

JVC

SERVICE MANUAL

COLOUR TELEVISION

BASIC CHASSIS

CG

AV-21F4EE(B)

This service manual mainly consists of the following items:

- The items which differ from those for the AV-21FT service manual.
- The initial value for each setting item.

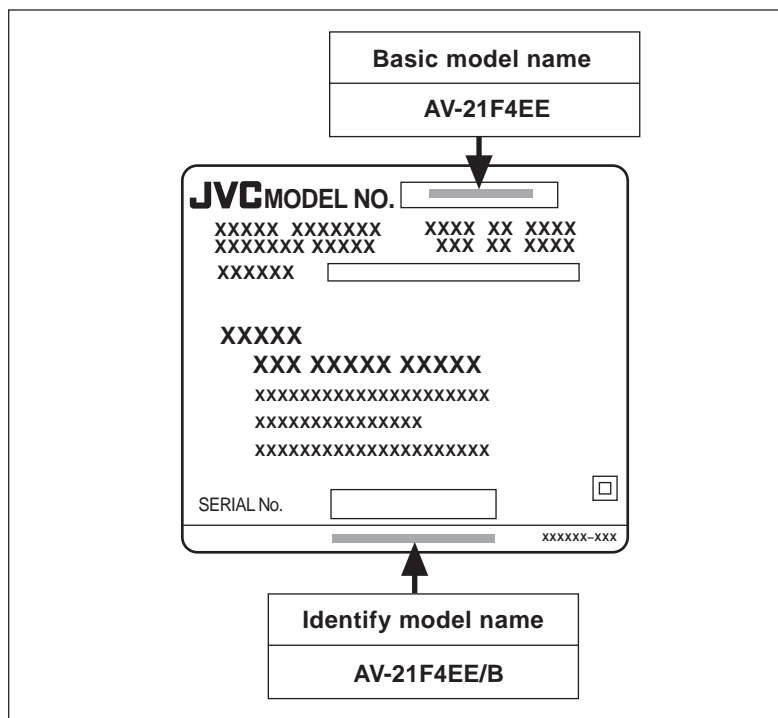
For details other than those described in this manual, please refer to the following service manual.

Reference Service Manual: AV-21FT Service Manual (No. 56003, May 2000)

Note: The page in parentheses shows the one for the AV-21FT service manual (No. 56003, May 2000).

HOW TO IDENTIFY MODEL

While referring to the illustration given below, identify model name on the rating label affixed to the rear cover.



PARTS DIFFERENCE TABLE

The different parts between AV-21FT and AV-21F4EE(B) are described below:

| △ | REF. NO. | AV-21FT | AV-21F4EE(B) | PART NAME | DESCRIPTION |
|---|----------|----------------|----------------|-----------------|-------------------|
| | | PART No. | PART No. | | |
| ■ EXPLODED VIEW PARTS LIST (Page 28) | | | | | |
| △ | V01 | A51JSY33X/C/ | A51LEC065X | PICTURE TUBE | |
| △ | L01 | QQW0077-001 | QQW0006-001 | DEGAUSSING COIL | |
| | DY01 | QQD0041-001 | CE20332-00A | DEF YOKE | |
| △ | T1522 | QQH0069-001 | QQH0070-001 | H.V. TRANSF. | |
| | 1 | LC10394-026A-H | LC10394-027A-H | FRONT CABINET | |
| △ | 15 | LC20377-010B-H | LC20377-009A-H | RATING LABEL | |
| ■ PRINTED WIRING BOARD PARTS LIST (Page 30-) | | | | | |
| | — | SCG-1233A-H2 | SCG-1268A-H2 | MAIN PWB ASSY | |
| | R1531 | NRSA02J-472X | — | CH MG R | 4.7kΩ 1/10W J |
| | | — | NRSA02J-103X | CH MG R | 10kΩ 1/10W J |
| | R1554 | QRE121J-681Y | — | C R | 680Ω 1/2W J |
| | | — | QRE121J-821Y | C R | 820Ω 1/2W J |
| | R1904 | QRL03EJ-151X | — | OM R | 150Ω 3W J |
| | C1525 | QFZ0200-972 | — | MPP CAP. | 9700pF 1.5kVH ±3% |
| | | — | QFZ0200-962 | MPP CAP. | 9600pF 1.5kVH ±3% |
| | C1527 | QFZ0199-274 | — | MPP CAP. | 0.27μF 250V J |
| | | — | QFZ0199-254 | MPP CAP. | 0.25μF 250V J |
| △ | T1522 | QQH0069-001 | QQH0070-001 | H.V. TRANSF. | |
| | L1551 | QQLZ018-460 | QQLZ018-540 | HEATER CHOKE | |
| ■ PACKING PARTS LIST (Page 34) | | | | | |
| | 1 | GG10056-005A-H | GG10056-006A-H | PACKING CASE | |
| △ | 7 | LCT0748-001A-H | LCT0751-001A-H | INST BOOK | |
| △ | 8 | LCT0749-001A-H | — | DIGEST MANUAL | |
| | — | — | BT-54012-1 | WARRANTY CARD | |

