

SERVICE MANUAL

AZ3FK CHASSIS

Self Diagnosis
Supported model

LEVEL 3
CONFIDENTIAL

CONFIDENTIAL
ELECTRICAL SERVICE MANUAL
INTERNAL ONLY

ORIGINAL MANUAL ISSUE DATE: 2/2012

REVISION DATE	SUBJECT
2/17/2012	Original Manual Release Date
3/29/2012	Added KDL-32BX353/32BX354/40BX453/46BX453 models. Added KDL-32BX355/32BX356/40BX455/46BX455 models.
4/27/2012	Added Connector Diagram for BX35x/BX45x models.

LCD DIGITAL COLOR TV
SONY®

SERVICE MANUAL

AZ3FK CHASSIS

<u>MODEL</u>	<u>COMMANDER</u>	<u>DESTINATION</u>
KDL-32BX353	RM-YD081	COLUMBIA
KDL-32BX354	RM-YD081	COLUMBIA
KDL-32BX355	RM-YD081	CHILE/PERU/VZ
KDL-32BX356	RM-YD081	CHILE/PERU/VZ
KDL-40BX450	RM-YD080	CND/LA/MX/US
KDL-40BX451	RM-YD080	CND/MX
KDL-40BX453	RM-YD081	COLUMBIA
KDL-40BX455	RM-YD081	CHILE/PERU/VZ
KDL-40EX640	RM-YD075	CND/US
KDL-46BX450	RM-YD080	CND/LA/MX/US
KDL-46BX451	RM-YD080	MX
KDL-46BX453	RM-YD081	COLUMBIA
KDL-46BX455	RM-YD081	CHILE/PERU/VZ
KDL-46EX640	RM-YD075	CND/US
KDL-55EX640	RM-YD075	CND/US/MX

LCD DIGITAL COLOR TV

SONY®

TABLE OF CONTENTS

SECTION TITLE	PAGE
Cautions and Warnings	4
Safety Check-Out.....	6
SECTION 1: DIAGRAMS	8
1-1. Printed Circuit Boards and Schematic Diagrams Information	8
1-2. Block Diagram.....	9
1-3. Connector Diagrams	10
Connectors (BX35x/BX45X Series)	10
Connectors (EX64x Series).....	11
1-4. Schematics and Supporting Information	12
A Board Schematic (BX35x/BX45X Series)	12
A Board Schematic (EX64x Series)	13
G9 Board Schematic	33
G10 Board Schematic	34
G11 Board Schematic	35
GE55 Board Schematic.....	36
GL5A Board Schematic.....	37
GL5B Board Schematic.....	38
H Board Schematic	39
SECTION 2: ELECTRICAL PARTS LIST	41
KDL-32BX353/32BX354	41
KDL-32BX355/32BX356	41
KDL-40BX450/46BX450	41
KDL-40BX451/46BX451	41
KDL-40BX453/46BX453	41
KDL-40BX455/46BX455	42
KDL-40EX640/46EX640/55EX640.....	42
Accessories and Packing for US Only	42
APPENDIX A: ENCRYPTION KEY COMPONENTS	A-1

CAUTIONS AND WARNINGS


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, in case of live chassis.

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  mark on the schematic diagrams and the parts list. It is essential that these critical parts be replaced only with the part number specified in the 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 warranty.


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.

ALERTE!!

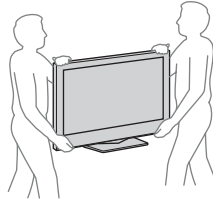
Afin d'éviter tout risque d'électrocution provenant d'un châssis sous tension, un transformateur d'isolement doit être utilisé lors de tout dépannage.

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.

SETTING UP AND CARRYING THE TV

- Disconnect all cables when carrying the TV.
- Carry the TV with the adequate number of people; larger size TVs require two or more people.
- Correct hand placement while carrying the TV is very important for safety and to avoid damage.



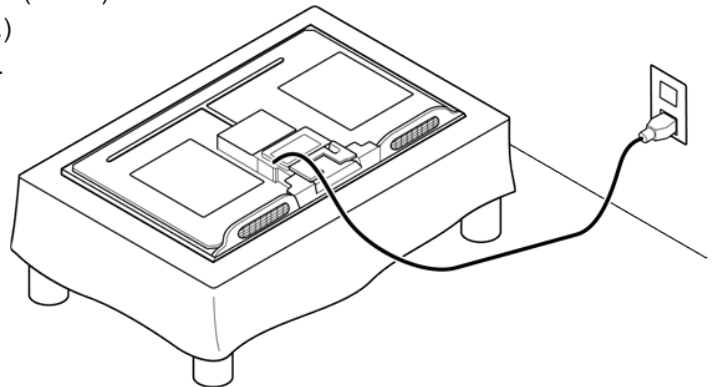
USE CAUTION WHEN HANDLING THE LCD PANEL

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:

1. Do not press on the panel or frame edge to avoid the risk of electric shock.
2. Do not scratch or press on the panel with any sharp objects.
3. Do not leave the module in high temperatures or in areas of high humidity for an extended period of time.
4. Do not expose the LCD panel to direct sunlight.
5. Avoid contact with water. It may cause a short circuit within the module.
6. Disconnect the AC power when replacing the backlight (CCFL) or inverter circuit.
(High voltage occurs at the inverter circuit at 650Vrms.)
7. Always clean the LCD panel with a soft cloth material.
8. Use care when handling the wires or connectors of the inverter circuit. Damaging the wires may cause a short.
9. Protect the panel from ESD to avoid damaging the electronic circuit (C-MOS).
10. During the repair, **DO NOT leave the Power On for more than 1 hour** while the TV is face down on a cloth.



CLEANING THE LCD PANEL

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

Clean the cabinet of the TV with a dry soft cloth.

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 benzene for cleaning.
- ☑ Periodic vacuuming of the ventilation openings is recommended to ensure proper ventilation.
- ⊗ **Do Not** use paper towels, any type of abrasive pad, rags, rubber or vinyl materials to clean the screen. Using these materials could easily scratch the screen which may result in permanent damage.
- ⊗ **Do Not** use any cleaning product containing alkaline/acid cleaner, scouring powder, or volatile solvent, such as alcohol, ammonia, benzene, thinner or insecticide. Using any of these harsh cleaners may result in permanent damage to the screen.
- ⊗ **Do Not** spray water or detergent directly onto the TV screen. If liquid drips into the bottom of the screen it may cause a failure.

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 in "Leakage Test".

LEAKAGE TEST

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. Follow the manufacturers' instructions provided with the tester.
2. A battery-operated AC milliammeter.
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. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable. (see Figure A)

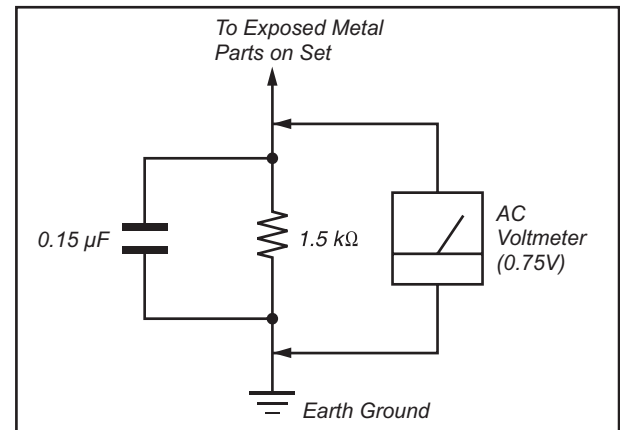


Figure A. Use an AC voltmeter to check AC leakage.

