JVC

SERVICE MANUAL

REAR PROJECTION TELEVISION

AV-48WP74/HA,
AV-56WP74/HA

BASIC CHASSIS
SB3

TABLE OF CONTENTS

SPECIFICATION

Items	Contents	
	AV-48WP74	AV-56WP74
Dimensions (W x H x D)	120.0cm x 124.4cm x 60.9cm (47 1/4" x 49" x 24")	136.8cm x 138.6cm x 66.7cm (53 7/8" x 54 5/8" x 26 3/8")
Mass	81kg (179 lbs)	95kg (209 lbs)
TV RF System Color System Sound System	CCIR (M) NTSC BTSC System (Multi Channel Sound)	
TV Receiving Channels and Frequency VL Band VH Band UHF Band	 (02~06) 54MHz~88MHz (07~13) 174MHz~216MHz (14~69) 470MHz~806MHz	
CATV Receiving Channels and Frequency Low Band High Band Mid Band Super Band Hyper Band Ultra Band Sub Mid Band	54MHz~804MHz (02~06, A-8) by (02~06 & 01) (07~13) by (07~13) (A~1) by (14~22) (J~W) by (23~36) (W+1~W+28) by (37~64) (W+29~W+84) by (65~125) (A8, A4~A1) by (01, 96~99)	
TV/CATV Total Channel	180 Channels	
Antenna Terminal (VHF/UHF)	75ohm unbalanced F-type connector	
Intermediate Frequency Video IF Carrier Sound IF Carrier	 45.75MHz 41.25MHz (4.5MHz)	
Color Sub Carrier	3.58MHz	
Power Input Power Consumption	120V AC, 60Hz 248W (Max)	
Screen	Transparent screen (unitized fresnel lens/double lenticular lens)	
Screen Size	48" (122cm) Measured diagonally, 16:9 ratio (W:106.3 cm x H:59.8 cm)	56" (142cm) Measured diagonally, 16:9 ratio (W:124 cm x H:69.8 cm)
Projection Tube High Voltage	17cm (6.7") tube x 3 (R/G/B) 31kV±1.0kV (at zero beam current)	
Speaker Audio Power Output	16cm round x 2 (Woofer), 5.5cm round x 2 (Tweeter) 10W+10W	
External Input Video Input Audio Input S-Video Component Input	 1V (p-p), 75ohm (RCA pin jack x 4) 500mV(rms) (-4dBs), high impedance (RCA pin jack x 8) Y: 1V (p-p) positive, 75ohm negative sync provided C: 0.286V(p-p) (burst signal) Mini-DIN 4pin connector x 2 Y: 1V (p-p), 75ohm (RCA pin jack x 2) Pb: ±0.35V(p-p), 75ohm (RCA pin jack x 2) Pr: ±0.35V(p-p), 75ohm (RCA pin jack x 2) 1080i DTV (digital broadcast) ready	
Digital Input Audio Input	DVI-D signal link 19pin connector (Digital-input terminal is not compatible with computer signal) 500mV(rms) (-4dBs), high impedance (RCA pin jack x 2)	
Subwoofer Output	More than 0 to 1000mV (rms) (+2.2dBs) (RCA pin jack x1)	
Audio Output (VARI/FIX)	VARI : More than 0 to 1000mV (rms) (+2.2dBs) FIX : 500mV(rms) (-4dBs), low impedance (1kHz when modulated 100%) (RCA pin jack x 2)	
Speaker Input	45W 16ohm (maximum input)	
AV Compulink III	Ø3.5mm mini jack	
Remote Control Unit	RM-C1200G (AA/R6/UM-3 battery x 2)	

Design & specifications are subject to change without notice.

SECTION 1
PRECAUTIONS

1.1 SAFETY PRECAUTIONS

(1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

(2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

(4) **Use isolation transformer when hot chassis.**
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.

(5) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⎓) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.

(6) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

(7) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).

(8) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

(9) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

(10) **Isolation Check**
(Safety for Electrical Shock Hazard) After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

a) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires test equipment not generally found in the service trade.
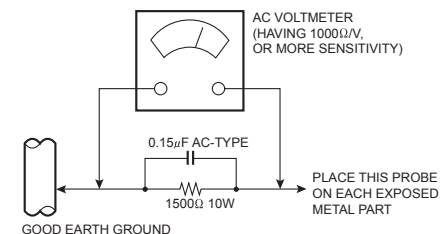
b) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.2mA AC (r.m.s).

• **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500ohm 10W resistor paralleled by a 0.15µF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
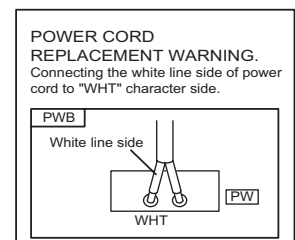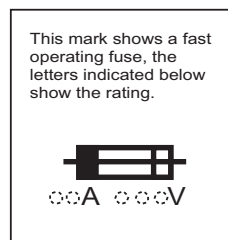However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).

AC VOLTMETER
(HAVING 1000Ω/V,
OR MORE SENSITIVITY)

0.15µF AC-TYPE

1500Ω 10W

GOOD EARTH GROUND

PLACE THIS PROBE
ON EACH EXPOSED
METAL PART

(11) **High voltage hold down circuit check.**
After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
See item **"How to check the high voltage hold down circuit"**.

This mark shows a fast operating fuse, the letters indicated below show the rating.

⚬⚬A ⚬⚬V

POWER CORD REPLACEMENT WARNING.
Connecting the white line side of power cord to "WHT" character side.

PWB
White line side

WHT

PW

1.2 INSTALLATION

1.2.1 INSTALLATION SITE

(1) The rear of this set is provided with ventilation openings. Install the set more than 5 cm from a wall and in a location with good ventilation.

(2) Avoid the following types of locations.

   a) Unstable locations (location must be able to withstand heavy weight).
   b) Locations subjected to direct sunlight.
   c) Near stoves or other heating devices.
   d) Locations subjected to humidity or oily smoke.
   e) Dusty locations.
   f) Locations with strong vibration.
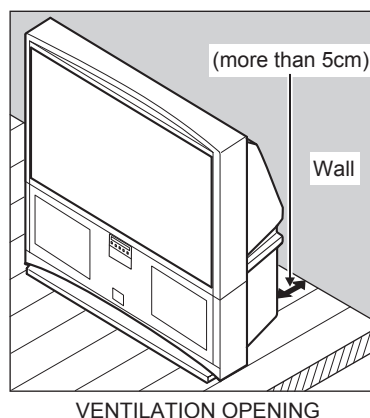
1.2.2 INSTALLATION ADJUSTMENT

When installing, moving or changing the orientation of the set, perform static convergence adjustment according to the following procedure.

Adjusting CRT color convergence have two method, AUTO, MANUAL and RESET. It adjust on the MENU screen.

NOTE :

Please have you TV on for at least 20 minutes before sing this feature.

This adjustment will be needed only when the colors of the characters/lines are separated and lack in distinction. If not, please don't perform the adjustment.

AUTO

(1) Press the [MENU] key, and select the "CONVERGENCE" in the INITIAL SETUP menu with the [function up/down] key.

(2) Press the [function left/right] key, then CONVERGENCE menu appear.

(3) Press the [function up/down] key, and select the "AUTO".

(4) Press the [function left/right] key.

(5) he convergence adjustment will start. It will take about 50 seconds.

MANUAL

(1) Press the [MENU] key, and select the "CONVERGENCE" in the INITIAL SETUP menu with [function up/down] key.

(2) Press the [function left/right] key, the CONVERGENCE menu appears.

(3) Press the [function up/down] key, and select the "MANUAL".

(4) Press the [function left/right] key, then CONVERGENCE adjustment screen appear. [Fig.1]
   • If all the crosses are white, no convergence adjustment is needed.

(5) Select the location you want to adjust by using the [number (2/4/5/6/8)] keys on the remote control unit. [Fig.2]

(6) Press the [SELECT] key to change the color of the box to the color of the cross you want to adjust (red or blue).
   • You cannot adjust the green cross.

(7) Use the [function up/down] key and the [function left/right] keys to adjust the position of the cross.

(8) Adjust the three colors crosses until they overlap and appear as a single white cross.

(9) Press the [OK] key.

VENTILATION OPENING

NOTE :

   • When you adjust the convergence, make sure you start with the center position (position 5), and work your way around radial for best results

   • When you make the adjustment in the center (positions 5), you are making the adjustment for the whale screen. In other positions, you are making the adjustment only in that area.

   • You can reset the adjustment if you do not like the results, See below.

   • If you perform AUTO CONVERGENCE after performing MANUAL CONVERGENCE, your manual convergence you performed will be cancelled.

(10) Press the [MENU] key to end the convergence adjustment procedure.

RESET

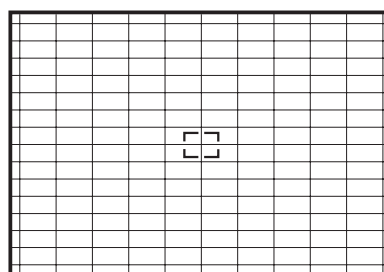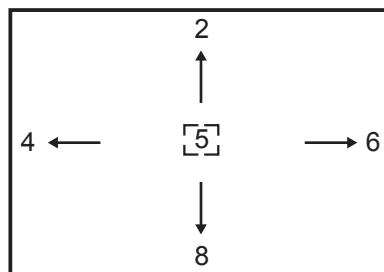RESET in the CONVERGENCE menu resets all convergence adjustments to the factory default setting.


Fig.1

Fig.2

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 FEATURES

• New chassis design enable use of an interactive on screen control.
• 2-3 PULL DOWN : You can enjoy DVD movies at the highest picture quality.
• MOTION COMPENSATION : With this function, the seamless reproduction of dynamic motion on the screen has been realized.
• Bullet-in DSD (Digital Supper Detail) circuit and 3 dimension Y/C separate circuit.
• Receive DTV broadcast (1080i / 720p / 480p / 480i)
• Built-in HDCP / Component (Y / Pb / Pr) input.
• Built-in Hyper Sound, BBE circuit.

2.2 FUNCTIONS

FRONT CONTROL KEY & TERMINAL
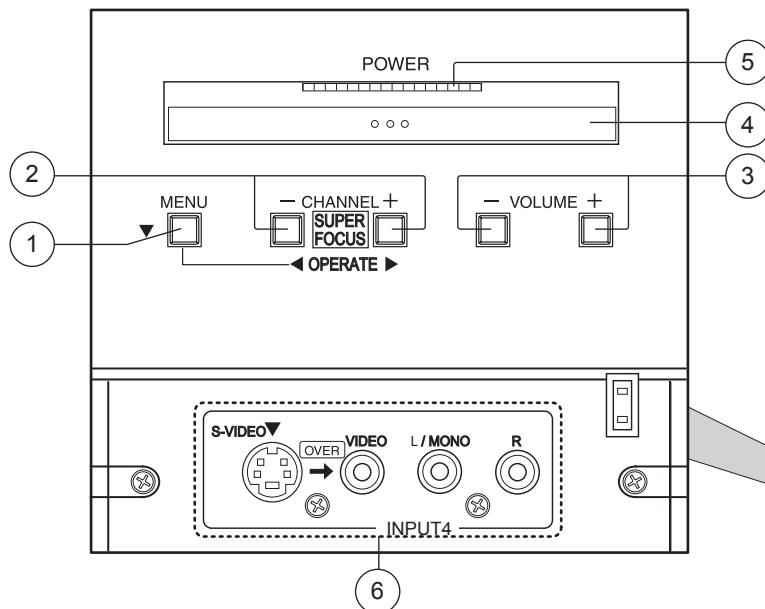
①	MENU Button (OPERATE ▼)
②	CHANNERL -/+ Button (OPERATE ◄/►)
③	VOLUME -/+ Button
④	MAIN POWER Button
⑤	POWER LED (Blue)
⑥	INPUT4 (AUDIO / VIDEO / S-VIDEO)

REAR TERMINAL
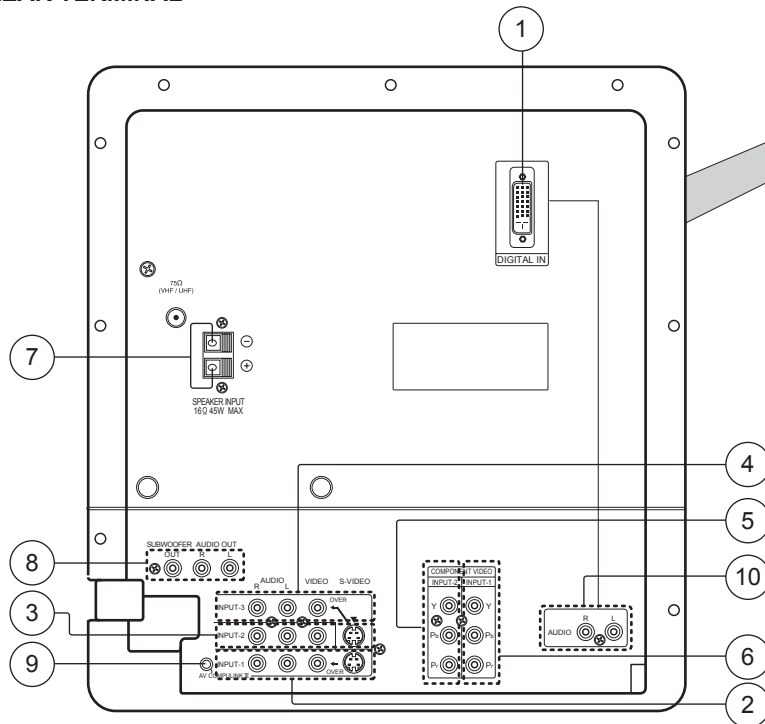
①	DIGITAL IN (DVI-D Signal Link 19pin)
②	INPUT 1 (AUDIO / VIDEO / S-VIDEO)
③	INPUT 2 (AUDIO / VIDEO / S-VIDEO)
④	INPUT 3 (AUDIO / VIDEO)
⑤	COMPONENT VIDEO INPUT 1 (Y / Pb / Pr)
⑥	COMPONENT VIDEO INPUT 2 (Y / Pb / Pr)
⑦	SPEAKER INPUT
⑧	SUBWOOFER / AUDIO OUT
⑨	AV COMPULINK Ⅲ
⑩	AUDIO INPUT (For DIGITAL IN)

REMOTE CONTROL UNIT [RM-C1200G]
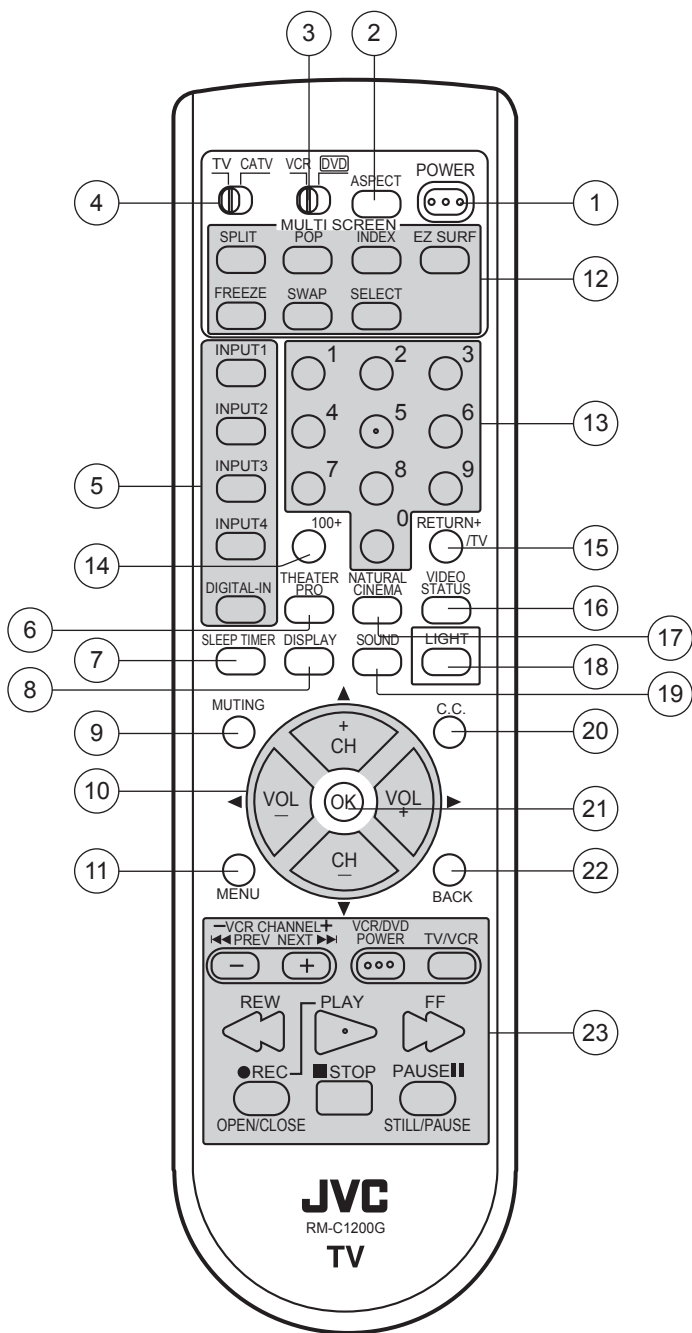
①	POWER Key
②	ASPECT Key
③	VCR / DVD Switch
④	TV / CATV Switch
⑤	Input select Keys
⑥	THEATER PRO Key
⑦	SLEEP TIMER Key
⑧	DISPLAY Key
⑨	MUTING Key (memory Key)
⑩	Function up / down / right / left Keys (CH + / CH - / VOL + / VOL - Keys)
⑪	MENU Key
⑫	MULTI SCREEN operation Keys
⑬	Number (1~0)Keys
⑭	100+ Key
⑮	RETURN+ / TV Key
⑯	VIDEO STATUS Key
⑰	NATURAL CINEMA Key
⑱	LIGHT Key
⑲	SOUND Key
⑳	C.C.(Closed Caption) Key
㉑	OK Key
㉒	BACK Key
㉓	VCR / DVD operation Keys

DIGITAL-IN TERMINAL FUNCTIONS

Pin No.	Pin name	Pin No.	Pin name
1	RX2-	13	RX3+
2	RX2+	14	5V
3	GND2/ 4	15	GND
4	RX4-	16	HTPLG
5	RX4+	17	RX0-
6	SCL	18	RX0+
7	SDA	19	GND0/5
8	NC	20	RX5-
9	RX1-	21	RX5+
10	RX1+	22	GNDC
11	GND1/3	23	TXC+
12	RX3-	24	TXC-

PIN ASSIGNMENT
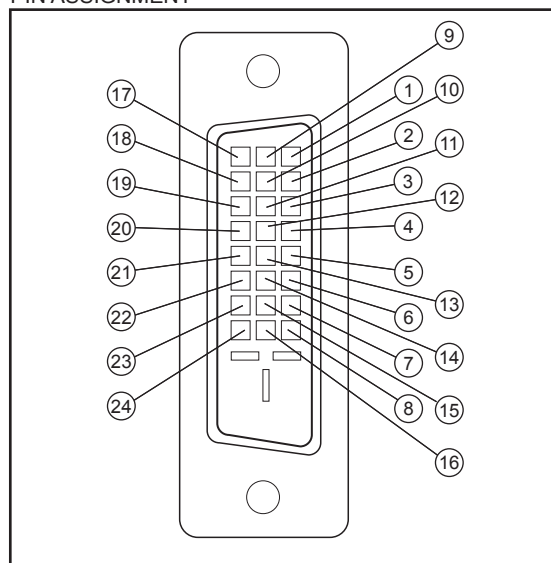
2.3 TECHNICAL INFORMATION

2.3.1   MAIN MICRO COMPUTER (CPU) FUNCTION (MN102H75K)

Pin No.	Pin name	I/O	Function
1	NC	-	--------
2	/MICON_V	I	V.sync for OSD
3	LB_PRO	I	Low B protection detection
4	NC	-	--------
5	/RST	I	Main cpu reset input
6	NC	-	--------
7	/TEST	I	+3.3V
8	OSD_YS	O	OSD Ys output
9	NC	-	--------
10	NC	-	--------
11	A_MU	O	Audio muting
12	/MICON_H	I	H sync input
13	M_MU	O	Monitor sound out muting
14	P46,OSDXI	-	Keep for OSD
15	P45,OSDXO	-	Keep for OSD
16	SDA2	I/O	I^2C bus (CLK) for MTS
17	AC_IN	I	AC (60Hz) input
18	SCL2	O	I^2C bus (DATA) for MTS
19	TU_POW	O	Tuner power control
20	VCOI	I	LPF input
21	PDO	O	LPF output
22	/IP_RESET	O	Reset
23	OSD_YM	O	OSD YM output
24	OSD_B	O	OSD blue output
25	POWER_LED	O	Lighting for POWER LED
26	OSD_G	O	OSD green output
27	OSD_R	O	OSD red output
28	VREF	I	--------
29	IP_ERR	I	AMDP program load detect.
30	IREF	I	--------
31	COMP	I	--------
32	AVDD	I	+3.3V
33	CLL	I	For sub CCD
34	VREFLS	I	STD VOL for sub CCD
35	SUB_CCD	I	For sub CCD
36	NC	-	--------
37	VSS	I	GND
38	MAIN_CCD	I	For main CCD
39	VREFHS	I	STD VOL for main CCD
40	CLH	I	For main CCD
41	VDD/VPP	O	+3.3V
42	CLK SW1	O	IP clock switch

Pin No.	Pin name	I/O	Function
43	CLK SW2	O	IP clock switch
44	ON_TIM	O	Lighting for ON TIMER
45	CONVER_RXD	O	Convergence control
46	CONVER TXD	I	Convergence control
47	SBT1	I	--------
48	NC	-	--------
49	NC	-	--------
50	NC	-	--------
51	NC	-	--------
52	EE_ABL	O	ACL control
53	CHROMA	O	Chroma / gamma control
54	DC_COTL	O	DC, control
55	NC	-	--------
56	NC	-	--------
57	TU2_AID	I	Main AFC input
58	/LOB_POW	O	Low B power control
59	COMPULINK	I	AV COMPULINK lll input
60	/POWERGOOD	I	Power condition check
61	MECA_ON	I	Machine SW interrupt
62	/MAIN_POW	O	Main power control
63	NC	-	--------
64	/B1 POW	O	B1 power control
65	C/N	I	AFC voltage input
66	X_RAY	I	X-ray protection detection
67	NC	-	--------
68	KEY2	I	Front key input 2
69	KEY1	I	Front key input 1
70	SCL1	O	I^2C bus (CLK) for EEP-ROM
71	SDA1	I/O	I^2C bus (SDA) for EEP-ROM
72	REMO	I	Remote control input
73	NC	-	--------
74	VSS	I	GND
75	OSC2	O	4MHz clock oscillation
76	OSC1	I	4MHz clock oscillation
77	VDD	I	+3.3V
78	SCL0	O	I^2C bus (CLK) for general
79	AP_CLK	-	--------
80	SDA0	I/O	I^2C bus (SDA) for general
81	NC	-	--------
82	NC	-	--------
83	NC	-	--------
84	P_MU	O	Picture muting

2.4 MAIN PARTS LOCATION

2.4.1 PWB ASS'Y ARRANGEMENT

The PWB ASS'Y is indicated below.

