

# JVC

# SERVICE MANUAL

## COLOUR TELEVISION

BASIC CHASSIS

CG

# AV-21FTG

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.

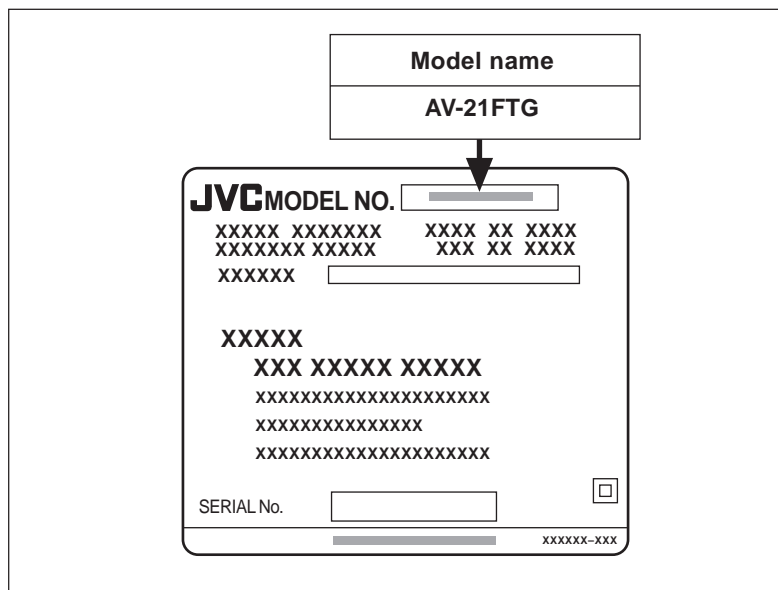
For details other than those described in this manual, please refer to the following service manual.

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-21FTG are described below:

△	REF. NO.	AV-21FT	AV-21FTG	PART NAME	DESCRIPTION
		PART No.	PART No.		
<b>■ EXPLODED VIEW PARTS LIST (Page 28)</b>					
△	15	LC20377-010B-H	LC20377-001B-H	RATING LABEL	
<b>■ PRINTED WIRING BOARD PARTS LIST (Page 30)</b>					
	—	SCG-1233A-H2	SCG-1019A-H2	MAIN PWB ASSY	
	R1161	—	NRSA02J-102X	CH MG R	1kΩ 1/10W J
	R1162	—	NRSA02J-122X	CH MG R	1.2kΩ 1/10W J
	R1163	—	NRSA02J-222X	CH MG R	2.2kΩ 1/10W J
	R1164	—	NRSA02J-221X	CH MG R	220Ω 1/10W J
	R1165	—	NRSA02J-220X	CH MG R	22Ω 1/10W J
	R1166	—	NRSA02J-821X	CH MG R	820Ω 1/10W J
	C1161	—	NCB21HK-103X	CH C CAP.	0.01μF 50V K
	C1164	—	NCB21HK-103X	CH C CAP.	0.01μF 50V K
	C1165	—	NCB21HK-103X	CH C CAP.	0.01μF 50V K
	C1166	—	NCB21HK-104X	CH C CAP.	0.1μF 50V K
	C1909	QEZ0476-127	—	E CAP.	120μF 400V M
		—	QEZ0199-127	E CAP.	120μF 400V M
	Q1161	—	2SC2412K/QR/-X	CHIP TRANSISTOR	
	IC1701	MN1873287JA	MN1873287JB	IC (MICROCOMPUTER)	
	IC1702	AT24C08-21FTR	AT24C08-21FM	IC (MEMORY)	(Service)
	CF1161	—	SFSH4.5MCB	CERAMIC FILTER	
<b>■ PACKING PARTS LIST (Page 34)</b>					
	1	GG10056-005A-H	GG10056-004A-H	PACKING CASE	
△	7	LCT0748-001A-H	LCT0728-001A-H	INST BOOK	
△	8	LCT0749-001A-H	LCT0729-001A-H	DIGEST MANUAL	

# SPECIFICATIONS (Page 2)

Item		Content
<b>Dimensions (W × H × D)</b>		619mm × 458mm × 486.5mm
<b>Mass</b>		22kg
<b>TV RF System</b>		B / G, I, D / K, K1
<b>Colour System</b>	TV Mode	PAL / SECAM
	VIDEO Mode	PAL / SECAM / NTSC3.58 / NTSC4.43
<b>Receiving Frequency</b>	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
<b>Intermediate Frequency</b>	VIF Carrier	38.0MHz
	SIF Carrier	31.5MHz (6.5MHz)
		32.0MHz (6.0MHz)
		32.5MHz (5.5MHz)
33.5MHz (4.5MHz)		
<b>Colour Sub Carrier Frequency</b>		PAL (4.43MHz) SECAM (4.40625MHz / 4.25MHz) NTSC (3.58MHz / 4.43MHz)
<b>Aerial Input Terminal</b>		75Ω Unbalanced
<b>Power Input</b>		AC110 ~ 240V, 50/60Hz
<b>Power Consumption</b>		105W (Max.) / 68W (Avg.)
<b>Picture Tube</b>		Visible size : 51cm measured diagonally
<b>High Voltage</b>		26.5kV ± 1.5kV (at zero beam current)
<b>Speaker</b>		6cm × 12cm Oval type × 2
<b>Audio Output</b>		5W (Monaural)
<b>Input</b>	Video	1Vp-p, 75Ω
	Audio	500mVrms (-4dBs), High impedance
<b>Output</b>	Video	1Vp-p, 75Ω
	Audio	500mVrms (-4dBs), Low impedance
<b>Headphone Jack</b>		Stereo mini jack (3.5ø)
<b>Remote Control Unit</b>		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/A/F <input type="checkbox"/> E/A/F <input type="checkbox"/> E/A <input type="checkbox"/> E/F <input type="checkbox"/>	E/R/A/F
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
<b>5. COLOUR</b>	
PAL COLOUR	Value (A) in the figure: Set to <b>+9V (W &amp; G)</b> .
SECAM COLOUR	Value (A) in the figure: Set to <b>+6V (W &amp; G)</b> .
NTSC 3.58 COLOUR	Value (A) in the figure: Set to <b>+6V (W &amp; G)</b> .

### Adjustment of SUB TINT-II (Page 19)

Adjustment part	Description
<b>6. TINT</b>	
NTSC 3.58 TINT	Value (B) in the figure: Set to <b>+2V (W &amp; Cy)</b> .

## ■ 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.



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