SAMSUNG

LED TV
Chassis : UAD50
Model : UN40J5000AG

SERVICE Manual

LED TV

UN40J5000AG

Contents

1. Precautions

2. Product specifications

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Contents

1. Precautions

1-1. Safety Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1-1. Warnings

> **⚠ WARNING**
>
> For continued safety, do not attempt to modify the circuit board.
>
> Disconnect the AC power and DC power jack before servicing.

1-1-2. Servicing the LED TV

1. When servicing the LED TV, Disconnect the AC line cord from the AC outlet.

2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3. Fire and Shock Hazard

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.

2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistorcapacitor networks, mechanical insulators, etc.

3. Leakage Current Hot Check:
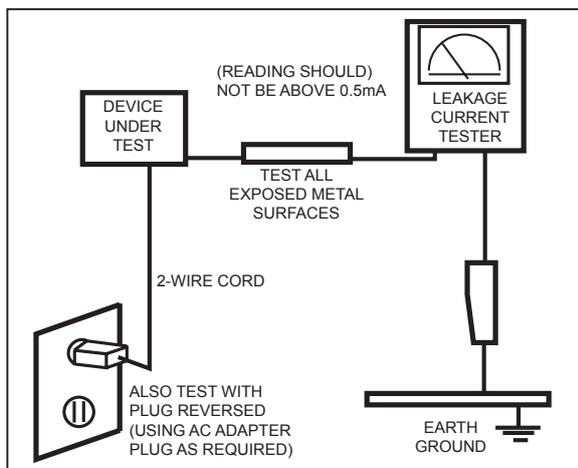
> **⚠ WARNING**
>
> Do not use an isolation transformer during this test.
>
> Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts.
The current measured should not exceed 0.5 milliamp.
Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4. Product Safety Notices

Some electrical and mechanical parts have special safetyrelated characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by ⚠ on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1-2. Servicing Precautions

WARNING An electrolytic capacitor installed with the wrong polarity might explode.

CAUTION Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

NOTE If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1. General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to: (a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.

2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.

3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.

4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).

5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to theblades of the AC plug. The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.

6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3. Static Electricity Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.

2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.

3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.

4. Use only a grounded-tip soldering iron to solder or desolder ESDs.

5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.

6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.

7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.

> ⚠ **CAUTION**   Be sure no power is applied to the chassis or circuit and observe all other safety precautions.

8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4. Installation Precautions

1. For safety reasons, more than a people are required for carrying the product.

2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.

3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.

4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.

5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.

6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the highvoltage cable or the antenna falling over may cause fire or electric shock.

7. When installing the product, leave enough space (0.4m) between the product and the wall for ventilation purposes. A rise in temperature within the product may cause fire.

8. If an equipment is provided with a replaceable battery, and if replacement by an incorrect type could result in an explosion (for example, with some lithium batteries), the following applies:

⚠️ **CAUTION**	• Risk of explosion if battery is replaced by an incorrect type dispose of used batteries according to the instructions.
	• Do not dispose of batteries in a fire.
	• Do not short circuit, disassemble or overheat the batteries.
	• Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
	• Do not be exposed to excessive heat such as sunshine, fire or the like.

2. Product Specifications

2-1. Product information

Model	UN40J5000AG	
Front View	* W : Width H : High	
Detail View		
Color	Front : Black, Stand : Black	
Dimensions (W x H x D)	40"	With Stand	922.7 x 555.1 x 170.3 mm
		Without Stand	922.7 x 530.7 x 72 mm
Weight	40"	With Stand	6.5 kg
		Without Stand	6.4 kg

2-2. Product specification

2-2-1. Detailed Specifications

> 📝 **NOTE**
>
> Design and specifications are subject to change without prior notice.

Item		UN40J5000AGXPR
General Information	Product	LED
	Series	5
	Country	PARAGUAY
Display	Screen Size	40"
	Resolution	1920 x 1080
	Ultra Clear Panel	N/A
Video	Motion Rate	60
	Dynamic Contrast Ratio	Mega Contrast
	Micro Dimming	N/A
	Precision Black (Local Dimming)	N/A
	Nano Crystal Color	N/A
	Wide Color Enhancer (Plus)	Yes
	PurColor	N/A
	Auto Depth Enhancer	N/A
	Contrast Enhancer	N/A
	Auto Motion Plus	N/A
	Film Mode	Yes
	Peak Illuminator	N/A
Audio	Dolby Digital Plus	Yes
	Virtual Surround	DTS Studio Sound
	DTS Codec	DTS Premium sound
	3D Sound	N/A
	Sound Customizer	N/A
	Sound Output (RMS)	20W(10W+10W)
	Speaker Type	2CH(Down Firing + Base Reflex)
	Woofer	N/A
	HD Audio	N/A
	Wallmount Sound Mode	Yes
	Multiroom Link	N/A
Smart TV	Samsung SMART TV	No
	Apps	No

Item		UN40J5000AGXPR
Smart TV	Games	N/A
	Multi-Link Screen	N/A
	Automated Content Recognition (ACR)	N/A
	Info Widget	N/A
	Vertical Enhancement	N/A
Smart Interaction	Voice Interaction	N/A
	Voice Control	N/A
	Face recognition	N/A
	Motion control	N/A
Convergence	TV to Mobile - Mirroring	N/A
	Mobile to TV - Mirroring, DLNA	Yes
	Samsung SMART View	N/A
	Wireless TV On - Samsung WOL	N/A
	Notification - BLE	N/A
	Briefing On TV	N/A
	RVU	N/A
	WiDi	N/A
	WiFi Direct	No
Differentiation	Analog Clean View	N/A
	Wireless Copy	N/A
	Sports Mode	Basic
Tuner/Broadcasting	Digital Broadcasting	ISDB-T
	Analog Tuner	Yes (Trinorma)
	2 Tuner	N/A
	CI/CI+/2CI+	N/A
	MHP / MHEG / HbbTV / ACAP / GINGA / OHTV	GINGA (UY)
Connectivity	HDMI	2
	USB	1
	Component In (Y/Pb/Pr)	1
	Composite In (AV)	1
	Ethernet (LAN)	1
	Headphone	N/A
	Audio Out (Mini Jack)	1
	Digital Audio Out (Optical)	N/A
	RF In (Terrestrial / Cable input / Satellite input)	1/0/0

Item		UN40J5000AGXPR
Connectivity	Ex-Link (RS-232C)	N/A
	IR Out	N/A
	CI Slot	N/A
	Scart	N/A
	MHL	Yes
	Dongle Ready (3G / LTE)	N/A
	HDMI 3D Auto Setting	N/A
	HDMI A / Return Ch. Support	N/A
	HDMI Quick Switch	N/A
	Wireless LAN Adapter Support	N/A
	Wireless LAN Built-in	Yes
	Anynet+ (HDMI-CEC)	Yes
Design	Design	Slim Edge Mold
	Bezel Type	NNB
	Slim Type	58mm
	Front Color	Black
	Light Effect (Deco)	N/A
	Stand Type	Mini Arc
	Swivel (Left/Right)	N/A
Additional Feature	Samsung 3D	N/A
	3D Converter	N/A
	Instant On	N/A
	Camera Built-in	N/A
	Processor	N/A
	PX Ready	N/A
	21:9 Immersive Picture Mode	N/A
	SCSA Support	N/A
	Accessibility	Enlarge/high Contrast
	One Connect (Jack)	N/A
	Digital Clean View	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	BD Wise Plus	N/A
	Caption (Subtitle)	Yes
	Channel List USB-Clone	N/A

Item		UN40J5000AGXPR
Additional Feature	Connect Share™ (HDD)	NA
	ConnectShare™ (USB 2.0)	Yes
	Connect Share™ Transfer	N/A
	AC/DC TV	N/A
	Embeded POP	Yes
	EPG	Yes
	Extended PVR	N/A
	Game Mode	Yes
	IP Video Closed Caption	N/A
	OSD Language	Local
	Picture-In-Picture	Yes
	BT HID Built-in	N/A
	USB HID Support	Yes
	Feature Upgrade (Evolution Kit Ready)	No
	ATSC 3.0 Ready	No
	Teletext (TTX)	N/A
	Time Shift	N/A
	Ultra Clean View	N/A
Eco Feature	Energy Star	No
	Eco Sensor	No
Accessory	3D Active Glasses (Included)	N/A
	Remote Controller Model	TM1240A
	Batteries (for Remote Control)	Yes
	Samsung Smart Control (Included)	No
	PX (Included)	N/A
	Ultra Slim Wall Mount Support	N/A
	Mini Wall Mount Support	Yes
	Vesa Wall Mount Support	Yes
	Floor Stand Support	N/A
	TV Camera (Included)	N/A
	IR Extender Cable (Included)	N/A
	Wireless Keyboard (Included)	N/A
	Wireless PC Mirroring Dongle (Included)	N/A
	Composite to Scart Gender (Included)	N/A
	User Manual	Yes