PWB ASS'Y NAME	AV-48WP74	AV-56WP74
MAIN PWB ASS'Y	SSB-1070A-M2	SSB-1069A-M2
RECEIVER PWB ASS'Y	SSB0R368A-M2	SSB0R368A-M2
MI-COM & DIST MODULE PWB ASS'Y	SSB0D070A-M2	SSB0D069A-M2
POWER & DEF PWB ASS'Y	SSB-2070A-M2	SSB-2069A-M2
DEF OSC PWB ASS'Y	SSB0H068A-M2	SSB0H068A-M2
LINE FILTER PWB ASS'Y	SSB-9068A-M2	SSB-9068A-M2
FRONT RELAY PWB ASS'Y	SSB0L268A-M2	SSB0L268A-M2
CONVERGENCE OUT PWB ASS'Y	SSB-5068A-M2	SSB-5068A-M2
DIGITAL CONVERGENCE MODULE PWB ASS'Y	SSB0K070A-M2	SSB0K069A-M2
DIGITAL INPUT MODULE PWB ASS'Y	--------	--------
REMOCON SENSOR PWB ASS'Y	SSB-8068A-M2	SSB-8068A-M2
R CRT SOCKET PWB ASS'Y	SSB-3168A-M2	SSB-3168A-M2
G CRT SOCKET PWB ASS'Y	SSB-3268A-M2	SSB-3268A-M2
B CRT SOCKET PWB ASS'Y	SSB-3368A-M2	SSB-3368A-M2
G VM PWB ASS'Y	SSB-7268A-M2	SSB-7268A-M2
FRONT CONTROL PWB ASS'Y	SSB0L068A-M2	SSB0L068A-M2
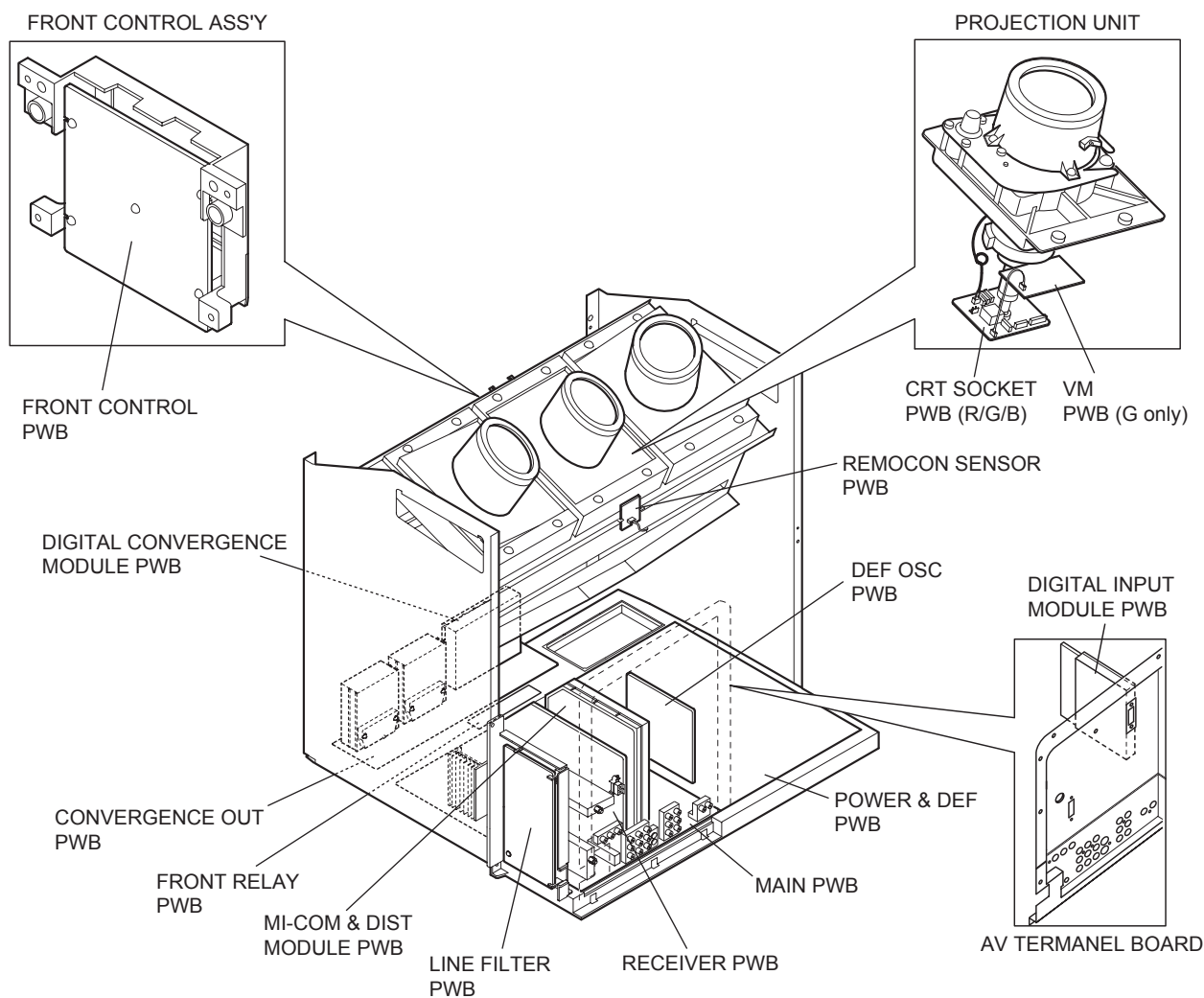
(This figure is only MAIN UNIT)

2.5 SCREEN HANDLING CAUTIONS

2.5.1 SCREEN STORAGE

Store the SCREEN ASS'Y in a standing position in order to avoid deformation. If the screen is stored horizontally, there is risk of deforming the screen face.
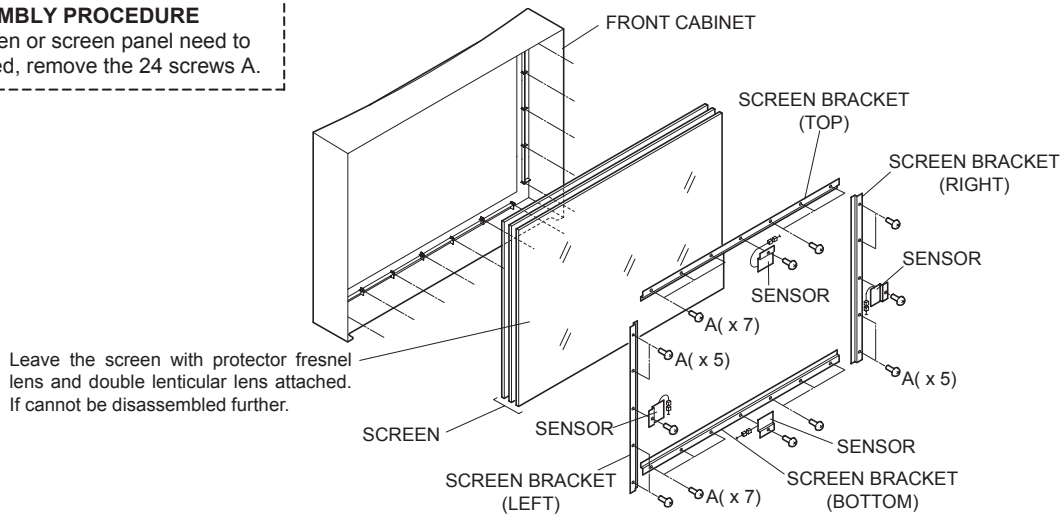
When necessary to place the SCREEN ASS'Y horizontally, position the screen side upwards and sure to place spacers between the screen and resting site (floor or stand etc.) to prevent the screen from sagging.

2.5.2 SCREEN SURFACE

Since the screen surface is easily scratched or soiled, use ample care when handling.

DISASSEMBLY PROCEDURE
If the screen or screen panel need to be replaced, remove the 24 screws A.

FRONT CABINET

SCREEN BRACKET (TOP)

SCREEN BRACKET (RIGHT)

SENSOR

SENSOR

A(x 7)

A(x 5)

A(x 5)

Leave the screen with protector fresnel lens and double lenticular lens attached. If cannot be disassembled further.

SCREEN

SENSOR

SENSOR

SCREEN BRACKET (LEFT)

A(x 7)

SCREEN BRACKET (BOTTOM)

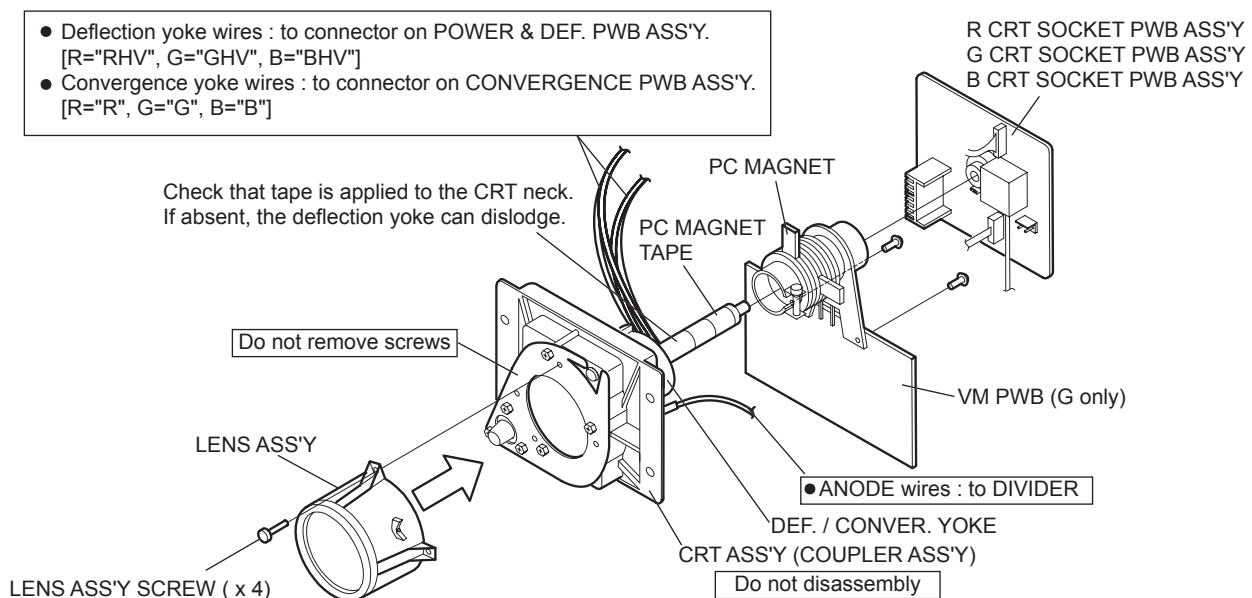## 2.6 PROJECTION UNIT REPLACEMENT

2.6.1 ADJUSTMENT DURING REPLACEMENT

When replacing the three R, G and B projection units, first replace the R and B units and perform focus / screen / raster centering adjustments with reference to the G unit. Then replace the G unit and perform G focus / screen / convergence adjustment. Finally perform R & B convergence adjustments. Use care to simultaneously removes all three-projection units.

2.6.2 DISASSEMBLY CAUTION

The projection units include locations that are not to be disassembled during service. When replacing projection unit parts, disassemble to the state indicated in the figure below.

The figure indicates screws and wires that are not to be removed. Use care not to remove these.

● Deflection yoke wires : to connector on POWER & DEF. PWB ASS'Y.
  [R="RHV", G="GHV", B="BHV"]
● Convergence yoke wires : to connector on CONVERGENCE PWB ASS'Y.
  [R="R", G="G", B="B"]

R CRT SOCKET PWB ASS'Y
G CRT SOCKET PWB ASS'Y
B CRT SOCKET PWB ASS'Y

PC MAGNET

Check that tape is applied to the CRT neck.
If absent, the deflection yoke can dislodge.

PC MAGNET TAPE

Do not remove screws

VM PWB (G only)

LENS ASS'Y

●ANODE wires : to DIVIDER

DEF. / CONVER. YOKE

LENS ASS'Y SCREW (x 4)

CRT ASS'Y (COUPLER ASS'Y)

Do not disassembly

2.7 DISASSEMBLY PROCEDURE

• Make sure that the power cord is pulled out from the AC outlet.

2.7.1 SPEAKER GRILLE
(1) Remove 4 screws **[A]** from rear side.
(2) Open the door of the FRONT CONTROL BOX and remove 2 screws **[B]** from front side.
(3) Take out the SPEAKER GRILLE.

2.7.2 SPEAKER (WOOFER)
• Take out the SPEAKER GRILLE
(1) Remove 4 screws **[C]**.
(2) Take out the WOOFER.
(3) Disconnect the speaker wire from speaker terminal.
*Remove the both side speaker same manner.

2.7.3 SPEAKER (TWEETER)
• Take out the SPEAKER GRILLE
(1) Remove 2 screws **[D]**.
(2) Take out the TWEETER.
(3) Disconnect the speaker wire from speaker terminal.
*Remove the both side speaker same manner.

2.7.4 FRONT BOARD
• Take out the SPEAKER GRILLE.
(1) Remove 4 screws **[E]**.
(2) Take out the FRONT BOARD.

2.7.5 FRONT CONTROL BOX
• Take out the SPEAKER GRILLE.
(1) Remove 4 screws **[F]** attaching the FRONT CONTROL BOX.
(2) Disconnect the connector **[BH]**, **[R]**, **[BG]** on the FRONT CONTROL PWB.
(3) Take out the FRONT CONTROL BOX.

2.7.6 FRONT CONTROL PWB
• Take out the SPEAKER GRILLE.
• Take out the FRONT CONTROL BOX.
(1) Remove 3 screws **[G]** from rear side of FRONT CONTROL BOX.
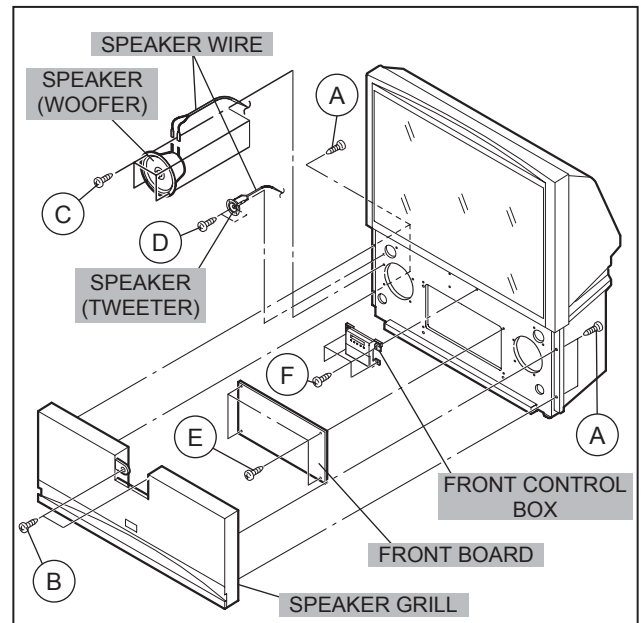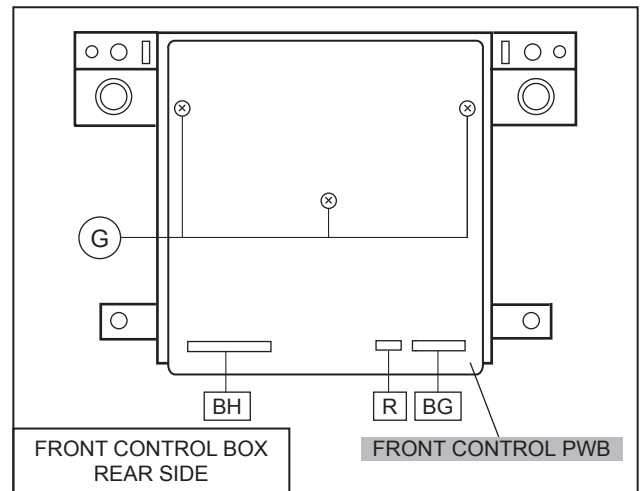(2) Take out the FRONT CONTROL PWB.

Fig.1

Fig.2

CAUTION AT DISASSEMBLY

48WP74CP-S : DIGITAL INPUT MODULE [AV-48WP74]
56WP74CP-S : DIGITAL INPUT MODULE [AV-56WP74]

AV JACK BOARD

POWER CORD

SB connector

● Prior to disassembly, unplug the power code from the AC outlet without fail. (Turn the power "off".)

● Short the SB connector [1] pin and [2] pin of the DIGITAL INPUT MODULE. (At the time of assembling)

● Before the rear panel is inserted into the cabinet, release the short-circuit between the SB connector [1] pin and [2] pin of the DIGITAL INPUT MODULE.

● After releasing the short-circuit between the SB connectors, do not turn the power on until the rear panel is inserted into the cabinet.

＊ Negligence in carrying out the above steps may cause the inactivation of the TV.

2.7.7 SCREEN ASS'Y

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
  - (1) Remove the 2 screws **[H]** under the SCREEN ASS'Y from front side.
  - (2) Remove 10 screws **[I]** from rear side.
  - (3) Take out the connector **[CN00Z]**.
  - (4) Take out the SCREEN ASS'Y.

  NOTE :
  - Please place the SCREEN ASS'Y on a flat table without fail.
  - Because of the large size, at least two parsons are recommended for removal and reassemble.
  - Use core not to scratch the screen during work.
  - During assembly, be sure to engage the left and right tabs with the cabinet mounting positions.
  - When supporting the SCREEN ASS'Y, grasp the both sides of the screen panel instead of the upper side of the screen panel.
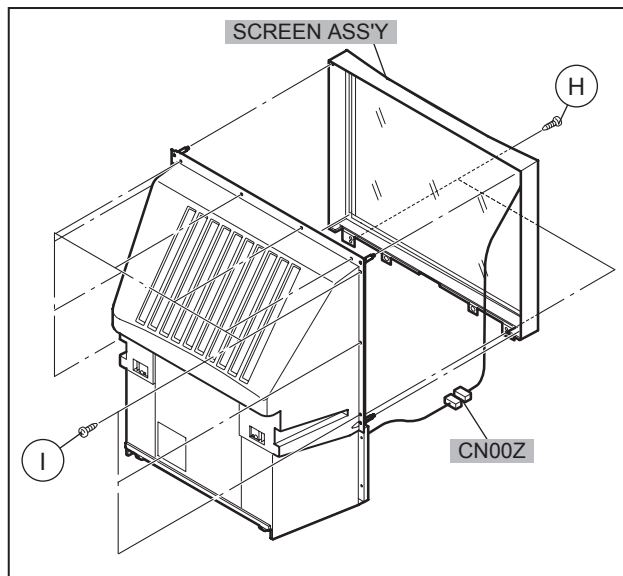
Fig.3

2.7.8 MIRROR

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the SCREEN ASS'Y.
  - (1) Remove 2 screws **[J]** attaching the mirror stopper.
  - (2) Raise slightly to disengage of the mirror from the hooks.
  - (3) Take out the MIRROR.

  NOTE :
  - The MIRROR is front-coated. Do not touch the front of the MIRROR.
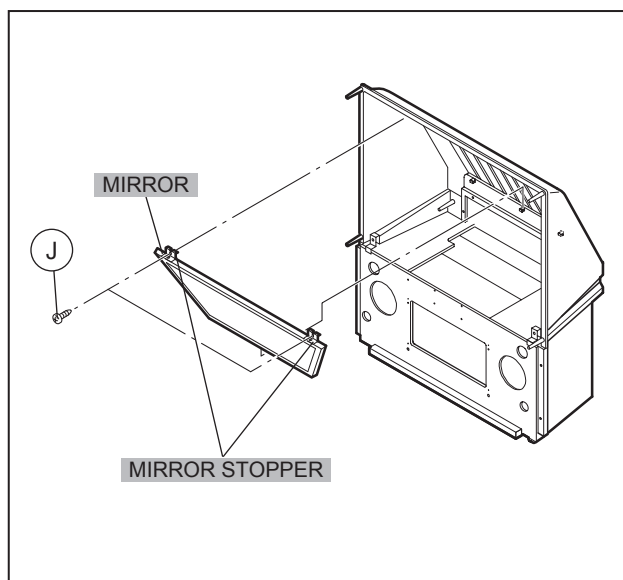 - At least 2 persons are recommended for removable and reassemble.

Fig.4

2.7.9 REAR PANEL

(1) Loosen 7 screws **[K]**.
(2) Remove 4 screws **[L]**.
(3) Raise slightly REAR PANEL upward.
(4) Take out the REAR PANEL.

NOTE :

- Before the rear panel is inserted into the cabinet, release the short-circuit between the [SB] connector (1) pin and (2) pin of the DIGITAL INPUT UNIT. (Refer to "CAUTION AT DISASSEMBLY" on Page 11).
- After releasing the short-circuit between the [SB] connectors, do not turn the power on until the rear panel is inserted into the cabinet.

⚠ **Prior to starting the work, be sure to read the following written instructions on the CAUTION LABEL attached to the REAR PANEL.**
UNPLUG THE POWER CORD FROM AC OUTLET BEFORE OPEN THE REAR COVER (PANEL).
When the rear cover (panel) is removed, follow "CAUTION AT DISASSEMBLY" procedure in the service manual before plugging the TV's power cord into an AC outlet.
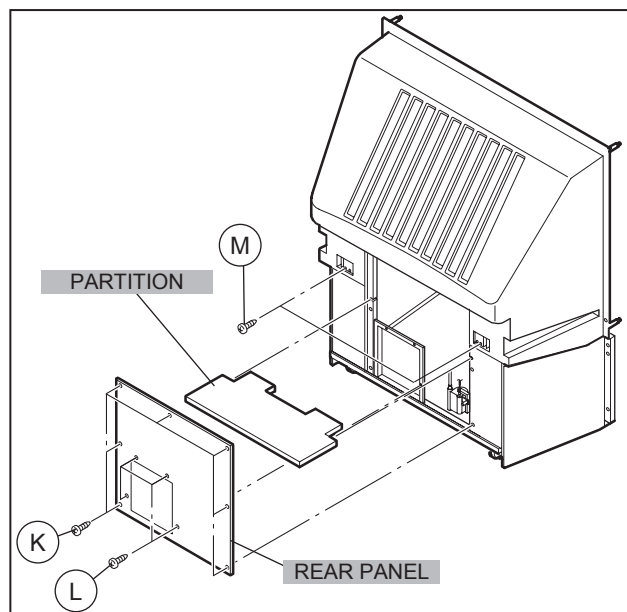Failure to follow the procedure will result in PERMANENT damage to some of the television features.

Fig.5

2.7.10 PARTITION

- Take out the REAR PANEL.
  (1) Pull out the PARTITION back ward.

2.7.11 REAR COVER

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the SCREEN ASS'Y.
  (1) Remove 2 screws **[M]**. (Fig.5)
  (2) Remove 2 screws **[N]** from front side.
  (3) Slightly pull for backside to disengage of the REAR COVER from hooks.
  (4) Take out the REAR COVER.
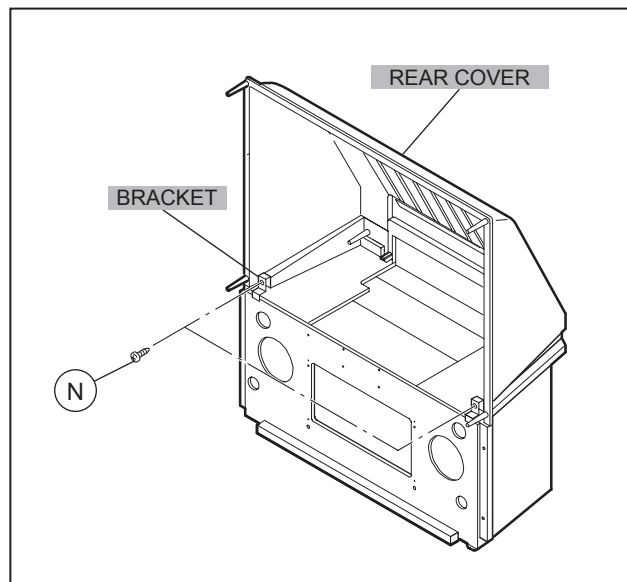   - Because of the large size, at least two persons are recommended for removal and reassemble.

Fig.6

2.7.12 MAIN UNIT

- Take out the SPEAKER GRILLE.
- Take out the connector [BH], [R], [BG] on the FRONT CONTROL PWB.
- Take out the REAR PANEL.
  (1) Remove 4 screws **[O]** from front side.
  (2) Remove 1 screw **[P]** and 3 screws **[Q]** attaching the MAIN CHASSIS and BODY.
  (3) Pull out the MAIN UNIT rear side.

  NOTE :
  - Except for confirmation of projection of images on the screen and audio output through the speakers, the removed MAIN UNIT is still workable in the same state as if it is still built in the TV set. Therefore, the MAIN UNIT can be removed, if necessary, for board diagnosis, electric testing, etc. apart from confirmation of screen images and audio output.
  - When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.
  - Because of the large size, at least two persons are recommended for removal and reassemble.
  - When carrying the MAIN UNIT, use care not to drop, shock or shake it.
  - Do not stain or damage the lens of the PROJECTION UNIT.
  - Do not look through the PROJECTION UNIT.

2.7.12.1 CHECKING THE P.W. BOARD

When checking the MAIN PWB, POWER & DEF PWB, etc., raise the MAIN UNIT with the HV DIVIDER side down for the sake of convenience. You can checking the POWER & DEF PWB and CONVERGENCE OUT PWB.

Fig.7

2.7.13 LINE FILTER PWB

- Take out the REAR PANEL.
- Take out the AV TERMINAL BOARD. (Refer to next page)
  (1) Disconnect the connector **[B]**, **[F]** on the LINE FILTER PWB.
  (2) Remove 3 screws **[R]** attaching the LINE FILTER BRACKET and earth wire.
  (3) Remove 3 screws **[S]** attaching LINE FILTER PWB.
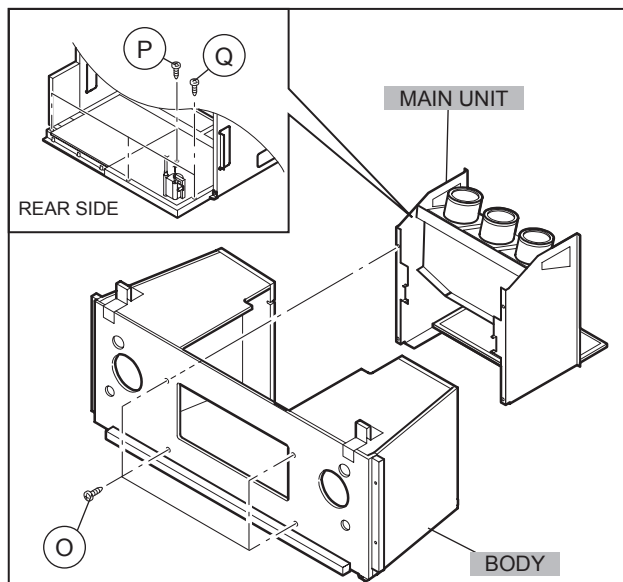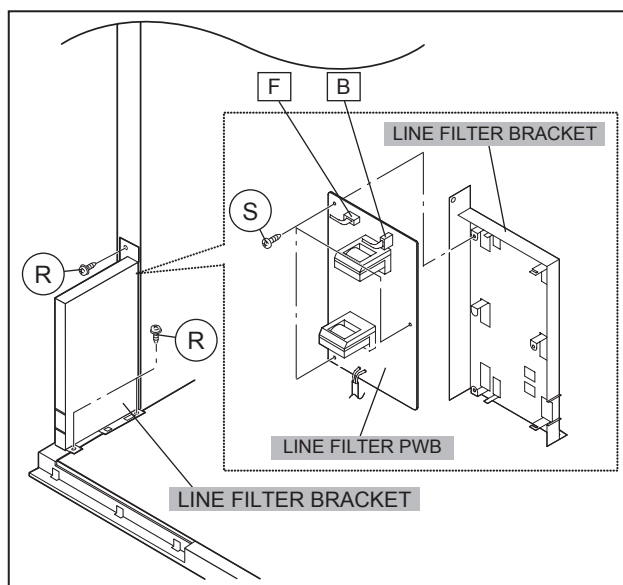 (4) Take out the LINE FILTER PWB.

