

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.

SERVICING THE HIGH VOLTAGE AND CRT

Use EXTREME CAUTION when servicing the high voltage circuits. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver ground and CRT anode lead. DO NOT lift the CRT by the neck. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays. Keep an accurate high voltage meter available at all times. Check meter calibration periodically. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

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.

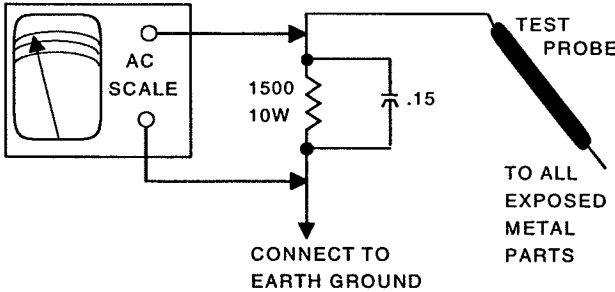
SAFETY CHECKS — FIRE AND SHOCK HAZARD

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.



HIGH VOLTAGE SHUTDOWN TEST

Apply 120VAC to set, turn set on, and adjust brightness and contrast to maximum. Short XRP-1 to XRP-2. The set should shut down and then cycle on and off. If the set does not shut down and then cycle on and off the shutdown circuit requires repair. To resume normal operation remove short from XRP-1 and XRP-2.

The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by SAMS Technical Publishing 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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SET 4498

MODEL F27700MGFB1 (CHASSIS CTC169CA5)

RCA

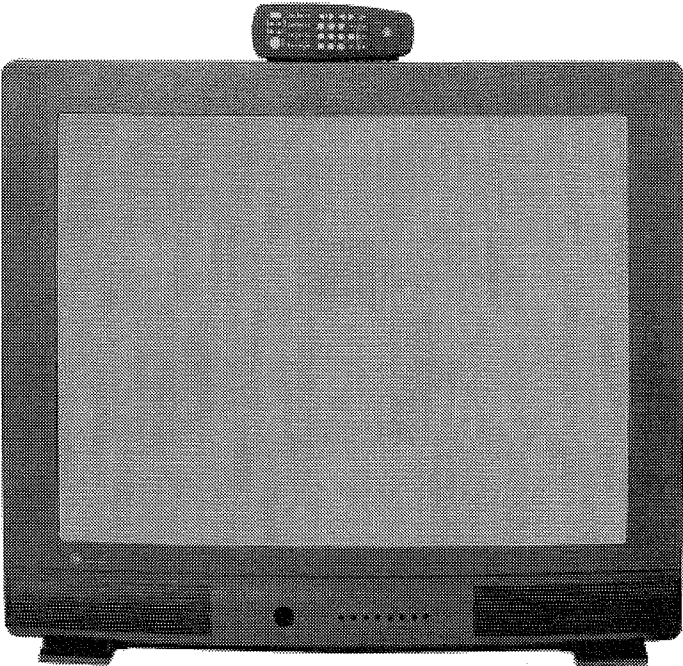
PHOTOFACT® Technical Service Data

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RCA

Model F27700MGFB1 (Chassis CTC169CA5)



Representative Model

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models and chassis:

Models	Chassis
F27700MGJX1	CTC169CA5
F27701BKFE1	CTC169CA6
F27701BKJX1	CTC169CA6
F27702SBFE1	CTC169CA6
F27702SBJX1	CTC169CA6
F27703SBJX1	CTC169CA8



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OCTOBER 2001 SET 4498

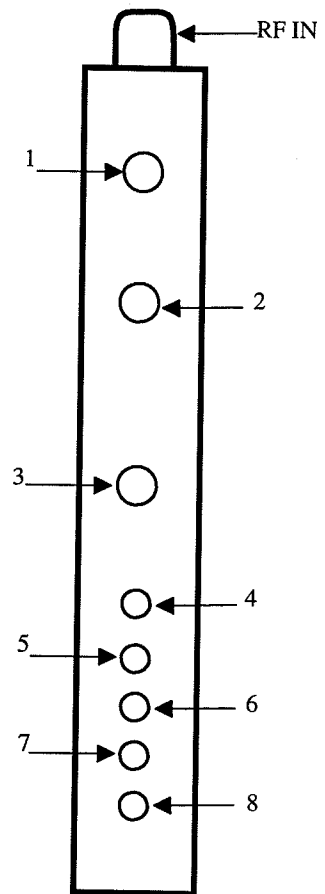
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
1 (AGC)	5.4V	4.1V	7.9V
2 (+12V)	12.0V	12.0V	12.0V
3 (IF)	11.7V	11.6V	11.7V
4 (+33V)	33.0V	33.0V	33.0V
5 (-12V)	-12.0V	-12.0V	-12.0V
6 (+5V)	5.0V	5.0V	5.0V
7 (SDA)	5.0V	5.0V	5.0V
8 (SCK)	5.0V	5.0V	5.0V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.

