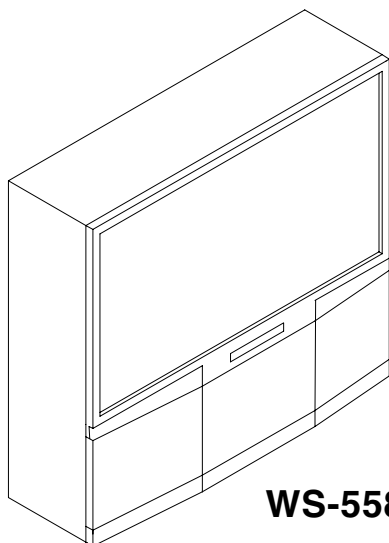




# Service Manual

PROJECTION TELEVISION  
V18 / V18+ CHASSIS



**WS-55809**

**V18**  
**MODELS**

**WT-46809**  
**WS-55809**  
**WS-65809**

**V18+**  
**MODELS**

**WS-55819**  
**WS-65819**

**CAUTION:**

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

## PART 2

# SCHEMATIC DIAGRAMS

<b>CONTENTS</b>	<b>Page</b>
Overall PCB Block Diagram .....	1
PCB-MAIN .....	2
PCB-POWER .....	3
PCB-TERMINAL .....	4
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PCB-2HDW-2 .....	12
PCB-2HDW-3 .....	13
PCB LAYOUT DIAGRAMS .....	14

**Refer to PART 1 for:**

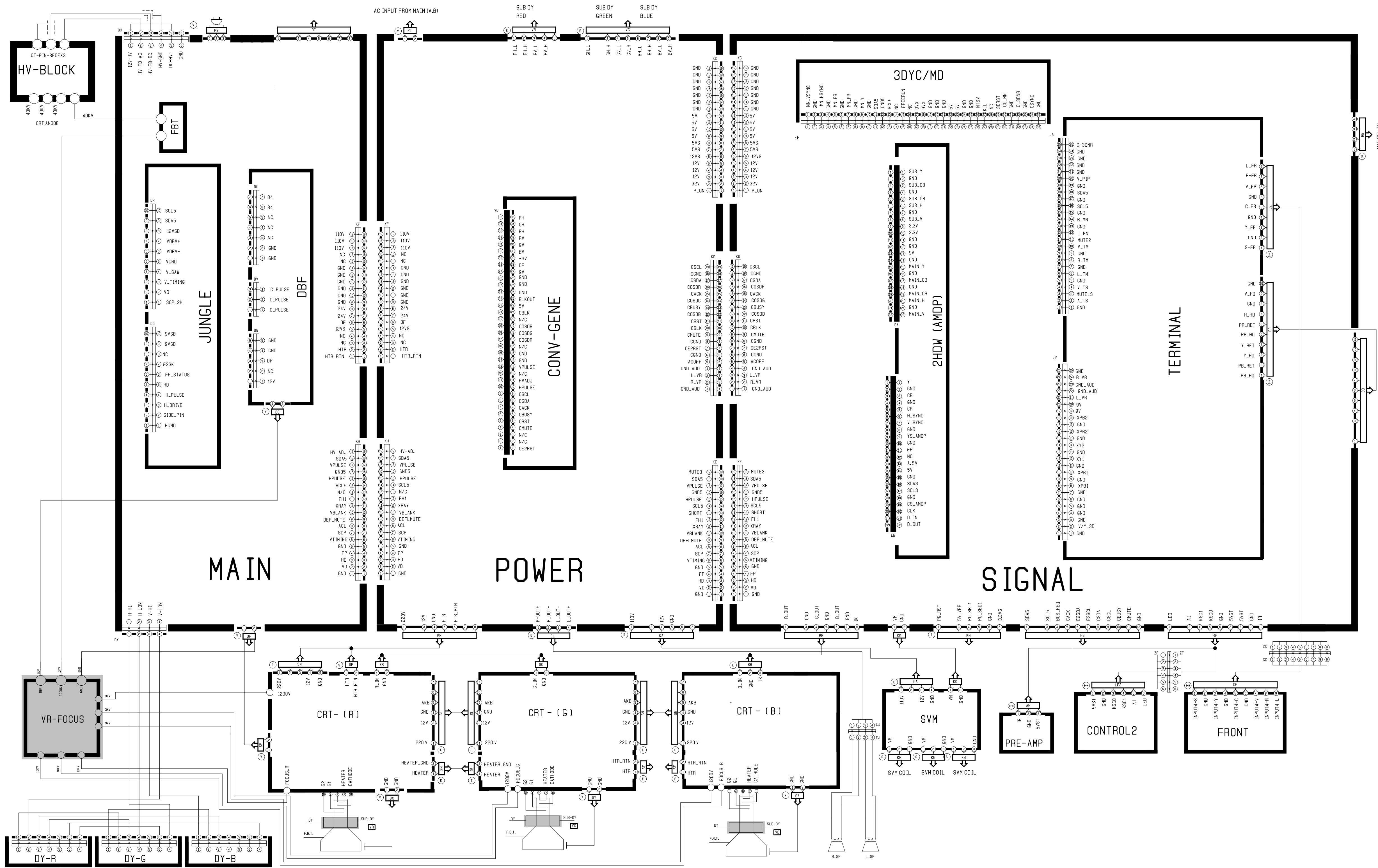
- Specifications
- Safety Precautions
- Disassembly
- CRT Replacement
- Electrical Adjustments
- Parts List
- Block Diagrams

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- NOTES**
- DC voltages were measured from points indicated to the circuit ground with a high-Z voltmeter.
  - Waveforms 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%
	No tolerance is indicated for electrolytic capacitors and ±20%	
Type	I for chips	Not indicated
		<ul style="list-style-type: none"> <li>(C) Ceramic capacitor</li> <li>(PP) Polyester capacitor</li> <li>(PPF) Polypropylene film capacitor</li> <li>(ALU) Aluminum electrolytic capacitor</li> <li>(F) 1/4 in film capacitor</li> <li>(S) 1/2 in film capacitor</li> <li>(NP) Nonpolarized electrolytic capacitor</li> <li>(MPP) Metallized polyester capacitor</li> <li>(MPPF) Metallized polypropylene film capacitor</li> <li>(ST) Styrol capacitor</li> <li>(TAN) or (TANI) Tantalum capacitor</li> <li>(E) Electrolytic capacitor</li> <li>(NP) Nonpolarized electrolytic capacitor</li> </ul>
II Chips	Not indicated	<ul style="list-style-type: none"> <li>(C) Ceramic capacitor chip</li> <li>(E) Electrolytic capacitor</li> <li>(NP) Nonpolarized electrolytic capacitor chip</li> </ul>
Characteristic (only ceramic capacitor)	Not indicated	<ul style="list-style-type: none"> <li>CH, SL, etc.</li> <li>F or B (high dielectric percentage)</li> <li>T (temperature compensating types)</li> </ul>

**RESISTORS**

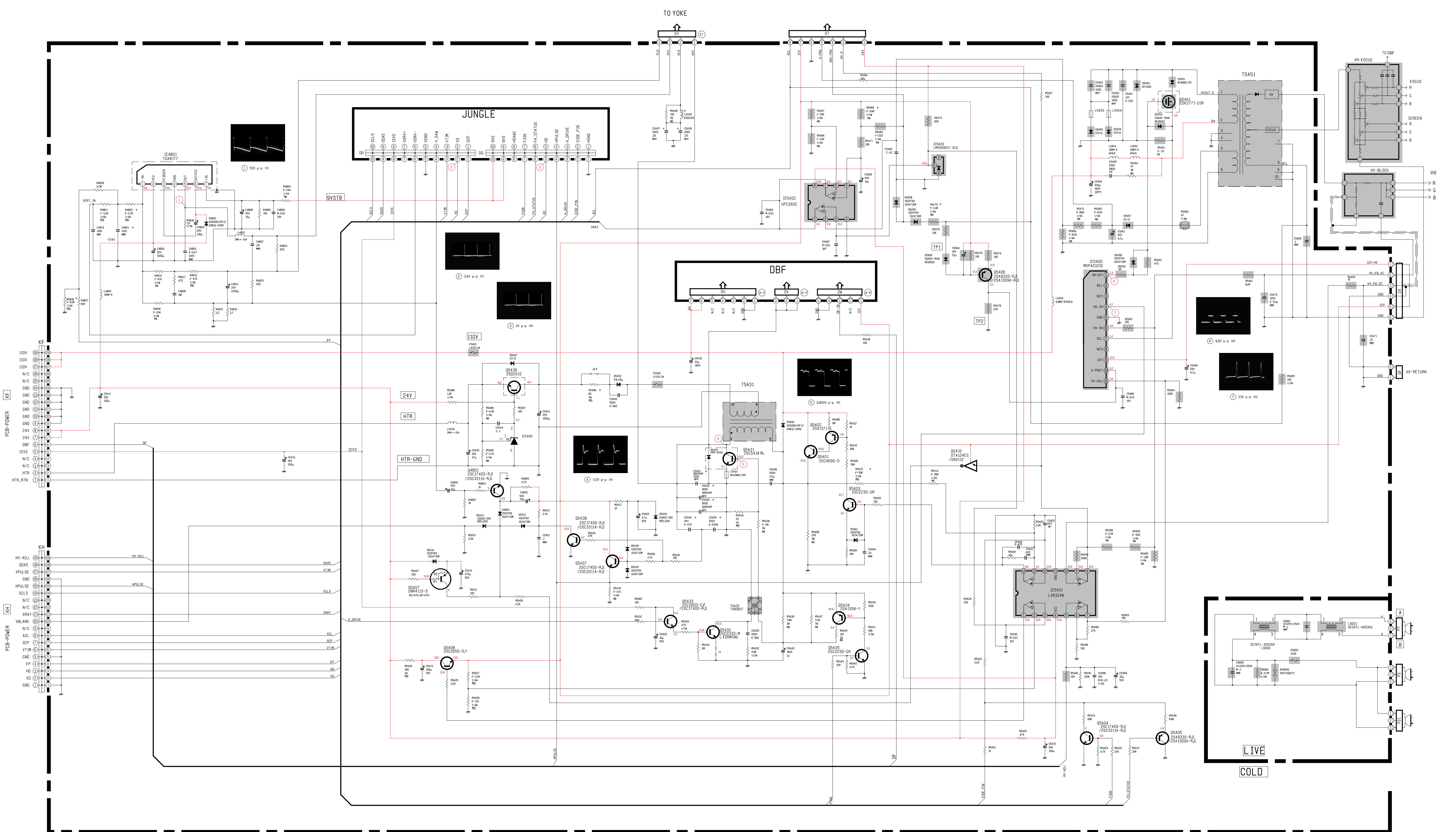
Value	Not indicated	± 0hm
Wattage	Parts except for chips	Not indicated
		± 1/4W or 1/8W
Tolerance	Chips	Not indicated
		± 1/10W
Type	I for chips	Not indicated
		<ul style="list-style-type: none"> <li>(C) Carbon resistor</li> <li>(F) Fixed composition resistor</li> <li>(OX) Metal oxide film resistor (type B)</li> <li>(D) Cemented resistor</li> <li>(W) Wire wound resistor</li> <li>(F) Metal film resistor</li> <li>(MPC) Metal plate cement resistor</li> <li>(ML) Metal liner resistor</li> </ul>
II Chip	Not indicated	Chip resistor

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.

