7821	EVQ11G07K	SW PLAY	[M]
		CONNECTORS	
P1501	K1KA08A00427	8P CONNECTOR	[M]
P1502	K1KA23A00003	23P CONNECTOR	[M]
P6002	K1KA06A00394	6P CONNECTOR	[M]
P7402	K1KA88A00002	88P CONNECTOR	[M]
P7503	K1KA03A00173	3P CONNECTORS	[M]
P7504	K1KB12B00049	12P CONNECTOR	[M]
P7801	K1KA12B00136	12P CONNECTOR	[M]
P9001	K1KB88A00002	88P CONNECTOR	[M]
FP3401	K1MN40A00022	40P CONNECTOR	[M]
PS102	TWGP23XA1	23P CONNECTOR	[SPC]

Ref. No.	Part No.	Part Name & Description	Remarks
		COILS & TRANSFORMERS	
L2	ELF15N005A	COIL	[SPC] ⚠
L4	ELESN150KA	COIL	[SPC]
L5	EXCELSR35	COIL	[SPC]
L10	EXCELSA35	COIL	[SPC]
L11	EXCELSA35	COIL	[SPC]
L101	EXCELDR35	COIL	[SPC]
L102	LHLZ1R5M	COIL	[SPC]
L103	EXCELDR35	COIL	[SPC]
L104	LHLZ6R8M	COIL	[SPC]
L105	EXCELSA35	COIL	[SPC]
L107	EXCELSA35	COIL	[SPC]
L108	EXCELDR35	COIL	[SPC]
L109	LHLZ4R7M	COIL	[SPC]
L1501	G0A220G00018	INDUCTOR	[M]
L3001	ELEXT220JBV	FIXED INDUCTORS	[M]
L3002	ELEXT220JBV	FIXED INDUCTORS	[M]
L4901	ELESN220KA	INDUCTOR	[M]
L7401	G0A220G00018	INDUCTOR	[M]
L7502	ELESN101KA	CHOKE COIL	[M]
T1	ETB28BF1U6A	TRANSFORMER	[M] ⚠
T7501	ETS13TB119AP	TRANSFORMER	[M] ⚠
B7501	CR2354-1GUF	LITHIUM BATTERY	[M]
TU7401	ENGD6201D	TV TUNER PACK	[M]
		OSCILLATORS	
X3401	H0J270500069	FIELD MOUNTING CRY.	[M]
X7501	H0D100500016	CRYSTAL RESONATORS	[M]
X7502	H0A327200026	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL3401	F1H0J4740004	0.47 6.3V	[M]
FL3402	F1H0J4740004	0.47 6.3V	[M]
FL3404	F1H0J4740004	0.47 6.3V	[M]
FL3406	F1H0J4740004	0.47 6.3V	[M]
FL3407	F1H0J4740004	0.47 6.3V	[M]
FL3409	F1H0J4740004	0.47 6.3V	[M]
FL3410	F1H0J4740004	0.47 6.3V	[M]
FL3411	F1H0J4740004	0.47 6.3V	[M]
FL3412	F1H0J4740004	0.47 6.3V	[M]
FL3414	F1H0J4740004	0.47 6.3V	[M]
FL3415	F1H0J4740004	0.47 6.3V	[M]
FL3416	F1H0J4740004	0.47 6.3V	[M]
FL3417	F1H0J4740004	0.47 6.3V	[M]
FL3418	F1H0J4740004	0.47 6.3V	[M]
FL3419	F1H0J4740004	0.47 6.3V	[M]
FL3420	F1H0J4740004	0.47 6.3V	[M]
FL3421	F1H0J4740004	0.47 6.3V	[M]
FL3422	F1H0J4740004	0.47 6.3V	[M]
FL3423	F1H0J4740004	0.47 6.3V	[M]
FL3424	F1H0J4740004	0.47 6.3V	[M]
FL3425	F1H0J4740004	0.47 6.3V	[M]
FL3426	F1H0J4740004	0.47 6.3V	[M]
FL3429	F1H0J4740004	0.47 6.3V	[M]
FL3431	F1H0J4740004	0.47 6.3V	[M]
FL3433	F1H0J4740004	0.47 6.3V	[M]
FL3434	F1H0J4740004	0.47 6.3V	[M]
FL3435	F1H0J4740004	0.47 6.3V	[M]
FL4401	F1H0J4740004	0.47 6.3V	[M]
FL4402	F1H0J4740004	0.47 6.3V	[M]
FL6001	F1H0J4740004	0.47 6.3V	[M]
FL6002	F1H0J4740004	0.47 6.3V	[M]
FL6003	F1H0J4740004	0.47 6.3V	[M]
FL6004	F1H0J4740004	0.47 6.3V	[M]
FL6005	F1H0J4740004	0.47 6.3V	[M]
FL6006	F1H0J4740004	0.47 6.3V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
FL6008	F1H0J4740004	0.47 6.3V	[M]
FL6009	F1H0J4740004	0.47 6.3V	[M]
FL6010	F1H0J4740004	0.47 6.3V	[M]
FL6011	F1H0J4740004	0.47 6.3V	[M]
FL6012	F1H0J4740004	0.47 6.3V	[M]
FL6013	F1H0J4740004	0.47 6.3V	[M]
FL6014	F1H0J4740004	0.47 6.3V	[M]
FL6015	F1H0J4740004	0.47 6.3V	[M]
FL6016	F1H0J4740004	0.47 6.3V	[M]
FL6017	F1H0J4740004	0.47 6.3V	[M]
FL6020	F1H0J4740004	0.47 6.3V	[M]
FL6021	F1H0J4740004	0.47 6.3V	[M]
FL6022	F1H0J4740004	0.47 6.3V	[M]
FL6023	F1H0J4740004	0.47 6.3V	[M]
FL6701	F1H0J4740004	0.47 6.3V	[M]
FL6702	F1H0J4740004	0.47 6.3V	[M]
FL6703	F1H0J4740004	0.47 6.3V	[M]
FL50001	F1H0J4740004	0.47 6.3V	[M]
FL50002	F1H0J4740004	0.47 6.3V	[M]
FL50003	F1H0J4740004	0.47 6.3V	[M]
FL50004	F1H0J4740004	0.47 6.3V	[M]
FL50005	F1H0J4740004	0.47 6.3V	[M]
FL50006	F1H0J4740004	0.47 6.3V	[M]
		FUSES	
F1	19181-2A	FUSE	[SPC] ⚠
F101	SBM40	FUSE	[SPC] ⚠
F102	SBM32	FUSE	[SPC] ⚠
F103	SBM25	FUSE	[SPC] ⚠
F1101	K5D162BK0005	FUSE	[M] ⚠
		COMBINATIONS	
PC1	PS2571L1	PHOTO COUPLER	[SPC]
VR101	ER0S2TKF1580	0.25W 158	[SPC]
Z1	ERZVGAD471	VARISTOR	[SPC]
		FUSE PROTECTOR	
IP101	ICPN10	IC PROTECTOR	[SPC] ⚠
IP7501	D4FAR4000001	FUSIBLE RESISTOR	[M] ⚠
		EARTH TERMINALS	
ZJ7407	K9ZZ00000424	TERMINAL	[M]
ZJ7408	K9ZZ00000424	TERMINAL	[M]
DP7501	A2BD00000074	FL CHARACTER DISPLAY	[M]
		JACKS	
JK3901	K1U822B00003	JK MULTI. CONNECTOR	[M]
JK3902	K1U412B00001	JK MULTI. CONNECTOR	[M]
JK3903	K1U407B00002	JK MAIN PCB	[M]
