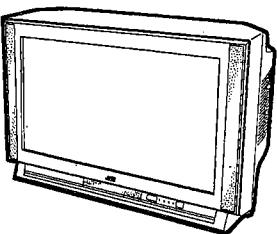


# JVC AV 32 WFP1 EK/EU



## REPLACEMENT OF MEMORY ICs

### 1. Memory ICs

The TV uses memory ICs. In the memory ICs, there are memorized data for correctly operating the video and deflection circuits. When replacing memory ICs, be sure to use ICs written with the initial values of data.

### 2. Procedure for replacing memory ICs

PROCEDURE	
(1) Power off	Switch the power off and unplug the power cord from the outlet.
(2) Replace ICs.	Be sure to use memory ICs written with the initial data values.
(3) Power on	Plug the power cord into the outlet and switch the power on.
(4) Check and set SYSTEM CONSTANT SET:	<ul style="list-style-type: none"> <li>1) Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously.</li> <li>2) The SERVICE MENU screen of Fig. 1 will be displayed.</li> <li>3) While the SERVICE MENU is displayed, press the INFORMATION key and MUTING key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.</li> <li>4) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION UP/DOWN key, and set the correct value with the FUNCTION +/- key.</li> <li>5) Press the MENU key to memorize the setting value.</li> <li>6) Press the INFORMATION key twice, and return to the normal screen.</li> </ul>

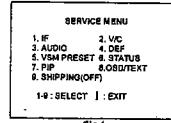


Fig.1

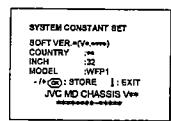
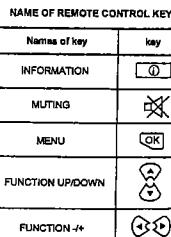


Fig.2



## SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)

Setting item	Setting content	Setting value
COUNTRY	→ EK → EN → EP → ER → EU	EU
INCH	→ 20 → 32 → 29	32
MODEL	→ WFP1 → WZ	WFP1

## 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
P.BASS	EATVBS	POWER BASS	OFF
MENU SCREEN SETTING			
PICTURE SETTING		DIGITAL SURROUND	
TINT	COOL	PRO LOGIC 3D-PHONIC	OFF
CONTRAST	REFER to VSM SETTING	MODE	LEVEL
BRIGHT		TV SPEAKER	CINEMASPORT CENTER
SHARP		VOLUME (L/R/C)	L/R/C MAX
COLOUR			
ECO MODE	OFF	DOLBY PRO LOGIC	
DIGITAL VNR	OFF	MODE	NORMAL
DigiPure	ON	TV SPEAKER	L/R/C OFF
COLOUR SYSTEM (MAINSUB)	TV: According to preset CH EXT: AUTO	TEST MODE	MAX(VL)
4:3 ASPECT	PANORAMIC	VOLUME	
PICTURE TILT	CENTER	ID	DUBBING
PIP	PIP POSITION: RIGHT LOWER MULTI-PICT: SSSCREEN (EK MODEL) 10SCREEN (EP MODEL)	SLEEP TIMER	BLANK
SOUND SETTING		BLUE BLACK	EXT1-EXT2
STEREO I/II	□ (STEREO SOUND)	CHILD LOCK	
BASS	CENTER	ID: No.0000	
TREBLE	ON	ALL CH OFF	
BALANCE			
SPEAKER			
HEADPHONE	ON: VOLUME ↑ OFF: VOLUME ↓ OUTPUT: MAIN	INSTALL	
LANGUAGE			
			ENGLISH

## 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 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.
- Make sure that connection is correctly made to AC power source.
- Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before starting adjustment.
- If the receive or input signal is not specified, use the most appropriate signal for adjustment.
- Never touch parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.

PICTURE MODE (VSM)	COOL
SLEEP TIMER	OFF
SURROUND	OFF
BALANCE	CENTER
ECO	OFF
ZOOM	FULL

### BASIC

#### 1. TOOL OF Operate!

#### 2. SERVICE With the :

- (1) IF
- (2) V/C
- (3) J.AUD
- (4) DEF

#### (5) & VSA

#### (6) & STA

#### (7) T.PIP

#### (8) & OS1

#### (9) & SH

#### 3. BASIC Of

#### (1) How I

#### Press REAK

#### SERV SERV

#### (2) Select Press and s SERV SERV

#### (3) Method of

#### 1) Method [1] VCO

#### ① 1 Key

#### ② 2 Key

#### ③ FUNC

#### ④ FUNC

#### ⑤ MEN1

#### ⑥ INFO1

#### (4) INFO

#### (5) L.V.LEV

#### ① 1 Key

#### ② 1 Key

#### ③ FUNC

#### ④ FUNC

#### ⑤ MEN1

#### ⑥ INFO

#### 2) Method C

#### ① 2~6

#### ② FUNC

#### ③ FUNC

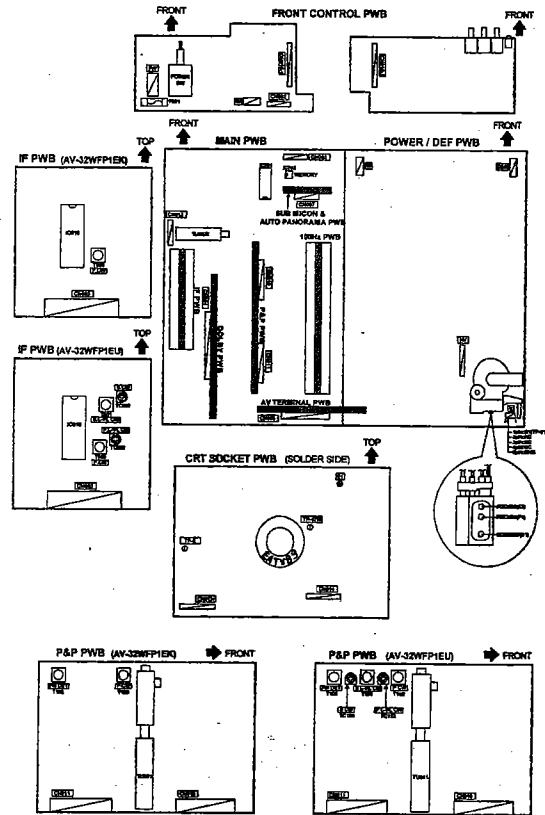
#### ④ MEN1

#### ⑤ INFO

## MEASURING INSTRUMENT AND FIXTURES

- DC voltmeter (or digital voltmeter)
- Oscilloscope
- Signal generator (Pattern generator) PAL / SECAM (Only AV-32WFPIEU / NTSC)
- Remote control unit

## ADJUSTMENT LOCATION



**BASIC OPERATION OF SERVICE MENU**

'setting':  
The adjustment items, preset the  
EMOTE CONTROL UNIT:

COLD
OFF
OFF
CENTER
OFF
FULL

**MENT ITEMS**

I Power supply.  
gh Voltage.  
of FOCUS.  
Jutment.  
setting.  
IROMA circuit adjustment.  
DN circuit adjustment.  
I adjustment.  
Jt adjustment. (Do not adjust)

**1. TOOL OF SERVICE MENU OPERATION**

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

**2. SERVICE MENU ITEMS**

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings (adjustments):

- (1) 1.IF ..... This mode adjusts the setting values of the IF circuit.
- (2) 2.V/C ..... This mode adjusts the setting values of the VIDEO / CHROMA circuit.
- (3) 3.AUDIO ..... This mode adjusts the setting values of the multiplicity SOUND circuit.
- (4) 4.DEF ..... This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.

\*FULL (100/120Hz) \*16:9 ZOOM SUBTITLE (100/120Hz)

- (5) 5.VSM PRESET ..... This mode adjusts the initial setting value of COOL,NORMAL and WARM. (VSM : Video Status Memory)
- (6) 6.STATUS ..... This mode shows the monitor of the VPS. (Do not adjust)
- (7) 7.PIP ..... This mode adjusts the setting values of PIP circuit.
- (8) 8.OSD/TEXT ..... This mode adjusts the setting values of TEXT mode.
- (9) 9.SHIPPING ..... This mode sets the INITIAL SETTING VALUE. (Do not adjust)

**3. BASIC OPERATION OF SERVICE MENU**

(1) How to enter SERVICE MENU  
Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously, and the SERVICE MENU screen of Fig. 1 will be displayed.

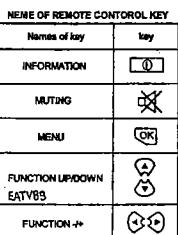


Fig. 2

**(2) Selection of SUB MENU SCREEN**

Press one of keys 1~9 of the REMOTE CONTROL UNIT and select the SUB MENU SCREEN (See Fig. 3), form the SERVICE MENU.

SERVICE MENU → SUB MENU

1.IF
2.V/C
3.AUDIO
4.DEF
5.VSM PRESET
6.STATUS
7.PIP
8.OSD / TEXT
9.SHIPPING

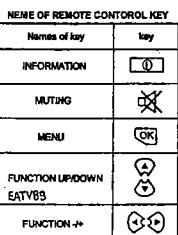


Fig. 3

**(3) Method of Setting**

1) Method of Setting 1.IF

[1] VCO

① 1 Key..... Select 1.IF.

② 1 Key..... Select 1.VCO

③ The VCO (CW) screen will be displayed a arrow mark when the AFC voltage is at a certain level.

④ MENU key..... Select MAIN or SUB.

⑤ INFORMATION Key..... As you press this twice, you will return to the SERVICE MENU.

**[2] DELAY POINT**

① 1 Key..... Select 1.IF.

② 2 Key..... Select 2.DELAY POINT.

③ FUNCTION UP/DOWN key..... Select MAIN or SUB.

④ FUNCTION +/- key..... Set (adjust) the setting values of the setting items.

⑤ MENU key..... Memorize the set value.

(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys - if you do, the values will not be stored in memory.)

⑥ INFORMATION Key..... When this is pressed twice, you will return to the SERVICE MENU.

**[3] LV LEVEL**

① 1 Key..... Select 1.IF.

② 2 Key..... Select 3.LV LEVEL.

③ FUNCTION +/- key..... Set (adjust) the setting values of the setting items.

④ MENU key..... Memorize the set value.

(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys - if you do, the values will not be stored in memory.)

⑤ INFORMATION Key..... When this is pressed twice, you will return to the SERVICE MENU.

**[2] Method of setting 2.V/C, 3.AUDIO, 4.DEF, & VSM PRESET, 7.PIP and 8.OSD/TEXT.**

① 2~5, 7, 8 Key ..... Select one from 2.V/C, 3.AUDIO, 4.DEF, 5.VSM PRESET, 7.PIP and 8.OSD/TEXT.

② FUNCTION UP/DOWN key..... Select setting item.

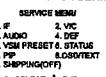
③ FUNCTION +/- key..... Set (adjust) the setting values of the setting items.

(When 1.RGB BLK of 2.V/C is selected, press the FUNCTION +/- key, and the whole will change to a black picture. Press the FUNCTION +/- or 2 key, and the screen will return to the original screen.)

④ MENU key..... Memorize the setting value.

(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF key - if you do, the values will not be stored in memory.)

⑤ INFORMATION Key ..... Return to the SERVICE MENU screen.

**SERVICE MENU**

1: SELECT 1: EXIT

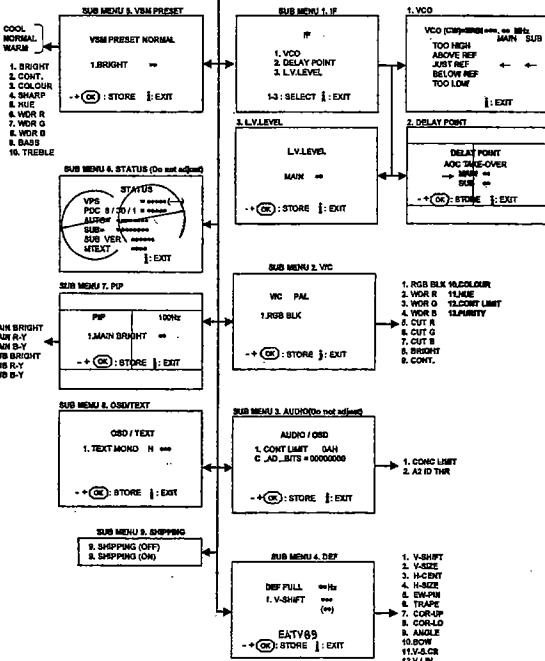
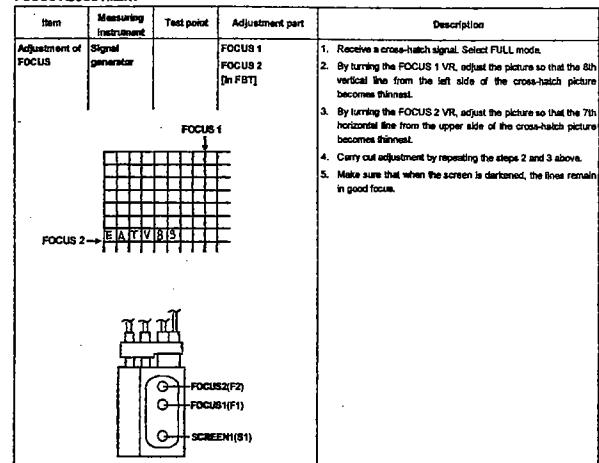
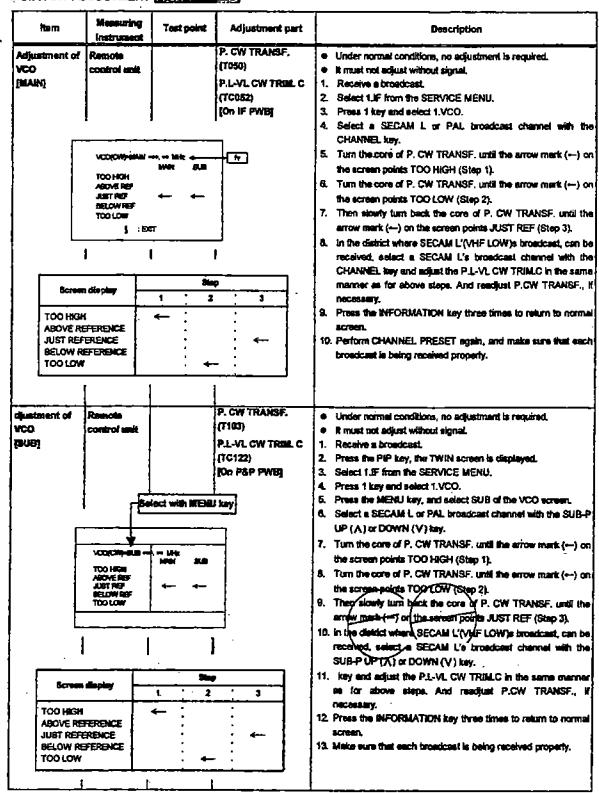


