

JVC

SERVICE MANUAL

COLOUR TELEVISION

BASIC CHASSIS

CM-F

AV-21P9(BK)

This service manual mainly consists of the following items:

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

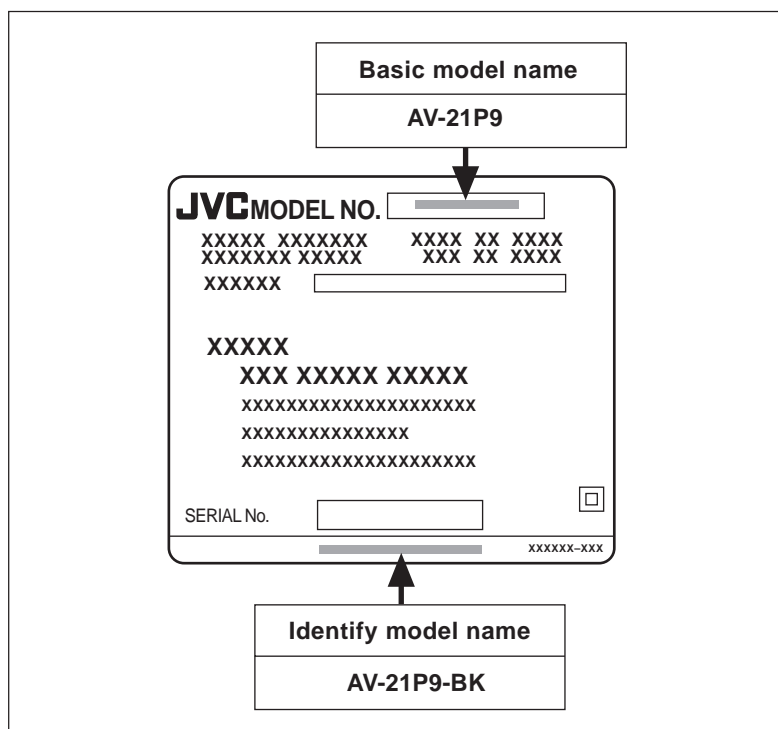
For details other than those described in this manual, please refer to the following service manual.

Reference Service Manual: AV-21PS Service Manual (No. 56018, Jun. 2000)

Note: The page in parentheses shows the one for the AV-21PS service manual (No. 56018, Jun. 2000).


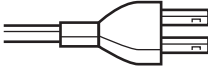
HOW TO IDENTIFY MODEL

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-21PS and AV-21P9(БK) are described below:

△	REF. NO.	AV-21PS	AV-21P9(БK)	PART NAME	DESCRIPTION
		PART No.	PART No.		
■ EXPLODED VIEW PARTS LIST (Page 32)					
△	V01	A51LSK655X	A51LSK955X or A51LSK655X	PICTURE TUBE	
	1	LC10549-005A-H	LC10549-017A-H	FRONT CABI ASSY	
	9	LC40317-001A	LC40317-002A-H	TAPPING SCREW	(×4)
△	13	QMP40D0-200J5 or QMP40D0-200J3 	QMPR010-200-E2 or QMPR010-200-K2 	POWER CORD	
△	18	LC20377-001B-H	CM22960-075-H	RATING LABEL	
■ PRINTED WIRING BOARD PARTS LIST (Page 34-)					
	—	SCM-1612A-H2	SCM-1619A-BK	MAIN PWB ASSY	
	R1319	QRE141J-333Y	—	C R	33kΩ 1/4W J
	R1757	QRE141J-102Y	—	C R	1kΩ 1/4W J
	R1801	QRE141J-471Y	—	C R	470Ω 1/4W J
	R1802	QRE141J-392Y	—	C R	3.9kΩ 1/4W J
	R1803	QRE141J-561Y	—	C R	560Ω 1/4W J
	R1805	QRE141J-102Y	—	C R	1kΩ 1/4W J
	R1806	QRE141J-152Y	—	C R	1.5kΩ 1/4W J
	R1807	QRE141J-333Y	—	C R	33kΩ 1/4W J
	R1808	QRE141J-182Y	—	C R	1.8kΩ 1/4W J
	R1809	QRE141J-181Y	—	C R	180Ω 1/4W J
	R1810	QRE141J-182Y	—	C R	1.8kΩ 1/4W J
	R1811	QRE141J-181Y	—	C R	180Ω 1/4W J
	R1812	QRE141J-182Y	—	C R	1.8kΩ 1/4W J
	R1813	QRE141J-181Y	—	C R	180Ω 1/4W J
	R1814	QRE141J-122Y	—	C R	1.2kΩ 1/4W J
	R1815	QRE141J-561Y	—	C R	560Ω 1/4W J
	R1816	QRE141J-152Y	—	C R	1.5kΩ 1/4W J
	R1817	QRE141J-152Y	—	C R	1.5kΩ 1/4W J
	C1313	QETN1HM-105Z	—	E CAP.	1μF 50V M
		—	QFLC1HJ-103Z	M CAP.	0.01μF 50V J
	C1314	QETN1HM-105Z	—	E CAP.	1μF 50V M
		—	QFLC1HJ-103Z	M CAP.	0.01μF 50V J
	C1315	QETN1HM-105Z	—	E CAP.	1μF 50V M
		—	QFLC1HJ-103Z	M CAP.	0.01μF 50V J

