

TOSHIBA

FILE NO. 030-200503

SERVICE MANUAL

LCD Color Television

27WL56P

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SERVICE SAFETY PRECAUTIONS

- The caution items shown here describe major safety issues and should always be observed.
- The meanings of the various indications are as follows.

 WARNING	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users due to a product defect after the service operation is completed, could possibly be in danger of injury or even death in the event of operational error.
 CAUTION	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users after the service operation is completed, could possibly be in danger of injury, or where there could be physical damage in the event of operational error.

* Physical damage means major damage to a home, furnishings and other possessions.

Examples of marks

 SHOCK HAZARD	The $\triangle$ indicates caution (including danger and warning). The actual meaning of this caution is indicated inside the $\triangle$ or nearby illustrations or text. The example shown to the left indicates the danger of "electrical shock".
 PROHIBIT DISASSEMBLING	The $\odot$ indicates a forbidden action. The actual meaning of this caution is indicated inside the $\odot$ or nearby illustrations or text. The example shown to the left indicates that disassembly is forbidden.
 UNPULUG	The $\bullet$ indicates a forced action (an action that must be performed). The actual meaning of this forced action is indicated by $\bullet$ or nearby illustrations or text. The example shown to the left indicates that the power plug must be disconnected.

	 WARNING
 KEEP CHILDREN AWAY	Always advise users to keep children away. There is danger of injury to children from tools, disassembled products, etc.
 UNPLUG	Always disconnect the power plug before starting work whenever power is not required. Failure to disconnect the power plug before starting work can result in electrical shock.
 SHOCK HAZARD	Depending on the model, use an insulation transformer or wear gloves when servicing with the power on, and disconnect the power plug to avoid electrical shock when replacing parts. In some cases, alternating current is also impressed in the chassis, so electrical shock is possible if the chassis is contacted with the power on.
 USE SPECIFIED PARTS	Always use the replacement parts specified for the particular model when making repairs. The parts used in products have the necessary safety characteristics such as inflammability, voltage resistance, etc.; therefore, use only replacement parts that have these same characteristics. Use only the specified parts when the ⚠ mark is included in a circuit diagram or parts list.
 CAUTION FOR WIRING	Parts mounting and routing of the wiring should be the same as that used originally. For safety purposes, insulating materials such as tubing or tape is sometimes used and printed circuit boards are sometimes mounted floating. Also make sure that wiring is routed and clamped to avoid parts that generate heat and which use high voltage. Always follow the original scheme.
 CAUTION FOR ASSEMBLING / WIRING	After a repair has been completed, reassemble all disassembled parts, and route and reconnect the wiring, in accordance with the original scheme. Do not allow internal wiring to be pinched by cabinets, panels, etc. Any error in reassembly or wiring can result in electrical leakage, flame, etc., and may be hazardous.
 CHECK INSULATION RESISTANCE	After completing the work, disconnect the power plug from the outlet, remove the antenna, turn on the power switch. Then, use a 500V insulation resistance meter to check the insulation resistance of the antenna terminal, other metallic parts and between the prongs of the power plug to make sure that the insulation resistance is 1M Ω or more. The set will require inspection and repair if the insulation resistance is below this value.
 PROHIBIT REMODELING	Never remodel the product in any way. Remodeling can result in improper operation, malfunction, or electrical leakage and flame, which may be hazardous

HANDLING THE LCD MODULE

Safety Precautions

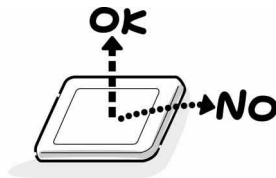
In the event that the screen is damaged or the liquid crystal (fluid) leaks, do not breathe in or drink this fluid. Also, never touch this fluid.

Such actions could cause toxicity or skin irritation. If this fluid should enter the mouth, rinse the mouth thoroughly with water. If the fluid should contact the skin or clothing, wipe off with alcohol, etc., and rinse thoroughly with water. If the fluid should enter the eyes, immediately rinse the eyes thoroughly with running water.

Precautions for Handling the LCD Module

The LCD module can easily be damaged during disassembly or reassembly; therefore, always observe the following precautions when handling the module.

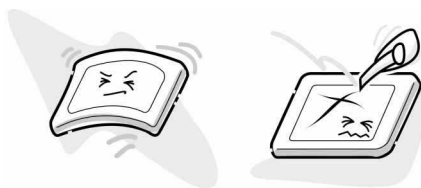
1. When attaching the LCD module to the LCD cover, position it appropriately and fasten at the position where the display can be viewed most conveniently.



2. Carefully align the holes at all four corners of the LCD module with the corresponding holes in the LCD cover and fasten with screws. Do not strongly push on the module because any impact can adversely affect the performance. Also use caution when handling the polarized screen because it can easily be damaged.

CAUTION

The metal edges of the LCD module are sharp, so use caution to avoid injury.



3. If the panel surface becomes soiled, wipe with cotton or a soft cloth. If this does not remove the soiling, breathe on the surface and then wipe again.

If the panel surface is extremely soiled, use a CRT cleaner as a cleaner. Wipe off the panel surface by drop the cleaner on the cloth. Do not drop the cleaner on the panel. Pay attention not to scratch the panel surface.



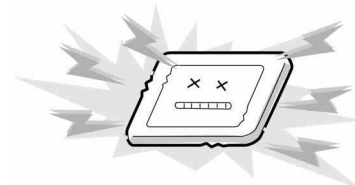
4. Leaving water or other fluids on the panel screen for an extended period of time can result in discoloration or stripes. Immediately remove any type of fluid from the screen.



5. Glass is used in the panel, so do not drop or strike with hard objects. Such actions can damage the panel.



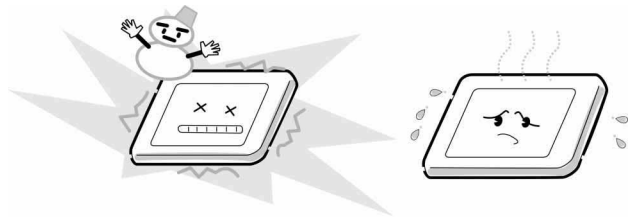
6. CMOS-LSI circuitry is used in the LCD module, so avoid damage due to static electricity. When handling the module, use a wrist ground or anchor ground.



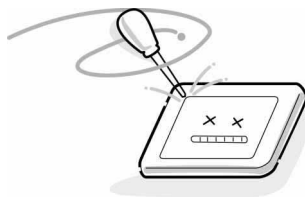
7. Do not expose the LCD module to direct sunlight or strong ultraviolet rays for an extended period of time.



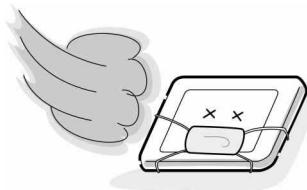
8. Do not store the LCD module below the temperature conditions described in the specifications. Failure to do so could result in freezing of the liquid crystal due to cold air or loss of resilience or other damage.



9. Do not disassemble the LCD module. Such actions could result in improper operation.



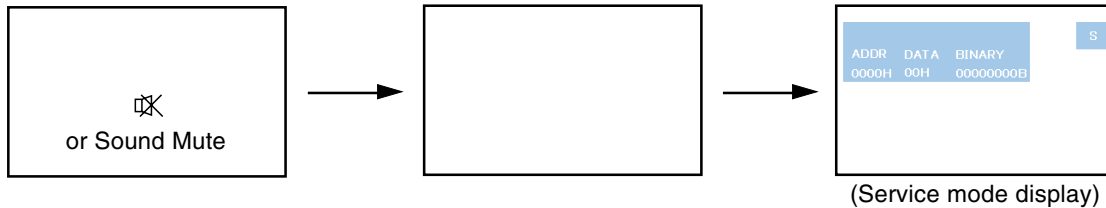
10. When transporting the LCD module, do not use packing containing epoxy resin (amine) or silicon resin (alcohol or oxim). The gas generated by these materials can cause loss of polarity.



SERVICE MODE

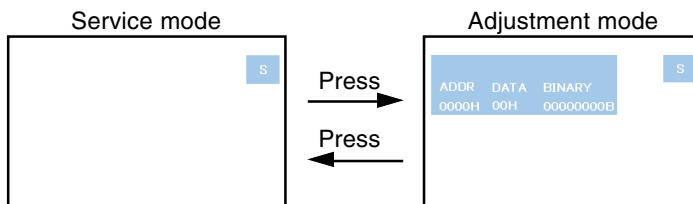
1. ENTERING SERVICE MODE

- 1) Press  button once on Remote Control.
- 2) Press  button again and keep pressing.
- 3) While pressing the  button, press MENU button on TV set.



2. DISPLAYING THE ADJUSTMENT MENU

- 1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

Test signal selection :	⏻ button (on Remote)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ▲/– (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory :	CALL + Channel button on TV (▲)
Reset the count of operating protect circuit to “00”:	CALL + Channel button on TV (▼)
“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“SCNT” selection :	4 button
“COLP” selection :	5 button – – – – Color thickness correction
“TNTC” selection :	6 button
Automatic A/D Adjustment(PC, Component) :	7 button
Self diagnostic display ON/OFF :	9 button

note: Displayed differently as shown below, depending on the setting of the receiving color system.
COLP (PAL)
COLC (NTSC)
COLS (SECAM)

CAUTION : Never try to perform initialization unless you have changed the memory IC.

4. SELECTING THE ADJUSTING ITEMS

- 1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2.
(▼ button for reverse order)

5. ADJUSTING THE DATA

- 1) Pressing of VOLUME ▲/– button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

- 1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA

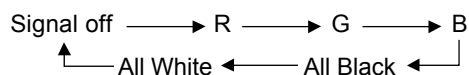
After replacing EEPROM IC, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the CALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of EEPROM IC has been completed.
3. Check the picture carefully. If necessary, adjust any adjustment item above.
Perform “Auto tune” on the owner’s manual.

CAUTION: Never attempt to initialize the data unless EEPROM IC has been replaced.

7. TEST SIGNAL SELECTION

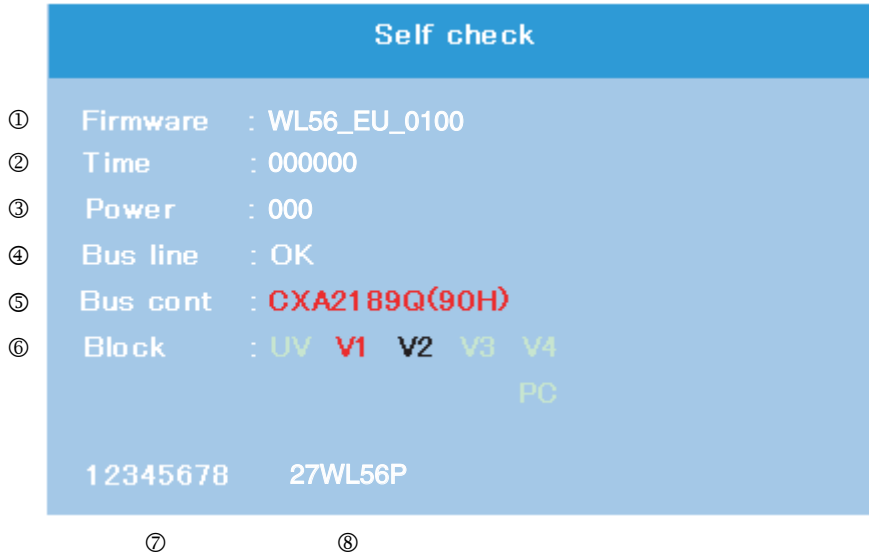
- 1) Every pressing of –⊖ button on the Remote Control changes the built-in test patterns on screen as described below in SERVICE MODE.



Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	

8. SELF DIAGNOSTIC FUNCTION

- 1) Press "9" button on Remote Control during display of adjustment menu in the service mode.
The diagnosis will begin to check if interface among IC's is executed properly.
- 2) During diagnosis, the following displays are shown.



- ① Firmware :
Version information of microprocessor
In case of file name : WL56_EU and Version : 0100 indicates[WL56_EU_0100].
- ② Time : Total hour of turn the TV on. (Unit : H)
- ③ Power : Operation number of protecting circuit ----"000" is normal.
When indication is other than "000", overcurrent apt to flow, and circuit parts may possibly be damaged.
- ④ Bus line : --"OK" is normal
"SCL-GND"(Red indication) : SCL-GND short circuit
"SDA-GND"(Red indication) : SDA-GND short circuit
"SCL-SDA"(Red indication) : SCL-SDA short circuit
- ⑤ Bus cont : --- "OK" is normal.
NG is abnormal(Red indication).
When type name of semiconductor indicates.
- ⑥ Block
UV : TV reception mode
V1 : VIDEO 1 input mode (→ 1)
V2 : VIDEO 2 input mode (→ 2)
V3 : VIDEO 3 input mode (→ 3)
V4 : VIDEO 4 input mode (→ HDMI)
- ⑦ 8 digit : CD number
- ⑧ Model name (7 digit)

9. VERSION CHECK MODE

- 1) Press "9" button twice on Remote Control during display of adjustment menu in the service mode. The version of main MPU will begin to check.
- 2) During Version Check, the following displays are shown.

Version check		
①	MAIN MPU	: WL56_EU_0100 (E16)
②	EEPROM	: 01
③	SUB MPU	: 2E
④	OPTION	: 00 11 22 33 44 55
⑤	HDMI ID	: 11223344
⑥	12345678	27WL56P SHP-27
⑦ ⑧		

- ① MAIN MPU :
Version information of microprocessor
In case of file name : WL56_EU, Version 0100 for Code Program Version and (E16) for OSD Version indicates [WL56_EU_0100(E16)]
- ② EEPROM :
Version information of EEPROM : Display 1 byte data.
- ③ SUB MPU :
Version information of SUB MPU : Display 1 byte data.
- ④ OPTION :
Option information : Display six numbers of 1 byte data.
- ⑤ HDMI ID :
HDMI ID information : Display 4 byte data.
- ⑥ CD number : Display 8 digit number
- ⑦ Model name : Display 7 digit number
- ⑧ LCD Panel Vender information display
The following Panel Vender and screen size are displayed.

Panel Vender	Screen Size(Inch)
LPL	-23
SHP	-26
CMO	-32
	-37
	-47

Example : SHP-32 indicates that Vender is SHP and Screen Size is 32 inch.

10. STATUS CHECK MODE

- 1) Press "9" button thrice on Remote Control during display of adjustment menu in the service mode. The status of this model will begin to check.
- 2) During Status Check, the following displays are shown.

Status check		
①	MAIN	: EXT1
②	MAIN FORMAT	: 1080i-50
③	MAIN PLL	: C6 38 54 CE 08
④	SCREEN SIZE	: Super live
⑤	OTHER STATUS	: 0000 0000 0000

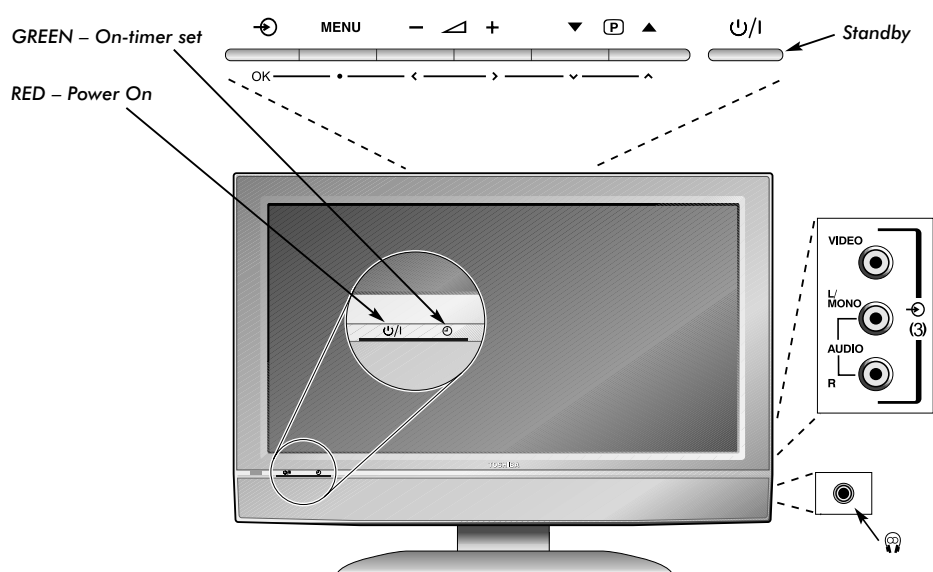
- ① MAIN :
Main source information :
Display RF position number (0 - 99) on the main screen, or Input Source (EXT1/2/3/HDMI etc.)
- ② MAIN FORMAT :
Display Video and PC format information
- ③ MAIN PLL :
Main PLL information : Display 1 byte data at five.
- ④ SCREEN SIZE :
Display the screen size as follows.

Super live
Cinema
Subtitle
14:9
Wide
4:3

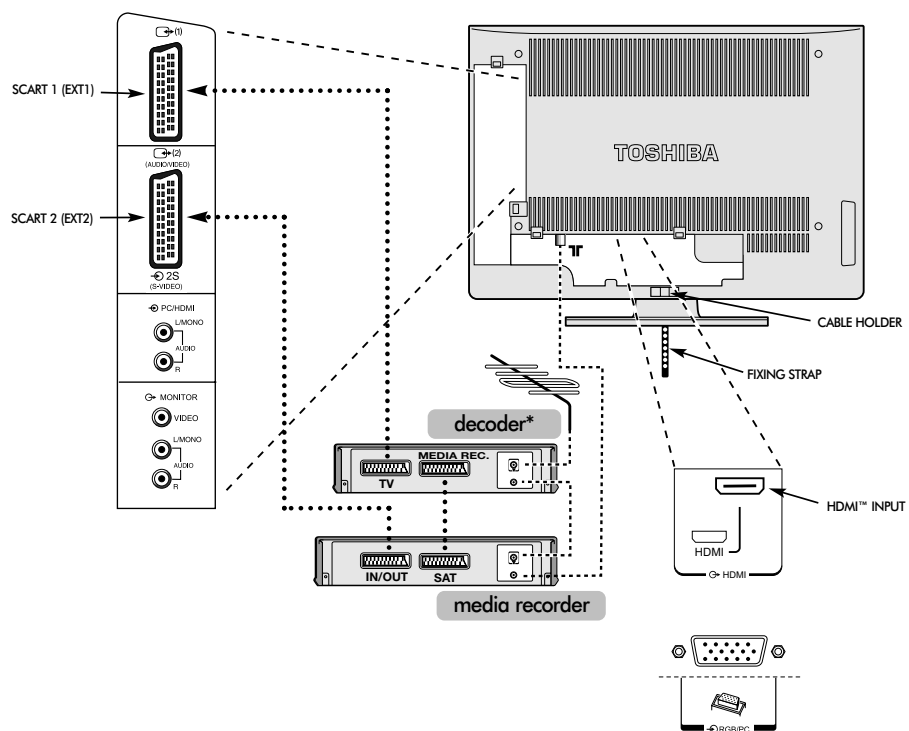
- ⑤ OTHER STATUS :
Other status information : Display three numbers of 2 byte data.

LOCATION OF CONTROLS

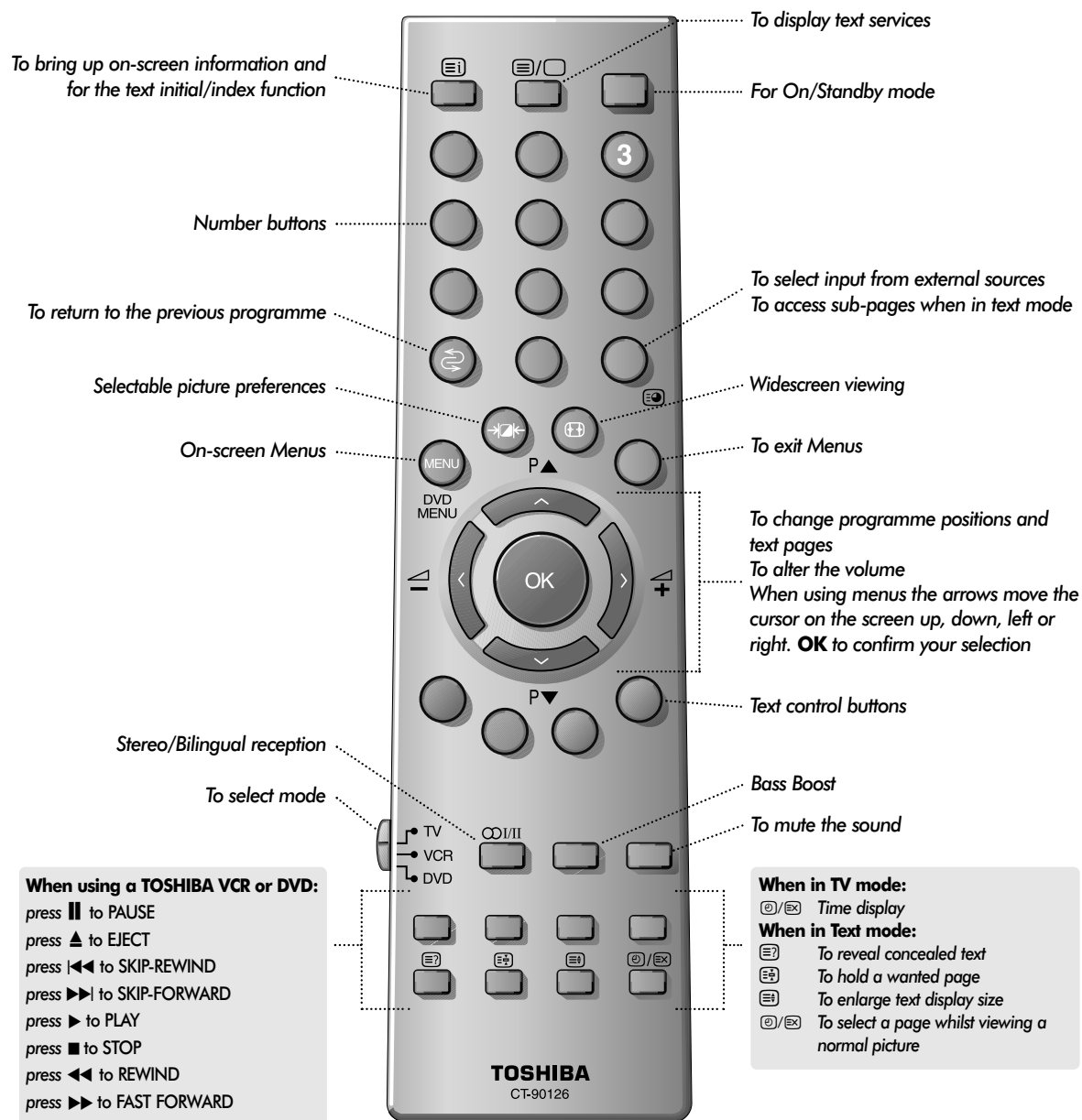
Front



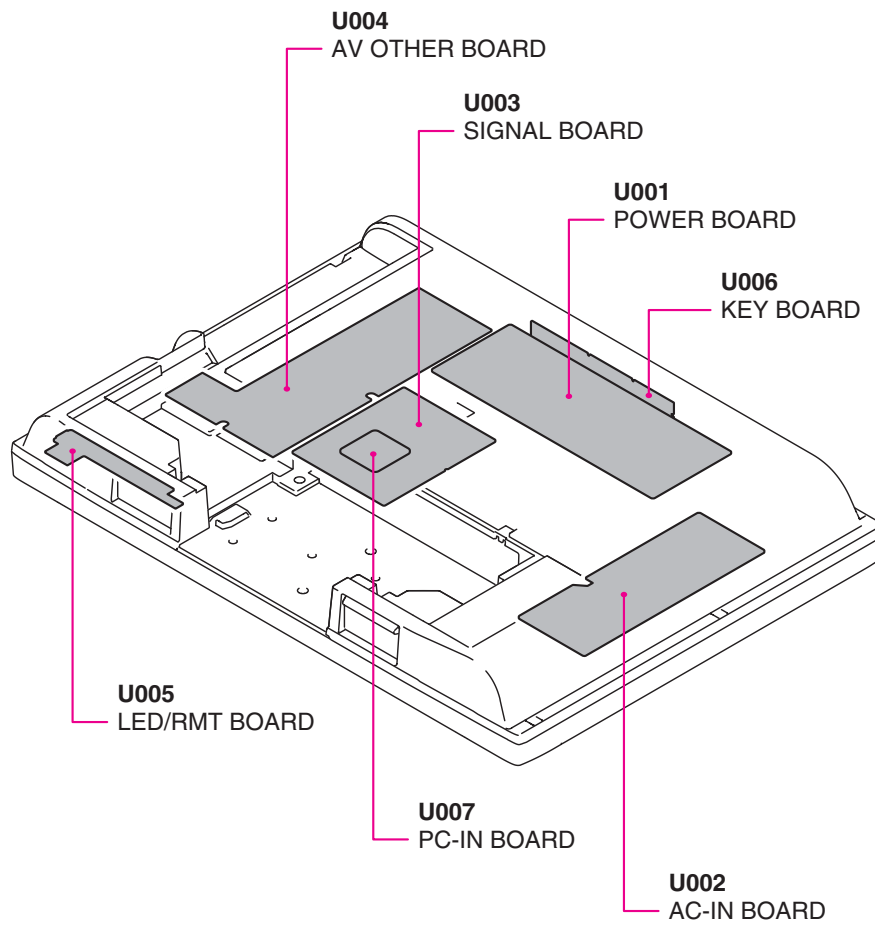
Back



Remote control

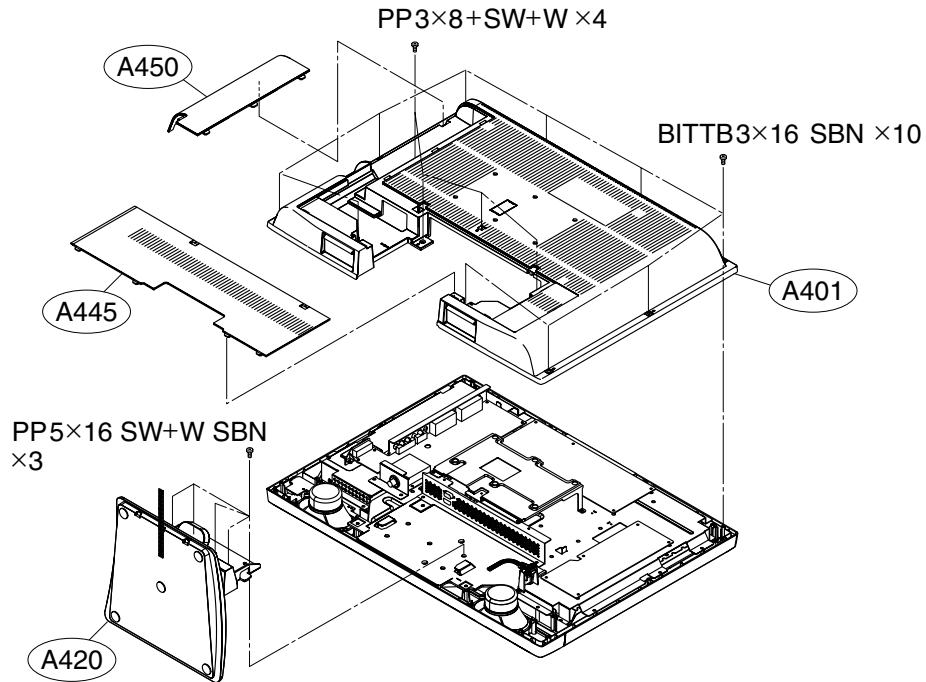


LAYOUT OF MAJOR BOARDS

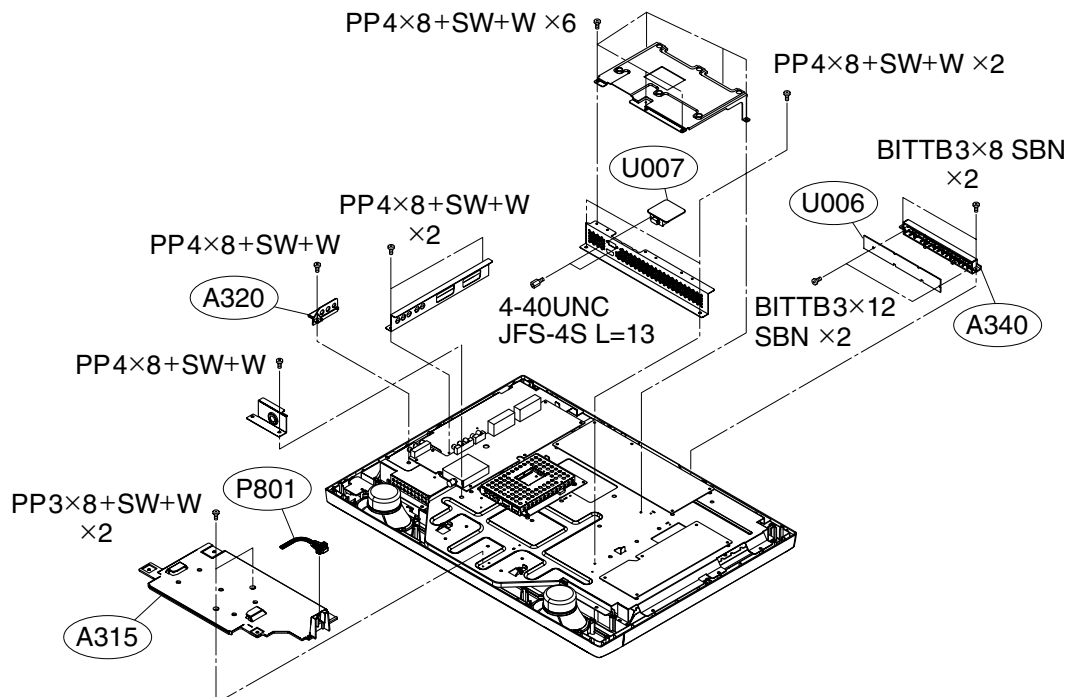


MECHANICAL DISASSEMBLY

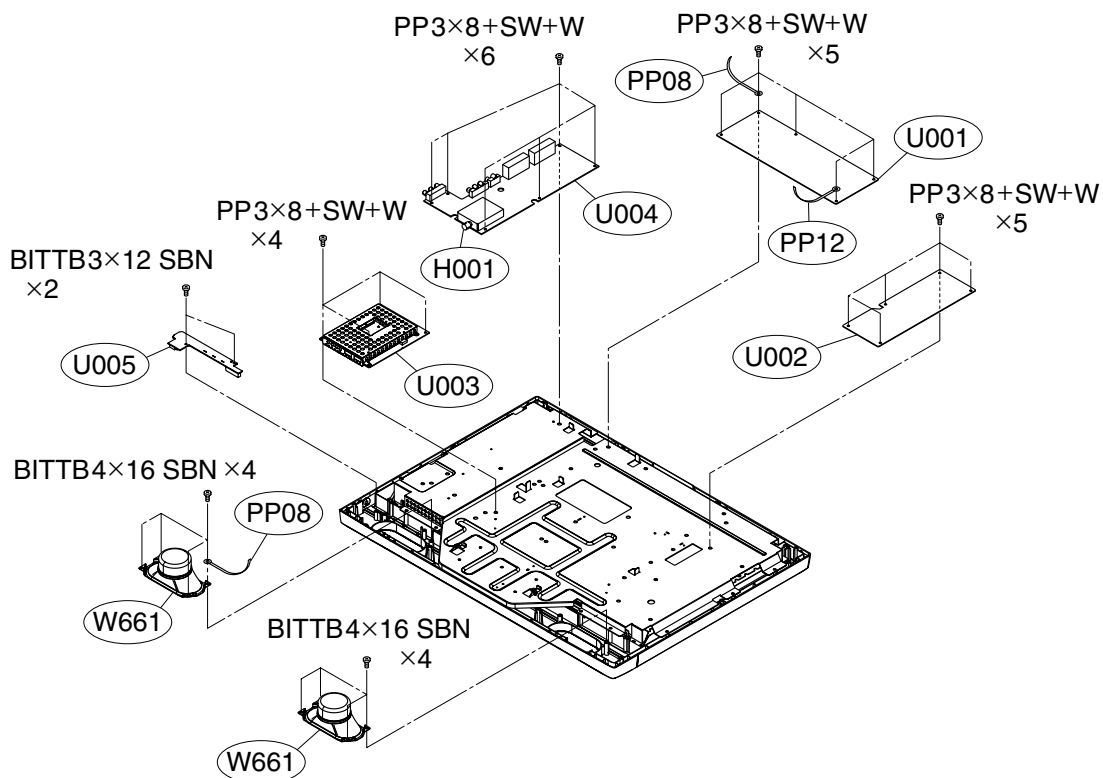
1. Remove the stand (foot) and back cover.



