

C-N21102/s / C-N21210/s / AV-N21202/s STANDARD CIRCUIT DIAGRAM

NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the Δ 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 : Color bar signal
 - (2)Setting positions of each knob/button and variable resistor :Original setting position when shipped
 - (3)Internal resistance of tester :DC 20k Ω /V
 - (4)Oscilloscope sweeping time :H \Rightarrow 20 μ S/div
:V \Rightarrow 5mS/div
:Others \Rightarrow 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 \rightarrow 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 :1/10 [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 :[μ F]

●Withstand voltage

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

*Electrolytic Capacitors

- 47/50[Example]:Capacitance value [μ F]/withstand voltage[V]


●Type

- No indication :Ceramic capacitor
- MY :Mylar 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 :[μ H]
- Others :As specified

(4)Power Supply



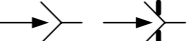
-  :B1
-  :B2(12V)
-  :9V
-  :5V

*Respective voltage values are indicated





(5)Test point

-  :Test point
-  :Only test point display

(6)Connecting method

-  :Connector
-  :Wrapping or soldering
-  :Receptacle

(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 : (\perp) 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 (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.

CONTENTS

SEMICONDUCTOR SHAPES 2-2

BLOCK DIAGRAM

C-N21102 / C-N21210 2-3

AV-N21202 2-5

CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAMS [C-N21102 / C-N21210] 2-7