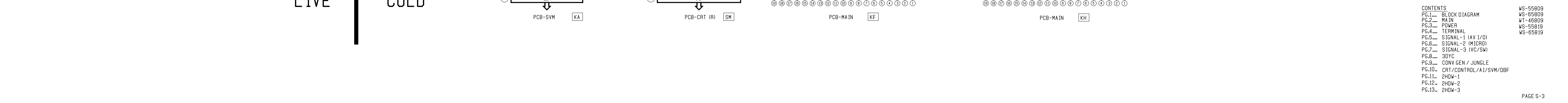
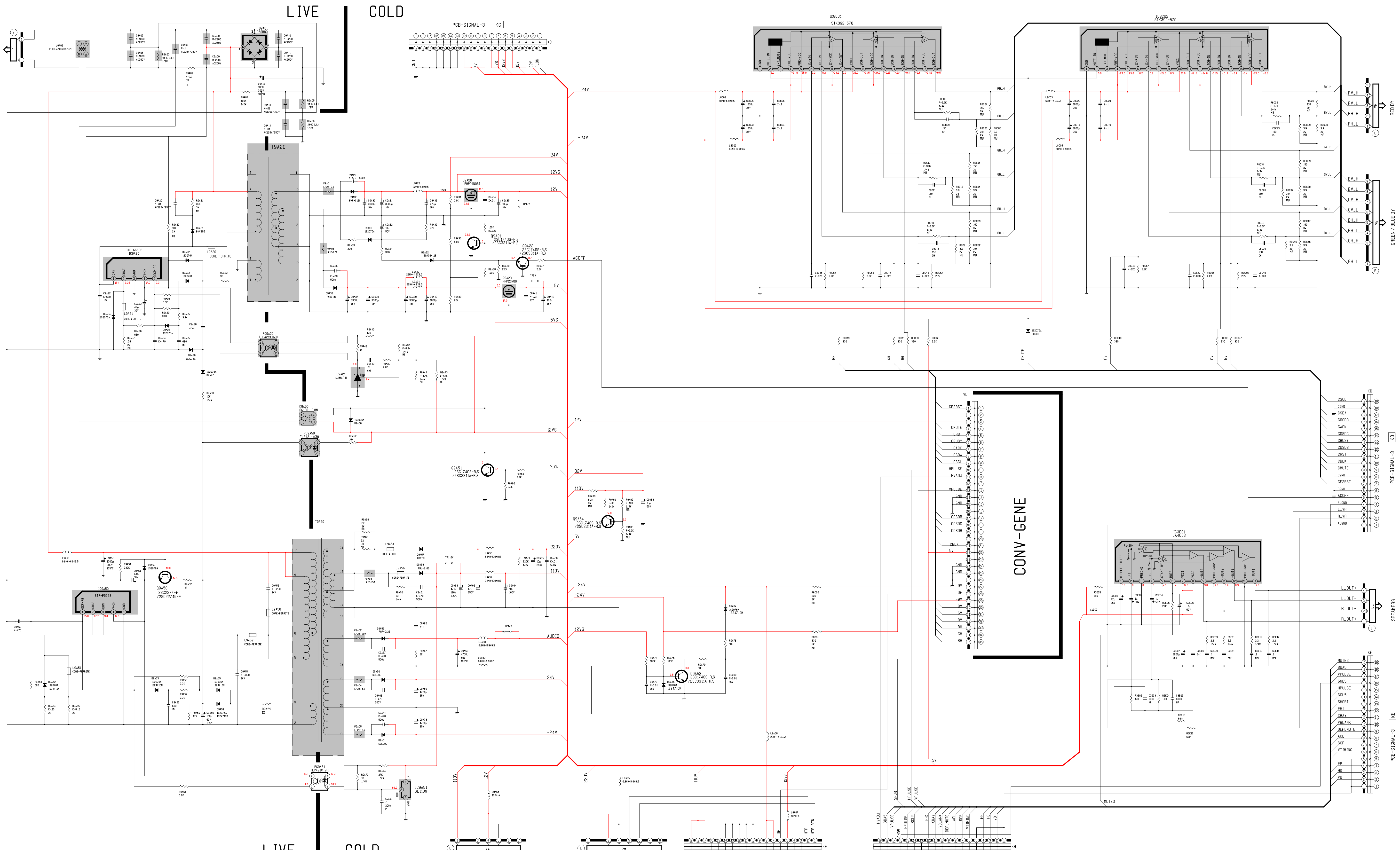
CONTENTS	WS-55809
PG.1 - BLOCK DIAGRAM	WS-55809
PG.2 - MAIN	WS-48809
PG.3 - POWER	WS-55815
PG.4 - TERMINAL	WS-65815
PG.5 - SIGNAL-1 (V.I./D)	
PG.6 - SIGNAL-2 (MICRO)	
PG.7 - SIGNAL-3 (V.C/SW)	
PG.8 - 3D/C	
PG.9 - CONV GEN / JUNGLE	
PG.10 - CRT/CONTROL/1/SVM/DBF	
PG.11 - 2HDW-1	
PG.12 - 2HDW-2	
PG.13 - 2HDW-3	



MODELS	C5A37*	C5A39*	R5A68*	R5A70*	R5A13*	R5A98*	J2*	R4B02*	R4B28*	C4B01*	C5A31*	C5A32*	C5A33*	C5A34*	C5A35*	L5A33*
WT-46809	250V .39 MPP	250V .39 MPP	F-3.6K	F-3.3K	F-3.9K	X	0	F-3.0K	F-7.5K	50V .033	X	1.8KV .0036MPP	1.8KV .0036MPP	2KV K-470	500V K-4700	333P059-10
55"	250V .27 MPP	250V .27 MPP	F-3.6K	F-3.3K	F-3.9K	3W .82-J	X	F-3.0K	F-6.2K	50V .039	X	1.8KV .0036MPP	1.8KV .0036MPP	2KV K-470	500V K-4700	333P059-10
65"	250V .33 MPP	250V .33 MPP	F-3.6K	F-3.3K	F-3.9K	3W .82-J	X	F-2.2K	F-6.2K	50V .039	1.8KV .0015 MPP	1.8KV .0033 MPP	1.8KV .0036 MPP	2KV K-220	500V K-2200	333P052-30

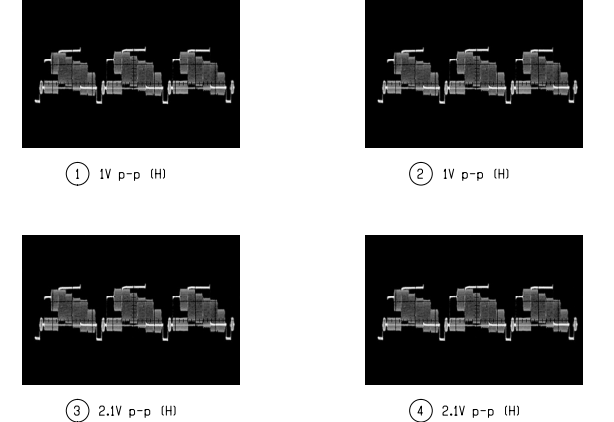
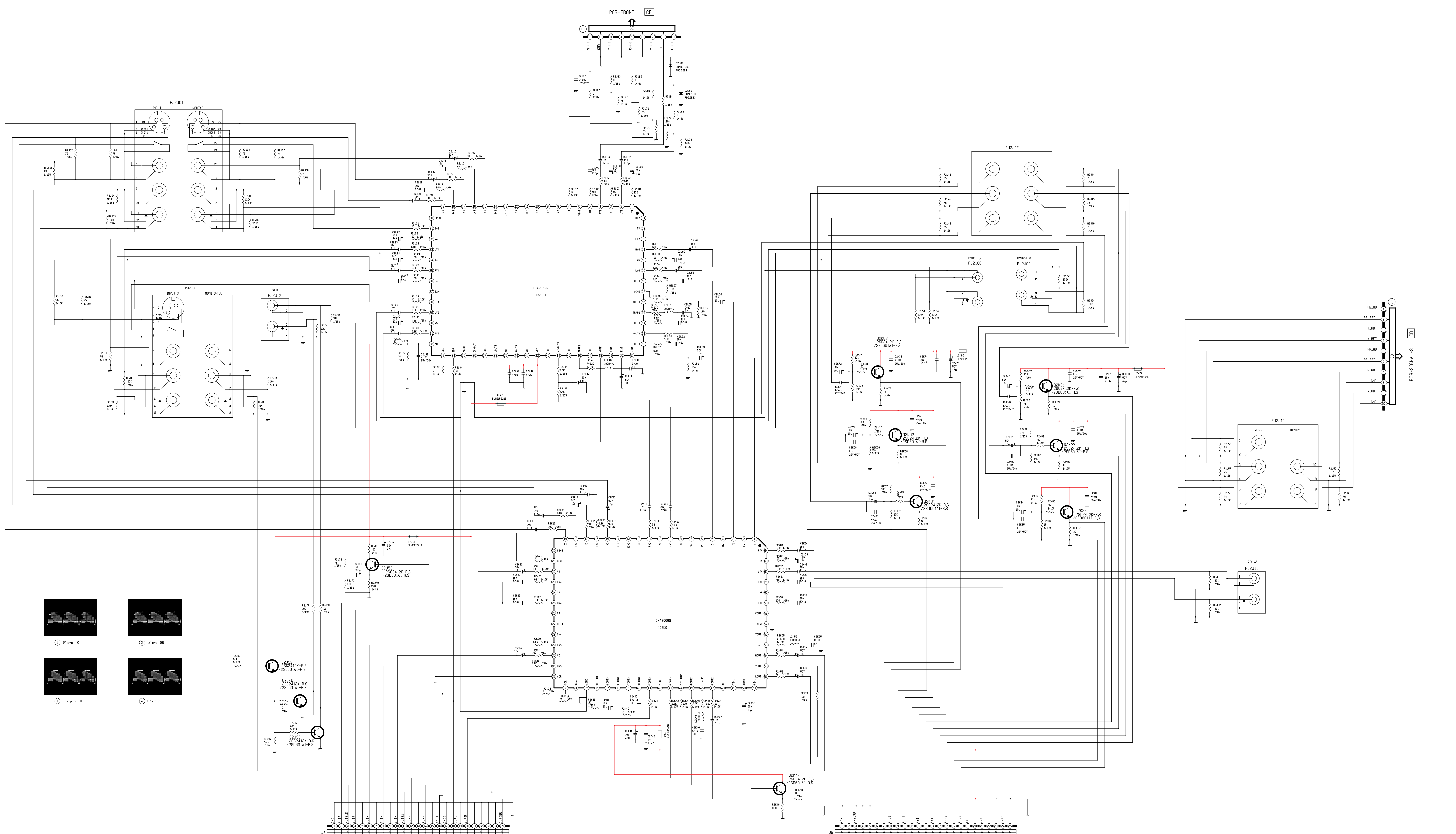
CONTENTS  
 PG.1. BLOCK DIAGRAM  
 PG.2. MAIN  
 PG.3. POWER  
 PG.4. TERMINAL  
 PG.5. SIGNAL-1 (AV I/O)  
 PG.6. SIGNAL-2 (MICRO)  
 PG.7. SIGNAL-3 (VC/SW)  
 PG.8. SDC  
 PG.9. CONV GEN / JUNGLE  
 PG.10. CRT/CONTROL/AV/SW/DBF  
 PG.11. ZHDW-1  
 PG.12. ZHDW-2  
 PG.13. ZHDW-3