Fig.8

2.7.14 AV TERMINAL BOARD

• Take out the REAR PANEL
  (1) Remove 9 screws **[T]**.
  (2) Remove 1 screws **[U]**.
  (3) Pull out the POWER CORD CLAMP from AV TERMINAL
      BOARD left side.
  (4) Remove the nut **[V]** attaching the ANTENNA TERMINAL.
  (5) Take out the AV TERMINAL BOARD.

2.7.15 DIGITAL INPUT MODULE

• Take out the REAR PANEL
  (1) Remove 2 screws **[W]** from rear side of the AV TERMINAL
      BOARD.
  (2) Take out the DIGITAL INPUT MODULE.

  NOTE :
    • When removing the DIGITAL INPUT MODULE, refer to
      the "CAUTION AT DISASSEMBLY" section on page 11.
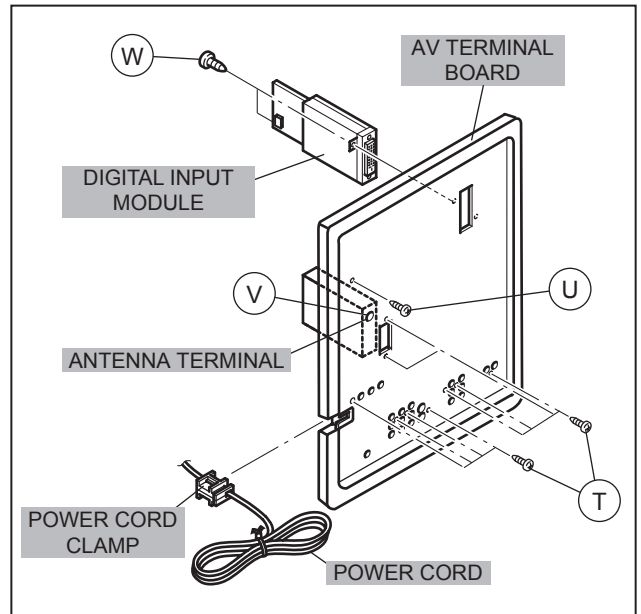
Fig.9

2.7.16 MAIN CHASSIS

• Take out the REAR PANEL.
• Take out the AV TERMINAL BOARD.
• Take out the LINE FILTER BRACKET.
  (1) Remove 2 screws **[X]** both side of the MAIN CHASSIS.
  (2) Remove 1 screws **[Y]** attaching the earth wire.
  (3) Remove 1 screw **[P]** attaching the MAIN CHASSIS and
      BODY.(Fig.7)
  (4) Pull out the MAIN CHASSIS for back side.

  NOTE :
    • If necessary, remove the anode wires, connectors,
      respectively.
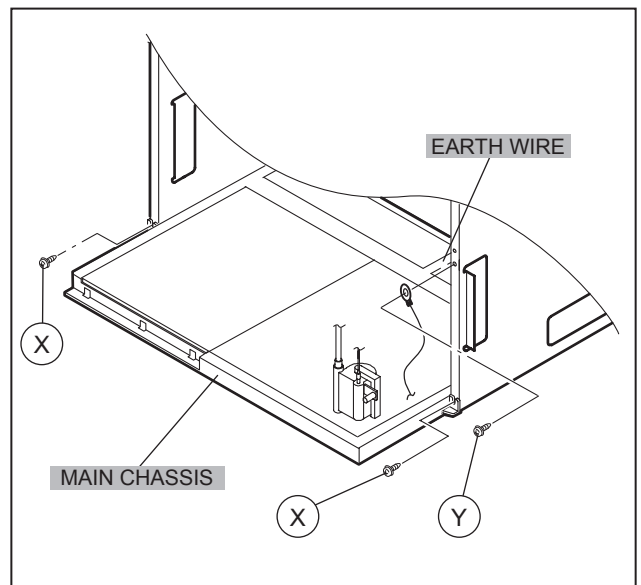
Fig.10

2.7.17 PROJECTION UNIT
• Take out the SPEAKER GRILLE
• Take out the FRONT CONTROL BOX
• Take out the REAR PANEL
• Take out the MAIN UNIT.
  (1) Take out the CRT SOCKET PWB.
  (2) Remove 4 screws **[Z]** attaching the PROJECTION UNIT.
  (3) Pull out the PROJECTION UNIT, upward.

  NOTE :
    • Refer to "PROJECTION UNIT REPLACEMENT" on page 10 when taking out and replacing the PROJECTION UNIT.
    • When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.

2.7.18 HV DIVIDER
• Take out the REAR PANEL
  (1) Remove 1 screws **[a]** attaching the HV DIVIDER.
  (2) Take out the HV DIVIDER.
    Wires of the transformer (FBT) and CRT of each PROJECTION UNIT can be removed by turning the connector portions.

  NOTE :
    • If necessary, remove the anode wires, and replacing the HV DIVIDER, take care to correctly engage the **[b]** connector.

2.7.19 REMOCON SENSOR PWB
• Take out the REAR PANEL
  (1) Remove 1 screws **[c]** attaching the REMOCON SENSOR PWB.
  (2) Take out the REMOCON SENSOR PWB.

Fig.11

2.8 REPLACEMENT OF CHIP COMPONENT

2.8.1 CAUTIONS
(1) Avoid heating for more than 3 seconds.
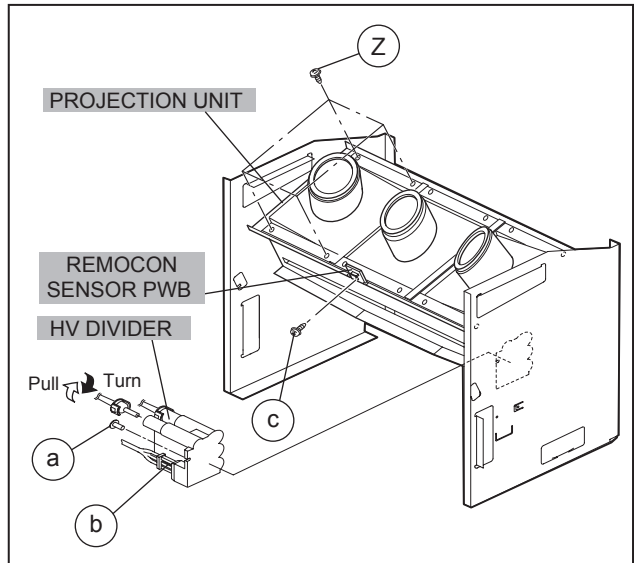(2) Do not rub the electrodes and the resist parts of the pattern.
(3) When removing a chip part, melt the solder adequately.
(4) Do not reuse a chip part after removing it.

2.8.2 SOLDERING IRON
(1) Use a high insulation soldering iron with a thin pointed end of it.
(2) A 30w soldering iron is recommended for easily removing parts.

2.8.3 REPLACEMENT STEPS

1. How to remove Chip parts
[Resistors, capacitors, etc.]

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.
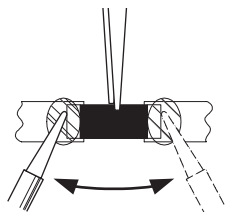
(2) Shift with the tweezers and remove the chip part.
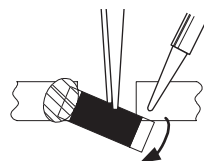
[Transistors, diodes, variable resistors, etc.]

(1) Apply extra solder to each lead.

SOLDER ◁   SOLDER

(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.
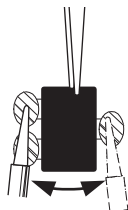
Note :
After removing the part, remove remaining solder from the pattern.

2. How to install Chip parts
[Resistors, capacitors, etc.]

(1) Apply solder to the pattern as indicated in the figure.
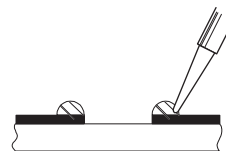
(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.
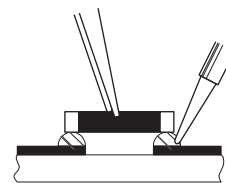
[Transistors, diodes, variable resistors, etc.]

(1) Apply solder to the pattern as indicated in the figure.
(2) Grasp the chip part with tweezers and place it on the solder.
(3) First solder lead **A** as indicated in the figure.

A
B
C
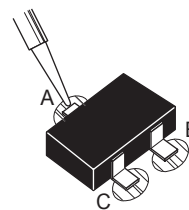
(4) Then solder leads **B** and **C**.

A
B
C
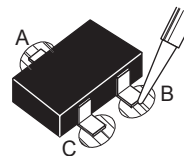
2.9 MEMORY IC REPLACEMENT

2.9.1 MEMORY IC

This memory IC stores data for proper operation of the video and deflection circuits.

When replacing, be sure to use an IC containing this (initial value) data.

SERVICE MENU

```
SERVICE MENU

 1.PICTURE/SOUND  7.CONVER BD
 2.YC SEP          8.PP
 3.WHITE BALANCE   9.IP
 4.MEMORY SETUP    0.GCR
 5.RF AFC
 6.CONVER A
```

Fig.1

2.9.2 MEMORY IC REPLACEMENT PROCEDURE

(1) Power off
Switch off the power and disconnect the power cord from the wall outlet.
(2) Replace the memory IC
Initial value must be entered into the new IC.
(3) Power on
Connect the power cord to the wall outlet and switch on the power.
(4) SERVICE MENU setting
   a) Press **[SLEEP TIMER]** key and, while the indication of **SLEEP TIMER 0 MIN** is being displayed, press **[DISPLAY]** key and **[VIDEO STATUS]** key on the remote control unit (Fig.2) simultaneously.
   b) The SERVICE MENU screen of Fig.1 is displayed.
   c) Verify what to set in the SERVICE MENU, and set whatever is necessary (Fig.1).
      Refer to the SERVICE ADJUSTMENT for setting.
   d) Press the [BACK] key twice to return normal screen.
(5) Receive channel setting
Refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the receive channels (Channels Preset) as described.
(6) User settings
Check the user setting items according to after page.
Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.

SERVICE MENU SELECT KEY
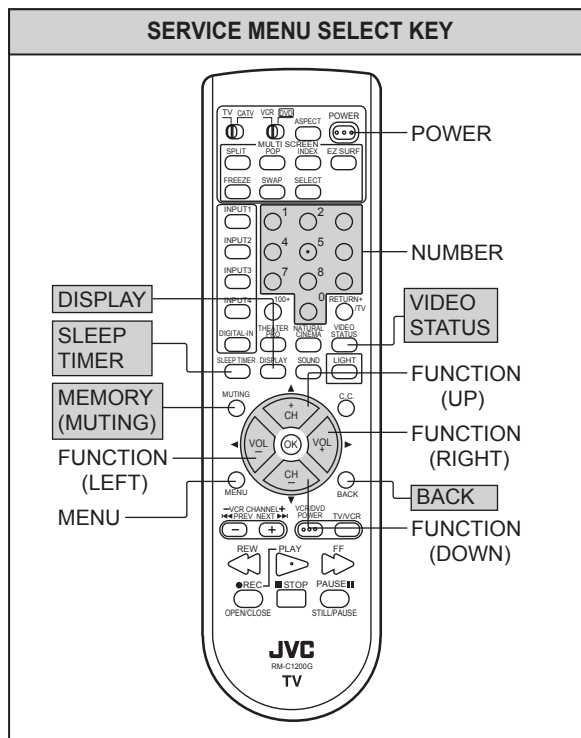
Fig.2

2.9.3 SERVICE ADJUSTMENT ITEM

| Setting item	Item No.	Remark	Setting item	Item No.	Remark
1.PICTURE / SOUND			7.CONVER B		
AUDIO	A01~A27		Convergence adjustment	------	
VIDEO	S01~S99		8.PP		
DEFLECTION	D01~D32		Multi-picture adjustment and setting	ADM001~ADM034	Do not adjust
FACTORY setting	F01~F70			PPA001~PPA008	Do not adjust
2.YC SEP				PPB001~PPB036	Do not adjust
YC separation setting	YCM001~YCM185	Do not adjust		PPC001~PPC008	Do not adjust
	YCS001~YCS114	Do not adjust		PPD001~PPD025	Do not adjust
3.WHITE BALANCE			9.IP		
LOW LIGHT / HIGH LIGHT adjustment	BR, DRV R, DRV B, CWT R, CWT G, CWT B		DIST process setting	IPA001~IPA120	Do not adjust
4.MEMORY SETUP	------	Do not adjust		IPB001~IPB079	Do not adjust
5.RF AFC				IPC001~IPC044	Do not adjust
Tuner AFC setting	TUNER, AFC,FINE	Do not adjust		IPD001~IPD026	Do not adjust
6.CONER A				IPE001~IPE015	Do not adjust
Convergence adjustment	CPA01~CPA08		0.GCR		
	CCA01~CCA09		Ghost reduction setting		Not use
	CBA01~CBA80	Do not adjust			

2.9.4 SHIPPING FACTORY SETTING

VIDEO STATUS MEMORY (NTSC / 480p)

Item	Setting value					
	TINT	COLOR	PICTURE	BRIGHT	DETAIL	COLOR TEMPERATURE
STANDARD	0	0	0	0	0	LOW
THEATER	0	0	0	0	0	HIGH
DYNAMIC	0	0	10	0	5	HIGH
GAME	0	0	-10	0	0	HIGH

(HD)

Item	Setting value					
	TINT	COLOR	PICTURE	BRIGHT	DETAIL	COLOR TEMPERATURE
STANDARD	0	0	0	0	0	LOW
THEATER	0	0	0	0	0	HIGH
DYNAMIC	0	0	5	0	0	LOW
GAME	0	0	-10	0	0	HIGH

CHANNEL SETTING (CHANNEL SUMMARY)

Band	CH display		Band	CH display	
VHF LOW	2		SUPER	K	24
	4			O	28
	5			R	31
	6			S	32
VHF HIGH	7			W	36
	9		SUBMID	A-4	96
	11			A-3	97
	13			A-2	98
UHF	14		HYPER	W+11	47
	36			W+12	48
	63			W+17	53
	69			W+23	59
MID	A	14			
	B	15			
	C	16			
	D	17			
	E	18			
	H	21			

AV-48WP74
AV-56WP74

SHIPPING FACTORY SETTING (USER SETTING)

Setting item	Setting value	Setting item	Setting value
POWER CHANNEL VOLUME INPUT	OFF CABLE-02 10 TV	TINT / COLOR / PICTURE/ BRIGHT / DETAIL	Refer to setting of Video status memory at shipping factory setting
		COLOR TEMPERATURE DIG. NOISE CLEAR	HIGH OFF
DISPLAY NATURAL CINEMA SLEEP TIMER ASPECT VIDEO STATUS	OFF AUTO 0 REGULAR DYNAMIC	BASS / TREBLE / BALANCE MTS	Center STEREO

SOUND
    A.H.S
    BBE
 	
HYPER SURROUND
	
	OFF
	ON
	
	OFF
		SET CLOCK
		ON / OFF TIMER
		LANGUAGE
		NOISE MUTING
		CLOSED CAPTION
		FRONT PANEL LOCK
			Unnecessary to set
			NO
			ENG
			ON
			OFF (CC1 / T1)
			OFF

SPLIT SOURCE POP SOURCE	left side : CA 02 right side : CA 04 left side : CA 02 right upper : CA 04 right center : CA 05 right bottom : CA 07	AUTO SHUT OFF AUTO TUNER SET UP DIGITAL-IN (at 480p signal input) CHANNEL SUMMARY V-CHIP SET LOCK CODE AUTO DEMO	OFF Unnecessary to set SIZE 1 Refer to Last memory (CH. summary) OFF Unnecessary to set OFF
VERTICAL POSITION CENTER CH INPUT XDS ID CONVERGENCE POWER INDICATOR	Center OFF ON Optimum condition HIGH		

SECTION 3
ADJUSTMENTS

3.1 ADJUSTMENT PREPARATION

(1) You can make the necessary adjustments for this unit with either the Remote Control Unit or with the adjustment tools and parts as given below.

(2) Adjustment with the Remote Control Unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.

(3) Make sure that AC power is turned on correctly.

(4) Turn on the power for set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.

(5) Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.

(6) Never touch any adjustment setting value which are not specified in the list for this adjustment.

(7) Presetting before adjustment
Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit:

3.2 ADJUSTMENT EQUIPMENT

(1) DC voltmeter (or digital voltmeter)
(2) Oscilloscope
(3) Signal generator (Pattern generator)
[NTSC / 480i / 480p / 720p / 1080i / HDCP]
(4) TV audio multiplex signal generator
(5) Remote control unit

• **SETTING POSITION**

Setting item	Setting position	Setting item	Setting position
VIDEO STATUS	STANDARD	ASPECT	FULL
BASS / TREBLE / BALANCE	Center	VERTICAL POSITION	Center
HYPER SURROUND	OFF	BBE	ON
TINT / COLOR / PICTURE / BRIGHT / DETAIL	Center	ON/OFF TIMER	NO
COLOR TEMPERATURE	HIGH	AUTO SHUTOFF	OFF
DIGITAL NOISE CLEAR	OFF		

3.3 ADJUSTMENT FLOWCHART

WHEN REPLACING SCREEN AND PROJECTION UNIT

• Contains only the main adjustments. Also confirm other adjustments as required.

3.4 ADJUSTMENT LOCATION (1/2)

CONVERGENCE OUT PWB

IC805   IC804

DIGITAL CONVERGENCE
MODULE PWB

FRONT   TOP

B   G   R

Y   P

MI-COM & DIST PWB

R/G/B CRT SOCKET PWB

FRONT CONTROL PWB

POWER SW   LED   POWER SW

MENU   CH -   CH +   VOL -   VOL +

INPUT 3

BG   R   BH

REMOCON SENSOR PWB

FRONT RELAY PWB

FRONT

BG   BH
G   H

MAIN PWB

F

M

RECEIVER
PWB

CONVERGENCE
OUT PWB

FRONT

LINE FILTER
PWB

B
F

MI-COM&DIST
MODULE PWB

CN00Y

G CRT
SOCKET
PWB

CN00E

SUB TUNER
(TU101)

M

MAIN TUNER

POWER CORD

SPEAKER

S

DIGITAL INPUT
MODULE PWB

DC

S3

POWER&DEF
PWB

B

CN001

P

CN002

J

G VM PWB

CN003

CN010

DEF OSC PWB

DIGITAL INPUT
MODULE PWB

SY   Q

AUDIO / VIDEO
S-VIDEO

COMPONENT
VIDEO-V

AUDIO

3.5 ADJUSTMENT LOCATION (2/2)

3.6 BASIC OPERATION OF SERVICE MENU

SERVICE MENU

```
SERVICE MENU

1.PICTURE/SOUND   7.CONVER B
2.YC SEP          8.PP
3.WHITE BALANCE   9.IP
4.MEMORY SETUP    0.GCR
5.RF AFC
6.CONVER A
```

4.MEMORY SETUP   DO NOT ADJUST

```
ADDRESS(H) 0000

 0   1   2   3   4   5   6   7
AA  55  00  00  FF  00  00  00
 0   1   2   3   4   5   6   7
AA  55  00  00  FF  00  00  00
```

1.PICTURE/SOUND

NTSC CINE ST L FL MUTE

Function
(Right / Left) key

Function
(Up / Down) key

A01 ********* 001

5.RF AFC   DO NOT ADJUST

```
TUNER    **
AFC      **
FINE     ***
```

A01~A27

A01 ********* ***

6.CONVER A

CPA01 OSDH ***

CPA01~08
CCA01~09
CBA01~80

S01~S99

S01 ********* ***

D01~D32

D01 ********* ***

F01~F70

F01 ********* ***

7.CONVER B

DO NOT ADJUST   **2.YC SEP**

NTSC CINE ST L FL MUTE

YCM001~185
YCS001~114

YC01 ***

8.PP

PPA001 ***

ADM001~034
PPA001~008
PPB001~036
PPC001~008
PPD001~025

3. WHITE BALANCE

```
BR   ***


DRV   R069   B054
CUT   R078   G079   B079
```

9.IP   DO NOT ADJUST

NTSC CINE ST L FL MUTE

IPA001 ***

IPA001~120
IPB001~079
IPC001~044
IPD001~026
IPE001~015

3.6.1 TOOL OF SERVICE MENU OPERATION
Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

3.6.2 SERVICE MENU ITEMS
In general, basic setting (adjustments) items or verifications are performed in the SERVICE MENU.
1.PICTURE / SOUND .... This sets the setting values of the VIDEO,AUDIO and DEFLECTION circuits.
2.YC SEP .... This is used when the YC separation circuit is adjusted. [Do not adjust]
3.WHITE BALANCE ...... This sets the setting values of the WHITE BALANCE.
4.MEMORY SETUP .... This sets the setting values of the MEMORY ADDRESS. [Do not adjust]
5.RF AFC .... This is used when the IF VCO is adjusted. [Do not adjust]
6.CONVER A .... This is used when the CONVERGENCE is adjusted.
7.CONVER B .... This is used when the CONVERGENCE is adjusted.
8.PP .... This sets the setting value of the output of MULTI-PICTURE circuit.
9.IP .... This sets the setting value of the DIST circuit. [Do not adjust]
0.GCR .... This model do not built-in.

3.6.3 BASIC OPERATIONS OF THE SERVICE MENU
**(1) How to enter the SERVICE MENU.**
　　Press [SLEEP TIMER] key and, while the indication of "SLEEP TIMER 0 MIN." is being displayed, press [DISPLAY] key and [VIDEO STATUS] key on the remote control unit simultaneously to enter the SERVICE MENU screen as shown in the fig.1.
(2) Releasing SERVICE MENU
　　After returning to the SERVICE MENU upon completion of the setting work, press the BACK key again.

3.6.4 DESCRIPTION OF STATUS DISPLAY
The status display on the upper part of the SERVICE MENU screen is common (to all models).
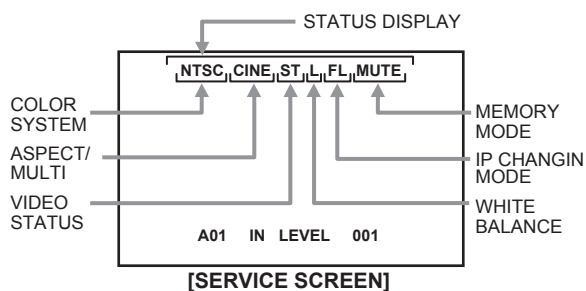
(1) COLOR SYSTEM

NTSC	: 480i (COMPOSITE/S input)
DVD	: 480i (COMPONENT)
ED	: 480p
HD	: 1080i
720	: 720p
HED1	: HDCP 480p SIZE1
HED2	: HDCP 480p SIZE2
HHD	: HDCP 1080i
H750	: HDCP 720p

(2) ASPECT / MULTI
ONE SCREEN

FULL	: FULL
PANO	: PANORAMA
CINE	: CINEMA
REGU	: REGULAR

MULTI SCREEN

M1	: One screen (for adjustment)
M2-1	: SPLIT (4 : 3)
M2-2	: SPLIT (16 : 9)
M4	: POP
M12	: INDEX

(3) VIDEO STATUS

ST	: STANDARD
DA	: DYNAMIC
TH	: THEATER
GA	: GAME

[SERVICE SCREEN]

(4) WHITE BALANCE

H	: HIGH
L	: LOW

(5) IP CHANGING MODE

FL	: FRAME
L1	: LINE
23	: COMPULSORY NATURAL CINEMA IN

(6) MEMORY MODE

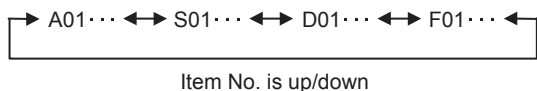|	
MUTE	: Press [MUTING] key
DIR	: Change data then memory at the same time.

3.6.5 SERVICE MENU SETTING

1. PICTURE/SOUND
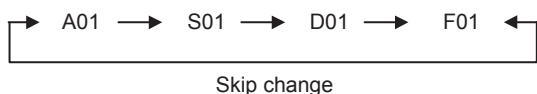
AUDIO, VIDEO, DEFLECTION data adjustment.

1.SETTING ITEM No.

A : AUDIO
S : SIGNAL
D : DEFLECTION
F : FACTORY SETTING

• Press [CH+] / [CH-] key

A01··· ⟷ S01··· ⟷ D01··· ⟷ F01···

Item No. is up/down

• Press [SLEEP TIMER] key

A01 ⟶ S01 ⟶ D01 ⟶ F01

Skip change
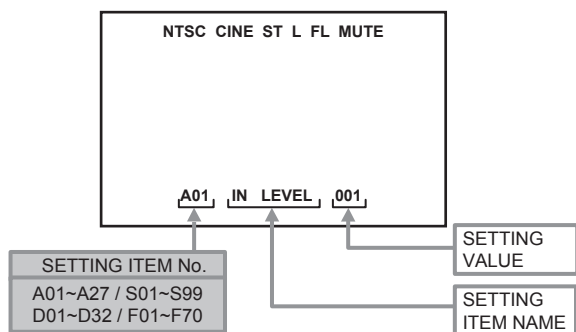
2.SETTING ITEM NAME
   Describe setting item name

3.SETTING VALUE
   Set the setting value.
   • Press [VOL+] / [VOL-] key
   Set the setting value.
   • Press [MUTING] key
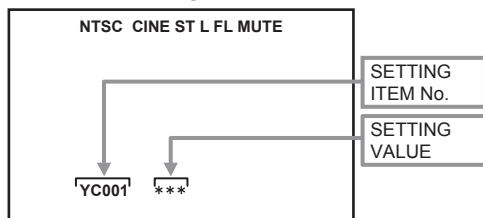   Memorize the data.