JK3904	K1U415B00001	JK MULTI. CONNECTOR	[M]
P1	M2023	AC INLET	[SPC] ⚠
		CHIP JUMPERS	
W601	ERJ3GEY0R00V	0 1/16W	[M]
W602	ERJ3GEY0R00V	0 1/16W	[M]
W603	ERJ3GEY0R00V	0 1/16W	[M]
W604	ERJ6GEY0R00V	0 1/10W	[M]
W605	ERJ6GEY0R00V	0 1/10W	[M]
W606	ERJ3GEY0R00V	0 1/16W	[M]
W607	ERJ3GEY0R00V	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W608	ERJ3GEY0R00V	0 1/16W	[M]
W609	ERJ3GEY0R00V	0 1/16W	[M]
W610	ERJ3GEY0R00V	0 1/16W	[M]
W611	ERJ6GEY0R00V	0 1/10W	[M]
W612	ERJ3GEY0R00V	0 1/16W	[M]
W613	ERJ3GEY0R00V	0 1/16W	[M]
W614	ERJ3GEY0R00V	0 1/16W	[M]
W615	ERJ3GEY0R00V	0 1/16W	[M]
W616	ERJ3GEY0R00V	0 1/16W	[M]
W617	ERJ3GEY0R00V	0 1/16W	[M]
W618	ERJ3GEY0R00V	0 1/16W	[M]
W622	ERJ3GEY0R00V	0 1/16W	[M]
W623	ERJ3GEY0R00V	0 1/16W	[M]
W624	ERJ3GEY0R00V	0 1/16W	[M]
		RESISTORS	
R1	ERDS1FJ105	0.5W 1M	[SPC]
R2	CR10J681	0.1W 680	[SPC]
R3	ERX1SZGR47	1W 0.47	[SPC]
R5	ERDS2FJ224	1/4W 220K	[SPC]
R6	ER0S2TKF2373	0.25W 237K	[SPC]
R7	CR10F1272	0.1W 12.7K	[SPC]
R8	CR10J562	0.1W 5.6K	[SPC]
R9	ERDS2FJ224	1/4W 220K	[SPC]
R10	ER0S2TKF2373	0.25W 237K	[SPC]
R101	CR10J472	0.1W 4.7K	[SPC]
R102	CR10J100	0.1W 10	[SPC]
R103	CR10J100	0.1W 10	[SPC]
R104	CR10J471	0.1W 470	[SPC]
R105	CR10J472	0.1W 4.7K	[SPC]
R106	ERJ6GEYJ101V	1/8W 100	[SPC]
R107	CR10J224	0.1W 220K	[SPC]
R108	CR10J472	0.1W 4.7K	[SPC]
R109	CR10J222	0.1W 2.2K	[SPC]
R110	CR10J103	0.1W 10K	[SPC]
R111	CR10J752	0.1W 7.5K	[SPC]
R112	CR10J102	0.1W 1K	[SPC]
R113	CR10J471	0.1W 470	[SPC]
R114	ERDS2FJ101	1/4W 100	[SPC]
R115	CR10J332	0.1W 3.3K	[SPC]
R116	CR10J102	0.1W 1K	[SPC]
R117	ERJ6GEYJ101V	1/8W 100	[SPC]
R120	CR10F2210	0.1W 221	[SPC]
R121	CR10F1001	0.1W 1K	[SPC]
R122	CR10J183	0.1W 18K	[SPC]
R124	CR10F1470	0.1W 147	[SPC]
R125	CR10J103	0.1W 10K	[SPC]
R126	CR10F1002	0.1W 10K	[SPC]
R127	CR10F3321	0.1W 3.32K	[SPC]
R128	CR10F1211	0.1W 1.21K	[SPC]
R130	CR10J822	0.1W 8.2K	[SPC]
R131	CR10J103	0.1W 10K	[SPC]
R132	CR10J472	0.1W 4.7K	[SPC]
R136	CR10J152	0.1W 1.5K	[SPC]
R137	CR10J152	0.1W 1.5K	[SPC]
R139	CR10J123	0.1W 12K	[SPC]
R143	ERDS2FJ822	1/4W 8.2K	[SPC]
R144	CR10J222	0.1W 2.2K	[SPC]
R145	CR10F6810	0.1W 681	[SPC]
R153	CR10F1002	0.1W 10K	[SPC]
R154	CR10F3321	0.1W 3.32K	[SPC]
R157	CR10F2210	0.1W 221	[SPC]
R158	CR10J682	0.1W 6.8K	[SPC]
R159	CR10J103	0.1W 10K	[SPC]
R160	CR10J332	0.1W 3.3K	[SPC]
R163	CR10J183	0.1W 18K	[SPC]
R164	CR10J222	0.1W 2.2K	[SPC]
R165	CR10J103	0.1W 10K	[SPC]
R166	CR10J103	0.1W 10K	[SPC]
R167	CR10J152	0.1W 1.5K	[SPC]
R168	CR10J152	0.1W 1.5K	[SPC]
R169	CR10J102	0.1W 1K	[SPC]

Ref. No.	Part No.	Part Name & Description	Remarks
R170	CR10J752	0.1W 7.5K	[SPC]
R171	CR10J472	0.1W 4.7K	[SPC]
R172	ERJ6GEYJ101V	1/8W 100	[SPC]
R173	CR10J224	0.1W 220K	[SPC]
R174	CR10J471	0.1W 470	[SPC]
R175	CR10J472	0.1W 4.7K	[SPC]
R176	CR10F1002	0.1W 10K	[SPC]
R177	CR10F2432	0.1W 24.3K	[SPC]
R178	CR10J472	0.1W 4.7K	[SPC]
R179	CR10J223	0.1W 22K	[SPC]
R1501	ERJ3GEYJ822V	8.2K 1/16W	[M]
R1502	D0GB332JA002	3.3K 1/16W	[M]
R1503	D0GB101JA002	100 1/16W	[M]
R1504	ERDS2TJ271T	270 1/4W	[M]
R1506	ERDS2TJ271T	270 1/4W	[M]
R1507	ERJ3RED330V	33 3W	[M]
R1508	ERJ3RBD201V	200 3W	[M]
R1509	ERJ3RBD102V	1K 3W	[M]
R1510	ERJ3RED220V	22 3W	[M]
R1511	ERJ3RBD182V	1.8K 3W	[M]
R1512	ERJ3RBD202V	2K 3W	[M]
R1515	ERDS2TJ271T	270 1/4W	[M]
R1516	ERDS2TJ271T	270 1/4W	[M]
R3025	ERJ3RBD153V	15K 3W	[M]
R3026	D0GB105JA002	1M 1/16W	[M]
R3027	ERJ3GEY0R00V	0 1/16W	[M]
R3028	ERJ3GEYJ471V	470 1/16W	[M]
R3029	ERJ3GEY0R00V	0 1/16W	[M]
R3030	D0GB750JA019	75 1/16W	[M]
R3031	ERJ3GEY0R00V	0 1/16W	[M]
R3032	ERJ3GEYJ103V	10K 1/16W	[M]
R3033	ERJ3GEYJ103V	10K 1/16W	[M]
R3036	ERJ3GEYJ103V	10K 1/16W	[M]
R3038	ERJ3GEYJ330V	33 1/16W	[M]
R3039	ERJ3GEYJ221V	220 1/16W	[M]
R3040	ERJ3GEYJ221V	220 1/16W	[M]
R3041	ERJ3RBD104V	100K 3W	[M]
R3405	ERJ2GEJ103X	10K 2W	[M]
R3407	ERJ2GE0R00X	0 2W	[M]
R3409	ERJ2GE0R00X	0 2W	[M]
R3410	ERJ2GEJ101X	100 2W	[M]
R3411	ERJ2GEJ101X	100 2W	[M]
R3412	ERJ2GEJ220X	22 2W	[M]
R3414	ERJ2GEJ330X	33 2W	[M]
R3416	ERJ2GEJ472X	4.7K 2W	[M]
R3417	ERJ2GEJ103X	10K 2W	[M]
R3418	ERJ2GEJ103X	10K 2W	[M]
R3419	ERJ2GEJ220X	22 2W	[M]
R3420	ERJ2GEJ220X	22 2W	[M]
R3421	ERJ2GEJ220X	22 2W	[M]
