

JVC

AV 28 WFX 1 EU
AV 28 WFX 1 EUG
AV 28 WFX 1 EUS
AV 32 WFX 1 EUG
AV 32 WFX 1 EUS

REPLACEMENT OF MEMORY ICs

- Memory ICs
The model uses memory ICs. The memory IC data is for proper replacement. When replacing, be sure to use ICs with the initial values of data.

2. Procedure for replacing memory ICs

- Power off
Switch off the power and disconnect the power plug from the wall outlet.
- Replace the memory IC
Be sure to use memory ICs with the initial data values.
- Power on
Connect the power plug into the wall outlet and switch the power on.
- Check and set SYSTEM CONSTANT SET
a) It must not adjust without adjustment signals.
b) Press the REMOTE CONTROL key and the MUTE key of the REMOTE CONTROL UNIT simultaneously.
c) While the SERVICE MENU is displayed, again press the INFORMATION key and MUTE key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.
d) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION Δ/V key, and set the correct value with the function $\leftarrow/\rightarrow$ key.
e) Press the MENU key to memorize the setting value.
f) Press the INFORMATION key (twice), and return to the normal screen.
- Receive channel setting
Refer to the OPERATING INSTRUCTIONS, and set the receive channels as described.
- User settings
Check the user setting items according to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS.
- SERVICE MENU setting
Verify what is set in the SERVICE MENU, and set whatever is necessary.
For setting, refer to the SERVICE ADJUSTMENTS.

PROCEDURE

- Power off
Switch off the power and disconnect the power plug from the wall outlet.
- Replace the memory IC
Be sure to use memory ICs with the initial data values.
- Power on
Connect the power plug into the wall outlet and switch the power on.
- Check and set SYSTEM CONSTANT SET
a) It must not adjust without adjustment signals.
b) Press the REMOTE CONTROL key and the MUTE key of the REMOTE CONTROL UNIT simultaneously.
c) While the SERVICE MENU is displayed, again press the INFORMATION key and MUTE key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.
d) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION Δ/V key, and set the correct value with the function $\leftarrow/\rightarrow$ key.
e) Press the MENU key to memorize the setting value.
f) Press the INFORMATION key (twice), and return to the normal screen.
- Receive channel setting
Refer to the OPERATING INSTRUCTIONS, and set the receive channels as described.
- User settings
Check the user setting items according to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS.
- SERVICE MENU setting
Verify what is set in the SERVICE MENU, and set whatever is necessary.
For setting, refer to the SERVICE ADJUSTMENTS.

SERVICE MENU

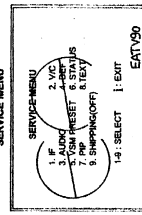


Fig. 1

SYSTEM CONSTANT SET

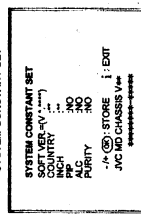
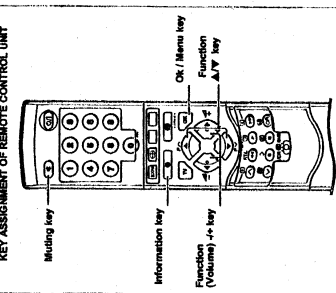


Fig. 2

KEY ASSIGNMENT OF REMOTE CONTROL UNIT



SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)

Setting item	Setting value	Setting value
COUNTRY	EU → EN → EP → ER → EUEB	EU/B
INCH	28 → 32 → 29	28
PIP	YES → NO	NO
ALC	YES → NO	NO
PURITY	YES → NO	NO

USER SETTING VALUES (TABLE 2)

Setting item	Setting value	Setting item	Setting value
SUB POWER	ON	VOLUME	Appropriate sound volume
CHANNEL	1 POSITION	DISPLAY	CHANNEL NUMBER DISPLAY
CHANNEL PRESET	See OPERATING INSTRUCTIONS.	ZOOM	REGULAR
PICTURE SETTING		EXT SETTING	
TINT	COOL	ID	BLANK
CONTRAST	40	DUBBING	EXT1-EXT2
BRIGHT	40		
COLOUR	40		
HUE	40		
ECO MODE	OFF		
PICTURE FEATURES		FEATURES	
DIGITAL VNR	AUTO	SLEEP TIMER	OFF
CHILD LOCK	OFF	CHILD LOCK	OFF
4:3 PHOTO ASPECT	TV	DECOR (EXT-2)	OFF
PICTURE TILT	UP		
SOUND SETTING		INSTALL	
STEREO / 1 - 1	STEREO (SOUND)	LANGUAGE	ENGLISH
BASS	CENTER	AUTO PROGRAM	EDIT / MANUAL
BALANCE	ON		
HYPER SOUND	ON		
SPEAKER	ON		
		DEMO	INDEX

SERVICE MENU SETTING ITEMS (TABLE 3)

Setting item	Setting value	Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT 3. LV LEVEL	5. VSM PRESET	1. BRIGHT 2. COOL 3. COLOUR 4. SHARP 5. HUE 6. WDR R 7. WDR B 8. WDR G 9. WDR Y 10. TREBLE
2. V/C	1. RGB BLK 2. WDR R 3. WDR B 4. WDR G 5. CUT R 6. CUT B 7. CUT G 8. BRIGHT 9. COOL 10. COLOUR 11. HUE 12. CONTR LIMIT	6. STATUS	VPS PIC AUTO SUB SUB VER MTEXT
3. AUDIO	1. CONCLIMIT 2. AGD THR	7. PIP	The model doesn't have PIP function. It is no requirement to adjust.
4. DEF.	1. V-SHIFT 2. V-SIZE 3. H-CENT 4. H-SIZE 5. BW-PH 6. TRAPE 7. COR-UP 8. COR-LO 9. ANGLE 10. BOW 11. V-COR 12. V-LIN	8. TEXT	1. TEXT MONO H
		9. SHIPPING	OFF

SERVICE ADJUSTMENTS

BEFORE STARTING SERVICE ADJUSTMENT

- There are 2 ways of adjusting this TV. One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.
- The adjustment with 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 may differ from the initial setting values.
- Make sure that connection is correctly made to AC power source.
- Turn on the power of the set and equipment before use, and start the adjustment procedure after waiting at least 30 minutes.
- Unless otherwise specified, prepare the most suitable reception condition for adjustment.
- Make sure that connection is correctly made to AC power source, etc.

- Preparation for adjustment (readings):
Unless otherwise specified in the adjustment instructions, present the following functions with the REMOTE CONTROL UNIT:

User remote setting condition	COOL
SLEEP TIMER (VSM)	OFF
HYPER SOUND	OFF
INANCE	CENTER
ECO	OFF
ZOOM	FULL

MEASURING INSTRUMENT AND FIXTURES

- DC voltmeter (or digital voltmeter)
- Oscilloscope
- Signal generator (Pattern generator) (PAL / SECAM / NTSC)
- Remote control unit

ADJUSTMENT ITEMS

- Check items before adjustment.
- FOCUS adjustment.
- IF circuit adjustment.
- VSM pre-tuning.
- VIDEO / CHROMA circuit adjustment.
- DEFLECTION circuit adjustment.
- VIDEO circuit adjustment.
- AUDIO circuit adjustment. (Do not adjust.)

BASIC OPERATION OF SERVICE MENU

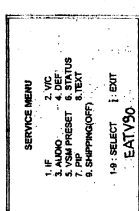
- The adjustment using SERVICE MENU is the series of the adjustment. The adjustments are made on the basis of the initial setting values. The adjustment values which adjust the screen to the optimum condition can be different from the initial setting values. With the SERVICE MENU, various settings can be made, and they are broadly classified in the following terms of settings.

- IF Adjustment of the IF circuit.
- V/C Adjustment of the VIDEO/CHROMA circuit.
- AUDIO Adjustment of the sound circuit. (Do not adjust.)
- DEF Adjustment of the DEFLECTION circuit for each aspect mode given below.
- PANORAMIC (100/120Hz) FULL 16:9 ZOOM SUBTITLE (100/120Hz)
- VSM PRESET Adjustment of the initial setting values of VSM condition as COOL, NORMAL and WARM.
- STATUS Adjustment of the VPS (Video Status Memory) (VPS: Video Status Memory).
- PIP Adjustment of the PIP circuit. But this model does not built in PIP system, because do not adjust.
- TEXT Adjustment of the TEXT mode.
- SHIPPING Setting the user setting values to initial condition. (Do not adjust.)

2. Key operation of the SERVICE MENU

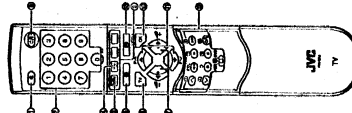
- Enter to SERVICE MENU
Press the INFORMATION key and the MUTE key of the REMOTE CONTROL UNIT simultaneously. Then enter the SERVICE MENU mode as shown in Fig. 1.
- When complete the adjustment work, press the INFORMATION key to return to the SERVICE MENU.
And then press the INFORMATION key again, return to the normal screen.

SERVICE MENU



- From main menu
In main SERVICE MENU, press the number (1-9) key of the remote control unit, to select any of the adjustment items.

The colours which selected item characters are changed.



