JVC

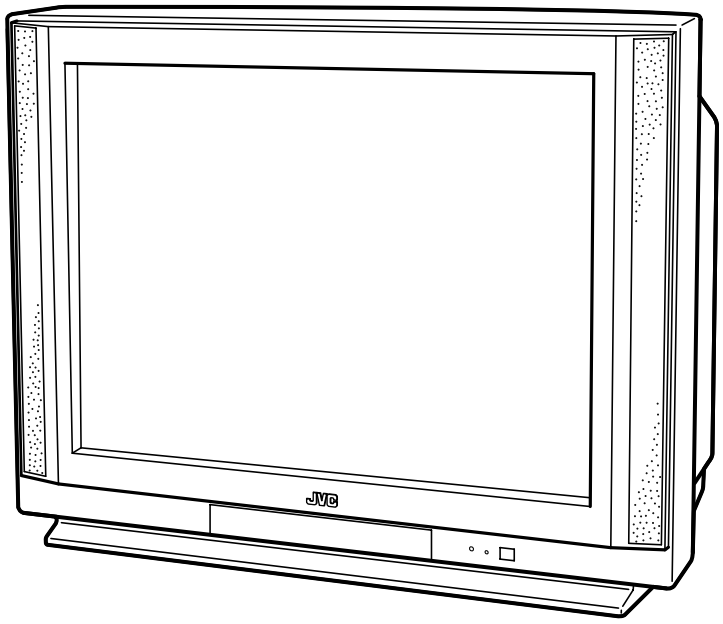
SCHEMATIC DIAGRAMS

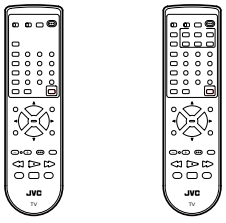
COLOR TELEVISION

AV-27F703/S
AV-27F713/S
AV-27F803/S

BASIC CHASSIS
GJ

CD-ROM No.SML200207





[RM-C326G]
RM-C326

AV-27F703
AV-27F713

[RM-C325G]

AV-27F803

CONTENTS

No.52005
Jun. 2002

AV-27F703/S,AV-27F713/S,AV-27F803/S
STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

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

(1)Input signal	: Colour bar signal	
(2)Setting positions of each knob/button and variable resistor	: Original setting position when shipped	
(3)Internal resistance of tester	:DC 20kΩ/V	
(4)Oscilloscope sweeping time	:H	⇒ 20μS/div
	:V	⇒ 5mS/div
	:Others	⇒ Sweeping time is specified
(5)Voltage values	:All DC voltage values	

∗ Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board :R1209 → R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

● Resistance value

No unit	:[Ω]
K	:[K Ω]
M	:[M Ω]

● Rated allowable power

No indication	:1/ 16 [W]
Others	:As specified

● Type

No indication	:Carbon resistor
OMR	:Oxide metal film resistor
MFR	:Metal film resistor
MPR	:Metal plate resistor
UNFR	:Uninflammable resistor
FR	:Fusible resistor

∗ Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

● Capacitance value

1 or higher	:[pF]
less than 1	:[μF]

● Withstand voltage

No indication	:DC50[V]
Others	:DC withstand voltage [V]
AC indicated	:AC withstand voltage [V]

∗ Electrolytic Capacitors
47/50[Example]:Capacitance value [μF]/withstand voltage[V]

● Type

No indication	:Ceramic capacitor
MM	:Metalized mylar capacitor
PP	:Polypropylene capacitor
MPP	:Metalized polypropylene capacitor
MF	:Metalized film capacitor
TF	:Thin film capacitor
BP	:Bipolar electrolytic capacitor
TAN	:Tantalum capacitor

(3)Coils

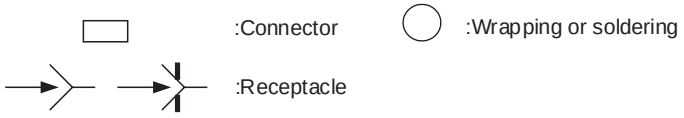
No unit	:[μH]
Others	:As specified

(4)Power Supply

∗ Respective voltage values are indicated

(5)Test point

(6)Connecting method



(7)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 : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏚) 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 ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and 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.**

NOTE

◇ **Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.**
When ordering parts, please use the numbers that appear in the Parts List.

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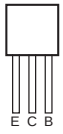
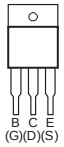
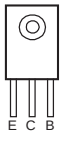
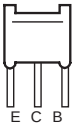
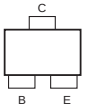
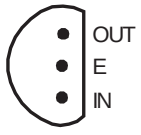
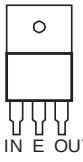
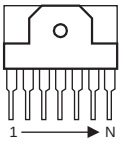
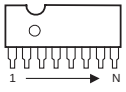
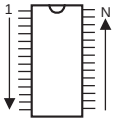
SEMICONDUCTOR SHAPES

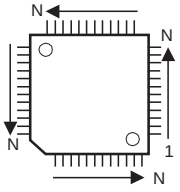
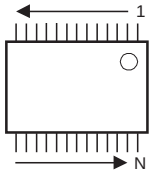
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

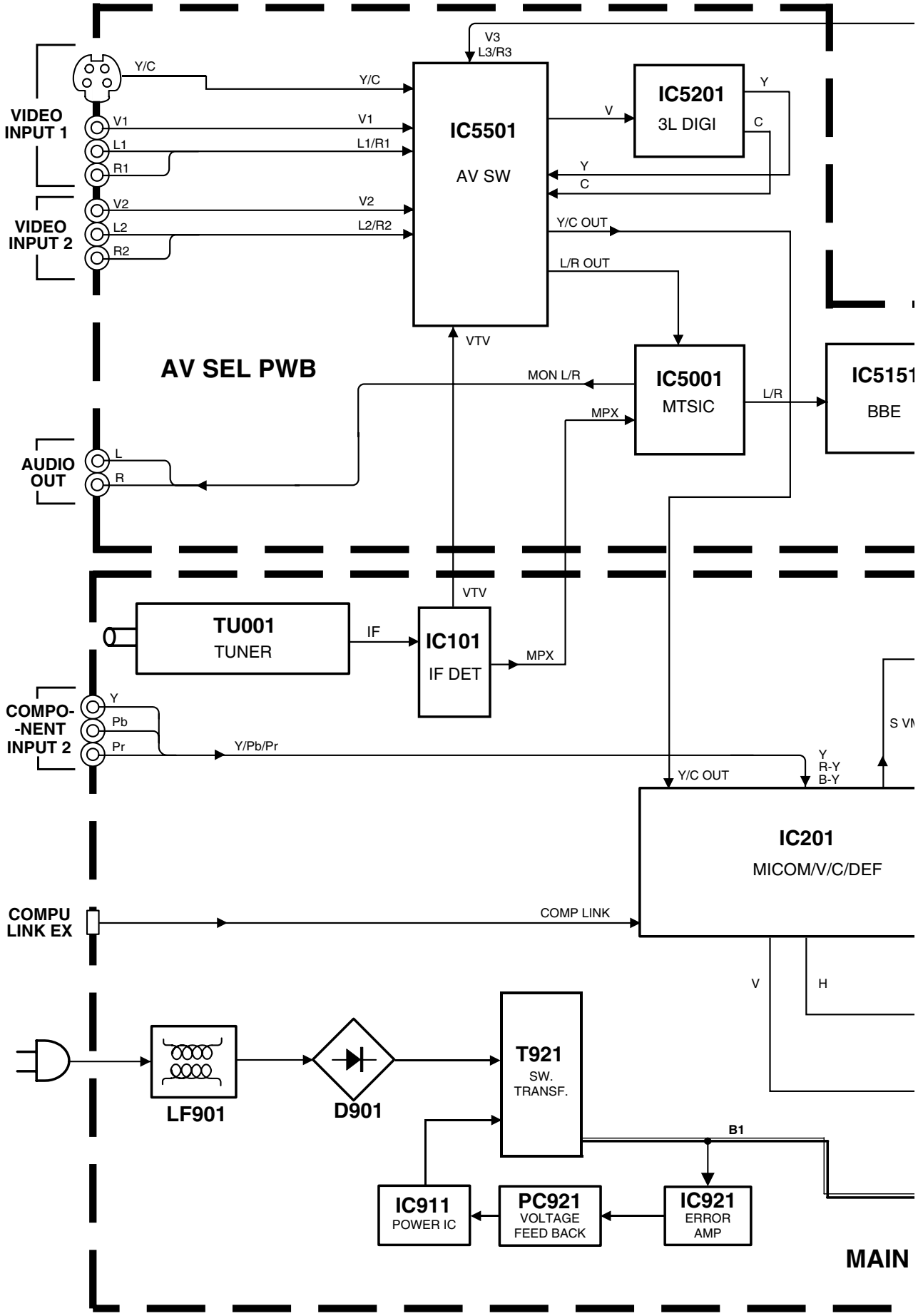
IC

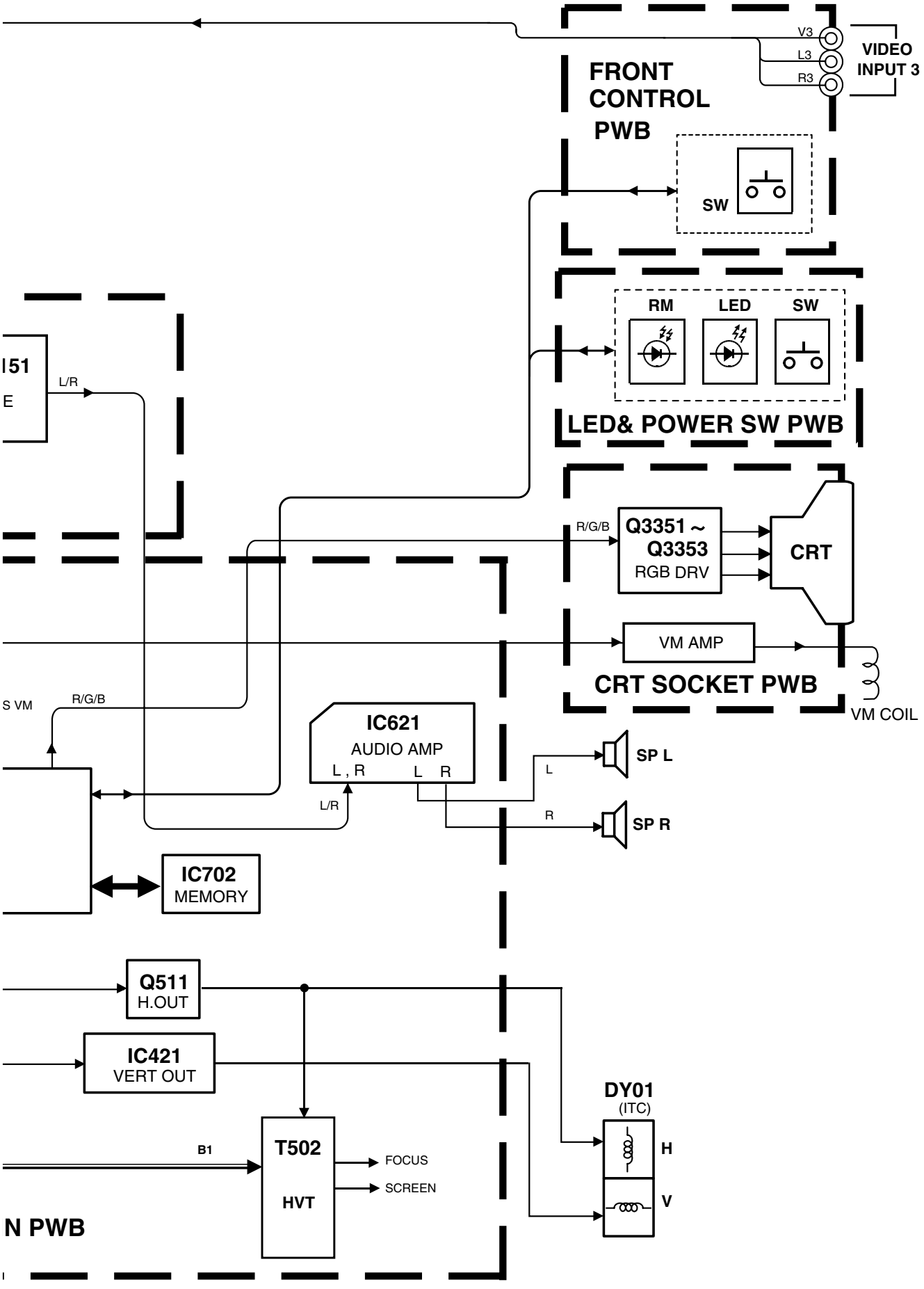
BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