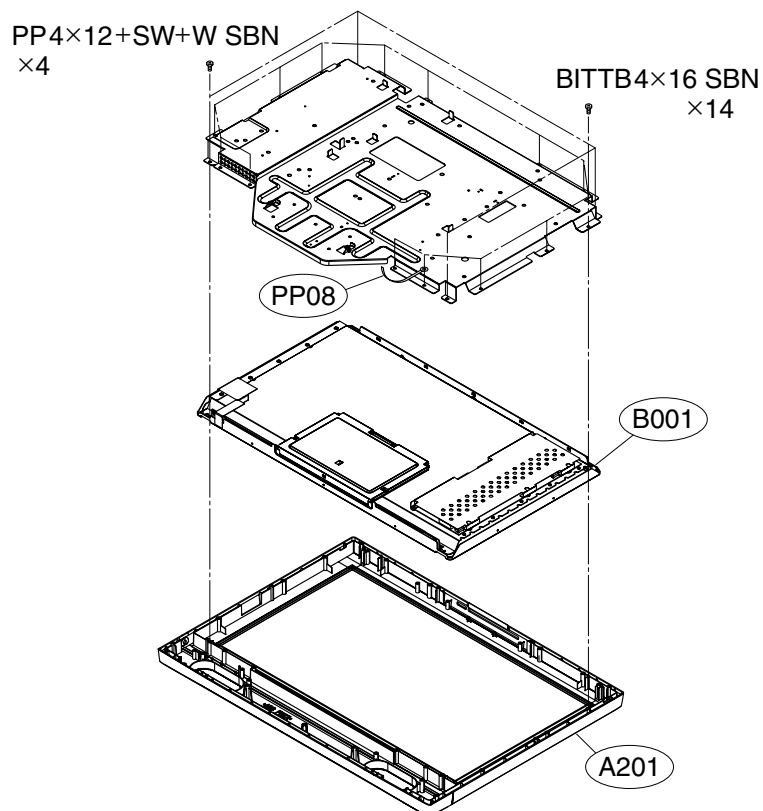
2. Remove the boards (KEY, PC-IN) and piece key ass'y.



3. Remove the boards (POWER, AC-IN, SIGNAL, AV OTHER, LED/RMT) and speaker.

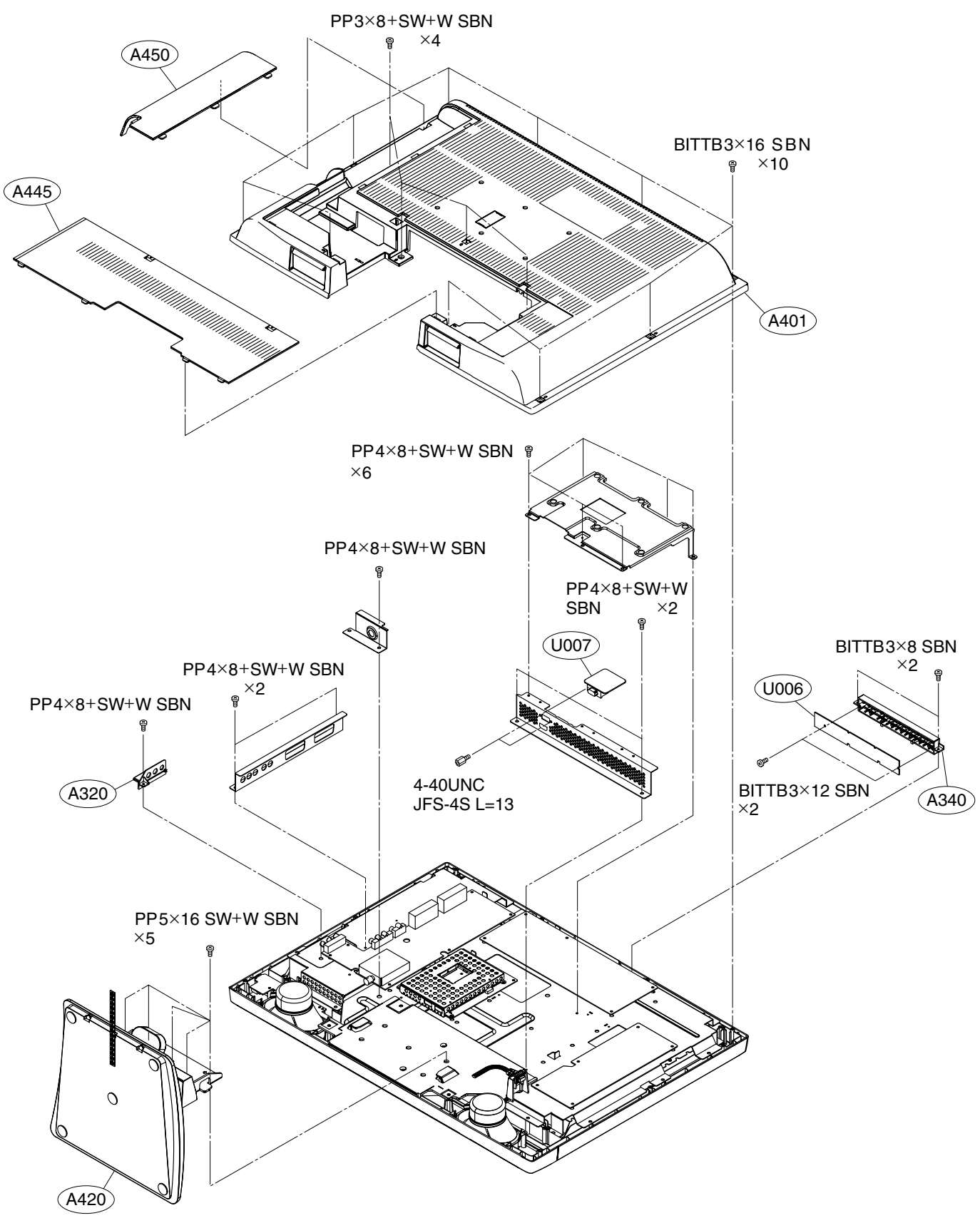


4. Remove the display.

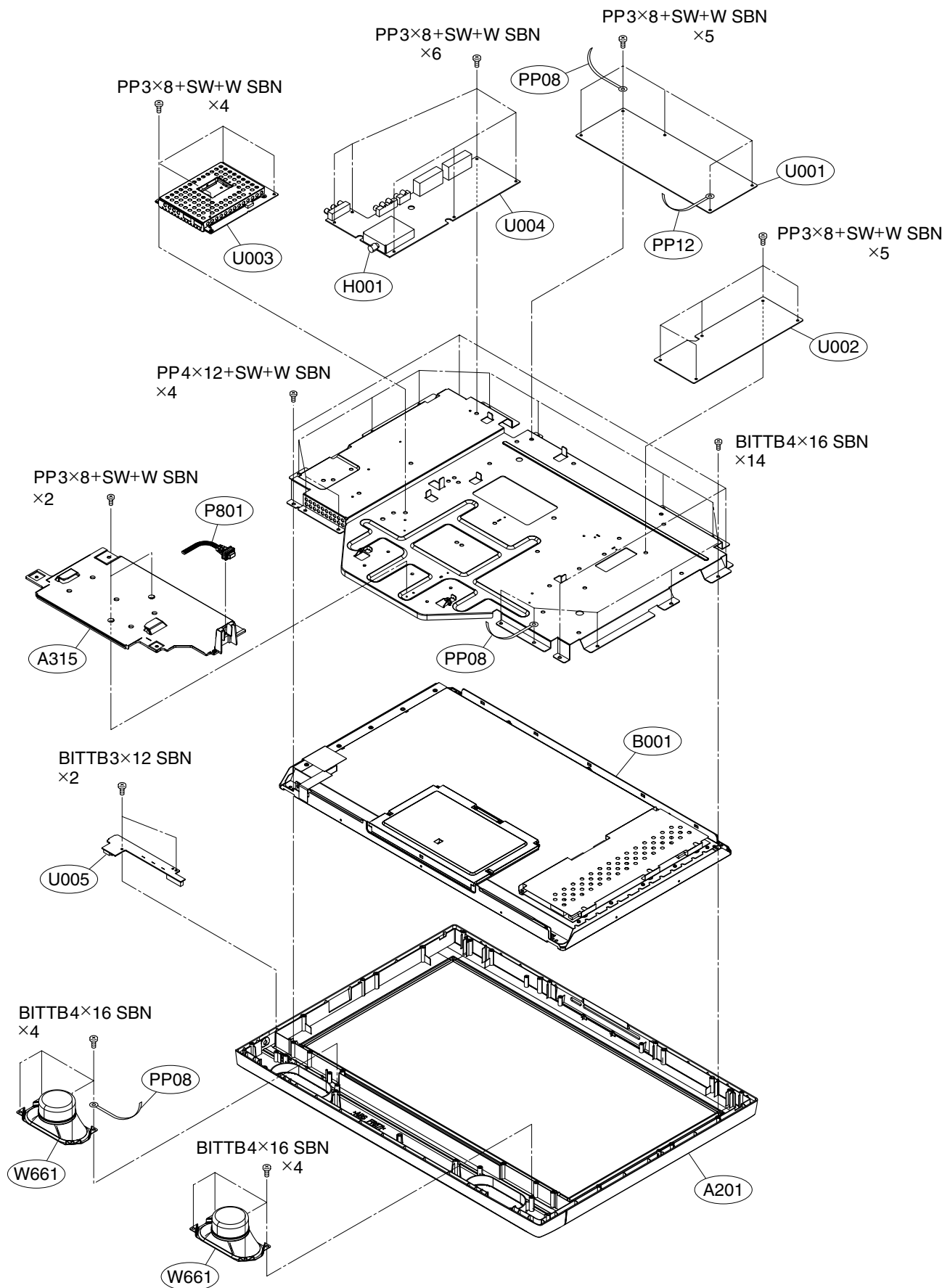


EXPLODED VIEWS

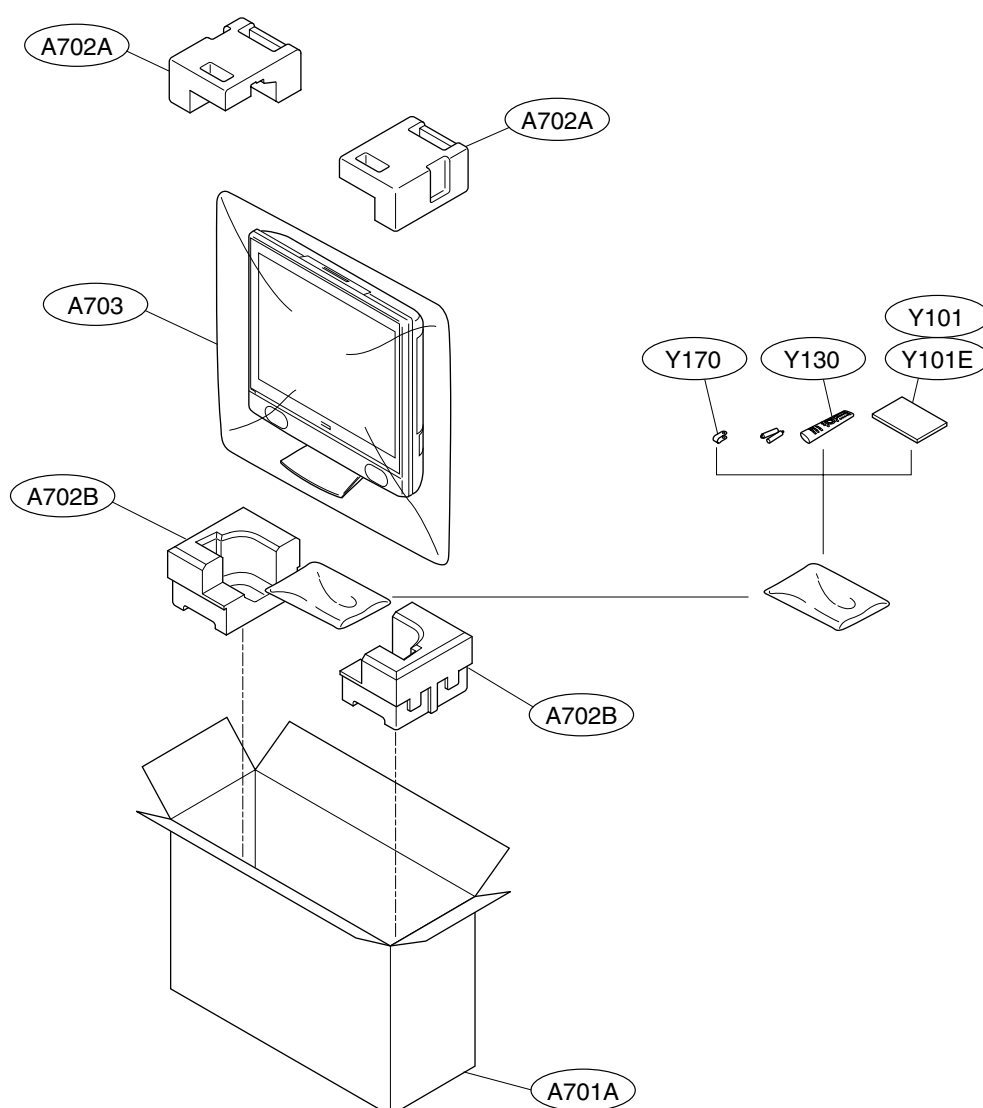
1. Chassis Block



2. Main Block



PACKING DISASSEMBLY



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS. Do not degrade the safety of the receiver through improper servicing.

NOTICE:

- The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.
- The PC board assembly with * mark is no longer available after the end of the production.

Model : 27WL56P

Capacitors CD : Ceramic Disk PF : Plastic Film EL : Electrolytic
Resistors CF : Carbon Film CC : Carbon Composition MF : Metal Film
 OMF : Oxide Metal Film VR : Variable Resistor FR : Fusible Resistor
(All CD and PF capacitors are $\pm 5\%$, 50V and all resistors, $\pm 5\%$, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C101	76109103	CERAMIC CHIP, 50V B 0.01UF K
C102	76073019	ELECTROLYTIC, 10V 470UF M 3A
C103	76109102	CERAMIC CHIP, 50V B 1000PF K
C104	76073084	ELECTROLYTIC, 50V 4.7UF M 3A
C105	76073019	ELECTROLYTIC, 10V 470UF M 3A
C162	76105101	CERAMIC CHIP, 50V CH 100PF J
C164	76100103	CERAMIC CHIP, 50V F 0.01UF Z
C190	76092730	CERAMIC CHIP, 16V B 0.1UF K
C501	76092730	CERAMIC CHIP, 16V B 0.1UF K
C502	76092730	CERAMIC CHIP, 16V B 0.1UF K
C503	76794470	ELECTROLYTIC, 16V 47UF M
C504	76109103	CERAMIC CHIP, 50V B 0.01UF K
C505	76794470	ELECTROLYTIC, 16V 47UF M
C506	76109103	CERAMIC CHIP, 50V B 0.01UF K
C514	76763221	ELECTROLYTIC, 16V 220UF M
C516	76105110	CERAMIC CHIP, 50V CH 11PF J
C517	76206478	ELECTROLYTIC, 50V 0.47UF M 7L 3A
C519	76797479	ELECTROLYTIC, 50V 4.7UF M
C521	76092733	CERAMIC CHIP, 50V B 0.022UF K
C524	76109103	CERAMIC CHIP, 50V B 0.01UF K
C526	76109103	CERAMIC CHIP, 50V B 0.01UF K
C527	76797229	ELECTROLYTIC, 50V 2.2UF M
C660	76669479	ELECTROLYTIC, 50V 4.7UF M
C661	76669479	ELECTROLYTIC, 50V 4.7UF M
C662	76109681	CERAMIC CHIP, 50V B 680PF K
C663	76109681	CERAMIC CHIP, 50V B 680PF K
C668	76766100	ELECTROLYTIC, 50V 10UF M
C670	76669100	ELECTROLYTIC, 50V 10UF M
C671	76669100	ELECTROLYTIC, 50V 10UF M
C673	76667470	ELECTROLYTIC, 25V 47UF M 3A
C674	76073081	ELECTROLYTIC, 50V 1UF M 3A
C675	76669339	ELECTROLYTIC, 50V 3.3UF M
C676	76765101	ELECTROLYTIC, 35V 100UF M
C678	76503041	PLASTIC FILM , 63V 0.1UF J
C679	76503041	PLASTIC FILM , 63V 0.1UF J
C680	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C681	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C682	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C684	76109103	CERAMIC CHIP, 50V B 0.01UF K
C685	76109103	CERAMIC CHIP, 50V B 0.01UF K
C688	76109103	CERAMIC CHIP, 50V B 0.01UF K
C694	76109103	CERAMIC CHIP, 50V B 0.01UF K
C699	76206478	ELECTROLYTIC, 50V 0.47UF M 7L 3A

Location No.	Parts No.	Description
C699B	23960136	ADHESIVE, SILICONE, TSE3843-W
⚠ C801	76503507	PLASTIC FILM, AC275V 0.22UF K
⚠ C802	76503507	PLASTIC FILM, AC275V 0.22UF K
⚠ C803	24503437	PLASTIC FILM CQ92 T 630V 0.15UF J
C804	76214103	CERAMIC DISC, 500V B 0.01UF K
C805	76092281	CERAMIC DISC, AC250V E 4700PF
C810	76125008	ELECTROLYTIC CE692R 450V 220UF M
⚠ C811	76092567	CERAMIC DISC, AC250V E 1000PF M
⚠ C812	76092567	CERAMIC DISC, AC250V E 1000PF M
C813	76503047	PLASTIC FILM, 63V 0.33UF J
C815	76503049	PLASTIC FILM, 63V 0.47UF J
C816	76073090	ELECTROLYTIC, 50V 100UF M 3A
C817	76567224	PLASTIC FILM, 50V 0.22UF J
C819	76214101	CERAMIC DISC, 500V B 100PF K
C820	76567224	PLASTIC FILM, 50V 0.22UF J
C821	76092343	CERAMIC DISC, 2KV 680PF K
C822	76092344	CERAMIC DISC, 2KV 820PF K
C823	76092341	CERAMIC DISC, 2KV R 470PF K
C824	76591102	PLASTIC FILM, 50V 1000PF J
C825	76503053	PLASTIC FILM, 63V 1UF J
C826	76092341	CERAMIC DISC, 2KV R 470PF K
C827	76678229	ELECTROLYTIC, 200V 2.2UF M 3A
C851	76092538	CERAMIC CHIP, 10V F 1UF Z
C852	76109102	CERAMIC CHIP, 50V B 1000PF K
C883	76073193	ELECTROLYTIC, 35V 2200UF M 3A
C884	76073193	ELECTROLYTIC, 35V 2200UF M 3A
C889	76073094	ELECTROLYTIC, 50V 1000UF M 3A
C890	76503047	PLASTIC FILM, 63V 0.33UF J
C6600	76797470	ELECTROLYTIC, 50V 47UF M
C6601	76085944	ELECTROLYTIC, NP, 50V 2.2UF M 11L
C6602	76085944	ELECTROLYTIC, NP, 50V 2.2UF M 11L
C6603	76766229	ELECTROLYTIC, 50V 2.2UF M
C6604	76766229	ELECTROLYTIC, 50V 2.2UF M
C6605	76766100	ELECTROLYTIC, 50V 10UF M
C8001	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C8110	76125008	ELECTROLYTIC CE692R 450V 220UF M
CB01	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB02	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB03	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB04	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB05	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB38	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CC01	76109102	CERAMIC CHIP, 50V B 1000PF K
CC02	76109102	CERAMIC CHIP, 50V B 1000PF K

Location No.	Parts No.	Description
CC03	76109152	CERAMIC CHIP, 50V B 1500PF K
CC04	76109152	CERAMIC CHIP, 50V B 1500PF K
CC05	76109102	CERAMIC CHIP, 50V B 1000PF K
CC06	76109102	CERAMIC CHIP, 50V B 1000PF K
CC07	76109152	CERAMIC CHIP, 50V B 1500PF K
CC08	76109152	CERAMIC CHIP, 50V B 1500PF K
CC10	76109102	CERAMIC CHIP, 50V B 1000PF K
CC31	76109102	CERAMIC CHIP, 50V B 1000PF K
CCC9	76109102	CERAMIC CHIP, 50V B 1000PF K
CE04	76092281	CERAMIC DISC, AC250V E 4700PF
CE07	76503049	PLASTIC FILM, 63V 0.47UF J
CE09	76668339	ELECTROLYTIC, 35V 3.3UF M 3A
CE10	76125003	ELECTROLYTIC CE692R 450V 120UF M
CE12	76503041	PLASTIC FILM , 63V 0.1UF J
△ CE13	76092565	CERAMIC DISC, AC250V B 470PF K
△ CE14	76092565	CERAMIC DISC, AC250V B 470PF K
CE16	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE17	76092339	CERAMIC DISC, 2KV 330PF K
△ CE18	76503253	PLASTIC FILM, 1250VH 0.01UF H
CE23	76214471	CERAMIC DISC, 500V B 470PF K
CE24	76285104	CERAMIC CHIP, 50V B 0.1UF K
CE29	76436561	CERAMIC DISC, 50V SL 560PF J
CE40	76073183	ELECTROLYTIC CE04P 35V 220UF M 3A
CE42	76539104	PLASTIC FILM , 63V 0.1UF J
CE43	76503041	PLASTIC FILM , 63V 0.1UF J
CE51	76617023	ELECTROLYTIC, 16V 330UF M
CE52	76092179	CERAMIC CHIP, 25V B 0.22UF K
CE53	76092179	CERAMIC CHIP, 25V B 0.22UF K
CE55	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE76	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE82	76676470	ELECTROLYTIC, 100V 47UF M 3A
CE85	76073175	ELECTROLYTIC CE04P 25V 1800UF M 3A
CE86	76073175	ELECTROLYTIC CE04P 25V 1800UF M 3A
CE87	76669100	ELECTROLYTIC, 50V 10UF M
CE90	76503047	PLASTIC FILM, 63V 0.33UF J
CE91	76503041	PLASTIC FILM , 63V 0.1UF J
CE92	76794101	ELECTROLYTIC, 16V 100UF M
CT01	76092790	CERAMIC CHIP CK732B 6.3V 10UF K
CT04	76105151	CERAMIC CHIP, 50V CH 150PF J
CT05	76092790	CERAMIC CHIP CK732B 6.3V 10UF K
CT06	76092790	CERAMIC CHIP CK732B 6.3V 10UF K
CT07	76092790	CERAMIC CHIP CK732B 6.3V 10UF K
CT08	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CT09	76109103	CERAMIC CHIP, 50V B 0.01UF K
CV13	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CV17	76085988	ELECTROLYTIC, NP, 50V 1UF M 7L
CV18	76794101	ELECTROLYTIC, 16V 100UF M
CV19	76794101	ELECTROLYTIC, 16V 100UF M
CV20	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CV21	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CV22	76794101	ELECTROLYTIC, 16V 100UF M
CV23	76794220	ELECTROLYTIC, 16V 22UF M
CV24	76085988	ELECTROLYTIC, NP, 50V 1UF M 7L
CV25	76085988	ELECTROLYTIC, NP, 50V 1UF M 7L
CV26	76794220	ELECTROLYTIC, 16V 22UF M
CV27	76794101	ELECTROLYTIC, 16V 100UF M
CV28	76794220	ELECTROLYTIC, 16V 22UF M
CV51	76794100	ELECTROLYTIC, 16V 10UF M
CV52	76794100	ELECTROLYTIC, 16V 10UF M
CV54	76794100	ELECTROLYTIC, 16V 10UF M
RESISTORS		
R103	76011101	CHIP, 1/20W 100 OHM J
R104	76011103	CHIP, 1/20W 10K OHM J
R105	76011273	CHIP, 1/20W 27K OHM J
R107	76000445	CHIP JUMPER, 1608TYPE
R108	76000445	CHIP JUMPER, 1608TYPE
R114	76000445	CHIP JUMPER, 1608TYPE
R167	76011101	CHIP, 1/20W 100 OHM J

Location No.	Parts No.	Description
R169	76000445	CHIP JUMPER, 1608TYPE
R170	76011682	CHIP, 1/20W 6.8K OHM J
R501	76011682	CHIP, 1/20W 6.8K OHM J
R502	76011272	CHIP, 1/20W 2.7K OHM J
R504	76011101	CHIP, 1/20W 100 OHM J
R505	76011101	CHIP, 1/20W 100 OHM J
R506	76011273	CHIP, 1/20W 27K OHM J
R507	76011392	CHIP, 1/20W 3.9K OHM J
R508	76011682	CHIP, 1/20W 6.8K OHM J
R509	76011153	CHIP, 1/20W 15K OHM J
R512	76011101	CHIP, 1/20W 100 OHM J
R514	76011102	CHIP, 1/20W 1K OHM J
R515	76011473	CHIP, 1/20W 47K OHM J
R516	76011473	CHIP, 1/20W 47K OHM J
R660	76011473	CHIP, 1/20W 47K OHM J
R662	76011103	CHIP, 1/20W 10K OHM J
R663	76011473	CHIP, 1/20W 47K OHM J
R670	76011472	CHIP, 1/20W 4.7K OHM J
R671	76011472	CHIP, 1/20W 4.7K OHM J
R672	76011182	CHIP, 1/20W 1.8K OHM J
R673	76011182	CHIP, 1/20W 1.8K OHM J
R678	76871229	CHIP, 1/8W 2.2 OHM J
R679	76871229	CHIP, 1/8W 2.2 OHM J
R680	76011103	CHIP, 1/20W 10K OHM J
R681	76011103	CHIP, 1/20W 10K OHM J
R682	76011104	CHIP, 1/20W 100K OHM J
R683	76011223	CHIP, 1/20W 22K OHM J
R684	76011104	CHIP, 1/20W 100K OHM J
R685	76011183	CHIP, 1/20W 18K OHM J
R686	76011102	CHIP, 1/20W 1K OHM J
R688	76552331	OXIDE METAL FILM, 1/2W 330 OHM J
R693	76552331	OXIDE METAL FILM, 1/2W 330 OHM J
△ R801	76004716	METAL GLAZE, 1/2W 2.2M OHM J
R803	76366562	CARBON FILM, 1/6W 5.6K OHM J
R805	76366102	CARBON FILM, 1/6W 1K OHM J
R806	76552470	OXIDE METAL FILM, 1/2W 47 OHM J
R807	76366393	CARBON FILM, 1/6W 39K OHM J
R808	76552101	OXIDE METAL FILM, 1/2W 100 OHM J
R809	76321689	OXIDE METAL FILM, 1/2W 6.8 OHM J
R812	76552681	OXIDE METAL FILM, 1/2W 680 OHM J
R813	76366270	CARBON FILM, 1/6W 27 OHM J
R814	76552390	OXIDE METAL FILM, 1/2W 39 OHM J
R815	76552100	OXIDE METAL FILM, 1/2W 10 OHM J
R816	76011331	CHIP, 1/20W 330 OHM J
R817	76377224	CARBON FILM, 1W 220K OHM J
R821	76322689	OXIDE METAL FILM, 1W 6.8 OHM J
R827	76383103	OXIDE METAL FILM, 2W 10K OHM J
R828	76383103	OXIDE METAL FILM, 2W 10K OHM J
R850	76011101	CHIP, 1/20W 100 OHM J
R851	76011102	CHIP, 1/20W 1K OHM J
R852	76011471	CHIP, 1/20W 470 OHM J
R853	76011103	CHIP, 1/20W 10K OHM J
R854	76011102	CHIP, 1/20W 1K OHM J
R855	76011471	CHIP, 1/20W 470 OHM J
R856	76011102	CHIP, 1/20W 1K OHM J
R857	76011471	CHIP, 1/20W 470 OHM J
R858	76011471	CHIP, 1/20W 470 OHM J
R859	76011102	CHIP, 1/20W 1K OHM J
R861	76007416	CERAMIC COVERED, 5W 82 OHM J
R862	76007416	CERAMIC COVERED, 5W 82 OHM J
R873	76366152	CARBON FILM, 1/6W 1.5K OHM J
R890	76011102	CHIP, 1/20W 1K OHM J
△ R899	76004718	METAL GLAZE, 1/2W 8.2M OHM J
R4100	76011102	CHIP, 1/20W 1K OHM J
R4101	76011681	CHIP, 1/20W 680 OHM J
R4102	76011471	CHIP, 1/20W 470 OHM J
R4103	76011681	CHIP, 1/20W 680 OHM J
R4104	76011102	CHIP, 1/20W 1K OHM J
R4105	76011102	CHIP, 1/20W 1K OHM J

Location No.	Parts No.	Description
R4106	76011681	CHIP, 1/20W 680 OHM J
R4107	76011471	CHIP, 1/20W 470 OHM J
R4108	76011681	CHIP, 1/20W 680 OHM J
R4109	76011102	CHIP, 1/20W 1K OHM J
R6601	76011223	CHIP, 1/20W 22K OHM J
R6602	76011103	CHIP, 1/20W 10K OHM J
R6603	76011104	CHIP, 1/20W 100K OHM J
R6604	76011102	CHIP, 1/20W 1K OHM J
R6610	76011102	CHIP, 1/20W 1K OHM J
R6611	76011102	CHIP, 1/20W 1K OHM J
R6612	76011104	CHIP, 1/20W 100K OHM J
R6613	76011104	CHIP, 1/20W 100K OHM J
R6614	76011103	CHIP, 1/20W 10K OHM J
R6615	76011102	CHIP, 1/20W 1K OHM J
R6616	76011104	CHIP, 1/20W 100K OHM J
R6617	76011104	CHIP, 1/20W 100K OHM J
R6620	76011100	CHIP, 1/20W 10 OHM J
R6622	76011100	CHIP, 1/20W 10 OHM J
R6623	76011100	CHIP, 1/20W 10 OHM J
R6624	76011100	CHIP, 1/20W 10 OHM J
R6625	76011473	CHIP, 1/20W 47K OHM J
R6626	76011473	CHIP, 1/20W 47K OHM J
R6627	76011473	CHIP, 1/20W 47K OHM J
R6628	76011473	CHIP, 1/20W 47K OHM J
R6629	76011103	CHIP, 1/20W 10K OHM J
R6630	76011103	CHIP, 1/20W 10K OHM J
R6631	76011473	CHIP, 1/20W 47K OHM J
R6632	76011473	CHIP, 1/20W 47K OHM J
R6634	76011102	CHIP, 1/20W 1K OHM J
R6639	76011223	CHIP, 1/20W 22K OHM J
R6640	76011223	CHIP, 1/20W 22K OHM J
R6701	76011473	CHIP, 1/20W 47K OHM J
R6702	76011473	CHIP, 1/20W 47K OHM J
RA71	76011683	CHIP, 1/20W 68K OHM J
RA72	76011223	CHIP, 1/20W 22K OHM J
RA73	76011103	CHIP, 1/20W 10K OHM J
RA74	76000445	CHIP JUMPER, 1608TYPE
RA77	76011103	CHIP, 1/20W 10K OHM J
RA78	76000445	CHIP JUMPER, 1608TYPE
RA79	76000445	CHIP JUMPER, 1608TYPE
RB08	76011470	CHIP, 1/20W 47 OHM J
RB09	76011470	CHIP, 1/20W 47 OHM J
RB10	76011331	CHIP, 1/20W 330 OHM J
RB15	76011471	CHIP, 1/20W 470 OHM J
RB24	76000445	CHIP JUMPER, 1608TYPE
RC01	76011102	CHIP, 1/20W 1K OHM J
RC02	76011102	CHIP, 1/20W 1K OHM J
RC03	76011102	CHIP, 1/20W 1K OHM J
RC04	76011102	CHIP, 1/20W 1K OHM J
RC05	76011681	CHIP, 1/20W 680 OHM J
RC06	76011681	CHIP, 1/20W 680 OHM J
RE03	76553683	OXIDE METAL FILM, 1W 68K OHM J
RE04	76553683	OXIDE METAL FILM, 1W 68K OHM J
RE05	24554683	OXIDE METAL FILM, 2W 68K OHM J
RE12	76552221	OXIDE METAL FILM, 1/2W 220 OHM J
RE13	76366473	CARBON FILM, 1/6W 47K OHM J
RE15	76366102	CARBON FILM, 1/6W 1K OHM J
RE16	76366102	CARBON FILM, 1/6W 1K OHM J
RE17	76366363	CARBON FILM, 1/6W 36K OHM J
RE18	76019463	METAL PLATE, 2W 0.22 OHM J
RE19	76310829	OXIDE METAL FILM, 1/2W 8.2 OHM J
RE23	76552152	OXIDE METAL FILM, 1/2W 1.5K OHM J
RE41	76011152	CHIP, 1/20W 1.5K OHM J
RE42	76871222	CHIP, 1/8W 2.2K OHM J
RE43	76011753	CHIP, 1/20W 75K OHM J
RE44	76000593	METAL FILM CHIP 1/16W 10K F
RE46	76000448	CHIP, 1/16W 1.8K OHM F
RE48	76011222	CHIP, 1/20W 2.2K OHM J
RE51	76011393	CHIP, 1/20W 39K OHM J