(Method of setting)

- 1. VCO
- 2. DELAY POINT
- 3. LV LEVEL
- 4. SHARP
- 5. HUE
- 6. WDR R
- 7. WDR B
- 8. WDR G
- 9. WDR Y
- 10. TREBLE
- 11. RGB BLK
- 12. CONTR LIMIT
- 13. V-SHIFT
- 14. V-SIZE
- 15. H-CENT
- 16. H-SIZE
- 17. BW-PH
- 18. TRAPE
- 19. COR-UP
- 20. COR-LO
- 21. ANGLE
- 22. BOW
- 23. V-COR
- 24. V-LIN
- 25. STATUS
- 26. PIP
- 27. TEXT
- 28. SHIPPING

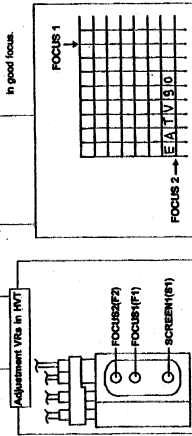
ADJUSTMENT

CHECK ITEMS BEFORE ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description										
Check of B1 Power supply	Signal generator DC voltmeter	TP-4(B1) TP-5(2ND J) X connector POWER&DEF PWB)		1. Receive any broadcast. 2. Select 2.VC from the SERVICE MENU. 3. Select 1.RGB BLK with Function UP/DOWN key. 4. Press the Function + key, the whole black screen display. 5. Connect a DC voltmeter to TP-4(B1) and TP-5(2ND J). 6. Make sure that the voltage is DC138.0V±2.0V.										
Check of High voltage	Signal generator High-voltage meter	CRT anode		1. Receive any broadcast. 2. Select 2.VC from the SERVICE MENU. 3. Select 1.RGB BLK with Function UP/DOWN key. 4. Press the Function + key, the whole black screen display. 5. Connect a High-voltage meter to CRT ANODE. 6. Make sure that the voltage is the value as shown in the table below.										
				<table><tr><th>MODEL NAME</th><th>High-voltage ratio</th></tr><tr><td>AV-32WFX1E1G</td><td>31.5KV -11KV</td></tr><tr><td>AV-32WFX1E1S</td><td>31.5KV -1.8KV</td></tr><tr><td>AV-28WFX1E1G</td><td>30.5KV -11KV</td></tr><tr><td>AV-28WFX1E1S</td><td>30.5KV -1.8KV</td></tr></table>	MODEL NAME	High-voltage ratio	AV-32WFX1E1G	31.5KV -11KV	AV-32WFX1E1S	31.5KV -1.8KV	AV-28WFX1E1G	30.5KV -11KV	AV-28WFX1E1S	30.5KV -1.8KV
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AV-32WFX1E1S	31.5KV -1.8KV													
AV-28WFX1E1G	30.5KV -11KV													
AV-28WFX1E1S	30.5KV -1.8KV													

FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS	Signal generator	FOCUS 1 FOCUS 2 (In INT)		1. Receive a cross-hatch signal. Change the ASPECT mode to FULL. 2. By turning the FOCUS 1 VR, adjust the picture so that the horizontal line from the left side of the cross-hatch picture becomes the center of the screen. 3. By turning the FOCUS 2 VR, adjust the picture so that the 7th horizontal line from the upper side of the cross-hatch picture becomes the center. 4. Carry out adjustment by repeating the steps 2 and 3 above. 5. Make sure that when the screen is centered, the lines remain in good focus.



VSM PRESETTING

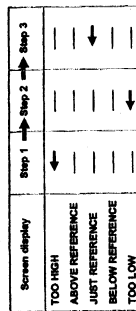
Item	Measuring instrument	Test point	Adjustment parts	Description
Setting of VSM PRESET ADJUST	Remote control unit		1. BRIGHT 2. CONT 3. COLOUR 4. SHARP 5. HUE 6. WORK R 7. WORK G 8. WORK B 9. BASES 10. TREBLE	1. Select COOL with the MENU key of the remote control unit. 2. Select 5.VSM PRESET from the SERVICE MENU. 3. Adjust the FUNCTION UP/DOWN and + key to bring the set value of 1.BRIGHT ~ 10.TREBLE to the values shown in the table below. 4. Press the MENU key and memorize the set value. 5. Respectively select the VSM PRESET mode for NORMAL and WARM, and make similar adjustment as in 3 above. 6. Press the MENU key and memorize the set value. * Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.

SETTING VALUES OF VSM PRESET

Setting Item	COOL	NORMAL	WARM
1. BRIGHT SETTING VALUE	-3	+0	+0
2. CONT. SETTING VALUE	+12	-4	-12
3. COLOUR SETTING VALUE	+0	-1	-2
4. SHARP SETTING VALUE	+4	+4	+0
5. HUE SETTING VALUE	+0	+0	+0
6. WORK R SETTING VALUE	-16	+5	+11
7. WORK G SETTING VALUE	-4	+6	+5
8. WORK B SETTING VALUE	-2	+0	-6
9. BASES SETTING VALUE	+0	+0	+0
10. TREBLE SETTING VALUE	+0	+0	+0

IF CIRCUIT Adjustment

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of VCO	Remote control unit		P. CW TRANSF. (On IF PWB)	- Under normal conditions, it is no adjustment required. - When the picture is not adjusted without signal, it is necessary to adjust without signal. - Receive a broadcast. - Select 1.IF from the SERVICE MENU. - Press 4 key and select 1.VCO. - Select a SECAM L or PAL broadcast channel with the CHANNEL key. - Turn the core of P. CW TRANSF. until the arrow mark (→) on the screen points TOO HIGH (Step 1). - Turn the core of P. CW TRANSF. until the arrow mark (←) on the screen points TOO LOW (Step 2). - Then slowly turn back the core of P. CW TRANSF. until the arrow mark (→) on the screen points JUST REF (Step 3). - Press the INFORMATION key three times to return to normal screen. - Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly.



12. DELAY POINT
 01 Key Select 1.IF.
 02 Key Select 2.DELAY POINT.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

13. LV LEVEL
 01 Key Select 1.IF.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
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 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

14. VCO (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

15. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

16. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

17. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

18. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
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 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

19. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
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 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

20. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

21. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

22. VSM PRESET (Do not adjust)
 01 Key Select 1.IF from the SERVICE MENU.
 02 Key Select 1.IF from the SERVICE MENU.
 03 Key Select 1.IF from the SERVICE MENU.
 04 Key Select 1.IF from the SERVICE MENU.
 05 Key Select 1.IF from the SERVICE MENU.
 06 Key Select 1.IF from the SERVICE MENU.
 07 Key Select 1.IF from the SERVICE MENU.
 08 Key Select 1.IF from the SERVICE MENU.
 09 Key Select 1.IF from the SERVICE MENU.
 10 Key Select 1.IF from the SERVICE MENU.
 11 Key Select 1.IF from the SERVICE MENU.
 12 Key Select 1.IF from the SERVICE MENU.

DEFLECTION CIRCUIT ADJUSTMENT

There are 2 modes of the adjustment (1) 100Hz mode (FULL PANORAMIC, 100Hz ZOOM SUBTITLE), (2) 100Hz mode (each aspect mode) depending upon the kind of signal (vertical frequency 100Hz/120Hz).

- When the 100Hz FULL mode has been established, the setting of the other modes will be done automatically.
- However, if the picture quality has not been optimized, adjust each mode again, respectively.
- 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.
- Regular and Zoom switching is conducted not by the Deflection circuit, but by the 100 Hz PWB. Therefore, the deflection system cannot be adjusted in these modes.

INITIAL SETTING VALUE OF AV-32WFX1EUG / AV-32WFX1EUS									
Setting item	Adjustment name	FULL		PANORAMIC		16:9 ZOOM SUBTITLE			
1.V-SHIFT	Vertical center	100Hz	120Hz	100Hz	120Hz	100Hz	120Hz	100Hz	120Hz
2.V-SIZE	Vertical height	-1	-1	-2	-2	0	0	-7	-1
3.H-CENT	Horizontal center	+17	-2	+4	+1	+4	0	0	0
4.H-SIZE	Horizontal width	-3	-1	+1	0	0	0	0	0
5.V-PIN	Side pin correction	-11	-2	0	0	0	0	0	0
6.TRAPEZ	Trapezoidal distortion correction	+35	-1	+7	-1	+4	+2	0	0
7.COR-UP	Corner upper	+7	+2	+1	+1	+3	0	0	0
8.COR-LO	Corner lower	+2	0	-9	+1	-8	-3	0	0
9.ANGLE	Angle correction	0	0	0	0	0	0	0	0
10.BOW	Bow-shaped distortion correction	0	0	0	0	0	0	0	0
11.V-S-CR	Vertical height correction	-3	0	+7	0	+7	0	0	0
12.V-LIN	Vertical linearity	-3	+2	-22	0	-30	0	0	0

INITIAL SETTING VALUE OF AV-28WFX1EUG / AV-28WFX1EUS									
Setting item	Adjustment name	FULL		PANORAMIC		16:9 ZOOM SUBTITLE			
1.V-SHIFT	Vertical center	100Hz	120Hz	100Hz	120Hz	100Hz	120Hz	100Hz	120Hz
2.V-SIZE	Vertical height	-1	-1	-2	-2	0	0	-7	-1
3.H-CENT	Horizontal center	+17	-2	+4	+1	+4	0	0	0
4.H-SIZE	Horizontal width	-3	-1	+1	0	0	0	0	0
5.V-PIN	Side pin correction	-11	-2	0	0	0	0	0	0
6.TRAPEZ	Trapezoidal distortion correction	+35	-1	+7	-1	+4	+2	0	0
7.COR-UP	Corner upper	+7	+2	+1	+1	+3	0	0	0
8.COR-LO	Corner lower	+2	0	-9	+1	-8	-3	0	0
9.ANGLE	Angle correction	0	0	0	0	0	0	0	0
10.BOW	Bow-shaped distortion correction	0	0	0	0	0	0	0	0
11.V-S-CR	Vertical height correction	-3	0	+7	0	+7	0	0	0
12.V-LIN	Vertical linearity	-3	+2	-22	0	-30	0	0	0

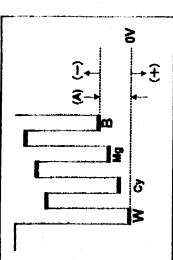
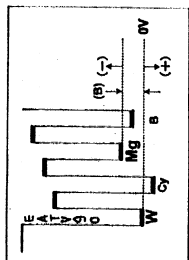
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V-SHIFT	Signal generator Remote control unit	TP-47B (CRT SOCKET PWB)	1.V-SHIFT	- At first, change the ASPECT mode to FULL. - Receive a circle pattern signal of vertical frequency 50Hz. - Select 4. DEF from the SERVICE MENU. - Select 1.V-SHIFT with the FUNCTION UP/DOWN key. - Adjust V-SHIFT to make A = B. - Press the MENU key and memorize the set value.
Adjustment of V-SIZE	Signal generator Remote control unit	TP-47B (CRT SOCKET PWB)	2.V-SIZE	- Receive a circle pattern signal of vertical frequency 50Hz. - Select 2.V-SIZE with the FUNCTION UP/DOWN key. - Adjust V-SIZE and make sure that the vertical screen size of the picture size is in the below table. - Press the MENU key and memorize the set value. - Input a NTSC VIDEO signal (8042) from the EXT terminal, and make sure that the vertical screen size is in the table below as same as 50Hz adjustment condition. - Press the MENU key and memorize the set value.

