

# JVC

# SERVICE MANUAL

## COLOUR TELEVISION

BASIC CHASSIS

CG

# AV-20NTG

This service manual mainly consists of the following items:

- The items which differ from those for the AV-20N4(BK) service manual.
- The initial value for each setting item.

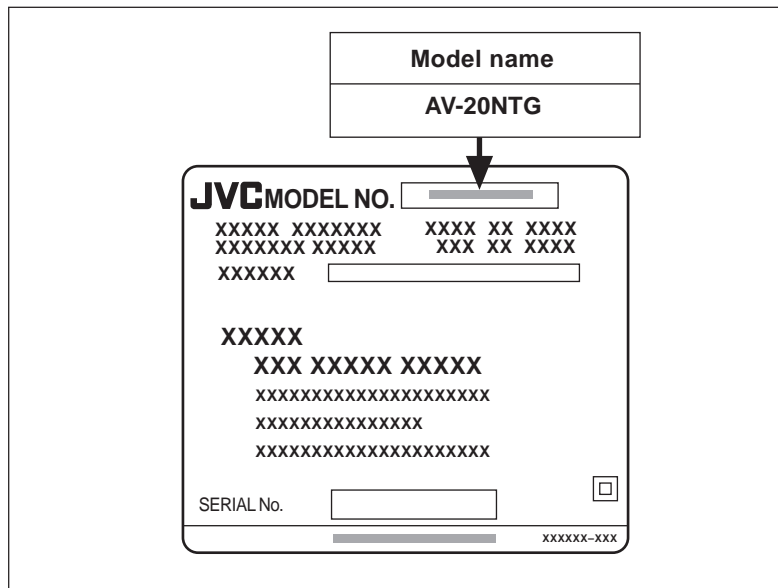
For details other than those described in this manual, please refer to the following service manual.

Reference Service Manual: AV-20N4(BK) Service Manual (No. 56028, Jul. 2000)

**Note:** The page in parentheses shows the one for the AV-20N4(BK) service manual (No. 56028, Jul. 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-20N4(BK) and AV-20NTG are described below:

▲	REF. NO.	AV-20N4(BK)	AV-20NTG	PART NAME	DESCRIPTION
		PART No.	PART No.		
<b>■ EXPLODED VIEW PARTS LIST (Page 28)</b>					
	1	LC10438-014A-H	<b>LC10438-019A-H</b>	FRONT CABINET	
	5	LC20318-003A-H	<b>LC20318-001A-H</b>	CONTROL KNOB	
	12	LC30663-003A-H	<b>LC30663-001A-H</b>	POWER KNOB	
▲	14	QMPR010-200-E2 or QMPR010-200-K2 	<b>QMP40D0-200J5</b> or <b>QMP40D0-200J3</b> 	POWER CORD	
▲	16	CM22960-072-H	<b>LC20377-001B-H</b>	RATING LABEL	
<b>■ PRINTED WIRING BOARD PARTS LIST (Page 30-)</b>					
	—	SCG-1236A-BK	<b>SCG-1234A-H2</b>	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
	R1771	NRSA02J-222X	—	CH MG R	2.2kΩ 1/10W J
		—	<b>NRSA02J-821X</b>	CH MG R	820Ω 1/10W J
	R1773	NRSA02J-122X	—	CH MG R	1.2kΩ 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
	C1977	QETN1CM-107Z	—	E CAP.	100μF 16V M
		—	<b>QETN1CM-477Z</b>	E CAP.	470μF 16V M
	D1705	SLR-342MG-T16	—	LED (GRE)	
		—	<b>L-132XND-T16</b>	LED (ORG)	
	D1901	D2SBA60	<b>G2SBA60</b>	BRIDGE DIODE	
	Q1161	2SC2412K/QR/-X	—	CHIP TRANSISTOR	
	Q1522	BU808DFI-030Y	<b>BU808DFI-154Y</b>	POWER TRANSISTOR	H.OUT
	Q1710	DTC124EKA-X	—	DIGI TRANSISTOR	
	IC1701	MN1873287JC	<b>MN1873287JB</b>	IC (MICROPROCESSOR)	
	IC1702	AT24C08-21F4BK	<b>AT24C08-21FM</b>	IC (MEMORY)	(Service)
	CF1161	SFE5.74MC2	—	C TRAP	
	CF1162	SFE5.74MC2	—	C TRAP	
	TU1001	QAU0186-001	<b>QAU0185-001</b>	TUNER	

△	REF. NO.	AV-20N4(BK)	AV-20NTG	PART NAME	DESCRIPTION
		PART No.	PART No.		
<b>■ PACKING PARTS LIST (Page 34)</b>					
	1	CP11434-061-H	<b>GG10056-029A-H</b>	PACKING CASE	
	4	CP30697-005-H	<b>CP30967-003-H</b>	POLY BAG	
	5	RM-C368-1H	<b>RM-C364-1H</b>	REMOCON UNIT	
	6	QPA02503505	<b>CP30966-001-H</b>	POLY BAG	
△	7	LCT0730-001A-H	<b>LCT0885-001A-H</b>	INST BOOK	
	8	ATEAB001-00A	———	MATCHING BOX	
△	—	———	<b>LCT0886-001A-H</b>	DIGEST MANUAL	

# SPECIFICATIONS (Page 2)

Item		Content
<b>Dimensions (W × H × D)</b>		619mm × 458mm × 488mm
<b>Mass</b>		19kg
<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>		95W (Max.) / 62W (Avg.)
<b>Picture Tube</b>		Visible size : 48cm measured diagonally
<b>High Voltage</b>		26.5kV ± 1.5kV (at zero beam current)
<b>Speaker</b>		5cm × 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. → TRIPLE → PAL <input type="checkbox"/>	TRIPLE
BILINGUAL	<input type="checkbox"/> ▶ YES → NO <input type="checkbox"/>	NO
TUNER	<input type="checkbox"/> ▶ MU → MA <input type="checkbox"/>	MU
ECO SENSOR	<input type="checkbox"/> ▶ YES → NO <input type="checkbox"/>	YES
LANGUAGE	<input type="checkbox"/> ▶ E/R/A/F → E/A/F → E/A → E/F <input type="checkbox"/>	E/R/A/F
B/B SOUND	<input type="checkbox"/> ▶ ON → OFF <input type="checkbox"/>	OFF
LOCK	YES ↔ 10 ↔ 20 ↔ ... ↔ 230 ↔ 250 ↔ 240 ←	180
COLOUR AUTO	<input type="checkbox"/> ▶ YES → NO <input type="checkbox"/>	NO
QSS	<input type="checkbox"/> ▶ MINT → MQSS <input type="checkbox"/>	MINT
ALC	<input type="checkbox"/> ▶ YES → NO <input type="checkbox"/>	NO
TEXT RATE	10 ↔ 20 ↔ 40 ↔ 80	20
AMP TUNER	<input type="checkbox"/> ▶ YES → 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 / -5
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 +10V (W & G).
SECAM COLOUR	Value (A) in the figure: Set to +8V (W & G).
NTSC 3.58 COLOUR	Value (A) in the figure: Set to +5V (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 +4V (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 VSM 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	←	+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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