Location No.	Parts No.	Description
RE52	76011152	CHIP, 1/20W 1.5K OHM J
RE53	76871222	CHIP, 1/8W 2.2K OHM J
RE54	76871222	CHIP, 1/8W 2.2K OHM J
RE56	76190012	METAL FILM CHIP 1/16W 1.5K F
RE57	76190012	METAL FILM CHIP 1/16W 1.5K F
RE58	76190013	CHIP RES 1/16W 22K F
RE59	76011334	CHIP, 1/20W 330K OHM J
RE60	76011473	CHIP, 1/20W 47K OHM J
RE61	76190014	METAL FILM CHIP 1/16W 18K F
RE82	76011473	CHIP, 1/20W 47K OHM J
RE83	76011473	CHIP, 1/20W 47K OHM J
RE84	76011152	CHIP, 1/20W 1.5K OHM J
RE87	76011473	CHIP, 1/20W 47K OHM J
RE88	76011103	CHIP, 1/20W 10K OHM J
RE91	76011103	CHIP, 1/20W 10K OHM J
RE93	76011223	CHIP, 1/20W 22K OHM J
RE94	76871271	CHIP, 1/8W 270 OHM J
RE95	76553122	OXIDE METAL FILM, 1W 1.2K OHM J
RE96	76011473	CHIP, 1/20W 47K OHM J
RE97	76553681	OXIDE RES 1W 68 J
RE98	76011104	CHIP, 1/20W 100K OHM J
RR01	76871750	CHIP, 1/8W 75 OHM J
RR02	76871750	CHIP, 1/8W 75 OHM J
RR03	76871750	CHIP, 1/8W 75 OHM J
RR04	76011330	CHIP, 1/20W 33 OHM J
RR05	76011330	CHIP, 1/20W 33 OHM J
RR06	76011330	CHIP, 1/20W 33 OHM J
RT01	76011101	CHIP, 1/20W 100 OHM J
RT02	76011273	CHIP, 1/20W 27K OHM J
RT03	76011683	CHIP, 1/20W 68K OHM J
RT04	76011102	CHIP, 1/20W 1K OHM J
RT05	76011101	CHIP, 1/20W 100 OHM J
RT06	76011391	CHIP, 1/20W 390 OHM J
RT07	76011821	CHIP, 1/20W 820 OHM J
RT08	76011151	CHIP, 1/20W 150 OHM J
RT09	76011471	CHIP, 1/20W 470 OHM J
RT10	76011101	CHIP, 1/20W 100 OHM J
RT11	76011471	CHIP, 1/20W 470 OHM J
RT12	76011102	CHIP, 1/20W 1K OHM J
RV01	76000445	CHIP JUMPER, 1608TYPE
RV02	76011750	CHIP, 1/20W 75 OHM J
RV03	76011472	CHIP, 1/20W 4.7K OHM J
RV04	76011151	CHIP, 1/20W 150 OHM J
RV05	76011750	CHIP, 1/20W 75 OHM J
RV06	76011750	CHIP, 1/20W 75 OHM J
RV07	76011750	CHIP, 1/20W 75 OHM J
RV10	76366750	CARBON FILM, 1/6W 75 OHM J
RV13	76011750	CHIP, 1/20W 75 OHM J
RV21	76011750	CHIP, 1/20W 75 OHM J
RV28	76011750	CHIP, 1/20W 75 OHM J
RV30	76011750	CHIP, 1/20W 75 OHM J
RV31	76011750	CHIP, 1/20W 75 OHM J
RV51	76011101	CHIP, 1/20W 100 OHM J
RV52	76011391	CHIP, 1/20W 390 OHM J
RV54	76011473	CHIP, 1/20W 47K OHM J
RV55	76011473	CHIP, 1/20W 47K OHM J
RV56	76011473	CHIP, 1/20W 47K OHM J
RV57	76011101	CHIP, 1/20W 100 OHM J
RV58	76011391	CHIP, 1/20W 390 OHM J
RV59	76011473	CHIP, 1/20W 47K OHM J
RV61	76000445	CHIP JUMPER, 1608TYPE
RV76	76011473	CHIP, 1/20W 47K OHM J
RV78	76011101	CHIP, 1/20W 100 OHM J
RV79	76011391	CHIP, 1/20W 390 OHM J
RV80	76011473	CHIP, 1/20W 47K OHM J
RV91	76000445	CHIP JUMPER, 1608TYPE
RV92	76011472	CHIP, 1/20W 4.7K OHM J
RV93	76011182	CHIP, 1/20W 1.8K OHM J
RV94	76011472	CHIP, 1/20W 4.7K OHM J

Location No.	Parts No.	Description
RV95	76011182	CHIP, 1/20W 1.8K OHM J
RV120	76011750	CHIP, 1/20W 75 OHM J
COIL & TRANSFORMERS		
L101	23248398	COIL, CHOKE, TLN3278D
L102	23103828	INDUCTOR, BEAD, TEM2121M
L103	23103828	INDUCTOR, BEAD, TEM2121M
L191	23103828	INDUCTOR, BEAD, TEM2121M
L504	23289978	COIL, PEAKING, TRF4100AJ
L505	23289022	COIL, PEAKING, TRF4100AT
▲ L801	23217787	TRANSFORMER, CHOKE39MH1
▲ L802	23217788	TRANSFORMER, CHOKE13MH1.45ATPW2070AS
L805	23103302	FERRITE CHOKE, TEM2011AH
L806	23248386	COIL, CHOKE 9X11H 2.0MMH 4.0A TLN3481AA
L807	23248386	COIL, CHOKE 9X11H 2.0MMH 4.0A TLN3481AA
L874	23103302	FERRITE CHOKE, TEM2011AH
L875	23103302	FERRITE CHOKE, TEM2011AH
L876	23103302	FERRITE CHOKE, TEM2011AH
L878	23103302	FERRITE CHOKE, TEM2011AH
L883	23248466	COIL, CHOKE COIL 4.7MMH 8.0A TLN3551AH
L888	23248432	COIL, CHOKE, TLN3499AH
L921	75001248	CHIP BEADS INDUCTOR
L922	75001248	CHIP BEADS INDUCTOR
L923	75001248	CHIP BEADS INDUCTOR
L925	75001248	CHIP BEADS INDUCTOR
L926	75001248	CHIP BEADS INDUCTOR
L930	75001248	CHIP BEADS INDUCTOR
L931	75001248	CHIP BEADS INDUCTOR
L932	75001248	CHIP BEADS INDUCTOR
L933	75001248	CHIP BEADS INDUCTOR
L934	75001248	CHIP BEADS INDUCTOR
L935	75001248	CHIP BEADS INDUCTOR
L936	75001248	CHIP BEADS INDUCTOR
L943	75001248	CHIP BEADS INDUCTOR
LC01	23103828	INDUCTOR, BEAD, TEM2121M
LC02	23103828	INDUCTOR, BEAD, TEM2121M
LC05	23103828	INDUCTOR, BEAD, TEM2121M
LC06	23103828	INDUCTOR, BEAD, TEM2121M
LE06	23248386	COIL, CHOKE 9X11H 2.0MMH 4.0A TLN3481AA
LE07	23248386	COIL, CHOKE 9X11H 2.0MMH 4.0A TLN3481AA
LE11	23103302	FERRITE CHOKE, TEM2011AH
LE52	23289025	COIL, PEAKING, TRF4330AT
LE53	23248399	COIL, CHOKE, TLN3283D
LE73	23248386	COIL, CHOKE 9X11H 2.0MMH 4.0A TLN3481AA
LE74	23248417	COIL, CHOKE, TLN3481AH
LT01	23289028	COIL, PEAKING, TRF4101AT
▲ T801	23211886	COIL, L/F ET28H 16MH TRF3253AH
▲ T802	23211886	COIL, L/F ET28H 16MH TRF3253AH
▲ T862	23217784	TRANSFORMER, CONVERTER TPW3572AS
▲ TE62	23217701	TRANSFORMER, CONVERTER TPW3563AS
SEMICONDUCTORS		
Q101	23205506	TRANSISTOR, 2SC4081 Q
Q501	23085049	IC, TB1274BFG(DRY)
Q504	23205507	TRANSISTOR, 2SA1576A Q
Q654	23205302	TRANSISTOR, 2SC3326-B(F)
Q655	23205302	TRANSISTOR, 2SC3326-B(F)
Q656	23205325	TRANSISTOR, RN2404(F)
Q662	23205325	TRANSISTOR, RN2404(F)
Q663	23205506	TRANSISTOR, 2SC4081 Q
Q670	23085039	IC, TA8246AHQ
Q671	23205302	TRANSISTOR, 2SC3326-B(F)
Q672	23205302	TRANSISTOR, 2SC3326-B(F)
Q673	23205443	TRANSISTOR, 2SA1162-Y(F)
Q801	23135088	IC, HYBRID VDSS=400V STR-Z4369
▲ Q826	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q851	23205446	TRANSISTOR, 2SC2412K, Q T146
Q852	23205446	TRANSISTOR, 2SC2412K, Q T146
Q853	23205443	TRANSISTOR, 2SA1162-Y(F)

Location No.	Parts No.	Description
Q854	23205446	TRANSISTOR, 2SC2412K, Q T146
Q855	23205446	TRANSISTOR, 2SC2412K, Q T146
Q883	23135091	IC, ERROR AMP. VS=24.0V SE024N
Q4100	23085635	IC, 2SC3437-Y(TE85L,F)
Q4101	23085635	IC, 2SC3437-Y(TE85L,F)
Q4102	23085635	IC, 2SC3437-Y(TE85L,F)
Q4103	23085635	IC, 2SC3437-Y(TE85L,F)
Q6600	23318977	IC, MC14052BF
Q6601	23205302	TRANSISTOR, 2SC3326-B(F)
Q6602	23205302	TRANSISTOR, 2SC3326-B(F)
Q6603	23205325	TRANSISTOR, RN2404(F)
Q6604	23205329	TRANSISTOR, RN1404(F)
Q6605	23205329	TRANSISTOR, RN1404(F)
QB04	23205463	TRANSISTOR, 2SC2712-Y(TE85L,F)
QB07	23205463	TRANSISTOR, 2SC2712-Y(TE85L,F)
QE01	23135072	IC, STRW6765
▲ QE26	23000823	IC, PHOTO COUPLER, TLP421F(GR)
QE40	23085463	IC, SI-8050E
QE52	23205567	TRANSISTOR, CHIP R1=R2=22K SMTRN2403(TE85L,F)
QE53	23205330	TRANSISTOR, RN1403(F)
QE64	23085415	IC, BD4746G
QE71	23135085	IC, IC, HYBRID IC DCDC CONVERT CE-1050
QE74	23205330	TRANSISTOR, RN1403(F)
QE75	23205446	TRANSISTOR, 2SC2412K, Q T146
QE83	23085389	IC, NJM431L
QE90	23085423	IC, KIA7809API-U/P
QE94	23205292	TRANSISTOR, 2SD2396
QE95	23205446	TRANSISTOR, 2SC2412K, Q T146
QE96	23205301	TRANSISTOR, 2SA1887(FA,F)
QE97	23205569	TRANSISTOR, CHIP VCEO=120V 2SC2713-GR(TE85L,F)
QE98	23205568	TRANSISTOR, CHIP VCEO=120V 2SA1163-GR(TE85L,F)
QT01	23205507	TRANSISTOR, 2SA1576A Q
QT02	23205506	TRANSISTOR, 2SC4081 Q
QT03	23205507	TRANSISTOR, 2SA1576A Q
QT04	23085392	IC, MM1501XN
QT05	23205507	TRANSISTOR, 2SA1576A Q
QT06	23205402	TRANSISTOR, DTC144EUA
QV14	23085791	IC, IC, 6DBAMP DRIVER CLPM1510XNRE(PBFREE)
QV15	23085791	IC, IC, 6DBAMP DRIVER CLPM1510XNRE(PBFREE)
QV16	23085791	IC, IC, 6DBAMP DRIVER CLPM1510XNRE(PBFREE)
QV51	23205506	TRANSISTOR, 2SC4081 Q
QV52	23205506	TRANSISTOR, 2SC4081 Q
QV54	23205506	TRANSISTOR, 2SC4081 Q
D670	23362140	DIODE, KDS160-RTK
D671	23362140	DIODE, KDS160-RTK
D674	23362140	DIODE, KDS160-RTK
D675	23362140	DIODE, KDS160-RTK
D676	23362140	DIODE, KDS160-RTK
D677	23362140	DIODE, KDS160-RTK
D678	23362140	DIODE, KDS160-RTK
D679	23362140	DIODE, KDS160-RTK
D801	23362200	DIODE, VRM=600V IO=6A SIP D5SB60, 7009F07
D805	23357627	DIODE, ZENER, RD9.1ESA B1
D806	23357666	DIODE, ZENER, RD27ESA B3
D809	23357654	DIODE, ZENER, RD36ESA B3
D810	23357666	DIODE, ZENER, RD27ESA B3
D811	23357511	DIODE, AG01A
D812	23357625	DIODE, ZENER, RD9.1ESA B3
D813	23357512	DIODE, AL01Z
D852	23357697	DIODE, 1SS133
D883	23362196	DIODE, SCHOTTKY VRM90V 20A RB215T-90
D884	23362196	DIODE, SCHOTTKY VRM90V 20A RB215T-90
D885	23357408	DIODE, FMX-12S(023-108)
D899	76000656	VARISTOR, TNR15G471K
D6601	23362140	DIODE, KDS160-RTK
D6602	23362140	DIODE, KDS160-RTK
D6603	23362140	DIODE, KDS160-RTK
DA01	23362042	DIODE, ZENER, UDZS6.8B
DA06	23362042	DIODE, ZENER, UDZS6.8B

Location No.	Parts No.	Description
DA07	23362042	DIODE, ZENER, UDZS6.8B
DB01	23358606	DIODE, LED RED, SLR-56VC3FPQ
DB04	23358605	DIODE, LED GREEN, SLR-56MC3FPQR
DB20	23357406	DIODE, ZENER, UDZS5.6B
DB22	23357703	DIODE, 1SS355
DB23	23357703	DIODE, 1SS355
DE01	23362204	DIODE, DIODE, D3SB60,7109F08
DE02	23357511	DIODE, AG01A
DE03	23357511	DIODE, AG01A
DE05	23357104	DIODE, 1SS244
DE06	23357366	DIODE, FR105-B5
DE07	23362103	DIODE, ZENER, DZ33 BS B
DE09	23362074	DIODE, ZENER, DZ6.8 BS B
DE11	23357709	DIODE, RU1P
DE12	23357512	DIODE, AL01Z
DE13	23357512	DIODE, AL01Z
DE14	23357512	DIODE, AL01Z
DE15	23362099	DIODE, ZENER, DZ27 BS B
DE16	23357880	DIODE, ZENER, MTZJ20B
DE17	23357512	DIODE, AL01Z
DE19	23357854	DIODE, ZENER, MTZJ10B
DE50	23357706	DIODE, AK04
DE51	23357842	DIODE, ZENER, MTZJ6.8B
DE52	23357703	DIODE, 1SS355
DE54	23357703	DIODE, 1SS355
DE55	23357748	DIODE, ZENER, MA8062-M
DE56	23357800	DIODE, ZENER, MA8300-H
DE72	23357366	DIODE, FR105-B5
DE75	23357408	DIODE, FMX-12S(023-108)
DE90	23357866	DIODE, ZENER, MTZJ12C
DE92	23357862	DIODE, ZENER, MTZJ11B
DE93	23357862	DIODE, ZENER, MTZJ11B
DE94	23357862	DIODE, ZENER, MTZJ11B
DE96	23357840	DIODE, ZENER, MTZJ6.2B
DE97	23357869	DIODE, ZENER, MTZJ13C
DE98	23357869	DIODE, ZENER, MTZJ13C
DE99	23357703	DIODE, 1SS355
DV01	23357724	DIODE, ZENER, MA8024
MISCELLANEOUS		
⚠ B001	23301641	04CMO27, V270W1-L04
B200	23084693	BRACKET, BKT SIDE
B210	23084694	BRACKET, BKT BOTTOM
D801B	23717240	SCREW
D883B	23717240	SCREW
D884B	23717240	SCREW
DE75B	23717240	SCREW
⚠ F801	23144304	FUSE, CARTRIDGE 5X20 250V 6.3A
F801A	23165433	FUSE HOLDER, 5.2 SOC
F801B	23165433	FUSE HOLDER, 5.2 SOC
⚠ F802	23144380	FUSE, RADIAL LEAD SUB-MINIATUR 250V 3.15A
⚠ FE01	23144380	FUSE, RADIAL LEAD SUB-MINIATUR 250V 3.15A
GC20	76000445	CHIP JUMPER, 1608TYPE
GE50	23103302	FERRITE CHOKE, TEM2011AH
GE51	76000445	CHIP JUMPER, 1608TYPE
GJ13	76000445	CHIP JUMPER, 1608TYPE
GJ16	76000445	CHIP JUMPER, 1608TYPE
GR01	76000445	CHIP JUMPER, 1608TYPE
GR02	76000445	CHIP JUMPER, 1608TYPE
GR03	76000445	CHIP JUMPER, 1608TYPE
GR25	76000445	CHIP JUMPER, 1608TYPE
GR26	76000445	CHIP JUMPER, 1608TYPE
GR27	76000445	CHIP JUMPER, 1608TYPE
GR28	76000445	CHIP JUMPER, 1608TYPE
GR31	76000445	CHIP JUMPER, 1608TYPE
GR32	76000445	CHIP JUMPER, 1608TYPE
GR33	76000445	CHIP JUMPER, 1608TYPE
GR34	76000445	CHIP JUMPER, 1608TYPE
GR35	76000445	CHIP JUMPER, 1608TYPE

Location No.	Parts No.	Description
GR36	76000445	CHIP JUMPER, 1608TYPE
GR44	76000445	CHIP JUMPER, 1608TYPE
GR601	76000445	CHIP JUMPER, 1608TYPE
GR602	76000445	CHIP JUMPER, 1608TYPE
GR661	76011223	CHIP, 1/20W 22K OHM J
GT01	76000445	CHIP JUMPER, 1608TYPE
GT02	76000445	CHIP JUMPER, 1608TYPE
KB01	23009710	IC, REMOCON RECEIVER, GP1UE281RK
MJ22	23389310	CABLE, FFC 0.5 50P L70 23LC100_MJ22
MJ60	23389310	CABLE, FFC 0.5 50P L70 23LC100_MJ22
MZ01	23513230	CABLE, LVDS30P250MM COM T4 E30-S30
P601	23713755	PLUG, 4P 2.5MM G, B4B-EH-F1-TV4
P602A	23368095	CONNECTOR, PLUG, 4-PIN, 1.25MM PITCH
P602B	23368095	CONNECTOR, PLUG, 4-PIN, 1.25MM PITCH
P661	23023302	EARPHONE JACK
⚠ P800	23713702	PLUG, 2P 11.88MM W VT
⚠ P801	23372293	POWER CORD, UK-HK-PSB 10A ----2
⚠	23372297	POWER CORD, CEE
P803A	23713944	CONNECTOR, CONNECTB12B-PH-K-S(LF)
P803B	23713944	CONNECTOR, CONNECTB12B-PH-K-S(LF)
P804	23713942	CONNECTOR, CONNECTB10B-PH-K-S(LF)
P805	23713942	CONNECTOR, CONNECTB10B-PH-K-S(LF)
P811A	23713909	CONNECTOR, CONNECTORB4P-VH(LF)
P811B	23713909	CONNECTOR, CONNECTORB4P-VH(LF)
P812A	23713910	CONNECTOR, CONNECTORB5P-VH(LF)
P812B	23713910	CONNECTOR, CONNECTORB5P-VH(LF)
P813A	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P813B	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P900	23713941	CONNECTOR, CONNECTB9B-PH-K-S(LF)
P900A	23713941	CONNECTOR, CONNECTB9B-PH-K-S(LF)
P902	23713938	CONNECTOR, CONNECTB5B-PH-K-S(LF)
P902A	23713938	CONNECTOR, CONNECTB5B-PH-K-S(LF)
PBU111A	23590217	
PBU111B	23590217	
PBU111C	23590217	
PBU111D	23590217	
PH01	23165460	TERMINAL, SINGLE ISA01-A
PH02	23165460	TERMINAL, SINGLE ISA01-A
PJ21A	23713934	CONNECTOR, 2MM 3P S WHT B3B-PH-K-S(LF)
PJ22	75000442	CONNECTOR, FPC
PJ22A	23713960	CONNECTOR, 50P FFC 9637S-50Y901
PJ41	23713943	CONNECTOR, CONNECTB11B-PH-K-S(LF)
PJ41A	23713943	CONNECTOR, CONNECTB11B-PH-K-S(LF)
PJ42	23713939	CONNECTOR, CONNECTB6B-PH-K-S(LF)
PJ42A	23713948	CONNECTOR, CONNECTS6B-PH-K-S(LF)
PJ60	75000442	CONNECTOR, FPC
PJ60A	23713960	CONNECTOR, 50P FFC 9637S-50Y901
PJ610	23713819	SOCKET, TWG-P23X-A1
PJ930	23713574	CONNECTOR, 7P TOPTYPE BM07B-SRSS-TBT(LF)
PP02	23974994	BAND, KESSOKU
PP08	23974994	BAND, KESSOKU
PP12	23974994	BAND, KESSOKU
PP22	23748087	WASHER, WASHER 10X4.2XT0.3TPO 32WL56P
PV17	23023419	JACK, PIN RA RESERVE RESERVE T-2P
PV22	23023418	JACK, PIN RA 3/3P SMK T-3/3P
PV23	23365563	JACK, PIN 0S3P R_ANG ICE IJBH4-MYS
PV90	23713710	SOCKET, D-SUB 15P, KRD-8622
Q670B	23717240	SCREW
QE01B	23717240	SCREW
QE90B	23717240	SCREW
QE94B	23717240	SCREW
SA01	23344505	SWITCH, PUSH 1C1P
SA02	23344505	SWITCH, PUSH 1C1P
SA03	23344505	SWITCH, PUSH 1C1P
SA04	23344505	SWITCH, PUSH 1C1P
SA05	23344505	SWITCH, PUSH 1C1P
SA06	23344505	SWITCH, PUSH 1C1P
SA07	23344505	SWITCH, PUSH 1C1P
⚠ SR81	23146588	RELAY, DLS5D1-O(M) 0.15W

Signal (Scaler) Board - Service part Number

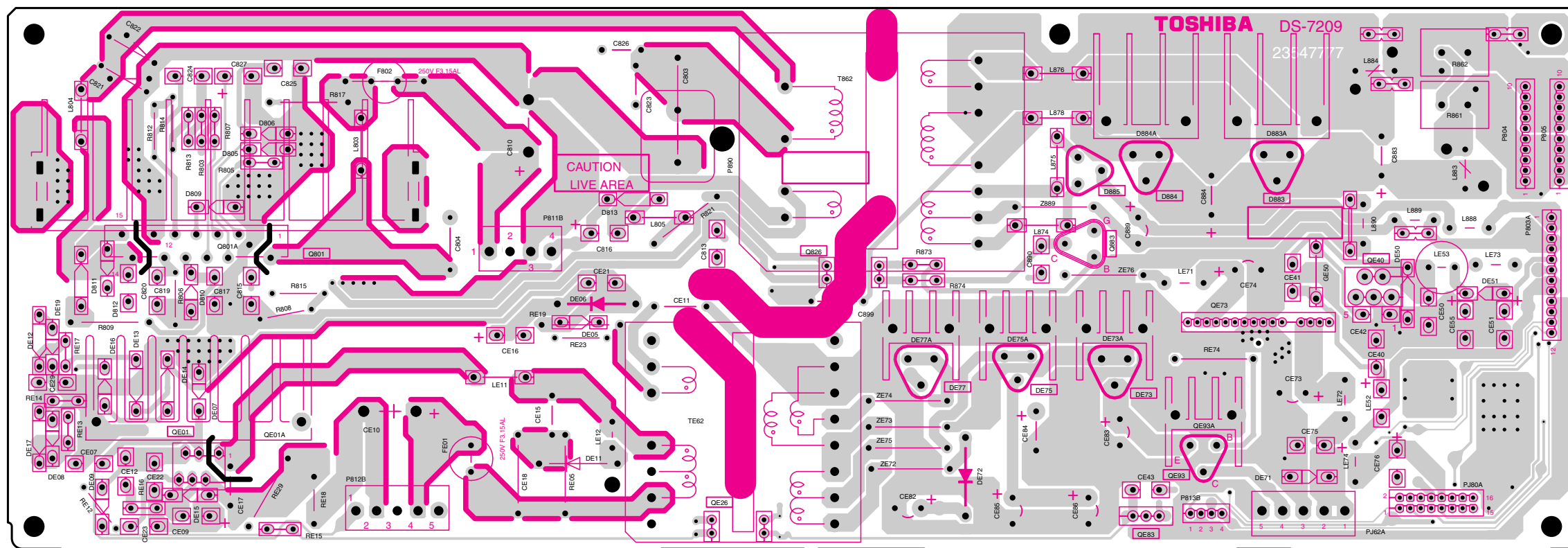
Series	Model	PANEL	Part Number (Service)	OPT1	OPT2	OPT3	OPT4
WL56	32WL56P(B)	SHP-32	23587821	35	00	0A	25
		AUO-32	23590399			0A	45
	32WL56P(G)	SHP-32	23587821			00	25
		AUO-32	23590400			00	45
	37WL56P(B)	LPL-37	23587823			0A	16
		AUO-37	23590401			0A	46
	37WL56P(G)	LPL-37	23587823			00	16
		AUO-37	23590402			00	46
	27WL56P(B)	CMO-27	23587825			0A	34
	27WL56P(G)	CMO-27	23587825			00	34
WL/WLT58	32WL58P(B)	SHP-32	23587827	71	00	0A	25
		LPL-32	23590403			0A	15
	32WL58P(G)	SHP-32	23587827			00	25
		LPL-32	23590404			00	15
	37WL58P(B)	SHP-37	23587829			0A	26
		LPL-37	23590405			0A	16
	37WL58P(G)	SHP-37	23587829			00	26
		LPL-37	23590406			00	16
	42WL58P(B)	LPL-42	23587831			0A	17
	42WL58P(G)	LPL-42	23587831			00	17
	32WLT58	SHP-32	23587833			2A	25
		LPL-32	23590407			2A	15
	37WLT58	SHP-37	23587834			2A	26
		LPL-37	23590408			2A	16
	42WLT58	LPL-42	23587835			2A	17

Key to Panel Type:

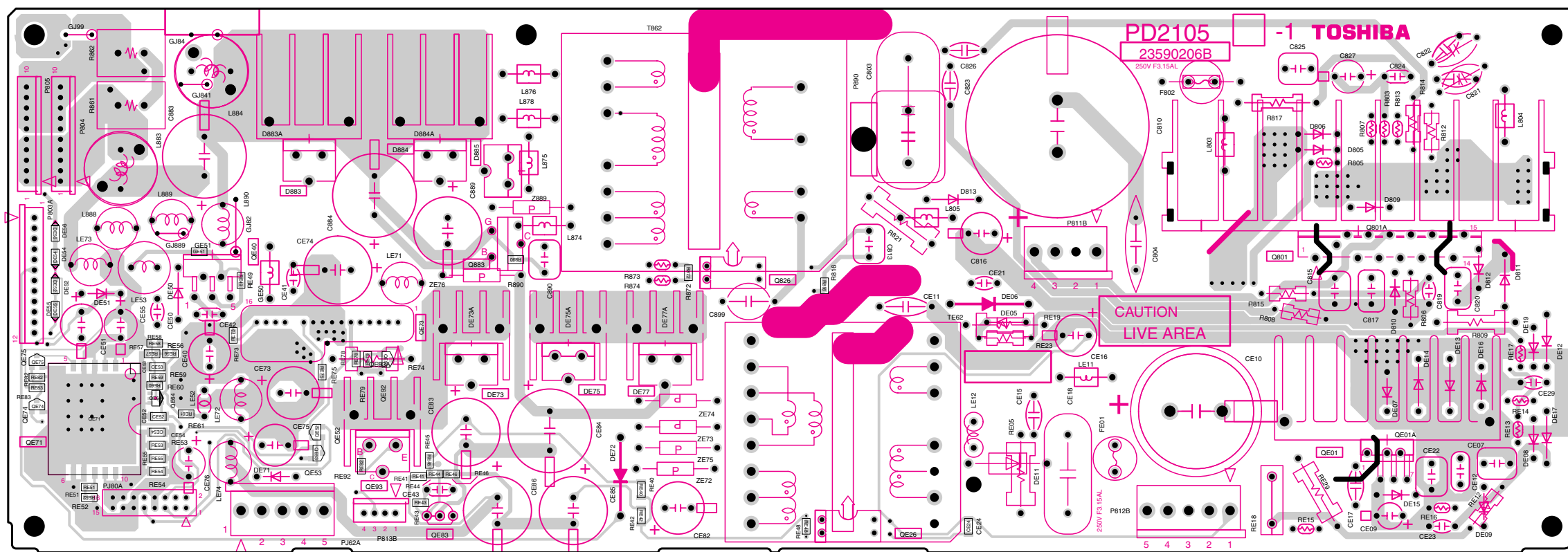
SHP= Sharp
 AUO=AUO
 LPL=LG Philips
 CMO=Chi Mei

Location No.	Parts No.	Description
W661	23351292	SPEAKER, SPK1410AM, 60X120 8-OHM 10W
X501	23153612	CRYSTAL, 16.200 25PPM 25OHM
Z889	23144195	PROTECTOR, 20PSERIES 125V 5A
ZA01	23103778	FERRITE CORE, TFE1008
ZE72	23144185	PROTECTOR, 20PSERIES 125V 1A
ZE75	23144195	PROTECTOR, 20PSERIES 125V 5A
ZE94	23144189	PROTECTOR, 20PSERIES 125V 2A
PC BOARD ASSEMBLIES		
* U001	75001147	PC BOARD ASSY, PD2105A1 POWER
* U002	75001148	PC BOARD ASSY, PD2105A2 AC-IN
* U003	SIGNAL(SCALER) see previous page.	
* U004	75001213	PC BOARD ASSY, PD2119A1 IF AV
* U005	75001214	PC BOARD ASSY, PD2119A2 LED/RMT
* U006	75001215	PC BOARD ASSY, PD2119A3 KEY SW
* U007	75001216	PC BOARD ASSY, PD2119A4 PC-IN
TUNER		
⚠ H001	23321500	TUNER, TIFEUROHOR61IECPAL+LENG37A06GF
ACCESSORIES		
A701A	23015061	CARTON, CASE
A702A	23946979	PACKING, TOP PACKING
A702B	23946980	PACKING, BOTTOM PACKING
A703	23945143	BAG, PROTECTIVE, 35P2700
Y101	23566616	OWNERS MANUAL, ENGLISH 37WL56P
Y101E	23566617	OWNERS MANUAL, EURO 37WL56P
⚠ Y130	23306643	REMOCON HAND UNIT, CT-90126
Y170	23845800	HOLDER, WIRE, NYLON66 D6.8
CABINET PARTS		
A201	23533286	COVER, FRONT BEZEL ASSY
A240	23717267	SCREW, BITTB4X16 SBN 32LZ100
A315	23533292	COVER, BACK CENTER COVER
A320	23940367	PIECE, PIECE AV ASSY
A340	23940382	PIECE, PIECE 7KEY ASSY 27WL55A
A360	23717250	SCREW, PP4X12+SW+W SBN 42HP84
A365	23717219	SCREW, PP3X8+SW+W SBN
A370	23717267	SCREW, BITTB4X16 SBN 32LZ100
A375	23717214	SCREW, BITTB3X12SBN
⚠ A401	23533290	COVER, BACK COVER
A410	23717219	SCREW, PP3X8+SW+W SBN
A420	23436868	FOOT, STAND ASSY 27WL55XE
A440	23738074	SCREW, PP5X16 SW+W SBN PP5X16 SW+W SBN
A445	23533609	COVER, CABLE COVER BOTTOM ASSY
A450	23533293	COVER, CABLE COVER SIDE ASSY