R3422	ERJ2GEJ220X	22 2W	[M]
R3423	ERJ2GEJ220X	22 2W	[M]
R3427	ERJ2GEJ220X	22 2W	[M]
R3430	ERJ2GEJ220X	22 2W	[M]
R3440	ERJ2GEJ103X	10K 2W	[M]
R3442	ERJ2GEJ103X	10K 2W	[M]
R3443	ERJ2GE0R00X	0 2W	[M]
R3444	ERJ2GE0R00X	0 2W	[M]
R3445	ERJ2GE0R00X	0 2W	[M]
R3447	ERJ2RHD682X	6.8K 2W	[M]
R3448	ERJ2GEJ562X	5.6K 2W	[M]
R3449	ERJ2RHD682X	6.8K 2W	[M]
R3450	ERJ2GEJ104X	100K 2W	[M]
R3451	ERJ2GEJ220X	22 2W	[M]
R3452	ERJ2GE0R00X	0 2W	[M]
R3453	ERJ2GEJ220X	22 2W	[M]
R3454	ERJ2GEJ390X	39 2W	[M]
R3455	ERJ2GEJ220X	22 2W	[M]
R3456	ERJ2GEJ220X	22 2W	[M]
R3457	ERJ2GE0R00X	0 2W	[M]
R3460	ERJ2GEJ470X	47 2W	[M]
R3461	ERJ2GEJ470X	47 2W	[M]
R3462	ERJ2GEJ470X	47 2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R3463	ERJ2GEJ820X	82 2W	[M]
R3464	ERJ2GEJ102X	1K 2W	[M]
R3465	ERJ2GEJ332X	3.3K 2W	[M]
R3466	ERJ2GEJ820X	82 2W	[M]
R3467	ERJ2GEJ562X	5.6K 2W	[M]
R3468	ERJ2GEJ103X	10K 2W	[M]
R3470	ERJ2GEJ103X	10K 2W	[M]
R3471	ERJ2GEJ330X	33 2W	[M]
R3472	ERJ2GEJ220X	22 2W	[M]
R3473	ERJ2GEJ220X	22 2W	[M]
R3476	ERJ2GEJ102X	1K 2W	[M]
R3901	D0GB750JA019	75 1/16W	[M]
R3902	D0GB750JA019	75 1/16W	[M]
R3903	ERJ3GEYJ102V	1K 1/16W	[M]
R3904	D0GB750JA019	75 1/16W	[M]
R3905	D0GB750JA019	75 1/16W	[M]
R3906	ERJ3GEYJ102V	1K 1/16W	[M]
R3907	D0GB750JA019	75 1/16W	[M]
R3908	D0GB750JA019	75 1/16W	[M]
R3909	D0GB750JA019	75 1/16W	[M]
R3911	D0GB750JA019	75 1/16W	[M]
R3912	D0GB750JA019	75 1/16W	[M]
R3915	ERJ3GEYJ912V	9.1K 1/16W	[M]
R3923	D0GB750JA019	75 1/16W	[M]
R3924	D0GB750JA019	75 1/16W	[M]
R3925	D0GB750JA019	75 1/16W	[M]
R3926	ERJ3GEYJ102V	1K 1/16W	[M]
R3927	D0GB750JA019	75 1/16W	[M]
R3928	D0GB750JA019	75 1/16W	[M]
R3929	D0GB750JA019	75 1/16W	[M]
R4001	ERJ3GEYJ104V	100K 1/16W	[M]
R4002	ERJ3GEYJ104V	100K 1/16W	[M]
R4003	ERJ3GEYJ104V	100K 1/16W	[M]
R4004	ERJ3GEYJ104V	100K 1/16W	[M]
R4008	ERJ3GEY0R00V	0 1/16W	[M]
R4011	ERJ6GEYJ102V	1K 1/10W	[M]
R4012	ERJ6GEYJ102V	1K 1/10W	[M]
R4013	ERJ6GEYJ102V	1K 1/10W	[M]
R4014	ERJ6GEYJ102V	1K 1/10W	[M]
R4015	ERJ3GEYJ104V	100K 1/16W	[M]
R4016	ERJ3GEYJ104V	100K 1/16W	[M]
R4017	ERJ3GEY0R00V	0 1/16W	[M]
R4018	ERJ3GEY0R00V	0 1/16W	[M]
R4019	ERJ3GEY0R00V	0 1/16W	[M]
R4020	ERJ3GEY0R00V	0 1/16W	[M]
R4024	D0GB101JA002	100 1/16W	[M]
R4025	D0GB101JA002	100 1/16W	[M]
R4026	ERJ3RBD123V	12K 3W	[M]
R4027	ERJ3RBD622V	6.2K 3W	[M]
R4028	ERJ3RBD123V	12K 3W	[M]
R4029	ERJ3RBD622V	6.2K 3W	[M]
R4031	ERJ6GEYJ102V	1K 1/10W	[M]
R4032	ERJ6GEYJ102V	1K 1/10W	[M]
R4037	ERJ3GEYJ104V	100K 1/16W	[M]
R4038	ERJ3GEYJ104V	100K 1/16W	[M]
R4039	ERJ3GEY0R00V	0 1/16W	[M]
R4042	ERJ3GEY0R00V	0 1/16W	[M]
R4043	ERJ3RBD392V	3.9K 3W	[M]
R4044	ERJ3RBD392V	3.9K 3W	[M]
R4045	ERJ3RBD622V	6.2K 3W	[M]
R4046	ERJ3RBD622V	6.2K 3W	[M]
R4049	ERJ3GEYJ103V	10K 1/16W	[M]
R4050	ERJ3GEYJ103V	10K 1/16W	[M]
R4051	ERJ3GEYJ103V	10K 1/16W	[M]
R4052	ERJ3GEYJ103V	10K 1/16W	[M]
R4059	ERJ3GEYJ473V	47K 1/16W	[M]
R4060	ERJ3GEYJ473V	47K 1/16W	[M]
R4061	ERJ3GEYJ681V	680 1/16W	[M]
R4063	D0GB272JA002	2.7K 1/16W	[M]
R4064	D0GB272JA002	2.7K 1/16W	[M]
R4066	ERJ3GEYJ681V	680 1/16W	[M]
R4069	ERJ3GEYJ221V	220 1/16W	[M]
R4072	ERJ3GEYJ221V	220 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R4074	ERJ3GEY0R00V	0 1/16W	[M]
R4075	ERJ3GEY0R00V	0 1/16W	[M]
R4077	ERJ3GEY0R00V	0 1/16W	[M]
R4078	ERJ3GEY0R00V	0 1/16W	[M]
R4082	ERJ3GEY0R00V	0 1/16W	[M]
R4402	ERJ2GE0R00X	0 2W	[M]
R4403	ERJ2GE0R00X	0 2W	[M]
R4404	ERJ2GE0R00X	0 2W	[M]
R4405	ERJ2GE0R00X	0 2W	[M]
R4406	ERJ2GE0R00X	0 2W	[M]
R4408	ERJ3GEY0R00V	0 1/16W	[M]
R4413	ERJ3GEY0R00V	0 1/16W	[M]
R4414	ERJ3GEY0R00V	0 1/16W	[M]
R4415	ERJ3GEY0R00V	0 1/16W	[M]
R4418	ERJ2GEJ221X	220 2W	[M]
R4419	ERJ2GE0R00X	0 2W	[M]
R4420	ERJ2GE0R00X	0 2W	[M]
R4421	ERJ2GE0R00X	0 2W	[M]
R4422	ERJ2GE0R00X	0 2W	[M]
R4425	ERJ2GEJ562X	5.6K 2W	[M]
R4426	ERJ2GE0R00X	0 2W	[M]
R4427	ERJ2GE0R00X	0 2W	[M]
R4428	ERJ2GE0R00X	0 2W	[M]
R4901	ERJ3GEY0R00V	0 1/16W	[M]
R4903	ERJ3GEY0R00V	0 1/16W	[M]
R6001	ERJ2GEJ333X	33K 2W	[M]
R6002	ERJ2GEJ332X	3.3K 2W	[M]
R6003	ERJ2GEJ102X	1K 2W	[M]
R6004	ERJ2GEJ472X	4.7K 2W	[M]
R6005	ERJ2GEJ103X	10K 2W	[M]
R6006	ERJ2GEJ153X	15K 2W	[M]
R6007	ERJ2GEJ472X	4.7K 2W	[M]