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Item		UN40J5000AGXPR
Accessory	E-Manual	Yes
	ANT-Cable	N/A
	Power Cable	Yes
	Slim Gender Cable	N/A

2-2-2. Specifications

■ Specifications

Model	UN40J5000AG
Item	**Description**
Screen Size (Diagonal)	40 inches
LCD Panel	FHD 60Hz
Display Resolution	1920 x 1080
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated
Input Sync Signal	H/V Separate, TTL, P. or N.
Environmental Considerations	Operating Temperature: 50˚F ~ 104˚F (10˚C ~ 40˚C) Operating Humidity: 10% ~ 80%, non-condensing Storage Temperature: -4˚F ~ 113˚F (-20˚C ~ 45˚C) Storage Humidity: 5% ~ 95%, non-condensing
AC Power Voltage & Frequency	AC100-240V 50/60Hz
Sound (Output)	20W (10W X 2)

2-3. Accessories

> 📝 **NOTE**
>
> • The items' colors and shapes may vary depending on the model.
> • Cables not included in the package contents can be purchased separately.
> • The part code for some accessories may differ depending on your region.

Product	Description	Code. No	Remark
	Remote Control & Batteries (AAA x 2)	AA59-00720A	
		4301-000121	
	Power Cord	3903-000851	-
	Manual Users	BN68-07065V	

3. Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the LED TV.

⚠️ **WARNING**   This LED TV contains electrostatically sensitive devices. Use caution when handling these components.

3-1. Disassembly and Reassembly

⚠️ **CAUTION**

1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
3. If there is no additional coment, it is same for all inches.

Description	Picture Description	Screws
1 Place TV face down on cushioned table.		
2 Remove Screws from the ASSY GUIDE P-STAND. • 4 EA		Torque : 9~ 10Kgf.cm 6003-001782

	Description	Picture Description	Screws
3	Remove Screws of ASSY COVER P-REAR. • 40" : 6003-001782 12EA 6001-002755 5EA		Torque : 9~ 10Kgf.cm 6003-001782 Torque : 7~ 8Kgf.cm 6003-002755
4	Remove Screws of ASSY PCB MAIN and DC VSS-LED TV PD BD. • 6001-003016 8EA		Torque : 7~ 8Kgf.cm 6001-003016
5	Remove the ASSY BOARD P Cable, ASSY SPEAKER P Cable, and LVDS Cable.	 ASSY BOARD P Cable ASSY SPEAKER P Cable MAIN-SMPS 10P Cable LVDS Cable	
6	Remove the SMPS Cable and BLU Cable.	 MAIN-SMPS 10P Cable BLU Cable	
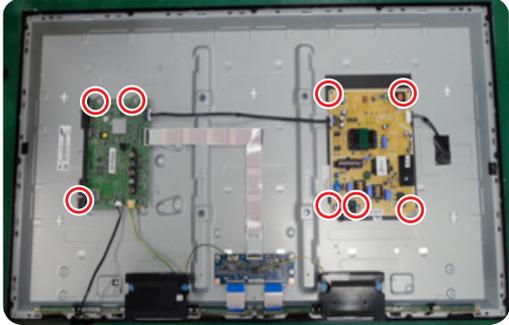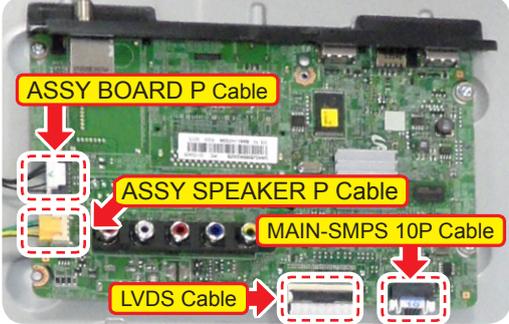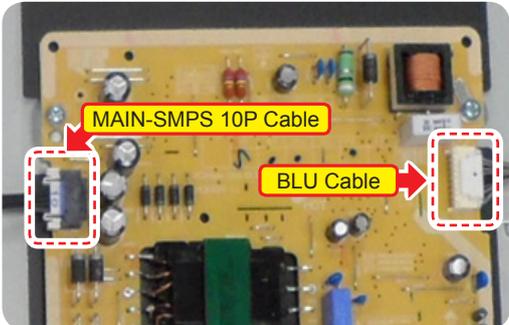
Description	Picture Description	Screws
7 Remove the ASSY SPEAKER P (L/R) and ASSY BOARD P.	ASSY SPEAKER P ASSY BOARD P	
8 Completed disassembly.		
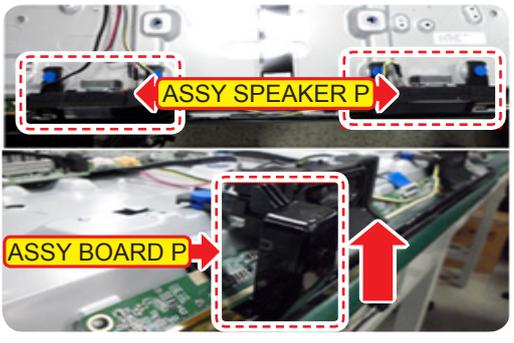
📝 **NOTE**

Reassembly procedures are in the reverse order of disassembly procedures.

3-2. Disassembly and Reassembly_COVER-REAR

Description	Picture Description
1 Pull the Lower left(or right) corner of COVER-REAR.	
2 Opened that point.	
3 Pull the upper left(or right) corner of COVER-REAR.	
4 Opened that point.	
⚠️ **CAUTION** Don't disassemble only using lower two point. It cause the breakage of RIB(panel).	
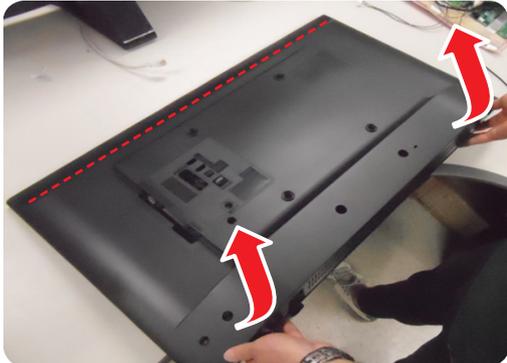
4. Troubleshooting

4-1. Troubleshooting

■ Previous Check

1. Check the various cable connections first.
   - Check to see if there is a burnt or damaged cable.
   - Check to see if there is a disconnected or loose cable connection.
   - Check to see if the cables are connected according to the connection diagram.

2. Check the power input to the ASSY PCB MAIN.
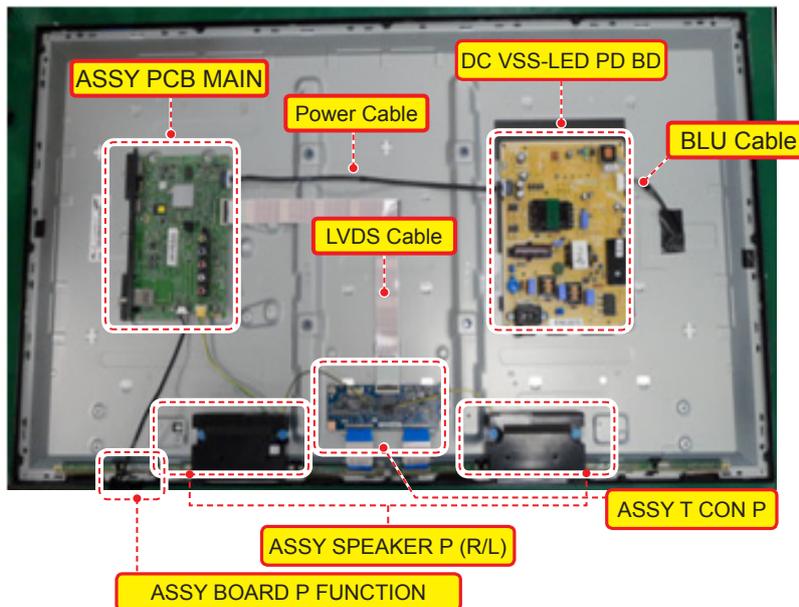
3. Check the power in & output between DC VSS-LED PD BD (SMPS) & ASSY PCB MAIN, ASSY PCB MAIN & Panel, IP & Panel.

