HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

REPAIR MANUAL

RB1FK *Chassis*
Segment: BA

MODEL	COMMANDER	DESTINATION
KDL-40R450A	*RM-YD092*	*US/CND/LA/MX*
KDL-46R450A	*RM-YD092*	*CND/LA/MX*

KDL-40R450A

Version	Date	Subject
1.0	01/28/2013	Original Manual Release Date.

LCD Digital Color TV

SONY®

9-883-499-01

TABLE OF CONTENTS

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!!

For safety reasons, component level repair of the Power Supply Boards and/or the Inverter Boards is prohibited.

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'eviter tout risque d'electrocution provenant d'un chássis sous tension, un transformateur d'isolement doit etre utilisé lors de tout dépannage.

⚠ ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifies par une trame et par une marque ⚠ sur les schemas de principe, les vues explosees et les listes de pieces sont d'une importance critique pour la securite du fonctionnement. Ne les remplacer que par des composants Sony dont le numero de piece est indique dans le present manuel ou dans des supplements publies par Sony. Les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifies dans le present manuel. Suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

ATTENTION!!

Pour des raisons de sécurité, Interdire de réparer ou remplacer les composantes dans les blocs d'alimentation et/ou sur les modules d'inverseur.

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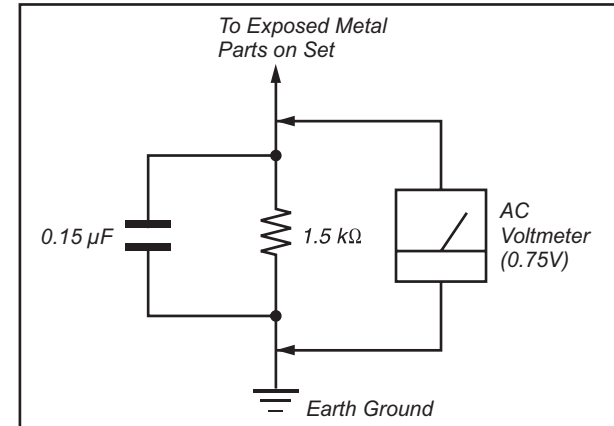
Figure A. Use an AC voltmeter to check AC leakage.

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.

SECTION 1 - SPECIFICATIONS AND LAYOUTS

SPECIFICATIONS

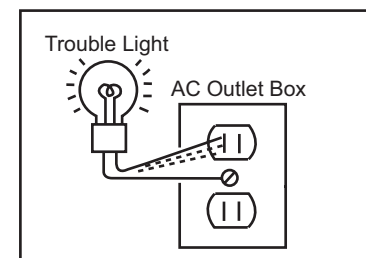| System	
Television system	NTSC: American TV Standard ATSC (8VSB terrestrial): ATSC Compliant 8VSB QAM on cable: ANSI/SCTE 07 2000 (Does not include CableCARD functionality)
Channel coverage	Analog Terrestrial: 2 - 69 / Digital Terrestrial: 2 - 69 Analog Cable: 1 - 135 / Digital Cable: 1 - 135
Panel system	LCD (Liquid Crystal Display) Panel, LED Backlight
Speaker output	8 W + 8 W
Input/Output jacks	
CABLE/ANTENNA	75-ohm external terminal for RF inputs
VIDEO IN	VIDEO: 1 Vp-p, 75 ohms unbalanced, sync negative AUDIO: 500 mVrms (Typical) / Impedance: 47 kilohms
COMPONENT IN	YPBPR (Component Video): Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative / PB: 0.7 Vp-p, 75 ohms PR: 0.7 Vp-p, 75 ohms / Signal format: 480i, 480p, 720p, 1080i, 1080p AUDIO: 500 mVrms (Typical) / Impedance: 47 kilohms
HDMI IN 1(ARC) HDMI IN 2/MHL	HDMI: Video: 480i, 480p, 720p, 1080i, 1080p, 1080/24p MHL: Video: 480i, 480p, 720p, 720/30p, 1080i, 1080/30p, 1080/24p Audio: Two channel linear PCM 32, 44.1 and 48 kHz, 16, 20 and 24bits, Dolby Digital PC Input
AUDIO OUT	500 mVrms (typical)
DIGITAL AUDIO OUT (OPTICAL)	PCM/Dolby Digital Optical Signal
USB	Photo, Music and Video

Model name	KDL-46R450A	KDL-40R450A
Power and others		
Power requirement	110-240 V AC, 50/60 Hz (USA/Canada/Mexico 120 V AC, 60 Hz)	
Power consumption		
in use	109 W	89 W
in standby	Less than 0.2 W with 120 VAC and less than 0.3 W with 240 VAC	
Screen size* (measured diagonally) (inches)	46	40
(cm)	116,8	101,6
Display resolution	1,920 dots (horizontal) × 1,080 lines (vertical)	
Speaker/Full range (2) (mm) (inches)	40 × 100 (1 ^{5}/$_8$ × 4)	
Dimensions* with stand (mm) (inches)	1053 × 641 × 181 41 ^{1}/$_2$ × 25 ^{1}/$_4$ × 7 ^{1}/$_4$	923 × 567 × 181 36 ^{3}/$_8$ x 22 ^{3}/$_8$ x 7 ^{1}/$_4$
without stand (mm) (inches)	1053 × 622 × 76 41 ^{1}/$_2$ × 24 ^{1}/$_2$ × 3	923 × 548 × 76 36 ^{3}/$_8$ x 21 ^{5}/$_8$ x 3
wall-mount hole pattern (mm)	300 × 300	200 × 100
wall-mount screw size (mm)	M6 (8~12 mm)	M4 (6.5~10 mm)
Mass* with stand (kg) (lb)	9.4 20.8	7.4 16.3
without stand (kg) (lb)	9.1 20.1	7.1 15.7
Supplied accessories	Remote control RM-YD092 (1) / Size AAA batteries (2) / Operating Instructions (1) Quick Setup Guide (1) / Warranty Card (1) / Safety and Regulatory Booklet (1) / Software License (1) Stand installation guide (1) / Table-Top Stand (1 set) / Screws (4) (KDL-46R450A) Screws (2) (KDL-40R450A) / Attachment Parts (2) (KDL-46R450A only)	
Optional accessories	Connecting Cables / Support Belt Kit	

- Optional accessories availability depends on its stock.
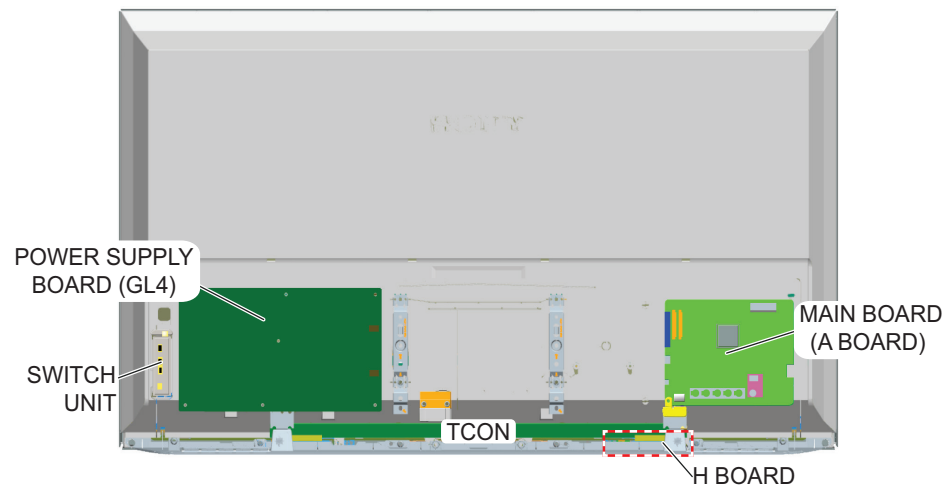- Design and specifications are subject to change without notice.

* Dimensions and mass are approximate values.

BOARD LAYOUT
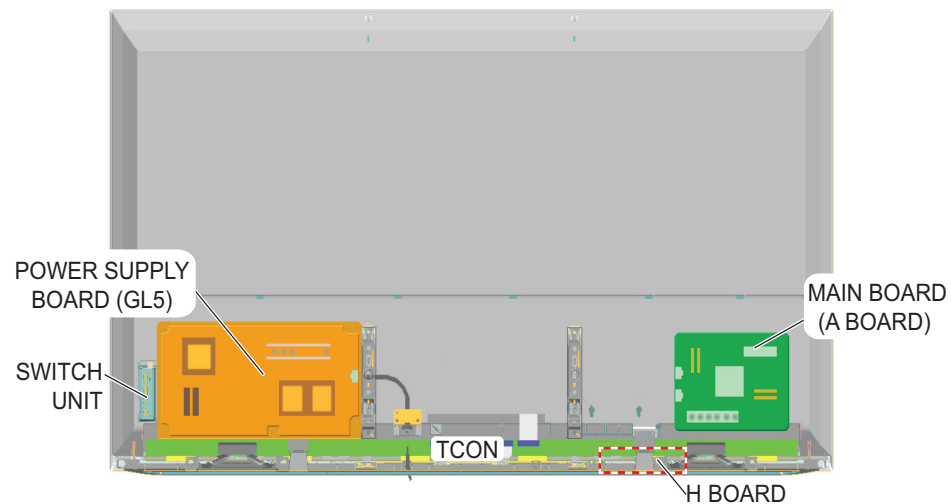
KDL-40R450A

POWER SUPPLY
BOARD (GL4)

SWITCH
UNIT

MAIN BOARD
(A BOARD)

TCON

H BOARD

KDL-46R450A

POWER SUPPLY
BOARD (GL5)

SWITCH
UNIT

MAIN BOARD
(A BOARD)

TCON

H BOARD

WIRE DRESSING

KDL-40R450A

KDL-46R450A

Self Diagnosis
Supported model
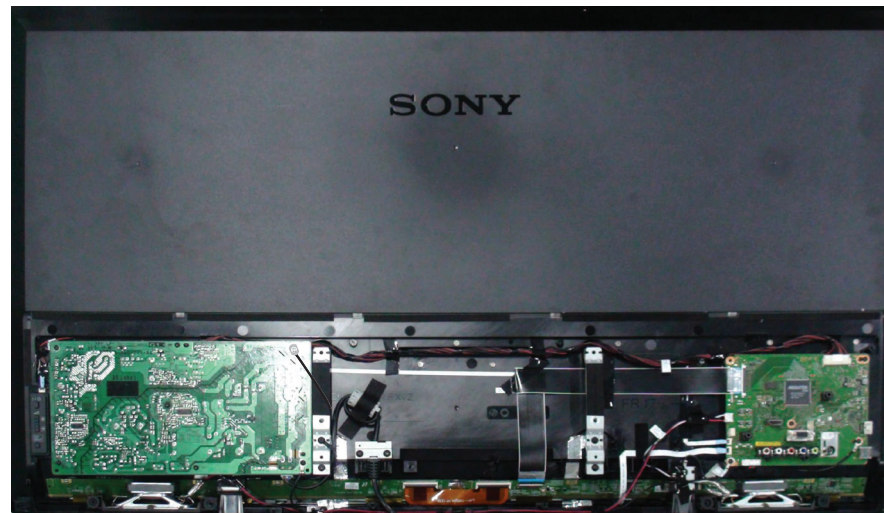
DIAGNOSING THE ERROR

Before servicing the Television:

1. Verify the TV has the symptom the customer indicated.

2. Check to see if the latest Software is installed.

    a. If not, install the latest version.

