

JVC
AV-28 T20 EPS
AV-28 T 200 EPS
AV-32 T 20 EPS

OVERVIEW OF SERVICE SETTING		FEATURES	
PICTURE SETTING	DUBBING	EXT-SETTING	EXT-SETTING
TNT CONTRAST BRIGHT SHARP COLOR	<input type="checkbox"/> REFER TO VSM/PRESET EATY90	ON ID: No. L1 OFF OFF	ON ID: No. L1 OFF OFF
AUTO VTR COLOR SYSTEM 43 AUTO ASPECT	ON TINT AUTO PANCHAMIC	SLEEP TIMER BLU BACK DISPLAY ON/OFF DISCORDER (EXT-2)	ON L1 OFF OFF
STEREO / 1 : 1 TONE BALANCE BEE HYPERSONIC SPEAKER	ON CENTER CONTROLLER ON OFF ON	LANGUAGE ENGLISH ESPANOL DEMO	INSTALL PRESET CH. ENK TEST SOUN. BACK

TABLE 1

- (1) When adjusting the initial setting values of COOL, NORMAL, and WARM.
(NSH: Video State Memory)
The above indicates the number of the VPS, POC, and NTC. (Do not adjust)
- (2) BASIC OPERATION OF SERVICE MENU
(1) Hold down the SERVICE MENU button until the SERVICE MENU screen of Fig. 1 will be displayed.
- (3) BASIC OPERATION OF SERVICE MENU
(1) Hold down the SERVICE MENU button until the REMOTE CONTROL UNIT displays the SERVICE MENU of Fig. 3 will be displayed.
- (4) AVIM PRESET
(5) AVPS
(6) AVPS
(7) 7-SHIPPING

REPLACEMENT OF MEMORY ICs

1. Memory ICs
The TV uses memory ICs. In memory ICs, there are manufactured data for correctly operating the video and definition blocks. When replacing memory ICs, be sure to use ICs written with the initial value of date.
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 date value.
 - (3) Power on
Plug the power cord into the outlet and switch the power on.
 - (4) Check and set SYSTEM CONSTANT SET:
 - * If it is initialized without signal:
1) Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously.
 - 2) The SERVICE MENU screen of Fig. 1 will be displayed.
 - 3) While the SERVICE MENU is displayed, press the SYSTEM CONSTANT SET button of Fig. 2, and the constant value of the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.
 - 4) Check the setting values of the SYSTEM CONSTANT SET of TABLE 1. If the setting value of the SYSTEM CONSTANT SET of FUNCTION UP/DOWN, L1, or 7-SHIPPING is incorrect, press the SYSTEM CONSTANT SET key, and set the correct value with the FUNCTION UP/DOWN key.
 - 5) Press the MENU key to memorize the setting value.
 - 6) If the receive or output signal is not specified, use the most appropriate signal for adjustment.
 - 7) Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before setting adjustment.
 - 8) If the receive or output signal is not specified, use the most appropriate signal for adjustment.
 - 9) Set the setting items of the SERVICE MENU of Fig. 3, and return to the normal screen.
3. Setting of active channels
For setting, refer to the OPERATING INSTRUCTIONS. EATY90
4. User settings
Check these setting values of Table 2, and if setting value is different, set the correct value.
For setting, refer to the OPERATING INSTRUCTIONS.
5. Setting of SERVICE MENU
Verify the setting items of the SERVICE MENU of Fig. 3, and reset where necessary.
For setting, refer to the SERVICE ADJUSTMENTS.

Fig. 1

NAME OF SERVICE CONTROL KEY

Name of key	key
INFORMATION	①
MUTING	②
MENU	③
FUNCTION UP/DOWN	④
FUNCTION +/-	⑤

CHECK ITEM

Item	Setting value
POWER SUPPLY CHECK	NO
REMOTE CONTROL	DC 1V
VOLUME	0dB
BRIGHTNESS	100%

ADJUSTMENT

Item	Setting value
POWER SUPPLY CHECK	NO
REMOTE CONTROL	DC 1V
VOLUME	0dB
BRIGHTNESS	100%
VOLUME LEVEL	120W
COLOR	100%
SOUND	100%
SHARPNESS	100%

ADJUSTMENT OF

Item	Setting value
POWER	NO
VOLUME	0dB
BRIGHTNESS	100%
COLOR	100%
SOUND	100%
SHARPNESS	100%

ADJUSTMENT OF

Item	Setting value
POWER	NO
VOLUME	0dB
BRIGHTNESS	100%
COLOR	100%
SOUND	100%
SHARPNESS	100%

ADJUSTMENT OF

Item	Setting value
POWER	NO
VOLUME	0dB
BRIGHTNESS	100%
COLOR	100%
SOUND	100%
SHARPNESS	100%

FIG. 3 SUB MENU SCREEN

1. TOOL OF SERVICE MENU OPERATION
1. Operate the SERVICE MENU with the REMOTE CONTROL UNIT.
2. MEASURING INSTRUMENT AND FIXTURES
 - BI power supply check.
 - F circuit adjustment.
 - VSB picture value setting.
 - VIDEO / CHROMA circuit adjustment.
 - DEFLECTION circuit adjustment.
 - AUDIO circuit adjustment. (Do not adjust)
3. BASIC OPERATION SERVICE MENU
 - 1. DC voltage (or digital voltmeter)
 - 2. Capacitance
 - 3. Signal generator (frequency generator) [PAL / SECAM / NTSC]
 - 4. Remote control unit
4. USER'S SETTING VALUES (TABLE 2)

SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 2)		
Setting item	Setting value	Setting comment
1 DESTINATION	EP	5.0MB
2 DOLBY	NO	6SPUTER TILT
3 BBE	YES	7FLAT
4 TV SPEAKER	YES	8.0
Setting item	Setting value	Setting comment
1 ZOOM CHANNEL	10	5.0MB
2 SHARING CHANNEL	1	ZOOM MODE

- This mode adjusts the setting value of the VIDEO / CHROMA circuit.
The mode adjusts the setting value of the multi-level SOUND circuit. (Do not adjust)
- The mode adjusts the setting value of the REFLECTION circuit for each aspect mode given below.
- | | |
|-----------|-----------|
| 1. EXPAND | 1. LINEAR |
| 2. ZOOM | 2. EXPAND |
| 3. PAN | 3. LINEAR |
| 4. CROP | 4. EXPAND |

