

SAFETY PRECAUTIONS

SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. Before replacing parts, disconnect power source to protect electrostatically sensitive parts. Do not attempt to modify any circuit unless so recommended by the manufacturer. When servicing the receiver, use an isolation transformer between the line cord and power receptacle.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer. Check repaired area for poorly soldered connections, and check entire circuit board for solder splashes. Check board wiring for pinched wires or wires contacting any high wattage resistors. Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

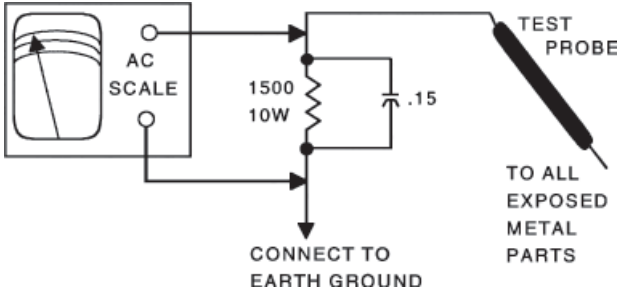
SAFETY CHECKS — FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

Hot Leakage Current Check

Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer. Use a 1500 ohms, 10W resistor in parallel with a .15µF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure below.) Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by SAMS Technical Publishing, LLC as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to SAMS Technical Publishing by the manufacturers of the specific type of replacement part listed.

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QUICKFACT
FROM PHOTOFAC[®]
LCD SERIES

SET 5538

MODEL 47MF437B/37 (CHASSIS TPM2.0ULA)

MAGNAVOX

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Do not use lead based solder for repair.

For a Complete List of Manuals,
Visit www.samswebsite.com

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Technical Service Data

MAGNAVOX
MODEL 47MF437B/37 (CHASSIS TPM2.0ULA)
with 9965 000 45188 POWER SUPPLY



Representative Model

Essential Coverage For Servicing LCD Receiver...

- Power Supply Schematic
- Miscellaneous adjustments
- Placement chart
- Parts list



FEBRUARY 2010 SET 5538

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MISCELLANEOUS ADJUSTMENTS

Customer Service Mode (CSM)

To Enter: With the standard remote, key in code “123654” to display the following set conditions:
Exit: Turn the TV off with the remote to stand-by mode.

CSM item	Contents	Remark
1. Set Type	47MF437B/37	Model name
2. Production Code	BZ000651123456	14 Digit production code (serial number)
3. SW-name Micro	FL3 37MF437BU/V2	FL3 (family), U (region), V (version)
4. Code 1	FF FF FF FF FF	Errors: NVM/EEPROM, last 5 entries
5. Code 2	FF FF FF FF FF	Errors: NVM/EEPROM, last 5 entries
6. Key (HDCP)	Invalid	HDMI information if HDCP key is valid
7. Dig Sig. Quality	-	Digital Signal level
8. NVM-naming	Panel-CLAA-37/XP3	Contents per Panel-type

Note: Error Code Definition

Error code	Event
0x01	DDR error
0x02	IIC bus error
0x03	Tuner error
0x04	Demod error

Factory Mode

To Enter: Press “Menu” in normal operating mode to enter the OSD. Then key in “062596” directly followed by pressing the “Menu” key and press “Menu” again. The screen will display “FAC” in upper right corner. Then select the Factory item in the menu. While in the Factory mode perform software alignments, change option settings, and clear the error code buffer to “0”.

Navigate using the remote “Cursor up/down” keys for menu items, and the “Cursor left/right” keys to move through the menu items and submenu items. Use the “OK” key on the remote to activate actions.

