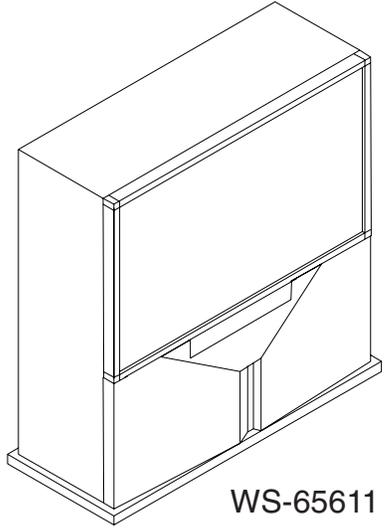




Service Manual

PROJECTION TELEVISION
V21 / V21+ / V21++ CHASSIS



WS-65611

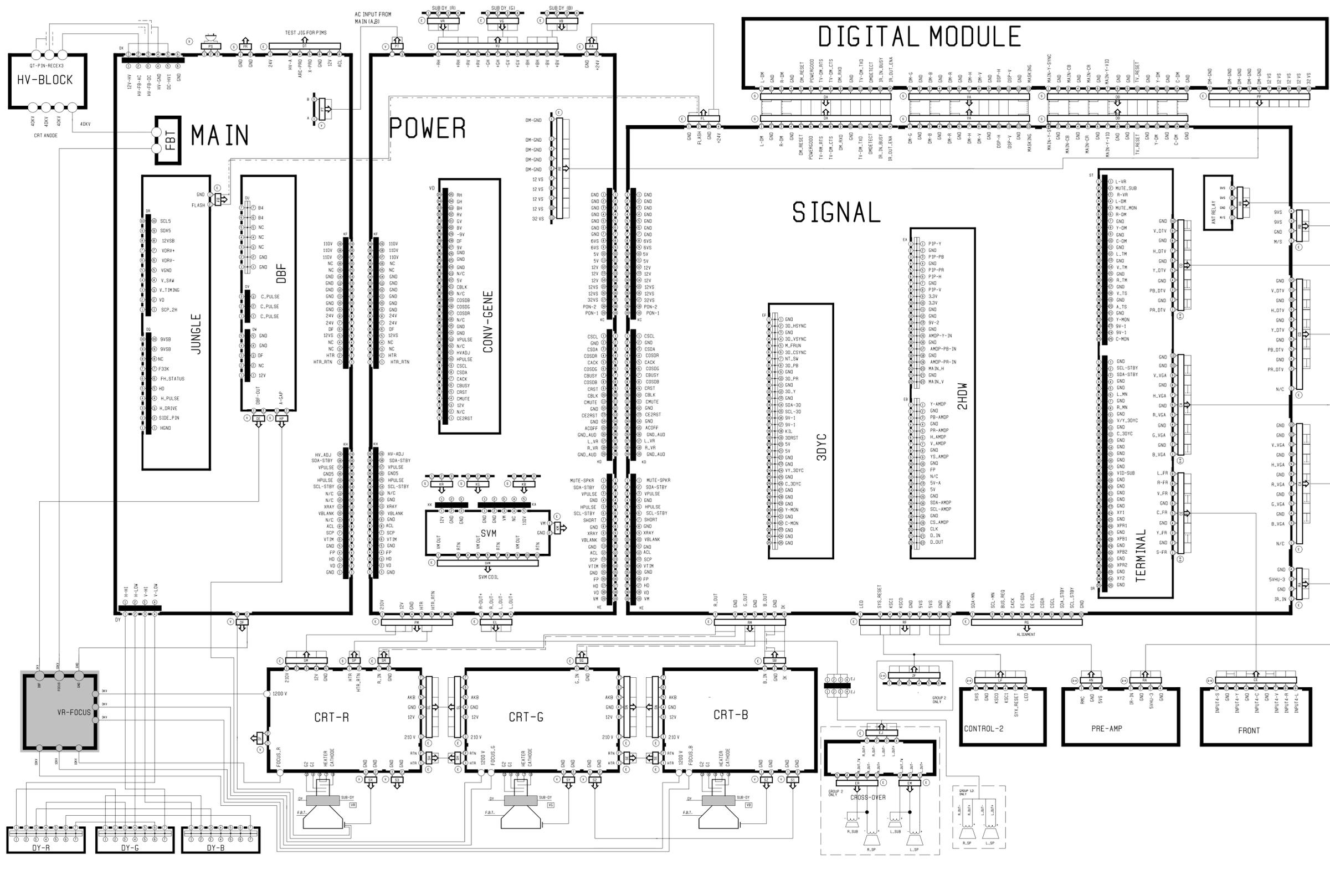
<u>V21</u> MODELS	<u>V21+</u> MODELS	<u>V21++</u> MODELS
WS-48511	WS-65611	WS-55711
WS-55511		WS-65711
WS-65511		WS-65712
WS-B55		WS-73711

CAUTION:
Before servicing this chassis, it is important that the service person read the "SAFETY PRECAUTIONS" and "PRODUCT SAFETY NOTICE" contained in Part 1 of this manual.

PART 2 SCHEMATIC DIAGRAMS

CONTENTS	Page
Overall PCB Block Diagram	1
PCB-MAIN	2
PCB-POWER	3
PCB-POWER	4
PCB-SIGNAL-1 (AV I/O)	5
PCB-SIGNAL-2 (MICRO)	6
PCB-SIGNAL-3 (VIDEO/CHROMA)	7
PCB-3DYC	8
PCBs-CONV GEN / JUNGLE	9
PCBs-CONTROL / CRT / CROSSOVER / DBF / DM POWER / FRONT / PREAMP / SVM	10
PCB-2HDW-1	11
PCB-2HDW-2	12
PCB-2HDW-3	13

- Refer to PART 1 for:**
- Specifications
 - Safety Precautions
 - Disassembly
 - CRT Replacement
 - Electrical Adjustments
 - Parts List
 - Block Diagrams



- NOTES
- DC voltages were measured from points indicated to the circuit ground with a high-Z voltmeter.
 - Wave forms were taken with standard color bar signal.
 - TP13, etc. show Test Points
 - CAPACITORS

Value	Not indicated	PF, for numbers more than 1 μF, for numbers less than 1
Dielectric Strength	Not indicated	+50V
Tolerance	Not indicated	±10%
Type	Parts except for chips	<ul style="list-style-type: none"> Not indicated: Ceramic capacitor (PF): Polyester capacitor (PP): Polypropylene film capacitor (ALM): Aluminum electrolytic capacitor (TF): Tantalum capacitor (SD): Semiconductor Ceramic capacitor (SP): Metallized paper (MP): Metallized plastic film capacitor (MPP): Metallized polyester capacitor (MPP): Polyester polypropylene film capacitor (PS): Styrofoam capacitor (H): Electrolytic capacitor (NP): Nonpolarized electrolytic capacitor
Type	II Chips	<ul style="list-style-type: none"> Not indicated: Ceramic capacitor chip (H): Electrolytic capacitor (NP): Nonpolarized electrolytic capacitor chip
Characteristic (only ceramic capacitor)	Not indicated	IF or B (high dielectric percentage) CH, SL, etc. Temperature compensating types

5. RESISTORS

Value	Not indicated	0 Ohm
Wattage	Parts except for chips	Not indicated = 1/4W or 1/8W
Wattage	Chips	Not indicated = 1/8W
Tolerance	Not indicated	±5%
Tolerance	D = ±0.5%	J = ±5%
Tolerance	F = ±1%	K = ±10%
Type	Parts except for chips	<ul style="list-style-type: none"> Not indicated: Carbon resistor (C): Fixed composition resistor (CE): Metal oxide film resistor (Type B) (V): Cemented resistor (W): Wire wound resistor (M): Metal film resistor (NPC): Metal plate cement resistor (ML): Metal liner resistor
Type	II Chip	Not indicated: Chip resistor