R6008	ERJ2GEJ103X	10K 2W	[M]
R6009	ERJ2GEJ330X	33 2W	[M]
R6010	ERJ2GEJ330X	33 2W	[M]
R6013	ERJ2GEJ103X	10K 2W	[M]
R6018	ERJ2GEJ220X	22 2W	[M]
R6019	ERJ2GEJ220X	22 2W	[M]
R6020	ERJ2GE0R00X	0 2W	[M]
R6021	ERJ2GEJ470X	47 2W	[M]
R6022	ERJ2GEJ470X	47 2W	[M]
R6023	ERJ2GEJ332X	3.3K 2W	[M]
R6028	ERJ2GEJ470X	47 2W	[M]
R6029	ERJ2GEJ103X	10K 2W	[M]
R6031	ERJ2GEJ470X	47 2W	[M]
R6035	ERJ2GEJ470X	47 2W	[M]
R6036	ERJ2GEJ332X	3.3K 2W	[M]
R6037	ERJ2GEJ333X	33K 2W	[M]
R6038	ERJ2GEJ103X	10K 2W	[M]
R6040	ERJ2GEJ332X	3.3K 2W	[M]
R6702	ERJ2GEJ470X	47 2W	[M]
R6703	ERJ2GEJ470X	47 2W	[M]
R6704	ERJ2GEJ470X	47 2W	[M]
R6706	ERJ2GEJ470X	47 2W	[M]
R6707	ERJ2GEJ470X	47 2W	[M]
R6709	ERJ2GEJ332X	3.3K 2W	[M]
R6710	ERJ2GEJ332X	3.3K 2W	[M]
R6711	ERJ2GEJ470X	47 2W	[M]
R6712	ERJ2GEJ470X	47 2W	[M]
R6713	ERJ2GEJ103X	10K 2W	[M]
R6714	ERJ2GEJ333X	33K 2W	[M]
R6715	ERJ2GEJ470X	47 2W	[M]
R6718	ERJ2GE0R00X	0 2W	[M]
R6720	ERJ2GEJ470X	47 2W	[M]
R6721	ERJ2GEJ470X	47 2W	[M]
R6722	ERJ2GEJ470X	47 2W	[M]
R6723	ERJ2GEJ470X	47 2W	[M]
R6724	ERJ2GEJ470X	47 2W	[M]
R6725	ERJ2GEJ470X	47 2W	[M]
R6726	ERJ2GEJ470X	47 2W	[M]
R6727	ERJ2GEJ470X	47 2W	[M]
R6728	ERJ2GEJ470X	47 2W	[M]
R6729	ERJ2GEJ104X	100K 2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6730	ERJ2GEJ103X	10K 2W	[M]
R6731	ERJ2GEJ222X	2.2K 2W	[M]
R6733	ERJ2GEJ103X	10K 2W	[M]
R6735	ERJ2GEJ472X	4.7K 2W	[M]
R6737	ERJ2GEJ470X	47 2W	[M]
R6738	ERJ2GEJ470X	47 2W	[M]
R6739	ERJ2GEJ102X	1K 2W	[M]
R6741	ERJ2GEJ103X	10K 2W	[M]
R6742	ERJ2GEJ332X	3.3K 2W	[M]
R6743	ERJ2GEJ103X	10K 2W	[M]
R6744	ERJ2GEJ103X	10K 2W	[M]
R6745	ERJ2GEJ470X	47 2W	[M]
R6746	ERJ2GEJ470X	47 2W	[M]
R6747	ERJ2GEJ470X	47 2W	[M]
R6748	ERJ2GEJ470X	47 2W	[M]
R6749	ERJ2GEJ470X	47 2W	[M]
R6750	ERJ2GEJ470X	47 2W	[M]
R6751	ERJ2GEJ470X	47 2W	[M]
R6752	ERJ2GEJ101X	100 2W	[M]
R6753	ERJ2GEJ470X	47 2W	[M]
R6754	ERJ2GEJ470X	47 2W	[M]
R6755	ERJ2GEJ470X	47 2W	[M]
R6756	ERJ2GEJ470X	47 2W	[M]
R7403	D0GB101JA002	100 1/16W	[M]
R7404	D0GB101JA002	100 1/16W	[M]
R7406	D0GB101JA002	100 1/16W	[M]
R7407	D0GB101JA002	100 1/16W	[M]
R7418	ERG2SJ471E	470 2W	[M]
R7419	ERG2SJ471E	470 2W	[M]
R7442	ERJ3RBD222V	2.2K 3W	[M]
R7443	ERJ3RBD102V	1K 3W	[M]
R7444	ERJ3RBD153V	15K 3W	[M]
R7445	ERJ3RBD222V	2.2K 3W	[M]
R7446	ERJ3RBD133V	13K 3W	[M]
R7452	ERJ3GEYJ681V	680 1/16W	[M]
R7505	ERJ3RBD273V	27K 3W	[M]
R7507	ERDS2TJ331T	330 1/4W	[M]
R7508	ERDS2TJ5R6T	5.6 1/4W	[M]
R7510	D0GB332JA002	3.3K 1/16W	[M]
R7511	ERJ3GEYJ103V	10K 1/16W	[M]
R7512	ERJ3GEYJ473V	47K 1/16W	[M]
R7513	ERJ3GEYJ473V	47K 1/16W	[M]
R7514	D0GB101JA002	100 1/16W	[M]
R7516	ERJ3GEY0R00V	0 1/16W	[M]
R7519	ERJ3GEYJ102V	1K 1/16W	[M]
R7520	ERJ3GEYJ103V	10K 1/16W	[M]
R7521	ERJ3GEYG152V	1.5K 1/16W	[M]
R7522	ERJ3GEYG562V	5.6K 1/16W	[M]
R7523	ERJ3GEYG153V	15K 1/16W	[M]
R7529	ERJ3GEYJ223V	22K 1/16W	[M]
R7530	ERJ3GEYJ473V	47K 1/16W	[M]
R7531	ERJ3GEYJ473V	47K 1/16W	[M]
R7532	ERJ3GEYJ473V	47K 1/16W	[M]
R7533	ERJ3GEYJ473V	47K 1/16W	[M]
R7534	D0GB101JA002	100 1/16W	[M]
R7535	D0GB101JA002	100 1/16W	[M]
R7536	D0GB101JA002	100 1/16W	[M]
R7537	D0GB101JA002	100 1/16W	[M]
R7538	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7539	ERJ3GEY0R00V	0 1/16W	[M]
R7540	D0GB274JA002	270K 1/16W	[M]
R7541	ERJ3GEY0R00V	0 1/16W	[M]
R7542	ERJ3GEYJ103V	10K 1/16W	[M]
R7548	ERJ3GEYJ103V	10K 1/16W	[M]
R7549	ERJ3GEYJ511V	510 1/16W	[M]
R7550	ERJ3GEYJ202V	2K 1/16W	[M]
R7551	ERJ3GEYJ202V	2K 1/16W	[M]
R7556	D0GB101JA002	100 1/16W	[M]
R7561	ERDS2TJ392T	3.9K 1/4W	[M]
R7563	D0GB101JA002	100 1/16W	[M]
R7569	D0GB101JA002	100 1/16W	[M]
R7570	ERJ3GEYJ104V	100K 1/16W	[M]
R7583	ERJ3GEYJ473V	47K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R7584	ERJ3GEYJ473V	47K 1/16W	[M]
R7585	ERJ3GEYJ223V	22K 1/16W	[M]
R7588	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7589	ERJ3RBD822V	8.2K 3W	[M]
R7590	ERJ3RBD822V	8.2K 3W	[M]
R7591	ERJ3RBD822V	8.2K 3W	[M]
R7595	ERJ3GEYJ473V	47K 1/16W	[M]
R7596	ERJ3GEYJ473V	47K 1/16W	[M]
R7597	ERJ3GEYJ153V	15K 1/16W	[M]
R7598	ERJ3GEYJ102V	1K 1/16W	[M]
R7599	ERJ3GEYJ473V	47K 1/16W	[M]
R7600	ERJ3GEYJ103V	10K 1/16W	[M]
R7601	ERJ3GEYJ103V	10K 1/16W	[M]