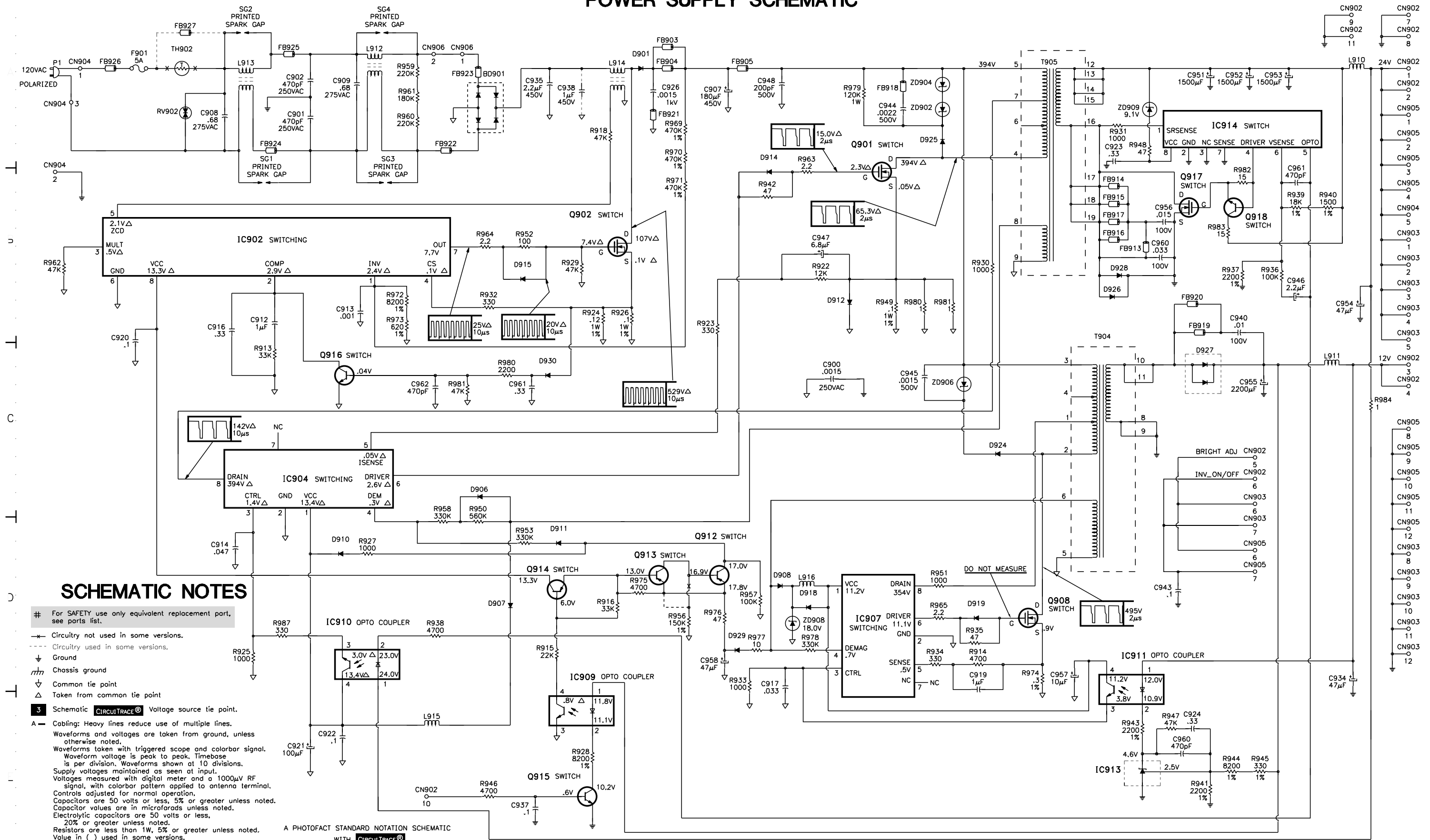
Item	Description	Method of operation
//Action Item		
0. Exit Factory		Press “OK”
1. Reset-SPC	Reset item SP-GAIN-BRI to SP-GAIN	Press “OK”
2. Reset-CSM	Reset CSM Error code to 0	Press “OK”
3. Auto-Color	YpbPr: SMPTE-bar	Press “OK” to start routine wait until the OSD reappears.
//Switch Items		
4. Virgin Mode	-	On/Off
5. Aging Mode	Turn On and no signal input	On/Off
6. Gamma-Table	Use gamma table or not	On/Off
7. Color-Enhance	-	On/Off
8. Set-Pin	Parental control	On/Off
9. Fine tune-EQ	-	On/Off
10. ORT-Mode	If On, AC switch on/off turns on TV	On/Off
//ADC Gain & Offset		
11. ADC-Gain-R	Values differ with VGA & YpbPr	Use L & R arrows
12. ADC-Gain-G	Values differ with VGA & YpbPr	Use L & R arrows
13. ADC-Gain-B	Values differ with VGA & YpbPr	Use L & R arrows
14. ADC-Offset/R	Values differ with VGA & YpbPr	Use L & R arrows
15. ADC-Offset/G	Values differ with VGA & YpbPr	Use L & R arrows
16. ADC-Offset/B	Values differ with VGA & YpbPr	Use L & R arrows
//Color Temperature		
17. CLR-Temp/R	Back End Scaler R G B Gain	Use L & R arrows
18. CLR-Temp/G	Back End Scaler R G B Gain	Use L & R arrows
19. CLR-Temp/B	Back End Scaler R G B Gain	Use L & R arrows
//Smart Picture		
20. SP-Mode	Values differ by Smart Picture	Use L & R arrows
21. SP-Mode	PWM	Use L & R arrows