TUNER TERMINAL GUIDE

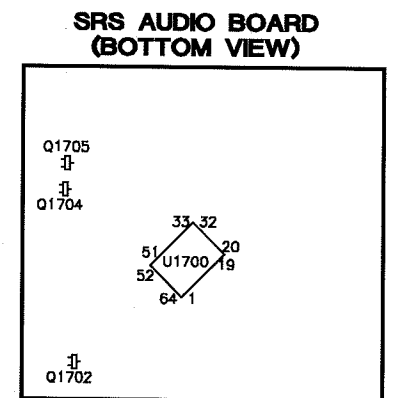
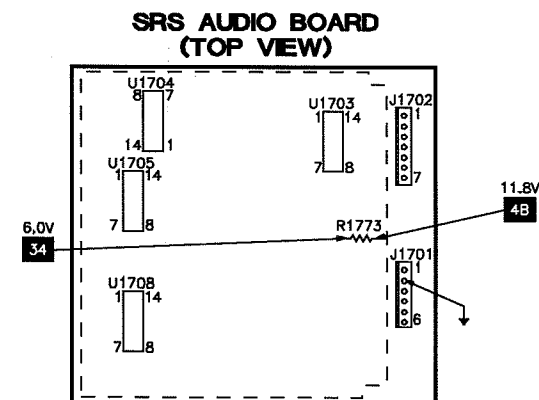
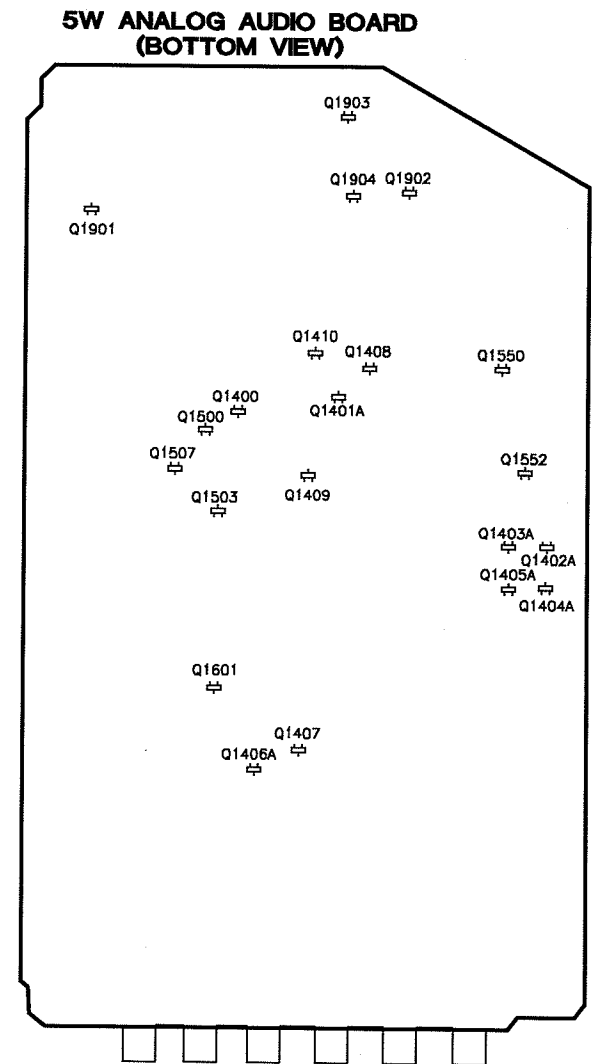
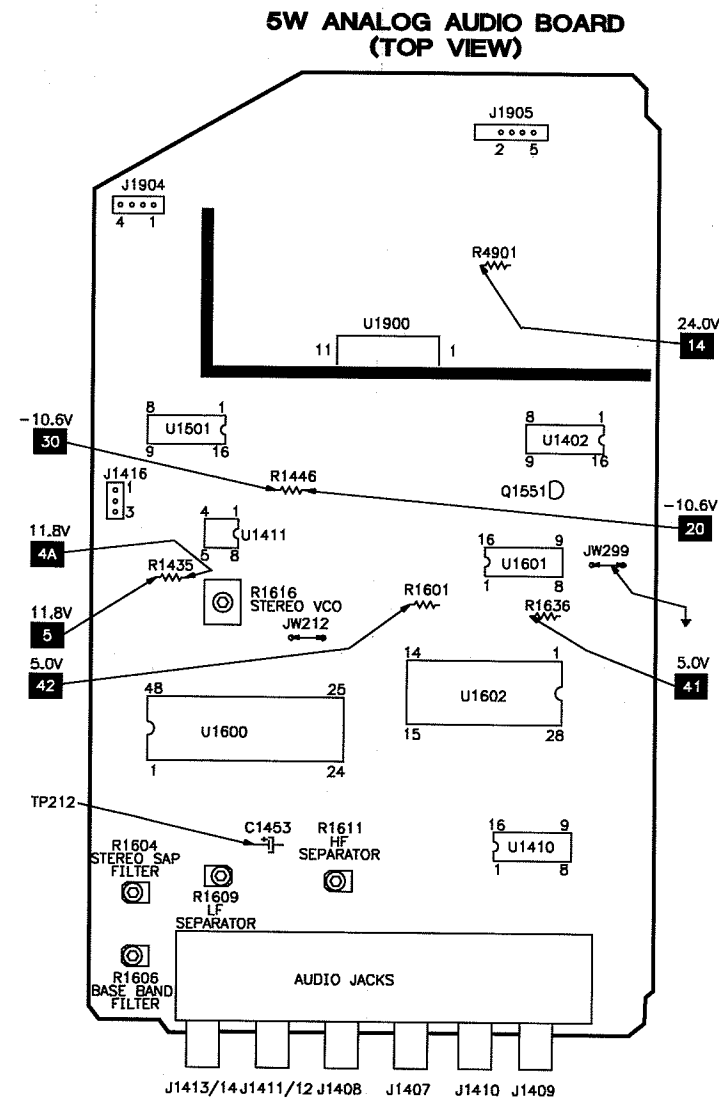


