

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: “CBA” is abbreviation for “Circuit Board Assembly.”

Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. Remote control unit
2. Color Analyzer, CA-310 (KONICA MINOLTA Luminance meter) or measuring instrument as good as CA-310.

How to set up the service mode:

Service mode:

1. Turn the power on.
2. Press [MENU] button to display Setup menu.
3. Select “Software” in “OTHERS” and press [OK] button.
4. Press [0], [4], [2], [5], [7], [4] and [i] buttons on the remote control unit in this order. The following screen appears.

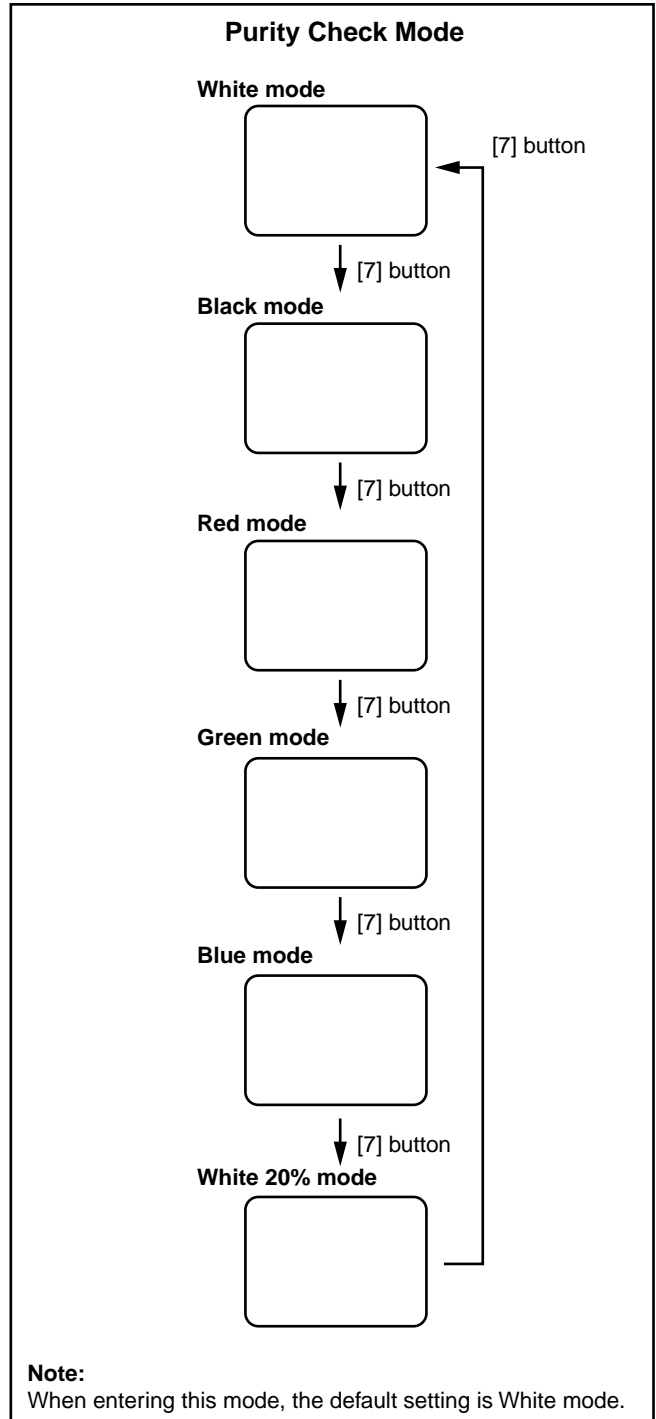
“*” differs depending on the models.

Code:	*****_**_**
Pic code:	*** ** *
Inch:	****_**_**
Total:	Push 0 key
© Exit/Beenden/Quitter/Zakończ	
Safety: Safety Non	Total Watch Time: ****
	Light sensor: ****
	***h ***min

1. Purity Check Mode

This mode cycles through full-screen displays of red, green, blue, and white to check for non-active pixels.

1. Enter the Service mode.
2. Each time the [7] button on the remote control unit is pressed, the display changes as follows.



3. To cancel or to exit from the Purity Check Mode, press [BACK] button.

The White Balance Adjustment should be performed when replacing the LCD Panel or Digital Main CBA.

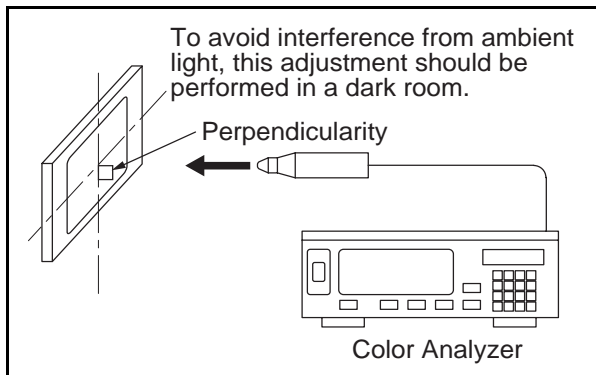
2. White Balance Adjustment

Purpose: To mix red and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

ITEM	SPECIFICATION
Color temperature	$x = 0.272 \pm 0.002$ $y = 0.278 \pm 0.002$
Input Signal	Internal pattern (40/70% raster)
Measurement point	Screen center
M. EQ.	CA-310 (KONICA MINOLTA Luminance meter) or measuring instrument as good as CA-310.
Aging time	60min. (Retail MODE/100IRE Raster HDMI 1080i@60)
MODE setting of TV	Shipment setting/ Retail MODE
Ambient temperature	$25^{\circ}\text{C} \pm 5^{\circ}\text{C}$

