Sunday, 24 January 2016

SHARP LED TV - LC-40LE812E - LC-46LE812E - LC-40LX812E -LC-46LX812E Servcie mode - software update - White balance Adjustment - Factory reset - LED television repair and service

Category: LED Television Repair and Service

Contents of this article

How to enter to service mode
Lamp error detection
Software update
Factory reset

SHARP LC-40LE812E - LC-46LE812E - LC-40LX812E -LC-46LX812E

ADJUSTMENT PROCEDURE

1. Adjustment method after PWB and/or IC replacement due to repair

The unit is set to the optimum at the time of shipment from the factory.
If any value should become improper or any adjustment is necessary due to the part replacement, make an adjustment according to the following procedure.
1. Procure the following units in order to replace the main unit.
MAIN UNIT: DKEYDF455FM06 (LC-40/46LE812E, LC-40/46LX812E)
DKEYDF455FM07 (LC-40/46/52LE822E, LC-40/46LU822E)
NOTE: [Caution when replacing ICs in the main unit (IC501, IC2002)]
The above ICs are EEPROMs storing the EDID data of PC, and Monitor microcomputer.
Before replacing the relevant part, procure the following parts in which the data have been rewritten.
IC501 RH-iXD108WJQZS PC EDID
IC2002 RH-iXC786WJNJQ Monitor microcomputer
NOTE: [Caution when replacing ICs in the main unit (IC6401, IC3302)]
When replacing either IC6401 or IC3302, exchange MAIN units for DKEYDF455FM05/07
Each part should not be individually exchanged.
IC6401 RH-iXC147WJQZQ Flash
IC3302 RH-iXC351WJQZQ Main CPU
NOTE: HDMI ROM Writing
After replacing IC1504, execute "HDMI EDID WRITE" on the page 5/21
Please execute it after checking MODEL NAME & INCH SIZE. are correct.
IF MODEL NAME & INCH SIZE. are not correct, set them previously. (Refer to 2)
The ROM data based on information of MODEL NAME & INCH SIZE
1) Enter the process adjustment mode in TV.
2) Use the cursor keys (UP/ DOWN) and CH keys (UP/ DOWN) of R/C to select the item [HDMI EDID WRITE] on the page 5/21.
2. After replacing the LCD panel or LCD control/MAIN UNIT, check MODEL NAME in the following procedure.
1) Enter the process adjustment mode in TV.
2) Use the cursor keys (UP/ DOWN) and CH keys (UP/ DOWN) of R/C to select the item [MODEL NAME] on the page 2/21.
3) Verify that the Model name is displayed.
4) If the Model name doesn't match, select the values of the Model name with the VOL keys (+/-).
5) After selection in Step 4), press the OK key, and it is completed with OK displayed.
6) Use the cursor keys (UP/ DOWN) and CH keys (UP/ DOWN) of R/C to select the item [PANEL_SIZE] on the page 2/21.
7) Verify that the panel size is displayed.
8) If the size doesn't match, select the values of the panel size with the VOL keys (+/-).
9) After selection in Step 8), press the OK key, and it is completed with OK displayed.
3. After replacing the LCD panel or LCD control PWB, adjust the VCOM in the following procedure.
1) Enter the process adjustment mode.
2) Use the cursor keys (UP/ DOWN) and CH keys (UP/ DOWN) of R/C to select the item [VCOM ADJ] on the page 10/21.
3) Press the OK key to verify that the adjustment pattern is displayed.
4) Use VOL keys (+/-) of R/C to adjust the flicker in the center of the screen to minimum.
5) When the optimal state is achieved in Step 4, press the OK key to turn the pattern to OFF.

2. Notes of Touch sensor unit (LC-40/46/52LE822E, LC-40/46LU822E)

Touch sensor unit (RUNTKA590WJQZ) is fixed directly in the module glass.
The unit cannot never be recycled when exfoliated from the module glass.
Therefore, please exchange the touch sensor units when the module glass is changed.
Please note the adhesion and mixing of dust for the module glass when the module glass and the touch sensor unit are exchanged.
Module glass
40inch: CPNLHA019WE11
46inch: CPNLHA020WU11
52inch: CPNLHA021WU11

3. Method of shuts down for Power supply

Please execute the following procedures to shut down Power supply from the state of normal operation.
1) Keep touching the power supply key on the set for 5 seconds from the state of watching.
* The screen disappears when power supply key is touched, but Keep pushing the power supply key.
2) A central icon lights between 500ms when the power supply shuts down.
Please separate the finger from the power supply key when lighting of a central icon is confirmed

Entering and exiting the adjustment process mode

Please execute the following procedures to enter the adjustment process mode when the power supply shuts down.

1) While holding down the "VOL (-)" and "INPUT" keys on the set at once, touch the power supply key on the set.
Please separate the fingers from key on the set when boot-up is confirmed with lighting of a central icon etc.
After a while, The letter "K" appears on the screen. This state is in Inspection mode.
2) Next, hold down the "VOL (-)" and "CH (DOWN)" keys on the set at once.
Multiple lines of blue characters appearing on the screen indicate that the set is now in **the adjustment Process mode.**
If you fail to enter the adjustment process mode (the display is the same as normal startup), retry the procedure.
3) To exit the adjustment process mode after the adjustment is done, unplug the AC power cord to force off the power.
(When the power is turned off with the remote controler, once unplug the AC power cord and plug it in again. In this case, wait for 10 seconds or so after unplugging.)