WS-55809  
 WS-55809  
 WT-46809  
 WS-55819  
 WS-55819



**CONTENTS**

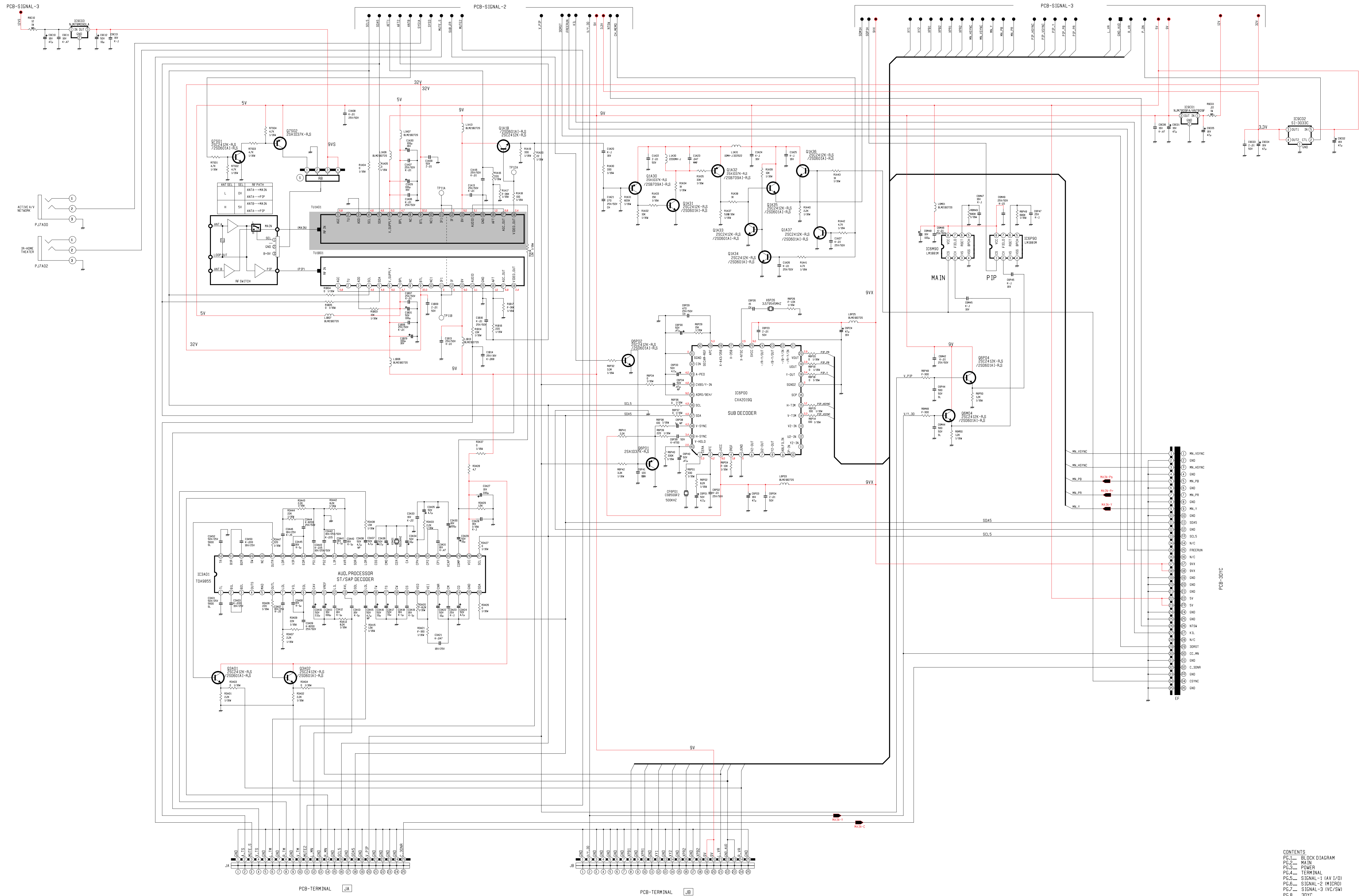
PG.1... BLOCK DIAGRAM	WS-55809
PG.2... MAIN	WS-55809
PG.3... POWER	WS-55809
PG.4... TERMINAL	WS-55819
PG.5... SIGNAL-1 (AV 1/0)	WS-55819
PG.6... SIGNAL-2 (MICRO)	
PG.7... SIGNAL-3 (V/C/S/W)	
PG.8... SDC	
PG.9... CONV GEN / JUNGLE	
PG.10... CRT/CONTROL/A1/SW/OBF	
PG.11... ZHDW-1	
PG.12... ZHDW-2	
PG.13... ZHDW-3	



CONTENTS

PG.1	BLACK DIAGRAM	WS-55809
PG.2	MAIN	WS-55809
PG.3	POWER	WS-55809
PG.4	TERMINAL	WS-55819
PG.5	SIGNAL-1 (AV I/O)	WS-55819
PG.6	SIGNAL-2 (MICRO)	
PG.7	SIGNAL-3 (V/C/SW)	
PG.8	SIDC	
PG.9	CONV GEN / JUNGLE	
PG.10	CRT/CONTROL/A1/SW/OBF	
PG.11	ZHDW-1	
PG.12	ZHDW-2	
PG.13	ZHDW-3	

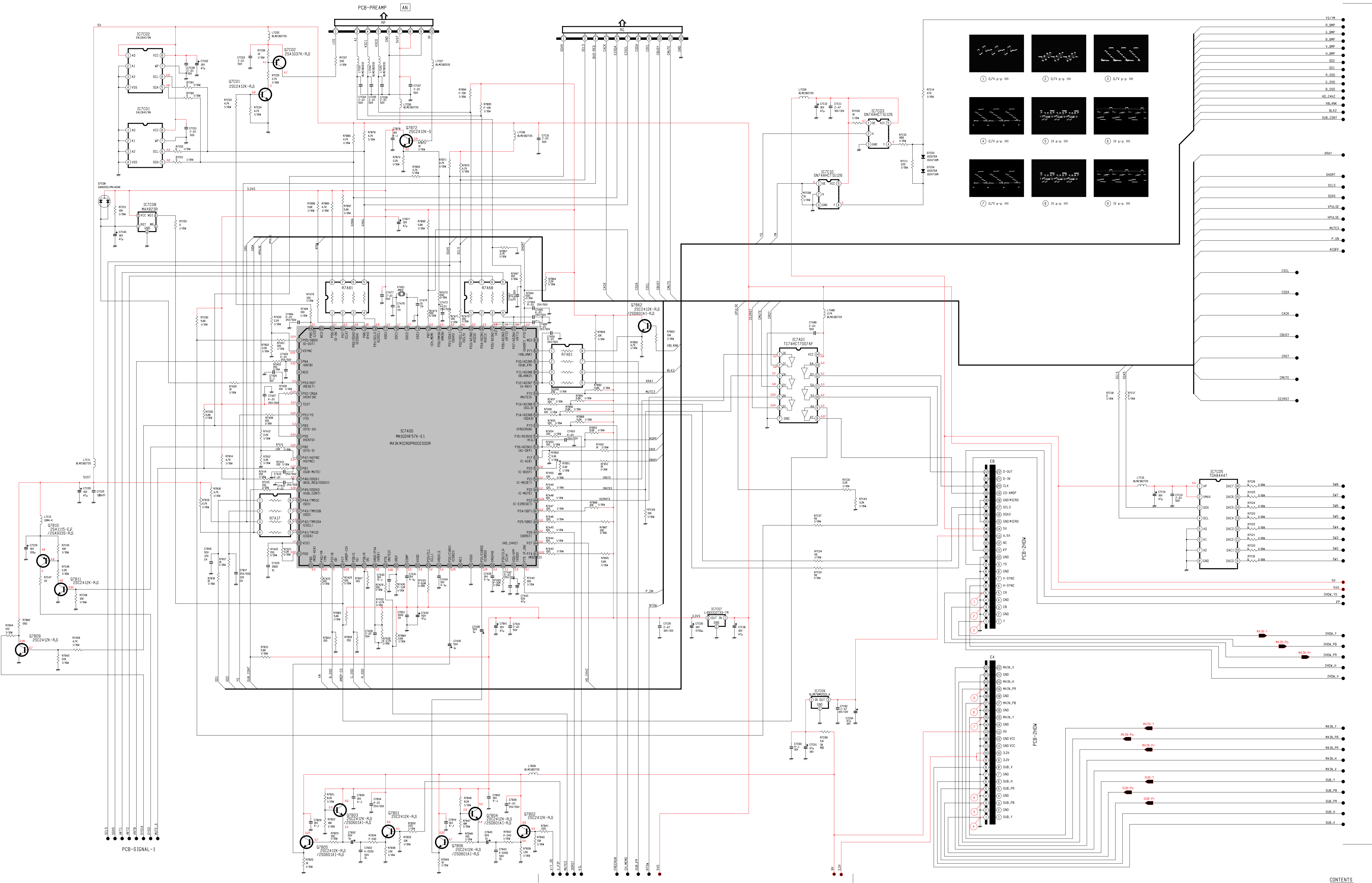
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CONTENTS