SPECIFICATIONS (Page 2)

| Item | | Content |
|-------------------------------------|-------------|--|
| Dimensions (W × H × D) | | 619mm × 458mm × 486.5mm |
| Mass | | 22kg |
| TV RF System | | B / G, I, D / K, K1 |
| Colour System | TV Mode | PAL / SECAM |
| | VIDEO Mode | PAL / SECAM / NTSC3.58 / NTSC4.43 |
| Receiving Frequency | VHF (VL) | 46.25MHz ~ 168.25MHz |
| | VHF (VH) | 175.25MHz ~ 463.25MHz |
| | UHF | 471.25MHz ~ 863.25MHz |
| | CATV | ● Cable TVs of Mid (X-Z, S1-S10) Super (S11-S20) & Hyper (S21-S41) bands receivable |
| Intermediate Frequency | VIF Carrier | 38.0MHz |
| | SIF Carrier | 31.5MHz (6.5MHz) |
| | | 32.0MHz (6.0MHz) |
| | | 32.5MHz (5.5MHz) |
| 33.5MHz (4.5MHz) | | |
| Colour Sub Carrier Frequency | | PAL (4.43MHz) SECAM (4.40625MHz / 4.25MHz) NTSC (3.58MHz / 4.43MHz) |
| Aerial Input Terminal | | 75Ω Unbalanced |
| Power Input | | AC110 ~ 240V, 50/60Hz |
| Power Consumption | | 105W (Max.) / 68W (Avg.) |
| Picture Tube | | Visible size : 51cm measured diagonally |
| High Voltage | | 26.5kV ± 1.5kV (at zero beam current) |
| Speaker | | 6cm × 12cm Oval type × 2 |
| Audio Output | | 5W (Monaural) |
| Input | Video | 1Vp-p, 75Ω |
| | Audio | 500mVrms (-4dBs), High impedance |
| Output | Video | 1Vp-p, 75Ω |
| | Audio | 500mVrms (-4dBs), Low impedance |
| Headphone Jack | | Stereo mini jack (3.5ø) |
| Remote Control Unit | | RM-C364-1H (Battery size : AA/R06/UM-3 × 2) |

Design & specifications are subject to change without notice.

SPECIFIC SERVICE INSTRUCTIONS

SETTING OF SYSTEM CONSTANT SET (Page 7)