TEST EQUIPMENT

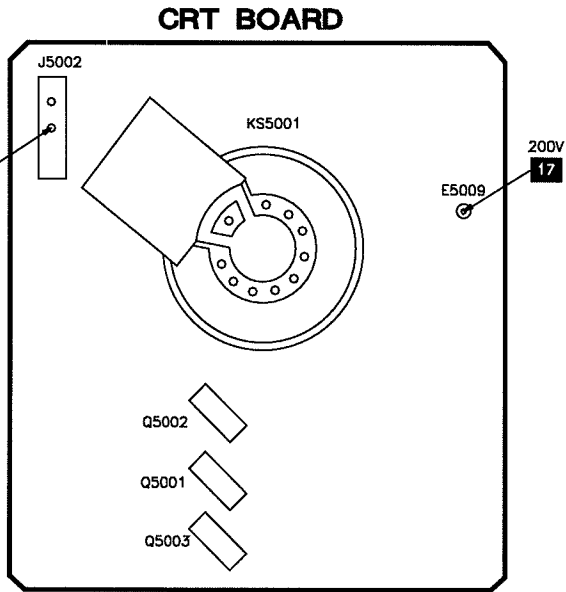
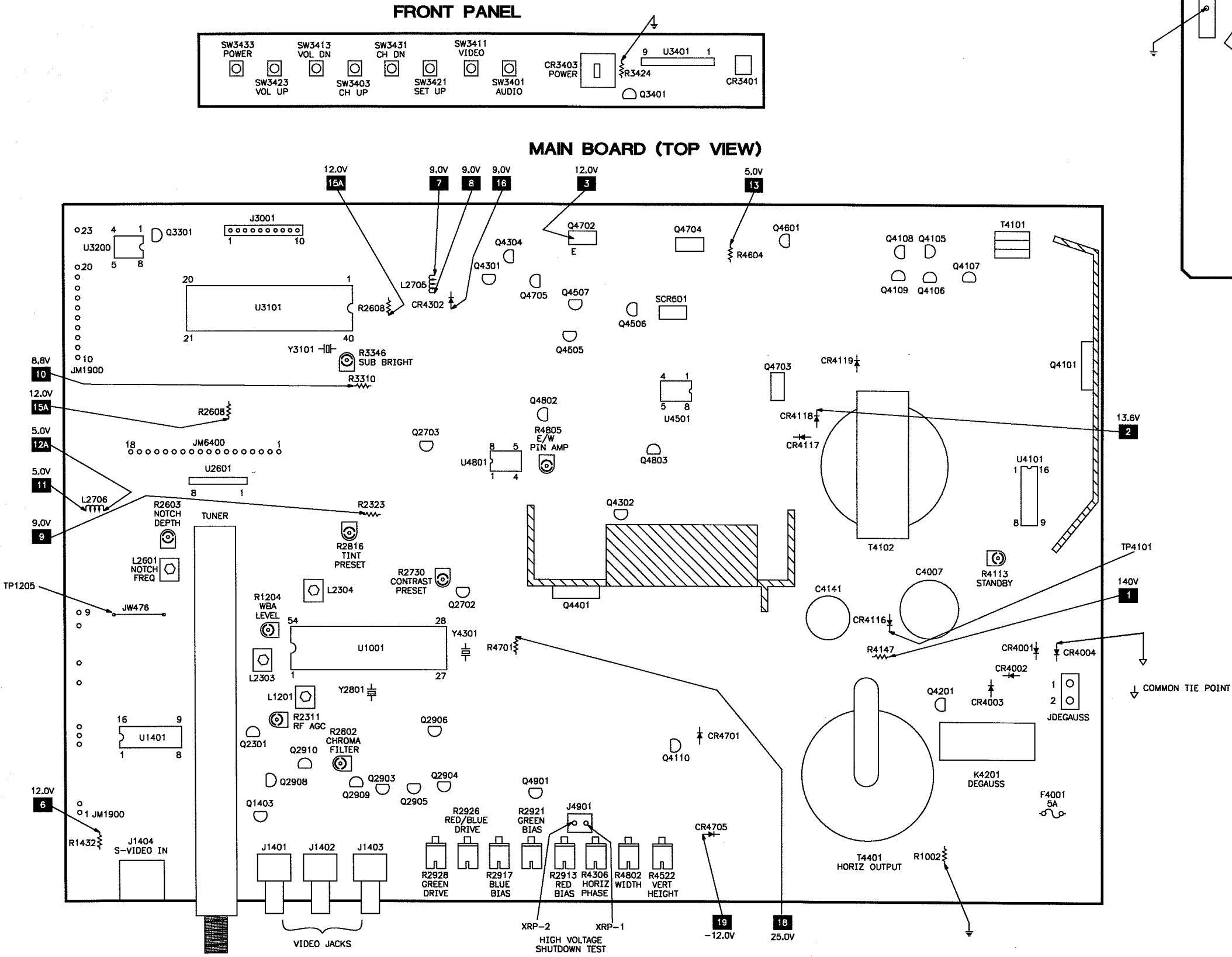
Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

