

## TEST MODE

### • Preparation

1. Prepare the H/U (STC-700), and connect the power cord and the interface cord to it.
2. Prepare the remote controller (RC-DV100), and the operation mode selector switch is made the television mode.

### 1. Test mode

#### 1-1. How to enter the test mode

While pressing and holding VOL DOWN and SOURCE keys, reset the unit.

#### 1-2. How to exit from the test mode

Reset the unit, Momentary power down, ACC OFF and Power OFF.

(Note) Reset sets all values to initialization values except for the adjusted with the test mode (ex. Touch panel adjustment data, etc.).

#### 1-3. Details

1. Control screen (ALL OFF mode) is boot up so that Back screen color is red.
2. Screen mode is Full.
3. Video In is selected as an input signal.
4. BRT, CONT and BLK are adjusted in 3 steps of Full Down ⇄ Center ⇄ Full Up with the one click.
5. The remote controller SRC key recalls Touch Panel Adjustment screen. A cross-cursor (+) touch adjust on the TOUCH PANEL ADJUST screen allows the reference points (upper left, upper right and lower left) to be written to EEPROM.
6. Video level adjustment  
The remote controller DIRECT key allows recall of Video level adjustment mode.  
The remote controller BAND▲DISC and ▼M/S keys allow adjustment item (CH) selecting.  
The remote controller ►► and ◄◄ keys allow adjustment value up/down.  
The remote controller ►|| key allows adjustment value fixed (blue → magenta) and adjustment value released (magenta → blue).  
Exit by pressing the remote controller DIRECT key again so that all items of Video level adjustment to be ended.

### 2. EEPROM Clear

If and when, for some reasons, the touch panel does not function due to incorrect values being written to EEPROM, recovery will be attempted by clearing the EEPROM.

#### 2-1. Setup Method

While pressing and holding VOL DOWN and POWER keys, reset the unit.

(EEPROM will be clearing at the next POWER ON.)

#### 2-2. Termination Method

POWER ON.

#### 2-3. Contents

The contents of the EEPROM are all re-written to "FF". By this, the touch panel adjustment and Video level adjustment will function with the ROM fixed value.

### 3. Attention

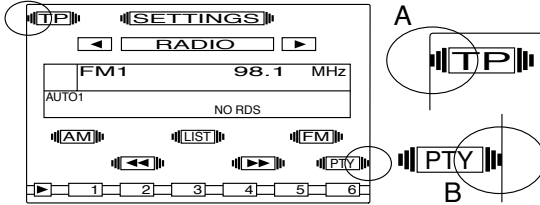
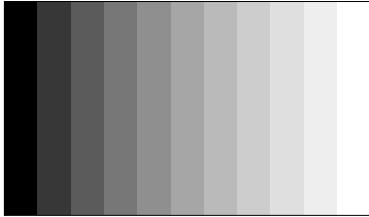
- 3-1. When EEPROM Clear was done, Touch panel adjustment and Video level adjustment conduct the adjustment again.
- 3-2. When the touch panel switch assembly was replaced, conduct the touch panel adjustment together.
- 3-3. When LCD assembly was replaced, conduct the Video level adjustment and the touch panel adjustment together.

# ADJUSTMENT

## • Preparation

1. Prepare the H/U (STC-700) and the NAVI unit (KNA-DV2200/S), and connect the power cord and the interface cord to it.
2. Prepare the remote controller (RC-DV100), and the operation mode selector switch is made the television mode.

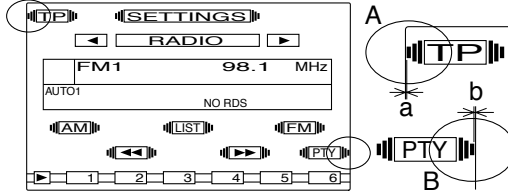
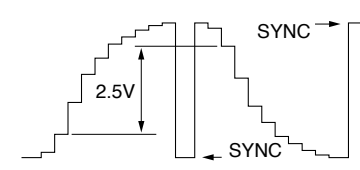
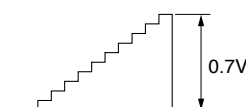
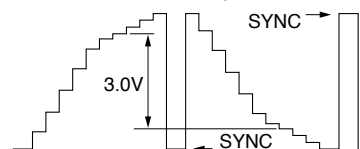
### 1. Touch panel adjustment, Screen display start position and Flicker Confirmation