MAIN PWB CIRCUIT DIAGRAMS [AV-N21202] 2-9

MAIN PWB, CRT SOCKET PWB CIRCUIT DIAGRAMS 2-11

PATTERN DIAGRAMS

MAIN PWB, CRT SOCKET PWB PATTERN 2-13

CHANNEL CHART 2-15

SEMICONDUCTOR SHAPES

TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR

IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW

CHIP IC

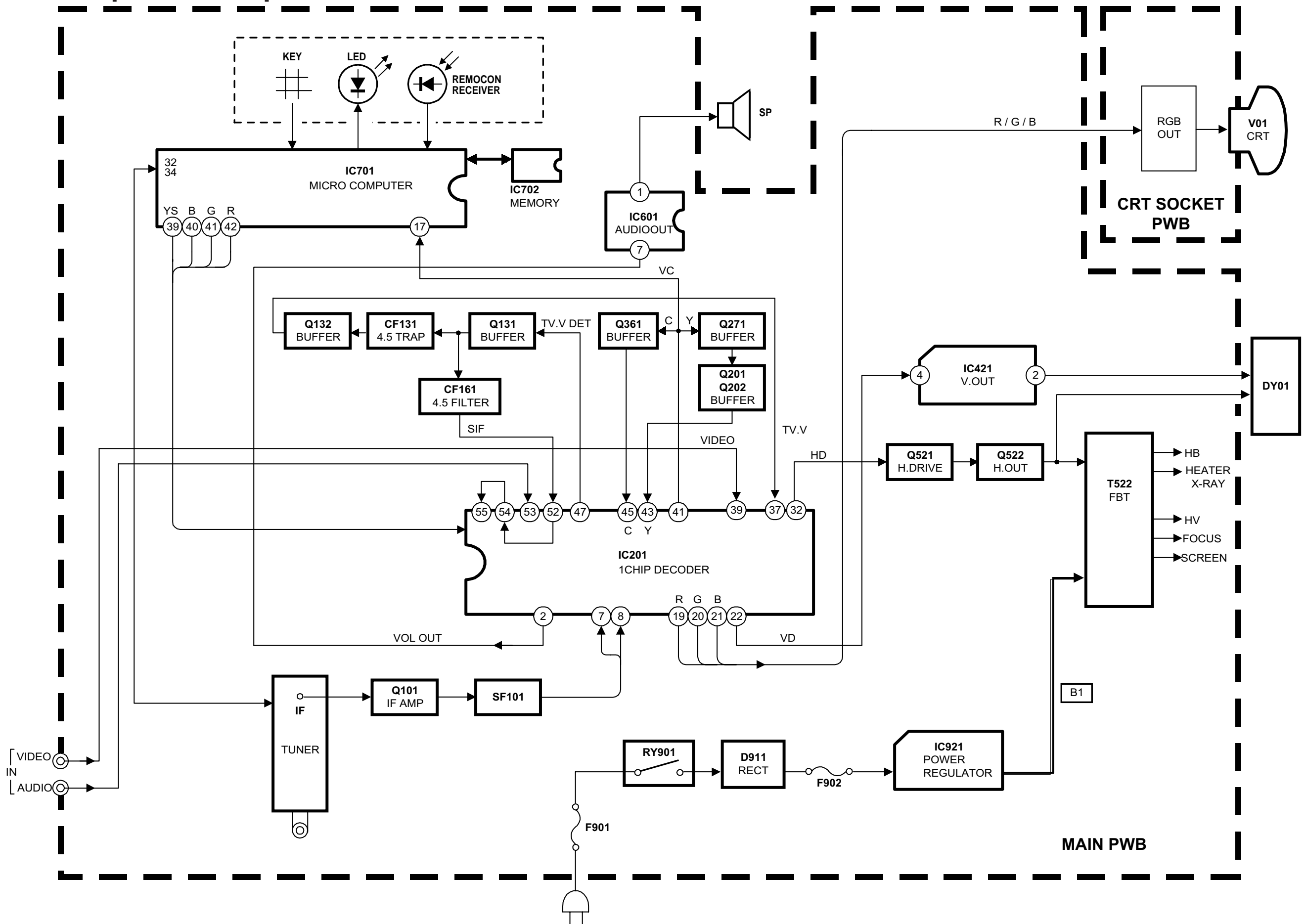
TOP VIEW	

CHANNEL CHART

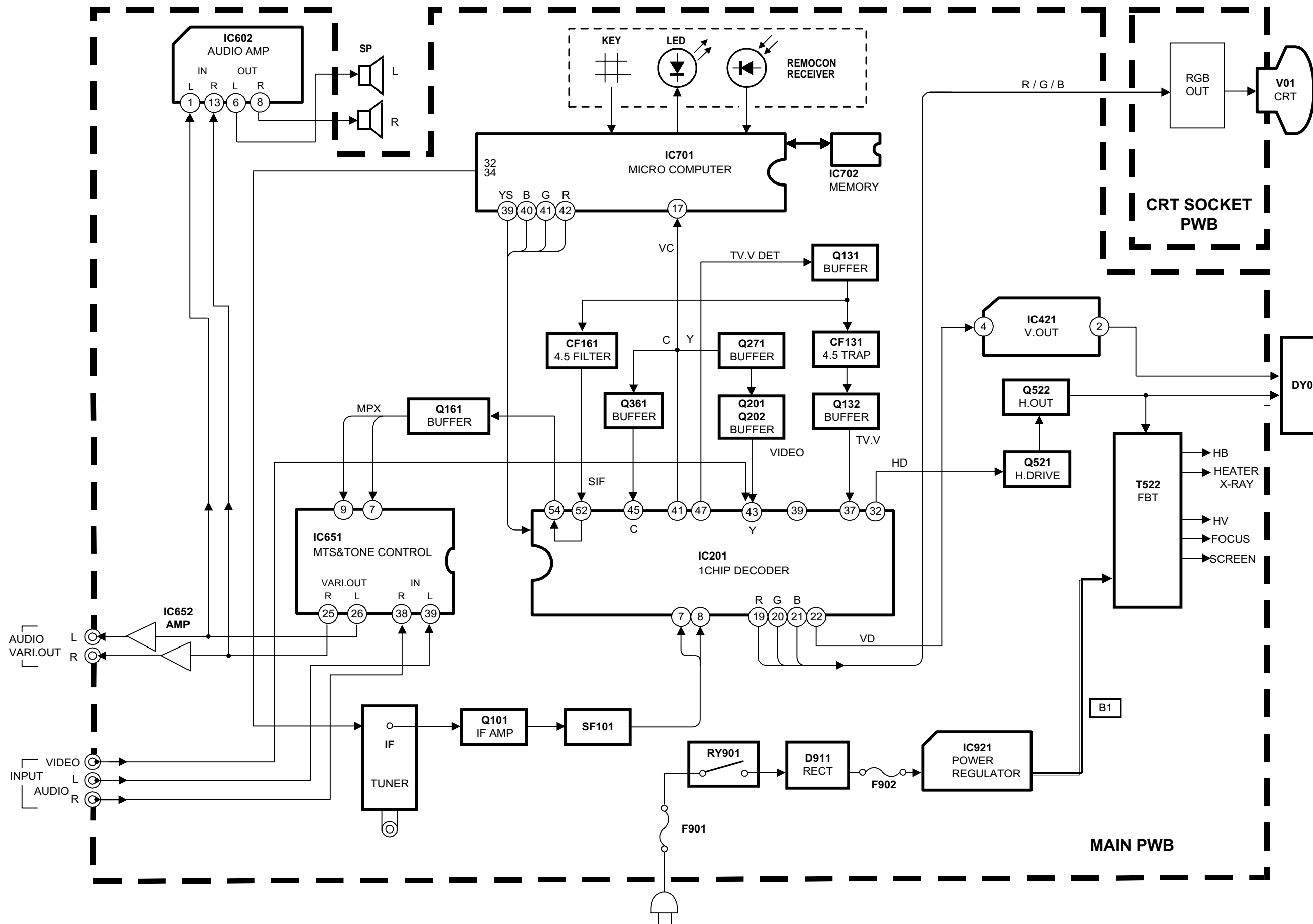
MODE		BAND	CHANNEL	TUNER BAND		
TV	CATV		DISP.			
○	○	VL	02	I		
			03			
			04			
			05			
			06			
			07			
	○	○	VH	08	II	
				09		
				10		
				11		
				12		
				13		
				x		○
15						
16						
17						
18						
SUPER	○	SUPER	19		II	
			20			
			21			
			22			
			23			
			24			
			25			
			26			
			27			
			28			
			29			
			30			
x	○	HYPER	31		IV	
			32			
			33			
			34			
			35			
			36			
			37			
			38			
			39			
			40			
			41			
			42			
43						
44						
45						
46						
47						
○	x	ULTRA	48	IV		
			49			
			50			
○	x	SUB MID	51	I		
			52			
			53			
			54			
			55			
			56			
			57			
			58			
			59			
			60			
○	x	UHF	61	IV		
			62			
			63			
			64			
			65			
			66			
			67			
			68			
			69			
			70			

MODE		BAND	CHANNEL	TUNER BAND
TV	CATV		DISP.	
x	○	ULTRA	71	IV
			72	
			73	
			74	
			75	
			76	
			77	
			78	
			79	
			80	
			81	
			82	
			83	
			84	
			85	
			86	
			87	
			88	
89				
90				
91				
92				
93				
94				
100				
101				
102				
103				
104				
105				
106				
107				
108				
109				
110				
111				
112				
113				
114				
115				
116				
117				
118				
119				
120				
121				
122				
123				
124				
125				
○	x	SUB MID	01	I
			96	
			97	
			98	
			99	
○	x	UHF	14	IV
			?	
			TOTAL 180CH	
			{ VHF 124CH	
			{ UHF 56CH	
NOTE: TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES. SPECIAL ADAPTERS MAY BE REQUIRED.				