AC-INPUT: 90-264VAC, 50/60Hz.
Power Consumption: 185W **STANDBY:** <1W
Use an appropriate sized Variac and/or Isolation transformer while servicing the TV.

SCHEMATIC COMPONENT LOCATION GUIDE

BD901	A3	C955	C7	FB920	B7	R916	D4	R957	D5
C900	C5	C956	A7	FB921	A4	R918	A4	R958	D3
C901	A2	C957	D6	FB922	B3	R922	B5	R959	A3
C902	A2	C958	D4	FB923	A3	R923	C4	R960	A3
C907	A4	C959	E5	FB924	B2	R924	B4	R961	A3
C908	A1	C960	E7	FB925	A2	R925	D2	R962	B1
C909	A2	C961	C3	FB926	A1	R926	B4	R963	B5
C912	B2	C962	C3	IC902	B2	R927	B5	R964	B3
C913	B2	D901	A4	IC904	C2	R928	E4	R965	D6
C914	D2	D906	C3	IC907	D5	R929	B4	R969	A4
C916	C2	D907	D3	IC909	D4	R930	B6	R970	B4
C917	D5	D908	D5	IC910	E3	R932	B3	R971	B4
C919	E6	D910	D2	IC911	D7	R933	D5	R972	B3
C920	C1	D911	D3	IC912	E4	R934	D6	R973	B3
C921	E2	D912	B5	IC913	E7	R935	D6	R974	D6
C922	E2	D914	B5	L910	A8	R936	E4	R975	D4
C924	E7	D915	B3	L911	C8	R937	E5	R976	D4
C926	A4	D918	D5	L912	A2	R938	D3	R977	D5
C934	D8	D919	D6	L913	A2	R939	E5	R978	D5
C935	A3	D922	A7	L914	A4	R940	E5	R979	D2
C937	E3	D924	C6	L915	E3	R941	E7	R980	C3
C938	A4	D925	A6	L916	D5	R942	B5	R981	C3
C939	A7	D926	A7	P1	A1	R943	E7	RV902	A1
C940	B7	D927	C7	Q901	B5	R944	E7	SG1	B2
C942	D7	D929	D4	Q902	B4	R945	E7	SG2	A2
C943	D7	D930	C3	Q908	D6	R946	E3	SG3	B3
C944	A5	F901	A1	Q912	D4	R947	E7	SG4	A3
C945	C6	FB903	A4	Q913	D4	R948	D2	T904	B7
C946	E5	FB904	A4	Q914	D3	R949	B6	T905	A6
C947	B5	FB905	A4	Q915	E4	R950	D3	TH902	A1
C948	A5	FB914	A7	Q916	C3	R951	D6	ZD902	A6
C952	A8	FB915	A7	R913	C2	R952	B3	ZD904	A6
C953	A8	FB917	A7	R914	D6	R953	D3	ZD906	C6
C954	A8	FB919	B7	R915	D3	R956	D4	ZD908	D5