Item	Adjustment method/Adjustment value	Conditions
1. Touch panel adjustment	<ol style="list-style-type: none"> <li>1. While pressing and holding VOL DOWN and SOURCE keys, reset the unit. Boot up the system in Test mode.</li> <li>2. Recall the TOUCH PANEL ADJUST screen by pressing SRC key of the remote controller.</li> <li>3. Press at the center section of a cross-cursor (+) font on the screen by using adjustment tool (upper left → upper right → lower left).</li> <li>4. When the writing of EEPROM is executed correctly, the buzzer generates 2 beeps. If the writing of EEPROM is not executed correctly, the buzzer generates 4 beeps.</li> </ol> <p>(Note.1) When conducting the adjustment for the first time, the display position of the cross-cursor (+) may be a little off, but the adjustment should be conducted by using the center section of a cross-cursor (+) font.</p> <p>(Note.2) If the adjustment becomes impossible as a result of having input incorrect values, clear the EEPROM data first and then conduct the adjustment.</p>	<ul style="list-style-type: none"> <li>• Must be in test mode.</li> <li>• Remote controller(RC-DV100)</li> <li>• Remote sensor jig (Refer to Attention of page 11)</li> <li>• Adjustment tool (with smaller tips of approximately 0.2mm in diameter)</li> </ul>
2. Screen display start position confirmation VR200	<ol style="list-style-type: none"> <li>1. With the OSD (RADIO SETTINGS) screen, confirm that the 3 vertical lines of A and B part is to be inside the end of the screen.</li> </ol>  <ol style="list-style-type: none"> <li>2. If they are a little off, adjust the 3 vertical lines of A and B part to be inside the end of the screen by using VR200. If the difference is much too large, adjust from the beginning of X35 UNIT.</li> </ol>	<ul style="list-style-type: none"> <li>• Input signal : OSD (RADIO SETTINGS)</li> </ul>
3-1. Flicker confirmation VR302	<ol style="list-style-type: none"> <li>1. Connect the NAVI unit and display the NAVI screen.</li> <li>2. With a NAVI screen, confirm there is no flickering (Easy to read characters in the NAVI screen).</li> <li>3. If the flickering is recognized, adjust VR302 so that the flicker level will be the minimum.</li> </ol>	<ul style="list-style-type: none"> <li>• Input signal : NAVI RGB signals</li> </ul>
3-2. Flicker confirmation VR302	<ol style="list-style-type: none"> <li>1. Input the Composite Gray RASTA [NTSC] signal.</li> </ol>  <ol style="list-style-type: none"> <li>2. Adjust VR302 so that the flicker level will be the minimum.</li> </ol>	<ul style="list-style-type: none"> <li>• Must be in test mode.</li> <li>• Input signal : Composite input Gray RASTA [NTSC] (Easy to read level of white 30~50%)</li> </ul>

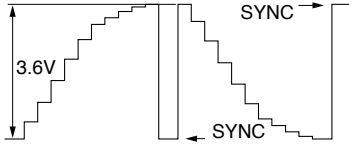
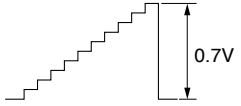
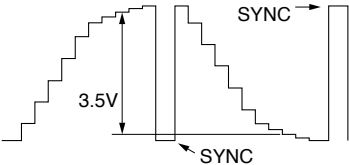
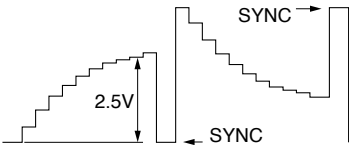
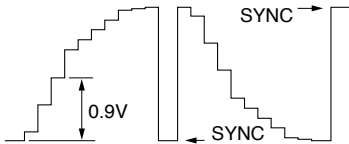
## 2. X35 UNIT Adjustment

Item	Adjustment method/Adjustment value	Conditions
1. IC200 Free run frequency adjustment VR201	<ol style="list-style-type: none"> <li>1. Connect the check land (TP47 or TP133) to GND line.</li> <li>2. Adjust VR201 so that HSY (TP48 or TP131) frequency is set to 15,734Hz ± 10Hz.</li> <li>3. Release the connection between the check land and GND line.</li> </ol>	<ul style="list-style-type: none"> <li>• Input : Video in no signal</li> </ul>

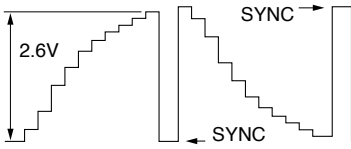
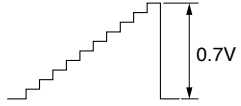
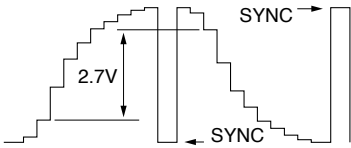
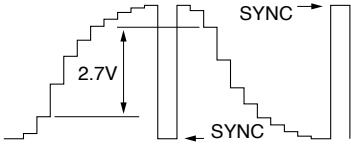
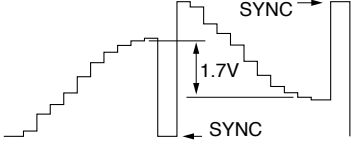
## ADJUSTMENT