Equipment	Sencore No.	Equipment	Sencore No.
Oscilloscope	SC3100	Isolation Transformer	PR570
Generators		Capacitance Analyzer	LC102
RGB	CM2125	CRT Analyzer	CR7000
Multiburst Signal	VG91	AC Leakage Tester	PR570
Color Bar	VG91	Inductance Analyzer	LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	Field Strength Meter	SL753
Frequency Meter	SC3100	Transistor Tester	TF46
Hi-Voltage Probe	HP200	Horizontal Analyzer	HA-2500
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

PLACEMENT CHART



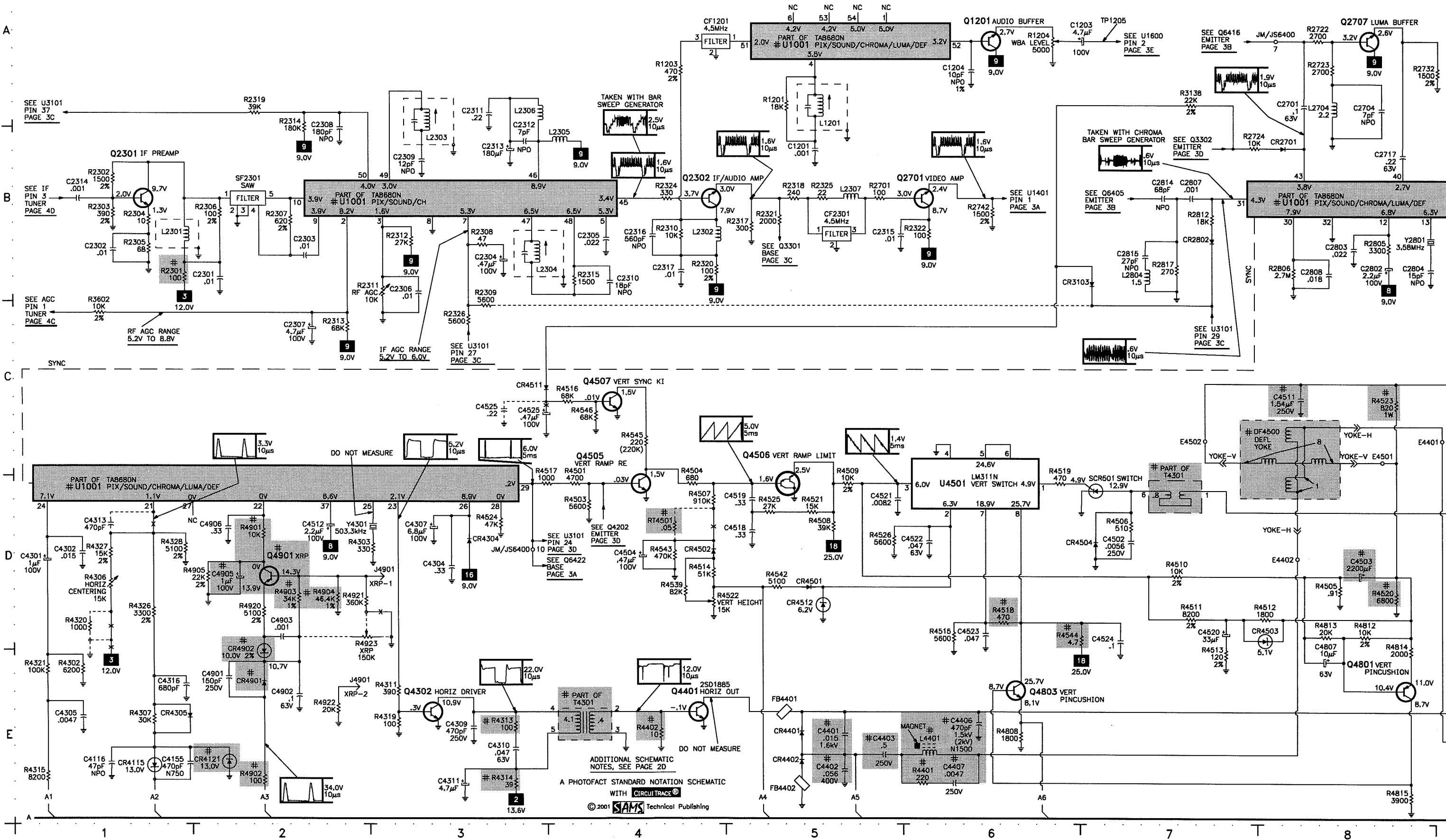
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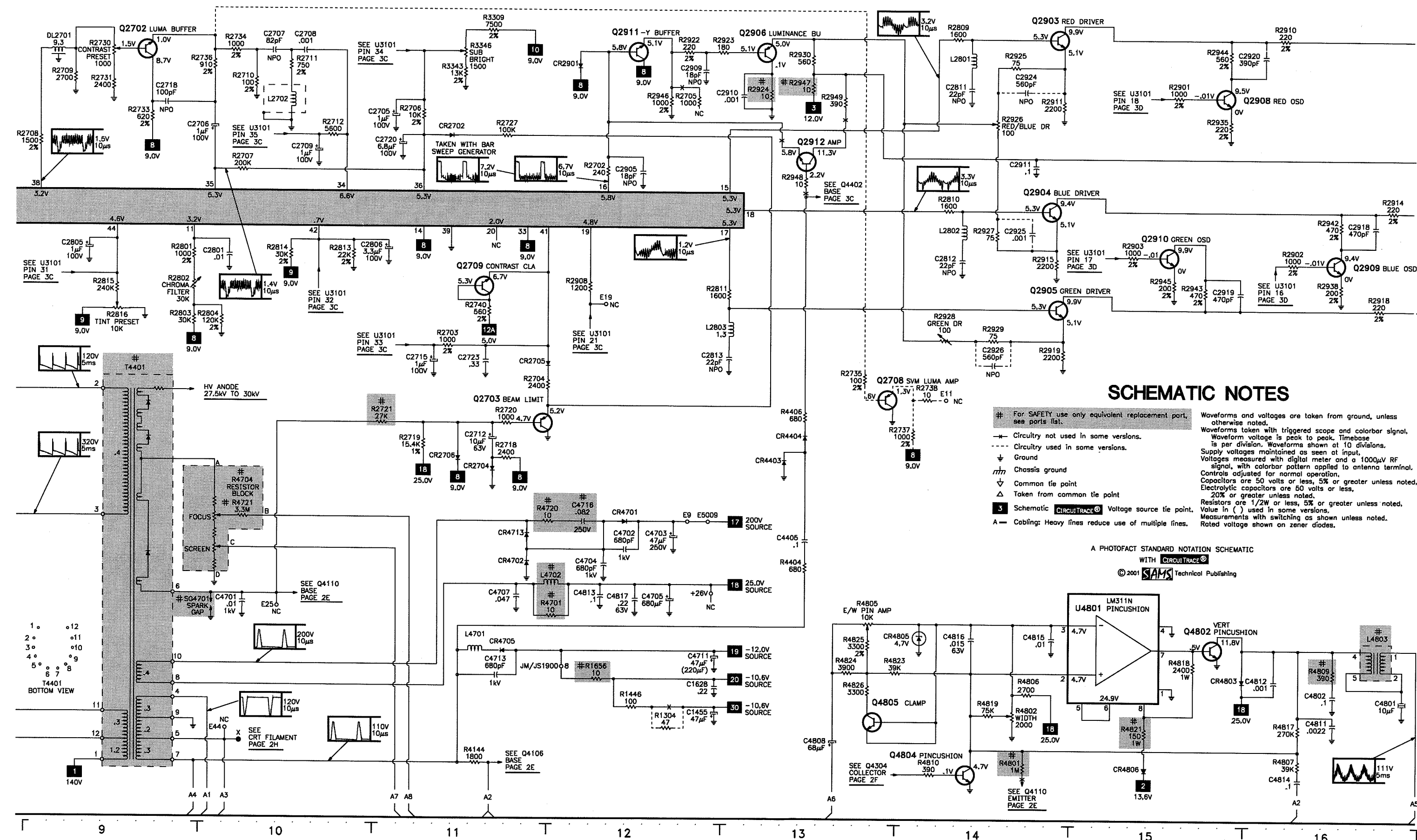