VIDEOCHROMA CIRCUIT ADJUSTMENT

The setting (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.

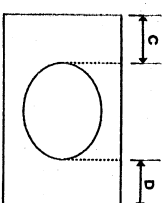
Initial setting value			
Setting item	Adjustment name	Initial setting value	Initial setting value
1.RGB BAL	PAL/SECAM	NTSC 3.58	NTSC 4.43
2.WOR R	7.CUT B	+000	—
3.WOR G	8.BRIGHT	+010	+000
4.WOR B (Do not adjust)	9.CONT	-007	-012
5.CUT R	10.COLOUR	+000	-008
6.CUT G	11.HUE	+000	-002
7.CUT B	12.CONT. LIMIT (Do not adjust)	+000	—

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE	Signal generator Remote control unit	TP-47B (CRT SOCKET PWB)	2.WOR R 3.WOR G 4.WOR B 5.CUT R 6.CUT G 7.CUT B	- Set the PICTURE MODE to NORMAL. - Receive a black and white signal (colour off). - Select 2. WOR R and 3. WOR G data to adjust the white balance (high light). - Modify 5. CUT R, 6. CUT G and 7. CUT B data to adjust the white balance (low light). - Press the MENU key and memorize the set value.
Adjustment of 80% BRIGHT	Remote control unit	TP-47B (CRT SOCKET PWB)	8.BRIGHT	- Receive any broadcast. - Select 8. BRIGHT with the FUNCTION UP/DOWN key. - Set the initial setting value with the FUNCTION UP/DOWN key. - If the brightness is not the best with the initial setting value, make the adjustment until you get the best brightness. - Press the MENU key and memorize the set value.
Adjustment of 90% CONT.	Remote control unit	TP-47B (CRT SOCKET PWB)	9.CONT	- Receive any broadcast. - Select 9. CONT with the FUNCTION UP/DOWN key. - Set the initial setting value with the FUNCTION UP/DOWN key. - If the contrast is not the best with the initial setting value, make the adjustment until you get the best contrast. - Press the MENU key and memorize the set value.
Adjustment of 16 COLOUR	Remote control unit	TP-47B (CRT SOCKET PWB)	16.COLOUR	- Receive PAL broadcast. - Select 16. COLOUR with the FUNCTION UP/DOWN key. - Set the initial setting value for PAL COLOUR with the FUNCTION UP/DOWN key. - If the colour is not the best with the initial set value, make the adjustment until you get the best colour. - Press the MENU key and memorize the set value.
Adjustment of SECAM COLOUR	Signal generator Remote control unit	TP-47B (CRT SOCKET PWB)	SECAM COLOUR	Receive a SECAM broadcast. Make the adjustment of SECAM COLOUR in the same manner as for above.
Adjustment of NTSC COLOUR	Signal generator Remote control unit	TP-47B (CRT SOCKET PWB)	NTSC COLOUR	- Input a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal. - Make similar five adjustment of NTSC 3.58 COLOUR in the same manner as for above.
Adjustment of NTSC 4.43 COLOUR	Signal generator Remote control unit	TP-47B (CRT SOCKET PWB)	NTSC 4.43 COLOUR	- Input a NTSC 4.43MHz COMPOSITE VIDEO signal from the EXT terminal. - Make similar five adjustment of NTSC 4.43 COLOUR in the same manner as for above.



Item	Measuring instrument	Test point	Adjustment part	Description
[Vertical size (both 28mm and 32mm)]				
ASPECT MODE		FULL	PANORAMIC	16:9 ZOOM SUBTITLE
SCREEN TOP		82%	87%	70%
SCREEN BOTTOM		82%	87%	83%

Adjustment of Signal generator Removes control unit	3.4-CENT.	12. Receive a cross-hatch signal. 13. Select 4.4-CENT and set the initial setting value. 14. Adjust H-CENT to make C/D. 15. Press the MENU key and memorize the set value.
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Adjustment of Signal generator Removes control unit	4.4-SIZE	16. Receive a cross-hatch signal. 17. Select 4.4-SIZE and set the initial setting value. 18. Adjust H-SIZE and make sure that the horizontal screen size of the picture area is the same as the value of the picture size in the menu. 19. Press the MENU key and memorize the set value. 20. Press the MENU key and memorize the set value. 21. Press the MENU key and memorize the set value.
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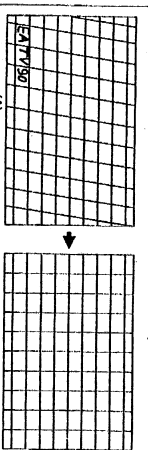
MODEL	ASPECT SIZE	FULL	PANORAMIC	16:9 ZOOM SUBTITLE
AV-32W/PELUG		92%	95%	92%
AV-32W/PELUG		92%	95%	92%
AV-28W/PELUG		92%	95%	92%

Adjustment of Signal generator Removes control unit	5.8W-PH	22. Select 5.8W-PH and set the initial setting value. 23. Adjust B/W-PH to make the vertical lines at the left and right edges of the screen straight. Also make sure that the CRT vertical lines are straight. 24. Press the MENU key and memorize the set value.
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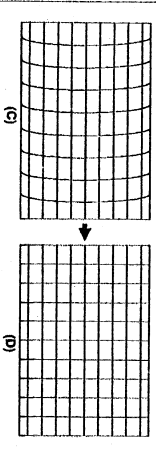
Adjustment of Signal generator Removes control unit	6.7H-PEZ	25. Receive a cross-hatch signal. 26. Select 6.7H-PEZ with the FUNCTION UP/DOWN key. 27. Set the initial setting value of 7H-PEZ with the FUNCTION UP/DOWN key and bring the line to straight at the right and left edges of the screen. 28. Press the MENU key and memorize the set value.
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Adjustment of Signal generator Removes control unit	7.2C-UP COR-LO	30. Select 7.2C-UP COR-LO with the FUNCTION UP/DOWN key. 31. Set the initial setting value of COR-LO with the FUNCTION UP/DOWN key and bring the line to straight at the corner of the screen. 32. Adjust COR-LO, and bring the line to straight at the corner of the screen.
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Adjustment of Signal generator Removes control unit	8.4-ANGLE	33. Select 7.2C-UP with the FUNCTION UP/DOWN key. 34. Set the initial setting value of COR-UP with the FUNCTION UP/DOWN key. 35. Adjust COR-UP, and bring the line to straight at the corner of the screen top. 36. Press the MENU key and memorize the set value.
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Adjustment of Signal generator Removes control unit	10.8-OW	37. Select 8.4-ANGLE and set the initial setting value. 38. Adjust 8.4-ANGLE, and bring the line to straight at the corner of the screen top. 39. Press the MENU key and memorize the set value.
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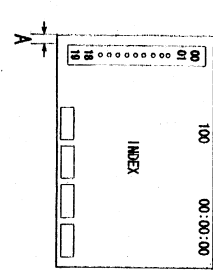