■ How to know it is from Main Board or T-Con when some problems happen

1. No Picture : Backlight is on, but there is no picture and LED indicator in front of TV is blinking.

   −   Check the LVDS Cable connection. If still problems, change the T-Con Board and then Main Board step by step.

2. Picture distortion : Enter the service mode ⋯▸ Choose 'SVC' ⋯▸ Check the 'internal pattern.'

   −   Enter 'Service Mode.'

      •   If you do not have Factory remote control

      | Power OFF | ⟶ | Info | ⟶ | MENU | ⟶ | Mute | ⟶ | Power On |

      •   If you have Factory remote control

      | INFO | ⟶ | Factory |

3. Choose 'SVC.'

4. Choose 'Test pattern.'

5. Select the each pattern and then check all pattern is ok or not.

Option
Control
Debug
SVC
ADC/WB
Advanced

Test Pattern   Pattern Sel

Pattern Status is	Change the	Test Pattern is made by the NOVATEK IC
OK	Main Board	We guess front of NOVATEK IC has problem.
NG	Panel and T-Con Board	We guess back of NOVATEK IC has problem.

4-2. How to Check Fault Symptom

Diagnostics

Power cord on.

↓ Yes

Check 'Stand-By A5.3V'
5.3V appear at BD210?
0V to A13V (CN202 #3) ── No → **Cause** : There did not supply the power from SMPS.

Measure : Change 10p power cable and SMPS.

↓ Yes

Set On.

↓ Yes

Check 'SW_POWER' more than 3.3V
appear at CN202(#6)
0V to 3.3V↑ (CN202 #6) ── No → **Cause** : Main IC(NT14L) did not control the SW_Power.

Measure : Change the Main Assy.

↓ Yes

Check 'Power of main IC(B1.15V)' appear
at BD917
Check 'Power of DDR IC(B1.5V)' appear
at BD911 ── No → **Cause** : There is problem at DCDC(IC201)/LDO(IC204).

Measure : Change the Main Assy.

↓ Yes

Check 'Power of LVDS (13V)'
appear at TP-PANEL_VCC?
0V to 13V (TP-PANEL_VCC) ── No → **Cause** : There is proble at FET(Q202_ NFRC) or Main IC(NT14L) did not control the SW_PVCC.

Measure : Change the Main Assy.

↓ Yes

Change the LVDS cable ? ── No → Change the Panel.

4-3. Factory Mode Adjustments

4-3-1. Detail Factory Option

> 📝 **NOTE**
>
> If you replace the main board with new one, please change the factory option as well.
> The options you must change are "Type".

■ UN40J5000AGXPR

Inches		40"		
		IH01	**DA03**	**JH02**
Panel	Vendor	INX	INX	INX
	Code	BN95-02347A	BN95-02347F	BN95-02347C
	Spec.	CY-JJ040BGNV1V/H	CY-JJ040BGNV4H/V	CY-JJ040BGNV3H
SMPS (PD Board)	Vendor	HANSOE	HANSOE	HANSOE
	Code	BN44-00851A	BN44-00851A	BN44-00851A
	Spec.	L40MSF_FHS	L40MSF_FHS	L40MSF_FHS
MAIN ASSY	Chassis Ass'y	BN91-16920B	BN91-17946C	BN91-16920B
	PBA Ass'y code	BN94-10472A	BN94-11008C	BN94-10472A
Byte		**Item**		
0	Factory Reset	-		
1	Type	40D6AF0JJ	40D6AF1JJ	40D6AF0JJ
2	SW Model	UJ5000		
3	BOM Model	5000		
4	Local Set	(depending on the country) PAR_DTV		
5	Tuner	(depending on the country) AUTO		

4-3-2. Entering Factory Mode

To enter 'Service Mode' Press the remote -control keys in this sequence :

• If you do not have Factory remote control

| Power OFF | → | INFO | → | MENU | → | MUTE | → | Power On |

• If you have Factory remote control

| INFO | → | Factory |

• If you don't have Factory remote control, can't control some menus

■ Initial SERVICE MODE DISPLAY State

Option	**T-N14LJIBRC-xxxx.x (or T-N14LJUSAC-xxxx.x)**
Control	**T-NT14LAUSS-xxxx**
Debug	**E-Manual : NLISDBBRH-xxxx (or NLDVBSAH-xxxx)**
SVC	**EDID SUCCESS**
ADC/WB	**HDCP SUCCESS**
Advanced	**CALIB : AV/COMP/PC/HDMI/**
	Option : ****
	DTP-SDAL-NT14L-xxxx
	RFS:"NT14L xxxx" K/20xx-xx-xx
	KERNEL:xxxx.xxxx,/Onboot: xxxx
	TCON Version:----
	NSP-DTVTD-xxxx
	Model: ****
	Factory Data Ver:xxx
	EERC Version: xxx
	NSP-BP-HAL-xxxx
	NSP-AP-CNC-xxxx
	NSP-AP-MM-xxxx
	NSP-BP-MW-xxxx
	+B1NSP-BP-APP-xxxx
	NSP-PNG-xx-xxxx
	Date of purchase:-/-/----

4-3-3. Factory Data

> 📝 **Note**
>
> - Black : I should not be possible to adjust or change that does not require a change item
>   Blue : Adjustment Services for the corresponding
>   Red : Items that are secured

■ Option

Factory Menu Name	Data	Range	Remark	Key
Factory Reset	-	-		
Type	48A6AF0JJ			
Local Set	PERU_DTV	Select Local		
SW Model	UJ5000	UH5100		
BOM Model	5000	4200		
TUNER	(Auto detact, Depending on the country)			
Ch Table	NONE			
MRT Option				
Front Color	N/A			
Lvds Format	JEIDA			
Language_Arabic	S_AMERICA			
Region	BRA/COLOMBIA/CHILE			
PnP Language	ENG_US			
WIFI REGION	S	A~Z/AA/AB		
OTN Support	OFF	ON/OFF		
MediaPlay DLNA	…			
TTX	OFF	ON/OFF		
China HD	OFF	ON/OFF		
NT Conversion	OFF	ON/OFF		
Num of DTV	1	0~2		
Num of AV	1	0~3		
Num of COMP	1	0~3		
Num of HDMI	2	0~4		
Num of SCART	0	0~2		
Num of USB Port	1	0~2		
Num of RVU	0	0~1		
Num Of Display	2	1~2		
Num of IPTV	0	0~1		
Num of RUI	0	0~1		

Factory Menu Name	Data	Range	Remark	Key
TOOLS Support	313			
LNA Support	0	0~1		
24Px4 Support	OFF	ON/OFF		
BD Wise Support	OFF	ON/OFF		
Data Service Support	OFF	ON/OFF		
PVR Support	OFF	ON/OFF		
CI Support	OFF	ON/OFF		
OTA Support	OFF	General/OFF		
LEDMotionPlus Support	OFF	ON/OFF		
Natural Mode Support	OFF	ON/OFF		
Relax Mode Support	OFF	ON/OFF		
HDMI/DVI SEL	2	1~4		
Select LCD/PDP	LCD	LCD/PDP		
Wall Mount	0	0~1		
HV Flip	HV Flip	OFF/HV Flip/V Flip/H Flip		
PVR RECORD NUM	0	0~2		
Light Effect	OFF	ON/OFF		
e-POP Default	ON	ON/OFF		
CAMERA Support	OFF	ON/OFF		
NETWORK Support	Not Support	Not Support/Cable/Ext-Wifi/Int-Wifi/ExtOnly-Wifi/Error		
EcoSensor Support	ON	ON/OFF		
3D Support	OFF	ON/OFF		
BT Support	OFF	ON/OFF		
BT ADDRESS	Not Support	Not Support		
HP LINE	NONE	Headphone/LineOut/NONE		
Capture Recording Support	OFF	ON/OFF		
JAVA Date Serivce Support	OFF	ON/OFF		
AfricanCinemaModeSupport	OFF			
IndianCinemaModeSupport	OFF			
Cricket Score Game Support	OFF			
Engineer option				
Type Of PANEL KEY	ONE KEY	ONE KEY/Horizontal/Vertical/PDPVertical/PDPHorizon/None		
5 Way Function Key	R_BOTTOM	L_BOTTOM/R_BOTTOM/L_BACK/R_BACK/4		
Contents Bar	0	0~1		
Cable Modulation	…			
Standby led on/off	OFF	ON/OFF		