HOW TO FIND A GOOD EARTH GROUND

The cover-plate retaining screw on most AC outlet boxes is at earth ground. Verify the AC outlet box retaining screw ground by connecting a 60W to 100W incandescent (not a neon or fluorescent 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)

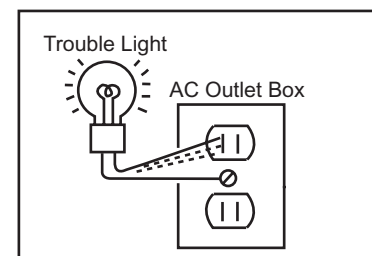
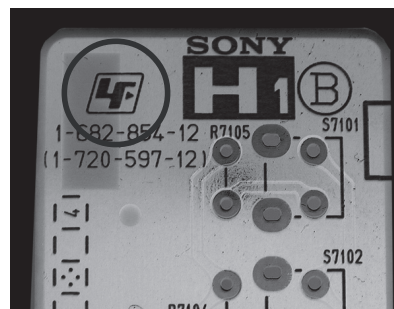


Figure B. Checking for earth ground.

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.



example

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 celsius. This requires soldering equipment capable of accurate temperature control coupled with a good heat recovery characteristics.

SECTION 1: DIAGRAMS

1-1. PRINTED CIRCUIT BOARDS AND SCHEMATIC DIAGRAMS INFORMATION

All capacitors are in μF unless otherwise noted. pF : μF 50WV 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 : $\frac{1}{4}\text{W}$

$\frac{1}{4}\text{W}$ in resistance, $\frac{1}{10}\text{W}$ and $\frac{1}{16}\text{W}$ 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-blow 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


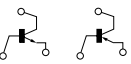

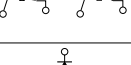























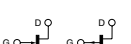

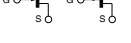

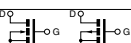

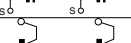

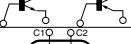



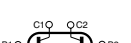

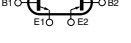




CAPACITOR

: 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

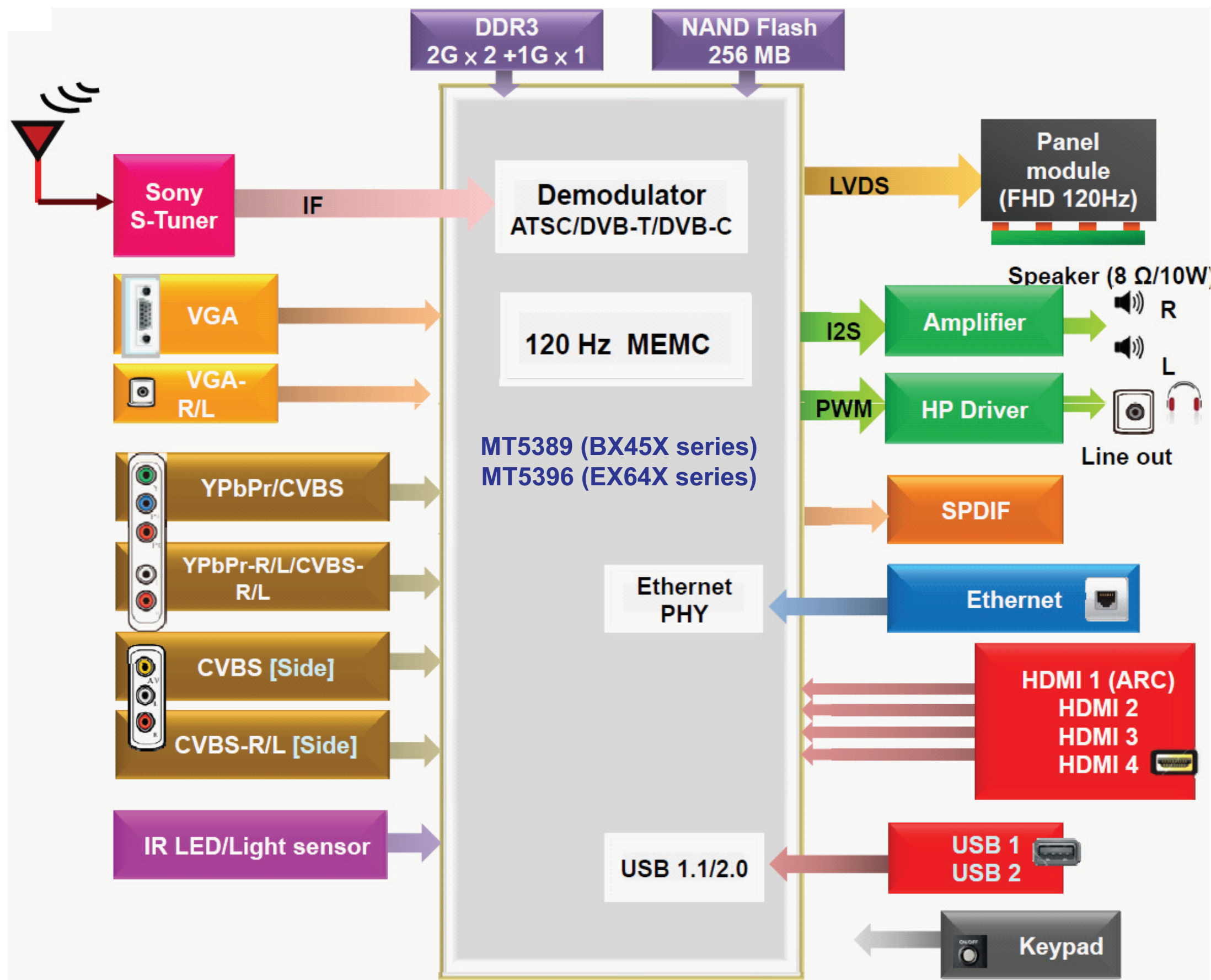
Terminal name of semiconductors in silk screen printed circuit (※)

	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	
10	Diode		Common Cathode Cathode	
11	Diode		Common Cathode Cathode	
12	Diode		Anode Anode Cathode Anode	
13	Transistor (FET)		Drain Source Gate	
14	Transistor (FET)		Drain Source Gate	
15	Transistor (FET)		Source Drain Gate	
16	Transistor		Emitter Collector Base	
17	Transistor		C2(B1)E1 E2(B2)C1	
18	Transistor		C1(B2)E2 E1(B1)C2	
19	Transistor		C1 B2 E2 E1 B1 C2	
20	Transistor		C1 B2 E2 E1 B1 C2	
21	Transistor		E2 B1 E1 C2 C1(B2)	
22	Transistor		(B2) B1 E1 E2 C1 C2	
23	Transistor		(B2) E2 E1 B1 C2 C1	
—	Discrete semiconductor			