Fig. 3 SUB MENU SCREEN

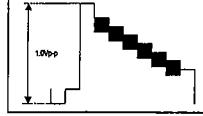
**CHECK ITEM**

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 Power supply	Signal Generator DC voltmeter	TP-91(B1) TP-E(GND A) (X connector on POWER DEF PWB)		<p>1. Receive a any broadcast. 2. Select 2.V/C 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-91(B1) and TP-E(GND A). 6. Make sure that the voltage is DC 32.0V±2.0V.</p>
Check of High voltage	Signal generator DC voltmeter	CRT anode		<p>1. Receive a any broadcast. 2. Select 2.V/C 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 CRT ANODE. 6. Make sure that the voltage is DC 32.0V±1.0V.</p>

**FOCUS ADJUSTMENT****IFCIRCUIT ADJUSTMENT**

# JVC AV 32 WFP1 EK/EU

## AV-32WFP1(EU)

Item	Measuring instrument	Test point	Adjustment part	Description										
Adjustment of DELAY POINT	Remote control unit		DELAY POINT (AGC TAKE-OVER)	<p>1. Receive a black and white signal (colour off).      2. Select 1.I.F from the SERVICE MENU.      3. Select 2.DELAY POINT by pressing the 2 key on the remote control.      4. Select MAIN or SUB with FUNCTION UP/DOWN key.      5. Adjust the FUNCTION - or + key until video noise disappears.      6. Press the MENU key and memorize the set value.      7. Turn to other channels and make sure that there are no irregularities.</p> <table border="1"> <thead> <tr> <th>Setting item (Adjustment item)</th> <th>Variable range</th> <th>Initial setting value</th> </tr> <tr> <th>MAIN</th> <th>SUB</th> <th></th> </tr> </thead> <tbody> <tr> <td>DELAY POINT (AGC TAKE-OVER)</td> <td>0~83</td> <td>35</td> <td>25</td> </tr> </tbody> </table>	Setting item (Adjustment item)	Variable range	Initial setting value	MAIN	SUB		DELAY POINT (AGC TAKE-OVER)	0~83	35	25
Setting item (Adjustment item)	Variable range	Initial setting value												
MAIN	SUB													
DELAY POINT (AGC TAKE-OVER)	0~83	35	25											
Adjustment of L.V. LEVEL	Signal generator Oscilloscope [Hz-rate] Remote control unit	EXT-1 @pin (TV OUT)		<p>1. Receive a SECAM-L full field colour bar signal (100% white).      2. Connect an oscilloscope terminated <math>75\Omega</math> to EXT-1 terminal of @pin (TV out).      3. Select 1.I.F from the SERVICE MENU.      4. Press 3 key and select L.V. LEVEL.      5. Adjust the LV. LEVEL by FUNCTION +/- key and make the wave-form like the illustration (WV-PD).</p> <p>8. Press the MENU key and memorize the set value.</p> 										

## IF CIRCUIT ADJUSTMENT AV-32WFP1(EK)

Item	Measuring instrument	Test point	Adjustment part	Description				
Adjustment of VCO [MAIN]	Remote control unit		P. CW TRANSF. (T060) [On IF PWB]	<p>• Under normal conditions, no adjustment is required.      • It must not adjust without signal.</p> <p>1. Receive a broadcast.      2. Select 1.I.F from the SERVICE MENU.      3. Press 3 key and select 1.VCO.      4. Select PAL broadcast channel with the CHANNEL key.      5. Turn the core of P. CW TRANSF. until the arrow mark (→) on the screen points TOO HIGH (Step 1).      6. Turn the core of P. CW TRANSF. until the arrow mark (←) on the screen points TOO LOW (Step 2).      7. Then slowly turn back the core of P. CW TRANSF. until the arrow mark (→) on the screen points JUST REF (Step 3).      8. Press the INFORMATION key three times to return to normal screen.      9. Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly.</p>				
				<table border="1"> <thead> <tr> <th>Screen display</th> <th>Step</th> </tr> </thead> <tbody> <tr> <td>TOO HIGH ABOVE REF JUST REF BELOW REF TOO LOW</td> <td>1 2 3</td> </tr> </tbody> </table>	Screen display	Step	TOO HIGH ABOVE REF JUST REF BELOW REF TOO LOW	1 2 3
Screen display	Step							
TOO HIGH ABOVE REF JUST REF BELOW REF TOO LOW	1 2 3							
Adjustment of VCO [SUB]	Remote control unit		P. CW TRANSF. (T103) [On P&P PWB]	<p>• Under normal conditions, no adjustment is required.      • It must not adjust without signal.</p> <p>1. Receive a broadcast.      2. Press the PIP key, the TWIN screen is displayed.      3. Select 1.I.F from the SERVICE MENU.      4. Press 1 key and select 1.VCO.      5. Select PAL broadcast channel with the SUB-P UP (A) or DOWN (B) key.      6. Turn the core of P. CW TRANSF. until the arrow mark (→) on the screen points TOO HIGH (Step 1).      7. Turn the core of P. CW TRANSF. until the arrow mark (←) on the screen points TOO LOW (Step 2).      8. Then slowly turn back the core of P. CW TRANSF. until the arrow mark (→) on the screen points JUST REF (Step 3).      9. Press the INFORMATION key three times to return to normal screen.      10. Make sure that each broadcast is being received properly.</p>				
				<table border="1"> <thead> <tr> <th>Screen display</th> <th>Step</th> </tr> </thead> <tbody> <tr> <td>TOO HIGH ABOVE REF JUST REF BELOW REF TOO LOW EATVS</td> <td>1 2 3</td> </tr> </tbody> </table>	Screen display	Step	TOO HIGH ABOVE REF JUST REF BELOW REF TOO LOW EATVS	1 2 3
Screen display	Step							
TOO HIGH ABOVE REF JUST REF BELOW REF TOO LOW EATVS	1 2 3							

Adjustment of DELAY POINT	Remote control unit	DELAY POINT (AGC TAKE-OVER)	Description
		Setting item (Adjustment item)	Variable range Initial setting value
		MAIN	SUB
		DELAY POINT (AGC TAKE-OVER)	0~83 35 25

## VSM PRESET SETTING

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. WDR R 7. WDR G 8. WDR B 9. BASS 10. TREBLE	<p>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 values of 1.BRIGHT ~ 10.TREBLE to the values shown in the table.      4. Press the MENU key and memorize the set value.      5. Respectively select the VSM PRESET mode for NORMAL and WARD, and make similar adjustments in 3 above.      6. Press the MENU key and memorize the set value.      • Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.</p> <table border="1"> <thead> <tr> <th>VSM preset mode</th> <th>COOL</th> <th>NORMAL</th> <th>WARM</th> </tr> </thead> <tbody> <tr> <td>1. BRIGHT SETTING VALUE</td> <td>-1</td> <td>+0</td> <td>+0</td> </tr> <tr> <td>2. CONT. SETTING VALUE</td> <td>+10</td> <td>+4</td> <td>-4</td> </tr> <tr> <td>3. COLOUR SETTING VALUE</td> <td>+1</td> <td>-1</td> <td>+0</td> </tr> <tr> <td>4. SHARP SETTING VALUE</td> <td>+7</td> <td>+7</td> <td>+0</td> </tr> <tr> <td>5. HUE SETTING VALUE</td> <td>+0</td> <td>+0</td> <td>+0</td> </tr> <tr> <td>6. WDR R SETTING VALUE</td> <td>-18</td> <td>+5</td> <td>+11</td> </tr> <tr> <td>7. WDR G SETTING VALUE</td> <td>-4</td> <td>+0</td> <td>+3</td> </tr> <tr> <td>8. WDR B SETTING VALUE</td> <td>+0</td> <td>+0</td> <td>-5</td> </tr> <tr> <td>9. BASS SETTING VALUE</td> <td>+0</td> <td>+0</td> <td>+0</td> </tr> <tr> <td>10. TREBLE SETTING VALUE</td> <td>+0</td> <td>+0</td> <td>+0</td> </tr> </tbody> </table> <p>SETTING VALUES OF VSM PRESET</p>	VSM preset mode	COOL	NORMAL	WARM	1. BRIGHT SETTING VALUE	-1	+0	+0	2. CONT. SETTING VALUE	+10	+4	-4	3. COLOUR SETTING VALUE	+1	-1	+0	4. SHARP SETTING VALUE	+7	+7	+0	5. HUE SETTING VALUE	+0	+0	+0	6. WDR R SETTING VALUE	-18	+5	+11	7. WDR G SETTING VALUE	-4	+0	+3	8. WDR B SETTING VALUE	+0	+0	-5	9. BASS SETTING VALUE	+0	+0	+0	10. TREBLE SETTING VALUE	+0	+0	+0
VSM preset mode	COOL	NORMAL	WARM																																													
1. BRIGHT SETTING VALUE	-1	+0	+0																																													
2. CONT. SETTING VALUE	+10	+4	-4																																													
3. COLOUR SETTING VALUE	+1	-1	+0																																													
4. SHARP SETTING VALUE	+7	+7	+0																																													
5. HUE SETTING VALUE	+0	+0	+0																																													
6. WDR R SETTING VALUE	-18	+5	+11																																													
7. WDR G SETTING VALUE	-4	+0	+3																																													
8. WDR B SETTING VALUE	+0	+0	-5																																													
9. BASS SETTING VALUE	+0	+0	+0																																													
10. TREBLE SETTING VALUE	+0	+0	+0																																													

## 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.

Setting item (Adjustment item)	Initial setting value		Colour system	Initial setting value
	PAL / SECAM	NTSC 3.58 NTSC 4.43		
1.RGB BLK	—	—	1.BRIGHT	+000
2.WDR R	+010	—	2.CONT.	+012
3.WDR G	-007	—	3.COLOUR	-006
4.WDR B (Do not adjust)	+000	—	4.L1.HUE	—
5.CUT R EATVS	+000	—	5.L2.CONTR.LIMIT (Do not adjust)	+001
6.CUT G	+000	—	6.CUT B	+000
7.CUT S	+000	—	7.PURITY	+000

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE	Signal generator Remote control unit		2.WDR R 3.WDR G 4.CUT R 4.CUT G 7.CUT B	<p>• Set the PICTURE MODE to NORMAL.      1. Receive a black and white signal (colour off).      2. Select 2.VIC from the SERVICE MENU.      3. Modify 2. WDR R and 3.WDR G data to adjust the white balance (High light).      4. Modify 5. CUT R, 6. CUT G and 7. CUT B data to adjust the white balance (Low light).      5. Press the MENU key and memorize the set value.</p>

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB BRIGHT	Remote control unit		8.BRIGHT	<p>1. Receive any broadcast.      2. Select 2.VIC from the SERVICE MENU.      3. Select 8.BRIGHT with the FUNCTION UP/DOWN key.      4. Set the initial setting value with the FUNCTION +/- key.      5. If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness.      6. Press the MENU key and memorize the set value.</p>
Adjustment of SUB CONTR.	Remote control unit		9.CONTR.	<p>1. Receive any broadcast.      2. Select 2.VIC from the SERVICE MENU.      3. Select 9.CONTR with the FUNCTION UP/DOWN key.      4. Set the initial setting value with the FUNCTION +/- key.      5. If the contrast is not the best with the initial setting value, make fine adjustment until you get the best contrast.      6. Press the MENU key and memorize the set value.</p>

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR I	Remote control unit		10.COLOUR (PAL~NTSC)	<p>(Method of adjustment without measuring instrument)</p> <p>(PAL COLOUR)</p> <p>1. Receive a PAL broadcast.      2. Select 2.VIC from the SERVICE MENU.      3. Select 10.COLOUR with the FUNCTION UP/DOWN key.      4. Set the initial setting value with the FUNCTION +/- key.      5. If the colour is not the best with the initial setting value, make fine adjustment until you get the best colour.      6. Press the MENU key and memorize the set value.</p>
Adjustment of SUB COLOUR II	Signal generator Oscilloscope [CRT SOCKET PWB]		PAL COLOUR	<p>(NTSC 3.58 COLOUR)</p> <p>1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal.      2. Make similar fine adjustment of NTSC 3.58 COLOUR in the same manner as for above.</p>