ADJUSTMENT LOCATIONS

Item	Metering instrument	Testpoint	Adjustment part	Description
[Method of adjustment using measuring instrument]				
Adjustment of SUB COLOUR II	Signal generator [CRT-SOCKET SOCKET PWB]	TP-E11 [PAL-NITC] PAL-COLOUR	TP-E11 [PAL-NITC]	[PAL COLOUR]
(PAL COLOUR)				
On-teloscope control unit				1. Receive a PAL full field colour bar signal (75% white).
				2. Perform ZOOM to very wide scale to PANORAMIC mode.
				3. Select 2.0G from the SERVICE MENU.
				4. Select CRT-SOCKET PWB from the FUNCTION UP/DOWN key.
				5. Set the initial setting value of SECAM COLOUR with the FUNCTION UP/DOWN key.
				6. Set the initial setting value of PAL COLOUR with the FUNCTION UP/DOWN key.
				7. Adjust CRT-SOCKET PWB, and bring the value of (A) in the description to the value as shown below when the voltage difference between white (W) and blue (B).
				8. Press the MENU key and memorize the setting value.
MODEL	AV2720E/PES	AV2720E/PES		
VOLTAGE (W-B)	-3V	-3V		
SECAM COLOUR				
(SECAM COLOUR)				
				1. Receive a SECAM full field colour bar signal (75% white).
				2. Perform ZOOM to very wide scale to PANORAMIC mode.
				3. Select 2.0G from the SERVICE MENU.
				4. Select CRT-SOCKET PWB from the FUNCTION UP/DOWN key.
				5. Set the initial setting value of SECAM COLOUR with the FUNCTION UP/DOWN key.
				6. Connect the connections between TR47B and TP-E11 on the CRT-SOCKET PWB.
				7. Adjust SECAM COLOUR, and bring the value of (A) in the description to the value as shown below when the voltage difference between white (W) and blue (B).
				8. Press the MENU key and memorize the setting value.
MODEL	AV2720E/PES	AV2720E/PES		
VOLTAGE (W-B)	-3V	-3V		
NTSC COLOUR				
(NTSC 3.58 COLOUR)				
				1. Input NTSC 3.58 composite VIDEO signal (full size colour bar with 75% white) from the EX terminal.
				2. Perform ZOOM to very wide scale to PANORAMIC mode.
				3. Select 2.0G from the SERVICE MENU.
				4. Select 5 COLOR with the FUNCTION UP/DOWN key.
				5. Set the initial setting value of NTSC 3.58 COLOUR with the FUNCTION UP/DOWN key.
				6. Adjust NTSC 3.58 COLOUR, and bring the value of (A) in the description to the value as shown below when the voltage difference between white (W) and blue (B).
				7. Press the MENU key and memorize the setting value.
(Method of adjustment without measuring instrument)				
Adjustment of SUB HUE I	Remote control unit	6. HUE		
				1. When NTSC 3.58 is set, NTSC 4.3 will be automatically set at its respective values.
				2. Perform ZOOM key and set the PANORAMIC mode.
				3. Select 2.0G from the SERVICE MENU.
				4. Set 6. HUE with the FUNCTION UP/DOWN key.
				5. Set the initial setting value of NTSC 3.58 HUE with the FUNCTION UP/DOWN key.
				6. If you cannot get the best hue with the initial setting value, make the adjustment until you get the best hue.
				7. Press the MENU key and memorize the setting value.
MODEL	AV2720E/PES	AV2720E/PES		
NTSC 4.43 HUE				
				1. When NTSC 3.58 is set, NTSC 4.3 will be automatically set at its respective values.
				2. Perform ZOOM key and set the PANORAMIC mode.
				3. Select 2.0G from the SERVICE MENU.
				4. Set 6. HUE with the FUNCTION UP/DOWN key.
				5. Set the initial setting value of NTSC 4.43 HUE with the FUNCTION UP/DOWN key.
				6. Connect the connection between TR47B and TP-E11 on the CRT-SOCKET PWB.
				7. Adjust NTSC 4.43 HUE to bring the value of (B) in the description to the value shown below (Voltage difference between white (W) and blue (B)).
				8. Press the MENU key and memorize the setting value.
MODEL	AV2720E/PES	AV2720E/PES		
VOLTAGE (W-B)	-3V	-3V		

FRONT CONTROL PWB (1/2)		FRONT CONTROL PWB (2/2)		POWER/DEF PWB	

SCHEMATIC

SHEET

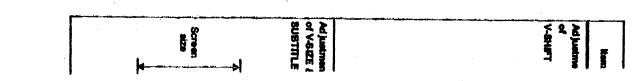
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Item	Metering instrument	Testpoint	Adjustment part	Description
[Method of adjustment using measuring instrument]				
Adjustment of BLACK OFFSET II	Signal generator [CRT-PIN PWB]	TP-E11 [PAL-NITC] PAL-COLOUR	TP-E11 [PAL-NITC]	(+1)
(+1)				
On-teloscope control unit				1. Connect the connection between 35 pin of C-301 and PTE.
				2. Set the initial setting value of BLACK OFFSET (R-Y) to 0. By using A and B keys of the remote control, adjust the black offset from 0(B) to 100(B) when the screen is black.
				3. Connect the connection between 36 pin of C-301 and PTE.
				4. Set the initial setting value of BLACK OFFSET (B-Y) to 0. By using A and B keys of the remote control, adjust the black offset from 0(B) to 100(B) when the screen is black.
				5. If the problem is not the best with the adjusted picture, move the adjustment value through the black picture.
				6. Press the MENU key and memorize the setting value.
MODEL	AV2720E/PES	AV2720E/PES		
VOLTAGE (W-B)	-3V	-3V		
[Method of adjustment without measuring instrument]				
Adjustment of BLACK OFFSET II	Signal generator [CRT-PIN PWB]	TP-E11 [PAL-NITC] PAL-COLOUR	TP-E11 [PAL-NITC]	
				1. Receive a SECAM composite VIDEO signal (full size colour bar with 75% white) from the EX terminal.
				2. Perform ZOOM to very wide scale to PANORAMIC mode.
				3. Select 2.0G from the SERVICE MENU.
				4. Select CRT-SOCKET PWB with the FUNCTION UP/DOWN key.
				5. Set the initial setting value of SECAM COLOUR with the FUNCTION UP/DOWN key.
				6. Connect the connection between TR47B and TP-E11 on the CRT-SOCKET PWB.
				7. Adjust SECAM COLOUR, and bring the value of (A) in the description to the value shown below when the voltage difference between white (W) and blue (B).
				8. Press the MENU key and memorize the setting value.
MODEL	AV2720E/PES	AV2720E/PES		
VOLTAGE (W-B)	-3V	-3V		