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

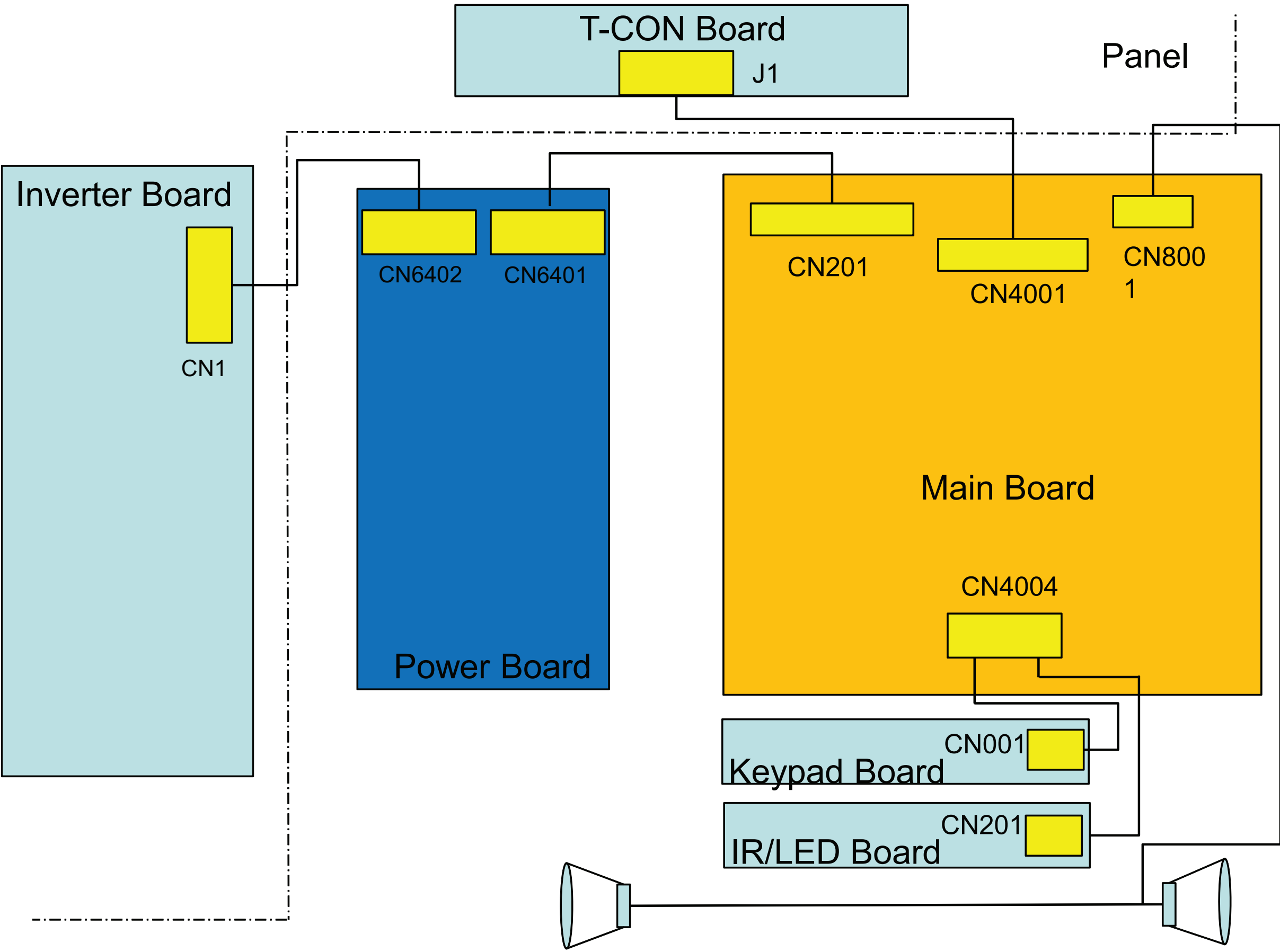
Ver.1.6

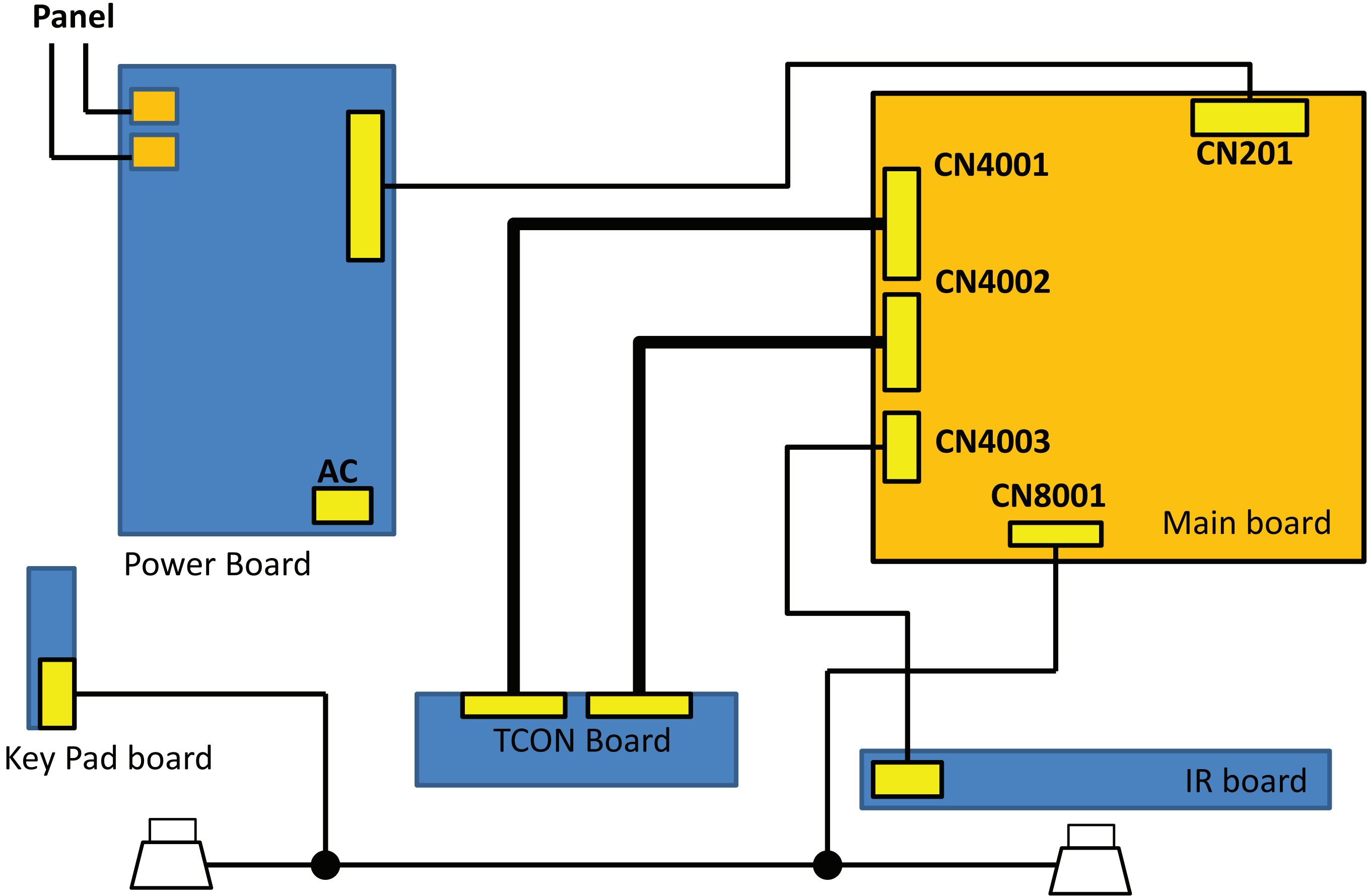
1-2. BLOCK DIAGRAM



1-3. CONNECTOR DIAGRAMS