Item	Measuring instrument	Test point	Adjustment part	Description
NTSC COLOUR	(Only AV-32WFP1EU)		(SECAM COLOUR)	<p>1. Receive a SECAM broadcast. Make fine adjustment of SECAM COLOUR in the same manner as for above.</p>
Adjustment of SUB HUE II				<p>(NTSC 4.43 COLOUR)</p> <p>1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.</p>

Item	Measuring instrument	Test point	Adjustment part	Description
VIDEOCHRO	Settin			<p>(Method of adjustment using measuring instrument)</p>
1. MAIN BRIG				

Item	Measuring instrument	Test point	Adjustment part	Description
2. MAIN R-Y				
3. MAIN B-Y				

Item	Measuring instrument	Test point	Adjustment part	Description
PAL COLOUR	(TP-47B TP-E(J) CRT SOCKET PWB)		(PAL COLOUR)	<p>1. Receive a PAL full field colour bar signal (75% white).      2. Select 2.VIC from the SERVICE MENU.      3. Select 10.COLOUR with the FUNCTION UP/DOWN key.      4. Set the initial setting value of PAL COLOUR with the FUNCTION +/- key.      5. Compare the waveform between TP-47B and TP-E(J).      6. Adjust PAL COLOUR and bring the value of (A) in the illustration to 5~7V (voltage difference between white (W) and blue (B)).      7. Press the MENU key and memorize the setting value.</p>
SECAM COLOUR	(Only AV-32WFP1EU)		(SECAM COLOUR)	<p>1. Receive a SECAM full field colour bar signal (75% white).      2. Set the initial setting value of SECAM COLOUR with the FUNCTION +/- key.      3. Adjust SECAM COLOUR and bring the value of (A) in the illustration to 5~7V (W-B).</p>

Item	Measuring instrument	Test point	Adjustment part	Description
NTSC COLOUR			(NTSC 3.58 COLOUR)	<p>1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (field colour bar with 70% white) from the EXT terminal.      2. Set the initial setting value of NTSC 3.58 COLOUR with the FUNCTION +/- key.      3. Adjust NTSC 3.58 COLOUR and bring the value of (A) in the illustration to 5~7V (W-B).</p>
NTSC 4.43 COLOUR			(NTSC 4.43 COLOUR)	<p>1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.</p>

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of PIP WHITE BALANCE I				
Adjustment of PIP WHITE BALANCE II				
Adjustment of PIP WHITE BALANCE III				

## OPTION

ICE MENU.  
FUNCTION UP/DOWN key.  
With the FUNCTION +/ key,  
with the initial setting value,  
you get the best brightness.  
Memorize the set value.

ICE MENU.  
FUNCTION UP/DOWN key.  
With the FUNCTION - or + key,  
with the initial setting value, make  
the best contrast.  
Memorize the set value.

measuring instrument]

CE MENU.  
FUNCTION UP/DOWN key.  
With the initial setting value, make  
the best colour.  
Memorize the set value.

cast. Make fine adjustment of  
the manner as for above.COMPOSITE VIDEO signal from the  
input of NTSC 3.58 COLOUR in the  
measuring instrumentIC 4.43 will be automatically set at  
measuring instrument)

bar signal(75% white).  
CE MENU.  
FUNCTION UP/DOWN key.  
With the initial setting value,  
memorize the setting value.

colour bar signal(75% white).  
With SECAM COLOUR with the  
input of NTSC 3.58 COLOUR with the  
memorize the setting value.

COMPOSITE VIDEO signal (full field  
from the EXT terminal).  
With NTSC 3.58 COLOUR with the  
input of NTSC 3.58 COLOUR with the  
memorize the setting value.

IC 4.43 will be automatically set at

Item	Measuring Instrument	Test point	Adjustment part	Description
Adjustment of SUB HUE I	Remote control unit		11.HUE	[Method of adjustment without measuring instrument]
			NTSC 3.58 HUE	[NTSC 3.58 HUE] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.WC from the SERVICE MENU. 3. Select 11.HUE with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 HUE with the FUNCTION +/- key. 5. If you cannot get the best hue with the initial setting value, make the adjustment until you get the best hue. 6. Press the MENU key and memorize the set value.
			NTSC 4.43 HUE	[NTSC 4.43 HUE] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
Adjustment of SUB HUE II	Signal generator Oscilloscope Remote control unit		11.HUE	[Method of adjustment using measuring instrument]
			NTSC 3.58 HUE	[NTSC 3.58 HUE] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.WC from the SERVICE MENU. 3. Select 11.HUE with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 HUE with the FUNCTION +/- key. 5. Connect the oscilloscope between TP-47B and TP-E 6. Adjust NTSC 3.58 HUE to bring the value of (B) in the illustration to -4V (voltage difference between white (W) and magenta(Mg)). 7. Press the MENU key and memorize the setting value
			NTSC 4.43 HUE	[NTSC 4.43 HUE] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

## VIDEO/CHROMA CIRCUIT ADJUSTMENT [Fig.1]

Setting item	Initial setting value	Setting item	Initial setting value
1. MAIN BRIGHT	+15	4. SUB BRIGHT	+15
2. MAIN R-Y	+0	5. SUB R-Y	+0
3. MAIN B-Y	+0	6. SUB B-Y	+0

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of PIP WHITE BALANCE I	Signal Generator Remote control unit		4. SUB BRIGHT	1. Receive a colour bar signal. 2. Select 7.PIP from the SERVICE MENU. 3. TWIN PICTURE will be displayed (Fig.1). 4. Select 4. SUB BRIGHT with FUNCTION UP/DOWN key. 5. PIP PICTURE will be displayed (Fig.2). 6. Adjust the bright of PIP so that it falls within the same bright of the MAIN PICTURE. 7. Select 6.SUB R-Y, or 6.SUB B-Y with FUNCTION UP/DOWN key. 8. Adjust the low light of PIP so that it falls within the same low light of the MAIN PICTURE.
			5. SUB R-Y	
			6. SUB B-Y	
TWIN PICTURE			PIP	10MHz
			MAIN BRIGHT	**
			PIP : STORE	I : EXIT
Fig. 1			PIP PICTURE	
TWIN PICTURE			PIP	10MHz
			4.SUB BRIGHT	**
			PIP : STORE	I : EXIT
Fig. 2				

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of PIP WHITE BALANCE II	Signal Generator Remote control unit		1. MAIN BRIGHT 2. MAIN R-Y 3. MAIN B-Y	9. Select 1.MAIN BRIGHT with Function UP / DOWN key. 10. TWIN PICTURE will be displayed (Fig.1) 11. Adjust the bright of RIGHT picture so that it falls within the same bright of the LEFT picture. 12. Select 2.MAIN R-Y, 3.MAIN B-Y 13. Adjust the low light of RIGHT picture so that it falls within the same low light of the LEFT picture.

## DEFLECTION CIRCUIT ADJUSTMENT

There are 2 modes of the adjustment: (1) 100Hz mode (①FULL, ②PANORAMIC, ③16:9 ZOOM SUBTITLE), (2) 120Hz mode (each aspect mode) ----- depending upon the kind of signals (vertical frequency 100Hz / 120Hz).

- When the 100Hz FULL mode has been established, the setting of 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 will be 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.

Setting item	Adjustment name	Initial setting value					
		FULL		PANORAMIC		16:9 ZOOM SUBTITLE	
1.V-SHIFT	Vertical center	-100Hz	120Hz	100Hz	120Hz	100Hz	120Hz
2.V-SIZE	Vertical height	0	-1	+2	0	+2	0
3.H-CENT	Horizontal center	-3	-2	-1	0	0	0
4.H-SIZE	Horizontal width	-11	-2	0	0	0	0
5.EW-PIN	Side pin correction	+22	0	+4	+3	+3	+2
6.TRAPEZ	Trapezoidal distortion correction	+6	0	+1	+1	+1	0
7.COR-UP	Corner upper	+2	+1	+1	-3	+2	0
8.COR-LD	Corner lower	-6	0	-7	-4	-7	-3
9.ANGLE	Angle correction	0	0	0	0	0	0
10.BOW	Bow-shaped distortion correction	0	0	0	0	0	0
11.V-SCR	Vertical height correction	+9	0	+10	0	+11	0
12.V-LIN	Vertical Linearity	-6	+2	-20	0	-30	0

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V-SHIFT	Signal generator Remote control unit		1.V-SHIFT	[FULL mode] 1. Receive a circle pattern signal of vertical frequency 50Hz. 2. Select 4.DEF from the SERVICE MENU. 3. Select 1.V-SHIFT with the FUNCTION UP/DOWN key. 4. Adjust V-SHIFT to make A = B. 5. Press the MENU key and memorize the set value.

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V-SIZE			2.V-SIZE	5. Receive a cross-hatch signal. 6. Select 2.V-SIZE and set the initial setting value. 7. Adjust V-SIZE and make sure that the vertical screen size of the picture size is in the below table. 8. Press the MENU key and memorize the set value. 10. Input a NTSC VIDEO signal (60Hz) from the EXT terminal, and make sure that the vertical screen size is in the table below. 11. Press the MENU key and memorize the set value.
ASPECT MODE				[SCREEN SIZE]
SCREEN TOP				Screen size
SCREEN BOTTOM				Picture size 100%
ASPECT MODE				[SCREEN SIZE]
SCREEN TOP				Screen size
SCREEN BOTTOM				Picture size 100%
Adjustment of H-CENT	Signal generator Remote control unit		3.H-CENT.	12. Receive a circle pattern signal. 13. Select 4.H-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.
Adjustment of H-SIZE			4.H-SIZE	16. Receive a cross-hatch signal. 17. Select 4.H-SIZE and set the initial setting value. 18. Adjust H-SIZE and make sure that the horizontal screen size of the picture size is in the below table. 19. Pressing MENU key and memorize the set value. 20. Input a NTSC VIDEO signal (60Hz) from the EXT terminal, and make sure that the horizontal screen size is in the table below. 21. Press the MENU key and memorize the set value.
ASPECT MODE				[SCREEN SIZE]
H SIZE				Screen size
ASPECT MODE				[SCREEN SIZE]
H SIZE				Picture size 100%
Adjustment of EW-PIN			EW-PIN	22. Select 5.EW-PIN and set the initial setting value. 23. Adjust EW-PIN and make the 2nd vertical lines at the left and right edges of the screen straight. Also make sure that the 3rd vertical lines are straight. 24. Press the MENU key and memorize the set value.

# JVC AV 32 WFP1 EK/EU

Item	Measuring Instrument	Test point	Adjustment part	Description
Adjustment of TRAPEZ	Signal generator Remote control unit		6.TRAPEZ	<p>25. Receive a cross-hatch signal.</p> <p>26. Select 8.TRAPEZ with the FUNCTION UP/DOWN key.</p> <p>27. Set the initial setting value of TRAPEZ with the FUNCTION - or + key.</p> <p>28. Adjust TRAPEZ and bring the VERTICAL lines at the right and left edges of the screen parallel.</p> <p>29. Press the MENU key and memorize the set value.</p>
Adjustment of CORNER UP/ LOW	Signal generator Remote control unit		7.COR-UP 8.COR-LO	<p>30. Select 8.COR-LO with the FUNCTION UP / DOWN key.</p> <p>31. Set the initial setting value of COR-LO with the FUNCTION - or + key.</p> <p>32. Adjust COR-LO, and bring the straight line at the low corner.</p> <p>33. Select 7.COR-UP with the FUNCTION UP / DOWN key.</p> <p>34. Set the initial setting value of COR-UP with the FUNCTION - or + key.</p> <p>35. Adjust COR-UP, and bring the straight line at the upper corner.</p> <p>36. Press the MENU key and memorize the set value.</p>
Adjustment of ANGLE	Signal generator Remote control unit		9.ANGLE	<p>• In case where there is a parallelogrammatical distortion of Images on the screen. (Fig. A)</p> <p>37. Select 9.ANGLE with the FUNCTION UP / DOWN key.</p> <p>38. Adjust ANGLE, and bring the VERTICAL lines straight.</p> <p>39. Press the MENU key and memorize the set value.</p>
Adjustment of BOW	Signal generator Remote control unit		10.BOW	<p>• In case where there is a bow-shaped distortion of Images on the screen. (Fig.C)</p> <p>40. Select 10.BOW with the FUNCTION UP/DOWN key.</p> <p>41. Adjust BOW, and bring the VERTICAL lines straight.</p> <p>42. Press the MENU key and memorize the set value.</p>
Adjustment of V-S.CR & V.LINE	Signal generator Remote control unit		11.V-S.CR 12.V.LIN.	<p>• When the vertical linearity has been deteriorated remarkably, perform the following steps.</p> <p>43. Receive a cross-hatch signal.</p> <p>44. Select 12.V.LIN with the FUNCTION UP / DOWN key.</p> <p>45. Set the initial setting value of 12.V.LIN with the FUNCTION - or + key.</p> <p>46. Select 11.V-S.CR. with the FUNCTION UP / DOWN key.</p> <p>47. Set the initial setting value of 11.V-S.CR. with the FUNCTION - or + key.</p> <p>48. Adjust 12.V.LIN and 11.V-S.CR. so that the spaces of each line on TOP, CENTER, and BOTTOM become uniform.</p> <p>NOTE : Do not adjust "PANORAMIC" &amp; "18:9 ZOOM SUBTITLE" mode.</p>

Item	Measuring Instrument	Test point	Adjustment part	Description
				<p>At first the adjustment in 100Hz-FULL mode shall be done, then the data for the other aspect mode is corrected in the respective value at the same time. And confirm the deflection adjustment initial setting value in 120Hz (NTSC EXT mode) FULL mode. If the adjustment in 100Hz each aspect mode has been done and stored, the data for the same aspect modes in 120Hz is corrected in the respective value. Only the data for the other aspect mode in 120Hz is corrected for itself.</p>

## ■ NOTE ON USING CIRCUIT DIAGRAMS

### 1. SAFETY

The components identified by the  $\Delta$  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 Colour bar signal

(2) Setting positions of each tristor/tube and variable resistor : Original setting position when shipped

(3) External resistance of tester : DC 20k $\Omega$ /V

(4) Oscilloscope sweeping time : H = 20 $\mu$ s/div

V = 5ns/div

Others = Sweeping time is specified

(5) Probe voltage : All DC voltage values

\* Shows the voltage values of signal circuit very to some extent according to adjustments, use them as reference values.