Factory Menu Name	Data	Range	Remark	Key
Recognition Support	OFF	ON/OFF		
IF AGC	0	0~10		
D AGC	0	0~10		
PH BW	3	0~10		
FQ BW	3	0~10		
PH RATE	4	0~10		
PD EN	1	0~10		
PEQ Inx	289			
WF Scale				
Num of Network Stream	0	0~1		
DP V Size	1	0~1		
Backend Device	ECHO_FS	NONE/ECHO_FP/ECHO_FS/PARMA		
BT_AUDIO_ON_OFF	OFF	ON/OFF		
Config_AV_PATH				
V_HDMI IDENT TYPE	2134			
V_HDMI PATH TYPE	BACD			
V_EDID TYPE	LCD_HD	LCD_FHD/LCD_HD		
V_ATV	CVBS_PORT_2			
V_AV1	AV_COMP_G1			
V_AV2	CVBS_PORT_3			
V_COMP1	ADC_PORT_1			
V_COMP2	None			
V_PC	ADC_PORT_0			
V_SCART1_CVBS	CVBS_PORT_3			
V_SCART1_RGB	ADC_PORT_2			
V_SCART2_CVBS	None			
V_SCART2_RGB	None			
A_ATV	SIF			
A_DTV	DECODER			
A_AV1	AUIN1			
A_AV2	AUIN0			
A_COMP1	AUIN1			
A_COMP2	None			
A_PC	AUIN0			
A_SCART1	AUIN0			
A_SCART2	None			
A_DVI	None			
A_HDMI	None			

Factory Menu Name	Data	Range	Remark	Key
A_Media	DECODER			
USING_PSI_UPDATE	…			
Fast Logo Delay	0	0~20		
Num Of PANEL KEY	6	0~20		

■ Control

Factory Menu Name	Data	Range	Remark	Key
EDID				
EDID ON/OFF	ON	ON/OFF		
EDID WRITE ALL	Success			
EDID WRITE PC	…			
EDID WRITE HDMI	Success			
EDID WRITE HDMI1	…			
EDID WRITE HDMI2	…			
EDID WRITE HDMI3	…			
EDID WRITE HDMI4	…			
EDID Ver	HDMI 1.3			
EDID Port	NONE			
EDID WRITE DVI	…			
Sub Option				
RS-232 Jack	UART	Debug/UART		
Serial Log On/Off	OFF	ON/OFF		
Watchdog	ON	ON/OFF		
Checksum	0x0000			
Fast Boot in Production	OFF	ON/OFF		
USB Serial	OFF	ON/OFF		
Eeprom Reset				
EER Reset	0			
NVR All Clear	OFF	ON/OFF		
ECO IC TYPE	NONE	NONE/CT802FN/NLS1106/MC8121/ MC8121_REV		
Info Link Server Type	operating	operating/development/developing		
Info Link Country	None			
TTX Group	UserOSD	WestEurope/EastEurope/Russian/ Greek/Turkey/Arabic/Farsian/Arab/ Hbrw/UserOSD		
Visual Test	…			
MediaPlay DB	…			
OPTION_SWU				

Factory Menu Name	Data	Range	Remark	Key
OTN Server Type	operating	operating/development		
OTN Test Server	OFF	ON/OFF		
SWU Reset				
SWU Duration	OFF	ON/OFF		
SWU Fail Test	OFF			
SWU_Diag_Code				
OPTION_NUM				
Num of ATV	1	0~2		
Num of SVIDEO	0	0~3		
Num of PC	0	0~1		
Num of DVI	0	0~1		
Num of OPTICAL Link	0	0~1		
Num of MEDIA	1	0~1		
Num of Tuner	1	0~1		
Num of PVR RECORD	0	0~1		
RF Remocon Support	OFF	ON/OFF		
CDD mode	…			
DPMS Support	OFF	ON/OFF		
Num of IPTV CIP	0	0~1		
Num of CI	0	0~1		
Num of DECODER	0	0~1		
T-CON Device				
BOARD CONTROL	OFF	ON/OFF		
RM				
Server Type	Operating	operating/development		
RTS Mode	0	0~1		
PSA				
FKP Download1				
FKP Download2				
LMK threshold	0			
Low threshold	0			
High threshold	0			
CSB	ON	ON/OFF		
CLB	ON	ON/OFF		
EEPG Enable	OFF	ON/OFF		
FAnet Thread	5			
PDP Option				
HOTEL Option				

Factory Menu Name	Data	Range	Remark	Key
Hospitality Mode	OFF	ON/OFF		
Power On				
Menu OSD				
Music Mode				
External Source				
Eco Solution				
Cloning				
Shop Option				
Exhibition Mode	OFF	ON/OFF		
3D Cube	OFF	ON/OFF		
Asia Option				
Sepco 120Hz	ON	ON/OFF		
Unbalance	OFF	ON/OFF		
FMTransmitter Support	OFF	ON/OFF		
FMTransmitter Carrier	OFF	ON/OFF		
AF Level adjust	3	0~7		
TX Power Level	0	0~3		
Mono Last Memory	OFF	ON/OFF		
H Shaking	OFF	ON/OFF		
SOUND				
High Devi	OFF	ON/OFF		
Carrier_Mute	OFF	ON/OFF		
Speaker Delay Normal	0			
Wiselink Delay Menu	0			
Pilot Level High Thld	0x1Fh			
Pilot Level Low Thld	0x1Dh			
Pilot_Phase_diff_on_THR	OFF	ON/OFF		
FM Prescale	0x17h			
AM Prescale	0x1Ah			
NICAM Prescale	0x1Dh			
Amp Model	NTP7414			
Amp Volume	0xc4h			
Amp Scale	0x45h			
Amp Check Sum	0x0060B7F3			
SubWoofer Support	0	0~7		
Woofer Type	0	0~7		
Woofer Volume	0xcbh			
Woofer Scale	0x8ah			

Factory Menu Name	Data	Range	Remark	Key
Woofer Check Sum	NONE			
Woofer Local Check Sum	NONE			
Amp local Check Sum	NONE			
Speaker EQ	ON	ON/OFF		
PEQ Test	Ready	Ready/Set1~Set5		
Speaker cut-off Freq	5			
SPDIF PCM Gain	-9dB			
FM M Prescale	0			
BTSC Mono Prescale	15			
BTSC stereo Prescale	29			
SAP Prescale	29			
A2 Ident High Thld	11			
A2 Ident Low Thld	5			
Carrier2 Amp High Thld	27			
Carrier2 Amp Low Thld	22			
Carrier2 SNR High THR	32			
Carrier2 SNR Low THR	15			
Audio-IP Test	Ready	Ready/Set1~Set9		
SRS Tuning Parm	5			
TruBass-CheckSum	0			
Mic Scale	0			
India Sound	OFF	ON/OFF		
Wall Filter Type	0			
SAP High Thld	9			
SAP Low Thld	7			
Bottom Checksum	0			
Bottom Local CHeckSum	0			
MFM Option				
PDD	1670			
A_Dimming_Support	OFF			
UnderDriver_Switch	OFF			

■ DEBUG

Factory Menu Name	Data	Range	Remark	Key
Spread spectrum				
LVDS Spread	ON	ON/OFF		
LVDS Period	40K	20K/30K/40K		