Adjustment of Signal generator Removes control unit	11.4-S-CR 12.4-LN	40. Select 10.8-OW with the FUNCTION UP/DOWN key. 41. Adjust 10.8-OW, and bring the line to straight at the corner of the screen top. 42. Press the MENU key and memorize the set value as shown in Fig. D.
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Adjustment of Signal generator Removes control unit	11.4-S-CR 12.4-LN	43. When the vertical line has been deteriorated remarkably, perform the following steps. 44. Select 12.4-LN with the FUNCTION UP/DOWN key. 45. Set the initial setting value of 12.4-LN with the FUNCTION UP/DOWN key. 46. Select 11.4-S-CR with the FUNCTION UP/DOWN key. 47. Set the initial setting value of 11.4-S-CR with the FUNCTION UP/DOWN key. 48. Adjust 12.4-LN and 11.4-S-CR so that the spaces of each vertical line, center and bottom become uniform.
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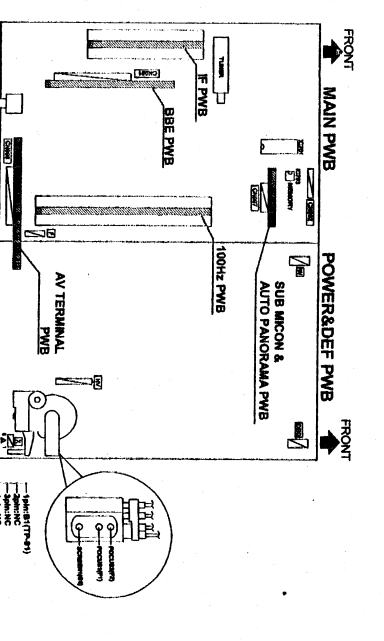
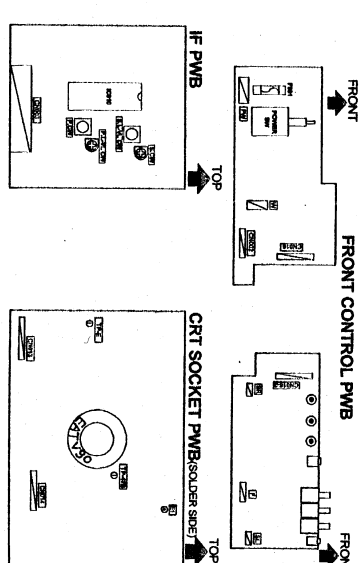
Adjustment of Signal generator Removes control unit	11.4-S-CR 12.4-LN	49. Adjust 12.4-LN and 11.4-S-CR so that the spaces of each vertical line, center and bottom become uniform.
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Adjustment of Signal generator Removes control unit	1.1-TEXT MONO H	1. Receive a normal condition, no adjustment is required. 2. Select 1.1-TEXT MONO H from the SERVICE MENU. 3. Select 1.1-TEXT MONO H with the FUNCTION UP/DOWN key. 4. Push the SUBPANE key to set the initial setting value. 5. Adjust the value of the distance "V" as shown in the left figure. 6. Push the SUBPANE key to check adjustment every adjust. 7. Press the MENU key and memorize the set value.
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Setting item	Variable range	Initial setting value (fixed)
1. CONIC LIMIT (Do not adjust)	00H~FFH	04H
2. A/D THRESHOLD (not adjust)	00H~FFH	18H

ADJUSTMENT LOCATIONS



NOTE: 1. SAVE the content of the EEPROM. 2. SPECIFIC The setting of the EEPROM is (1) 10000000 (2) 00000000 (3) 00000000 (4) 00000000 (5) 00000000 (6) 00000000 (7) 00000000 (8) 00000000 (9) 00000000 (10) 00000000 (11) 00000000 (12) 00000000 (13) 00000000 (14) 00000000 (15) 00000000 (16) 00000000 (17) 00000000 (18) 00000000 (19) 00000000 (20) 00000000 (21) 00000000 (22) 00000000 (23) 00000000 (24) 00000000 (25) 00000000 (26) 00000000 (27) 00000000 (28) 00000000 (29) 00000000 (30) 00000000 (31) 00000000 (32) 00000000 (33) 00000000 (34) 00000000 (35) 00000000 (36) 00000000 (37) 00000000 (38) 00000000 (39) 00000000 (40) 00000000 (41) 00000000 (42) 00000000 (43) 00000000 (44) 00000000 (45) 00000000 (46) 00000000 (47) 00000000 (48) 00000000 (49) 00000000 (50) 00000000 (51) 00000000 (52) 00000000 (53) 00000000 (54) 00000000 (55) 00000000 (56) 00000000 (57) 00000000 (58) 00000000 (59) 00000000 (60) 00000000 (61) 00000000 (62) 00000000 (63) 00000000 (64) 00000000 (65) 00000000 (66) 00000000 (67) 00000000 (68) 00000000 (69) 00000000 (70) 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BLOCK DIAGRAM

5. NOTE FOR REPAIRING SERVICE

The model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE: (L) side GND and the ISOLATED(NEUTRAL) side GND. (The LIVE side GND and the ISOLATED(NEUTRAL) side GND at the same time, if the above precaution is not respected, a fuse or any parts will be broken.)

Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

1. SAFETY

The components identified by the symbol and shading are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal: PAL Color bar signal
- (2) Setting: Positions of each knob and variable resistor
- (3) Original setting position when shipped

(4) Internal resistance of meter: DC 20kΩ/V

(5) Oscilloscope sweeping time: 20μs/div

(6) Others: Sweeping time is specified

(7) Voltage values: All DC voltage values

(8) Waveform values: All AC voltage values

(9) Shading: The voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL (EXAMPLE)

all the PW board R1200-IC200

(1) Resistance

(2) Resistance value

(3) Resistance value

(4) Resistance value

(5) Resistance value

(6) Resistance value

(7) Resistance value

(8) Resistance value

(9) Resistance value

(10) Resistance value

(11) Resistance value

(12) Resistance value

(13) Resistance value

(14) Resistance value

(15) Resistance value

(16) Resistance value

(17) Resistance value

(18) Resistance value

(19) Resistance value

(20) Resistance value

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(57) Resistance value

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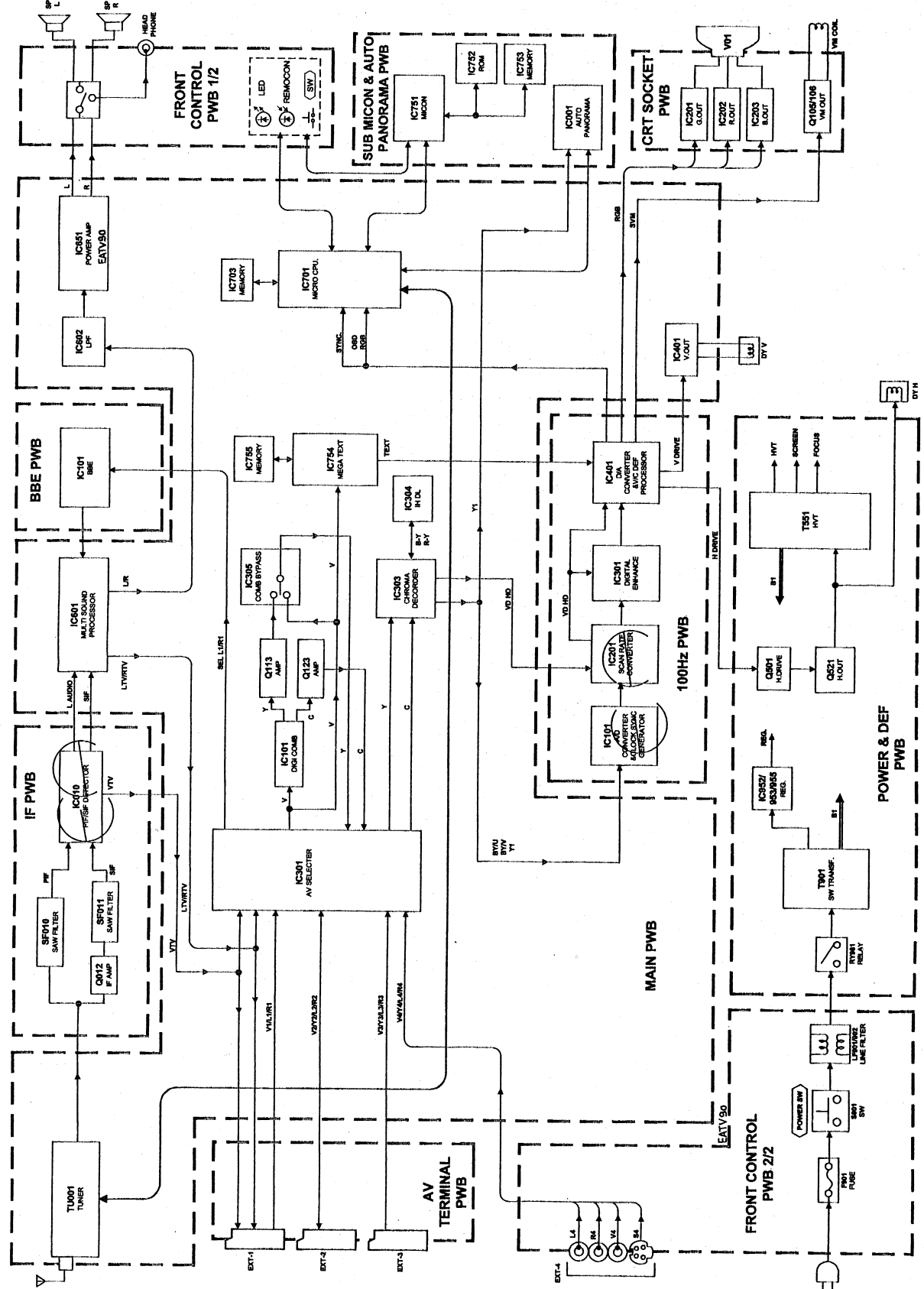
(65) Resistance value