SCHEMATIC

SHEET

9



SCHEMATIC

SHEET

9

Item	Metering instrument	Testpoint	Adjustment part	Description
[Method of adjustment using measuring instrument]				
Adjustment of BLACK OFFSET II	Signal generator [CRT-PIN PWB]	TP-E11 [PAL-NITC] PAL-COLOUR	TP-E11 [PAL-NITC]	(+1)
(+1)				
On-teloscope control unit				1. Connect the connection between 35 pin of C-301 and PTE.
				2. Set the initial setting value of BLACK OFFSET (R-Y) to 0. By using A and B keys of the remote control, adjust the black offset from 0(B) to 100(B) when the screen is black.
				3. Connect the connection between 36 pin of C-301 and PTE.
				4. Set the initial setting value of BLACK OFFSET (B-Y) to 0. By using A and B keys of the remote control, adjust the black offset from 0(B) to 100(B) when the screen is black.
				5. If the problem is not the best with the adjusted picture, move the adjustment value through the black picture.
				6. Press the MENU key and memorize the setting value.
MODEL	AV2720E/PES	AV2720E/PES		
VOLTAGE (W-B)	-3V	-3V		

SCHEMATIC

SHEET

9

NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY
The circuit diagram is intended for the experienced and qualified service technician. For maximum safety, replace only with manufacturer recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES
The voltage and waveform values have been measured under the following conditions:
 - Input signal: 100% amplitude, 100% modulation, 100% duty cycle.
 - Output position: Optimal setting position (where applicable).

INDICATIONS ON THE CIRCUIT DIAGRAM

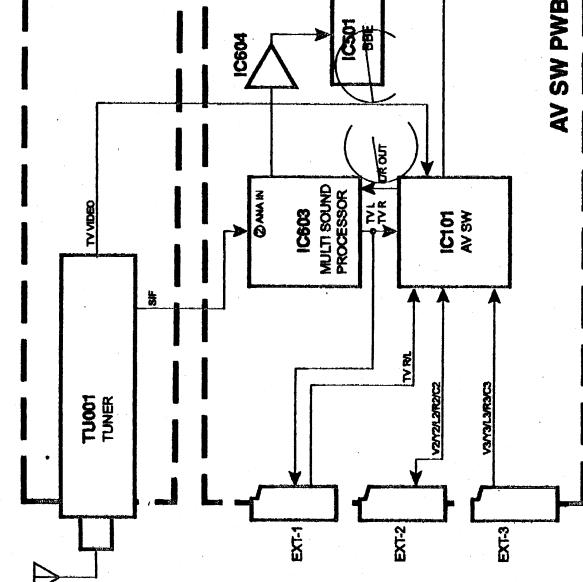
(Parameter)
 - Parameter value
 - (Nominal value)
 - (Maximum value)
 - (Minimum value)
 - (Average value)
 - (Change value)

(Voltage value)
 - AC voltage value
 - DC voltage value
 - Other voltage value
 - Other voltage value

(Waveform value)
 - Other waveform value
 - AC waveform value
 - DC waveform value
 - Other waveform value

INDICATION OF PARTS SYMBOL (EXAMPLE)

2109 - 2000 : In the PWB board



MAIN PWB

INDICATIONS ON THE CIRCUIT DIAGRAM

(Parameter)
 - Parameter value
 - (Nominal value)
 - (Maximum value)
 - (Minimum value)
 - (Average value)
 - (Change value)

(Voltage value)
 - AC voltage value
 - DC voltage value
 - Other voltage value
 - Other voltage value

(Waveform value)
 - Other waveform value
 - AC waveform value
 - DC waveform value
 - Other waveform value

INDICATION OF PARTS SYMBOL (EXAMPLE)

2109 - 2000 : In the PWB board

CIRCUIT DIAGRAM

MAIN PWB

CIRCUITS

(Parameter)
 - Parameter value
 - (Nominal value)
 - (Maximum value)
 - (Minimum value)
 - (Average value)
 - (Change value)

(Voltage value)
 - AC voltage value
 - DC voltage value
 - Other voltage value
 - Other voltage value

(Waveform value)
 - Other waveform value
 - AC waveform value
 - DC waveform value
 - Other waveform value

INDICATIONS ON THE CIRCUIT DIAGRAM

(Parameter)
 - Parameter value
 - (Nominal value)
 - (Maximum value)
 - (Minimum value)
 - (Average value)
 - (Change value)

(Voltage value)
 - AC voltage value
 - DC voltage value
 - Other voltage value
 - Other voltage value

(Waveform value)
 - Other waveform value
 - AC waveform value
 - DC waveform value
 - Other waveform value

INDICATION OF PARTS SYMBOL (EXAMPLE)

2109 - 2000 : In the PWB board

CIRCUIT DIAGRAM

CRT SOCKET PWB

CIRCUITS

(Parameter)
 - Parameter value
 - (Nominal value)
 - (Maximum value)
 - (Minimum value)
 - (Average value)
 - (Change value)

(Voltage value)
 - AC voltage value
 - DC voltage value
 - Other voltage value
 - Other voltage value

(Waveform value)
 - Other waveform value
 - AC waveform value
 - DC waveform value
 - Other waveform value