PG.1...	BACK DIAGRAM	WS-55809
PG.2...	MAIN	WS-55809
PG.3...	POWER	WS-55809
PG.4...	TERMINAL	WS-55819
PG.5...	SIGNAL-1 (AV I/O)	WS-55819
PG.6...	SIGNAL-2 (MICRO)	
PG.7...	SIGNAL-3 (VC/SW)	
PG.8...	SDIC	
PG.9...	CONV GEN / JUNGLE	
PG.10...	CRT/CONTROL / A1/SW/OBF	
PG.11...	2HDW-1	
PG.12...	2HDW-2	
PG.13...	2HDW-3	

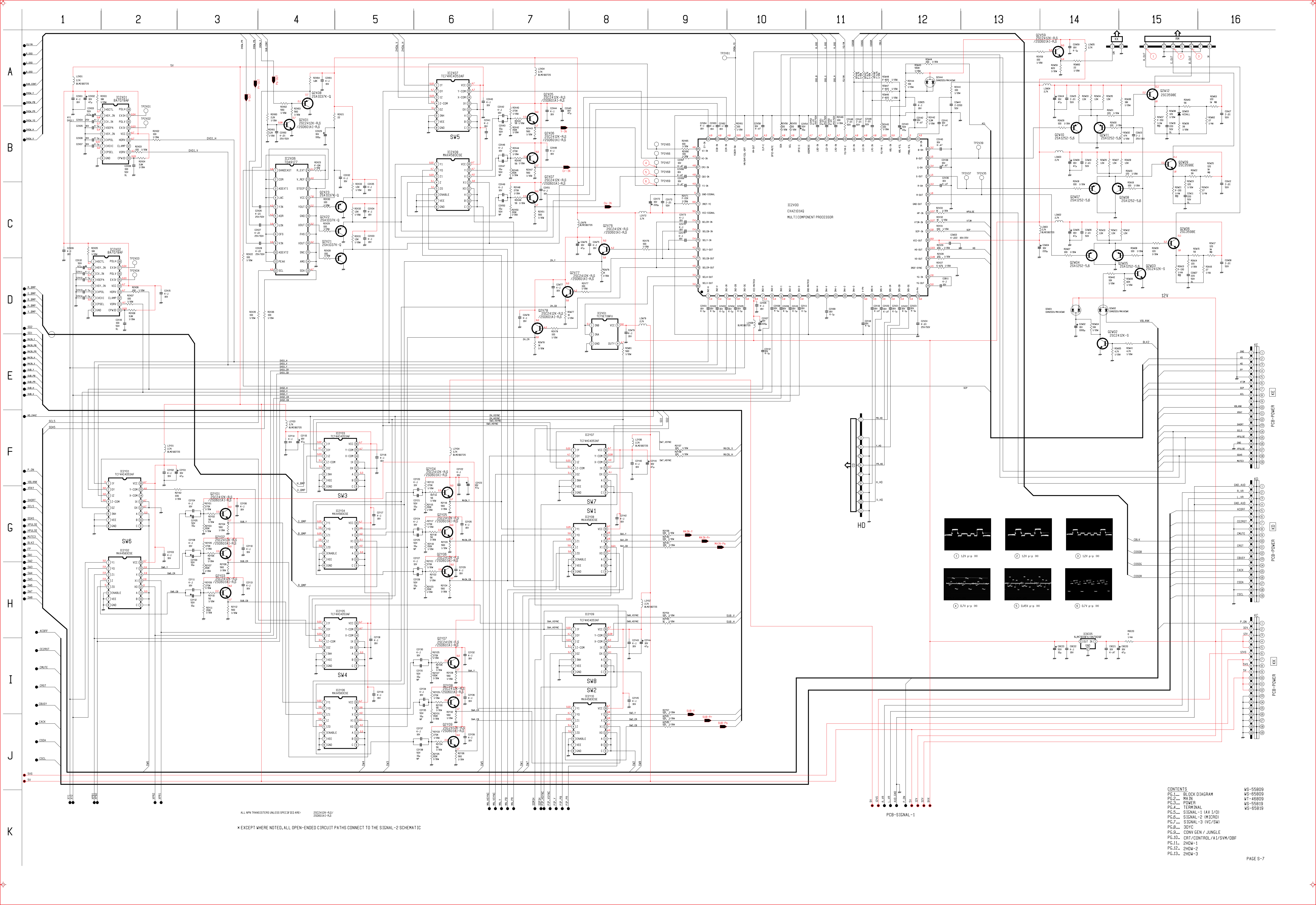
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CONTENTS

PC1...	BLOCK DIAGRAM
PC2...	MAIN
PC3...	POWER
PC4...	TERMINAL
PC5...	SIGNAL-1 (AV I/O)
PC6...	SIGNAL-2 (MICRO)
PC7...	SIGNAL-3 (I/C/SW)
PC8...	SDIC
PC9...	CONV GEN / JUNGLE
PC10...	CRT/CONTROL/A1/SW/OBF
PC11...	ZHDW-1
PC12...	ZHDW-2
PC13...	ZHDW-3

WS-5809  
WS-5809B  
WT-4809  
WS-5819  
WS-5819B



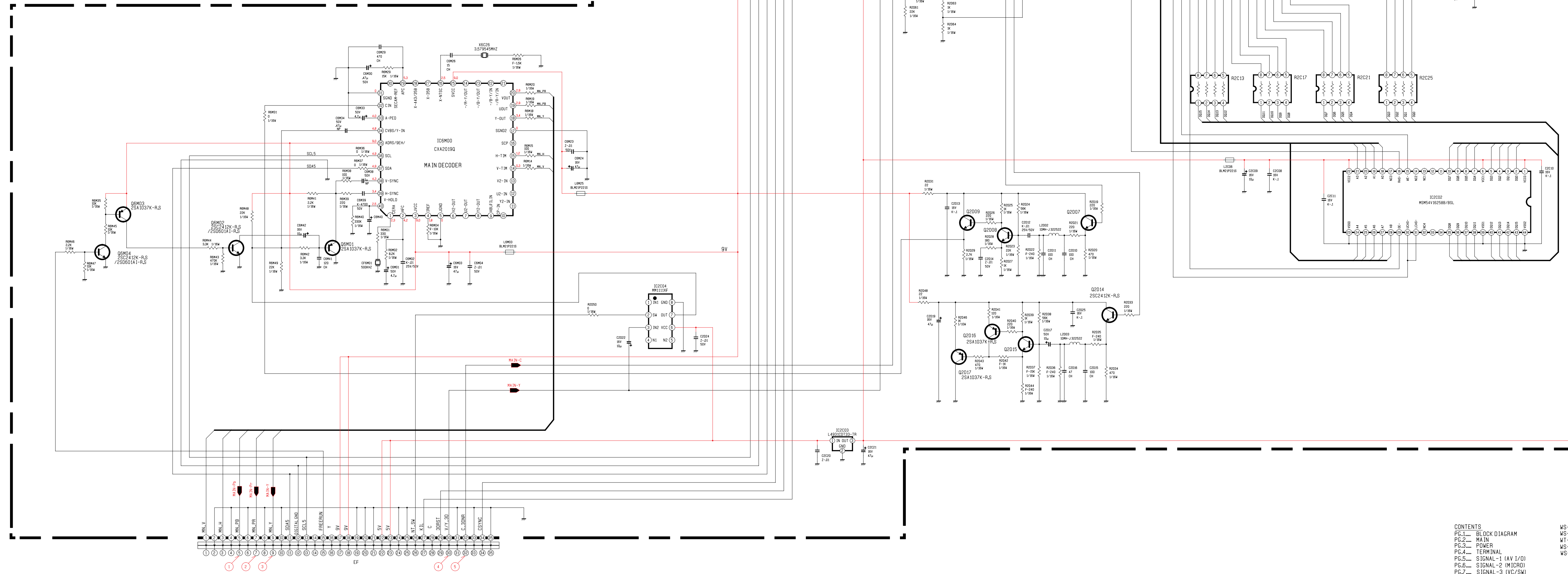
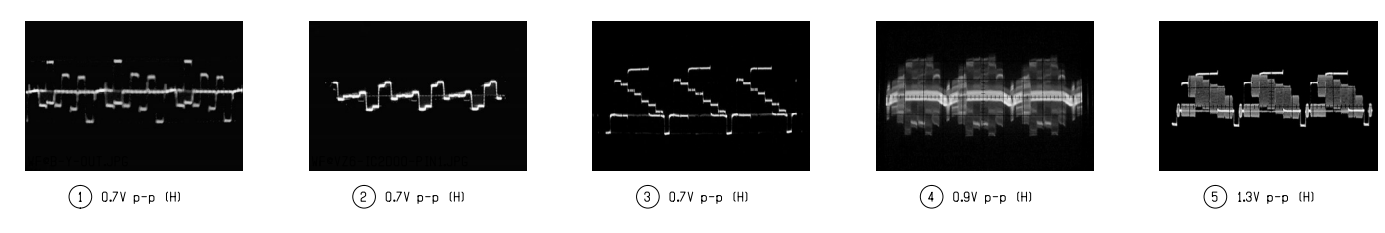
ALL NPN TRANSISTERS UNLESS SPECIFIED ARE 2SC2412K-R/S / 2SD601A1-R/S

\* EXCEPT WHERE NOTED, ALL OPEN-ENDED CIRCUIT PATHS CONNECT TO THE SIGNAL-2 SCHEMATIC

CONTENTS

PG.1...	BACK DIAGRAM	WS-55809
PG.2...	MAIN	WS-55809
PG.3...	POWER	WS-55809
PG.4...	TERMINAL	WS-55819
PG.5...	SIGNAL-1 (AV 1/0)	WS-55819
PG.6...	SIGNAL-2 (MICRO)	
PG.7...	SIGNAL-3 (V/C/SW)	
PG.8...	SDIC	
PG.9...	CONV GEN / JUNGLE	
PG.10...	CRT/CONTROL /A1/SW/OBF	
PG.11...	ZHDW-1	
PG.12...	ZHDW-2	
PG.13...	ZHDW-3	