Table 1

| Setting item | Setting contents | Setting value |
|--------------|--|---------------|
| COLOUR | <input type="checkbox"/> MULTI. <input type="checkbox"/> TRIPLE <input type="checkbox"/> PAL <input type="checkbox"/> | TRIPLE |
| BILINGUAL | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> | NO |
| TUNER | <input type="checkbox"/> MU <input type="checkbox"/> MA <input type="checkbox"/> | MU |
| ECO SENSOR | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> | YES |
| LANGUAGE | <input type="checkbox"/> E/R/C/U <input type="checkbox"/> E/R/C <input type="checkbox"/> E/R/U <input type="checkbox"/> E/C <input type="checkbox"/> | E/R/U |
| B/B SOUND | <input type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> | OFF |
| LOCK | YES ↔ 10 ↔ 20 ↔ ... ↔ 230 250 ↔ 240 ← | 180 |
| COLOUR AUTO | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> | NO |
| QSS | <input type="checkbox"/> MINT <input type="checkbox"/> MQSS <input type="checkbox"/> | MINT |
| ALC | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> | NO |
| TEXT RATE | 10 ↔ 20 ↔ 40 ↔ 80 | 20 |
| AMP TUNER | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> | NO |

USER SETTING VALUES (Page 7)

Table 2

| Setting item | Setting value | Setting item | Setting value |
|-------------------|--------------------------------|--------------------|---------------|
| SUB POWER | ON | PICTURE MODE (VSM) | BRIGHT |
| CHANNEL POSITION | 1 POSITION | VNR | OFF |
| CHANNEL PRESET | Refer to OPERATING INSTRUCTION | OFF TIMER | OFF |
| | | LANGUAGE | ENGLISH |
| VOLUME | Appropriate sound volume | AUTO SHUTOFF | OFF |
| TV/VIDEO | TV | ECO SENSOR | OFF |
| ON SCREEN DISPLAY | POSITION NUMBER DISPLAY | BLUE BACK | OFF |
| COLOUR SYSTEM | AUTO PAL | ON TIMER | PR1 0:00 |
| SOUND SYSTEM | B / G | CHILD LOCK | OFF |

SERVICE ADJUSTMENTS

■ Initial Setting Value

■ IF CIRCUIT ADJUSTMENT -- Adjustment of DELAY POINT (Page 15)

| Setting (Adjustment) Item | Variable range | Initial setting value |
|--------------------------------|----------------|-----------------------|
| DELAY POINT (AGC TAKE-OVER) | 0 ~ 127 | 43 |

■ V/C (VIDEO/CHROMA) CIRCUIT ADJUSTMENT (Page 15)

[SUB MENU 2. V/C]

| Setting item | Colour system | Variable range | Initial setting value | | | |
|-----------------------------|---------------|----------------|-----------------------|-------|-----------|-----------|
| | | | PAL | SECAM | NTSC 3.58 | NTSC 4.43 |
| 1. CUT OFF (R / G / B) | | -128 ~ +127 | -50 | ← | ← | ← |
| 2. DRIVE (R / B) | | -64 ~ +63 | 0 | ← | ← | ← |
| 3. BRIGHT | | -128 ~ +127 | 0 | ← | ← | ← |
| 4. CONT. | | -64 ~ +63 | 0 | ← | ← | ← |
| 5. COLOUR (P / S / N3 / N4) | | -64 ~ +63 | 0 | ← | ← | ← |
| 6. TINT (N3 / N4) | TV / VIDEO | -64 ~ +63 | — | — | 0 / 0 | 0 / 0 |
| 7. SECAM BL ADJUST | | -32 ~ +31 | 0 | ← | ← | ← |
| 8. SHARP | TV / VIDEO | -32 ~ +31 | -5 / +15 | ← | ← | ← |

 : Do not adjust.

Adjustment of SUB COLOUR-II (Page 18)

| Adjustment part | Description |
|------------------|--|
| 5. COLOUR | |
| PAL COLOUR | Value (A) in the figure: Set to +9V (W & G). |
| SECAM COLOUR | Value (A) in the figure: Set to +9V (W & G). |
| NTSC 3.58 COLOUR | Value (A) in the figure: Set to +9V (W & G). |

Adjustment of SUB TINT-II (Page 19)

| Adjustment part | Description |
|-----------------|---|
| 6. TINT | |
| NTSC 3.58 TINT | Value (B) in the figure: Set to +7V (W & Cy). |

■ DEFLECTION CIRCUIT ADJUSTMENT (Page 20)