1.PICTURE/SOUND

NTSC CINE ST L FL MUTE

A01   IN LEVEL   001

SETTING ITEM No.
A01~A27 / S01~S99
D01~D32 / F01~F70

SETTING VALUE

SETTING ITEM NAME

2. YC SEP

YC separation circuit setting
[Do not adjust]

2.YC SEP

NTSC CINE ST L FL MUTE

SETTING ITEM No.

SETTING VALUE

YC001   ***

3. WHITE BALANCE

Adjustment of LOW LIGHT / HIGH LIGHT

1.SELECT ITEM
   • Press [CH+] / [CH-] key

2.SETTING VALUE

BRIGHT
   • Press [VOL+] / [VOL-] key

DRIVE
[4] key : DRIVE R is up
[7] key : DRIVE R is down
[6] key : DRIVE B is up
[9] key : DRIVE B is down

CUTOFF
[4] key : CUTOFF R is up
[7] key : CUTOFF R is down
[5] key : CUTOFF G is up
[8] key : CUTOFF G is down
[6] key : CUTOFF B is up
[9] key : CUTOFF B is down

3. WHITE BALANCE

BR ***

		R.DRIVE VALUE
		B.DRIVE VALUE

DRV   R069 B054
CUT   R078 G079 B079

B.CUT OFF VALUE
G.CUT OFF VALUE
R.CUT OFF VALUE
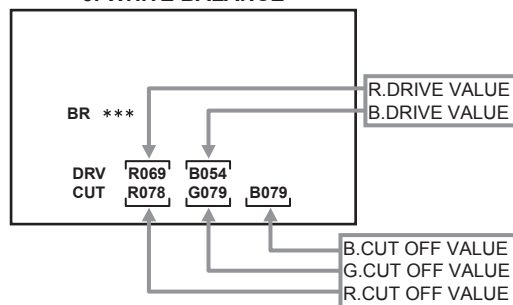
4. MEMORY SETUP
   [Do not adjust]

4.MEMORY SETUP

ADDRESS(H) 0000

0	1	2	3	4	5	6	7
AA	55	00	00	FF	00	00	00
0	1	2	3	4	5	6	7
AA	55	00	00	FF	00	00	00

5. RF AFC
  [Do not adjust]

5.RF AFC

TUNER   2
AFC   ON
FINE   ***

(NOTE)
TUNER 1(MAIN) / 2(SUB)
AFC   Select ON / OFF
FINE   FineTuning(-77~+77)
       AFC ON:Auto Setting
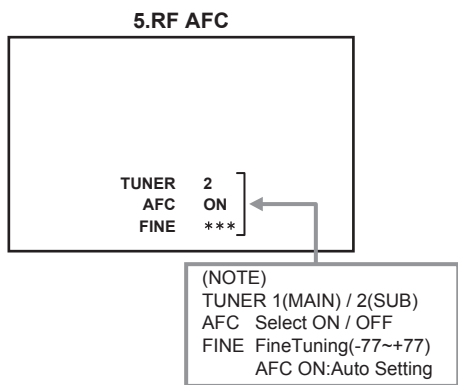
6. CONVER A
  Setting the CONVERGENCE PHASE adjustment
  • Setting for 6.CONVER A is described in the CONVER-GENCE adjustment page.

6.CONVER A

SETTING ITEM No.
CPA01~08
CCA01~09
CBA01~80

SETTING ITEM NAME

SETTING VALUE

CPA01 OSDH ***
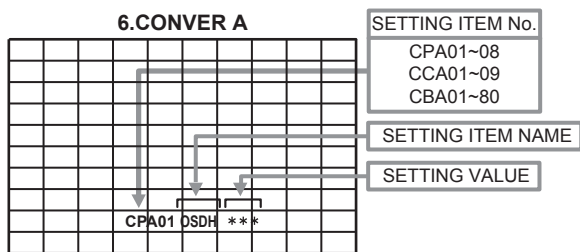
7. CONVER B
  Setting the CONVERGENCE POINT (fine)
  • Setting for 7.CONVER B is described in the CONVER-GENCE adjustment page.

7.CONVER B
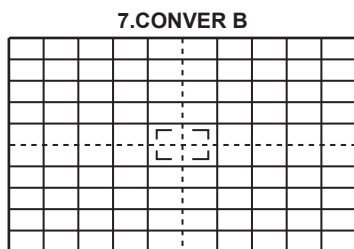
8. PP
  MULTI-PICTURE circuit data setting
  • Do not adjust (except ADM012~ADM014 : Refer to VIDEO ADJUSTMENT page)

8.PP

SETTING ITEM No.
PPA001~PPA008
PPB001~PPB036
PPC001~PPC008
PPD001~PPD025
ADM001~ADM034

SETTING VALUE

PPA001 ***
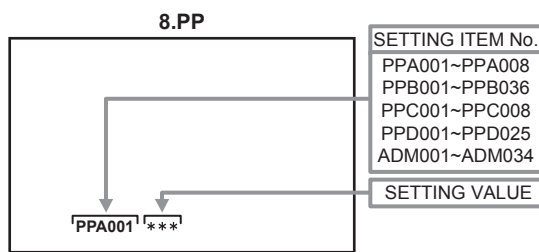
9. IP
  DIST circuit data setting
  [Do not adjust]

9.IP

NTSC   PIP   *****

SETTING ITEM No.
IPA001~IPA120
IPB001~IPB079
IPC001~IPC044
IPD001~IPD026
IPE001~IPE015

SETTING VALUE

IPA001 ***   OFF FRAM ***
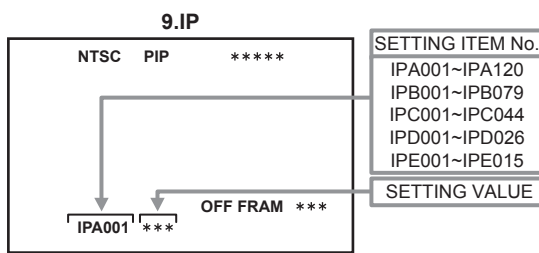
3.7 INITIAL SETTING VALUE OF SERVICE MENU

(1) Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.
(2) Do not change the initial setting values of the setting items NOT LISTED IN ADJUSTMENT.
(3) The (*1 or *2) marked items in following table, it is NO REQUIREMENT for adjustment. If values had change by the missing, set the initial values in the following table.
(4) "---" is not adjusted. Setting value is not displayed

CAUTION:
Never change the initial setting value any adjustments **except** for those that are designated in the adjustment procedures.
In case where you have made undesignated adjustments by mistake, never press the [MUTING] key on the remote control unit.
Whenever you had not pressed the [MUTING] key, you would be able to recover the initial value by switching the [POWER] key.

3.7.1 [1. PICTURE / SOUND]

AUDIO SYSTEM

Item No.	Item name	Variable range	Initial setting value	
			AV-48WP74	AV-56WP74
A01	IN LEVEL	000~015	009	009
A02	LOW SEP	000~063	035	035
A03	HI SEP	000~063	020	020
A04	BBE BASS	-128~+127	+010	+004
A05	BBE TRE	-128~+127	000	+004
A06	SURROUND	000~015	000	000
A07	BASS OFS	-128~+127	-017	-007
A08	TRE OFS	-128~+127	-011	-005
A09	AHS MVE	-128~+127	000	000
A10	AHS MSC	-128~+127	000	000
A11	*(Not display)*	000 / 001	000	000
A12	*(Not display)*	000 / 001	000	000
A13	*(Not display)*	000 / 001	000	000
A14	*(Not display)*	000 / 001	000	000
A15	*(Not display)*	000 / 001	000	000
A16	*(Not display)*	000 / 001	000	000
A17	*(Not display)*	000 / 001	000	000
A18	*(Not display)*	000 / 001	000	000
A19	*(Not display)*	000 / 001	000	000
A20	*(Not display)*	000 / 001	000	000
A21	*(Not display)*	000 / 001	000	000
A22	*(Not display)*	000 / 001	000	000
A23	*(Not display)*	000 / 001	000	000
A24	*(Not display)*	000 / 001	000	000
A25	*(Not display)*	000 / 001	000	000
A26	*(Not display)*	000 / 001	000	000
A27	*(Not display)*	000 / 001	000	000

DEFLECTION SYSTEM

Item No.	Item name	Variable range	Initial setting value	
			SINGLE PICTURE (FULL)	SPRIT / POP / MULTI
D01	V. SIZE	000~127	053	053
D02	EW	000~063	013	013
D03	H. SIZE	000~127	045	045
D04	V. SCORE	000~063	040	040
D05	V. LINE	000~031	040	040
D06	V. CENT	000~127	024	024
D07	EW.TRAP	000~127	028	028
D08	BOT.CORN	000~031	008	008
D09	TOP.CORN	000~031	008	008
D10	V. EHT	000~007	005	005
D11	H. EHT	000~007	003	003
D12	*(Not display)*	000~031	006	006
D13	*(Not display)*	000~031	000	000
D14	H. CENTER	000~255	091	091
D15	H. FREQ	000~255	182	182
D16	*(Not display)*	000 / 001	000	000
D17	*(Not display)*	000~015	000	000
D18	*(Not display)*	000~015	000	000
D19	*(Not display)*	000~015	000	000
D20	*(Not display)*	000~015	000	000
D21	*(Not display)*	000~015	000	000
D22	*(Not display)*	000 / 001	000	000
D23	*(Not display)*	000~031	000	000
D24	*(Not display)*	000~031	000	000
D25	*(Not display)*	000~015	000	000
D26	*(Not display)*	000~015	000	000
D27	*(Not display)*	000~127	000	000
D28	*(Not display)*	000~003	000	000
D29	*(Not display)*	000 / 001	000	000
D30	*(Not display)*	000 / 001	000	000
D31	*(Not display)*	000 / 001	000	000
D32	*(Not display)*	000 / 001	000	000

VIDEO SYSTEM
(NTSC / 480i / 480p)

Item No.	Item name	Variable range	NTSC		480i		480p	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S01	COLOR	000~255	095	087	081	072	074	068
S02	TINT	000~255	062	050	066	062	063	063

(720p / 1080i / HDCP)

| Item No. | Item name | Variable range | 720p / 1080i | | HDCP | | | |
					480p		1080i / 720p	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S01	COLOR	000~255	066	064	---	---	---	---
S02	TINT	000~255	064	058	---	---	---	---

(NTSC / 480i)

Item No.	Item name	Variable range	NTSC		480i	
			STANDARD	THEATER	STANDARD	THEATER
S03	BRIGHT	000~255	133	121	130	129
S04	CONTRAST	000~127	052	045	065	046

(480p / 720p / 1080i / HDCP)

Item No.	Item name	Variable range	480p / 720p / 1080i		HDCP	
			STANDARD	THEATER	STANDARD	THEATER
S03	BRIGHT	000~255	130	130	---	---
S04	CONTRAST	000~127	065	044	---	---

(NTSC / 480i)

Item No.	Item name	Variable range	NTSC		480i	
			STANDARD	THEATER	STANDARD	THEATER
S05	0 MTX SW	000~003	000	000	000	000
S06	INPUT SW	000~003	001	001	001	001
S07	B-Y	000~063	013	024	013	024
S08	R-Y	000~015	007	000	007	000
S09	G-Y MATRI	000~003	001	003	001	003

(480p / 720p / 1080i / HDCP)

Item No.	Item name	Variable range	480p / HDCP480p		1080i / 720p / HDCP1080i / HDCP720p	
			STANDARD	THEATER	STANDARD	THEATER
S05	0 MTX SW	000~003	000	000	000	000
S06	INPUT SW	000~003	001	001	000	000
S07	B-Y	000~063	016	016	022	027
S08	R-Y	000~015	007	002	004	003
S09	G-Y MATRI	000~003	001	003	002	002

(NTSC / 480i)

Item No.	Item name	Variable range	NTSC				480i			
			STANDARD		THEATER		STANDARD		THEATER	
			HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
S10	DRIVE R	000~255	073	---	---	---	---	074	---	---
S11	*(Not display)*	-128~+127	---	004	010	006	005	---	002	005
S12	DRIVE B	000~255	060	---	---	---	---	058	---	---
S13	*(Not display)*	-128~+127	---	004	-018	-007	005	---	-010	-018

(480p / 720p / 1080i)

Item No.	Item name	Variable range	480p				720p / 1080i			
			STANDARD		THEATER		STANDARD		THEATER	
			HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
S10	DRIVE R	000~255	---	---	---	---	---	074	---	---
S11	*(Not display)*	-128~+127	003	004	003	001	005	---	005	008
S12	DRIVE B	000~255	---	---	---	---	---	058	---	---
S13	*(Not display)*	-128~+127	007	004	000	-010	005	---	001	-009

(HDCP)

Item No.	Item name	Variable range	HDCP			
			STANDARD		THEATER	
			HIGH	LOW	HIGH	LOW
S10	DRIVE R	000~255	---	---	---	---
S11	*(Not display)*	-128~+127	005	0	005	008
S12	DRIVE B	000~255	---	---	---	---
S13	*(Not display)*	-128~+127	005	0	001	-009

(NTSC / 480i)

Item No.	Item name	Variable range	NTSC		480i	
			STANDARD	THEATER	STANDARD	THEATER
S14	CUTOF R	000~255	158	---	164	---
S15	*(Not display)*	-128~+127	---	-004	---	001
S16	CUTOF G	000~255	119	---	119	---
S17	*(Not display)*	-128~+127	---	0	---	000
S18	CUTOF B	000~255	185	---	190	---
S19	*(Not display)*	-128~+127	---	-004	---	000
S20	CUTOF SW R	000~003	001	---	001	---
S21	CUTOF SW G	000~003	001	---	001	---
S22	CUTOF SW B	000~003	001	---	001	---

(480p / 720p / 1080i)

Item No.	Item name	Variable range	480p / 720p / 1080i		HDCP	
			STANDARD	THEATER	STANDARD	THEATER
S14	CUTOF R	000~255	165	---	---	---
S15	*(Not display)*	-128~+127	---	-008	000	-006
S16	CUTOF G	000~255	119	---	---	---
S17	*(Not display)*	-128~+127	---	000	000	000
S18	CUTOF B	000~255	190	---	---	---
S19	*(Not display)*	-128~+127	---	-008	000	-011
S20	CUTOF SW R	000~003	001	---	---	---
S21	CUTOF SW G	000~003	001	---	---	---
S22	CUTOF SW B	000~003	001	---	---	---

(NTSC / 480i / OTHERS)

Item No.	Item name	Variable range	NTSC		480i		OTHERS SIGNAL	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S23	DC CTL	000~255	000	255	000	255	000	255

(NTSC / 480i / OTHERS SIGNAL)

Item No.	Item name	Variable range	NTSC	480i	OTHERS SIGNAL
S24	RGBLIMT	000~015	000	000	000
S25	BL STRT	000~015	015	015	015
S26	BL GAIN	000~015	008	008	008
S27	YGM LVL	000~015	000	000	000
S28	YGM GAIN	000~015	015	015	015
S29	YWD START	000~015	002	000	000
S30	YWD GAIN	000~015	005	002	003

(NTSC / 480i / 480p)

Item No.	Item name	Variable range	NTSC		480i		480p	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S31	COL OFST	000~255	---	---	---	---	---	---
S32	TNT OFST	000~255	---	---	---	---	---	---

(720p / 1080i / HDCP)

Item No.	Item name	Variable range	720p / 1080i		HDCP			
					480p		1080i / 720p	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S31	COL OFST	000~255	---	---	010	007	007	000
S32	TNT OFST	000~255	---	---	003	006	004	000

(NTSC / 480i / 480p / 720p / 1080i)

Item No.	Item name	Variable range	NTSC		480i / 480p		720p / 1080i	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S33	BRT OFST	-128~+127	---	---	---	---	---	---
S34	CNT OFST	-128~+127	---	---	---	---	---	---

(HDCP / POP / MULTI)

Item No.	Item name	Variable range	HDCP			
			480p		1080i / 720p	
			STANDARD	THEATER	STANDARD	THEATER
S33	BRT OFST	-128~+127	000	-004	-003	000
S34	CNT OFST	-128~+127	000	000	-003	-005

(SPRIT)

Item No.	Item name	Variable range	SPRIT		POP / MULTI	
			STANDARD	THEATER	STANDARD	THEATER
S33	BRT OFST	-128~+127	000	-004	---	---
S34	CNT OFST	-128~+127	000	000	---	---

Item No.	Item name	Variable range	STANDARD	THEATER
S35	DCTRN SW	000 / 001	000	000
S36	BL OFF	000 / 001	000	000
S37	YGM OFF	000 / 001	000	000
S38	ABL OFF	000 / 001	000	000
S39	ACL OFF	000 / 001	000	000

Item No.	Item name	Variable range	Initial setting value
S40	BLCNT LK	000 / 001	000
S41	YGCNT LK	000 / 001	000
S42	DCTRN PL	000 / 001	000
S43	ABL GAIN	000~015	015
S44	ABL STRT	000~015	015
S45	ACL GAIN	000~015	015
S46	ACL STRT	000~015	000

Item No.	Item name	Variable range	MULTI SCREEN		ASPECT		VIDEO STATUS	
			SPLIT	OTHERS	REGULAR	OTHERS	THEATER	OTHERS
S47	ACL EERG	000~255	255	255	255	255	255	255

(NTSC / 480i / OTHERS)

Item No.	Item name	Variable range	NTSC		480i		OTHERS SIGNAL	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S48	CHRM GM	000~255	128	128	128	128	128	128

(ALL SIGNAL)

Item No.	Item name	Variable range	Initial setting value
S49	OSDR DC	000~127	064
S50	OSDB DC	000~127	064
S51	BLK OFF	000 / 001	000
S52	CNT UNDR	-128~+127	-030
S53	CNT UPPR	-128~+127	+013
S54	BRT UNDR	-128~+127	-020
S55	EETH BRT	-128~+127	000
S56	EETH CNT	-128~+127	000
S57	BREE CNT	000~031	000
S58	DKEE CNT	000~031	000
S59	DREE BRT	000~127	000
S60	BREE ACL	000~255	000
S61	DKEE ACL	000~255	000
S62	VMOFF DE	-128~+127	+005
S63	VM LOW	-128~+127	-020
S64	VM MID	-128~+127	-010
S65	VM HIGH	-128~+127	+010
S66	VM L-	-128~+127	-002
S67	VM LH	-128~+127	-001
S68	VM MH	-128~+127	000
S69	VM M+	-128~+127	+001
S70	*(Not display)*	000 / 001	000
S71	*(Not display)*	000 / 001	000
S72	*(Not display)*	000 / 001	000
S73	*(Not display)*	000 / 001	000
S74	*(Not display)*	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
S75	*(Not display)*	000 / 001	000
S76	*(Not display)*	000 / 001	000
S77	*(Not display)*	000 / 001	000
S78	*(Not display)*	000 / 001	000
S79	*(Not display)*	000 / 001	000
S80	*(Not display)*	000 / 001	000
S81	*(Not display)*	000 / 001	000
S82	*(Not display)*	000 / 001	000
S83	*(Not display)*	000 / 001	000
S84	*(Not display)*	000 / 001	000
S85	*(Not display)*	000 / 001	000
S86	*(Not display)*	000 / 001	000
S87	*(Not display)*	000 / 001	000
S88	*(Not display)*	000 / 001	000
S89	*(Not display)*	000 / 001	000
S90	*(Not display)*	000 / 001	000
S91	*(Not display)*	000 / 001	000
S92	*(Not display)*	000 / 001	000
S93	*(Not display)*	000 / 001	000
S94	*(Not display)*	000 / 001	000
S95	*(Not display)*	000 / 001	000
S96	*(Not display)*	000 / 001	000
S97	*(Not display)*	000 / 001	000
S98	*(Not display)*	000 / 001	000
S99	*(Not display)*	000 / 001	000

OTHERS

Item No.	Item name	Variable range	Initial setting value
F01	*(Not display)*	000~255	069
F02	*(Not display)*	000~255	000
F03	*(Not display)*	000~255	000
F04	*(Not display)*	000~255	150
F05	CATVMAX	000 / 001	001
F06	*(Not display)*	000 / 001	000
F07	*(Not display)*	000~255	000
F08	*(Not display)*	000~255	008

Item No.	Item name	Variable range	CINEMA	Except CINEMA
F09	AUTO SCR 1	000~015	001	002
F10	AUTO SCR 2	000~015	002	004
F11	AUTO SCR 3	000~015	003	004
F12	AUTO SCR 4	000~015	004	005
F13	AUTO SCR 5	000~015	005	006
F14	AUTO SCR 6	000~015	006	007
F15	AUTO SCR 7	000~015	007	007

Item No.	Item name	Variable range	Initial setting value
F16	Not use	000~127	070
F17	Not use	000 / 001	000
F18	FIX DATA	000 / 001	000
F19	*(Not display)*	000 / 001	000
F20	*(Not display)*	000~255	005
F21	*(Not display)*	000~255	002
F22	*(Not display)*	000 / 001	000
F23	*(Not display)*	000~255	000
F24	*(Not display)*	000~255	141
F25	*(Not display)*	000~255	006
F26	*(Not display)*	000~255	040
F27	*(Not display)*	000~255	040
F28	*(Not display)*	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
F29	*(Not display)*	000 / 001	000
F30	*(Not display)*	000 / 001	000
F31	*(Not display)*	000 / 001	000
F32	*(Not display)*	000 / 001	000
F33	*(Not display)*	000 / 001	000
F34	*(Not display)*	000 / 001	000
F35	*(Not display)*	000 / 001	000
F36	*(Not display)*	000 / 001	000
F37	*(Not display)*	000 / 001	000
F38	*(Not display)*	000 / 001	000
F39	*(Not display)*	000 / 001	000
F40	*(Not display)*	000 / 001	000

(NTSC / 480i / 480p / 1080i / 720p)

Item No.	Item name	Variable range	NTSC	480i	480p	1080i	720p
F41	*(Not display)*	000~003	000	000	000	000	000
F42	*(Not display)*	000 / 001	000	000	000	000	000
F43	*(Not display)*	000~063	039	015	025	025	025

Item No.	Item name	Variable range	Initial setting value
F44	*(Not display)*	000 / 001	000
F45	*(Not display)*	000~007	---
F46	OUT LX	000~255	---
F47	LMT BTM	000~255	---
F48	LMT TOP	000~255	---
F49	*(Not display)*	000 / 001	---
F50	*(Not display)*	000 / 001	001
F51	*(Not display)*	000~007	003
F52	*(Not display)*	000~063	053
F53	*(Not display)*	-128~+127	000
F54	*(Not display)*	000~255	015
F55	*(Not display)*	000~255	040
F56	*(Not display)*	000~255	207
F57	*(Not display)*	000~255	128

Item No.	Item name	Variable range	Initial setting value
F58	*(Not display)*	000~255	047
F59	*(Not display)*	000 / 001	001
F60	ATT GAIN	000 / 001	000
F61	*(Not display)*	000 / 001	001
F62	*(Not display)*	000 / 001	000
F63	*(Not display)*	-128~+127	+020
F64	*(Not display)*	-128~+127	000
F65	*(Not display)*	-128~+127	-010
F66	*(Not display)*	000~007	004
F67	*(Not display)*	000~003	003
F68	*(Not display)*	000~255	126
F69	*(Not display)*	000 / 001	000
F70	*(Not display)*	000 / 001	000

3.7.2 [2.YC SEP] (All fixed)

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL	: NTSC
ASPECT	: FULL
MULTI	: SINGLE
VIDEO STATUS	: STANDARD
COLOR TEMPERATURE	: LOW

Item No.	Item name	Variable range	Initial setting value
YCM001	*(Not display)*	000 / 001	000
YCM002	*(Not display)*	000 / 001	000
YCM003	*(Not display)*	000 / 001	000
YCM004	*(Not display)*	000~003	001
YCM005	*(Not display)*	000~255	239
YCM006	*(Not display)*	000~003	001
YCM007	*(Not display)*	000~255	239
YCM008	*(Not display)*	000 / 001	000
YCM009	*(Not display)*	000~003	000
YCM010	*(Not display)*	000 / 001	000
YCM011	*(Not display)*	000 / 001	000
YCM012	*(Not display)*	000 / 001	000
YCM013	*(Not display)*	000 / 001	000
YCM014	*(Not display)*	000~003	000
YCM015	*(Not display)*	000 / 001	000
YCM016	*(Not display)*	000~003	001
YCM017	*(Not display)*	000 / 001	001
YCM018	*(Not display)*	000~003	000
YCM019	*(Not display)*	000 / 001	000
YCM020	*(Not display)*	000 / 001	000
YCM021	*(Not display)*	000~003	002
YCM022	*(Not display)*	000~007	004
YCM023	*(Not display)*	000 / 001	001
YCM024	*(Not display)*	000 / 001	000
YCM025	*(Not display)*	000~015	005
YCM026	*(Not display)*	000~015	003
YCM027	*(Not display)*	000~003	000
YCM028	*(Not display)*	000~007	003
YCM029	*(Not display)*	000~007	002
YCM030	*(Not display)*	000~003	003
YCM031	*(Not display)*	000 / 001	000
YCM032	*(Not display)*	000~003	003
YCM033	*(Not display)*	000 / 001	001
YCM034	*(Not display)*	000 / 001	000
YCM035	*(Not display)*	000~255	096
YCM036	*(Not display)*	000 / 001	001
YCM037	*(Not display)*	000~003	001
YCM038	*(Not display)*	000~127	062

