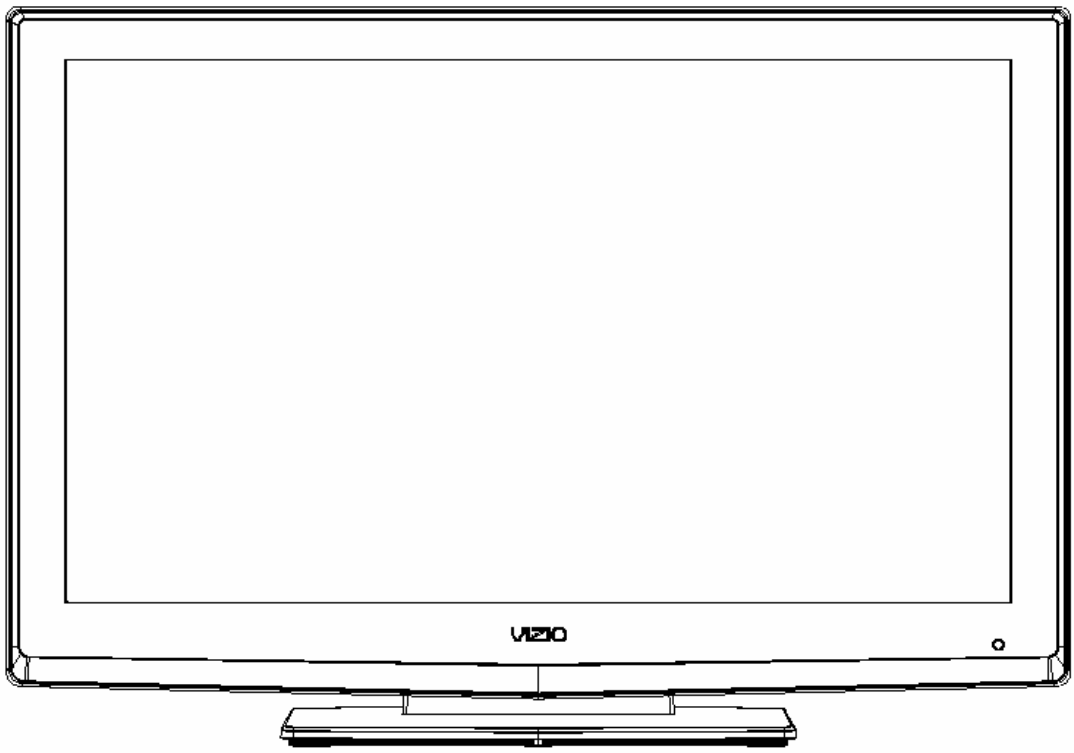
Service Manual



Model #: VIZIO VP422 HDTV10A

V, Inc

320A Kalmus Drive Costa Mesa, CA 92626

TEL : +714-668-0588 FAX :+714-668-9099

Top Confidential

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Block Diagram

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FCC INFORMATION
This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause unacceptable interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures -- reorient or relocate the receiving antenna; increase the separation between equipment and receiver; or connect the into an outlet on a circuit different from that to which the receiver is connected.

FCC WARNING
To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to Amtrak products will void the user's authority to operate this device. Thus VINC Will not be held responsible for the product and its safety.

CE CERTIFICATION
This device complies with the requirements of the EEC directive 89/336/EEC with regard to "Electromagnetic compatibility."

SAFETY CAUTION
Use a power cable that is properly grounded. Always use the AC cords as follows – USA (UL); Canada (CSA); Germany (VDE); Switzerland (SEV); Britain (BASEC/BS); Japan (Electric Appliance Control Act); or an AC cord that meets the local safety standards.

Chapter 1 Features

1. Built in TV channel selector for TV viewing.

2. Simulatnueous display of PC and TV images.

3. Connectable to PC's analog RGB port.

4. Built in S-video, HDTV, composite video, HDMI and TV in.

5. Built in auto adjust function for automatic adjument of screen display.

6. Smoothing function enables display of smooth texts and graphics even if image with resolution lower than 1680x1050 is magnified.

7. Power saving to reduce consumption power too less than 1W.

9. On Screen Display: user can define display mode (i.e. color, brightness, contrast, sharpness), sound setting, TV channel program, aspect and gamma or reset all setting.

Chapter 2 Specification

1. PDP CHARACTERISTICS

General Specification of SDI S42AX-YD05

Item	Specification	Unit
Active Area	933.89x532.22	mm
Pixel Number	1024 x R.G.B. x 768	pixel
Pixel Pitch	0.912(H) x 0.693(V)	mm
Display Colors	16.7 millions	color

2. OPTICAL CHARACTERISTICS

Viewing Angle (CR>10) > Free

3. SIGNAL (Refer to the Timing Chart)

Sync Signal

1) Type: LVDS

2) Input Voltage Level: 100~240 Vac, 50/ 60 Hz

4. Input Connectors

USB, D-SUB15PIN (MINI, 3rows), SPDIF(digital audio out), HDMIX3, RCAX1 (component), RCAX1 (AUDIO in), RCAX1 (composite), RCAX1 (AUDIO in), S-Video, Tuner, RCAX1 (AUDIO out)

5. POWER SUPPLY

Power Consumption: 400W MAX

Power OFF: to less than 1W MAX

6.Speaker

Output 10W (max) X2

7. ENVIRONMENT

Operating Temperature: 5℃~35℃ (Ambient)

Operating Humidity: Ta= 35 °C, 90%RH (Non-condensing)

Operating Altitude: 0~14,000 feet (4267.2m)(Non-Operating)

8. DIMENSIONS (Physical dimension)

Width: 1040.0 mm

Depth: 260.0 mm

Height: 711.5” mm

9. WEIGHT (Physical weight)

a. Net: 28.8±0.5 Kg

b. Gross: 32.5±0.5 Kg

Please pay attention to the followings when you use this PDP module.

9-1. MOUNTING PRECAUTIONS

(1) You must mount a module using holes arranged in four corners or four sides.

(2) You should consider the mounting structure so that uneven force (ex. Twisted stress) is not applied to the module. And the case on which a module is mounted should have sufficient strength so that external force is not transmitted directly to the module.

(3) Please attach the surface transparent protective plate to the surface in order to protect the polarizer.
Transparent protective plate should have sufficient strength in order to the resist external force.

(4) You should adopt radiation structure to satisfy the temperature specification.

(5) Acetic acid type and chlorine type materials for the cover case are not desirable because the former generates corrosive gas of attacking the polarizer at high temperature and the latter causes circuit break by electro-chemical reaction.

(6) Do not touch, push or rub the exposed polarizes with glass, tweezers or anything harder than HB pencil lead. And please do not rub with dust clothes with chemical treatment.
Do not touch the surface of polarizer for bare hand or greasy cloth.(Some cosmetics are detrimental to the polarizer.)

(7) When the surface becomes dusty, please wipe gently with absorbent cotton or other soft materials like chamois soaks with petroleum benzene. Normal-hexane is recommended for cleaning the adhesives used to attach front / rear polarizers. Do not use acetone, toluene and alcohol because they cause chemical damage to the polarizer.