INDICATIONS ON THE CIRCUIT DIAGRAM

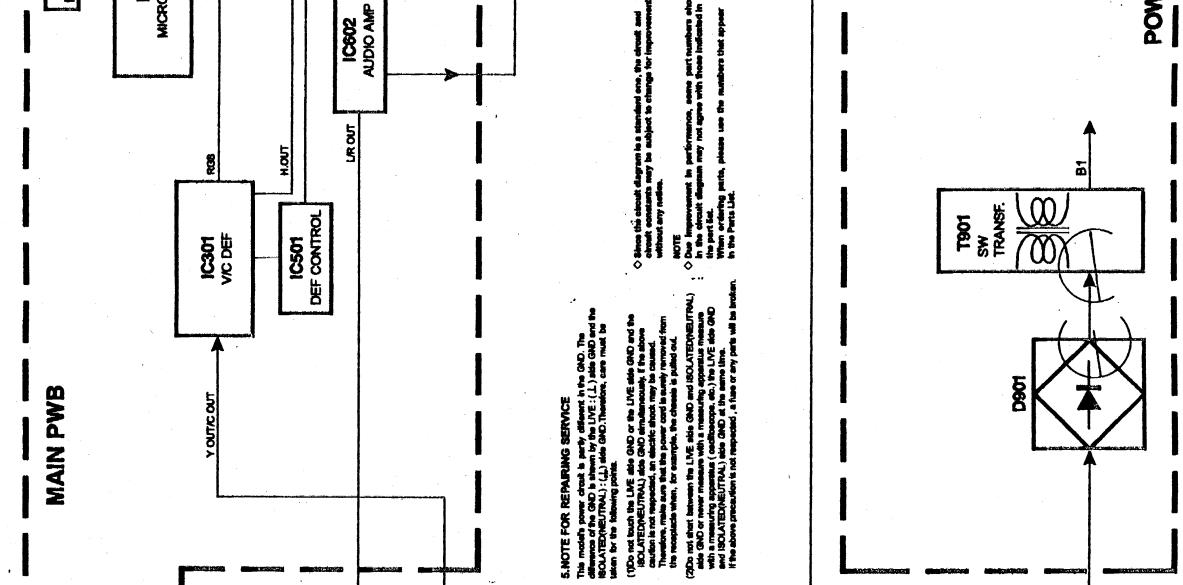
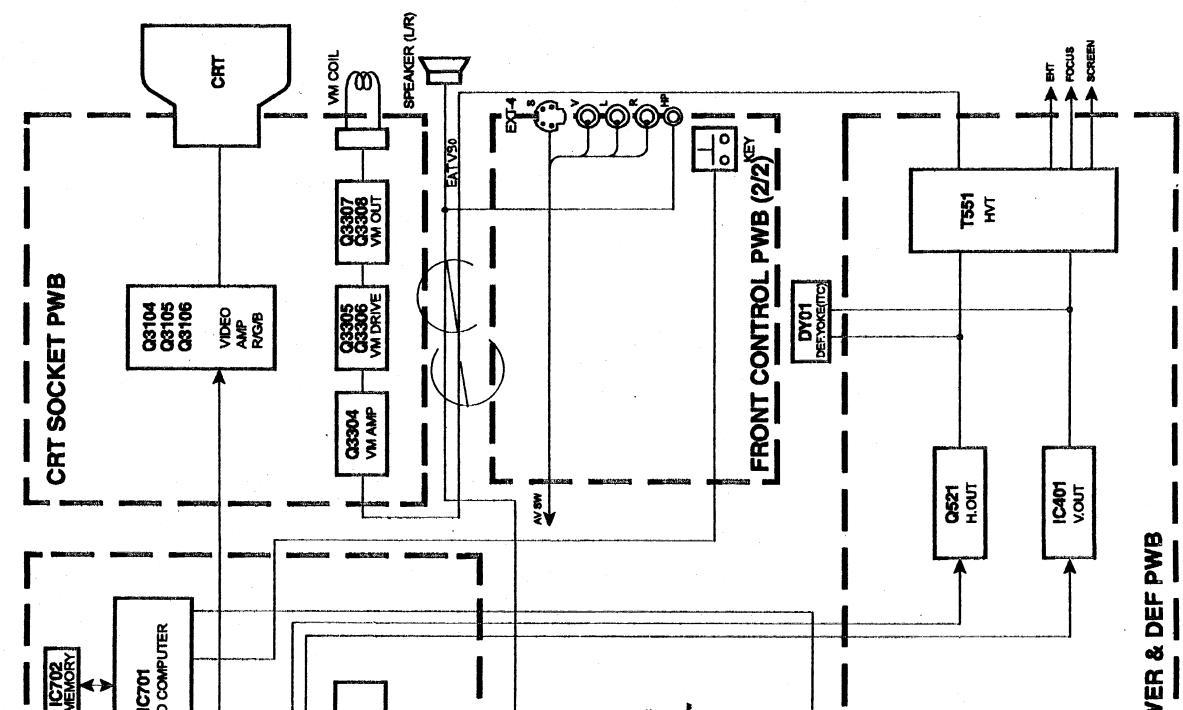
(Parameter)
 - Parameter value
 - (Nominal value)
 - (Maximum value)
 - (Minimum value)
 - (Average value)
 - (Change value)

(Voltage value)
 - AC voltage value
 - DC voltage value
 - Other voltage value
 - Other voltage value

(Waveform value)
 - Other waveform value
 - AC waveform value
 - DC waveform value
 - Other waveform value

INDICATION OF PARTS SYMBOL (EXAMPLE)

2109 - 2000 : In the PWB board

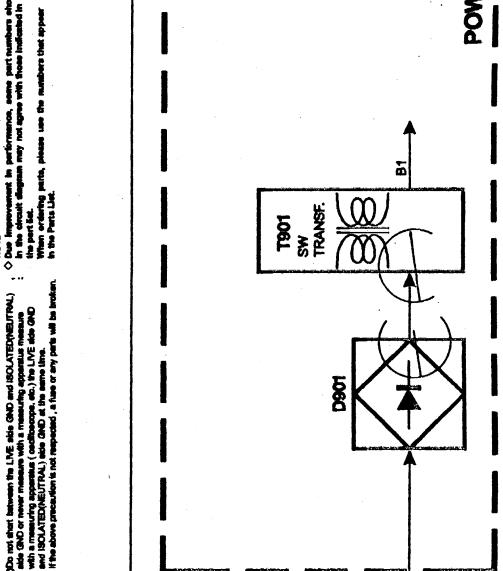
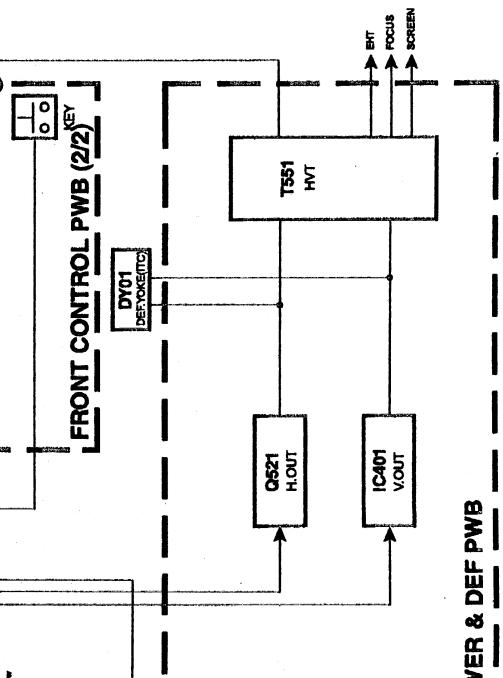