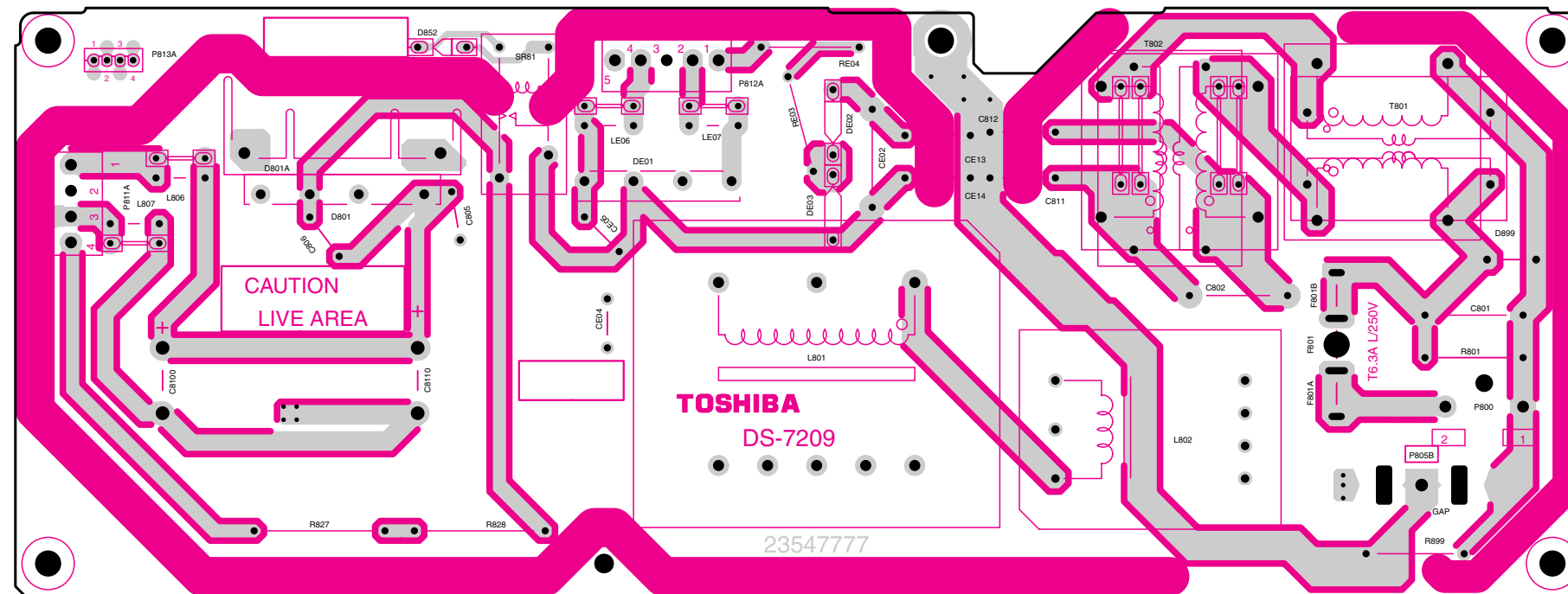
BOTTOM (FOIL) SIDE



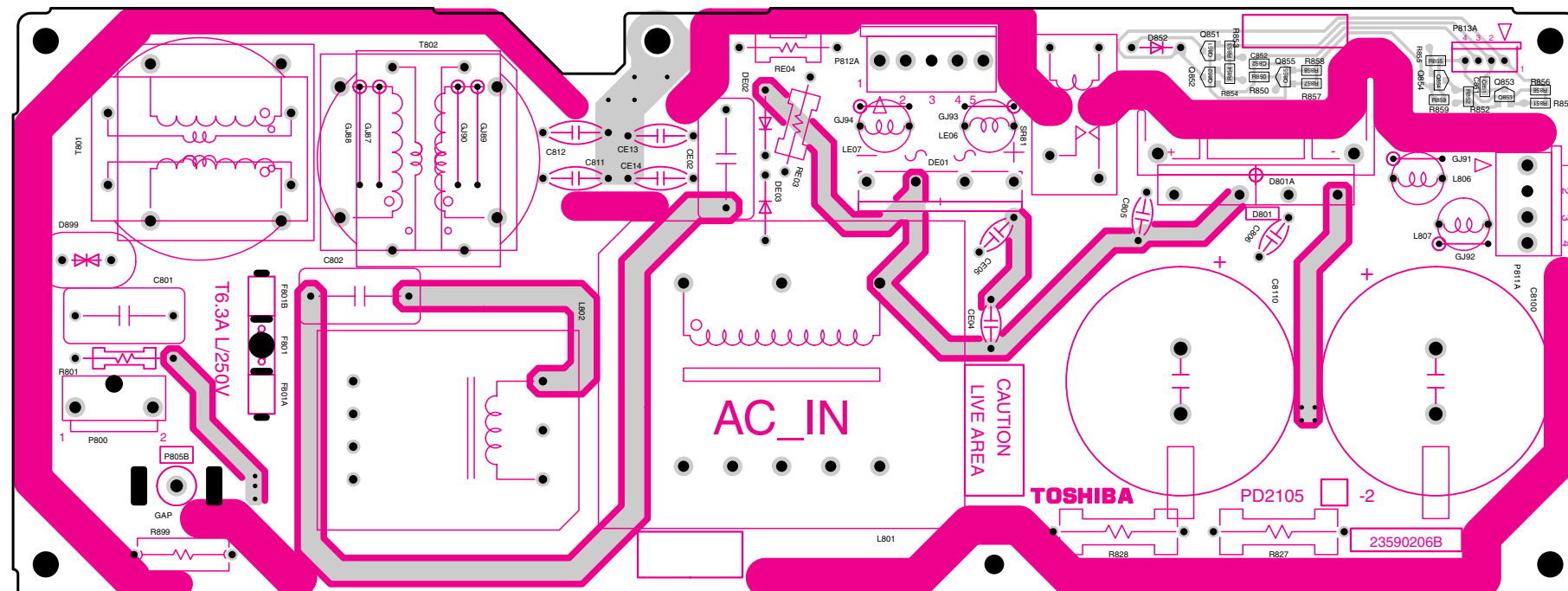
TOP (COMPONENT) SIDE



AC-IN BOARD PD2105A2 (U002)
BOTTOM (FOIL) SIDE

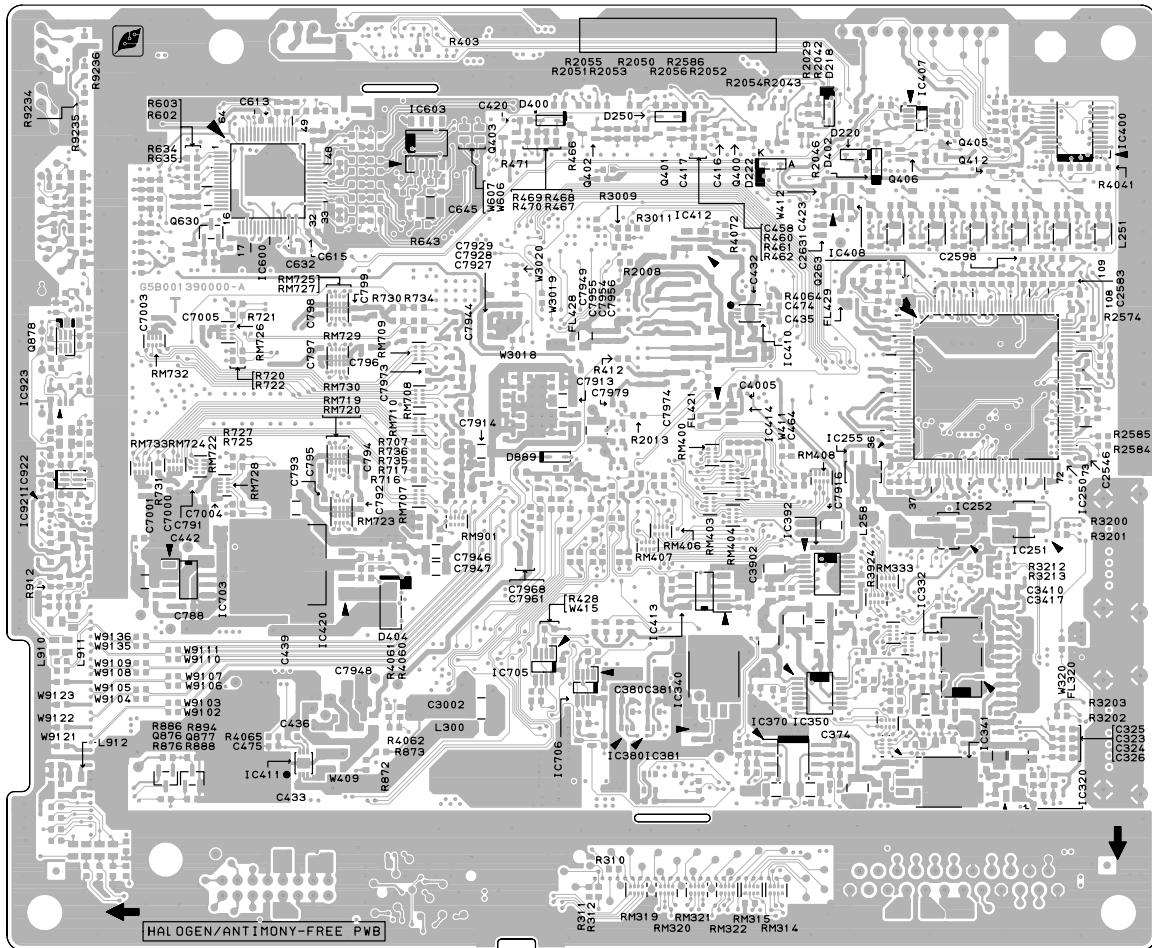


AC-IN BOARD PD2105A2 (U002)
TOP (COMPONENT) SIDE

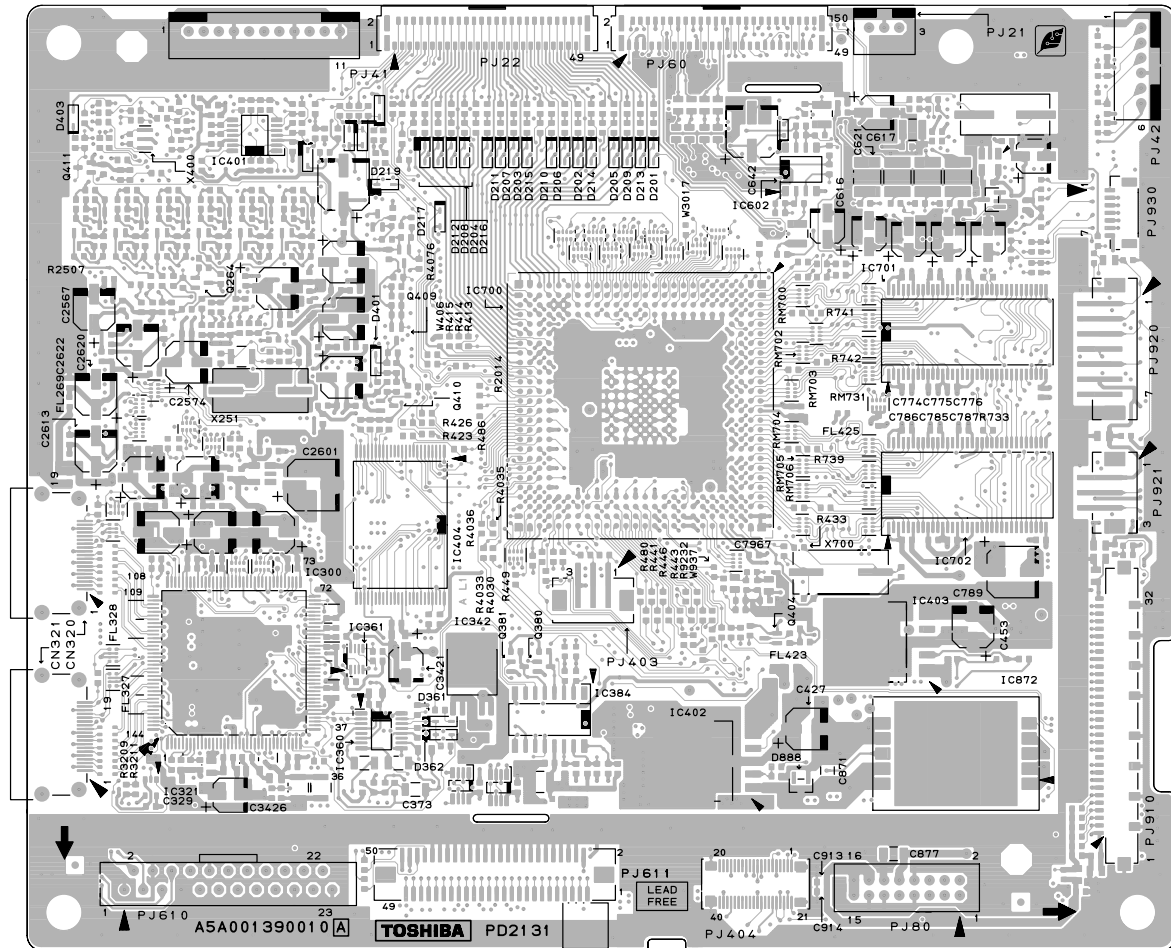


SIGNAL BOARD PD2131F (U003)

BOTTOM (FOIL) SIDE



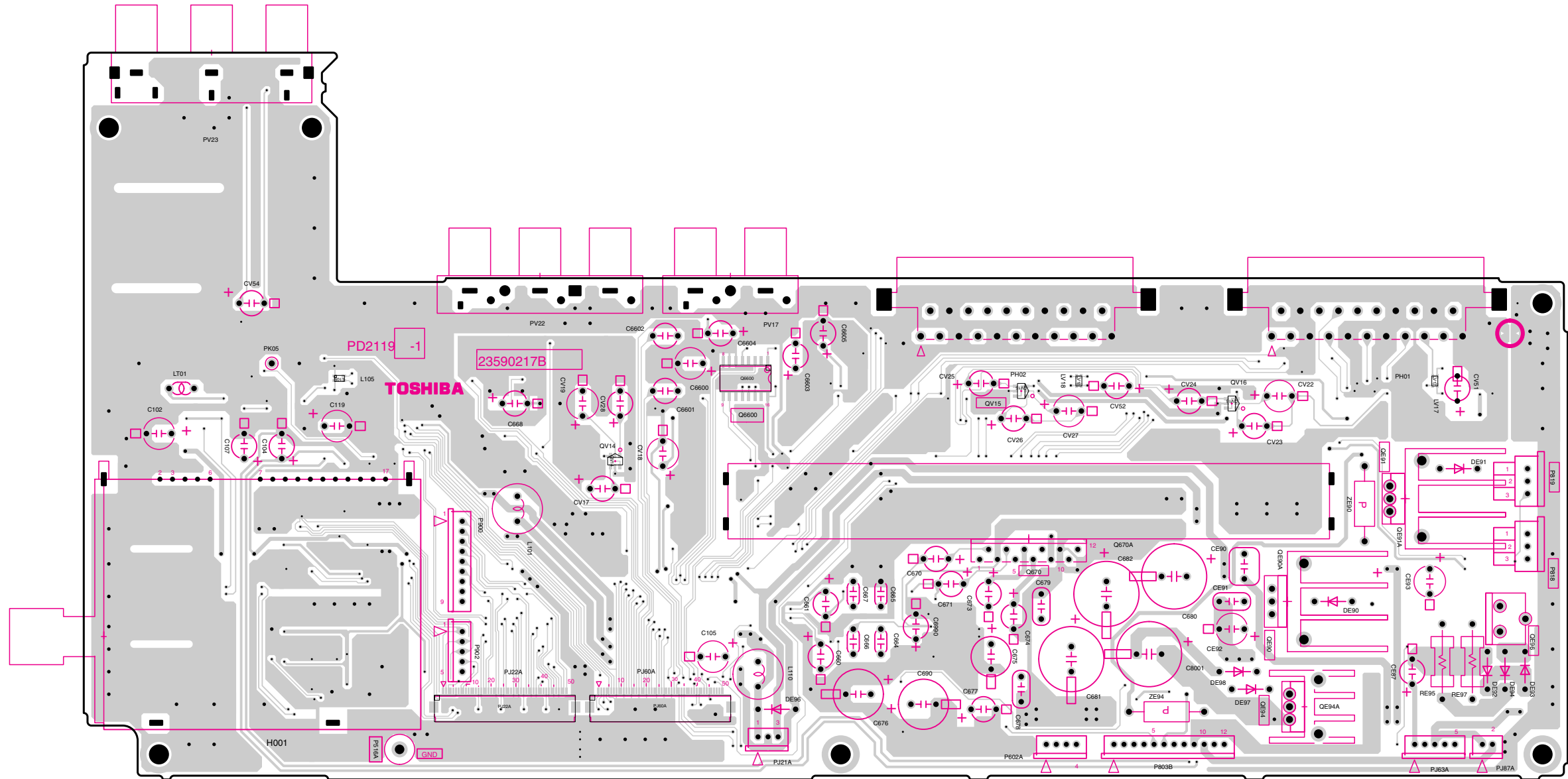
TOP (COMPONENT) SIDE



BOTTOM (FOIL) SIDE

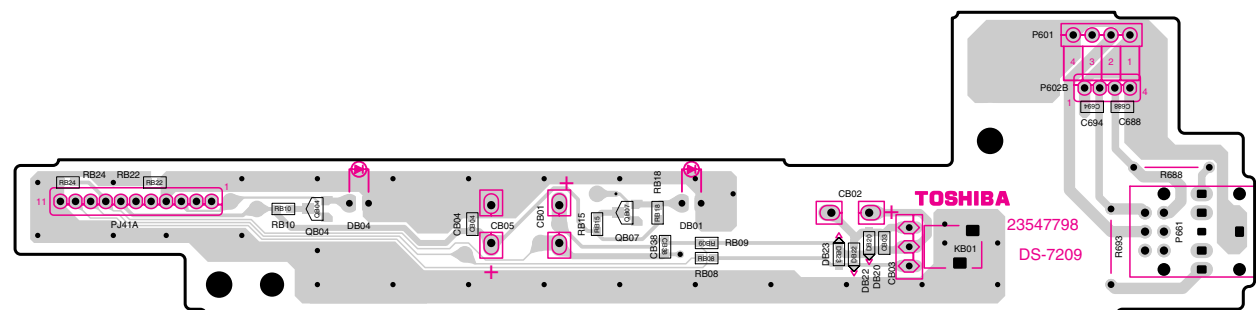
AV OTHER BOARD PD2119A1 (U004)

TOP (COMPONENT) SIDE



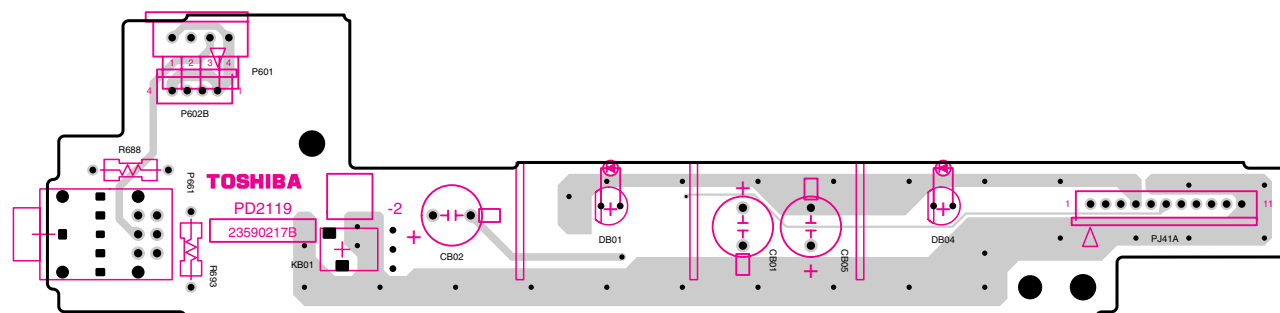
LED/RMT BOARD PD2119A2 (U005)

BOTTOM (FOIL) SIDE



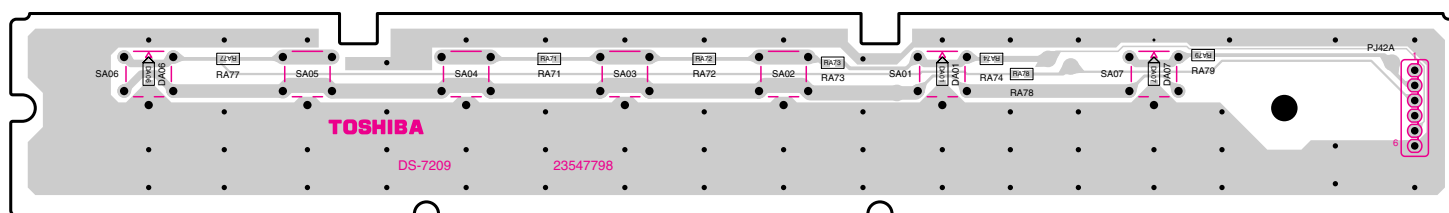
LED/RMT BOARD PD2119A2 (U005)

TOP (COMPONENT) SIDE



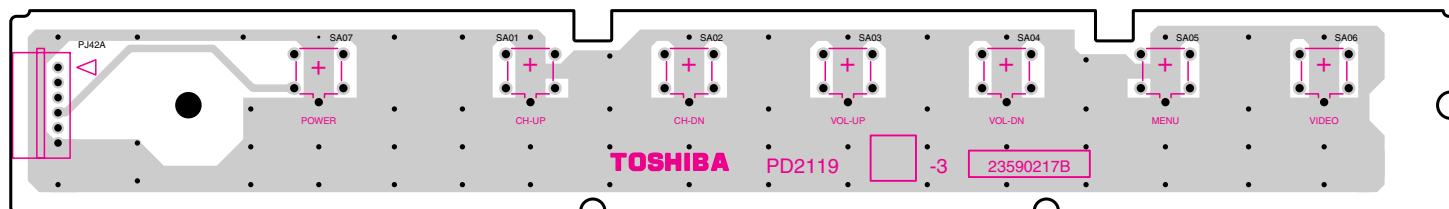
KEY BOARD PD2119A3 (U006)

BOTTOM (FOIL) SIDE



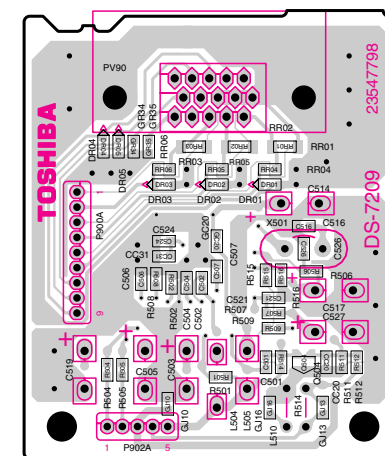
KEY BOARD PD2119A3 (U006)

TOP (COMPONENT) SIDE



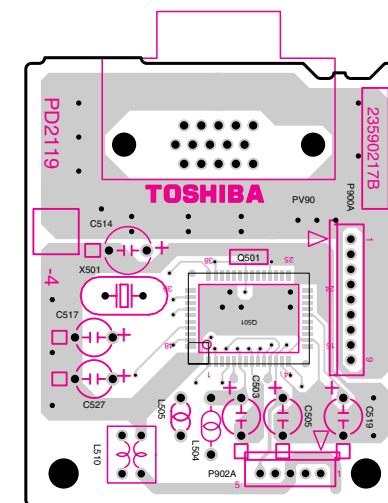
PC-IN BOARD PD2119A4 (U007)

BOTTOM (FOIL) SIDE



PC-IN BOARD PD2119A4 (U007)

TOP (COMPONENT) SIDE



SCHEMATIC DIAGRAM

MODEL : 27WL56P

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

CAUTION : The international hazard symbols " $\triangle$ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

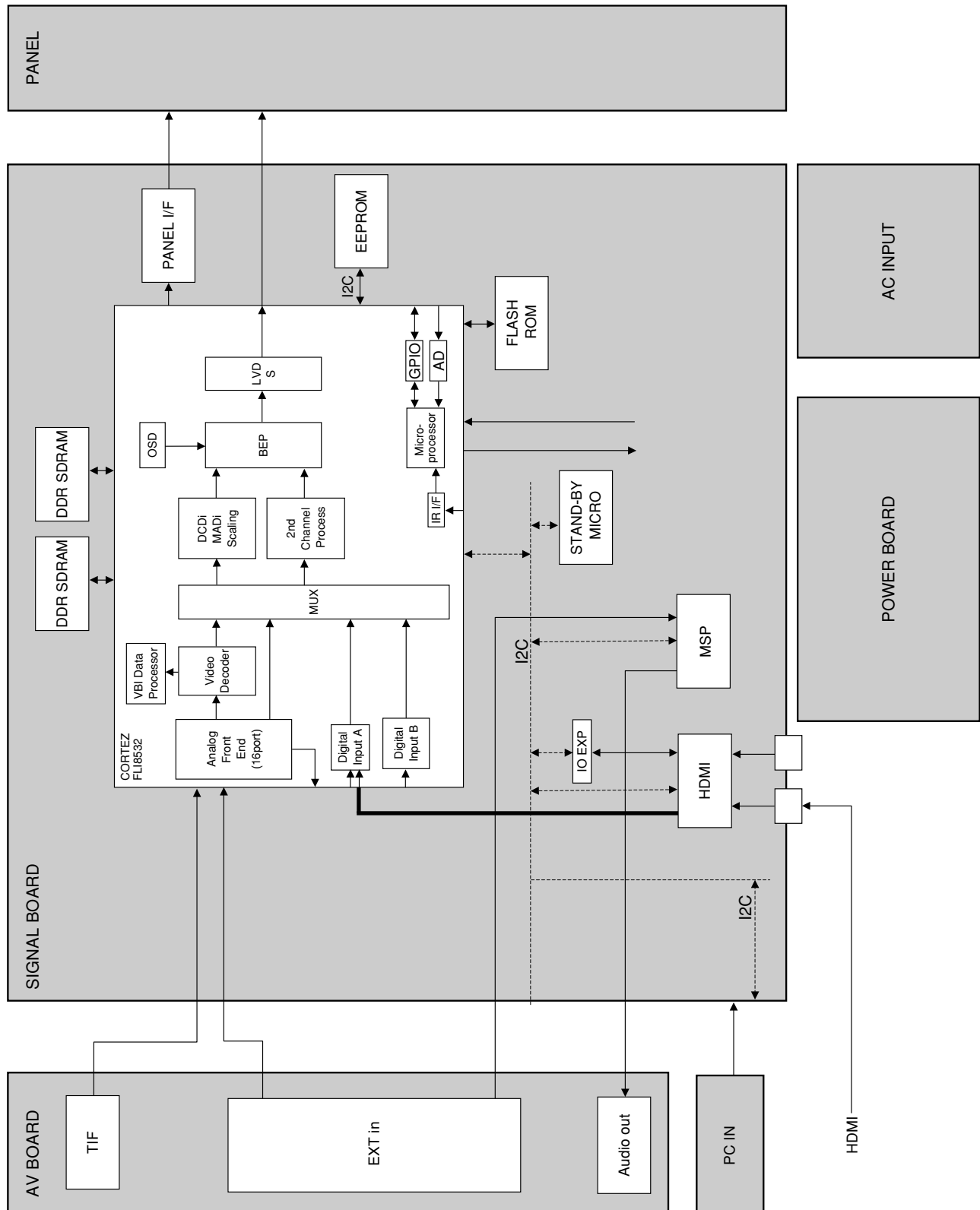
NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon composition of 1/2 watt
1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
K = $\pm 10\%$ G = $\pm 2\%$ F = $\pm 1\%$
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF , and the values more than 1 in pF.
All capacitors are ceramic 50V, unless otherwise noted as the following marks.
 $\text{---}^+| \text{---}$ Electrolytic capacitor $\text{---}^\oplus| \text{---}$ Mylar capacitor
3. The parts indicated with " $\triangle$ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary $\pm 20\%$ except H.V.

■ SCHEMATIC DIAGRAM STRUCTURE:

CONNECTOR	1/48
AV_JACK	2/48
TIF	3/48
AUDIO_OUT	4/48
REGULATOR	5/48
KEY	6/48
LED_RMT_HP	7/48
PC-IN_BOARD	8/48
CONNECTOR(POWER_BOARD)	9/48
MAIN_POWER(POWER_BOARD)	10/48
SUB_POWER(POWER_BOARD)	11/48
AC-INPUT	12/48
SIGNAL	
ANALOG IN	[SHEET-200] 13/48
D IN A	[SHEET-300] 14/48
D IN B	[SHEET-301] 15/48
HDMI (Link, I2C)	[SHEET-302] 16/48
HDMI Rx#2 (Video/Audio)	[SHEET-303] 17/48
HDMI Rx#3 (PWR,Audio)	[SHEET-304] 18/48
HDMI AUDIO PLL	[SHEET-305] 19/48
HDMI AUDIO DAC	[SHEET-306] 20/48
HDMI AUDIO OUT	[SHEET-307] 21/48
HDMI CONTROLLER	[SHEET-308] 22/48
EEPROM1	[SHEET-309] 23/48
EEPROM2	[SHEET-310] 24/48
MICRO I/O	[SHEET-400] 25/48
OCM MEMORY I/F	[SHEET-401] 26/48
FLASH MEMORY	[SHEET-402] 27/48
SYNC SEPA	[SHEET-403] 28/48
E2P OTHER	[SHEET-404] 29/48
STD-BY MICOR	[SHEET-405] 30/48
CORTEZ REG 1	[SHEET-406] 31/48
CORTEZ REG 2	[SHEET-407] 32/48
CORTEZ REG 3	[SHEET-408] 33/48
BOOT CONFIG	[SHEET-409] 34/48
SERVICE CONNECTOR	[SHEET-410] 35/48
I2C Switch	[SHEET-411] 36/48
AUDIO	(1/2) [SHEET-600] 37/48
	(2/2) [SHEET-601] 38/48
CORTEZ 1	[SHEET-700] 39/48
CORTEZ 2	[SHEET-701] 40/48
DDR I/F	[SHEET-702] 41/48
DDR SDRAM	[SHEET-703] 42/48
DDR TERMINATION	[SHEET-704] 43/48
DCDC CONV.	[SHEET-802] 44/48
LVDS OUT	[SHEET-900] 45/48
LVDS OUT(Sharp LCD)	[SHEET-901] 46/48
Power Connector and Dimming	[SHEET-902] 47/48
LVDS Power and Others	[SHEET-903] 48/48

CIRCUIT BLOCK DIAGRAM



SPECIFICATIONS

Broadcast systems/channels

PAL-I	UHF UK21-UK69
PAL-B/G	UHF E21-E69 VHF E2-E12, S1-S41
SECAM-L	UHF F21-F69 VHF F1-F10, B-Q
SECAM-D/K	UHF R21-R69 VHF R1-R12

Video Input PAL, SECAM, NTSC 3.58/4.43

External connections

EXT1	Input	21-pin SCART	RGB, A/V
EXT2	Input/Output	21-pin SCART	A/V, S-video Selectable output
EXT3	Input (Side)	Phono jack Phono jacks	Video Audio L + R
HDMI	Input	HDMI connector	Digital television and audio signal
	Input	Phono jacks	Audio L + R
PC	Input	Mini D-sub 15-pin	Analog RGB signal
	Input	Phono jacks	Audio L + R

Programme Positions

100

Stereo

Nicam
2 carrier system

Visible Screen Size (approx.)

68cm

Display

16:9

Sound output (at 10% distortion)

Main 10W + 10W

Power consumption

as specified in EN60107-1 : 1997

130W

Standby (approx.)

<1W

Dimensions (approx.)

57cm (H) 69cm (W) 10cm (D)

Weight (approx.)

16kg

Headphone socket

3.5mm stereo

Accessories

Remote control
2 batteries
(AAA, IEC R03 1.5V)

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

SCHEMATIC DIAGRAM

MODEL : 27WL56P

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON THE MANUAL FOR THIS MODEL.