R7602	D0GB821JA002	820 1/16W	[M]
R7603	D0GB183JA002	18K 1/16W	[M]
R7604	ERJ3GEYJ473V	47K 1/16W	[M]
R7611	D0GB101JA002	100 1/16W	[M]
R7613	D0GB101JA002	100 1/16W	[M]
R7633	ERJ3GEYJ223V	22K 1/16W	[M]
R7636	D0GB101JA002	100 1/16W	[M]
R7637	D0GB101JA002	100 1/16W	[M]
R7638	D0GB101JA002	100 1/16W	[M]
R7802	ERJ3GEYJ221V	220 1/16W	[M]
R7809	ERJ3RBD272V	2.7K 3W	[M]
R7817	ERJ3RBD272V	2.7K 3W	[M]
R7818	ERJ3RBD222V	2.2K 3W	[M]
R7819	ERJ3RBD332V	3.3K 3W	[M]
R7825	ERJ3RBD272V	2.7K 3W	[M]
R7826	ERJ3RBD222V	2.2K 3W	[M]
R7827	ERJ3RBD332V	3.3K 3W	[M]
R7829	D0GD680JA003	68 1/16W	[M]
R7830	D0GD680JA003	68 1/16W	[M]
R50001	ERJ2GEJ220X	22 2W	[M]
R50002	ERJ2GE0R00X	0 2W	[M]
R50003	ERJ2GEJ220X	22 2W	[M]
R50004	ERJ2GE0R00X	0 2W	[M]
R50005	ERJ2GEJ330X	33 2W	[M]
R50006	ERJ2GEJ470X	47 2W	[M]
R50007	ERJ2GEJ470X	47 2W	[M]
R50008	ERJ2GEJ220X	22 2W	[M]
R50009	ERJ2GEJ103X	10K 2W	[M]
R50010	ERJ2RHD332X	3.3K 2W	[M]
R50011	ERJ2RHD223X	22K 2W	[M]
R50012	ERJ2GE0R00X	0 2W	[M]
R50013	ERJ2GE0R00X	0 2W	[M]
R50015	ERJ2RHD333X	33K 2W	[M]
R50016	ERJ2RHD152X	1.5K 2W	[M]
R50017	ERJ2RHD153X	15K 2W	[M]
R50018	ERJ3RBD151V	150 3W	[M]
R50019	ERJ2GEJ330X	33 2W	[M]
R50020	ERJ2GEJ102X	1K 2W	[M]
R50021	ERJ3RED820V	82 3W	[M]
R50022	ERJ2GEJ330X	33 2W	[M]
R50023	ERJ2GEJ102X	1K 2W	[M]
R50024	ERJ3RED820V	82 3W	[M]
R50025	ERJ2GEJ330X	33 2W	[M]
R50026	ERJ2GEJ102X	1K 2W	[M]
R50027	ERJ3RBD151V	150 3W	[M]
R50028	ERJ2GEJ330X	33 2W	[M]
R50029	ERJ2GEJ102X	1K 2W	[M]
R50030	ERJ3RED330V	33 3W	[M]
R50031	ERJ3RBD151V	150 3W	[M]
R50032	ERJ2GEJ330X	33 2W	[M]
R50033	ERJ2GEJ102X	1K 2W	[M]
R50034	ERJ3RED220V	22 3W	[M]
R50035	ERJ3RED220V	22 3W	[M]
K3001	ERJ3GEY0R00V	0 1/16W	[M]
K7401	ERJ3GEY0R00V	0 1/16W	[M]
K7403	ERJ3GEY0R00V	0 1/16W	[M]
K7404	ERJ3GEY0R00V	0 1/16W	[M]
K7502	ERJ3GEY0R00V	0 1/16W	[M]
K7504	ERJ3GEY0R00V	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
K7506	ERJ3GEY0R00V	0 1/16W	[M]
K7507	ERJ3GEY0R00V	0 1/16W	[M]
K7508	ERJ3GEY0R00V	0 1/16W	[M]
K7509	ERJ3GEY0R00V	0 1/16W	[M]
K7510	ERJ3GEY0R00V	0 1/16W	[M]
K7511	ERJ3GEY0R00V	0 1/16W	[M]
K7512	ERJ3GEY0R00V	0 1/16W	[M]
RX3401	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3402	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3403	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3404	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3405	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3406	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3407	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3408	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3409	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3410	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3411	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3412	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3413	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3414	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3415	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3416	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3419	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3420	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3421	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3422	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3423	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3424	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3425	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3426	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3427	D1H81034A024	RESISTOR	[M]
RX3428	D1H81034A024	RESISTOR	[M]
RX3429	D1H81034A024	RESISTOR	[M]
RX3430	D1H81034A024	RESISTOR	[M]
RX3431	D1H81034A024	RESISTOR	[M]
RX3432	D1H81034A024	RESISTOR	[M]