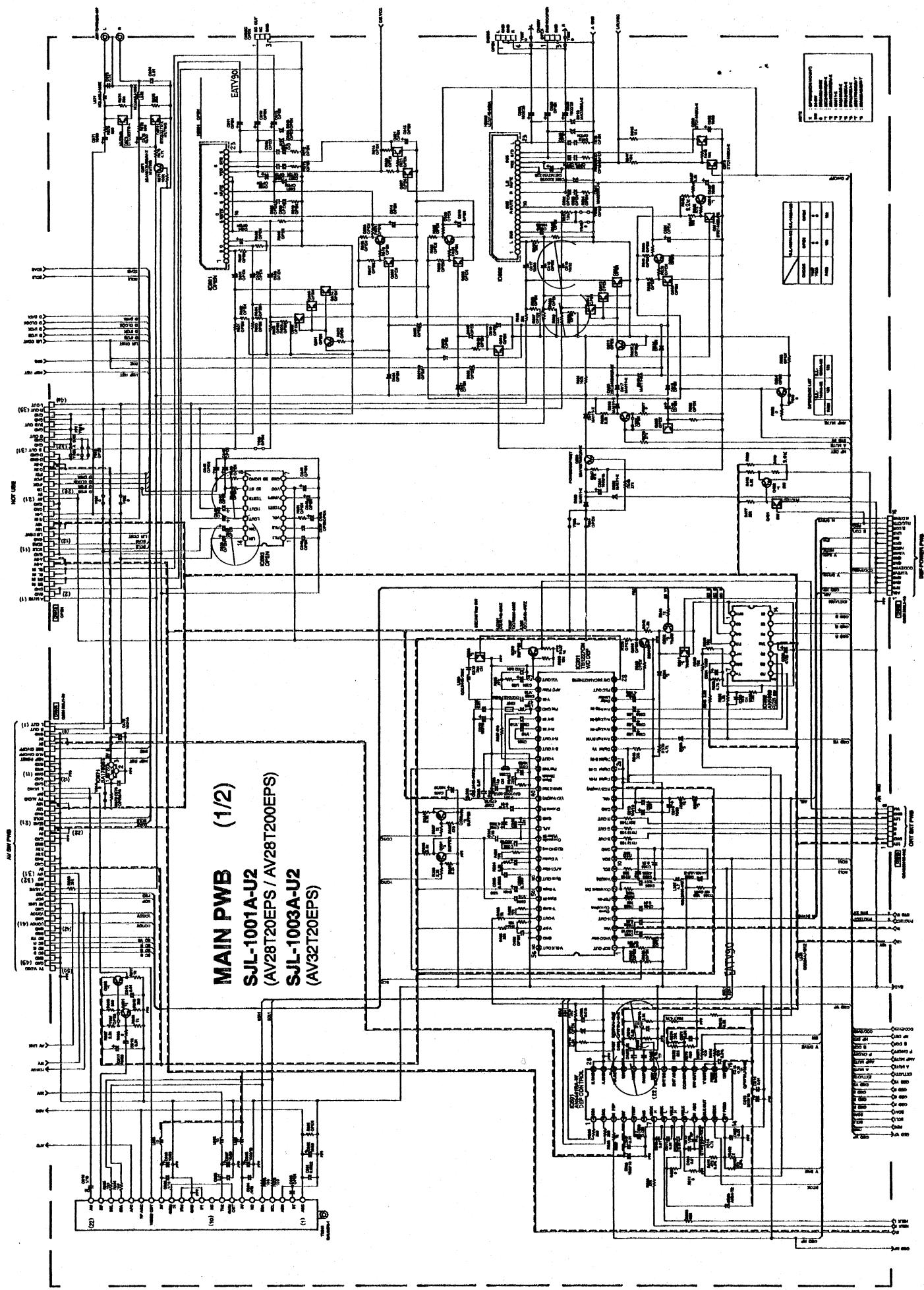
5. NOTE FOR REPAIRING SERVICE

The model power circuit is partly different in the QNO. The difference of the QNO is shown by the LIVE (L) side QNO and the GND (GND/NEUTRAL) (L) side QNO/Threeline. care must be taken to the following points.

