

## 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. Adjustment of A/D Converter and Video Coder

#### 2-1-1. Preparation for adjustment

1. Set [RGB Mode] of [Features] to [Other].
2. Set the [Cal Mode] of the AD Converter in the service mode to [ON].

#### 2-1-2. RGB input adjustment

1. Input All white 90 IRE signal of VGA (640x480/60Hz) to the RGB input terminal.
2. Set Picture Mode into "Personal2".  
Set [Dynamic Pict] and [Color Correct] to "OFF", and then set [Gamma Correct] to "MID".  
(Caution) The order of 1, 2 must not be changed.
3. 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.
4. Adjust the Sub Contrast (RGB) and then, adjust the detection values of R, G, and B to the set value.

Detection set value:  $230 \pm 2$

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

Detection set value:  $51 \pm 2$

7. Repeat step 3 to 6 described above until the detection set value is obtained.

#### 2-1-3. Component input adjustment

1. Input All white 90 IRE signal of 1080/60i to the component input terminal.
2. Set Picture Mode into "Personal2".  
Set [Dynamic Pict] and [Color Correct] to "OFF", and then set [Gamma Correct] to "MID".  
(Caution) The order of 1, 2 must not be changed.
3. Select YUV Calibration from the AD Converter menu.
4. Adjust the Sub Contrast (YUV) and then, adjust the detection values of G to the set value.

Detection set value:  $230 \pm 2$

5. Adjust the Sub Bright (YUV) and then, adjust the detection values of G to the set value.

Detection set value:  $51 \pm 2$

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 4 to 8 until the detection set value in steps 4 and 5 above are obtained.

#### 2-1-4. Video input adjustment

1. Input All white 90 IRE signal of NTSC to the video input terminal.
2. Set Picture Mode into "Personal2".  
Set [Dynamic Pict] and [Color Correct] to "OFF", and then set [Gamma Correct] to "MID".  
(Caution) The order of 1, 2 must not be changed.
3. Select Video Calibration from the AD Converter menu.
4. Adjust the Sub Contrast (Video) and then, adjust the detection values of G to the set value.

Detection set value:  $230 \pm 2$

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

Detection set value:  $51 \pm 2$

7. Adjust the CB Offset (Video) and then, adjust so that the detection value of B is the same as G value.
8. Adjust the CR Offset (Video) and then, adjust so that the detection value of R is the same as G value.
9. Repeat step 6 to 8 until the detection set value in step 6 above is obtained.
10. Repeat step 4 to 8 until the detection set value in step 4 and 6 above are obtained.

### 2-1-5. Video coder input adjustment

1. Input All white 30 IRE signal of SECAM to the video input terminal.
2. Set Picture Mode into "Personal2".  
Set [Dynamic Pict] and [Color Correct] to "OFF", and then set [Gamma Correct] to "MID".  
(Caution) The order of 1, 2 must not be changed.
3. Select Ry Adj from the Chroma decoder menu.
4. Adjust the Ry Adj (SECAM) and then, adjust so that the detection value of R is the same as G value.
5. Repeat step 2 to 4 until the detection values of R, G, and B are set in the margin range.

Allwable error:  $\pm 5$

6. Input By the value calculated as below.  
By = Ry - 4 (if By < 0, input 0)

### 2-2. 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 "Cool".
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 ( $x=0.278$   $y=0.286 \pm 0.005$ )

5. Set the color temperature to "Normal".
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 ( $x=0.295$   $y=0.305 \pm 0.005$ )

7. Set the color temperature to "Warm".
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 ( $x=0.314$   $y=0.324 \pm 0.005$ )

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

(Caution)

Use SMPTE color-bar whose white is 75%.

1. Input the SMPTE color-bar signal of NTSC into AV 4.

(1)		(2)		(3)		(4)
(A)		(B)		(C)		(D)

Fig. 2-3-1

2. Change picture mode setup into "Personal2".
3. Turn on the Blue Only mode by service mode.

4. Adjust Sub Color and Sub Hue of NTSC while looking at a screen.

4-1. Set the value of resister as follows.

Hue (NTSC)	=37
Sub Color (NTSC)	=8
Sub Color (PAL)	=8
Sub Color (SECAM)	=8
C Out Level	=10

Then adjust C Out Level so that the brightness level of (1) and (A), (4) and (D) become the same and adjust Sub Hue so that the brightness level of (2) and (B), (3) and (C) become the same. Check C Out Level and Sub Hue once again. (C Out Level, Sub Hue require tracking several times.)

5. Input the SMPTE color-bar signal of PAL into AV 4.  
Set mode into "Personal2".
6. Adjust Sub Color of PAL while looking at a screen.  
6-1. Adjust Sub Color that the brightness level of (1) and (A), (4) and (D) become the same.
7. Input the SMPTE color-bar signal of SECAM into AV 4.  
Set Mode into "Personal2".
8. Adjust Sub Color of SECAM while looking at a screen.  
8-1. Adjust Sub Color that the brightness level of (1) and (A), (4) and (D) in the fig. 2-3-1 become the same.
9. Lose 2 steps in the adjustment value of "Sub Color (PAL)".
10. Cancel the Blue Only mode.