▲	REF. NO.	AV-21PS	AV-21P9(BK)	PART NAME	DESCRIPTION
		PART No.	PART No.		
■ PRINTED WIRING BOARD PARTS LIST-Continued (Page 34-)					
	C1317	QCS31HJ-470Z	——	C CAP.	47pF 50V J
	C1801	QETN1EM-476Z	——	E CAP.	47μF 25V M
	C1802	QCS31HJ-331Z	——	C CAP.	330pF 50V J
	C1803	QFLC1HJ-223Z	——	M CAP.	0.022μF 50V J
	C1804	QCS31HJ-221Z	——	C CAP.	220pF 50V J
	C1805	QDC31HJ-150Z	——	C CAP.	15pF 50V J
	C1806	QDC31HJ-150Z	——	C CAP.	15pF 50V J
	C1807	QETN1AM-107Z	——	E CAP.	100μF 10V M
	C1808	QCB31HK-102Z	——	C CAP.	1000pF 50V K
	C1809	QCS31HJ-221Z	——	C CAP.	220pF 50V J
	C1810	QETN1AM-107Z	——	E CAP.	100μF 10V M
	C1811	QCB31HK-103Z	——	C CAP.	0.01μF 50V K
	C1812	QFV71HJ-104Z	——	TF CAP.	0.1μF 50V J
	C1813	QCB31HK-103Z	——	C CAP.	0.01μF 50V K
	C1814	QETN1HM-226Z	——	E CAP.	22μF 50V M
	C1815	QFV71HJ-104Z	——	TF CAP.	0.1μF 50V J
	C1816	QCB31HK-103Z	——	C CAP.	0.01μF 50V K
	C1817	QFLC1HJ-103Z	——	M CAP.	0.01μF 50V J
	C1818	QCB31HK-103Z	——	C CAP.	0.01μF 50V K
	C1820	QFV71HJ-104Z	——	TF CAP.	0.1μF 50V J
	Q1801	2SC1740S/QR/-T	——	SI TRANSISTOR	
	Q1802	2SC1740S/QR/-T	——	SI TRANSISTOR	
	IC1701	M37204MC-D47SP	M37204MC-D49SP	IC (MICROCOMPUTER)	
	IC1702	AT24C08-AV21PS	AT24C08-21P9BK	IC (MEMORY)	(Service)
	IC1801	ET417	——	IC (DATA SLICER)	
	IC1802	ET211	——	IC (TELETEXT DEC)	
	K1801	CE41433-001Z	——	BEADS CORE	
	K1802	CE41433-001Z	——	BEADS CORE	
	X1801	CE41257-001Z	——	X TAL	
	—	SCM-2102A-H2	SCM-2102A-BK	INNER PIN PWB ASSY	
	—	SCM-3302A-H2	SCM-3302A-BK	CRT SOCKET PWB ASSY	

△	REF. NO.	AV-21PS	AV-21P9(BK)	PART NAME	DESCRIPTION
		PART No.	PART No.		
■ PRINTED WIRING BOARD PARTS LIST-Continued (Page 34-)					
	—	SCM-8302A-H2	SCM-8304A-BK	FRONT CONTROL PWB ASSY	
	D8002	SLR-342VR-T16	—	LED (RED)	
		—	SLR-342MG-T16	LED (GRN)	
	—	SCM0A105A-H2	SCM0A105A-BK	ALC PWB ASSY	
	—	SCM0F301A-H2	SCM0F301A-BK	IF PWB ASSY	
	—	SCM0Y501A-H2	SCM0Y501A-BK	AV SW PWB ASSY	
■ PACKING PARTS LIST (Page 44)					
	1	GG10044-006A-H	GG10045-003A-H	PACKING CASE	
	3	CP30967-003-H	CP30697-005-H	POLY BAG	
	4	RM-C231-1C	RM-C237-1C	REMOCON UNIT	
	5	CP30966-001-H	QPA02503505	POLY BAG	
△	6	LCT0735-001A-H	LCT0740-001A-H	INST BOOK	
	—	—	ATEAB001-00A	MATCHING BOX	