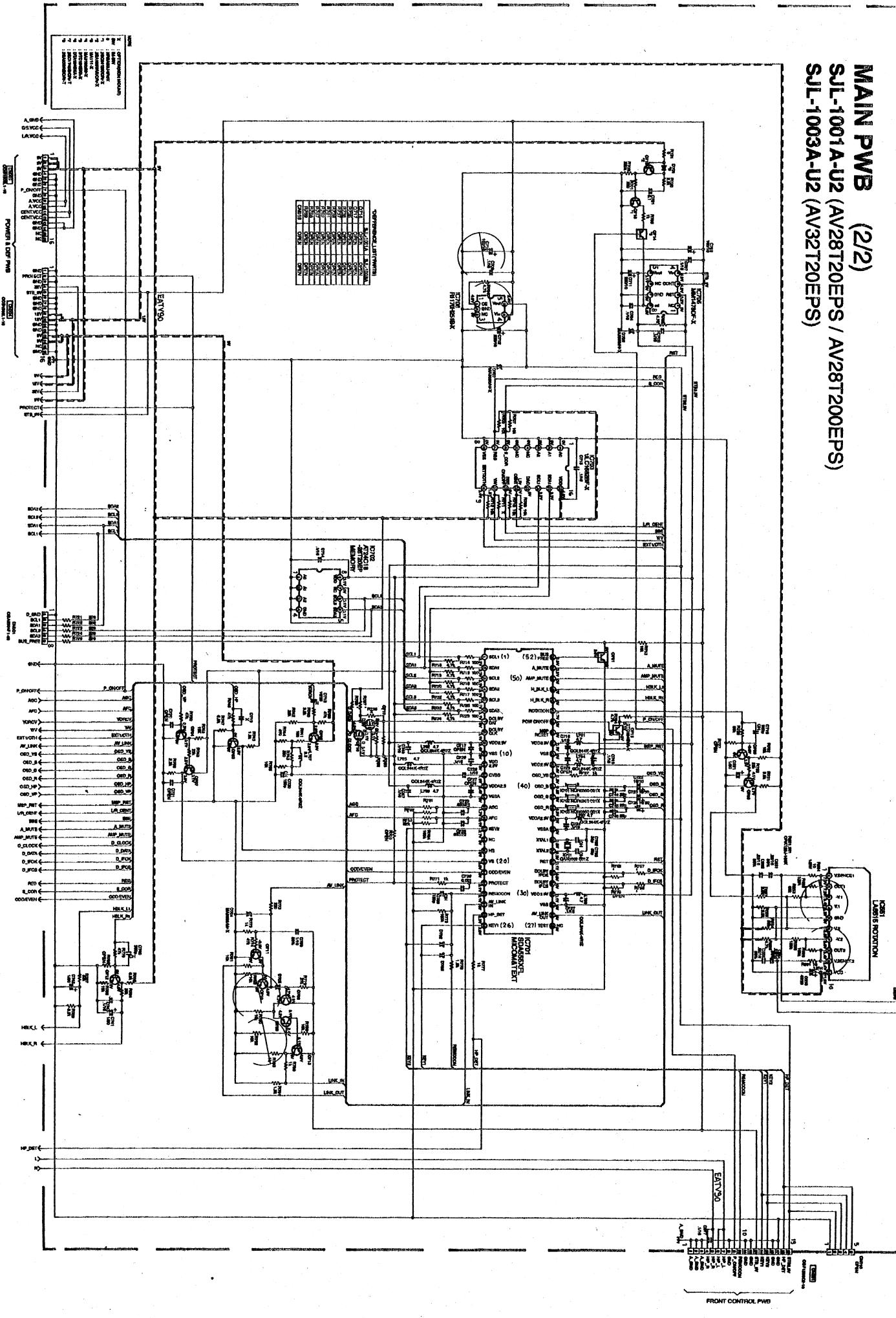
(1) If the threeline (L) side QNO or the LIVE side QNO and the GND (GND/NEUTRAL) side QNO are connected in parallel, the current may be divided. Therefore, when one end of the power cord is surely connected to the threeline (L) side, or otherwise, the others are pulled out. (2) Do not short between the LIVE side QNO and ISOLATED NEUTRAL (L side QNO or between the GND side QNO and ISOLATED NEUTRAL (GND side QNO)). When the two ends of the power cord are connected to the LIVE side QNO and ISOLATED NEUTRAL (L side QNO) or the same line. If the above protection is not implemented, a fire or my give will be broken.