CAUTION : The international hazard symbols " $\triangle$ " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

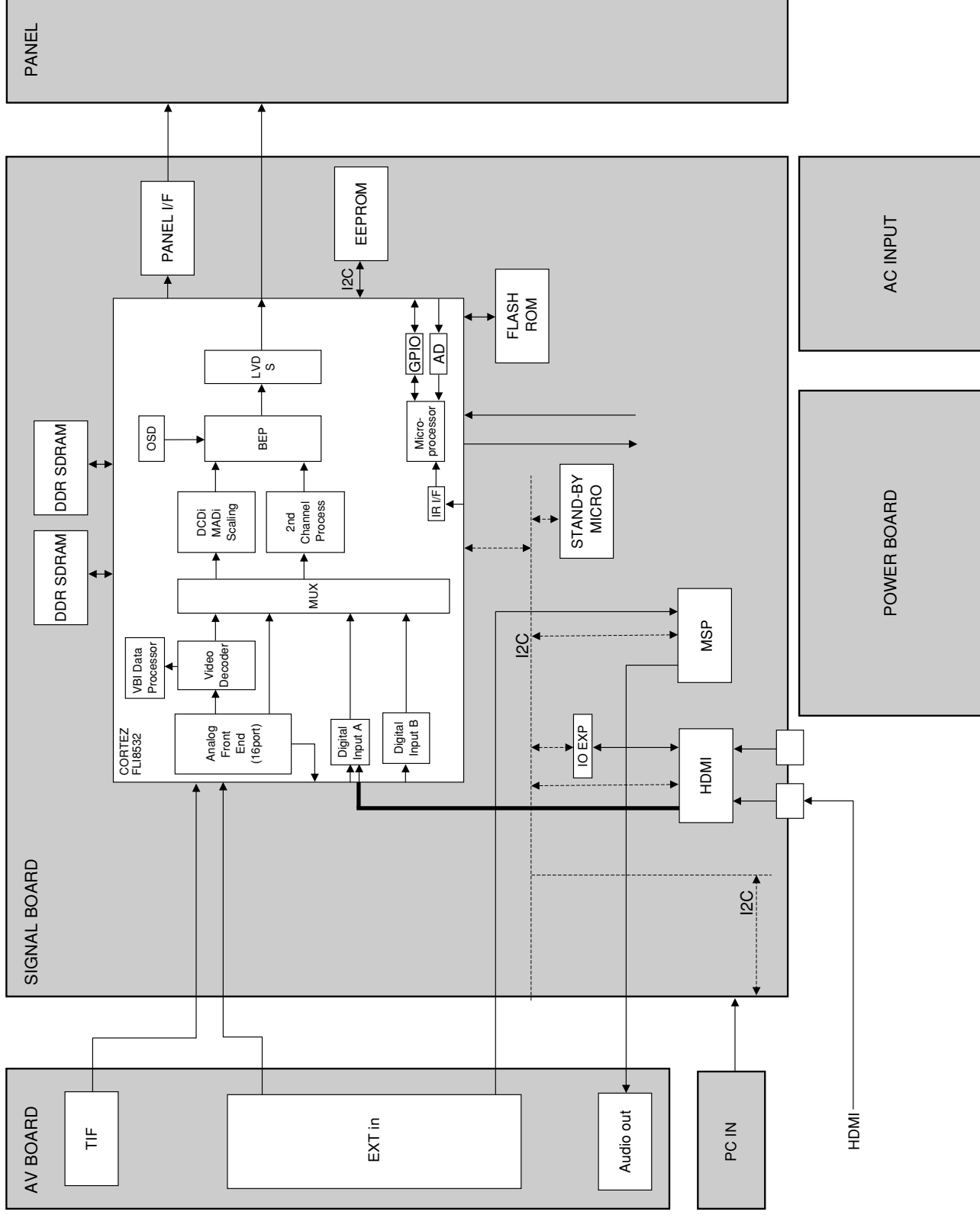
NOTE:

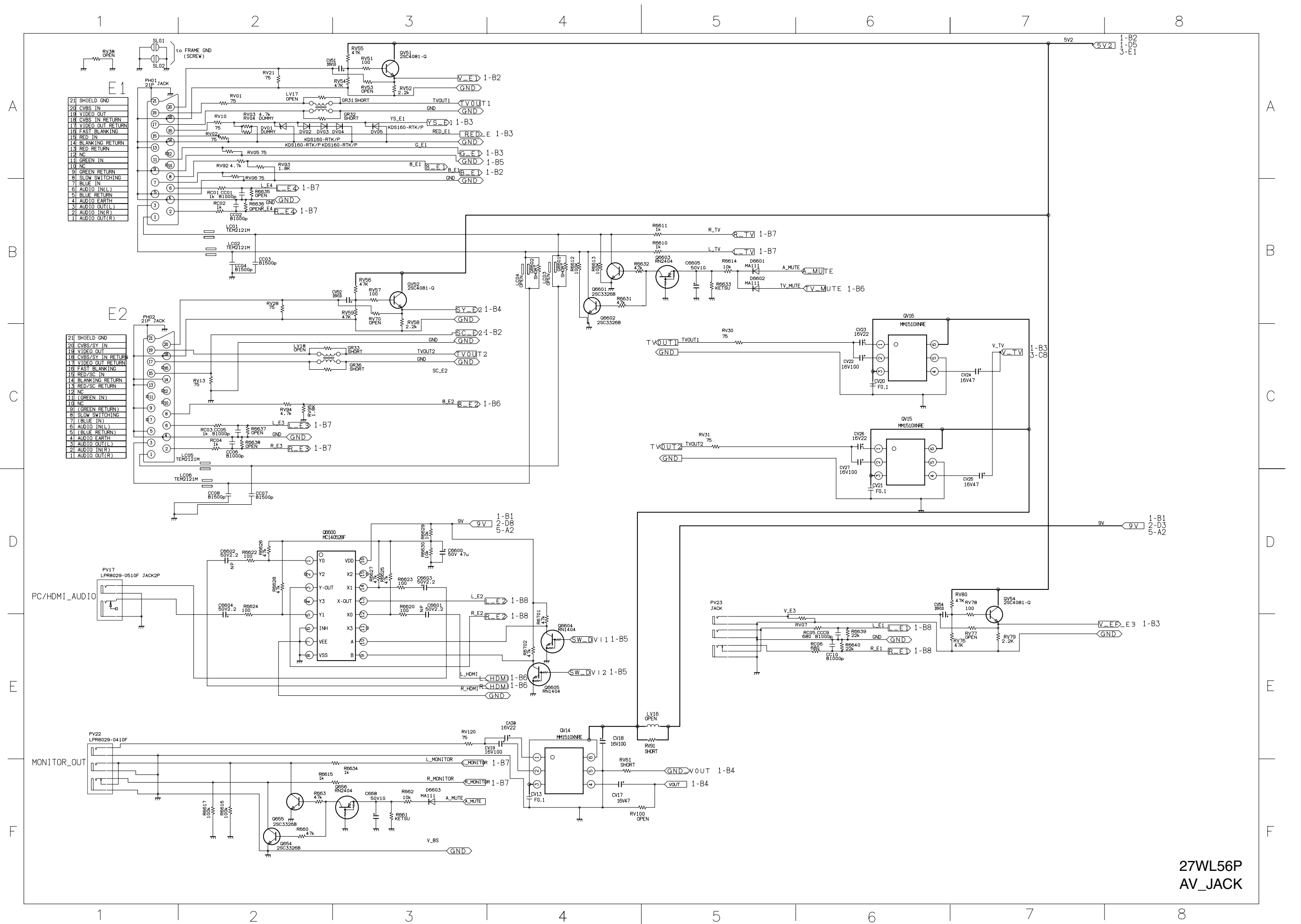
1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compstition of 1/2 watt
1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
K = $\pm 10\%$ G = $\pm 2\%$ F = $\pm 1\%$
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF , and the values more than 1 in pF.
All capacitors are ceramic 50V, unless otherwise noted as the following marks.
 $\text{---}^+| \text{---}$ Electrolytic capacitor $\text{---}^\oplus| \text{---}$ Mylar capacitor
3. The parts indicated with " $\triangle$ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary $\pm 20\%$ except H.V.

■ SCHEMATIC DIAGRAM STRUCTURE:

CONNECTOR	1/48
AV_JACK	2/48
TIF	3/48
AUDIO_OUT	4/48
REGULATOR	5/48
KEY	6/48
LED_RMT_HP	7/48
PC-IN_BOARD	8/48
CONNECTOR(POWER_BOARD)	9/48
MAIN_POWER(POWER_BOARD)	10/48
SUB_POWER(POWER_BOARD)	11/48
AC-INPUT	12/48
SIGNAL	
ANALOG IN	[SHEET-200] 13/48
D IN A	[SHEET-300] 14/48
D IN B	[SHEET-301] 15/48
HDMI (Link, I2C)	[SHEET-302] 16/48
HDMI Rx#2 (Video/Audio)	[SHEET-303] 17/48
HDMI Rx#3 (PWR,Audio)	[SHEET-304] 18/48
HDMI AUDIO PLL	[SHEET-305] 19/48
HDMI AUDIO DAC	[SHEET-306] 20/48
HDMI AUDIO OUT	[SHEET-307] 21/48
HDMI CONTROLLER	[SHEET-308] 22/48
EEPROM1	[SHEET-309] 23/48
EEPROM2	[SHEET-310] 24/48
MICRO I/O	[SHEET-400] 25/48
OCM MEMORY I/F	[SHEET-401] 26/48
FLASH MEMORY	[SHEET-402] 27/48
SYNC SEPA	[SHEET-403] 28/48
E2P OTHER	[SHEET-404] 29/48
STD-BY MICOR	[SHEET-405] 30/48
CORTEZ REG 1	[SHEET-406] 31/48
CORTEZ REG 2	[SHEET-407] 32/48
CORTEZ REG 3	[SHEET-408] 33/48
BOOT CONFIG	[SHEET-409] 34/48
SERVICE CONNECTOR	[SHEET-410] 35/48
I2C Switch	[SHEET-411] 36/48
AUDIO	(1/2) [SHEET-600] 37/48
	(2/2) [SHEET-601] 38/48
CORTEZ 1	[SHEET-700] 39/48
CORTEZ 2	[SHEET-701] 40/48
DDR I/F	[SHEET-702] 41/48
DDR SDRAM	[SHEET-703] 42/48
DDR TERMINATION	[SHEET-704] 43/48
DCDC CONV.	[SHEET-802] 44/48
LVDS OUT	[SHEET-900] 45/48
LVDS OUT(SHARP LCD)	[SHEET-901] 46/48
Power Connector and Dimming	[SHEET-902] 47/48
LVDS Power and Others	[SHEET-903] 48/48

CIRCUIT BLOCK DIAGRAM





1

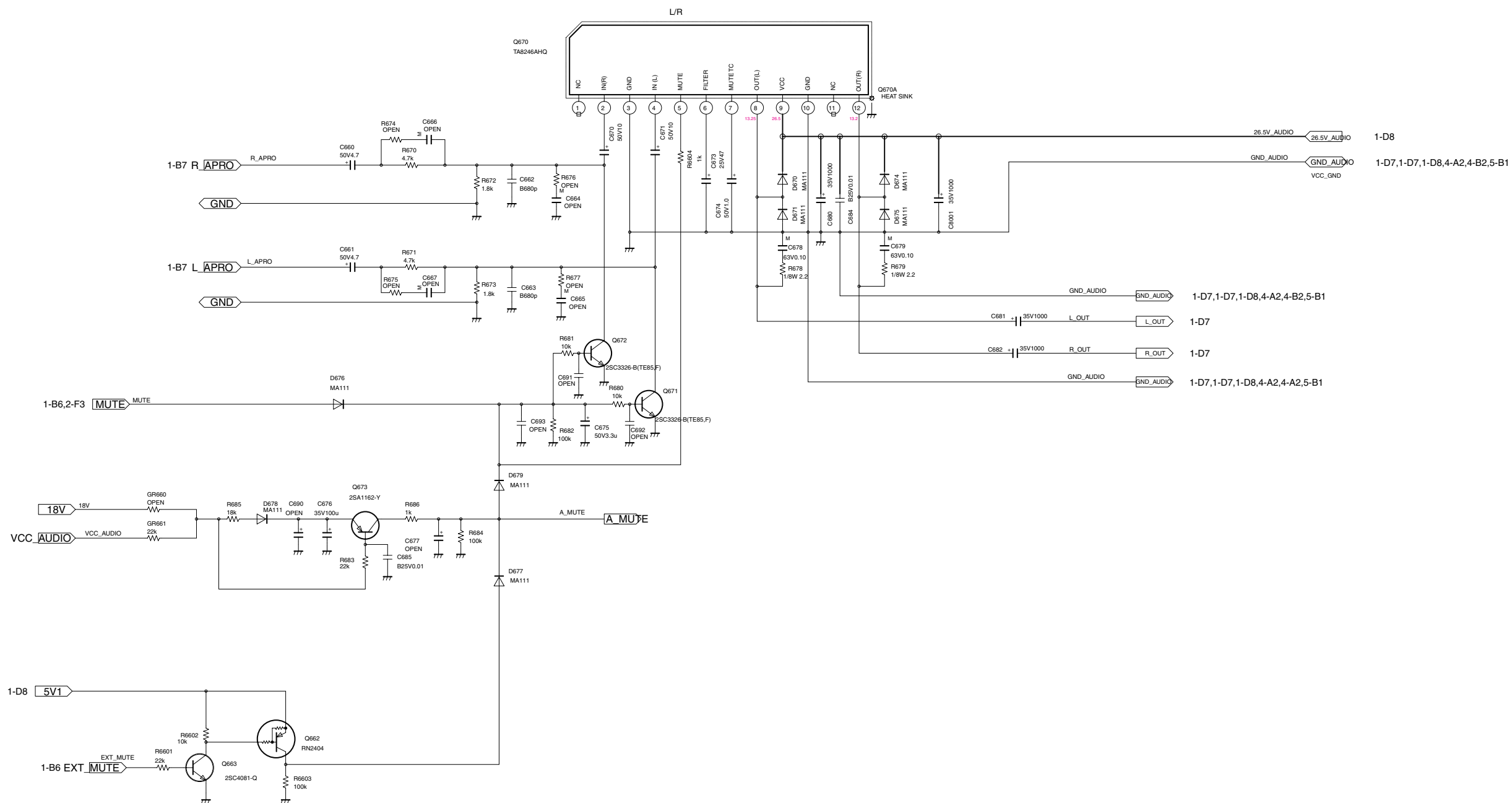
2

A

A

B

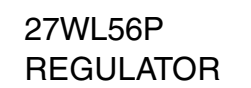
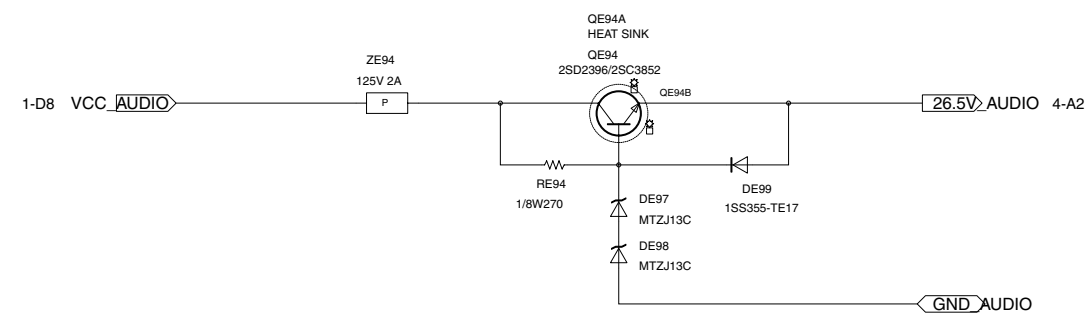
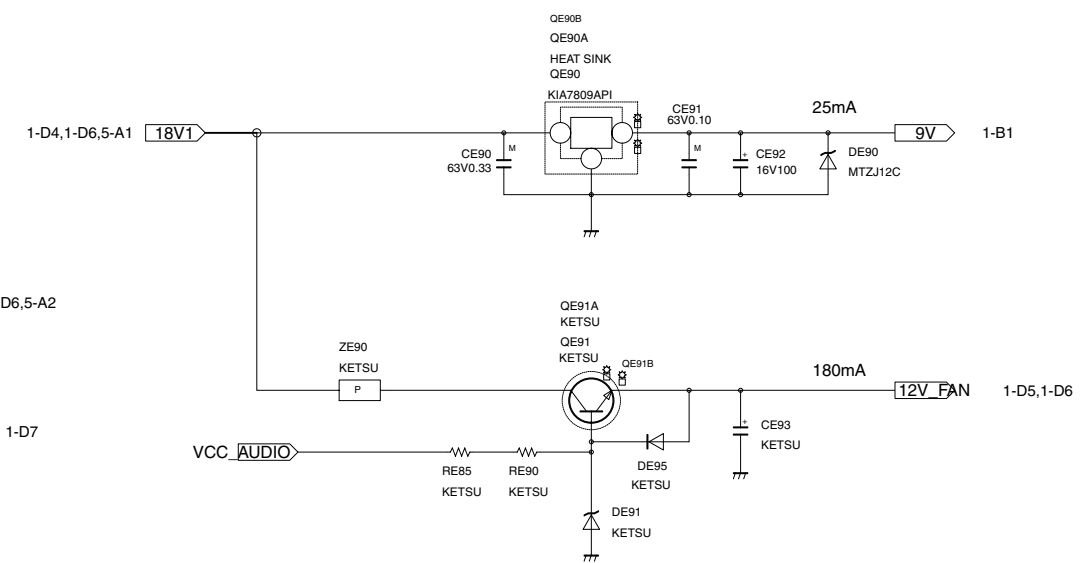
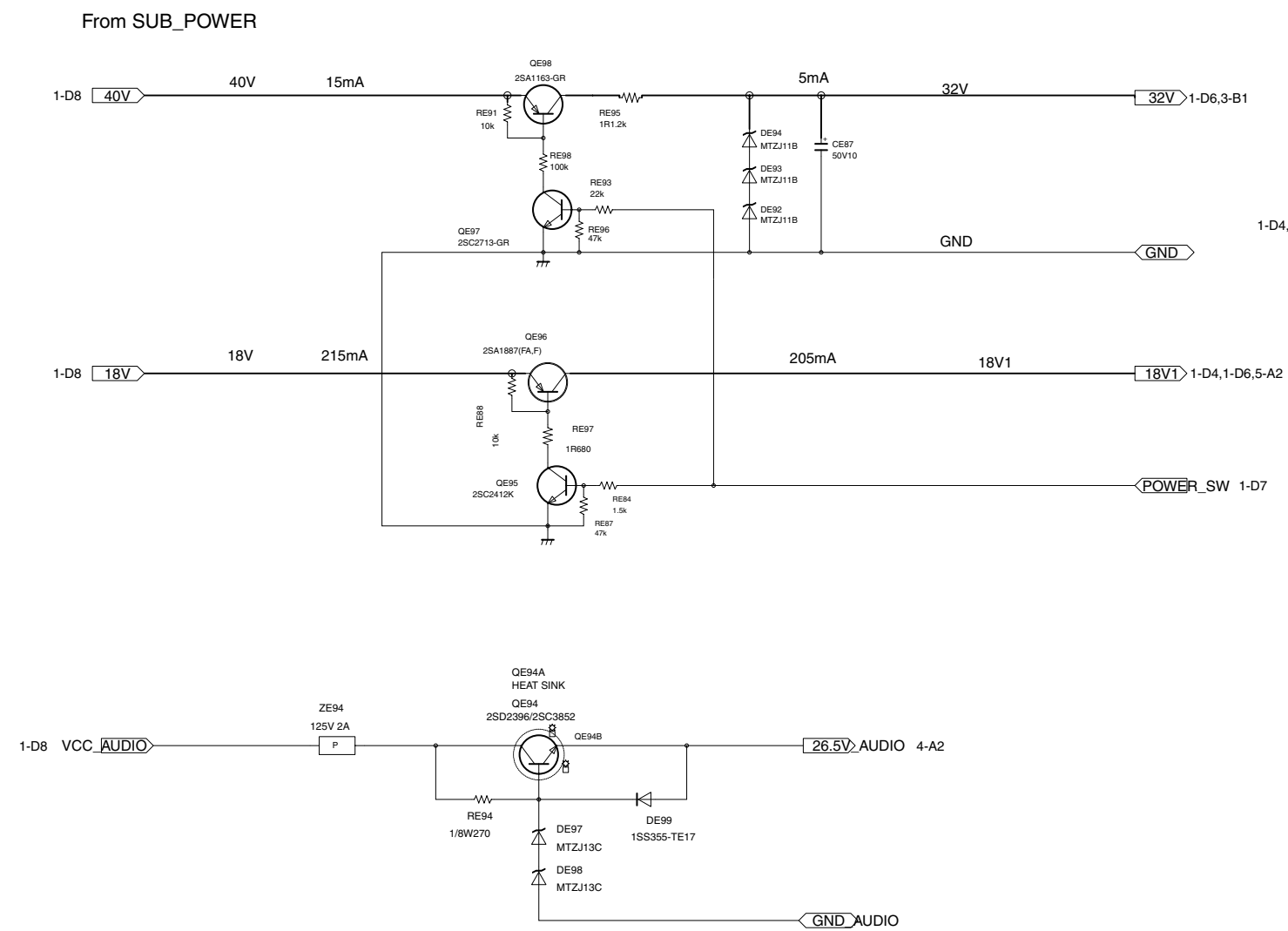
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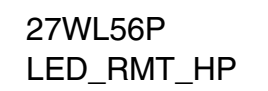


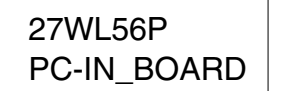
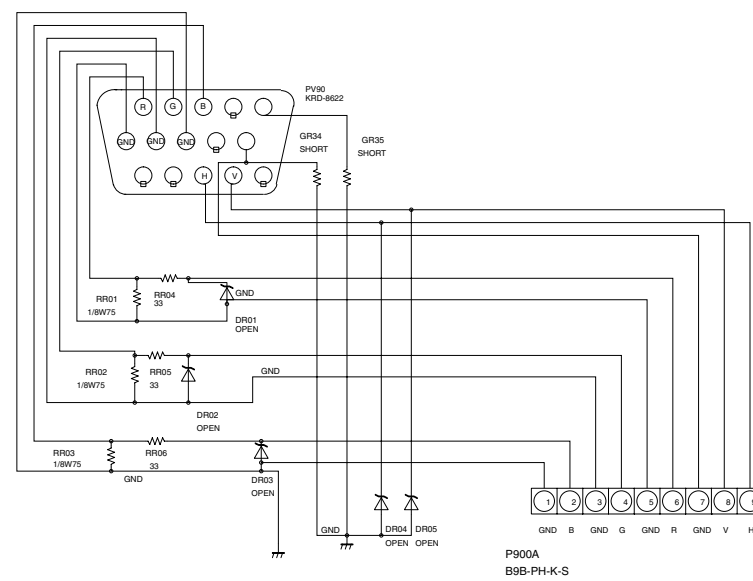
27WL56P
AUDIO_OUT

1

2

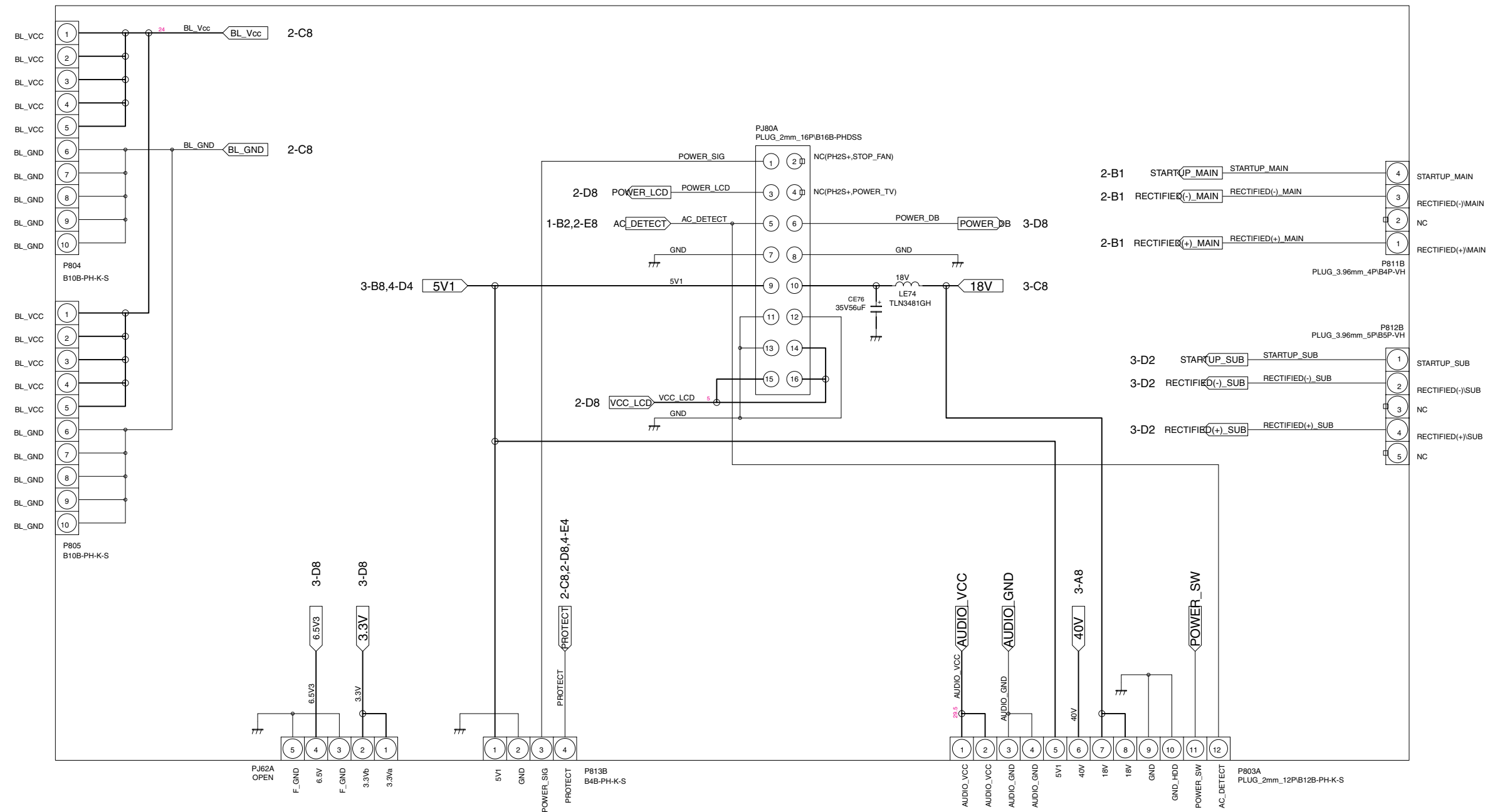






A

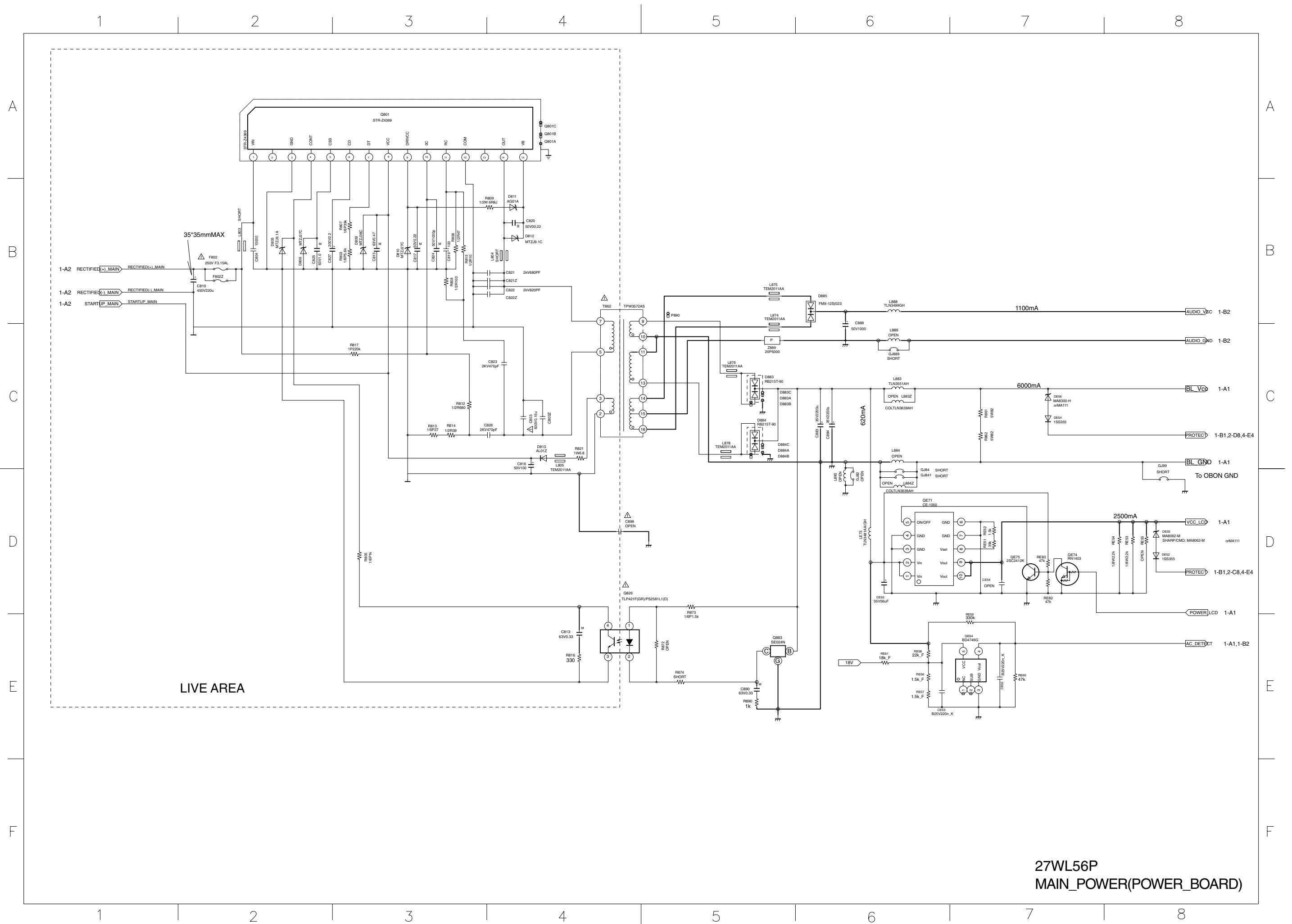
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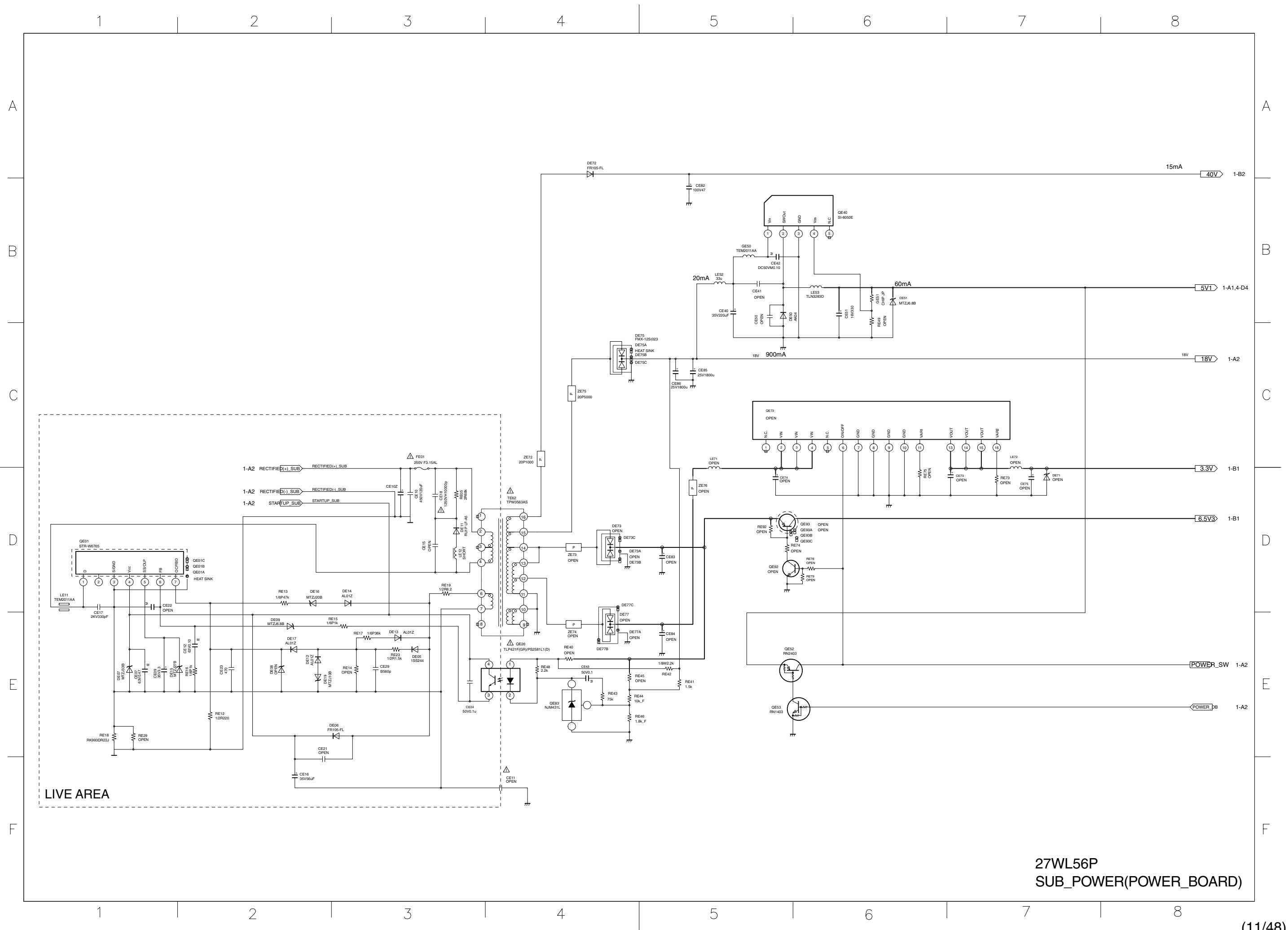