POWER SUPPLY SCHEMATIC



SCHEMATIC NOTES

- # For SAFETY use only equivalent replacement part, see parts list.
- Circuitry not used in some versions.
- Circuitry used in some versions.
- ⏏ Ground
- ⏏ Chassis ground
- ⏏ Common tie point
- ⏏ Taken from common tie point
- 3 Schematic CIRCUITTRACE® Voltage source tie point.
- A Cabling: Heavy lines reduce use of multiple lines.
- Waveforms and voltages are taken from ground, unless otherwise noted.
- Waveforms taken with triggered scope and colorbar signal.
- Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.
- Supply voltages maintained as seen at input.
- Voltages measured with digital meter and a 1000μV RF signal, with colorbar pattern applied to antenna terminal.
- Controls adjusted for normal operation.
- Capacitors are 50 volts or less, 5% or greater unless noted.
- Capacitor values are in microfarads unless noted.
- Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.
- Resistors are less than 1W, 5% or greater unless noted.
- Value in () used in some versions.
- Measurements with switching as shown unless noted.
- Rated voltage shown on zener diodes.

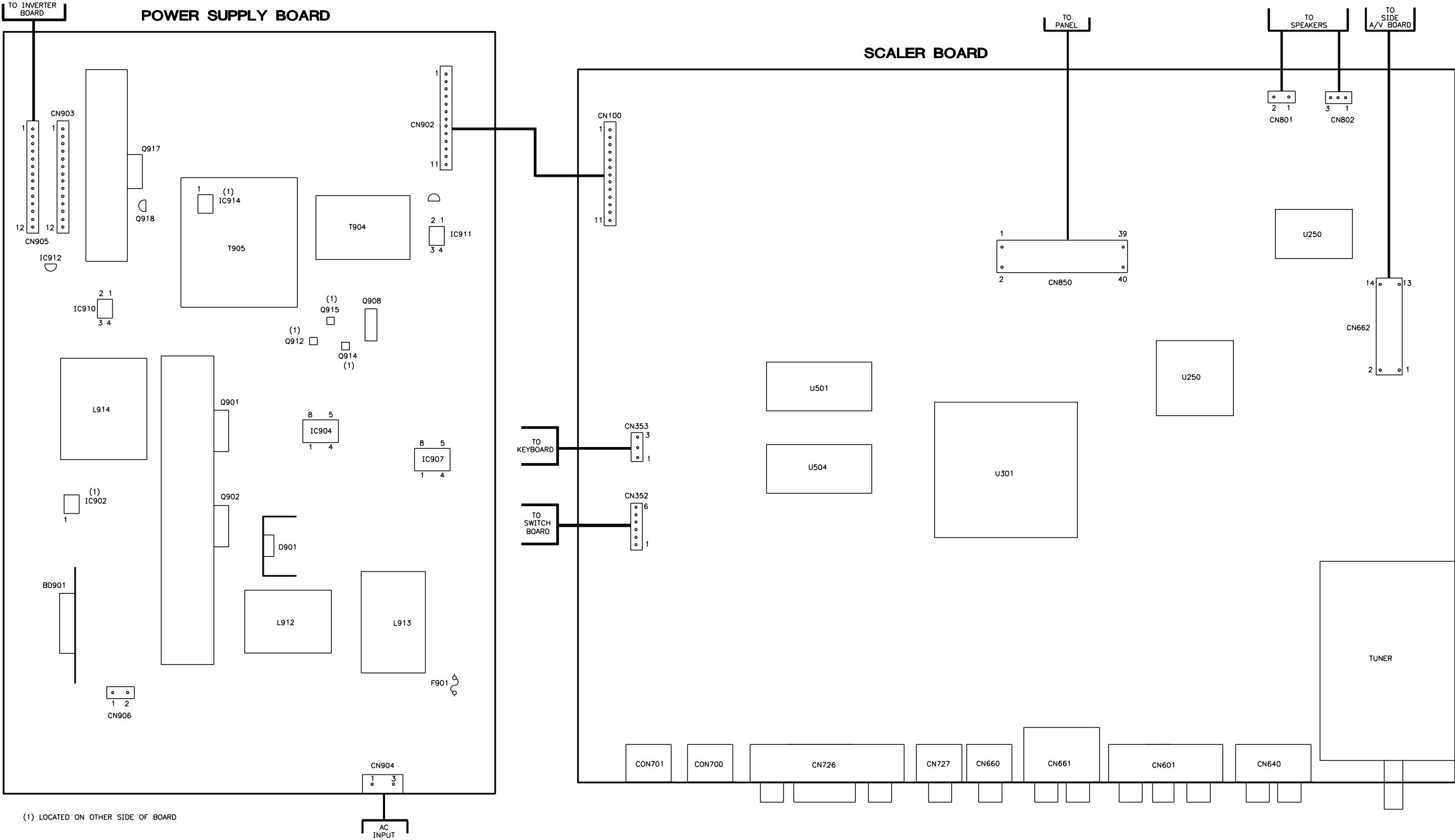
A PHOTOFACIT STANDARD NOTATION SCHEMATIC
WITH CIRCUITTRACE®
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MAGNAVOX