Lamp Error detection

1. Function

This LCD colour TV set incorporates a Lamp error detection feature that automatically turns off the power for safety under abnormal lamp or lamp circuit conditions. If by any chance anything is wrong with the lamp or lamp circuit or if the lamp error detection feature is activated for some reason, the following will result.
1) The power is interrupted in about 500ms after it is turned on.
(A central icon on the front of the TV flash on and off : ON for 400ms and OFF for 1600ms.)
2) If the above phenomenon 1) occurs 5 times, it becomes impossible to turn on the power.
(A central icon keep flashing on/off.)

2. Measures

1) Set the lamp error detection to OFF

Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode."
The adjustment process mode can ignore "5 times count", so If the above phenomenon 1) occurs 1~4 times, the lamp will go out.
If Lamp Error detection pin (8pin of LB: P9602) is "High" by a trouble with the lamp and lamp circuit, it can boot-up by the adjustment process mode.
Please execute **"Lamp Error detection off-mode"**.
While holding down the "VOL (-)" and "CH (.)" keys on the set at once, touch the power supply key on the set.
After a central icon flash off, separate the fingers from key on the set.
Touch the power supply key on the set again, so the power will boot-up.
Then, you can check the operation to see if the lamp and lamp circuit are in trouble.
If you fail boot-up, retry the procedure.

2) Resetting the lamp error count

After the lamp and lamp circuit are improved from a trouble, reset the lamp error count.
(Because the power cannot be turned on, if a lamp error is detected 5 consecutive times)
a) Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode."
b) Using the cursor (LEFT/ RIGH) key, move to the cursor to [LAMP ERROR RESET], Line 8 on adjustment process mode service page 2/21.
c) With the cursor (LEFT / RIGH) keys, select the [LAMP ERROR RESET] value.
Finally press the cursor (OK), the count is reset.
Check LAMP ERROR Count on adjustment process mode Page 2/21.

White Balance Adjustment

For white balance adjustment, adjust the offset values on pages 11/21.
[Condition of the unit for inspection] : Modulated light (+16), Colour temperature (High)
AV MODE: DYNAMIC
Active Backlight: OFF
OPC: OFF
Asing Time: Min,60 minute
[Input signal condition] : HDMI 1080i 15IRE (LO), 78IRE (HI)
[Adjustment reference device] : Minolta CA-210
[Adjustment procedure]
1) Display the current adjustment status at R/G/B_GAIN (HI). (Page 11/21 of process adjustment)
The signal of 78IRE is input.
2) Read the value of the luminance meter. x = 0.272, y = 0.277
3) Change R_GAIN (HI)/B_GAIN (HI) (Adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter
approach x = 0.272 and y = 0.277.
(Basically, G is not changed. If adjustment fails with R and B, change G. When G is lowered, the weaker of R or B must be fixed.)
4) Display the adjustment status of the current R/G/B_GAIN (LO).
The signal of 15IRE is input.
Change R_GAIN (LO)/B_GAIN (LO) (adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter
approach x = 0.272 and y = 0.277.
5) Both HI and LO are repeating the step from 1 to 4 until becoming an aim value.
[Adjustment reference standard value]
Adjustment spec ± 0.002 Inspection spec ± 0.004 (point LO)
Adjustment spec ± 0.001 Inspection spec ± 0.002 (point HI)
6) After completing adjustments, set EEP SAVE (21/21) to ON in the process menu to save the white balance adjustment value.

Confirmation Item

1. HDMI-CEC Inspection
After repairing the CEC function, check the operation about HDMI-CEC circuit
2. CI card Inspection
After repairing the CI function, check that the DTV signal is received in the UK setting by inserting CAM
And check the KEY certification by inserting CAM which is prepare for CI+
3. LAN Inspection
After repairing the LAN function, check the communication by connecting PC and LAN terminal.

Initialization to factory settings

[Factory setting with adjustment process mode]
Enter the adjustment process mode.
Move the cursor to [INDUSTRY INIT] on page 2/21.
Use the R/C key to select a region from [EUROPE/RUSSIA] and press the [OK] key.
"EXECUTING" display appears.
When succeeding: Background colour (green)
When failing: Background colour (red)
The following items are initialized in the factory setting.
1) User settings
2) Channel data (e.g. broadcast frequencies)
3) Maker option setting
4) Password data

Upgrading the software

1. Turn on the AC power.
2. Insert the upgrading USB flash memory for upgrade into the service slot.
(After a while, an external input changes into USB automatically.)
3. Use the Menu button and cursor keys (LEFT/RIGHT /UP /DOWN), CH keys (UP /DOWN) of R/C or on the set to select Menu - Setup - Information - Software update on OSD menu.
4. The message (Insert the USB memory device contains the software update file) shows up. Push OK when if there is no problem.
5. After a while, if software update file is detected in the USB memory device, the following screen shows up. Select OK when if there is no problem.
NOTE: If there is no software update file in the USB memory device, caution shows up.
Please insert the correct file and retry software update.
NOTE: If software update file in the USB memory device doesn't match this model, caution shows up.
Please insert the correct file and retry software update.
NOTE: If software update file in the USB memory device is already installed, caution shows up.
Please reconfirm the software version and reinstall (if necessary).
6. The caution for update showes up.
The picture will temporary go dark until the software update display apeoares
Wait several minutes and don't unplug the AC cord
Select OK when if there is no problem.
7. Software update starts.
Please wait for a while until the bar shows 100%
NOTE: Do not take out the USB memory device during updating.
8. When all the procedures are complete, the upgrade success screen shows up.
The new software version can be confirmed on screen.
After a while, Turn off power and boot-up automatically.
NOTE: TV is restarted automatically, the AC code need not be pulled out.
9. After boot-up, the following caution shows up.
Select OK when if there is no problem.
Software update is completed, please remove the USB memory device.