### 3. INDICATION OF PARTS SYMBOL [EXAMPLE]

on the PW board R1209-R209

### 4. INDICATIONS ON THE CIRCUIT DIAGRAM

#### (1) Resistors

• Resistance value

No unit :  $\{ \Omega \}$

K :  $\{ k\Omega \}$

M :  $\{ M\Omega \}$

• Rated allowable power

No indication :  $\{ 1W \}$

Others : As specified

#### (2) Type

No indication

CER : Carbon resistor

OMR : Oxide metal film resistor

MFR : Metal film resistor

MPR : Metal plate resistor

UNFR : Unfilmable resistor

FR : Fusible resistor

\* Composition resistor 1/2 (W) is specified as 1/2S or Comp.

#### (3) Capacitors

• Capacitor value

1 or higher :  $\{ pF \}$

less than 1 :  $\{ \mu F \}$

#### (4) Withstand voltage

No indication :  $\{ DC50V \}$

AC indicated :  $\{ AC \text{ withstand voltage } [V] \}$

Others :  $\{ DC \text{ withstand voltage } [V] \}$  EATVB3

#### (5) Electrolytic Capacitors

47/50(E):Capacitance value ( $\mu F$ ) withstand voltage(V)

#### (6) Type

No indication

AV : Axial capacitor

MM : Metallized mylar capacitor

PP : Polypropylene capacitor

MPP : Metallized polypropylene capacitor

MF : Metallized film capacitor

TF : Thin film capacitor

BP : Bi-polar electrolytic capacitor

TAN : Tantalum capacitor

Ceramic capacitor  
Driver capacitor  
Metallized mylar capacitor  
Polypropylene capacitor  
Metallized polypropylene capacitor  
Metallized film capacitor  
Thin film capacitor  
Bi-polar electrolytic capacitor  
Tantalum capacitor

$\{ \mu H \}$

No unit

Others

As specified

(7) Power Supply

31

32

9V

5V

\*Respective voltage values are indicated

(8) Test point

Test point

Dolly test point display

Connector

Wrapping or soldering

Replace

#### (9) Ground symbol

LIVE side ground

ISOLATED(NEUTRAL) side ground

EARTH ground

DIGITAL ground

### 5. NOTE FOR REPAIRING SERVICE

This 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) ; (N) side GND. Therefore, care must be taken for the following points.

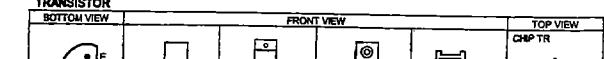
(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2) Do not short between the LIVE side GND and the ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (multimeter, etc.) 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.

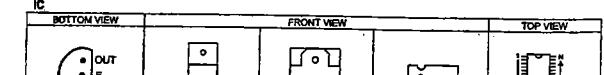
Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