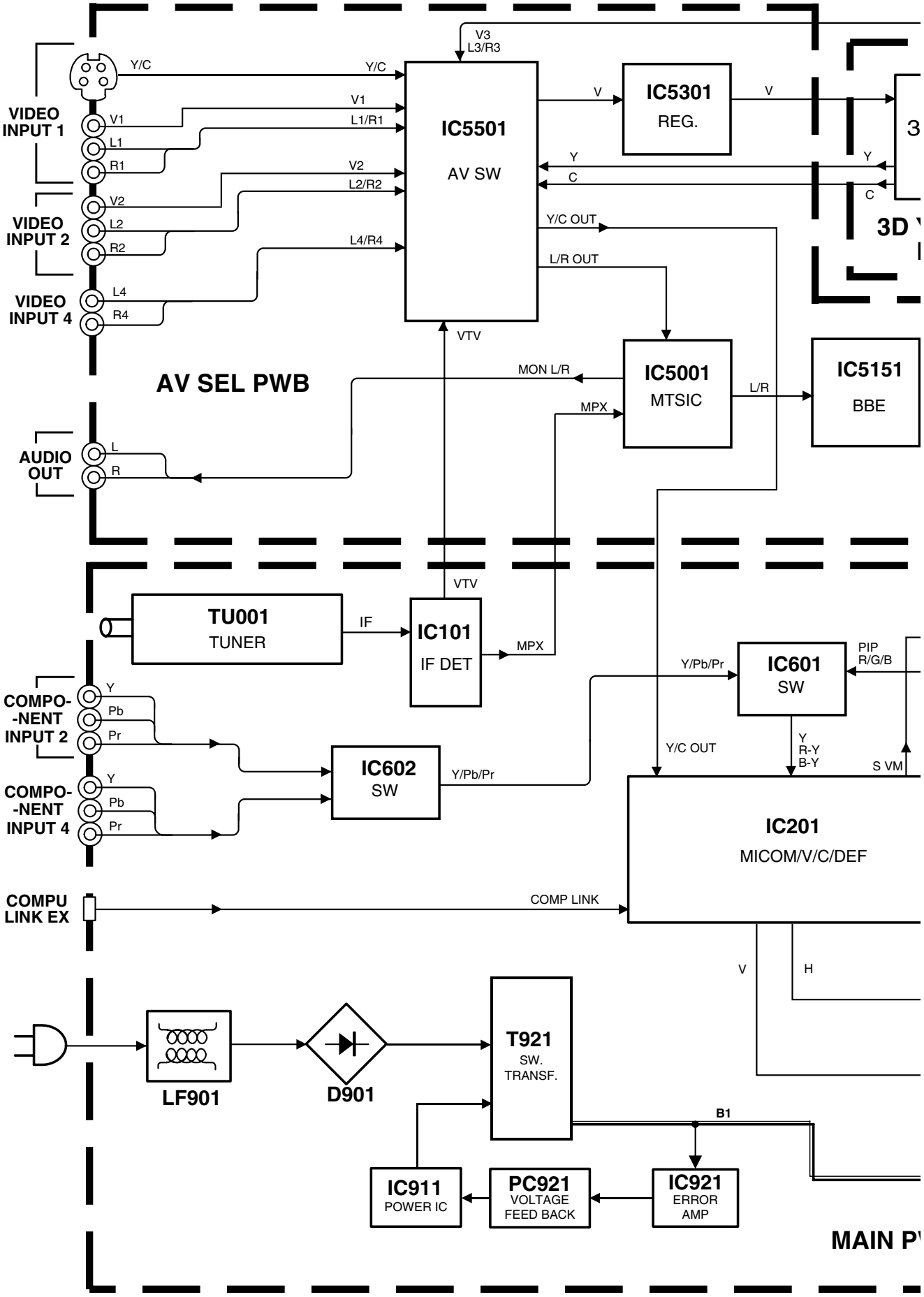
TOP VIEW		
		

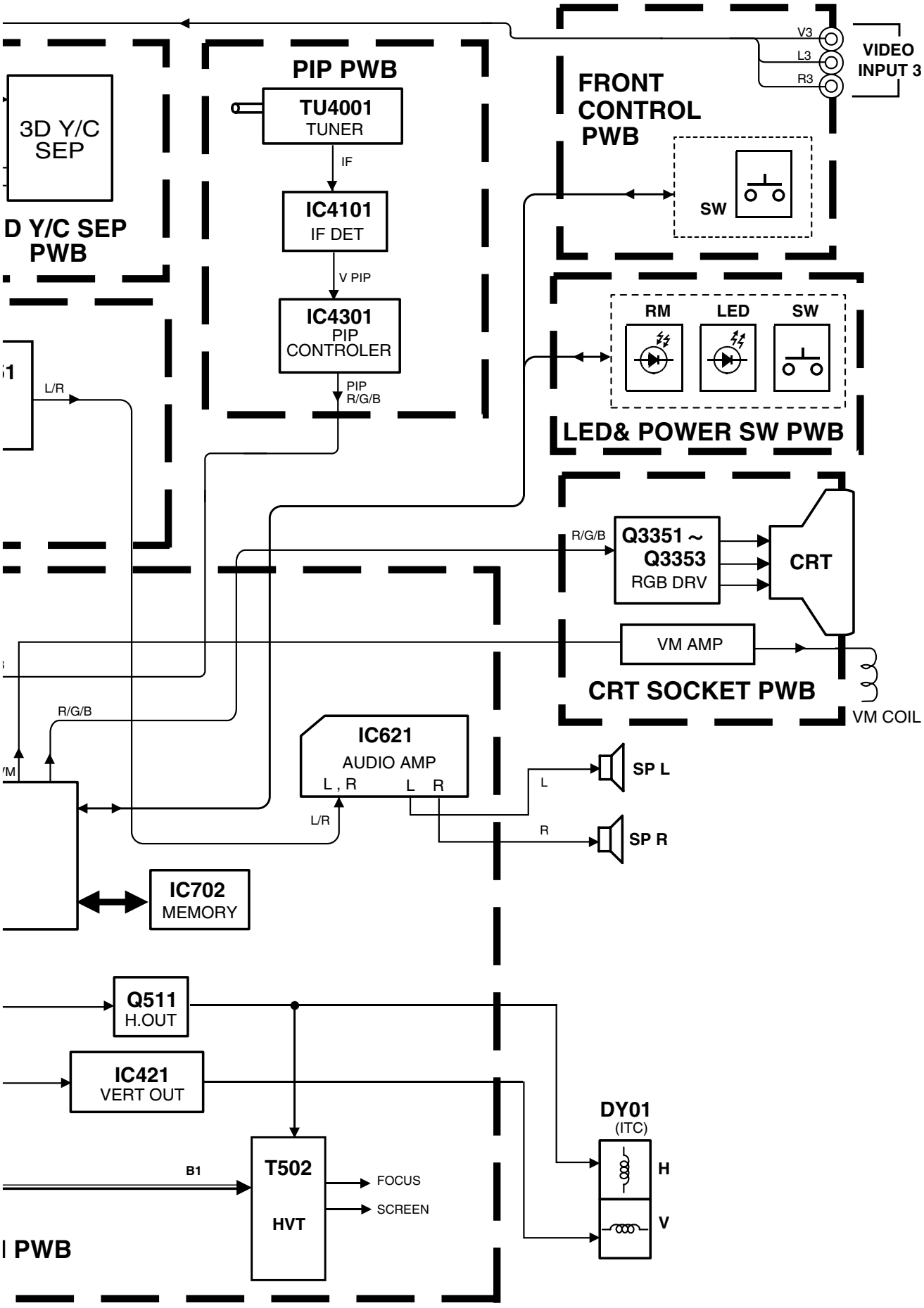
BLOCK DIAGRAM [AV-27F703,AV-27F713]



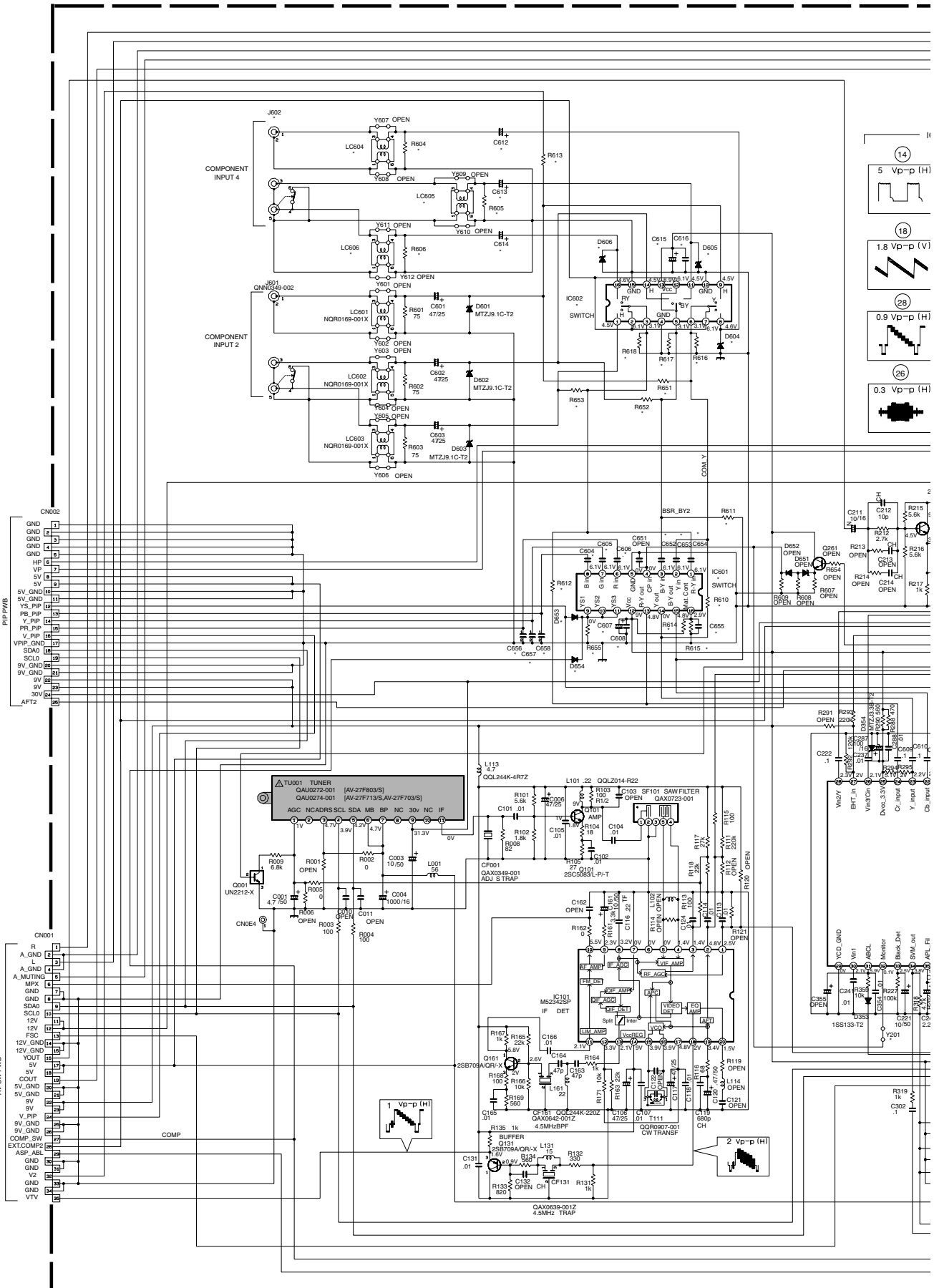

V3
L3
R3
VIDEO INPUT 3
FRONT CONTROL PWB
SW
RM
LED
SW
LED& POWER SW PWB
151
E
L/R
R/G/B
Q3351 ~ Q3353
RGB DRV
CRT
VM AMP
CRT SOCKET PWB
VM COIL
S VM
R/G/B
IC621
AUDIO AMP
L , R
L R
L
R
L/R
SP L
SP R
IC702
MEMORY
Q511
H.OUT
IC421
VERT OUT
DY01
(ITC)
H
V
B1
T502
HVT
FOCUS
SCREEN
N PWB

BLOCK DIAGRAM [AV-27F803]




PIP PWB
TU4001
TUNER
IF
IC4101
IF DET
V PIP
IC4301
PIP
CONTROLER
PIP
R/G/B
3D Y/C
SEP
D Y/C SEP
PWB
L/R
V3
L3
R3
VIDEO
INPUT 3
FRONT
CONTROL
PWB
SW
RM
LED
SW
LED& POWER SW PWB
R/G/B
Q3351 ~
Q3353
RGB DRV
CRT
VM AMP
CRT SOCKET PWB
VM COIL
R/G/B
IC621
AUDIO AMP
L , R
L R
L/R
L
R
SP L
SP R
IC702
MEMORY
Q511
H.OUT
IC421
VERT OUT
DY01
(ITC)
H
V
B1
T502
HVT
FOCUS
SCREEN
I PWB

CIRCUIT DIAGRAMS *MAIN PWB CIRCUIT DIAGRAMS* [1/2]

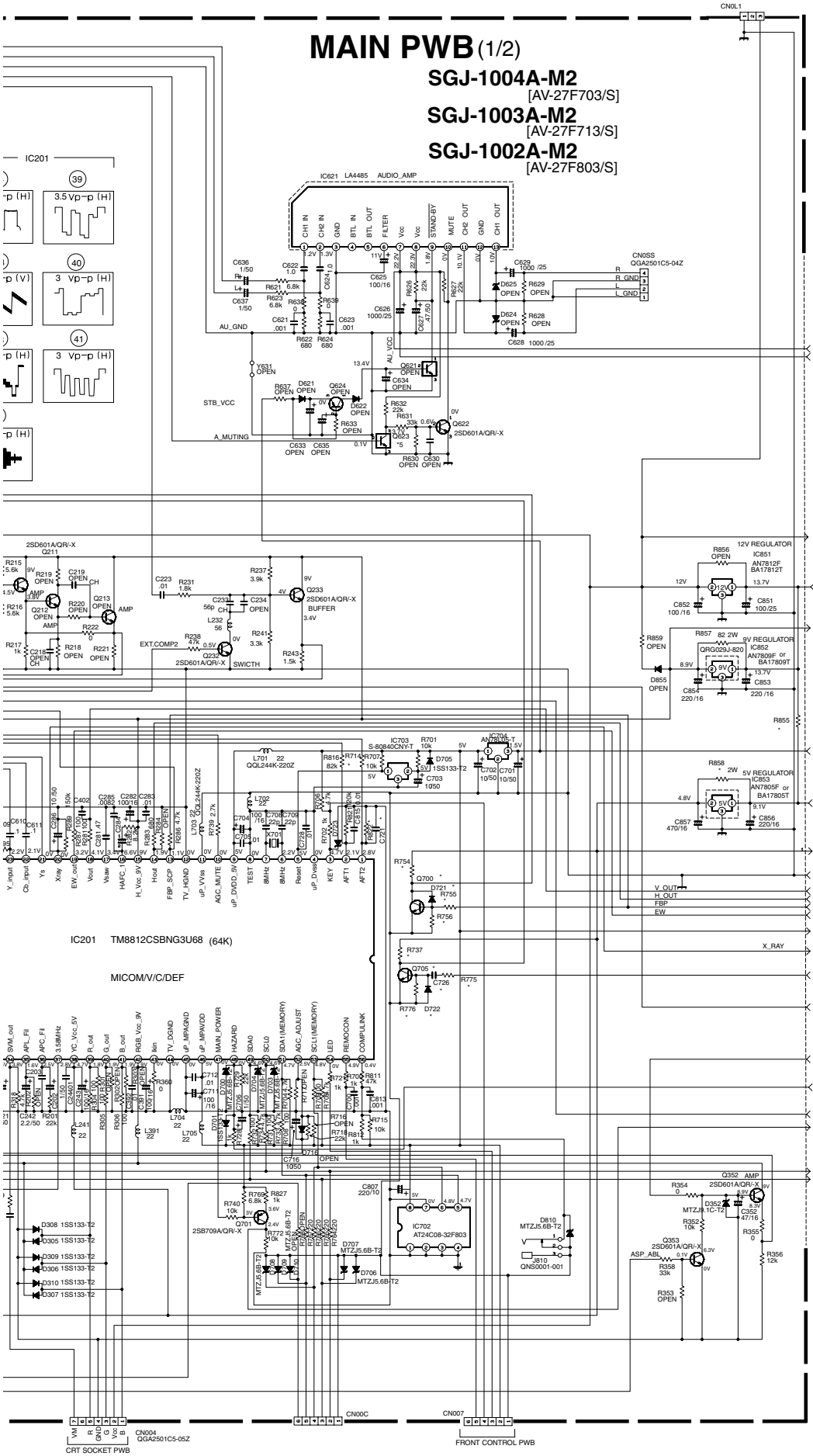


MAIN PWB (1/2)