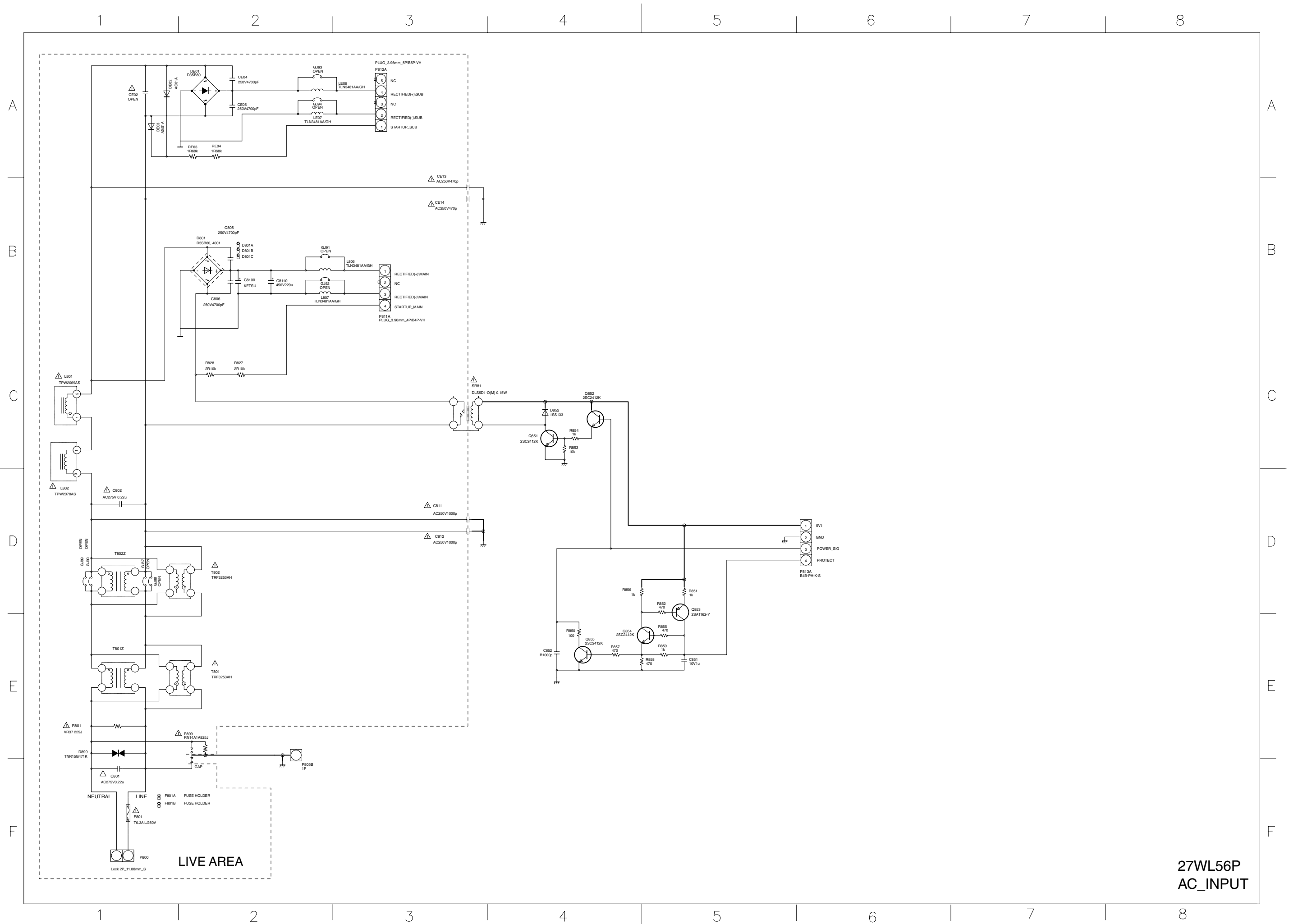
A

B

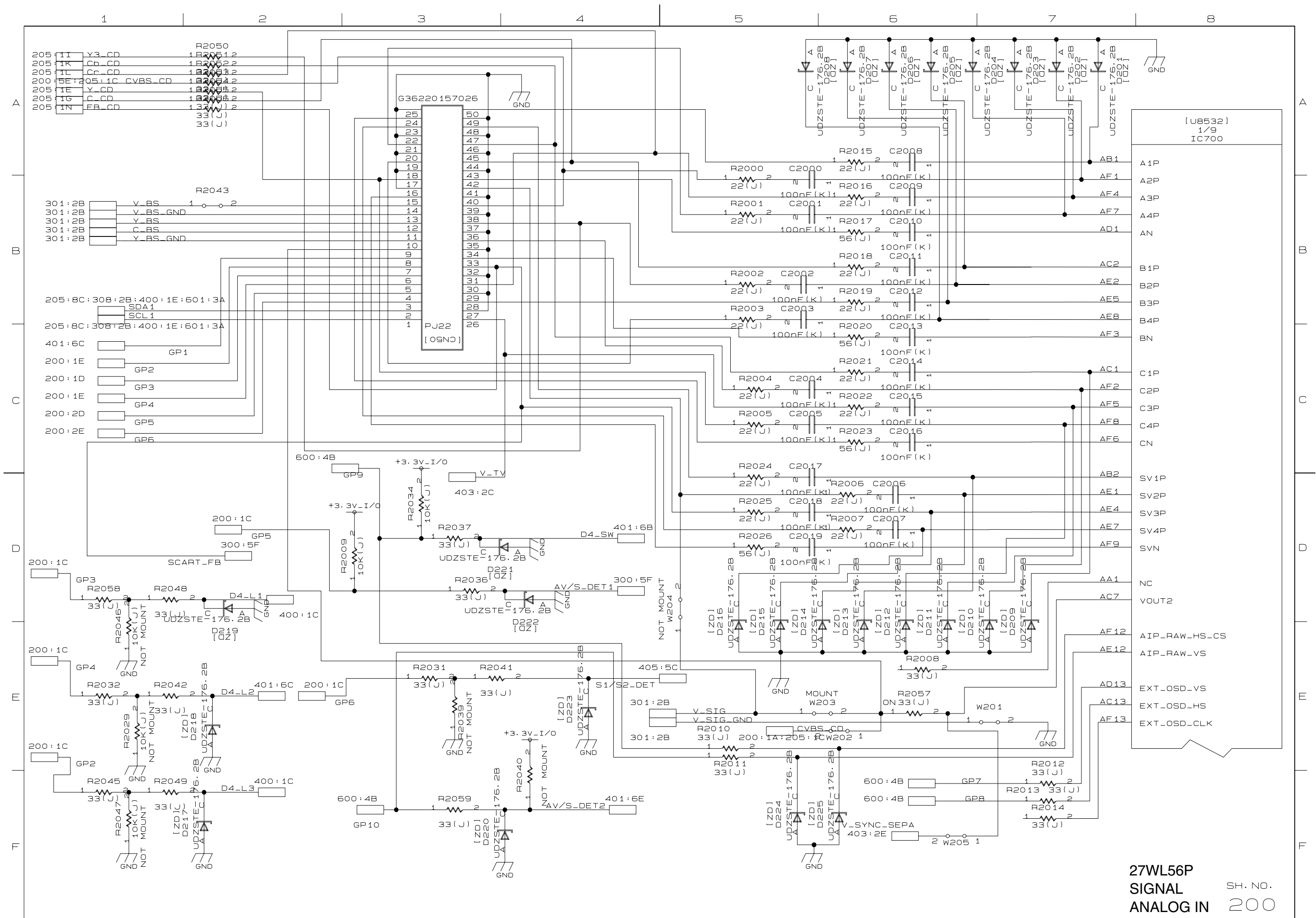
27WL56P
CONNECTOR(POWER_BOARD)





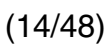


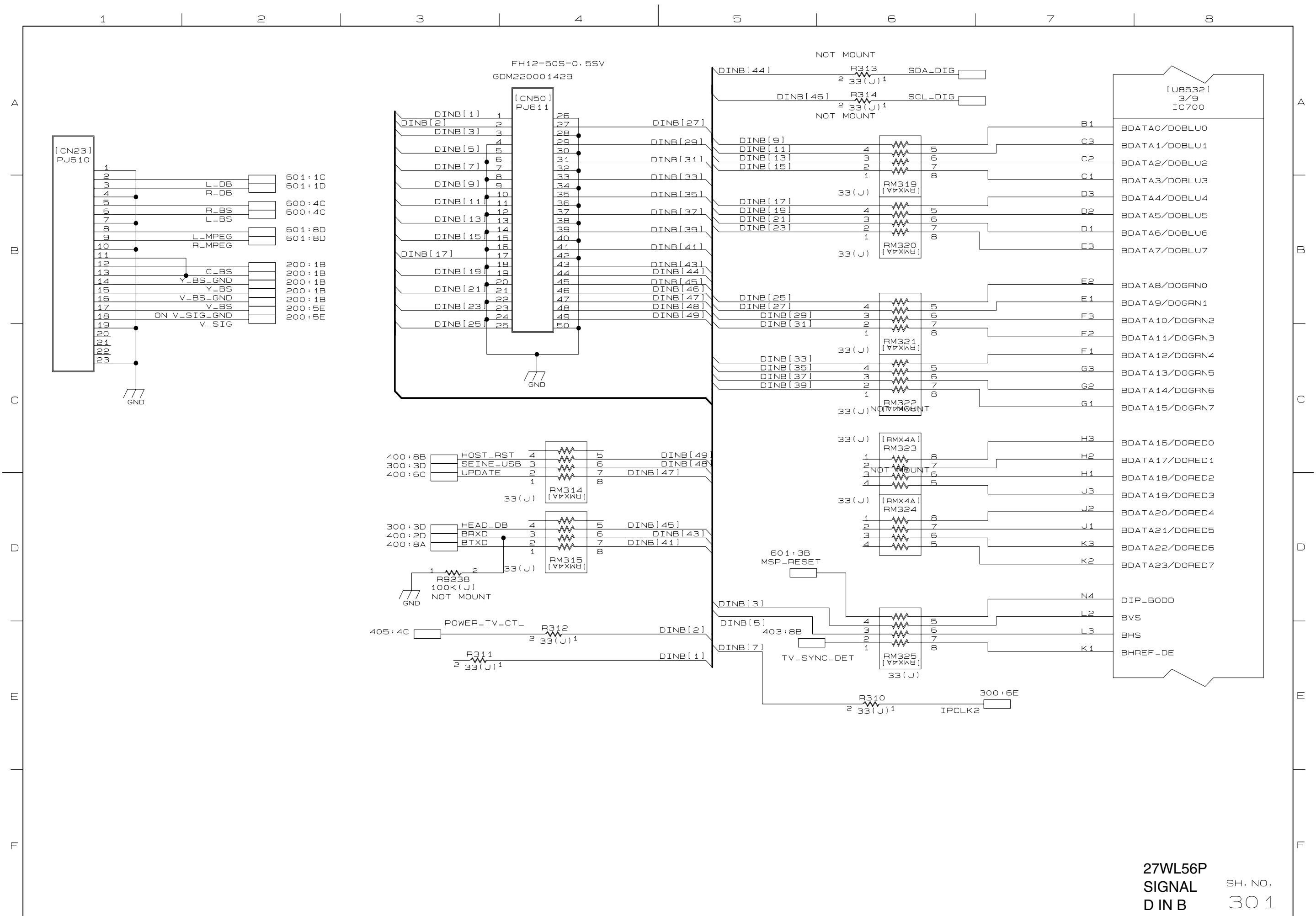
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AC_INPUT

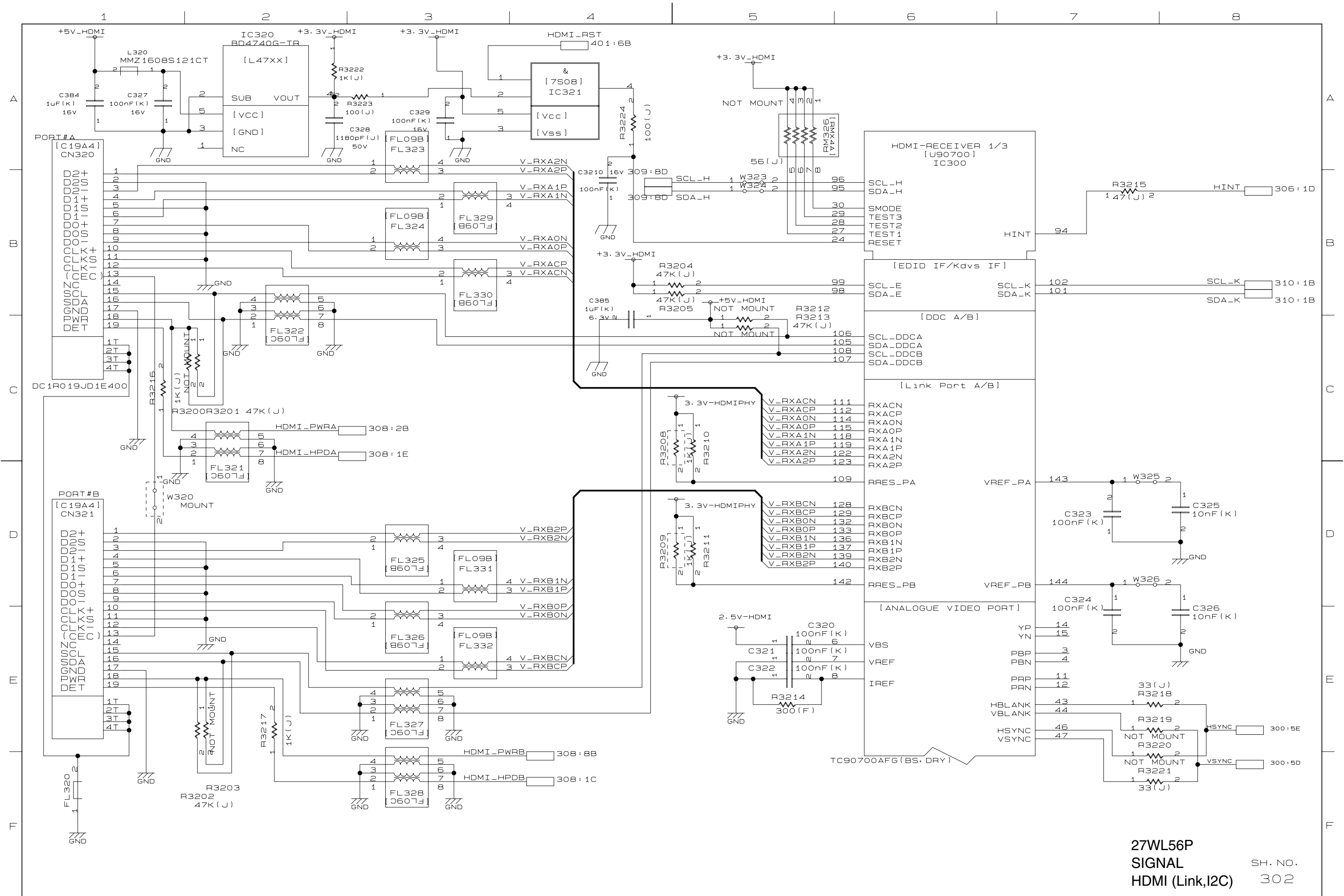


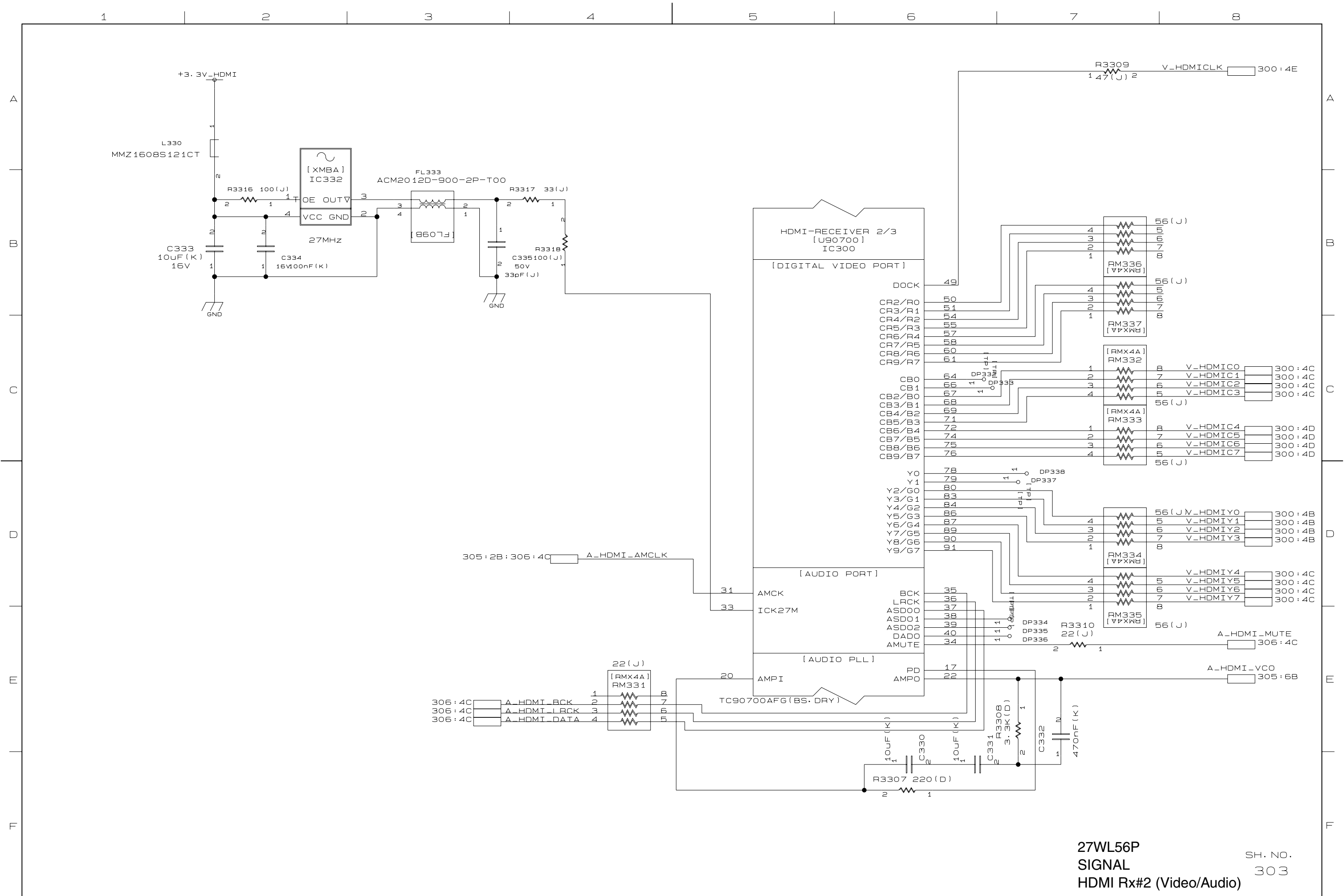
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SIGNAL
ANALOG IN

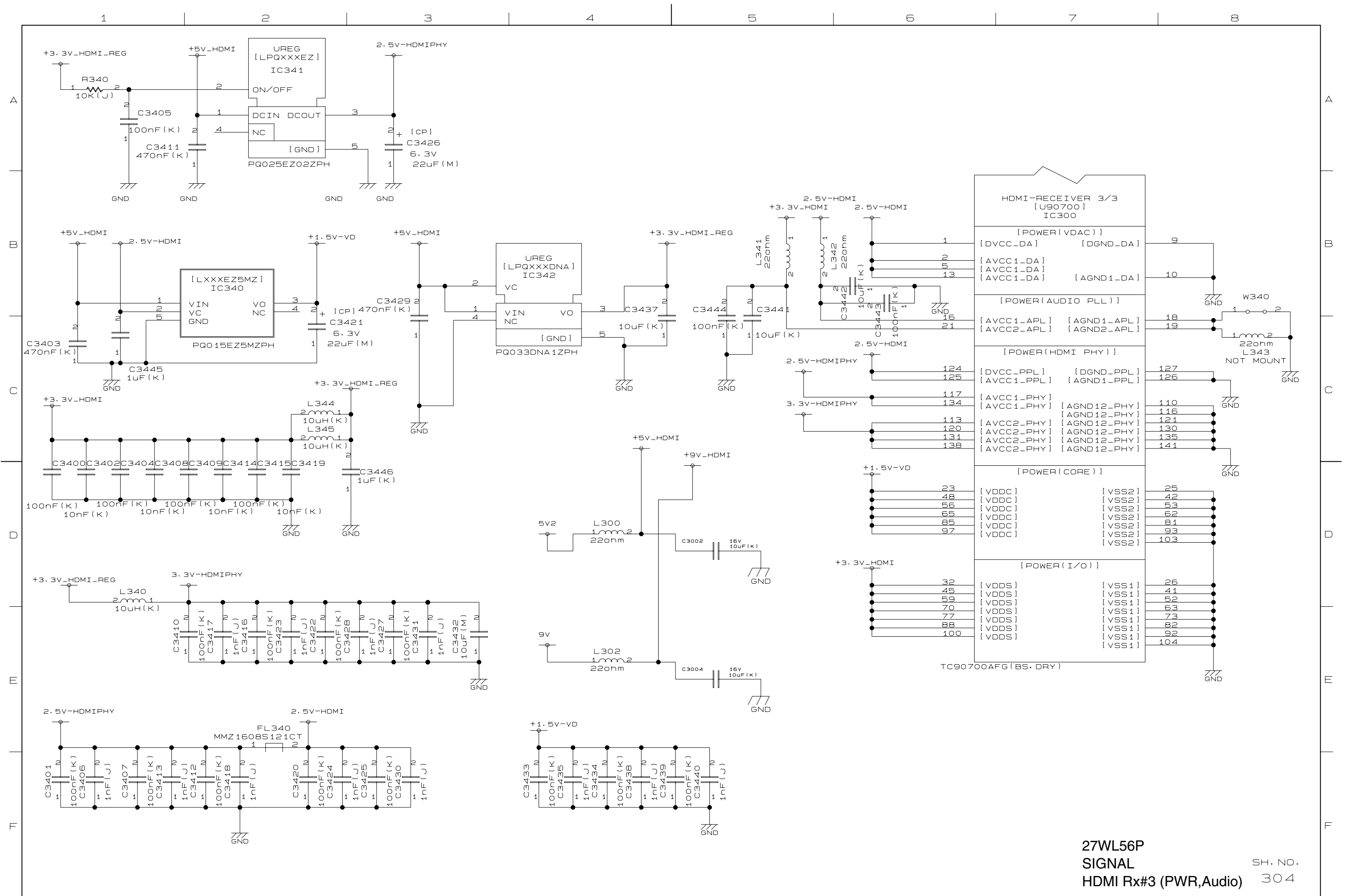
SH. NO.
200

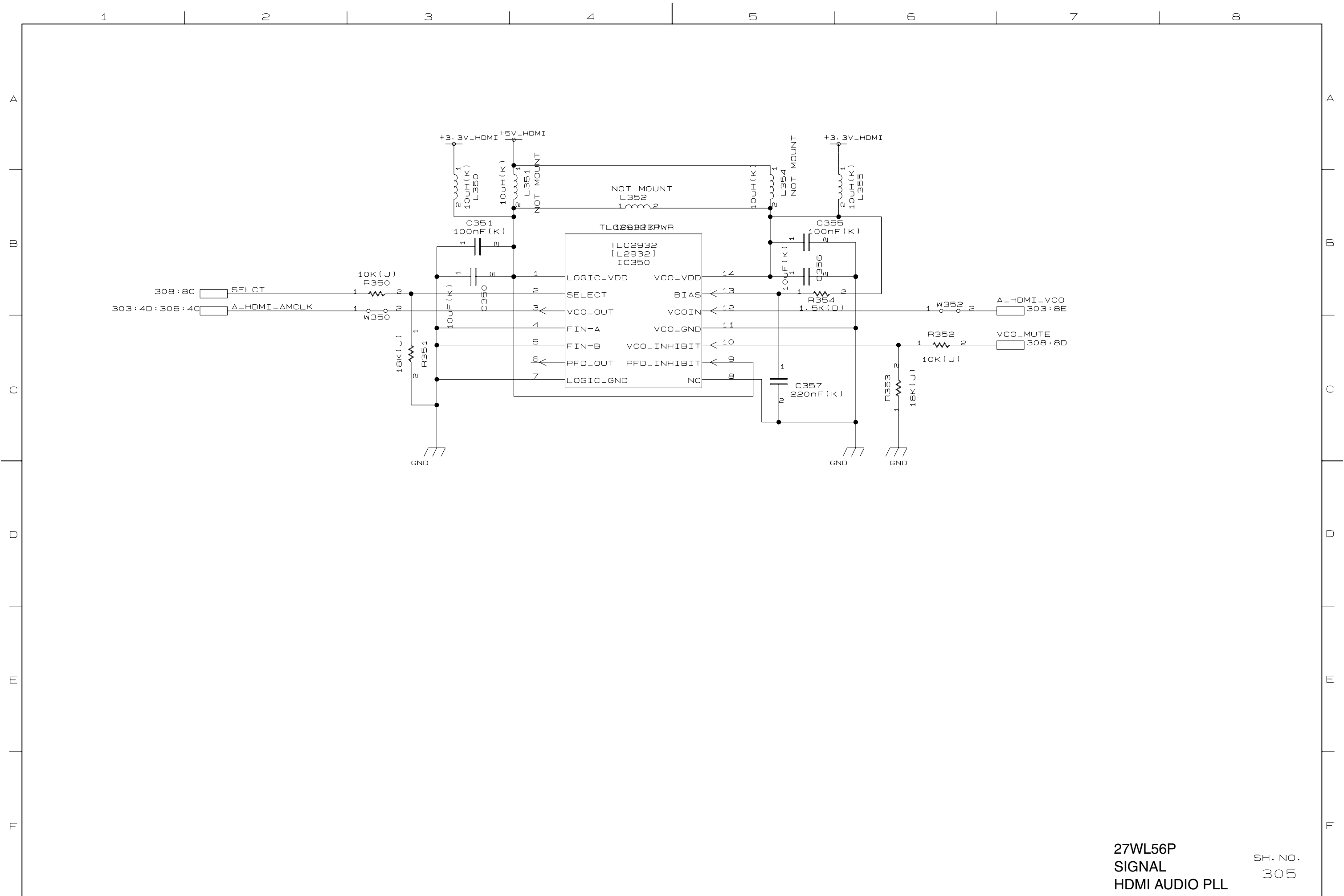






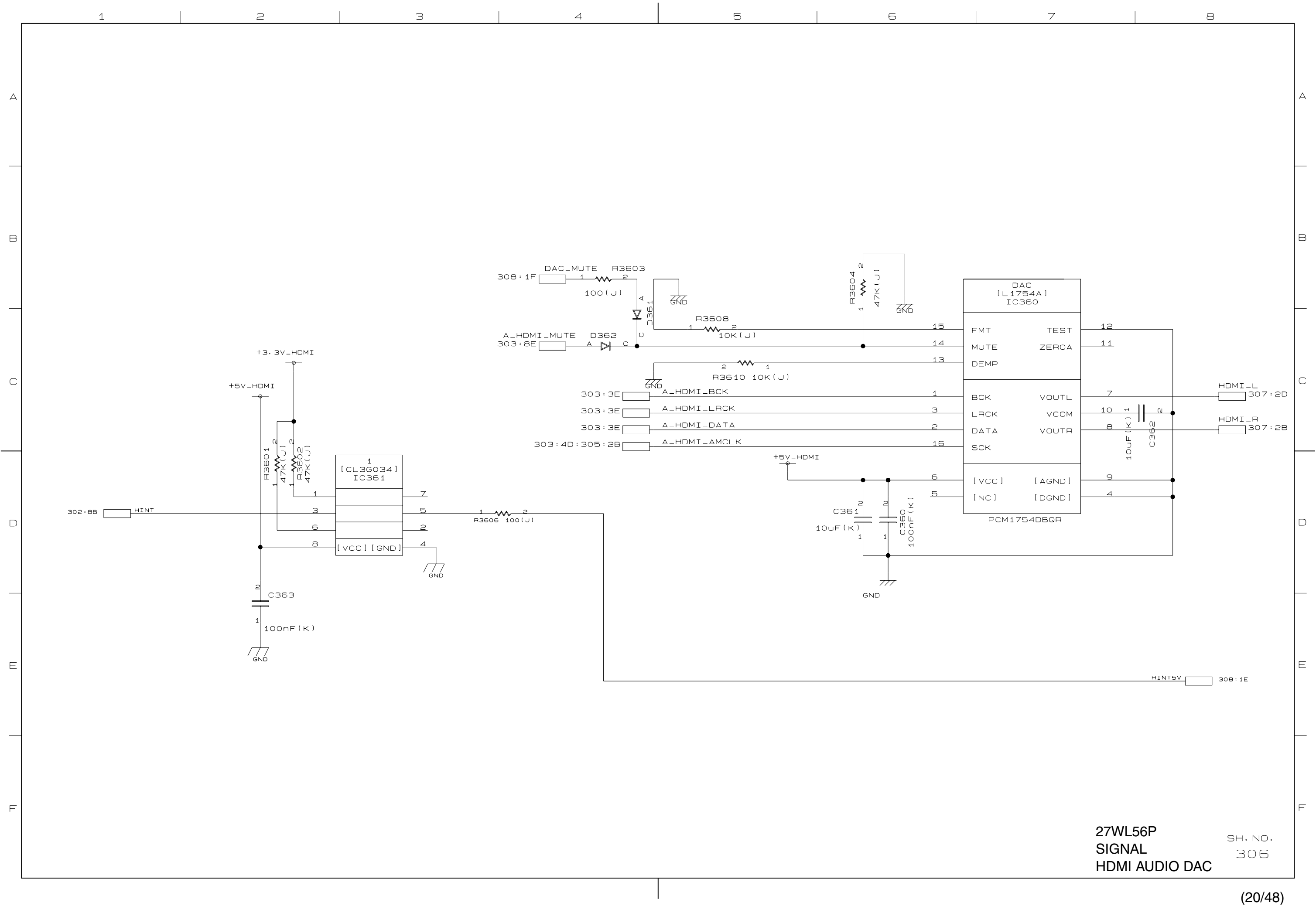






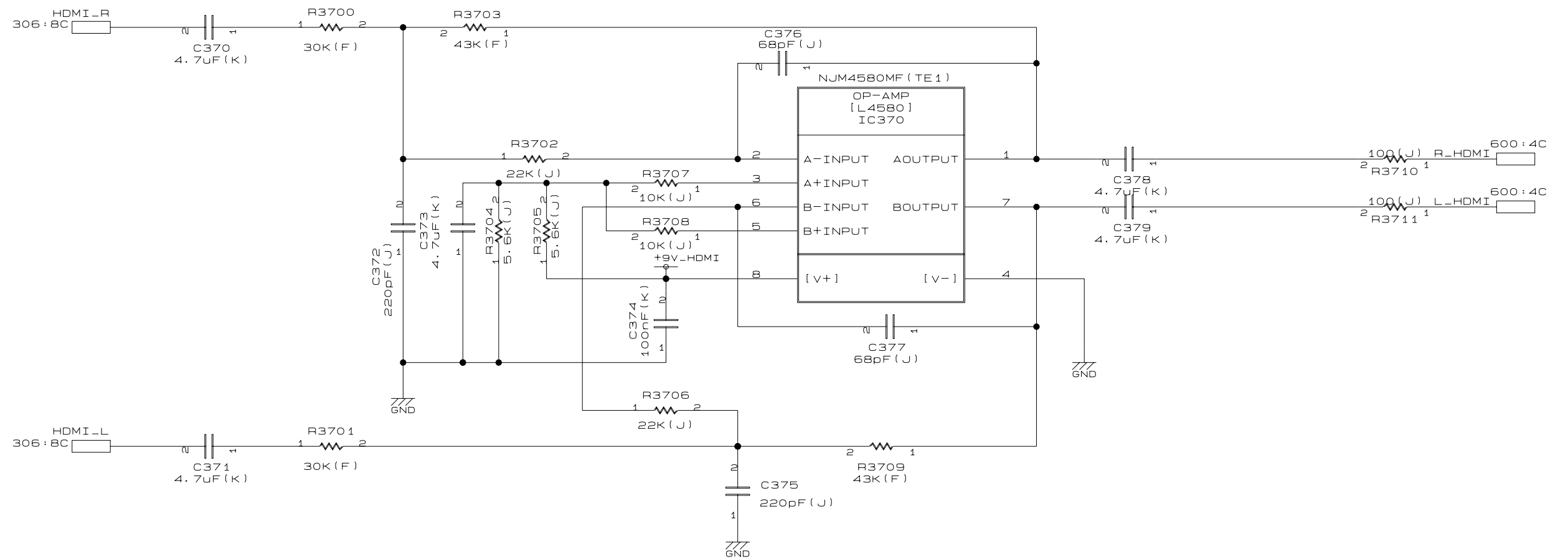
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SIGNAL
HDMI AUDIO PLL

SH. NO.
305



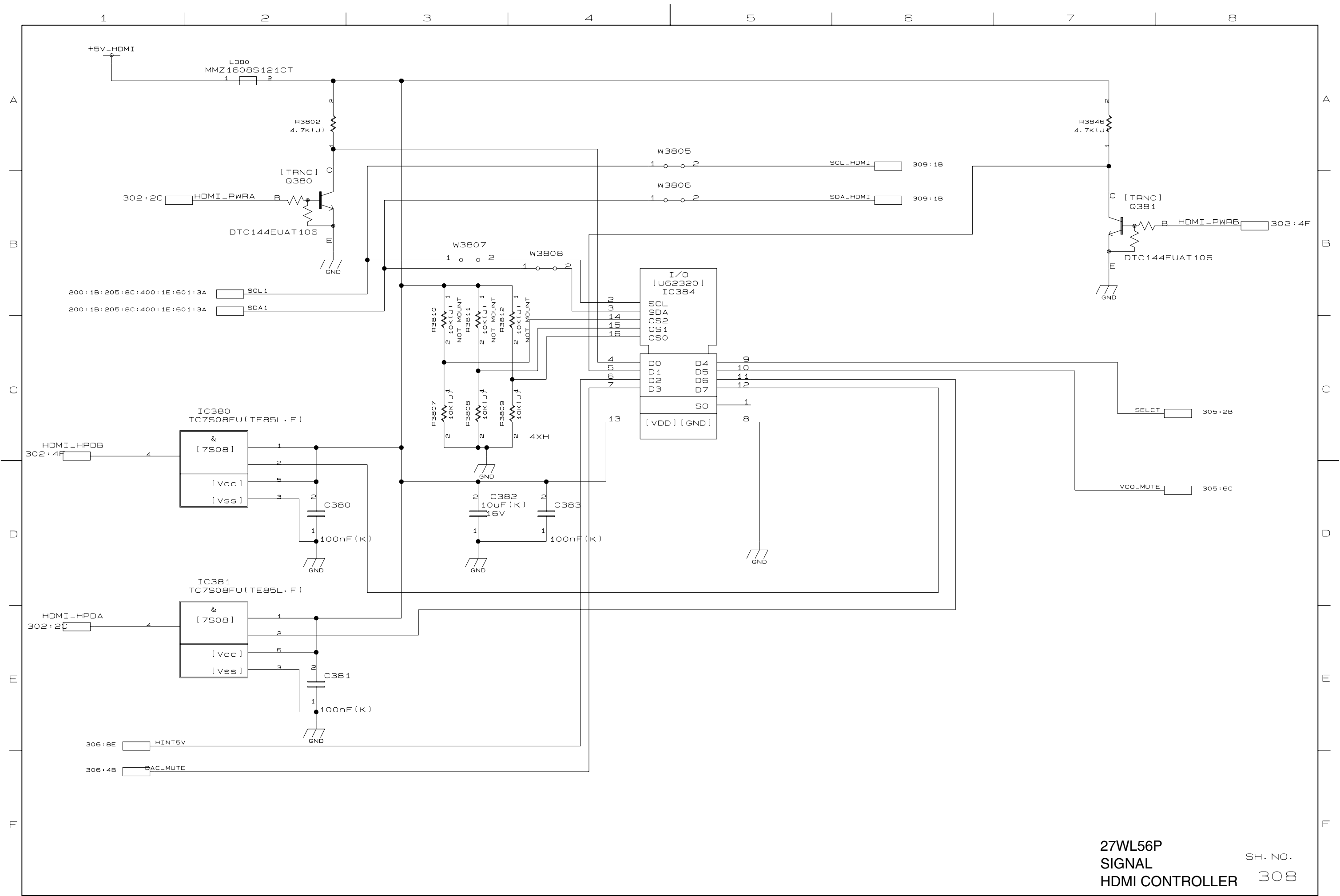
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SIGNAL
HDMI AUDIO DAC