(8) Wipe off saliva or water drops as soon as possible. Their long time contact with polarizer causes deformations and color fading.

(9) Do not open the case because inside circuits do not have sufficient strength.

9-2. OPERATING PRECAUTIONS

(1) The spike noise causes the mis-operation of circuits. It should be lower than following voltage:
V=±200mV(Over and under shoot voltage)

(2) Response time depends on the temperature. (In lower temperature, it becomes longer.)

(3) Brightness depends on the PATTERN.

(4) Be careful for condensation at sudden temperature change. Condensation makes damage to polarizer or electrical contacted parts. And after fading condensation, smear or spot will occur.

(5) When fixed patterns are displayed for a long time, remnant image is likely to occur.

(6) Module has high frequency circuits. System manufacturers shall do sufficient suppression to the electromagnetic interference. Grounding and shielding methods may be important to minimize the interference.

9-3. HANDLING PRECAUTIONS FOR PROTECTION

(1) The protection film is attached to the bezel with a small masking tape. When the protection film is peeled off, static electricity is generated between the film and polarizer. This should be peeled off slowly and carefully by people who are electrically grounded and with well ion-blown equipment or in such a condition, etc.

(2) When the module with protection film attached is stored for a long time, sometimes there remains a very small amount of glue still on the bezel after the protection film is peeled off.

(3) You can remove the glue easily. When the glue remains on the bezel surface or its vestige is recognized, please wipe them off with absorbent cotton waste or other soft material like chamois soaked with normal-hexane.

Chapter 3 On Screen Display

Main unit button

(1). POWER

(2). MENU

(3). CH +

(4). CH -

(5). VOL +

(6). VOL -

(7). INPUT

TV Source

A. PICTURE：

a. PICTURE MODE (CUSTOM/ STANDARD / MOVIE / GAME)
b. BRIGHTNESS (0~100)
c. CONTRAST (0~100)
d. COLOR (0~100)
e. TINT (-32~32)
f. SHARPNESS (0~100)
g. COLOR TEMPERATURE (CUSTOM/COOL/NORMAL/WARM)
h. ADVANCED VIDEO

i-1. DNR(OFF/LOW/MEDIUM/STRONG)

i-2. BLACK LEVEL EXTENDER (ON/OFF)

i-3. WHITE PEAK LIMITATOR (ON/OFF)

i-4. CTI(OFF/LOW/MEDIUM/STRONG)

i-5. FLESH TONE (ON/OFF)

i-6. ADAPTIVE LUMA (ON/OFF)

B. AUDIO：

a. VOLUME (0~100)
b. BASS (0~100)
c. TREBLE (0~100)
d. BALANCE (-50~50)
e. SURROUND (ON/OFF)
f. DIGITAL AUDIO OUT (PCM)
g. SPEAKERS (ON/OFF)
h. LIP SYNC (0~5)

C. TV：

a. TUNER MODE (ANTENNA/CABLE)
b. AUTO SEARCH (RUN)
c. SKIP CHANNEL (TABLE)
d. MTS (STEREO)
e. TIME ZONE
(HAWALL/EASTTERN/INDIANA/CENTRAL/MOUNTAIN/ARIZONA/PACIFIC/ALASKA)
f. Daylight Saving(ON/OFF)

D. SETUP：

a. LANGUAGE (ENGLISH/FRENCH/SPANISH)

b. SLEEP TIMER (OFF/30/60/90/120)

c. WIDE (WIDE)

d. INPUT NAMING

e. CC (ON/OFF)

f. CC ON MUTE (ON/OFF)

g. DIGITAL CC STYLE

g-1. CAPTION STYLE
(AS BROADCASTER/CUSTOM)

g-2. FONT SIZE(SMALL/MEDIUM/LARGE)

g-3. FONT COLOR
(GREEN/BLUE//RED/CYAN/YELLOW/MAGENTA/BLACK/WHITE)

g-4. FONT OPACITY
(SOLID/TRANSLUCENT/TRANSPARENT)

g-5. BACKGROUND COLOR
(GREEN/BLUE//RED/CYAN/YELLOW/MAGENTA/BLACK/WHITE)

g-6. BACKGROUND OPACITY
(SOLID/TRANSLUCENT/TRANSPARENT)

g-7. WINDOW COLOR
(GREEN/BLUE//RED/CYAN/YELLOW/MAGENTA/BLACK/WHITE)

g-8. WINDOW OPATITY
(SOLID/TRANSLUCENT/TRANSPARENT)

h. H/V POSITION

i. RESET ALL SETTING

E. PARENTAL：

a. PASSWORD

a-1. CHANNEL BLOCK
a-2. TV RATING
a-3. MOVIE RATING
a-4. CHECK FOR NEW DTV RATING
a-5. BLOCK TV UNRATED
a-6. ACCESS CODE EDIT

RGB Mode

A. PICTURE ADJUST：

a. AUTO PICTURE (Run)
b. BRIGHTNESS (0~100)
c. CONTRAST (0~100)
d. COLOR TEMPERATURE(CUSTOM, 6500K, 9300K)
e. H-SIZE (0~255)
f. H-POSITION (0~100)
g. V-POSITION (0~100)
h. FINE TUNE (0~31)

B. AUDIO：

a. VOLUME (0~100)
b. BASS (0~100)
c. TREBLE (0~100)
d. BALANCE (-50~50)
e. SURROUND (ON/OFF)
f. SPEAKERS (ON/OFF)

C. SETUP：

a. LANGUAGE (ENGLISH/FRENCH/SPANISH)

b. SLEEP TIMER (OFF/30/60/90/120)

AV COMPONENT MODE

AV-C、AV-S、COMPONENT

A. PICTURE：

a. PICTURE MODE (CUSTOM/ STANDARD / MOVIE / GAME)

b. BACKLIGHT (0~100)

c. BRIGHTNESS (0~100)

d. CONTRAST (0~100)

e. COLOR (0~100)

f. TINT (-32~32)

g. SHARPNESS (0~100)

h. COLOR TEMPERATURE (CUSTOM/COOL/NORMAL/WARM)

i. ADVANCED VIDEO

i-1. DNR(OFF/LOW/MEDIUM/STRONG)

i-2. BLACK LEVEL EXTENDER (ON/OFF)

i-3. WHITE PEAK LIMITATOR (ON/OFF)

i-4. CTI(OFF/LOW/MEDIUM/STRONG)

i-5. FLESH TONE (ON/OFF)

i-6. ADAPTIVE LUMA (ON/OFF)

B. AUDIO：

a. VOLUME (0~100)
b. BASS (0~100)
c. TREBLE (0~100)
d. BALANCE (-50~50)
e. SURROUND (ON/OFF)
f. SPEAKERS (ON/OFF)