SGJ-1004A-M2
[AV-27F703/S]

SGJ-1003A-M2
[AV-27F713/S]

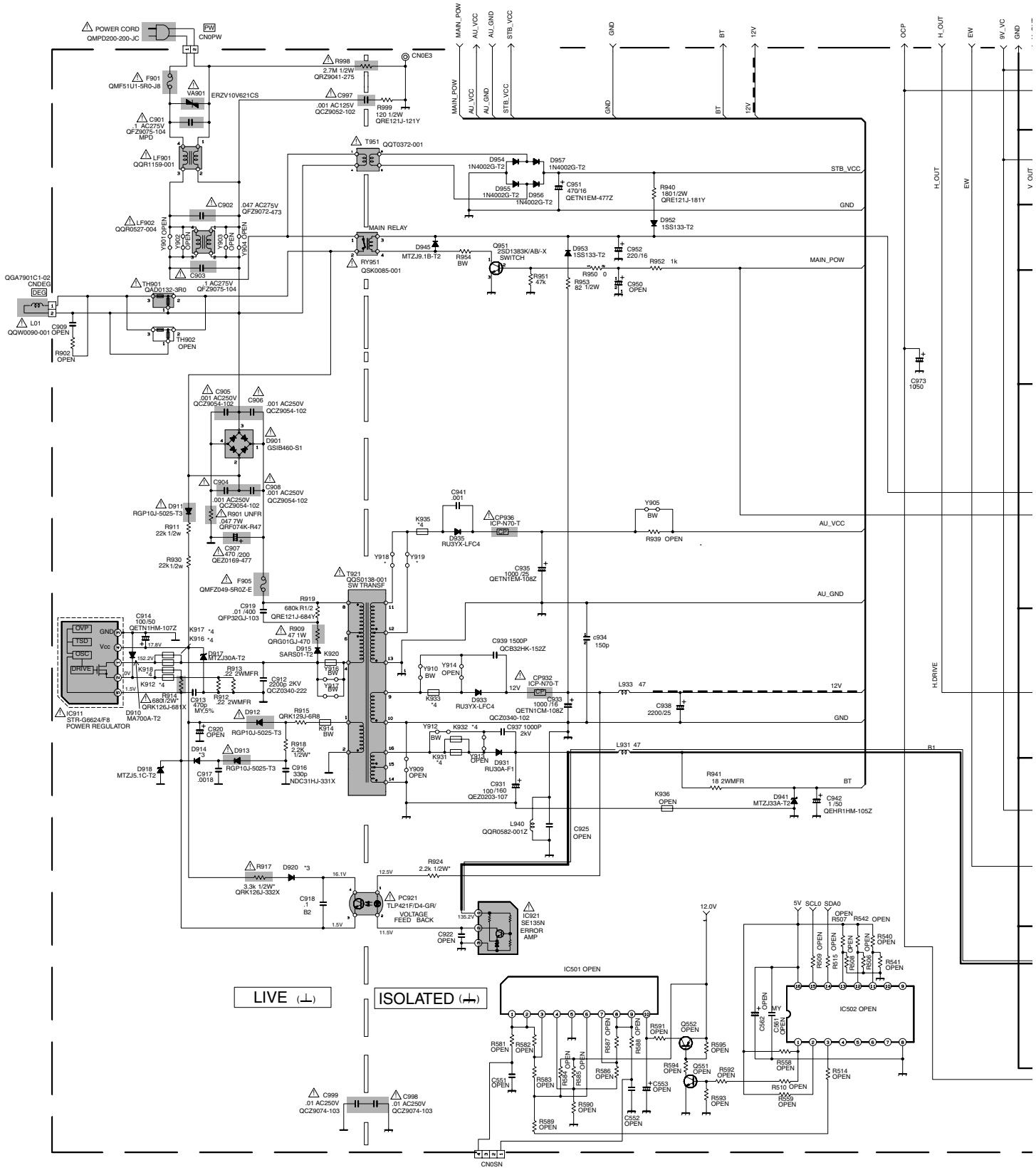
SGJ-1002A-M2
[AV-27F803/S]

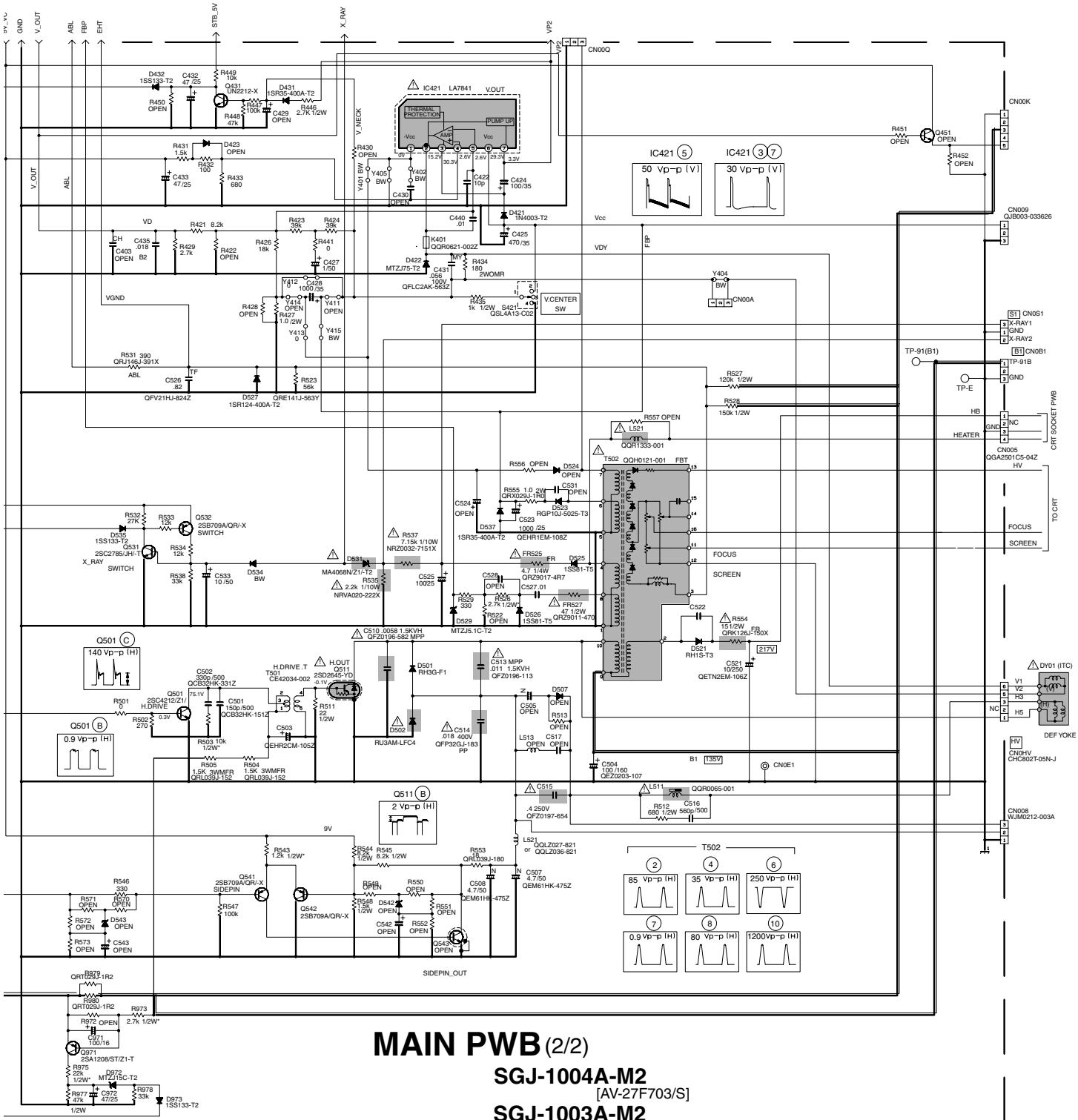


* DIFFERENCE LIST

	SGJ-1002A-M2	SGJ-1003A-M2 SGJ-1004A-M2
Q700	2SD601A/QR/-X	OPEN
Q705	2SD601A/QR/-X	OPEN
D721	1SS133-T2	OPEN
D722	1SS133-T2	OPEN
R754	4.7k	OPEN
R755	15k	OPEN
R756	10k	OPEN
R737	4.7k	OPEN
R775	47k	OPEN
R776	10k	OPEN
C726	560p	OPEN
R714	82k	OPEN
R822	120k	0
C721	0.01	OPEN
Y201	0	OPEN
IC601	TA1287F-X	OPEN
D653	1SS133-T2	OPEN
D654	1SS133-T2	OPEN
R610	OPEN	0
R611	OPEN	0
R612	OPEN	OPEN
R614	6.8k	OPEN
R615	3.3k	OPEN
R655	15k	OPEN
C604	0.1	OPEN
C605	0.1	OPEN
C606	0.1	OPEN
C607	470/10	OPEN
C608	0.01	OPEN
C652	0.1	OPEN
C653	0.1	OPEN
C654	0.1	OPEN
C655	0.01	OPEN
C656	15p	OPEN
C657	15p	OPEN
C658	15p	OPEN
IC602	M52055FP-X	OPEN
D604	MTZJ9.1C-T2	OPEN
D605	MTZJ9.1C-T2	OPEN
D606	MTZJ9.1C-T2	OPEN
R604	75	OPEN
R605	75	OPEN
R606	75	OPEN
R613	OPEN	OPEN
R616	3.3K	OPEN
R617	3.3K	OPEN
R618	3.3K	OPEN
R651	OPEN	0
R652	OPEN	0
R653	OPEN	0
C612	47/25	OPEN
C613	47/25	OPEN
C614	47/25	OPEN
C615	470/16	OPEN
C616	0.01	OPEN
L604	NQR0169-001X	OPEN
L605	NQR0169-001X	OPEN
L606	NQR0169-001X	OPEN
J602	QNN0349-002	OPEN
R855	6.8 3W	6.8 3W
R858	18 2W	OPEN

MAIN PWB CIRCUIT DIAGRAM [2/2]





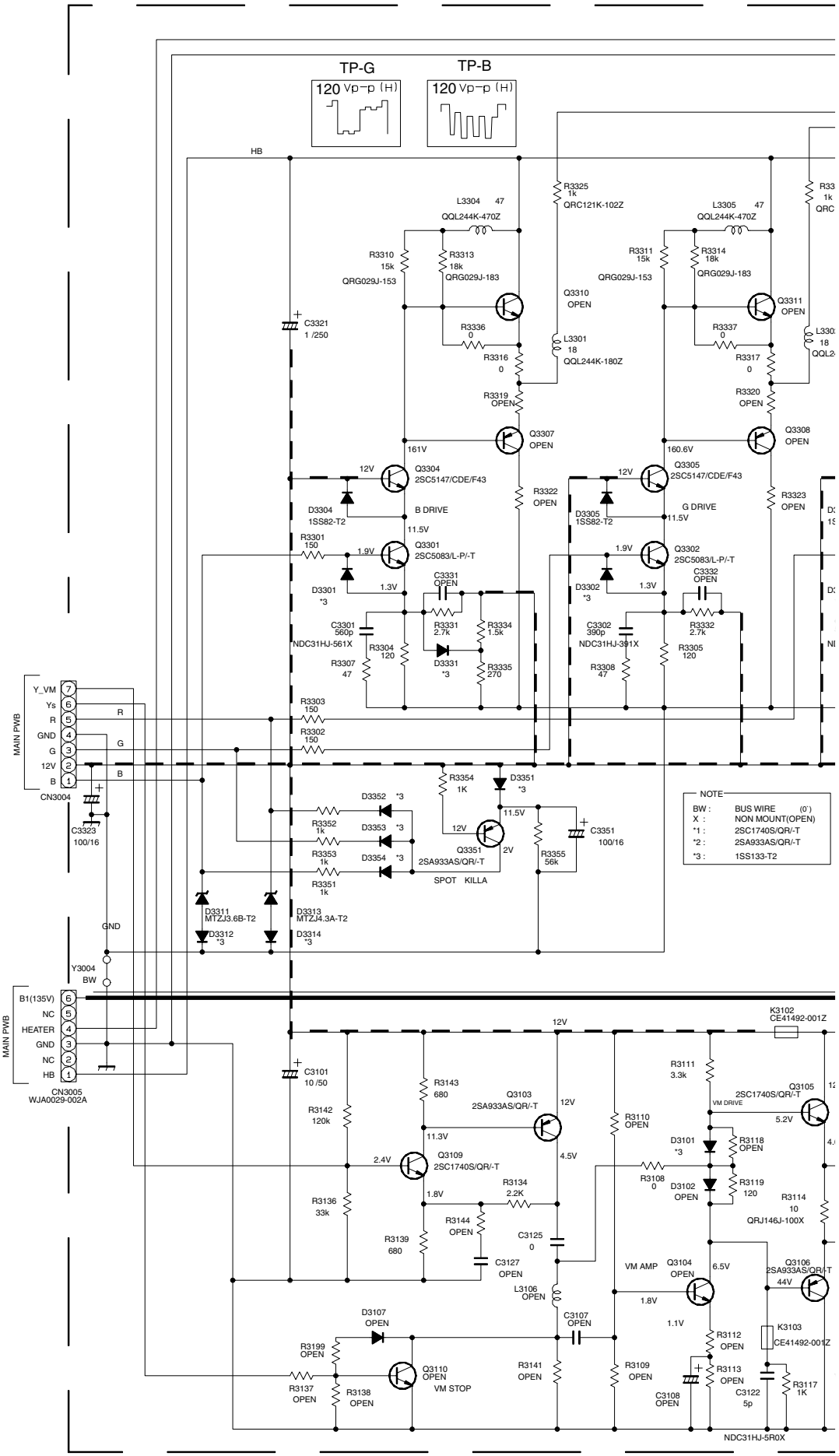
MAIN PWB (2/2)

