

HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL

CZ1 CHASSIS

<u>MODEL NAME</u>	<u>REMOTE COMMANDER</u>	<u>DESTINATION</u>
KDL-32L4000	RM-YD025	US
KDL-32L4000	RM-YD025	CANADA
KDL-37L4000	RM-YD025	US
KDL-37L4000	RM-YD025	CANADA

ORIGINAL MANUAL ISSUE DATE: 3/2008

 :UPDATED ITEM

<u>REVISION DATE</u>	<u>SUBJECT</u>
3/2008	No revisions or updates are applicable at this time.
5/2008	Corrected steps to access service mode. Replaced page 30. Revised information regarding "Resetting to Factory Defaults..." Replaced page 31. Replaced Frame Diagrams to include Board labels. Replaced pages 36 & 37.
8/2008	Reissue entire manual due to multiple updates.
8/2008	Updated reference to LCD Panels service manual. Replaced pages 63 & 64.

LCD DIGITAL COLOR TELEVISION

SONY®

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KDL-37L4000



RM-YD025

LCD DIGITAL COLOR TELEVISION

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SPECIFICATIONS

Power Requirements 120V - 240V AC, 50/60Hz

Video (IN) 1/2

S Video (4-Pin Mini DIN)

Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative

C: 0.286 Vp-p (Burst signal), 75 ohms

Video

1.0 Vp-p, 75 ohms unbalanced, sync negative

Audio

500 mVrms (100% modulation)

Impedance: 47 kilohms

COMPONENT IN 1/2

Y_P P_R (Component Video)

Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative

P_B: 0.7 Vp-p, 75 ohms

P_R: 0.7 Vp-p, 75 ohms

Signal format: 480i, 480p, 720p, 1080i

AUDIO

500 mVrms (100% modulation)

Impedance: 47 kilohms

HDMI IN 1/2:

HDMI: Video: 480i, 480p, 720p, 1080i, 1080p

Audio: Two channel linear PCM 32, 44.1 and 48 kHz, 16, 20 and 24 bits

AUDIO: (HDMI IN 1 only) 500 mVrms (100% modulation)

Impedance: 47 kilohms

AUDIO OUT:

500 mVrms (100% modulation)

DIGITAL AUDIO OUT (OPTICAL):

Optical Digital Audio Output (PCM/Dolby Digital)

PC IN:

Analog RGB (D-sub 14-pin)

0.7 Vp-p, 75 ohms, positive

AUDIO (Stereo mini jack):

500 mVrms (100% modulation)

Impedance: 47 kilohms

Television System

NTSC

American TV Standard

ATSC (8VSB Terrestrial) ATSC compliant 8VSB

QAM on cable

ANSI/SCTE 07 2000

Channel Coverage

	Analog	Digital
Terrestrial	2-69	2-69
Cable	1-135	1-135

Antenna

75-ohm external terminal for VHF/UHF

Panel System

LCD (Liquid Crystal Display) Panel

Display Resolution (horizontal x vertical):

1,366 dots x 768 lines

Screen Size (measured diagonally)

approx. 32 inches (KDL-32L4000 Only)

approx. 37 inches (KDL-37L4000 Only)

Supplied Accessories

Remote Commander RM-YD025

Two Size AA (R6) Batteries

AC Power Cord

Table-Top Stand

Screws (3)

Cable Band

Operating Instructions

Quick Setup Guide

Warranty Card

Online Registration Card

Open-source Software Flyer

Optional Accessories

Connecting Cables

Support Belt Kit

Wall-Mount Bracket

SU-WL500

TV Stand

SU-FL300M

Trademark Information

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

Blu-ray Disc is a trademark.



SPECIFICATIONS (CONTINUED)

	KDL-32L4000	KDL-37L4000
Power Consumption in use	165W	190W
	in standby Less than 1W	
Speaker Output (W)	10W + 10W	
	mm 50 x 115 mm	
	in 2 x 4 ^{3/4} in	
Dimensions (W x H x D) with stand	mm 807 x 585 x 242 mm	933 x 653 x 276 mm
	in 31 ^{7/8} x 23 ^{1/8} x 9 ^{5/8} in	36 ^{3/4} x 25 ^{3/4} x 10 ^{7/8} in
Dimensions (W x H x D) without stand	mm 807 x 548 x 101 mm	933 x 616 x 112 mm
	in 31 ^{7/8} x 21 ^{5/8} x 4 in	36 ^{3/4} x 24 ^{3/8} x 4 ^{1/2} in
Mass with stand	kg 16 kg	21.2 kg
	lbs 35 lbs 5 oz	46 lbs 12 oz
without stand	kg 13.8 kg	18.2 kg
	lbs 30 lbs 7oz	40 lbs 2 oz

All measurements are approximations.

WARNINGS AND CAUTIONS


CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis. The chassis of this receiver is directly connected to the ac power line.

SAFETY-RELATED COMPONENT WARNING!!


Components identified by shading and  mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

ATTENTION!!

Ces instructions de service sont à l'usage du personnel de service qualifié seulement. Pour prévenir le risque de choc électrique, ne pas faire l'entretien autre que celui contenu dans le Mode d'emploi à moins que vous soyez qualifié faire ainsi.

Afin d'éviter tout risque d'électrocution provenant d'un châssis sous tension, un transformateur d'isolement doit être utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

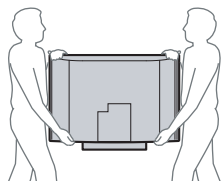
Les composants identifiés par une trame et par une marque  sur les schémas de principe, les vues explosées et les listes de pièces sont d'une importance critique pour la sécurité du fonctionnement. Ne les remplacer que par des composants Sony dont le numéro de pièce est indiqué dans le présent manuel ou dans des suppléments publiés par Sony. Les réglages de circuit dont l'importance est critique pour la sécurité du fonctionnement sont identifiés dans le présent manuel. Suivre ces procédures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

WARNINGS AND CAUTIONS (CONTINUED)

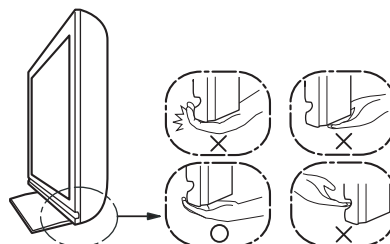
CARRYING THE TV

To avoid dropping the TV and causing serious injury, be sure to follow these guidelines:

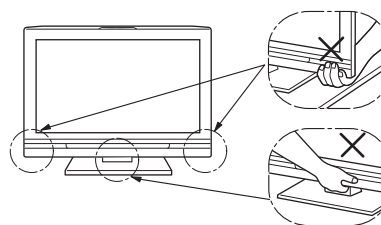
- Before carrying the TV, disconnect all cables.
- Carrying the large size TV requires two or more people.
- When carrying, do not subject the TV to shocks or vibration, or excessive force.
- When you carry the TV, place your hand as illustrated and hold it securely. Do not put stress on the LCD panel.



- When lifting or moving the TV, hold it firmly from the bottom. Place your palm directly under the panel.
- Place your palm directly underneath, but do not squeeze the panel's speaker grill area.



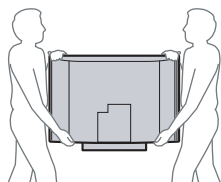
- When carrying the TV, to avoid pinching your hands or fingers do not put your hands between the TV and stand, or hold the bottom corner of the TV.



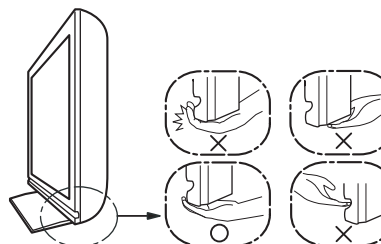
POUR TRANSPORTER LE TÉLÉVISEUR

Assurez-vous de suivre ces consignes pour éviter de laisser tomber le téléviseur et de provoquer des blessures graves :

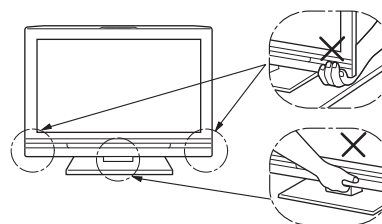
- Avant de transporter le téléviseur, débranchez tous les câbles.
- Le transport du téléviseur doit être effectué par au moins deux personnes.
- Lorsque vous transportez le téléviseur, ne le soumettez pas à des chocs ou vibrations, ni à une force excessive.
- Lorsque vous le transportez, placez vos mains tel que cela est illustré et tenez solidement l'appareil. N'appliquez pas de pression sur l'écran ACL.



- Lorsque vous levez ou déplacez le téléviseur, assurez-vous de tenir solidement de la base. Placez la paume des mains directement sous le panneau.
- Positionnez votre paume directement sous l'appareil et veillez à ne pas exercer de pression contre la grille des haut-parleurs du panneau.



- Quand porter la TV, pour éviter de pincer vos mains ou doigts ne mettez pas vos mains entre la TV et le stand, ou tenez le coin inférieur de la TV.



SAFETY-RELATED COMPONENT WARNING

There are critical components used in LCD color TVs that are important for safety. These components are identified with shading and \triangle mark on the schematic diagrams and the electrical parts list. It is essential that these critical parts be replaced only with the part number specified in the electrical parts list to prevent electric shock, fire, or other hazard.

NOTE: Do not modify the original design without obtaining written permission from the manufacturer or you will void the original parts and labor guarantee.

USE CAUTION WHEN HANDLING THE LCD PANEL

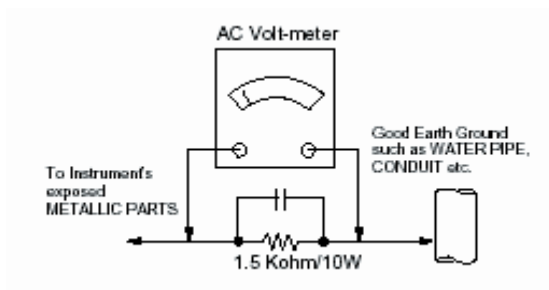
When repairing the LCD panel, be sure you are grounded by using a wrist band.

When installing the LCD panel on a wall, the LCD panel must be secured using the 4 mounting holes on the rear cover.

To avoid damaging the LCD panel:

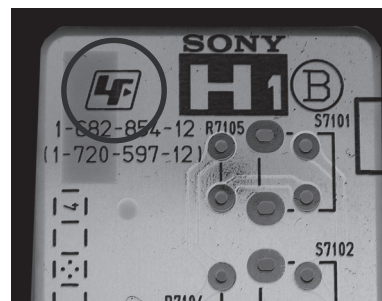
- do not press on the panel or frame edge to avoid the risk of electric shock.
- do not scratch or press on the panel with any sharp objects.
- do not leave the module in high temperatures or in areas of high humidity for an extended period of time.
- do not expose the LCD panel to direct sunlight.
- avoid contact with water. It may cause a short circuit within the module.
- disconnect the AC adapter when replacing the backlight (CCFL) or inverter circuit.
(High voltage occurs at the inverter circuit at 650Vrms.)
- always clean the LCD panel with a soft cloth material.
- use care when handling the wires or connectors of the inverter circuit. Damaging the wires may cause a short.
- protect the panel from ESD to avoid damaging the electronic circuit (C-MOS).

LEAKAGE CURRENT HOT CHECK CIRCUIT



example 1

The circuit boards used in these models have been processed using Lead Free Solder. The boards are identified by the LF logo located close to the board designation e.g. H1 etc [see example]. The servicing of these boards requires special precautions to be taken as outlined below.



It is strongly recommended to use Lead Free Solder material in order to guarantee optimal quality of new solder joints. Lead Free Solder is available under the following part numbers :

Part number	Diameter	Remarks
7-640-005-19	0.3mm	0.25Kg
7-640-005-20	0.4mm	0.50Kg
7-640-005-21	0.5mm	0.50Kg
7-640-005-22	0.6mm	0.25Kg
7-640-005-23	0.8mm	1.00Kg
7-640-005-24	1.0mm	1.00Kg
7-640-005-25	1.2mm	1.00Kg
7-640-005-26	1.6mm	1.00Kg

Due to the higher melting point of Lead Free Solder the soldering iron tip temperature needs to be set to 370 degrees centigrade. This requires soldering equipment capable of accurate temperature control coupled with a good heat recovery characteristics.

For more information on the use of Lead Free Solder, please refer to <http://www.sony-training.com>

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble- light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

Leakage Test

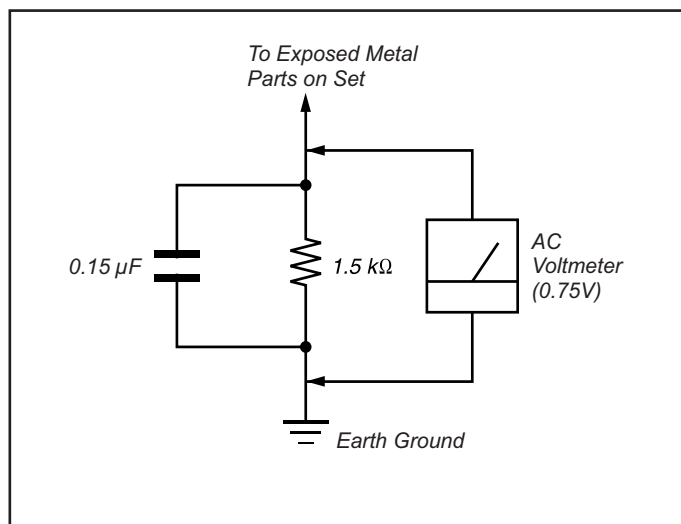


Figure A. Using an AC voltmeter to check AC leakage.

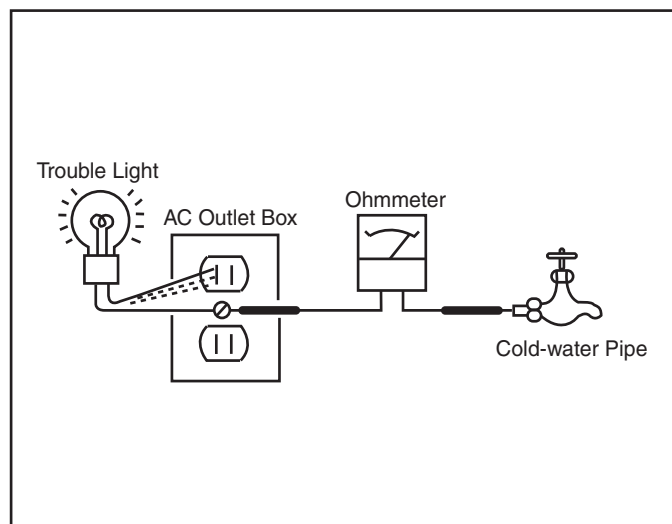


Figure B. Checking for earth ground.

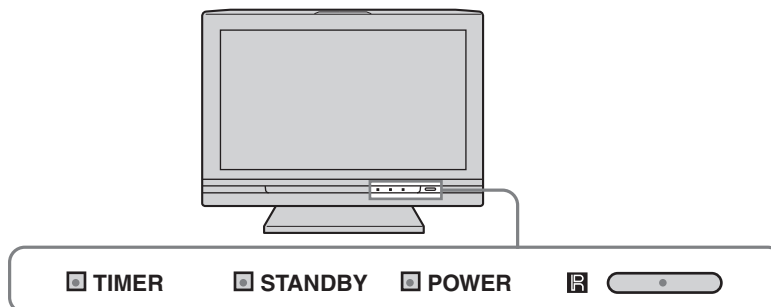
SELF-DIAGNOSTIC FUNCTION

Self Diagnosis
Supported model

IMPORTANT:

The units in this manual DO NOT contain a self-diagnostic function. If an error occurs, the TV will not stay on. It is our recommendation that if a repair is required for these sets, the technician should bring both the A Board and the G Board to the customer location.

Control Buttons



Description of LED Indicators

The units in this manual DO NOT contain a self-diagnostic function.

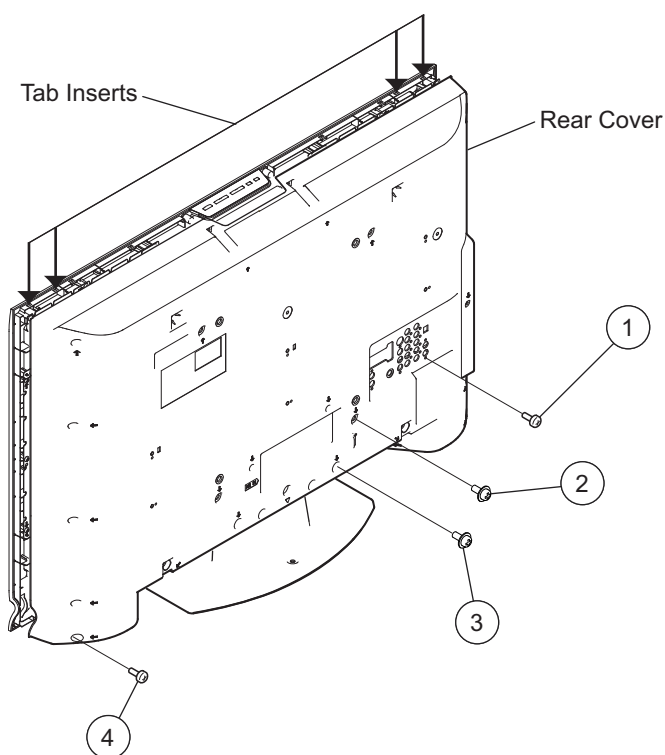
SECTION 1: DISASSEMBLY

1-1. REAR COVER REMOVAL

NOTE: The Rear Cover of both models is attached to the Bezel Assembly with 4 small tabs.

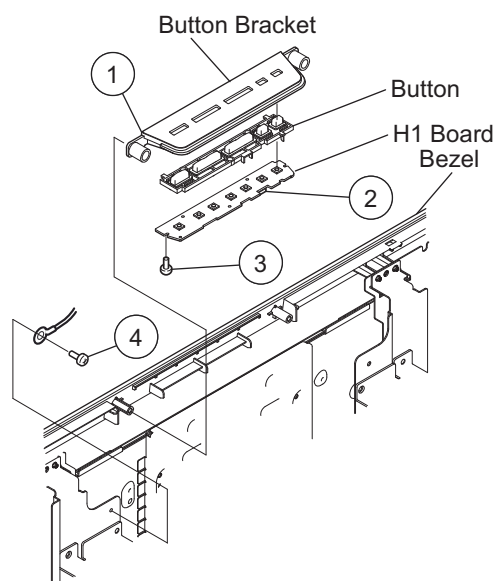
Use caution when removing the Rear Cover not to damage these tabs.

- ① Remove 6 screws from terminals, +BVTP 3X12 TYPE2 IT-3
- ② Remove 3 screws, +PSW M4X8 (KDL-32L4000 ONLY)
Remove 4 screws, +PSW M5X8 (KDL-37L4000 ONLY)
- ③ Remove 2 screws, +PSW M5X12 (KDL-37L4000 ONLY)
- ④ Remove 17 screws +BVTP2 4X16(KDL-32L4000 ONLY),
18 screws +BVTP2 4X16 (KDL-37L4000 ONLY)



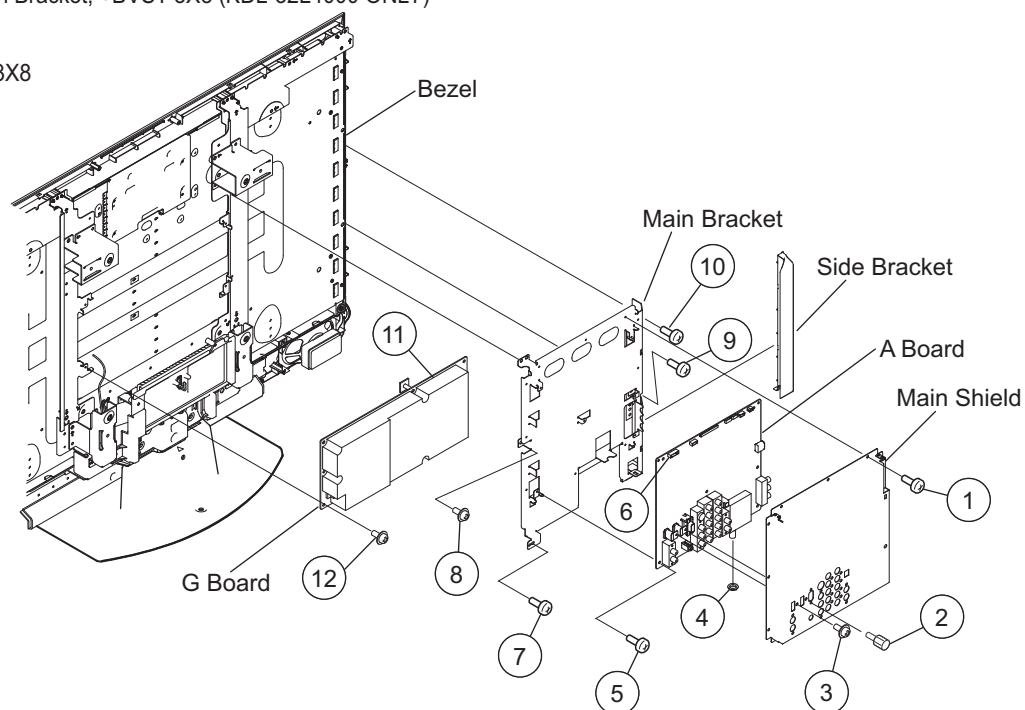
1-2. H1 BOARD REMOVAL

- ① Remove from bezel
- ② Disconnect 1 connector
- ③ Remove 5 screws, +B 2X6 TYPE 2
- ④ Remove 1 screw, +PSW M3X5 and release Earth Connector (KDL-32L4000 ONLY)
Remove 1 screw, +BVST 3X8 and release Earth Connector (KDL-37L4000 ONLY)



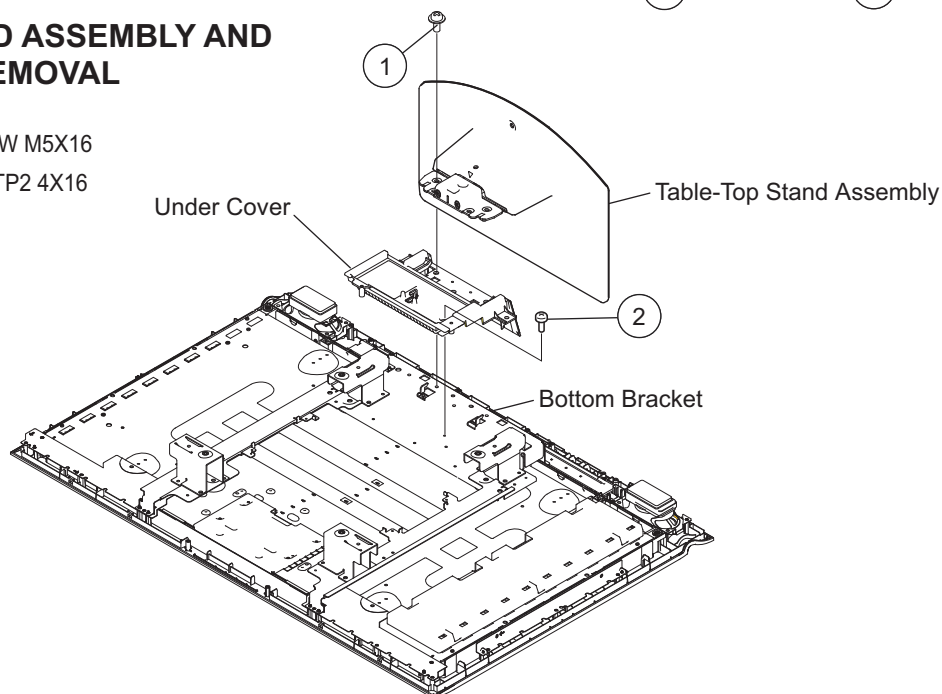
1-3. A BOARD AND G BOARD REMOVAL

- ① Remove 4 screws +BVST 3X8 (KDL-32L4000 ONLY),
12 screws +BVST 3X8 (KDL-37L4000 ONLY),
- ② Remove 2 screws, 4/40 UNC (HEX)
- ③ Remove 2 screws, +PSW M3X5
- ④ Remove Hexagon Nut from tuner
- ⑤ Remove 6 screws, +BVST 3X8
- ⑥ Disconnect 7 connectors
- ⑦ Remove 3 screws from Main Bracket, +BVST 3X8 (KDL-37L4000 ONLY)
- ⑧ Remove 2 screws from Main Bracket, +PSW M3X5 (KDL-32L4000 ONLY)
- ⑨ Remove 1 screw, +BVTP2 4X16
- ⑩ Remove 2 screws from Main Bracket, +BVST 3X8 (KDL-32L4000 ONLY)
- ⑪ Disconnect 4 connectors
- ⑫ Remove 4 screws, +BVST 3X8



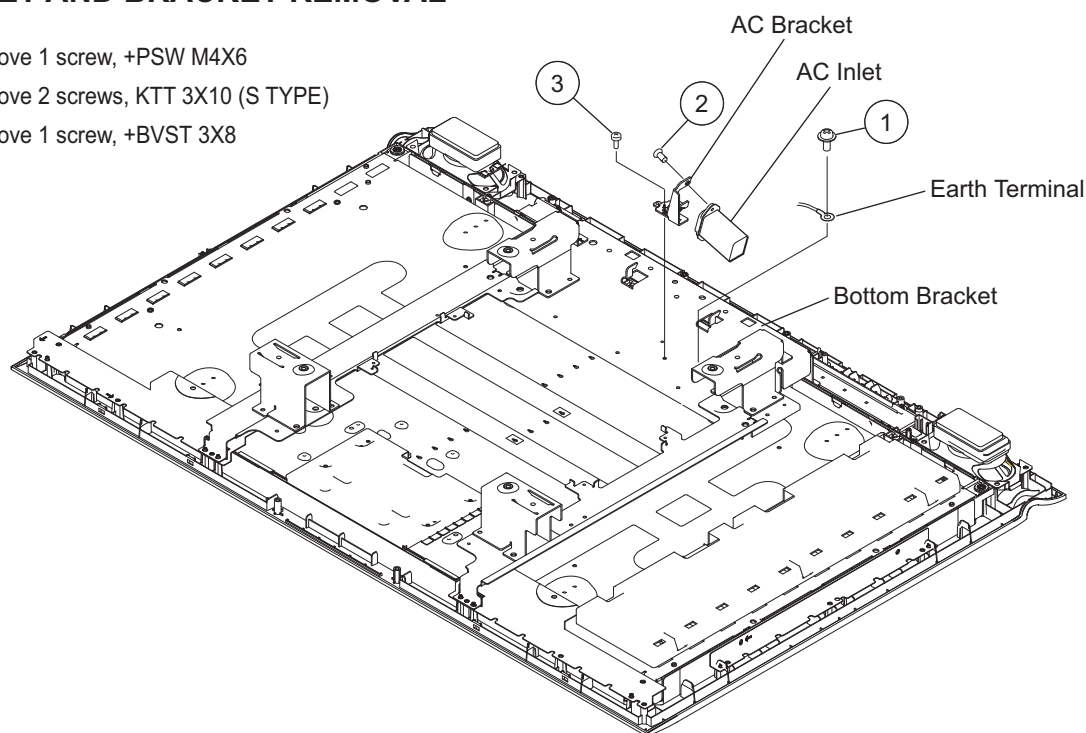
1-4. TABLE-TOP STAND ASSEMBLY AND UNDER COVER REMOVAL

- ① Remove 3 screws, +PSW M5X16
- ② Remove 1 screw, +BVTP2 4X16



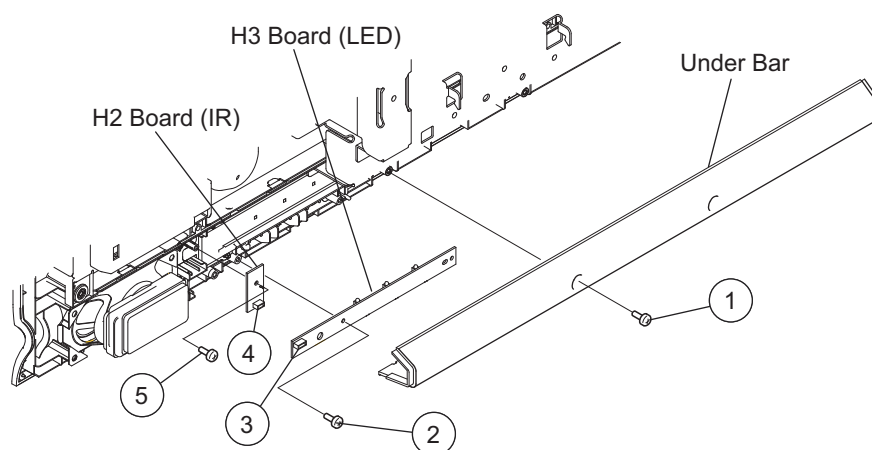
1-5. AC INLET AND BRACKET REMOVAL

- ① Remove 1 screw, +PSW M4X6
- ② Remove 2 screws, KTT 3X10 (S TYPE)
- ③ Remove 1 screw, +BVST 3X8