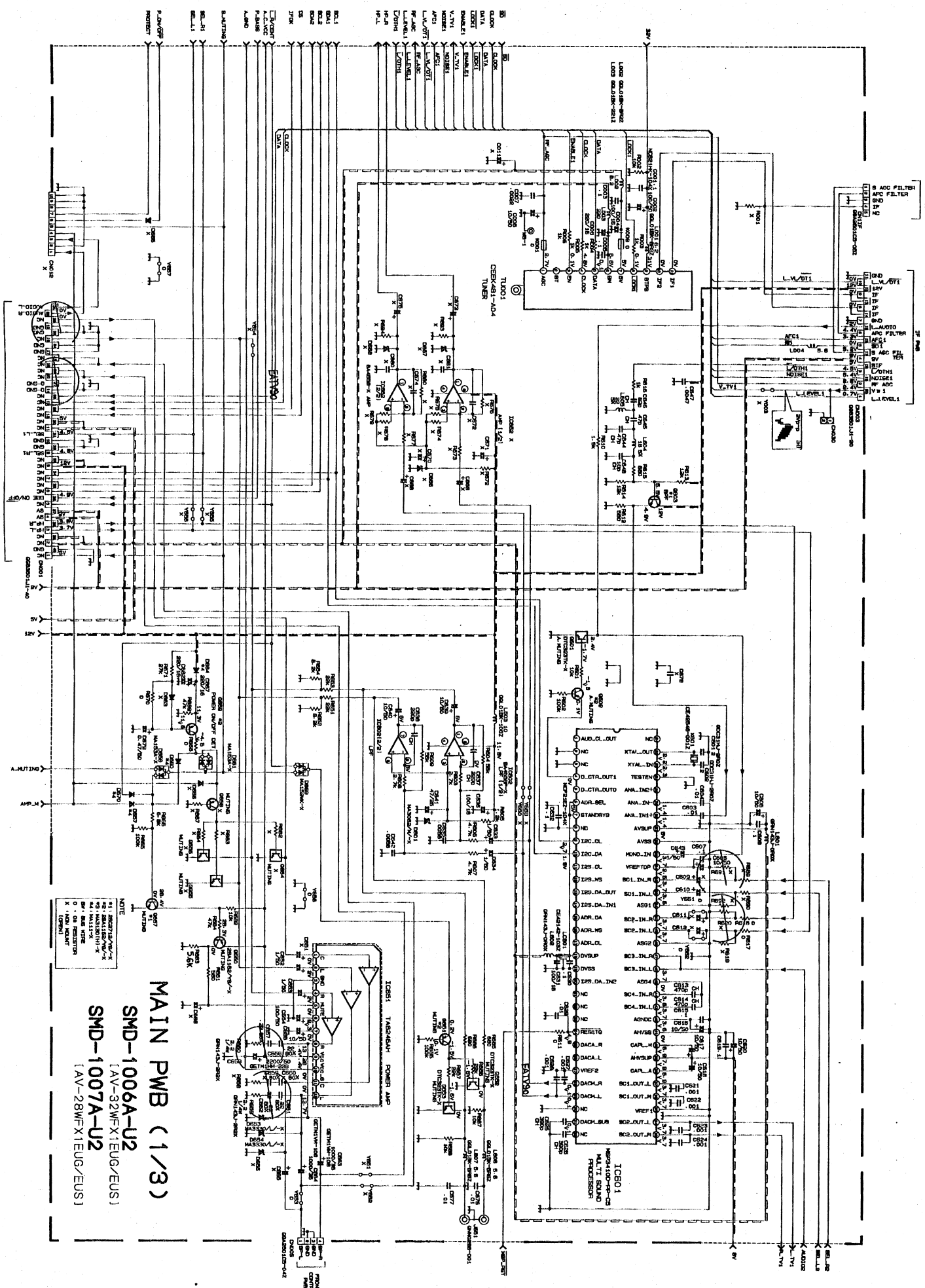
(66) Resistance value

(67) Resistance value

(68) Resistance value

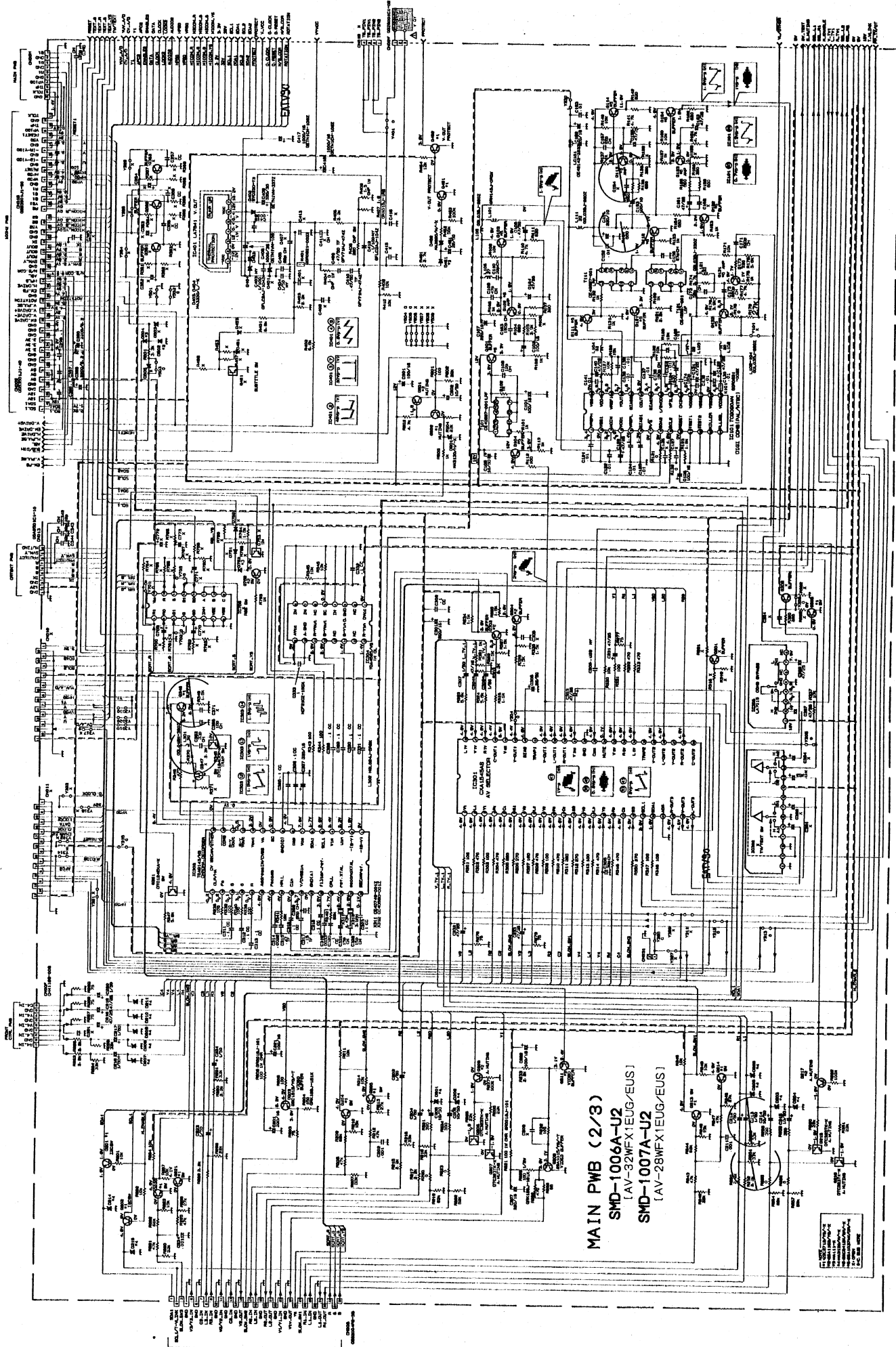
(69) Resistance value





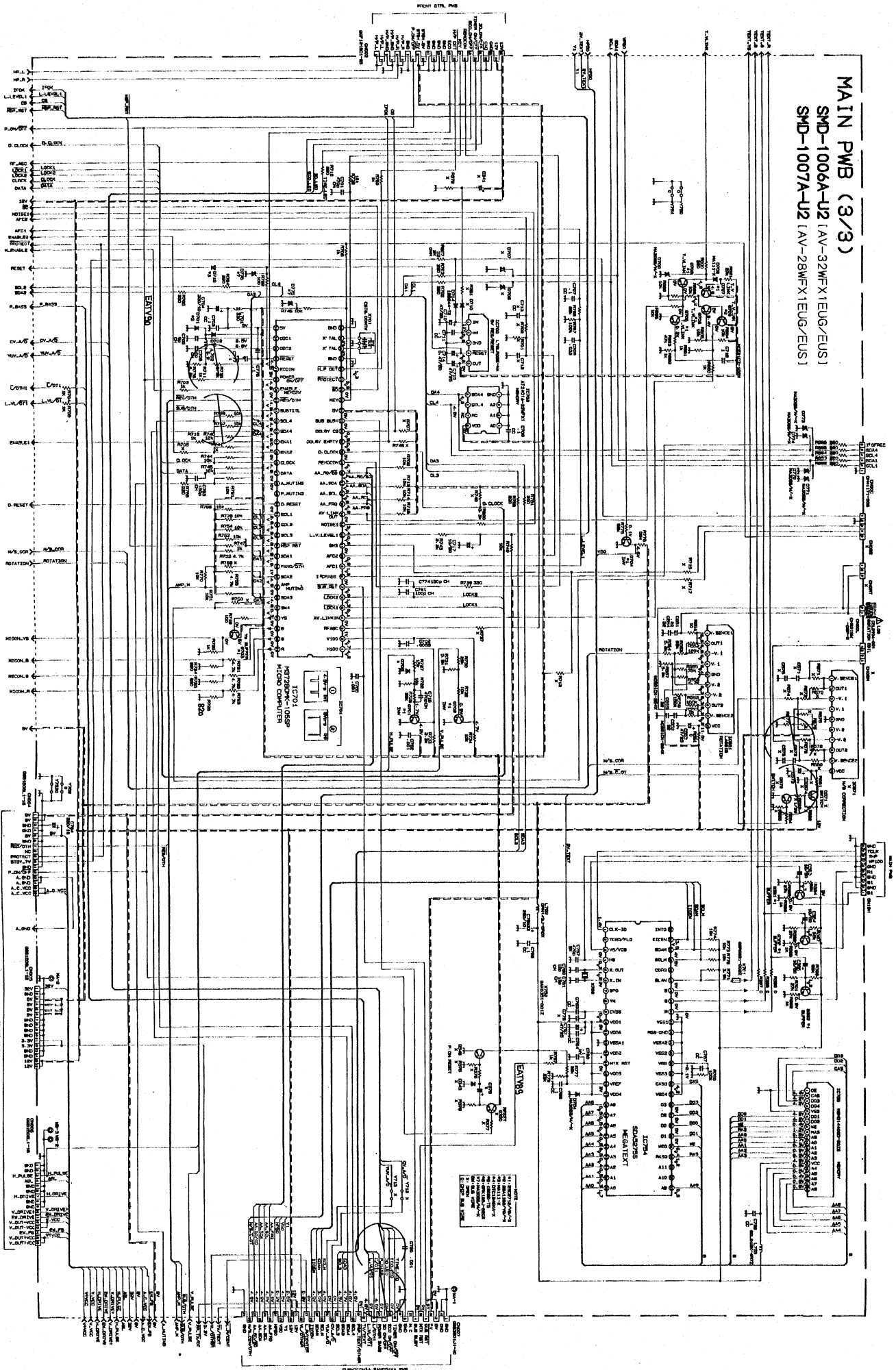
MAIN PWB (1/3)
 SMD-1006A-U2
 [AV-32WFX1EUG/EUS]
 SMD-1007A-U2
 [AV-28WFX1EUG/EUS]