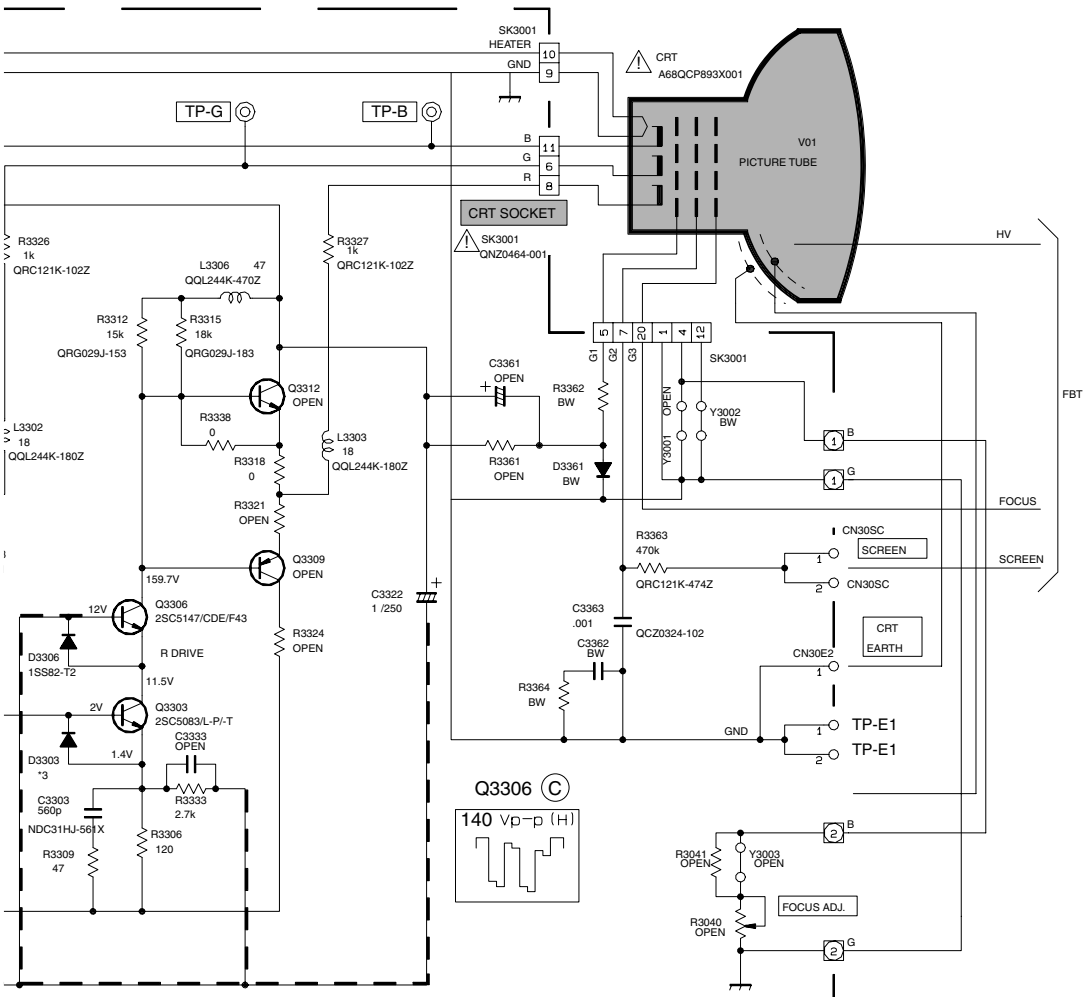
SGJ-1004A-M2
[AV-27F703/S]

SGJ-1003A-M2
[AV-27F713/S]

SGJ-1002A-M2
[AV-27F803/S]