[SUB MENU 4. DEF]

| Setting item | Adjustment name | Variable range | Initial setting value | |
|--------------------|--------------------|----------------|-----------------------|------|
| | | | 50Hz | 60Hz |
| 1. VER. POSITION | Vertical center | -4 ~ +3 | -1 | -3 |
| 2. HOR. POSITION | Horizontal center | -16 ~ +15 | +3 | +3 |
| 3. VER. HEIGHT | Vertical height | -64 ~ +63 | -35 | +1 |
| 4. VER. LINEARITY | Vertical linearity | -32 ~ +31 | +15 | -1 |
| 5. VER. SCURVE | Vertical scurve | -32 ~ +31 | -32 | 0 |
| 6. HOR. VCO ADJUST | Horizontal VCO | -64 ~ +63 | 0 | 0 |

: Do not adjust.

■ VSM PRESET ADJUSTMENT (Page 22)

[Setting Values for SUB MENU 4. VSM PRESET]

| VSM preset mode Setting item | BRIGHT | STANDARD | SOFT |
|---------------------------------|--------|----------|------|
| TINT SETTING VALUE | +15 | ← | ← |
| COLOUR SETTING VALUE | +15 | ← | ← |
| BRIGHT SETTING VALUE | +15 | ← | ← |
| CONT. SETTING VALUE | +30 | +15 | +11 |
| SHARP SETTING VALUE | +15 | +15 | +12 |

: Do not adjust.


■ PRESET ADJUSTMENT (Page 23)

[SUB MENU 5. PRESET]

| Colour system | | Initial setting value | | | |
|----------------------|-------|-----------------------|-------|-----------|-----------|
| | | PAL | SECAM | NTSC 3.58 | NTSC 4.43 |
| 1. C-TRAP FIX | | 1 | ← | ← | ← |
| 2. SHARP PEAK | | 0 | ← | — | — |
| 3. ABL | | 1 | ← | — | — |
| 4. GAMMA | | 0 | ← | ← | ← |
| 5. Y.DELAY TIME | TV | 0 | 2 | 2 | 3 |
| | VIDEO | 0 | 2 | 0 | 2 |
| 6. BLACK EXP START | | 3 | ← | ← | ← |
| 7. C-BPF | TV | 1 | ← | 0 | ← |
| | VIDEO | 1 | ← | ← | ← |
| 8. CW/SCP | | 0 | ← | ← | ← |
| 9. V.IF DET. LEVEL | | 0 | ← | ← | ← |
| 11. IF AGC MIN. | | 0 | ← | ← | ← |
| 12. V.IF AGC | | 0 | ← | ← | ← |
| 13. V.IF PMOD | | 0 | ← | ← | ← |
| 19. VNR | | 15 | ← | ← | ← |
| 20. RGB LIM. | | 1 | ← | ← | ← |
| 21. RGB LIMIT LEVEL | | 2 | ← | ← | ← |
| 23. TEXT H. POSITION | | -3 | ← | ← | ← |
| 24. READ DATA | | — | — | — | — |

 : Do not adjust.

| TV RF system | | Initial setting value | | | |
|---------------------------|--|-----------------------|---|-----|---|
| | | B/G | I | D/K | M |
| 10. S.IF DET. LEVEL | | 0 | ← | ← | ← |
| 14. S.IF BPF BW ADJUST | | 0 | ← | ← | ← |
| 15. S.IF TRAP FO ADJUST | | 0 | ← | ← | ← |
| 16. S.IF TRAP FO ADJUST 2 | | 0 | ← | ← | ← |
| 17. S.IF-TRAP | | 0 | ← | ← | ← |
| 18. S.IF-BPF | | 0 | ← | ← | 1 |
| 22. S.IF SW | | 1 | ← | ← | 0 |

 : Do not adjust.



JVC

VICTOR COMPANY OF JAPAN, LIMITED
TELEVISION RECEIVER DIVISION 1106 Heta, Iwai-city, Ibaraki-prefecture, 306-0698, Japan