CONTENTS

PG.1...	BLOCK DIAGRAM	WS-55809
PG.2...	MAIN	WS-55809
PG.3...	POWER	WS-55809
PG.4...	TERMINAL	WS-55819
PG.5...	SIGNAL - 1 (AV 1/0)	WS-55819
PG.6...	SIGNAL - 2 (MICRO)	
PG.7...	SIGNAL - 3 (VC/SW)	
PG.8...	SDIC	
PG.9...	CONV GEN / JUNGLE	
PG.10...	CRT/CONTROL /AI/SW/OBF	
PG.11...	2HDW-1	
PG.12...	2HDW-2	
PG.13...	2HDW-3	

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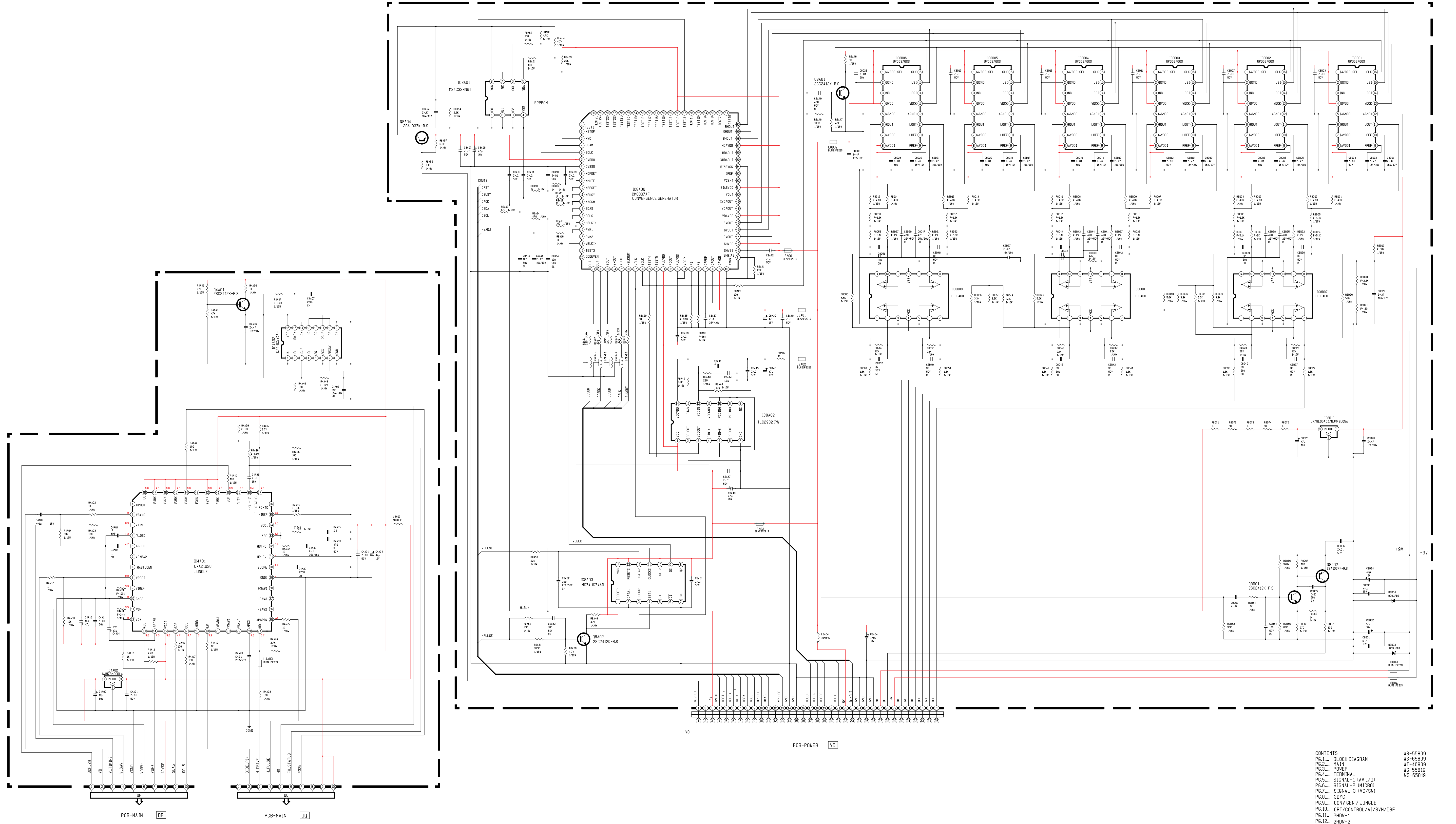