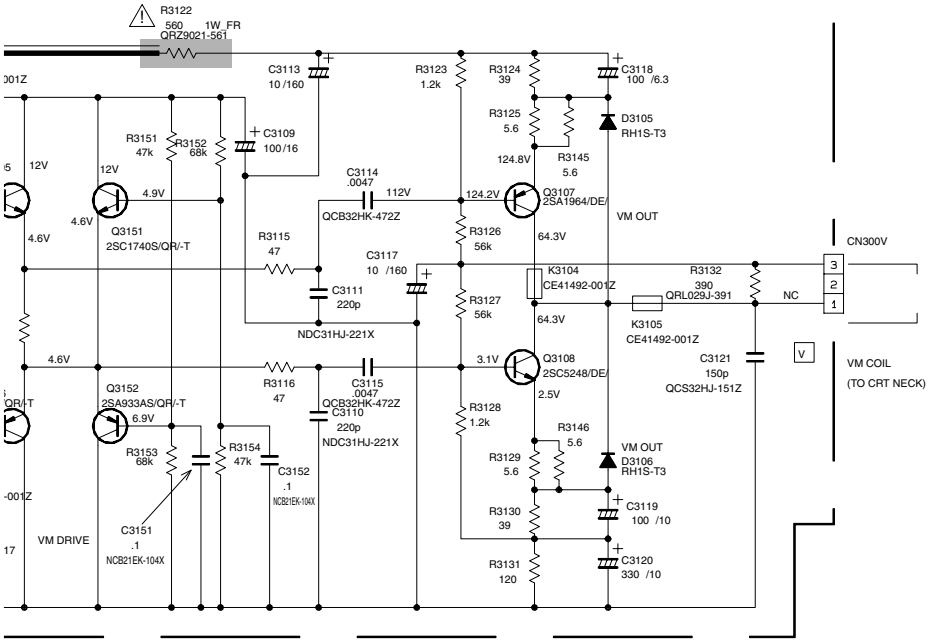
CRT SOCKET PWB CIRCUIT DIAGRAM



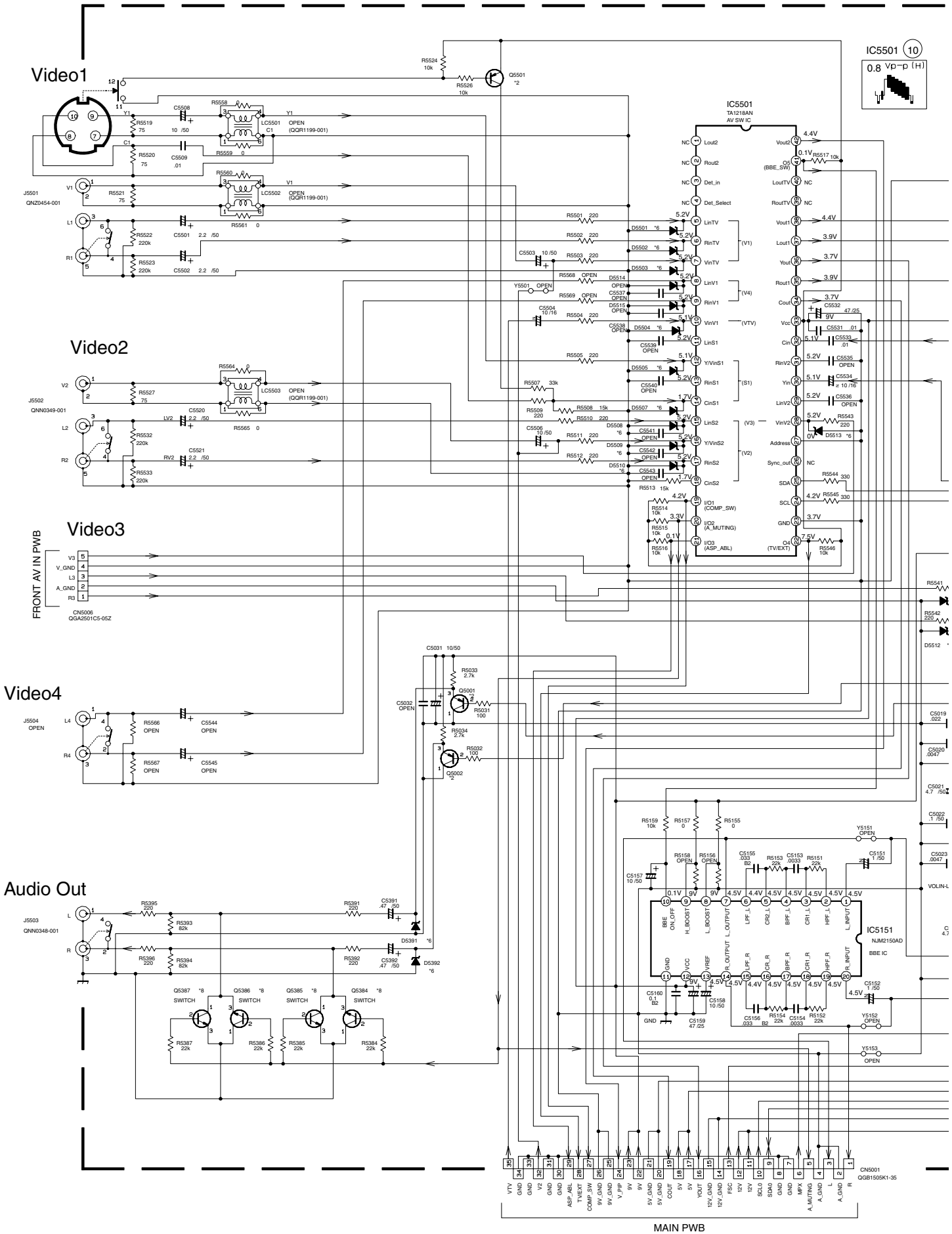


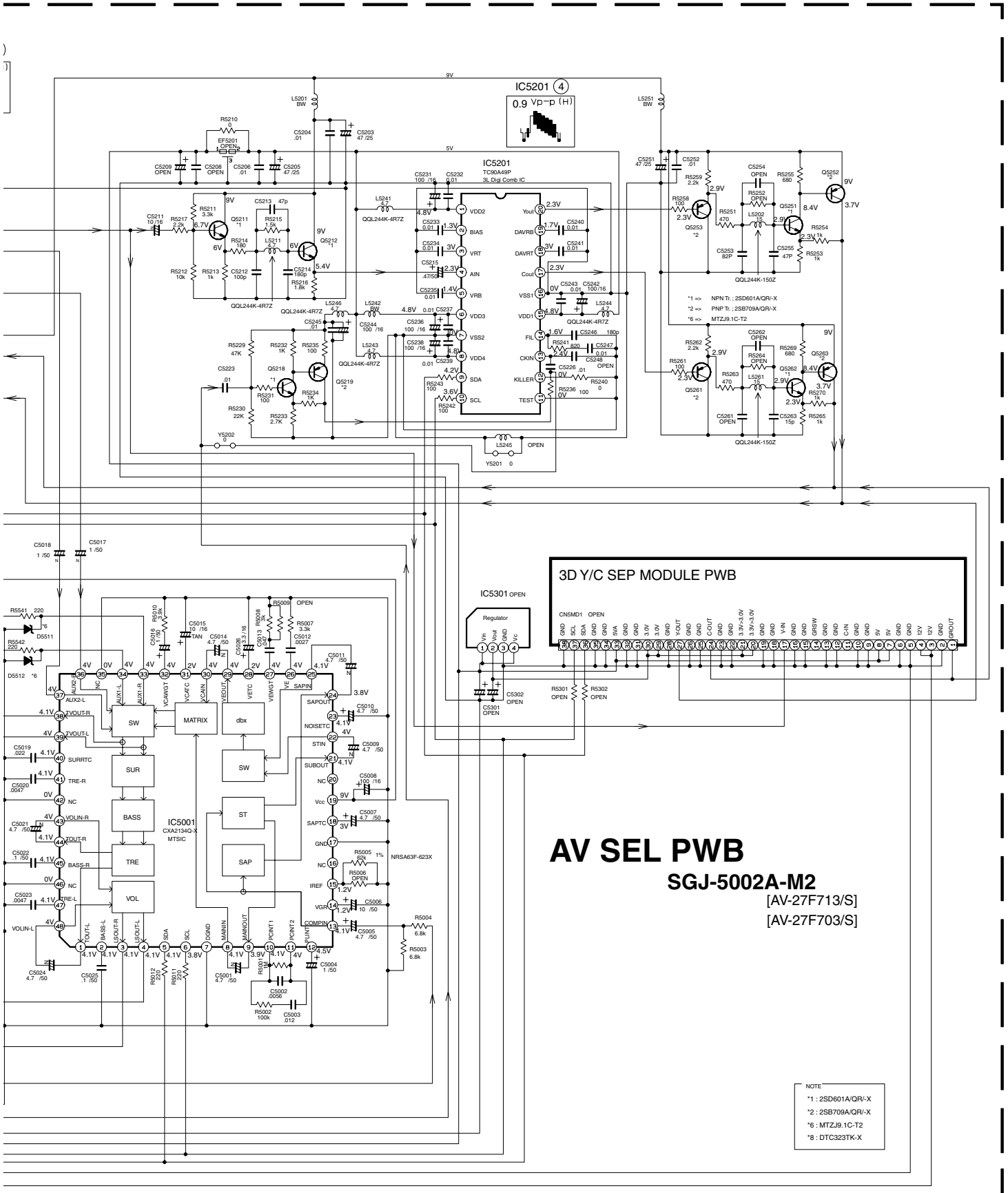
CRT SOCKET PWB

SGJ-3002A-M2

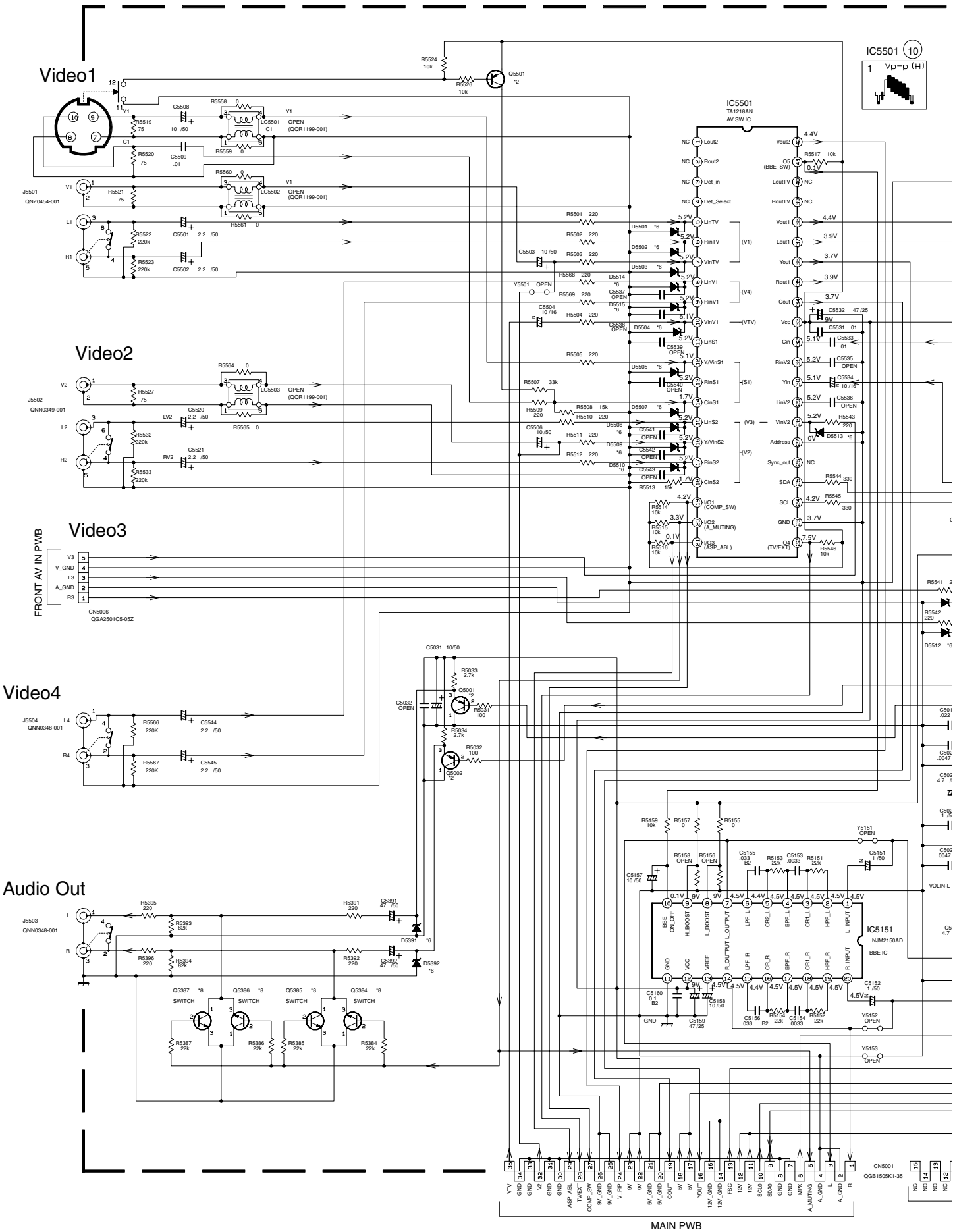


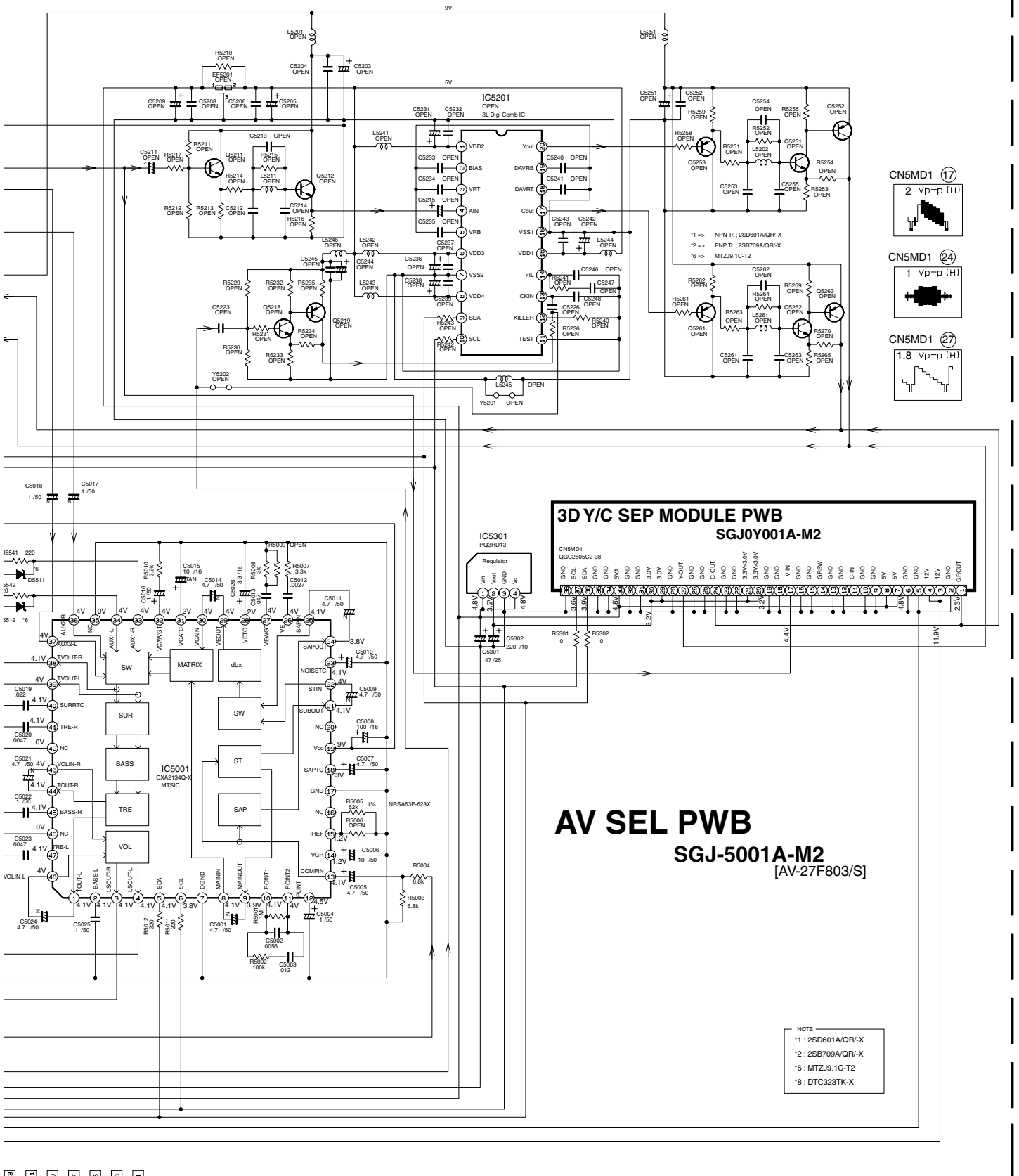
AV SEL PWB CIRCUIT DIAGRAM [AV-27F703,AV-27F713]



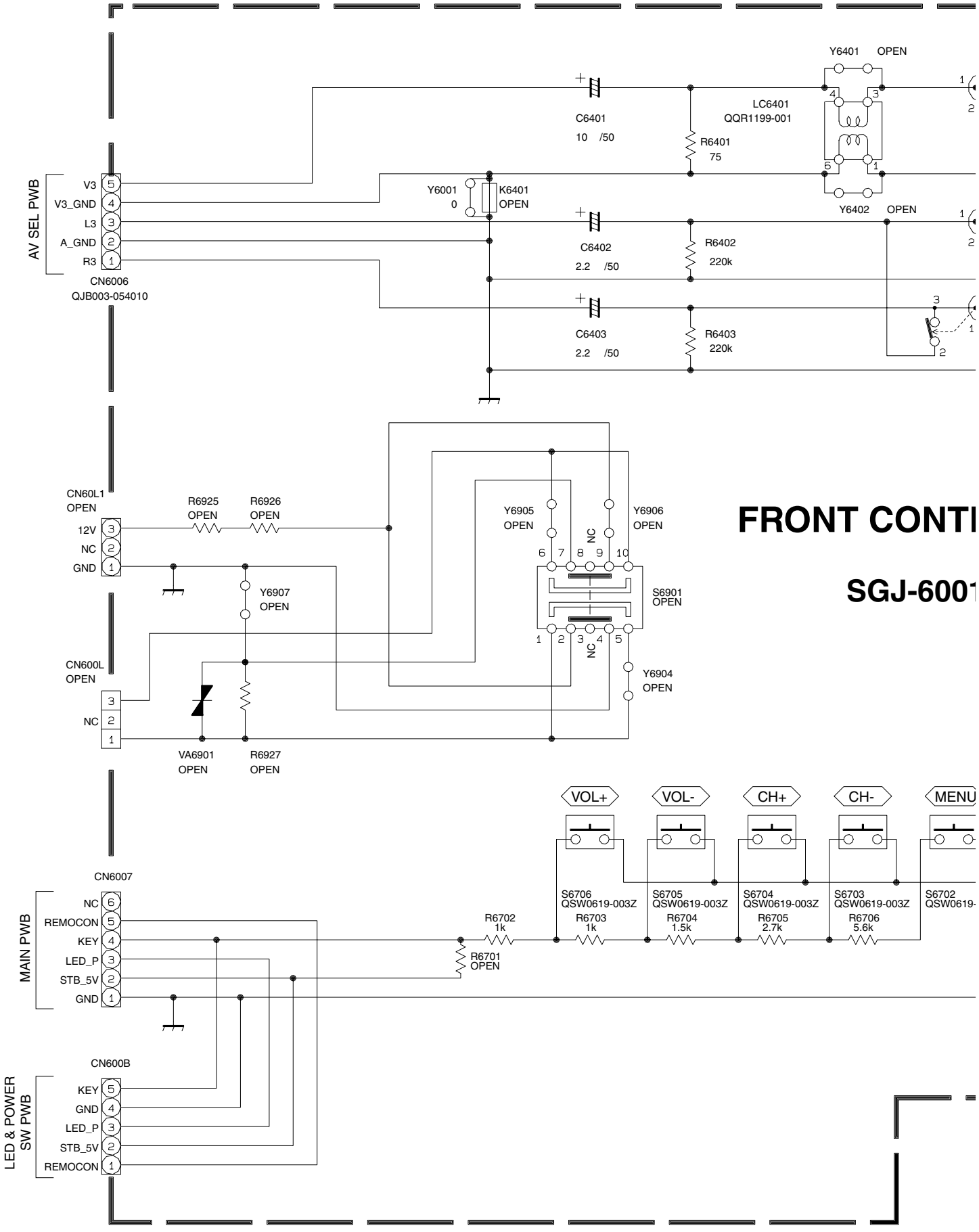

IC5201 (4)
0.9 Vp-p (H)
IC5201
TC90A49P
3L Digi Comb IC
IC5001
CXA2134Q-X
MTSIC
IC5301 OPEN
Regulator
3D Y/C SEP MODULE PWB
CN5MD1 OPEN
AV SEL PWB
SGJ-5002A-M2
[AV-27F713/S]
[AV-27F703/S]
NRSA63F-623X
*1 => NPN Tr. ; 2SD601A/QR/-X
*2 => PNP Tr. ; 2SB709A/QR/-X