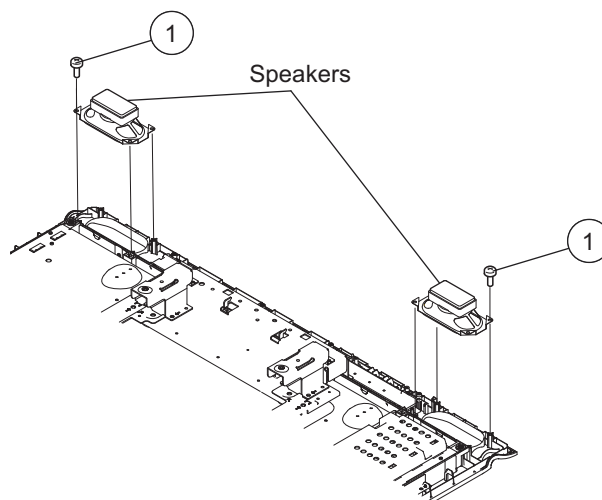
1-6 UNDER BAR, H2 BOARD (IR), H3 BOARD (LED) REMOVAL

- ① Remove 2 screws, +BVTP2 4X16
- ② Remove 2 screws, +BVTP 3X8 TYPE2 IT-3
- ③ Disconnect 1 connector
- ④ Disconnect 1 connector
- ⑤ Remove 1 screws, +BVTP 3X8 TYPE2 IT-3



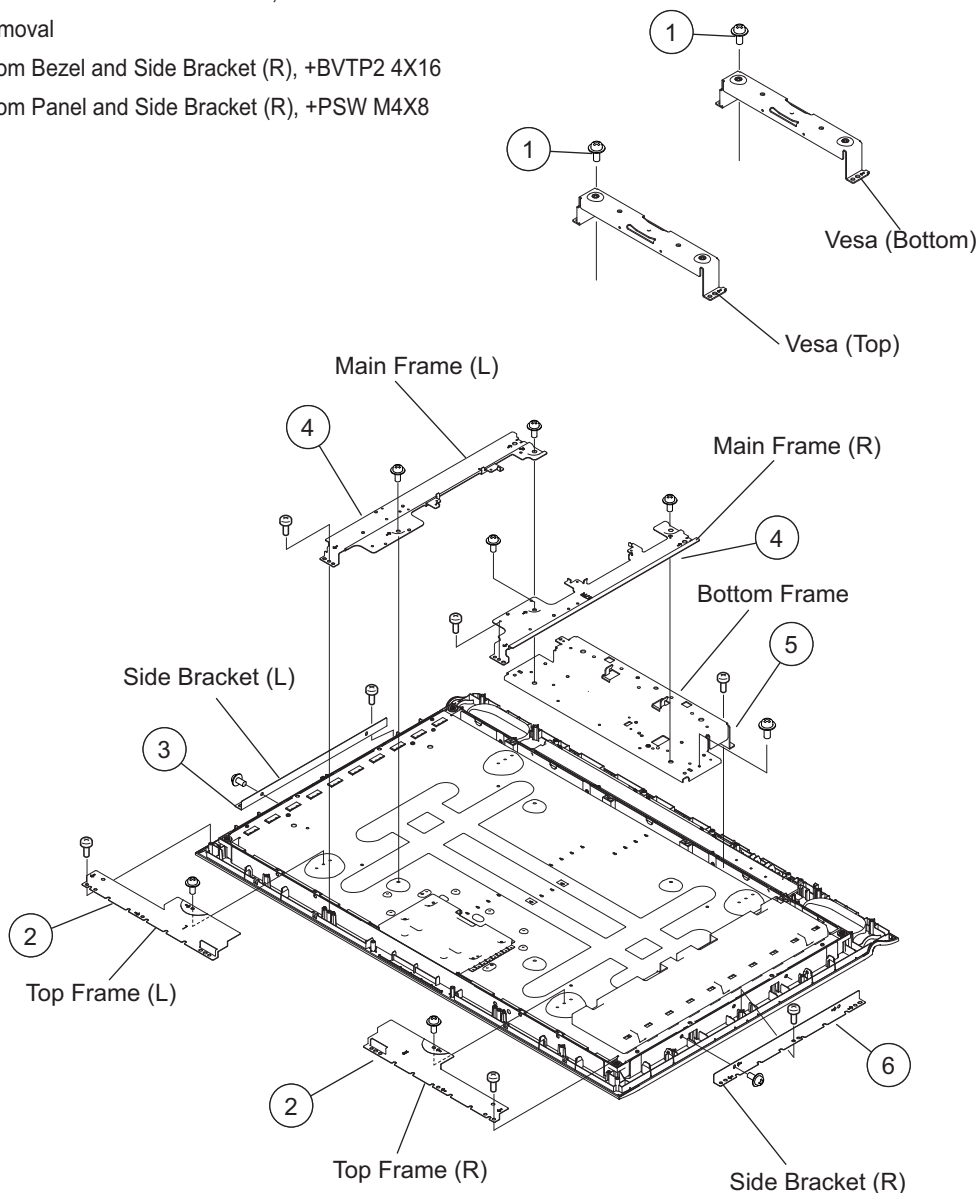
1-7. LOUDSPEAKERS REMOVAL

- ① Remove 3 screws from each loudspeaker, +BVTP2 4X16



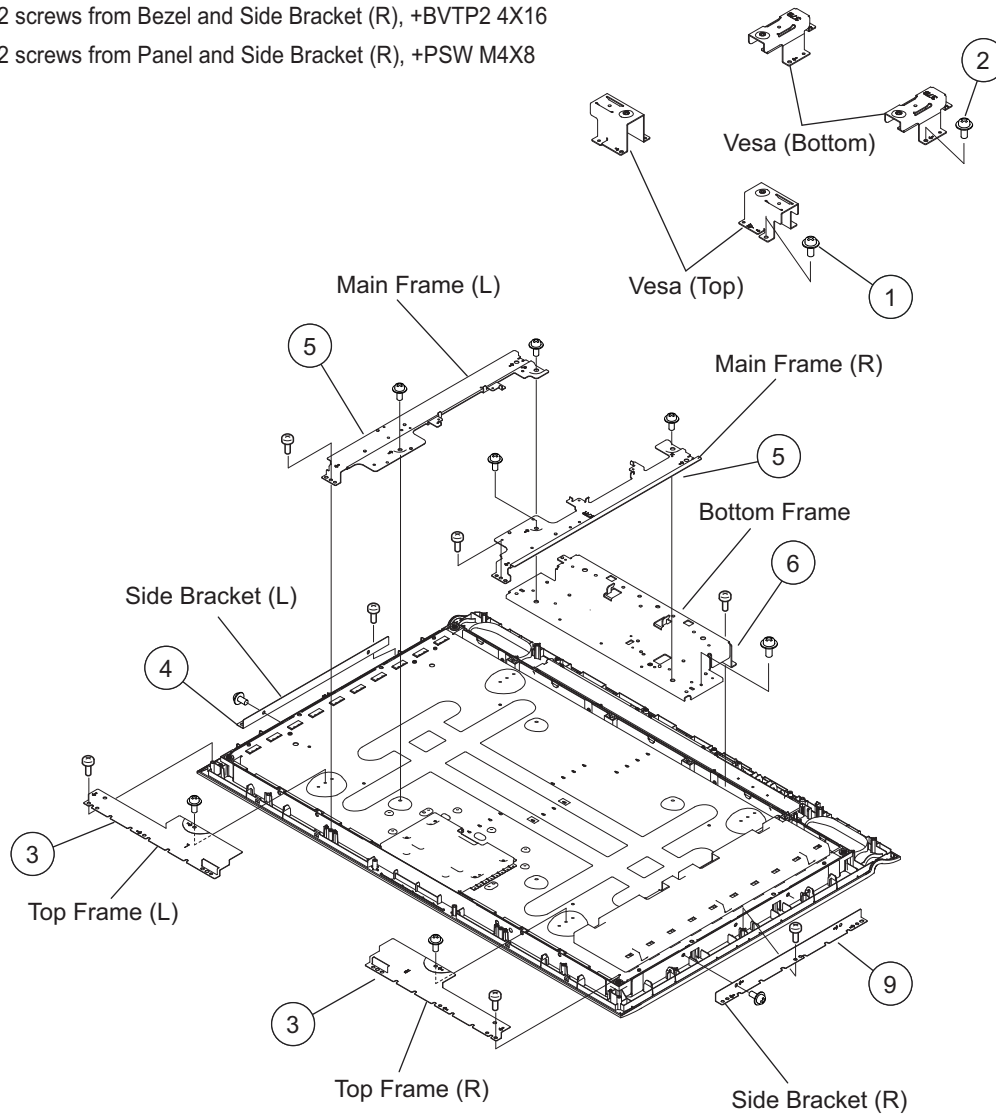
1-8. STRUCTURAL FRAMES AND BRACKETS REMOVAL (KDL-32L4000 ONLY)

- ① Remove 4 screws from both Top Vesa Bracket and Bottom Vesa Bracket, +PSW M4X8
- ② Top Frame (L) and Top Frame (R) Removal
Remove 2 screws from Bezel and each Top Frames, +BVTP2 4X16
Remove 1 screw from Panel and each Top Frames, +PSW M4X6
- ③ Side Bracket (L) Removal
Remove 2 screws from Bezel and Side Bracket (L), +BVTP2 4X16
Remove 2 screws from Panel and Side Bracket (L), +PSW M4X8
- ④ Main Frame (L) and Main Frame (R) Removal
Remove 1 screw from Bezel and each Main Frames, +BVTP2 4X16
Remove 1 screw from Panel and each 32-Main Frames, +PSW M4X6
Remove 2 screws from Bottom Frame and each 32-Main Frames, +PSW M4X8
- ⑤ Bottom Frame Removal
Remove 1 screw from Bezel and Bottom Frame, +BVTP2 4X16
Remove 4 screws from Panel and Bottom Frame, +PSW M4X6
- ⑥ Side Bracket (R) Removal
Remove 3 screws from Bezel and Side Bracket (R), +BVTP2 4X16
Remove 2 screws from Panel and Side Bracket (R), +PSW M4X8



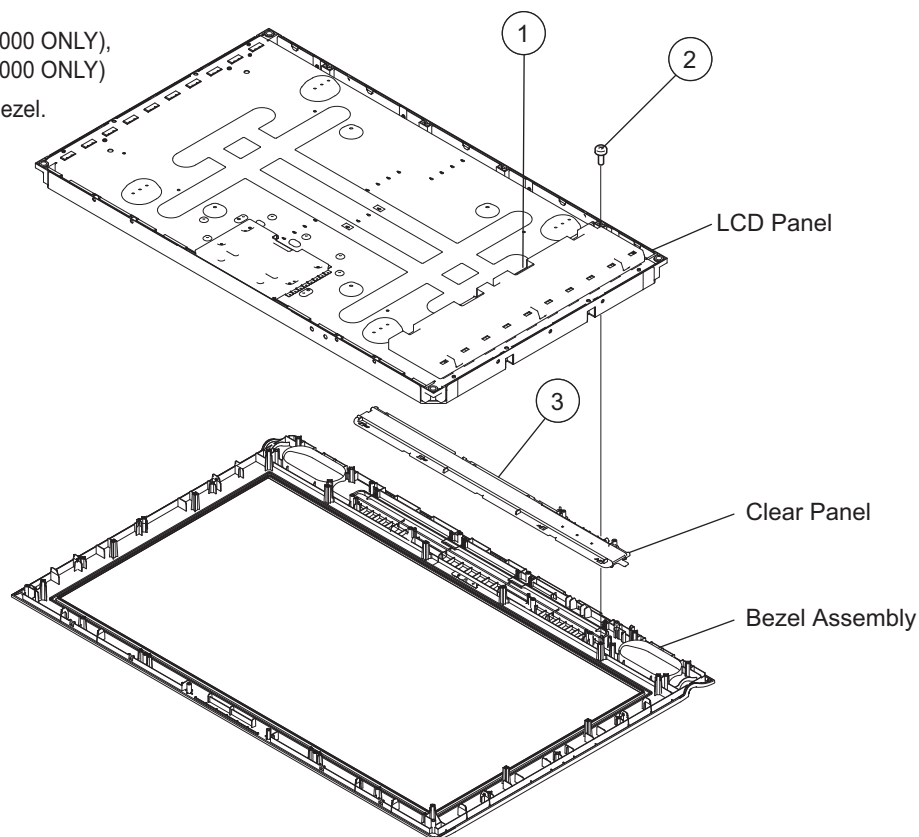
1-9. STRUCTURAL FRAMES AND BRACKETS REMOVAL (KDL-37L4000 ONLY)

- ① Remove 4 screws from Top Vesa Brackets, +PSW M4X8
- ② Remove 6 screws from Bottom Vesa Brackets, +PSW M4X8
- ③ Top Frame (L) and Top Frame (R) Removal
Remove 2 screws from Bezel and each Top Frames, +BVTP2 4X16
Remove 1 screw from Panel and each Top Frames, +PSW M4X8
- ④ Side Bracket (L) Removal
Remove 2 screws from Bezel and Side Bracket (L), +BVTP2 4X16
Remove 2 screws from Panel and Side Bracket (L), +PSW M4X8
- ⑤ Main Frame (L) and Main Frame (R) Removal
Remove 1 screw from Bezel and each Main Frames, +BVTP2 4X16
Remove 3 screws from each 37-Main Frames, +PSW 5X8
- ⑥ Bottom Frame Removal
Remove 4 screws from Bezel and Bottom Frame, +BVTP2 4X16
- ⑦ Side Bracket (R) Removal
Remove 2 screws from Bezel and Side Bracket (R), +BVTP2 4X16
Remove 2 screws from Panel and Side Bracket (R), +PSW M4X8



1-10. LCD PANEL REMOVAL

- ① Disconnect 1 connector.
- ② Remove ,
2 screws +BVTP2 4X16 (KDL-32L4000 ONLY),
3 screws +BVTP2 4X16 (KDL-37L4000 ONLY)
- ③ Release hooks and slide out from Bezel.



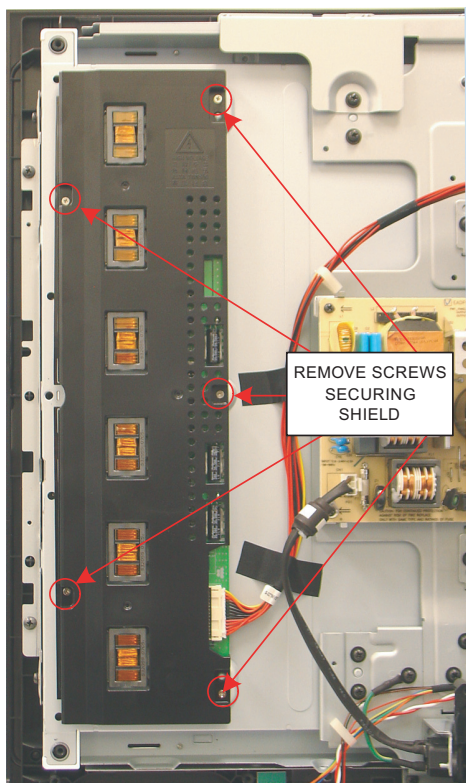
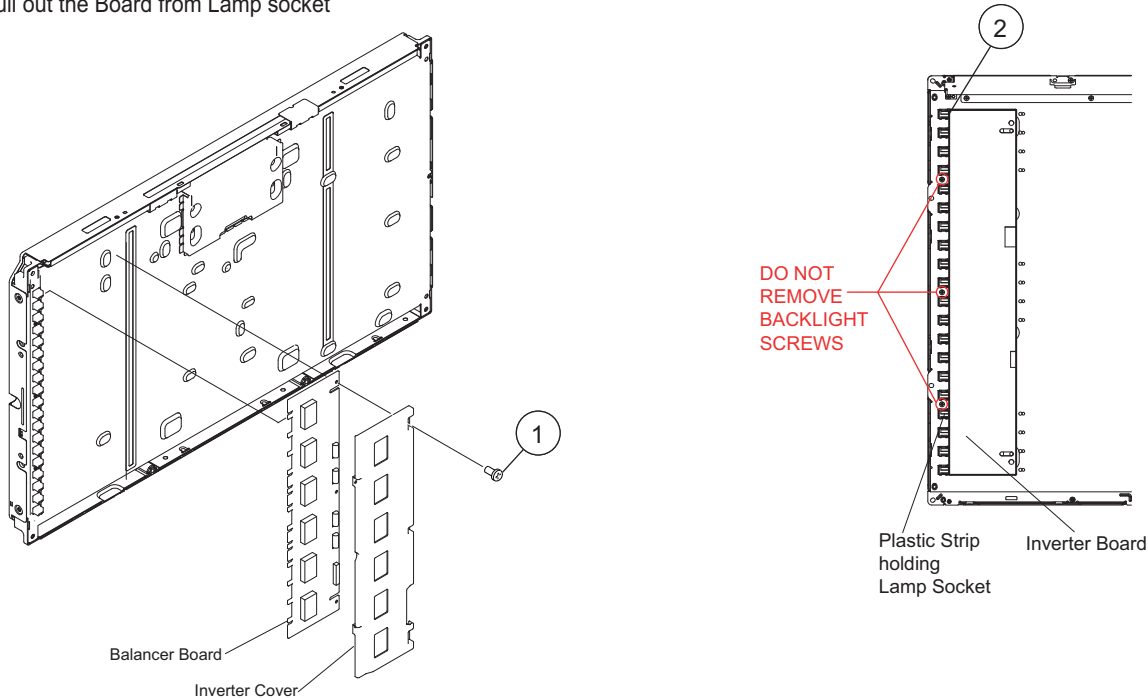
1-10-1.CLEANING THE LCD PANEL

CAUTION: When cleaning the TV, be sure to unplug the power cord to avoid any chance of electric shock.

- ① Clean the cabinet of the TV with a dry soft cloth.
- ② Wipe the LCD screen gently with a soft cloth.
 - ➔ Stubborn stains may be removed with a cloth slightly moistened with a solution of mild soap and warm water.
 - ➔ If using a chemically pretreated cloth, please follow the instruction provided on the package.
 - ➔ Never use strong solvents such as a thinner, alcohol or benzine for cleaning.
 - ➔ Periodic vacuuming of the ventilation openings is recommended to ensure to proper ventilation.

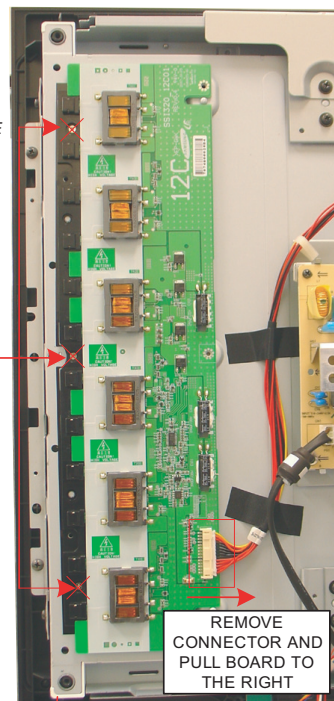
1-11. BALANCER (MT INVERTER) BOARD REMOVAL (KDL-32L4000 ONLY)

- ① Remove 5 screws from Board Cover.
- ② Pull out the Board from Lamp socket



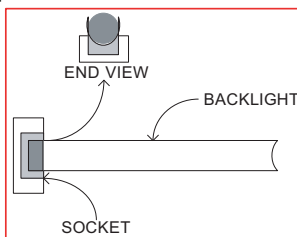
SHIELD REMOVAL

WARNING!
NEVER REMOVE THE SCREWS SECURING THE PLASTIC STRIP HOLDING THE LAMP SOCKETS. DAMAGE TO THE BACKLIGHT TUBES WILL OCCUR!



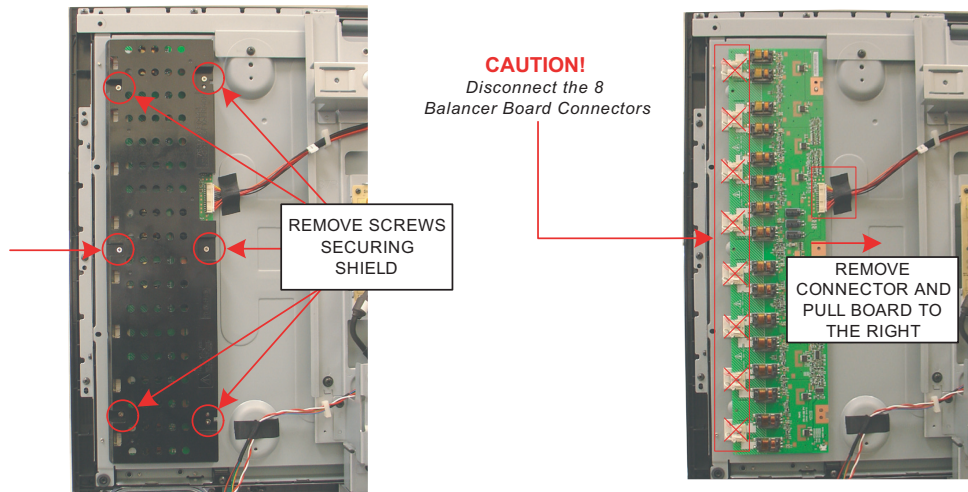
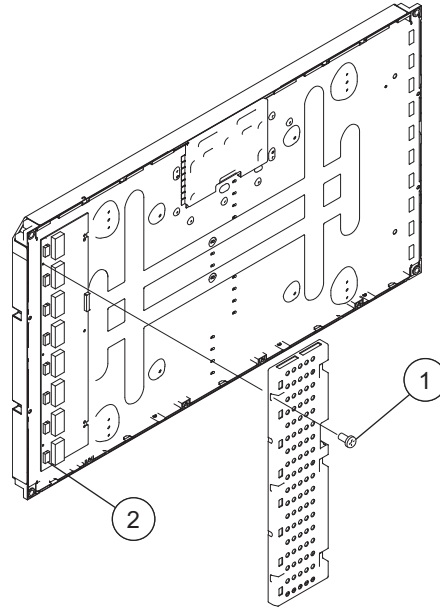
INVERTER BOARD REMOVAL

Only remove the screws securing the inverter cover which may be metal or plastic. The remaining plastic strip contains sockets for the fluorescent backlights and should never be loosened. The backlights will pop out of the sockets and/or break the backlight requiring a LCD panel replacement. The example shown is a 32" model but applies to all models.



1-12. BALANCER (MT INVERTER) BOARD REMOVAL (KDL-37L4000 ONLY)

- ① Remove 6 screws from Board Cover
- ② Disconnect 8 balancer connectors

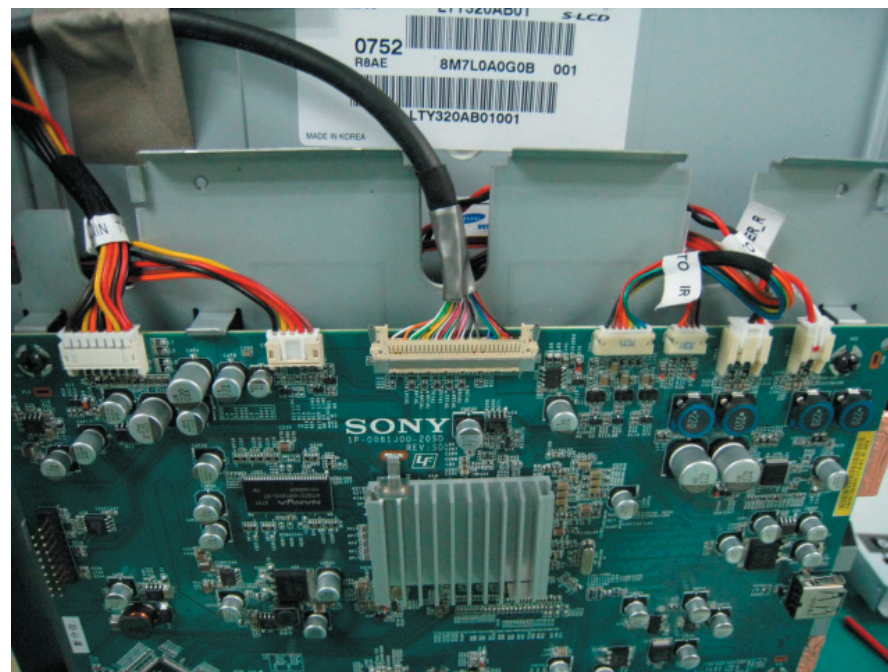
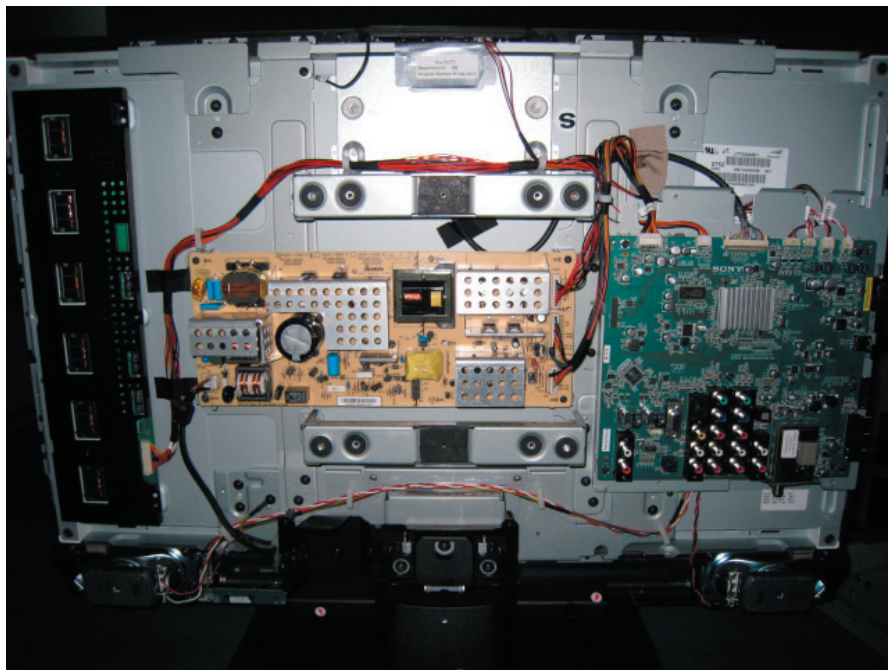