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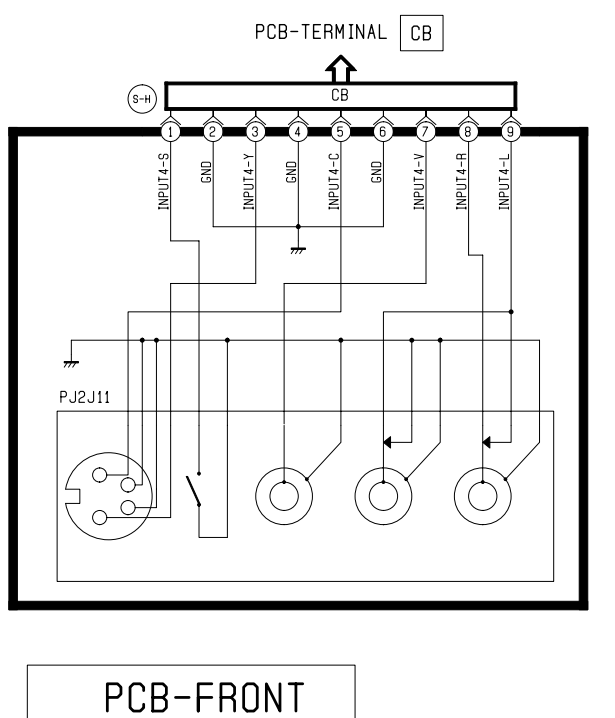
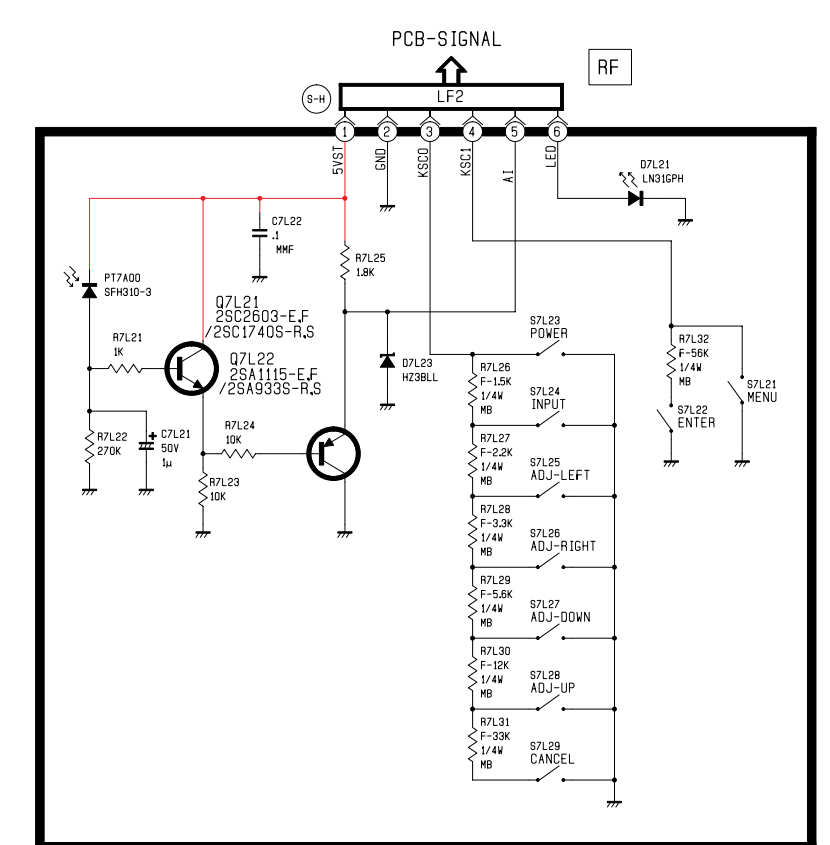
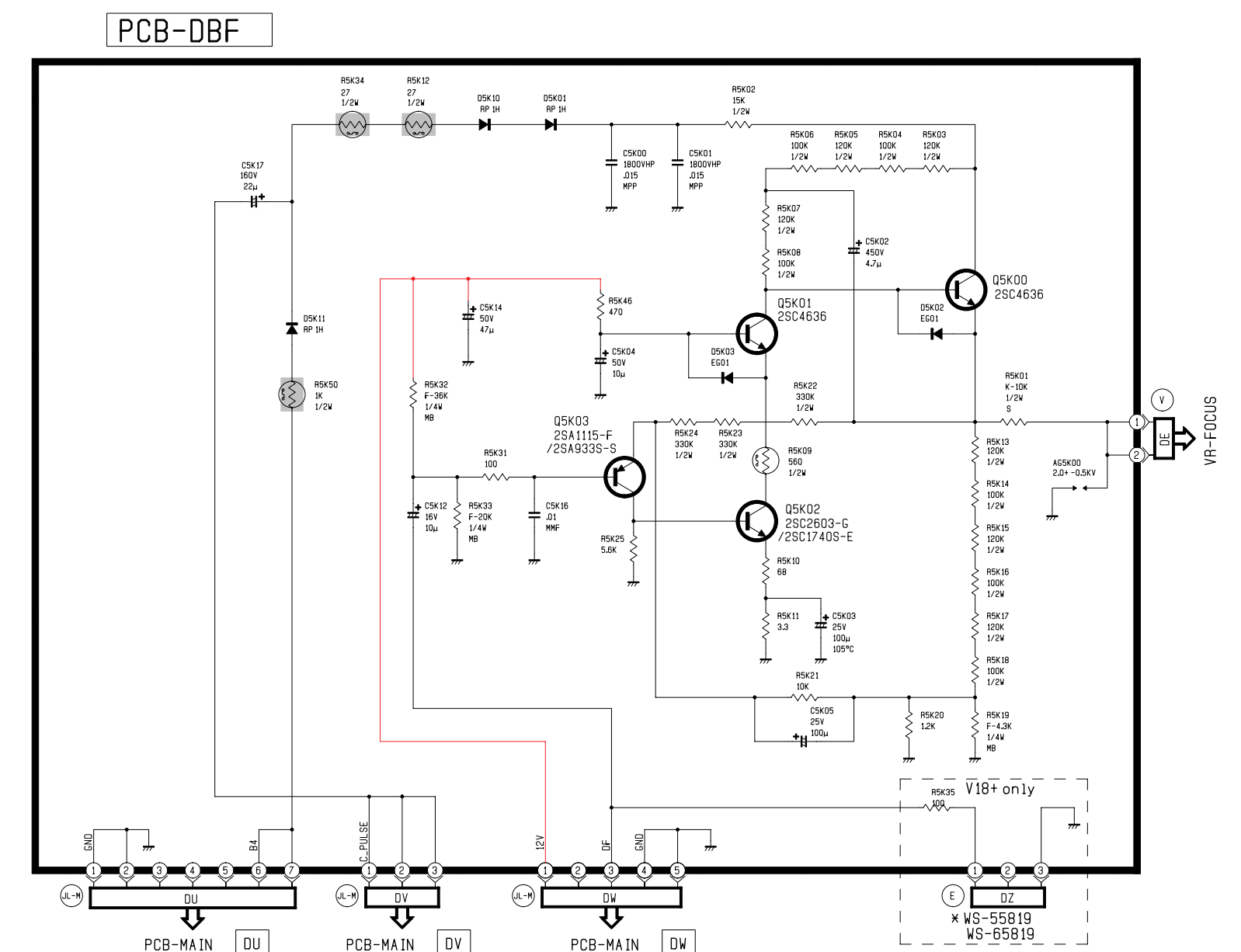
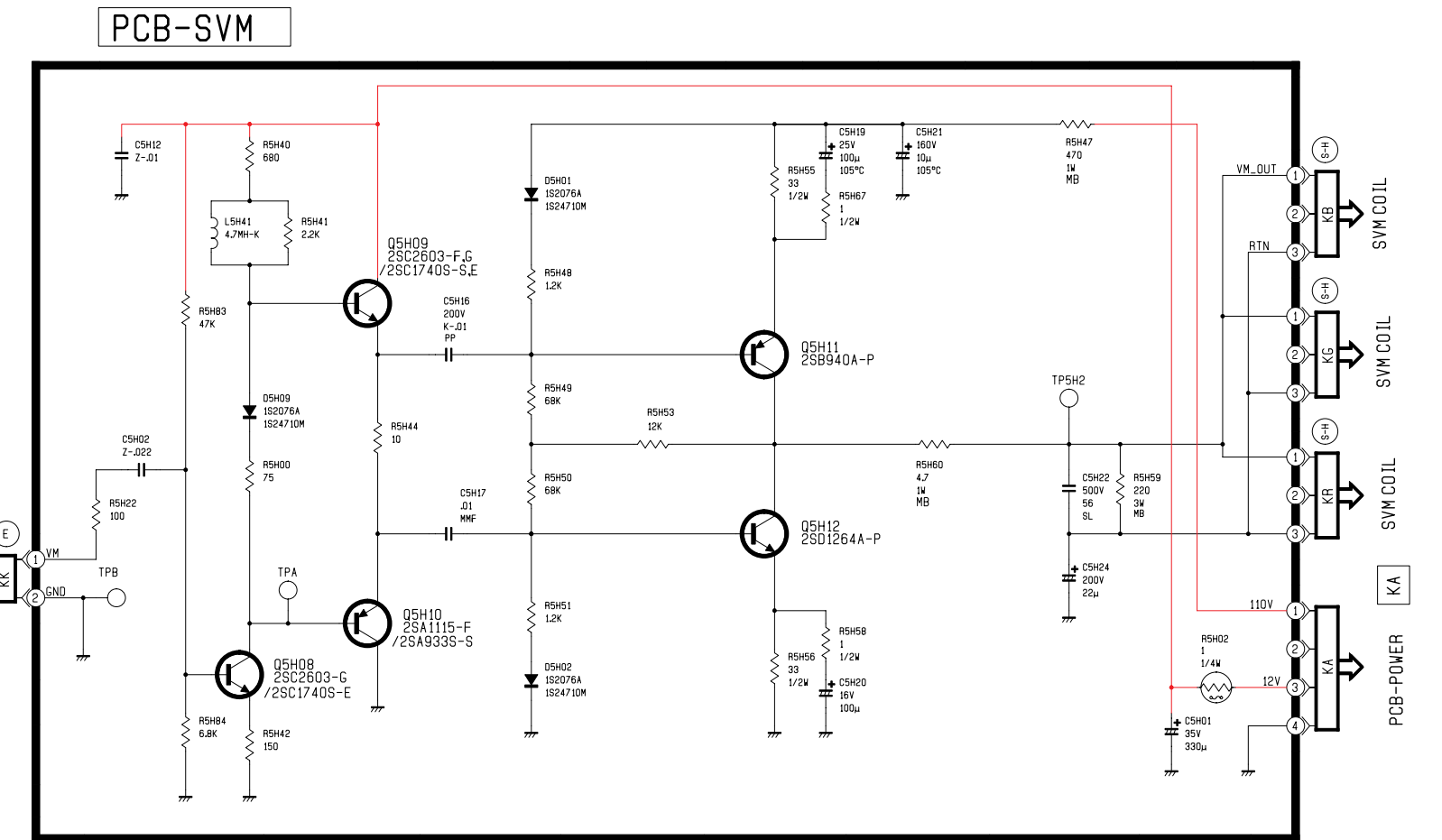
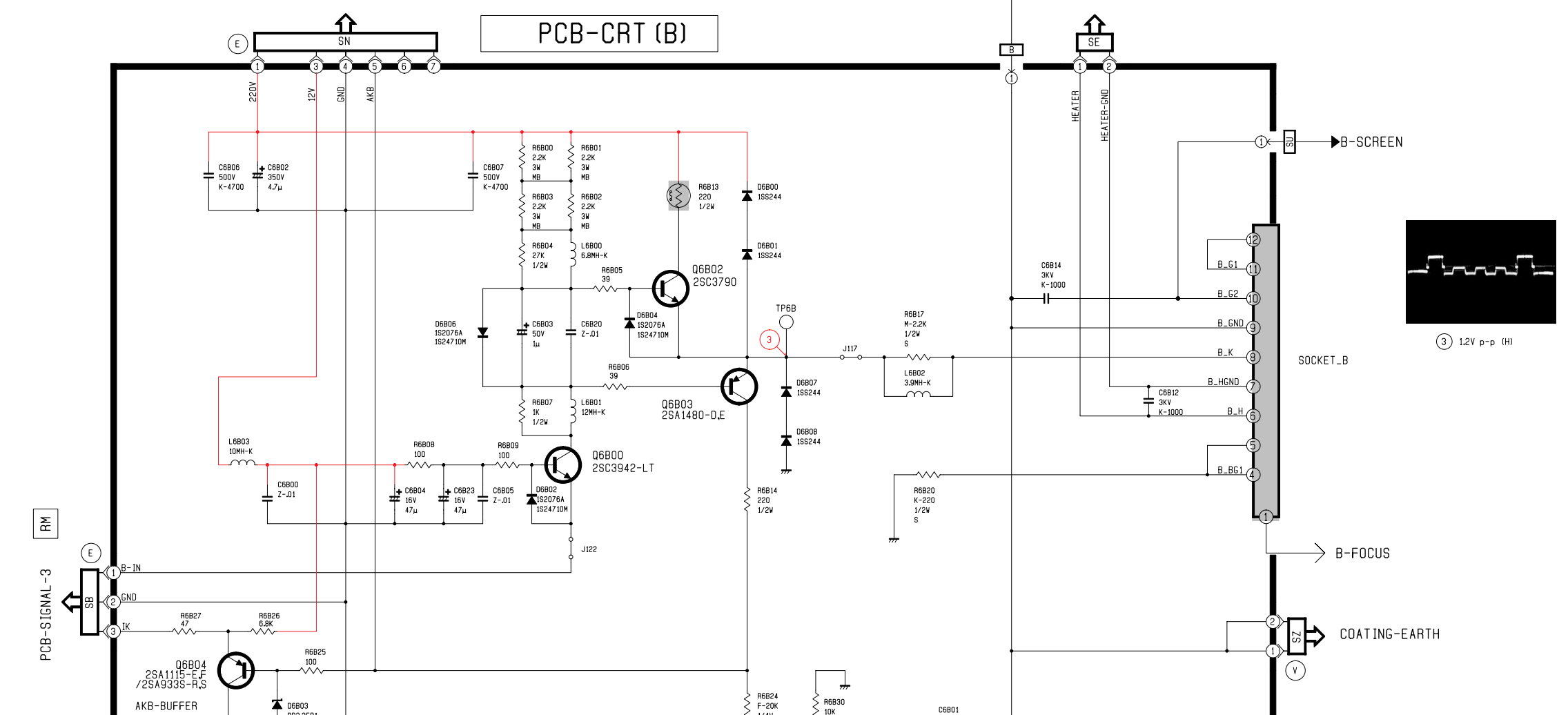
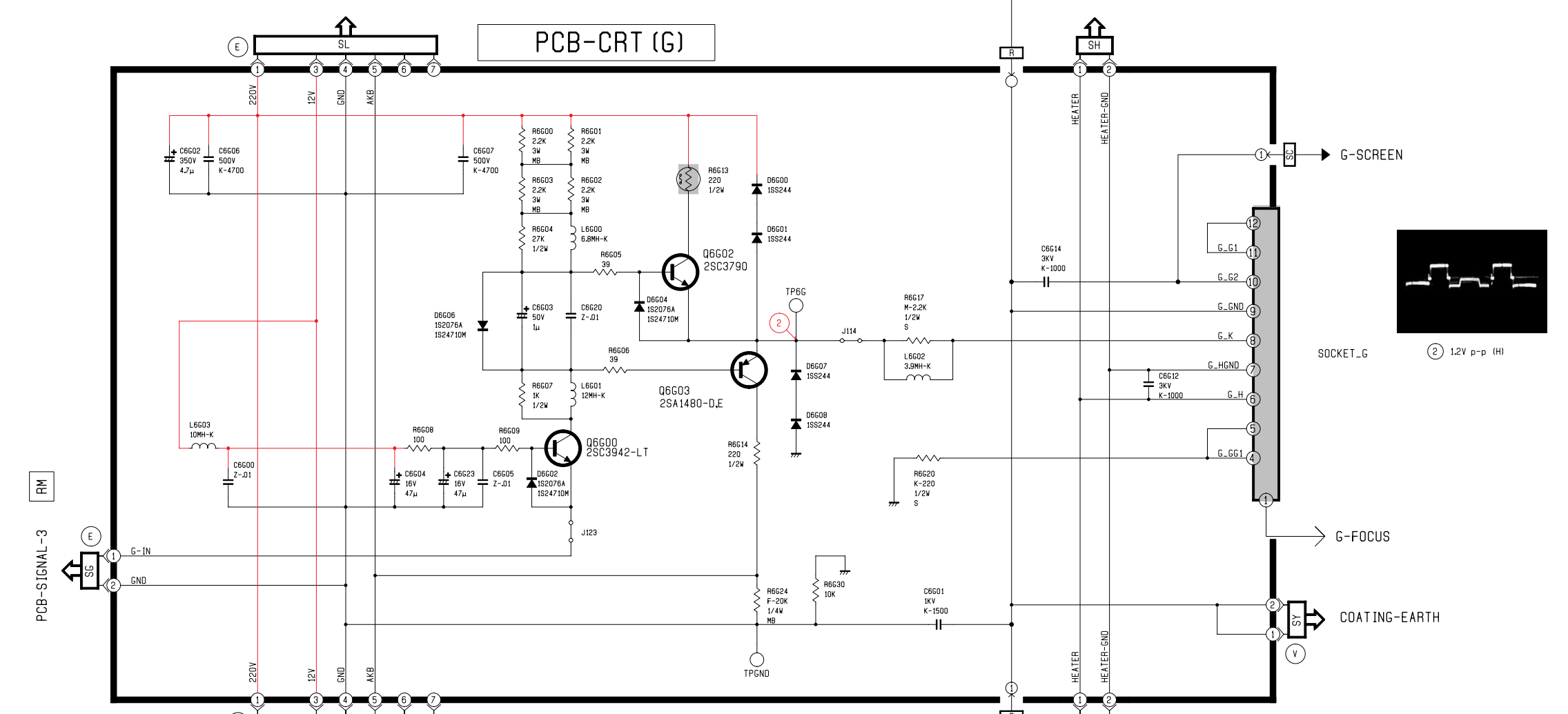
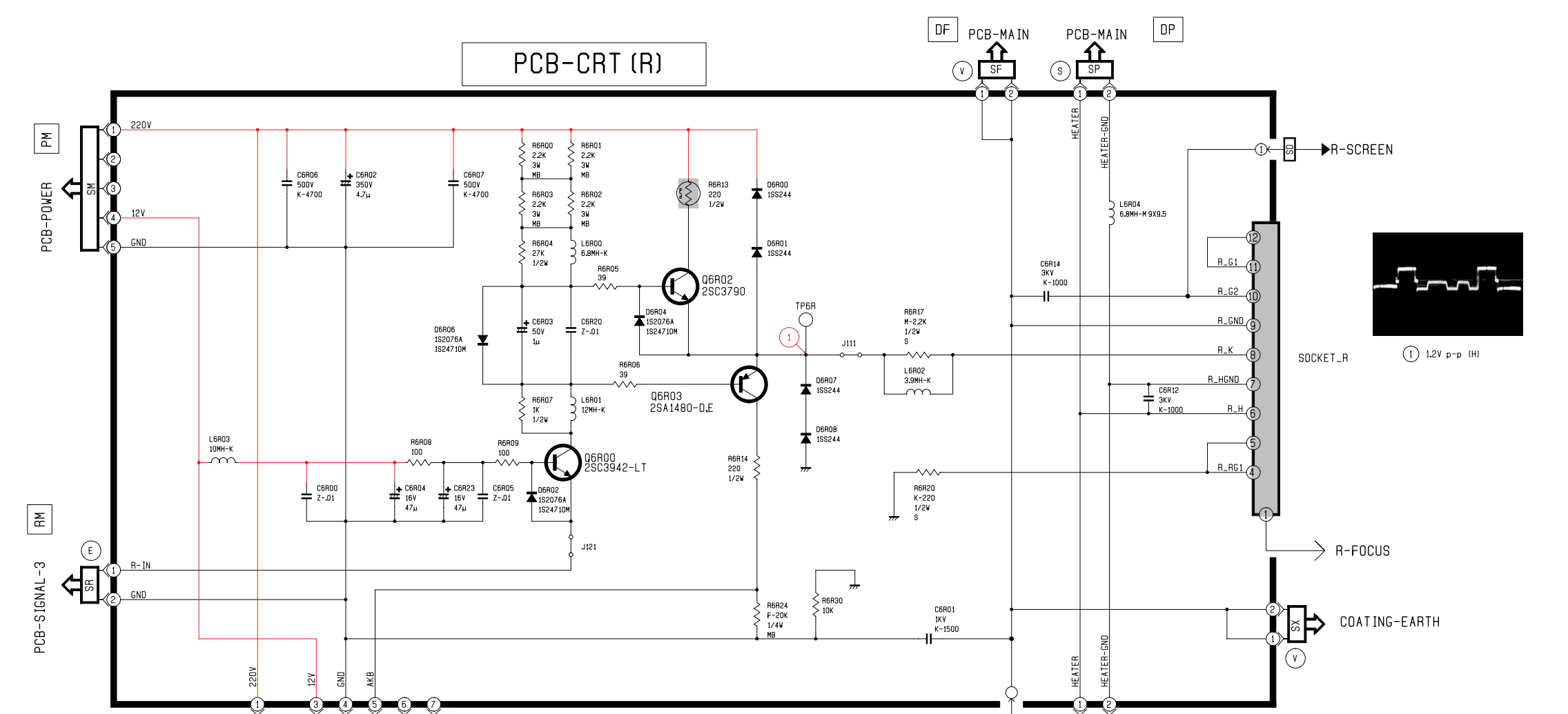
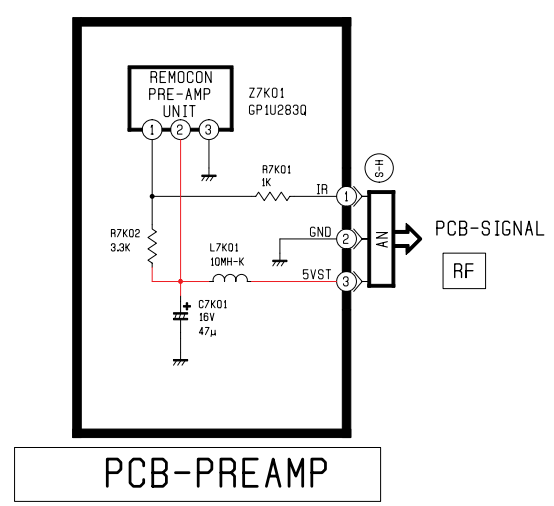
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CONTENTS