*6 => MTZJ9.1C-T2
NOTE
*1 : 2SD601A/QR/-X
*2 : 2SB709A/QR/-X
*6 : MTZJ9.1C-T2
*8 : DTC323TK-X

AV SEL PWB CIRCUIT DIAGRAM [AV-27F803]

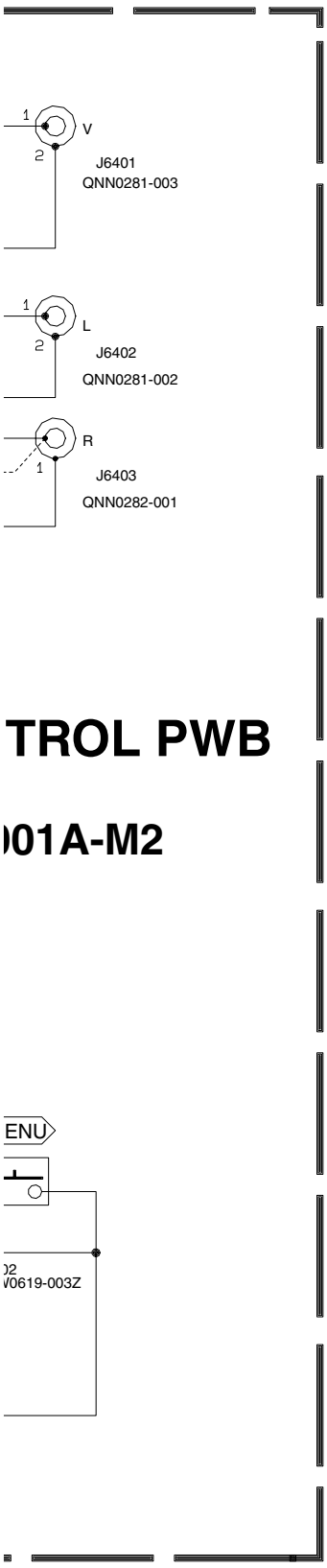


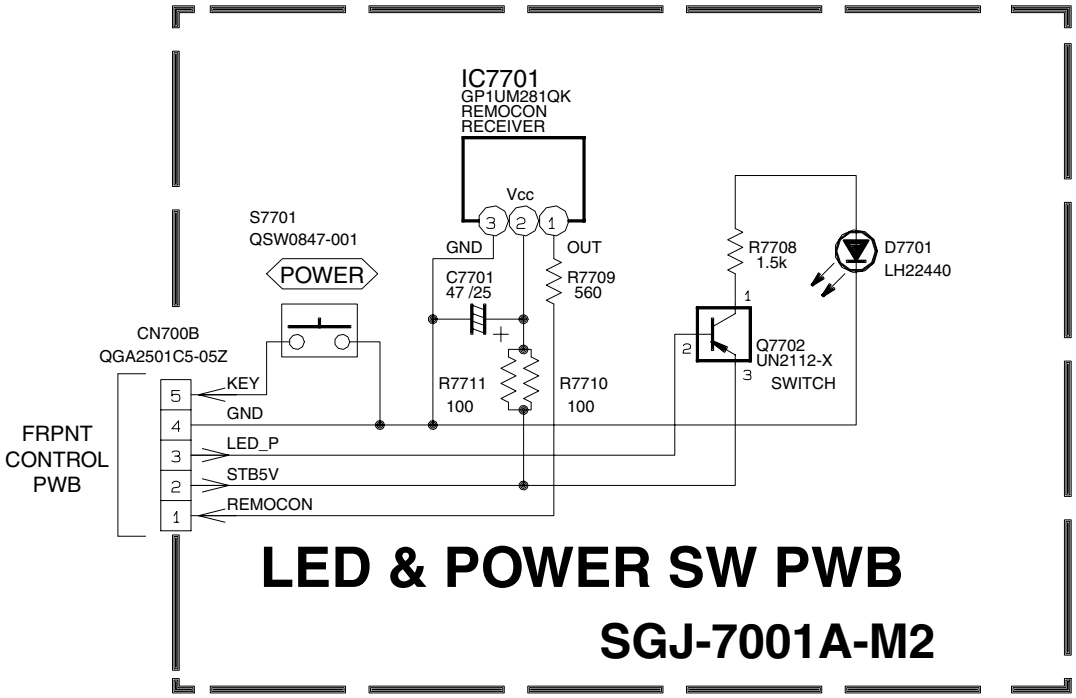

AV SEL PWB
SGJ-5001A-M2
[AV-27F803/S]
3D Y/C SEP MODULE PWB
SGJ0Y001A-M2
IC5201
OPEN
3L Digi Comb IC
IC5001
CXA2134Q-X
MTSIC
IC5301
PQ3RD13
Regulator
CN5MD1 17
2 Vp-p (H)
CN5MD1 24
1 Vp-p (H)
CN5MD1 27
1.8 Vp-p (H)
*1 => NPN Tr. ; 2SD601A/QR/-X
*2 => PNP Tr. ; 2SB709A/QR/-X
*6 => MTZJ9.1C-T2
NOTE
*1 : 2SD601A/QR/-X
*2 : 2SB709A/QR/-X
*6 : MTZJ9.1C-T2
*8 : DTC323TK-X
CN5003
QGB1505K1-15
MAIN PWB