MODEL 47M437B37 (CHASSIS TPM2.0ULA)

PLACEMENT CHART

See Connector Charts for additional information.



MAGNAVOX

MODEL 47MF437B/37 (CHASSIS TPM2.0ULA)

See Connector Charts for additional information.

PHILIPS TUNER

Diagram illustrating the vertical structure and levels of the system. The structure is divided into 18 numbered levels, with levels 1 through 14 located in the main body and levels 15 through 18 located in the cap.

17	GND	0V
18	GND	0V

A diagram of a building with 23 floors. The building is represented by a vertical rectangle. At the top, there is a small square with diagonal lines, representing a chimney or antenna. To the right of the building, there are 23 horizontal lines, each corresponding to a floor. The floors are labeled as follows: (20) and (21) for the top floor, (1) through (19) for the middle floors, and (22) and (23) for the bottom floor.

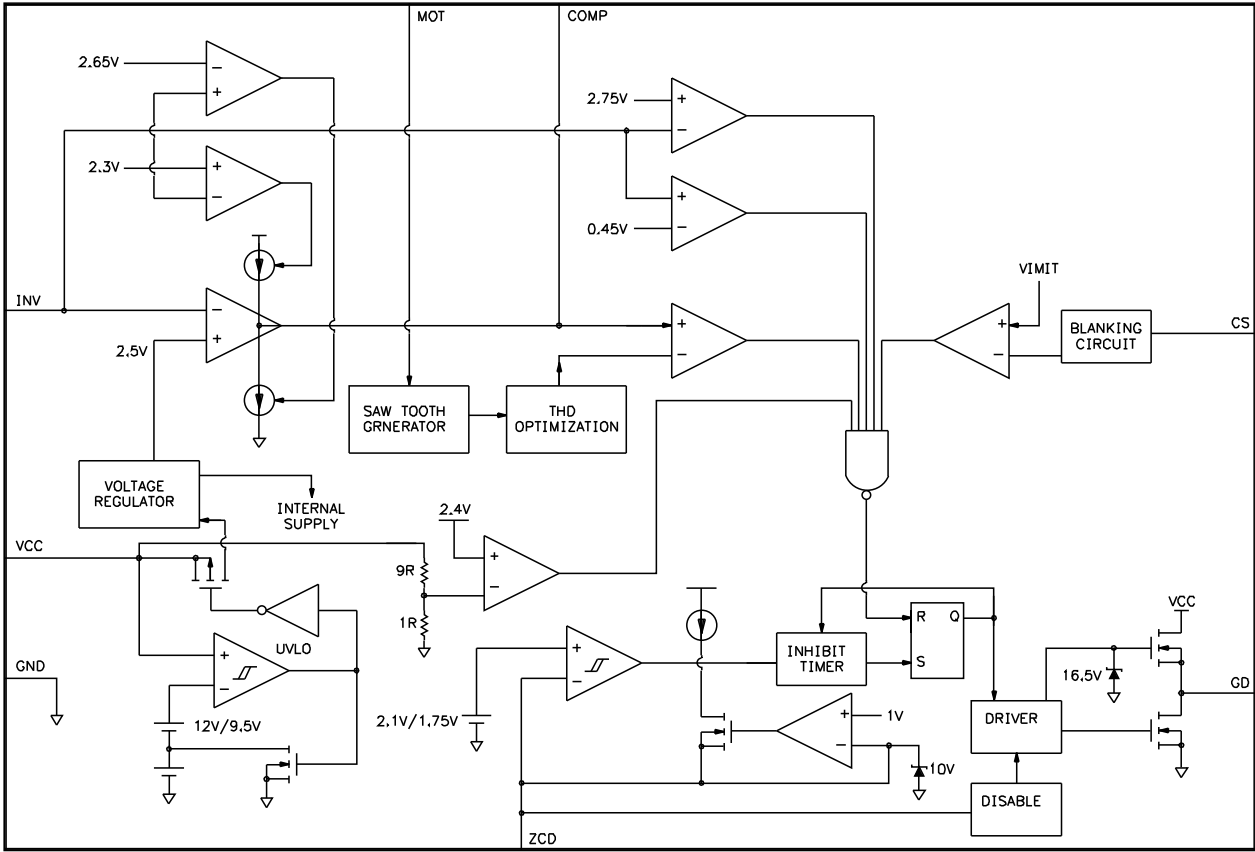
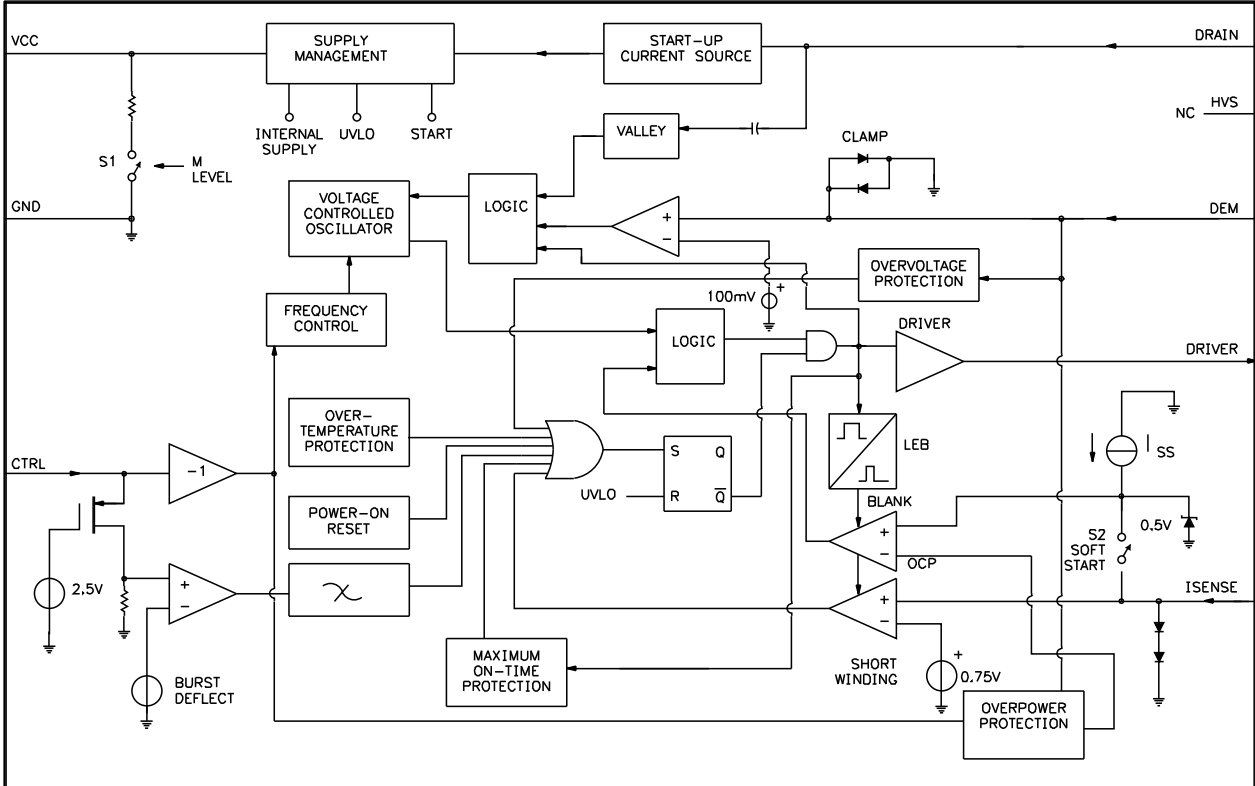
PIN	Description	Voltage
20	GND	0V
21	GND	0V
1	OOB	NC
2	+5V	5.0V
3	SIF	0V
4	NTSC CVBS	-
5	RF AGC	NC
6	AFT	3.3V
7	IF AGC	NC
8	+5V IF	5.0V
9	TU 32V	NC
10	GND	0V
11	GND	0V
12	SCL	1.9V
13	SDA	1.9V
14	AS	0V
15	B IF	NC
16	AGC	3.3V
17	NC	NC
18	FAT +	.01V
19	FAT -	.01V
22	GND	0V
23	GND	0V