SPECIFICATIONS (Page 2)

Item		Content
Dimensions (W × H × D)		596mm × 468.5mm × 481.5mm
Mass		25kg
TV RF System		B / G, I, D / K, K1, M
Colour System	TV Mode	PAL / SECAM / NTSC3.58 / NTSC4.43
	VIDEO Mode	PAL / SECAM / NTSC3.58 / NTSC4.43
Stereo System		A2/NICAM (B/G, I, D/K) System
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		Rating: AC110 ~ 240V, 50/60Hz Operating: AC90 ~ 260V, 50/60Hz
Power Consumption		135W (Max.) / 89W (Avg.)
Picture Tube		Visible size : 51cm measured diagonally
High Voltage		29kV +1/-1.5kV (at zero beam current)
Speaker		5 × 12cm Oval type × 2
Audio Output		5W + 5W
Input (S/Video-1, Video-2 & -3, Audio)	Video	1Vp-p, 75Ω
	S/Video	Y: 1Vp-p Positive (negative sync provided, when terminated with 75Ω) C: 0.286Vp-p (burst signal, when terminated with 75Ω)
	Audio (L/R)	500mVrms (-4dBs), High impedance
Output	Video	1Vp-p, 75Ω
	Audio (L/R)	500mVrms (-4dBs), Low impedance
Headphone Jack		Stereo mini jack (3.5ø)
Remote Control Unit		RM-C237-1C (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
1. COLOUR AUTO	<input type="checkbox"/> YES → <input type="checkbox"/> NO	NO
2. COLOUR	<input type="checkbox"/> MULTI. → <input type="checkbox"/> TRIPLE → <input type="checkbox"/> PAL	MULTI
3. ECO SENSOR	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
4. BASS	<input type="checkbox"/> YES-BB → <input type="checkbox"/> YES-BB-SB → <input type="checkbox"/> YES-SB <input type="checkbox"/> NO-SB-OFF ← <input type="checkbox"/> NO-SB-ON ← <input type="checkbox"/> YES-BA	NO-SB-ON
5. VOL. LIMITER	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
6. TEXT	<input type="checkbox"/> YES → <input type="checkbox"/> NO	NO
7. MSP	<input type="checkbox"/> YES → <input type="checkbox"/> NO → <input type="checkbox"/> NO-A2	YES
8. LANGUAGE	<input type="checkbox"/> E/T → <input type="checkbox"/> E	E/T
9. EW-PIN IC	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
10. B/B OFF MUTE	<input type="checkbox"/> ON → <input type="checkbox"/> OFF	OFF
11. LED	<input type="checkbox"/> 2 → <input type="checkbox"/> 3	3
12. D/K NICAM	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
13. ALC	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
14. BBE	<input type="checkbox"/> YES → <input type="checkbox"/> NO	NO
15. E.M.C.	<input type="checkbox"/> YES → <input type="checkbox"/> NO	NO

USER SETTING VALUES (Page 7)

Table 2

Setting item	Setting value	Setting item	Setting value
SUB POWER	ON	BASS	CENTER
CHANNEL POSITION	1 POSITION	BALANCE	CENTER
CHANNEL PRESET	Refer to OPERATING INSTRUCTION	LANGUAGE	THAI
VOLUME	Appropriate sound volume	AUTO VNR	OFF
TV/VIDEO	TV	OFF TIMER	OFF
ON SCREEN DISPLAY	POSITION NUMBER DISPLAY	AUTO SHUTOFF	OFF
COLOUR SYSTEM	AUTO PAL	ECO SENSOR	OFF
SOUND SYSTEM	B / G	AI VOLUME	HIGH
BILINGUAL MODE	STEREO	BLUE BACK	OFF
PICTURE MODE (VSM)	BRIGHT	ON TIMER	PR1 0:00
LIVE SPATIAL	OFF	CHILD LOCK	OFF
TREBLE	CENTER		