3. Determine the replacement part required.

VIEWING THE SELF CHECK DIAGNOSIS HISTORY

When an error is detected, the Self Check screen records the number of times the error occurred. This is helpful in confirming past occurrences of an error and for determining if an error is intermittent when the customer is not sure what is causing the television to shut down. If the screen displays a "0", no error has occurred.

1. Press **POWER** to turn on the TV and then turn it off again.

2. Press the following buttons on the **Remote Commander** within 1 second of each other:

    DISPLAY ➡ Channel **5** ➡ Volume **—** ➡ **POWER**

NOTE: This differs from accessing Service Adjustments Mode (Volume +).

SELF CHECK		
Back		**<<**
002	MAIN_ POWER	001	Indicates an error has occurred
003	DC_ALERT1	000	
003	AUDIO_PROT	000	
004	BALANCER_ERR	000	
005	TCON_ERR	000	
005	PANEL_ID_NVM_ERR	000	Indicates no error has occurred
006	BACKLIT	000	
007	TEMP_ERR	000	
00116	00024	00115	
		[Home] Exit	

SAMPLE SELF CHECK DIAGNOSIS PAGE

TRIAGE CHART

Use this general Triage Chart to determine what may possibly be causing the error before going out to the customers location.

1. **Confirm the symptom from the customer.**
2. **Select that symptom from the chart.**
3. **Bring the primary component listed for that symptom.**
4. **Follow the associated flowcharts in the Training Manual to isolate the board.**
5. **Chart Color Code.**

RED Dot: (Primary) Most likely defective part.
BLUE Triangle: (Secondary) Possible defective part.

Board	Protection Modes				Power	Video			Audio
	2X	3X	5X	6X	Dead set	No Video	Whole Screen Distortion	Isolated Area Distortion	No Audio
MAIN BOARD		●			▲	▲	●		●
POWER SUPPLY	●			●	●				
LCD PANEL								●	
TCON			●			●	▲	▲	

*NOTE: REFER TO LCD PANEL SERVICE MANUAL IN REFERENCE LIBRARY DATABASE
FOR CORRECT REPLACEMENT PARTS BASED ON SERIAL NUMBER.

To access the most recent version of the Triage documents for the models listed in this manual, login into the Sony Authorized Servicer Portal at http://www.sony.com/asp.

FLOWCHARTS AND DIAGRAMS

OVERALL BLOCK DIAGRAM
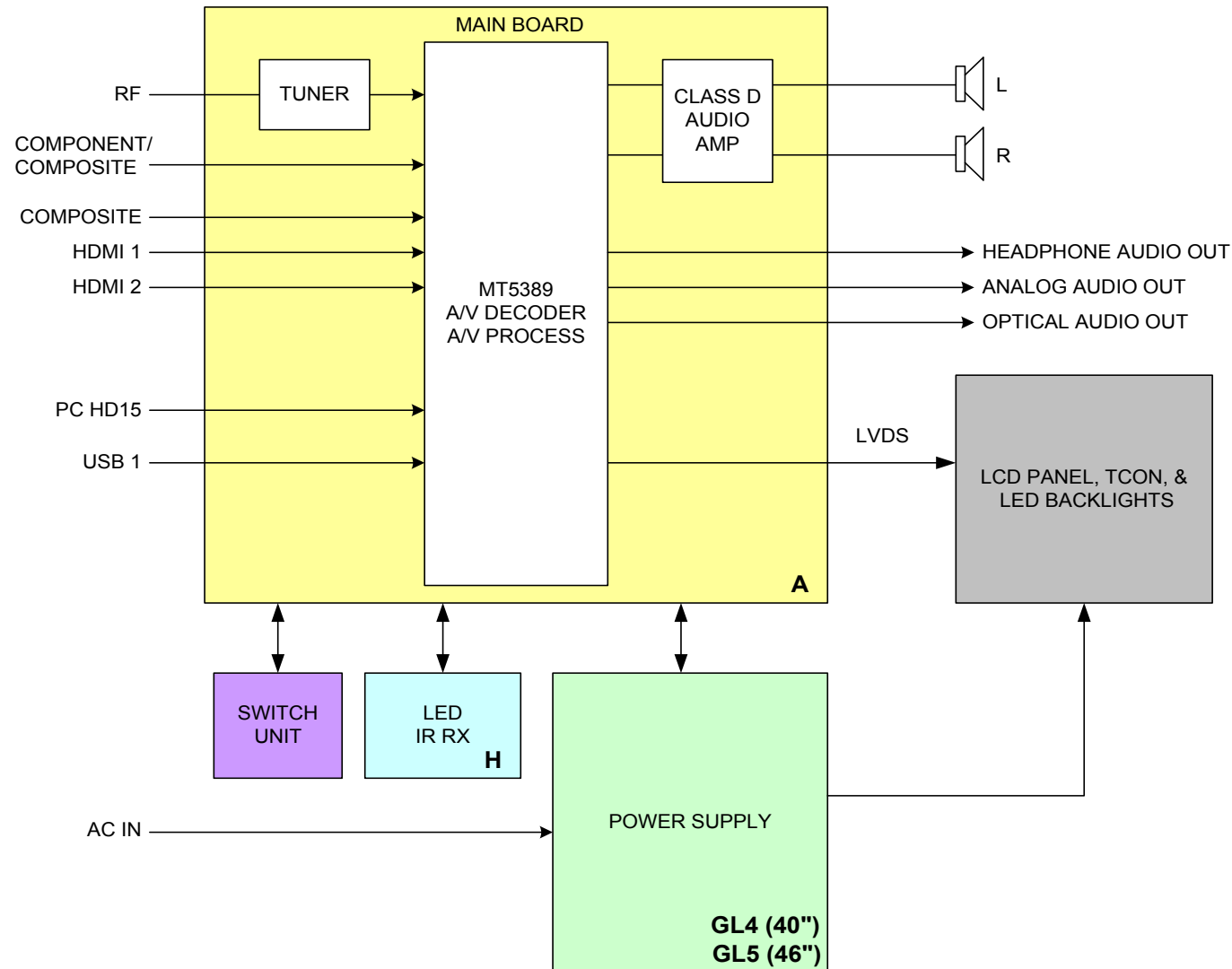
POWER AND CONTROL BLOCK DIAGRAM

POWER SUPPLY

CN6801

| 1 | LED + |
| 2 | LED - |

→ LCD PANEL, TCON & LED BACKLIGHTS

CN6101

| AC IN (N) | 1 |
| AC IN (H) | 2 |

MAIN BOARD

CN6401

1, 3	GND
2	STBY 3.3V
4	POWER_ON
5, 7	VCC_12V
6	AC_OFF_DET
8	BLKT_EN
9, 11	AUDIO_12V
10	BL_CNTRL
11	AUDIO_12V
12	BKL_ERR
13, 15	VCC_12V
14	NC
16	NC

CN201

STBY 3.3V	1
GND	2, 7, 11
VCC-12V	3, 8
BL PWM	4
AC_DET	5
POWER_ON	6
TCON_VCC	10
AUDIO_12V	12
BL_ERR	13
BL_EN	14

GL4 (40")
GL5 (46")

A

NO POWER FLOWCHART

No Power

↓

Unplug TV from AC power. Wait at least 20 seconds and re-apply AC power

↓

Does red standby LED on front panel light steady? — Yes → Press power button while monitoring pin 4 of CN6401 on power supply board → High (3.3V) on pin 4? — Yes → Power Supply Board

No ↓ (Does red standby LED)