Item	Adjustment method/Adjustment value	Conditions
2. Screen display start position adjustment VR200	<ol style="list-style-type: none"> <li>1. Display the OSD (RADIO SETTINGS) screen.</li> <li>2. Adjust that the 3 vertical lines of A and B part is to be inside the end of the screen by using VR200.</li> <li>3. Adjust so that the gap of (a) and (b) to be uniform or nothing by using VR200.</li> </ol> 	<ul style="list-style-type: none"> <li>• Input signal : OSD (RADIO SETTINGS)</li> </ul>
3-1. Video level adjustment mode	<ol style="list-style-type: none"> <li>1. While pressing and holding VOL DOWN and SOURCE keys, reset the unit.</li> <li>2. Enter Video level adjustment mode by pressing DIRECT key of the remote controller.</li> <li>3. The remote controller BAND▲DISC and ▼M/S keys allow adjustment item (CH) selecting.</li> <li>4. The remote controller ►► and ◀◀ keys allow adjustment value up/down.</li> <li>5. The remote controller ►   key allows adjustment value fixed (blue → magenta) and adjustment value released (magenta → blue).</li> </ol>	<ul style="list-style-type: none"> <li>• Must be in test mode.</li> <li>• Remote controller (RC-DV100)</li> <li>• Remote sensor jig (Refer to Attention of page 11)</li> </ul>
3-2. Chroma VCO adjustment CH : 16	<ol style="list-style-type: none"> <li>1. Select CH : 16 by using the remote controller.</li> <li>2. Connect the check lands (TP35 or TP130, TP36 or TP129) to GND line.</li> <li>3. Connect a frequency counter to the check land (TP20 or TP134).</li> <li>4. Adjust the frequency so that a frequency counter is read 15,734Hz ± 50Hz by using the remote controller.</li> <li>5. Fix the adjustment value by using the remote controller.</li> <li>6. Release the connection between the check lands and GND line, a frequency counter.</li> </ol>	<ul style="list-style-type: none"> <li>• Input : Video in no signal</li> </ul>
3-3. Bright adjustment CH : 6	<ol style="list-style-type: none"> <li>1. Select CH : 6 by using the remote controller.</li> <li>2. Observe the waveform of TP25 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the 2nd step from the pedestal and the reversal one is 2.5V ± 0.1V by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	<ul style="list-style-type: none"> <li>• Input : Video in</li> <li>• Input signal : Composite SYNC (10 STEP signal) [NTSC]</li> </ul>  <ul style="list-style-type: none"> <li>• AC range</li> <li>• Oscilloscope 0.5V/DIV</li> </ul>
3-4. Contrast adjustment CH : 13	<ol style="list-style-type: none"> <li>1. Select CH : 13 by using the remote controller.</li> <li>2. Observe the waveform of TP25 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the 7th step from the pedestal and the reversal one is 3.0V ± 0.1V by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	

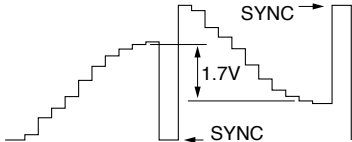
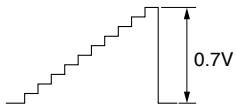
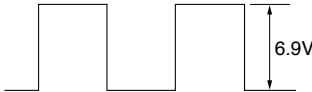
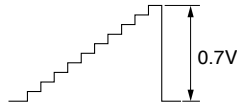
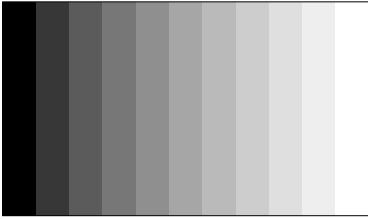
## ADJUSTMENT