RX3433	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3434	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3435	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3436	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3437	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3438	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3439	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3440	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3441	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3442	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3443	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX3444	D1H82204A024	S/MOUNTING RESISTOR	[M]
RX6001	D1H81034A024	RESISTOR	[M]
RX6005	D1H83304A024	RESISTOR	[M]
RX6006	D1H83304A024	RESISTOR	[M]
RX6009	D1H83304A024	RESISTOR	[M]
RX6010	D1H83304A024	RESISTOR	[M]
RX6011	D1H83304A024	RESISTOR	[M]
RX6012	D1H83304A024	RESISTOR	[M]
RX6013	D1H83304A024	RESISTOR	[M]
RX6014	D1H83304A024	RESISTOR	[M]
RX6015	D1H83304A024	RESISTOR	[M]
RX6016	D1H83304A024	RESISTOR	[M]
RX6017	D1H83304A024	RESISTOR	[M]
RX6018	D1H83304A024	RESISTOR	[M]
RX6019	D1H83304A024	RESISTOR	[M]
RX6020	D1H83304A024	RESISTOR	[M]
RX6021	D1H83304A024	RESISTOR	[M]
RX6022	D1H83304A024	RESISTOR	[M]
RX6023	D1H83304A024	RESISTOR	[M]
RX6024	D1H83304A024	RESISTOR	[M]
RX6025	D1H83304A024	RESISTOR	[M]
RX6026	D1H83304A024	RESISTOR	[M]
RX6027	D1H84704A024	RESISTOR	[M]
RX6028	D1H84704A024	RESISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
RX6029	D1H84704A024	RESISTOR	[M]
RX6030	D1H84704A024	RESISTOR	[M]
RX6031	D1H84704A024	RESISTOR	[M]
RX6032	D1H84704A024	RESISTOR	[M]
RX6033	D1H83324A024	RESISTOR	[M]
RX6034	D1H83324A024	RESISTOR	[M]
RX6035	D1H83334A024	RESISTOR	[M]
RX6036	D1H83334A024	RESISTOR	[M]
RX6037	D1H81034A024	RESISTOR	[M]
RX6038	D1H83304A024	RESISTOR	[M]
RX6039	D1H84704A024	RESISTOR	[M]
RX6040	D1H84704A024	RESISTOR	[M]
RX6041	D1H84704A024	RESISTOR	[M]
RX6042	D1H84704A024	RESISTOR	[M]
RX6043	D1H81034A024	RESISTOR	[M]
RX6044	D1H83334A024	RESISTOR	[M]
RX6706	D1H84704A024	RESISTOR	[M]
RX6708	D1H84704A024	RESISTOR	[M]
RX6711	D1H83324A024	RESISTOR	[M]
RX6712	D1H83324A024	RESISTOR	[M]
RX6716	D1H84704A024	RESISTOR	[M]
RX6717	D1H83334A024	RESISTOR	[M]
RX6718	D1H83334A024	RESISTOR	[M]
RX6719	D1H83334A024	RESISTOR	[M]
RX6720	D1H83324A024	RESISTOR	[M]
RX6721	D1H83324A024	RESISTOR	[M]
RX6724	D1H84704A024	RESISTOR	[M]
RX6726	D1H84704A024	RESISTOR	[M]
RX6727	D1H84704A024	RESISTOR	[M]
RX6728	D1H84704A024	RESISTOR	[M]
RX6731	D1H84704A024	RESISTOR	[M]
RX6732	D1H84704A024	RESISTOR	[M]
RX6733	D1H84704A024	RESISTOR	[M]
RX6734	D1H84704A024	RESISTOR	[M]
RX6735	D1H82224A024	RESISTOR	[M]
RX6736	D1H81034A024	RESISTOR	[M]
RX6737	D1H84724A024	RESISTOR	[M]
RX6738	D1H83334A024	RESISTOR	[M]
RX50001	D1H84704A024	RESISTOR	[M]
RX50002	D1H84704A024	RESISTOR	[M]
RX50003	D1H84704A024	RESISTOR	[M]
RX50004	D1H84704A024	RESISTOR	[M]
RX50005	D1H84704A024	RESISTOR	[M]
RX50006	D1H84704A024	RESISTOR	[M]
RX50007	D1H84704A024	RESISTOR	[M]
RX50008	D1H84704A024	RESISTOR	[M]
RX50009	D1H84704A024	RESISTOR	[M]
RX50010	D1H84704A024	RESISTOR	[M]
RX50011	D1H84704A024	RESISTOR	[M]
RX50012	D1H84704A024	RESISTOR	[M]
RX50013	D1H84704A024	RESISTOR	[M]
RX50014	D1H84704A024	RESISTOR	[M]
RX50015	D1H84704A024	RESISTOR	[M]
RX50016	D1H84704A024	RESISTOR	[M]
		CAPACITORS	
C1	ECKENA102ME	1000P	[SPC]
C2	ECQU2A104ML	0.1U	[SPC]
C3	ECQU2A334ML	0.33	[SPC]
C6	ECKENA102ME	1000P	[SPC]
C8	KH102M	1000P	[SPC]
C9	KMM2W470JZ	450V 47	[SPC]
C10	RR3DD331K	2KV 330P	[SPC]
C11	ECKENA102ME	1000P	[SPC]
C12	MBC471J5	50V 470P	[SPC]
C13	KMG1H220	50V 22U	[SPC]
C14	MBB224K2	25V 0.22	[SPC]
C15	MBB224K5	50V 0.22	[SPC]
C101	KBR221K2E	250V 220P	[SPC]
C102	ECUV1H102KBN	50V 1000P	[SPC]
C103	KBR221K2E	250V 220P	[SPC]
C104	ECUV1H102KBN	50V 1000P	[SPC]

Ref. No.	Part No.	Part Name & Description	Remarks
C105	KY1E471	25V 470	[SPC]
C106	KY1A222	10V 2200	[SPC]
C107	MBC102J5	50V 1000P	[SPC]
C109	MBB104K2	25V 0.1U	[SPC]
C110	MBB683K5	55V 0.068	[SPC]
C111	MBB105K1	16V 1U	[SPC]
C112	KY1A471	10V 470U	[SPC]
C113	MBB105K1	16V 1U	[SPC]
C115	MBB224K5	50V 0.22	[SPC]
C117	KY1E221	25V 220U	[SPC]
C118	KMG1H100	50V 10	[SPC]
C119	ECA1AHG102	10V 1000U	[SPC]
C120	KY1E681L	25V 680	[SPC]
C124	KY1E221	25V 220U	[SPC]
C125	ECA1AHG102	10V 1000U	[SPC]
C127	ECJ2XB1H333K	50V 0.033U	[SPC]
C128	KY1A471	10V 470U	[SPC]
C129	MBB105K1	16V 1U	[SPC]