Is standby LED blinking? — Yes → See protection flowchart

No ↓

Power Supply Board

High (3.3V) on pin 4? — No ↓

High (3.3V) on CN6401 pin 6? — Yes → Main Board

No ↓

Power Supply Board

STANDBY LED BLINKING FLOWCHART

```
                    ┌──────────────┐
                    │   Protect    │
                    │  Shutdown.   │
                    │ Standby LED  │
                    │   Blinking   │
                    └──────┬───────┘
                           │
                           ▼
                       ◇ 2X ◇ ──── Yes ──→ ( Power Supply Board )
                           │
                          No
                           ▼
                       ◇ 3X ◇ ──── Yes ──→ ( Main Board )
                           │                              ◇ 6X ◇
                          No                                │
                           ▼                              Yes│
                       ◇ 5X ◇ ──── No ────────────────────┐ │
                           │                                 ▼
                          Yes                     ◇ "SONY" logo ◇ ── No ──→ ( Power Supply Board )
                           ▼                      ◇ appears before ◇
                    ( LCD Panel )                 ◇  shutdown?  ◇
                                                         │
                                                        Yes
                                                         ▼
                                                   ( LCD Panel )
```
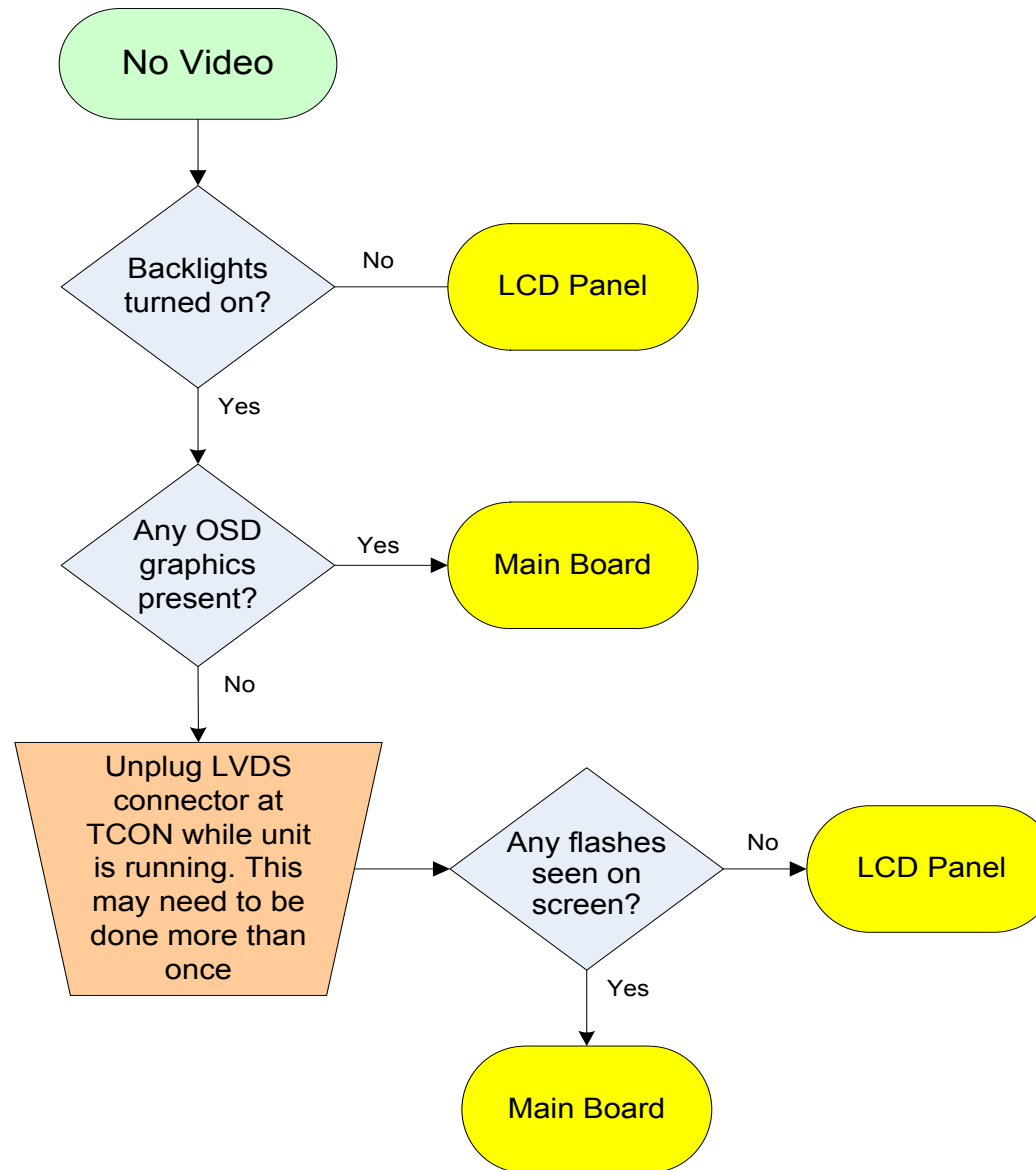
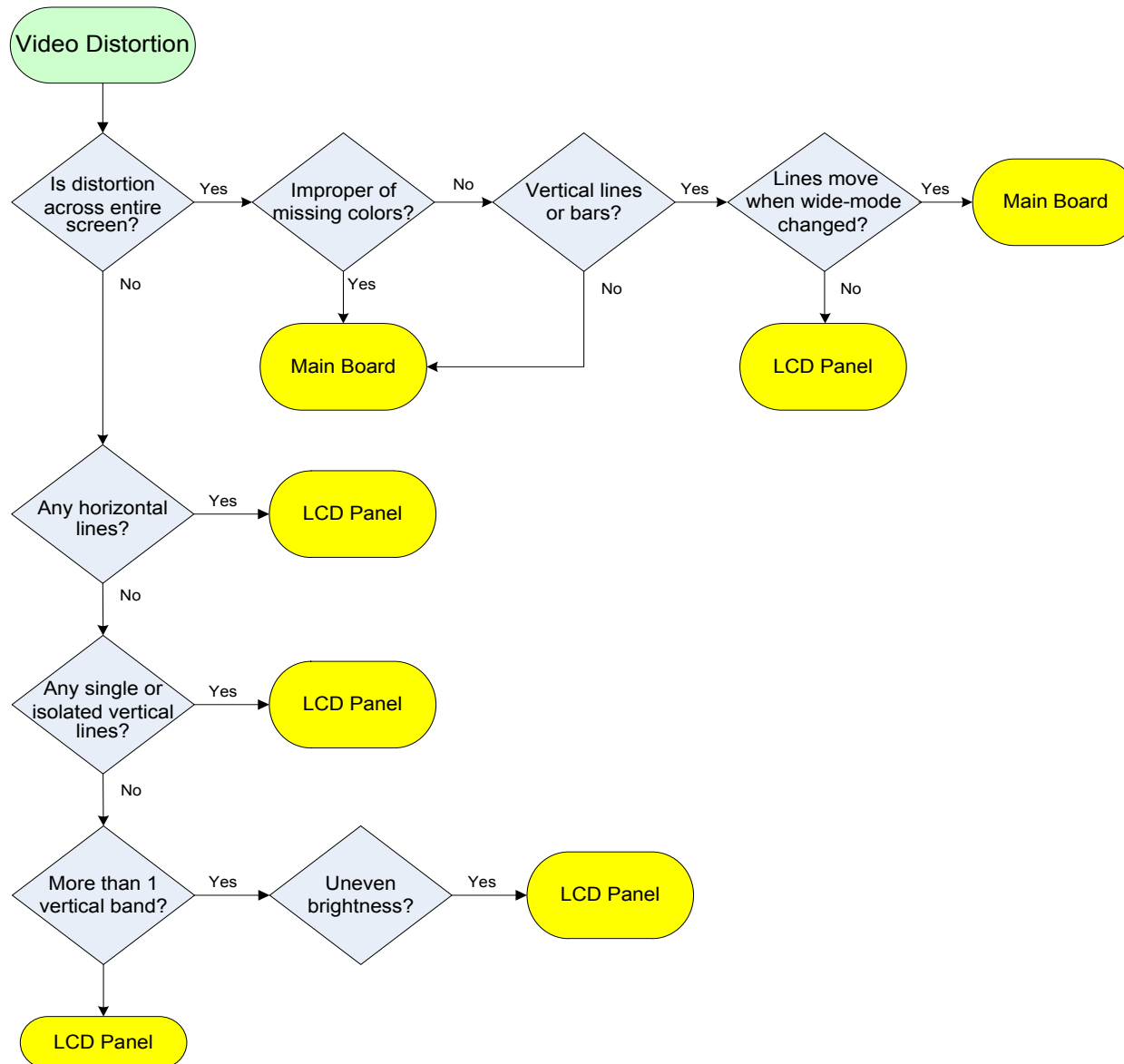.   *For Part Number information, refer to "Section 4 - Exploded View/Part Number Information" on page 20.

NO VIDEO FLOWCHART

```
                    ┌─────────────────┐
                    │    No Video     │
                    └────────┬────────┘
                             │
                             ▼
                        ◇ Backlights          No      ┌──────────────┐
                          turned on? ─────────────────│  LCD Panel   │
                        ◇                             └──────────────┘
                             │ Yes
                             ▼
                        ◇ Any OSD              Yes     ┌──────────────┐
                          graphics ──────────────────▶│  Main Board  │
                          present? ◇                   └──────────────┘
                             │ No
                             ▼
         ┌──────────────────────┐
         │ Unplug LVDS          │        ◇ Any flashes      No    ┌──────────────┐
         │ connector at         │          seen on ───────────────│  LCD Panel   │
         │ TCON while unit ─────┼───────▶  screen? ◇               └──────────────┘
         │ is running. This     │             │ Yes
         │ may need to be       │             ▼
         │ done more than       │        ┌──────────────┐
         │ once                 │        │  Main Board  │
         └──────────────────────┘        └──────────────┘
```

.   *For Part Number information, refer to "Section 4 - Exploded View/Part Number Information" on page 20.

VIDEO DISTORSION FLOWCHART

```
                          ┌─────────────────┐
                          │ Video Distortion│
                          └────────┬────────┘
                                   │
                                   ▼
        ◇ Is distortion   Yes   ◇ Improper of    No   ◇ Vertical lines  Yes   ◇ Lines move      Yes   ┌────────────┐
        ◇ across entire  ─────► ◇ missing colors? ───► ◇ or bars?        ───► ◇ when wide-mode  ───► │ Main Board │
        ◇ screen?                ◇                      ◇                      ◇ changed?              └────────────┘
             │ No                     │ Yes                  │ No                   │ No
             │                        ▼                      │                      ▼
             │                 ┌────────────┐                │               ┌────────────┐
             │                 │ Main Board │◄───────────────┘               │ LCD Panel  │
             │                 └────────────┘                                └────────────┘
             ▼
        ◇ Any horizontal  Yes   ┌────────────┐
        ◇ lines?         ─────► │ LCD Panel  │
             │                  └────────────┘
             │ No
             ▼
        ◇ Any single or   Yes   ┌────────────┐
        ◇ isolated vertical ──► │ LCD Panel  │
        ◇ lines?                └────────────┘
             │ No
             ▼
        ◇ More than 1     Yes   ◇ Uneven        Yes   ┌────────────┐
        ◇ vertical band? ─────► ◇ brightness?   ───► │ LCD Panel  │
             │                  ◇                      └────────────┘
             │ No
             ▼
        ┌────────────┐
        │ LCD Panel  │
        └────────────┘
```

.   *For Part Number information, refer to "Section 4 - Exploded View/Part Number Information" on page 20.