C. SETUP：

a. LANGUAGE (ENGLISH/FRENCH/SPANISH)
b. SLEEP TIMER (OFF/30/60/90/120)
c. RESET ALL SETTING

D. PARENTAL：

a. PASSWORD

a-1. CHANNEL BLOCK
a-2. TV RATING
a-3. MOVIE RATING
a-4. BLOCK TV UNRATED
a-5. ACCESS CODE EDIT

HDMI MODE：

A. PICTURE：

a. PICTURE MODE (CUSTOM/ STANDARD / MOVIE / GAME)
b. BRIGHTNESS (0~100)
c. CONTRAST (0~100)
d. COLOR (0~100)
e. TINT (-32~32)
f. SHARPNESS (0~100)
g. COLOR TEMPERATURE (CUSTOM/COOL/NORMAL/WARM)
h. ADVANCED VIDEO

i-1. DNR(OFF/LOW/MEDIUM/STRONG)

i-2. BLACK LEVEL EXTENDER (ON/OFF)

i-3. WHITE PEAK LIMITATOR (ON/OFF)

i-4. CTI(OFF/LOW/MEDIUM/STRONG)

i-5. FLESH TONE (ON/OFF)

i-6. ADAPTIVE LUMA (ON/OFF)

B. AUDIO：

a. VOLUME (0~100)
b. BASS (0~100)
c. TREBLE (0~100)
d. BALANCE (-50~50)
e. SURROUND (ON/OFF)
f. SPEAKERS (ON/OFF)

C. SETUP：

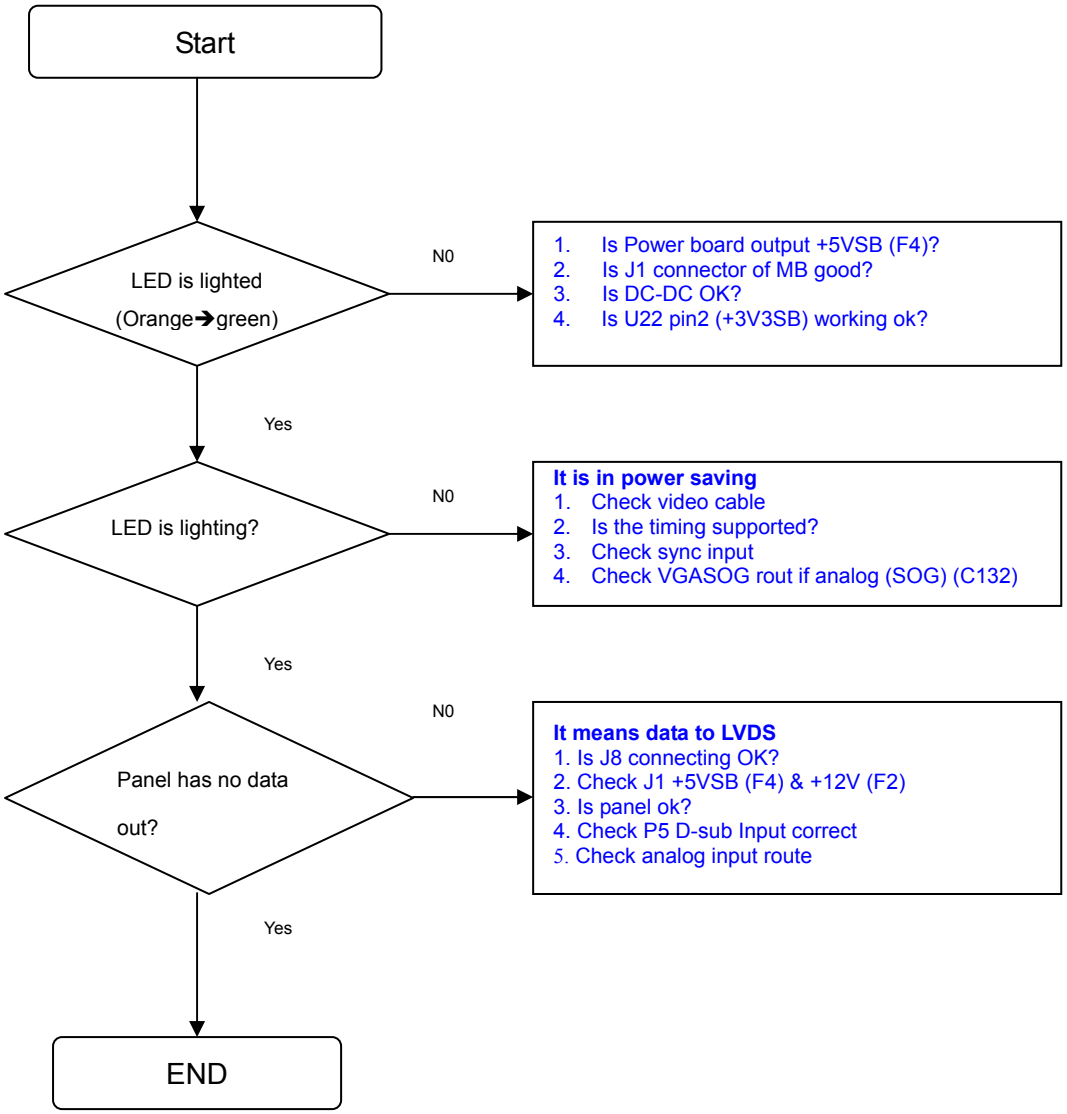
a. LANGUAGE (ENGLISH/FRENCH/SPANISH)

b. SLEEP TIMER (OFF/30/60/90/120)