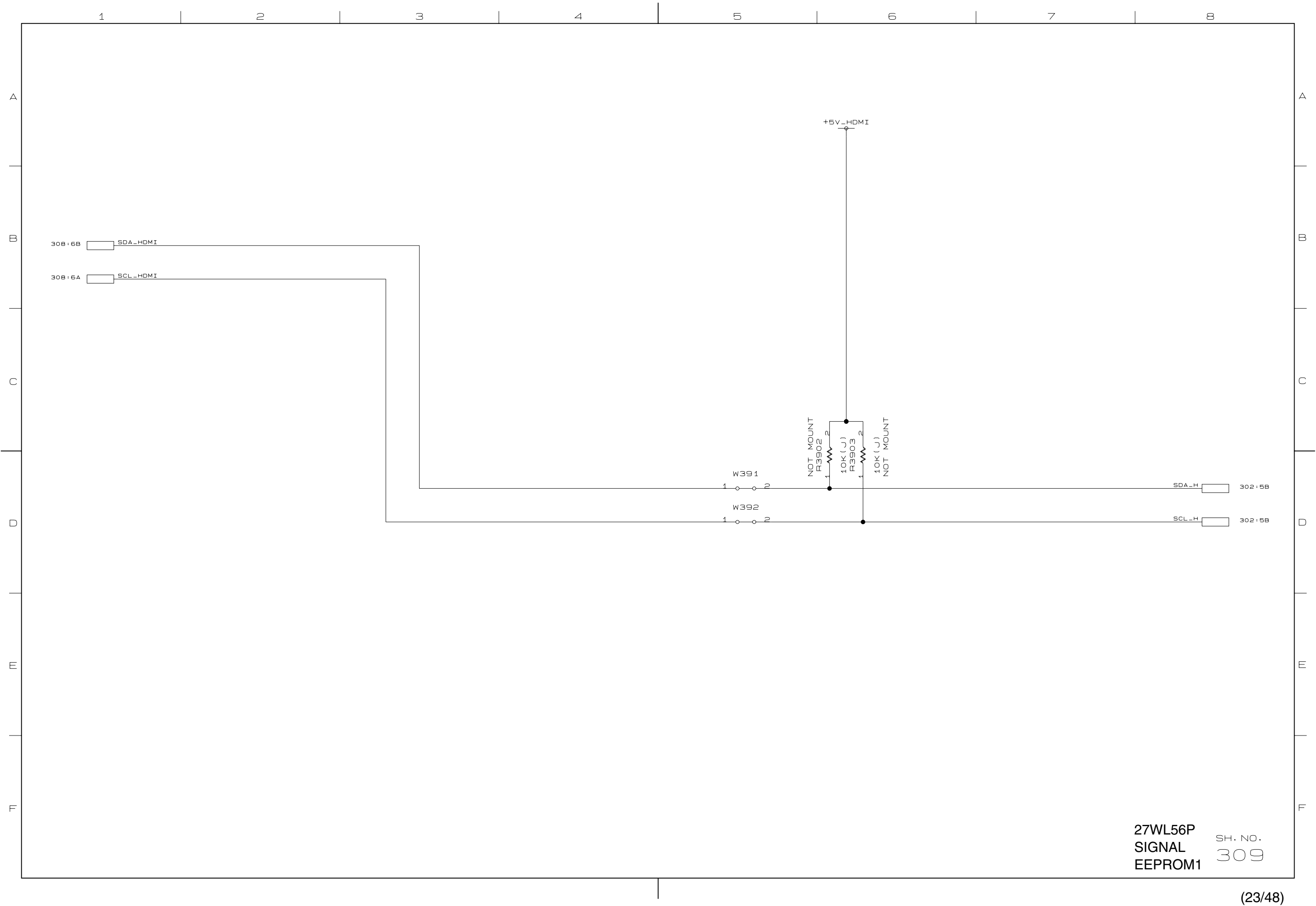
SH. NO.
306



27WL56P
SIGNAL
HDMI AUDIO OUT

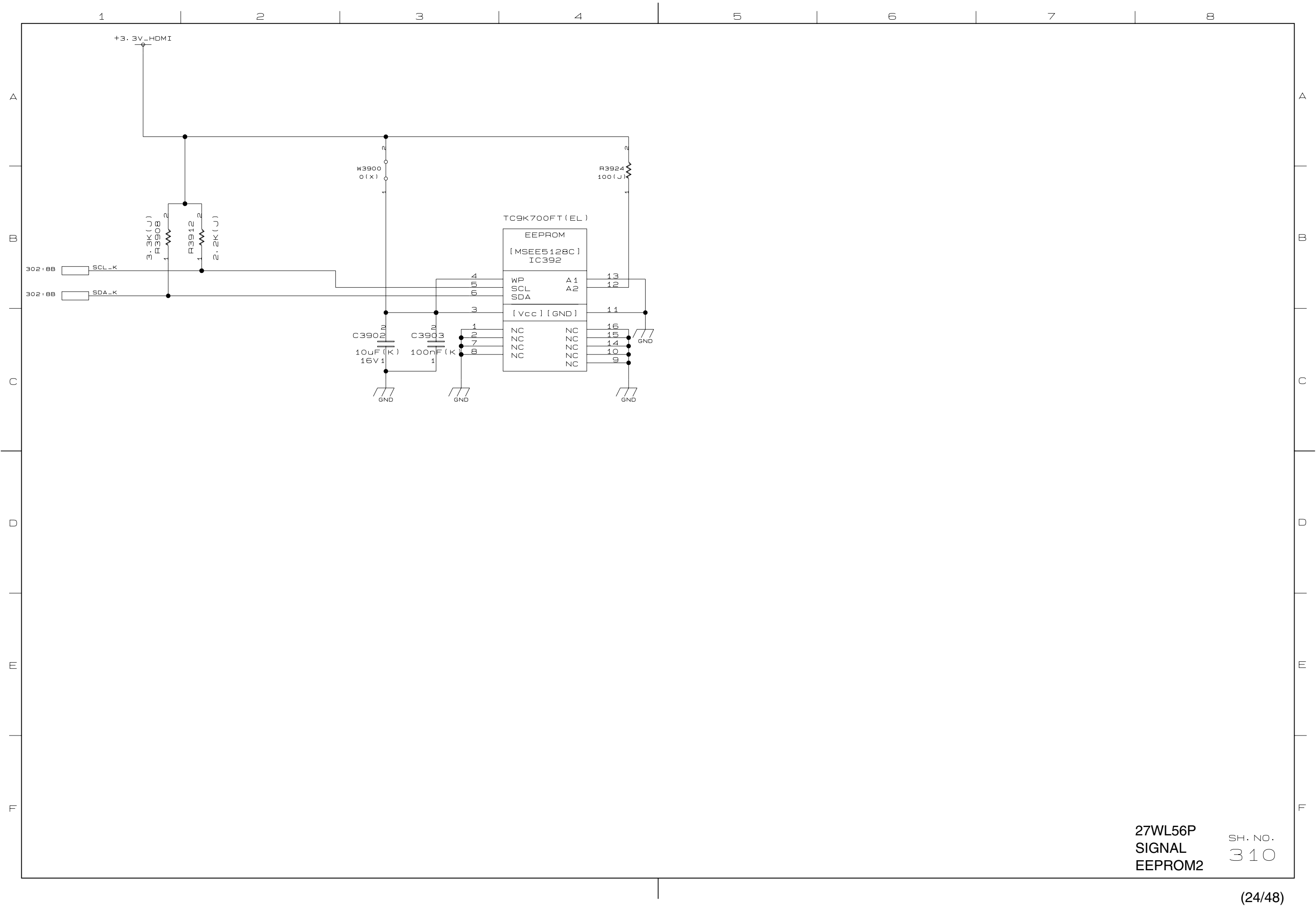
SH. NO.
307





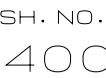
27WL56P
SIGNAL
EEPROM1

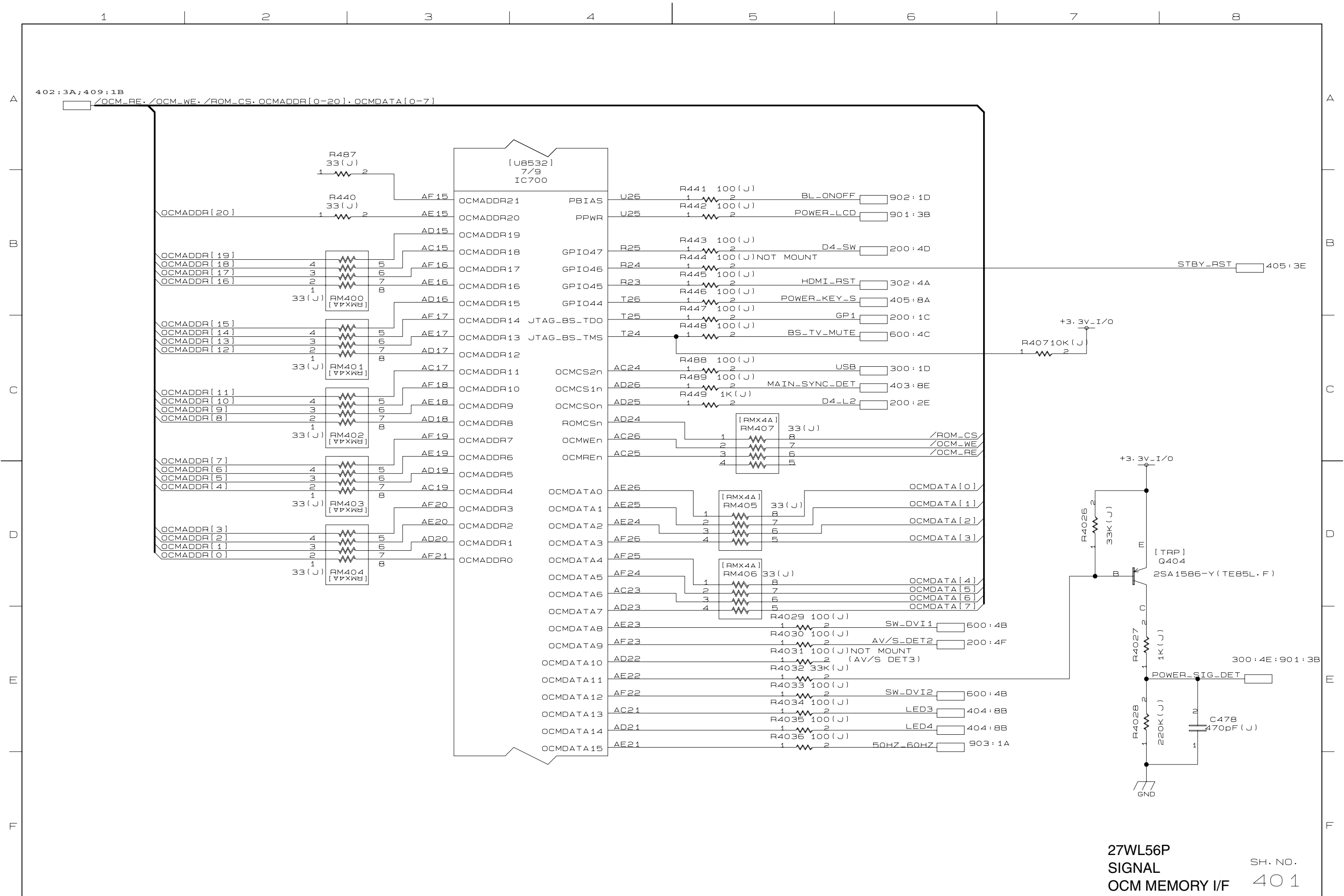
SH. NO.
309



27WL56P
SIGNAL
EEPROM2

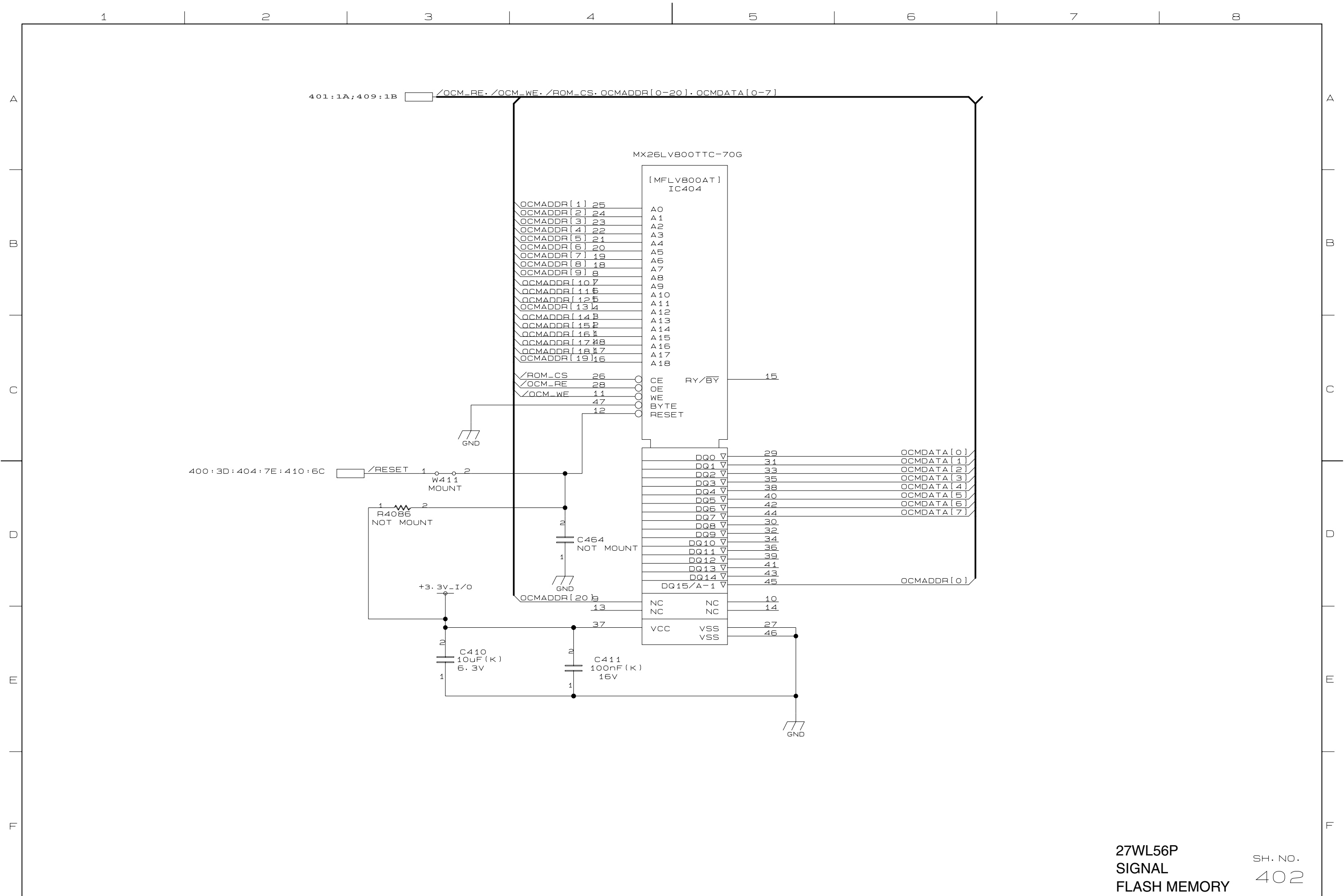
SH. NO.
310

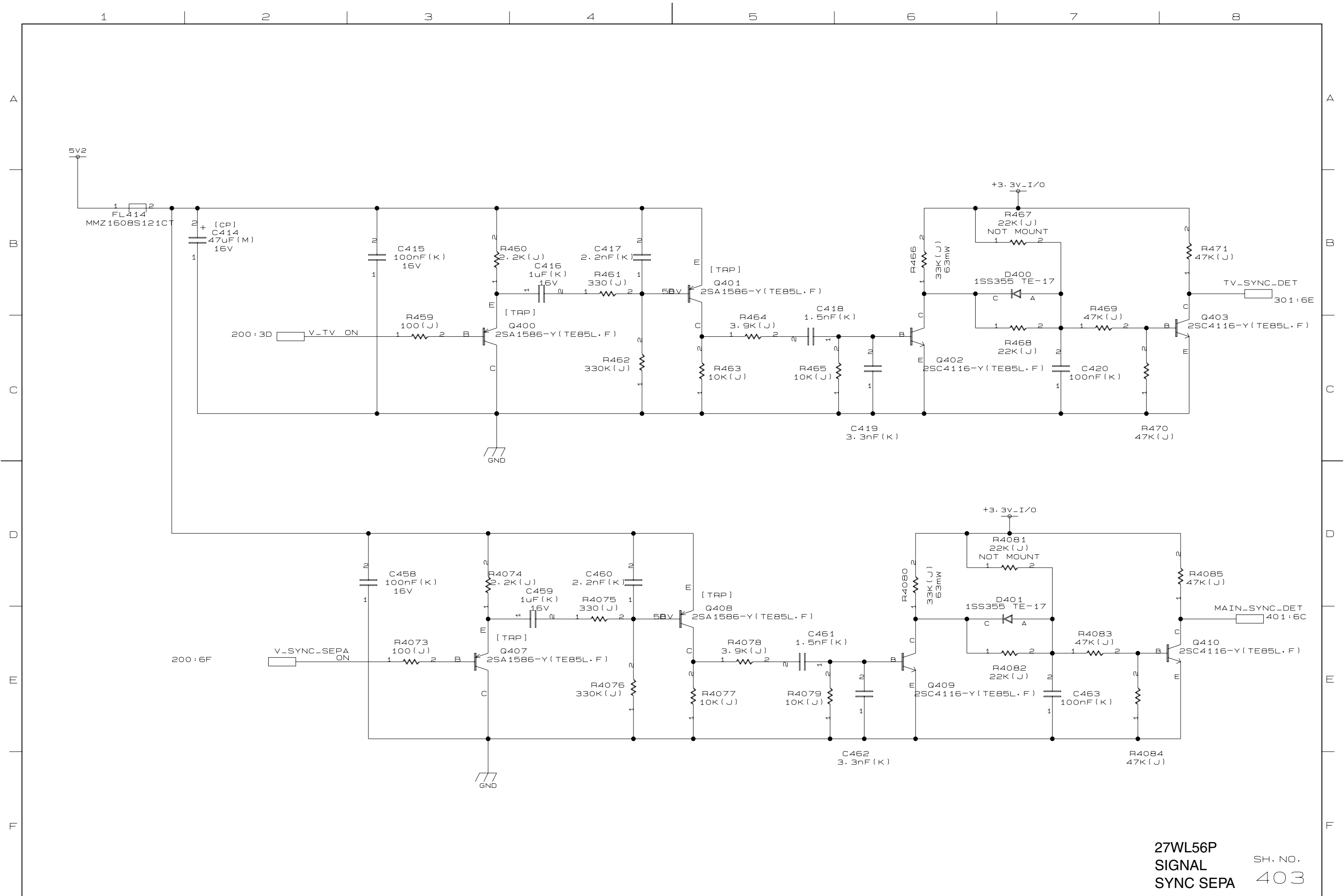




27WL56P
SIGNAL
OCM MEMORY I/F

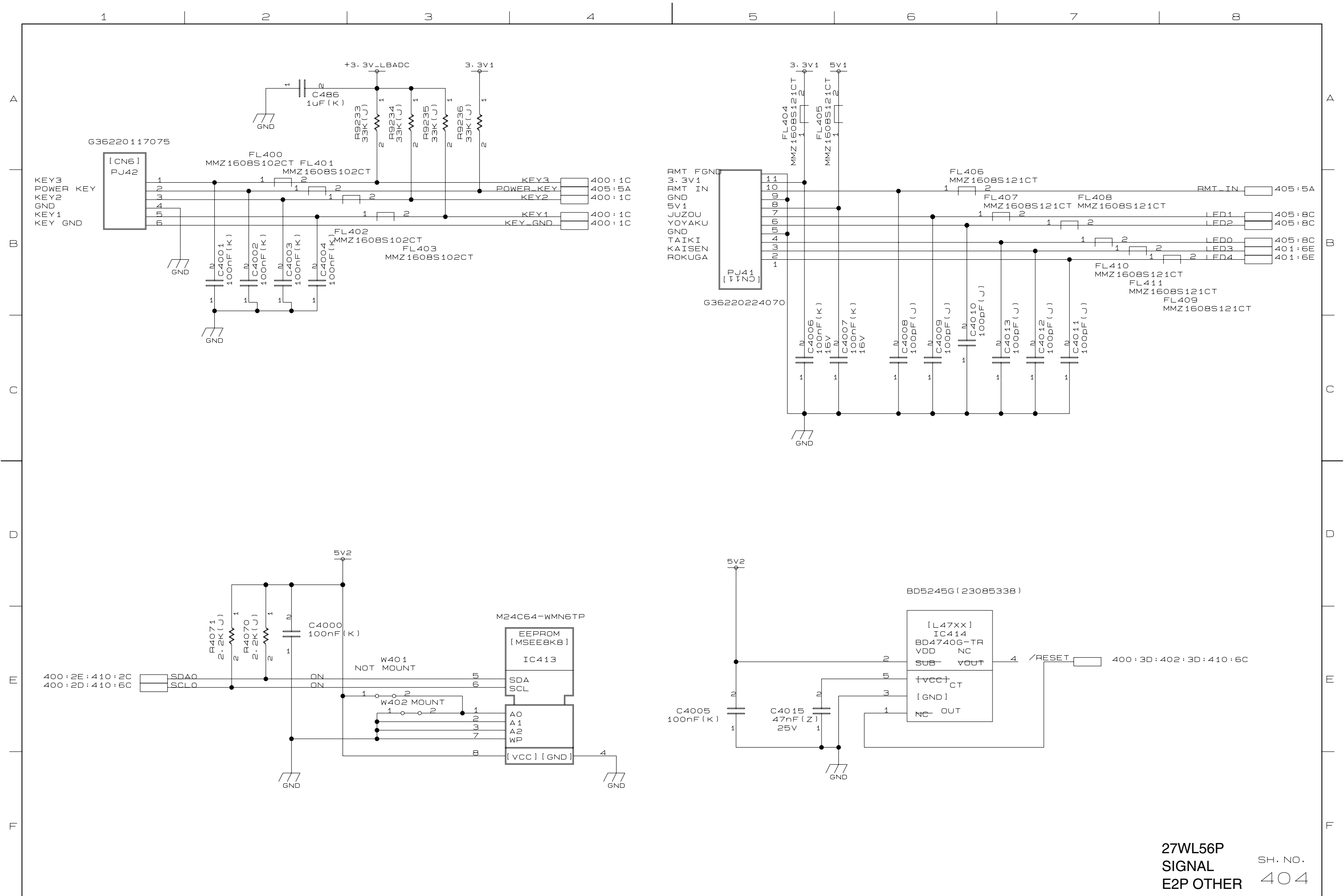
SH. NO.
401



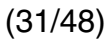


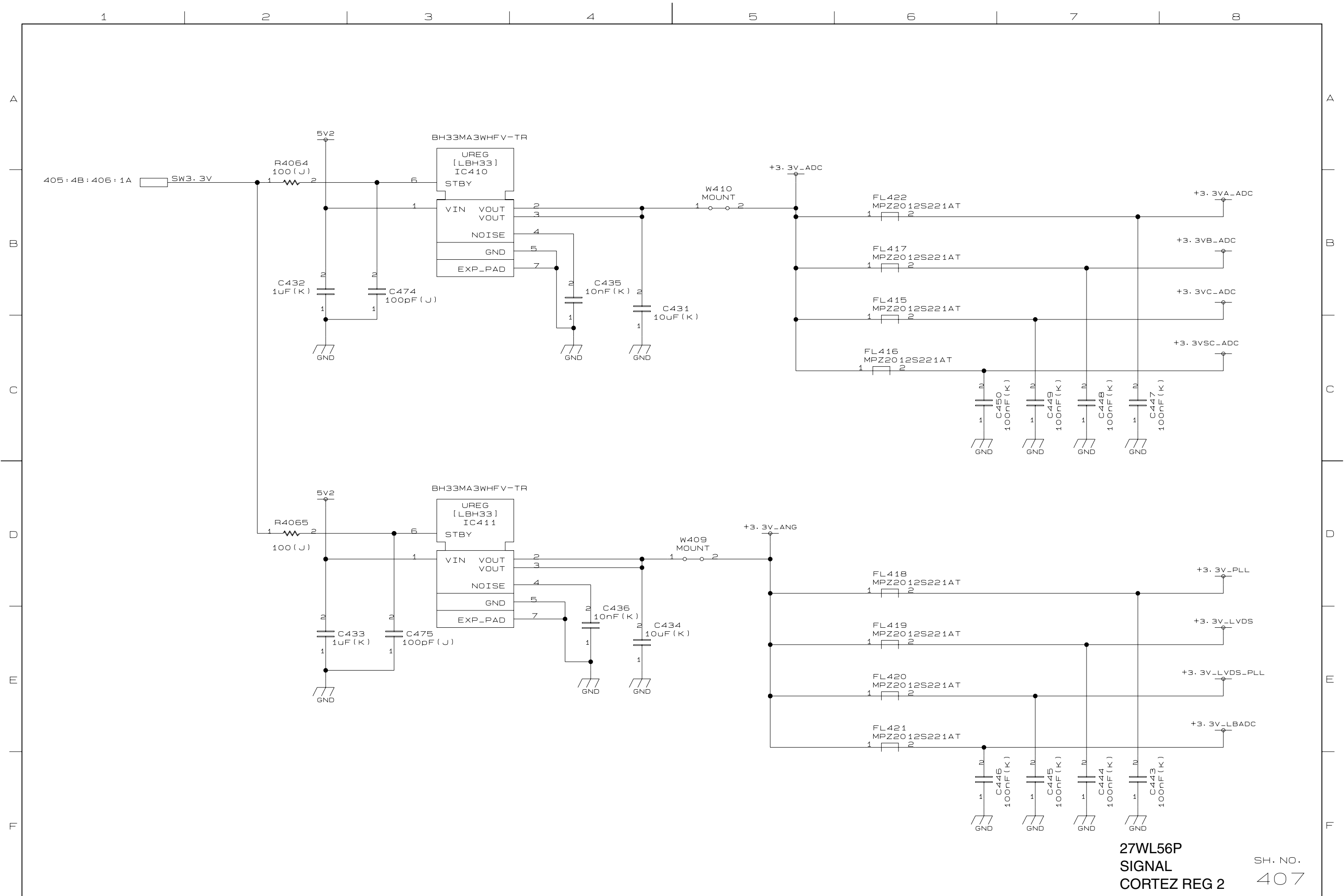
27WL56P
SIGNAL
SYNC SEPA

SH. NO.
403



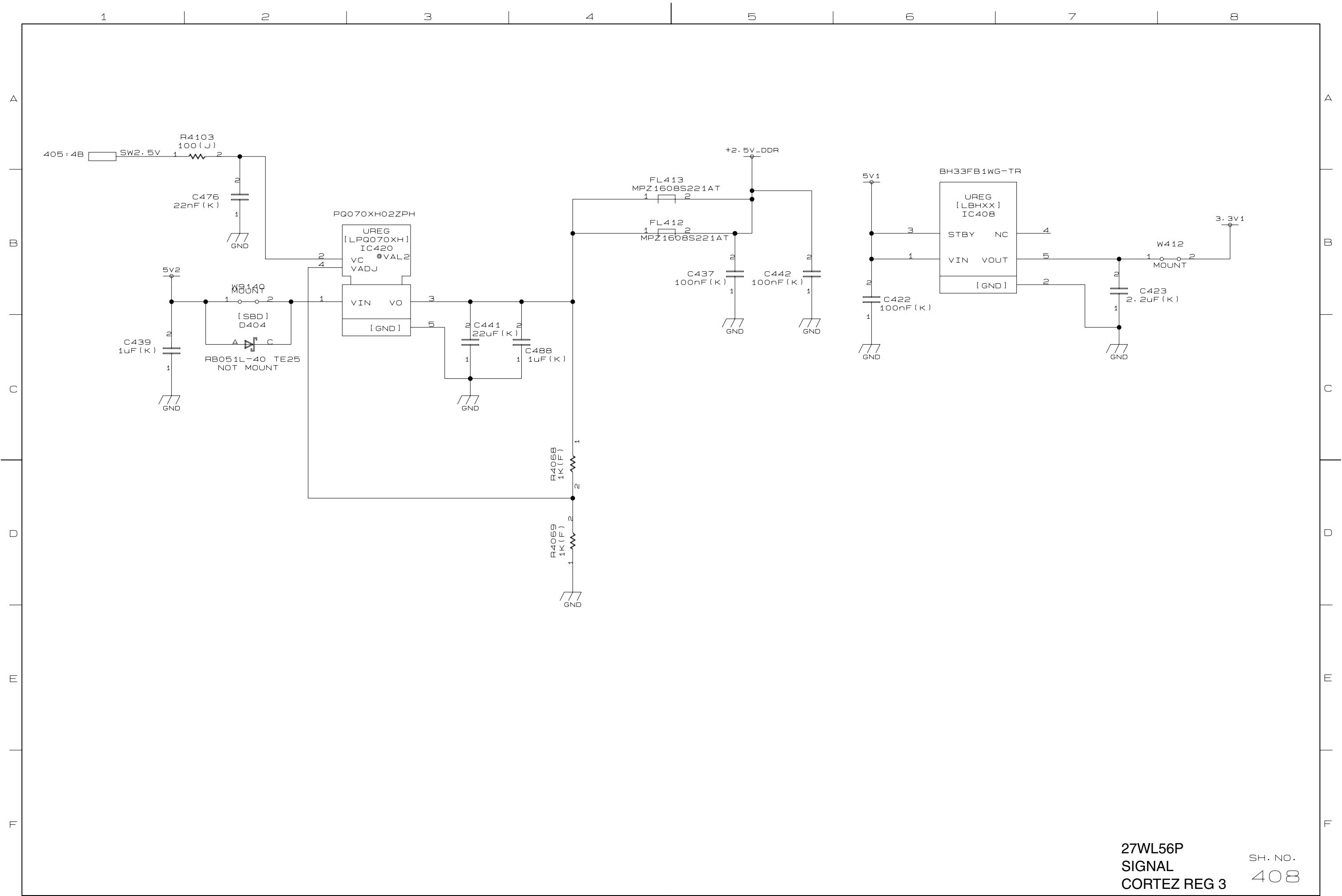


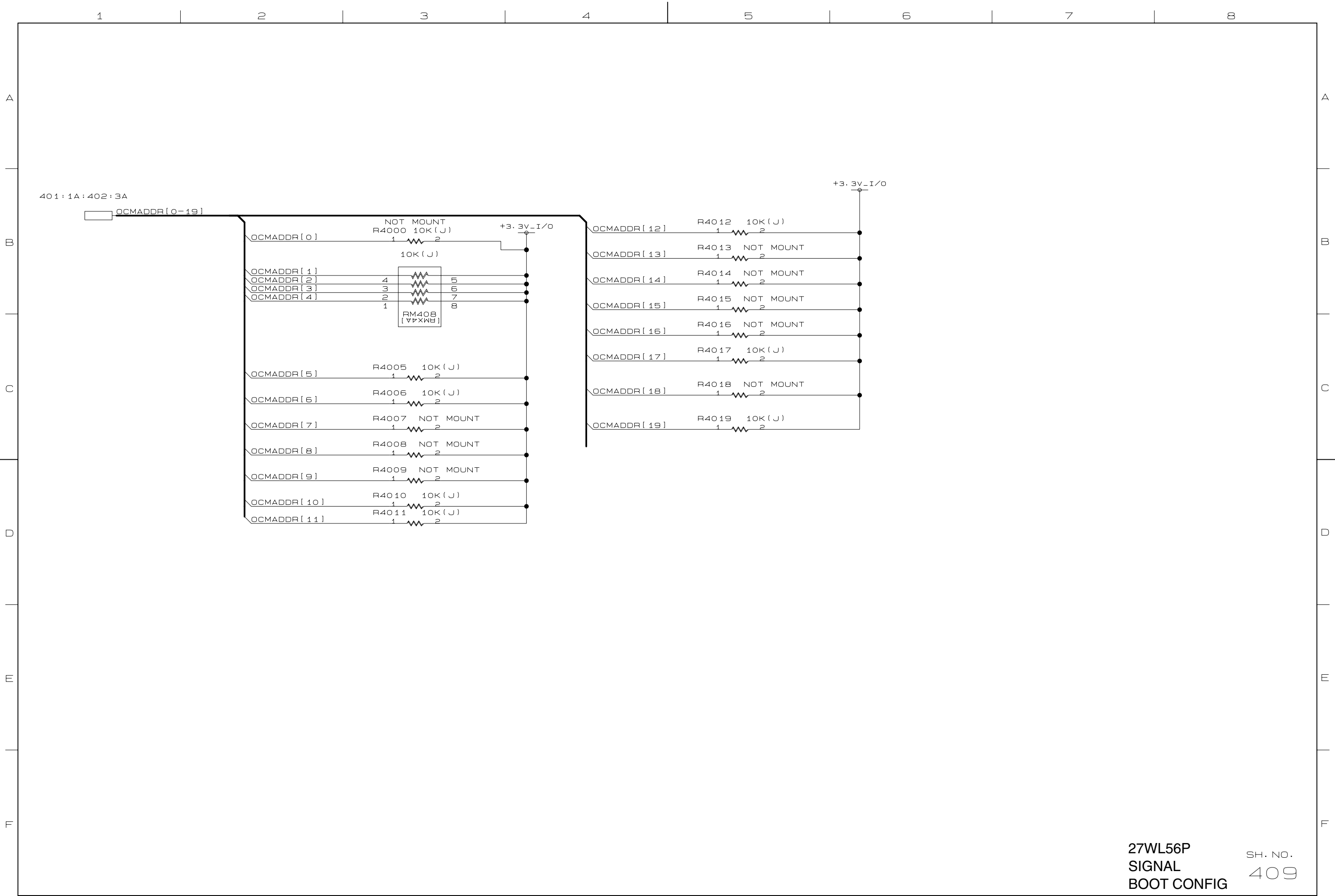


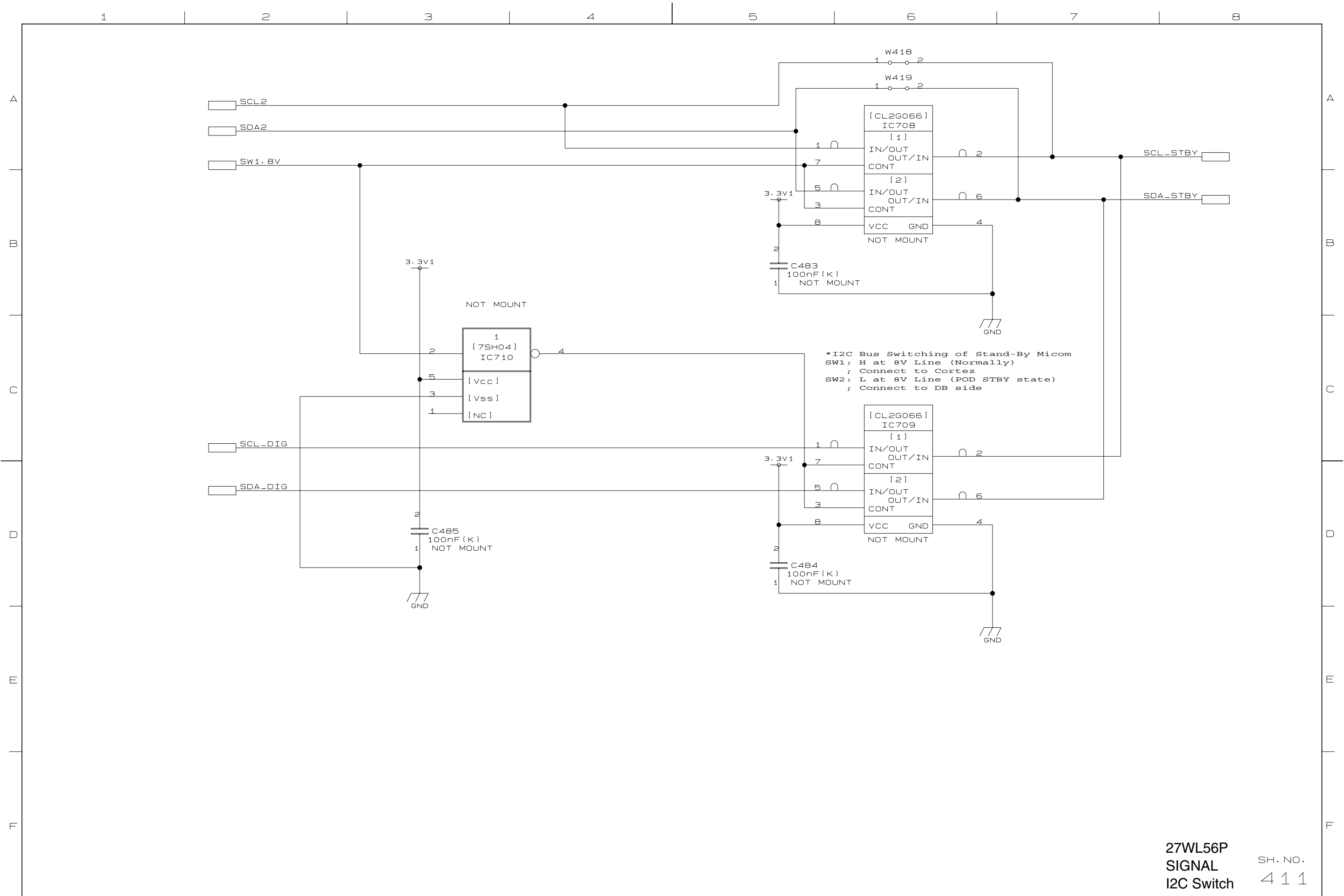