SECTION 3 - REPAIR INFORMATION

REPAIRING THE TV

If the latest Software does not correct the issue, complete the following:

1. Verify the television has the symptom the customer indicated.
2. Replace part causing the error.
3. Install the latest version of Software. (Required for ALL repairs)
4. Perform the required service adjustments and checks.
5. Verify the repair resolved the issue.

STARTING THE REPAIR

The following information explains how to remove the Table-Top Stand and Rear Cover.

REMOVING THE TABLE-TOP STAND

1. Place TV facing down on a soft and flat surface.

2. Remove 2 screws from Table-Top Stand and carefully detach from Rear Cover.
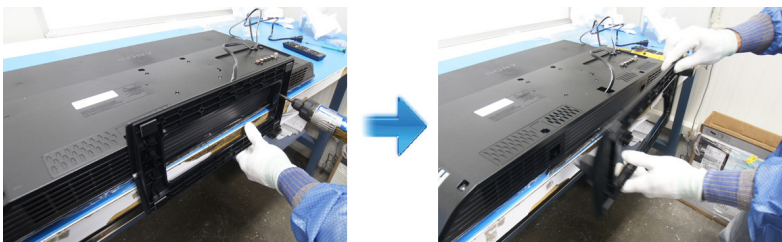
REMOVING THE COVER UNDER

1. Remove the 13 screws from the Cover Under.
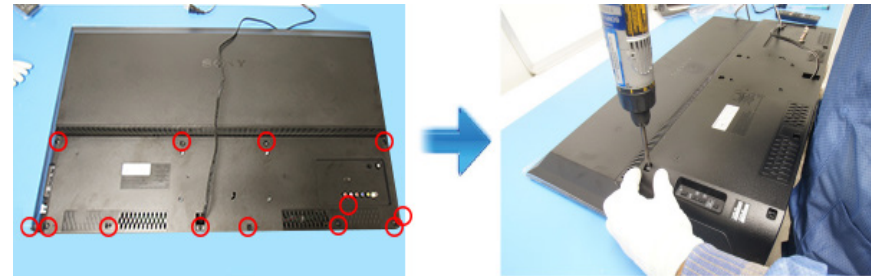
2. Hold the bottom of the Cover Under with both thumbs and flip to open it.
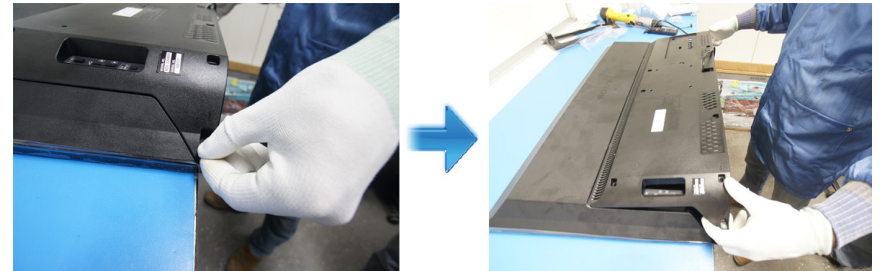
3. Grasp the Cover Under from the corner and lift to detach from the bottom.

REPLACING THE MAIN BOARD

The Main Board used in these models is available for repair. For Part Numer information refer to

1. Disconnect LVDS and FFC connectors.

    a. Press both sides to unclamp connector and pull to release.
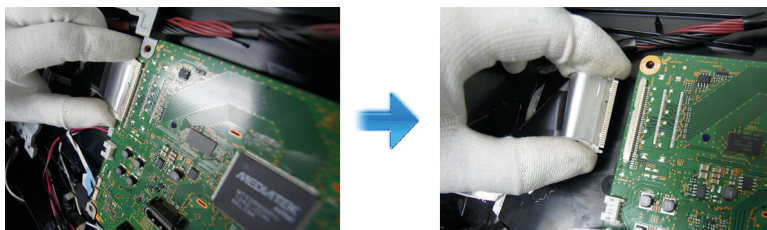
    b. Lift the black bar and pull blue FFC cables to release.
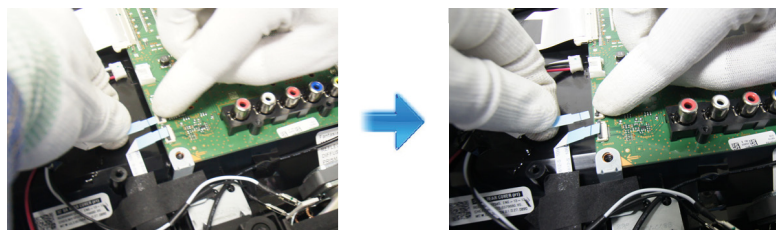
2. Unplug connectors from the Main Board.
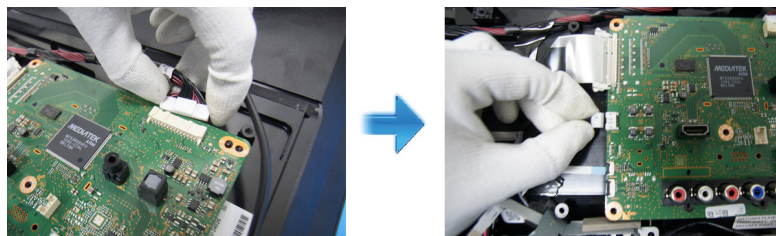
3. Remove 5 screws from the Main Board.
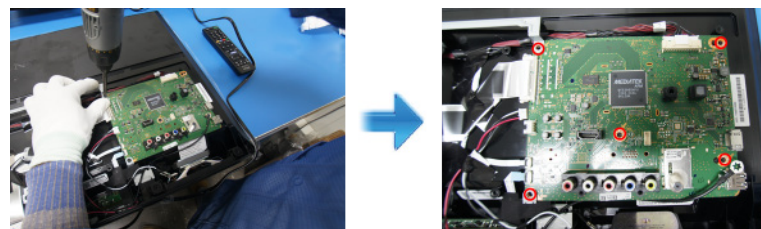
4. Lift to detach from the Rear Cover.

5. Replace with new Main Board.

6. Reconnect the LVDS, FFC Cables and all connectors.

    a. Press both sides to clamp connector and insert back.
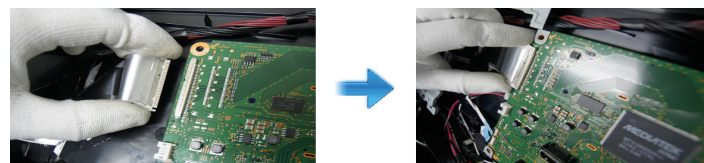
    b. Hold the blue FFC cables and insert back in the connector. Once the black marking line is straight, close the bar to secure position.
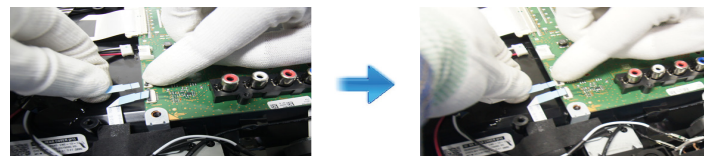
CAUTION: Make sure the black line is aligned to the Main Board connector when reinserting.

7. Turn the TV on, to update the Software.

    After ALL repairs UPDATE the SOFTWARE to the latest version. Instructions for updating the Software are included with the Software package on the Sony Authorized Service Portal website.

8. After update is complete, press [POWER] to turn off the TV.

9. Access **Service Mode** by pressing the following buttons within 1 second of each other:

    [DISPLAY] ➡ Channel [5] ➡ Volume [+] ➡ [POWER]

Service Mode			
Sound Adjustment		>>	
Wide Band Tuning		>>	
Range Scan…		>>	
Self diagnosis history		>>	
Status Information…		>>	
LVDS Spectrum(%0)	<[	30	]>
Low of HPD	<[	5	]>
TVD_MCDONE_CNT	<[	20	]>
Demo Special		>>	
Bypass AVI Info Detect	<[	On	]>
Panel Selection	<[	20_LSY400HM02	]>
UART Selection		No Log	
SERIAL NUMBER EDIT			
MODEL NAME EDIT			
		[</>]Set [Home] Exit	
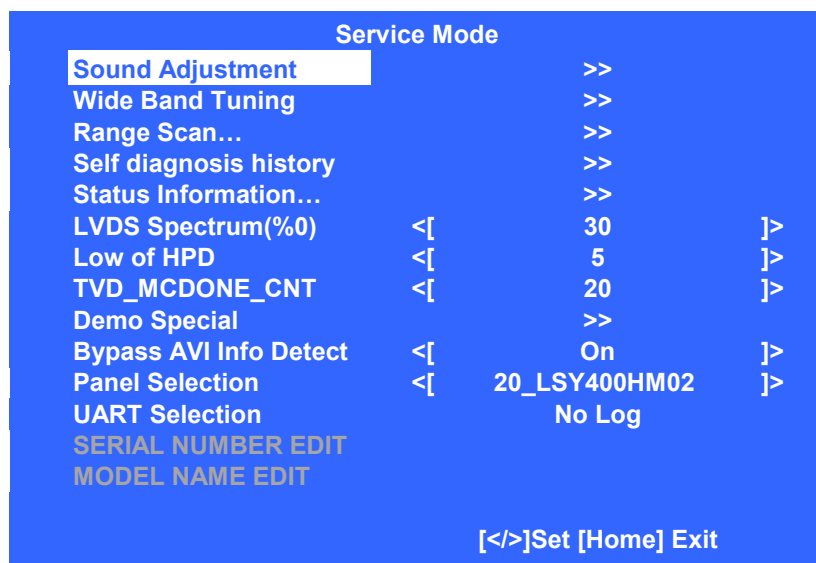
10. Verify the latest Software is installed before proceeding to the service adjustments:

11. Press ⬇ until **Status information** is selected.

Service Mode			
Sound Adjustment		>>	
Wide Band Tuning		>>	
Range Scan…		>>	
Self diagnosis history		>>	
Status Information…		>>	
LVDS Spectrum(%0)	<[	30	]>
Low of HPD	<[	5	]>
TVD_MCDONE_CNT	<[	20	]>
Demo Special		>>	
Bypass AVI Info Detect	<[	On	]>
Panel Selection	<[	20_LSY400HM02	]>
UART Selection		No Log	
SERIAL NUMBER EDIT			
MODEL NAME EDIT			
		[</>]Set [Home] Exit	
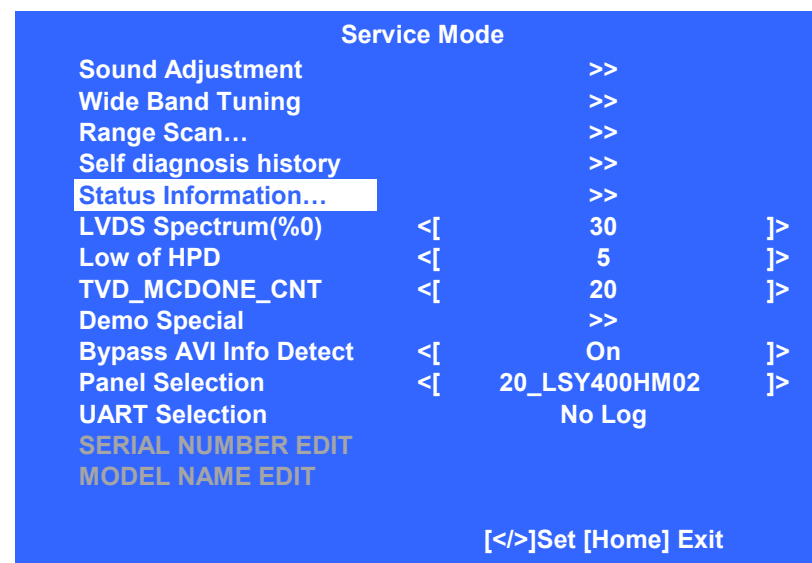
12. Press ➡ to view the **Status Information** screen. The latest version is displayed as shown:

MAIN FW VER:	v1.007
MAIN NVM VER:	TD1.000
BOOT LOADER VER:	v1.0000
PANEL VER:	v1.0000
PQ VER:	v1.0000
AQ VER:	AQ1.0000
KP VER:	
ANT-SW:	Antenna
Phy.Ch.:	2
Status:	Unlock
INT VER:	002125_3_001_1268_001_5_
S/N:	N/A
Freq. (kHz)	55250
Modulation	NTSC
Offset Freq:	N/A

13. Press [RETURN] to display the **Service Mode** screen again.

14. Press ⬇ until **Panel Selection** is selected.

```
                    Service Mode
    Sound Adjustment                    >>
    Wide Band Tuning                    >>
    Range Scan…                         >>
    Self diagnosis history             >>
    Status Information…                 >>
    LVDS Spectrum(%0)        <[         30          ]>
    Low of HPD               <[          5          ]>
    TVD_MCDONE_CNT           <[         20          ]>
    Demo Special                        >>
    Bypass AVI Info Detect   <[         On          ]>
    Panel Selection          <[  20_LSY400HM02      ]>
    UART Selection                   No Log
    SERIAL NUMBER EDIT
    MODEL NAME EDIT


                    [</>]Set [Home] Exit
```
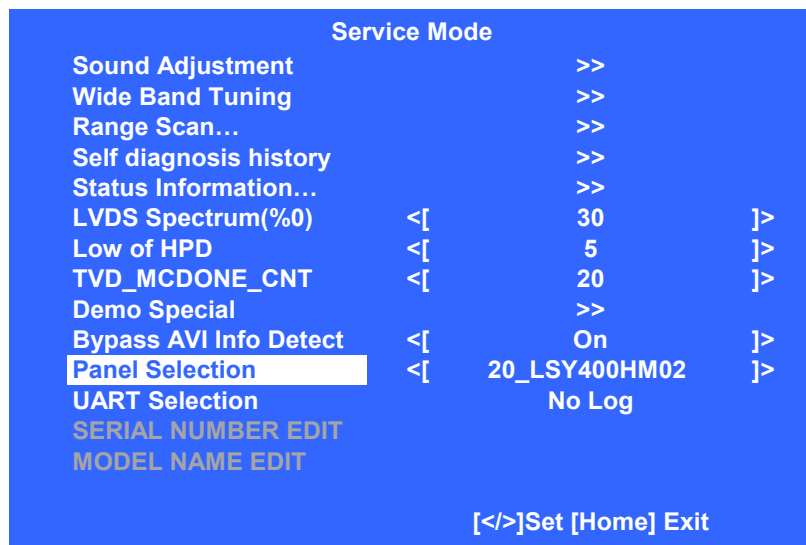
15. Press ⬅ or ➡ to select the correct Panel Code for the Panel ID. (Use the table below for reference).

Model Name	Panel Code	Panel Type	Panel ID
KDL-40R450A	20_LSY400HM02	SEC	LSY400HM02
KDL-46R450A	22_LSY460HN01	SEC	LSY460HN01

CAUTION: You MUST SELECT THE CORRECT PANEL ID CODE for the picture to display properly.

16. Locate the Serial Number for the TV on the side of the Rear Cover of the TV.

```
MODEL NO
    KDL-40R450A
SERIAL NO
    6000001
```
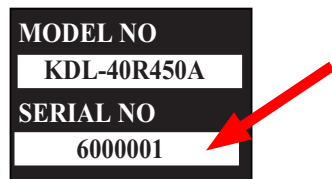
17. Press ⬇ until **SERIAL NUMBER EDIT** is selected.

```
                    Service Mode
    Sound Adjustment                    >>
    Wide Band Tuning                    >>
    Range Scan…                         >>
    Self diagnosis history             >>
    Status Information…                 >>
    LVDS Spectrum(%0)        <[         30          ]>
    Low of HPD               <[          5          ]>
    TVD_MCDONE_CNT           <[         20          ]>
    Demo Special                        >>
    Bypass AVI Info Detect   <[         On          ]>
    Panel Selection          <[  20_LSY400HM02      ]>
    UART Selection                   No Log
    SERIAL NUMBER EDIT
    MODEL NAME EDIT


                    [</>]Set [Home] Exit
```
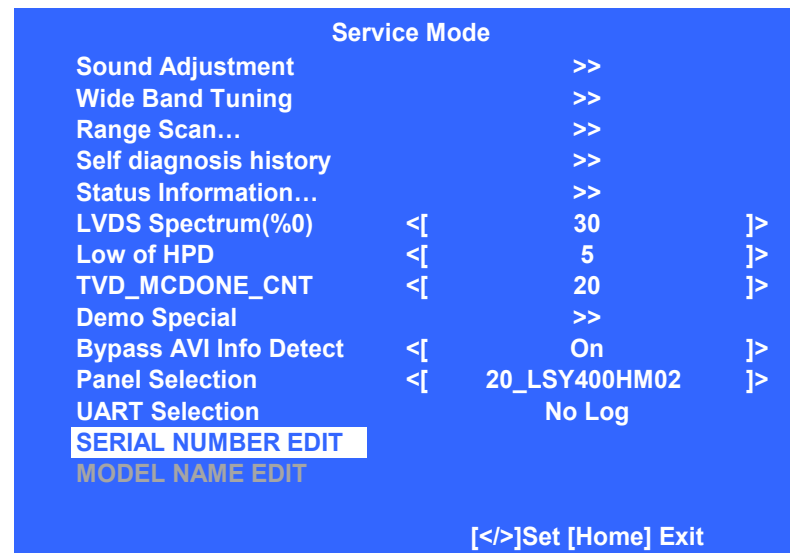
18. Press ➡ to be able to select the first digit.

```
                    Service Mode
    Sound Adjustment                    >>
    Wide Band Tuning                    >>
    Range Scan…                         >>
    Self diagnosis history             >>
    Status Information…                 >>
    LVDS Spectrum(%0)        <[         30          ]>
    Low of HPD               <[          5          ]>
    TVD_MCDONE_CNT           <[         20          ]>
    Demo Special                        >>
    Bypass AVI Info Detect   <[         On          ]>
    Panel Selection          <[  20_LSY400HM02      ]>
    UART Selection                   No Log
    SERIAL NUMBER EDIT               _ _ _ _ _ _ _
    MODEL NAME EDIT


                    [</>]Set [Home] Exit
```
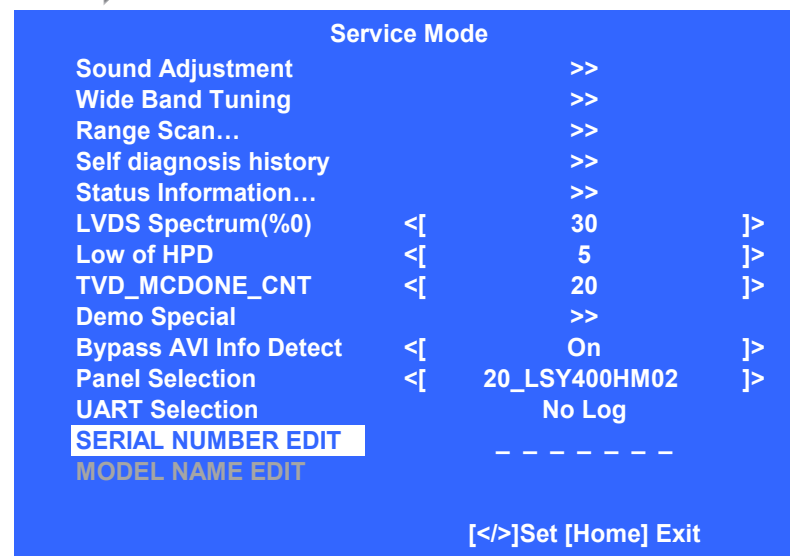
19. Press ⬆ or ⬇ and ➡ to enter all the digits of the Serial Number.

```
                    Service Mode
    Sound Adjustment                    >>
    Wide Band Tuning                    >>
    Range Scan…                         >>
    Self diagnosis history             >>
    Status Information…                >>
    LVDS Spectrum(%0)        <[         30            ]>
    Low of HPD              <[          5             ]>
    TVD_MCDONE_CNT          <[          20            ]>
    Demo Special                        >>
    Bypass AVI Info Detect  <[          On            ]>
    Panel Selection         <[     20_LSY400HM02      ]>
    UART Selection                   No Log
    SERIAL NUMBER EDIT                6000001
    MODEL NAME EDIT


                              [</>]Set [Home] Exit
```
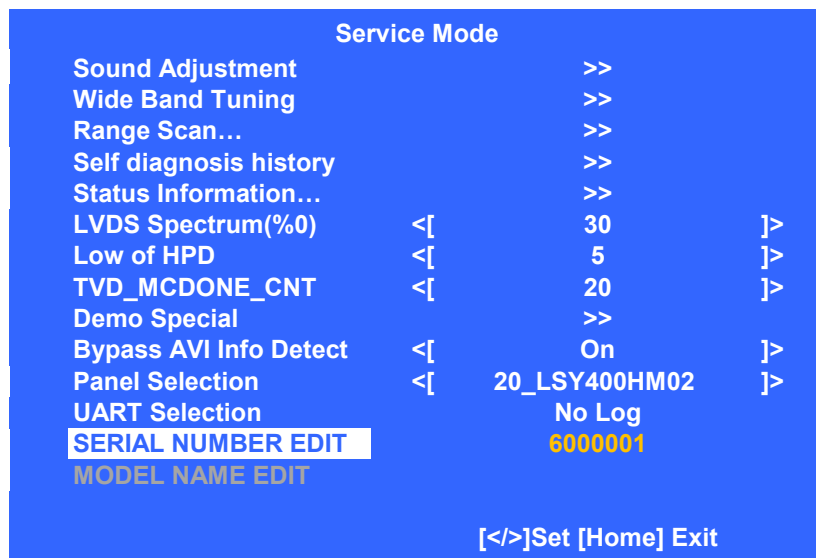
CAUTION: The Serial Number can only be selected once. Be sure to verify the information is correct before saving the changes.