SHIELD REMOVAL

WIRE DRESSING

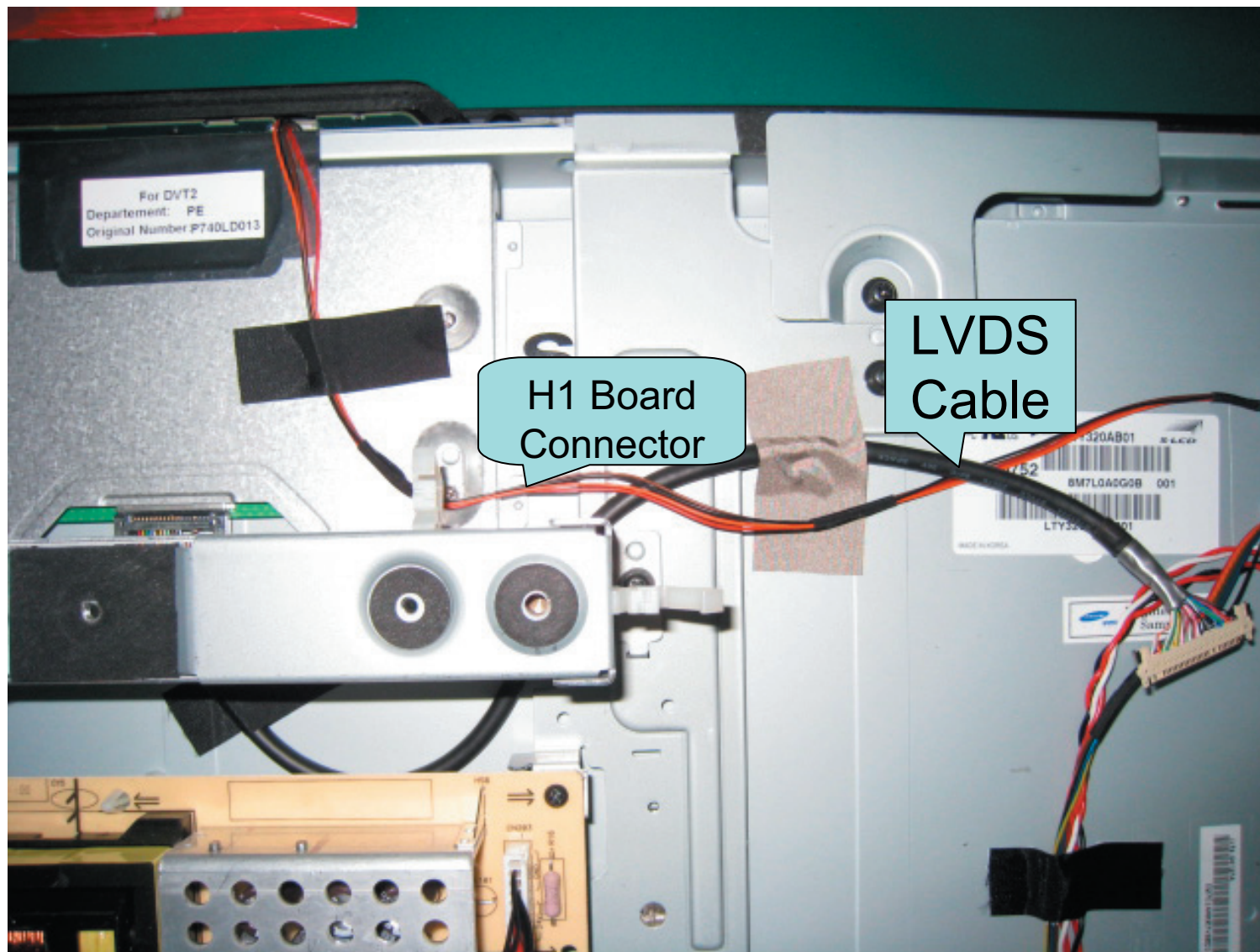
KDL-32L4000 ONLY

OVERALL VIEW



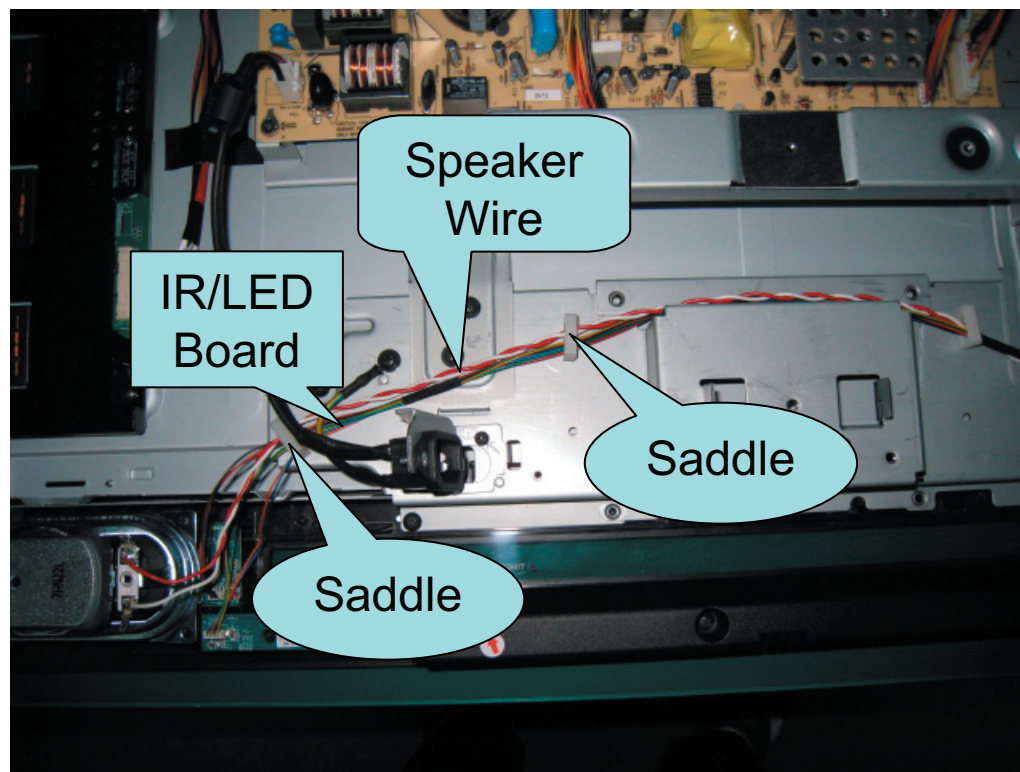
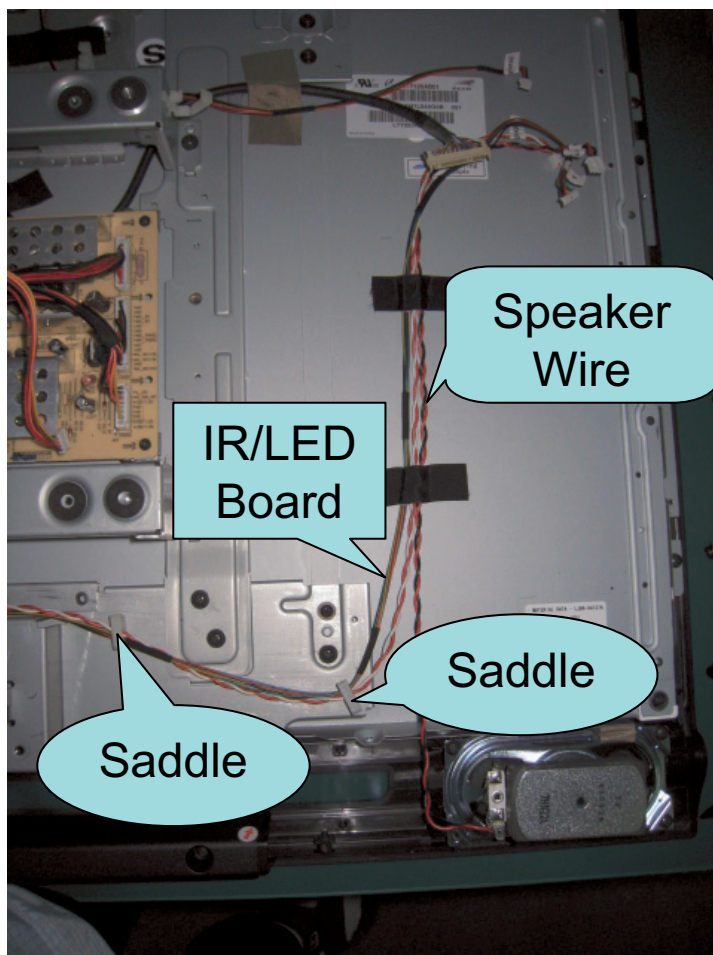
KDL-32L4000 ONLY

H1 BOARD AND LVDS CABLE



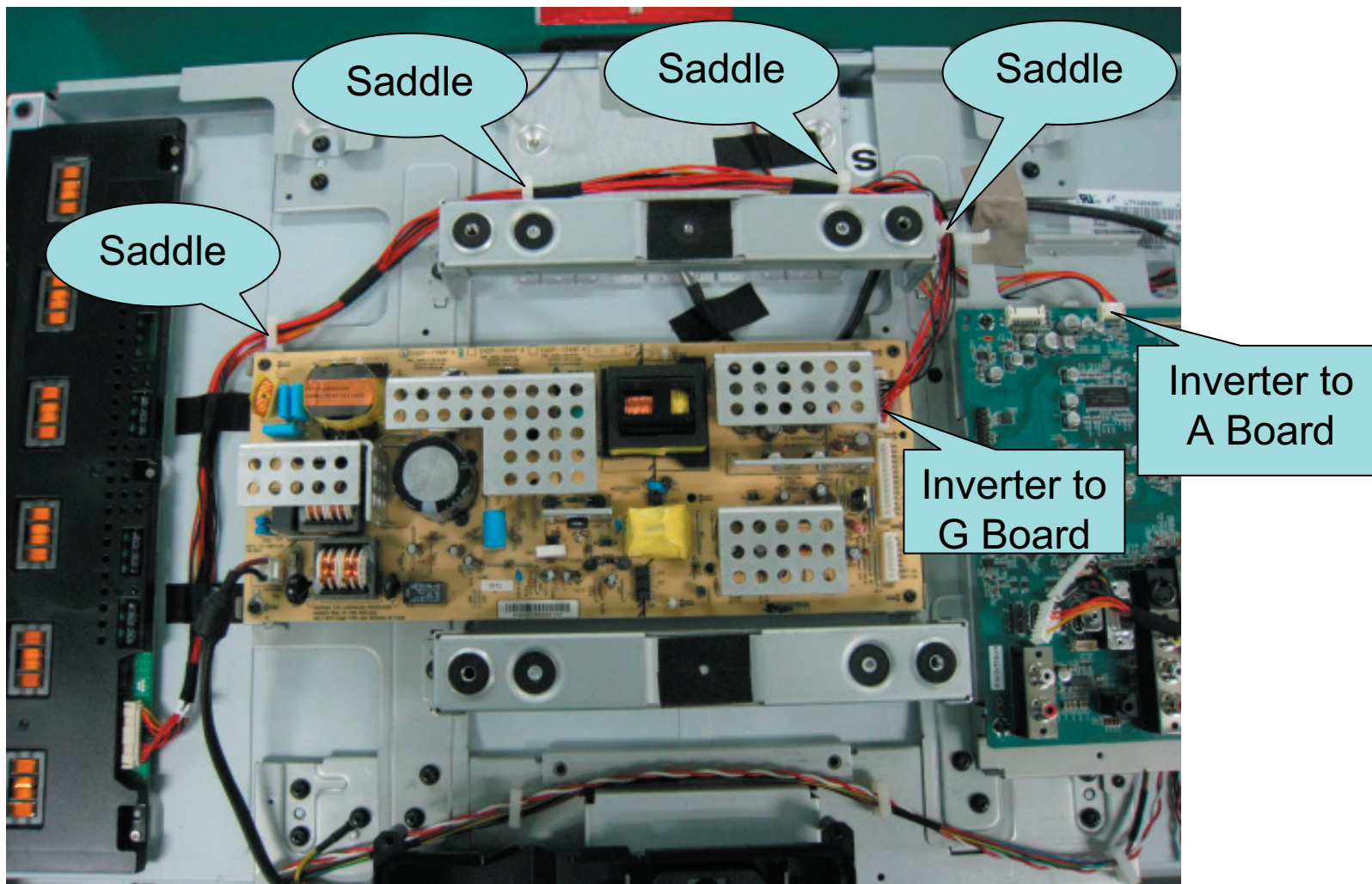
KDL-32L4000 ONLY

SPEAKER, H2 BOARD, AND H3 BOARD



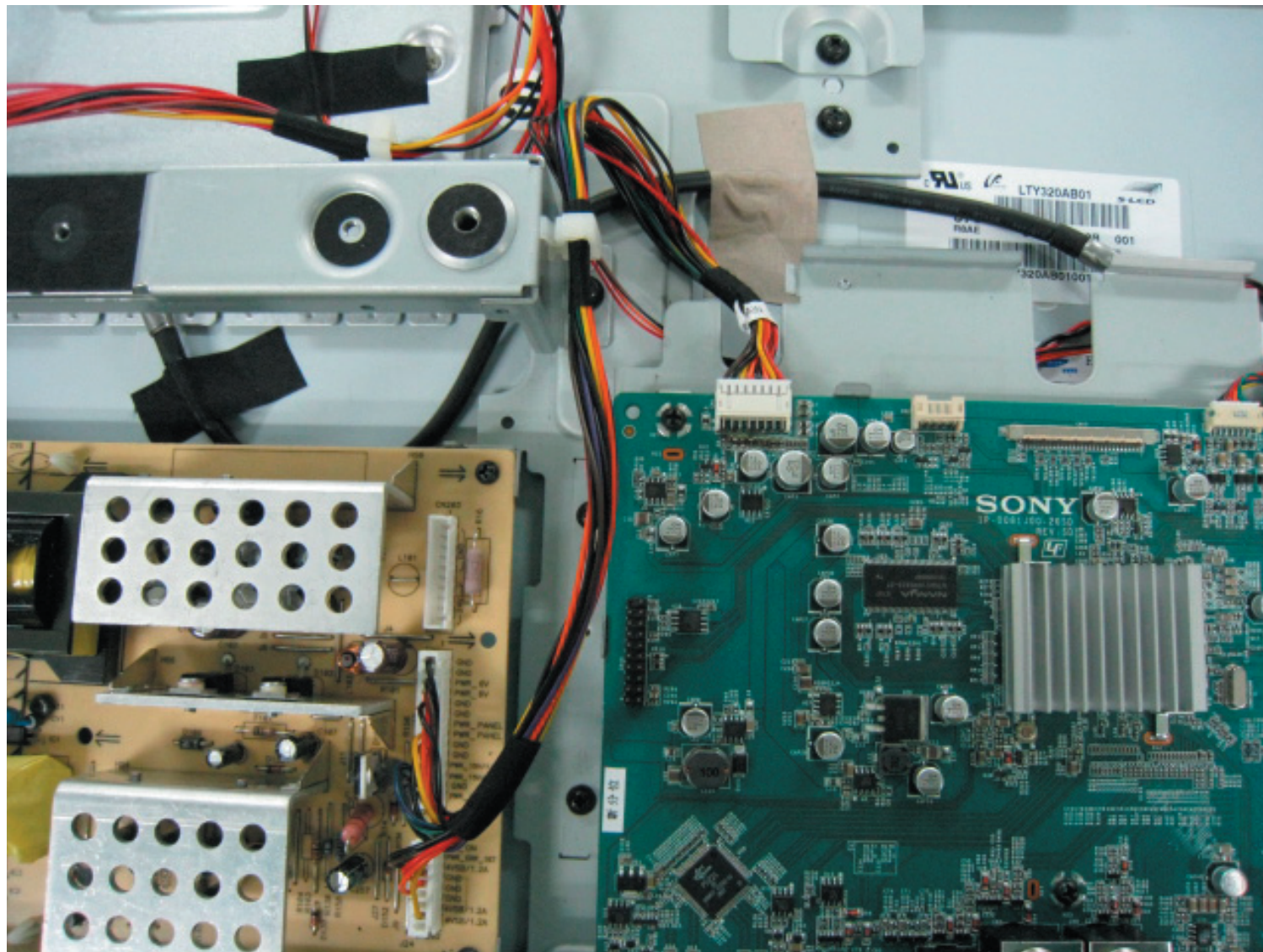
KDL-32L4000 ONLY

INVERTER BOARD TO A BOARD AND G BOARD

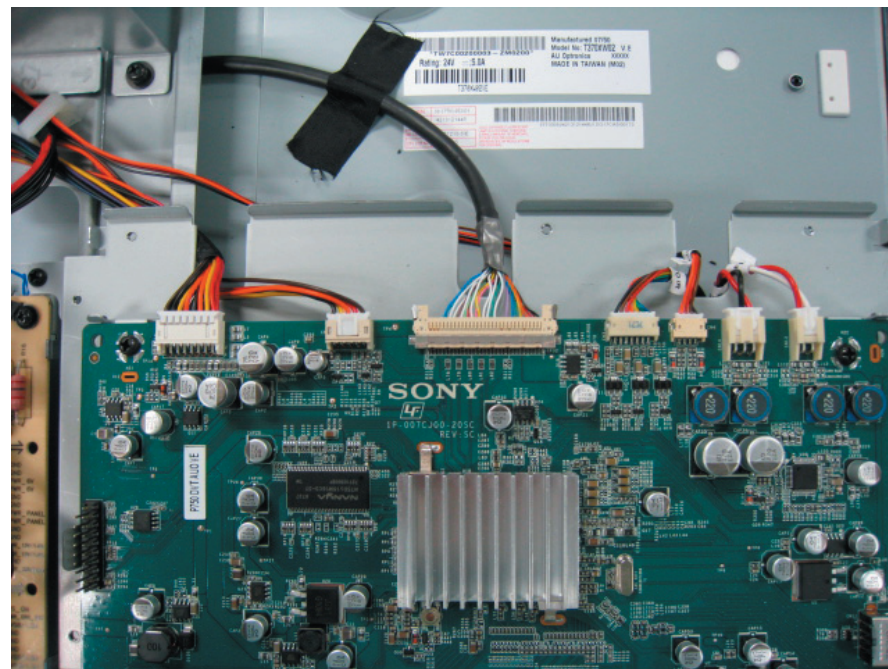
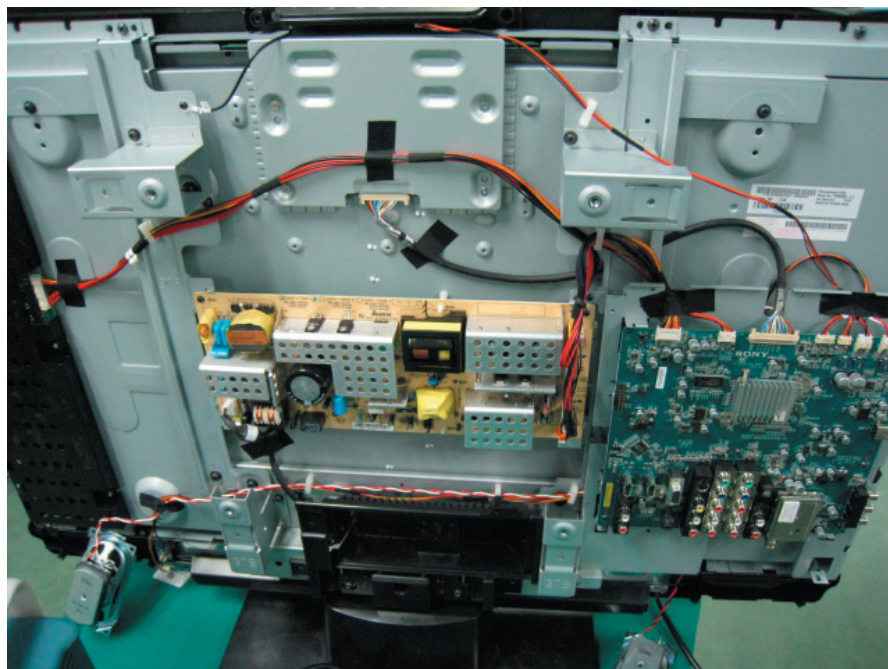


KDL-32L4000 ONLY

G BOARD TO A BOARD

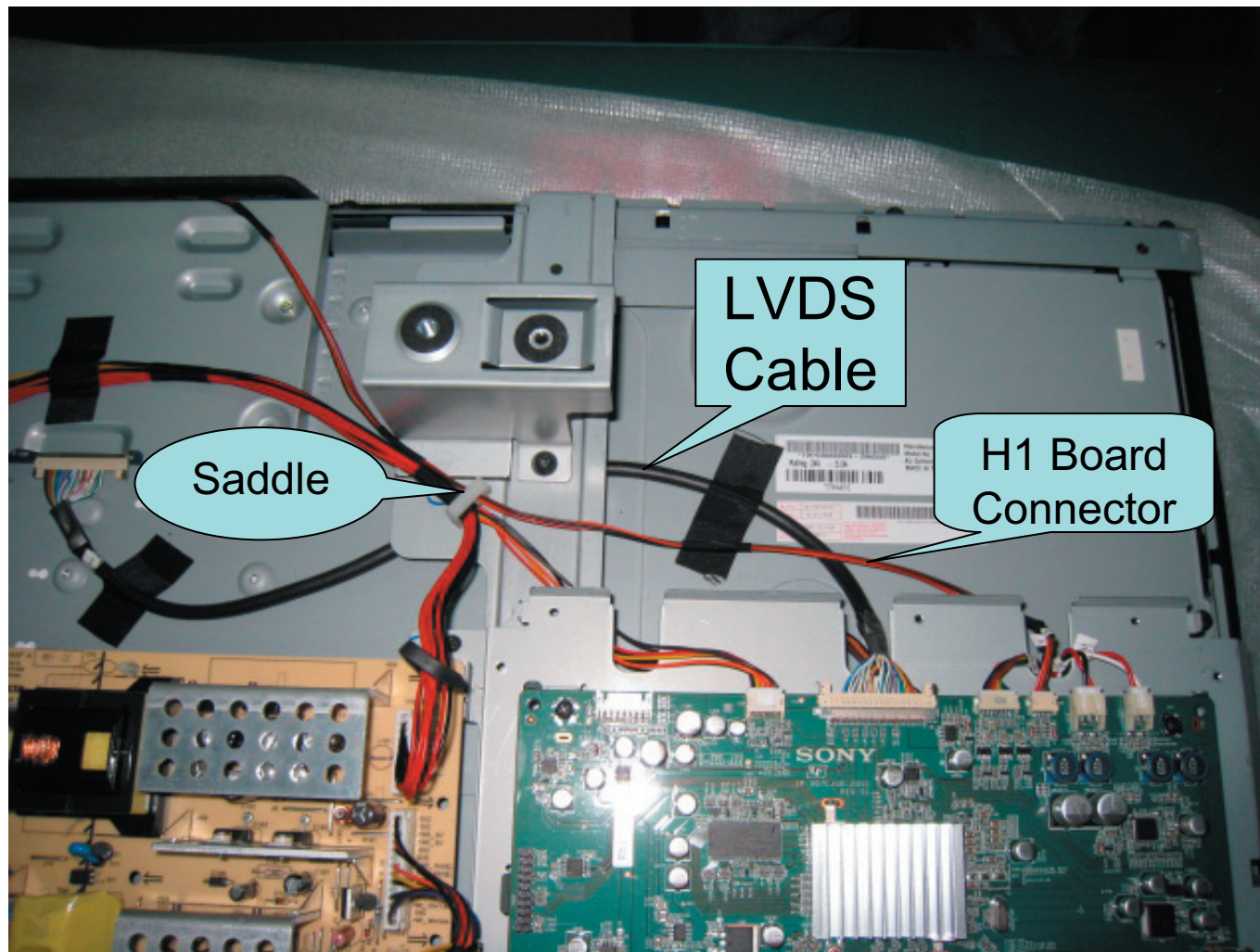


KDL-37L4000 ONLY
OVERALL VIEW



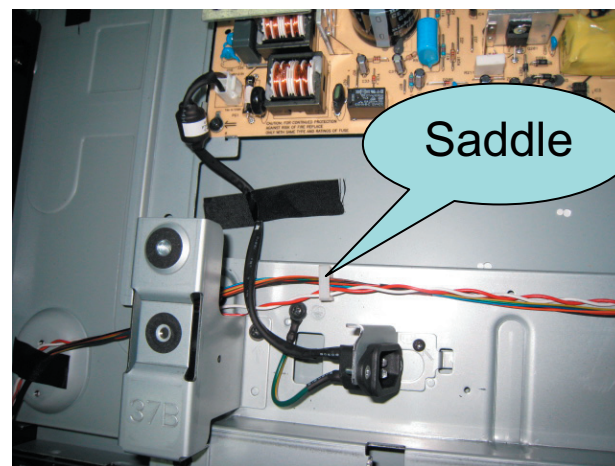
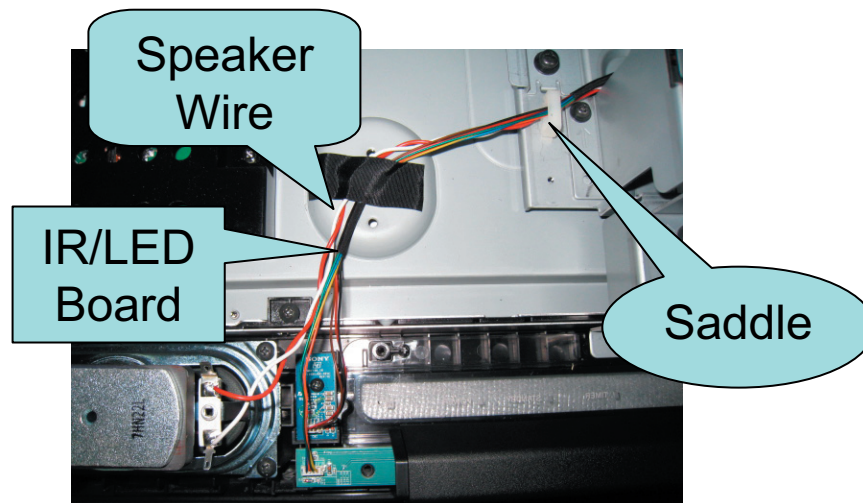
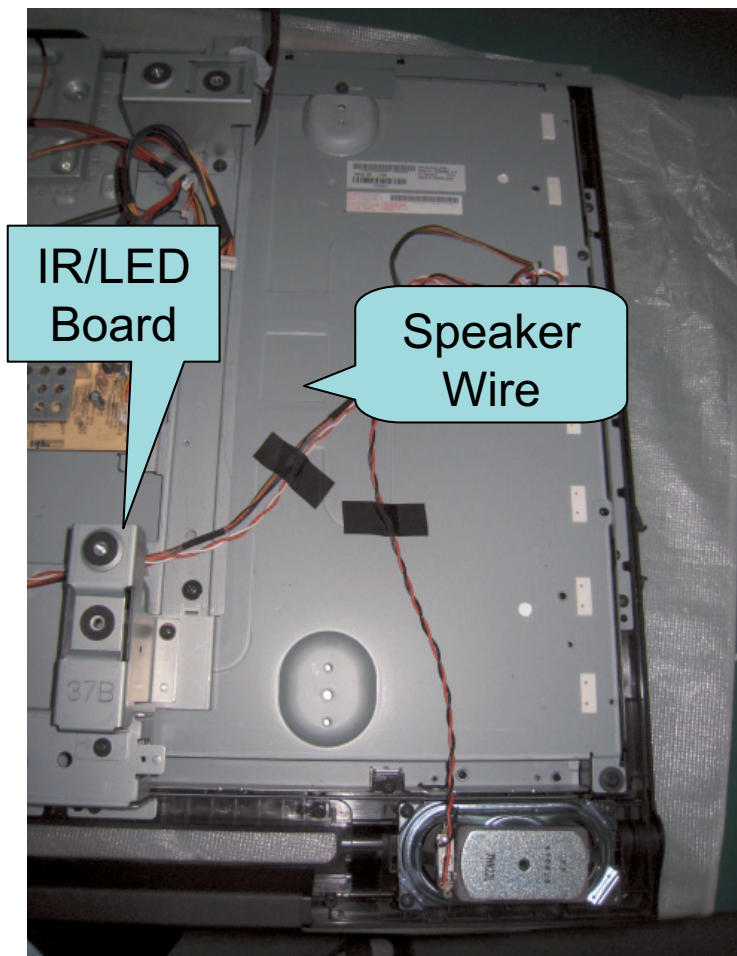
KDL-37L4000 ONLY

H1 BOARD AND LVDS CABLE



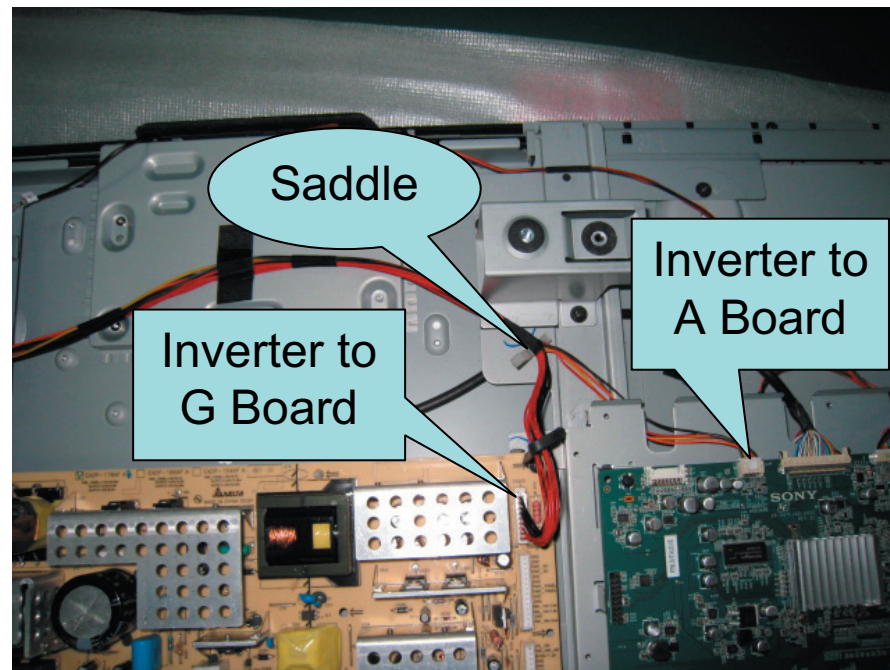
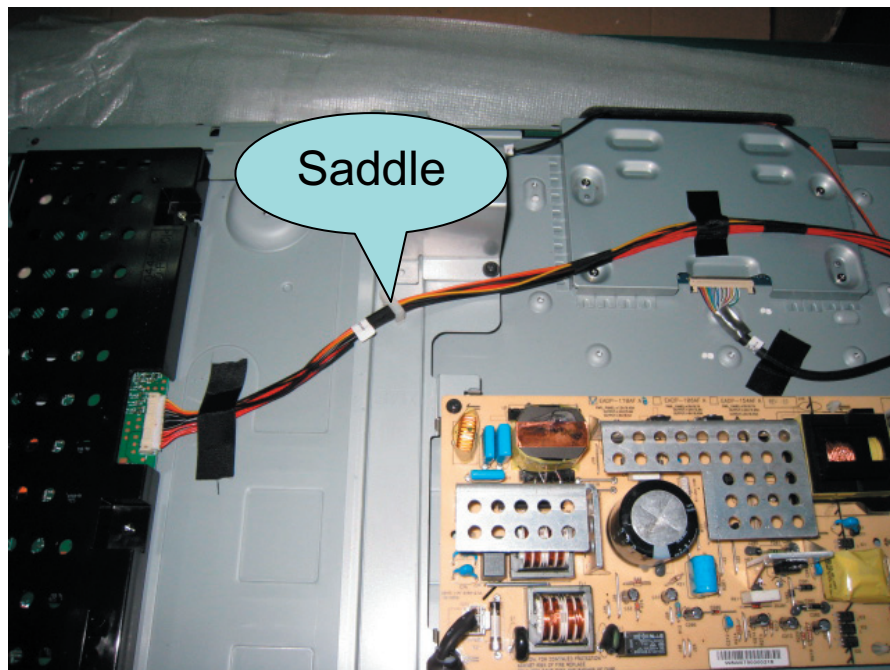
KDL-37L4000 ONLY