## SEMICONDUCTOR SHAPES

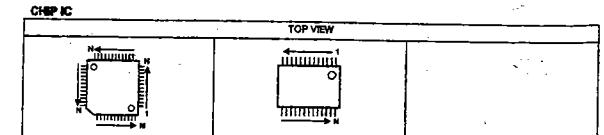
### TRANSISTOR



### IC

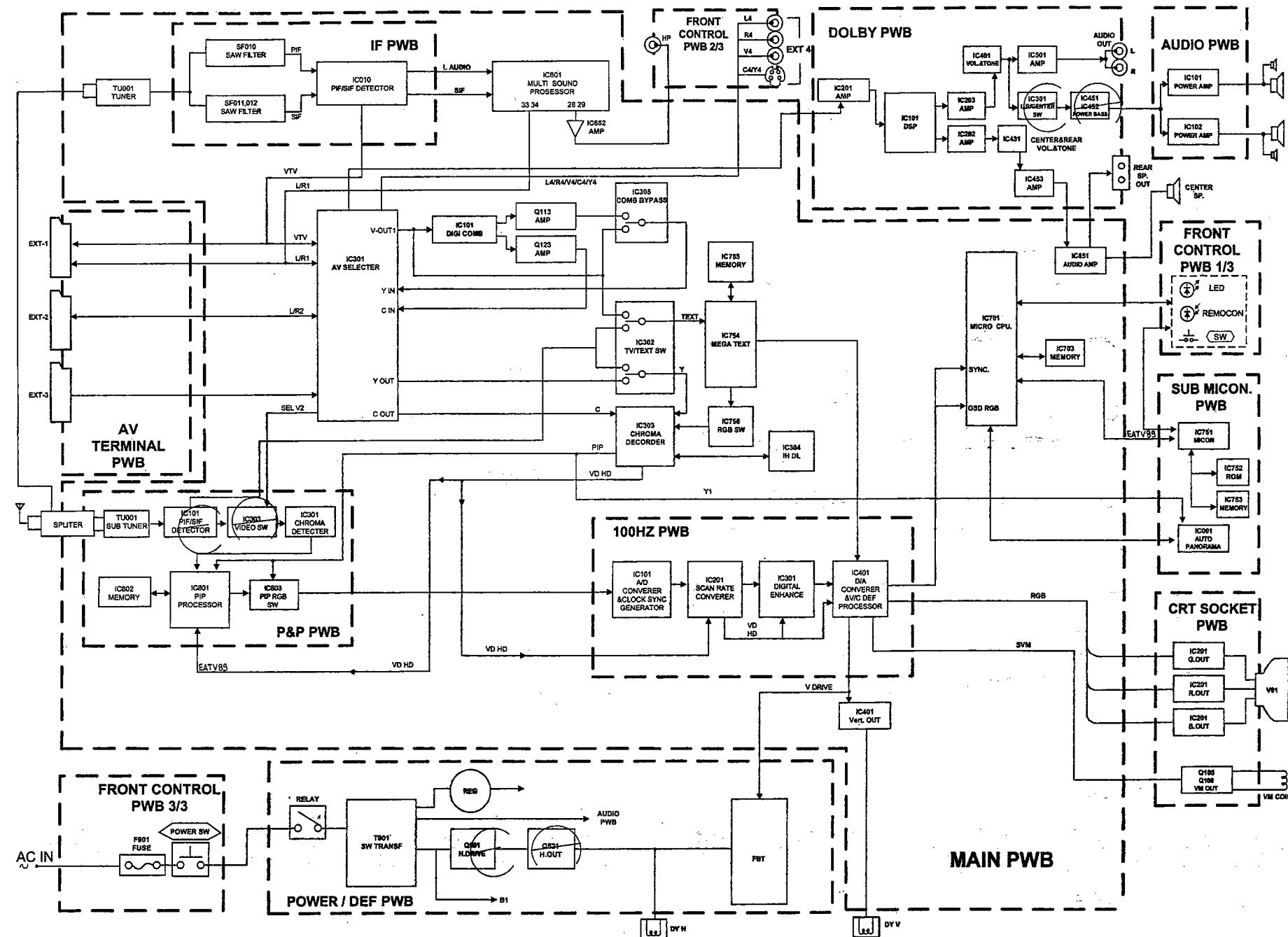


### CHP IC



## BLOCK DIAGRAM

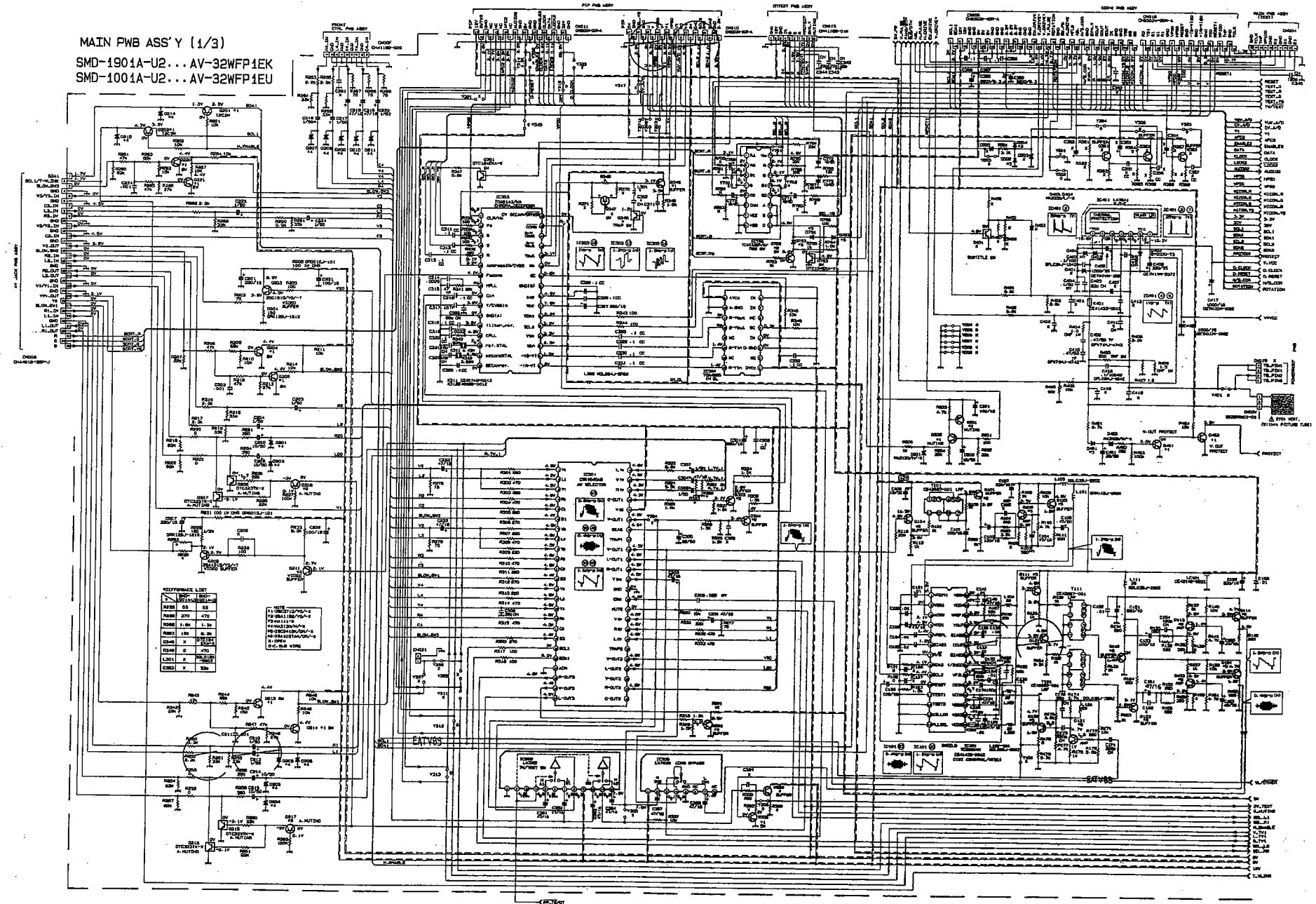
AV 32 WFP1 EK/EU JVC

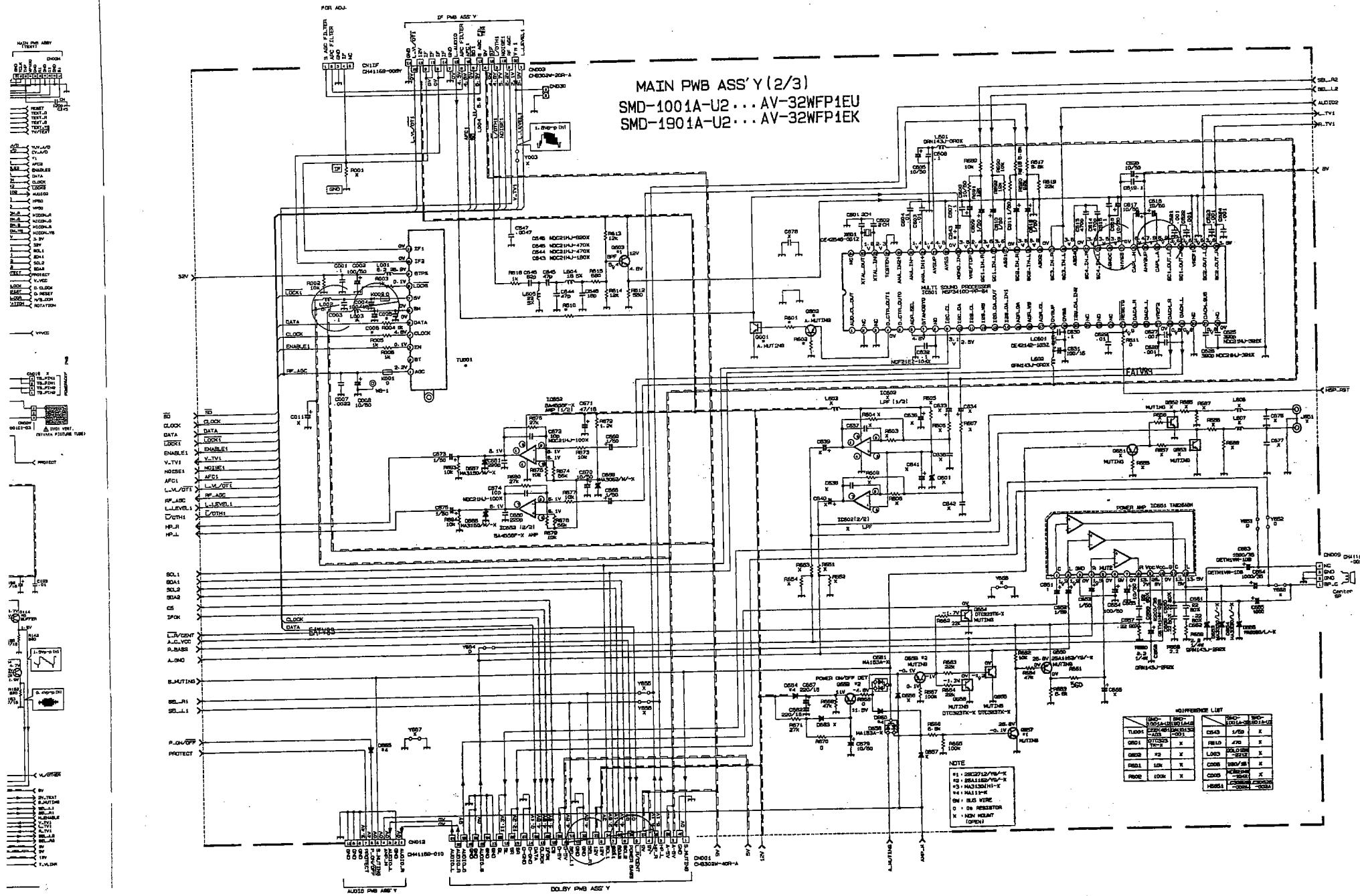


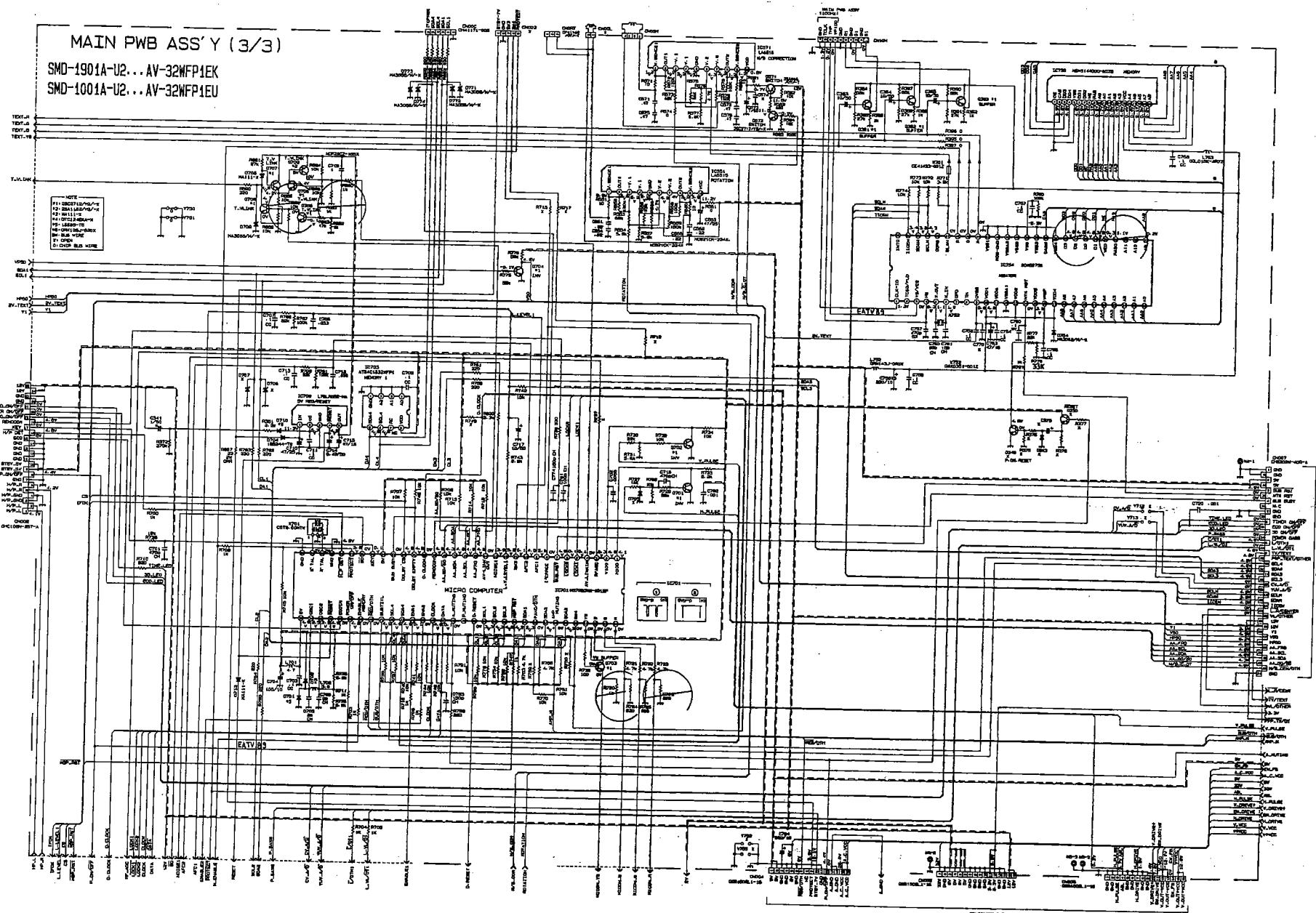
JVC AV 32 WFP1 EK/EU

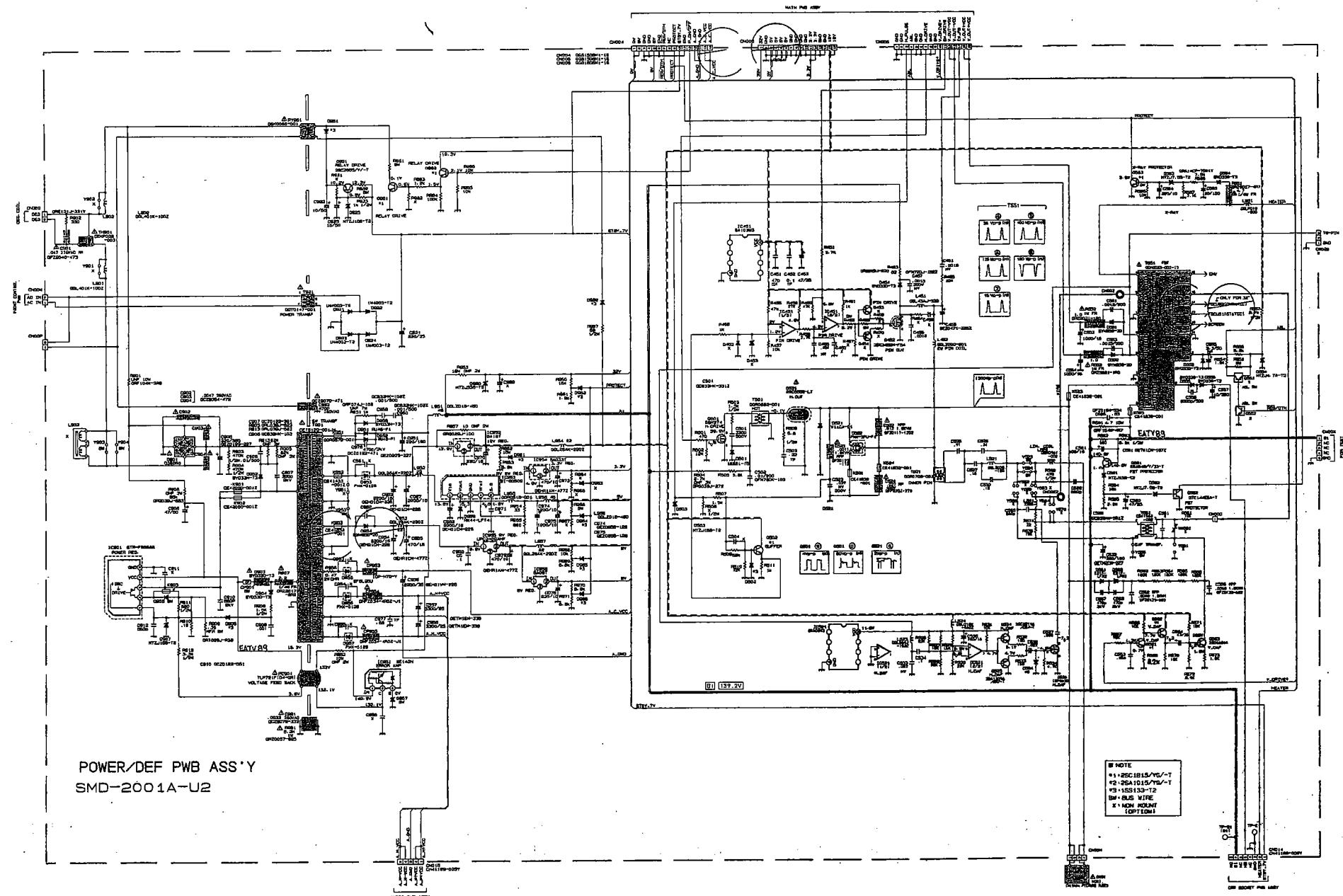
MAIN PWB ASS'Y (1/3)