c. RESET ALL SETTING

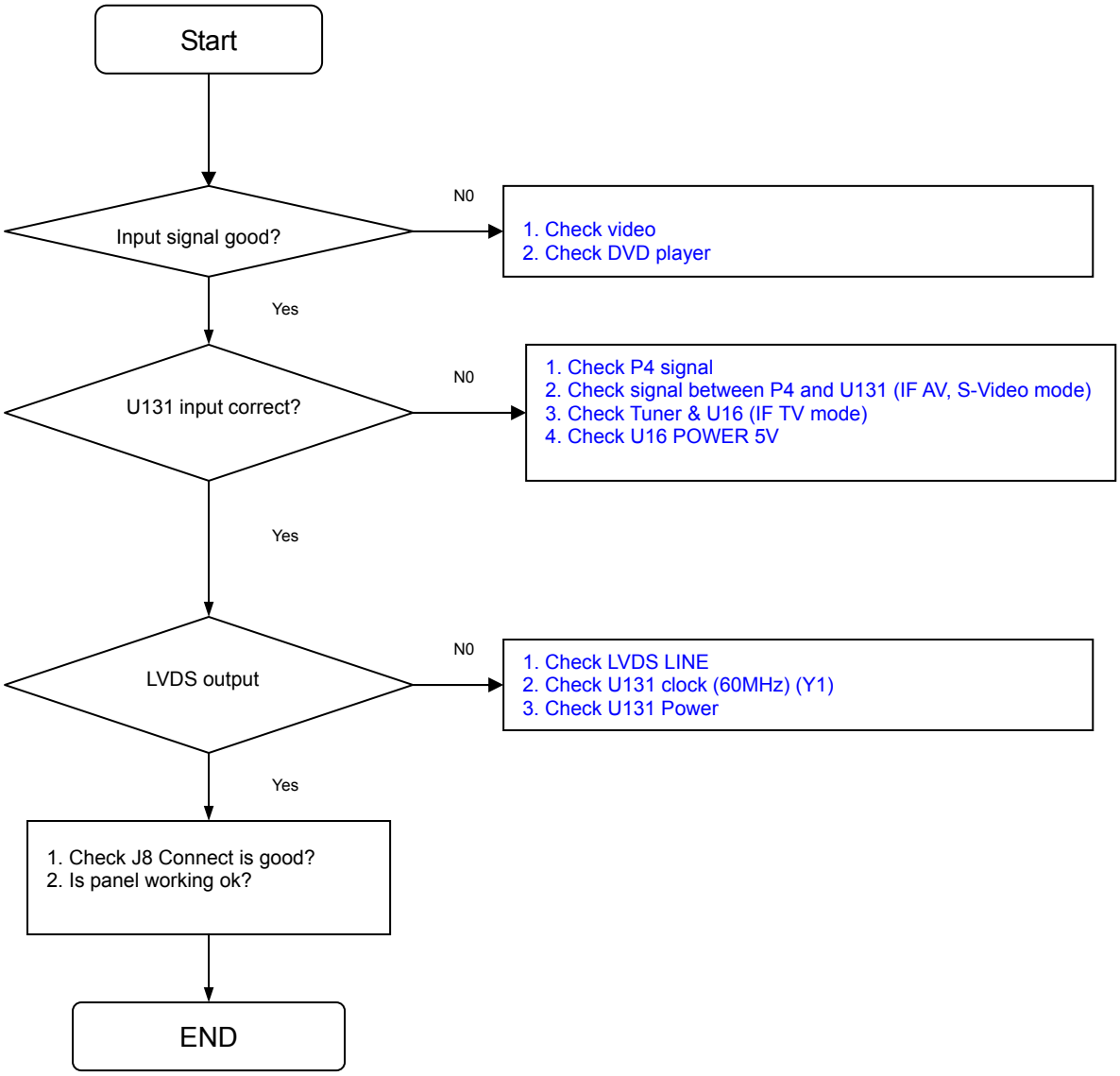
Chapter 9 Trouble shooting

MONITOR DISPLAY NOTHING (PC MODE)