SPEAKER, H2 BOARD, AND H3 BOARD



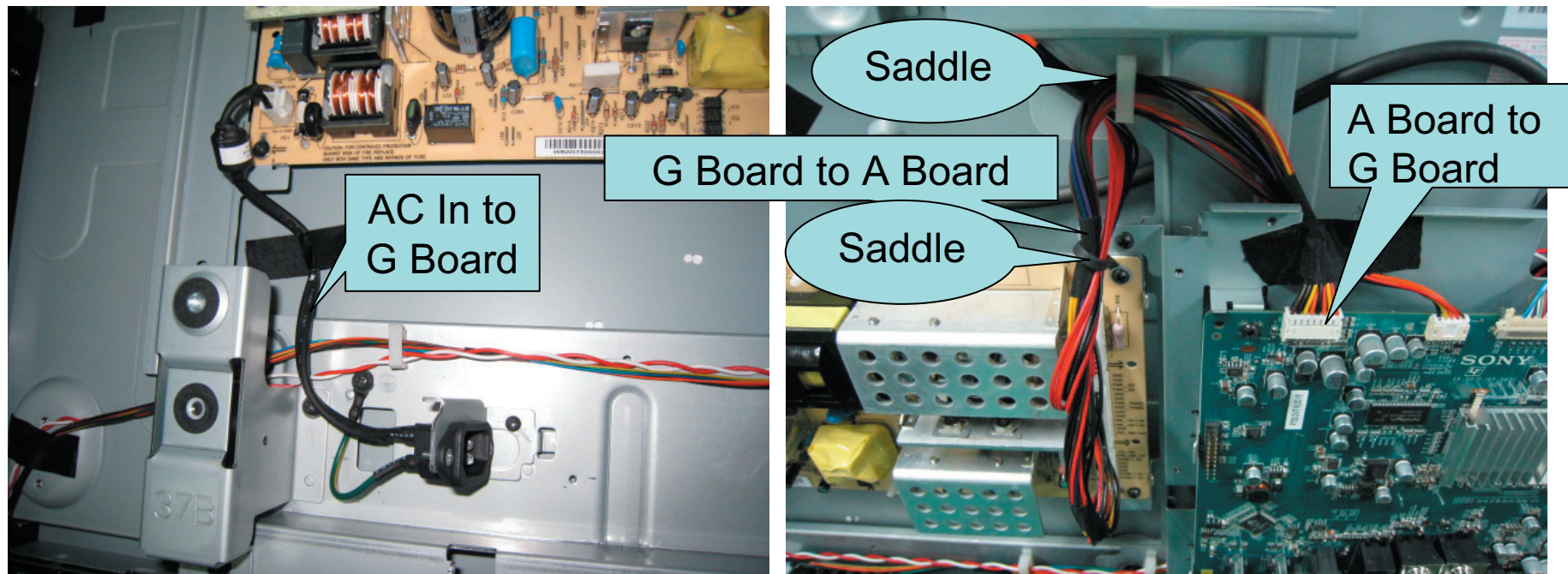
KDL-37L4000 ONLY

INVERTER BOARD TO A BOARD AND G BOARD



KDL-37L4000 ONLY

G BOARD TO A BOARD

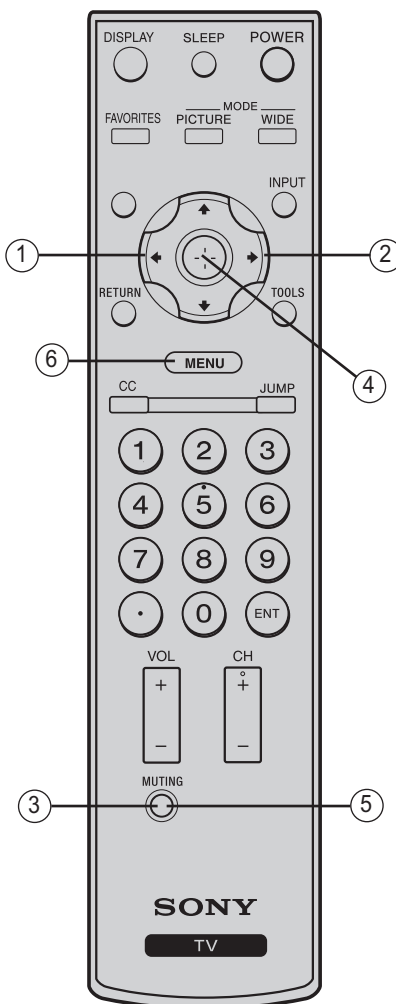
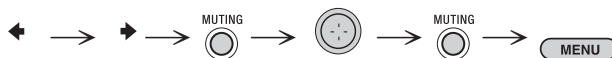


SECTION 2: SERVICE ADJUSTMENTS

2-1. ACCESSING SERVICE (FACTORY) MODE

Use the remote commander to access Service (Factory) mode after completing a repair to the TV set.

1. TV must be turned On (Power ON).
2. To display the service menu, quickly press the following buttons on the Remote Commander:




RM-YD025

2-2. REVIEWING SERVICE (FACTORY) MODE

All of the necessary adjustment are contained in the boards for these models, therefore the following information is for informational purposes.

		Factory Mode		
Change source between Video1, Video2, Component, PC, HDMI, & TV	—	Input Source	<[TV]>
Set "On" for White Balance adjust	—	White Balance	<[Off]>
		Internal Pattern	<[20]>
		Color Temp....	>>	
Set "On" for Aging mode start Set "Off" to end aging mode.	—	Aging Mode	<[Off]>
		ADC Calibration	>>	
		Auto Phase	<[Off]>
Reset to Factory Defaults	—	Factory Reset	<[Off]>
Reset TV to Factory Defaults without resetting Parental lock, Channel lists and other User settings.	—	EDED WP	<[Protection]>
		User Reset	<[Off]>
To scan preset channels from cable or antenna	—	Recall Preset Ch	<[Off]>
				[</>]Set[EXIT]Exit



To Exit Service Mode, press 

2-3. RESETTING TO FACTORY DEFAULTS AFTER BOARD REPLACEMENT

If you are replacing the A Board, the new A Board will be pre-programmed, therefore, a factory reset is not required. However, if you have the User Data from the customer you should reset the customer settings after replacing the board.

Use the instructions below if you were able to repair the A Board.

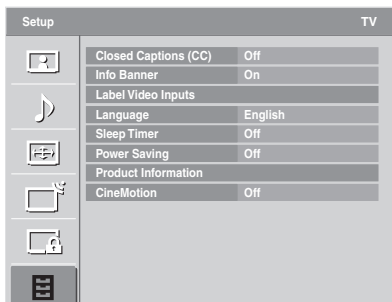
CAUTION: Resetting the TV to the Factory Defaults will *over-write all customer settings* including Parental Lock setting. Before performing this reset, contact the customer to determine what adjustments they have made.




1. TV must be in Service (Factory) Mode.
2. Press **↓** to select **Factory Reset**.
3. Press  to select **Yes**.
4. When the Reset is complete, the text changes to **No**.
5. To exit "service mode", press the  button

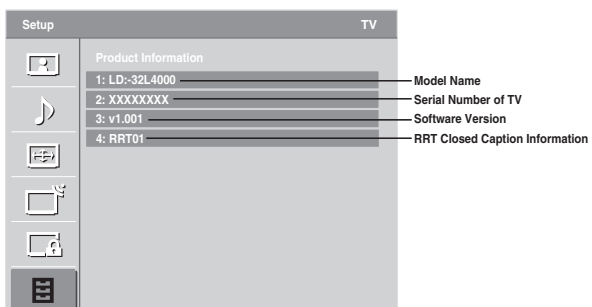
2-4. VIEWING MODEL INFORMATION

Use the Setup settings menu to display information about the TV.

1. TV must be On.
2. Press the **MENU** button to display the User Menus.



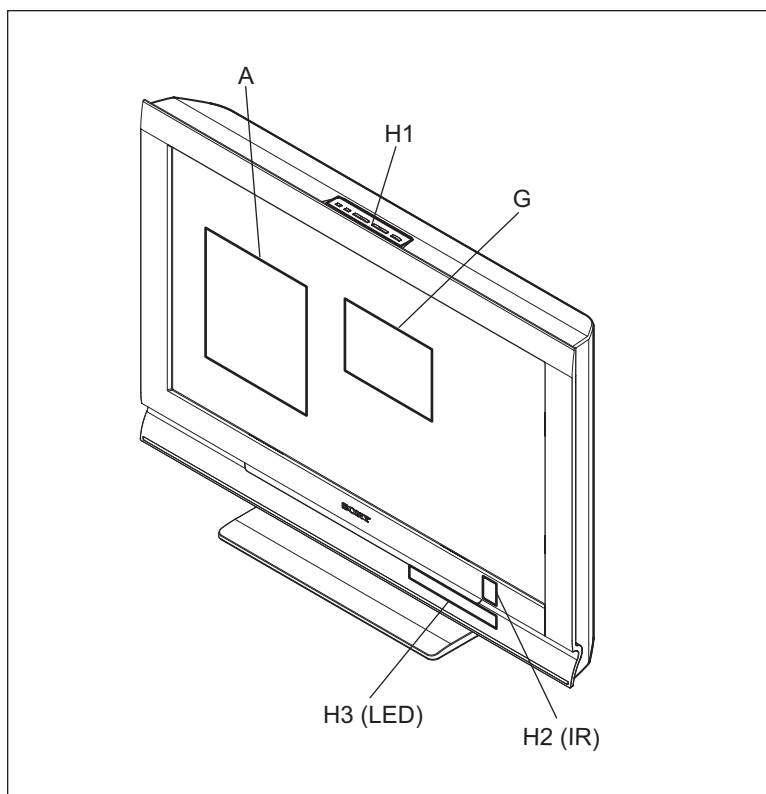
3. Press \blacktriangledown until the Settings icon  is selected, and then press .
4. Press \blacktriangledown until **Product Information** is selected, and then press .



5. To exit, press the **MENU** button

SECTION 3: DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION



3-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS INFORMATION

All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50V or less are not indicated except for electrolytics and tantalums.

All electrolytics are in 50V unless otherwise specified.

All resistors are in ohms. $\text{k}\Omega=1000\Omega$, $\text{M}\Omega=1000\text{k}\Omega$

Indication of resistance, which does not have one for rating electrical power, is as follows: Pitch : 5mm


Rating electrical power : $\frac{1}{4}$ W

$\frac{1}{4}$ W in resistance, $\frac{1}{10}$ W and $\frac{1}{16}$ W in chip resistance.

 : nonflammable resistor

 : fusible resistor

 : internal component

 : panel designation and adjustment for repair

 : earth ground

 : earth-chassis

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Readings are taken with a color-bar signal input.

Readings are taken with a $10\text{M}\Omega$ digital multimeter.

Voltages are DC with respect to ground unless otherwise noted.

Voltage variations may be noted due to normal production tolerances.

All voltages are in V.


S : Measurement impossibility.


 : B+line.


 : B-line. (Actual measured value may be different).


 : signal path. (RF)


Circled numbers are waveform references.

The components identified by shading and  symbol are critical for safety. Replace only with part number specified.

The symbol  indicates a fast operating fuse and is displayed on the component side of the board. Replace only with fuse of the same rating as marked.

Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Le symbole  indique une fusible à action rapide. Doit être remplacé par une fusible de même valeur, comme marqué.

NOTE: The components identified by a red outline and a  mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced.
See Appendix A: Encryption Key Components in the back of this manual.

REFERENCE INFORMATION

RESISTOR

- : RN METAL FILM
- : RC SOLID
- : FPRD NONFLAMMABLE CARBON
- : FUSE NONFLAMMABLE FUSIBLE
- : RW NONFLAMMABLE WIREWOUND
- : RS NONFLAMMABLE METAL OXIDE
- : RB NONFLAMMABLE CEMENT
- : ※ ADJUSTMENT RESISTOR

CAPACITOR

- : TA TANTALUM
- : PS STYROL
- : PP POLYPROPYLENE
- : PT MYLAR
- : MPS METALIZED POLYESTER
- : MPP METALIZED POLYPROPYLENE
- : ALB BIPOLAR
- : ALT HIGH TEMPERATURE
- : ALR HIGH RIPPLE

COIL

- : LF-8L MICRO INDUCTOR

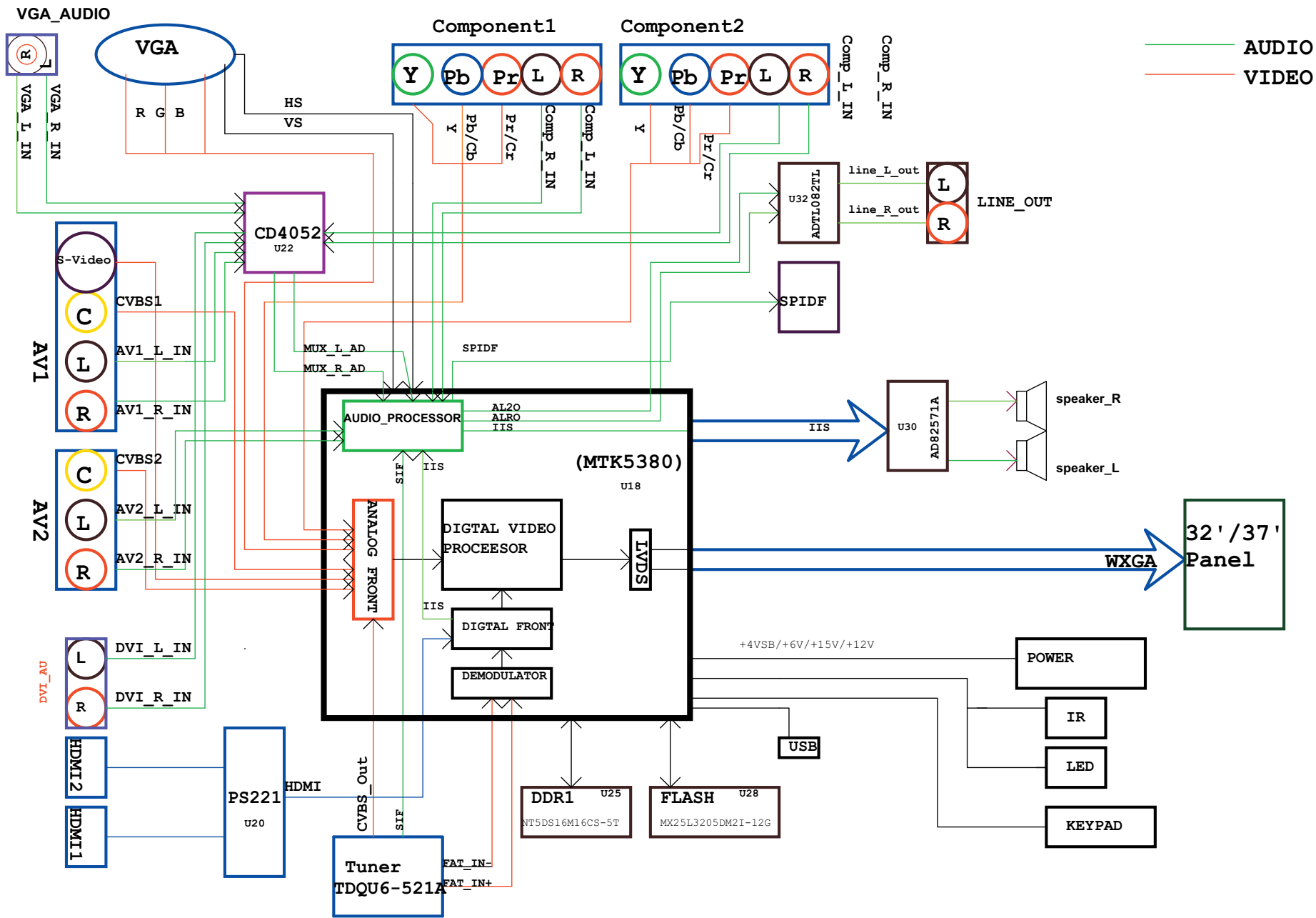
Terminal name of semiconductors in silk screen printed circuit (※)

	Device	Printed symbol	Terminal name	Circuit
1	Transistor		Collector Base Emitter	
2	Transistor		Collector Base Emitter	
3	Diode		Cathode Anode	
4	Diode		Cathode Anode (NC)	
5	Diode		Cathode Anode (NC)	
6	Diode		Common Anode Cathode	
7	Diode		Common Anode Cathode	
8	Diode		Common Anode Anode	
9	Diode		Common Anode Anode	
0	Diode		Common Cathode Cathode	
!j	Diode		Common Cathode Cathode	
!TM	Diode		Anode Anode Cathode Cathode	
!£	Transistor (FET)		Drain Source Gate	
!Ç	Transistor (FET)		Drain Source Gate	
!?	Transistor (FET)		Source Drain Gate	
!§	Transistor		Emitter Collector Base	
!¶	Transistor		C2 B1 E1 E2 B2 C1	
!•	Transistor		C1 B2 E2 E1 B1 C2	
!a	Transistor		C1 B2 E2 E1 B1 C2	
@°	Transistor		C1 B2 E2 E1 B1 C2	
@₁	Transistor		E2 B1 E1 C2 C1(B2)	
@TM	Transistor		(B2) B1 E1 E2 C1 C2	
@£	Transistor		(B2) E2 E1 B1 C2 C1	
—	Discrete semiconductot			

(Chip semiconductors that are not actually used are included.)