6. This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

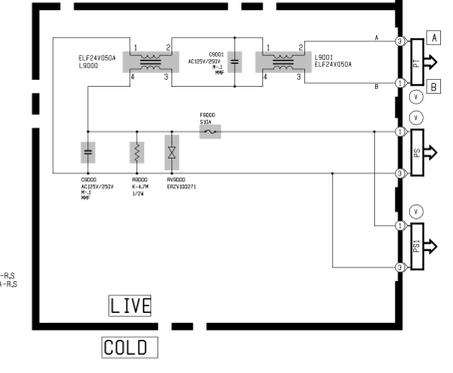
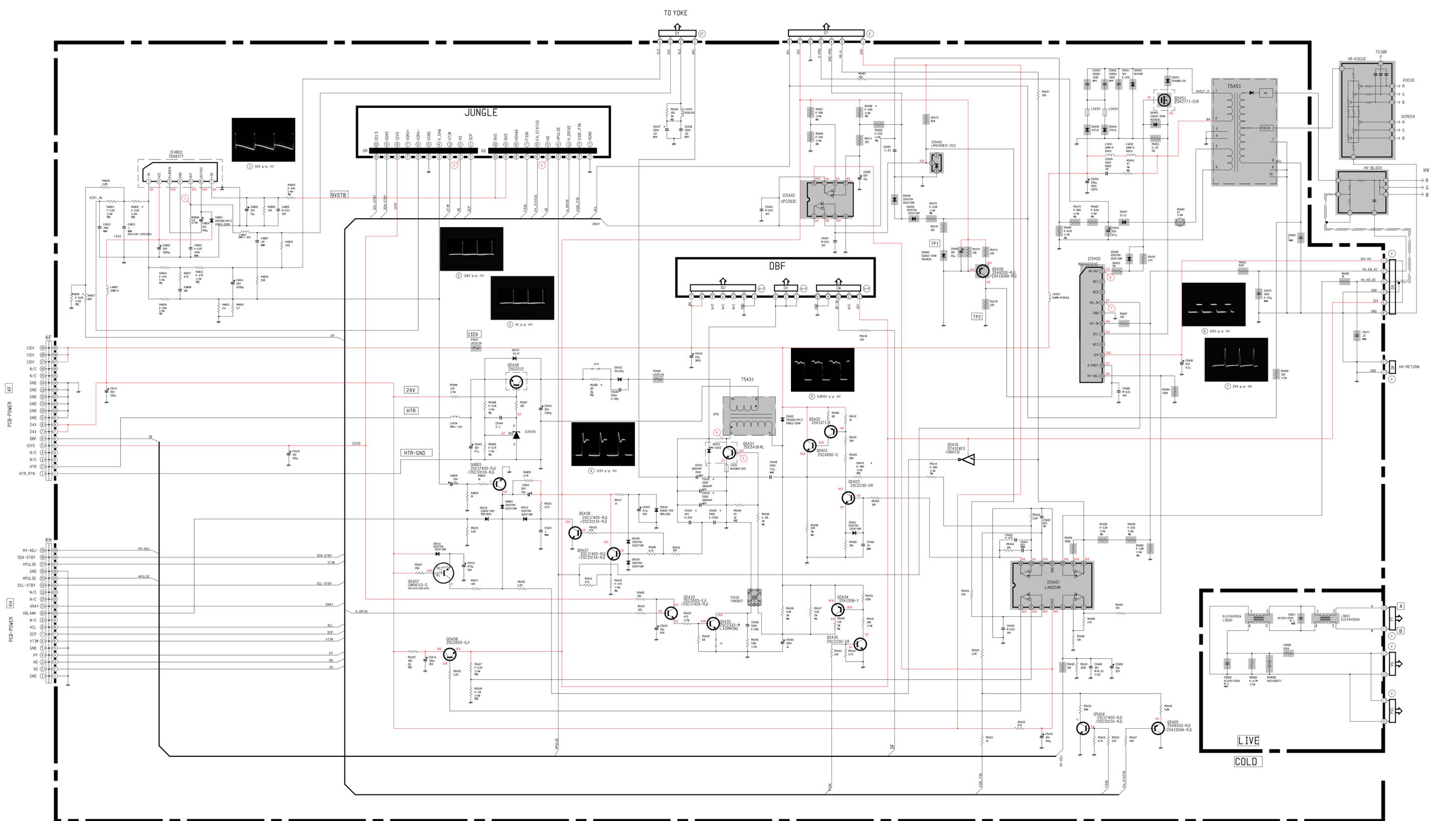
SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THE SERVICE MANUAL. DON'T DEGRADE THE SAFETY OF THE RECEIVERS THROUGH IMPROPER SERVICING.

SERVICE TECHNICIAN WARNING: X-RADIATION PRECAUTION
 THIS PRODUCT INCLUDES CRITICAL ELECTRICAL AND MECHANICAL PARTS ESSENTIAL FOR X-RADIATION PROTECTION.
 TO AVOID POSSIBLE EXPOSURE TO X-RADIATION TAKE X-RADIATION PROTECTIVE MEASURES FOR PERSONNEL DURING SERVICING.
 SEE SERVICE INSTRUCTIONS FOR SPECIFIED REPLACEMENT PARTS AND SERVICE ADJUSTMENTS.

GROUP	MODEL
1	WS-55511 WS-65511 WS-85511
2	WS-55511 WS-65511 WS-85511
3	WS-55511 WS-65511 WS-85511
4	WS-73711 WS-85711 WS-95711

CONTENTS

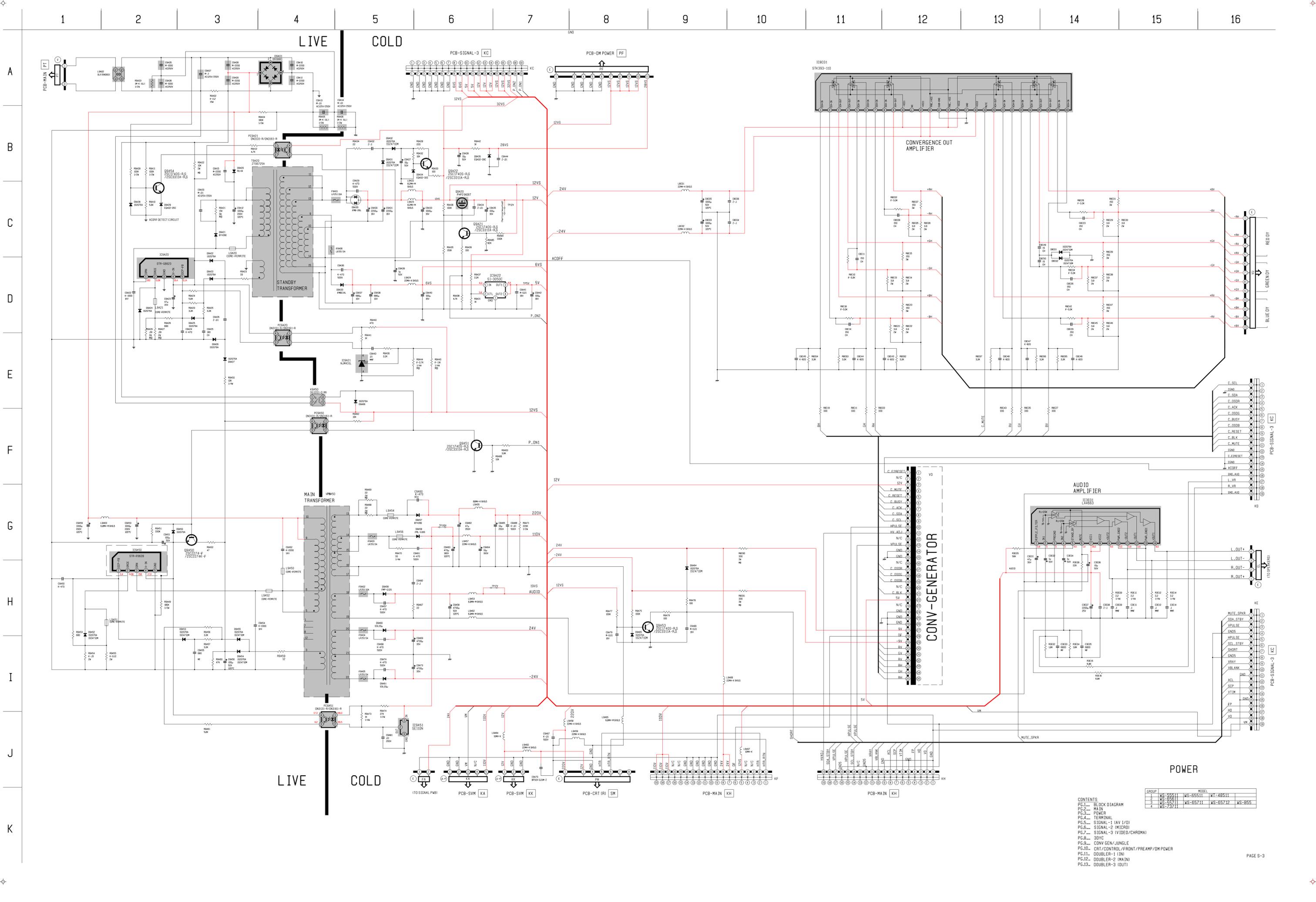
- PG.1 BLOCK DIAGRAM
- PG.2 MAIN
- PG.3 POWER
- PG.4 TERMINAL
- PG.5 SIGNAL-1 (AY 1/0)
- PG.6 SIGNAL-2 (MICRO)
- PG.7 SIGNAL-3 (VIDEO/CHROMA)
- PG.8 3DVC
- PG.9 CONV GEN/JUNGLE
- PG.10 CRT/CONTROL/Front/PREAMP/DM POWER
- PG.11 DOUBLER-1 (IN)
- PG.12 DOUBLER-2 (MAIN)
- PG.13 DOUBLER-3 (OUT)