20. When the complete Serial Number is displayed, press ⊕.

21. The confirmation screen displays, press ⬅ to select **YES** and then press ⊕.

22. Press ⬇ until **MODEL NAME EDIT** is selected.

```
                    Service Mode
    Sound Adjustment                    >>
    Wide Band Tuning                    >>
    Range Scan…                         >>
    Self diagnosis history             >>
    Status Information…                >>
    LVDS Spectrum(%0)        <[         30            ]>
    Low of HPD              <[          5             ]>
    TVD_MCDONE_CNT          <[          20            ]>
    Demo Special                        >>
    Bypass AVI Info Detect  <[          On            ]>
    Panel Selection         <[     20_LSY400HM02      ]>
    UART Selection                   No Log
    SERIAL NUMBER EDIT                6000001
    MODEL NAME EDIT


                              [</>]Set [Home] Exit
```
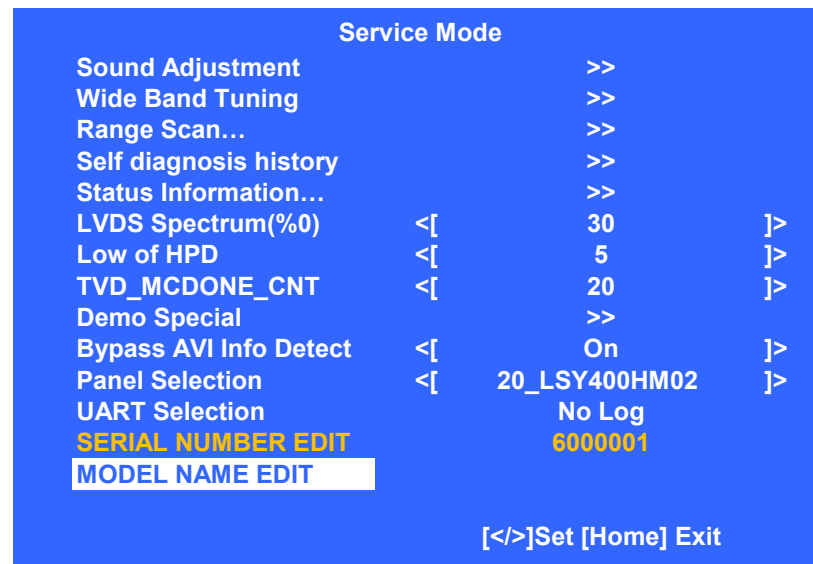
23. Press ➡ to be able to select the first character.

```
                    Service Mode
    Sound Adjustment                    >>
    Wide Band Tuning                    >>
    Range Scan…                         >>
    Self diagnosis history             >>
    Status Information…                >>
    LVDS Spectrum(%0)        <[         30            ]>
    Low of HPD              <[          5             ]>
    TVD_MCDONE_CNT          <[          20            ]>
    Demo Special                        >>
    Bypass AVI Info Detect  <[          On            ]>
    Panel Selection         <[     20_LSY400HM02      ]>
    UART Selection                   No Log
    SERIAL NUMBER EDIT                6000001
    MODEL NAME EDIT             _ _ _ _ _ _ _ _ _ _ _


                              [</>]Set [Home] Exit
```
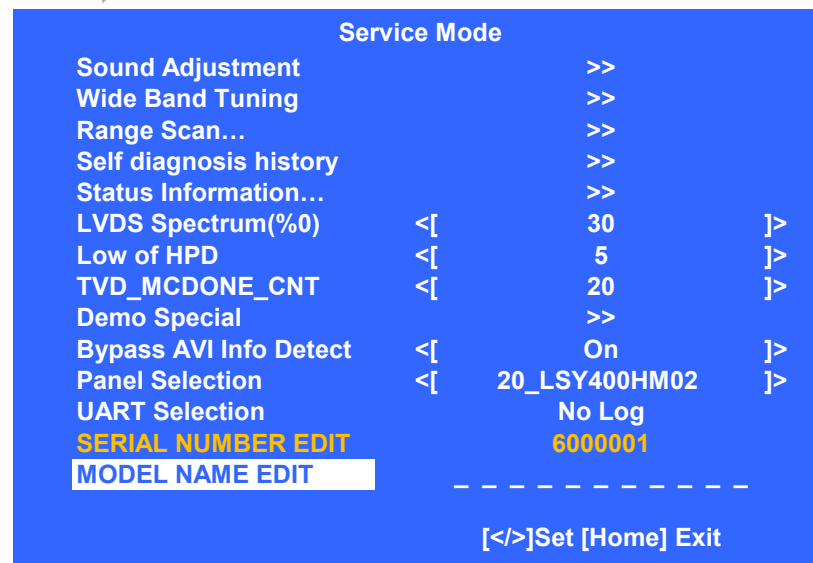
24. Press ⬆ or ⬇ and ➡ to enter all the characters of the Model Name.

Service Mode		
Sound Adjustment	**>>**	
Wide Band Tuning	**>>**	
Range Scan…	**>>**	
Self diagnosis history	**>>**	
Status Information…	**>>**	
LVDS Spectrum(%0)	**<[**	**30**]>
Low of HPD	**<[**	**5**]>
TVD_MCDONE_CNT	**<[**	**20**]>
Demo Special	**>>**	
Bypass AVI Info Detect	**<[**	**On**]>
Panel Selection	**<[**	**20_LSY400HM02**]>
UART Selection	**No Log**	
SERIAL NUMBER EDIT	**6000001**	
MODEL NAME EDIT	**KDL-40R450A**	

[</>]Set [Home] Exit
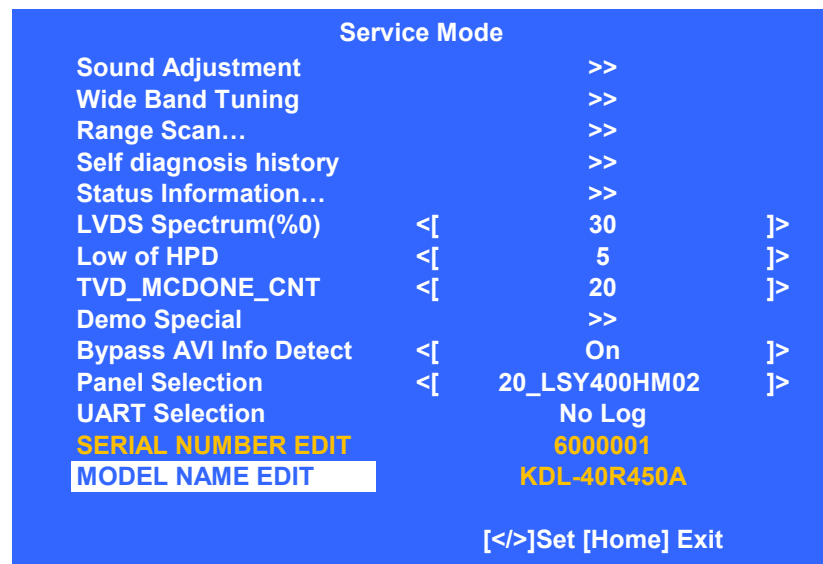
CAUTION: The Model Name can only be selected once. Be sure to verify the information is correct before saving the changes.