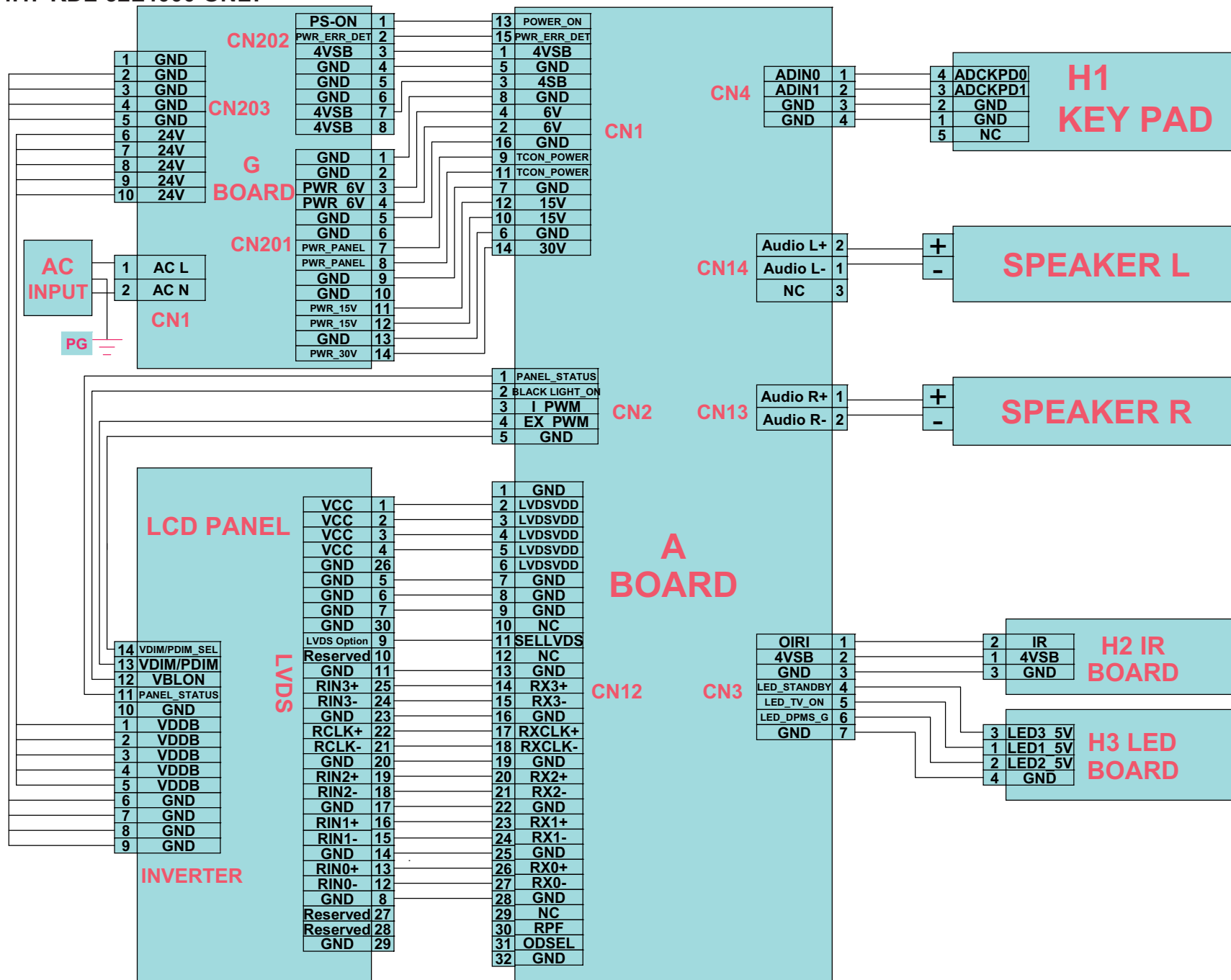
Ver.1.6

3-3. BLOCK DIAGRAM

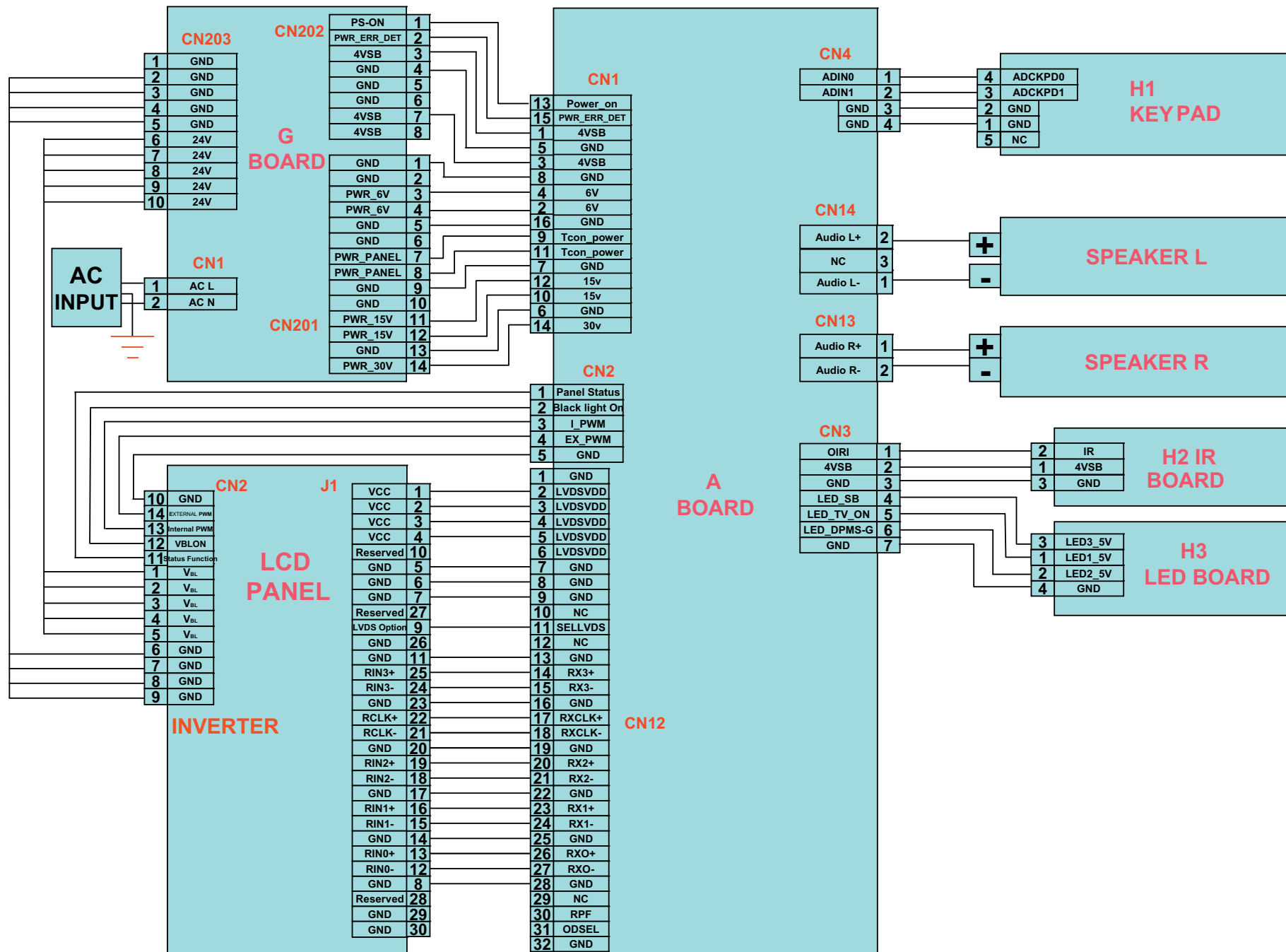


3-4. FRAME DIAGRAMS

3-4.1. KDL-32L4000 ONLY

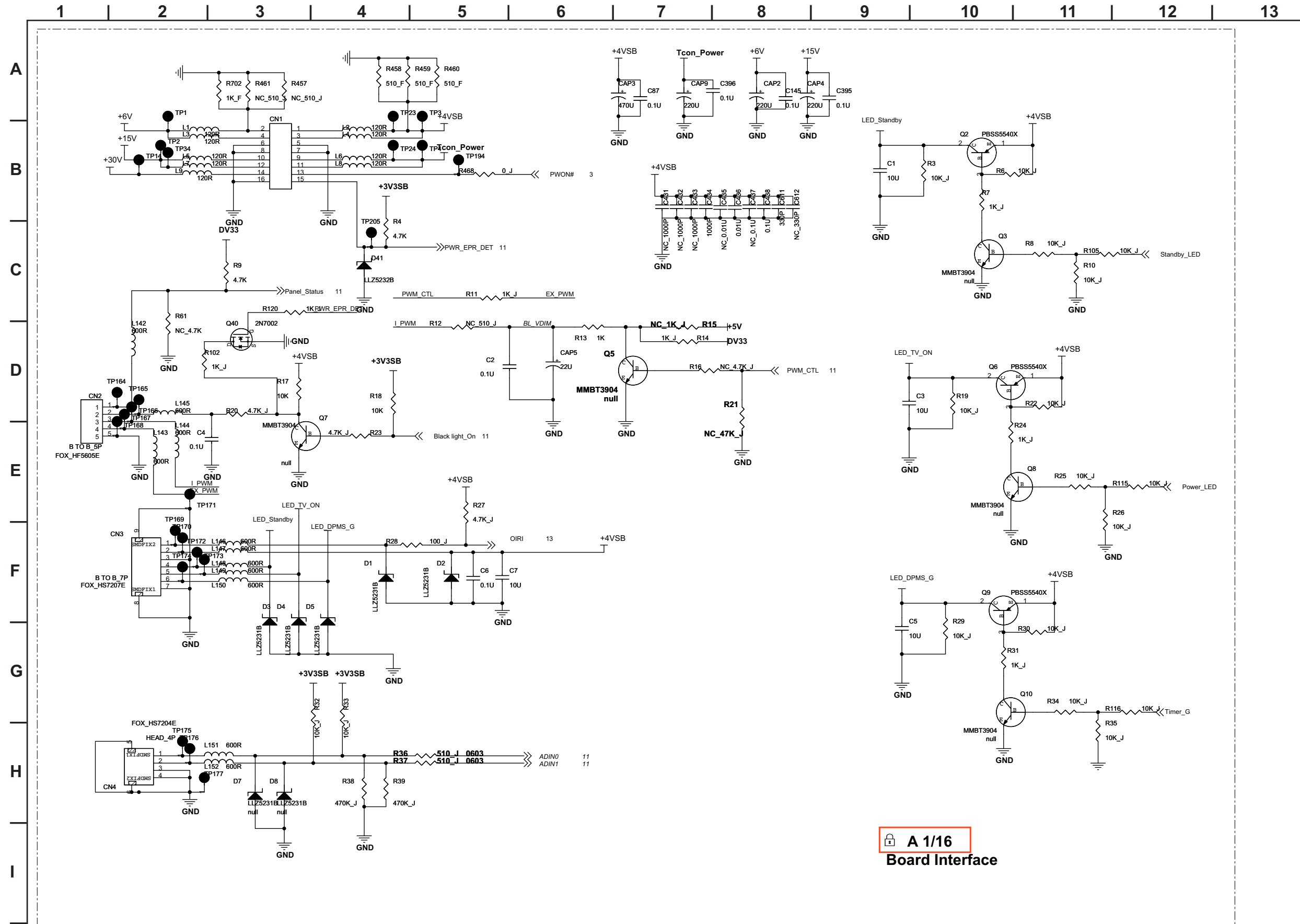


3-4.2. KDL-37L4000 ONLY

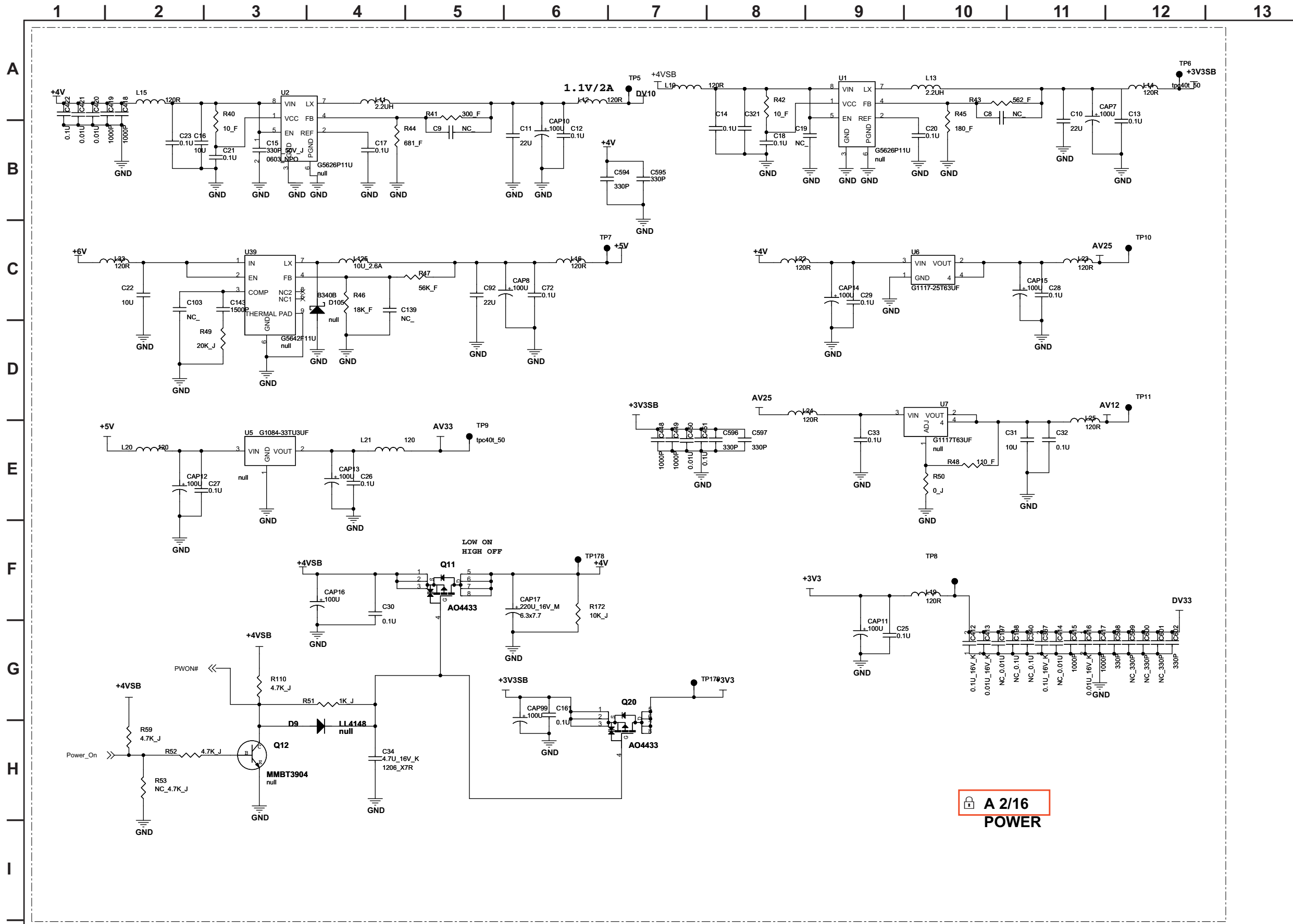


3-5. SCHEMATICS AND SUPPORTING INFORMATION

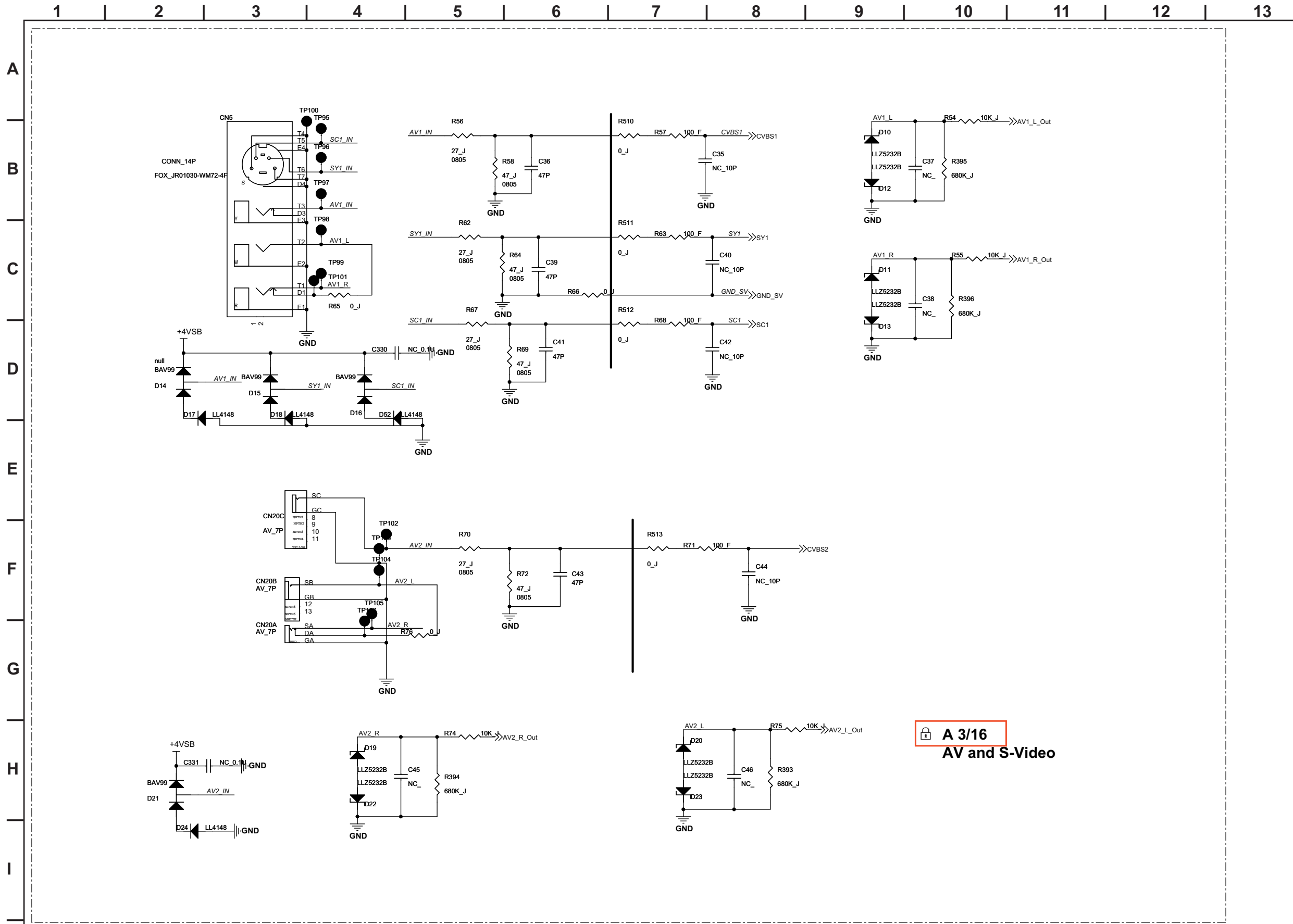
A BOARD SCHEMATIC DIAGRAM (1 OF 16)




A BOARD SCHEMATIC DIAGRAM (2 OF 16)

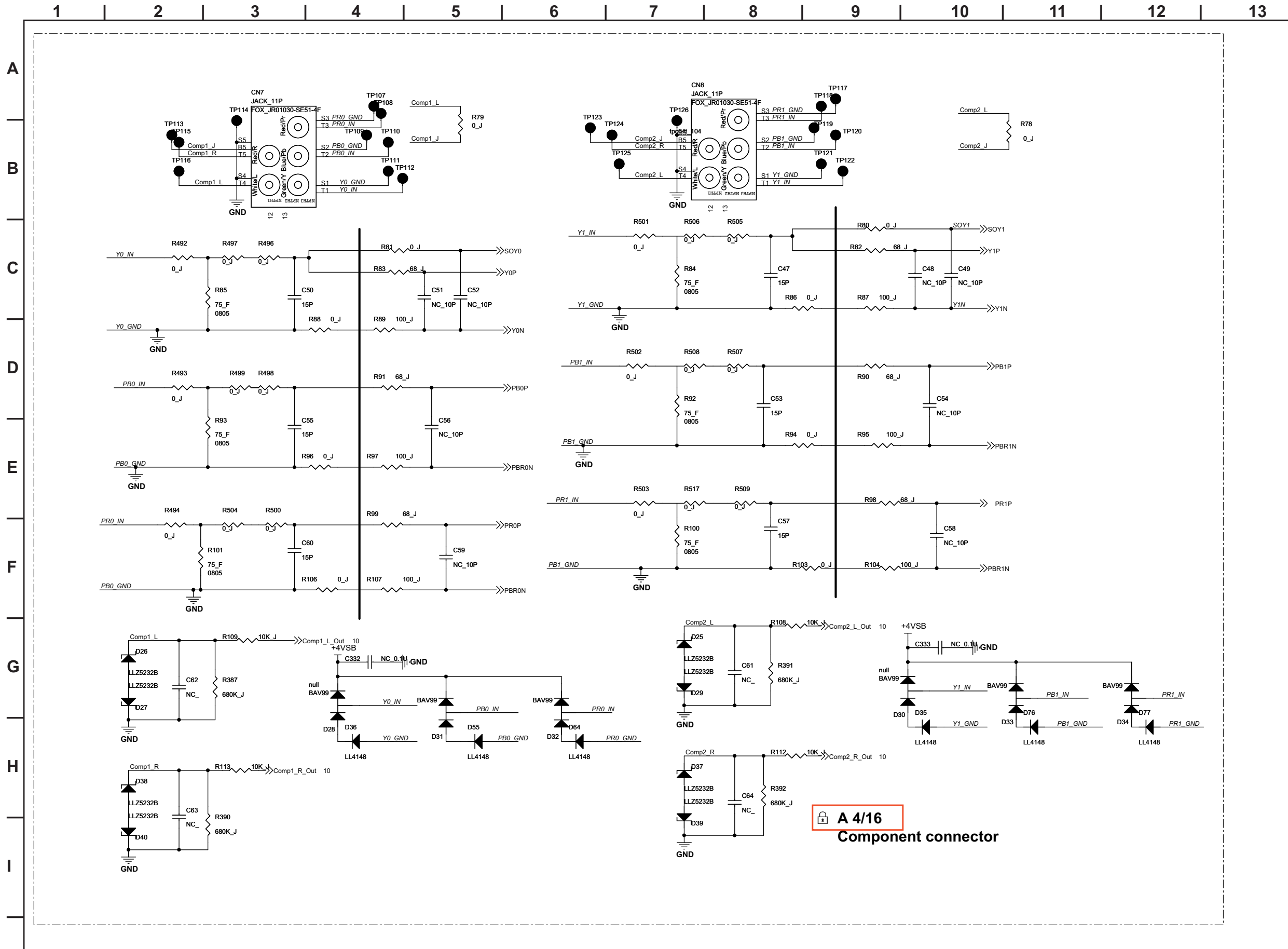


A BOARD SCHEMATIC DIAGRAM (3 OF 16)

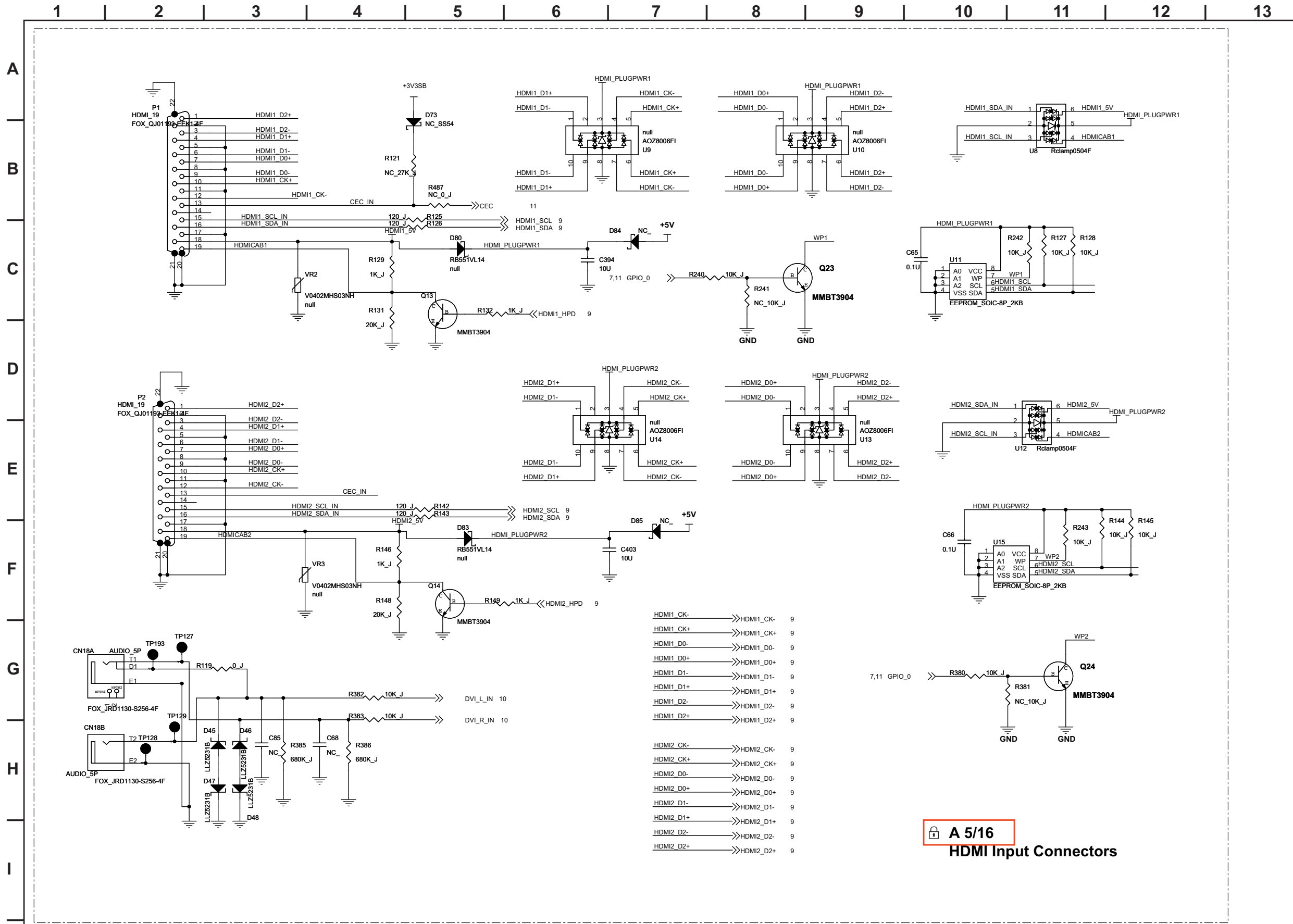


 **A 3/16**
AV and S-Video

A BOARD SCHEMATIC DIAGRAM (4 OF 16)



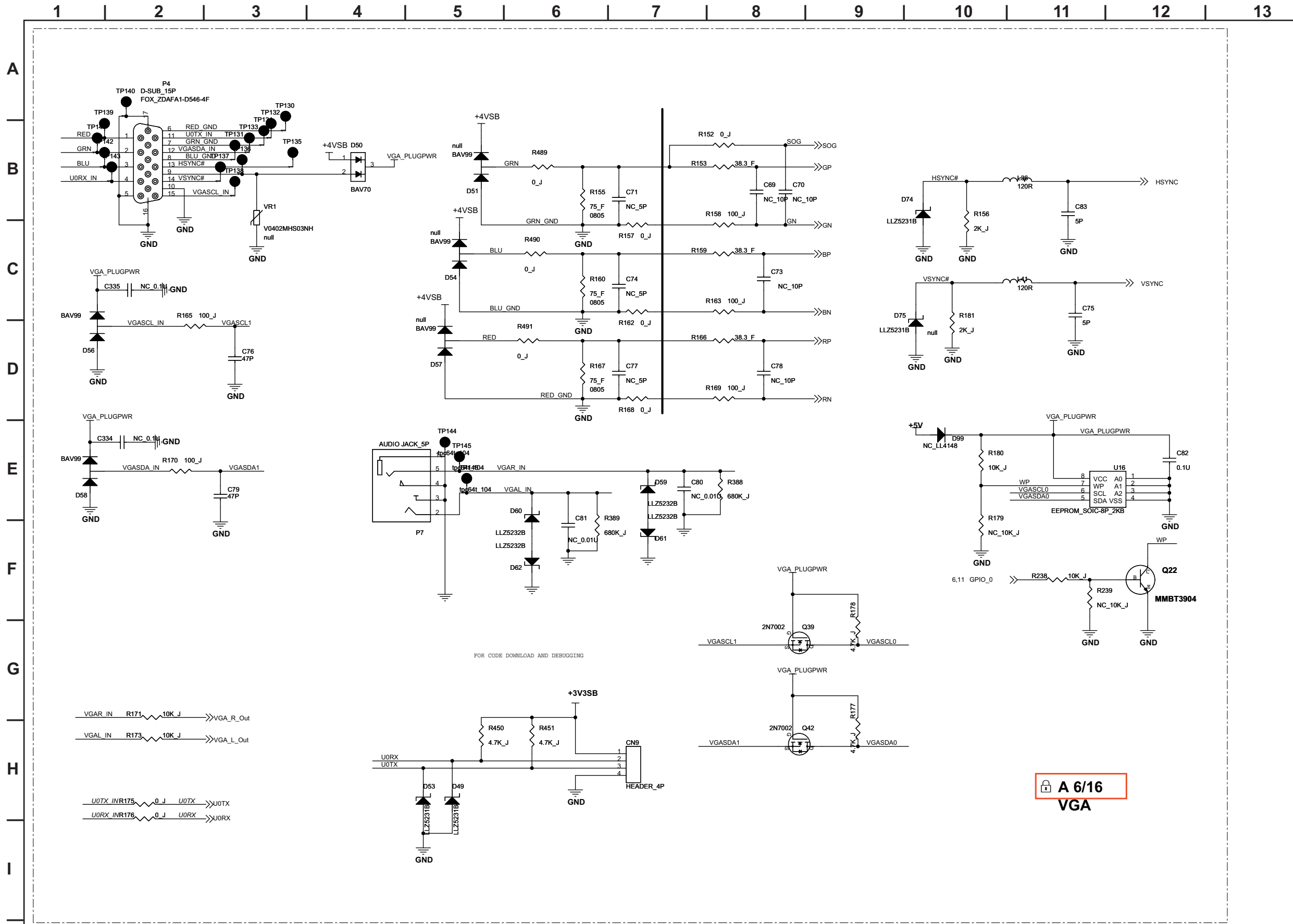
A BOARD SCHEMATIC DIAGRAM (5 OF 16)



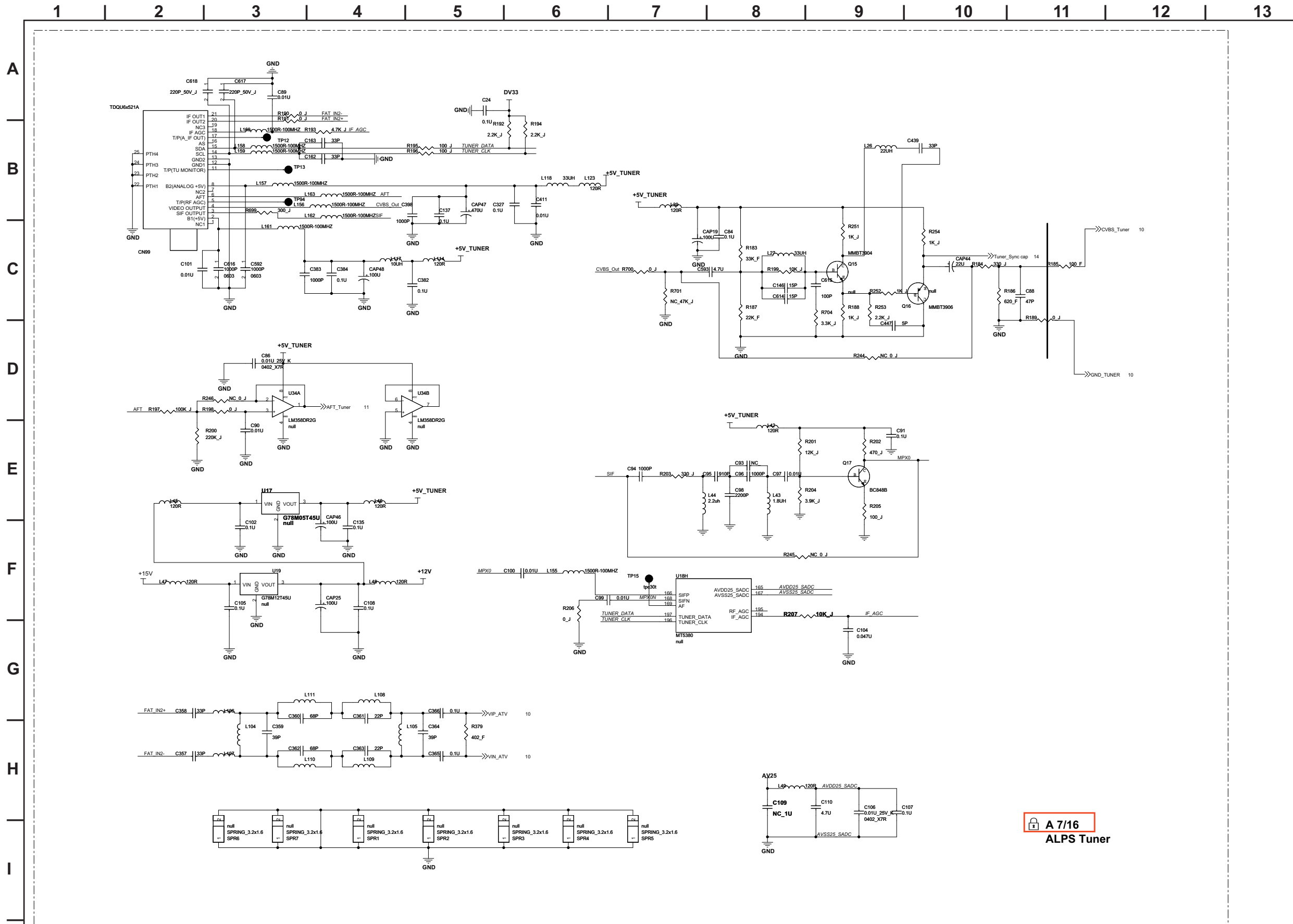
- HDMI1 CK- >>> HDMI1_CK- 9
- HDMI1 CK+ >>> HDMI1_CK+ 9
- HDMI1 D0- >>> HDMI1_D0- 9
- HDMI1 D0+ >>> HDMI1_D0+ 9
- HDMI1 D1- >>> HDMI1_D1- 9
- HDMI1 D1+ >>> HDMI1_D1+ 9
- HDMI1 D2- >>> HDMI1_D2- 9
- HDMI1 D2+ >>> HDMI1_D2+ 9
- HDMI2 CK- >>> HDMI2_CK- 9
- HDMI2 CK+ >>> HDMI2_CK+ 9
- HDMI2 D0- >>> HDMI2_D0- 9
- HDMI2 D0+ >>> HDMI2_D0+ 9
- HDMI2 D1- >>> HDMI2_D1- 9
- HDMI2 D1+ >>> HDMI2_D1+ 9
- HDMI2 D2- >>> HDMI2_D2- 9
- HDMI2 D2+ >>> HDMI2_D2+ 9

A 5/16
HDMI Input Connectors

A BOARD SCHEMATIC DIAGRAM (6 OF 16)

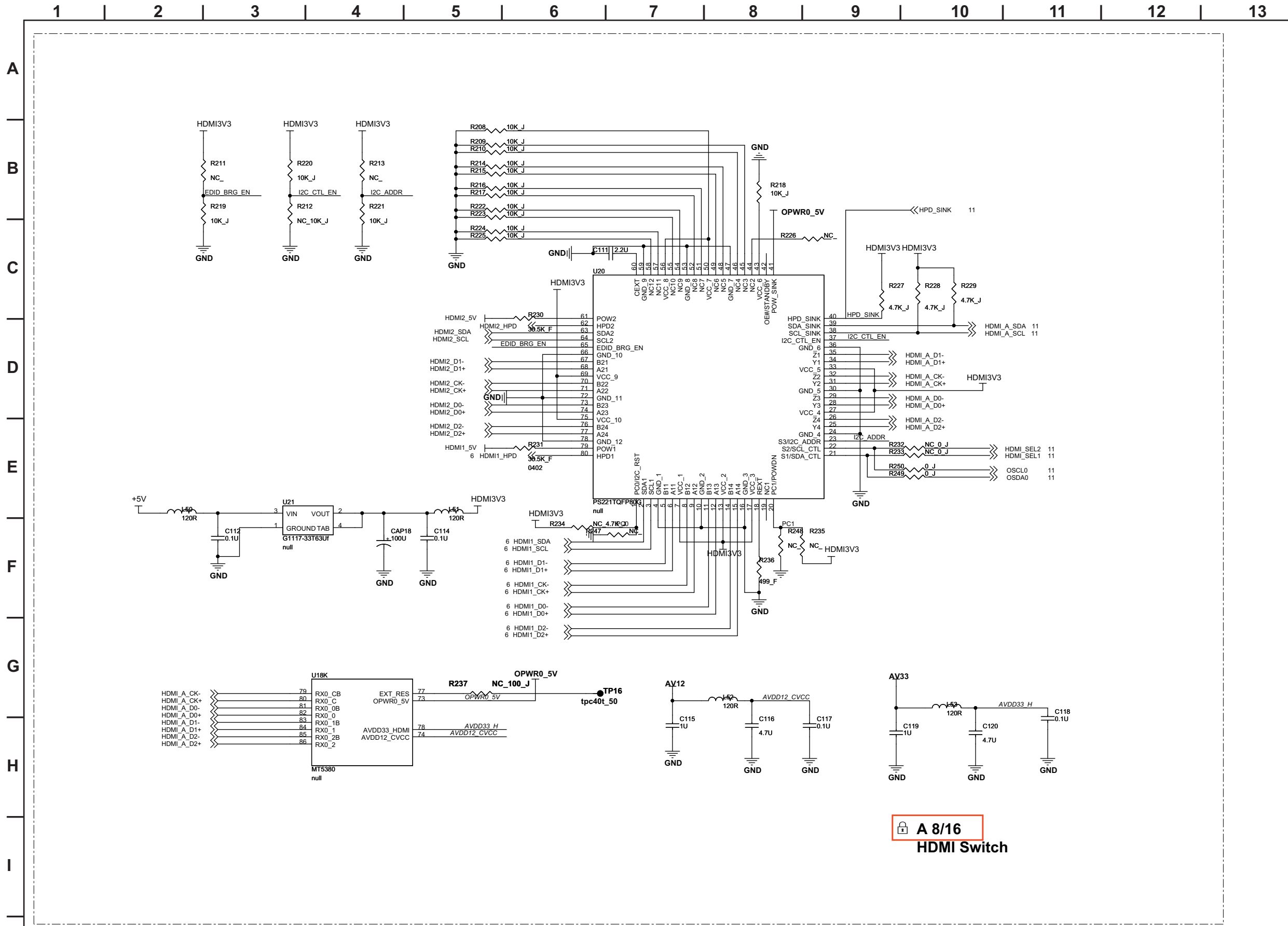


A BOARD SCHEMATIC DIAGRAM (7 OF 16)