GROUP	WS-5551	WS-55511	WT-48511
1	WS-5551	WS-55511	WT-48511
2	WS-5551	WS-55511	WT-48511
3	WS-5551	WS-55511	WT-48511
4	WS-5551	WS-55511	WT-48511

CONTENTS

- PG.1... BLOCK DIAGRAM
- PG.2... MAIN
- PG.3... POWER
- PG.4... TERMINAL
- PG.5... SIGNAL-1 (AV 1/0)
- PG.6... SIGNAL-2 (MICRO)
- PG.7... SIGNAL-3 (VIDEO/CHROMA)
- PG.8... 30YC
- PG.9... CONV GEN/JUNGLE
- PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
- PG.11... DOUBLER-1 (1N)
- PG.12... DOUBLER-2 (MAIN)
- PG.13... DOUBLER-3 (OUT)

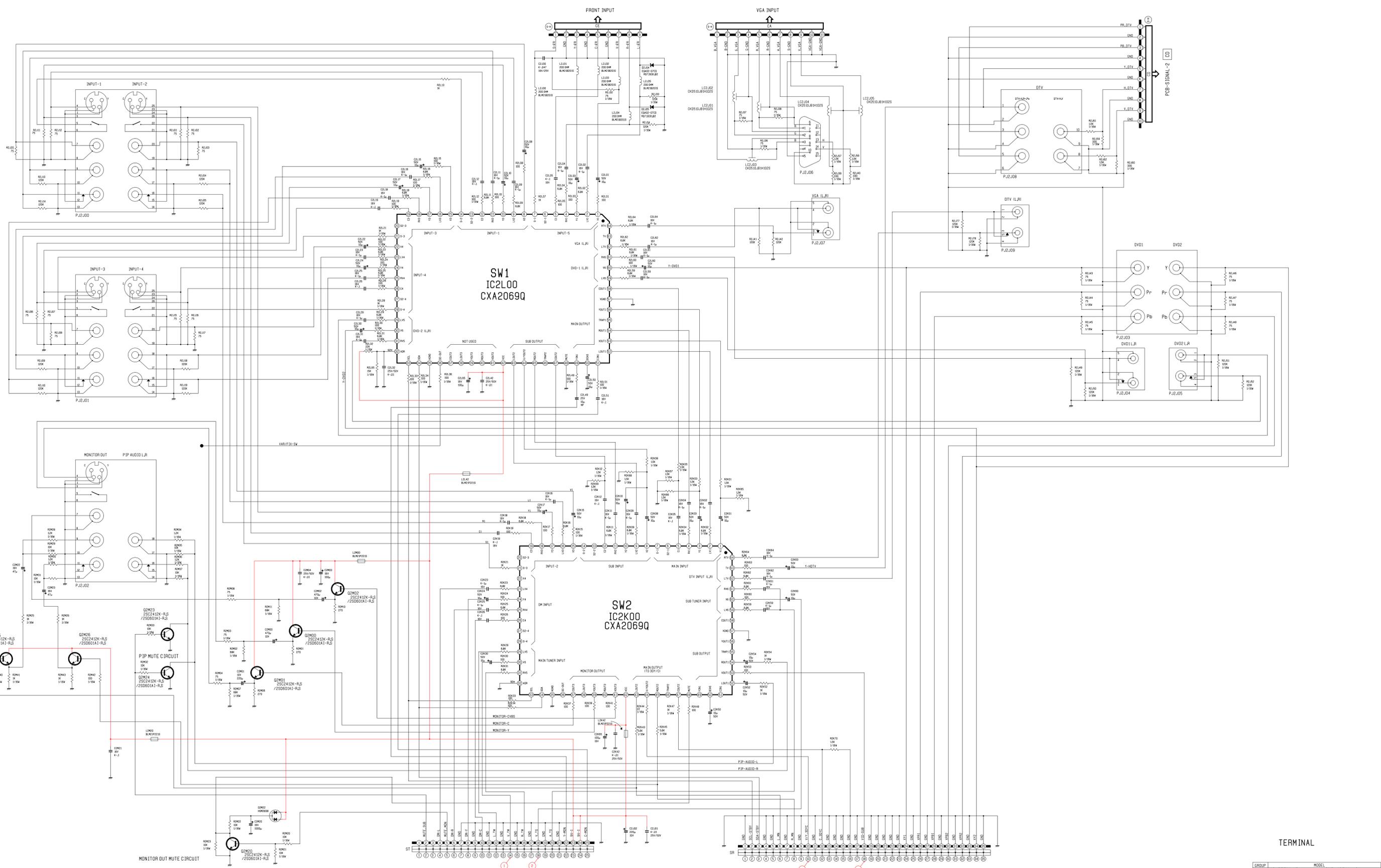


GROUP	WS-5551	WS-5551	WT-48511
1	WS-5551	WS-5551	WS-5551
2	WS-5551	WS-5571	WS-5571
4	WS-7371		

CONTENTS

- PG.1... BLOCK DIAGRAM
- PG.2... MAIN
- PG.3... POWER
- PG.4... TERMINAL
- PG.5... SIGNAL-1 (AV 1/0)
- PG.6... SIGNAL-2 (MICRO)
- PG.7... SIGNAL-3 (VIDEO/CHROMA)
- PG.8... 30YC
- PG.9... CONV GEN/JUNGLE
- PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
- PG.11... DOUBLER-1 (I/N)
- PG.12... DOUBLER-2 (M/N)
- PG.13... DOUBLER-3 (O/U)

A
B
C
D
E
F
G
H
I
J
K



① ② TV pp 90
③ ④ 2.1V pp 90

TERMINAL

GROUP	WS-5551	WS-6551	WT-48511	WS-655
1	WS-5551	WS-6551	WT-48511	
2	WS-5551	WS-6551	WT-48511	
3	WS-5551	WS-6571	WS-65712	WS-655
4	WS-73711			

- PG.1... BLOCK DIAGRAM
- PG.2... MAIN
- PG.3... POWER
- PG.4... TERMINAL
- PG.5... SIGNAL-1 (AV I/O)
- PG.6... SIGNAL-2 (MICRO)
- PG.7... SIGNAL-3 (VIDEO/CHROMA)
- PG.8... 30YC
- PG.9... CONV GEN/JUNGLE
- PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
- PG.11... DOUBLER-1 (I/N)
- PG.12... DOUBLER-2 (M/N)
- PG.13... DOUBLER-3 (O/U)