Item No.	Item name	Variable range	Initial setting value
YCM039	*(Not display)*	000~127	068
YCM040	*(Not display)*	000~003	002
YCM041	*(Not display)*	000~063	016
YCM042	*(Not display)*	000 / 001	000
YCM043	*(Not display)*	000 / 001	000
YCM044	*(Not display)*	000~255	182
YCM045	*(Not display)*	000 / 001	000
YCM046	*(Not display)*	000~255	127
YCM047	*(Not display)*	000 / 001	001
YCM048	*(Not display)*	000 / 001	001
YCM049	*(Not display)*	000 / 001	001
YCM050	*(Not display)*	000 / 001	001
YCM051	*(Not display)*	000 / 001	001
YCM052	*(Not display)*	000 / 001	000
YCM053	*(Not display)*	000 / 001	001
YCM054	*(Not display)*	000~003	003
YCM055	*(Not display)*	000~003	003
YCM056	*(Not display)*	000~003	000
YCM057	*(Not display)*	000 / 001	000
YCM058	*(Not display)*	000 / 001	001
YCM059	*(Not display)*	000 / 001	001
YCM060	*(Not display)*	000 / 001	000
YCM061	*(Not display)*	000 / 001	001
YCM062	*(Not display)*	000~015	001
YCM063	*(Not display)*	000~015	004
YCM064	*(Not display)*	000~003	000
YCM065	*(Not display)*	000~063	060
YCM066	*(Not display)*	000~063	040
YCM067	*(Not display)*	000~063	025
YCM068	*(Not display)*	000~063	012
YCM069	*(Not display)*	000~063	036
YCM070	*(Not display)*	000~063	031
YCM071	*(Not display)*	000~127	031
YCM072	*(Not display)*	000 / 001	001
YCM073	*(Not display)*	000 / 001	001
YCM074	*(Not display)*	000~063	024
YCM075	*(Not display)*	000 / 001	000
YCM076	*(Not display)*	000 / 001	001
YCM077	*(Not display)*	000~063	010
YCM078	*(Not display)*	000~063	001
YCM079	*(Not display)*	000~255	000
YCM080	*(Not display)*	000~255	000
YCM081	*(Not display)*	000~255	000
YCM082	*(Not display)*	000~255	000
YCM083	*(Not display)*	000 / 001	001

Item No.	Item name	Variable range	Initial setting value	Item No.	Item name	Variable range	Initial setting value
YCM084	*(Not display)*	000~063	012	YCM129	*(Not display)*	000 / 001	001
YCM085	*(Not display)*	000 / 001	000	YCM130	*(Not display)*	000~003	001
YCM086	*(Not display)*	000 / 001	000	YCM131	*(Not display)*	000~255	050
YCM087	*(Not display)*	000~063	028	YCM132	*(Not display)*	000~255	131
YCM088	*(Not display)*	000 / 001	001	YCM133	*(Not display)*	000~255	055
YCM089	*(Not display)*	000~031	000	YCM134	*(Not display)*	000~007	001
YCM090	*(Not display)*	000~003	000	YCM135	*(Not display)*	000~255	136
YCM091	*(Not display)*	000~015	000	YCM136	*(Not display)*	000 / 001	000
YCM092	*(Not display)*	000~015	000	YCM137	*(Not display)*	000 / 001	001
YCM093	*(Not display)*	000~015	002	YCM138	*(Not display)*	000~007	003
YCM094	*(Not display)*	000~063	000	YCM139	*(Not display)*	000~255	141
YCM095	*(Not display)*	000~255	025	YCM140	*(Not display)*	000~007	000
YCM096	*(Not display)*	000 / 001	001	YCM141	*(Not display)*	000~255	014
YCM097	*(Not display)*	000~063	063	YCM142	*(Not display)*	000 / 001	000
YCM098	*(Not display)*	000~015	008	YCM143	*(Not display)*	000~007	005
YCM099	*(Not display)*	000~015	005	YCM144	*(Not display)*	000~255	128
YCM100	*(Not display)*	000~015	008	YCM145	*(Not display)*	000 / 001	000
YCM101	*(Not display)*	000~015	005	YCM146	*(Not display)*	000 / 001	001
YCM102	*(Not display)*	000~015	000	YCM147	*(Not display)*	000 / 001	000
YCM103	*(Not display)*	000~015	002	YCM148	*(Not display)*	000 / 001	001
YCM104	*(Not display)*	000~015	008	YCM149	*(Not display)*	000 / 001	000
YCM105	*(Not display)*	000~015	006	YCM150	*(Not display)*	000 / 001	000
YCM106	*(Not display)*	000~255	010	YCM151	*(Not display)*	000~255	136
YCM107	*(Not display)*	000~255	032	YCM152	*(Not display)*	000 / 001	001
YCM108	*(Not display)*	000~255	031	YCM153	*(Not display)*	000 / 001	001
YCM109	*(Not display)*	000~255	064	YCM154	*(Not display)*	000 / 001	001
YCM110	*(Not display)*	000 / 001	000	YCM155	*(Not display)*	000~003	000
YCM111	*(Not display)*	000 / 001	001	YCM156	*(Not display)*	000~015	015
YCM112	*(Not display)*	000 / 001	001	YCM157	*(Not display)*	000~015	004
YCM113	*(Not display)*	000 / 001	001	YCM158	*(Not display)*	000 / 001	001
YCM114	*(Not display)*	000 / 001	000	YCM159	*(Not display)*	000~127	004
YCM115	*(Not display)*	000 / 001	001	YCM160	*(Not display)*	000 / 001	001
YCM116	*(Not display)*	000 / 001	000	YCM161	*(Not display)*	000~031	000
YCM117	*(Not display)*	000 / 001	000	YCM162	*(Not display)*	000 / 001	000
YCM118	*(Not display)*	000 / 001	001	YCM163	*(Not display)*	000~015	003
YCM119	*(Not display)*	000 / 001	000	YCM164	*(Not display)*	000~007	002
YCM120	*(Not display)*	000 / 001	000	YCM165	*(Not display)*	000~031	016
YCM121	*(Not display)*	000~003	003	YCM166	*(Not display)*	000~255	235
YCM122	*(Not display)*	000 / 001	000	YCM167	*(Not display)*	000~003	000
YCM123	*(Not display)*	000~255	000	YCM168	*(Not display)*	000~063	000
YCM124	*(Not display)*	000 / 001	000	YCM169	*(Not display)*	000~015	003
YCM125	*(Not display)*	000~255	002	YCM170	*(Not display)*	000~015	003
YCM126	*(Not display)*	000 / 001	000	YCM171	*(Not display)*	000~007	000
YCM127	*(Not display)*	000 / 001	001	YCM172	*(Not display)*	000~255	096
YCM128	*(Not display)*	000 / 001	001	YCM173	*(Not display)*	000~007	003

AV-48WP74
AV-56WP74

Item No.	Item name	Variable range	Initial setting value	Item No.	Item name	Variable range	Initial setting value
YCM174	*(Not display)*	000~255	056	YCS034	*(Not display)*	000 / 001	000
YCM175	*(Not display)*	000 / 001	000	YCS035	*(Not display)*	000~255	096
YCM176	*(Not display)*	000 / 001	000	YCS036	*(Not display)*	000 / 001	001
YCM177	*(Not display)*	000~255	022	YCS037	*(Not display)*	000~003	001
YCM178	*(Not display)*	000 / 001	001	YCS038	*(Not display)*	000~127	062
YCM179	*(Not display)*	000 / 001	000	YCS039	*(Not display)*	000~127	068
YCM180	*(Not display)*	000~007	004	YCS040	*(Not display)*	000~003	001
YCM181	*(Not display)*	000~003	001	YCS041	*(Not display)*	000~063	016
YCM182	*(Not display)*	000~003	001	YCS042	*(Not display)*	000 / 001	000
YCM183	*(Not display)*	000~003	001	YCS043	*(Not display)*	000 / 001	000
YCM184	*(Not display)*	000~003	001	YCS044	*(Not display)*	000~255	144
YCM185	*(Not display)*	000~255	000	YCS045	*(Not display)*	000 / 001	000
YCS001	*(Not display)*	000 / 001	000	YCS046	*(Not display)*	000~255	100
YCS002	*(Not display)*	000 / 001	000	YCS047	*(Not display)*	000 / 001	001
YCS003	*(Not display)*	000 / 001	000	YCS048	*(Not display)*	000~031	000
YCS004	*(Not display)*	000~003	001	YCS049	*(Not display)*	000~003	000
YCS005	*(Not display)*	000~255	239	YCS050	*(Not display)*	000~015	000
YCS006	*(Not display)*	000~003	001	YCS051	*(Not display)*	000~015	008
YCS007	*(Not display)*	000~255	239	YCS052	*(Not display)*	000~015	001
YCS008	*(Not display)*	000 / 001	000	YCS053	*(Not display)*	000~063	030
YCS009	*(Not display)*	000~003	000	YCS054	*(Not display)*	000~255	030
YCS010	*(Not display)*	000 / 001	000	YCS055	*(Not display)*	000 / 001	001
YCS011	*(Not display)*	000 / 001	000	YCS056	*(Not display)*	000~063	016
YCS012	*(Not display)*	000 / 001	000	YCS057	*(Not display)*	000~015	008
YCS013	*(Not display)*	000 / 001	000	YCS058	*(Not display)*	000~015	005
YCS014	*(Not display)*	000~003	000	YCS059	*(Not display)*	000~015	008
YCS015	*(Not display)*	000 / 001	000	YCS060	*(Not display)*	000~015	005
YCS016	*(Not display)*	000~003	001	YCS061	*(Not display)*	000~015	000
YCS017	*(Not display)*	000 / 001	001	YCS062	*(Not display)*	000~015	002
YCS018	*(Not display)*	000~003	000	YCS063	*(Not display)*	000~015	008
YCS019	*(Not display)*	000~001	000	YCS064	*(Not display)*	000~015	006
YCS020	*(Not display)*	000~001	000	YCS065	*(Not display)*	000~255	010
YCS021	*(Not display)*	000~003	002	YCS066	*(Not display)*	000~255	032
YCS022	*(Not display)*	000~007	004	YCS067	*(Not display)*	000~255	031
YCS023	*(Not display)*	000 / 001	001	YCS068	*(Not display)*	000~255	064
YCS024	*(Not display)*	000 / 001	000	YCS069	*(Not display)*	000 / 001	000
YCS025	*(Not display)*	000~015	005	YCS070	*(Not display)*	000 / 001	001
YCS026	*(Not display)*	000~015	003	YCS071	*(Not display)*	000 / 001	001
YCS027	*(Not display)*	000~003	000	YCS072	*(Not display)*	000 / 001	001
YCS028	*(Not display)*	000~007	003	YCS073	*(Not display)*	000 / 001	000
YCS029	*(Not display)*	000~007	006	YCS074	*(Not display)*	000 / 001	001
YCS030	*(Not display)*	000~003	003	YCS075	*(Not display)*	000 / 001	000
YCS031	*(Not display)*	000 / 001	000	YCS076	*(Not display)*	000 / 001	000
YCS032	*(Not display)*	000~003	003	YCS077	*(Not display)*	000 / 001	001
YCS033	*(Not display)*	000 / 001	001	YCS078	*(Not display)*	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
YCS079	*(Not display)*	000 / 001	000
YCS080	*(Not display)*	000~003	003
YCS081	*(Not display)*	000 / 001	000
YCS082	*(Not display)*	000~255	000
YCS083	*(Not display)*	000~255	000
YCS084	*(Not display)*	000~007	000
YCS085	*(Not display)*	000~255	014
YCS086	*(Not display)*	000 / 001	000
YCS087	*(Not display)*	000 / 001	001
YCS088	*(Not display)*	000 / 001	000
YCS089	*(Not display)*	000 / 001	000
YCS090	*(Not display)*	000~255	136
YCS091	*(Not display)*	000 / 001	001
YCS092	*(Not display)*	000 / 001	001
YCS093	*(Not display)*	000 / 001	001
YCS094	*(Not display)*	000~003	000
YCS095	*(Not display)*	000~015	015
YCS096	*(Not display)*	000~015	004
YCS097	*(Not display)*	000 / 001	001
YCS098	*(Not display)*	000~127	007
YCS099	*(Not display)*	000~031	000
YCS100	*(Not display)*	000 / 001	000
YCS101	*(Not display)*	000~015	003
YCS102	*(Not display)*	000~007	002
YCS103	*(Not display)*	000~031	016
YCS104	*(Not display)*	000~255	235
YCS105	*(Not display)*	000~003	000
YCS106	*(Not display)*	000~063	000
YCS107	*(Not display)*	000~015	003
YCS108	*(Not display)*	000~015	003
YCS109	*(Not display)*	000 / 001	000
YCS110	*(Not display)*	000~003	001
YCS111	*(Not display)*	000~003	001
YCS112	*(Not display)*	000~003	001
YCS113	*(Not display)*	000~003	001
YCS114	*(Not display)*	000~255	000

3.7.3 [3.WHITE BALANCE]

NOTE :
Initial setting value is reference value at following condition.

INPUT SYGNAL	: NTSC
ASPECT	: FULL
MULTI	: SINGLE
VIDEO STATUS	: STANDARD
COLOR TEMPRETURE	: LOW

Item No.	Item name	Variable range	Initial setting value
BR	*(Not display)*	000~238	133
DRV R	*(Not display)*	000~255	072
DRV B	*(Not display)*	000~255	060
DRV R	*(Not display)*	000~255	188
DRV G	*(Not display)*	000~255	149
DRV B	*(Not display)*	000~255	215

3.7.4 [6.CONVER A]

Item No.	Item name	Variable range	Initial setting value
CPA01	OSD H	0~4095	147
CPA02	OSD V	0~1023	18
CPA03	FINE H	0~4095	1660
CPA04	FINE V	0~4095	50
CPA05	CAU V	0~4095	3920
CPA06	CAU H1	0~65535	0
CPA07	CAU H2	0~255	11
CPA08	FINE OFF	0 / 1	0
CCA01	C H CENT	-512~+511	0
CCA02	C H SIZE	-512~+511	-12
CCA03	C H LINE	-512~+511	-29
CCA04	C H SKEW	-512~+511	0
CCA05	C EW PIN	-512~+511	17
CCA06	C H BOW	-512~+511	0
CCA07	C V CENT	-512~+511	0
CCA08	C V SKEW	-512~+511	0
CCA09	C V SIZE	-512~+511	-95

Item No.	Item name	Variable range	Initial setting value
CBA01	LINE COMP	0~3	2
CBA02	INTER NUM	0~15	9
CBA03	INTERLACE	0 / 1	0
CBA04	ADD RATIO	0~3	0
CBA05	DAC NUM	0 / 1	1
CBA06	CKOUT FRF	0~7	0
CBA07	ODD LAVEL	0 / 1	1
CBA08	V1CNTUP	0~4095	310
CBA09	RETRACE	0 / 1	1
CBA10	RV CLAMP	0 / 1	1

Item No.	Item name	Variable range	Initial setting value
CBA11	GV CLAMP	0 / 1	1
CBA12	BV CLAMP	0 / 1	1
CBA13	RH CLAMP	0 / 1	0
CBA14	GH CLAMP	0 / 1	0
CBA15	BH CLAMP	0 / 1	0
CBA16	PATTERN H 1	0~3	1
CBA17	PATTERN W 1	0~3	1
CBA18	CURSPACE	0~3	0
CBA19	ODEV POSI	0~4095	1
CBA20	HBLKOUT	0 / 1	1
CBA21	HBLKOP	0~4095	2091
CBA22	HBLKOW	0~4095	373
CBA23	PWM1P	0~4095	0
CBA24	PWM1W	0~4095	256
CBA25	PWM2P	0~4095	0
CBA26	PWM2W	0~4095	0
CBA27	VBLK01P	0~1023	0
CBA28	VBLK01W	0~1023	1
CBA29	VBLK02P	0~1023	0
CBA30	VBLK02W	0~1023	0
CBA31	VBLK03P	0~1023	0
CBA32	VBLK03W	0~1023	0
CBA33	VBLK04P	0~1023	0
CBA34	VBLK04W	0~1023	0
CBA35	HATCH COL	0~7	2
CBA36	BORDE COL	0~7	0
CBA37	CROSS COL	0~7	0
CBA38	BLOCK COL	0~7	0
CBA39	AF1 POSV	0~2490	0
CBA40	AF1POSH	0~4095	62
CBA41	AF1VSIZE	0~255	200
CBA42	AF1HSIZE	0~511	100
CBA43	AF2POSV	0~2490	548
CBA44	AF2POSH	0~4095	200
CBA45	AF2VSIZE	0~255	100
CBA46	AF2HSIZE	0~511	200
CBA47	AF3POSV	0~2490	946
CBA48	AF3POSH	0~4095	1061
CBA49	AF3VSIZE	0~255	200
CBA50	AF3HSIZE	0~511	100
CBA51	AF4POSV	0~2490	546
CBA52	AF4POSH	0~4095	1730
CBA53	AF4VSIZE	0~255	100
CBA54	AF4HSIZE	0~511	200
CBA55	AF5POSH	0~2490	548

Item No.	Item name	Variable range	Initial setting value
CBA56	AF5POSV	0~4095	1016
CBA57	AF5HSIZE	0~255	4
CBA58	AF5VSIZE	0~511	80
CBA59	AF6POSH	0~2490	505
CBA60	AF6POSV	0~4095	1056
CBA61	AF6VSIZE	0~255	80
CBA62	AF6HSIZE	0~511	4
CBA63	AF7POSV	0~2490	0
CBA64	AF7POSH	0~4095	0
CBA65	AF7VSIZE	0~255	0
CBA66	AF7HSIZE	0~511	0
CBA67	AF8POSV	0~2490	0
CBA68	AF8POSH	0~4095	0
CBA69	AF8VSIZE	0~255	0
CBA70	AF8HSIZE	0~511	0
CBA71	BL1POSV	0~2490	0
CBA72	BL1POSH	0~4095	0
CBA73	BL2POSV	0~255	0
CBA74	BL2POSH	0~511	0
CBA75	XLPOSV	0~2490	545
CBA76	XLPOSH	0~4095	1056
CBA77	XLLENV	0~255	185
CBA78	XLLENH	0~511	421
CBA79	FINE LIMT	0~2490	80
CBA80	DC LIMT	0~4095	50

3.7.5 [8.PP]

NOTE :
Initial setting value is reference value at following condition.

INPUT SIGNAL	: NTSC
ASPECT	: FULL
MULTI	: SINGLE
VIDEO STATUS	: STANDARD
COLOR TEMPERATURE	: LOW

Item No.	Item name	Variable range	Initial setting value
ADM001	*(Not display)*	000~0FF	0D6
ADM002	*(Not display)*	000~00F	007
ADM003	*(Not display)*	000~003	001
ADM004	*(Not display)*	000~007	005
ADM005	*(Not display)*	000~01F	016
ADM006	*(Not display)*	000~0FF	036
ADM007	*(Not display)*	000~0FF	08A
ADM008	*(Not display)*	000~0FF	020

Item No.	Item name	Variable range	Initial setting value
ADM009	*(Not display)*	000~0FF	0FF
ADM010	*(Not display)*	000~0FF	0FF
ADM011	*(Not display)*	000~0FF	0FF
ADM012	*(Not display)*	000~07F	03A
ADM013	*(Not display)*	000~07F	02C
ADM014	*(Not display)*	000~07F	03C
ADM015	*(Not display)*	000 / 001	001
ADM016	*(Not display)*	000 / 001	001
ADM017	*(Not display)*	000 / 001	000
ADM018	*(Not display)*	000 / 001	001
ADM019	*(Not display)*	000 / 001	000
ADM020	*(Not display)*	000 / 001	000
ADM021	*(Not display)*	000 / 001	001
ADM022	*(Not display)*	000 / 001	000
ADM023	*(Not display)*	000 / 001	000
ADM024	*(Not display)*	000 / 001	001
ADM025	*(Not display)*	000 / 001	000
ADM026	*(Not display)*	000 / 001	001
ADM027	*(Not display)*	000 / 001	001
ADM028	*(Not display)*	000 / 001	001
ADM029	*(Not display)*	000 / 001	001
ADM030	*(Not display)*	000~01F	003
ADM031	*(Not display)*	000 / 001	001
ADM032	*(Not display)*	000 / 001	000
ADM033	*(Not display)*	000 / 001	001
ADM034	*(Not display)*	000~0FF	032

Item No.	Item name	Variable range	Initial setting value
PPA001	*(Not display)*	000~255	000
PPA002	*(Not display)*	000~255	000
PPA003	*(Not display)*	000~255	047
PPA004	*(Not display)*	000~255	000
PPA005	*(Not display)*	000~255	000
PPA006	*(Not display)*	000~255	001
PPA007	*(Not display)*	000~255	047
PPA008	*(Not display)*	000~255	023

Item No.	Item name	Variable range	Initial setting value
PPB001	*(Not display)*	000~031	000
PPB002	*(Not display)*	000~255	000
PPB003	*(Not display)*	000~255	000
PPB004	*(Not display)*	000~031	000
PPB005	*(Not display)*	000~255	00D
PPB006	*(Not display)*	000~255	0F8
PPB007	*(Not display)*	000~031	000

Item No.	Item name	Variable range	Initial setting value
PPB008	*(Not display)*	000~255	01B
PPB009	*(Not display)*	000~255	0D0
PPB010	*(Not display)*	000~031	000
PPB011	*(Not display)*	000~255	000

Item No.	Item name	Variable range	Initial setting value
PPB012	*(Not display)*	000~255	000
PPB013	*(Not display)*	000~031	000
PPB014	*(Not display)*	000~255	000
PPB015	*(Not display)*	000~255	000
PPB016	*(Not display)*	000~031	000
PPB017	*(Not display)*	000~255	000
PPB018	*(Not display)*	000~255	000
PPB019	*(Not display)*	000~031	000
PPB020	*(Not display)*	000~255	000
PPB021	*(Not display)*	000~255	000
PPB022	*(Not display)*	000~031	000
PPB023	*(Not display)*	000~255	000
PPB024	*(Not display)*	000~255	000
PPB025	*(Not display)*	000~031	000
PPB026	*(Not display)*	000~255	000
PPB027	*(Not display)*	000~255	000
PPB028	*(Not display)*	000~031	000
PPB029	*(Not display)*	000~255	000
PPB030	*(Not display)*	000~255	000
PPB031	*(Not display)*	000~031	000
PPB032	*(Not display)*	000~255	000
PPB033	*(Not display)*	000~255	000
PPB034	*(Not display)*	000~031	000
PPB035	*(Not display)*	000~255	000
PPB036	*(Not display)*	000~255	000

Item No.	Item name	Variable range	Initial setting value
PPC001	*(Not display)*	000~00F	000
PPC002	*(Not display)*	000~0FF	00C
PPC003	*(Not display)*	000~0FF	002
PPC004	*(Not display)*	000~00F	000
PPC005	*(Not display)*	000~0FF	000
PPC006	*(Not display)*	000~00F	000
PPC007	*(Not display)*	000~0FF	000
PPC008	*(Not display)*	000~03F	000

Item No.	Item name	Variable range	Initial setting value
PPD001	*(Not display)*	000~0FF	008
PPD002	*(Not display)*	000~00F	063
PPD003	*(Not display)*	000~0FF	063
PPD004	*(Not display)*	000~00F	0CB
PPD005	*(Not display)*	000~0FF	0C0
PPD006	*(Not display)*	000~00F	045
PPD007	*(Not display)*	000~0FF	041
PPD008	*(Not display)*	000~00F	035
PPD009	*(Not display)*	000~0FF	030
PPD010	*(Not display)*	000~00F	000
PPD011	*(Not display)*	000~0FF	024
PPD012	*(Not display)*	000~00F	001
PPD013	*(Not display)*	000~0FF	039
PPD014	*(Not display)*	000~00F	000
PPD015	*(Not display)*	000~0FF	096
PPD016	*(Not display)*	000~00F	001
PPD017	*(Not display)*	000~0FF	086
PPD018	*(Not display)*	000~00F	000
PPD019	*(Not display)*	000~0FF	024
PPD020	*(Not display)*	000~00F	001
PPD021	*(Not display)*	000~0FF	050
PPD022	*(Not display)*	000~00F	000
PPD023	*(Not display)*	000~0FF	0AA
PPD024	*(Not display)*	000~00F	001
PPD025	*(Not display)*	000~0FF	072

3.7.6 [9.IP] (All fixed)

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item name	Variable range	Initial setting value
IPA001	*(Not display)*	000 / 001	001
IPA002	*(Not display)*	000~03F	030
IPA003	*(Not display)*	000~03F	02E
IPA004	*(Not display)*	000~03F	030
IPA005	*(Not display)*	000~003	000
IPA006	*(Not display)*	000~003	000
IPA007	*(Not display)*	000~00F	008
IPA008	*(Not display)*	000~03F	000
IPA009	*(Not display)*	000~03F	01D
IPA010	*(Not display)*	000~03F	010
IPA011	*(Not display)*	000~03F	018