FRONT CONTROL PWB CIRCUIT DIAGRAM

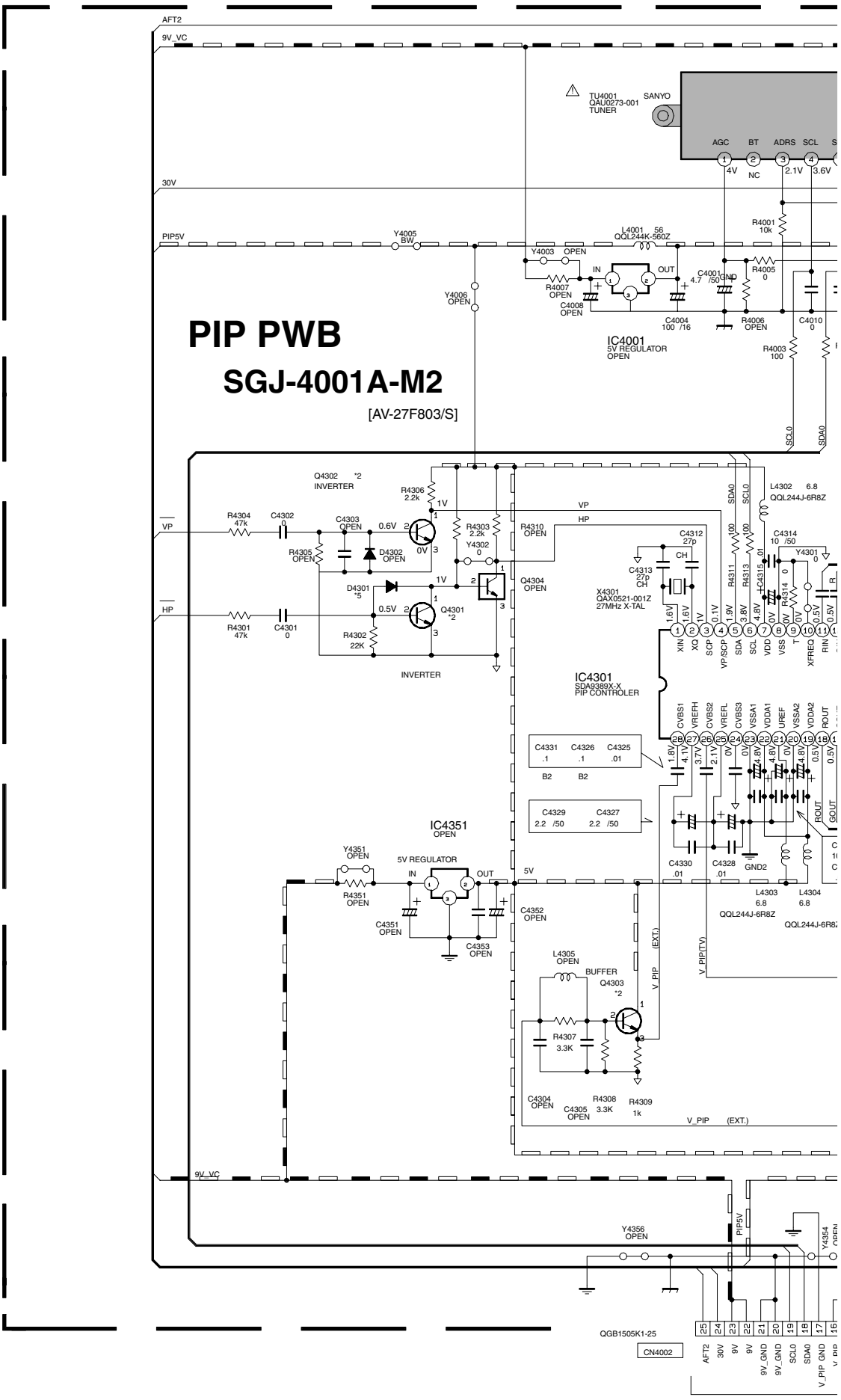


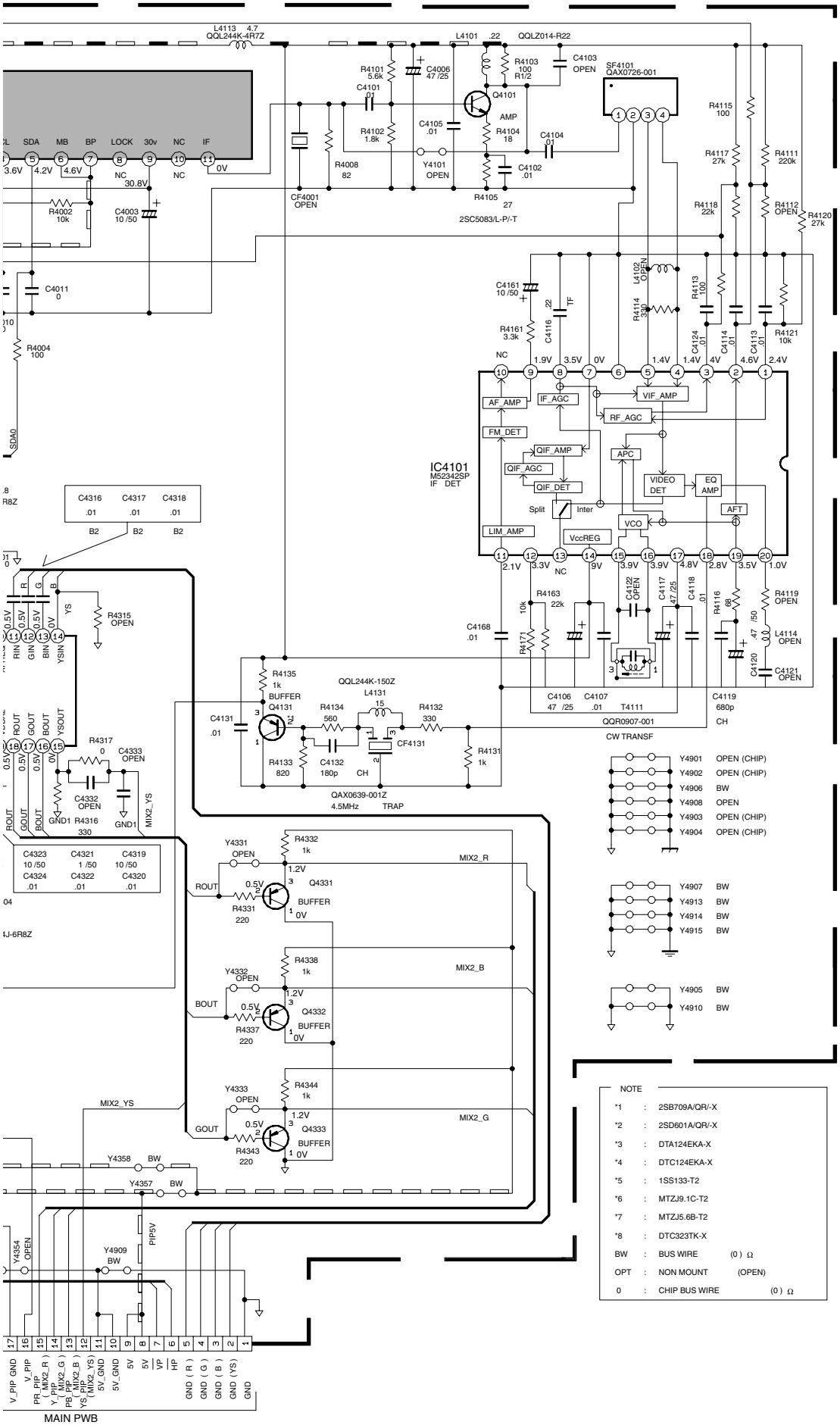
LED & POWER SW PWB CIRCUIT DIAGRAM





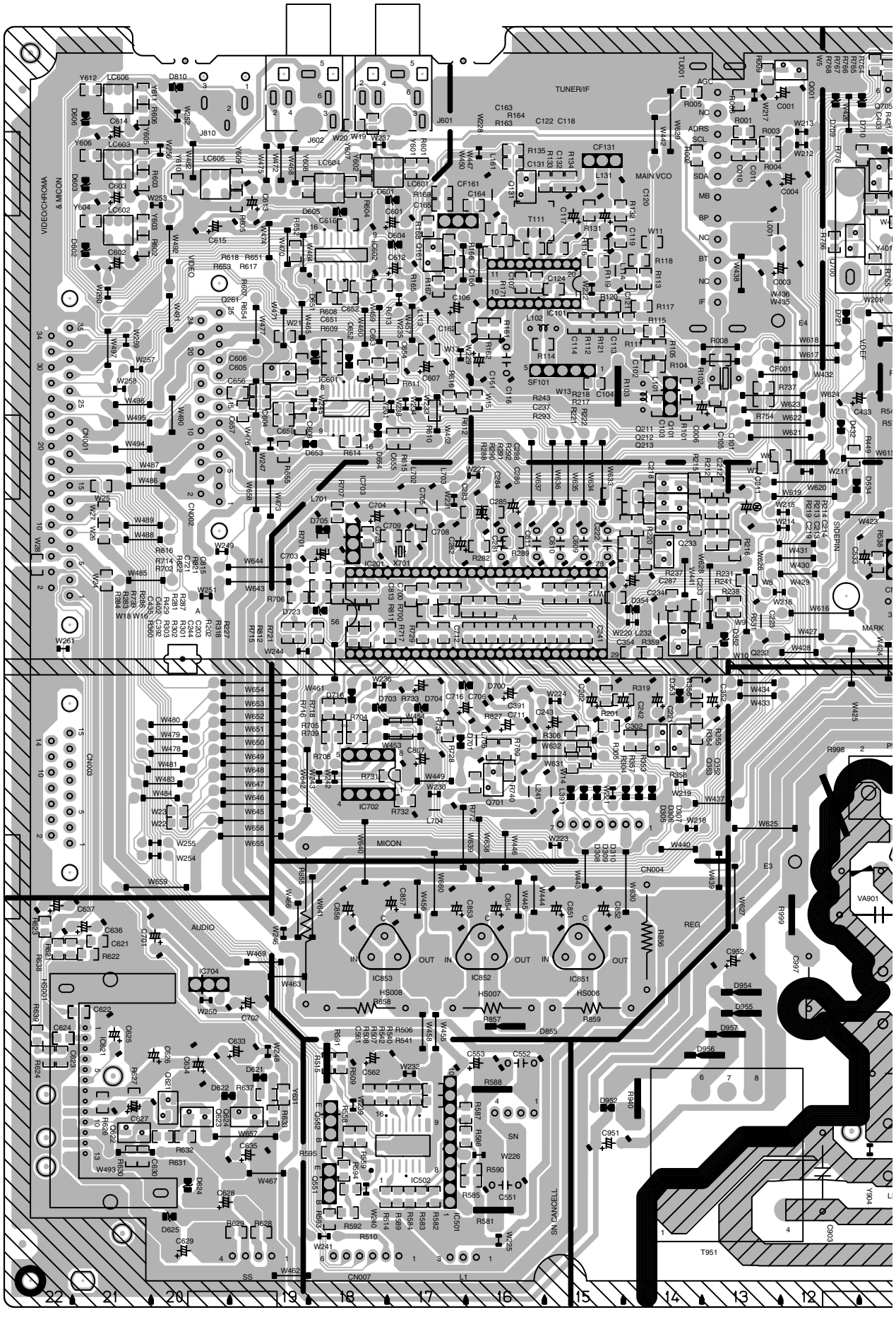
PIP PWB CIRCUIT DIAGRAM

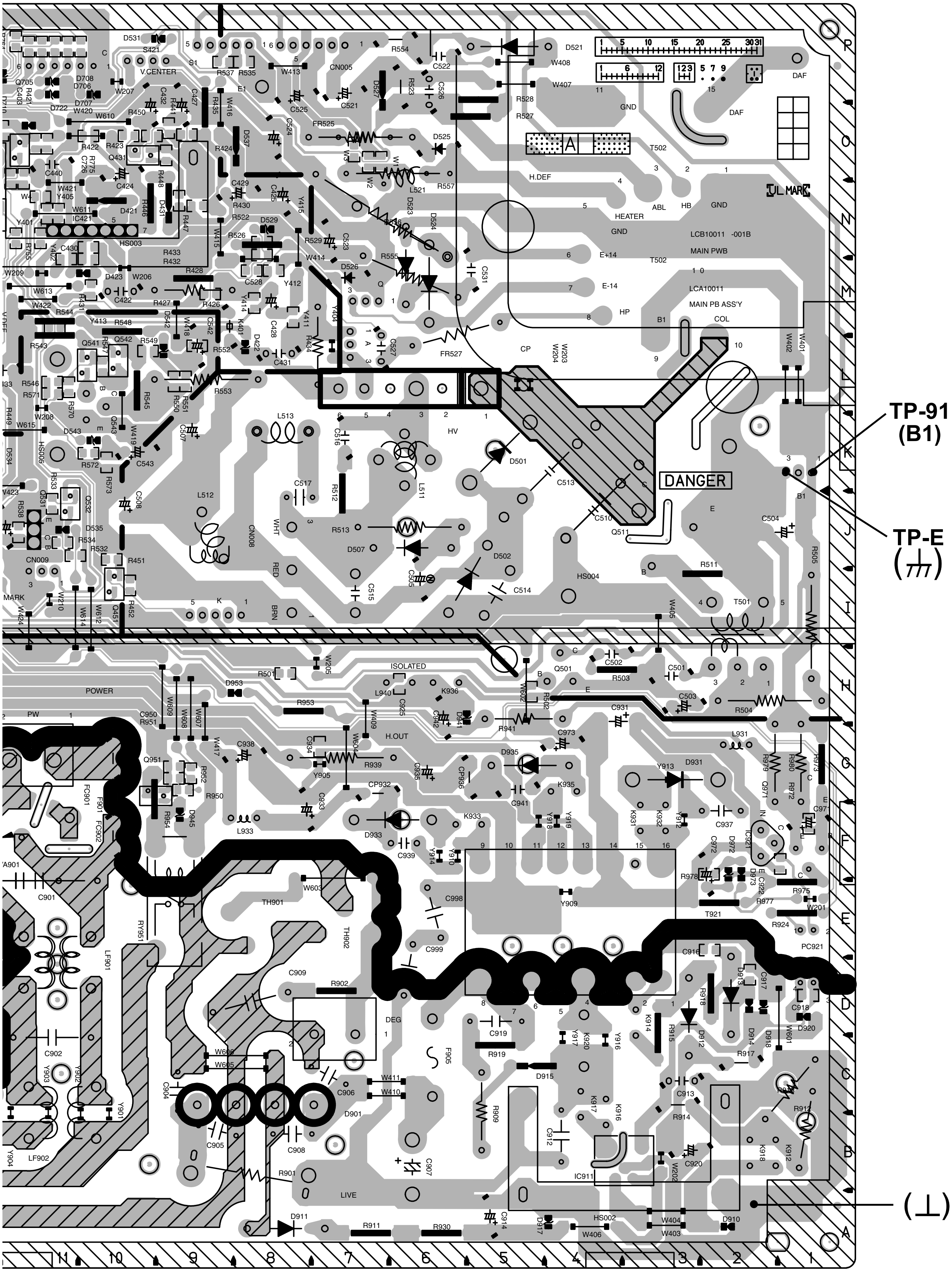



IC4101
M52342SP
IF DET
AF_AMP
IF_AGC
VIF_AMP
RF_AGC
FM_DET
QIF_AMP
QIF_AGC
QIF_DET
APC
VIDEO DET
EQ AMP
Split
Inter
AFT
VCO
LIM_AMP
VccREG
SF4101
QAX0726-001
2SC5083/L-P/-T
QQLZ014-R22
QQL244K-150Z
QAX0639-001Z
4.5MHz TRAP
QQR0907-001
CW TRANSF
T4111
CF4001 OPEN
CF4131
Q4101 AMP
Q4131 BUFFER
Q4331 BUFFER
Q4332 BUFFER
Q4333 BUFFER
MIX2_R
MIX2_B
MIX2_G
MIX2_YS
PIP5V
MAIN PWB
NOTE
*1 : 2SB709A/QR/-X
*2 : 2SD601A/QR/-X
*3 : DTA124EKA-X
*4 : DTC124EKA-X
*5 : 1SS133-T2
*6 : MTZJ9.1C-T2
*7 : MTZJ5.6B-T2
*8 : DTC323TK-X
BW : BUS WIRE (0) Ω
OPT : NON MOUNT (OPEN)
0 : CHIP BUS WIRE (0) Ω

PATTERN DIAGRAMS *MAIN PWB PATTERN*

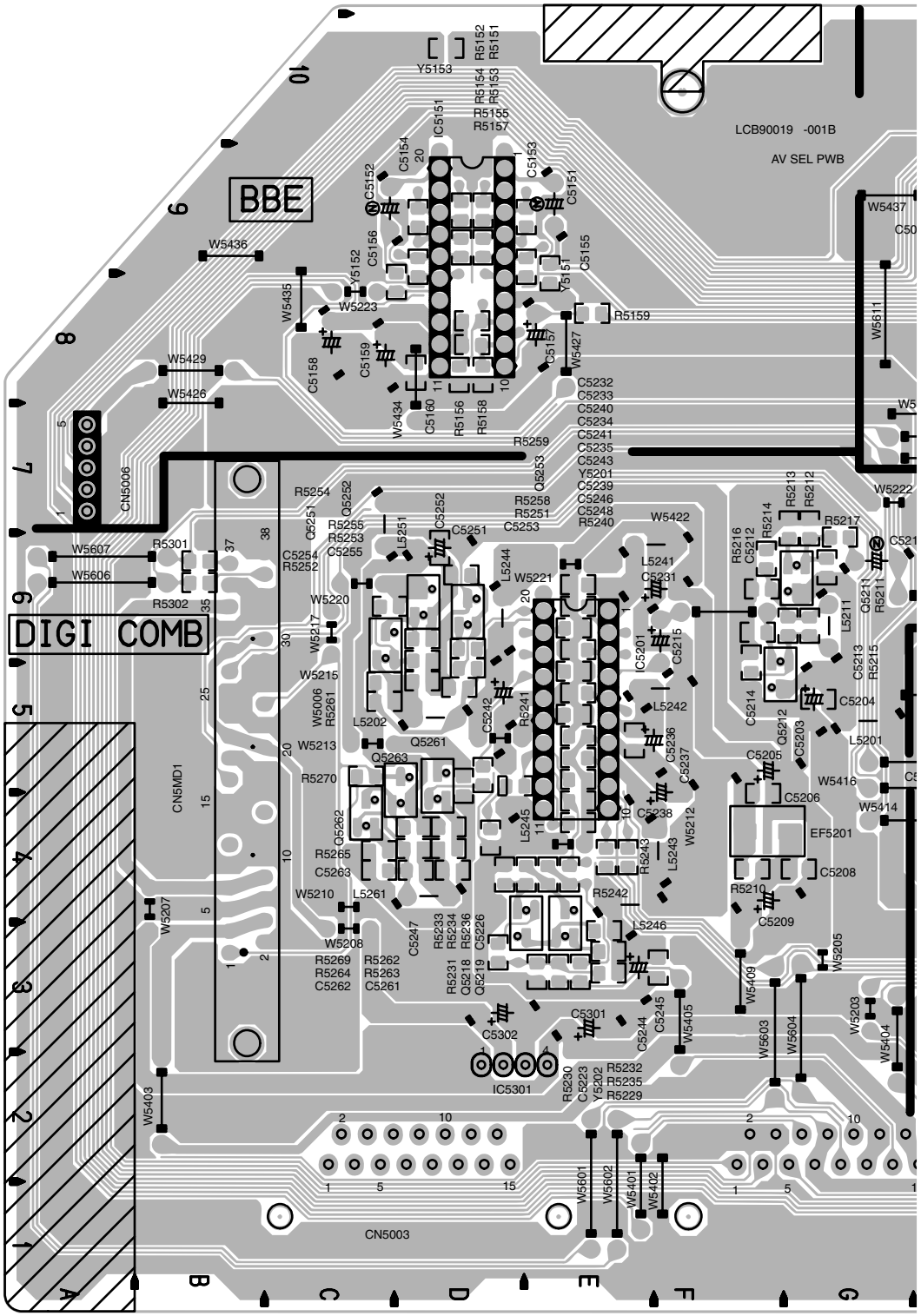
FRONT

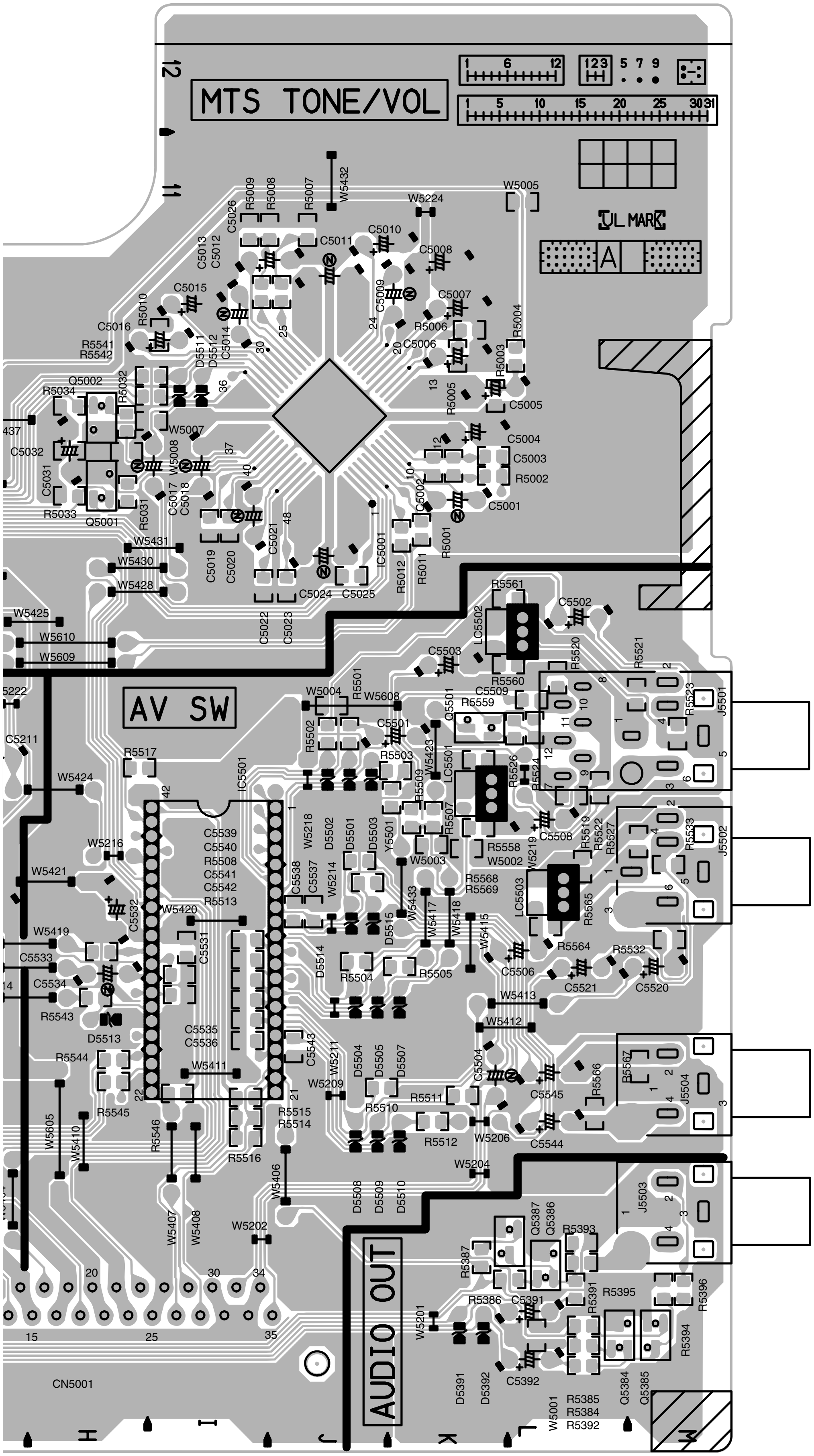



TP-91
(B1)
TP-E
DANGER
MAIN PWB
MAIN PB ASS'Y
LCB10011 -001B
LCA10011
ISOLATED
POWER
H.OUT
LIVE
DEG
(⊥)