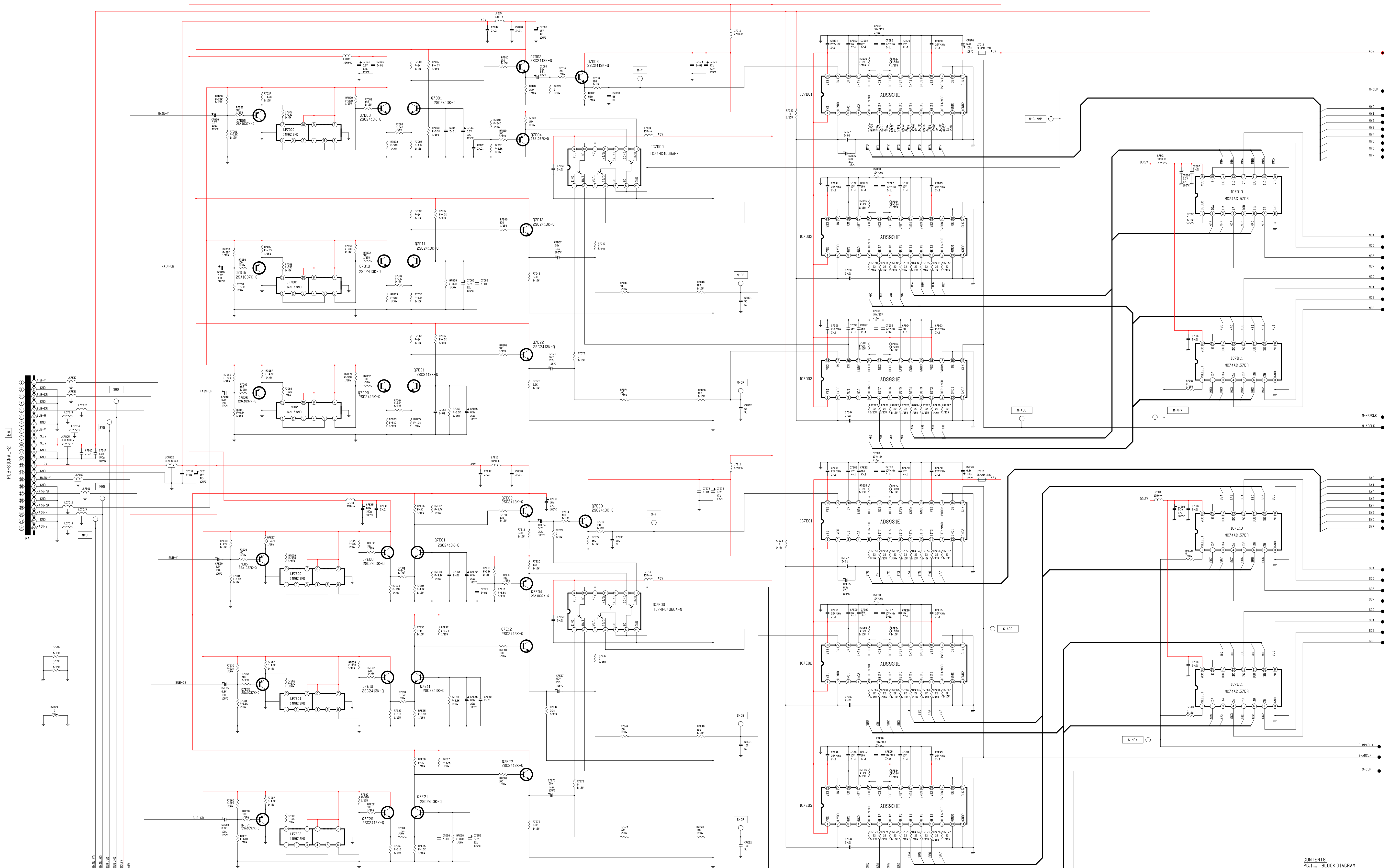
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PG.2...	MAIN	WS-55809
PG.3...	POWER	WT-46809
PG.4...	TERMINAL	WS-55819
PG.5...	SIGNAL-1 (AV I/O)	WS-55819
PG.6...	SIGNAL-2 (MICRO)	
PG.7...	SIGNAL-3 (VC/SW)	
PG.8...	SDIC	
PG.9...	CONV GEN / JUNGLE	
PG.10...	CR7/CONTROL/A1/SW/OBF	
PG.11...	2HDW-1	
PG.12...	2HDW-2	
PG.13...	2HDW-3	