25. When the complete Model Name is displayed, press ⊕.

26. The confirmation screen displays, press ⬅ to select **YES** and then press ⊕.

27. Press [POWER] to exit **Service Mode**.

REPLACING THE POWER SUPPLY BOARD

1. Remove the screws and detach brackets.

2. Remove 5 screws from the Power Supply Board.
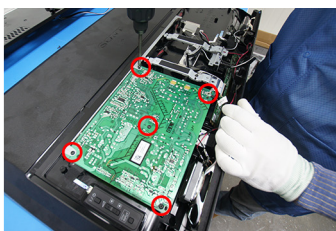
3. Disconnect the Power Cord from the Power Supply Board.
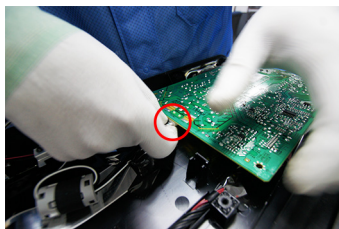
4. Disconnect all the connectors to detach from the Rear Cover.
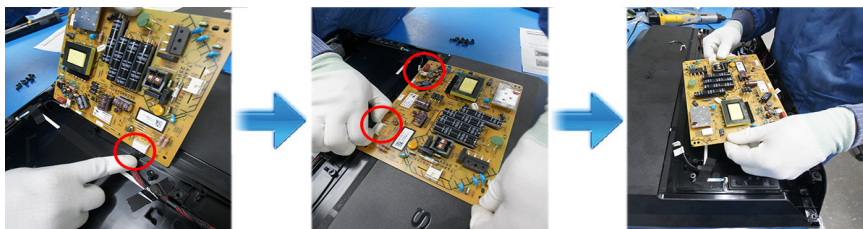
5. Confirm if the latest version of the Software is installed and if not, you must update it.

REMOVING THE SWITCH UNIT

1. Disconnect FFC cable from Switch Unit.
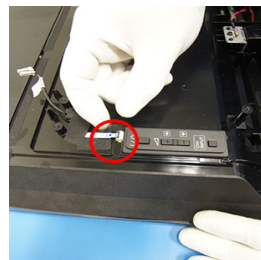
2. Insert finger on the free space on the left side pocket where Switch Unit is located and pull to detach from Rear Cover.
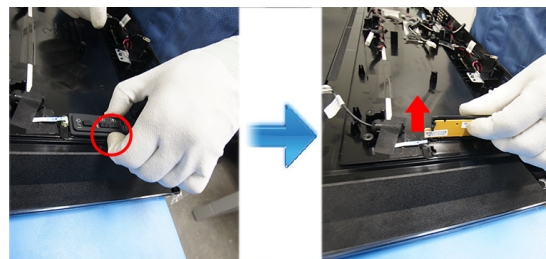
REMOVING THE BEZEL

1. Remove the screws and detach the Power Cord.
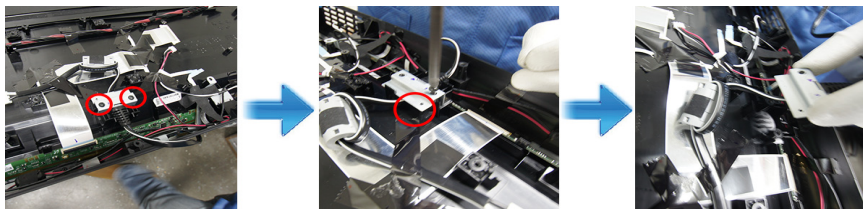
2. Disconnect connectors from the TCON and H Board.
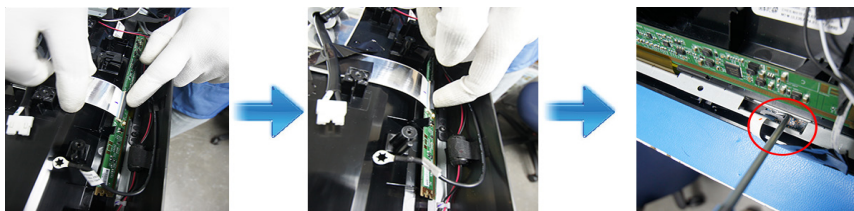
Caution:To avoid damaging the connector, make sure the H Board is disconnected before removing the SPK BFL from the Rear Cover.

3. Remove the harness assembly carefully.
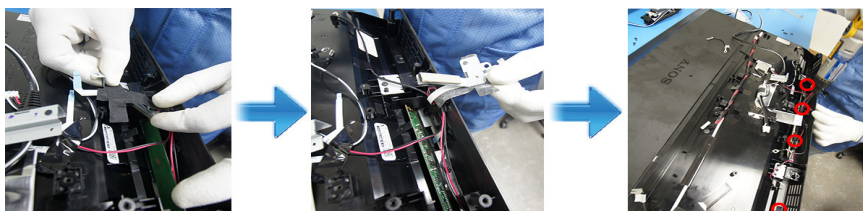
4. Gently lift up the cover and dettach from LCD Panel.
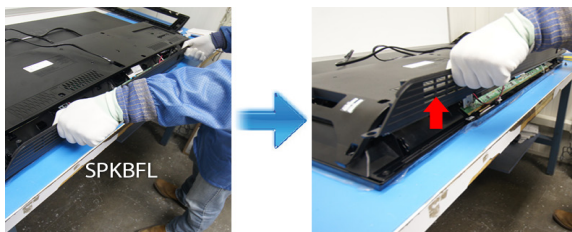
5. Flip the TV face up and press the gap between the LCD Panel and Bezel.
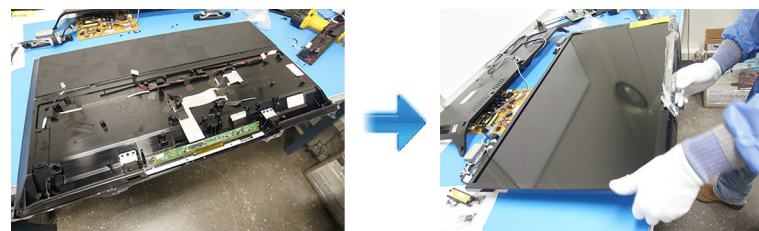
6. Gently lift up and unhook the Bezel to dettach.
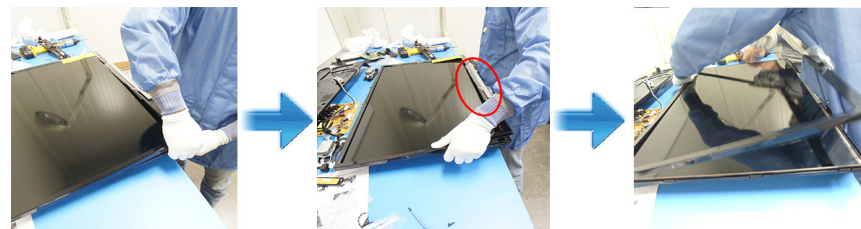
SECTION 4 - EXPLODED VIEW/PART NUMBER INFORMATION

KDL-40R450A/46R450A

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.

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

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)