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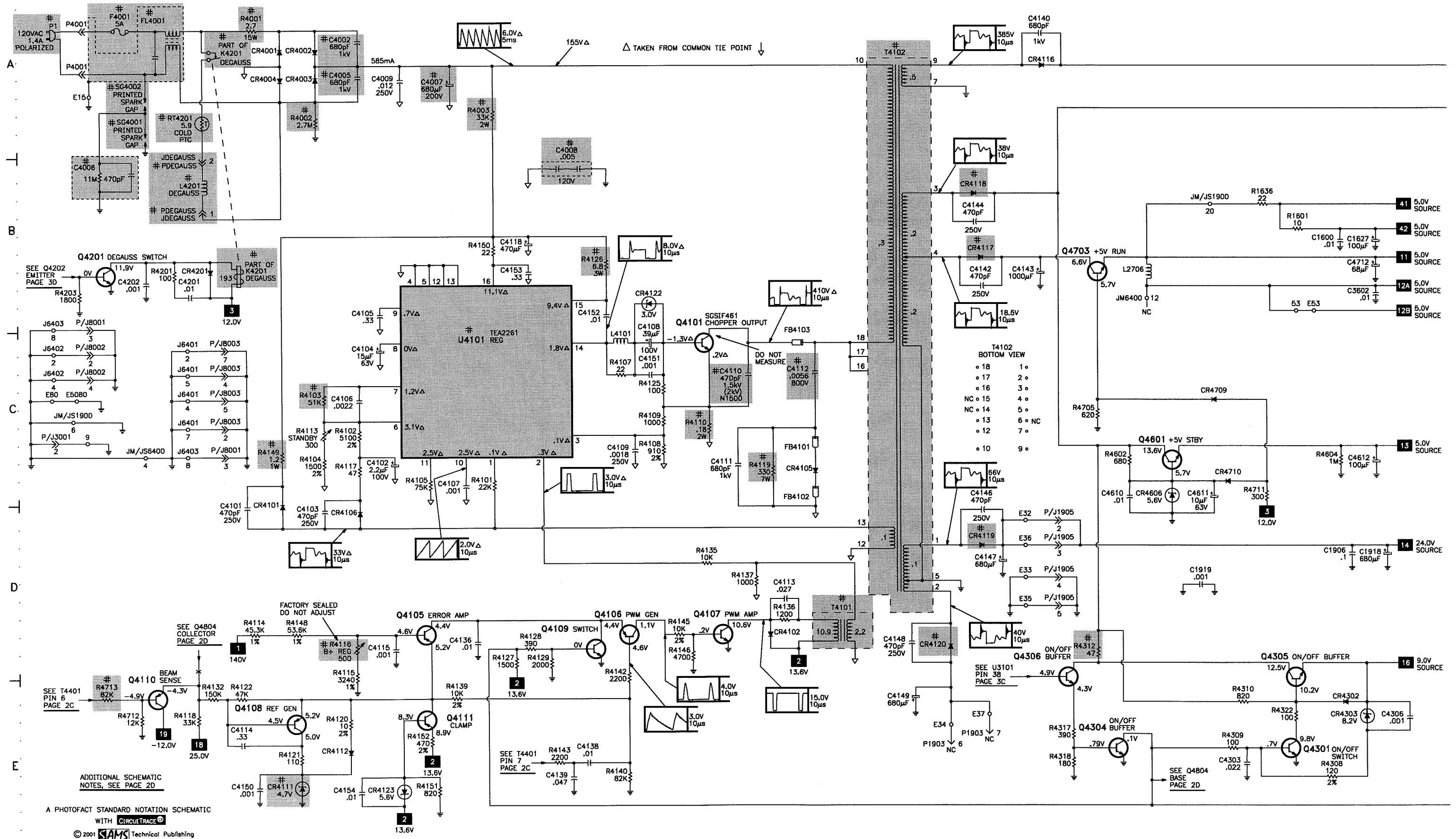
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TELEVISION SCHEMATIC