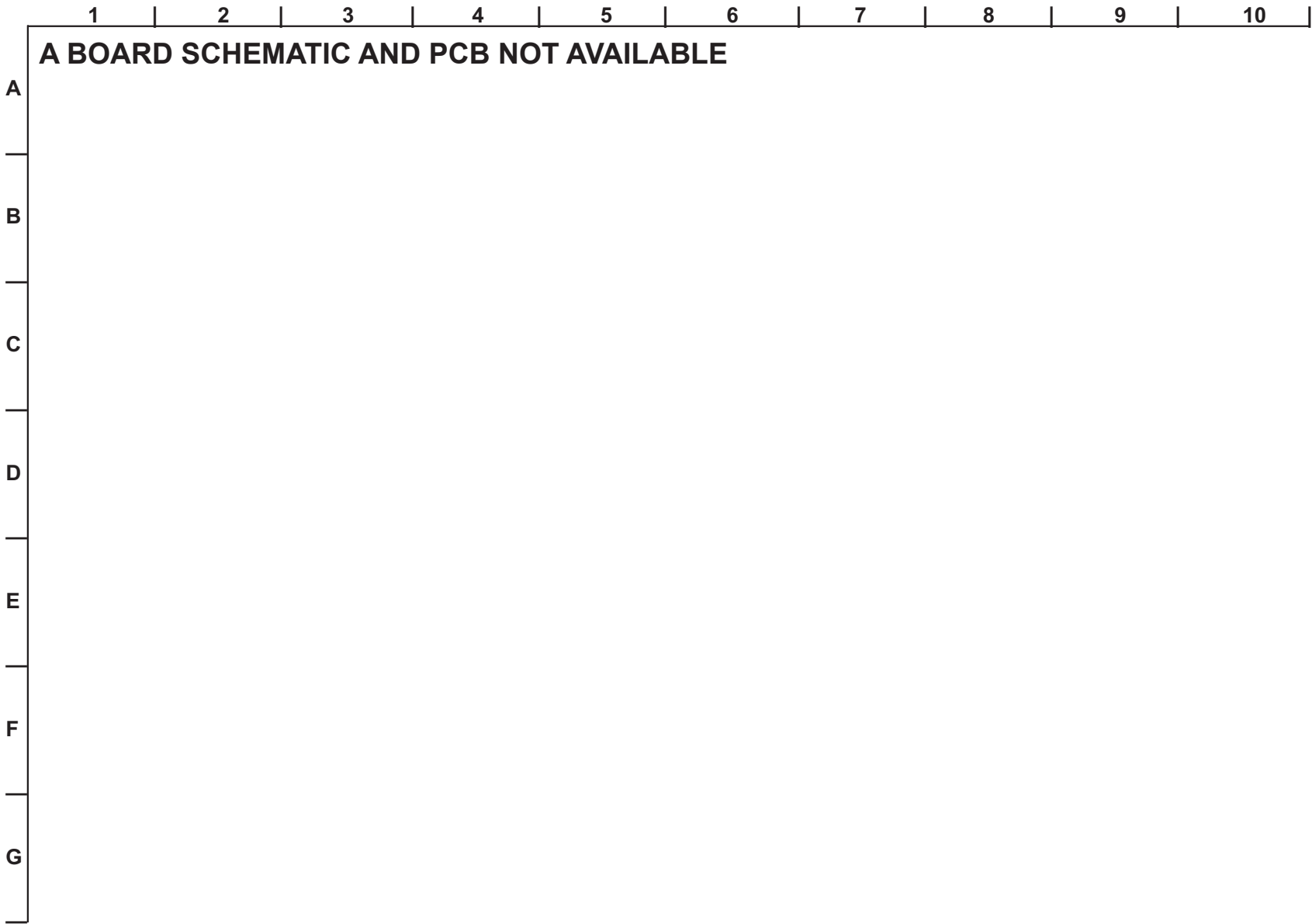
CONNECTORS (BX35X/BX45X SERIES)

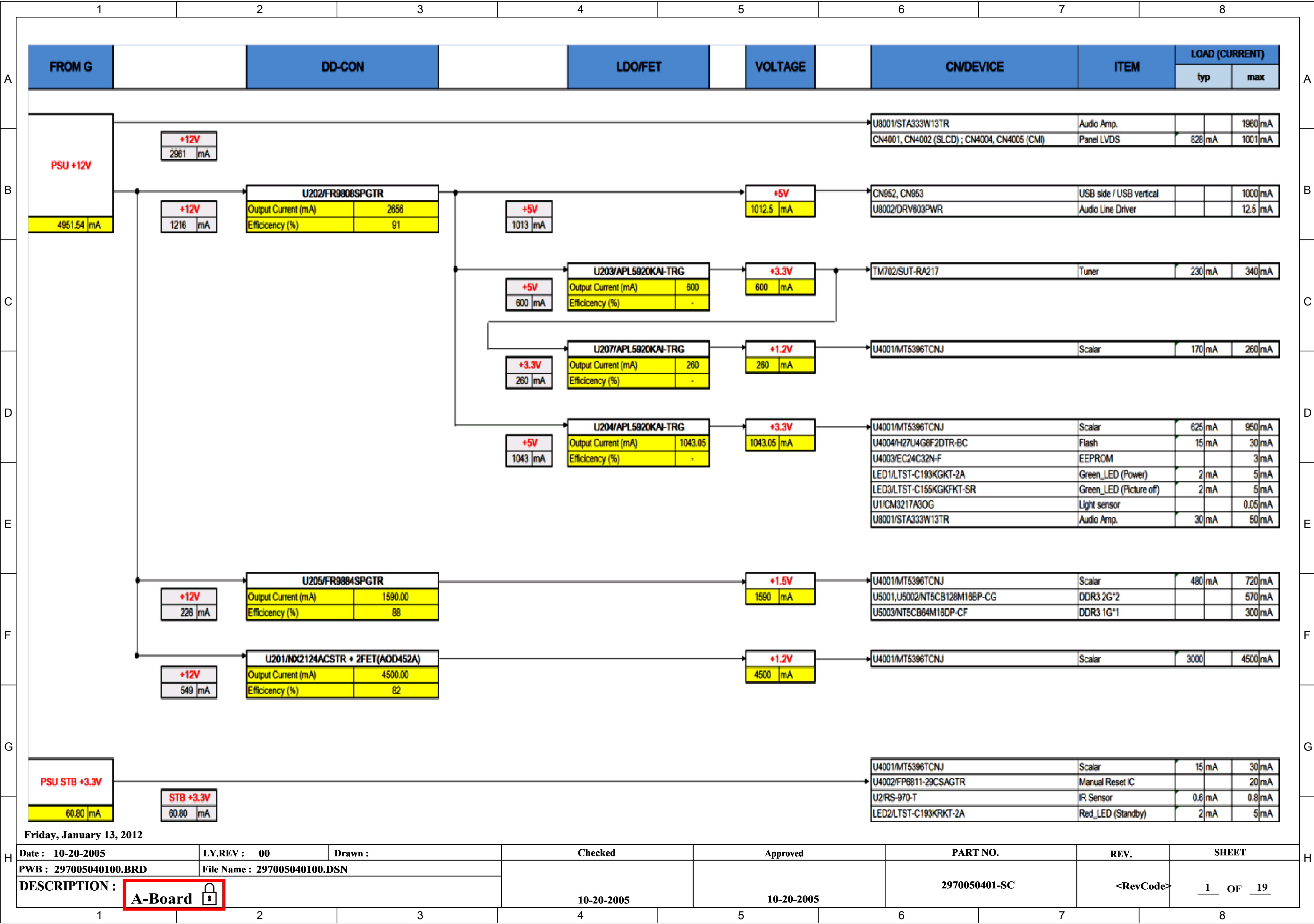




1-4. SCHEMATICS AND SUPPORTING INFORMATION

A BOARD SCHEMATIC (BX35X/BX45X SERIES)