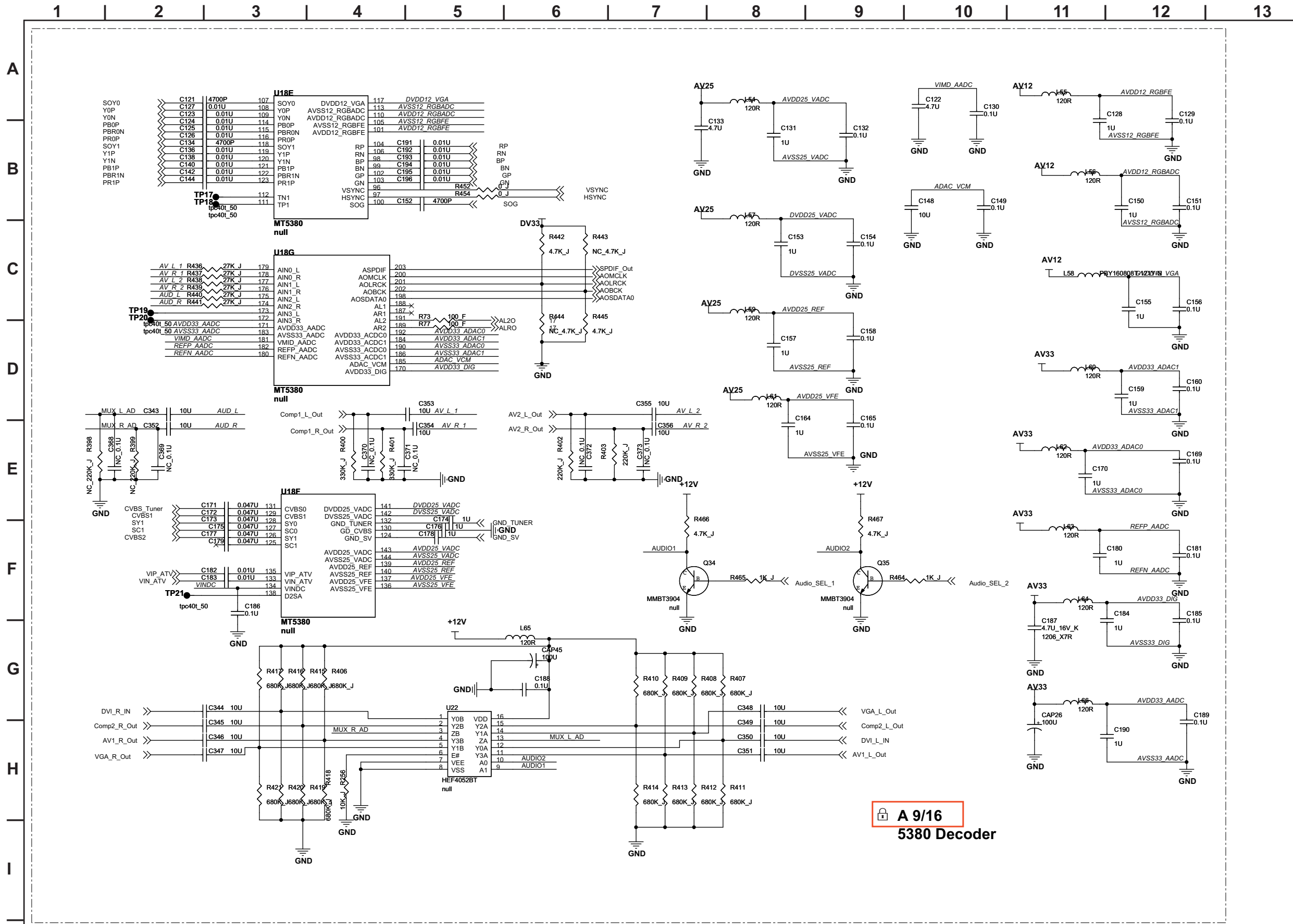
A 7/16
ALPS Tuner

A BOARD SCHEMATIC DIAGRAM (8 OF 16)



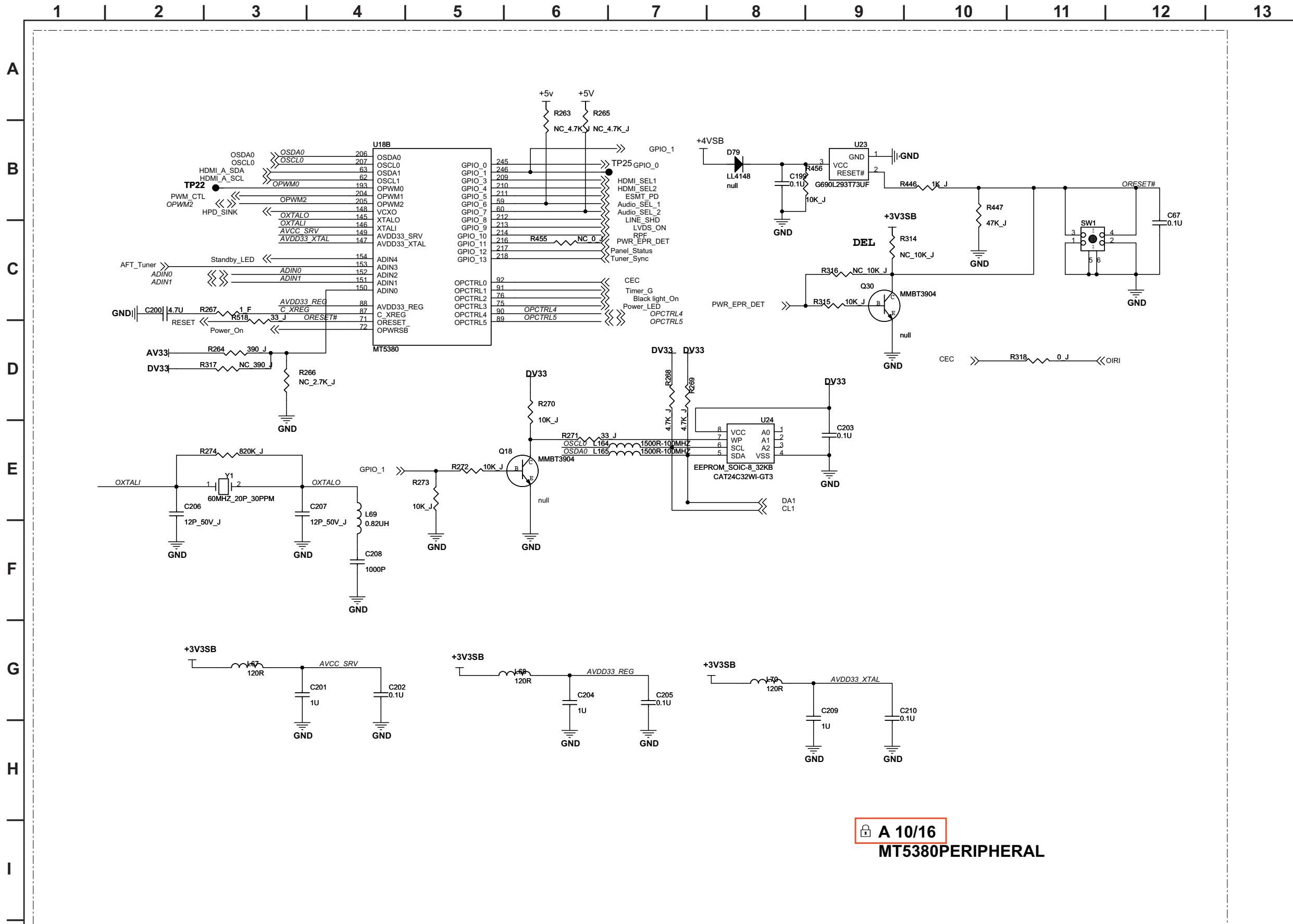
A 8/16
HDMI Switch

A BOARD SCHEMATIC DIAGRAM (9 OF 16)



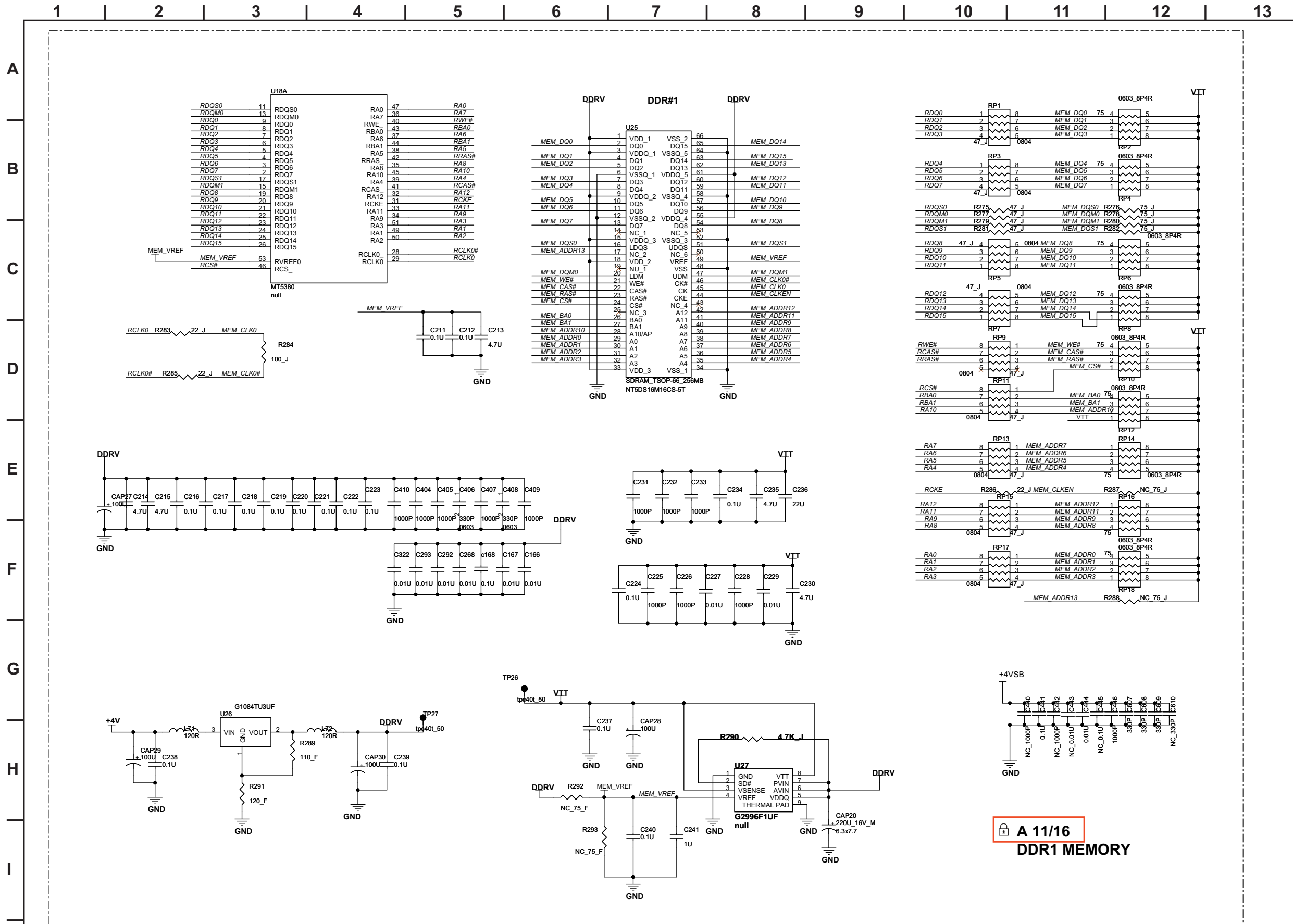
A 9/16
5380 Decoder

A BOARD SCHEMATIC DIAGRAM (10 OF 16)



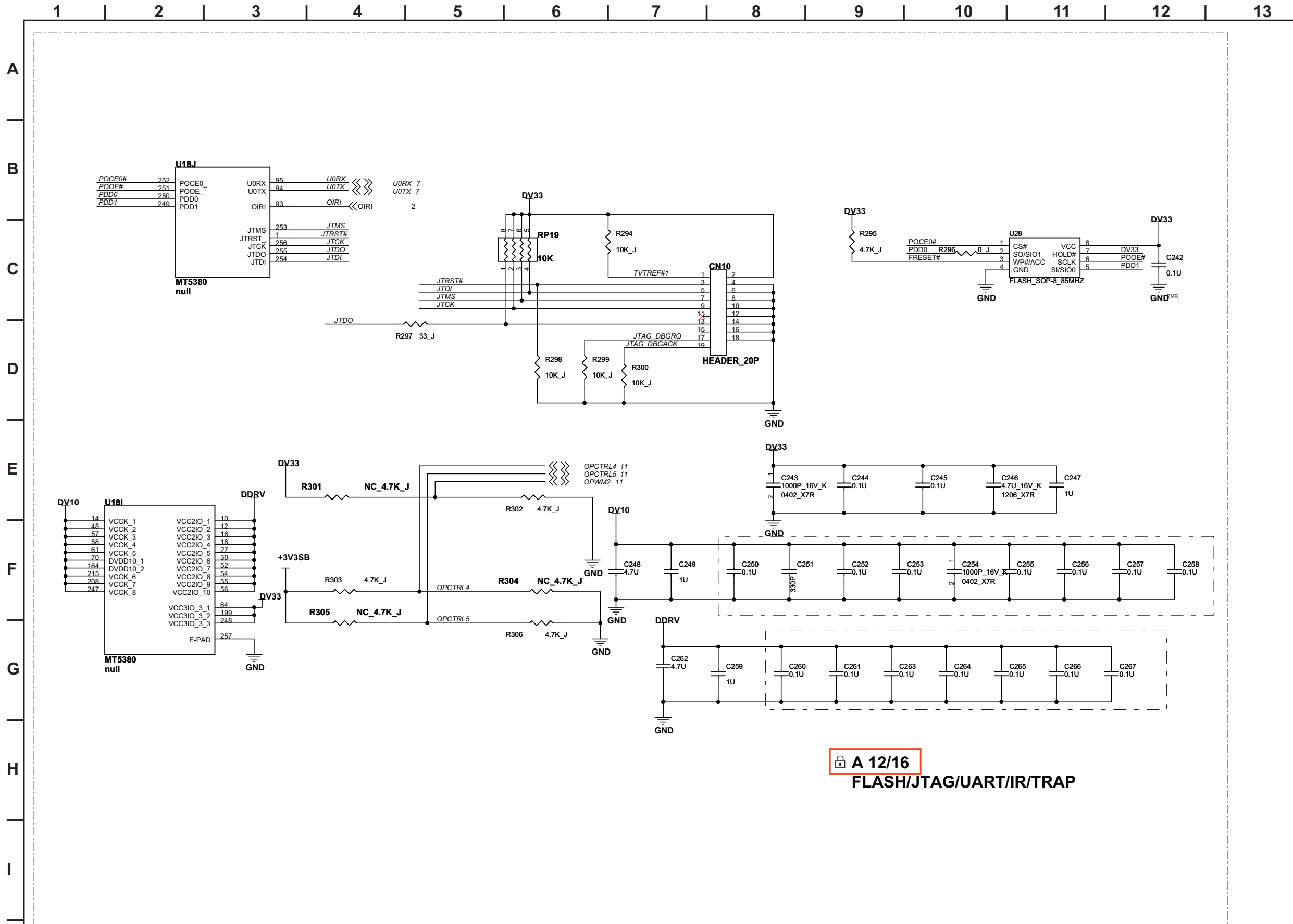
A 10/16
MT5380 PERIPHERAL

A BOARD SCHEMATIC DIAGRAM (11 OF 16)

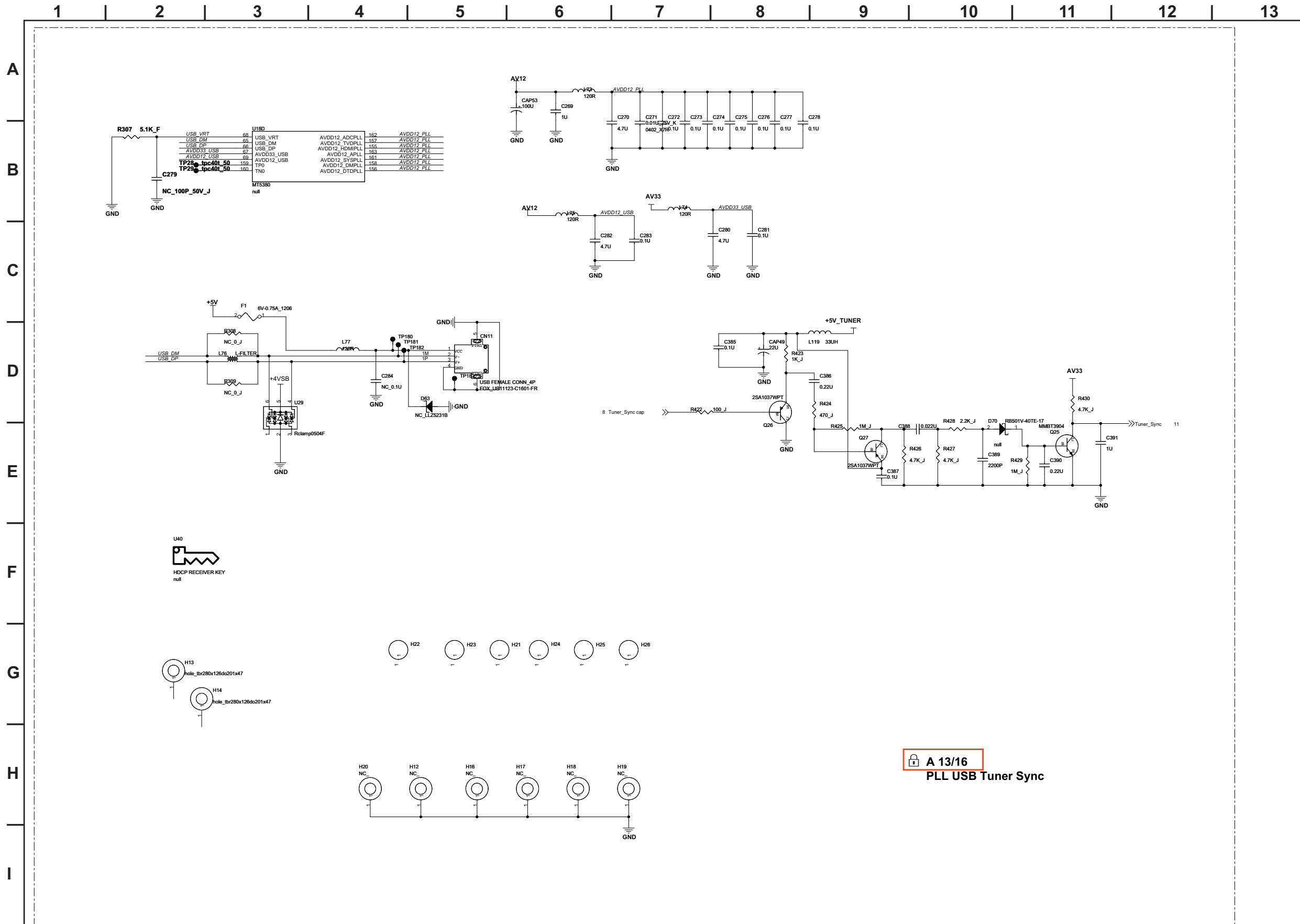


A 11/16
DDR1 MEMORY

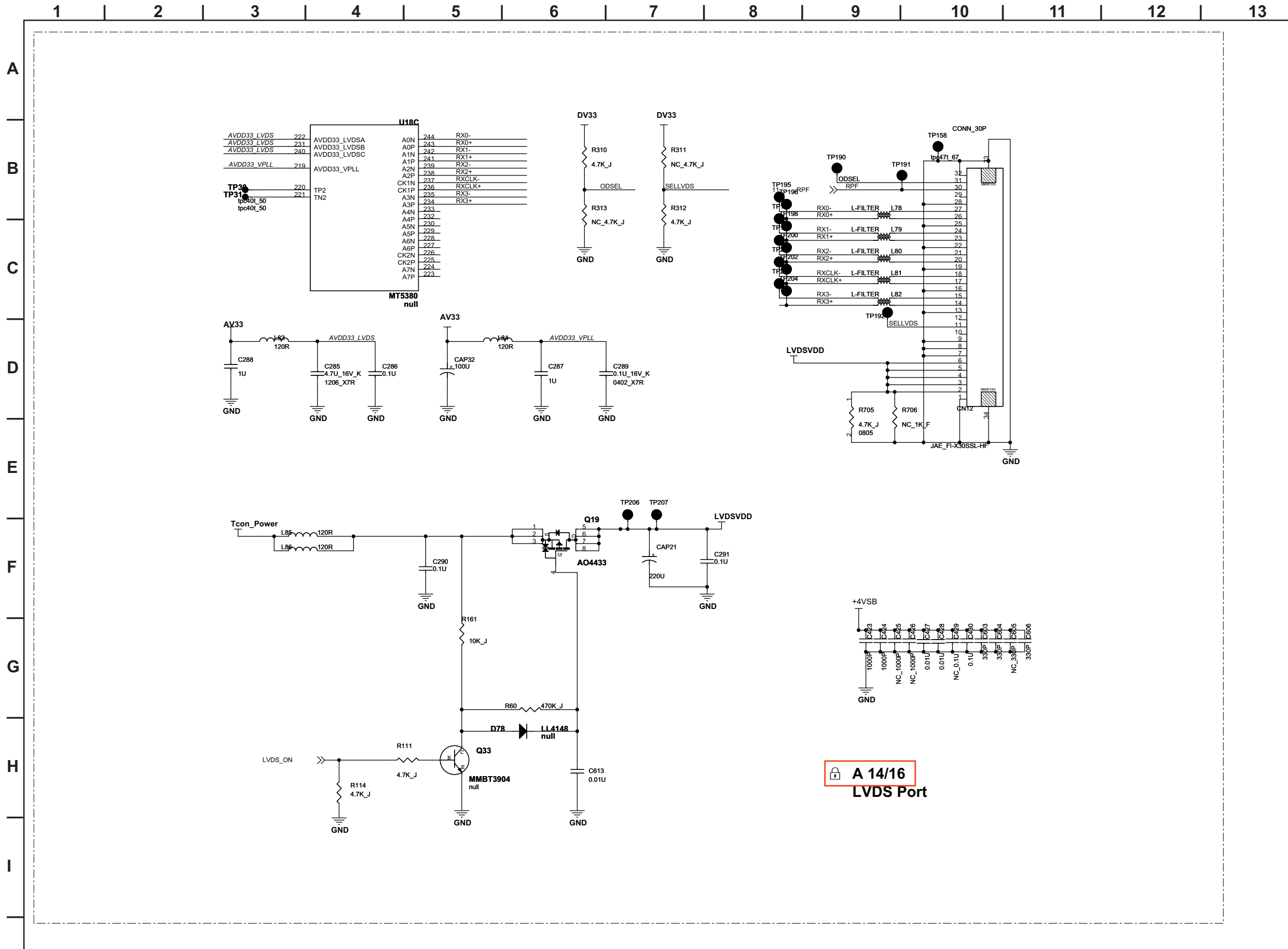
A BOARD SCHEMATIC DIAGRAM (12 OF 16)



A BOARD SCHEMATIC DIAGRAM (13 OF 16)

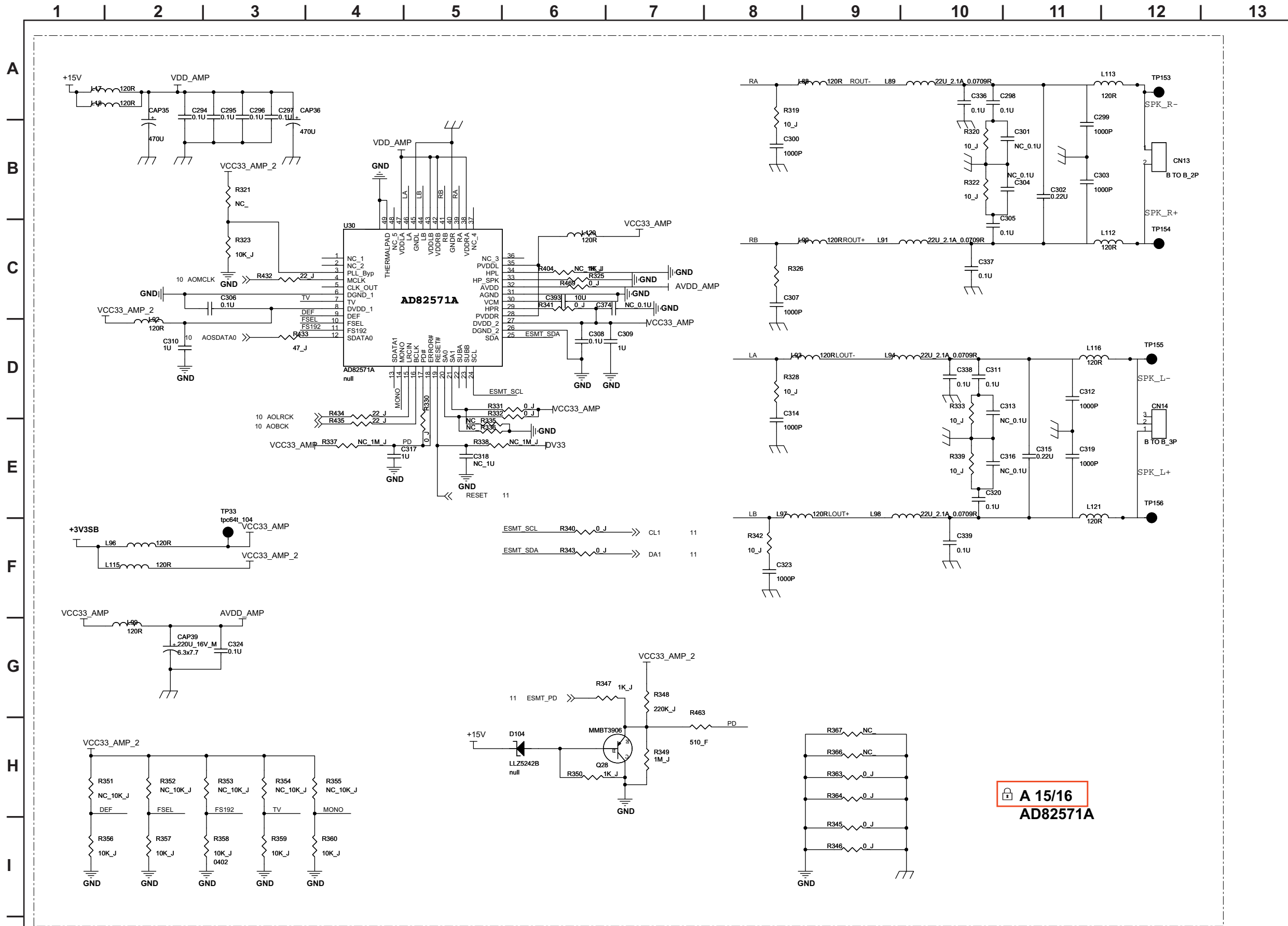


A BOARD SCHEMATIC DIAGRAM (14 OF 16)