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 ~ 63	19

■ 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	0	←	←	←
2. DRIVE (R / B)		-128 ~ +127	0	←	←	←
3. BRIGHT (RF/VIDEO)		-128 ~ +127	0 / 0	+2 / -1	0 / -2	—
4. CONT. (RF/VIDEO)		-42 ~ +42	0 / -6	-7 / -8	-8 / -7	—
5. COLOUR		-60 ~ +68	+11	+3	+15	0
6. TINT (TV / VIDEO)		-64 ~ +63	—	—	+12 / 0	0 / -4
7. BLACK OFFSET (R-Y / B-Y)		-8 ~ +7	—	+4 / +2	—	—
8. SHARP (TV / VIDEO)		-32 ~ +31	-15 / 0	←	-20 / 0	—
9. TEXT (RGB) CONT.		-128 ~ +77	+10	←	←	←
10. B.S.OFF		0 ~ +1	0	←	←	←
11. B.S.POINT		0 ~ +7	+6	←	←	←
12. DC TRAN RATE		0 ~ +7	0	←	←	←
13. APA-CON FO/SW		0 ~ +3	+1	←	←	←
14. VSM PHASE		0 ~ +3	+3	←	←	←
15. VSM GAIN		0 ~ +3	+1	←	←	←
16. CLL SW		0 ~ +1	+1	←	←	←
17. CLL LEVEL		0 ~ +3	+2	←	←	←
18. ABL POINT		0 ~ +7	+5	←	←	←
19. ABL GAIN		0 ~ +7	+1	←	←	←
20. Y-DL (TV / VIDEO / S)		0 ~ +7	+2 / +4 / +2	+3 / +3 / +2	+2 / +2 / +2	+4 / +4 / +2
21. P.ACL SW		0 ~ +1	+1	←	←	←
22. WPL SW		0 ~ +1	0	←	←	←
23. Y GAMMA		0 ~ +1	0	←	←	←

: Do not adjust.

Adjustment of SUB COLOUR-II (Page 18)


Adjustment part	Description
5. COLOUR	
PAL COLOUR	Value (A) in the figure: Set to +4V (W & G) .
SECAM COLOUR	Value (A) in the figure: Set to +3V (W & G) .
NTSC 3.58 COLOUR	Value (A) in the figure: Set to +4V (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 +3V (W & Cy) .


■ DEFLECTION CIRCUIT ADJUSTMENT (Page 21)**[SUB MENU 4. DEF]**

Setting item	Adjustment name	Variable range	Initial setting value	
			50Hz	60Hz
1. TRAPEZ	Trapezoidal distortion correction	-32 ~ +31	-15	-3
2. V-SHIFT	Vertical center	-32 ~ +31	-19	+12
3. V-SIZE	Vertical height	-64 ~ +63	+12	0
4. H-CENT	Horizontal center	-16 ~ +15	-6	0
5. H-SIZE	Horizontal width	-64 ~ +63	+6	0
6. EW-PIN	Side pin correction	-64 ~ +63	-10	0
7. V-S. CR	Vertical height correction	-64 ~ +63	0	+2
8. V-EDGE	Vertical edge correction	-64 ~ +63	+3	+2
9. EW-COR	Side pin fore correction	-64 ~ +63	-1	-1
10. V-LINE	Vertical linearity	-16 ~ +15	0	+2
11. H-COMP	Horizontal compensation	0 ~ +15	+3	0

 : Do not adjust.

■ VSM PRESET ADJUSTMENT (Page 25)**[Setting Values for SUB MENU 5. VSM PRESET]**

VSM preset mode VSM Setting item	BRIGHT	STANDARD	SOFT
1. TINT SETTING VALUE	0	←	←
2. COLOUR SETTING VALUE	0	←	←
3. BRIGHT SETTING VALUE	0	←	←
4. CONT. SETTING VALUE	+15	0	-4
5. SHARP SETTING VALUE	0	←	-3

 : Do not adjust.

■ AUDIO ADJUSTMENT (Page 25)

[SUB MENU 3. AUDIO]

Setting item	Variable range	Initial setting value (fixed)
1. ERROR LIMIT	00H ~ FFH	100H
2. A2 ID THR	00H ~ FFH	14H
3. SOUND SYSTEM	—	—

: Do not adjust.

■ CENTER ADJUSTMENT (Page 25)

[SUB MENU 6. CENTER]

Setting item	Initial setting value (fixed)
TREBLE (Do not adjust.)	+2
BASS (Do not adjust.)	+3

: Do not adjust.



JVC

VICTOR COMPANY OF JAPAN, LIMITED

TELEVISION RECEIVER DIVISION 1106 Heta, Iwai-city, Ibaraki-prefecture, 306-0698, Japan