A

B

C

D

E

F

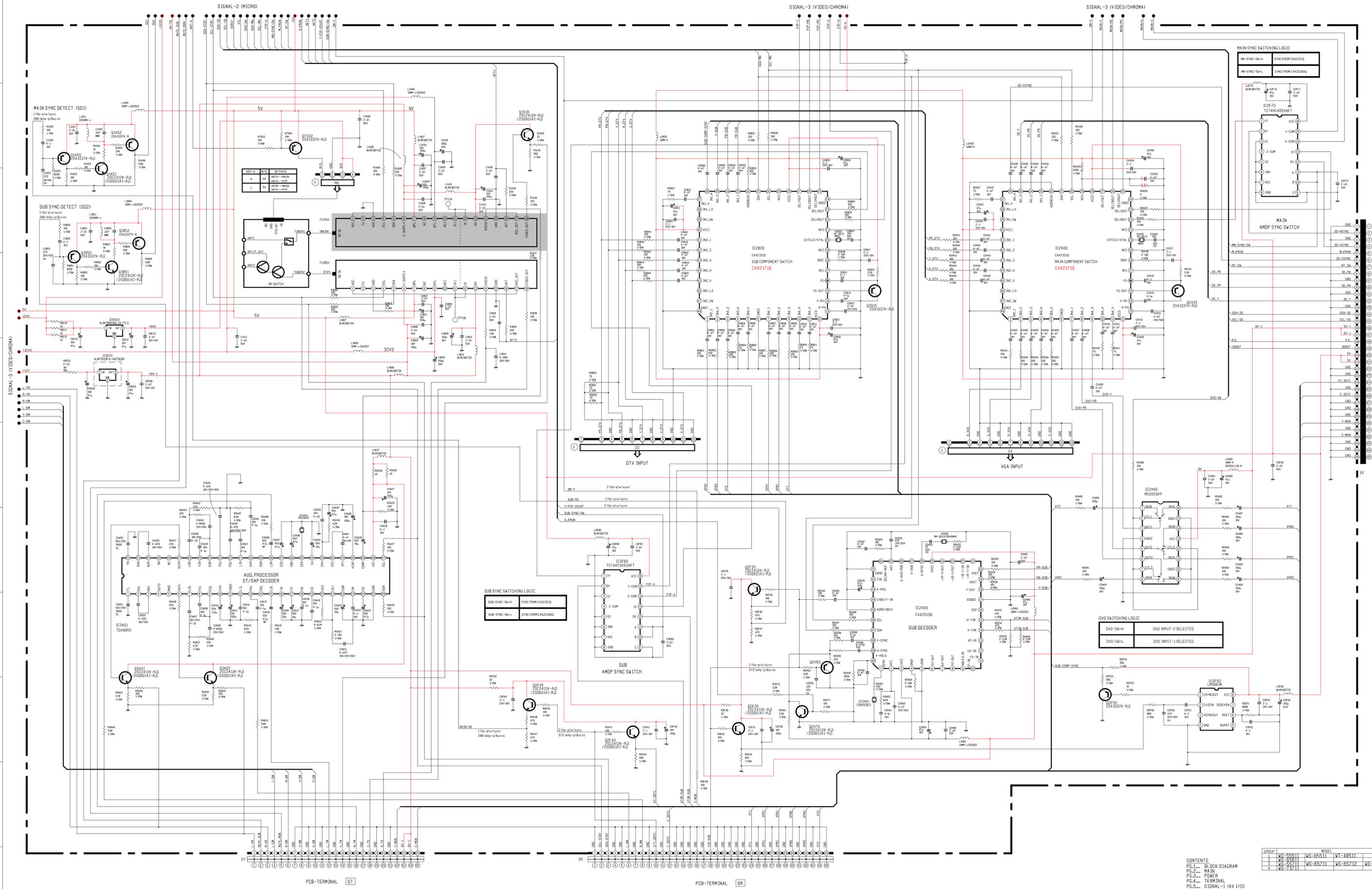
G

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J

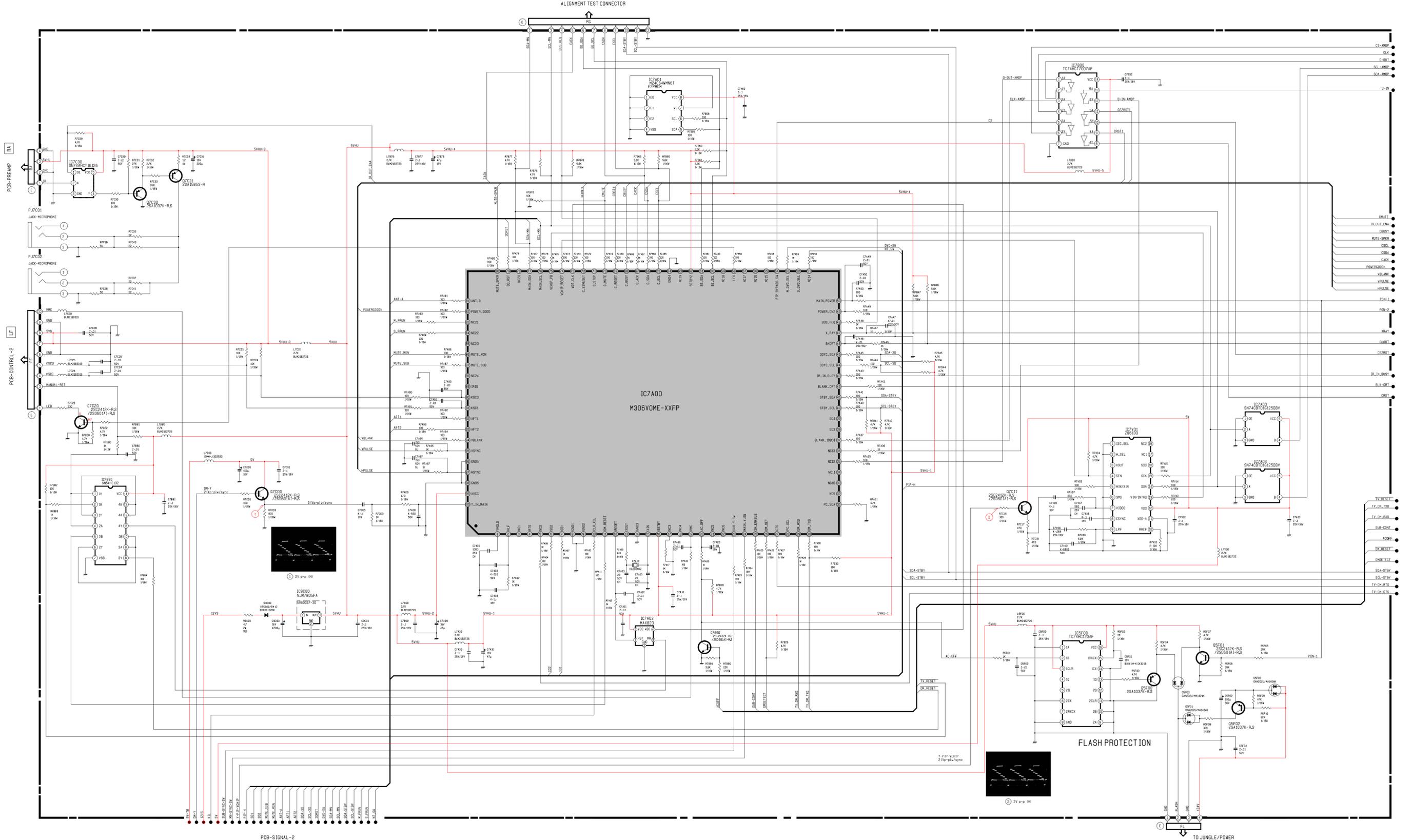
K



GROUP	WS-5551	WS-5551	WT-48511
1	WS-5551	WS-5551	WS-5551
2	WS-5551	WS-5551	WS-5551
3	WS-5551	WS-5551	WS-5551
4	WS-5551	WS-5551	WS-5551

CONTENTS
 PG.1... BLOCK DIAGRAM
 PG.2... MAIN
 PG.3... POWER
 PG.4... TERMINAL
 PG.5... SIGNAL-1 (AV I/O)
 PG.6... SIGNAL-2 (MICRO)
 PG.7... SIGNAL-3 (I VIDEO/CHROMA)
 PG.8... 3DVC
 PG.9... CONV GEN/JUNGLE
 PG.10... CRT/CONTROL/FRONT/PREAMP/DH POWER
 PG.11... DOUBLER-1 (I/N)
 PG.12... DOUBLER-2 (MAIN)
 PG.13... DOUBLER-3 (OUT)

ALIGNMENT TEST CONNECTOR



- CS-MPDP
- CLK
- D-OUT
- SOL-MPDP
- SQA-MPDP
- D-IN
- CS
- CLK-MPDP
- D-IN-MPDP
- CS2801
- CS2802
- CS2803
- CS2804
- CS2805
- CS2806
- CS2807
- CS2808
- CS2809
- CS2810
- CS2811
- CS2812
- CS2813
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- CS2815
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- CS2899
- CS2900

