

JVC

SERVICE MANUAL

COLOUR TELEVISION

BASIC CHASSIS

CG

AV-20NTG(B)

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.

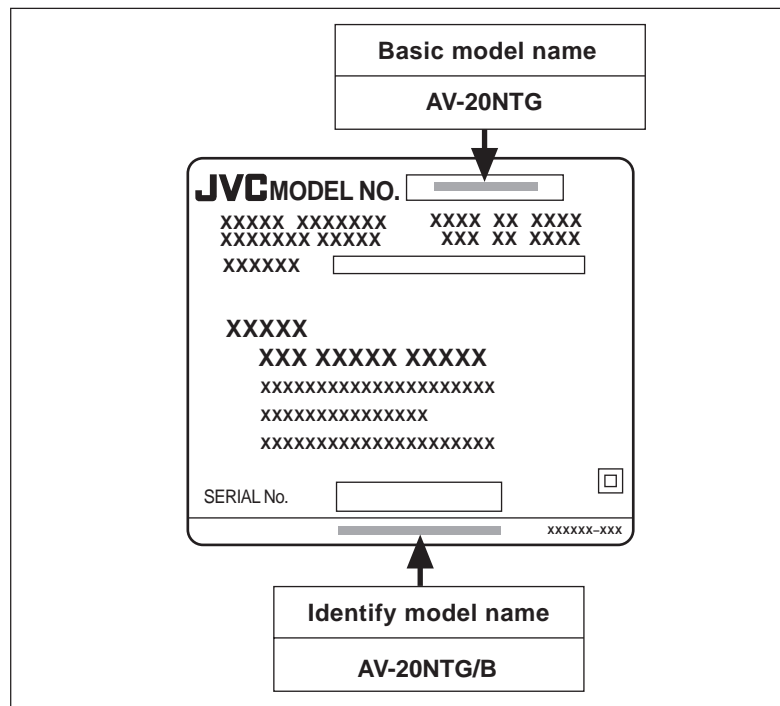
For details other than those described in this manual, please refer to the following service manual.

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).

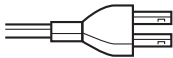

HOW TO IDENTIFY MODEL

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(B) are described below:

▲	REF. NO.	AV-20N4(BK)	AV-20NTG(B)	PART NAME	DESCRIPTION
		PART No.	PART No.		
■ EXPLODED VIEW PARTS LIST (Page 28)					
▲	V01	A48KXR064X	A48LRV020X	PITURE TUBE	
	DY01	QQD0034-001	QQD0053-001	DEF YOKE	
	1	LC10438-014A-H	LC10438-019A-H	FRONT CABINET	
	5	LC20318-003A-H	LC20318-001A-H	CONTROL KNOB	
	12	LC30663-003A-H	LC30663-001A-H	POWER KNOB	
▲	14	QMPR010-200-E2 or QMPR010-200-K2 	QMP40D0-200J5 or QMP40D0-200J3 	POWER CORD	
▲	16	CM22960-072-H	LC20377-001B-H	RATING LABEL	
■ PRINTED WIRING BOARD PARTS LIST (Page 30-)					
	—	SCG-1236A-BK	SCG-1021A-H2	MAIN PWB ASSY	
	R1114	NRSA02J-472X	—	CH MG R	4.7kΩ 1/10W J
	R1115	NRSA02J-222X	—	CH MG R	2.2kΩ 1/10W J
	R1117	NRSA02J-0R0X	—	CH MG R	0.0Ω 1/10W J
	R1118	NRSA02J-222X	—	CH MG R	2.2kΩ 1/10W J
	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
	R1369	—	QRE121J-394Y	C R	390kΩ 1/2W J
	R1432	QRE121J-2R7Y	—	C R	2.7Ω 1/2W J
		—	QRE121J-3R3Y	C R	3.3Ω 1/2W J
	R1433	QRE121J-2R7Y	—	C R	2.7Ω 1/2W J
		—	QRE121J-3R9Y	C R	3.9Ω 1/2W J
	R1771	NRSA02J-222X	—	CH MG R	2.2kΩ 1/10W J
		—	NRSA02J-821X	CH MG R	820Ω 1/10W J
	R1773	NRSA02J-122X	—	CH MG R	1.2kΩ 1/10W J
	R1975	—	QRE141J-332Y	C R	3.3kΩ 1/4W J
	C1109	NCB31HK-472X	—	CH C CAP.	4700pF 50V K
	C1161	NCB31HK-103X	—	CH C CAP.	0.01μF 50V K
	C1164	NCB31HK-103X	—	CH C CAP.	0.01μF 50V K
	C1165	NCB31HK-103X	—	CH C CAP.	0.01μF 50V K
	C1166	NCB21HK-104X	—	CH C CAP.	0.1μF 50V K

△	REF. NO.	AV-20N4(BK)	AV-20NTG(B)	PART NAME	DESCRIPTION
		PART No.	PART No.		
■ PRINTED WIRING BOARD PARTS LIST - Continued (Page 30-)					
	C1525	QFZ0200-962	———	MPP CAP.	9600pF 1.5kVH ±3%
		———	QFZ0196-982	MPP CAP.	9800pF 1.5kVH ±3%
	C1527	QFZ0199-274	———	MPP CAP.	0.27μF 250V J
		———	QFZ0197-154	MPP CAP.	0.15μF 250V J
	L1551	QQLZ018-500	QQLZ026-410	HEATER CHOKE	
	D1102	1SS85-T2	IM-BW	SI DIODE	
	D1705	SLR-342MG-T16	———	LED (GRE)	
		———	L-132XND-T16	LED (ORG)	
	Q1103	DTC124EKA-X	———	DIGI TRANSISTOR	
	Q1161	2SC2412K/QR/-X	———	CHIP TRANSISTOR	
	Q1710	DTC124EKA-X	———	DIGI TRANSISTOR	
	IC1701	MN1873287JC1	MN1873287JB1	IC (MICROCOMPUTER)	
	IC1702	BR24C08-20N4BK	BR24C08-20N16B	IC (MEMORY)	(Service)
	CF1161	SFE5.74MC2	———	C TRAP	
	CF1162	SFE5.74MC2	———	C TRAP	
	SF1102	QAX0594-001	QAX0666-001	SAW FILTER	
	TH1901	QAD0119-9R0	QAD0121-9R0	W POSISTOR	
	TU1001	QAU0186-001	QAU0192-001	TUNER	
■ PACKING PARTS LIST (Page 34)					
	1	CP11434-061-H	GG10056-029A-H	PACKING CASE	
	4	CP30697-005-H	CP30967-003-H	POLY BAG	
	5	RM-C368-1H	RM-C364-1H	REMOCON UNIT	
	6	QPA02503505	CP30966-001-H	POLY BAG	
△	7	LCT0730-001A-H	LCT0885-001A-H	INST BOOK	
	8	ATEAB001-00A	———	MATCHING BOX	
△	—	———	LCT0886-001A-H	DIGEST MANUAL	

SPECIFICATIONS (Page 2)

Item		Content
Dimensions (W × H × D)		619mm × 458mm × 488mm
Mass		19kg
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		95W (Max.) / 62W (Avg.)
Picture Tube		Visible size : 48cm measured diagonally
High Voltage		26.5kV ± 1.5kV (at zero beam current)
Speaker		5cm × 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/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
VNR	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>	YES
EW-PIN IC	<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 / -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 3. 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	+8
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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