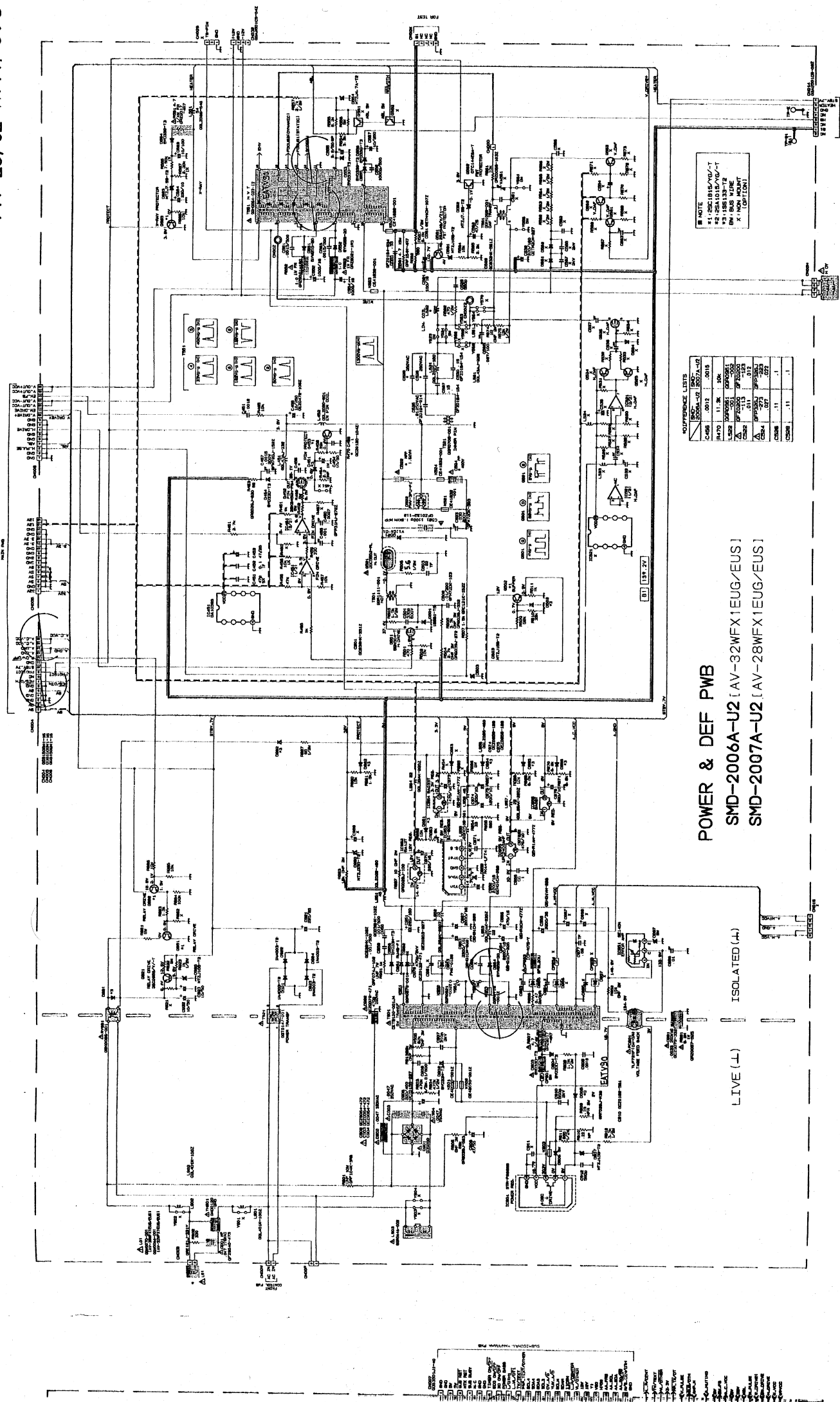
NOTE
 1. 10801-10802: 10801-10802
 2. 10803-10804: 10803-10804
 3. 10805-10806: 10805-10806
 4. 10807-10808: 10807-10808
 5. 10809-10810: 10809-10810
 6. 10811-10812: 10811-10812
 7. 10813-10814: 10813-10814
 8. 10815-10816: 10815-10816
 9. 10817-10818: 10817-10818
 10. 10819-10820: 10819-10820
 11. 10821-10822: 10821-10822
 12. 10823-10824: 10823-10824
 13. 10825-10826: 10825-10826
 14. 10827-10828: 10827-10828
 15. 10829-10830: 10829-10830
 16. 10831-10832: 10831-10832
 17. 10833-10834: 10833-10834
 18. 10835-10836: 10835-10836
 19. 10837-10838: 10837-10838
 20. 10839-10840: 10839-10840
 21. 10841-10842: 10841-10842
 22. 10843-10844: 10843-10844
 23. 10845-10846: 10845-10846
 24. 10847-10848: 10847-10848
 25. 10849-10850: 10849-10850
 26. 10851-10852: 10851-10852
 27. 10853-10854: 10853-10854
 28. 10855-10856: 10855-10856
 29. 10857-10858: 10857-10858
 30. 10859-10860: 10859-10860
 31. 10861-10862: 10861-10862
 32. 10863-10864: 10863-10864
 33. 10865-10866: 10865-10866
 34. 10867-10868: 10867-10868
 35. 10869-10870: 10869-10870
 36. 10871-10872: 10871-10872
 37. 10873-10874: 10873-10874
 38. 10875-10876: 10875-10876
 39. 10877-10878: 10877-10878
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 42. 10883-10884: 10883-10884
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 44. 10887-10888: 10887-10888
 45. 10889-10890: 10889-10890
 46. 10891-10892: 10891-10892
 47. 10893-10894: 10893-10894
 48. 10895-10896: 10895-10896
 49. 10897-10898: 10897-10898
 50. 10899-10900: 10899-10900



MAIN PWB (3/3)

SMD-1006A-U2 (AV-32WFX1EUG/EUS)
SMD-1007A-U2 (AV-28WFX1EUG/EUS)





NOTE
 #1 RESISTOR/VOL-T
 #2 RESISTOR/VOL-T
 SW BUS LINE
 X-1 INDICATOR
 (SEE LIST)