AV SEL PWB PATTERN

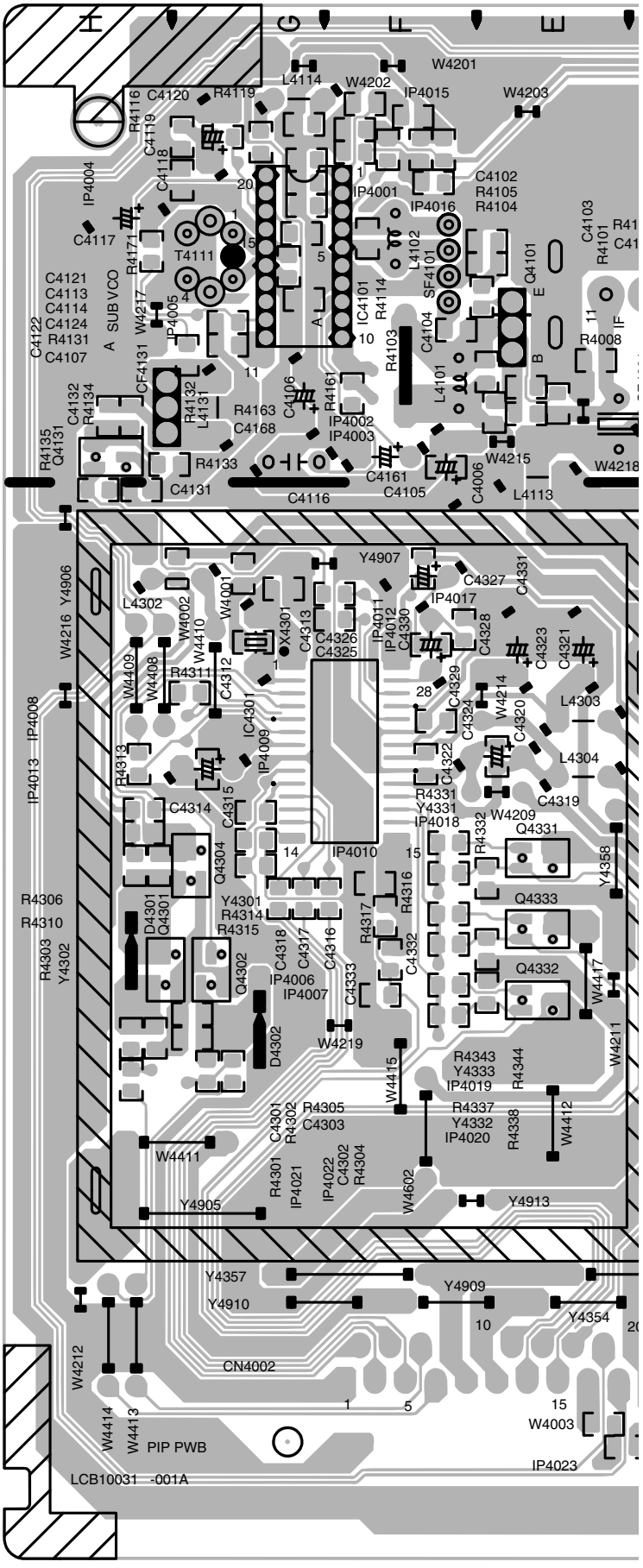
TOP

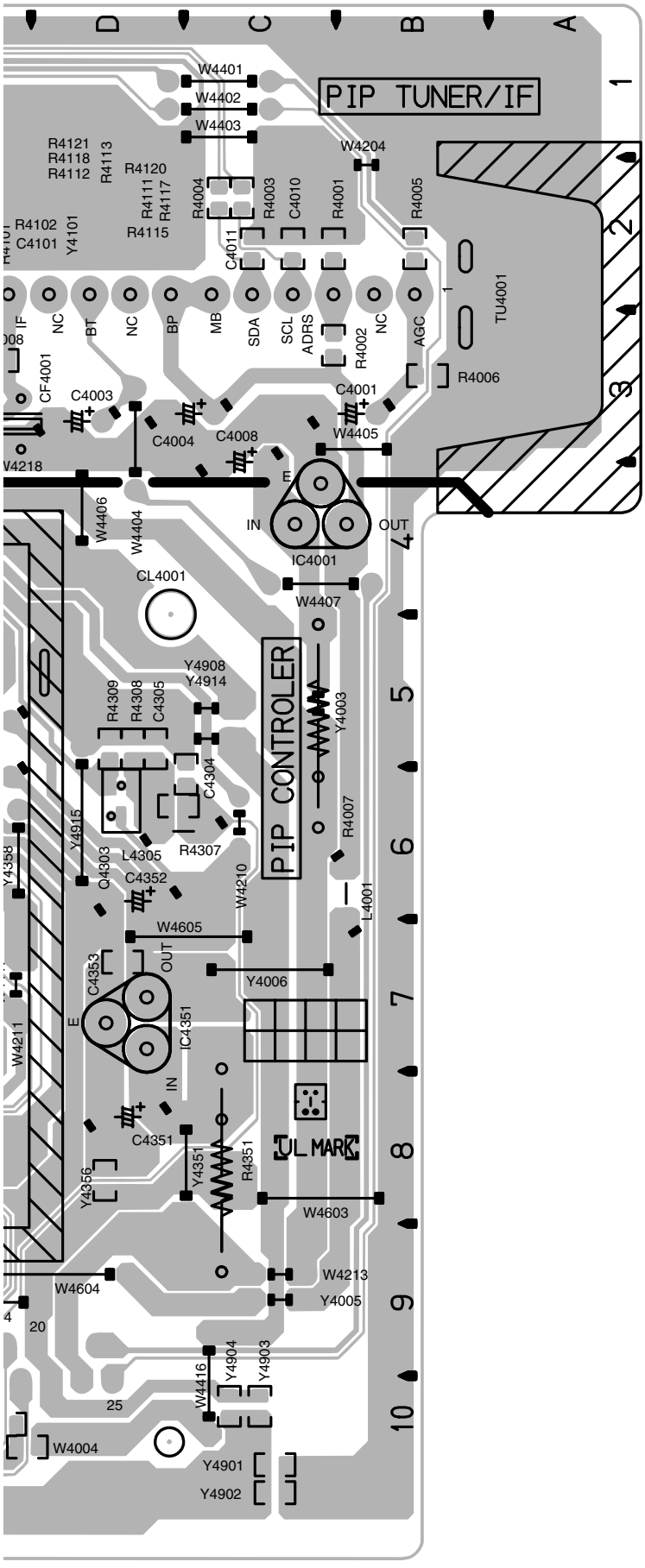



MTS TONE/VOL
UL MARK
AV SW
AUDIO OUT
IC5001
IC5501
CN5001
J5501
J5502
J5503
J5504

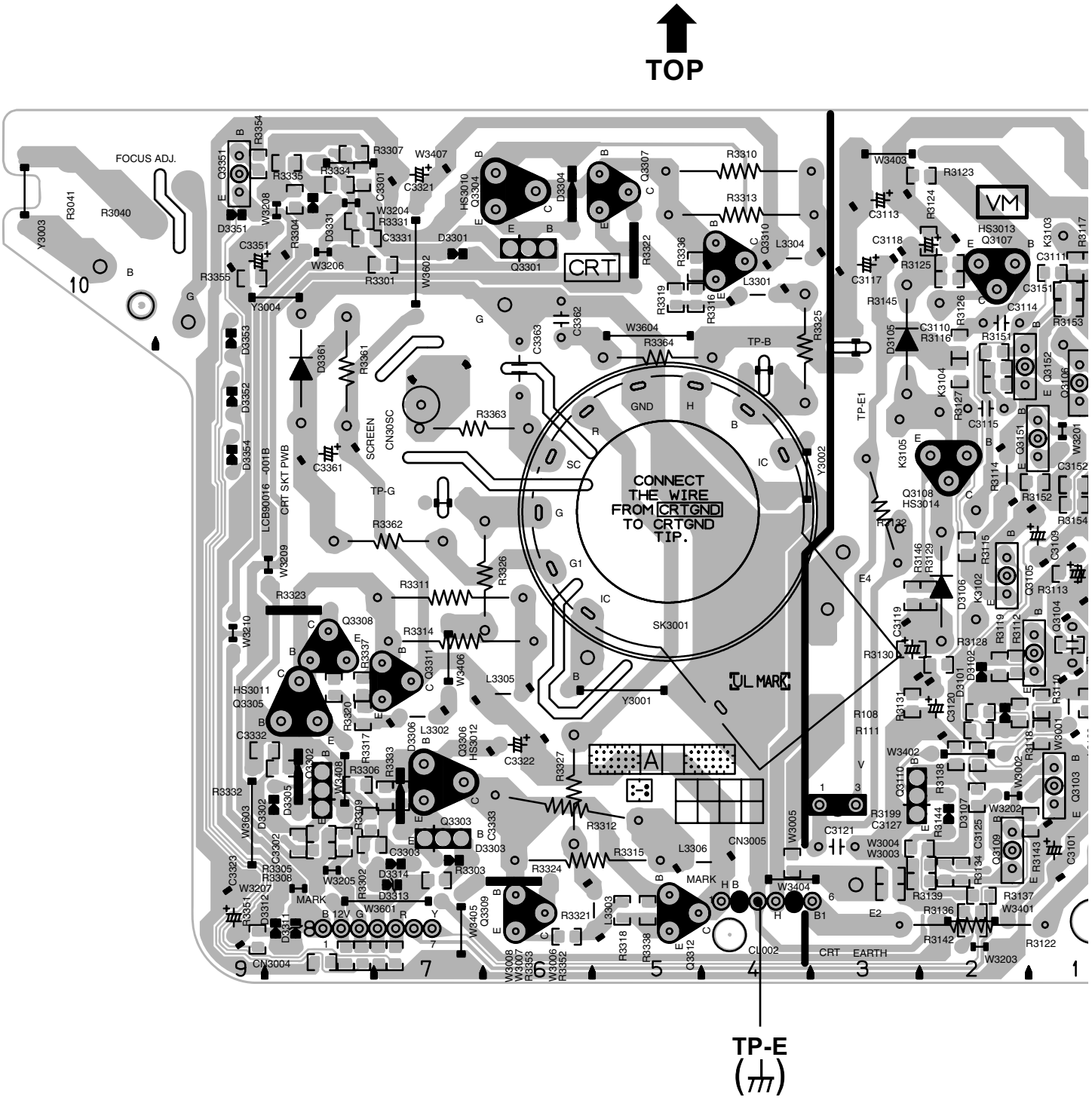
PIP PWB PATTERN [AV-27F803]

TOP

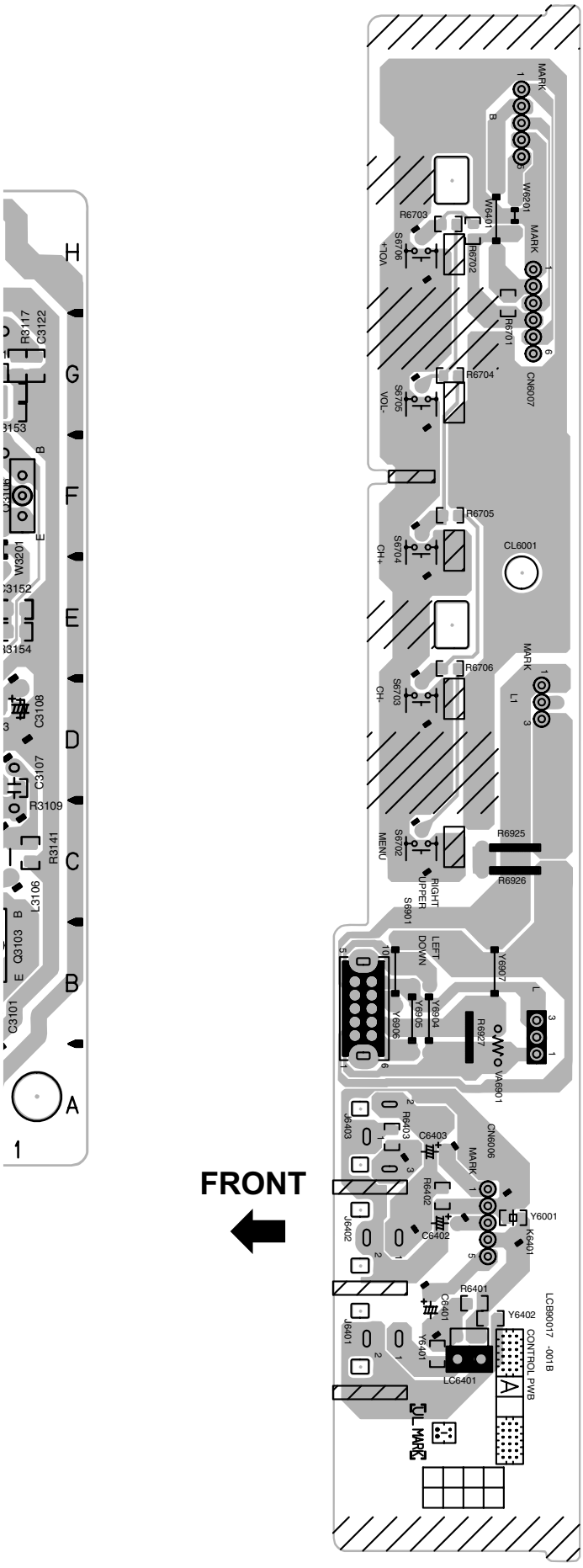



PIP TUNER/IF
PIP CONTROLER
W4401
W4402
W4403
W4204
R4121
R4118
R4112
R4113
R4120
R4111
R4117
R4115
R4004
R4003
C4010
R4001
R4005
R4102
C4101
Y4101
C4011
TU4001
IF
NC
BT
NC
BP
MB
SDA
SCL
ADRS
R4002
NC
AGC
R4006
CF4001
C4003
C4004
C4008
C4001
W4405
W4218
E
IN
OUT
IC4001
W4406
W4404
CL4001
W4407
Y4908
Y4914
R4309
R4308
C4305
Y4003
C4304
R4007
Y4915
Q4303
L4305
R4307
C4352
W4210
L4001
W4605
C4353
OUT
Y4006
IC4351
W4211
C4351
Y4351
R4351
Y4356
W4603
W4604
W4213
Y4005
W4416
Y4904
Y4903
W4004
Y4901
Y4902

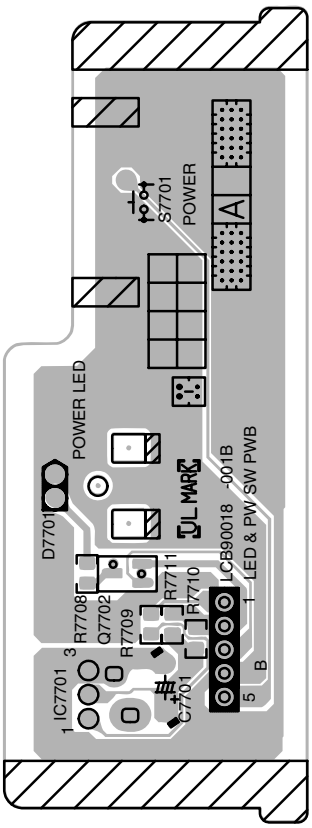
CRT SOCKET PWB PATTERN



FRONT CONTROL PWB PATTERN



LED & POWER SW PWB PATTERN



CHANNEL CHART (US)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02		Ⅰ
			03		
			04		
			05		
			06		
		VH	07		Ⅱ
			08		
			09		
			10		
			11		
			12		
			13		
×	○	MID	A	14	Ⅰ
			B	15	
			C	16	Ⅱ
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
		SUPER	J	23	
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	
			Q	30	
			R	31	
			S	32	
			T	33	
			U	34	
			V	35	
			W	36	
		HYPER	W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
			W+7	43	
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	Ⅳ
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
			W+17	53	
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
			W+27	63	
			W+28	64	
		ULTRA	W+29	65	
			W+30	66	
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35	71	Ⅳ
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
			W+75	116	
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	
			W+80	121	
			W+81	122	
			W+82	123	
			W+83	124	
			W+84	125	
		SUB MID	A-8	01	Ⅰ
			A-4	96	
			A-3	97	
			A-2	98	
			A-1	99	
○	×	UHF	14 ∫ 69		Ⅳ

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES.
SPECIAL ADAPTERS MAY BE REQUIRED.

CHANNEL CHART (CA)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02		Ⅰ
			03		
			04		
			05		
			06		
		VH	07		Ⅱ
			08		
			09		
			10		
			11		
			12		
			13		
×	○	MID	A	14	
			B	15	
			C	16	
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
		SUPER	J	23	
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	Ⅲ
			Q	30	
			R	31	
			S	32	
			T	33	
			U	34	
			V	35	
			W	36	
		HYPER	W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
			W+7	43	
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
			W+17	53	
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
			W+27	63	
			W+28	64	
		ULTRA	W+29	65	Ⅲ
			W+30	66	Ⅳ
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35	71	Ⅳ
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
			W+75	116	
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	
			W+80	121	
			W+81	122	
			W+82	123	
			W+83	124	
			W+84	125	
		SUB MID	A-8	01	Ⅰ
			A-4	96	
			A-3	97	Ⅱ
			A-2	98	
			A-1	99	
○	×	UHF	14 ∫ 69		Ⅳ

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
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