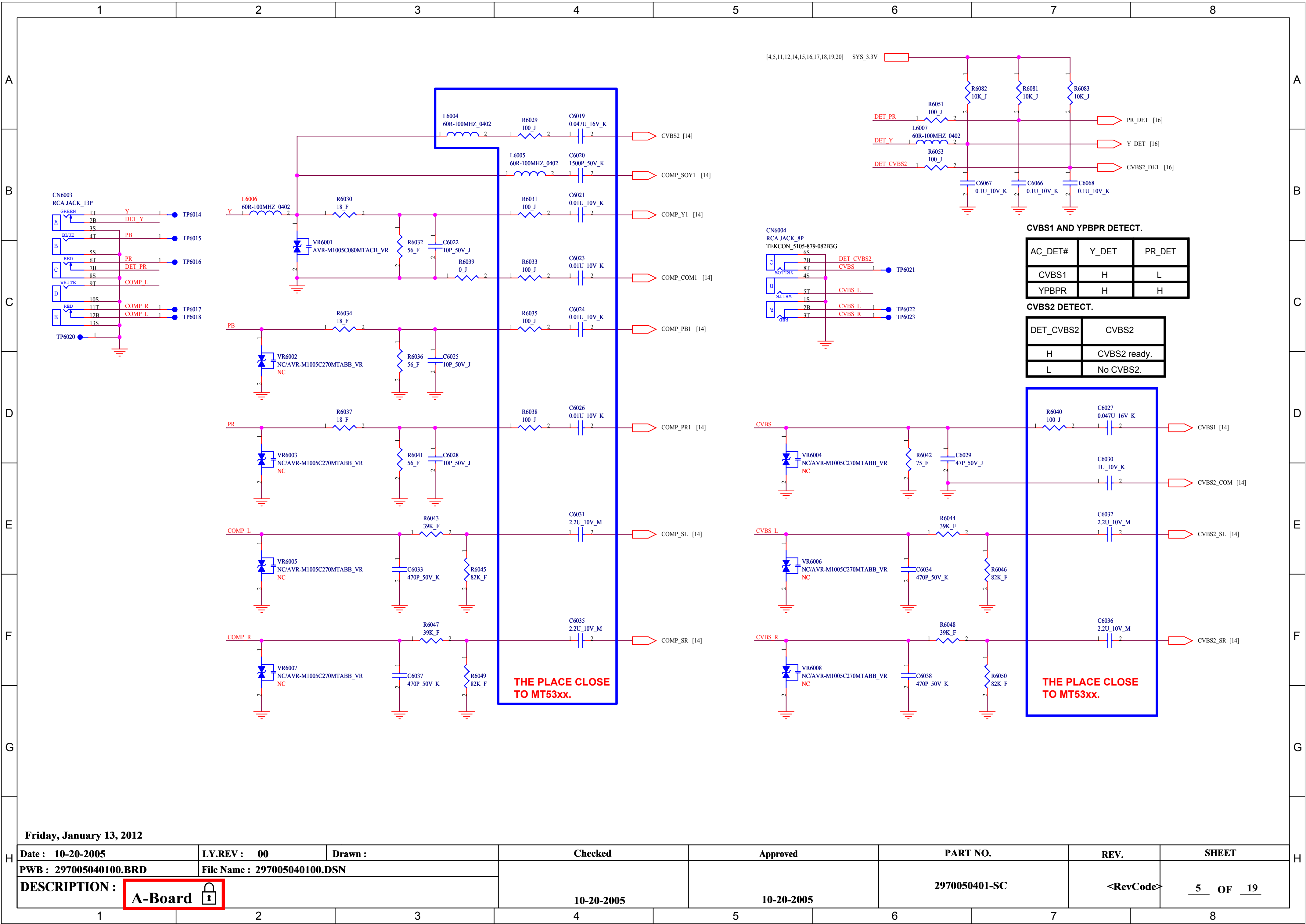




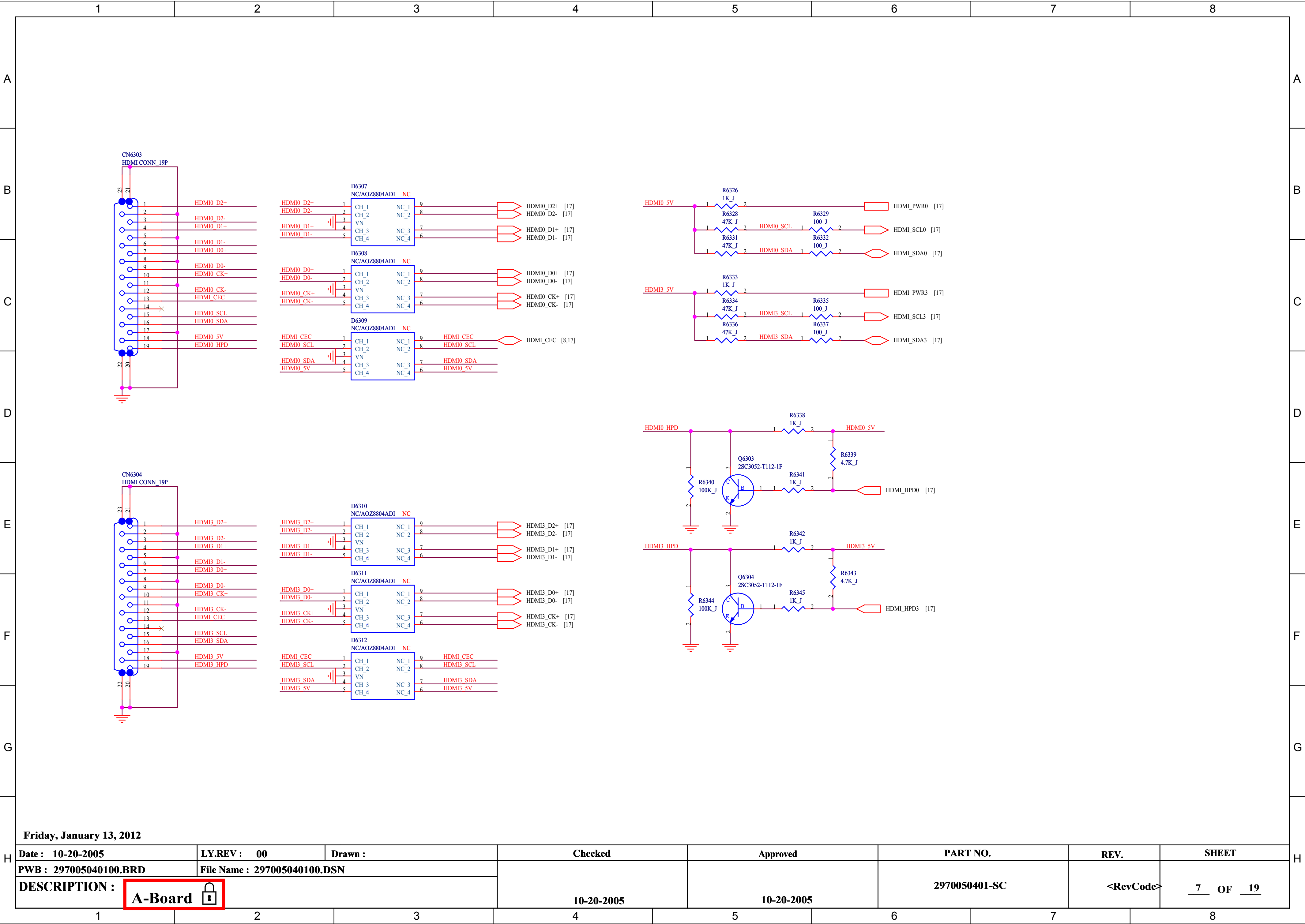








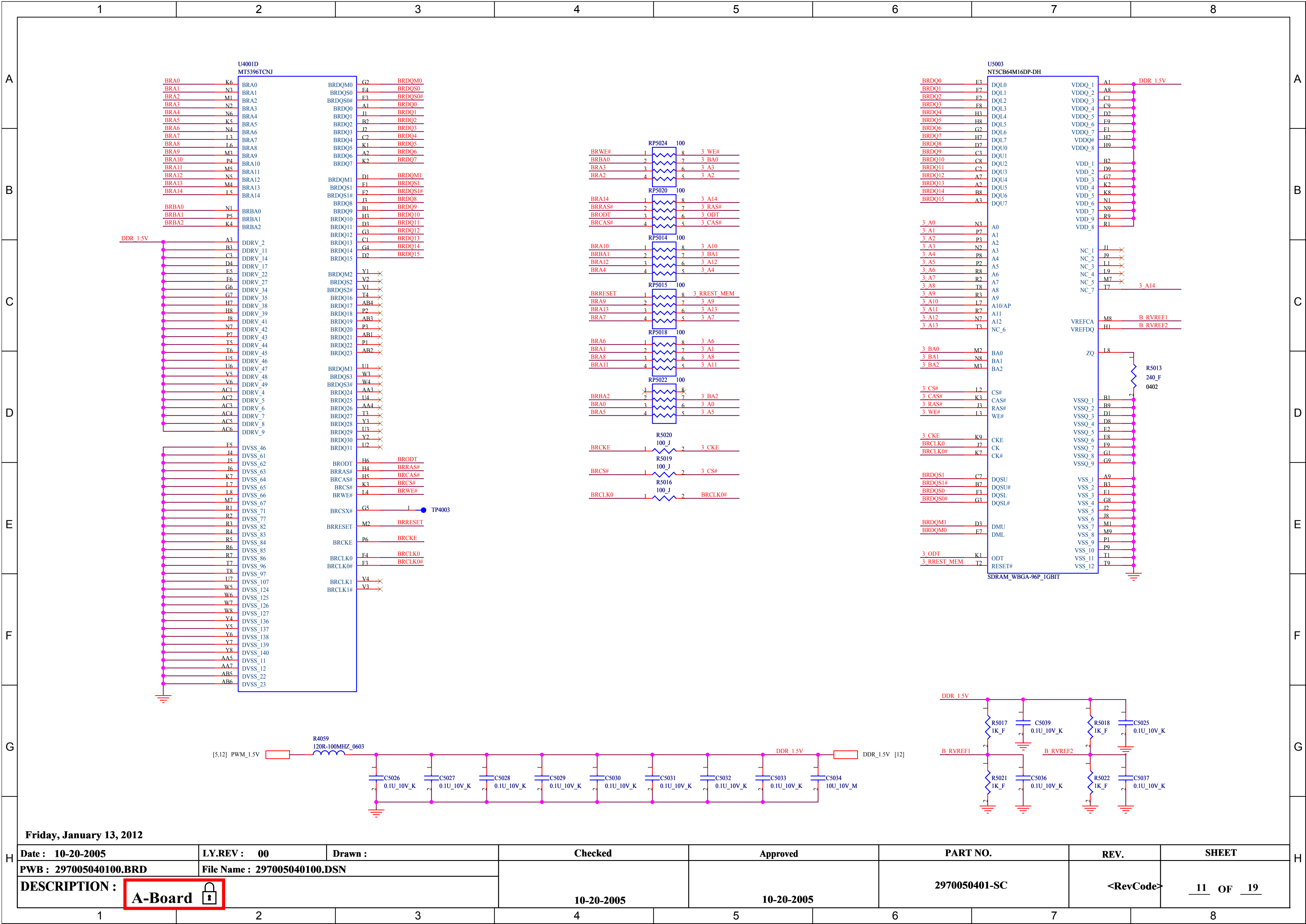






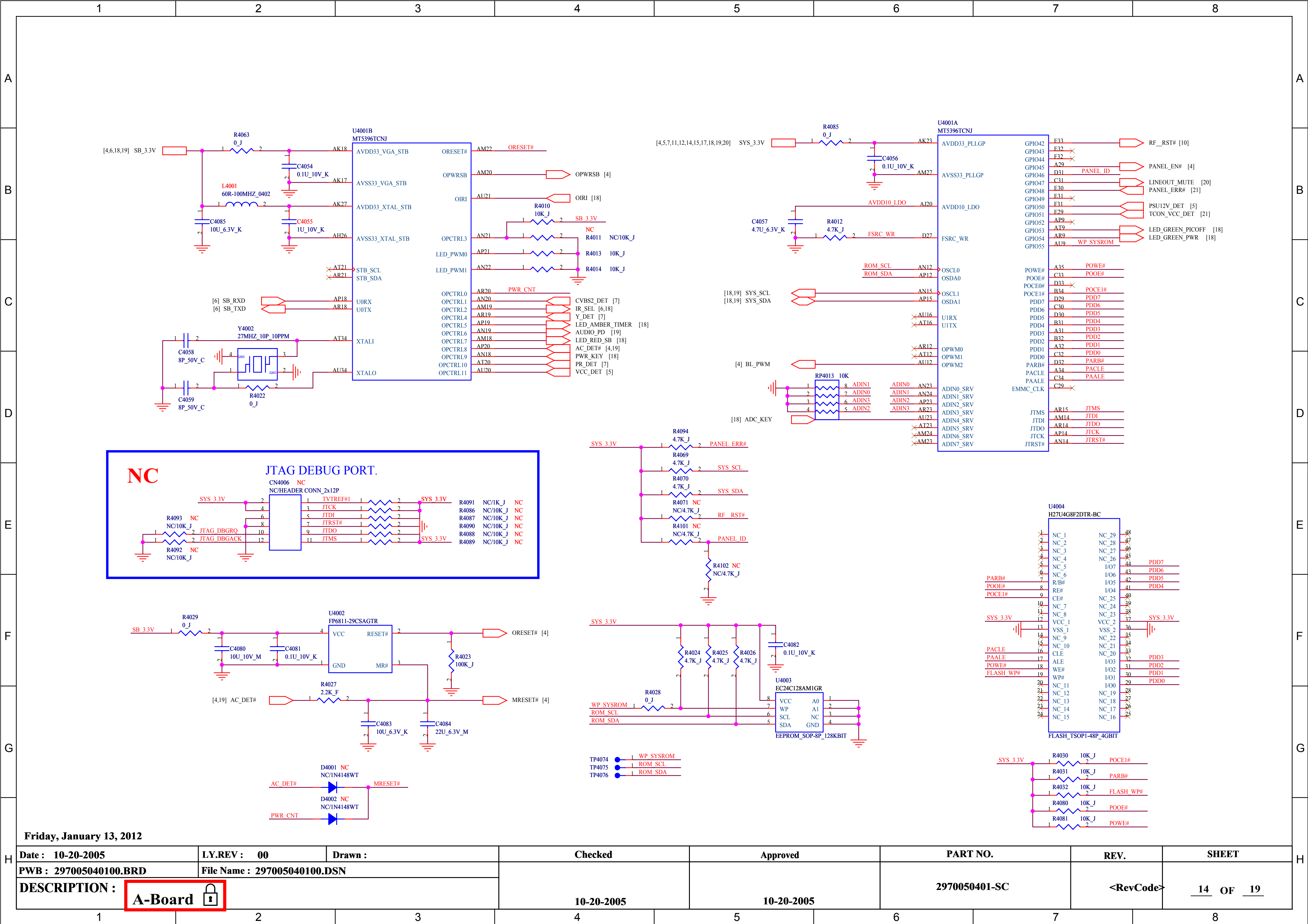






















A

[illegible]

G9 BOARD SCHEMATIC

REFER TO ["SECTION 2: ELECTRICAL PARTS LIST" ON PAGE 41](#) TO DETERMINE IF THIS BOARD IS USED IN THE MODEL BEING REPAIRED

	1	2	3	4	5	6	7	8	9	10
A	G9 BOARD SCHEMATIC AND PCB NOT AVAILABLE									
B										
C										
D										
E										
F										
G										

G10 BOARD SCHEMATIC

REFER TO ["SECTION 2: ELECTRICAL PARTS LIST" ON PAGE 41](#) TO DETERMINE IF THIS BOARD IS USED IN THE MODEL BEING REPAIRED

	1	2	3	4	5	6	7	8	9	10
A	G10 BOARD SCHEMATIC AND PCB NOT AVAILABLE									
B										
C										
D										
E										
F										
G										

G11 BOARD SCHEMATIC

REFER TO ["SECTION 2: ELECTRICAL PARTS LIST" ON PAGE 41](#) TO DETERMINE IF THIS BOARD IS USED IN THE MODEL BEING REPAIRED

	1	2	3	4	5	6	7	8	9	10
A	G11 BOARD SCHEMATIC AND PCB NOT AVAILABLE									
B										
C										
D										
E										
F										
G										