SMD-1901A-U2... AV-32WFP1EK  
SMD-1001A-U2... AV-32WFP1EU

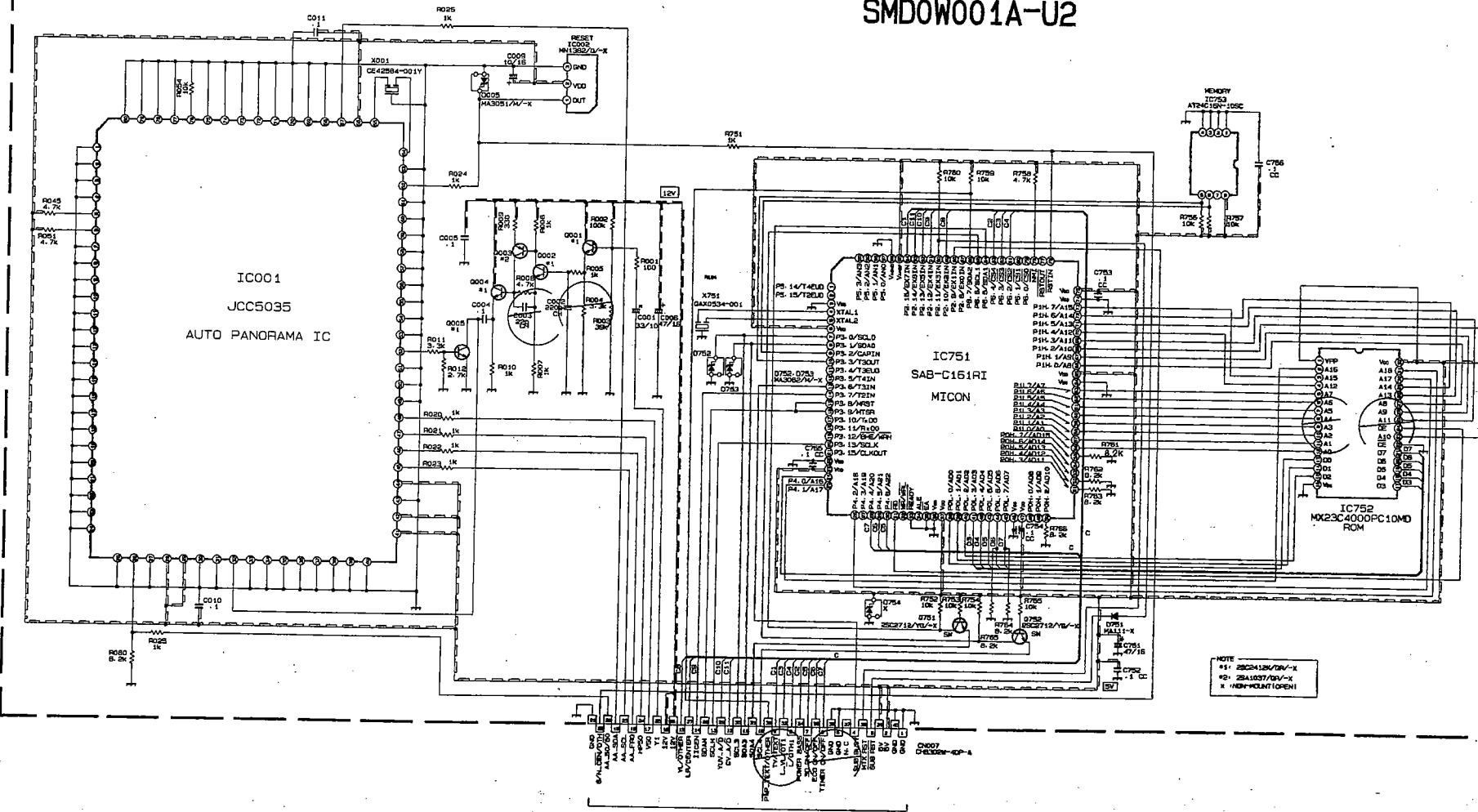




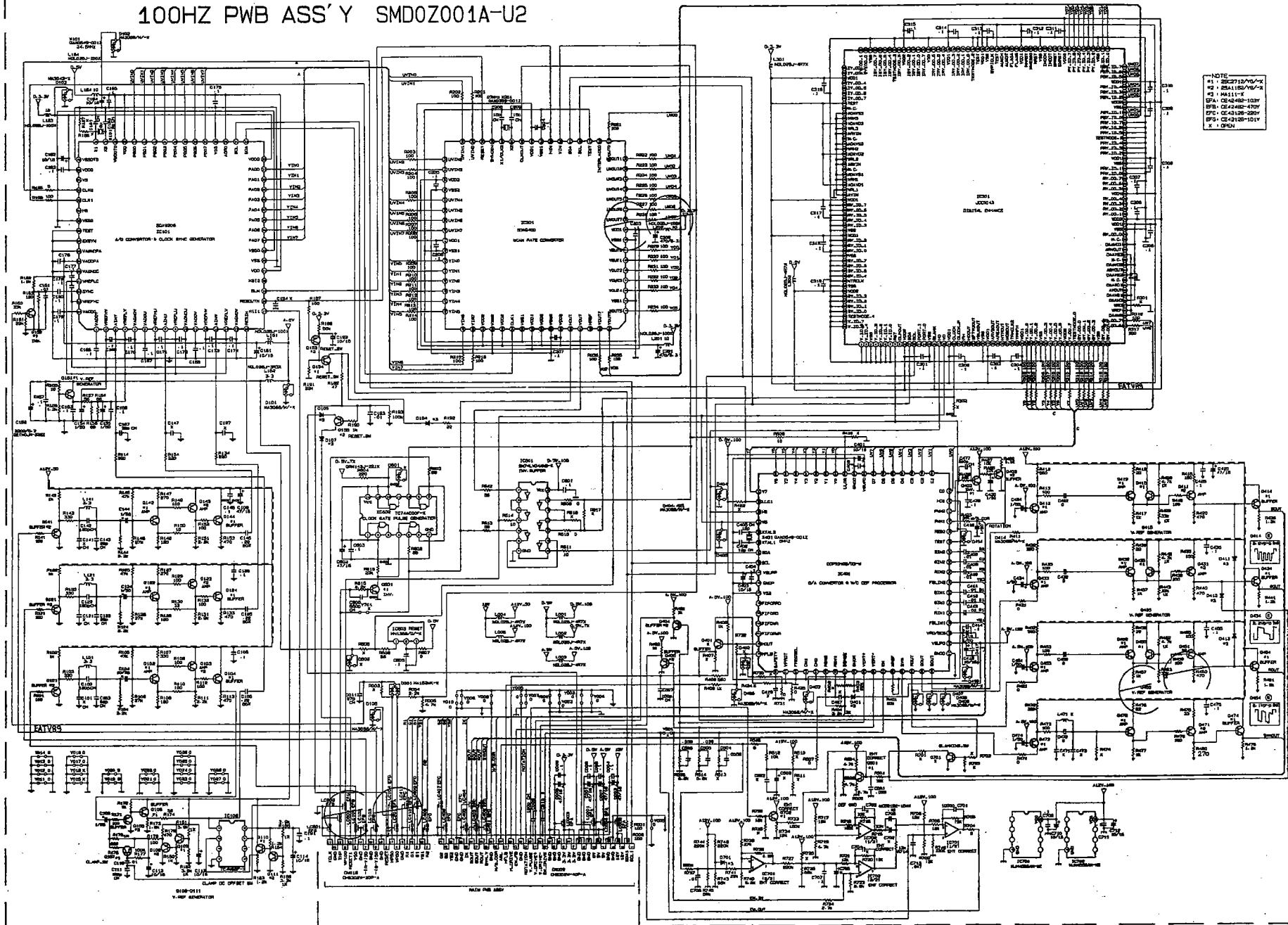




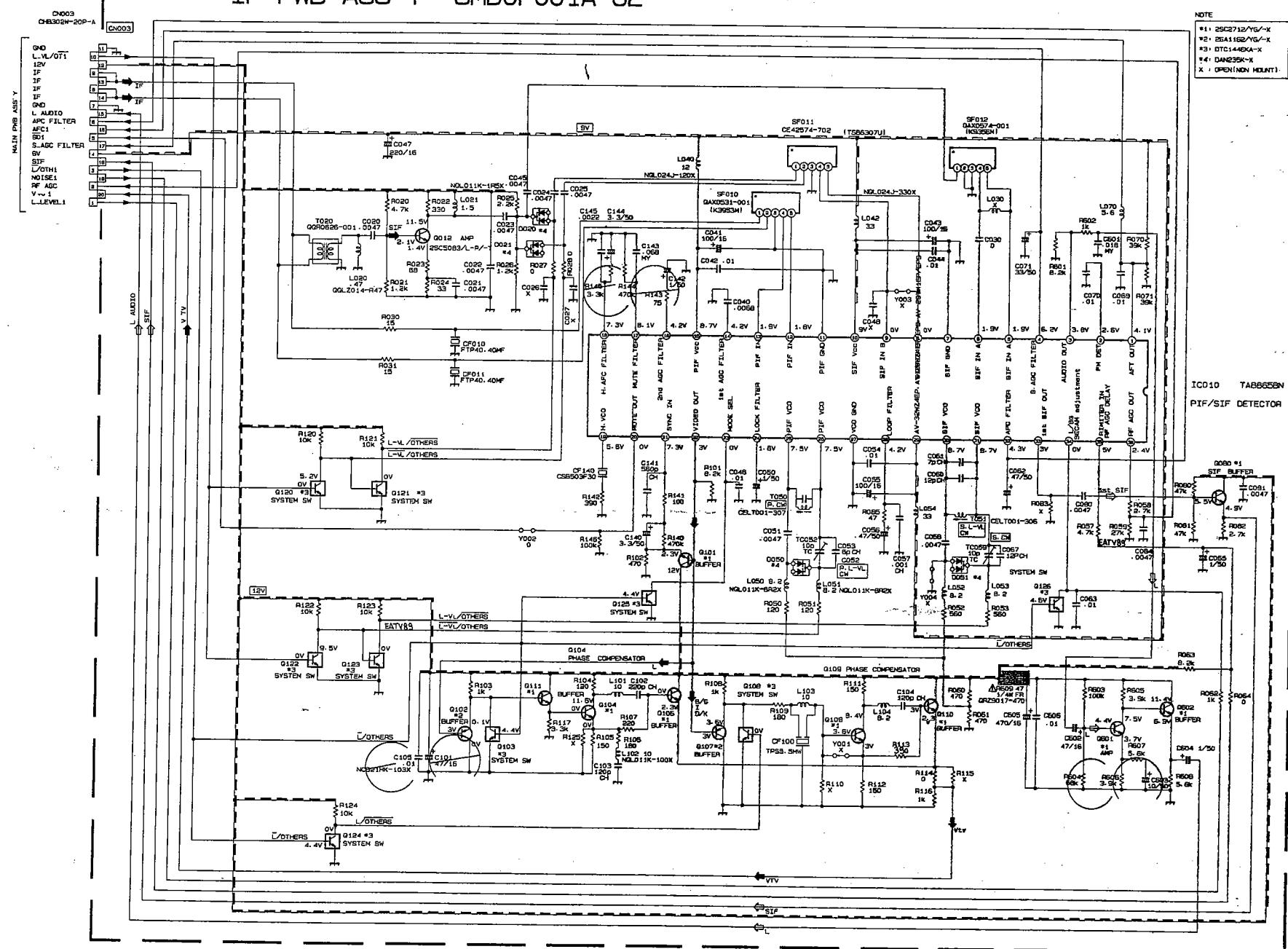
SUB MICON & AUTO PANORAMA PWB ASS'Y  
SMD0W001A-U2