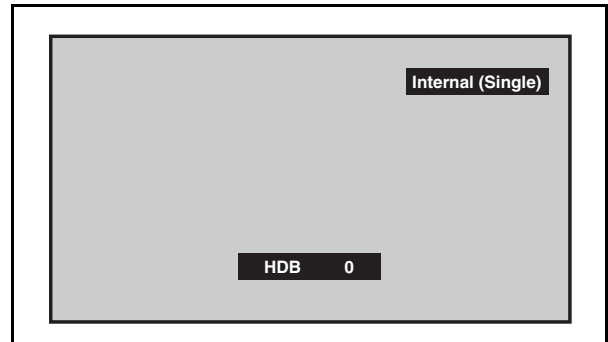
- Operate the unit for more than 60 minutes.
- Set the color analyzer at the CHROMA mode and zero point calibration. Bring the optical receptor pointing at the center of the LCD-Panel.



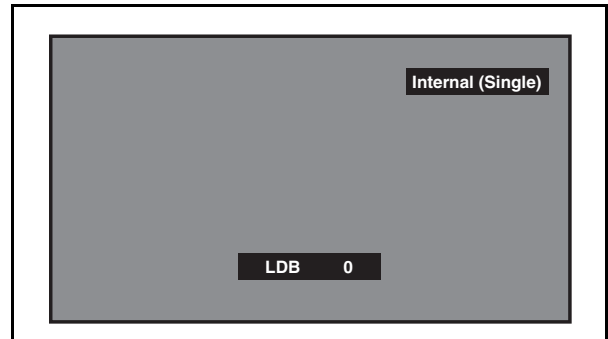
Note: The optical receptor must be set perpendicularly to the LCD Panel surface.

- Enter the Service mode.
- Press [**▲**] button three times on the remote control unit to select "Drive setting" mode. "Drive" appears on the screen.
- Press [3] button to select the "HDB" for High Drive Blue adjustment. ("HDB" appears on the screen.)

- Press [MENU] button. The internal Raster signal appears on the screen. ("Internal (Single)" appears on the upper right of the screen as shown below.)



- Press [P ^ / v] buttons to adjust the color temperature becomes 12000°K ($x = 0.272 / y = 0.278 \pm 0.002$).
- Press [1] button to select the "HDR" for High Drive Red adjustment ("HDR" appears on the screen.) and press [P ^ / v] buttons to adjust the color temperature.
- If necessary, adjust the "HDB" or "HDR" again.
- Press [6] button to select the "LDB" for Low Drive Blue adjustment ("LDB" appears on the screen.) and press [P ^ / v] buttons to adjust the color temperature.



- Press [4] button to select the "LDR" for Low Drive Red adjustment ("LDR" appears on the screen.) and press [P ^ / v] buttons to adjust the color temperature.
- If necessary, adjust the "LDB" or "LDR" again.
- Press [BACK] button to enter the Service mode again.
- Press [**⏏**] button on the remote control unit to shift to the self check mode screen. If "WB OK" is displayed, this adjustment completes. If "WB NG" is displayed, turn the AC switch (on the lower left of the back of the unit) off and on. Then repeat above steps from 3. to 13. Check the self check mode screen again. If "WB NG" is displayed, replace the LCD Panel or Digital Main CBA.
- To cancel or to exit from the White Balance Adjustment, press [BACK] button.

HOW TO INITIALIZE THE LCD TELEVISION

How to initialize the LCD television:

1. Turn the power on.
2. Enter the service mode. (Refer to page 5-1.)
 - To cancel the service mode, press [⏻] button on the remote control unit.
3. Press [i] button on the remote control unit to initialize the LCD television.
4. After confirming that "INITIALIZED : OK" appears on the screen, turn the AC switch (on the lower left of the back of the unit) off.

FIRMWARE RENEWAL MODE

Equipment Required

- a. USB storage device
- b. Remote Control Unit

Firmware Update Procedure

[Check the current version]

1. Press [MENU] button on the remote control unit to display the menu mode.
2. Press [▲] or [▼] to select "Others", then press [OK] button.
3. Press [▲] or [▼] to select "Software", then press [OK] button.

The current FW version will be displayed.

[Preparation]

1. Prepare USB storage device.
2. Copy F/W-file (pkg file) to USB storage device.
Note: Make sure to use the blank USB Storage.
3. Rename the F/W-file's name to "upgrade.pkg".

[Update procedure]

1. Turn the AC switch (on the lower left of the back of the unit) off.
2. Insert USB storage device with F/W to TV set.
3. Turn the AC switch on.
4. Updating starts automatically. Red LED flashes.
Note: Do not turn off the TV set and do not remove the USB storage device while this procedure.
5. When updating is completed, the TV set will turn back on automatically.
6. To shift the TV set to standby mode, press [⏻] button on the remote control unit.
7. Remove USB storage device from TV set.
8. Press [⏻] button again to turn the power on.
9. Press [MENU] button on the remote control unit to display the menu mode.
10. Select "Parental" - "PIN CODE:".
11. Press [4], [7], [3] and [7] buttons on the remote control unit.
12. Select "Factory Reset" and press [OK] button.