

# JVC

PRELIMINARY

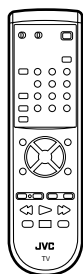
## SERVICE MANUAL

### COLOR TELEVISION

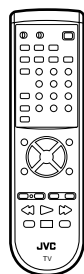
BASIC CHASSIS

GC

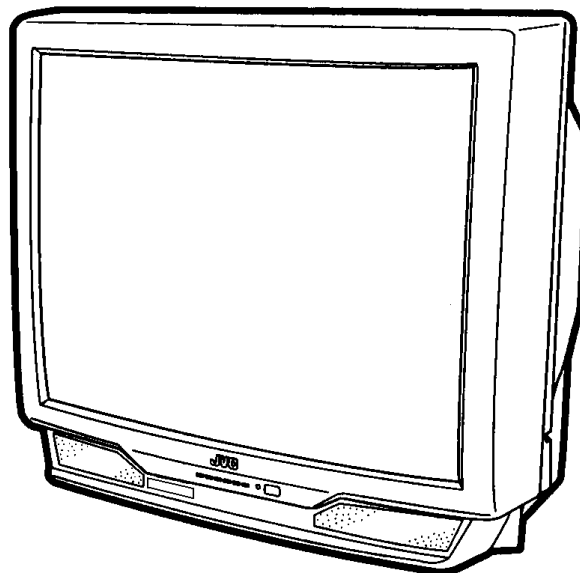
|                     |                     |
|---------------------|---------------------|
| <b>AV-32230</b> /AG | <b>AV-32260</b> /AG |
| <b>AV-32230</b> /AH | <b>AV-32260</b> /AH |
| <b>AV-32230</b> /AM | <b>AV-32260</b> /AM |
| <b>AV-32230</b> /AR | <b>AV-32260</b> /AR |



RM-C306  
[AV-32230]



RM-C305  
[AV-32260]



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# SAFETY PRECAUTIONS

- The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by ( ⚠ ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- Use isolation transformer when hot chassis.**  
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
- Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : ( ⊥ ) side GND, the ISOLATED(NEUTRAL) : ( ≡ ) side GND and EARTH : ( ⊕ ) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.  
If above note will not be kept, a fuse or any parts will be broken.
- If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
- When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

## 10. Isolation Check

### (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

### (1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.  
(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

### (2) Leakage Current Check

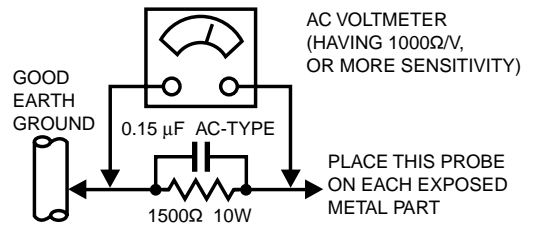
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

#### ● Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



## 11. High voltage hold down circuit check.

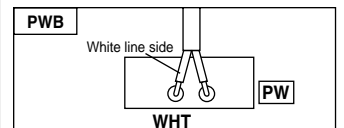
After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.

See item "How to check the high voltage hold down circuit".

This mark shows a fast operating fuse, the letters indicated below show the rating.



**POWER CORD REPLACEMENT WARNING**  
Connecting the white line side of power cord to "WHT" character side.



# SERVICE ADJUSTMENTS

These models (with A mark) were changed chassis from AV-32230 / AV-32260 (AC chassis).  
This content describes only items which differ from those of the base models SERVICE MANUAL.  
Please refer to the AV-32230 / AV-32260 SERVICE MANUAL (No.51802 issued Feb. 2001).

## ADJUSTMENT STEP

### ■ PIP VCO [ADDITION : AV-32260 only]

| Item               | Measuring instrument | Test point | Adjustment part              | Description  |
|--------------------|----------------------|------------|------------------------------|--|
| PIP VCO adjustment |                      |            | PIP VCO transf. (T111) [PIP] | <ol style="list-style-type: none"> <li>1. Set the PIP mode.</li> <li>2. Receive the ordinary broadcast signal.</li> <li>3. Select "TU2 VCO" of the SERVICE MENU.</li> <li>4. Confirm [SYNC] to "YES".</li> <li>5. Turn the PIP VCO transformer to where "REFERENCE LEVEL" characters are yellow.</li> </ol> <p>* When finished, confirm [SYNC] to "YES" again.</p> |

The diagram shows a rectangular menu box titled "PIP SCREEN". Inside the box, there is a dashed-line rectangle labeled "TU2 VCO". Below this, there are three horizontal lines representing levels: "HIGH LEVEL", "REFERENCE LEVEL", and "LOW LEVEL". The "REFERENCE LEVEL" line is highlighted in yellow. At the bottom of the box, it says "SYNC : YES". An arrow points from the "PIP SCREEN" label above to the dashed box.

### ■ FOCUS [CHANGE]

| Item             | Measuring instrument | Test point | Adjustment part | Description  |
|------------------|----------------------|------------|-----------------|--|
| FOCUS adjustment | Signal generator     |            | FOCUS VR [HVT]  | <ul style="list-style-type: none"> <li>● Set the VIDEO STATUS to "STANDARD".</li> <li>● When makes difference by FOCUS adjustment, should be recommending CONVERGENCE and PURITY adjustments.</li> </ul> <ol style="list-style-type: none"> <li>1. Receive a crosshatch signal.</li> <li>2. While looking at the screen center, adjust the FOCUS VR so that be clear and in fine detail.</li> <li>3. Make sure that the picture is in focus even when the screen gets darkness.</li> </ol> |

### ■ V POSITION & V SIZE [CHANGE]

| Item                           | Measuring instrument | Test point | Adjustment part   | Description  |
|--------------------------------|----------------------|------------|---|--|
| V POSITION & V SIZE adjustment | Signal generator     |            | V CENTER SW (S421)<br><br>No.71 : V POSI<br>No.66 : V SIZE<br>No.78 : TRAPEZ<br>No.65 : V LIN | <ol style="list-style-type: none"> <li>1. Receive a crosshatch signal.</li> <li>2. Set the No.71: V POSI to "0".</li> <li>3. Adjust the V CENTER SW and No.66: V SIZE to the vertical size is 92%.</li> <li>4. Confirm the vertical lines to be straight. If it is not straight, adjust to be straight at the No.78: TRAPEZ.</li> <li>5. Confirm upper and lower of the screen. If it is not symmetrical, adjust to be symmetrical at the No.65: V LIN.</li> </ol> |

### ■ SUB COLOR [CHANGE]

| Model                    | A [Vw-B] |
|--------------------------|----------|
| AV-32230/AG, AV-32260/AG | +12V     |
| AV-32230/AG, AV-32260/AH | +18V     |
| AV-32230/AM, AV-32260/AM | +17V     |
| AV-32230/AR, AV-32260/AR | +12V     |

### ■ SUB TINT [CHANGE]

| Model                    | B [Vw-B] |
|--------------------------|----------|
| AV-32230/AG, AV-32260/AG | +16V     |
| AV-32230/AG, AV-32260/AH | +16V     |
| AV-32230/AM, AV-32260/AM | +14V     |
| AV-32230/AR, AV-32260/AR | +12V     |

# JVC SERVICE & ENGINEERING COMPANY OF AMERICA

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