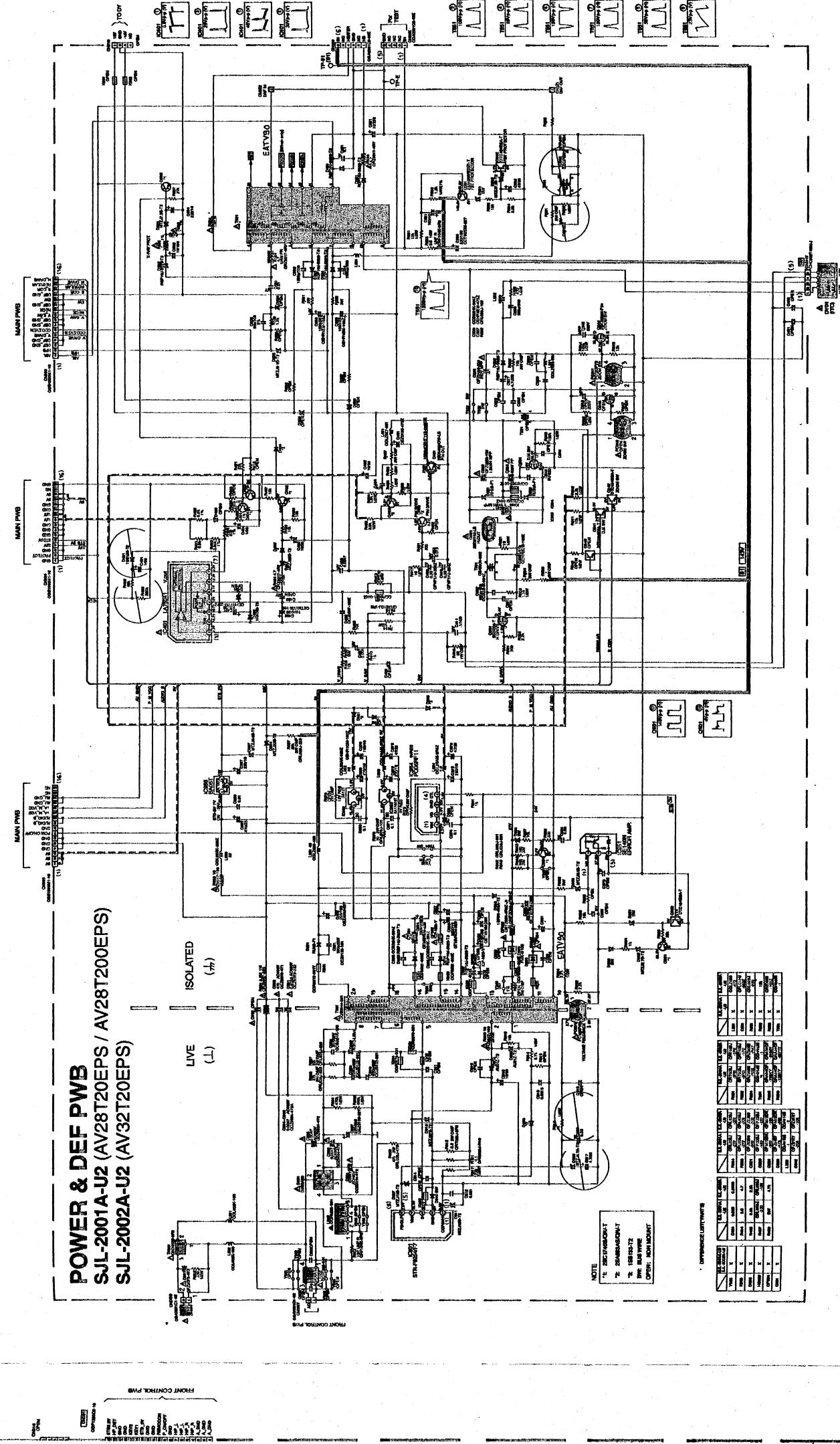
BLOCK DIAGRAM

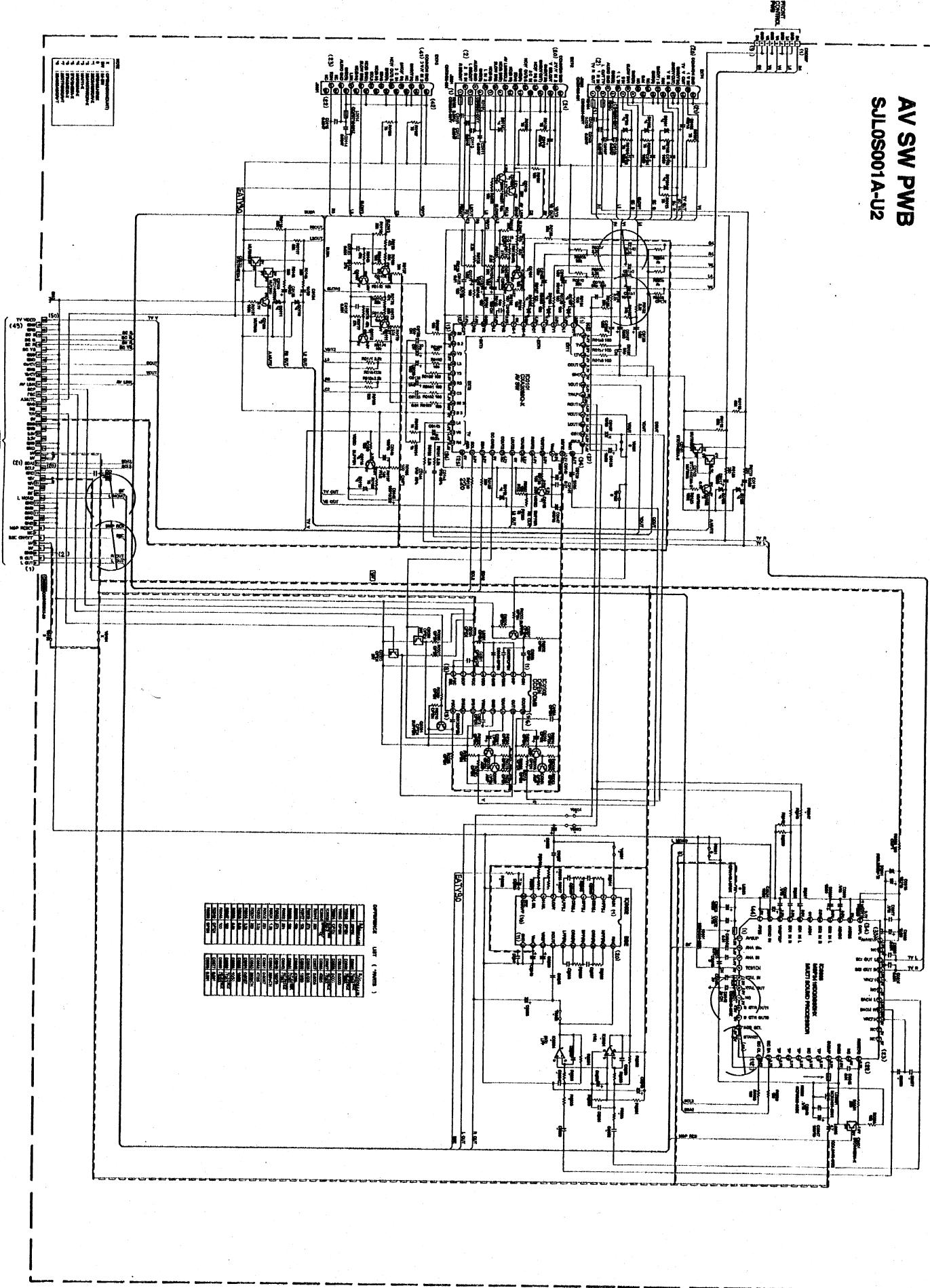




MAIN PWB (2/2)
SJL-1001A-U2 (AV28T20EPS / AV28T200EPS)
SJL-1003A-U2 (AV32T20EPS)