C130	MBC102J5	50V 1000P	[SPC]
C131	MBB105K1	16V 1U	[SPC]
C141	MBB104K2	25V 0.1U	[SPC]
C142	MBB105K1	16V 1U	[SPC]
C1503	ECJ1VB1A105K	1 10V	[M]
C1505	F2A1A470A388	47P 10V	[M]
C1512	F1H0J1050013	1 6.3V	[M]
C1513	ECJ1VB1A105K	1 10V	[M]
C1514	F1H0J1050013	1 6.3V	[M]
C1515	ECUVNC104KBV	0.1 16V	[M]
C1516	ECJ1VB1A105K	1 10V	[M]
C1518	F2A1A470A388	47P 10V	[M]
C1519	ECUVNC104KBV	0.1 16V	[M]
C1520	ECJ1VB1A105K	1 10V	[M]
C1521	F1H0J1050013	1 6.3V	[M]
C1522	ECJ1VC1H331J	330P 50V	[M]
C1523	ECJ1VB1A105K	1 10V	[M]
C1524	F2A1A470A388	47P 10V	[M]
C1527	F1H0J1050013	1 6.3V	[M]
C1528	F1H0J1050013	1 6.3V	[M]
C1531	F2A1A470A388	47P 10V	[M]
C1533	F1H0J1050013	1 6.3V	[M]
C1534	F1H0J1050013	1 6.3V	[M]
C1537	F2A1E1010067	100P 25V	[M]
C1539	F2A0J102A256	1000P 6.3V	[M]
C1540	F2A1E4700048	47P 25V	[M]
C1541	F2A1A471A211	470P 10V	[M]
C1543	F2A1E221A210	220P 25V	[M]
C3001	ECJ1VC1H561J	560P 50V	[M]
C3005	ECJ1VB1C333K	0.033 16V	[M]
C3006	ECUVNC104KBV	0.1 16V	[M]
C3007	ECUVNC104KBV	0.1 16V	[M]
C3008	ECUVNC104KBV	0.1 16V	[M]
C3010	ECJ1VB1H103K	0.01 50V	[M]
C3011	ECJ1VB1H103K	0.01 50V	[M]
C3012	ECJ1VB1H103K	0.01 50V	[M]
C3013	ECJ1VB1H103K	0.01 50V	[M]
C3014	ECJ1VB1H103K	0.01 50V	[M]
C3015	ECJ1VB1H103K	0.01 50V	[M]
C3016	ECJ1VB1H103K	0.01 50V	[M]
C3017	ECJ1VB1H103K	0.01 50V	[M]
C3018	ECEA0JKA470B	47 6.3V	[M]
C3019	ECJ1VB1H103K	0.01 50V	[M]
C3020	ECJ1VB1H103K	0.01 50V	[M]
C3021	ECJ1VB1H103K	0.01 50V	[M]
C3022	ECA0JM102B	1000 6.3V	[M]
C3023	ECEA0JKA101B	100 6.3V	[M]
C3024	ECA0JM102B	1000 6.3V	[M]
C3025	ECEA0JKA101B	100 6.3V	[M]
C3026	ECA0JM102B	1000 6.3V	[M]
C3027	ECEA0JKA101B	100 6.3V	[M]
C3028	ECEA0JKA101B	100 6.3V	[M]
C3029	ECA0JM102B	1000 6.3V	[M]
C3030	ECEA0JKA101B	100 6.3V	[M]
C3031	ECA0JM102B	1000 6.3V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C3032	F1H0J1050013	1 6.3V	[M]
C3033	F1H0J1050013	1 6.3V	[M]
C3034	ECJ1VB1H103K	0.01 50V	[M]
C3035	ECEA0JKA220B	22 6.3V	[M]
C3036	ECEA0JKA220B	22 6.3V	[M]
C3037	ECUVNC104KBV	0.1 16V	[M]
C3038	ECEA0JKN470B	47 6.3V	[M]
C3039	ECUVNC104KBV	0.1 16V	[M]
C3040	ECJ1VB1H103K	0.01 50V	[M]
C3041	ECUVNC104KBV	0.1 16V	[M]
C3042	ECEA0JKN470B	47 6.3V	[M]
C3043	ECJ1VB1H103K	0.01 50V	[M]
C3044	ECEA0JKA470B	47 6.3V	[M]
C3046	ECJ1VB1H103K	0.01 50V	[M]
C3047	ECJ1VB1H103K	0.01 50V	[M]
C3401	ECUV0J105KBV	1 6.3V	[M]
C3402	ECJ0EC1H220J	22P 50V	[M]
C3403	ECJ0EB1A104K	0.1 10V	[M]
C3404	ECJ0EC1H220J	22P 50V	[M]
C3405	ECJ0EC1H220J	22P 50V	[M]
C3406	ECJ0EB1A104K	0.1 10V	[M]
C3407	ECJ0EC1H100D	10P 50V	[M]
C3408	ECJ0EC1H100D	10P 50V	[M]
C3410	ECJ0EB1C103K	0.01 16V	[M]
C3411	ECST0JX476R	47 6.3V	[M]
C3417	ECUV0J105KBV	1 6.3V	[M]
C3418	ECUV0J105KBV	1 6.3V	[M]
C3419	ECUV0J105KBV	1 6.3V	[M]
C3420	ECJ0EB1C103K	0.01 16V	[M]
C3421	ECJ0EB1A104K	0.1 10V	[M]
C3422	ECJ0EB1C103K	0.01 16V	[M]
C3423	ECJ0EB1A104K	0.1 10V	[M]
C3424	ECJ0EB1A104K	0.1 10V	[M]
C3425	ECJ0EB1A104K	0.1 10V	[M]
C3426	ECJ0EB1A104K	0.1 10V	[M]
C3427	ECJ0EB1A104K	0.1 10V	[M]
C3428	ECJ0EB1A104K	0.1 10V	[M]
C3429	F1J0J106A013	10 6.3V	[M]
C3430	F1J0J106A013	10 6.3V	[M]
C3431	ECJ0EB1A104K	0.1 10V	[M]
C3432	ECUV0J105KBV	1 6.3V	[M]
C3433	ECJ0EB1A104K	0.1 10V	[M]
C3435	ECJ0EB1A104K	0.1 10V	[M]
C3436	ECJ0EB1A104K	0.1 10V	[M]
C3440	EEEHB0J101P	100P 6.3V	[M]
C3441	ECJ0EB1A104K	0.1 10V	[M]
C3901	ECUVNC104KBV	0.1 16V	[M]
C3902	ECJ1VB1H103K	0.01 50V	[M]
C3909	ECJ1VB1H103K	0.01 50V	[M]
C3910	ECUVNC104KBV	0.1 16V	[M]
C3911	ECUVNC104KBV	0.1 16V	[M]
C3912	ECJ1VB1H103K	0.01 50V	[M]
C3917	ECJ1VB1H103K	0.01 50V	[M]
C4003	F2A1H1R0A236	1P 50V	[M]
C4004	F2A1H1R0A236	1P 50V	[M]
C4005	F2A1H1R0A236	1P 50V	[M]
C4006	F2A1H1R0A236	1P 50V	[M]
C4009	ECUVNC104ZFV	0.1 16V	[M]
C4010	ECUVNC104ZFV	0.1 16V	[M]
C4011	ECJ2VB1E104K	0.1 25V	[M]
C4013	F2A1H1R0A236	1P 50V	[M]
C4014	F2A1H1R0A236	1P 50V	[M]
C4016	ECA1CM221B	220 16V	[M]
C4017	ECJ1VC1H820J	82P 50V	[M]
C4019	ECJ1VC1H820J	82P 50V	[M]
C4022	ECUVNC104KBV	0.1 16V	[M]
C4023	F2A1C471A236	470P 16V	[M]
C4024	F2A1E470A205	47P 25V	[M]
C4025	F2A1E470A205	47P 25V	[M]
C4026	F2A1H1R0A236	1P 50V	[M]
C4027	F2A1H1R0A236	1P 50V	[M]
C4028	F2A1C100A019	10P 16V	[M]