Pin	CN850 Pin ID	Voltage
	DO NOT MEASURE	

CN905		
Pin	Pin ID	Voltage
1	24.0v	24.0v
2	24.0v	24.0v
3	24.0v	24.0v
4	24.0v	24.0v
5	24.0v	24.0v
6	Brigh Adj	DC/PWM
7	Inv On/Off	3.3V
8	GND	0V
9	GND	0V
10	GND	0V
11	GND	0V
12	GND	0V

- **Parts not listed in the parts list are commonly available at your local electronics parts retailer.**
- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

IC FUNCTIONS



PARTS LIST

Item No.	Type No.	Mfr. Part No.	Notes
BD901	KBUSJ	9965 100 04446	Bridge Rectifier
D901	STTH8L06FP	9965 000 43371	-
D906	LL4148-GS08	9965 100 03321	-
D907	RGP10D	9965 000 43436	-
D908	RGP10D	9965 000 43436	-
D910	LL4148-GS08	9965 100 03321	-
D911, 12	RGP10D	9965 000 43436	-
D914, 15	BAV103	9965 100 02829	-
D918	BAV21	9965 100 02529	-
D919	BAV103	9965 100 02829	-
D924, 25	UF1007 1A 1000V	9965 000 43437	-
D926	SBYV27-200-E3	9965 000 43440	-
D927	SP1060	9965 000 44611	-
D928	SBYV27-200-E3	9965 000 43440	-
D929	BAV103	9965 100 02829	-
D930	BAV21	9965 100 04449	-
IC902	SG6961	9965 000 44633	-
IC904, 07	TEA1507P	9965 000 36353	-
IC909, 10, 11	TCET1103G	9965 000 40056	-
IC913	TL431ACZ	9965 000 43441	-
IC914	TEA1761T	9965 100 04447	-
Q901	STP10NK80ZFP	9965 000 43864	-
Q902	2SK3681-01	9965 100 44610	-
Q908	STP10NK80ZFP ST	9965 000 44636	-
Q912, 13, 14	BC857CG	9965 000 37785	-
Q915, 16	BC847C	9965 000 42648	-
Q917	FDP3632	9965 100 04445	-
Q918	BC337-40	9965 100 04435	-
ZD902, 04	P6KE120A DO-15	9965 000 43434	-
ZD906	P4KE250A	9965 000 44652	-
ZD908	BZX79-B18A	9965 000 43427	-
ZD909	BZX79-C9V1	9965 100 04448	-
Item No.	Function Rating	Mfr. Part No.	Notes
C900	.0015 250V	9965 000 44612	-
C901, 02	470pF 25VAC	9965 000 43824	-
C907	180 450V	9965 100 03542	-
C908, 09	.68 275V	9965 000 43347	-
C926	.0015 1KV	9965 000 43457	-
C935	2.2 450V	9965 000 43822	-
CN903, 05	Connector	9965 100 04439	12Pin
FB903, 04, 05	Coil Bead	9965 000 43424	-
FB913 Thru			-
FB921	Ferrite Bead	9965 100 02511	-
FB923, 24, 25	Ferrite Bead	9965 000 43357	-
F901	Fuse	9965 100 02521	5A 250V
L910	2.4uH	9965 000 44634	-
L911	2.3uH	9965 000 44635	-
L912, 13	Line Filter, 8mH 4A	9965 000 43362	-
L914	PT-007396	-	-
L915, 16	47uH	9965 000 43425	-
P1	AC Power	-	Polarized
R924	.12 1% 1W	9965 000 44638	-
R926	.1 1% 1W	9965 000 43420	-
R928	8200 1% 1/10W	9965 000 44642	-
R937	2200 1% 1/8W	9965 000 43389	-
R939	18K 1% 1/6W	9965 000 43387	-
R940	1500 1% 1/8W	9965 000 44641	-
R941	2200 1% 1/8W	9965 000 43389	-
R943	2200 1% 1/8W	9965 000 43389	-
R944	8200 1% 1/10W	9965 000 44642	-
R945	330 1% 1/8W	9965 000 44643	-
R949	.1 1% 1W	9965 000 43420	-
R956	150K 1% 1/8W	9965 000 44644	-
R969, 70, 71	470K 1% 1/4W	9965 000 44648	-
R972	8200 1% 1/10W	9965 000 44642	-
R973	620 1% 1/8W	9965 000 43400	-
R974	.3 1% 1/4W	9965 100 02481	-
RV902	TVR14511KFC4FY	9965 100 02714	-
T904	Transformer	9965 100 04441	PPH6012AL
T905	Transformer	9965 000 44651	Power
TH902	Thermistor	9965 000 43454	.75 NTC 5A
TU201	Tuner	9965 100 03217	FQD1236
TU202	Tuner	9965 100 03219	TDQU4-507A assy.
	Panel	9965 000 45160	LC470WU4-SLA2
	PC Board	9965 000 44561	IR assy. (I)
	PC Board	9965 000 43803	Keyboard & Ctrl assy. (K)
	PC Board	9965 000 45188	Power supply assy. (P)
	PC Board	9965 100 03207	Scaler Board assy. (S)
	PC Board	9965 000 44560	Side AV assy. (SA)
	Speaker	9965 100 03387	-
	Switch	9965 100 02882	Tact, SKQGAB
	Transmitter	-	Remote, RC1113125/01B

For SAFETY use only equivalent replacement parts
Use Lead Free Solder