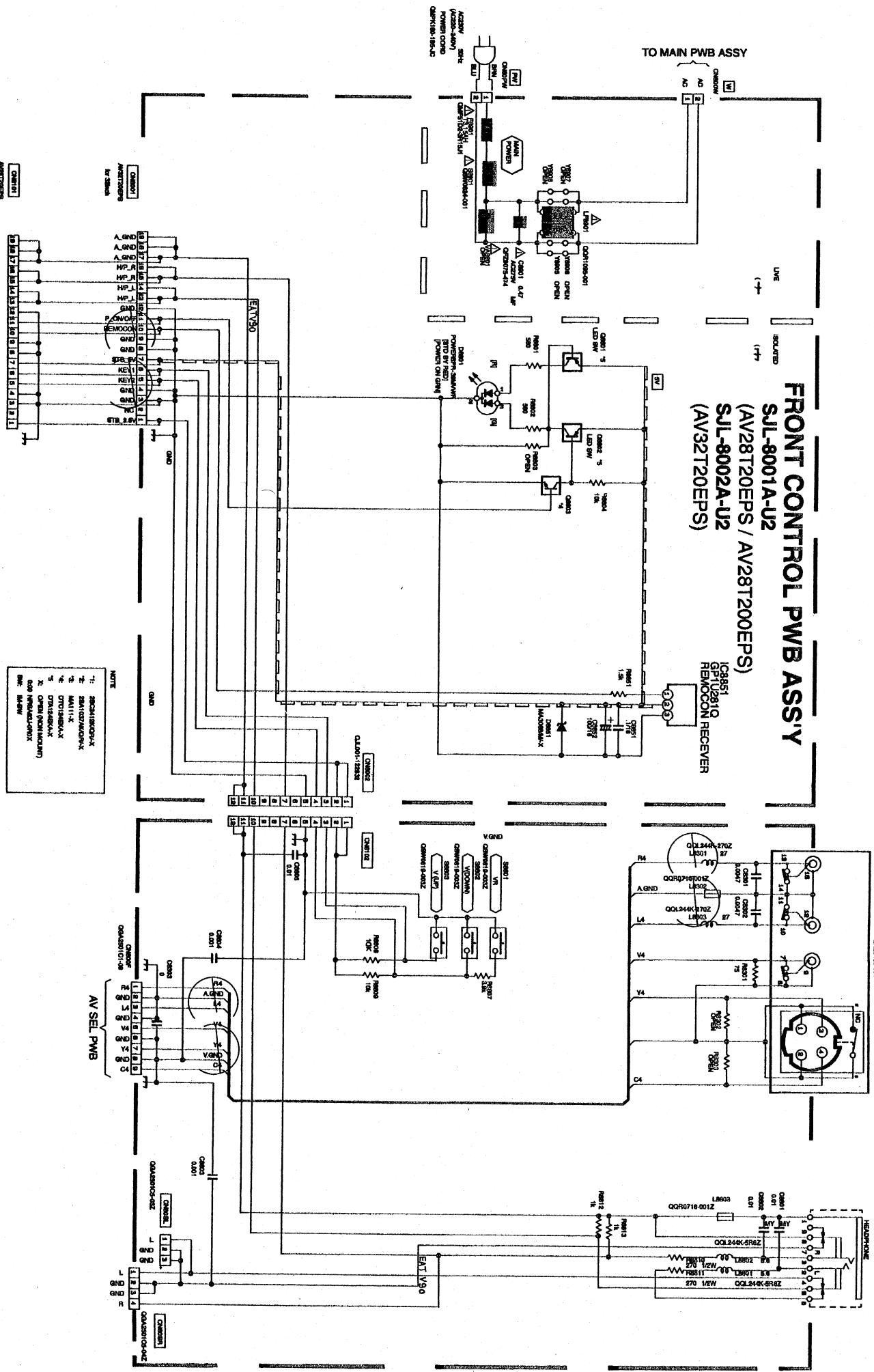


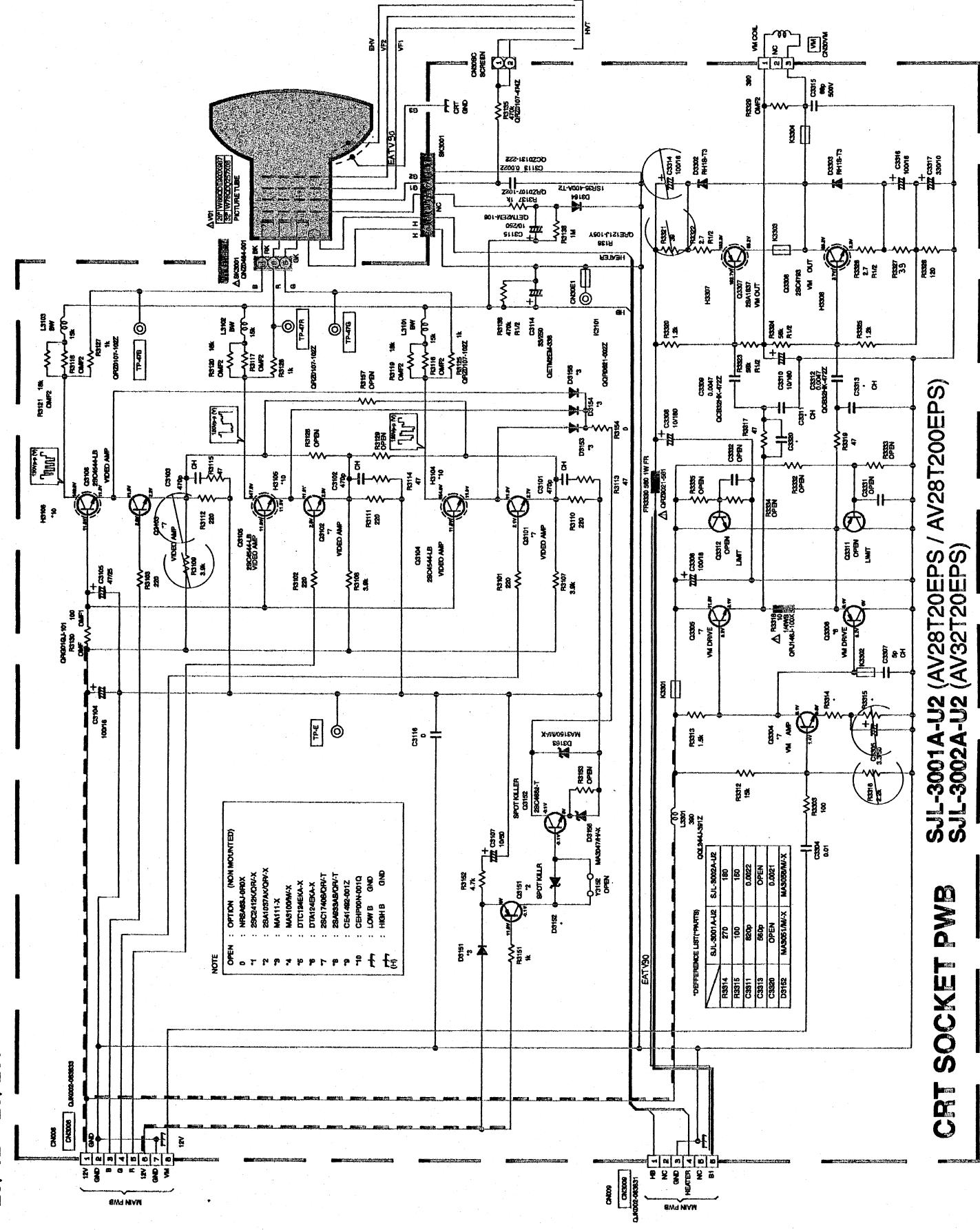


AV SW PWB
SJL0S001A-U2

FRONT CONTROL PWB ASS'Y
SJL-8001A-U2
(AV28T20EPS / AV28T200EPS)
SJL-8002A-U2
(AV32T20EPS)

IC8851
 GP102810
 REMOCON RECEIVER





CRT SOCKET PWB

SUL-3001A-U2 (AV28T20EPS / AV32T20EPS)