BLOCK DIAGRAM [C-N21102/C-N21210]



BLOCK DIAGRAM [AV-N21202]

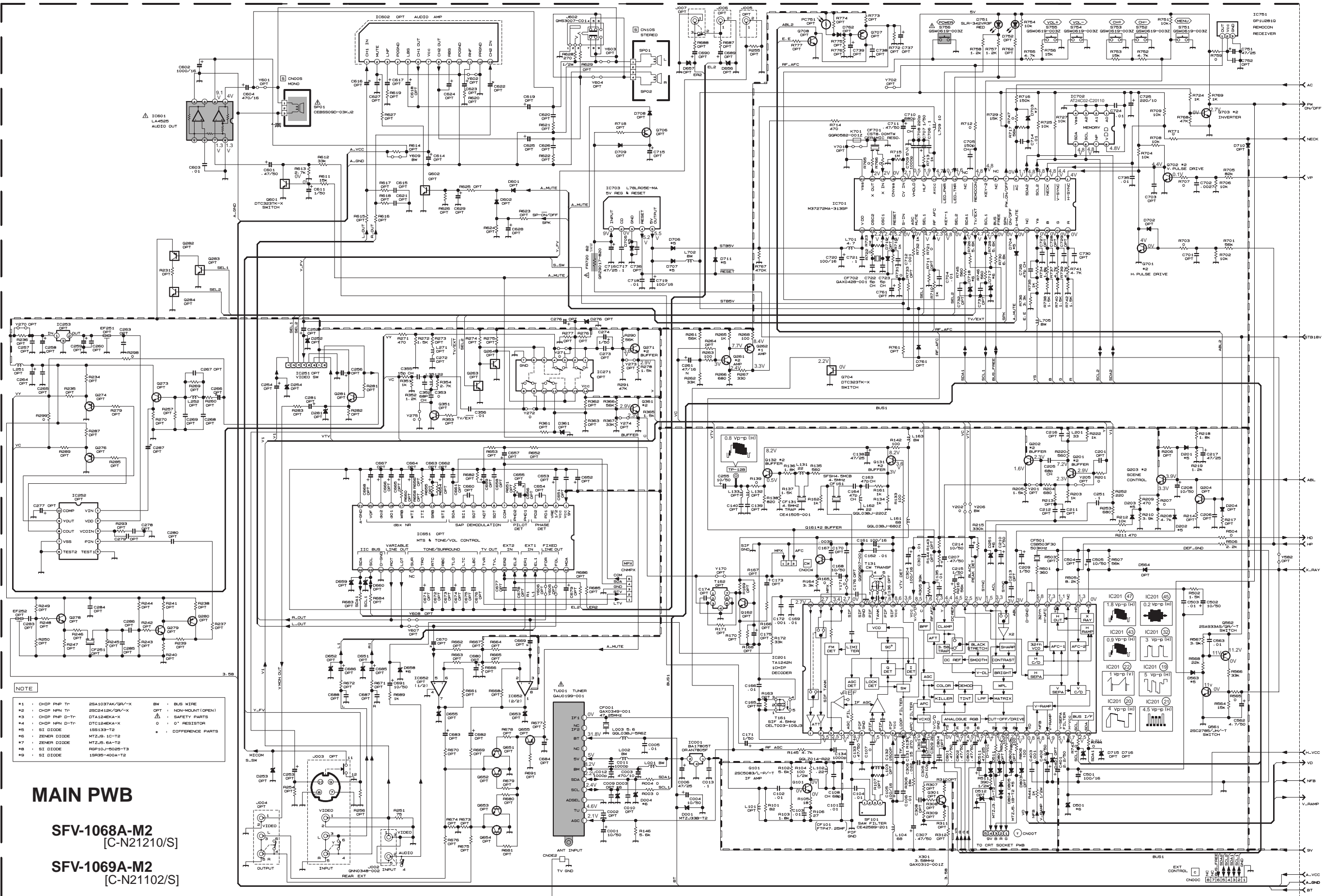


CIRCUIT DIAGRAMS
MAIN PWB CIRCUIT DIAGRAM

C-N21102
C-N21210

C-N21102
C-N21210

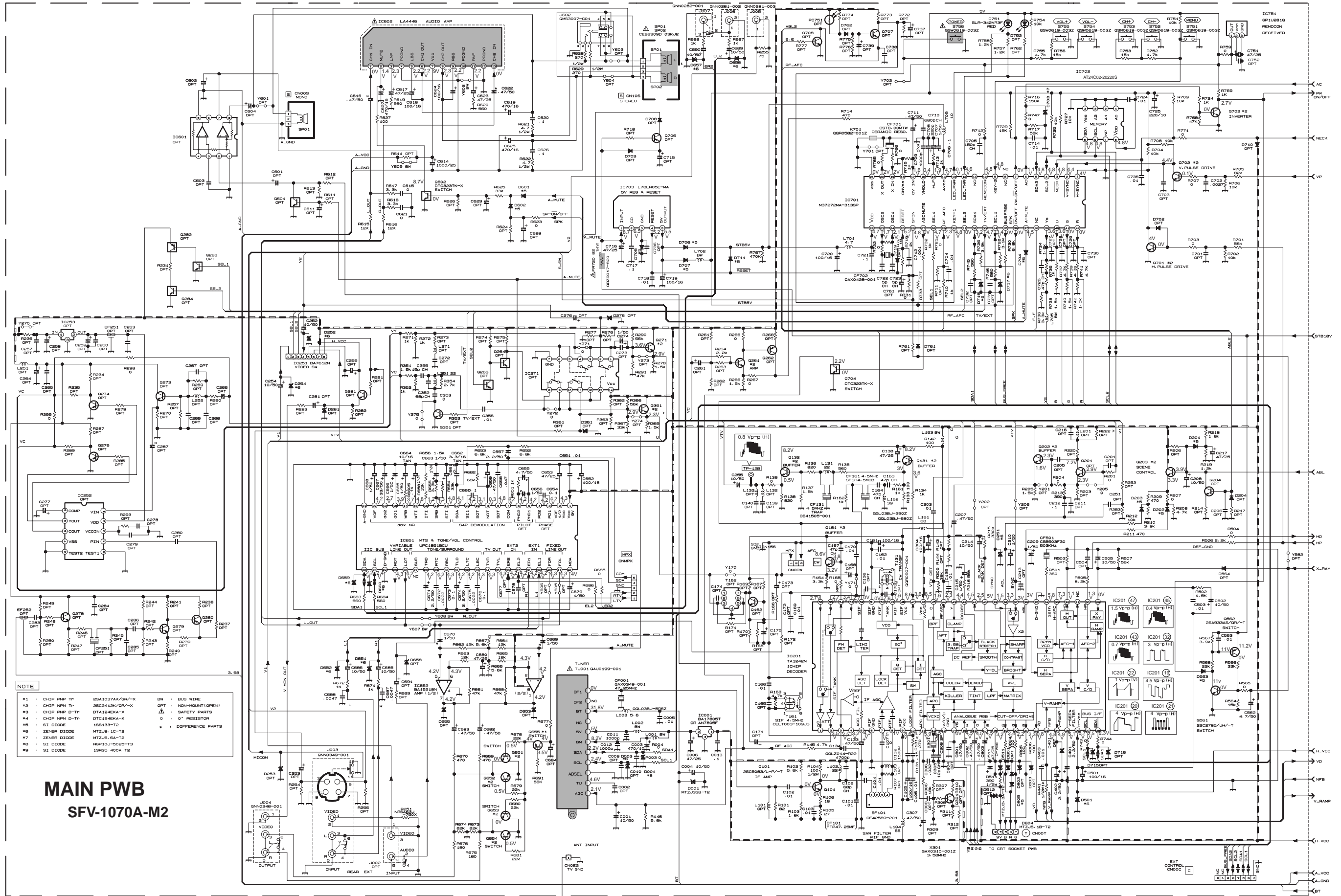
C-N21102/C-N21210



NOTE

*1	CHIP PNP T-	2SA1037AK/GR/-X	BW	BUS WIRE
*2	CHIP NPN T-	2SC841BK/GR/-X	OPT	NON-MOUNT (OPEN)
*3	CHIP PNP D-T	DT124DKA-X	Δ	SAFETY PARTS
*4	CHIP NPN D-T	DT124DKA-X	○	RESISTOR
*5	SI DIODE	1SS133-T2	•	DIFFERENCE PARTS
*6	ZENER DIODE	MTZ.5.1C-T2		
*7	ZENER DIODE	MTZ.5.6A-T2		
*8	SI DIODE	R9P10J-5025-T3		
*9	SI DIODE	19R36-400A-T2		