GE55 BOARD SCHEMATIC

REFER TO ["SECTION 2: ELECTRICAL PARTS LIST" ON PAGE 41](#) TO DETERMINE IF THIS BOARD IS USED IN THE MODEL BEING REPAIRED

	1	2	3	4	5	6	7	8	9	10
A	GE55 BOARD SCHEMATIC AND PCB NOT AVAILABLE									
B										
C										
D										
E										
F										
G										

GL5A BOARD SCHEMATIC

REFER TO ["SECTION 2: ELECTRICAL PARTS LIST" ON PAGE 41](#) TO DETERMINE IF THIS BOARD IS USED IN THE MODEL BEING REPAIRED

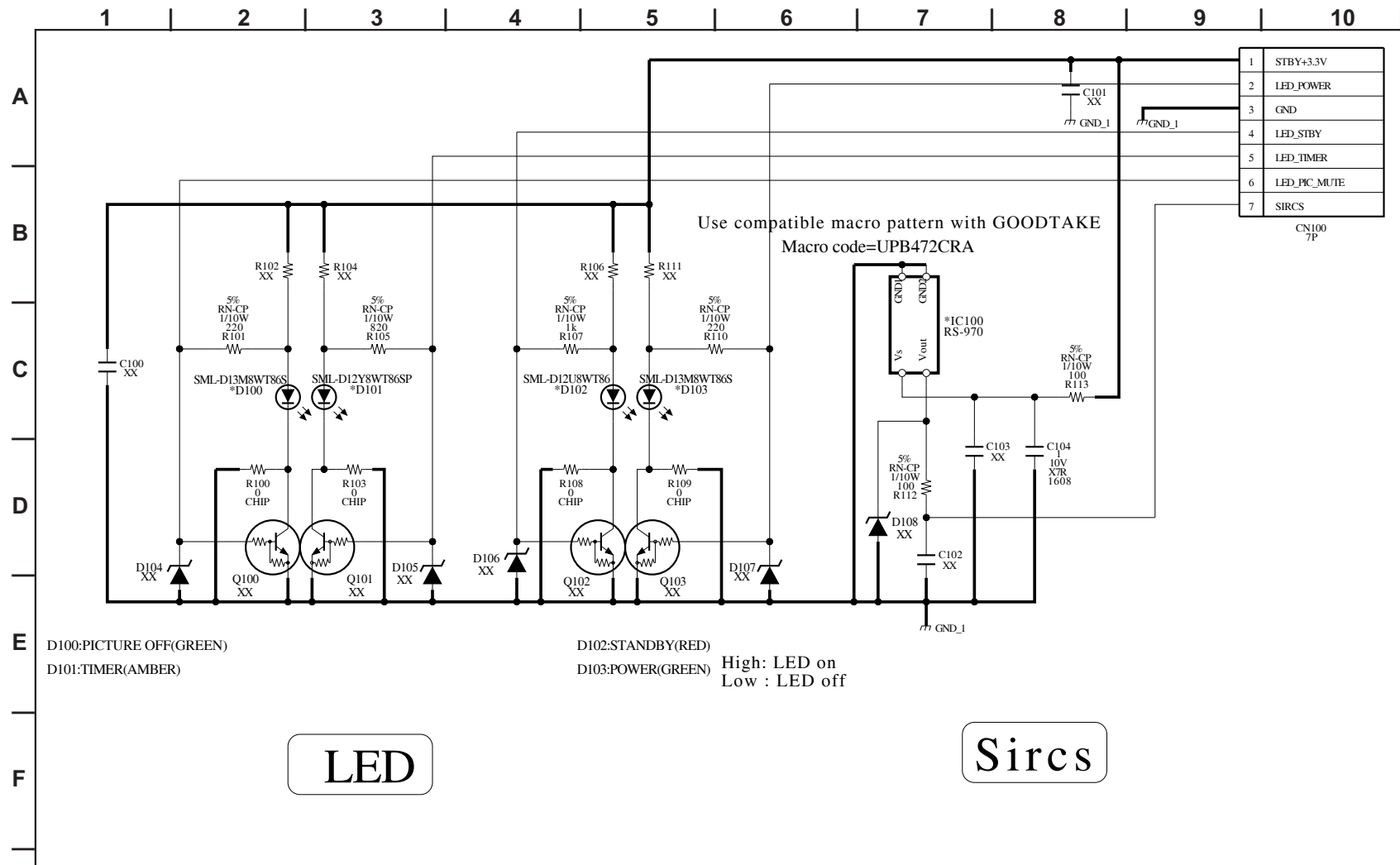
	1	2	3	4	5	6	7	8	9	10
A	GL5A BOARD SCHEMATIC AND PCB NOT AVAILABLE									
B										
C										
D										
E										
F										
G										

GL5B BOARD SCHEMATIC

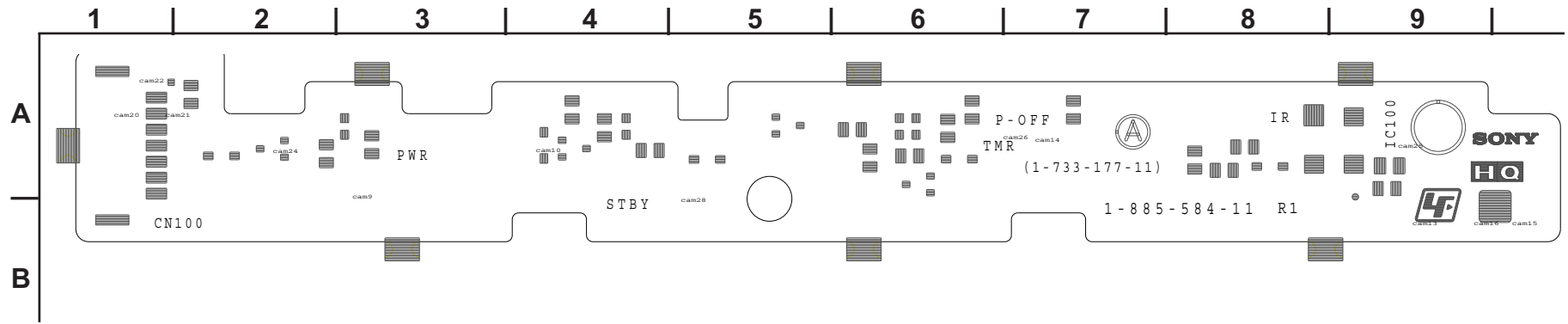
REFER TO ["SECTION 2: ELECTRICAL PARTS LIST" ON PAGE 41](#) TO DETERMINE IF THIS BOARD IS USED IN THE MODEL BEING REPAIRED

	1	2	3	4	5	6	7	8	9	10
A	GL5B BOARD SCHEMATIC AND PCB NOT AVAILABLE									
B										
C										
D										
E										
F										
G										

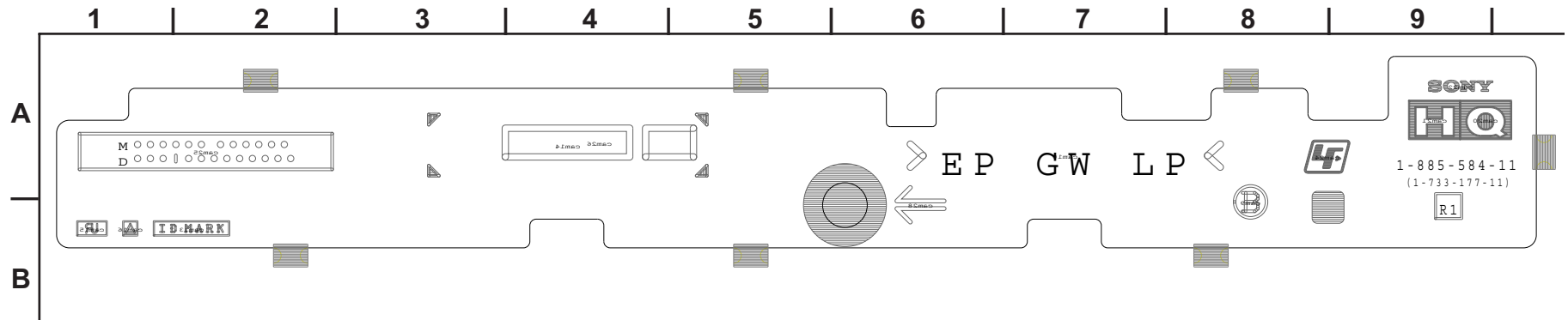
H BOARD SCHEMATIC




H [LED/SIRCS]
COMPONENT SIDE





H [LED/SIRCS]
CONDUCTOR SIDE



SECTION 2: ELECTRICAL PARTS LIST

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.