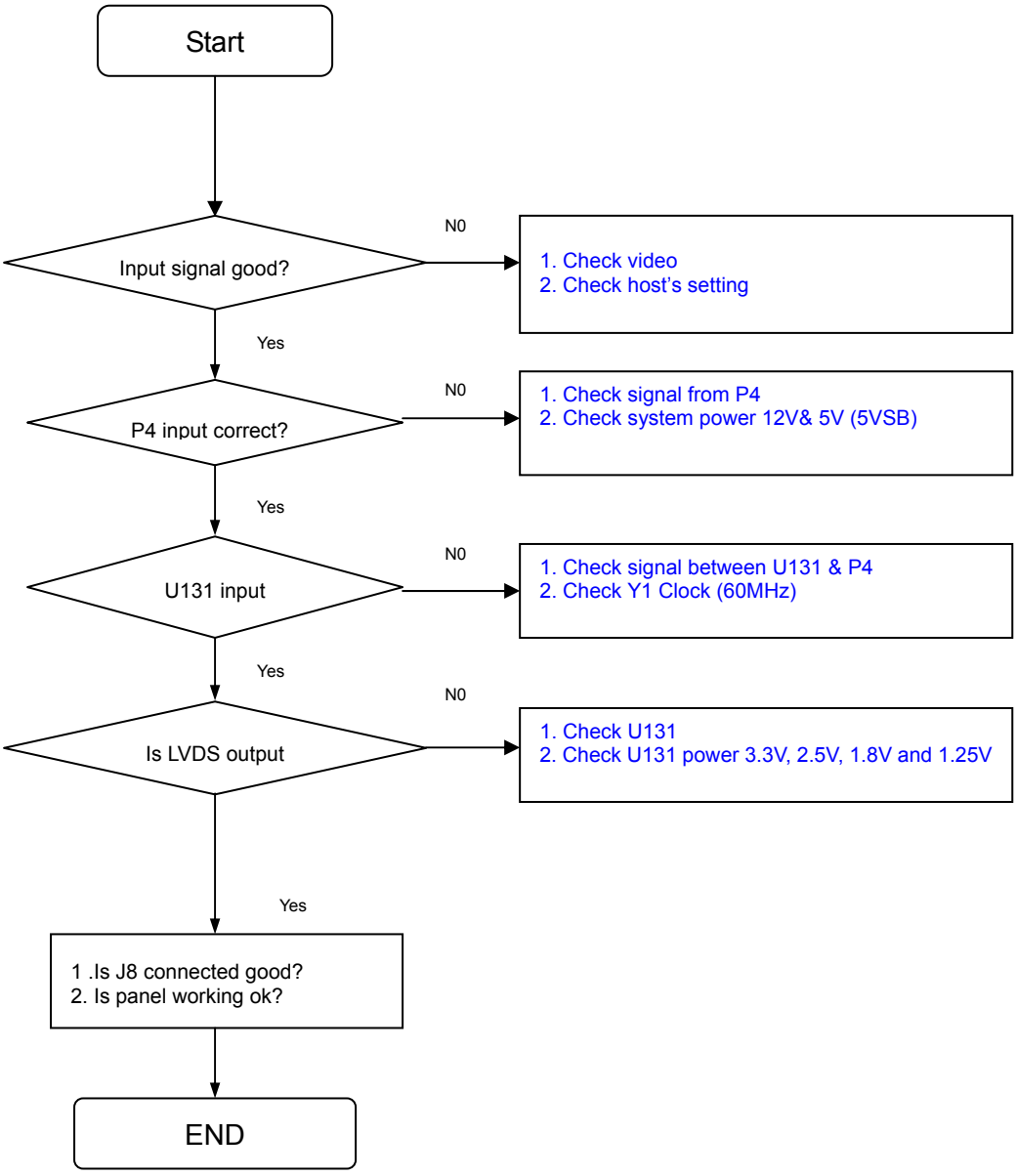


I

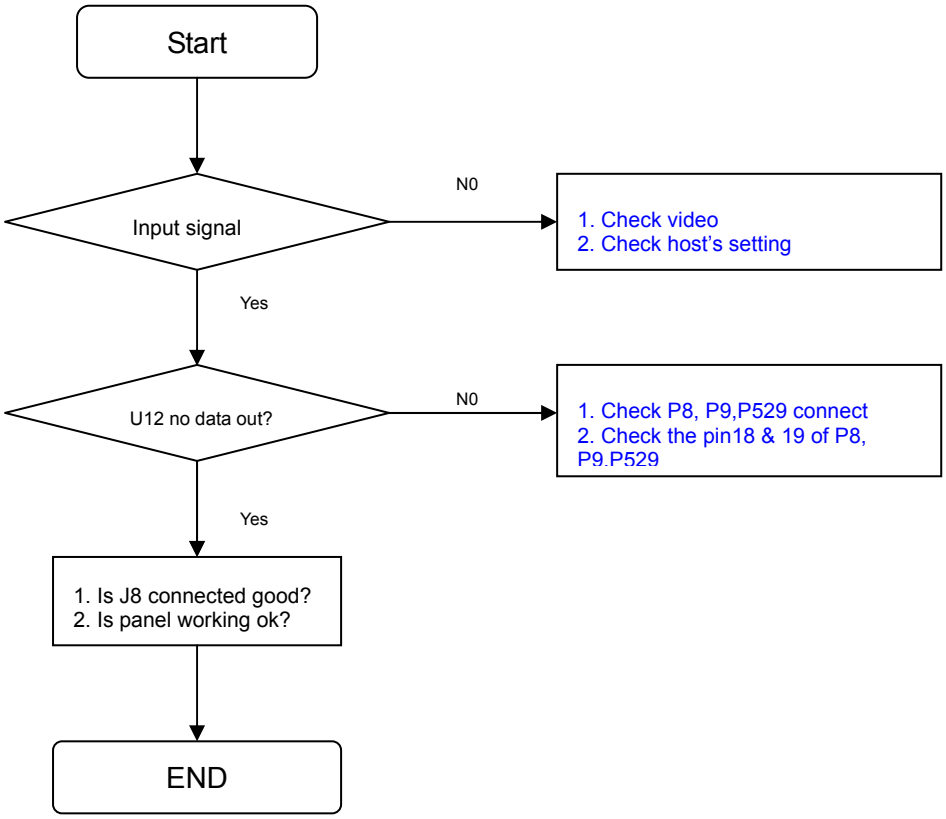
(TV, AV, S-VIDEO) IS NOT DISPLAY CORRECTLY