MAIN PWB
SFV-1068A-M2
[C-N21210/S]
SFV-1069A-M2
[C-N21102/S]



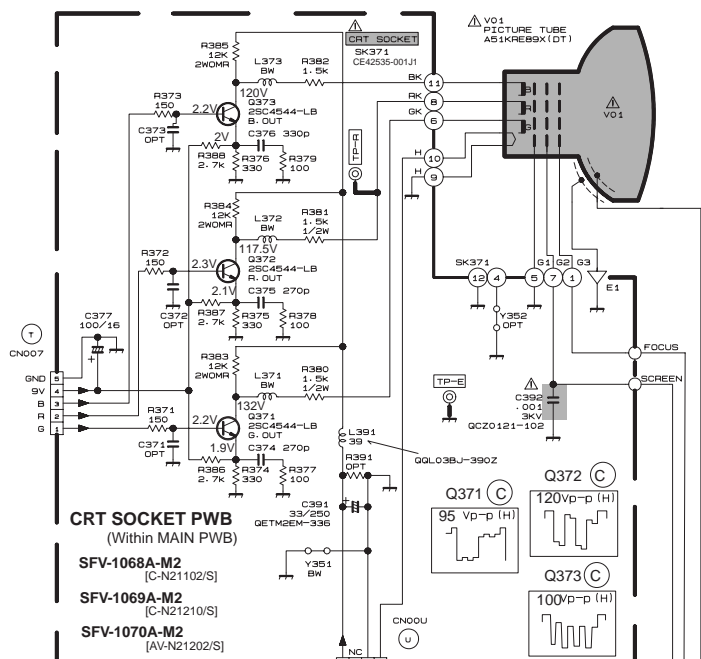
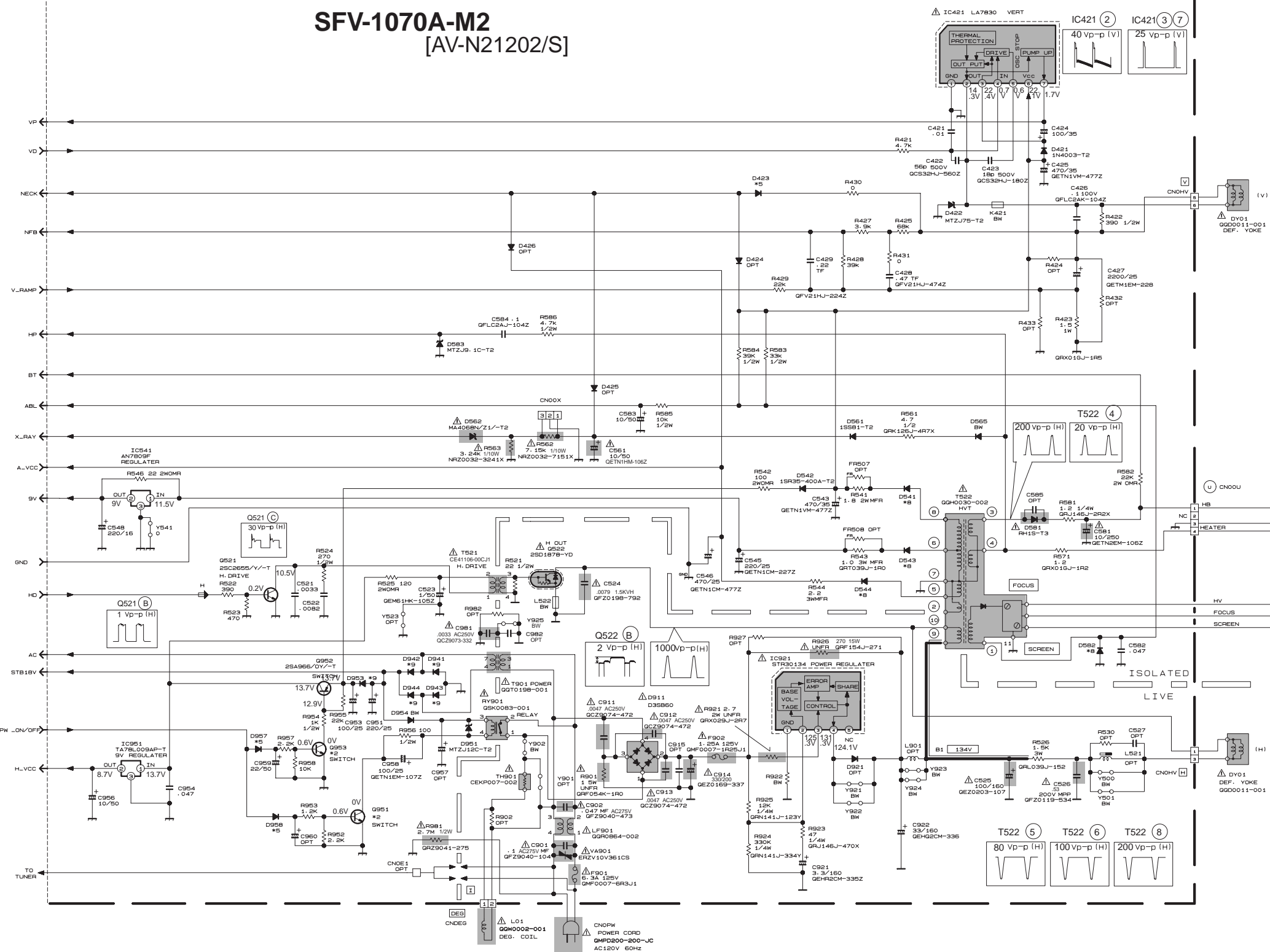
MAIN PWB SFV-1070A-M2