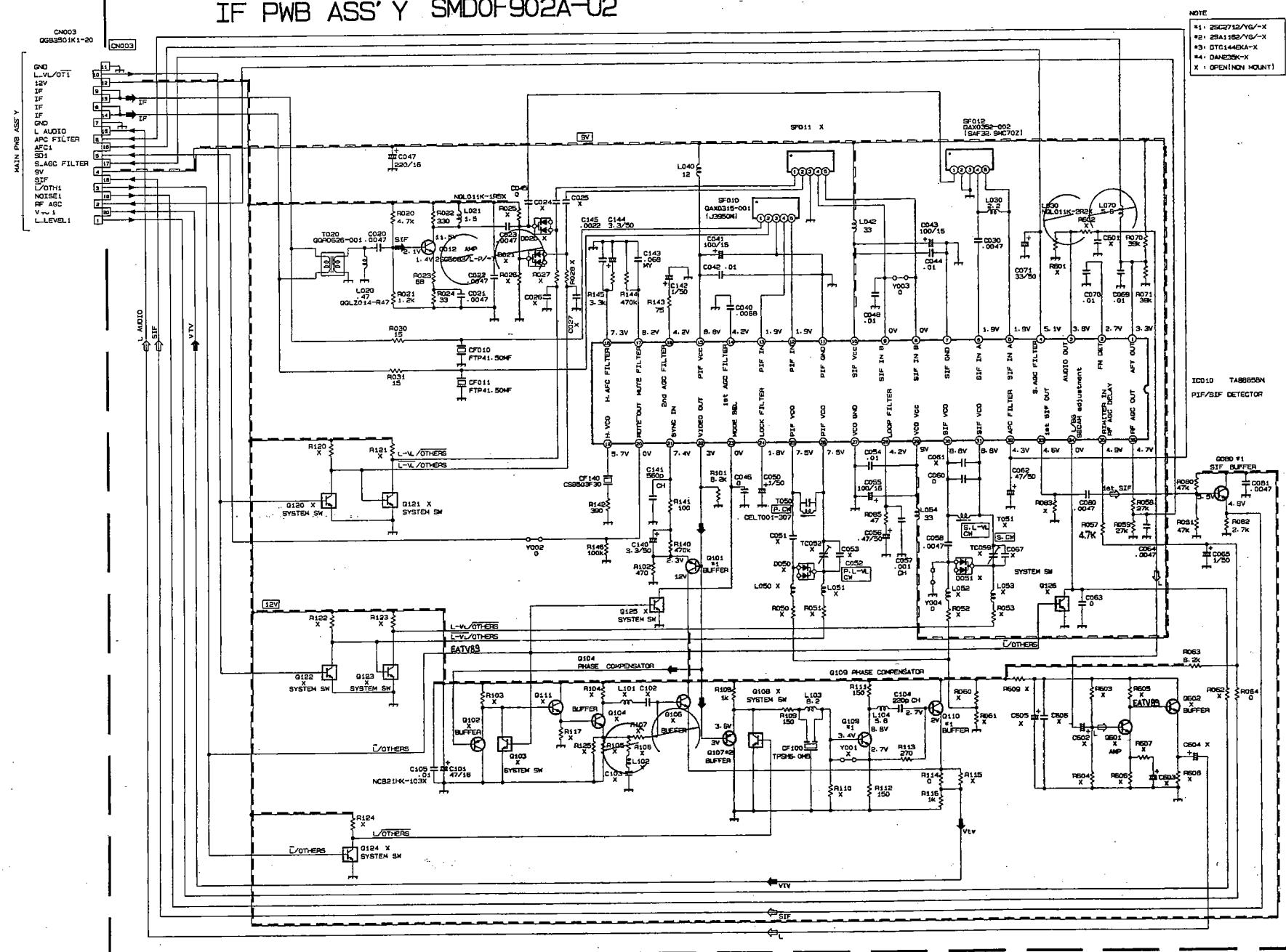
## 100HZ PWB ASS'Y SMD0Z001A-U2



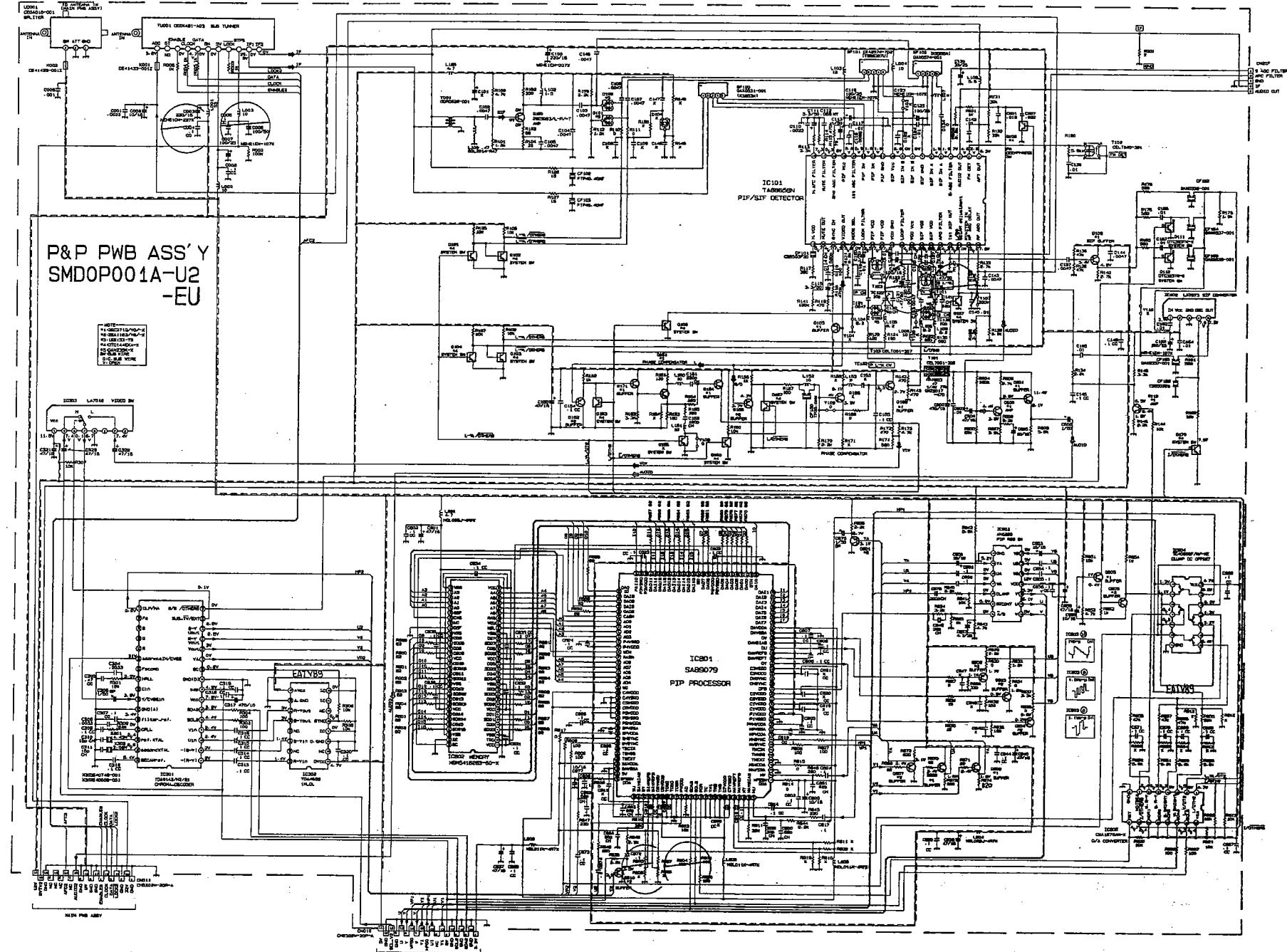
IF PWB ASS' Y SMD0F001A-U2

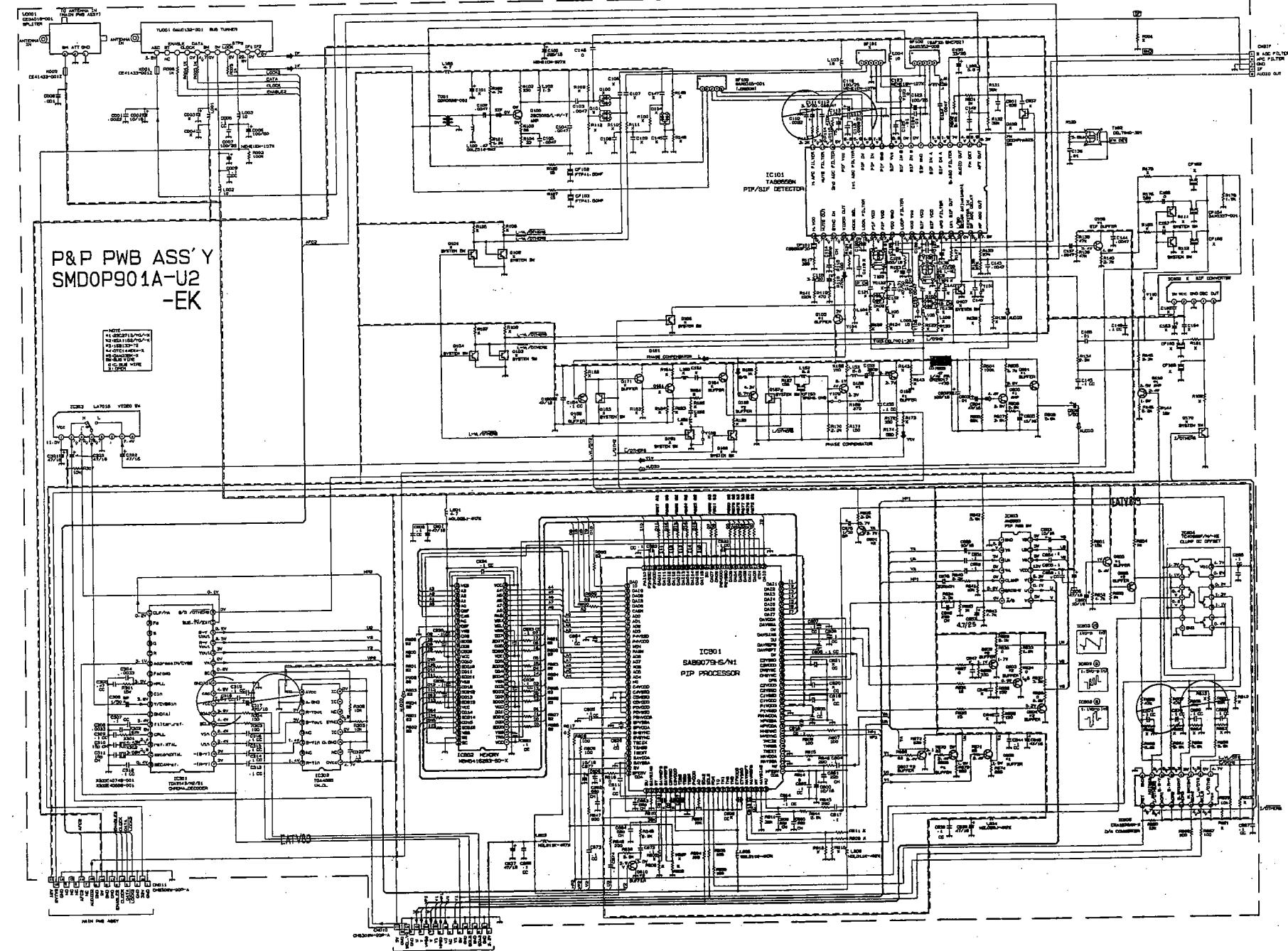


IF PWB ASS' Y SMD0F902A-U2



# JVC AV 32 WFP1 EK/EU

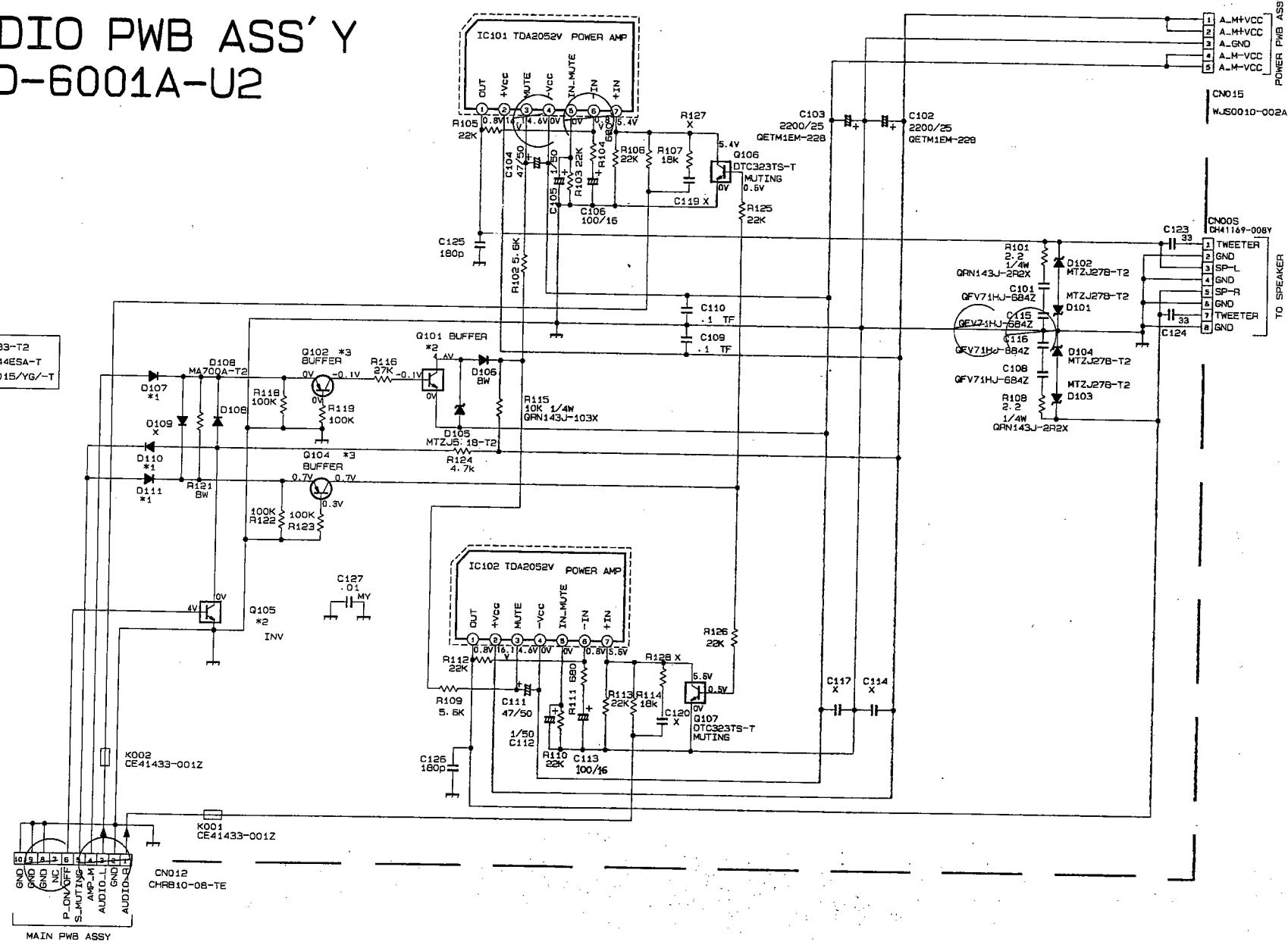




# AUDIO PWB ASS'Y

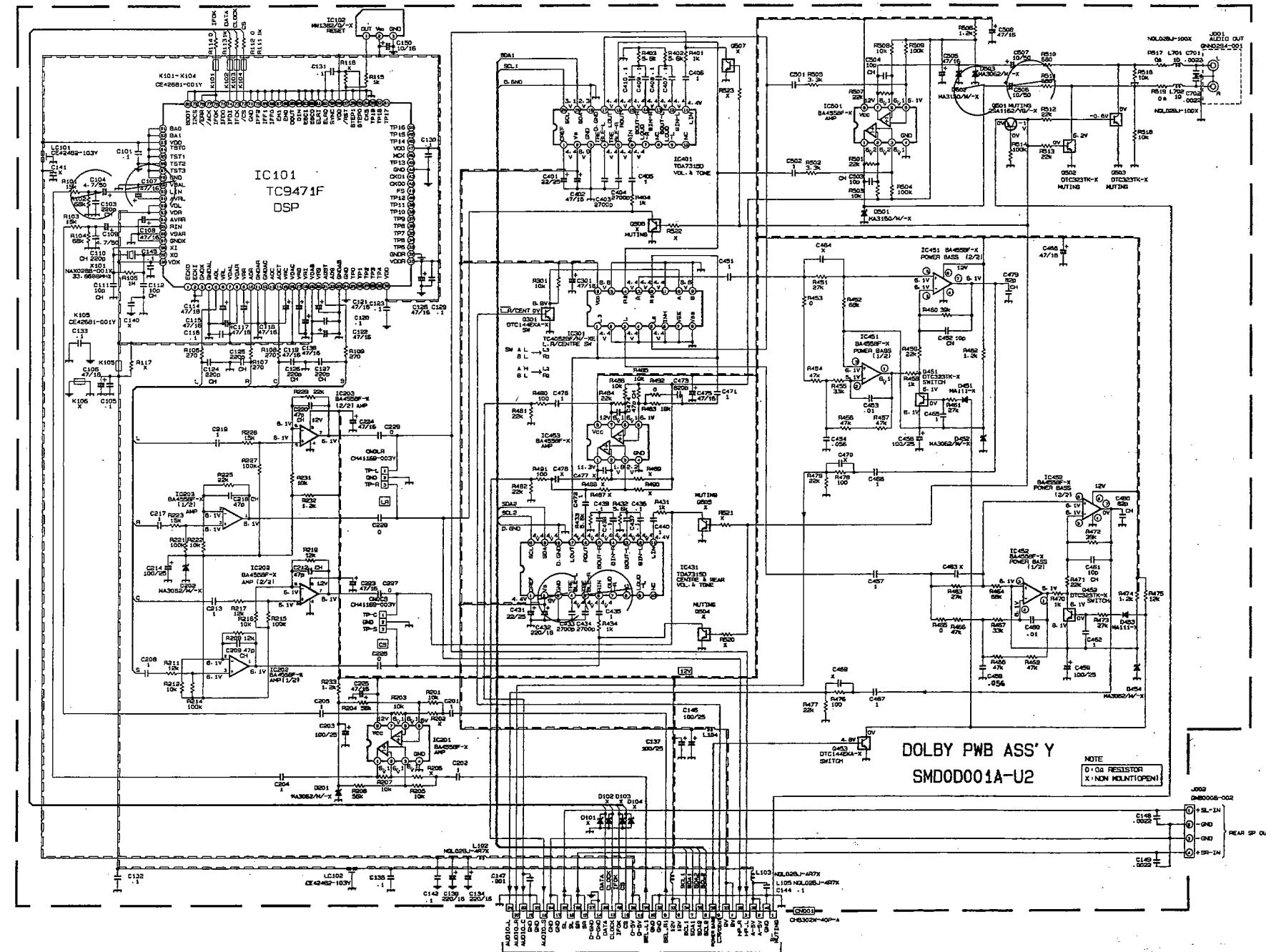
## SMD-6001A-U2

NOTE  
 \*1 : ISS133-T2  
 \*2 : DTC144ESA-T  
 \*3 : 2SA1015/YG-T

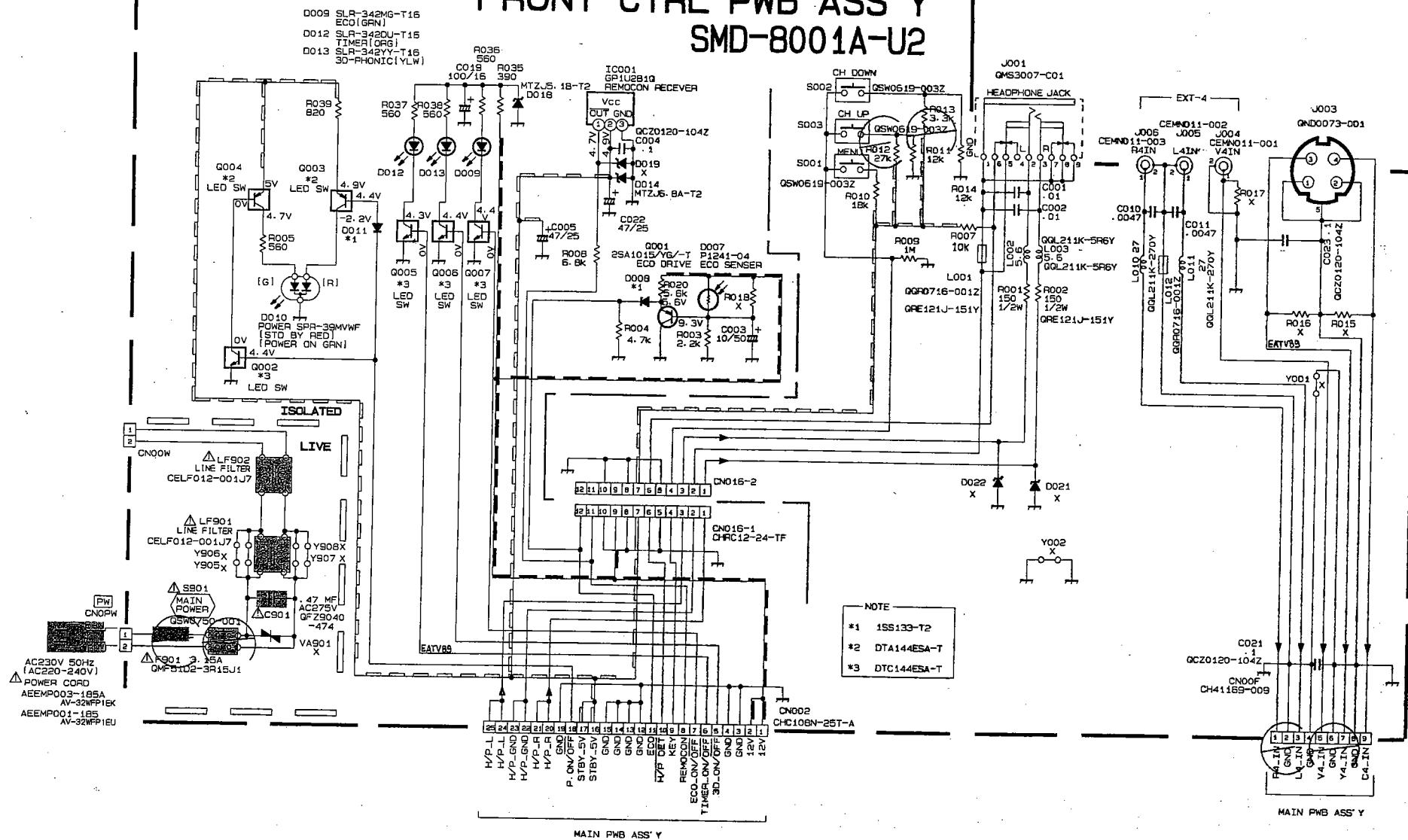


POWER PWB ASS'Y  