Item No.	Item name	Variable range	Initial setting value
IPA012	*(Not display)*	000~03F	028
IPA013	*(Not display)*	000~003	002
IPA014	*(Not display)*	000~003	002
IPA015	*(Not display)*	000~00F	00F
IPA016	*(Not display)*	000~03F	D1B
IPA017	*(Not display)*	000 / 001	001
IPA018	*(Not display)*	000~03F	0FF
IPA019	*(Not display)*	000 / 001	001
IPA020	*(Not display)*	000 / 001	001
IPA021	*(Not display)*	000~03F	01F
IPA022	*(Not display)*	000~003	000
IPA023	*(Not display)*	000~03F	008
IPA024	*(Not display)*	000 / 001	001
IPA025	*(Not display)*	000 / 001	001
IPA026	*(Not display)*	000~03F	01F
IPA027	*(Not display)*	000~003	000
IPA028	*(Not display)*	000~03F	008
IPA029	*(Not display)*	000~03F	01C
IPA030	*(Not display)*	000~00F	000
IPA031	*(Not display)*	000~007	001
IPA032	*(Not display)*	000~03F	010
IPA033	*(Not display)*	000 / 001	001
IPA034	*(Not display)*	000~03F	034
IPA035	*(Not display)*	000 / 001	001
IPA036	*(Not display)*	000~03F	00E
IPA037	*(Not display)*	000~03F	02E
IPA038	*(Not display)*	000~03F	01E
IPA039	*(Not display)*	000~003	002
IPA040	*(Not display)*	000~003	003
IPA041	*(Not display)*	000~00F	008
IPA042	*(Not display)*	000~03F	020
IPA043	*(Not display)*	000~03F	020
IPA044	*(Not display)*	000~03F	006
IPA045	*(Not display)*	000~03F	00E
IPA046	*(Not display)*	000~03F	01E
IPA047	*(Not display)*	000~003	002
IPA048	*(Not display)*	000~003	003
IPA049	*(Not display)*	000~00F	008
IPA050	*(Not display)*	000~03F	020
IPA051	*(Not display)*	000 / 001	001
IPA052	*(Not display)*	000~03F	020
IPA053	*(Not display)*	000 / 001	001
IPA054	*(Not display)*	000 / 001	001
IPA055	*(Not display)*	000~03F	020
IPA056	*(Not display)*	000~003	002

Item No.	Item name	Variable range	Initial setting value
IPA057	*(Not display)*	000~03F	020
IPA058	*(Not display)*	000 / 001	001
IPA059	*(Not display)*	000 / 001	001
IPA060	*(Not display)*	000~03F	020
IPA061	*(Not display)*	000~003	002
IPA062	*(Not display)*	000~03F	020
IPA063	*(Not display)*	000~03F	020
IPA064	*(Not display)*	000~00F	008
IPA065	*(Not display)*	000~007	002
IPA066	*(Not display)*	000~03F	020
IPA067	*(Not display)*	000 / 001	001
IPA068	*(Not display)*	000~03F	020
IPA069	*(Not display)*	000~003	000
IPA070	*(Not display)*	000~0FF	000
IPA071	*(Not display)*	000~00F	008
IPA072	*(Not display)*	000~0FF	098
IPA073	*(Not display)*	000 / 001	000
IPA074	*(Not display)*	000 / 001	000
IPA075	*(Not display)*	000~0FF	013
IPA076	*(Not display)*	000 / 001	000
IPA077	*(Not display)*	000 / 001	000
IPA078	*(Not display)*	000 / 001	000
IPA079	*(Not display)*	000 / 001	000
IPA080	*(Not display)*	000 / 001	000
IPA081	*(Not display)*	000 / 001	000
IPA082	*(Not display)*	000 / 001	000
IPA083	*(Not display)*	000 / 001	000
IPA084	*(Not display)*	000 / 001	000
IPA085	*(Not display)*	000 / 001	000
IPA086	*(Not display)*	000 / 001	000
IPA087	*(Not display)*	000 / 001	000
IPA088	*(Not display)*	000 / 001	000
IPA089	*(Not display)*	000 / 001	000
IPA090	*(Not display)*	000 / 001	000
IPA091	*(Not display)*	000~00F	000
IPA092	*(Not display)*	000~0FF	000
IPA093	*(Not display)*	000~00F	00F
IPA094	*(Not display)*	000~0FF	0FF
IPA095	*(Not display)*	000~00F	000
IPA096	*(Not display)*	000~0FF	000
IPA097	*(Not display)*	000~00F	00F
IPA098	*(Not display)*	000~0FF	0FF
IPA099	*(Not display)*	000~00F	000
IPA100	*(Not display)*	000~0FF	000
IPA101	*(Not display)*	000~00F	000

Item No.	Item name	Variable range	Initial setting value
IPA102	*(Not display)*	000~0FF	000
IPA103	*(Not display)*	000~00F	000
IPA104	*(Not display)*	000~0FF	000
IPA105	*(Not display)*	000~00F	000
IPA106	*(Not display)*	000~0FF	000
IPA107	*(Not display)*	000~00F	000
IPA108	*(Not display)*	000~0FF	080
IPA109	*(Not display)*	000~00F	000
IPA110	*(Not display)*	000~0FF	040
IPA111	*(Not display)*	000~00F	005
IPA112	*(Not display)*	000~0FF	040
IPA113	*(Not display)*	000~00F	000
IPA114	*(Not display)*	000~0FF	0C0
IPA115	*(Not display)*	000~00F	002
IPA116	*(Not display)*	000~0FF	0ET
IPA117	*(Not display)*	000 / 001	000
IPA118	*(Not display)*	000 / 001	000
IPA119	*(Not display)*	000 / 001	000
IPA120	*(Not display)*	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
IPB001	*(Not display)*	000~0FF	000
IPB002	*(Not display)*	000~0FF	0D4
IPB003	*(Not display)*	000~00F	000
IPB004	*(Not display)*	000~0FF	0FC
IPB005	*(Not display)*	000~00F	003
IPB006	*(Not display)*	000~0FF	089
IPB007	*(Not display)*	000~00F	003
IPB008	*(Not display)*	000~0FF	089
IPB009	*(Not display)*	000~00F	002
IPB010	*(Not display)*	000~0FF	02D
IPB011	*(Not display)*	000~00F	001
IPB012	*(Not display)*	000~0FF	073
IPB013	*(Not display)*	000~00F	000
IPB014	*(Not display)*	000~0FF	069
IPB015	*(Not display)*	000~00F	000
IPB016	*(Not display)*	000~0FF	00E
IPB017	*(Not display)*	000~00F	000
IPB018	*(Not display)*	000~0FF	016
IPB019	*(Not display)*	000~00F	000
IPB020	*(Not display)*	000~0FF	010
IPB021	*(Not display)*	000~00F	000
IPB022	*(Not display)*	000~0FF	02D
IPB023	*(Not display)*	000~00F	000
IPB024	*(Not display)*	000~0FF	000

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Item No.	Item name	Variable range	Initial setting value
IPB025	*(Not display)*	000~00F	00F
IPB026	*(Not display)*	000~0FF	000
IPB027	*(Not display)*	000~00F	005
IPB028	*(Not display)*	000~0FF	033
IPB029	*(Not display)*	000~00F	000
IPB030	*(Not display)*	000~0FF	04A
IPB031	*(Not display)*	000~00F	00F
IPB032	*(Not display)*	000~0FF	000
IPB033	*(Not display)*	000~00F	00F
IPB034	*(Not display)*	000~0FF	000
IPB035	*(Not display)*	000~00F	001
IPB036	*(Not display)*	000~0FF	000
IPB037	*(Not display)*	000 / 001	000
IPB038	*(Not display)*	000~007	000
IPB039	*(Not display)*	000~00F	000
IPB040	*(Not display)*	000~00F	003
IPB041	*(Not display)*	000~00F	000
IPB042	*(Not display)*	000~0FF	000
IPB043	*(Not display)*	000~00F	002
IPB044	*(Not display)*	000~0FF	0DB
IPB045	*(Not display)*	000~00F	000
IPB046	*(Not display)*	000~0FF	000
IPB047	*(Not display)*	000~00F	00F
IPB048	*(Not display)*	000~0FF	0FF
IPB049	*(Not display)*	000~00F	00F
IPB050	*(Not display)*	000~0FF	0FF
IPB051	*(Not display)*	000~00F	00F
IPB052	*(Not display)*	000~0FF	0FF
IPB053	*(Not display)*	000~00F	00F
IPB054	*(Not display)*	000~0FF	0FF
IPB055	*(Not display)*	000~00F	000
IPB056	*(Not display)*	000~0FF	0CE
IPB057	*(Not display)*	000~00F	00F
IPB058	*(Not display)*	000~0FF	000
IPB059	*(Not display)*	000~007	004
IPB060	*(Not display)*	000~003	000
IPB061	*(Not display)*	000~003	002
IPB062	*(Not display)*	000 / 001	000
IPB063	*(Not display)*	000~0FF	040
IPB064	*(Not display)*	000~0FF	080
IPB065	*(Not display)*	000~0FF	080
IPB066	*(Not display)*	000 / 001	000
IPB067	*(Not display)*	000~00F	000
IPB068	*(Not display)*	000~00F	000
IPB069	*(Not display)*	000~00F	000

Item No.	Item name	Variable range	Initial setting value
IPB070	*(Not display)*	000~00F	00F
IPB071	*(Not display)*	000~0FF	000
IPB072	*(Not display)*	000~00F	000
IPB073	*(Not display)*	000~0FF	000
IPB074	*(Not display)*	000 / 001	000
IPB075	*(Not display)*	000 / 001	000
IPB076	*(Not display)*	000 / 001	000
IPB077	*(Not display)*	000~00F	001
IPB078	*(Not display)*	000 / 001	001
IPB079	*(Not display)*	000~0FF	089

Item No.	Item name	Variable range	Initial setting value
IPC001	*(Not display)*	000~003	002
IPC002	*(Not display)*	000~0FF	018
IPC003	*(Not display)*	000 / 001	000
IPC004	*(Not display)*	000 / 001	000
IPC005	*(Not display)*	000~00F	000
IPC006	*(Not display)*	000~0FF	000
IPC007	*(Not display)*	000~00F	008
IPC008	*(Not display)*	000~0FF	097
IPC009	*(Not display)*	000~00F	004
IPC010	*(Not display)*	000~0FF	064
IPC011	*(Not display)*	000~00F	000
IPC012	*(Not display)*	000~0FF	000
IPC013	*(Not display)*	000~003	000
IPC014	*(Not display)*	000 / 001	000
IPC015	*(Not display)*	000 / 001	001
IPC016	*(Not display)*	000~0FF	000
IPC017	*(Not display)*	000 / 001	000
IPC018	*(Not display)*	000~07F	000
IPC019	*(Not display)*	000 / 001	000
IPC020	*(Not display)*	000~07F	001
IPC021	*(Not display)*	000~00F	000
IPC022	*(Not display)*	000~0FF	068
IPC023	*(Not display)*	000~003	000
IPC024	*(Not display)*	000~0FF	00F
IPC025	*(Not display)*	000 / 001	000
IPC026	*(Not display)*	000~07F	020
IPC027	*(Not display)*	000~001	000
IPC028	*(Not display)*	000~07F	01B
IPC029	*(Not display)*	000 / 001	001
IPC030	*(Not display)*	000 / 001	000
IPC031	*(Not display)*	000 / 001	000
IPC032	*(Not display)*	000 / 001	001
IPC033	*(Not display)*	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
IPC034	*(Not display)*	000 / 001	000
IPC035	*(Not display)*	000 / 001	000
IPC036	*(Not display)*	000 / 001	000
IPC037	*(Not display)*	000 / 001	000
IPC038	*(Not display)*	000 / 001	000
IPC039	*(Not display)*	000 / 001	001
IPC040	*(Not display)*	000 / 001	000
IPC041	*(Not display)*	000 / 001	000
IPC042	*(Not display)*	000 / 001	000
IPC043	*(Not display)*	000 / 001	000
IPC044	*(Not display)*	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
IPD001	*(Not display)*	000~0FF	040
IPD002	*(Not display)*	000~0FF	000
IPD003	*(Not display)*	000~0FF	000
IPD004	*(Not display)*	000~007	000
IPD005	*(Not display)*	000~0FF	014
IPD006	*(Not display)*	000~007	002
IPD007	*(Not display)*	000~0FF	034
IPD008	*(Not display)*	000 / 001	001
IPD009	*(Not display)*	000~00F	001
IPD010	*(Not display)*	000~0FF	03C
IPD011	*(Not display)*	000~00F	008
IPD012	*(Not display)*	000~0FF	086
IPD013	*(Not display)*	000~007	001
IPD014	*(Not display)*	000~007	000
IPD015	*(Not display)*	000 / 001	000
IPD016	*(Not display)*	000 / 001	000
IPD017	*(Not display)*	000~0FF	000
IPD018	*(Not display)*	000~007	000
IPD019	*(Not display)*	000~0FF	018
IPD020	*(Not display)*	000~007	002
IPD021	*(Not display)*	000~0FF	02F
IPD022	*(Not display)*	000 / 001	001
IPD023	*(Not display)*	000~00F	001
IPD024	*(Not display)*	000~0FF	03D
IPD025	*(Not display)*	000~00F	008
IPD026	*(Not display)*	000~0FF	042

Item No.	Item name	Variable range	Initial setting value
IPE001	*(Not display)*	000~255	001
IPE002	*(Not display)*	000~255	002
IPE003	*(Not display)*	000~255	001
IPE004	*(Not display)*	000~255	002
IPE005	*(Not display)*	000~255	001
IPE006	*(Not display)*	000~255	002
IPE007	*(Not display)*	000~255	001
IPE008	*(Not display)*	000~255	001
IPE009	*(Not display)*	-128~+127	+015
IPE010	*(Not display)*	-128~+127	+015
IPE011	*(Not display)*	-128~+127	+015
IPE012	*(Not display)*	-128~+127	+015
IPE013	*(Not display)*	-128~+127	-004
IPE014	*(Not display)*	-128~+127	+008
IPE015	*(Not display)*	000~015	068

3.8 ADJUSTMENT PROCEDURE
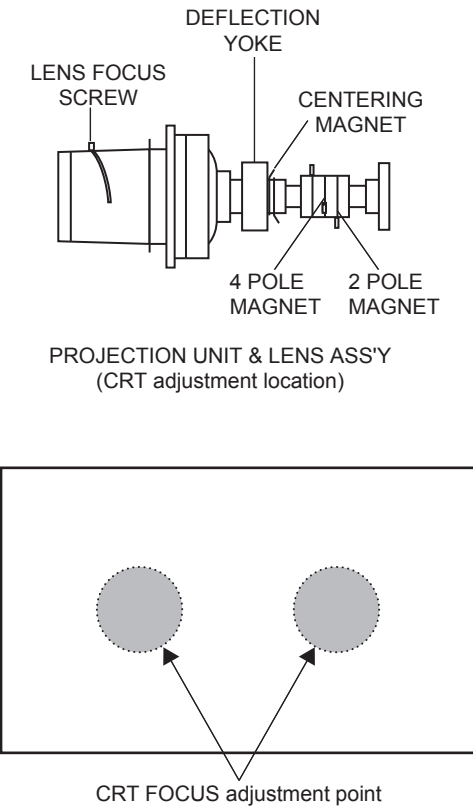
3.8.1 CHECK ITEMS

Item	Measuring instrument	Test point	Adjustment part	Description
HIGH VOLTAGE check	Signal generator High voltage meter	CRT Anode		(1) Receive NTSC whole black signal. (2) Connect the high voltage meter between CRT anode and GND. (3) Check that the high voltage range DC 31.0kV±1.0kV.
X-RAY PROTECTOR check	Resistor [6.8k ohm 1/4W ±5%]	S1 connector 2 pin : X-Ray2 3 pin : X-Ray1		(1) Receive any broadcast. (2) Connect resistor 6.8k ohm(1/4W, ±5%) between 2 pin & 3 pin of the connector S1. (3) Confirm that the X-RAY protector functions operated.

3.8.2 HORIZONTAL FREQUENCY ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
H. FREQUENCY adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D15 : H. FREQ. D19 : DEF. RST	(1) Receive any broadcast. (2) Press [ASPECT] key and select FULL mode. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select <D19> (DEF. RST) and change the data 0 to 1. (5) While observing the screen, adjust the <D15> (H. FREQ) so that an optimum horizontal synchronization is obtained. (6) After adjustment, select <D19> and change the data 1 to 0. (7) Press [MUTING] key to memorize the set value.

3.8.3 FOCUS & BEAM SPOT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description

FOCUS & BEAM SPOT adjustment	Signal generator
	
	Similar adhesive (Securing adhesive)
			R Def. Yoke (DY)
			G Def. Yoke (DY)
			B Def. Yoke (DY)
			[PROJECTION UNIT]
			
			R LENS FOCUS screw
			G LENS FOCUS screw
			B LENS FOCUS screw
			[PROJECTION UNIT (LENS ASS'Y)]
			
			R SCREEN VR
			G SCREEN VR
			B SCREEN VR
			[FOCUS PACK]
			
			4 pole magnet
			2 pole magnet
			[PROJECTION UNIT (R / G / B CRT neck)]
			
			R FOCUS VR
			G FOCUS VR
			B FOCUS VR
			[FOCUS PACK]
				(1) Receive NTSC cross-hatch signal.
				(2) Press [ASPECT] key and select FULL mode.
				(3) If the picture tilted, adjust the R, G and B DY position to mark straight horizontal line.
				
				LENS FOCUS
				(1) Makes a red single color.
				  NOTE :
				    When making a single color, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment color and it makes it single color.
				(2) By turning the LENS FOCUS screw (in LENS ASS'Y), for optimum focus at the screen center. Check for absence of difference in the peripheral focus. If the peripheral focus is poor, slightly shift the center focus to obtain overall balanced focus.
				(3) In the same manner, produce green and blue single color and adjust their respective focus.
				(4) After adjustment, it fixes a screw.
				  NOTE :
				    There is not a difference in the focus in the top and the bottom, on either side, in the diagonal.
				    When the difference of the focus is big, it removes a main lens, and it puts a washer between the main lens and the coupler and it adjusts it.
				
				BEAM SPOT
				(5) Receive NTSC dot pattern signal.
				(6) Makes a red single color.
				  NOTE :
				    When making a single color, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment color and it makes it single color.
				(7) Turn the R FOCUS VR to set the dot diameter to about Ø30mm.
				(8) Turn the 4 pole magnet of the projection unit CRT neck and to where the dots at the screen center are nearly circular.
				(9) Return the R FOCUS VR to its original position (just focus).
				(10) Turn the 2 pole magnet of the CRT neck to minimize expansion of the dots.
				(11) In the same manner, adjust for the green and blue single color focus.
				(12) Secure the 4 and 2 pole magnets with similar adhesive.
				
				CRT FOCUS
				(13) Receive NTSC crosshatch signal.
				(14) Makes a red single color.
				  NOTE :
				    When making a single color, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment color and it makes it single color.
				(15) Adjust the R FOCUS VR for optimum focus at the position indicated in the figure.
				(16) In the same manner, adjust for the green and blue single color focus.
				(17) After adjustment, return the SCREEN VRs to their original positions.
				  NOTE :
				    When moving screen VR, always return to original.

DEFLECTION YOKE

LENS FOCUS SCREW

CENTERING MAGNET

4 POLE MAGNET   2 POLE MAGNET

PROJECTION UNIT & LENS ASS'Y
(CRT adjustment location)

CRT FOCUS adjustment point

3.8.4 DEFLECTION & CONVERGENCE ADJUSTMENT

- The adjustment using the remote control unit is made on the basis of the initial setting values.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- At first the adjustment in FULL mode should be done, then the data for the other ASPECT mode is corrected in the respective value at the same time.

3.8.4.1 FLOWCHART OF ADJUSTMENT

CAUTION:
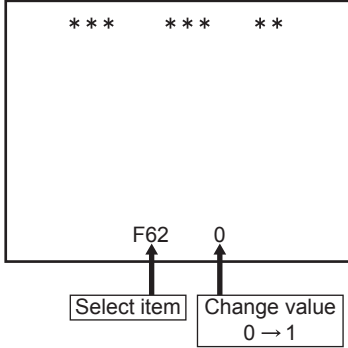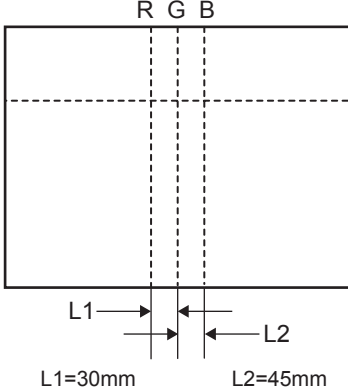
All adjustments of the DEFLECTION circuit for this model should be carried out under the status without convergence operation.

To enter the mode without convergence operation, select 1.PICTURE/SOUND and change the data in the setting item F62 from 0 to 1. (For details, please refer to the adjustment of DEFLECTION.)

As a result, you can get the screen as shown in bellow figure. Adjust the DEFLECTION circuit in order of the steps indicated by the downward arrows.
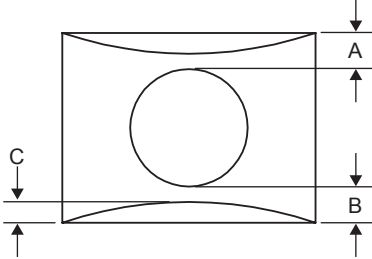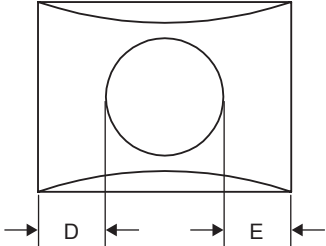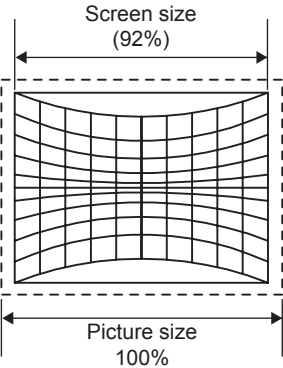
NOTE: When every adjustment of the DEFLECTION circuit has completed, start the adjustment of convergence.
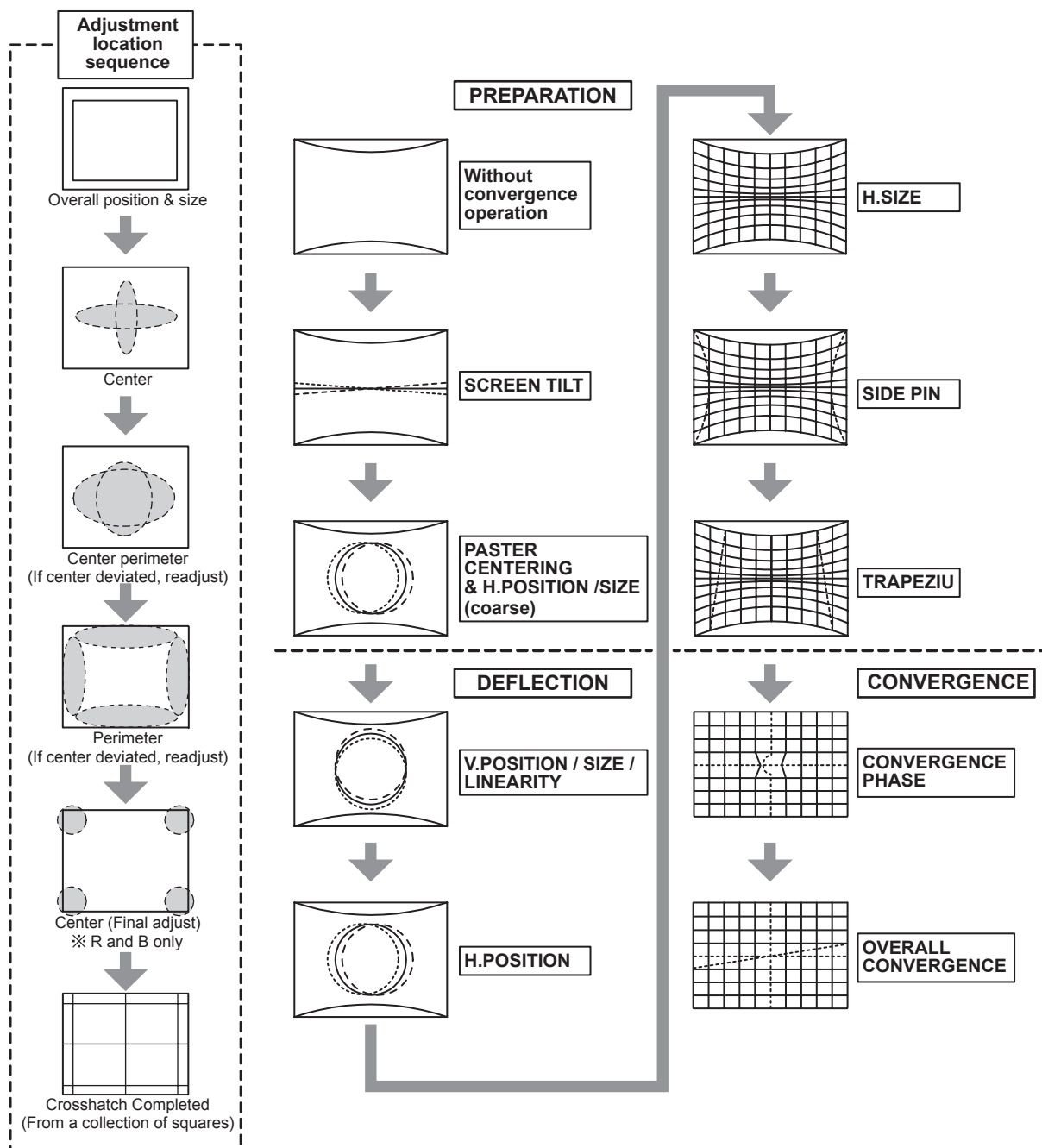
3.8.4.2   PREPARATION

Item	Measuring instrument	Test point	Adjustment part	Description
SCREEN TILT adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] F62 : Without convergence operation G DEF. YOKE R DEF. YOKE B DEF. YOKE [PROJECTION UNIT]	• Confirm correct FOCUS adjustment. (1) Receive NTSC cross-hatch signal. (2) Select 1. PICTURE/SOUND from SERVICE MENU. (3) Select <F62> (Without convergence operation) with [CH +] / [CH -] keys. (4) Change the data 0 to 1, then it makes picture without convergence operation. (5) Makes a green single color.
				NOTE : When making a single color, It squeezes SCREEN VR in each one, or it does a lid to the lens in the adjustment color and it makes it single color. (6) Temporarily secure the G deflection yoke to the top of the neck and adjust the tilt of the deflection yoke so that the horizontal line at the center becomes flat. After adjustment, fasten the temporal screw. (7) Adjust the tilt of the R and B deflection yokes in the same manner as for green.
				NOTE : Make sure that the adjustment of CRT FOCUS is optimized at the center and at the fringe of the center in turn. If the proper adjustment has not been done, adjust FOCUS VR again.
RASTER CENTERING & H. POSITION / SIZE (coarse) adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D03 : H. SIZE D14 : H. CENTER F62 : Without convergence operation G CENTERING magnet R CENTERING magnet B CENTERING magnet [DEF. YOKE]	(1) Receive NTSC circle (or cross-hatch) signal. (2) Select 1. PICTURE/SOUND from SERVICE MENU. (3) Select <F62> (Without convergence operation) with [CH +] / [CH -] keys. (4) Change the data 0 to 1, then it makes picture without convergence operation. (5) Makes a green single color.
				NOTE : When making a single color, it squeezes SCREEN VR in each one, or it does a lid to the lens in the adjustment color and it makes it single color. (6) Select <D03> (H. SIZE) and shorten the level until and perpendicular amplitude of vibration with until the blanking in Left and Right and on either side can be seen. (7) Select <D14> (H. CENTER) and adjust horizontal position to make the screen center and signal center. (8) Select <D03> and adjust horizontal size to make screen picture approx. 92% of H-SIZE. (9) After adjustment, select <F62> and change the data 1 to 0. (10) Press [MUTING] key and memorize the set value. (11) Adjust G CENTERING magnet to make horizontal and vertical line center as mechanical center of screen. (12) Red and blue color too, are reflected by it. (13) Using R CENTERING magnet and B CENTERING magnet, adjusts for the line of the red(L1) and the blue(L2) to become the position of the left figure.
				NOTE : Vertical center position of the red and blue are the same as green.