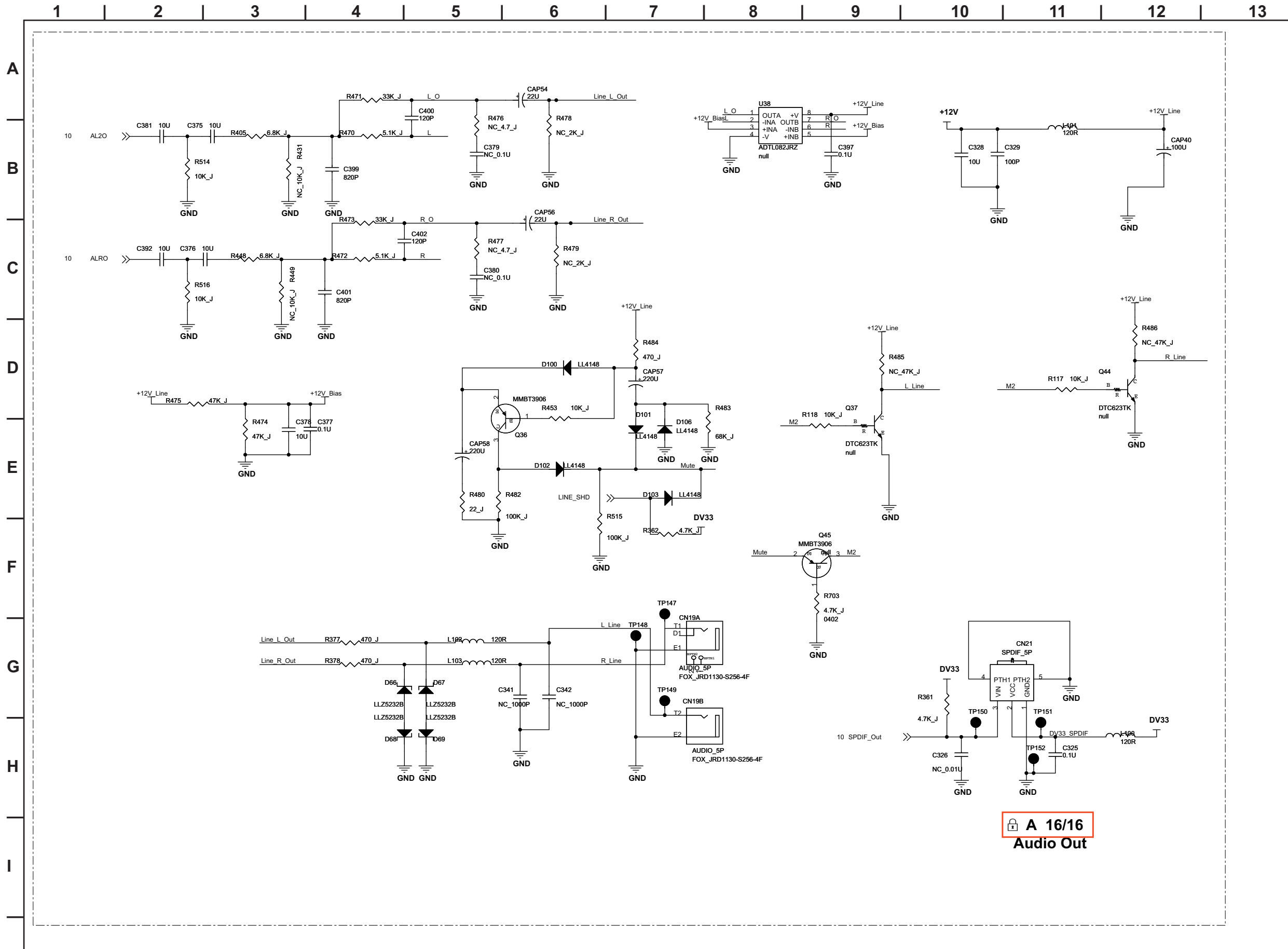


A 14/16
LVDS Port

A BOARD SCHEMATIC DIAGRAM (15 OF 16)

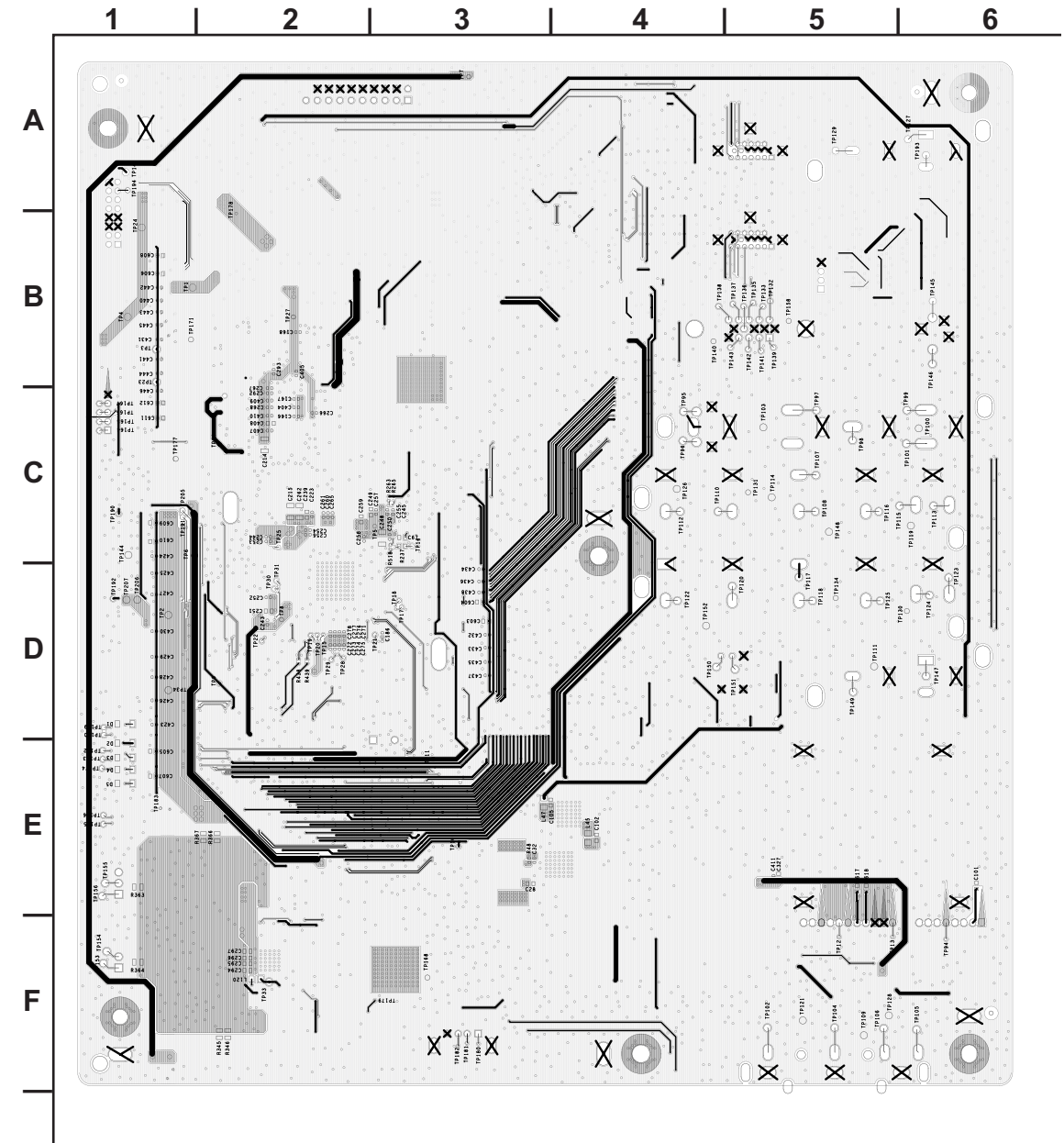
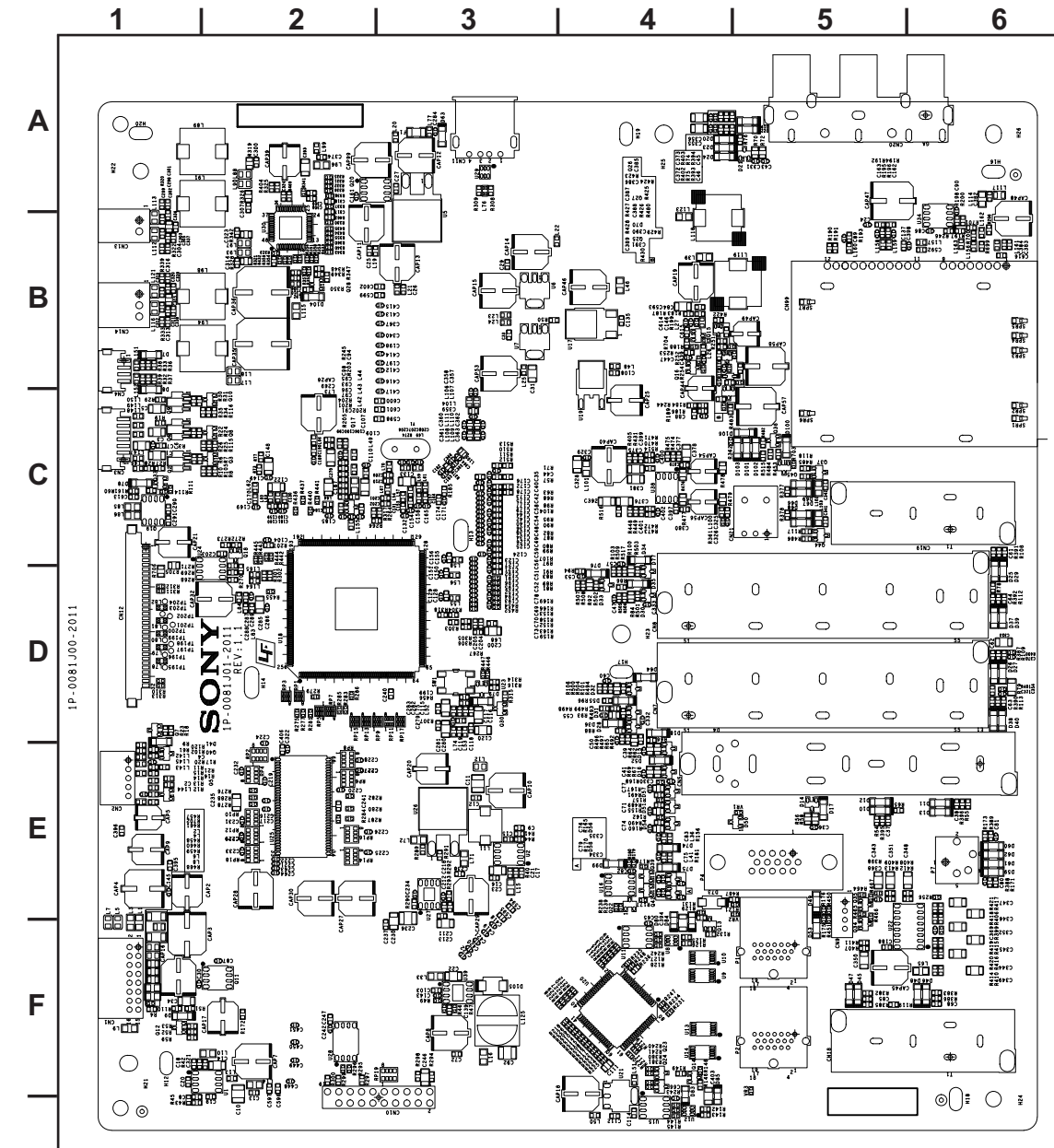


A BOARD SCHEMATIC DIAGRAM (16 OF 16)

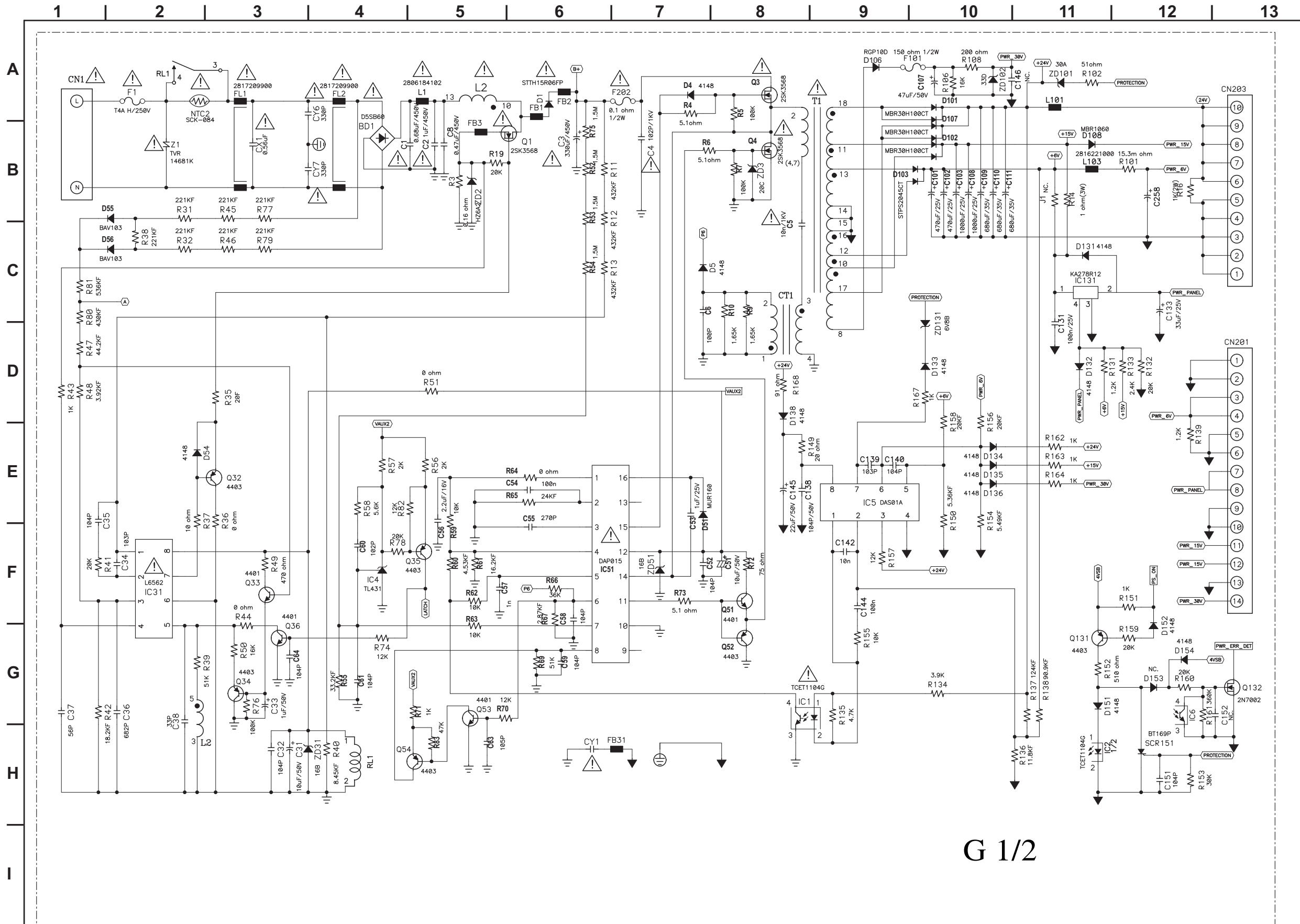


A 16/16
Audio Out

A [BOARD INTERFACE, POWER, AV AND S-VIDEO, COMPONENT CONNECTOR, HDMI INPUT CONNECTORS, VGA, ALPS TUNER, HDMI SWITCH, 5380 DECODER, MT5380PERIPHERAL, DDR1 MEMORY, FLASH/JTAG/UART/IR/TRAP, PLL USB TUNER SYNC, LVDS PORT, AD82571A, AUDIO OUT]
COMPONENT SIDE **CONDUCTOR SIDE**

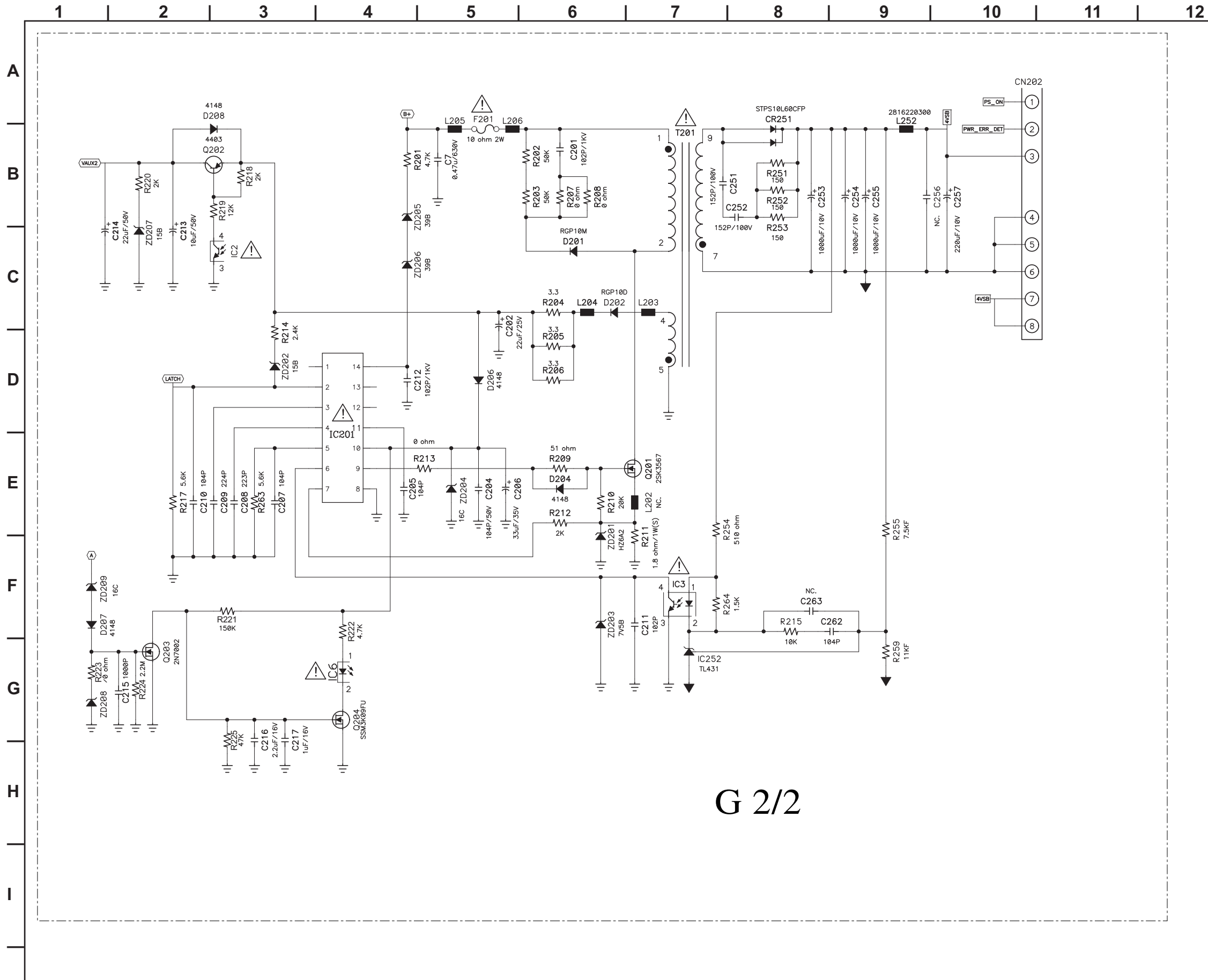


G BOARD SCHEMATIC DIAGRAM (1 OF 2)



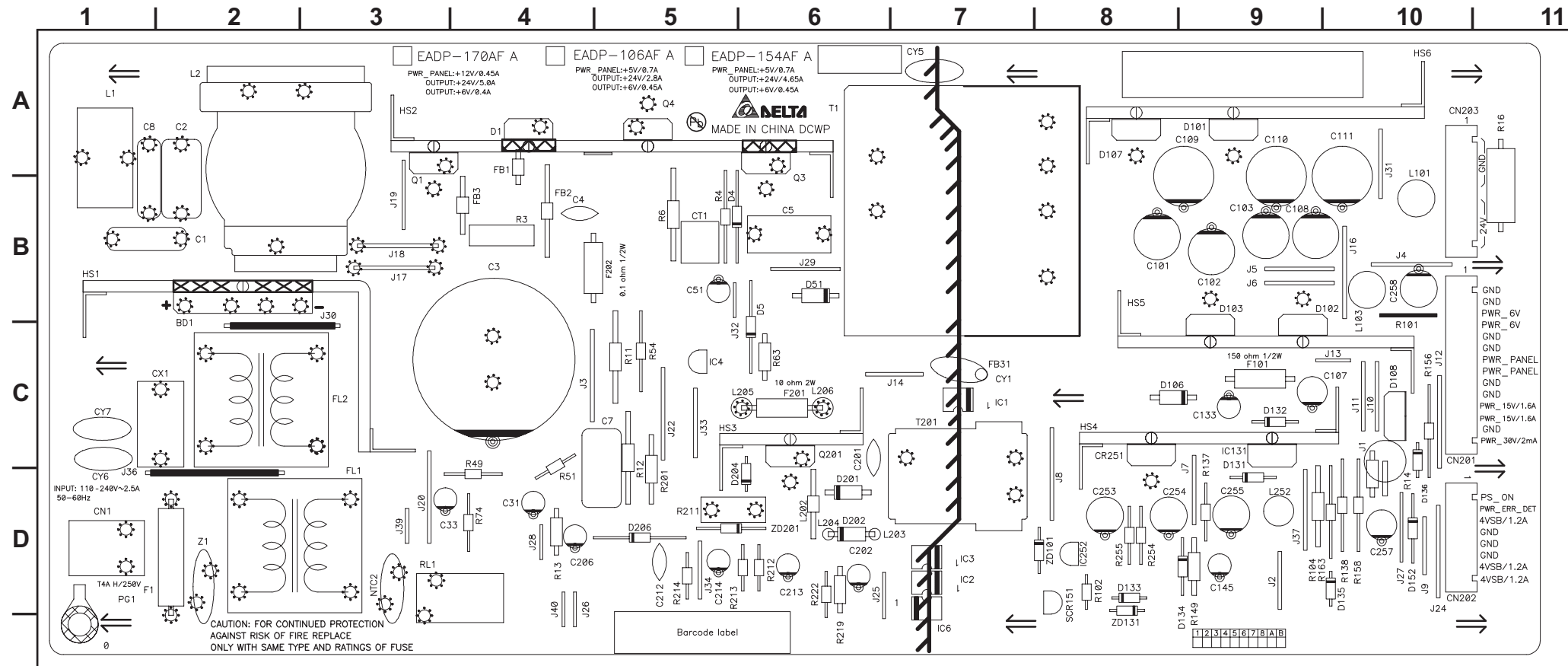
G 1/2

G BOARD SCHEMATIC DIAGRAM (2 OF 2)