27WL56P
SIGNAL
CORTEZ REG 2

SH. NO.
407

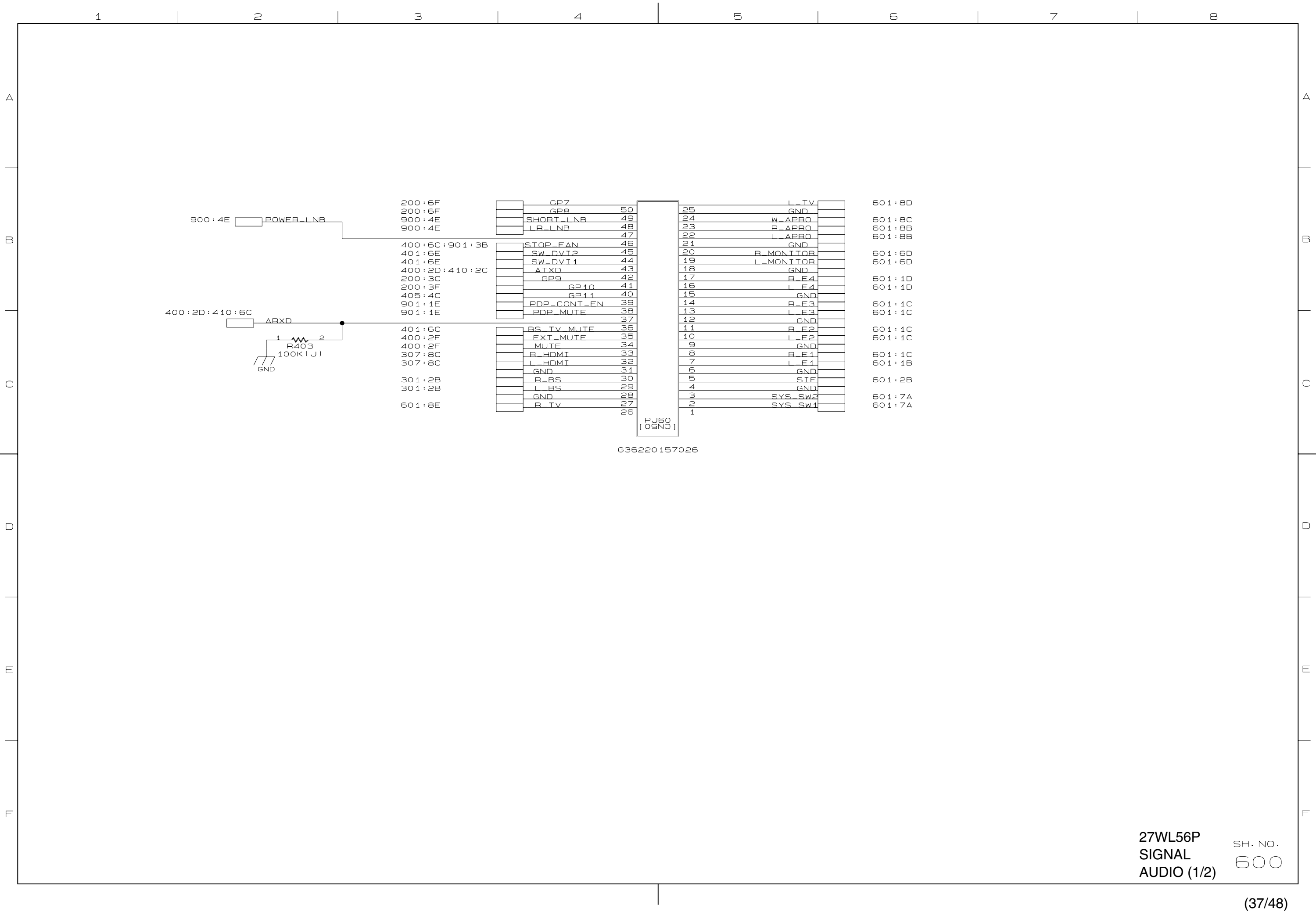






27WL56P
SIGNAL
I2C Switch

SH. NO.
4 1 1

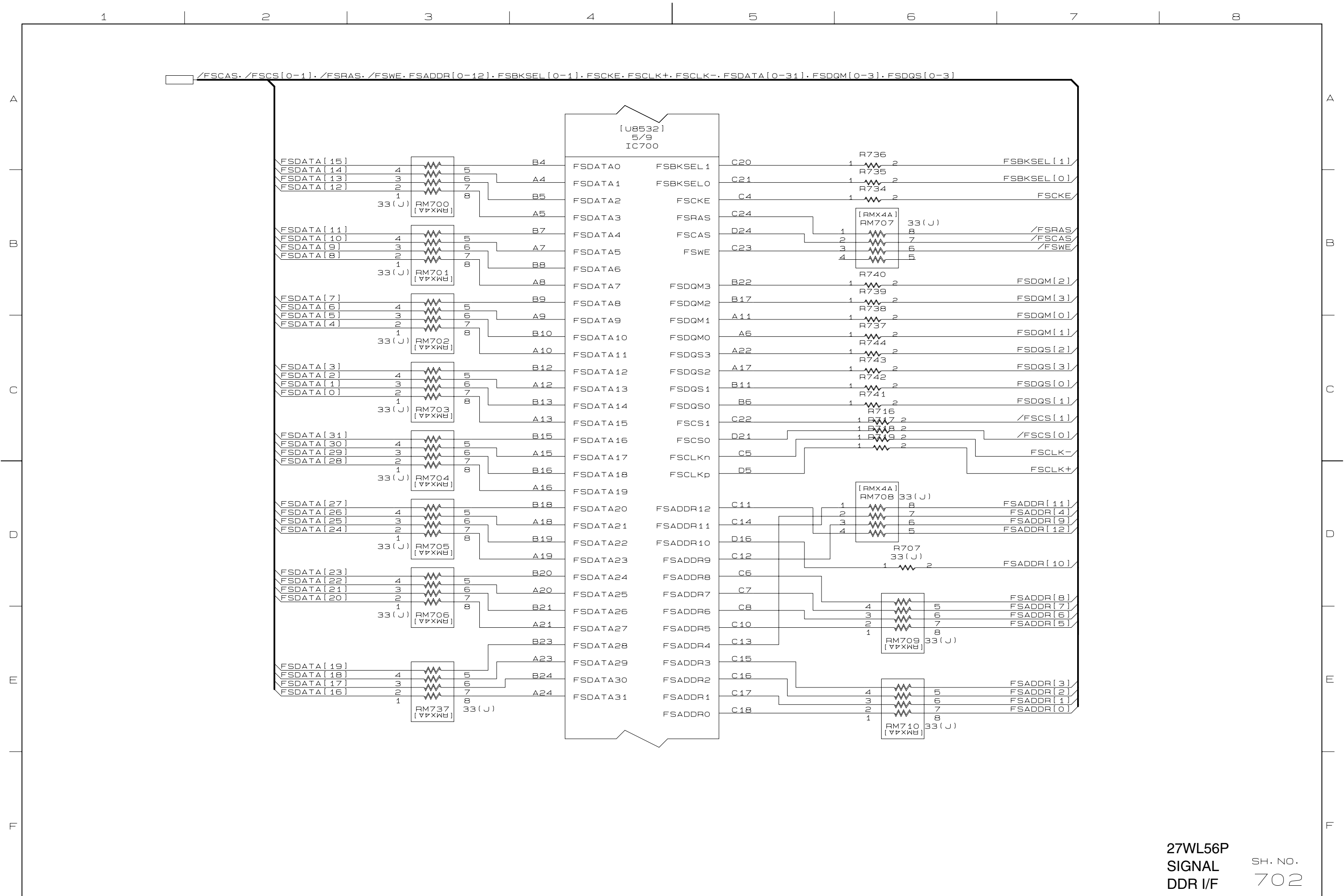


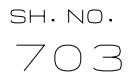
27WL56P
SIGNAL
AUDIO (1/2)

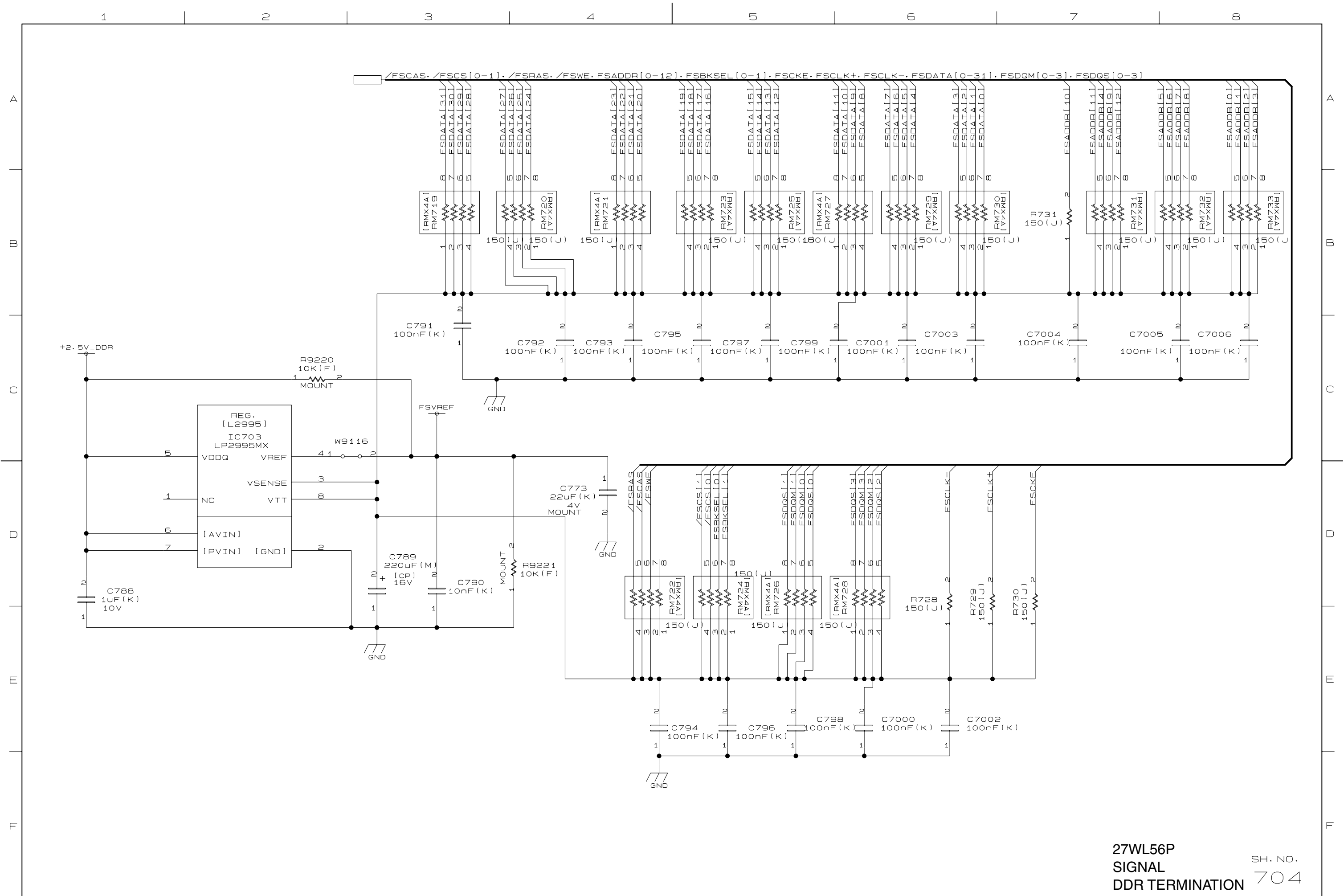
SH. NO.
600





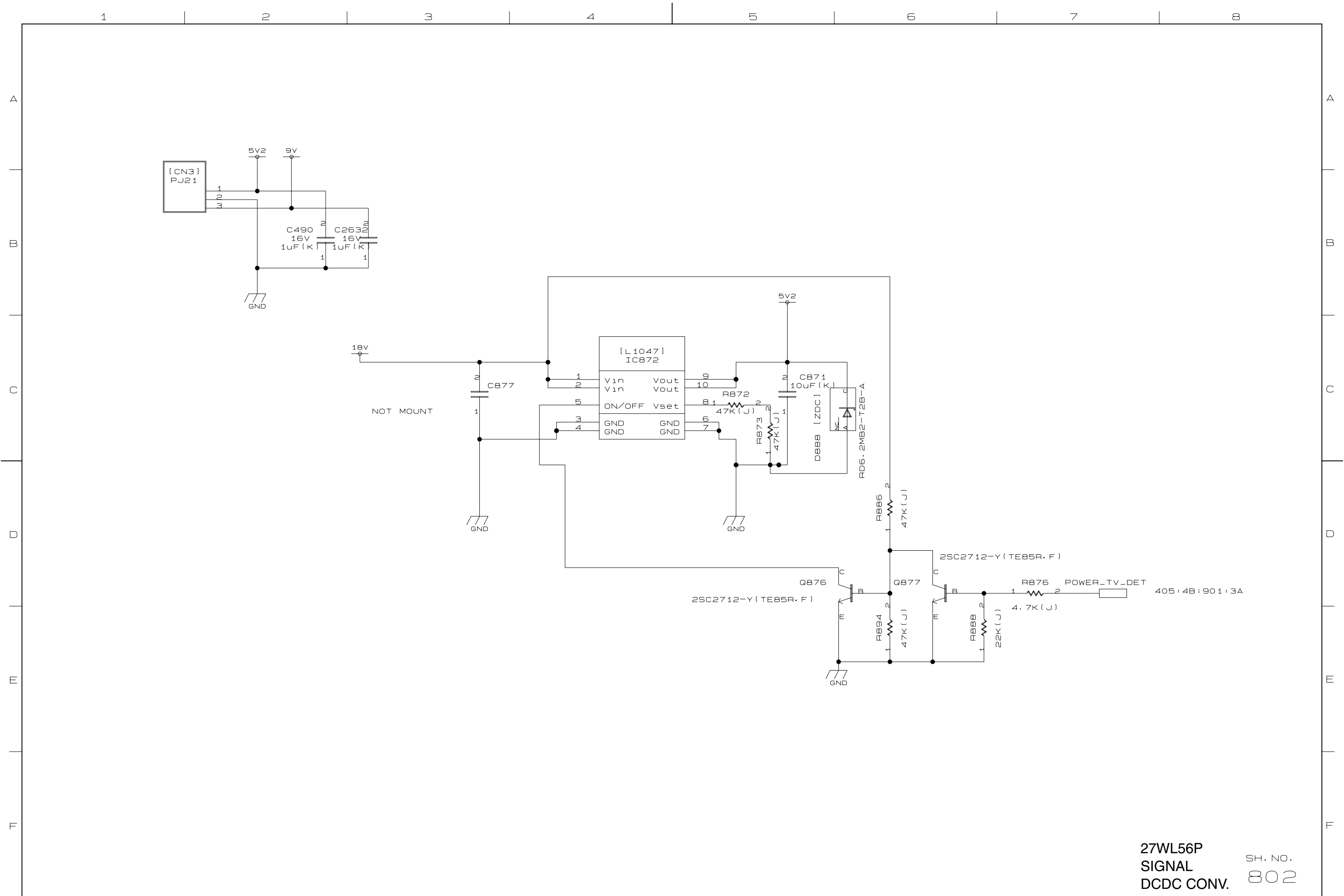






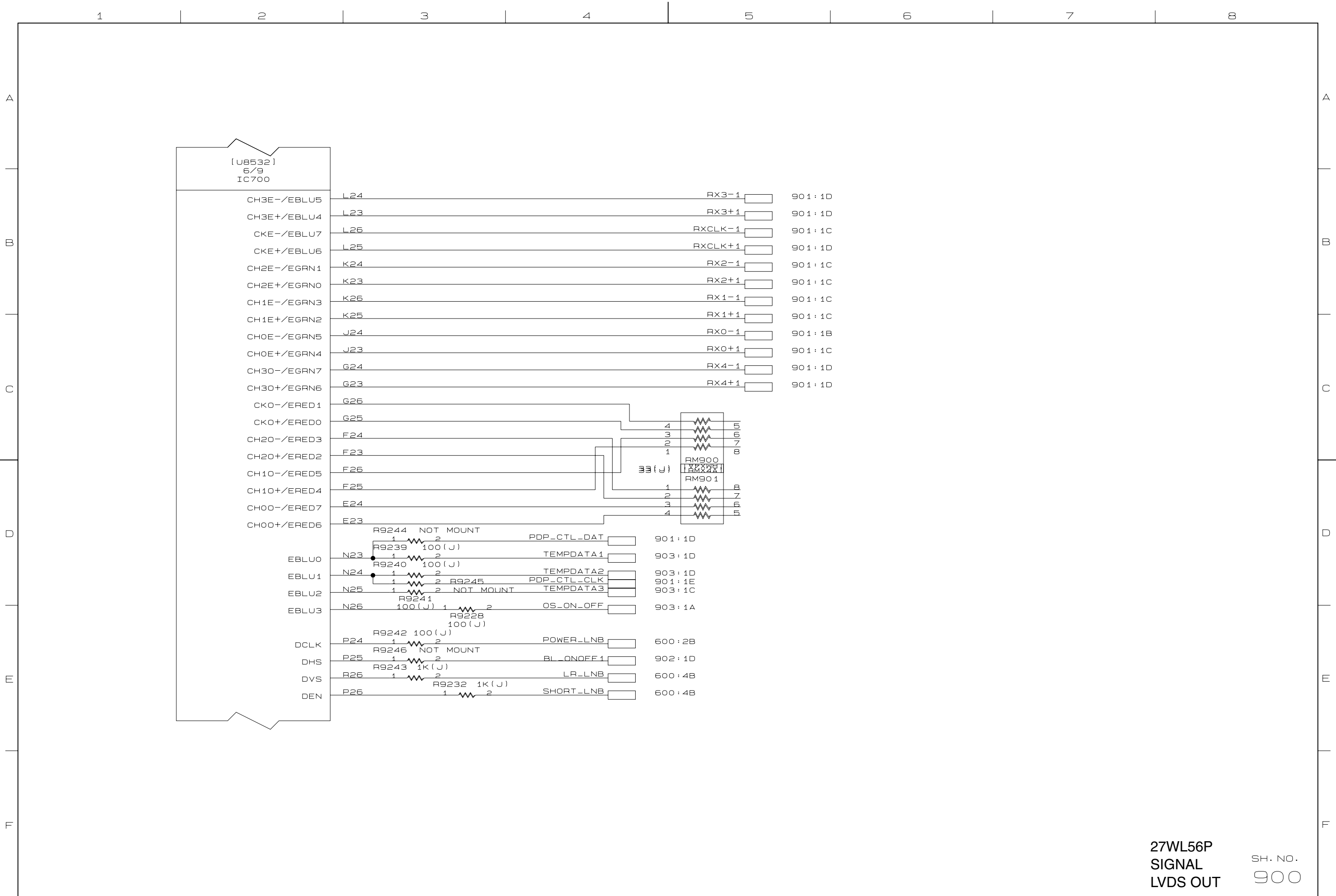
27WL56P
SIGNAL
DDR TERMINATION

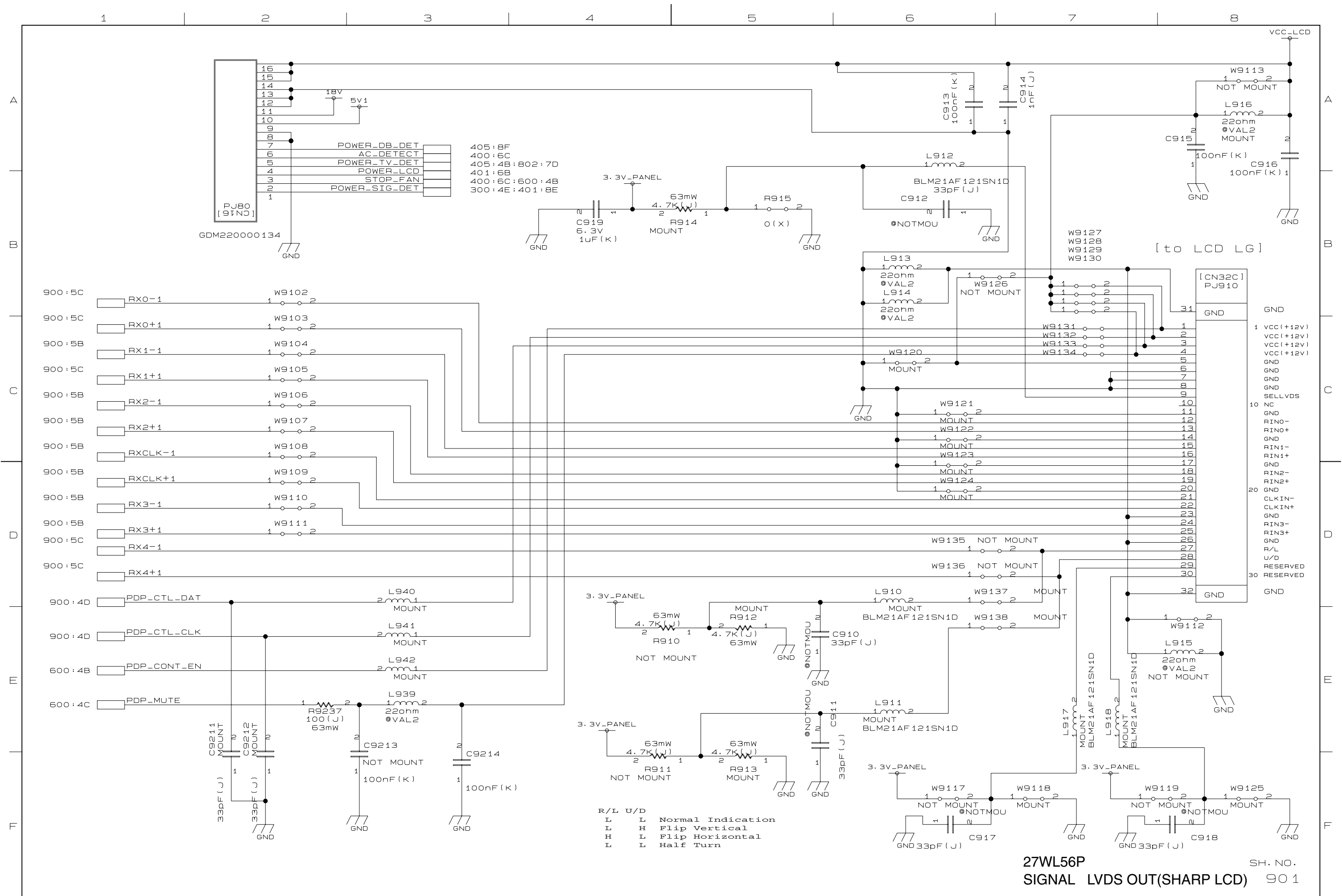
SH. NO.
704



27WL56P
SIGNAL
DCDC CONV.

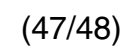
SH. NO.
802

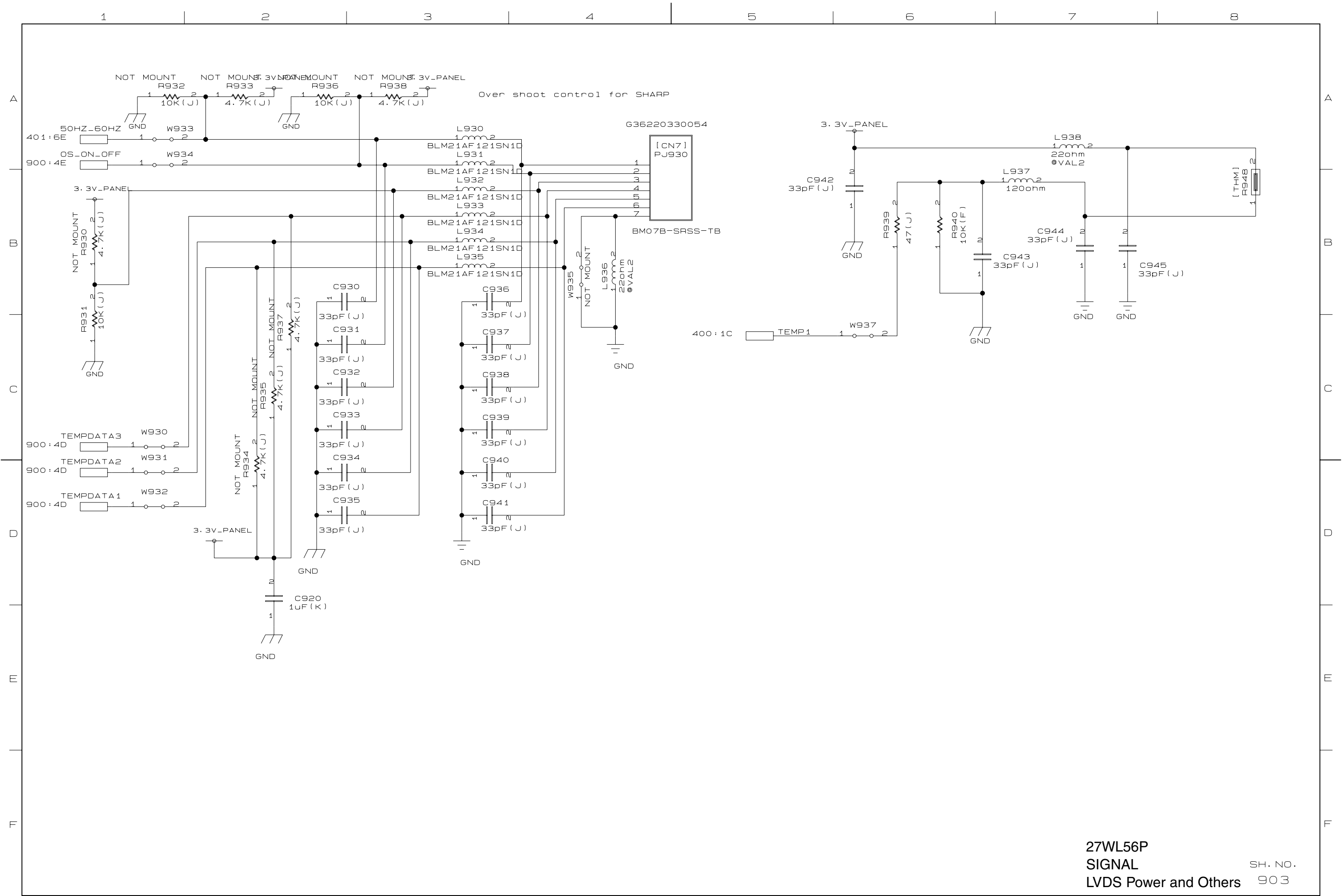




27WL56P
 SIGNAL LVDS OUT(SHARP LCD)

SH. NO.
 901





27WL56P
SIGNAL
LVDS Power and Others

SH. NO.
903