Item	Adjustment method/Adjustment value	Conditions
3-5. Black limiter adjustment CH : 5	<ol style="list-style-type: none"> <li>1. Select CH : 5 by using the remote controller.</li> <li>2. Observe the waveform of TP25 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the pedestal and the reversal one is <math>3.6V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	<ul style="list-style-type: none"> <li>• Input : Video in</li> <li>• Input signal : Composite SYNC (10 STEP signal) [NTSC]</li> </ul>  <ul style="list-style-type: none"> <li>• AC range</li> <li>• Oscilloscope 0.5V/DIV</li> </ul>
3-6. White limiter adjustment CH : 10	<ol style="list-style-type: none"> <li>1. Select CH : 10 by using the remote controller.</li> <li>2. Observe the waveform of TP25 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the 8th step from the pedestal and the reversal one is <math>3.5V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	
3-7. Y GCA adjustment CH : 2	<ol style="list-style-type: none"> <li>1. Select CH : 2 by using the remote controller.</li> <li>2. Observe the waveform of TP25 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the 9th step from the pedestal is <math>2.5V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	
3-8. Gamma 1 adjustment CH : 11	<ol style="list-style-type: none"> <li>1. Select CH : 11 by using the remote controller.</li> <li>2. Observe the waveform of TP25 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the 3rd step from the pedestal is <math>0.9V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	

## ADJUSTMENT

Item	Adjustment method/Adjustment value	Conditions
3-9. Gamma 2 adjustment CH : 12	<ol style="list-style-type: none"> <li>1. Select CH : 12 by using the remote controller.</li> <li>2. Observe the waveform of TP25 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the 10th step from the pedestal is <math>2.6V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	<ul style="list-style-type: none"> <li>• Input : Video in</li> <li>• Input signal : Composite SYNC (10 STEP signal) [NTSC]</li> </ul>  <ul style="list-style-type: none"> <li>• AC range</li> <li>• Oscilloscope 0.5V/DIV</li> </ul>
3-10. R Sub-bright adjustment CH : 8	<ol style="list-style-type: none"> <li>1. Select CH : 8 by using the remote controller.</li> <li>2. Observe the waveform of TP24 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the 2nd step from the pedestal and the reversal one is <math>2.7V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	
3-11. B Sub-bright adjustment CH : 9	<ol style="list-style-type: none"> <li>1. Select CH : 9 by using the remote controller.</li> <li>2. Observe the waveform of TP26 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the 2nd step from the pedestal and the reversal one is <math>2.7V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	
3-12. R Sub-contrast adjustment CH : 14	<ol style="list-style-type: none"> <li>1. Select CH : 14 by using the remote controller.</li> <li>2. Observe the waveform of TP24 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the 9th step from the pedestal and the reversal one is <math>1.7V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	

## ADJUSTMENT

Item	Adjustment method/Adjustment value	Conditions
3-13. B Sub-contrast adjustment CH : 15	<ol style="list-style-type: none"> <li>1. Select CH : 15 by using the remote controller.</li> <li>2. Observe the waveform of TP26 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that the waveform between the 9th step from the pedestal and the reversal one is <math>1.7V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	<ul style="list-style-type: none"> <li>• Input : Video in</li> <li>• Input signal : Composite SYNC (10 STEP signal) [NTSC]</li> </ul>  <ul style="list-style-type: none"> <li>• AC range</li> <li>• Oscilloscope 0.5V/DIV</li> </ul>
3-14. VCOM amplitude adjustment CH : 1	<ol style="list-style-type: none"> <li>1. Select CH : 1 by using the remote controller.</li> <li>2. Observe the waveform of TP132 on an oscilloscope.</li> <li>3. Adjust the amplitude value so that VCOM square-wave is <math>6.9V \pm 0.1V</math> by using the remote controller.</li> <li>4. Fix the adjustment value by using the remote controller.</li> </ol> 	<ul style="list-style-type: none"> <li>• Input : Video in</li> <li>• Input signal : Composite SYNC (10 STEP signal) [NTSC]</li> </ul>  <ul style="list-style-type: none"> <li>• AC range</li> <li>• Oscilloscope 1.0V/DIV</li> </ul>
3-15. Exit from Video level adjustment mode	1. Exit from Video level adjustment mode by pressing DIRECT key of the remote controller. At this time, all adjustment data by using Video level adjustment mode are written to EEPROM.	
4. Flicker adjustment VR302	<ol style="list-style-type: none"> <li>1. Input the Composite Gray RASTA [NTSC] signal.</li> </ol>  <ol style="list-style-type: none"> <li>2. Adjust VR302 so that the flicker level will be the minimum.</li> </ol>	<ul style="list-style-type: none"> <li>• Must be in test mode.</li> <li>• Input signal : Composite input Gray RASTA [NTSC](Easy to read level of white 30~50%)</li> </ul>

**Attention**

When Touch Panel Adjustment and Video level adjustment are done, please use the Remote sensor jig.

**Process**

- (1) Remove the Unit's connector (2 Pin Type).
- (2) Connect the BU and GND lines of the Remote sensor jig to the Power Supply unit.
- (3) Insert the jig's connector toward the tip of the arrow.