- NOTE
- #1 - CHIP PNP T₁ 2SA1037AK/GR-X
 - #2 - CHIP PNP T₂ 2SC2412K/GR-X
 - #3 - CHIP PNP D-T₁ DT1248KA-X
 - #4 - CHIP PNP D-T₂ DT1248KA-X
 - #5 - SI DIODE 1S8133-T2
 - #6 - ZENER DIODE MTZJ6.1C-T2
 - #7 - ZENER DIODE MTZJ6.6A-T2
 - #8 - SI DIODE 1S9101-S026-T3
 - #9 - SI DIODE 1S9135-400A-T2
- BW - BUS WIRE
 OPT - NON-MOUNT (OPEN)
 SAFETY PARTS
 R - RESISTOR
 DIFFERENCE PARTS

MAIN PWB, CRT SOCKET PWB CIRCUIT DIAGRAM

MAIN PWB

SFV-1068A-M2
[C-N21102/S]
SFV-1069A-M2
[C-N21210/S]
SFV-1070A-M2
[AV-N21202/S]



NOTE

*1	CHIP PNP Tr	2SA1037AK/GR/-X	BW	BUS WIRE
*2	CHIP NPN Tr	2SC412K/GR/-X	OPT	NON-MOUNT (OPEN)
*3	CHIP PNP D-Tr	DTA124EKA-X	Δ	SAFETY PARTS
*4	CHIP NPN D-Tr	DTC124EKA-X	0	0° RESISTOR
*5	SI DIODE	1S8133-T2	*	DIFFERENCE PARTS
*6	ZENER DIODE	MTZJ9.1C-T2		
*7	ZENER DIODE	MTZJ5.6A-T2		
*8	SI DIODE	RP10J-5025-T3		
*9	SI DIODE	1SR35-400A-T2		

PATTERN DIAGRAMS

MAIN PWB, CRT SOCKET PWB PATTERN

CRT SOCKET PWB ASS'Y (2/2)