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

RESISTORS

- All resistors are in ohms
- F : nonflammable
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When ordering parts by reference number, please include the board name.

AFTER REPLACING THE MAIN BOARD OR LCD PANEL YOU MUST UPDATE THE SOFTWARE TO THE LATEST VERSION AND COMPLETE ANY SERVICE ADJUSTMENTS

REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
KDL-32BX353/32BX354				G11			
A							
	1-895-182-41	A BOARD, COMPLETE (KDL-32BX353 ONLY)		1-474-382-12	G11 BOARD COMPLETE (KDL-46BX450 ONLY)		
	1-895-182-51	A BOARD, COMPLETE (KDL-32BX354 ONLY)		H			
				1-895-183-11	H BOARD, MOUNTED		
G9				KDL-40BX451/46BX451			
1-474-381-12	G9 BOARD, COMPLETE			A			
H					1-895-182-31	A BOARD, COMPLETE	
1-895-183-11	H BOARD, MOUNTED			G10			
KDL-32BX355/32BX356				1-474-380-11	G10 BOARD, COMPLETE (KDL-40BX450 ONLY)		
A				G11			
	1-895-184-21	A BOARD, COMPLETE (KDL-32BX355 ONLY)		1-474-382-12	G11 BOARD COMPLETE (KDL-46BX451 ONLY)		
	1-895-184-31	A BOARD, COMPLETE (KDL-32BX356 ONLY)		H			
				1-895-183-11	H BOARD, MOUNTED		
G9				KDL-40BX453/46BX453			
1-474-381-12	G9 BOARD, COMPLETE			A			
H					1-895-182-61	A BOARD, COMPLETE	
1-895-183-11	H BOARD, MOUNTED			G10			
KDL-40BX450/46BX450				1-474-380-11	G10 BOARD, COMPLETE (KDL-40BX453 ONLY)		
A				G11			
	1-895-182-11	A BOARD, COMPLETE (FOR CND/MX/US MODELS ONLY)		1-474-380-12	G11 BOARD, COMPLETE (KDL-46BX453 ONLY)		
	1-895-182-21	A BOARD, COMPLETE (FOR LA MODELS ONLY)		H			
				1-895-183-11	H BOARD, MOUNTED		
G10							
1-474-380-11	G10 BOARD, COMPLETE (KDL-40BX450 ONLY)						




AFTER REPLACING THE MAIN BOARD OR LCD PANEL YOU MUST UPDATE THE SOFTWARE TO THE LATEST VERSION AND COMPLETE ANY SERVICE ADJUSTMENTS

REF. NO.	PART NO.	DESCRIPTION	VALUES	REF. NO.	PART NO.	DESCRIPTION	VALUES
KDL-40BX455/46BX455				4-423-892-01		CUSHION, LOWER (40APOF) (KDL-40BX450 ONLY)	
A				4-400-053-11		CUSHION, LOWER (40 ZEU) (KDL-40EX640 ONLY)	
	1-895-184-11	A BOARD, COMPLETE		4-423-894-01		CUSHION, LOWER (46APOF) (KDL-46BX450 ONLY)	
G10				4-400-054-11		CUSHION, LOWER (46 ZEU) (KDL-46EX640 ONLY)	
	1-474-380-11	G10 BOARD, COMPLETE (KDL-40BX455 ONLY)		4-400-055-12		CUSHION, LOWER (55 ZEU) (KDL-55EX640 ONLY)	
G11				4-412-149-11		CUSHION, SIDE CENTER L (55 ZEU) (KDL-55EX640 ONLY)	
	1-474-380-12	G11 BOARD, COMPLETE (KDL-46BX455 ONLY)		4-412-150-11		CUSHION, SIDE CENTER R (55 ZEU) (KDL-55EX640 ONLY)	
H				4-423-891-01		CUSHION, UPPER (40APOF) (KDL-40BX450 ONLY)	
	1-895-183-11	H BOARD, MOUNTED		4-400-047-11		CUSHION, UPPER (40 ZEU) (KDL-40EX640 ONLY)	
KDL-40EX640/46EX640/55EX640				4-423-893-01		CUSHION, UPPER (46APOF) (KDL-46BX450 ONLY)	
A				4-400-048-11		CUSHION, UPPER (46 ZEU) (KDL-46EX640 ONLY)	
	1-895-172-11	A BOARD, COMPLETE		4-400-049-11		CUSHION, UPPER (55 ZEU) (KDL-55EX640 ONLY)	
GL5				4-419-434-11		LABEL, ENERGY GUIDE(APO) (KDL-40BX450 ONLY)	
	1-895-173-11	GL5A BOARD, COMPLETE (KDL-40EX640 ONLY)		4-420-093-01		LABEL, ENERGY GUIDE(NK2) (KDL-40EX640 ONLY)	
	1-895-174-11	GL5B BOARD COMPLETE (KDL-46EX640 ONLY)		4-419-434-21		LABEL, ENERGY GUIDE(APO) (KDL-46BX450 ONLY)	
GE55				4-420-093-11		LABEL, ENERGY GUIDE(NK2) (KDL-46EX640 ONLY)	
	1-895-175-11	GE55 BOARD, COMPLETE (KDL-55EX640 ONLY)		4-420-093-21		LABEL, ENERGY GUIDE(NK2) (KDL-55EX640 ONLY)	
H				4-419-125-01		LABEL, FRONT (NK2 40) (KDL-40EX640 ONLY)	
	1-895-176-11	H BOARD, MOUNTED		4-419-126-01		LABEL, FRONT (NK2 46) (KDL-46EX640 ONLY)	
ACCESSORIES AND PACKING FOR US ONLY				4-419-127-01		LABEL, FRONT (NK2 55) (KDL-55EX640 ONLY)	
	4-408-075-31	BAG, PROTECTION (1400x900) (KDL-40BX450/40EX640 ONLY)		3-674-673-22		STOPPER (A) (KDL-55EX640 ONLY)	
	4-408-076-31	BAG, PROTECTION (1550x1050) (KDL-46BX450/46EX640 ONLY)		4-400-062-11		TRAY (55 ZEU) (KDL-55EX640 ONLY)	
	4-408-077-31	BAG, PROTECTION (1720X1200) (KDL-55EX640 ONLY)					
	4-416-841-01	CARTON, INDIVIDUAL (APO 40) (KDL-40BX450 ONLY)					
	4-416-845-01	CARTON, INDIVIDUAL (APO 46) (KDL-46BX450 ONLY)					
	4-419-122-01	CARTON, INDIVIDUAL (NK2 40) (KDL-40EX640 ONLY)					
	4-419-123-01	CARTON, INDIVIDUAL (NK2 46) (KDL-46EX640 ONLY)					

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**.
6. 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**.

SONY® is a trademark of Sony Electronics

Reproduction in whole or part without written permission is prohibited. All rights reserved