Factory Menu Name	Data	Range	Remark	Key
LVDS Amplitude	1.0	0.0/0.5/1.0/1.5/2.0/2.5/3.0		
DDR Spread	OFF	ON/OFF		
DDR Period	20K	20K/30K/40K		
DDR Amplitude	0	0.0/0.5/1.0/1.5/2.0		
FRC LVDS SSC ON/OFF	ON	ON/OFF		
FRC LVDS SSC MFR	1			
FRC LVDS SSC MRR	10			
FRC LVDS SSC Period	0			
FRC LVDS SSC Modulation	1			
FRC DDR SSC ON/OFF	ON	ON/OFF		
FRC DDR SSC MFR	1			
FRC DDR SSC MRR	10			
FRC DDR SSC Period	1			
FRC DDR SSC Modulation	1			
DDR Margin				
A CTRL_OFFSET_0_3	0	0~1		
A CTRL_OFFSET_D	0	0~1		
B CTRL_OFFSET_0_3	0	0~1		
B CTRL_OFFSET_D	0	0~1		
ND ADJ Support	0	0~1		
MICOM POWER OFF	0	0~1		
RF Mute Time	6ms	0ms~10ms		
CI+1.3	0	0~1		
FRC				
FRC FDISPLAY ON/OFF	OFF	ON/OFF		
PC Mode ON/OFF	OFF	ON/OFF		
Home Panel FRC	OFF	ON/OFF		
Tuner Margin	0	0~1		
MPEG Margin	1000			
H.264 Margin	8			
CAM Wait Time	0			
TS Clock delay	0			
TCON_TEMP READ	0.00			
TEMP LAST	60.00			
DCC VERSION	0x0			
DCC CHK SEL	0			
DCC CHECK LOCAL	0x0			
DCC CHECK TOTAL	0x0			

Factory Menu Name	Data	Range	Remark	Key
MultiACC Checksum	0			
IIC Bus Stop	OFF	ON/OFF		
Tuner Status				
DVB				
SNR	0	0		
BER	0	0		
Signal Strength	0	0		
Bandwidth	0	0		
Frequency	0	0		
LNA Status	0	0		
FFT	0	0		
Modulation	0	0		
Code Rate	0	0		
GI	0	0		
Hier Modulation	0	0		
Frequency Offset	0	0		
Timing Offset	0	0		
AGC	0	0		
UCB	0	0		
PLL Type	0	0		
DEMOD Type	0	0		
TPS Lock	0	0		
RS Lock	0	0		
SSI	0	0		
SQI	**0**	**0**		
Firmware Version	**0**	**0**		
ISDB-T				
FFT Size_1	0	0		
Guard Interval_1	0	0		
Freq.Offset_1	0	0		
SNR_1	0	0		
IF AGC_1	0	0		
TMCC Lock_1	0	0		
TS Packet_1	**0**	**0**		
Master Lock_1	0	0		
A_Modulation_1	0	0		
A_Code Rate_1	0	0		

Factory Menu Name	Data	Range	Remark	Key
A_Timer InterLeave_1	**0**	**0**		
A_Segments Num_1	0	0		
A_BER_1	0	0		
B_Modulation_1	0	0		
B_Code Rate_1	0	0		
B_Timer InterLeave_1	0	0		
B_Segments Num_1	0	0		
B_BER_1	0	0		
C_Modulation_1	0	0		
C_Code Rate_1	0	0		
C_Timer InterLeave_1	0	0		
C_Segments Num_1	0	0		
C_BER_1	0	0		

■ SVC

Factory Menu Name	Data	Range	Remark	Key
Test Pattern				
Pattern Sel	OFF	OFF/CHESS/VISON1/VISON2/8COLOR_BAR/RGB_RAMP/WHITE/RED/GREEN/BLUE/16GRAY/32GRAY/BLACK/RGB_COMP		
Logic Pattern Sel	…			
Logic Level Sel	…			
FRC Pre Test Pattern	0			
FRC Post Test Pattern	0			
SOC TCON Test Pattern	0	0~1		
SOC TCON Pattern Level	0	0~1		
SOC TCON FRC Pattern	0	0~1		
HDMI WB Pattern	0	0~1		
HDMI Pattern Sel	0	0~1		
Panel Display Time	1Hr			
SVC Info	0			
Delete S/N	Failure	Failure/Success		
Upgrade				
T-CON Usb Download	Failure	Failure/Success		
T-CON CheckSum	N/A			
Logic Usb D/L	…			

Factory Menu Name	Data	Range	Remark	Key
SUBMICOM UPGRADE	Ready			
BT UPGRADE				
BT FREEPAIRING	ON	ON/OFF		
Function Upgrade	Failure	Failure/Success		
FRC3D FW Upgrade				
Camera Upgrade	0	0~1		
Mic Upgrade	0	0~1		
CPLD USB Download	0	0~1		
JP MICOM UPGRADE	Failure	Failure/Success		
DP MICOM UPGRADE	Failure	Failure/Success		
Jump Upgrade	Failure	Failure/Success		
MIC PROGRAM UPGRADE	Failure	Failure/Success		
Smart Hub Reset	0			
ER Count				
WD Count	0			
AR Count	0			
WIFI ER Count	0			
BT ER Count	0			
HDMI Stable Cnt	0			
Camera ER Count	0			
Power Fail Error Count	0			
LOG				
Select Log Type	MICOM			
Log View	0			
Delete Log				
Debug Log Down				
Self Diagnosis				
Loop Back				
LAN Test				
AV Audio Test	Failure	Failure/Success		
DVIN Audio Test	Failure	Failure/Success		
CVBS Test	Failure	Failure/Success		
COMP Test	Failure	Failure/Success		
USB HUB Test				
HDMI Test	NG/NG/NG/NG			
SCART Audio Test	Failure	Failure/Success		
SCART CVBS Test	Failure	Failure/Success		

Factory Menu Name	Data	Range	Remark	Key
SCART RGB Test	Failure	Failure/Success		
PC Audio Test	Failure			
PC Self Test	Failure			
CPU	Failure	Failure/Success		
DDR				
FLASH				
EEPROM				
X-TAL	Failure	Failure/Success		
Tuner1				
Sound AMP	Failure	Failure/Success		
HDMI Switch IC	Failure	Failure/Success		
USB HUB IC	Failure	Failure/Success		
WIFI	Failure			
LVDS				
T-CON/FRC				
PCB Test	Failure	Failure/Success		
MOIP	0			
BT				
EcoSensor				
Voltage	0			
Device Self Test	0			
App Self Test				
EXT Sound Inspection				
Woofer Sound Inspection	NONE			
ATV CH Inspection	Failure	Failure/Success		
DTV CH Inspection				
Satellite CH Inspection				
PDP Discharge Voltage				
IREPF	Stopped	Stopped/running		
OPTION_HDMI				
DVI/HDMI SOUND	Auto	Auto/DVI		
HDMI HOT PLUG	Disable	Disable/Enable		
HOT PLUG SWITCHING	Boot	Boot/Source		
HOT PLUG DURATION	200ms			
CLK TERM DURATION	200ms			
HDMI FLT CNT SIG	100ms			
HDMI FLT CNT LOS	100ms			

Factory Menu Name	Data	Range	Remark	Key
UNSTABLE BAN CNT	3500ms			
HDMI ROBIN	1	0~1		
HDMI Callback	0	0~1		
HDMI CTS Thld	8	0~15		
HDMI CTS Cnt1	1	0~15		
HDMI EQ	AUTO	AUTO/Low/Middle/High/Strong		
HDMi Write Type	Combine	Combine/Separate		
HDMI Switch	NONE	NONE/SIL9287/TMDS461		
DVI SET TIME	300ms			
HDMI Sync	DE	DE/HV		
HDMI 3D DET	0	0~1		
HOT PLUG OFF HOLD TIME	0	0~1		
DVB CI				
TS Clock delay TC	0			
TS Clock delay S	0			
CI Control Buf ON	ON			
TS Clock delay CPU	-1			
CAL Data Backup_Copy	…			
CAL Data Restore_Copy	…			
Expert				
N/D ADJ	…			
Source	…			
ATV IF AGC SPEED	0	0~16		
Reset				
EEPROM_Reset				
Factory_Reset				
Auto Power	MEMORY	MEMORY/ALWAYS ON/ALWAYS OFF		