C-N21102
C-N21210
AV-N21202

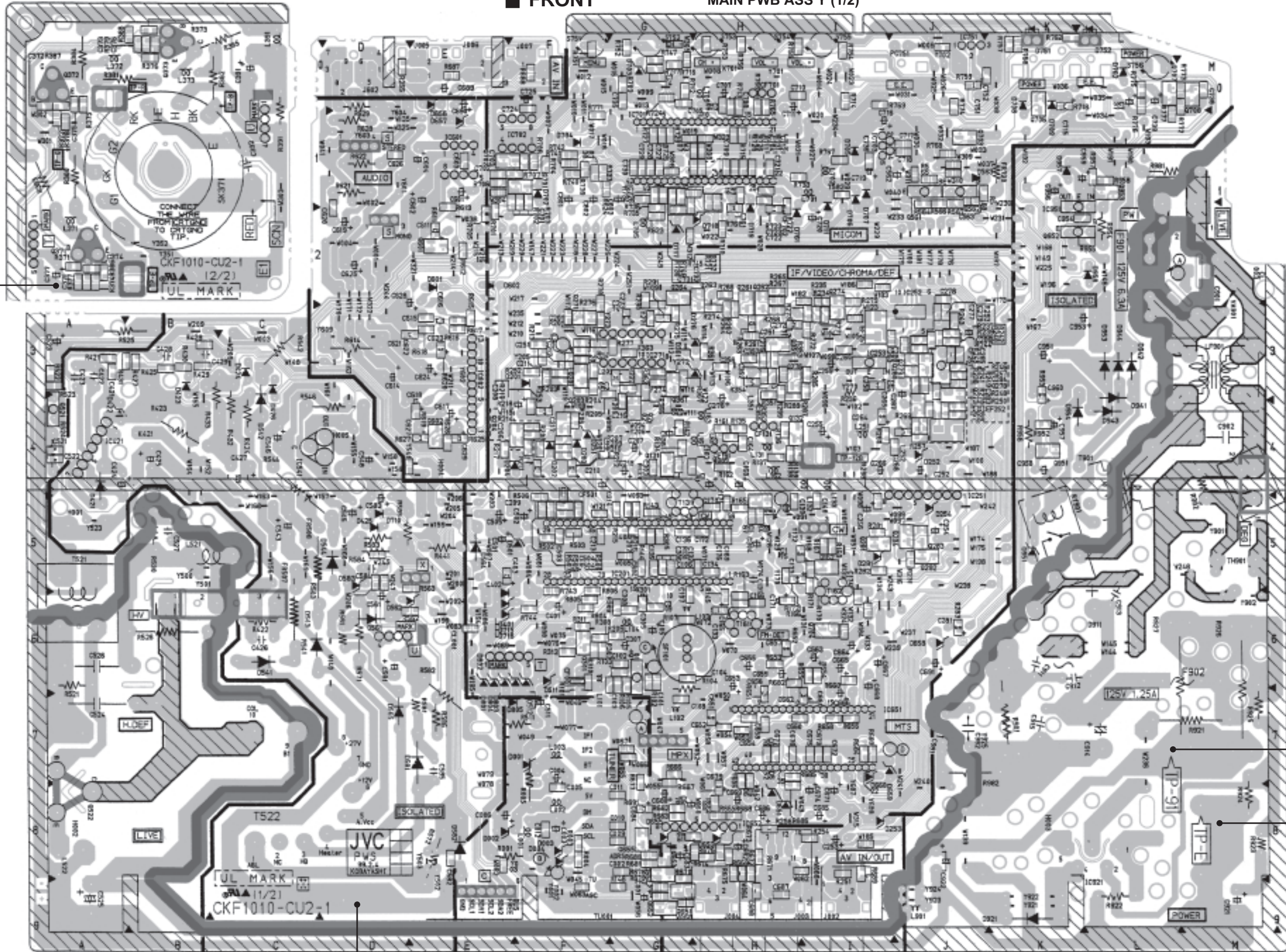
C-N21102
C-N21210
AV-N21202

↑ FRONT

MAIN PWB ASS'Y (1/2)

↑ TOP

(77)



(77)

TP-91 (B1)
TP-E (L)