PCB-SIGNAL-2

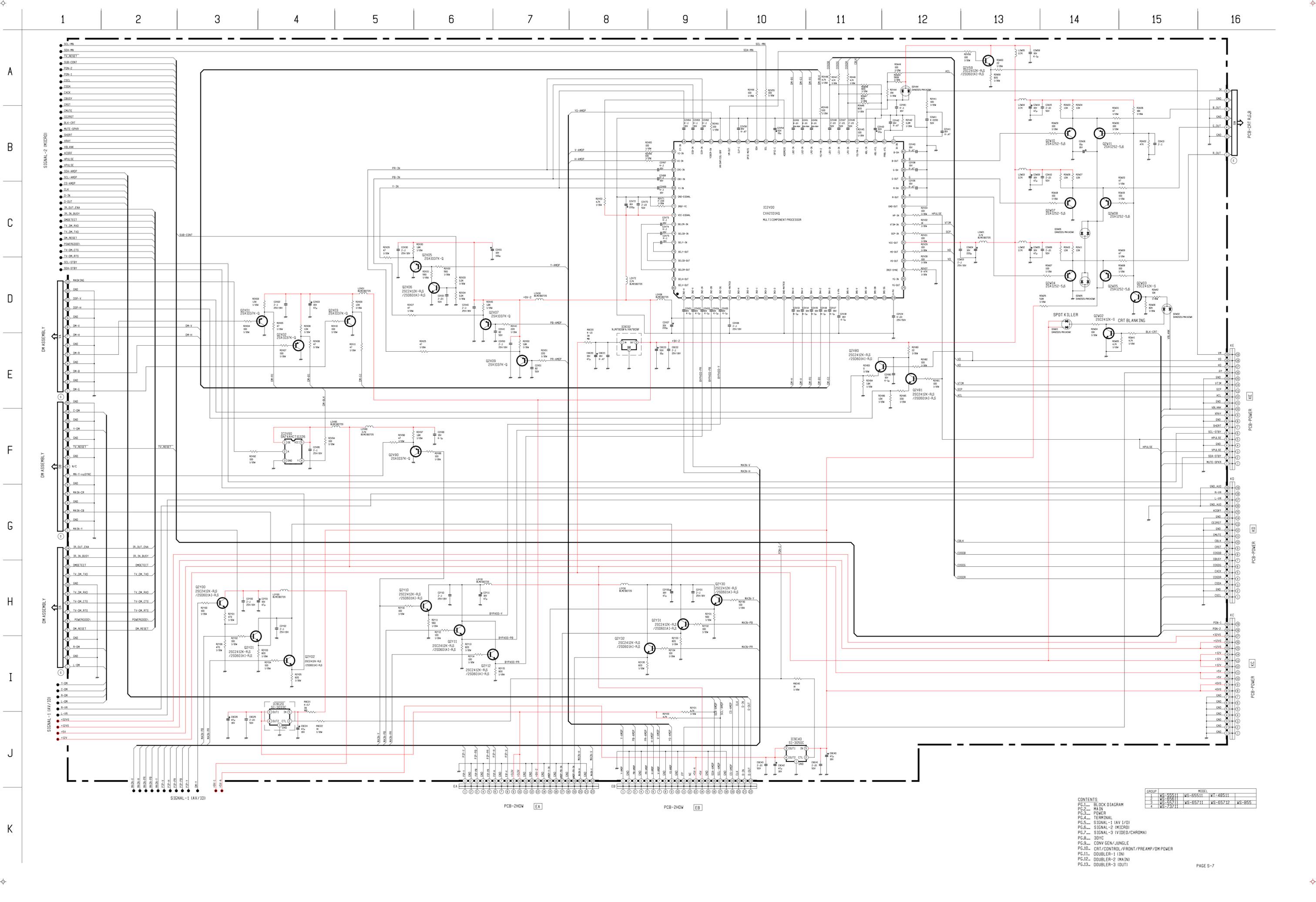
MICRO

GROUP	WS-5551	WS-5551	WT-48511
1	WS-5551	WS-5551	WT-48511
2	WS-5551	WS-5551	WT-48511
3	WS-5551	WS-5551	WT-48511
4	WS-5551	WS-5551	WT-48511

CONTENTS

- PG.1... BLOCK DIAGRAM
- PG.2... MAIN
- PG.3... POWER
- PG.4... TERMINAL
- PG.5... SIGNAL-1 (AV I/O)
- PG.6... SIGNAL-2 (MICRO)
- PG.7... SIGNAL-3 (VIDEO/CHROMA)
- PG.8... 30YC
- PG.9... CONV GEN/JUNGLE
- PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
- PG.11... DOUBLER-1 (I/N)
- PG.12... DOUBLER-2 (M/N)
- PG.13... DOUBLER-3 (O/U)

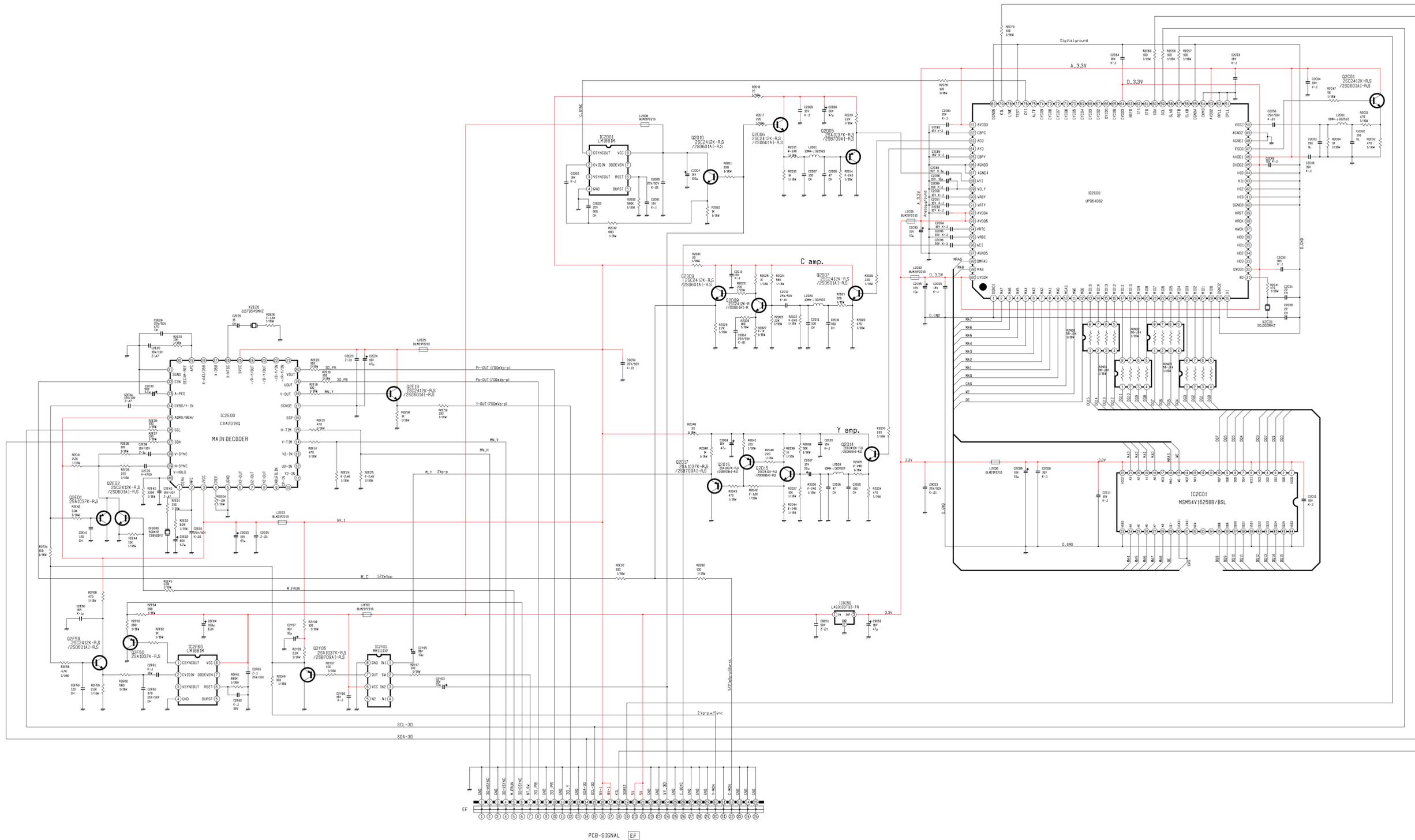
* EXCEPT WHERE NOTED, ALL OPEN-ENDED CIRCUIT PATHS CONNECT TO THE SIGNAL-3 SCHEMATIC