■ ADC/WB

Factory Menu Name	Data	Range	Remark	Key
ADC				
AV Calibration	/			
Comp Calibraion	/			
PC Calibration	/			
HDMI Calibration	/			
ADC Result				

Factory Menu Name	Data	Range	Remark	Key
1st_Y_GH	0			
1st_Y_GL	0			
1st_Cb_BH	0			
1st_Cb_BL	0			
1st_Cr_RH	0			
1st_Cr_RL	0			
2nd_R_L	134			
2nd_G_L	134			
2nd_B_L	134			
2nd_R_H	49			
2nd_G_H	49			
2nd_B_H	49			
White Balance				
R-Offset	128			
G-Offset	128			
B-Offset	128			
R-Gain	128			
G-Gain	128			
B-Gain	128			
WB_W2_R_Offset	128			
WB_W2_B_Offset	128			
WB_W2_R_Gain	171			
WB_W2_B_Gain	72			
WB_N_R_Offset	128			
WB_N_B_Offset	128			
WB_N_R_Gain	155			
WB_N_B_Gain	110			
White Balance				
MAG On/Off	OFF			
R1_Gain	512			
G1_Gain	512			
B1_Gain	512			
R2_Gain	512			
G2_Gain	512			
B2_Gain	512			
R3_Gain	512			
G3_Gain	512			

Factory Menu Name	Data	Range	Remark	Key
B3_Gain	512			
R4_Gain	512			
G4_Gain	512			
B4_Gain	512			
R5_Gain	512			
G5_Gain	512			
B5_Gain	512			
R6_Gain	512			
G6_Gain	512			
B6_Gain	512			
R7_Gain	512			
G7_Gain	512			
B7_Gain	512			
R8_Gain	512			
G8_Gain	512			
B8_Gain	512			
R9_Gain	512			
G9_Gain	512			
B9_Gain	512			
R10_Gain	512			
G10_Gain	512			
B10_Gain	512			

■ **Advanced**

4-4. White Balance
4-4-1. Calibration

1. Into the Factory Mode.

2. Select **SVC** Menu.

3. Select **ADC/WB** menu.

4. Select **ADC** menu.

Option
Control
Debug
SVC
ADC/WB
Advanced

ADC

| |
|---|
| AV Calibration |
| Comp Calibration |
| PC Calibration |
| HDMI Calibration |
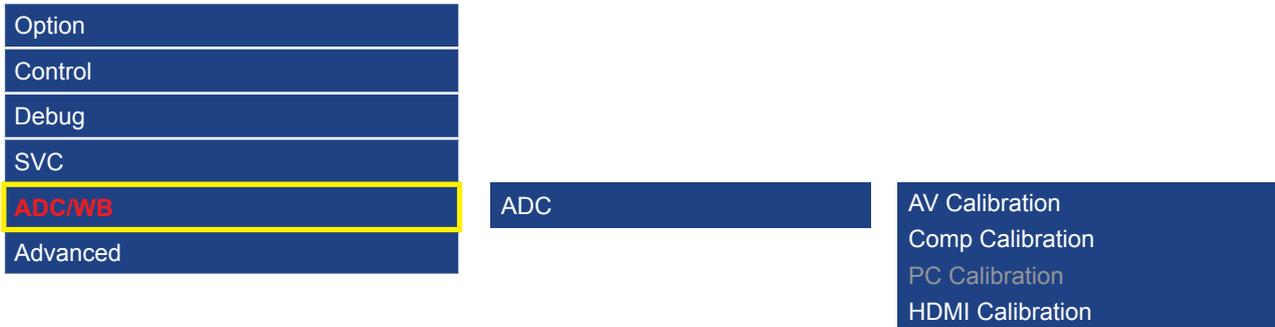
4-4-2. Service Adjustment

You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

■ Color Calibration

• Adjust Specification

Source	Setting Mode	Pattern	Use Equipment
HDMI	1280 x 720@60 Hz	Pattern #24 (Chess Pattern)	CA210 & Master MSPG925 Generator
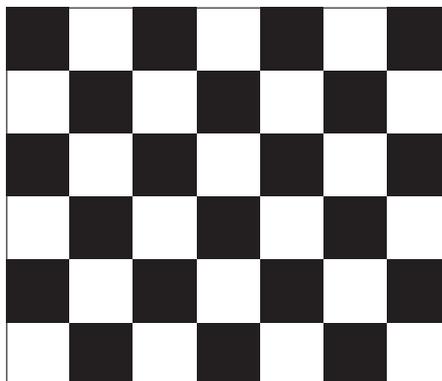
(Chess Pattern)

− Use other equipment only after comparing the result with that of the Master equipment.

Input mode	Calibration	Pattern
CVBS IN (Model_#1)	Perform in NTSC B&W Pattern #24	Lattice
Component IN (Model_#6)	Perform in 720p B&W Pattern #24	Lattice
PC Analog IN (Model_#21)	Perform in VESA XGA (1024x768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

■ Method of Color Calibration (AV)

1. Apply the NTSC Lattice (N0. 3) pattern signal to the AV IN 1 port.
2. Press the Source key to switch to "AV1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "AV Calibration" menu.
6. In "AV Calibration Off" status, press the "►" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "AV Calibration" status from Failure to Success.

■ Method of Color Calibration (Component)

1. Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port.
2. Press the Source key to switch to "Component1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "Comp Calibration" menu.
6. In "Comp Calibration Off" status, press the " ►" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "Comp Calibration" status from Failure to Success.

■ Method of Color Calibration (PC)

1. Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port.
2. Press the Source key to switch to "PC" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "PC Calibration" menu.
6. In "PC Calibration Off" status, press the " ►" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "PC Calibration" status from Failure to Success.

■ Method of Color Calibration (HDMI)

1. Apply the 720p Lattice (N0. 6) pattern signal to the HDMI1/DVI IN port.
2. Press the Source key to switch to "HDMI1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "HDMI Calibration" menu.
6. In "HDMI Calibration Off" status, press the "►" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "HDMI Calibration" status from Failure to Success.

4-4-3. Adjustment

1. Into the Factory Mode.
2. Select **SVC** Menu.
3. Select **ADC/WB** menu.
4. Select **WB** menu.

Option
Control
Debug
SVC
ADC/WB
Advanced

White Balance

(Low light)

Sub Bright
R offset
G offset
B offset

(High light)

Sub Contrast
R gain
G gain
B gain
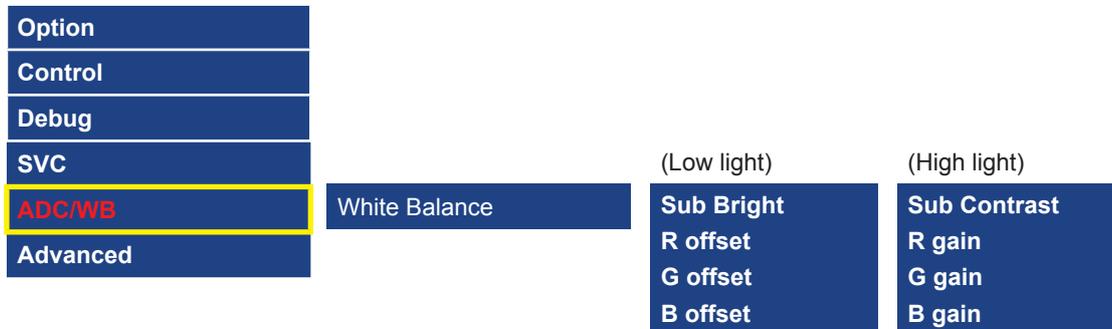
4-5. Software Upgrade

Software Upgrade can be performed by downloading the. latest firmware from samsung.com to a USB memory device.

• Current Version - The software already installed in the TV.

Software is represented as 'Year/Month/Day_Version'.