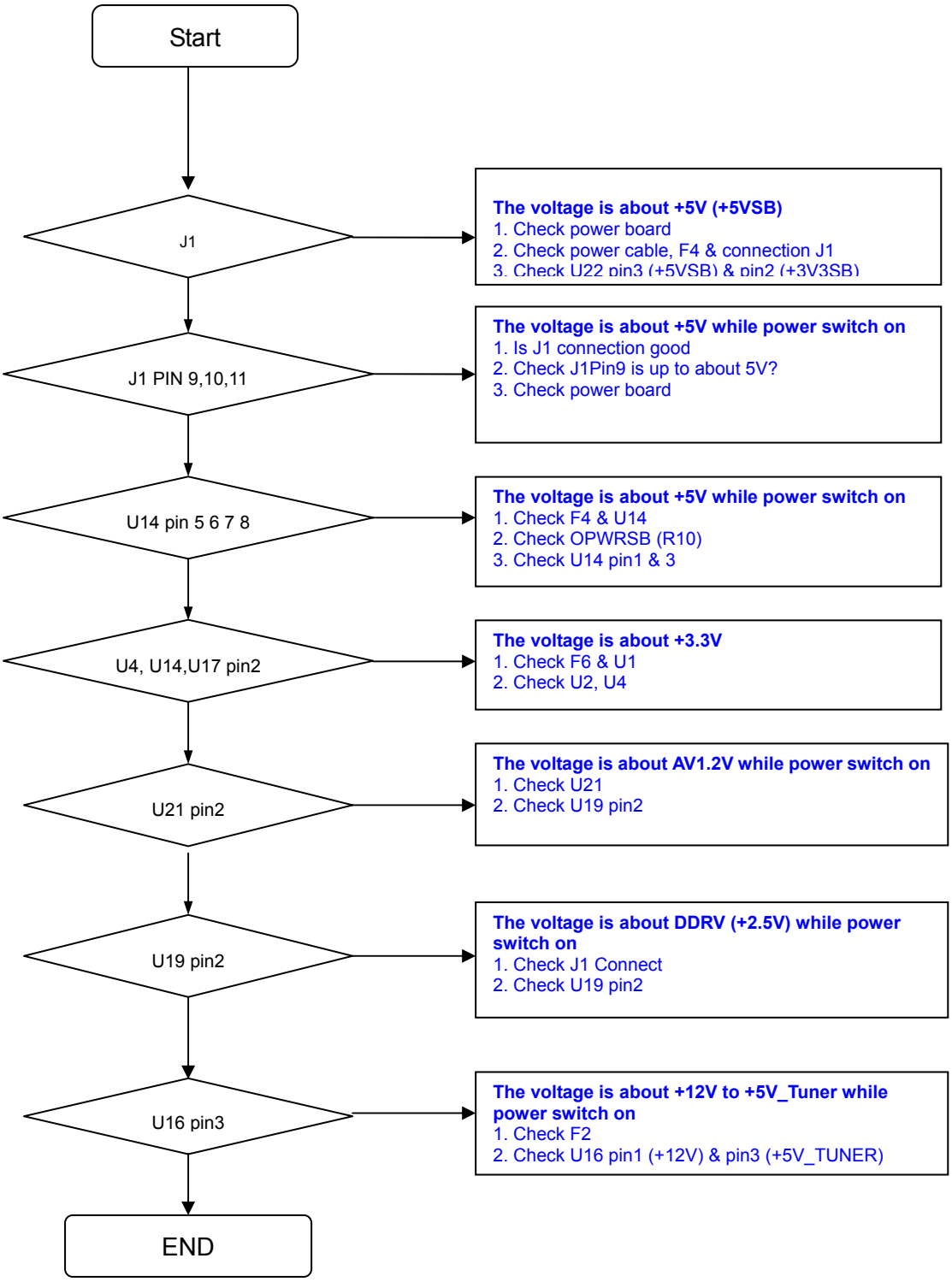
(COMPONENT) IS NOT DISPLAY CORRECTLY



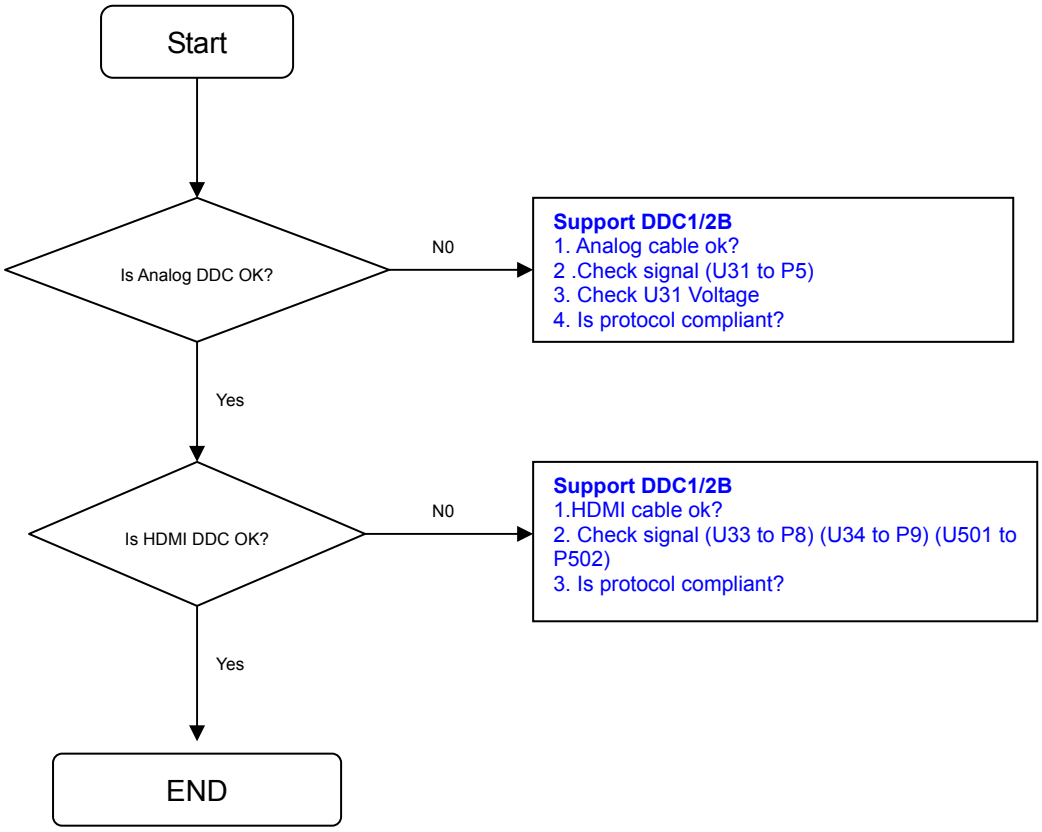
HDMI IS NOT DISPLAY CORRECTLY



TROUBLE OF DC-DC CONVERTER



TROUBLE OF EDID READING

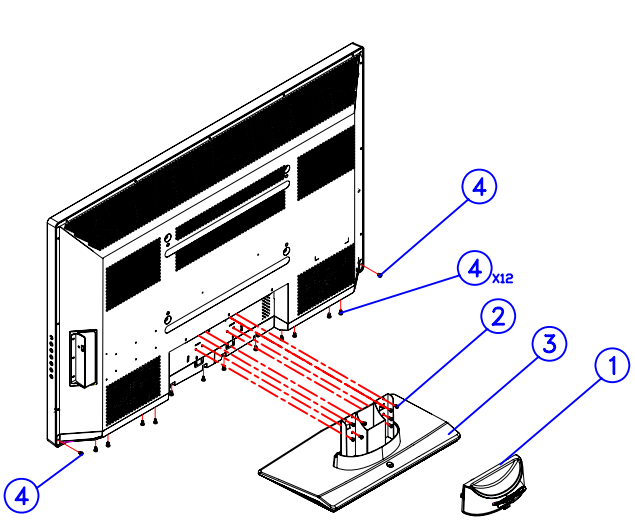


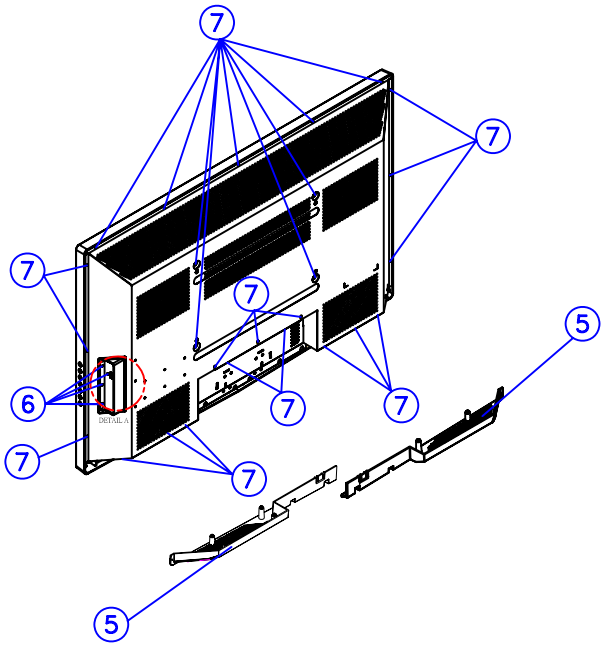
DISASSEMBLY INSTRUCTIONS

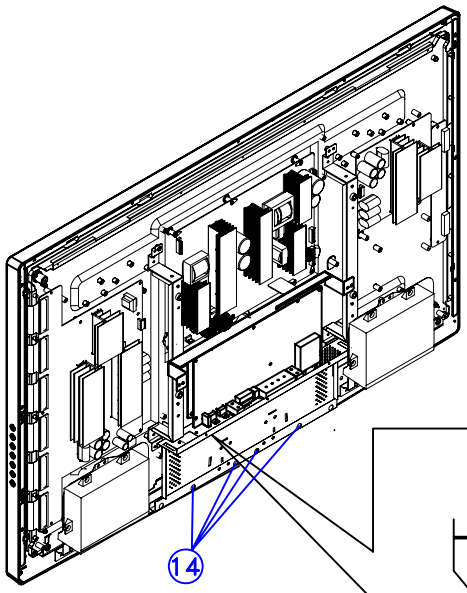
1.REAR COVER ASS'Y REMOVAL

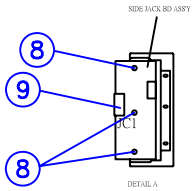
Note:Spread a mat underneath to avoid damaging the TV surface.

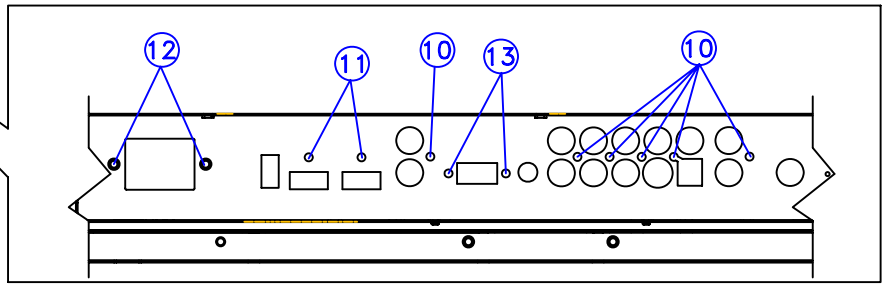
1) Separate the Base Cover ①.
2) Remove eight screws ② from Base Ass'y ③ .
3) Separate the Base Ass'y ③ .
4) Remove fourteen screws ④ from speaker cover ⑤
5) Separate the speaker cover Ass'y ⑤ .
6) Remove four screws ⑥ from side jack cover .
7) Remove three connector ⑨(JC1) from side jack cable.
8) Remove three screw ⑧ from side jack BD ASS'Y
9) Remove twenty-six screws ⑦ from rear cover.
10) Separate the rear cover.
11) Remove six screws ⑩ , two screws ⑪ , two screws ⑫ ,and two hexagon screws ⑬ from the IO BKT.
12) Remove fiur screws⑭from the IO BKT.
13) Separate the IO BKT.