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**CONTENTS**

PG.1	BACK DIAGRAM	WS-55809
PG.2	MAIN	WS-55809
PG.3	POWER	WT-46809
PG.4	TERMINAL	WS-55819
PG.5	SIGNAL-1 (AV 1/0)	WS-55819
PG.6	SIGNAL-2 (MICRO)	
PG.7	SIGNAL-3 (VC/SW)	
PG.8	SDIC	
PG.9	CONV GEN / JUNGLE	
PG.10	CRT/CONTROL /A1/SW/DBF	
PG.11	2HDW-1	
PG.12	2HDW-2	
PG.13	2HDW-3	



X ALL OPEN-ENDED CIRCUIT PATHS CONNECT TO THE 2HDW-1 SCHEMATIC

CONTENTS

PG.1...	BLOCK DIAGRAM	WS-55809
PG.2...	MAIN	WS-55809
PG.3...	POWER	WS-55809
PG.4...	TERMINAL	WS-55819
PG.5...	SIGNAL - 1 (AV 1/0)	WS-55819
PG.6...	SIGNAL - 2 (MICRO)	
PG.7...	SIGNAL - 3 (VC/SW)	
PG.8...	SIDC	
PG.9...	CONV GEN / JUNGLE	
PG.10...	CR7/CONTROL /A1/SW/OBF	
PG.11...	2HDW-1	
PG.12...	2HDW-2	
PG.13...	2HDW-3	

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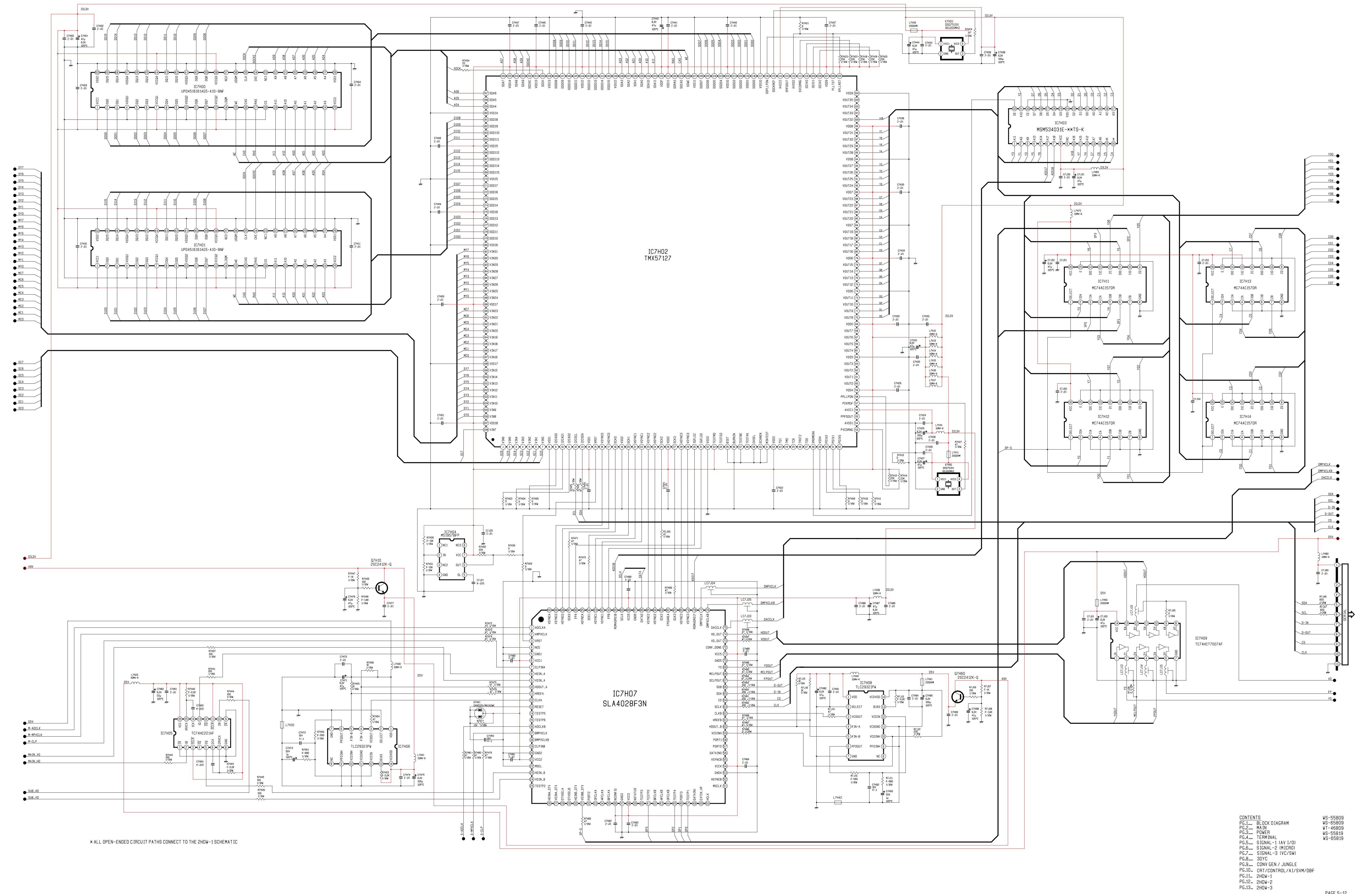
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CONTENTS

- F1... BACK DIAGONAL
- F2... MAIN
- F3... POWER
- F4... TERMINAL
- F5... SIGNAL -1 (AV 1/0)
- F6... SIGNAL -2 (MICRO)
- F7... SIGNAL -3 (VCC/SW)
- F8... SIGNAL -4 (SIGNAL)
- F9... CONV GEN / JUNGLE
- F10... CRT/CONTROL/A1/SW/OBF
- F11... ZHDW-1
- F12... ZHDW-2
- F13... ZHDW-3

WS-55809  
WS-55809  
WT-46809  
WS-55819  
WS-55819

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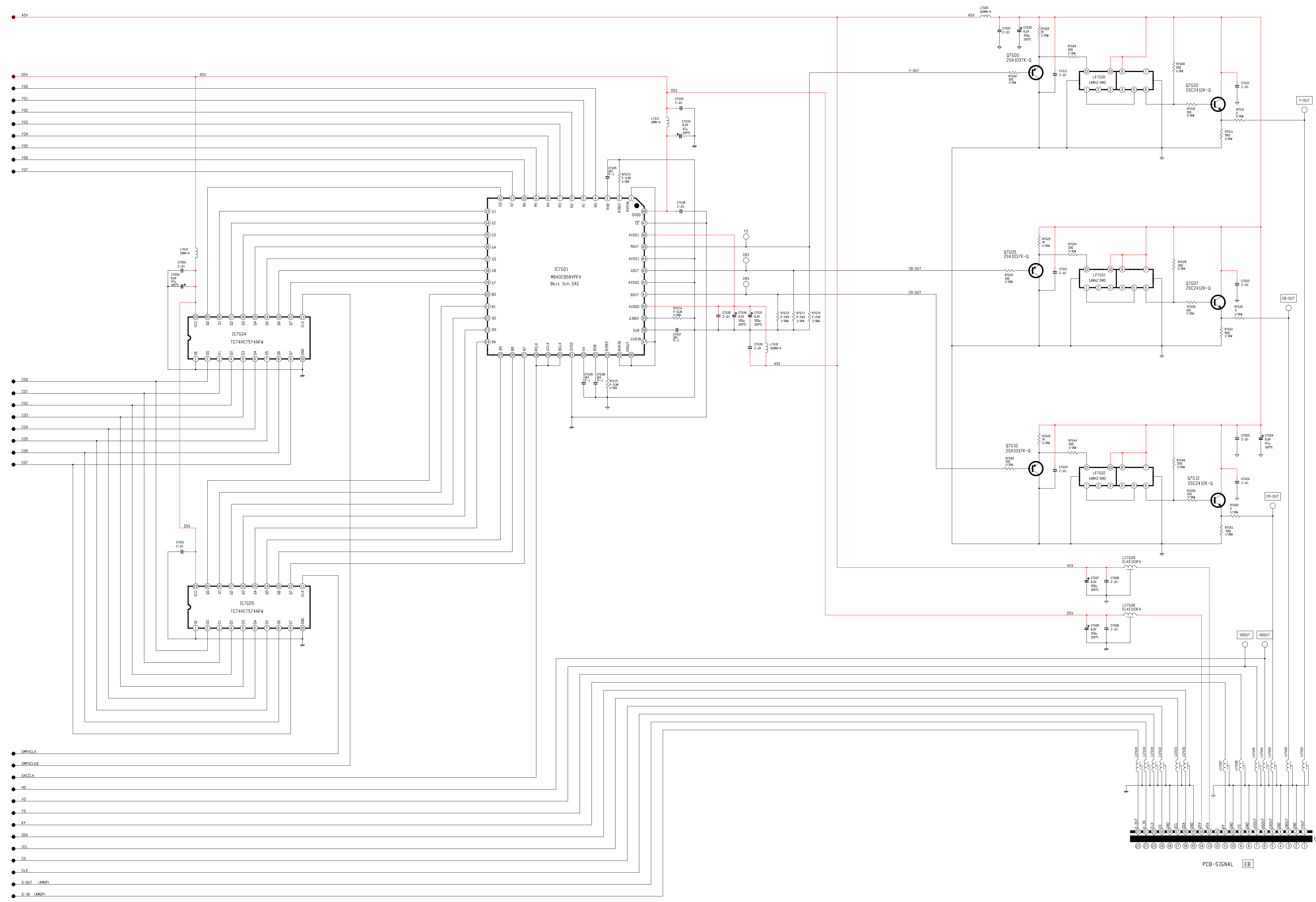
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\* ALL OPEN-ENDED CIRCUIT PATHS CONNECT TO THE 2HDW-2 SCHEMATIC

CONTENTS		WS-55809
PG.1	BLOCK DIAGRAM	WS-55809
PG.2	MAIN	WT-46809
PG.3	POWER	WS-55819
PG.4	TERMINAL	WS-55819
PG.5	SIGNAL - 1 (AV I/O)	WS-55819
PG.6	SIGNAL - 2 (MICRO)	
PG.7	SIGNAL - 3 (VC/SW)	
PG.8	SDIC	
PG.9	CONV GEN / JUNGLE	
PG.10	CRT/CONTROL / A1/SW/OBF	
PG.11	2HDW-1	
PG.12	2HDW-2	
PG.13	2HDW-3	