4-5-1. How to Check the Software Version

■ Use the Main Menu

1. Click the "MENU" key in remote controller.

2. Select "Support" menu.

3. Locate the menu cursor "Software Upgrade" menu.

4. Click the "INFO" key.
   − Check the Main SW and Micom version.

■ **Use the Factory Mode**

Option	
Control	
Debug	
SVC	
ADC/WB	
Advanced	

T-N14LJIBRC-xxxx.x (or T-N14LJUSAC-xxxx.x)
T-NT14LAUSS-xxxx
E-Manual : NLISDBBRH-xxxx (or NLDVBSAH-xxxx)
EDID SUCCESS
HDCP SUCCESS
CALIB : AV/COMP/PC/HDMI/
Option : ****

DTP-SDAL-NT14L-xxxx

RFS:"NT14L xxxx" K/20xx-xx-xx
KERNEL:xxxx.xxxx,/Onboot: xxxx
TCON Version:----
NSP-DTVTD-xxxx

Model: ****
Factory Data Ver:xxx
EERC Version: xxx
NSP-BP-HAL-xxxx
NSP-AP-CNC-xxxx
NSP-AP-MM-xxxx

NSP-BP-MW-xxxx
+B1NSP-BP-APP-xxxx
NSP-PNG-xx-xxxx
Date of purchase:-/-/----

4-5-2. How to Upgade Software and Micom

Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV. Please be careful not to disconnect the power or remove the USB drive while upgrades are being applied. The TV will turn off and turn on automatically after completing the firmware upgrade. Please check the firmware version after the upgrades are complete (the new version will have a higher number than the older version). When software is upgraded, video and audio settings you have made will return to their default (factory) settings. We recommend you write down your settings before beginning firmware update. After update is completed, restore your previous settings.

■ Main Software Upgrade

1. Store the sw program named "T-N14LJIBRC or T-N14LJUSAC" in USB memory stick.

   – Connect the USB.

2. Click the "MENU" key in Remote Controler.

3. Select "Support" menu.

   Locate the menu cursor "Software Update" menu.
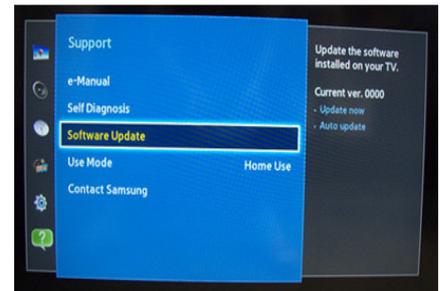
4. Locate the menu cursor "Update now" menu.

5. Click the "ENTER" key.
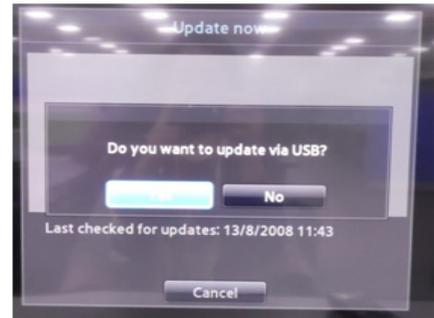
6. Click the "ENTER" key.

  − Wait for upgrade complete.
  − Check the Software Version.

4-6. The Dimension of J5000 Models

Item	39.5"	43"	48"	50"
WALL MOUNT (A X B)	200.0 X 200.0	200.0 X 200.0	200.0 X 200.0	200.0 X 200.0
C	361	392.8	449	470
D	158.4	182.8	212.3	224.3
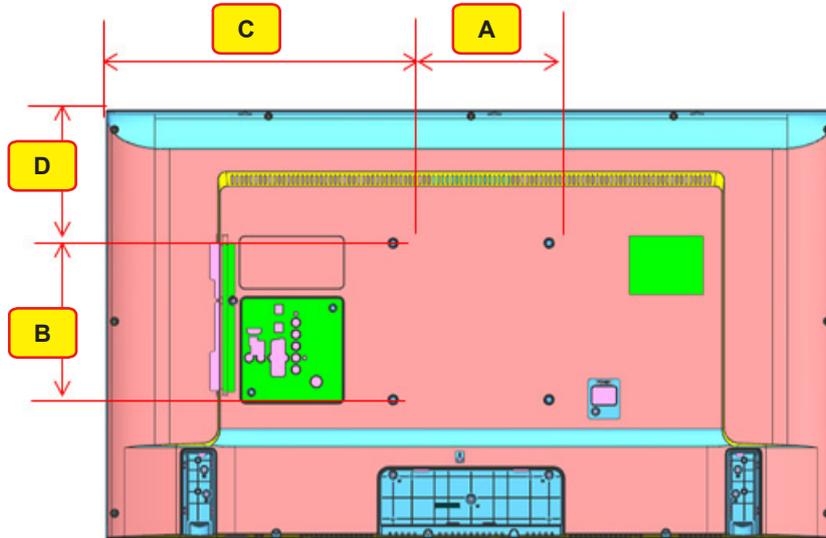
5. Wiring Diagram