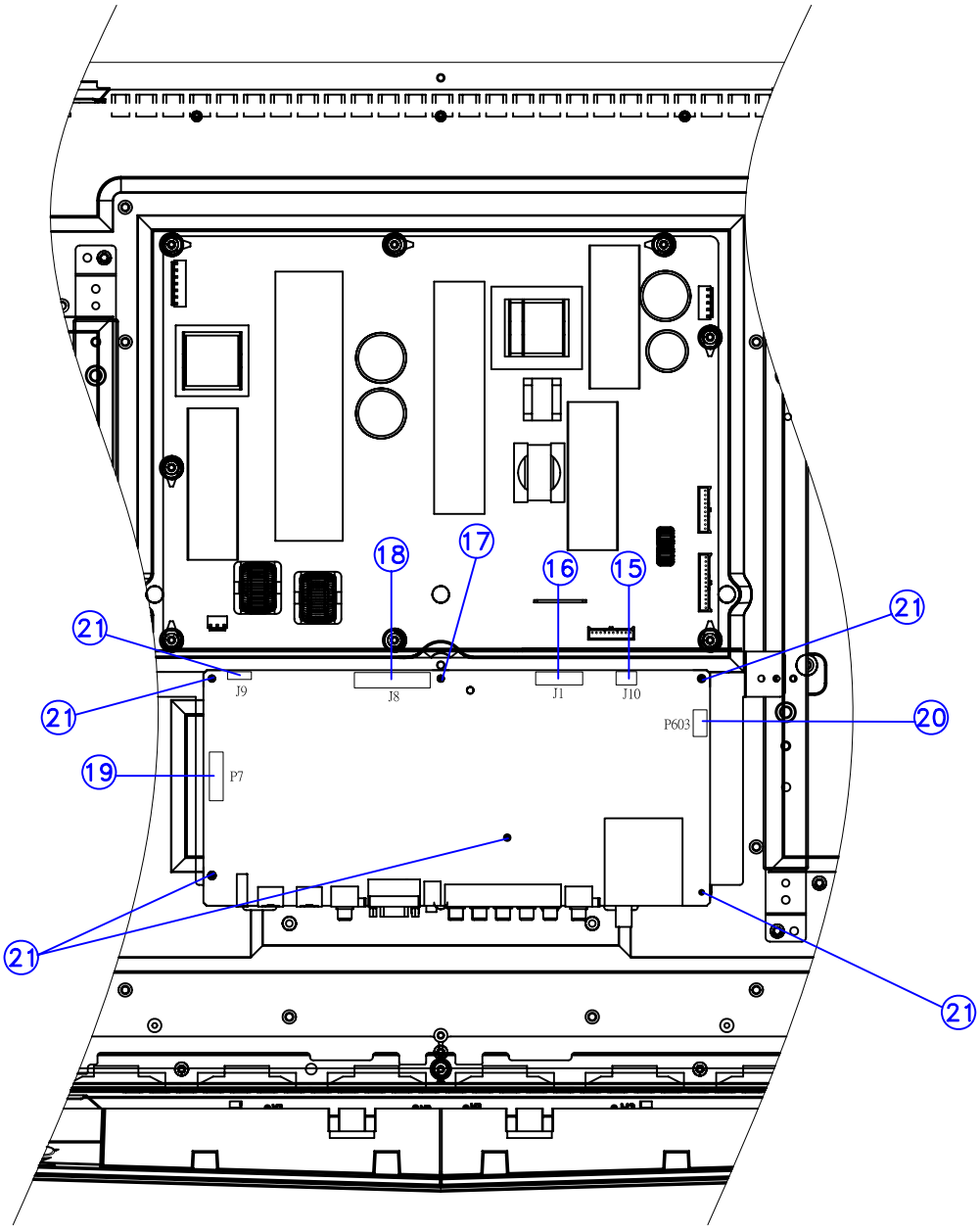


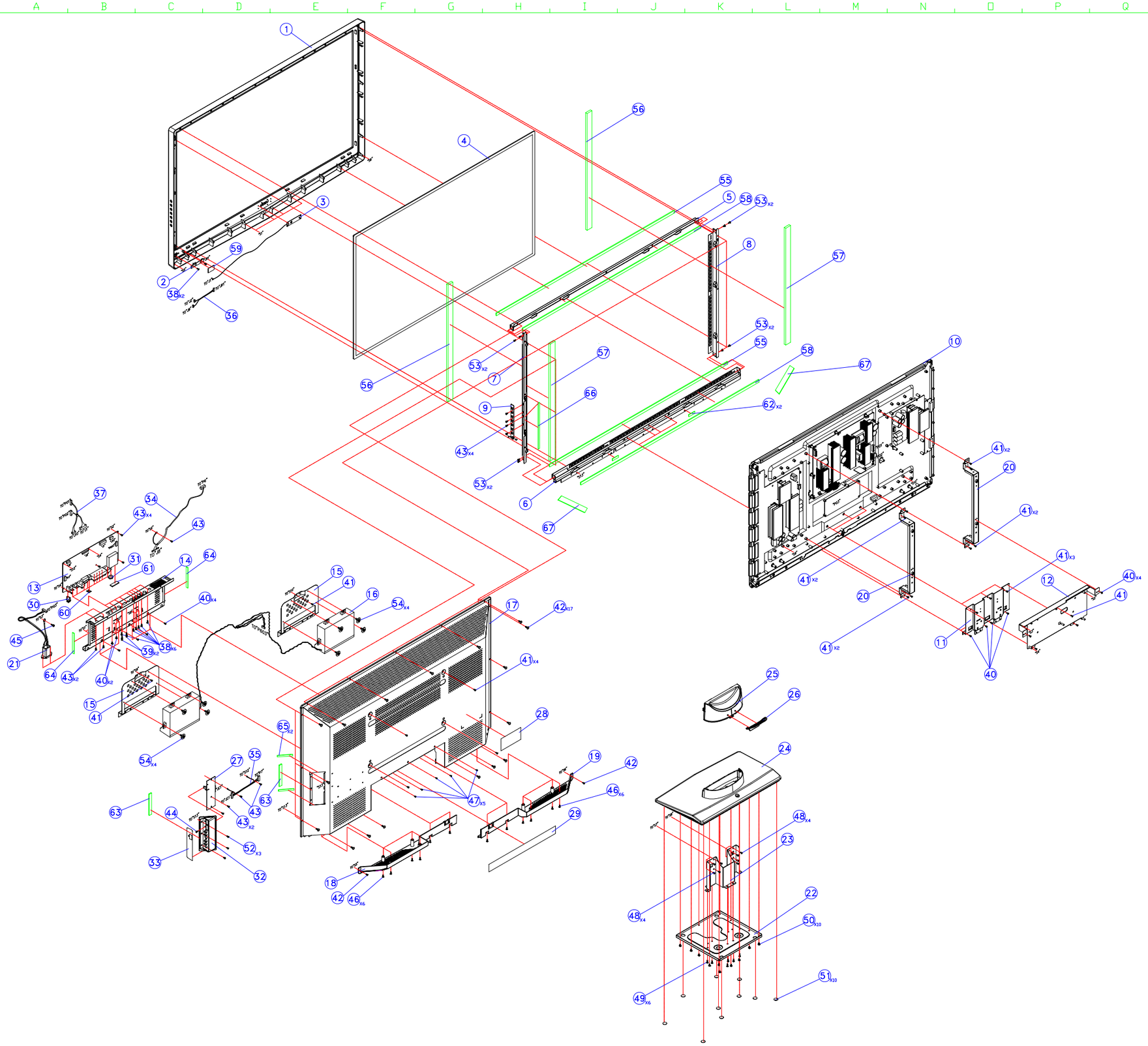




2. MAIN BD ASS'Y REMOVAL

1) Remove the connector⑮ (J10) ⑯ (J1) of the Power cable.
2) Remove the connector⑰ (J8) of the LVDS cable.
3) Remove the connector⑱ (J9) of the Display cable.
4) Remove the connector⑲ (P7) of the Side jack cable.
5) Remove the connector⑳ (P603) of the Speaker cable.
6) Remove six screws㉑ from MAIN BD ASS'Y .
7) Separate the MAIN BD ASS'Y .





ITEM		DESCRIPTION	QTY
1		FRONT BEZEL(Technogy)(VP422)(ABS 94-HB/T52013)ASS'Y	1
2		IR BD ASS'Y GV42L HDTV10A	1
3		LED BACKLIGHT16.72*56*1.5(LYSL-4914WSY-2)700mm LF	1
4		SKC 42" Meshed Filter DFM4206P1L	1
5		FILTER FRAME-T(VP422)(SGCC 0.8t)	1
6		FILTER FRAME-B(VP422)(SGCC 0.8t)	1
7		FILTER FRAME-L(VP422)(SGCC 0.8t)	1
8		FILTER FRAME-R(VP422)(SGCC 0.8t)	1
9		DISPLAY BD ASS'Y (VP322)	1
10		PDP MODULE 42"S42AX-YD05 (SAMSUNG)	1
11		MAIN BRACKET(SECC 1.6t)(VP422)	1
12		MAIN PCB BKT(VP422)(SGCC 0.8t)	1
13		MAIN BD ASS'Y(VP422)(HDCP)	1
14		IO-BKT(SGCC 0.8t)(VP422)	1
15		SPEAKER SUPPORT(VP422)(SECC 0.8t)	2
16		SPK BOX 10W 8ohm(160*115*54)W/CORE 500/800mm LF	1
17		REAR COVER ASS'Y(VP422)	1
18		SPEAKER COVER-L(VP422)(ABS-HB,T52013)	1
19		SPEAKER COVER-R(VP422)(ABS-HB,T52013)	1
20		WALL MOUNT SUPPORT(VP422)(SECC 1.2t)	2
21		LINE FILTER 06GEEG3Q VHR3P 1617 200mm 1015 110mm	1
22		BASE PLATE(VP422)(SGHC 2.0t)	1
23		BASE FRAME(VP422)(SGHC 1.6t)	1
24		BASE(VP422)(ABS)	1
25		BASE COVER(VP422)(ABS)	1
26		CABLE CLIP(BLACK)()V047L HDTV	1
27		CONN SIDE JACK BD ASS'Y(VP422)	1
28		B/C LBL VIZIO VP422 HDTV10A	1
29		REAR PLATE VP422 HDTV10A	1
30		USB CONNECTOR COVER(USBC-2)	1
31		NUT3/8" -32(W12.5*2.0t,Ni)(FOR TUNNER)	1
32		SIDE JACK COVER ASS'Y(VP422)(ABS 94HB/T52013)	1