GROUP	WS-8551	WS-85511	WT-48511
1	WS-8551	WS-85511	WT-48511
2	WS-8551	WS-85712	WS-855
4	WS-73711		

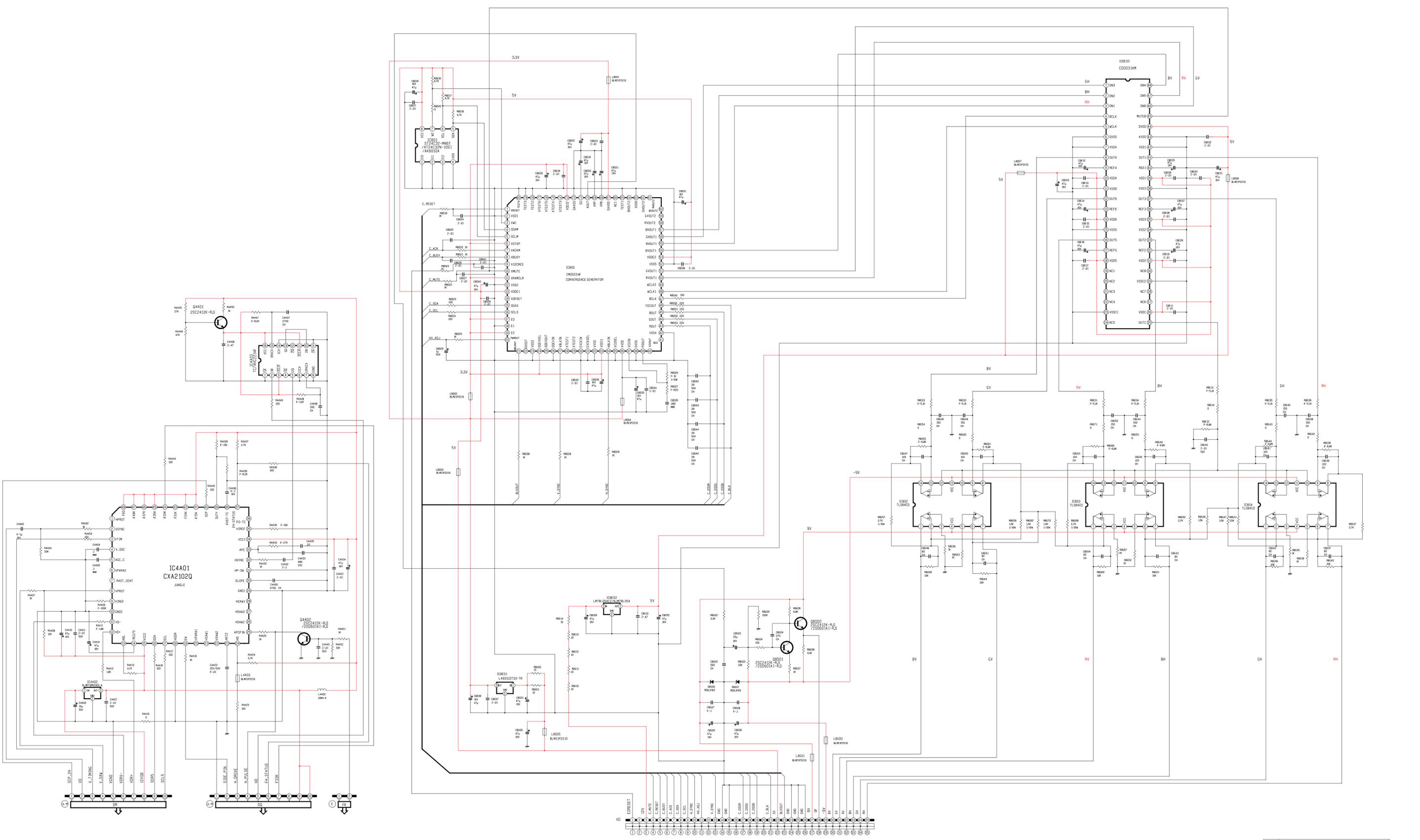
CONTENTS
 PG.1... BLOCK DIAGRAM
 PG.2... MAIN
 PG.3... POWER
 PG.4... TERMINAL
 PG.5... SIGNAL-1 (AV I/O)
 PG.6... SIGNAL-2 (MICRO)
 PG.7... SIGNAL-3 (VIDEO/CHROMA)
 PG.8... 30YC
 PG.9... CONV GEN/JUNGLE
 PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
 PG.11... DOUBLER-1 (1N)
 PG.12... DOUBLER-2 (1N)
 PG.13... DOUBLER-3 (1U1)

A
B
C
D
E
F
G
H
I
J
K



GROUP	WS-5551	WS-55511	WT-48511	WS-555
1	WS-5551	WS-55511	WT-48511	WS-555
2	WS-5551	WS-55511	WT-48511	WS-555
3	WS-5551	WS-55511	WT-48511	WS-555
4	WS-5551	WS-55511	WT-48511	WS-555

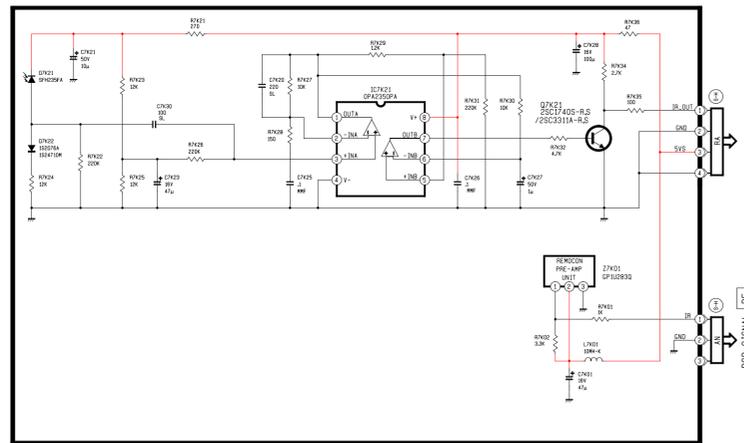
CONTENTS
 PG.1... BLOCK DIAGRAM
 PG.2... MAIN
 PG.3... POWER
 PG.4... TERMINAL
 PG.5... SIGNAL-1 (AV 1/0)
 PG.6... SIGNAL-2 (MICRO)
 PG.7... SIGNAL-3 (VIDEO/CHROMA)
 PG.8... 30YC
 PG.9... CONV GEN/JUNGLE
 PG.10... CRT/CONTROL/FRONT/PREAMP/DH POWER
 PG.11... DOUBLER-1 (INI)
 PG.12... DOUBLER-2 (MAIN)
 PG.13... DOUBLER-3 (OUT)



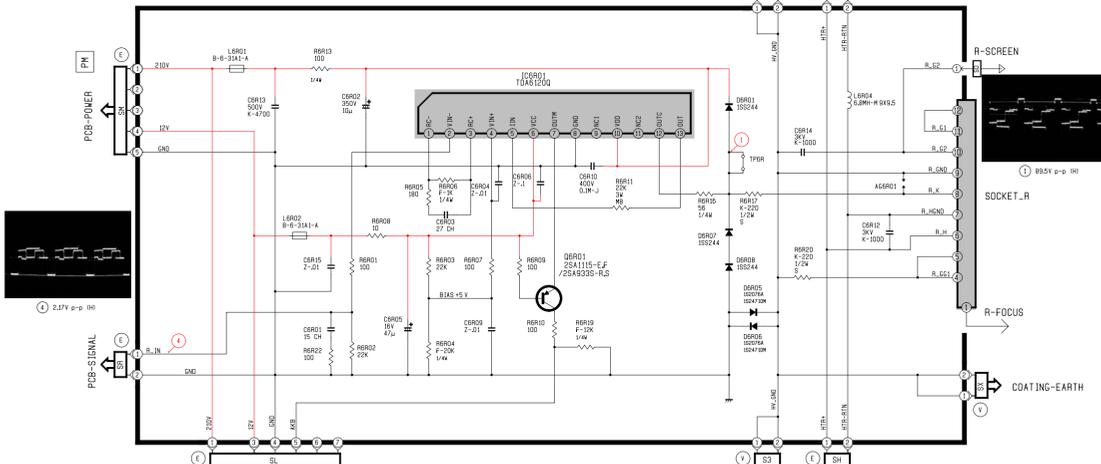
GROUP	WS-5551	WS-55511	WT-48511
1	WS-5551	WS-55511	WS-5551
2	WS-5551	WS-55511	WS-5551
3	WS-5551	WS-55511	WS-5551
4	WS-5551	WS-55511	WS-5551

CONTENTS
 PG.1... BLOCK DIAGRAM
 PG.2... MAIN
 PG.3... POWER
 PG.4... TERMINAL
 PG.5... SIGNAL-1 (AV I/O)
 PG.6... SIGNAL-2 (MICRO)
 PG.7... SIGNAL-3 (VIDEO/CHROMA)
 PG.8... 30YC
 PG.9... CONV GEN/JUNGLE
 PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
 PG.11... DOUBLER-1 (INI)
 PG.12... DOUBLER-2 (M.A.N)
 PG.13... DOUBLER-3 (OUT)

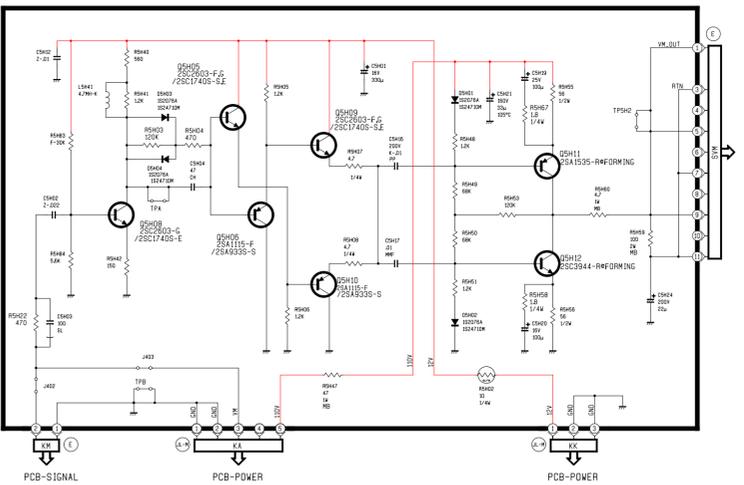
PCB-PREAMP



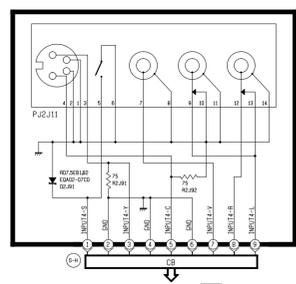
PCB-CRT (R)



