SECTION 2
ADJUSTMENTS

<Service Mode>

The service mode is not displayed in the normal state. It is displayed by entering a pass code.
All hidden menus are displayed when you enter the pass code below.
The uppermost item of the displayed menus is a service mode menu.

Pass code: Enter in the standby state (when the red LED lights) as follows:
Screen display → 5 → Vol+ → Power ON

== Service Mode Menu ==
1) EEP ROM Initialize
2) Chroma Decoder
3) AD Converter
4) White Balance
5) General
6) Manual Control
7) Preset Edit
8) Service Status

2-1. White Balance Adjustment

1. Set the service mode then select White Balance menu.
2. Select Large in the Window menu to output an internal adjustment signal.
3. Set the color temperature to "High".
4. Adjust the white balance so that the color temperature is set to the value below during R, G, and B gain adjustments.

   Color Temperature: 10000K (x=0.281 y=0.288 ±0.005)

5. Set the color temperature to "Middle".
6. Adjust the white balance so that the color temperature is set to the value below during R, G, and B gain adjustments.

   Color Temperature: 8000K (x=0.295 y=0.305 ±0.005)

7. Set the color temperature to "Low".
8. Adjust the white balance so that the color temperature is set to the value below during R, G, and B gain adjustments.

   Color Temperature: 6500K (x=0.314 y=0.324 ±0.005)

2-2. Calibration Adjustment of A/D Converter and Video Coder

2-2-1. Preparation for adjustment

1. Set [RGB MODE] of the Custom Setup menu in the service mode to [Other].
2. Set the [Cal Mode] of the AD Converter in the service mode to [ON].

2-2-2. RGB input adjustment

1. Input All white 90 IRE signal of VGA (640x480/60Hz) to the RGB input terminal.
2. Select RGB Calibration from the AD Converter menu then, Adjust the R and B gain in the menu and balance so that the detection values of R and B is approximate to the detection value of G.
3. Adjust the Sub Contrast (RGB) and then, adjust the detection values of R, G, and B to the set value.

   Detection set value: 230 ± 3

4. Set the RGB input signal to All gray 20 IRE signal of VGA (640x480/60Hz).
5. Adjust the RGB Bias and then, adjust the detection values of R, G, and B to the set value.

   Detection set value: 51 ± 3

6. Repeat step 1 to 5 described above until the detection set value is obtained.

2-2-3. Component input adjustment

1. Input All white 90 IRE signal of 1080/60i to the component input terminal.
2. Select YUV Calibration from the AD Converter menu.
3. Adjust the Sub Contrast (YUV) and then, adjust the detection values of G to the set value.

   Detection set value: 230 ± 3

4. Set the component input signal to All gray 20 IRE signal of 1080/60i .
5. Adjust the Sub Bright (YUV) and then, adjust the detection values of G to the set value.

   Detection set value: 51 ± 3

6. Adjust the CB Offset (YUV) and then, adjust so that the detection value of B is the same as G value.
7. Adjust the CR Offset (YUV) and then, adjust so that the detection value of R is the same as G value.
8. Repeat step 5 to 7 until the detection set value in step 5 above is obtained.
9. Repeat step 3 to 8 until the detection set value in steps 3 and 5 above are obtained.

2-2-4. Video input adjustment

1. Input All white 90 IRE signal of NTSC to the video input terminal.
2. Select Video Calibration from the AD Converter menu.
3. Adjust the Sub Contrast (Video) and then, adjust the detection values of G to the set value.

   Detection set value: 230 ± 3

4. Set the video input signal to All gray 20 IRE signal of NTSC.
5. Adjust the Sub Bright (Video) and then, adjust the detection values of G to the set value.

   Detection set value: 51 ± 3

6. Adjust the CB Offset (Video) and then, adjust so that the detection value of B is the same as G value.
7. Adjust the CR Offset (Video) and then, adjust so that the detection value of R is the same as G value.
8. Repeat step 5 to 7 until the detection set value in step 5 above is obtained.
9. Repeat step 3 to 8 until the detection set value in step 3 and 5 above are obtained.

2-2-5. Video coder input adjustment

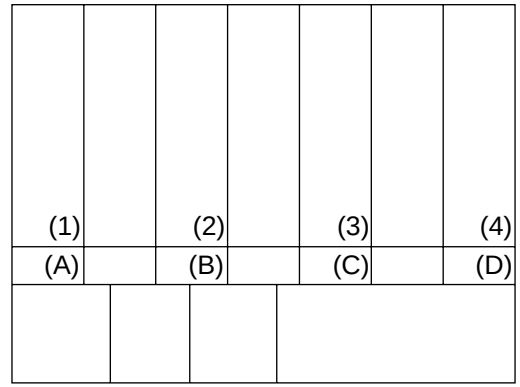
1. Input All white 30 IRE signal of SECAM to the video input terminal.
2. Select By Adj from the Chroma decoder menu.
3. Adjust the By Adj (SECAM) and then, adjust so that the detection value of B is the same as G value.
4. Select Ry Adj from the Chroma decoder menu.
5. Adjust the Ry Adj (SECAM) and then, adjust so that the detection value of R is the same as G value.
6. Repeat step 3 to 5 until the detection values of R, G, and B reach the allowable error range.

   Allowable error ± 5

7. Set [Cal Mode] to [OFF] after the A/D calibration adjustment is completed.

2-3. Adjustment of sub-color and sub-hue

1. Input an NTSC SMPTE 75% color-bar signal to VIDEO 1.
2. Set the image quality to the AV professional standard state.
3. In the service mode, put the unit into the Blue Only mode.
4. Adjust the NTSC sub-color and sub-hue while viewing the screen.
   4-1. Set the sub-color value to 8 and adjust so that, in a C Out level, the brightness of (1) and (A) is the same as that of (4) and (D). In a sub-hue, adjust so that the brightness of (2) and (B) is the same as that of (3) and (C). Confirm the C Out level and sub-hue again. (The C Out level and sub-hue require tracking several times.)
5. Input a PAL SMPTE 75% color-bar signal to VIDEO 1.
6. Adjust the PAL sub-color while viewing the screen.
   6-1. In a sub-color, adjust so that the brightness of (1) and (A) is the same as that of (4) and (D).
   If the adjustment is omitted, set the sub-color value to 10.
7. Input a SECAM SMPTE 75% color-bar signal to VIDEO 1.
8. Adjust the SECAM sub-color while viewing the screen.
   8-1. In a sub-color, adjust so that the brightness of (1) and (A) is the same as that of (4) and (D).
   If the adjustment is omitted, set the sub-color value to 9.
9. Cancel the Blue Only mode.



SMPTE color-bar signal