33		SIDE JACK PLATE VP422 HDTV10A	1
34		WH HP125-N-N38/P240430 20276#30 150mm+GND	1
35		WH A20006-2*12/A2006-2*12 2027#28 510mm+GND*2	1
36		WH A1251-10/+7+A2001-4 1571#28 940/800mm+TUBE	1
37		WH A2001-13+8+2501-4/35155-10+11 1007#24 220/180r	1
38		TAP.SCREW-TP#3.0x8.0L,Ni	8
39		MAC.SCREW-MHSW #4-40*8.0L,Ni	2
40		TAP.SCREW-MB M3.0*6.0,BLK-Ni	10
41		MAC.SCREWMB M4.0*8.0L,BLK-Ni	18
42		TAP.SCREW-TP #4.0*10.0L,BLK-Ni	23
43		MAC.SCREW-MPSWF M3.0*6.0L,NI	13
44		MAC.SCREW-MF M3.0*8.0L,BLK-Ni	3
45		MAC.SCREW-MPGW M4.0*8.0L,Ni	1
46		MAC.SCREW-MB M3.0*8.0,BLK-Ni	12
47		MAC.SCREW-MPSWF M3.0*6.0L,BLK-NI	5
48		MAC.SCREW-MPSWF M4.0*14.0L,BLK-NI	8
49		MAC.SCREW-MF M4.0*8.0L,BLK-NI	8
50		TAP.SCREW-TF#4.0*10.0L,Ni	10
51		BASE FOOT(TM-32V)	10
52		MAC.SCREW-MRFH M3.0*7.0L,BLK-NI	3
53		MAC.SCREW-MB M3.0*4.0L,NI	8
54		MAC.SCREW-MRF M3.0*8.0L,NI(HEAD 10.0)	8
55		GASKET BLOCK(960L*12W*2.0H)(VP422)	2
56		GASKET BLOCK(590L*12W*2.0H)(VP422)	2
57		PANEL CUSHION(LENGTH=575mm)(VP422)	2
58		PANEL CUSHION(LENGTH=980mm)(VP422)	2
59		MYLAR12*35*0.4t(VP422)	1
60		GASKET BLOCK(12L*10W*1.5Hmm)HOLE6ø	1
61		GASKET BLOCK(20*3*12mm)(850GT)	1
62		GASKET BLOCK(30L*10W*2.0H)(VP422)	2
63		GASKET BLOCK L120*W10*H1.0(VP422)	2
64		GASKET BLOCK (8.0W*2.0H*100.0L)(VP422)	2
65		GASKET BLOCK L50*W10*H1.0(VP422)	2
66		GASKET BLOCK(220L*10W*1.0H)(VP422)	1
67		GASKET BLOCK(10W*1H*70L)	2

VIZIO VP422 HDTV10A			9842-8500-7033
DESCRIPTION			PART NO.
AmTRAN TECHNOLOGY Co., LTD.		THIRD ANGLE PROJECTION	MODEL No.: VIZIO VP422 HDTV10A
UNLESS OTHERWISE NOTED .XX = ±0.10 .X = ±0.2 ANG. = ±1/2°	DSN: OLIVE CHEN 05/14'08	MATERIAL: ******	DWG. NAME: 42" CASE ASS'Y
	CHK:	QTY: 1 SIZE: A1	
		SCALE: Full UNIT: MM	DWG. No. VIZIO-VP422_HDTV10A-BTO REV. 0 SHEET: 1 of 1