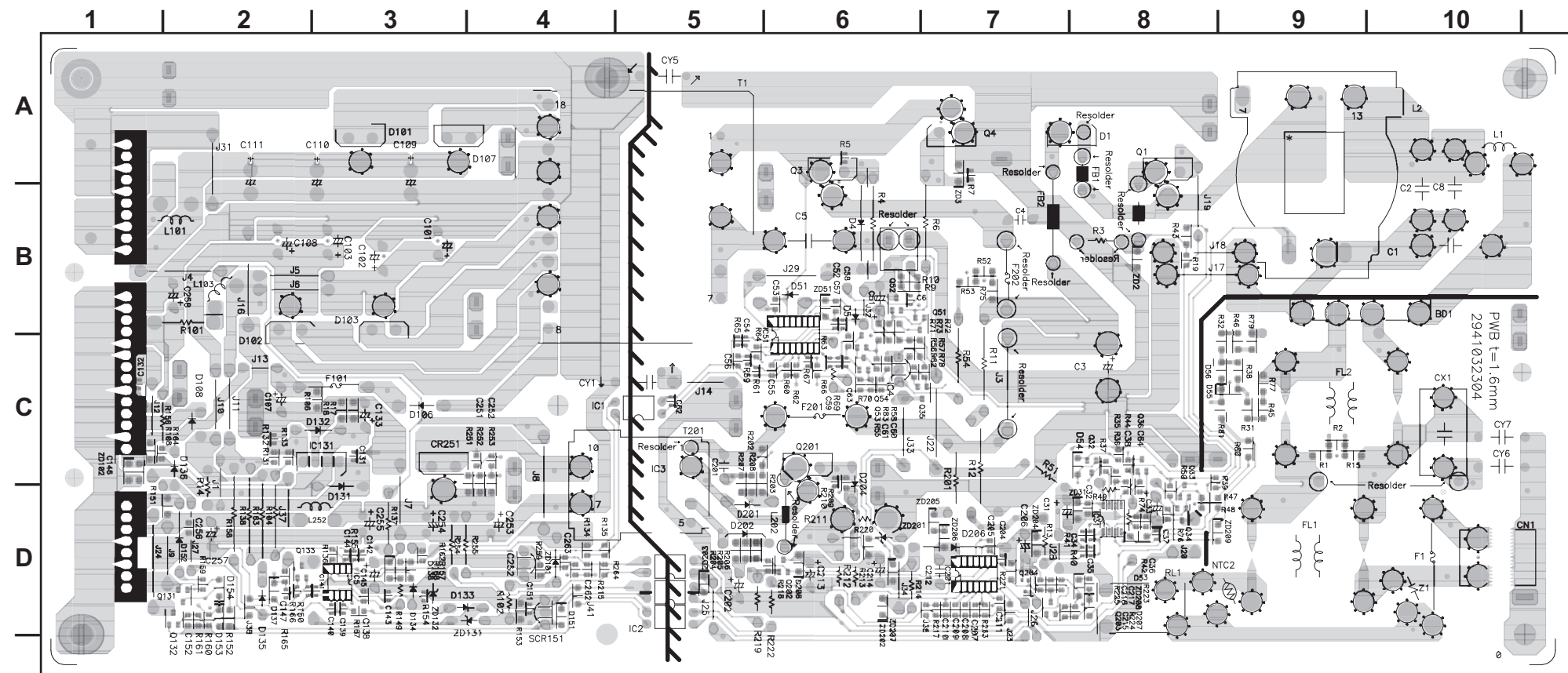


G 2/2

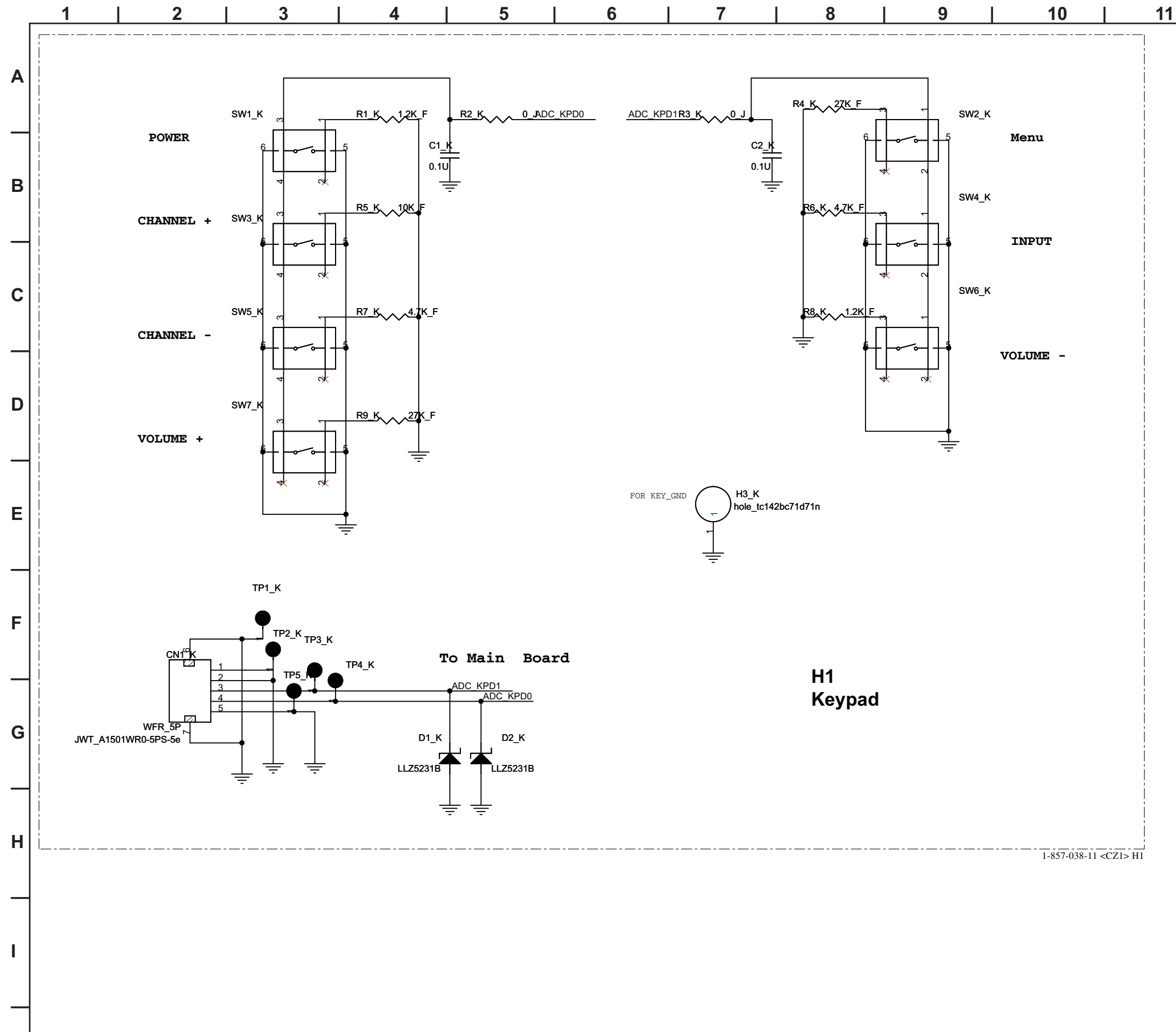
G [POWER SUPPLY]
COMPONENT SIDE



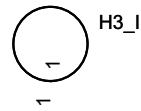
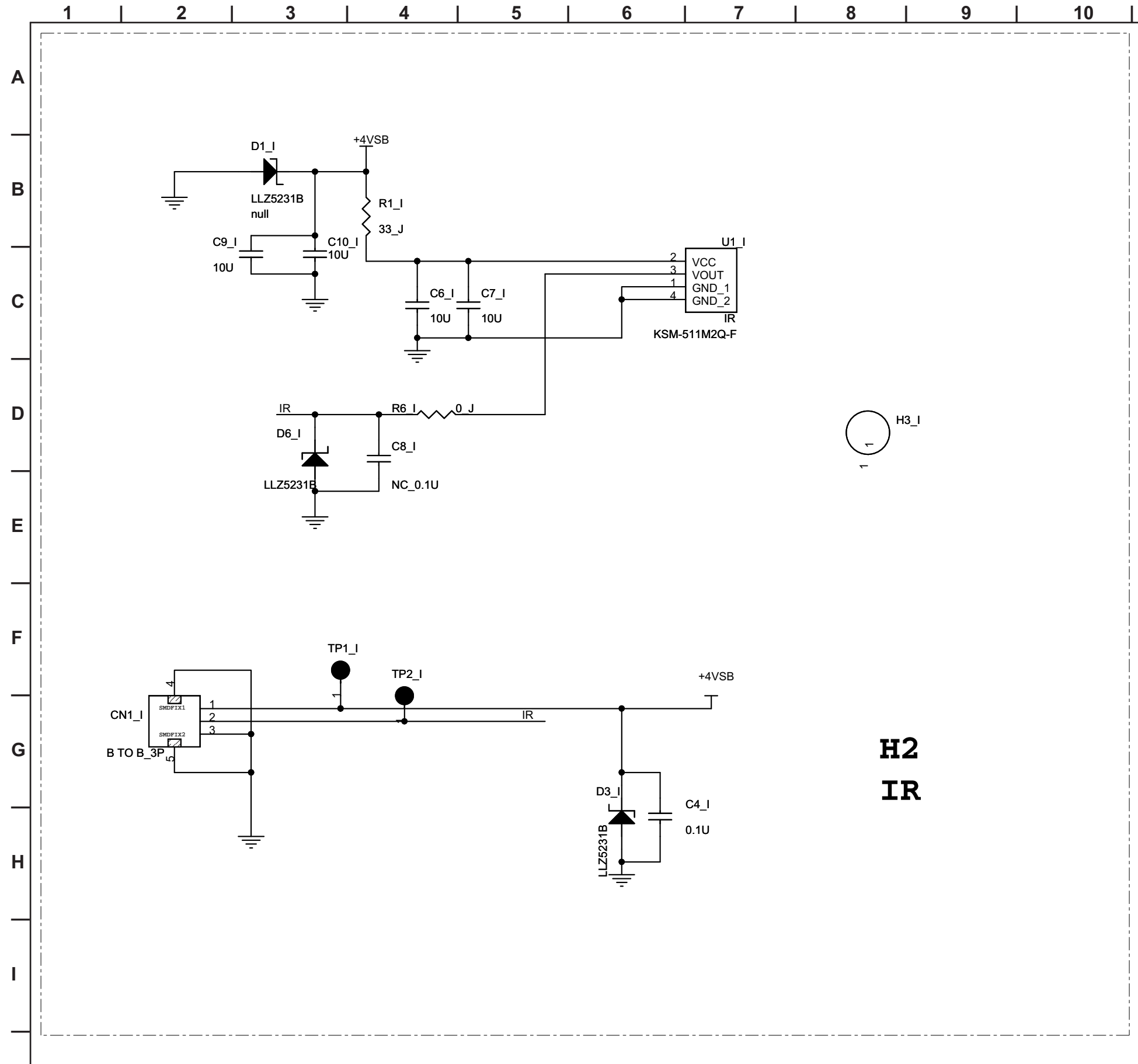
G [POWER SUPPLY]
CONDUCTOR SIDE



H1 BOARD SCHEMATIC DIAGRAM

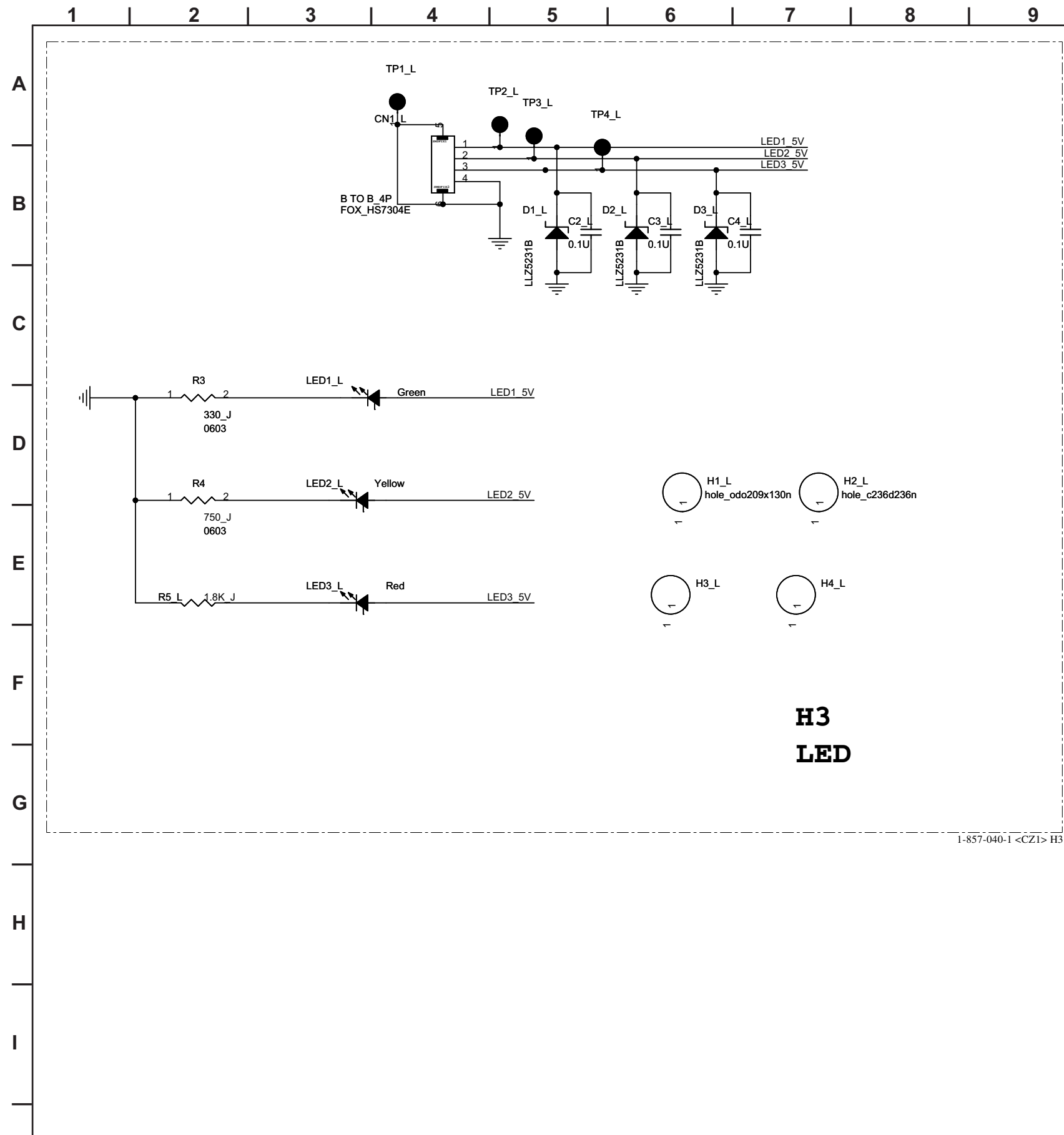


H2 BOARD SCHEMATIC DIAGRAM



H2
IR

H3 BOARD SCHEMATIC DIAGRAM





SECTION 4: EXPLODED VIEWS


Components not identified by a part number or description are not stocked because they are seldom required for routine service.

The component parts of an assembly are indicated by the reference numbers in the far right column of the parts list and within the dotted lines of the diagram.

* Items marked with an asterisk are not stocked since they are seldom required for routine service. Expect some delay when ordering these components.

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

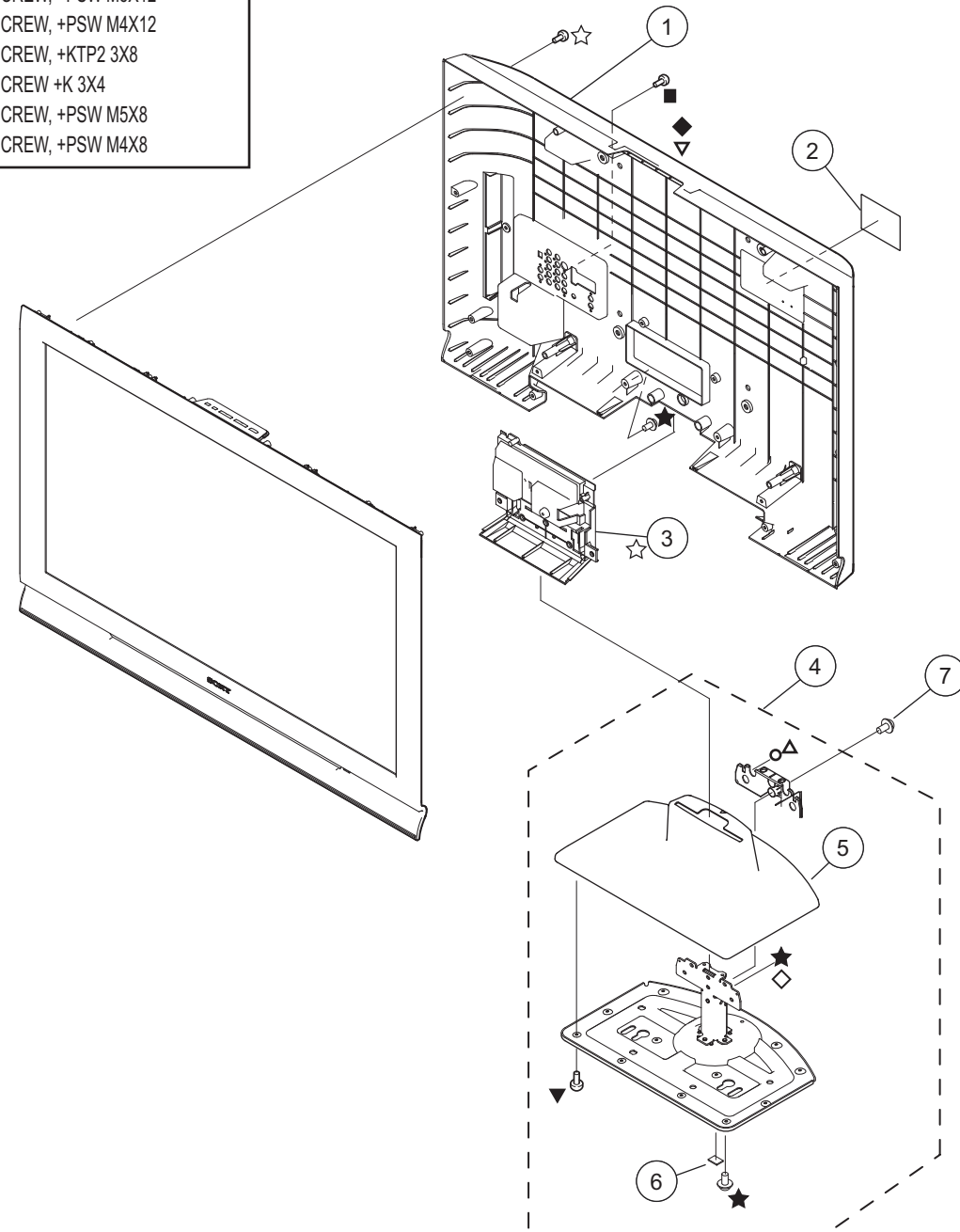
NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.




NOTE: The components identified by a red outline and a  mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced. See Appendix A: Encryption Key Components in the back of this manual.

4-1. REAR COVER ASSEMBLY AND TABLE-TOP STAND ASSEMBLY

(Check the [Sony Electronics Service Information](#) website for any additional service related issues for this model.)


■	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3
☆	2-580-640-01	SCREW, +BVTP2 4X16
▲	2-580-608-01	SCREW, +PSW M5X16
○	2-580-614-01	SCREW, +K M3X8
★	2-580-607-01	SCREW, +PSW M5X12
◇	2-580-602-01	SCREW, +PSW M4X12
▼	2-580-644-01	SCREW, +KTP2 3X8
△	7-682-245-09	SCREW +K 3X4
◆	2-580-606-01	SCREW, +PSW M5X8
▽	2-580-600-01	SCREW, +PSW M4X8





REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]	REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
1	X-2059-697-1	COVER, REAR ASSEMBLY (32)			X-2190-729-1	TABLE-TOP STAND ASSEMBLY (M)	[5-6]
		(KDL-32L4000 ONLY)				(KDL-32L4000 ONLY)	
1	X-2179-372-1	COVER, REAR ASSEMBLY (37)			X-2190-733-1	TABLE-TOP STAND ASSEMBLY (ML)	[5-6]
		(KDL-37L4000 ONLY)				(KDL-37L4000 ONLY)	
*	2	3-870-914-01	LABEL, INFORMATION	5	3-870-753-01	COVER, STAND (32)	
		(KDL-32L4000 ONLY)				(KDL-32L4000 ONLY)	
*	2	3-870-915-01	LABEL, INFORMATION	5	3-870-777-01	COVER, STAND (37)	
		(KDL-37L4000 ONLY)				(KDL-37L4000 ONLY)	
*	3	3-870-750-01	COVER, UNDER (32)	6	3-094-341-01	FOOT (15X20)	
		(KDL-32L4000 ONLY)			7	2-580-608-01	SCREW, +PSW M5X16
*	3	3-870-774-01	COVER, UNDER (37)			(SCREWS TO ATTACH TABLE-TOP STAND TO TV)	
		(KDL-37L4000 ONLY)					

For product protection and safety reasons, Sony strongly recommends that you use the screws provided with the TV.

CAUTION: These screws cannot be used to secure the TV to Wall Mount Brackets.

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

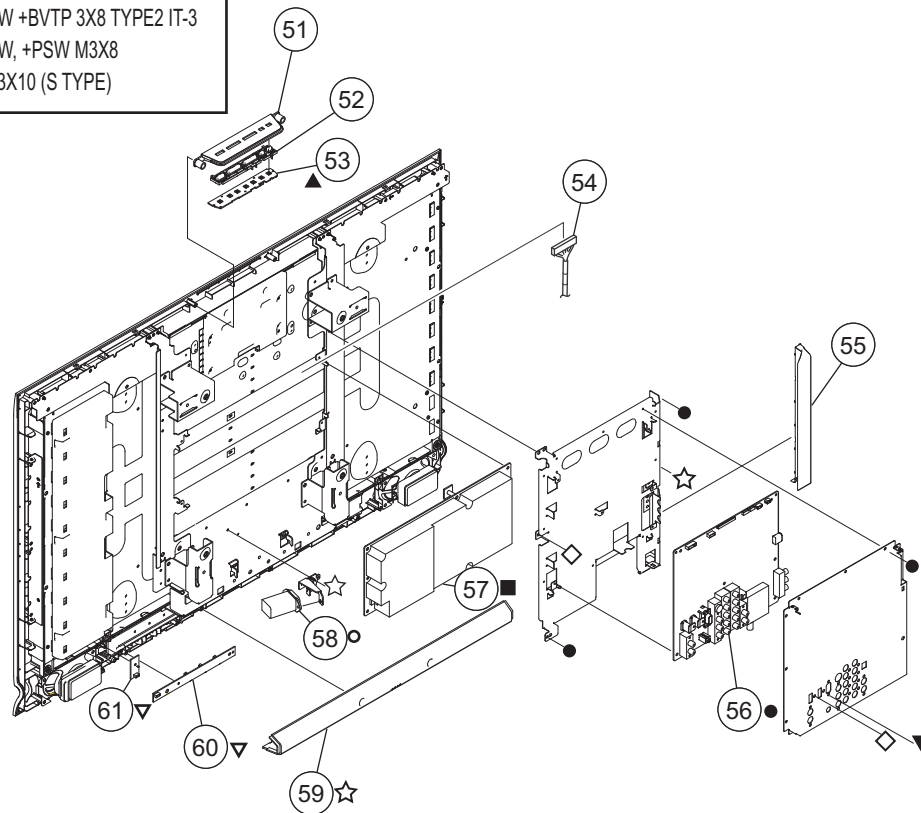
NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.









NOTE: The components identified by a red outline and a  mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced. See Appendix A: Encryption Key Components in the back of this manual.


4-2. CHASSIS


(Check the [Sony Electronics Service Information](#) website for any additional service related issues for this model.)


- ☆ 2-580-640-01 SCREW, +BVTP2 4X16
- 2-580-629-01 SCREW, +BVST 3X8
- ◇ 2-580-591-01 SCREW, +PSW M3X5
- ▼ 4-635-966-01 SCREW (HEX)
- 3-682-691-21 NUT, WASHER HEXAGON
- ▲ 7-685-504-19 SCREW +BTP 2X6 TYPE2 N-S
- ▽ 7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3
- 2-580-593-01 SCREW, +PSW M3X8
- 2-596-649-01 +KTT 3X10 (S TYPE)



REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]	REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
51	3-870-749-01	BRACKET, BUTTON		 56	N/A	A BOARD, MOUNTED (KDL-32L4000 ONLY)	
52	3-870-748-01	BUTTON				FOR ALL A BOARD PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAL	
53	1-857-038-11	H1 BOARD, MOUNTED		 56	N/A	A BOARD, MOUNTED (KDL-37L4000 ONLY)	
 54	N/A	CONNECTOR ASSEMBLY LVDS 32S (KDL-32L4000 ONLY)				FOR ALL A BOARD PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAL	
		FOR ALL CONNECTOR ASSEMBLY LVDS 32S PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAL					
 54	N/A	CONNECTOR ASSEMBLY LVDS 37 (KDL-37L4000 ONLY)					
		FOR ALL CONNECTOR ASSEMBLY LVDS 37 PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAL					
55	3-870-773-01	BRACKET, SIDE JACK (37) (KDL-37L4000 ONLY)		57	1-857-108-11	G BOARD, MOUNTED	
55	3-870-747-01	BRACKET, SIDE JACK (32) (KDL-32L4000 ONLY)		58	1-822-024-11	AC INLET	
				* 59	3-870-751-01	BAR, UNDER (32) (KDL-32L4000 ONLY)	
				* 59	3-870-775-01	BAR, UNDER (37) (KDL-37L4000 ONLY)	
				60	1-857-040-11	H3 BOARD, MOUNTED	
				61	1-857-039-11	H2 BOARD, MOUNTED	

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

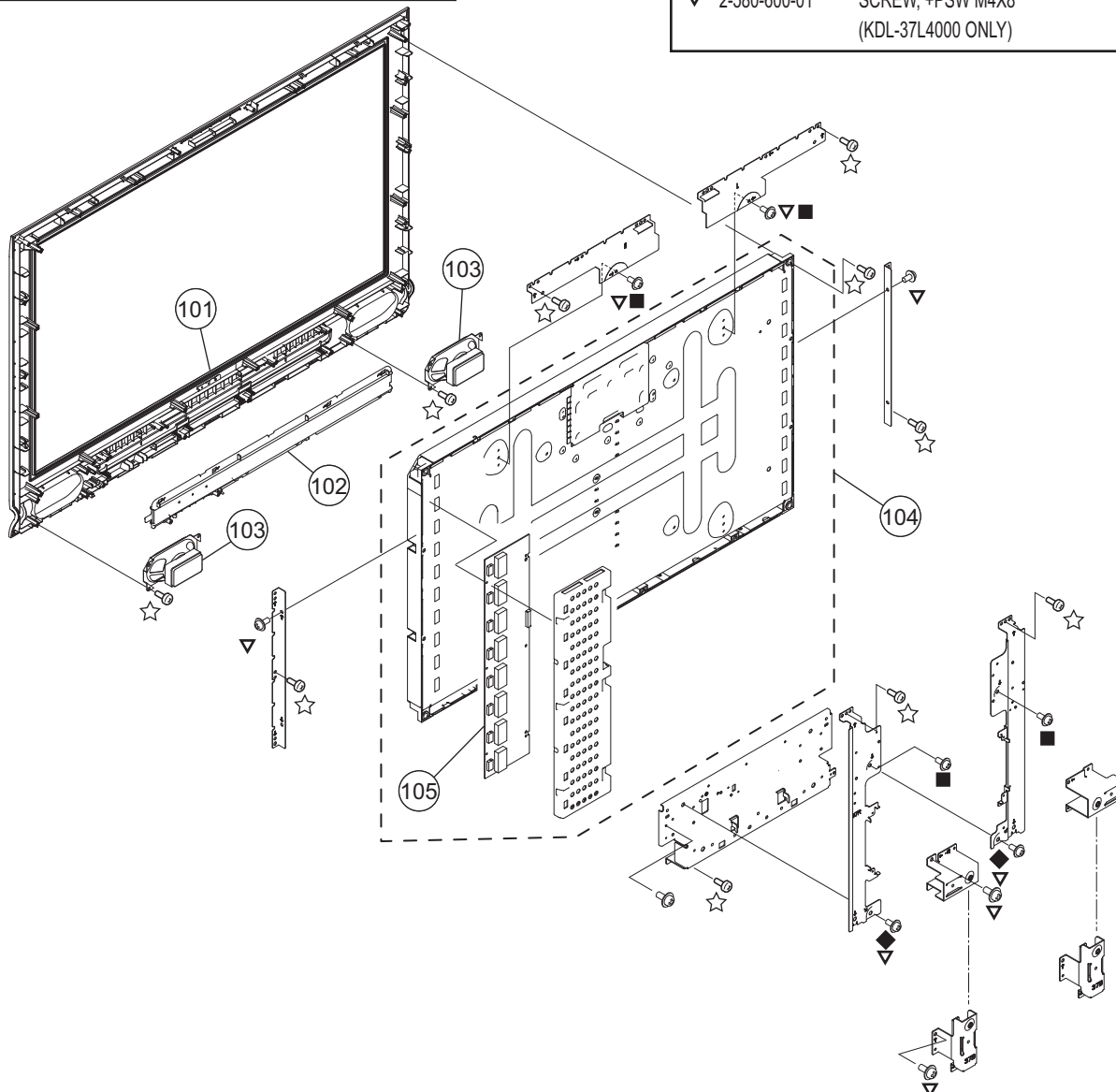
NOTE: The components identified by a red outline and a  mark contain confidential information. Specific instructions must be adhered to whenever these components are repaired and/or replaced. See Appendix A: Encryption Key Components in the back of this manual.





4-3. BEZEL ASSEMBLY AND LCD PANEL


(Check the [Sony Electronics Service Information](#) website for any additional service related issues for this model.)


- ☆ 2-580-640-01 SCREW, +BVTP2 4X16
- ◆ 2-580-606-01 SCREW, +PSW M5X8




- 2-580-599-01 SCREW, +PSW M4X6 (KDL-32L4000 ONLY)
- ▼ 2-580-600-01 SCREW, +PSW M4X8 (KDL-37L4000 ONLY)



REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]	REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
101	X-2190-765-1	BEZEL (32) ASSEMBLY (KDL-32L4000 ONLY)			104	N/A LCD PANEL	[105]
101	X-2190-766-1	BEZEL (37) ASSEMBLY (KDL-37L4000 ONLY)				FOR ALL LCD PANEL PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAL	
102	3-870-746-01	PANEL, CLEAR (32) (KDL-32L4000 ONLY)			105	N/A MT INVERTER BOARD	
102	3-870-772-01	PANEL, CLEAR (37) (KDL-37L4000 ONLY)				FOR ALL MT INVERTER BOARD PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAL	
103	1-826-946-11	SPEAKER (12X6CM)					

NOTE: The components identified by shading and  mark are critical for safety. Replace only with part number specified.

NOTE: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.




REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
<u>ACCESSORIES AND PACKING</u>							
	A-1541-863-A	ACCESSORY ASSEMBLY (KDL-32L4000/37L4000 US ONLY)			3-700-291-12	GUIDE, QUICK SET UP (ENGLISH VERSION) (KDL-32L4000/37L4000 US ONLY)	
	A-1543-563-A	ACCESSORY ASSEMBLY (KDL-32L4000/37L4000 CND ONLY)			3-700-291-22	GUIDE, QUICK SET UP (FRENCH VERSION) (KDL-32L4000/37L4000 CND ONLY)	
*	3-873-992-01	BAG, PROTECTION (STAND M) (KDL-32L4000 ONLY)			3-700-289-12	MANUAL, INSTRUCTION (ENGLISH VERSION)	
*	3-874-011-01	BAG, PROTECTION (STAND ML) (KDL-37L4000 ONLY)			3-700-289-22	MANUAL, INSTRUCTION (FRENCH VERSION) (KDL-32L4000/37L4000 CND ONLY)	
*	3-873-993-01	BAG, PROTECTION(32) (KDL-32L4000 ONLY)		*	3-700-290-11	MANUAL, INSTRUCTION(WALL MOUNT)	
*	3-874-012-01	BAG, PROTECTION(37) (KDL-37L4000 ONLY)			1-834-069-21	POWER-SUPPLY CORD SET	
				<u>MISCELLANEOUS</u>			
					2-580-608-01	SCREW, +PSW M5X16 (SCREWS TO ATTACH TABLE-TOP STAND TO TV) For product protection and safety reasons, Sony strongly recommends that you use the screws provided with the TV. CAUTION: These screws cannot be used to secure the TV to Wall Mount Brackets.	
					X-2186-601-1	SUPPORT BELT KIT	
				<u>REMOTE COMMANDER</u>			
					1-480-722-11	REMOTE COMMANDER (RM-YD025)	
					9-885-110-88	BATTERY COVER (RM-YD025)	

Sony Corporation
Sony Technology Center
Technical Services
Service Promotion Department

APPENDIX A: ENCRYPTION KEY COMPONENTS

Encryption key components developed by Sony Corporation contain confidential information, and shall be handled under the non-disclosure obligations provided in the applicable agreement with Sony Corporation (and/or its subsidiary).

As part of this agreement specific instructions must be adhered to whenever a Circuit Board containing encryption key components is repaired and/or replaced pursuant to the following:

- 1) In the service manual the Circuit Board(s) containing encryption key components shall be identified with a **red outline and a **.
- 2) Only repair boards or components listed in the service manual shall be utilized for replacement and/or repair.
- 3) Disassembly, decryption, or reverse-engineering component(s) is strictly prohibited.
- 4) Any board in which the Servicer replaces an encryption key component must be placed back into the set it originally came from and the replaced defective component **MUST BE DESTROYED**. Boards cannot be swapped.
- 5) If a Circuit Board identified with a **red outline and a ** in the service manual is deemed to be defective:
 - a) and if a core charge is imposed and is covered under the product warranty, the defective un-repaired or modified board **MUST BE RETURNED** to Sony.
 - b) and if the core charge is **NOT** covered under the product warranty, the defective un-repaired or modified board **MUST BE DESTROYED**.
- 5) If a unit is destroyed (such as field scrap), the Circuit Board identified with a **red outline and a ** in the service manual **MUST BE DESTROYED**.