 1 A-M+VCC  
 2 A-M-VCC  
 3 A-GND  
 4 A-M-VCC  
 5 A-M-VCC  
 CN015  
 WJS0010-002A

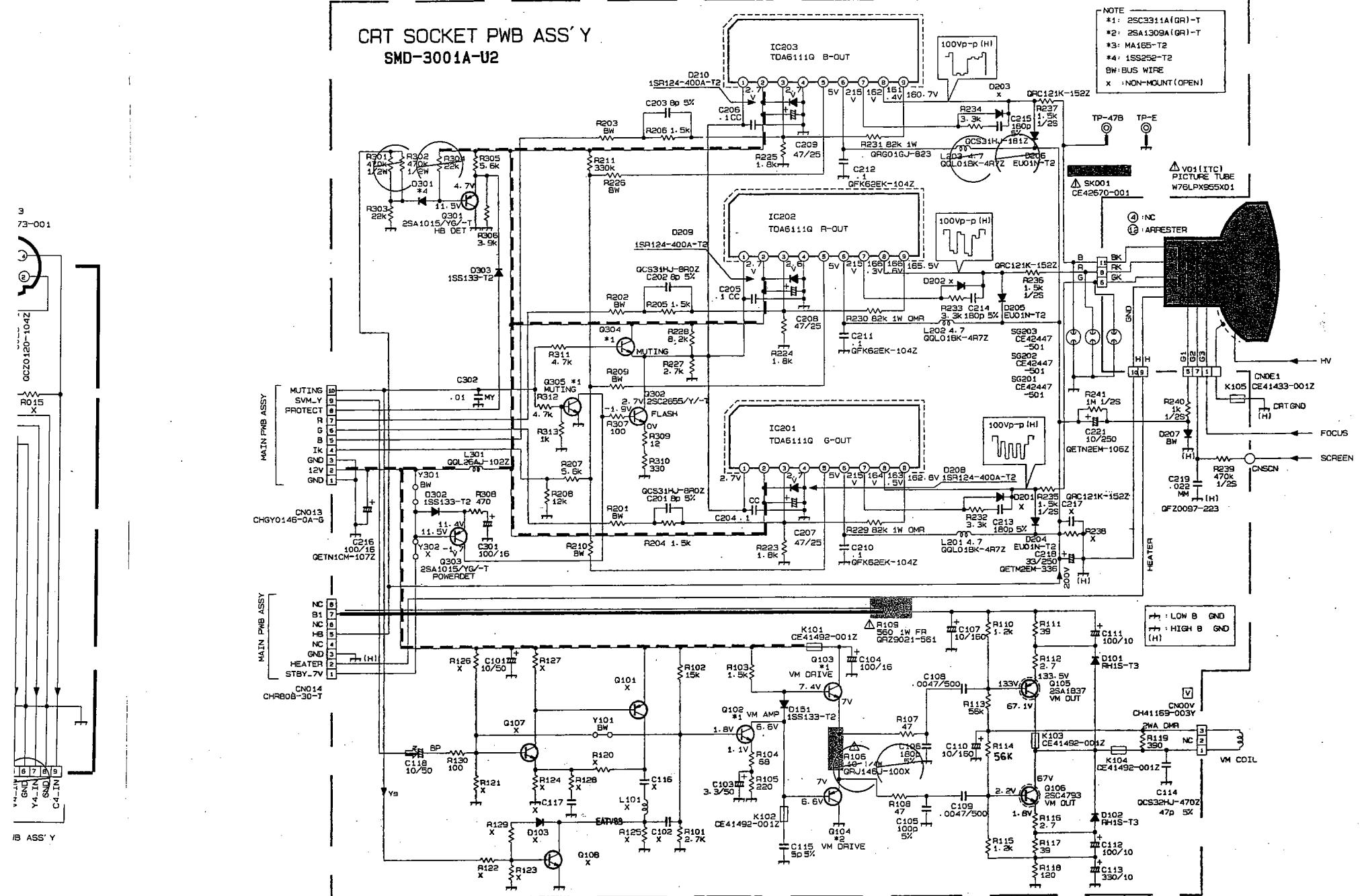
TO SPEAKER  
 1 TWEETER  
 2 GND  
 3 SP-L  
 4 GND  
 5 SP-R  
 6 GND  
 7 TWEETER  
 8 GND

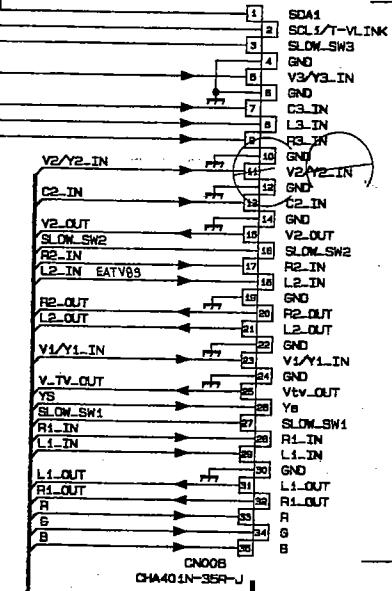
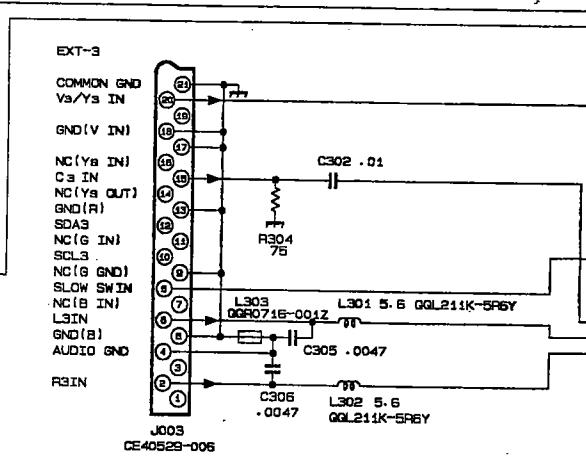
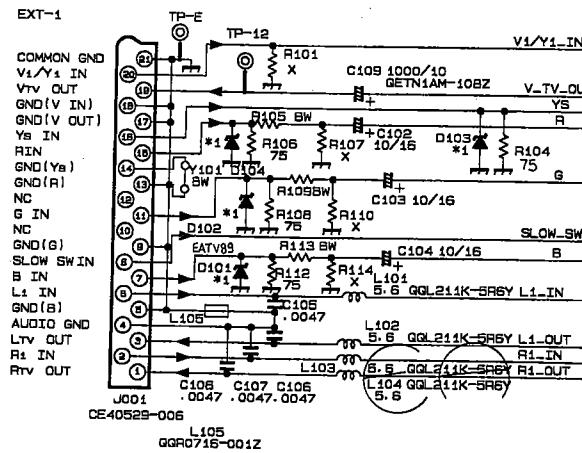
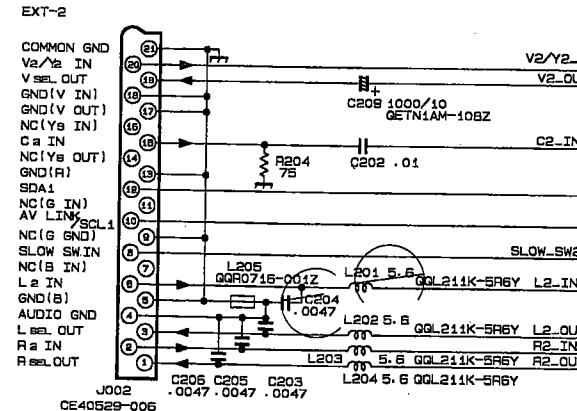


**FRONT CTRL PWB ASS'Y**



CRT SOCKET PWB ASS'Y  
SMD-3001A-U2





AV TERMINAL PWB ASS' Y  
SMDOJ001A-U2