Figure (SCREEN TILT adjustment):

1. PICTER/SOUND menu

```
* * *      * * *      * *
```

F62   0

Select item | Change value 0 → 1

Figure (RASTER CENTERING):

R G B

L1→
← L2
L1=30mm   L2=45mm
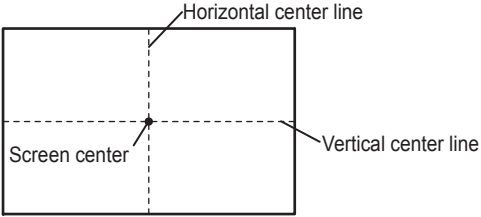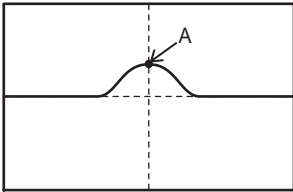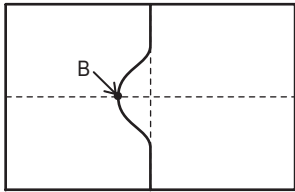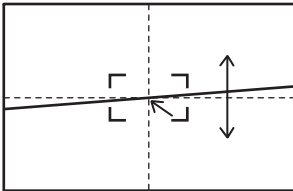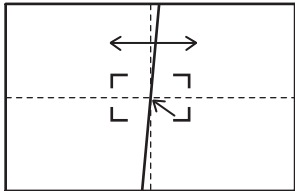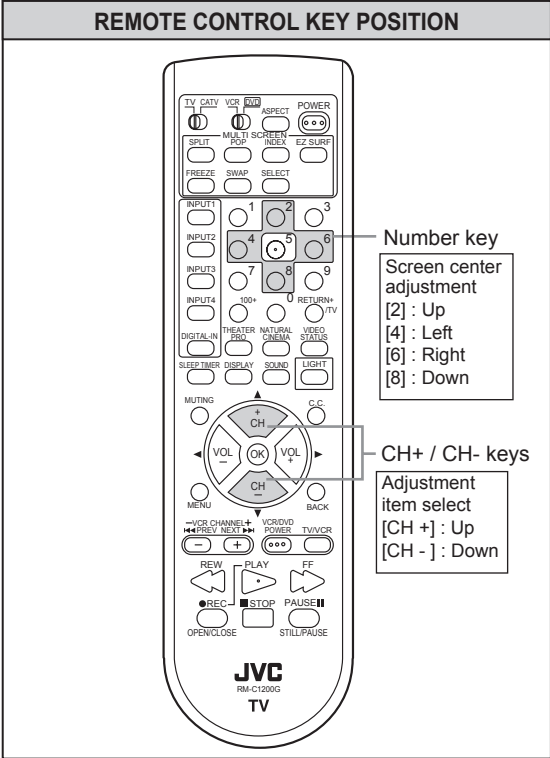
3.8.4.3 DEFLECTION ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
V. POSITION / SIZE / LINEARITY adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D01 : V. SIZE D05 : V. LINE D06 : V. CENT F62 : Without convergence operation	• To memorize every time after finish adjustment on each mode. (1) Receive NTSC circle pattern signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select <F62> (Without convergence operation). (5) Change the data 0 to 1, then it makes picture without convergence operation. (6) Select <D01> (V. SIZE), <D05> (V. LINE), <D06> (V. CENT). (7) Adjust <D01>, <D05> and <D06> to make A = B (precision ±2mm), and adjust to make C = 55mm (AV-48WP74) / 75mm (AV-56WP74) (8) Press [MUTING] key and memorize the set value. **NOTE :** Do not adjust <D04> (V. S-CORRECTION), if it is different vertical position after adjust vertical linearity, to adjust vertical position.
H. POSITION adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D14 : H. CENTER F62 : Without convergence operation	(1) Receive NTSC circle pattern signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select <F62> (Without convergence operation). (5) Change the data 0 to 1, then it makes picture without convergence operation. (6) Select <D14> (H. CENTER). (7) Adjust <D14> to make D = E as shown figure. (8) Press [MUTING] key and memorize the set value.
H. SIZE adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D03 : H. SIZE F62 : Without convergence operation	(1) Receive NTSC cross-hatch signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select <F62> (Without convergence operation). (5) Change the data 0 to 1, then it makes picture without convergence operation. (6) Select <D03> (H. SIZE). (7) Adjust <D03> to make sure that the vertical screen size of the picture size is 92%. (8) Press [MUTING] key and memorize the set value.

Item	Measuring instrument	Test point	Adjustment part	Description
SIDE PIN adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D02 : EW D08 : BOT.CORN D09 : TOP.CORN F62 : Without convergence operation	(1) Receive NTSC cross-hatch signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select <F62> (Without convergence operation). (5) Change the data 0 to 1, then it makes picture without convergence operation. (6) Select <D02> (EW), <D08> (BOT.CORN), <D09> (TOP.CORN). (7) Adjust <D02>, <D08>, <D09> to make the vertical lines at the left and right edges of the screen straight. (8) Press [MUTING] key and memorize the set value. **NOTE :** After making adjustments, confirm that the horizontal position is properly adjusted. If the horizontal is out of alignment, readjust it. Adjust H SIZE & SIDE PIN reparably.
			Straight	
TRAPEZIUM adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D07 : EW.TRAP F62 : Without convergence operation	(1) Receive NTSC cross-hatch signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select <F62> (Without convergence operation). (5) Change the data 0 to 1, then it makes picture without convergence operation. (6) Select <D07> (EW.TRAP). (7) Adjust <D07> to bring the vertical lines at the right and left edges of the screen parallel. (8) Press [MUTING] key and memorize the set value. **NOTE :** After making adjustments, confirm that the horizontal position is properly adjusted. If the horizontal is out of alignment, readjust it. Adjust H SIZE & SIDE PIN reparably.
			Parallel	
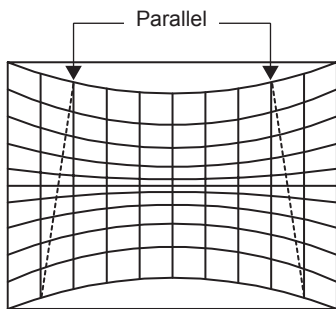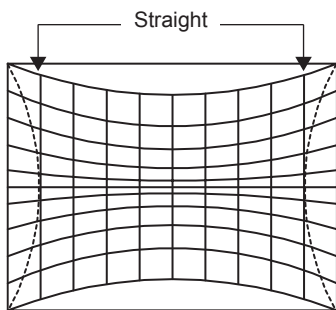
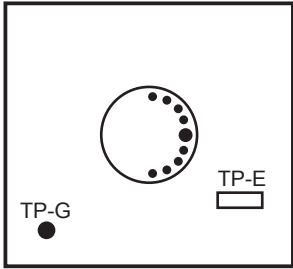### 3.8.4.4 CONVERGENCE ADJUSTMENT(1) ••••••• RGB together
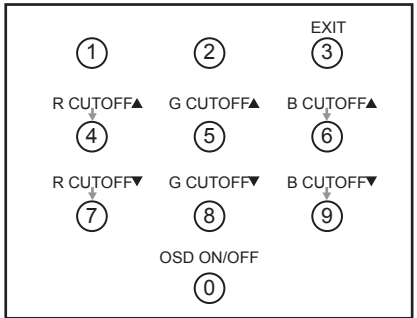
Item	Measuring instrument	Test point	Adjustment part	Description
CONVERGENCE PHASE adjustment	Signal generator Remote control unit		[6.CONVER A] CPA03 : FINE H CPA04 : FINE V CPA05 : CAU V CPA07 : CAU H2	**NOTE:** Retain the default value of this adjustment. It is not necessary to carry out the adjustment unless the image on the screen is significantly deformative. If you performed this adjustment, open the user MENU "INITIAL SETUP" and execute AUTO of CONVERGENCE after the adjustment. (1) Receive NTSC cross-hatch signal. (2) Select 6.CONVER A from SERVICE MENU. (3) Select <CPA03> (FINE H). (4) Adjust the peak A as shown in Fig. 2 agrees with the horizontal center line by using [2] & [8] keys. (5) Select <CPA04> (FINE V). (6) Adjust the peak B as shown in Fig. 3 agrees with the vertical center line by using [4] & [6] keys. (7) Select <CPA05> (CAU V). (8) Adjust the intersection point of the horizontal center line and the vertical center line agrees with the screen center by using [2] & [8]. (Fig.4) (9) Select < CPA07>(CAU H2). (10) Adjust the intersection point of the horizontal center line and the vertical center line agrees with the screen center by using [4] & [6]. (Fig.5) (11) Press [MUTING] key and memorize the set values.

Horizontal center line

Screen center

Vertical center line

Fig. 1:Screen center

A

B

Fig. 2:CPA03<FINE H> adj.

Fig. 3:CPA04<FINE V> adj.

Fig. 4:CPA05<CAU V> adj.

Fig. 5:CPA07<CAU H> adj.

REMOTE CONTROL KEY POSITION

Number key

Screen center adjustment
[2] : Up
[4] : Left
[6] : Right
[8] : Down

CH+ / CH- keys

Adjustment item select
[CH +] : Up
[CH -] : Down

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RM-C1200G
TV

3.8.4.5 DEFLECTION ADJUSTMENT(2) ••••••• RGB respectively

Item	Measuring instrument	Test point	Adjustment part	Description
OVERALL CONVERGENCE adjustment (1) [LINE]	Signal generator Remote control unit		[6.CONVER A] CPA08 : FINE OFF CCA01 : C H CENT CCA02 : C H SIZE CCA03 : C H LIN CCA05 : C EW PIN CCA09 : V SIZE CCA10 : V KEY CCA11 : TB PIN	**NOTE:** Retain the default value of this adjustment. It is not necessary to carry out the adjustment unless the image on the screen is significantly deformative. If you performed this adjustment, open the user MENU "INITIAL SETUP" and execute AUTO of CONVERGENCE after the adjustment. (1) Receive NTSC cross-hatch signal. (2) Select 6.CONVER A from SERVICE MENU. (3) Select <CPA08> (FINE OFF). (4) Change the data 0 to1. (Clear the fine adjustment data) (5) Press [INPUT] key to select <CCA01> (C H CENT). Then a green cross-hatch pattern for adjustment will be displayed on the screen. (6) Make sure that the heavy lines as shown in figure are almost in alignment with the lines of the green cross-hatch pattern (reference color). If the lines are out of alignment significantly, adjust <CCA02> (C H SIZE), <CCA03> (C H LIN), <CCA05> (C EW PIN), <CCA09> (V SIZE) and <CCA11> (TB PIN), respectively. (Refer to under figure) (7) Press [SELECT] key to change the adjusting color to red and blue, in turn, and make the adjustments in the same manner as for 6. above. *In adjustments for red and blue, the adjustment of <CCA10> (V KEY) is also available.

For this adjustment, it is necessary to use a remote control unit (e.g. RM-C322G) with INPUT key. In order to change the adjusting items, use INPUT key. When you press INPUT key, the adjusting items will change in the order of CPA ∗∗ → CCA ∗∗ → CBA∗∗ key.

Fourth lines from the horizontal center line right
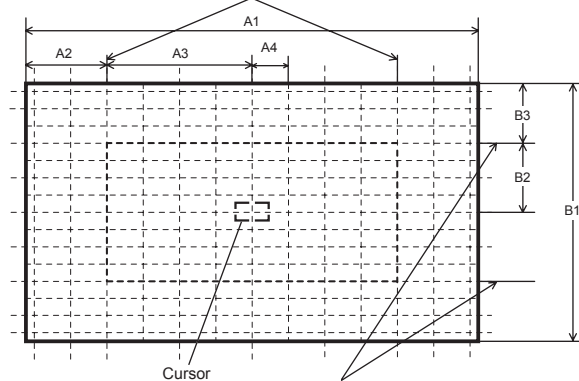
Fourth lines from the vertical center line upward and downward.

	A1	A2	A3	A4	B1	B2	B3
AV-48WP74	1060	182	348	87	600	164	136
AV-56WP74	1240	213	407	102	700	192	159

SPAN TABLE (mm)

REMOTE CONTROL KEY POSITION
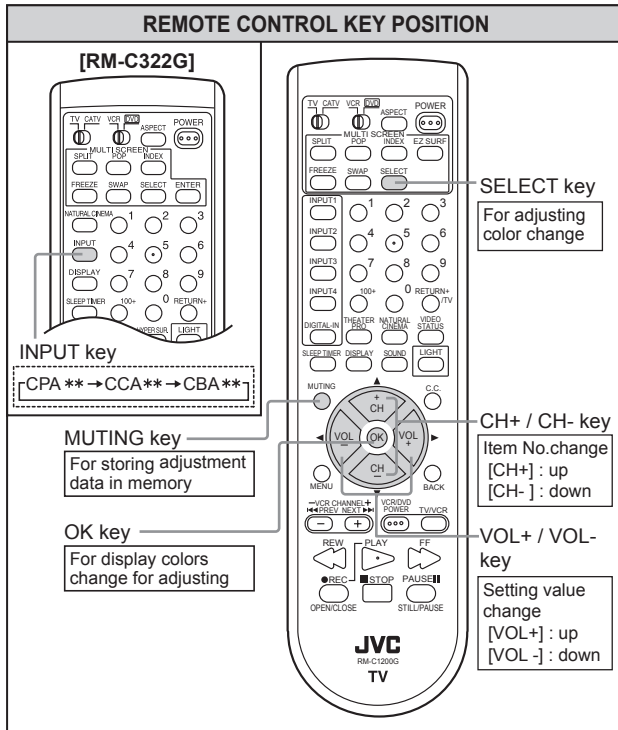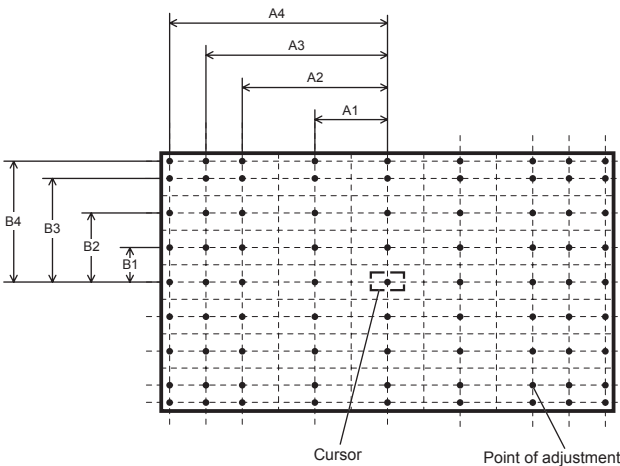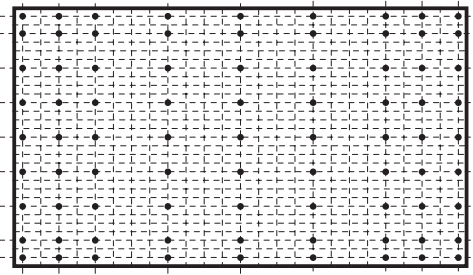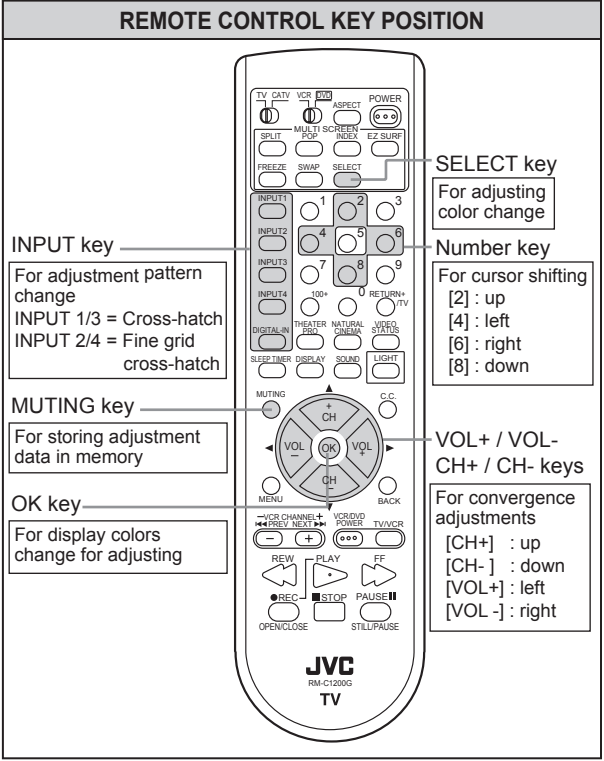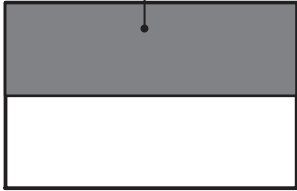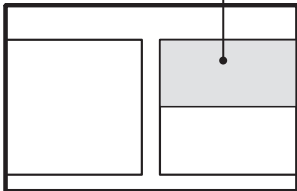
NOTE:
Press [OK] key to change the display colors. Whenever [OK] key is pressed, the menu will sequence in this order: "Two colors (adjusting color+green)"--->"Three colors (RGB)"
(8) When the adjustments have been completed, press [MUTING] key and memorize the set values.
(9) Select <CPA08>.
(10) Change the <CPA08> 1 to 0.
(11) Press [MUTING] key and memorize the set values.
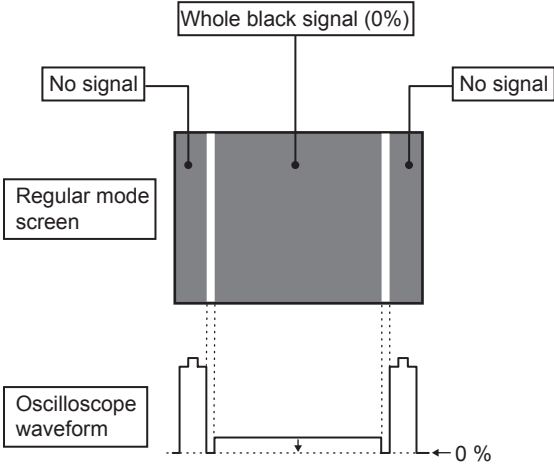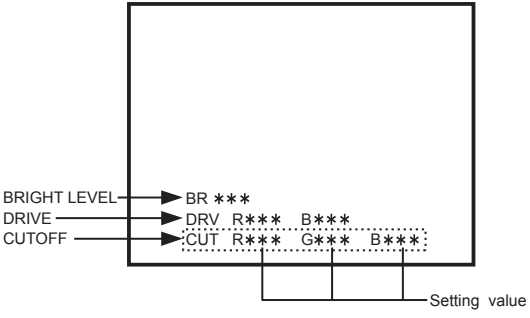
Item	Measuring instrument	Test point	Adjustment part	Description
OVERALL CONVERGENCE adjustment (2) [POINT]	Signal generator Remote control unit		[7.CONVER B]	**NOTE:** Perform this adjustment after performing OVERALL CONVERGENCE adjustment (1). (1) Select 7.CONVER B from SERVICE MENU. Then appear green cross-hatch pattern for adjustment. (See Fig.1) (2) Press [2] / [4] / [6] / [8] key respectively, move the cursor to the adjusting point. (3) Press [CH+] / [CH-] / [VOL+] / [VOL-] key, adjust the position of the adjusting point so that it is located at the place as shown in Fig1. (4) Press [SELECT] key to select the red and blue cross-hatch patterns, respectively, and make convergence adjustments so that they align with the adjusting points of the green cross-hatch pattern (reference color). (5) Press [OK] key to change the display colors to three colors from two colors (adjusting color + green) and make sure that the convergence has been aligned with each other. (6) Press [INPUT 2] or [INPUT4] key. After changing the pattern to the fine grid cross-hatch pattern, make sure that the convergence has been adjusted properly. (7) Press [MUTING] key and memorize the set values.

Fig.1
<CROSS-HATCH (H13 x V15 points) >

Cursor   Point of adjustment

Fig.2
<FINE GRID CROSS-HATCH (H25 x V29 points) >

	A1	A2	A3	A4	B1	B2	B3	B4
AV-48WP74	174	348	435	522	82	164	246	287
AV-56WP74	204	407	509	611	96	192	287	335

SPAN TABLE (mm)

REMOTE CONTROL KEY POSITION

SELECT key
For adjusting color change

INPUT key
For adjustment pattern change
INPUT 1/3 = Cross-hatch
INPUT 2/4 = Fine grid cross-hatch

Number key
For cursor shifting
[2] : up
[4] : left
[6] : right
[8] : down

MUTING key
For storing adjustment data in memory

OK key
For display colors change for adjusting

VOL+ / VOL-
CH+ / CH- keys
For convergence adjustments
[CH+] : up
[CH-] : down
[VOL+] : left
[VOL -] : right

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3.8.5 VIDEO ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
A-D CONVERTER OFFSET adjustment (1)	Signal generator Remote control unit		[1.PICTURE/SOUND] F44 : Image adjustment F45 : Image adjustment of mode change F47 : Minimum value B at the time of detection F48 : Maximum value A at the time of detection [8.PP] ADM012 : R offset AMD013 : G offset AMD014 : B offset	**[WHITE BALANCE LOW LIGHT ADJUSTMENT for SINGLE SCREEN]** (1) Input the 480i (DVD) whole black signal from the COMPONENT VIDEO terminal. (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Select FULL mode with [ASPECT] key. (4) Select 1.PICTURE / SOUND from SERVICE MENU. (5) It goes into the zero mode screen of difference adjustment of color, using <F44>(Image adjustment) as 0 to 1, and using <F45>(Image adjustment mode change) as 0 to 3. (6) Set <F47> (minimum value B at the time of detection) to 0 and <F48> (maximum value A at the time of detection) to 0. (7) Press [MUTING] key and memorize the set value. (8) Press [BACK] key and display SERVICE MENU screen again. (9) Select 8. PP from SERVICE MENU. (10) Adjust <ADM012> (R offset setup) and <ADM014> (B offset setup) so that the adjustment result out put screen in the upper half of a screen becomes black color.(Fig.1) (11) If the screen is reddish, adjust <ADM012>(R offset setup) so that the redness is reduced to the minimum. (12) If the screen is bluish, adjust <ADM014>(B offset setup) so that the blue is reduced to the minimum. (13) Press [MUTING] key and memorize the set value. **[BRIGHTNESS ADJUSTMENT for SPLIT RIGHT SCREEN]** (1) Select STANDARD mode with [VIDEO STATUS] key. (2) Select FULL mode with [ASPECT] key. (3) Press [SPLIT] key to enter the SPLIT screen mode, then input gray scale signal on both left and right channels. (4) Select 1.PICTURE/SOUND from SERVICE MENU. (5) It goes into the Y adjustment MAX mode, using <F45> as 0 and using <F44> as 0 to 1. (6) Set <F47> to 16 and <F48> to 16. (7) Press [MUTING] key and memorize the set value. (8) Press [BACK] key and display the SERVICE MENU. (9) Select 8. PP from SERVICE MENU. (10) Adjust <ADM013> (G offset setup) so that the screen on the right upper side becomes slightly whitish rather (6% black) than whole black.(Fig.2) (11) Press [MUTING] key and memorize the set value.