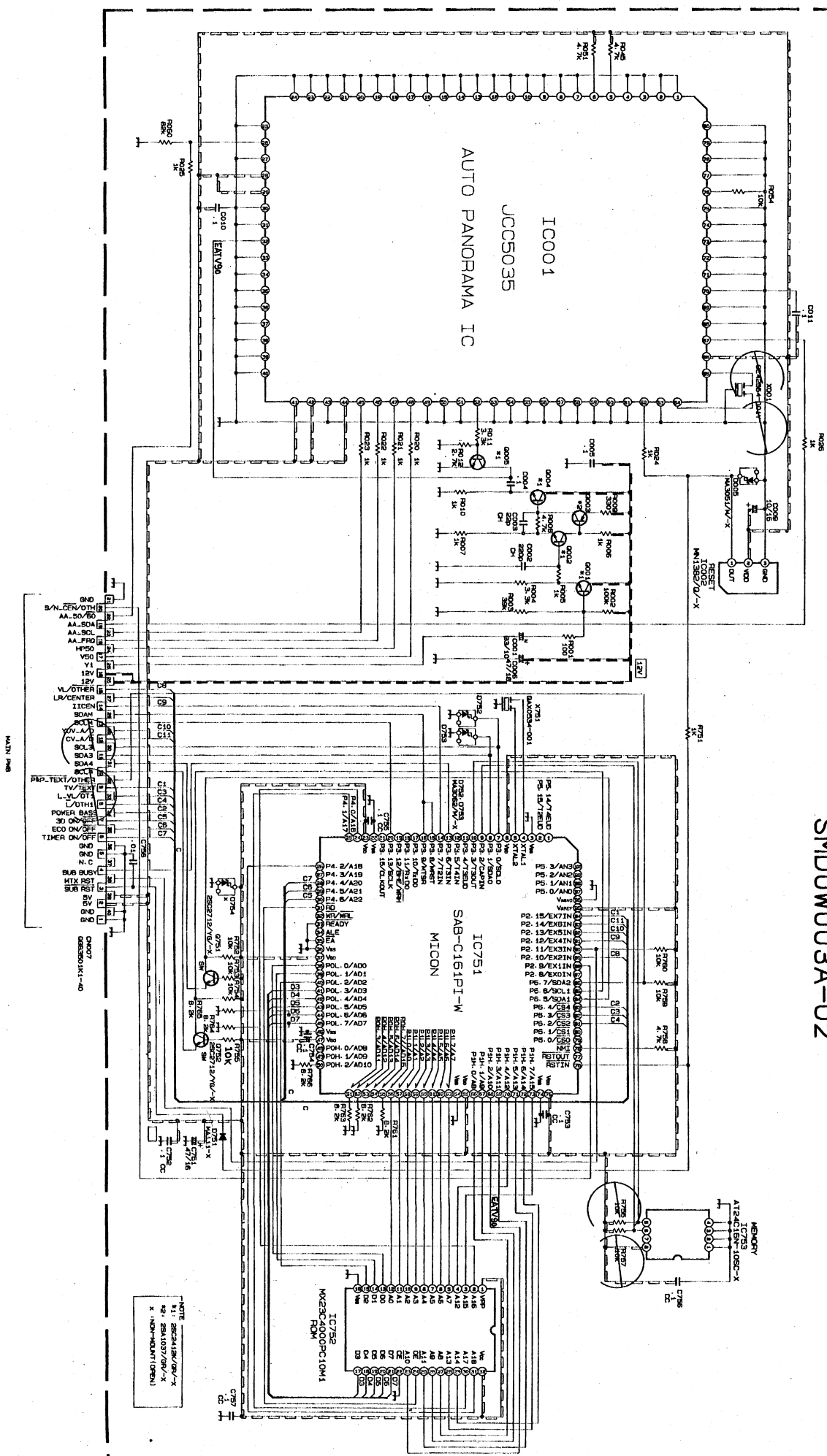
REFERENCE LIST

C405	.0012	0015
R470	11.5K	50K
L452	200001	200000
L453	200001	200000
L454	0.11	0.12
L455	0.001	0.001
L456	0.001	0.001
L457	0.001	0.001
L458	0.001	0.001
L459	0.001	0.001
L460	0.001	0.001
L461	0.001	0.001
L462	0.001	0.001
L463	0.001	0.001
L464	0.001	0.001
L465	0.001	0.001
L466	0.001	0.001
L467	0.001	0.001
L468	0.001	0.001
L469	0.001	0.001
L470	0.001	0.001
L471	0.001	0.001
L472	0.001	0.001
L473	0.001	0.001
L474	0.001	0.001
L475	0.001	0.001
L476	0.001	0.001
L477	0.001	0.001
L478	0.001	0.001
L479	0.001	0.001
L480	0.001	0.001
L481	0.001	0.001
L482	0.001	0.001
L483	0.001	0.001
L484	0.001	0.001
L485	0.001	0.001
L486	0.001	0.001
L487	0.001	0.001
L488	0.001	0.001
L489	0.001	0.001
L490	0.001	0.001
L491	0.001	0.001
L492	0.001	0.001
L493	0.001	0.001
L494	0.001	0.001
L495	0.001	0.001
L496	0.001	0.001
L497	0.001	0.001
L498	0.001	0.001
L499	0.001	0.001
L500	0.001	0.001

POWER & DEF PWB
 SMD-2006A-U2 (AV-32WFX1EUG/EUS)
 SMD-2007A-U2 (AV-28WFX1EUG/EUS)

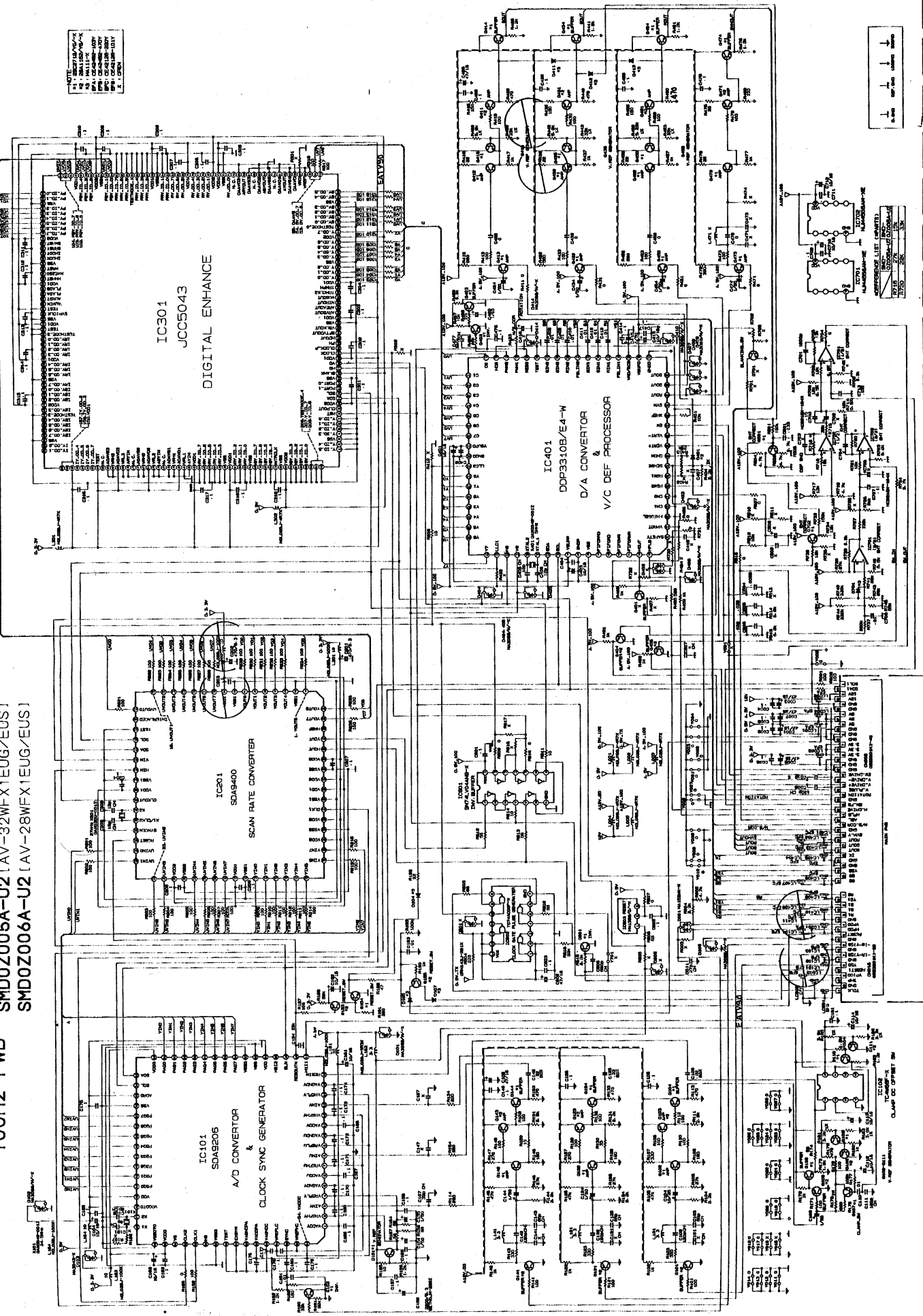
LIVE (L)
 ISOLATED (L)