H Board is included in the Bezel.
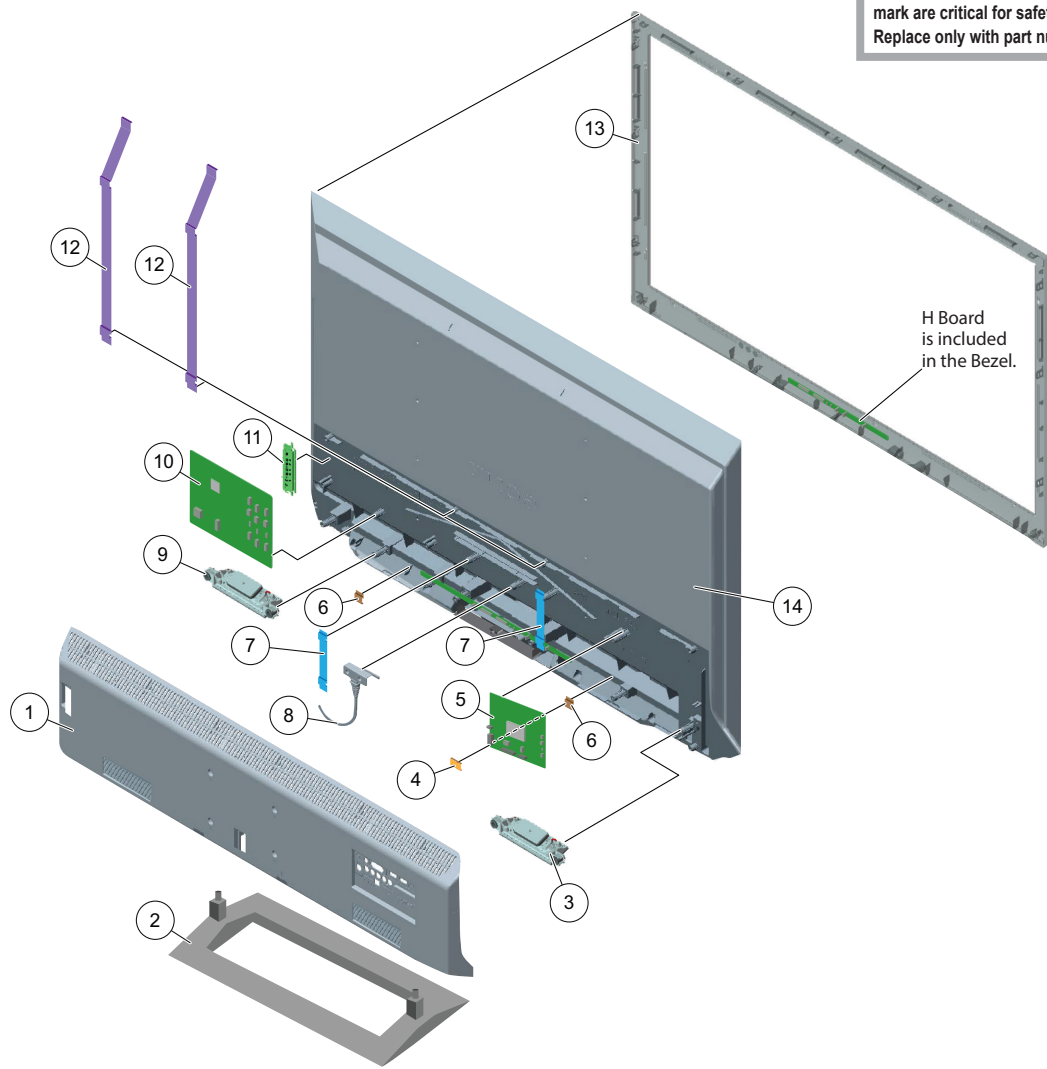
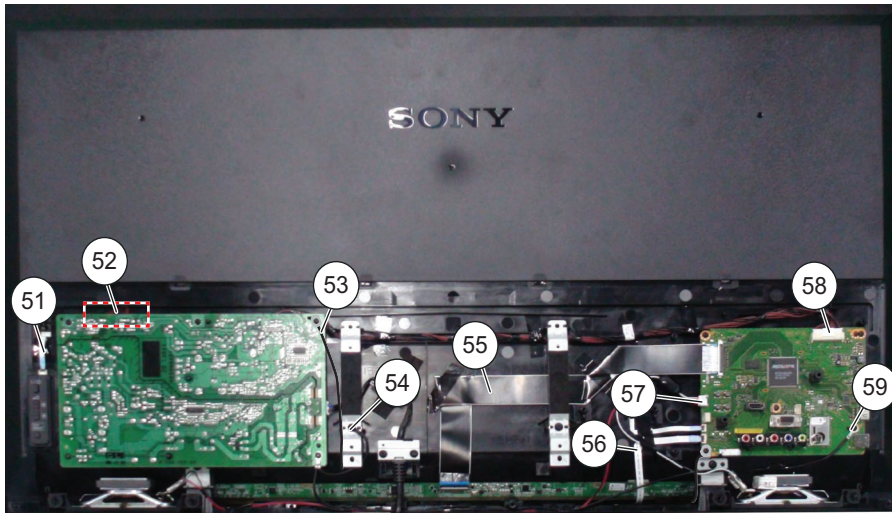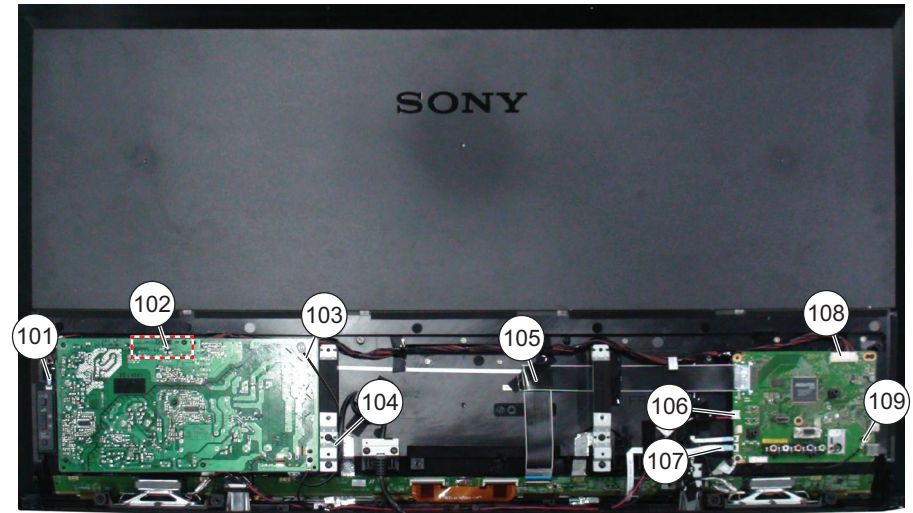| REF. NO.	PART NO.	DESCRIPTION	[ASSEMBLY INCLUDES]
1	4-459-446-01	COVER, UNDER (40FANF) (KDL-40R450A ONLY)	
1	4-459-473-01	COVER, UNDER (46FANF) (KDL-46R450A ONLY)	
2	4-459-511-01	PLASTIC, STAND (ML1F)	
3	1-858-888-11	LOUD SPEAKER (L) 40X100MM	
4	4-459-445-01	BRACKET, SP (40FANF) (KDL-40R450A ONLY)	
4	4-459-472-01	BRACKET, SP (46FANF) (KDL-46R450A ONLY)	
🔒 5	1-895-371-11	A BOARD, COMPLETE	
		AFTER REPLACING THE MAIN BOARD, YOU MUST UPDATE THE SOFTWARE TO THE LATEST VERSION.	
6	4-459-477-01	BRACKET, STAND A (40FANF)	
7	4-459-475-01	BRACKET, VESA (FANF) (KDL-40R450A ONLY)	
7	4-459-475-11	BRACKET, VESA (FANF) (KDL-46R450A ONLY)	
⚠ 8	1-846-638-11	POWER-SUPPLY CORD (KDL-40R450A ONLY)	
⚠ 8	1-846-638-31	POWER-SUPPLY CORD (KDL-46R450A ONLY)	
9	1-858-888-21	LOUD SPEAKER (R) 40X100MM	
10	1-474-487-11	GL4 BOARD, COMPLETE (KDL-40R450A ONLY)	
10	1-474-488-11	GL5 BOARD, COMPLETE (KDL-46R450A ONLY)	
11	1-492-329-11	SWITCH UNIT	
12	4-459-474-01	BRACKET, VESA TOP A (46FANF) (KDL-46R450A ONLY)	
13	A-1932-053-A	BEZEL (40FANFB MR) (KDL-40R450A ONLY)	
13	A-1932-061-A	BEZEL (46FANFB MR) (KDL-46R450A ONLY)	
14	NA	LCD PANEL	
		FOR ALL LCD PANEL AND TCON BOARD PART NUMBER INFORMATION REFER TO THE LCD PANELS SERVICE MANUAIL.	

CONNECTORS

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

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)

KDL-40R450A

REF. NO.	PART NO.	DESCRIPTION
51	1-910-107-50	FFC CABLE 40 MB-KEY 6P
52	1-910-107-47	CONNECTOR ASSEMBLY 40/46 PSU-LED
53	1-910-107-44	GROUND CABLE 40 MB-PSU (M)
		(LA,MX MODELS ONLY)
54	1-910-107-46	GROUND CABLE 40 MB-S0URCE
55	1-910-107-48	(LVDS) FFC CABLE 40 MB-TCON 51P
56	1-910-107-49	FFC CABLE 40 MB-IR 10P
57	1-910-107-43	CONNECTOR ASSEMBLY 40 MB-SP LR 4P
58	1-910-107-42	CONNECTOR ASSEMBLY 40 MB-PSU 14P
59	1-910-107-45	GROUND CABLE 40 MB-PSU (L)

KDL-46R450A
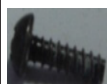
REF. NO.	PART NO.	DESCRIPTION
101	1-910-107-67	FFC CABLE 46 MB-KEY 6P
102	1-910-107-47	CONNECTOR ASSEMBLY 40/46 PSU-LED
103	1-910-107-62	GROUND CABLE 46 MB-PSU (M)
		(LA,MX MODELS ONLY)
104	1-910-107-64	GROUND CABLE 46 MB-S0URCE
105	1-910-107-65	(LVDS) FFC CABLE 46 MB-TCON 51P
106	1-910-107-61	CONNECTOR ASSEMBLY 46 MB-SP LR 4P
107	1-910-107-66	FFC CABLE 46 MB-IR 10P
108	1-910-107-60	CONNECTOR ASSEMBLY 46 MB-PSU 14P
109	1-910-107-63	GROUND CABLE 46 MB-PSU (L)

SCREWS

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

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)

	P/N	DESCRIPTION	KDL-40R450A	KDL-46R450A
	2-580-639-01	Screw, +BVTP 4x12 TYPE2 IT-3	Rear Cover (12), Bracket Vesa (2), Bracket AC (2), Bracket Stand(2) Speaker Blaffe (4)	Rear Cover (12), Bracket Vesa (4), Bracket AC (2), Bracket Stand (2), Speaker Baffle (4)
	7-685-646-79	SCREW, +BVTP 3X8 TYPE2 IT-3	G Board (7), A Board/Bracket SP (5)	G Board (6), A Board (4), Bottom Bracket (2)
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	RC Terminal (1)	Not Used
	2-580-608-11	SCREW, +PSW M5X16	Table Top Stand to TV (2)	Table Top Stand to TV (2)
	N/A	GEAR SCREW M3X5 22	Not Used	A Board (1), G Board (1)
	7-685-648-71	SCREW +BVTP 3X12 TYPE2 IT-3	Not Used	RC Terminal (1)

SECTION 5 - ACCESORIES PART NUMBER INFORMATION

ACCESSORIES AND PACKAGING

PART NO.	DESCRIPTION
2-580-608-11	SCREW, +PSW M5X16
	(SCREWS TO ATTACH TABLE-TOP STAND TO LCD 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 the Wall Mount Brackets.
2-580-602-01	SCREW, +PSW M4X12
	(ATTACHMENT PARTS FOR WALL-MOUNT BRACKETS)
	(KDL-46R450A ONLY)
4-459-301-11	GUIDE, QUICK SETUP (ENGLISH VERSION)
4-459-301-21	GUIDE, QUICK SETUP (FRENCH VERSION)
4-459-301-31	GUIDE, QUICK SETUP (SPANISH VERSION)
4-459-301-51	GUIDE, QUICK SETUP (ENGLISH AND SPANISH VERSION)
4-458-509-11	MANUAL, INSTRUCTION(ENGLISH VERSION)
4-458-509-21	MANUAL, INSTRUCTION (FRENCH VERSION)
4-458-509-31	MANUAL, INSTRUCTION (SPANISH VERSION)
4-456-270-11	SUPPLEMENT (STAND INSTALLATION)

MISCELLANEOUS

PART NO.	DESCRIPTION
3-299-071-06	FLYER, SAFETY
4-464-002-01	GASKET (40FANF)
	(KDL-40R450A ONLY)
4-464-000-01	GASKET (46FANF)
	(KDL-46R450A ONLY)

OPTIONAL ACCESSORIES

PART NO.	DESCRIPTION
4-414-470-01	SUPPORT BELT KIT

REMOTE COMMANDER

PART NO.	DESCRIPTION
1-492-065-11	REMOTE COMMANDER (RM-YD092)

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 orignally 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.