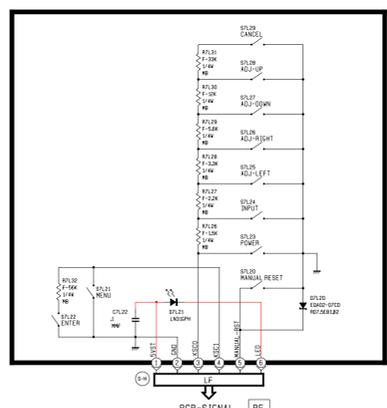
PCB-SVM



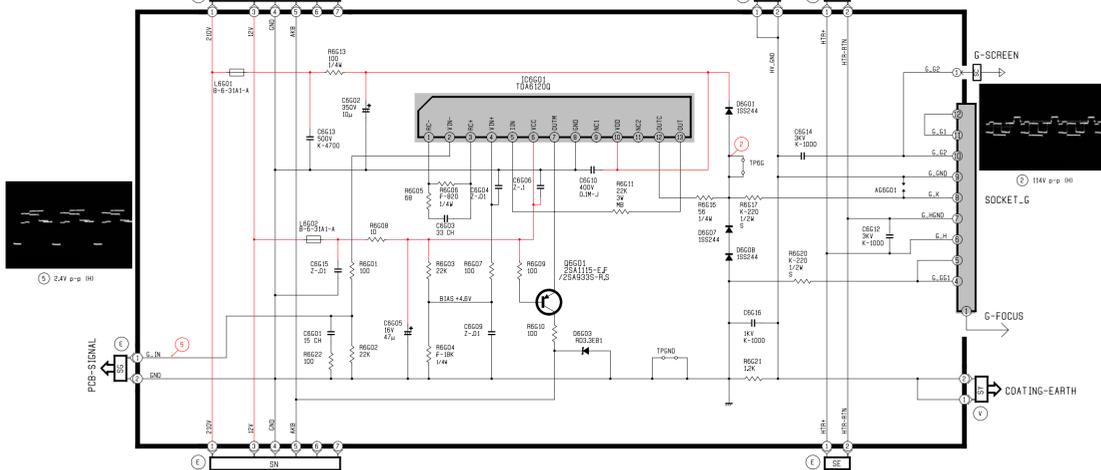
PCB-FRONT



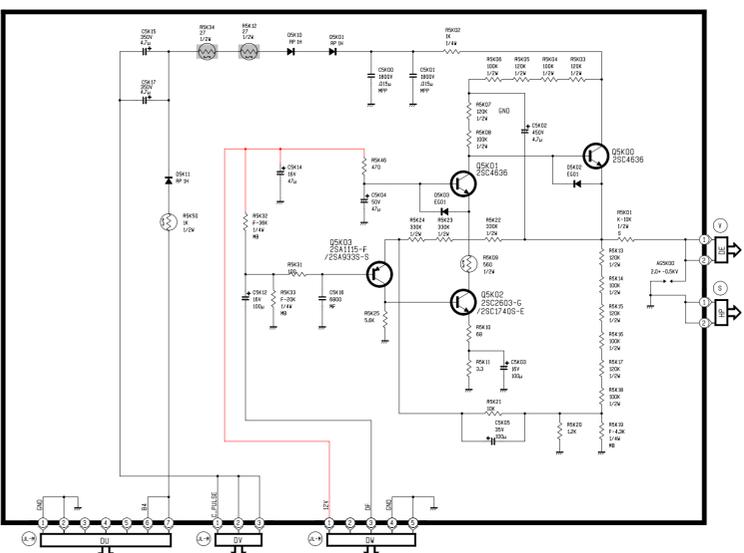
PCB-CONTROL 2



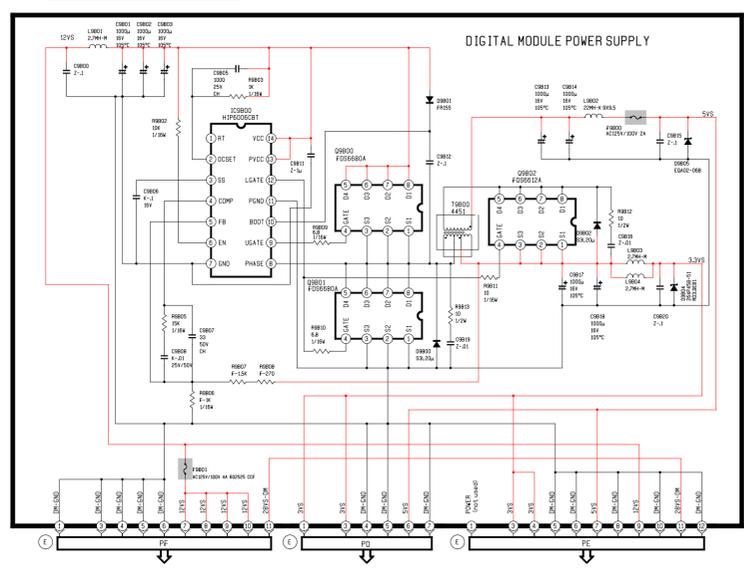
PCB-CRT (G)



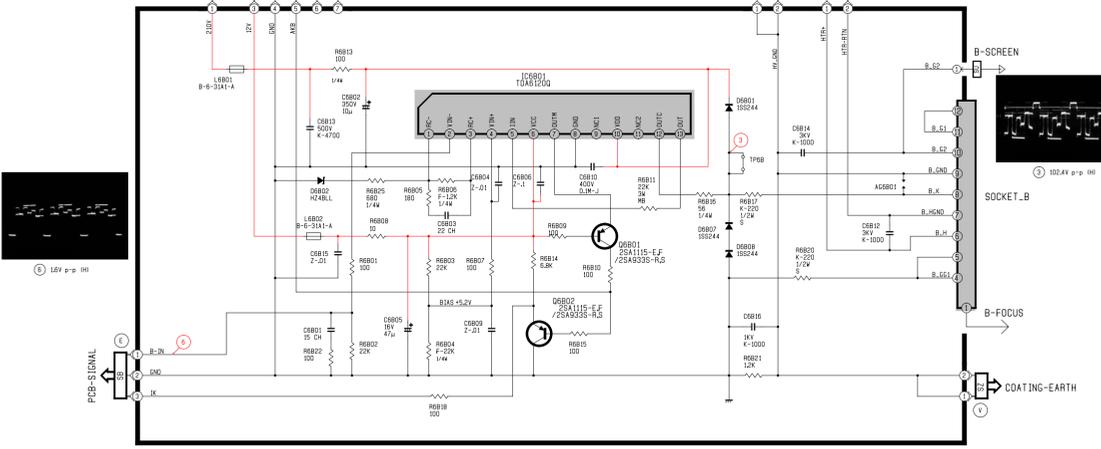
PCB-DBF



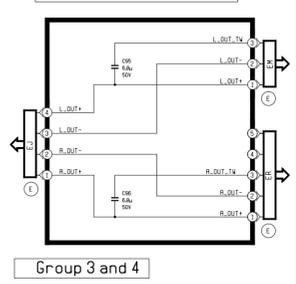
PCB-DM_POWER



PCB-CRT (B)