5-1. Wiring Diagram
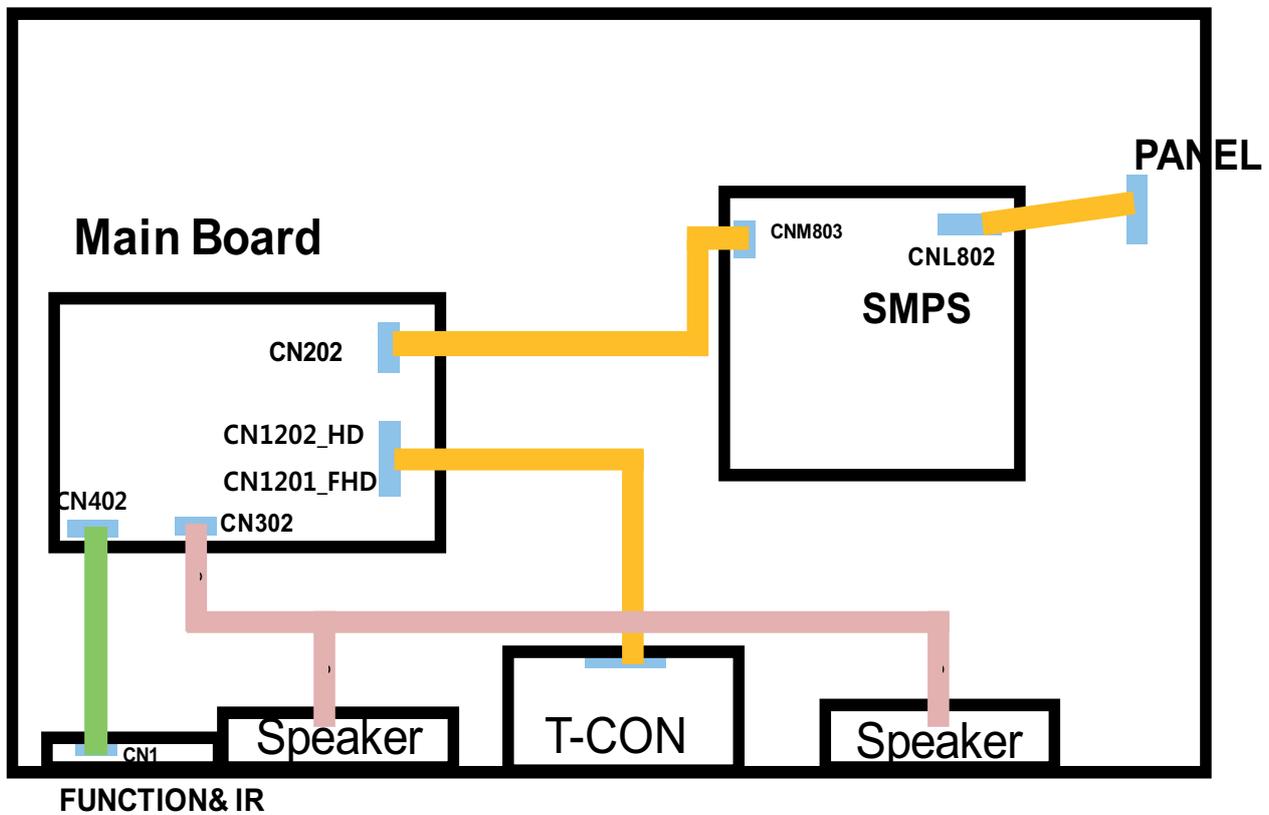
5-2. Connector

■ Main Board
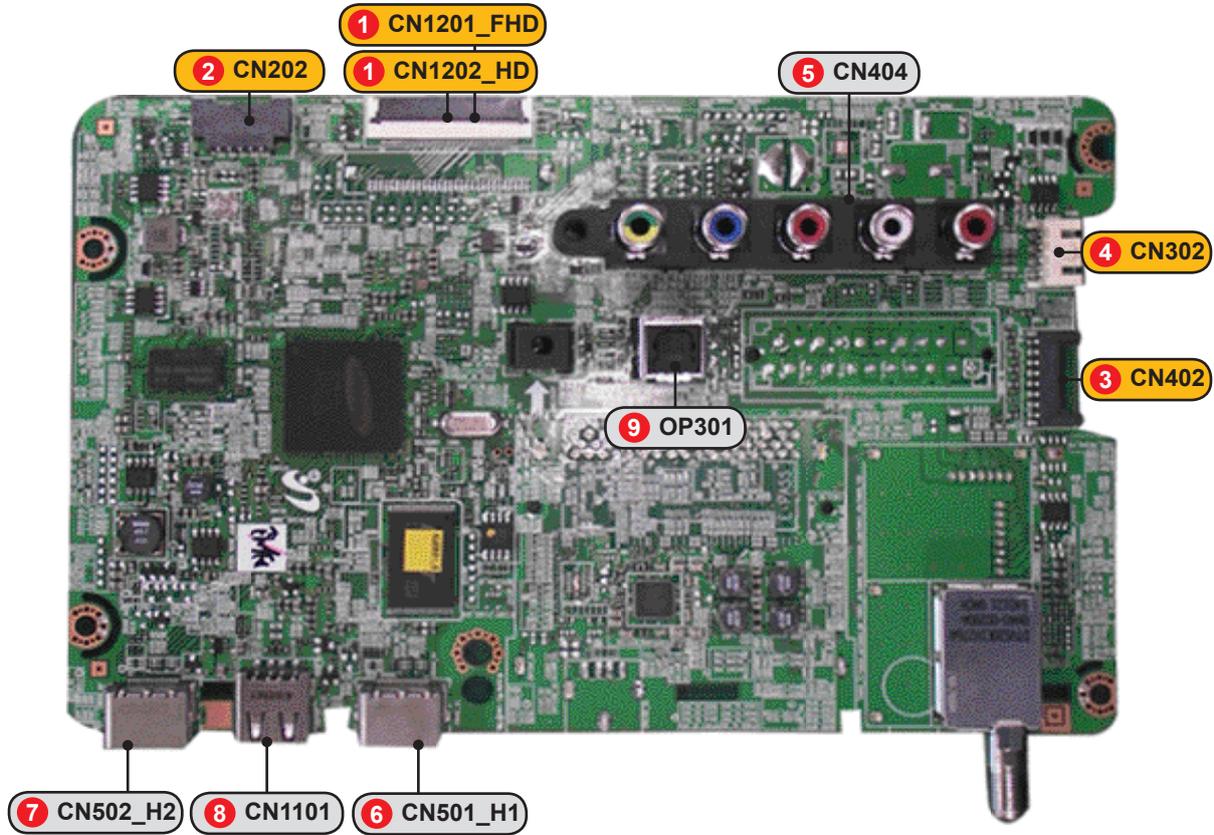
■ Main Board Pin Map

	1 CN1201_FHD				1 CN1201_FHD		
1	NC	18	GND	35	ODD_TXCLK-	44	GND
2	GND	19	EVEN_TXCLK-	36	GND	45	GND
3	FRC_SDA	20	EVEN_TXCLK+	37	ODD_TX2+	46	FRC_PWM4
4	FRC_PWM1	21	GND	38	ODD_TX2-	47	PANEL_13V_PW
5	FRC_SCL	22	EVEN_TX2+	39	ODD_TX1+	48	PANEL_13V_PW
6	FRC_PWM3	23	EVEN_TX2-	40	ODD_TX1-	49	PANEL_13V_PW
7	FRC_PWM2	24	EVEN_TX1+	41	ODD_TX0+	50	PANEL_13V_PW
8	TCON_SDA	25	EVEN_TX1-	42	ODD_TX0-	51	PANEL_13V_PW
9	PANEL_I2C_EN	26	EVEN_TX0+	43	GND		
10	BT_SYNC	27	EVEN_TX0-				
11	UPDATE_CHK	28	GND				
12	TCON_SCL	29	ODD_TX4+				
13	GND	30	ODD_TX4-				
14	EVEN_TX4+	31	ODD_TX3+				
15	EVEN_TX4-	32	ODD_TX3-				
16	EVEN_TX3+	33	GND				
17	EVEN_TX3-	34	ODD_TXCLK+				

❶ CN1202_HD			
1	VCC	16	EVENCLK+
2	VCC	17	EVENCLK-
3	VCC	18	GND
4	VCC	19	EVEN2+
5	VCC	20	EVEN2-
6	GND	21	GND
7	GND	22	EVEN1+
8	GND	23	EVEN1-
9	TCON_WP	24	GND
10	LVDS_FORMAT	25	EVEN0+
11	NC	26	EVEN0-
12	GND	27	GND
13	EVEN3+	28	SDA_PANEL
14	EVEN3-	29	SCL_PANEL
15	GND	30	NC

❷ CN202 (to Power board)			
1	GND	6	SW_POWER_OUT
2	GND	7	A13V_PW
3	A13V_PW	8	PWM_DIMMING
4	GND	9	A13V_PW
5	A13V_PW	10	UNDER_DRIVER

❸ CN402 (to Function/IR)			
1	IR	5	MSDA
2	GND	6	KEY2
3	A3.3V	7	KEY1
4	MSCL	8	LED_STB

❹ CN302 (to Speaker)			
1	R+	3	L+
2	R-	4	L-

❺ CN404 (to Component&AV)			
1	GND	9	TEST_PR
2	COMP1_Y_CVBS1	10	GND
3	IDENT_AV1	11	COMP1_AV1_SL_IN
4	GND	12	TEST_SL
5	COMP1_PB	13	GND
6	IDENT_COMP1	14	COMP1_AV1_SR_IN
7	GND	15	TEST_SR
8	COMP1_PR		

❻ CN501_H1 (to HDMI1)			
1	HDMI1_RX2+	11	GND
2	GND	12	HDMI1_RXCLK-
3	HDMI1_RX2-	13	CEC
4	HDMI1_RX1+	14	NC
5	GND	15	HDMI1_SCL_DDC
6	HDMI1_RX1-	16	HDMI1_SDA_DDC
7	HDMI1_RX0+	17	GND
8	GND	18	HDMI1_5V
9	HDMI1_RX0-	19	HDMI1_HOT_PLUG
10	HDMI1_RXCLK+		

❼ CN502_H2 (to HDMI2)			
1	HDMI2_RX2+	11	GND
2	GND	12	HDMI2_RXCLK-
3	HDMI2_RX2-	13	CEC
4	HDMI2_RX1+	14	NC
5	GND	15	HDMI2_SCL_DDC
6	HDMI2_RX1-	16	HDMI2_SDA_DDC
7	HDMI2_RX0+	17	GND
8	GND	18	HDMI2_5V
9	HDMI2_RX0-	19	HDMI2_HOT_PLUG
10	HDMI2_RXCLK+		

❽ CN1101 (USB1)			
1	B5V_USB1_PW	3	USB_D+
2	USB_D-	4	GND

❾ OP301 (OPTICAL)			
1	SPDIF_OUT	3	GND
2	GND		

5-3. Connector Functions

Connector	Function
CN202 ↔ CNM803	Supply main power and dimming signal from IP board to Main Board.
CN1201 ↔ T-CON	The LVDS signal transfered from Main Board to Panel .

5-4. Cables

USE		LVDS CABLE (Main - panel)	LEAD CONNECTER (MAIN-SMPS 10P)
		ASSY CABLE P-FFC	LEAD CONNECTOR
Code	40"	BN96-36273X	BN39-01885C
Photo			

USE		Function Assy	
		ASSY BOARD P	
Code	40"	BN96-36076E	
Photo			
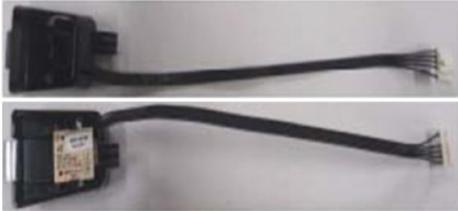
📝 **NOTE**

The code number of cable can be changed, see "Exploded Views and Parts List".