IC001
JCC5035
AUTO PANORAMA IC

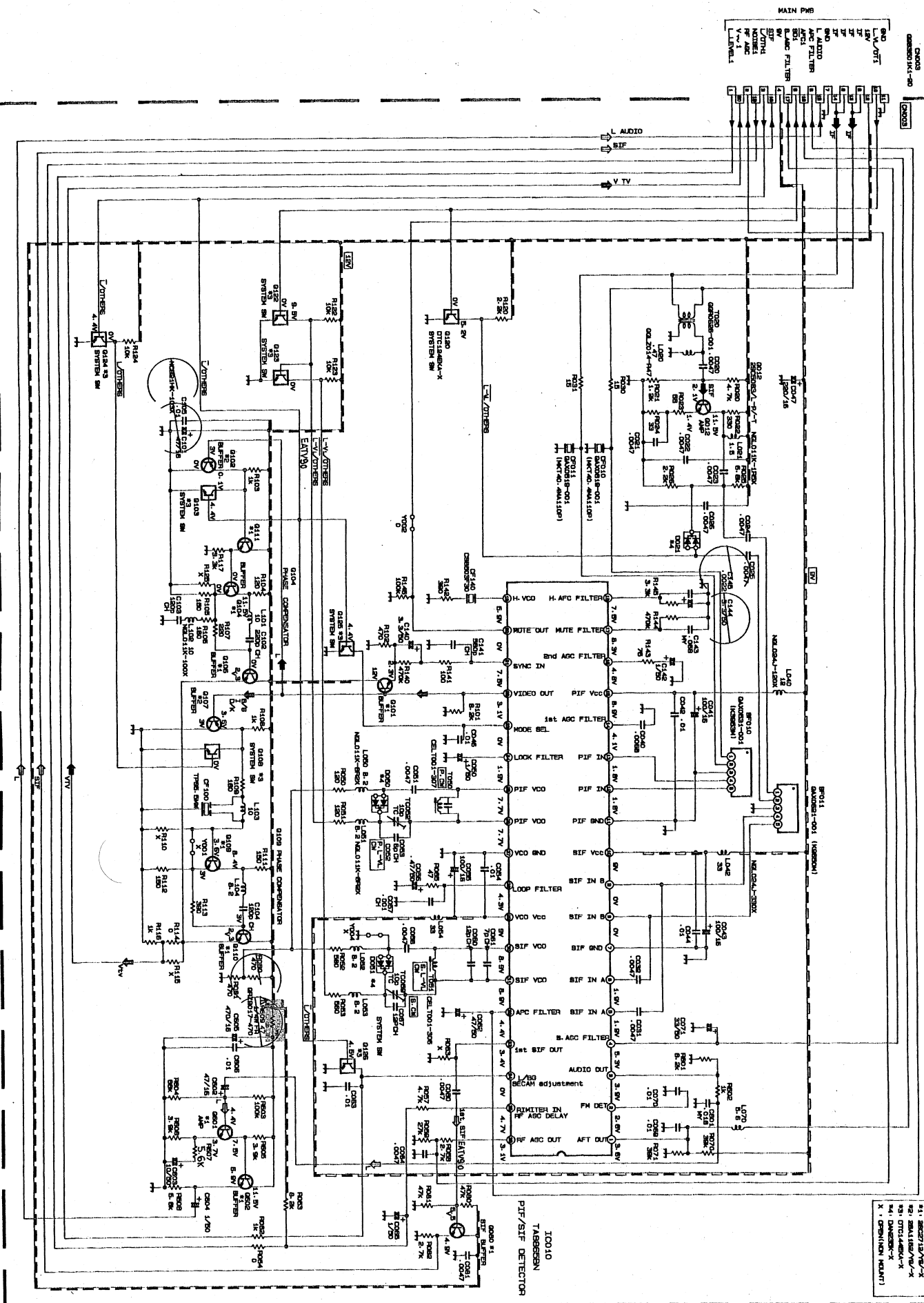


100Hz PWB

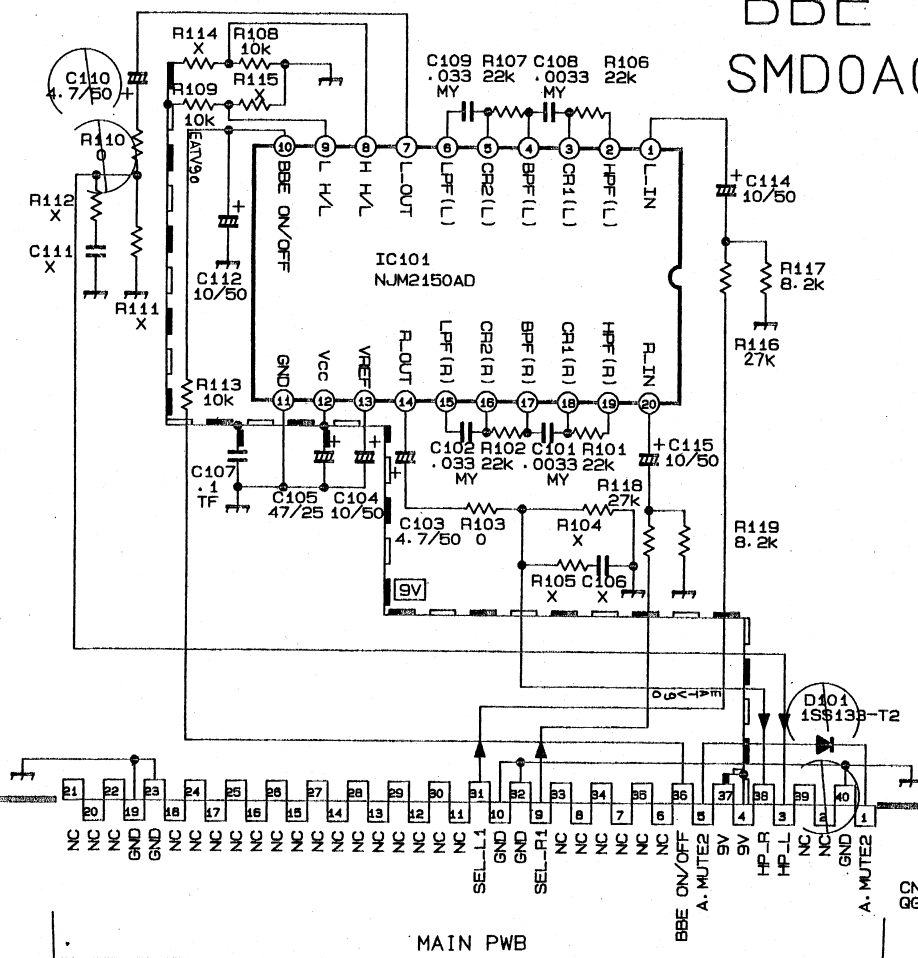
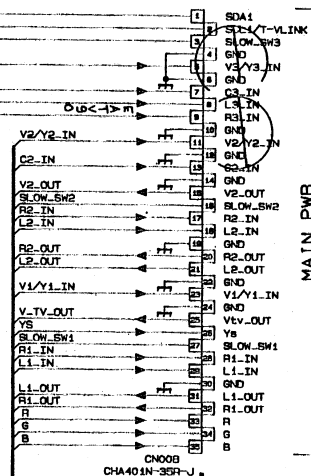
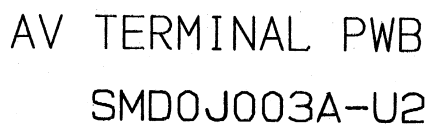
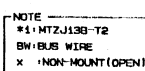
SMD0Z005A-U2 (AV-32WFX1EUG/EUS)
SMD0Z006A-U2 (AV-28WFX1EUG/EUS)



IF PWB SMD0F003A-U2



NOTE
 1. J0012/J0013-X
 2. J0014/J0015-X
 3. J0016/J0017-X
 4. J0018/J0019-X
 X : OPTION RELAY



(1/2)



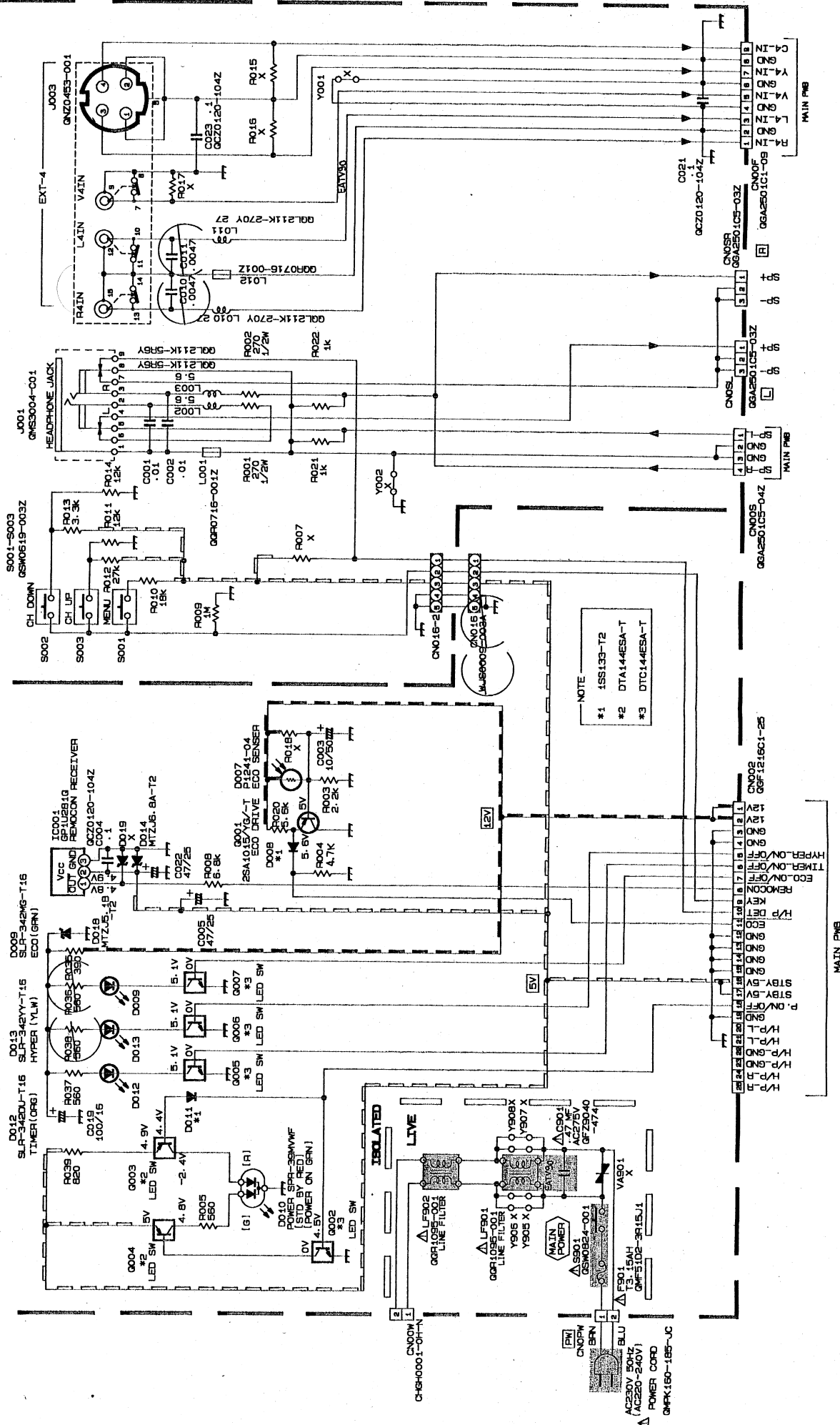
The schematic diagram illustrates the audio section of a radio receiver. The signal path begins at the antenna input, which is connected to the main power supply (MAIN PWR) through a series of resistors (R001, R002, R003, R004, R005, R006, R007, R008, R009, R010, R011, R012, R013, R014, R015) and capacitors (C001, C002, C003, C004, C005, C006, C007, C008, C009, C010, C011, C012, C013, C014, C015, C016, C017, C018, C019, C020, C021). The signal then passes through a series of integrated circuits (IC001, IC002, IC003, IC004) and is finally connected to the speaker and headphones. The diagram also shows the connection to the main power supply and the antenna.

FRONT CONTROL PWB (28")

SMD-8006A-U2

(1/2)

(2/2)



CRT SOCKET PWB SMD-3005A-U2