C4029	F2A1C100A019	10P 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C4036	F2A1E470A205	47P 25V	[M]
C4037	ECA1CM221B	220 16V	[M]
C4038	F2A1E470A205	47P 25V	[M]
C4039	ECJ2VC1H102J	1000P 50V	[M]
C4040	ECJ2VC1H102J	1000P 50V	[M]
C4045	ECUVNC104ZFV	0.1 16V	[M]
C4046	ECUVNC104ZFV	0.1 16V	[M]
C4047	ECQV1H104JL3	0.1 50V	[M]
C4049	F2A0J471A247	470P 6.3V	[M]
C4050	ECQV1H104JL3	0.1 50V	[M]
C4052	F2A1C471A236	470P 16V	[M]
C4402	EEEHB1C100R	10P 16V	[M]
C4403	ECJ0EF1C104Z	0.1 16V	[M]
C4404	EEEHB0J101P	100P 6.3V	[M]
C4405	ECJ0EF1C104Z	0.1 16V	[M]
C4406	ECJ0EF1C104Z	0.1 16V	[M]
C4407	EEEHB1C100R	10P 16V	[M]
C4408	ECJ0EF1C104Z	0.1 16V	[M]
C4409	ECJ0EF1C104Z	0.1 16V	[M]
C4410	F2H0J331A016	330P 6.3V	[M]
C4411	ECJ0EF1C104Z	0.1 16V	[M]
C4412	EEEHB0J101P	100P 6.3V	[M]
C4415	EEEHB0J470R	47P 6.3V	[M]
C4416	ECJ0EF1C104Z	0.1 16V	[M]
C4417	ECST1AY106R	10 10V	[M]
C4418	ECJ0EF1C104Z	0.1 16V	[M]
C4421	ECJ0EB1E102K	1000P 25V	[M]
C4423	ECJ0EB1E102K	1000P 25V	[M]
C4424	ECJ0EB1E102K	1000P 25V	[M]
C4426	ECJ0EF1C104Z	0.1 16V	[M]
C4901	F2A1A101A206	100P 10V	[M]
C4902	ECUVNC104ZFV	0.1 16V	[M]
C4903	F2A0J470A179	47P 6.3V	[M]
C4904	ECUVNC104ZFV	0.1 16V	[M]
C4906	ECJ1VC1H220J	22P 50V	[M]
C6001	ECJ0EF1C104Z	0.1 16V	[M]
C6002	F1J0J106A013	10 6.3V	[M]
C6003	ECJ0EB1C103K	0.01 16V	[M]
C7404	ECJ1VB1H103K	0.01 50V	[M]
C7405	F2A0J470A013	47P 6.3V	[M]
C7406	ECUVNC104KBV	0.1 16V	[M]
C7407	ECUVNC104KBV	0.1 16V	[M]
C7416	ECJ1VB1H103K	0.01 50V	[M]
C7417	F2A1H1R0A147	1P 50V	[M]
C7432	F2A1C100A019	10P 16V	[M]
C7433	F2A1C100A019	10P 16V	[M]
C7436	ECUVNC104KBV	0.1 16V	[M]
C7437	F2A0J470A013	47P 6.3V	[M]
C7525	ECUV1H101JCV	100P 50V	[M]
C7526	ECUVNC104ZFV	0.1 16V	[M]
C7528	ECUVNC104ZFV	0.1 16V	[M]
C7550	ECJ1VB1H103K	0.01 50V	[M]
C7551	F2A1H100A147	10P 50V	[M]
C7552	ECJ1VF1H104Z	0.1 50V	[M]
C7555	F2A1E221A122	220P 25V	[M]
C7556	ECA1CM221B	220 16V	[M]
C7558	F2A1V470A117	47P 35V	[M]
C7559	ECQB1H223KF3	0.022 50V	[M]
C7560	F2A1H100A147	10P 50V	[M]
C7565	F1J0J475A008	47 6.3V	[M]
C7566	ECUVNC104KBV	0.1 16V	[M]
C7567	ECUVNC104KBV	0.1 16V	[M]
C7569	ECUVNC104ZFV	0.1 16V	[M]
C7580	ECUV1H101JCV	100P 50V	[M]
C7581	ECUV1H101JCV	100P 50V	[M]
C7582	ECUV1H101JCV	100P 50V	[M]
C7583	ECUV1H101JCV	100P 50V	[M]
C7584	ECJ1VC1H180J	18P 50V	[M]
C7585	ECJ1VC1H180J	18P 50V	[M]
C7586	ECJ1VC1H220J	22P 50V	[M]
C7587	ECJ1VC1H150J	15P 50V	[M]
C7588	F1J0J475A008	4.7 6.3V	[M]
C7589	ECUVNC104ZFV	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C7595	ECUVNC104ZFV	0.1 16V	[M]
C7596	ECJ1VC1H470J	47P 50V	[M]
C7597	ECJ1VB1H103K	0.01 50V	[M]
C7598	ECJ1VC1H470J	47P 50V	[M]
C7599	ECUVNC104KBV	0.1 16V	[M]
C7600	ECJ1VC1H470J	47P 50V	[M]
C7601	ECUVNC104KBV	0.1 16V	[M]
C7602	ECJ1VB1H103K	0.01 50V	[M]
C7604	ECUVNC104ZFV	0.1 16V	[M]
C7607	ECUVNC104ZFV	0.1 16V	[M]
C7609	ERJ3GEY0R00V	0 1/16W	[M]
C7611	ECJ1VB1H103K	0.01 50V	[M]
C7612	ECJ1VB1H103K	0.01 50V	[M]
C7613	ECJ1VB1H103K	0.01 50V	[M]
C7618	ECJ1VB1H103K	0.01 50V	[M]
C7620	ECJ1VB1H103K	0.01 50V	[M]
C7626	ECJ1VB1H103K	0.01 50V	[M]
C7633	F2A0J471A280	470P 6.3V	[M]
C7636	ECJ1VF1A105Z	1 10V	[M]
C7637	ECJ1VB1H103K	0.01 50V	[M]
C7639	ECUVNC104ZFV	0.1 16V	[M]
C7650	ECJ1VB1H103K	0.01 50V	[M]
C7652	ECJ1VF1A105Z	1 10V	[M]
C7654	ECJ1VB1H103K	0.01 50V	[M]
C7801	ECJ1VF1A105Z	1 10V	[M]
C9001	ECJ0EC1H470J	47P 50V	[M]
C9002	ECJ0EC1H470J	47P 50V	[M]
C50001	ECUV0J105KBV	1 6.3V	[M]
C50002	EEEHB0J220R	22P 6.3V	[M]
C50004	ECJ0EB1A104K	0.1 10V	[M]
C50005	ECJ0EB1A104K	0.1 10V	[M]

24.3. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPG7166	PACKING CASE	[M]
P2	RPN1682-2	CUSHION (POLYFOAM)	[M]
P3	RPFX0058	MIRAMAT SHEET	[M]
		ACCESSORIES	

Ref. No.	Part No.	Part Name & Description	Remarks
A1	N2QAKB000050	REMOTE CONTROL UNIT	[M]
A1-1	BNL11M201B	R/C BATTERY COVER	[M]
A2	K2CQ2CA00002	AC CORD	[M] ⚠
A3	RQT7396-M	O/I BOOK (Sp)	[M]
A4	K2KZ2BA00001	RF COAXIAL CABLE	[M]
A5	K2DA42E00001	AC PLUG ADAPTOR	[M]
A6	K2KA6CA00001	A/V CORD	[M]

24.4. Packaging

ACCESSORIES CASE

A1 : REMOTE CONTROL

A2 : AC CORD

A3 : O/I BOOK

A4 : RF COAXIAL CABLE

A5 : AC PLUG ADAPTOR

A6 : A/V CORD