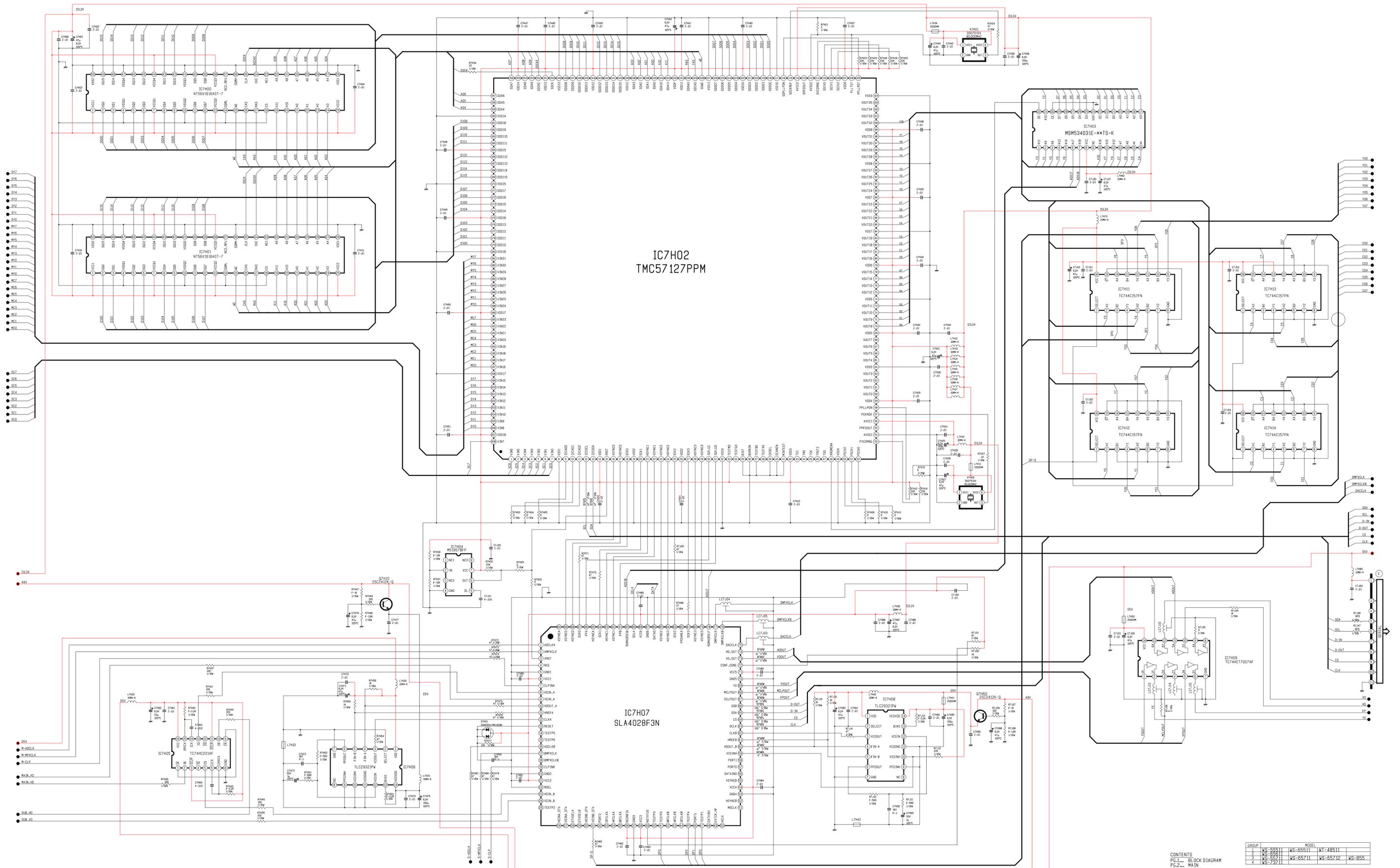
PCB-CROSS-OVER



GROUP	WS-555/1	WS-555/11	WT-485/11
1	WS-555/1	WS-555/11	WT-485/11
2	WS-555/1	WS-555/11	WS-555/11
3	WS-555/1	WS-555/11	WS-555/11
4	WS-555/1	WS-555/11	WS-555/11

CONTENTS

- PG.1... BLOCK DIAGRAM
- PG.2... MAIN
- PG.3... POWER
- PG.4... TERMINAL
- PG.5... SIGNAL-1 (AV I/O)
- PG.6... SIGNAL-2 (MICRO)
- PG.7... SIGNAL-3 (VIDEO/CHROMA)
- PG.8... 30YC
- PG.9... CONV GEN/JUNGLE
- PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
- PG.11... DOUBLER-1 (INI)
- PG.12... DOUBLER-2 (MAIN)
- PG.13... DOUBLER-3 (OUT)

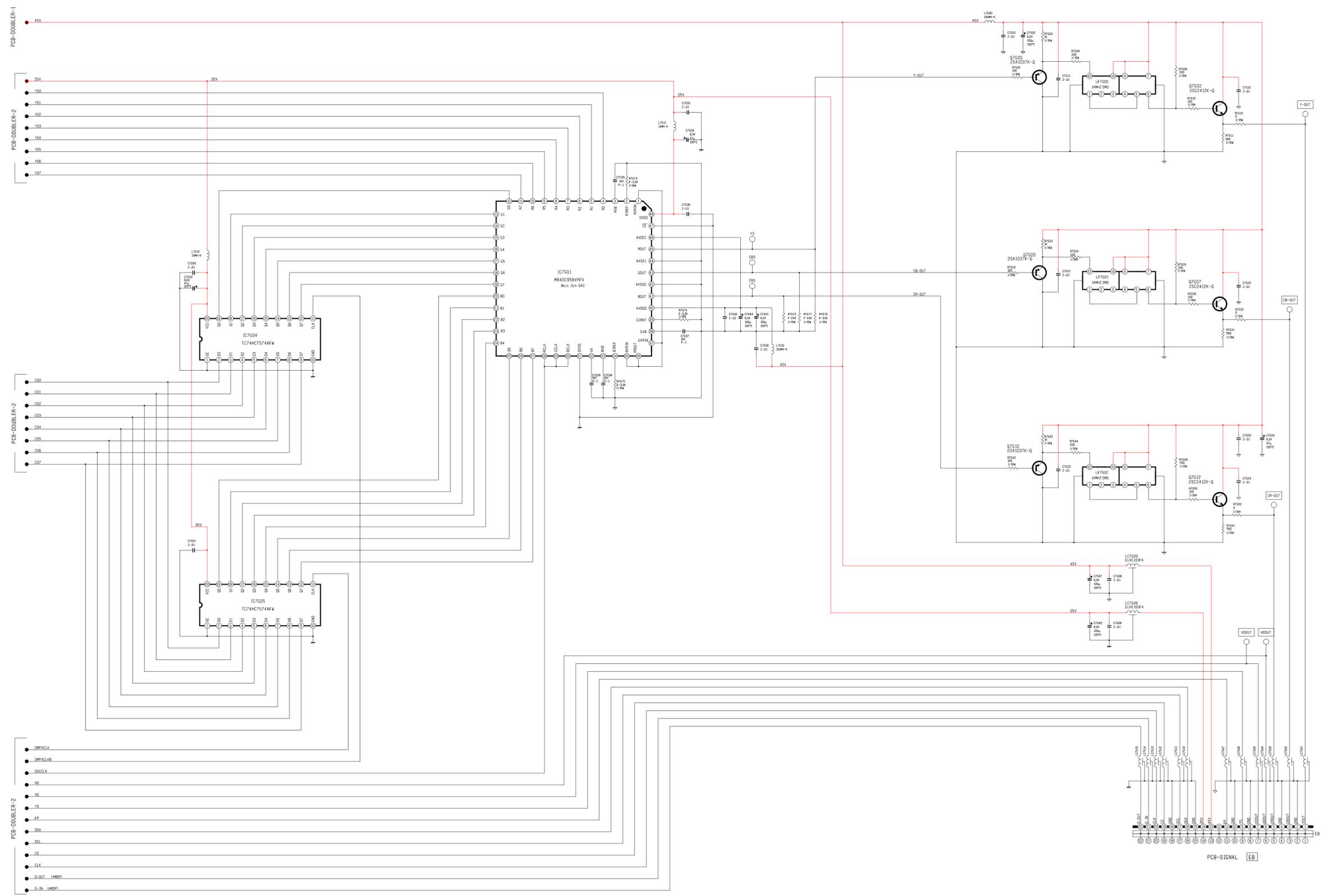


* EXCEPT WHERE NOTED, ALL OPEN-ENDED CIRCUIT PATHS CONNECT TO THE DOUBLER-1 SCHEMATIC

GROUP	MODEL	MODEL	MODEL
1	WS-5551	WS-5551	WT-48511
2	WS-5551	WS-5551	WS-5551
3	WS-5571	WS-5571	WS-5571
4	WS-7371	WS-7371	WS-7371

CONTENTS

- PG.1... BLOCK DIAGRAM
- PG.2... MAIN
- PG.3... POWER
- PG.4... TERMINAL
- PG.5... SIGNAL-1 (AV I/O)
- PG.6... SIGNAL-2 (MICRO)
- PG.7... SIGNAL-3 (VIDEO/CHROMA)
- PG.8... 30YC
- PG.9... CONV GEN/JUNGLE
- PG.10... CRT/CONTROL/FRONT/PREAMP/DH POWER
- PG.11... DOUBLER-1 (INI)
- PG.12... DOUBLER-2 (MAIN)
- PG.13... DOUBLER-3 (OUT)



GROUP	WS-5551	WS-55511	WT-48511
1	WS-5551	WS-55511	WT-48511
2	WS-5551	WS-55511	WS-55512
4	WS-73711	WS-65711	WS-655

CONTENTS
 PG.1... BLOCK DIAGRAM
 PG.2... MAIN
 PG.3... POWER
 PG.4... TERMINAL
 PG.5... SIGNAL-1 (AV 1/0)
 PG.6... SIGNAL-2 (MICRO)
 PG.7... SIGNAL-3 (VIDEO/CHROMA)
 PG.8... 30YC
 PG.9... CONV GEN/JUNGLE
 PG.10... CRT/CONTROL/FRONT/PREAMP/DM POWER
 PG.11... DOUBLER-1 (INI)
 PG.12... DOUBLER-2 (MAIN)
 PG.13... DOUBLER-3 (OUT)