Upper side of screen whole black

Fig. 1 <FULL screen>

To be slightly whitish rather than whole black

Fig. 2 <SPLIT screen>

Item	Measuring instrument	Test point	Adjustment part	Description
A-D CONVERTER OFFSET adjustment (2)	Signal generator Remote control unit		[1.PICTURE/SOUND] F44 : Image adjustment F45 : Image adjustment of mode change F47 : Minimum value B at the time of detection F48 : Maximum value A at the time of detection [8.PP] ADM012 : R offset AMD013 : G offset AMD014 : B offset	**[WHITE BALANCE LOW LIGHT ADJUSTMENT for SPLIT RIGHT SCREEN]** (1) Press [SPLIT] key to enter the SPLIT screen mode. (2) Select STANDARD with [VIDEO STATUS] key. (3) Select FULL mode with [ASPECT] key. (4) Select 1 PICTURE SOUND from SERVICE MENU. (5) It goes into the zero mode screen of difference adjustment of color, using <F45>(Image adjustment mode change) as 0 to 3 and <F44>(Image adjustment) as 0 to 1. (6) Set <F47> (minimum value B at the time of detection) to 0 and <F48> (minimum value A at the time of detection) to 0. (7) Press [MUTING] key and memorize the set value. (8) Press [BACK] key and back to SERVICE MENU. (9) Select 8.PP from SERVICE MENU. (10) Adjust <ADM012> (R offset setup) and <ADM014> (G offset setup) so that right upside screen becomes whole black. (11) Press [MUTING] key and memorize the set value. (12) Select 1.PICTURE/SOUND from SERVICE MENU. (13) Change the data of <F44> 1 to 0 and <F45> 3 to 0. (14) Press [MUTING] key and memorize the set value.

Whole black

Fig. 3 <SPLIT screen>

Item	Measuring instrument	Test point	Adjustment part	Description
RGB CUTOFF adjustment	Signal generator Oscilloscope Remote control unit	TP-R [R CRT SOCKET PWB] TP-G [G CRT SOCKET PWB] TP-B [B CRT SOCKET PWB]	[1.PICTURE/SOUND] S14: CUTOF R S16: CUTOF G S18: CUTOF B R SCREEN VR G SCREEN VR B SCREEN VR [FOCUS PACK]	(1) Receive NTSC whole black (0%) signal. (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Select REGULAR mode with [ASPECT] key. (4) The COLOR TEMP set at the LOW mode. (5) Connect the oscilloscope to TP-G on the G CRT SOCKET PWB. (6) Select 1.PICTURE/SOUND from SERVICE MENU. (7) Select <S16> (CUTOF G). (8) Adjust <S16> so that the central 0% signal portion and the non-signal portion of both sides may become the same voltage.

(9) Press [MUTING] key and memorize the set value.
(10) Receive 480i component whole black (0%) signal.
(11) Set <S16> data same as memorized NTSC <S16> data.
(12) Set 1080i component whole black (0%) signal.
(13) Set <S16> data same as memorized NTSC <S16> data.
(14) Connect the oscilloscope to TP-R <S14> (CUTOF R) and adjust same manner as for 6. ~ 13. above.
(15) Connect the oscilloscope to TR-B <S18> (CUTOF B).and adjust same manner as for 6. ~ 13. above.
(16) Adjust SCREEN VR for RGB respectively, so that the black (3%) becomes faintly whitish.

NOTE :

If it is difficult to adjust the SCREEN precisely, adjust the SCREEN VR for one of three colors while masking other two colors.

CRT SOCKET PWB

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (LOW LIGHT) adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] S14: CUTOF R S16: CUTOF G S18: CUTOF B S20: CUTOF SW R S21: CUTOF SW G S22: CUTOF SW B	(1) Receive NTSC black & white pattern signal (color off). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) The COLOR TEMP is set at the LOW mode. (4) Select 3.WHITE BALANCE from SERVICE MENU. (5) Increase bright level to confirm LOW-LIGHT with [VOL +] key. (6) Adjust using [4] / [7] (R CUTOFF), [6] / [9] (B CUTOFF) key so that a black portion may become black. (7) Press [MUTING] key and memorize the set values. (8) Input 480i component black & white pattern signal from COMPONENT VIDEO terminal. (9) Repeat steps 5 ~ 7 above. (10) Input 1080i component black & white signal from COMPONENT VIDEO terminal. (11) Repeat steps 5 ~ 7 above.

3. WHITE BALANCE

BRIGHT LEVEL → BR ✱✱✱
DRIVE → DRV R✱✱✱ B✱✱✱
CUTOFF → CUT R✱✱✱ G✱✱✱ B✱✱✱

Setting value

NOTE :
Before starting the adjustment, warm up the unit for more than 30 minutes.

SETTING VALUE

NTSC

BR	133		
DRV	R 073	B 060	
CUT	R 188	G 149	B 215

480i

BR			
DRV	R 074	B 058	
CUT	R 194	G 149	B 210

1080i

BR			
DRV	R 074	B 058	
CUT	R 195	G 149	B 210

REMOTE CONTROL UNIT

① ② EXIT ③

R CUTOFF▲ G CUTOFF▲ B CUTOFF▲
④ ⑤ ⑥

R CUTOFF▼ G CUTOFF▼ B CUTOFF▼
⑦ ⑧ ⑨

OSD ON/OFF
⓪

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (HIGH LIGHT) adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] S10: DRIVE R S12: DRIVE B	(1) Receive NTSC black & white signal (color off). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) The COLOR TEMP is set at LOW mode. (4) Select 1.PICTER/SOUND from SERVICE MENU. (5) Select <S10> (DRIVE R) or <S12> (DRIVE B). (6) Adjust <S10> or <S12> so that the natural white should be visible. (7) Press [MUTING] key and memorize the set values. (8) Input 480i component black & white signal from COMPONENT VIDEO terminal. (9) Repeat steps 5 ~ 7 above. (10) Input 1080i component black & white signal from COMPONENT VIDEO terminal. (11) Repeat steps 5 ~ 7 above.

1. PICTUER/SOUND

NTSC   FULL   DA   H   FL   MUTE

Setting Item ——— S10   DRIVE R   ✳✳✳ ——— Setting value

INITIAL SETTING VALUE

Signal \ Item	Setting value		
	NTSC	480i	1080i
S10	073	074	074
S12	060	058	058

Item	Measuring instrument	Test point	Adjustment part	Description
SUB BRIGHT adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] S03: BRIGHT	(1) Receive NTSC black & white signal. (2) Select STANDARD mode with [VIDEO STATUS] key. (3) The COLOR TEMP is set at the LOW mode. (4) Select 1.PICTURE/SOUND from SERVICE MENU. (5) Select <S03> (BRIGHT). (6) Set initial setting value. (See Table) (7) If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. (8) Press [MUTING] key and memorize the set values. (9) Select THEATER mode with [VIDEO STATUS] key. (10) Select 1.PICTURE/SOUND from SERVICE MENU. (11) Select <S03>. (12) Set initial setting value. (See Table) (13) If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. (14) Press [MUTING] key and memorize the set values. (15) Input 480i component black & white signal from COMPONENT VIDEO terminal. (16) Repeat steps 2 ~ 14 above. (17) Input 1080i component black & white signal from COMPONENT VIDEO terminal. (18) Repeat steps 2 ~ 14 above.

Signal \ Item	Setting value					
	NTSC		480i		1080i	
	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S03	131	121	130	129	130	130

Item	Measuring instrument	Test point	Adjustment part	Description
SUB CONTRAST adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] S04: CONTRAST	(1) Receive NTSC black & white signal. (2) Select STANDARD mode with [VIDEO STATUS] key. (3) The COLOR TEMP is set at the LOW mode. (4) Select 1.PICTURE/SOUND from SERVICE MENU. (5) Select <S04> (CONTRAST). (6) Set Initial setting value. (See Table) (7) If the contrast is not the best with the initial setting value, make fine adjustment of the <S04> until you get the optimum contrast. (8) Press [MUTING] key and memorize the set values. (9) Select THEATER mode with [VIDEO STATUS] key. (10) Select 1.PICTURE/SOUND from SERVICE MENU. (11) Select <S04>. (12) Set Initial setting value. (See Table) (13) If the contrast is not the best with the initial setting value, make fine adjustment of the <S04> until you get the optimum contrast. (14) Input 480i component black & white signal from COMPONENT VIDEO terminal. (15) Repeat steps 2 ~ 13 above. (16) Receive 1080i component black & white signal from COMPONENT VIDEO terminal. (17) Repeat steps 2 ~ 13 above.

Signal / Item	Setting value					
	NTSC		480i		1080i	
	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S04	052	045	065	046	065	044

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR / SUB TINT / B-Y GAIN adjustment (1)	Signal generator Remote control unit	TP-R TP-B TP-E (GND)	[1.PICTURE/SOUND] S01 : COLOR S02 : TINT S07 : B-Y	**[Method of adjustment without measuring instrument]** (1) Receive NTSC color bar signal. (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Select 1.PICTURE/SOUND from SERVICE MENU. (4) Select <S01> (COLOR) or <S02> (TINT). (5) Set the initial setting values. (6) If the color or tint is not the best with the initial setting values, make fine adjustment until you get the best color or the best tint. (7) Select <S07> (B-Y). (8) Set the initial setting values. (9) If the color bar is not clearly with the initial setting value, make fine adjustment until you get the clearly color bar. (10) Press [MUTING] key and memorize the set values. (11) Select THEATER mode with [VIDEO STATUS] key. (12) Select <S01> or <S02> . (13) Set the initial setting values. (14) If the color or tint is not the best with the initial setting values, make fine adjustment until you get the best color or the best tint. (15) Select <S07>. (16) Set the initial setting values. (17) If the color bar is not clearly with the initial setting value, make fine adjustment until you get the clearly color bar. (18) Press [MUTING] key and memorize the set values. (19) Input 480i component color bar signal from COMPONENT VIDEO terminal. (20) Repeat steps 2 ~ 18 above. (21) Input 480p component color bar signal from COMPONENT VIDEO terminal. (22) Repeat steps 2 ~ 18 above. (23) Input 1080i component color bar signal from COMPONENT VIDEO terminal. (24) Repeat steps 2 ~ 18 above.

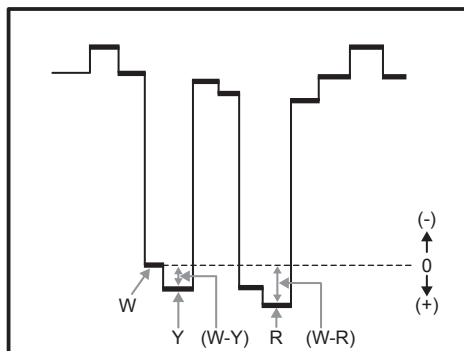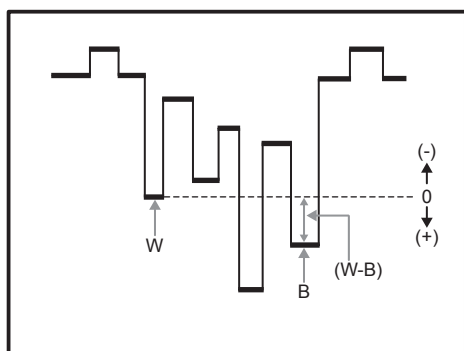| Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR / SUB TINT / B-Y GAIN Adjustment (2)	Signal generator Oscilloscope Remote control unit	TP-R TP-B TP-E (GND)	[1.PICTURE/SOUND] S01 : COLOR S02 : TINT S07 : B-Y	**[Method of adjustment with measuring instrument]** (1) Receive NTSC color bar signal. (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Connect the oscilloscope to TP-R on the R CRT SOCKET PWB. (4) Select 1.PICTURE/SOUND from SERVICE MENU. (5) Select <S01> (COLOR) or <S02> (TINT). (6) Adjust <S01> and <S02> to be following setting value A[V]. (Refer to the bellow table) (7) Press [MUTING] key and memorize the set values. (8) Select THEATER mode with [VIDEO STATUS] key. (9) Adjust <S01> and <S02> to be following setting value B[V] same as above. (Refer to the bellow table) (10) Press [MUTING] key and memorize the set values. (11) Select STANDARD mode with [VIDEO STATUS] key. (12) Connect the oscilloscope to TP-B on the B CRT SOCKET PWB. (13) Adjust <S07> (B-Y) to be setting value C[V]. (Refer to the bellow table) (14) Press [MUTING] key and memorize the set values. (15) Select THEATER mode with [VIDEO STATUS] key. (16) Adjust <S07> to be setting value D[V]. (Refer to the bellow table) (17) Press [MUTING] key and memorize the set values. (18) Confirm that LOW-LIGHT is not different after adjusting COLOR, TINT and B-Y GAIN. If it is green or magenta, to adjust LOW-LIGHT again. If adjust again, to set offset value again. (19) Press [MUTING] key and memorize the set values. (20) Input 480i component color bar from COMPONENT VIDEO terminal. (21) Repeat steps 2 ~ 19 above. (22) Input 480p component color bar from COMPONENT VIDEO terminal. (23) Repeat steps 2 ~ 19 above. (24) Input 1080i component color bar from COMPONENT VIDEO terminal. (25) Repeat steps 2 ~ 19 above.

Fig.1

Fig.2

Setting item / Signal	Setting value A [V]		Setting value B [V]		Setting value C [V]	Setting value D [V]
	STANDARD		THEATER		STANDARD	THEATER
	S01 (W-R)	S02 (W-Y)	S01 (W-R)	S02 (W-Y)	S07 (W-B)	S07 (W-B)
NTSC	+28	+14	+19	+7	+10	+18
480i	+19	+11	+7	+1	-17	+2
480p	+19	+14	+11	+2	-25	+12
1080i	+7	+6	+5	+7	-24	-9

| Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL check	Remote control unit		[1.PICTURE/SOUND] A01 : IN LEVEL	(1) Select 1.PICTURE / SOUND from SERVICE MENU. (2) Select <A01> (IN LEVEL). (3) Verify that<A01> is set at its initial setting value.
MTS SEPARATION adjustment	TV audio multiplex signal generator Oscilloscope Remote control unit	AUDIO OUT L output R output	[1.PICTURE/SOUND] A02: LOW SEP. A03 : HI SEP.	(1) Input stereo L signal (300Hz) from the TV audio multiplex signal generator to the antenna terminal. (2) Connect an oscilloscope to L OUTPUT pin of the AUDIO OUT, and display one cycle portion of the 300Hz signal. (3) Change the connection of the oscilloscope to R OUTPUT pin of the AUDIO OUT, and enlarge the voltage axis. (4) Select <A02> (LOW SEP.). (5) Set the initial setting value of <A02>. (6) Adjust <A02> so that the stroke element of the 300Hz signal will become minimum. (7) Change the signal to 3kHz, and similarly adjust <A03> (HI SEP.).

L-Channel signal waveform   R-Channel crosstalk portion

↓ Minimum

1 cycle
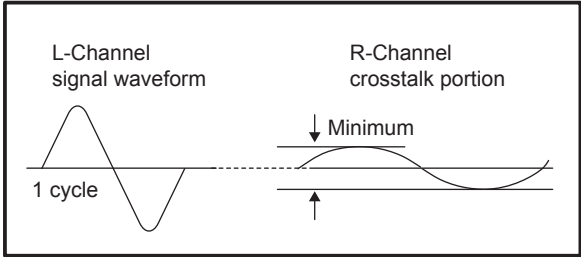
3.9 HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

3.9.1 HIGH VOLTAGE HOLD DOWN CIRCUIT
After repairing the high voltage hold down circuit.
This circuit shall be checked to operate correctly.

3.9.2 CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT
(1) Turn the power switch ON.
(2) As shown in figure bellow, set the resistor (between S1 connector 2 & 3).
(3) Make sure that the screen picture disappears (no raster).
(4) Temporarily unplug the power cord.
(5) Remove the resistor (between S1 connector 2 & 3).
(6) Again plug the power cord, make sure that normal pictures is displayed on the screen.
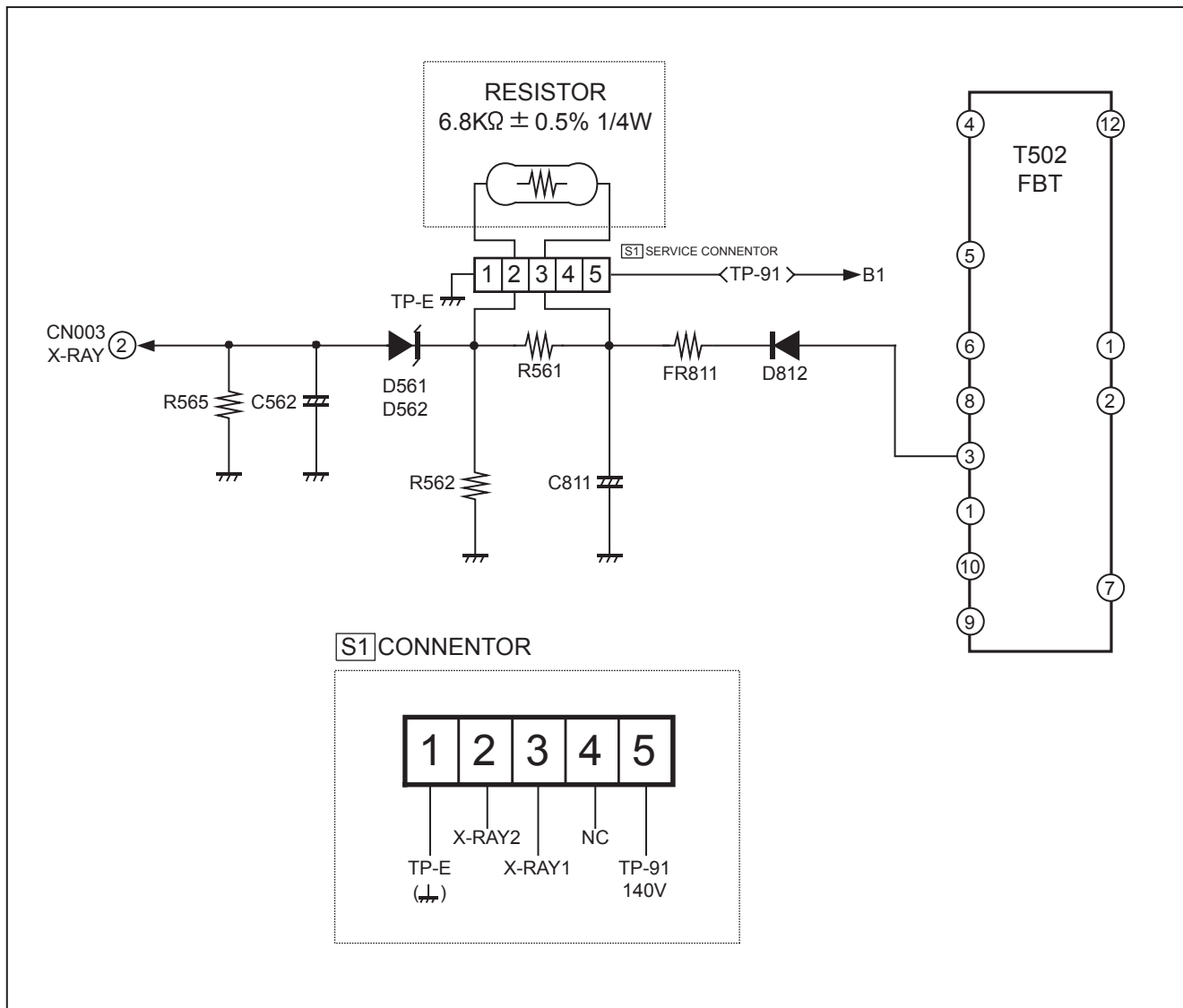
SECTION 4
TROUBLESHOOTING

4.1 SELF CHECK FUNCTIONS

- This model has self-check functions that inform of the failure of the TV by detecting abnormality.
- Operational state is always monitored and the identified is memorized on the record.

4.1.1 HOW TO ENTER THE SELF-CHECK MODE
(1) Set the <SLEEP TIMER 30MIN> with [SLEEP TIMER] key. (Fig.1)
(2) During the <SLEEP TIMER 30MIN> display, press [DISPLAY] key and [VIDEO STATUS] key at the same time.
(3) Then <TEST MODE> screen is displayed. (Fig.2)
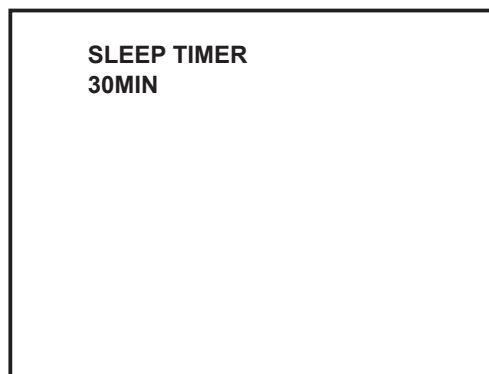(4) Press [4] key then <SELF-CHECK> screen is appear. (Fig.3)

4.1.2 HOW TO EXIT FROM THE SELF-CHECK MODE
(1) By using the remote control unit, turn the power off. At this time, the failure record is cleared.
(2) Take off the AC plug from the wall outlet. At this time, the failure record is not cleared.

4.1.3 SELF-CHECK DISPLAY
The self-check results are shown on the following display.
Method of indication when the raster is not displayed (Fig.3).

Each failure is shown by turning POWER LED on and off at specified intervals.

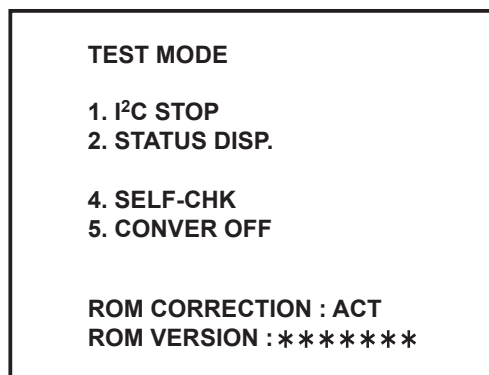| Item	POWER LED ON / OFF intervals
X-ray protection	Turning on and off 0.1-second intervals
B1 over-current protection	Turning on and off 1-second intervals
Low B short protection	Turning on and off 2-second intervals

4.1.4 EXPLANATION FOR ACTIVATION OF SELF-CHECK FUNCTIONS
- For X-ray protection, B1 over-current protection and low B short protection, the power of the TV is turned off if NG is detected.
  Immediately after the power is turned off, POWER LED will be turning on and off.
  When the power is turned off, you cannot turn the power on again until the AC plug is taken out and put in again.
- The latest failure is stored on the record at the end.
  The failure record for each check item is counted to the number of 9 at the maximum, When more than 9 failures are stored on the record, the counter remains stopped at 9.
- SYNC is neither counted nor stored in memory.
- Because of the timing of Vcc start-up and shut-down of the IC connecting to the I2C bus during which the power is turned on and off, the operation may be interpreted as an error.
  In order to avoid the misinterpretation, the self-check functions should be started at about 3 seconds after the power is turned on.

```
SLEEP TIMER
30MIN
```
Fig.1

```
TEST MODE

1. I²C STOP
2. STATUS DISP.

4. SELF-CHK
5. CONVER OFF


ROM CORRECTION : ACT
ROM VERSION : ✱✱✱✱✱✱✱
```
Fig.2

ITEM	RESULT	COUNT

```
XRAY   NG2    OCP    NG2
LOB    OK     TIM    OK
SYNC   M:OK   S:OK   HD:NG
MEM    OK     AVSW   OK
VCD    NG2    BS     OK
AIO    OK     YC     OK
TUN    OK     GCR    OK
PP     NG4    IP     OK
```
Fig.3 SELF-CHECK SCREEN

Indication	Check item	Details of detection	Method of detection
XRAY	X-ray radiation protection	Operation of X-ray protection circuit. D561, D562 : POWER & DEF PWB	At about 3 seconds after the power is turned on, the self-check function starts. If NG is detected for 200ms, the power is turned off automatically.
OCP	B1 over-current protection	An B1 over-current is detected. Q971 : POWER & DEF PWB	At about 3 seconds after the power is turned on, the self-check function starts. If NG is detected for 200ms, the power is turned off automatically.
LOB	Low B short protection	Operation of low B short protection circuit. Q1961(5V), Q1962(9V) : MAIN PWB	At about 3 seconds after the power is turned on, the self-check function starts. If NG is detected for 200ms, the power is turned off automatically.
TIM	Timer	The AC power frequency is changed as follows : 50Hz ---> 60Hz 60Hz ---> 50Hz	Periodically check the power frequency by counting the AC pulse and monitor whether or not the frequency is changed except for the time immediately after resetting.
SYNC	Presence or absence of synchronized signal	Presence of synchronized signal. HD : HD signal M : NTSC main signal S : NTSC sub signal IC1301(AN5392) : MI-COM & DIST MODULE PWB	When entering the self-check mode, "OK" is shown. While running the mode with picture signal, if the synchronized signal is disappeared, "NG" is shown.
MEM	Memory (EEP-ROM)	ACK is returned when I^2C traffic is carried out. IC1703(MEMORY) : MI-COM & DIST MODULE PWB	The state is monitored every time when I^2C traffic is carried out. Then the state is counted as a failure if ACK is not returned.
AVSW	AV switch	Ditto IC1301(AN15852A) and IC1501(CXA2069Q) : MAIN PWB	Ditto
VCD	Video / chroma process (RGB process)	Ditto IC1301(AN5392) : MI-COM & DIST MODULE PWB	Ditto
BS	Broadcast satellite tuner	Not used	Not used
AIO	Audio process (MTS decode / audio control)	Ditto UPC1851BCU IC0201(CXA2134Q-X) : RECEIVER PWB	Ditto
YC	3D YC separation	Ditto IC3001(MN82832) : MI-COM & DIST MODULE PWB	Ditto
TUN	RF tuner	Ditto Main & sub RF tuner	Ditto
GCR	Ghost reduction	Not used	Not used
PP	Picture & Picture (Multi-picture)	Ditto IC101(TMS57128GJG) : MI-COM & DIST MODULE PWB	Ditto
IP	DIST process	Ditto IC201(JCC5054) : MI-COM & DIST MODULE PWB	Ditto

AV-48WP74
AV-56WP74

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