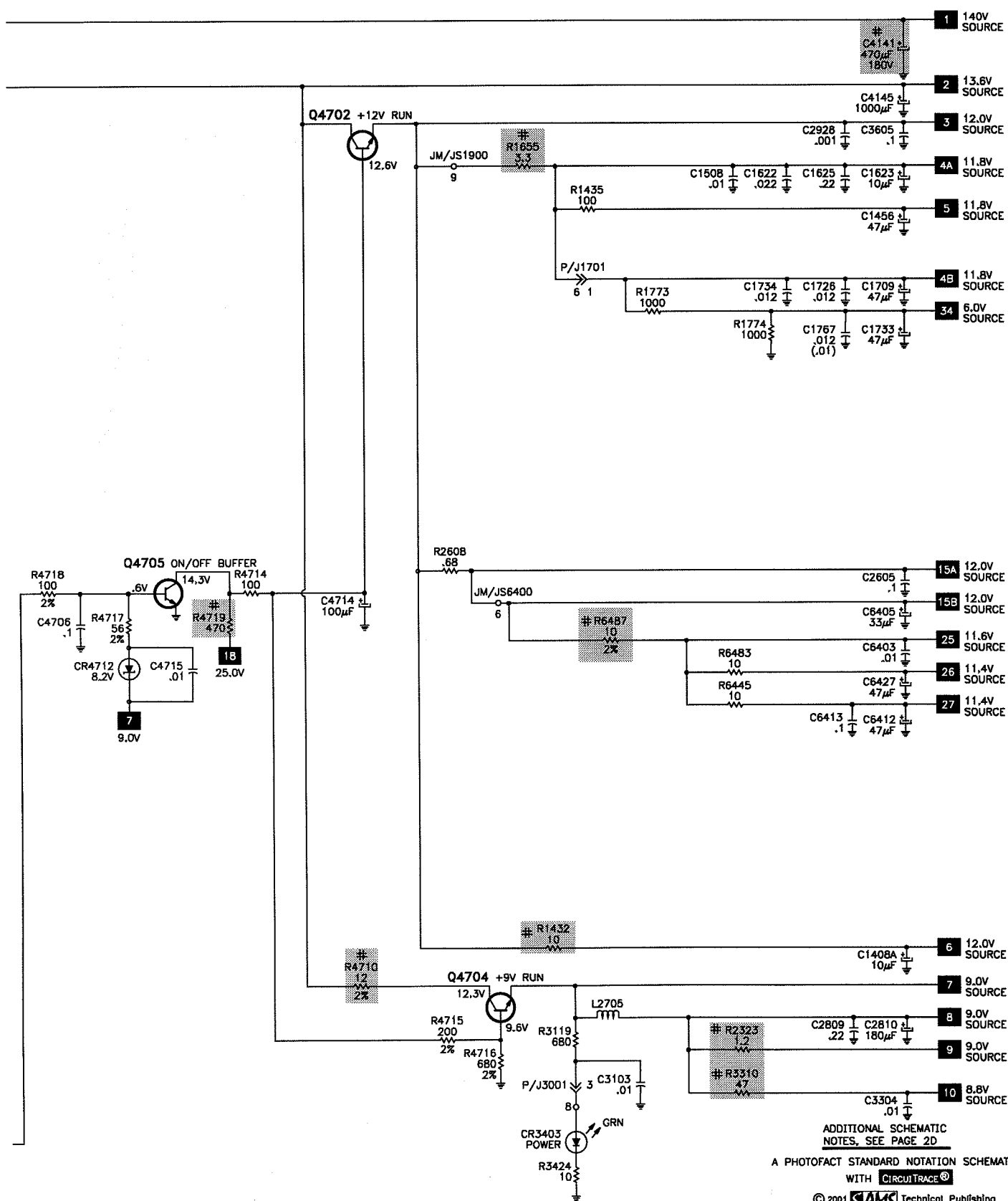




POWER SUPPLY SCHEMATIC



POWER SUPPLY SCHEMATIC continued

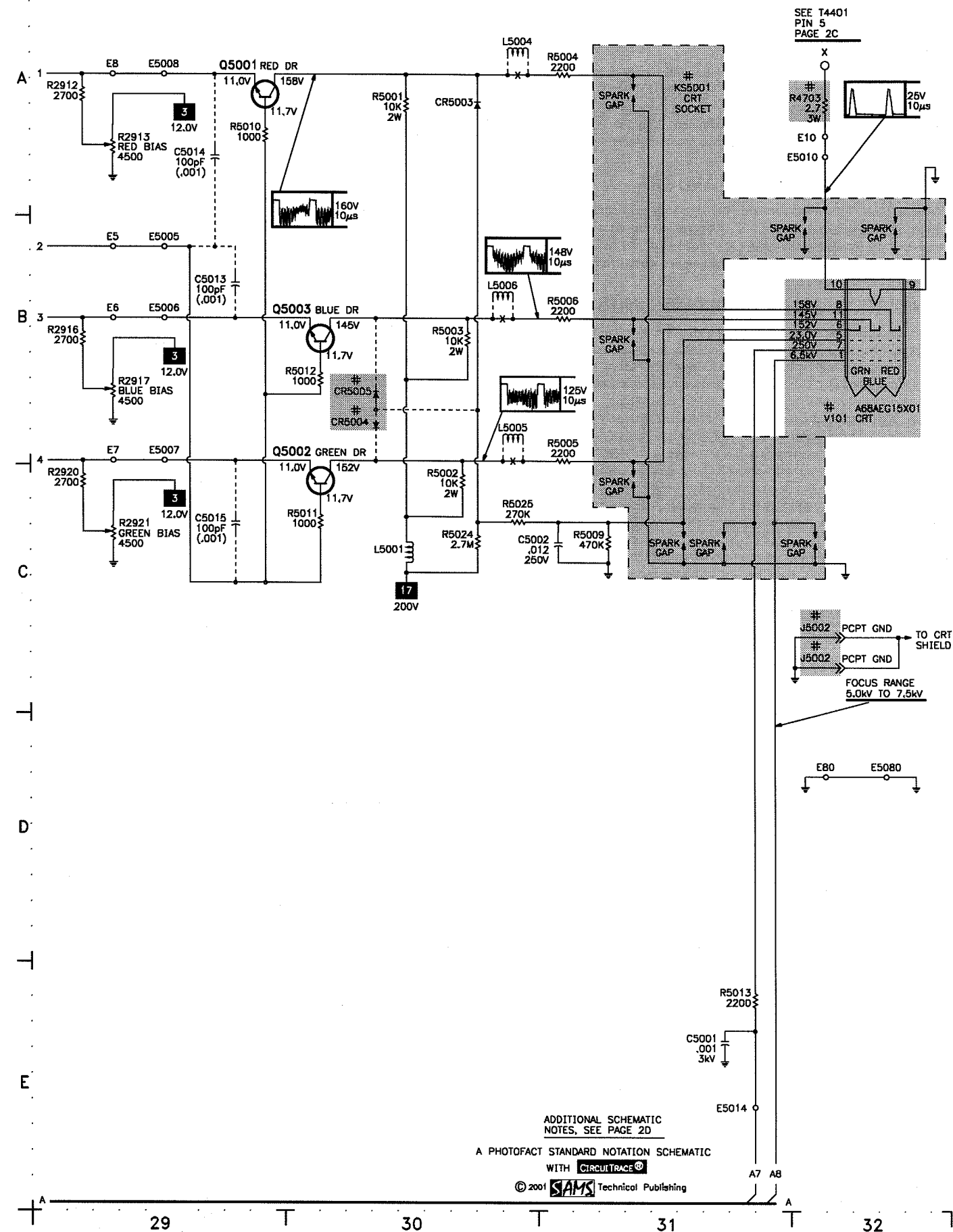


ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2D

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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H CRT SCHEMATIC

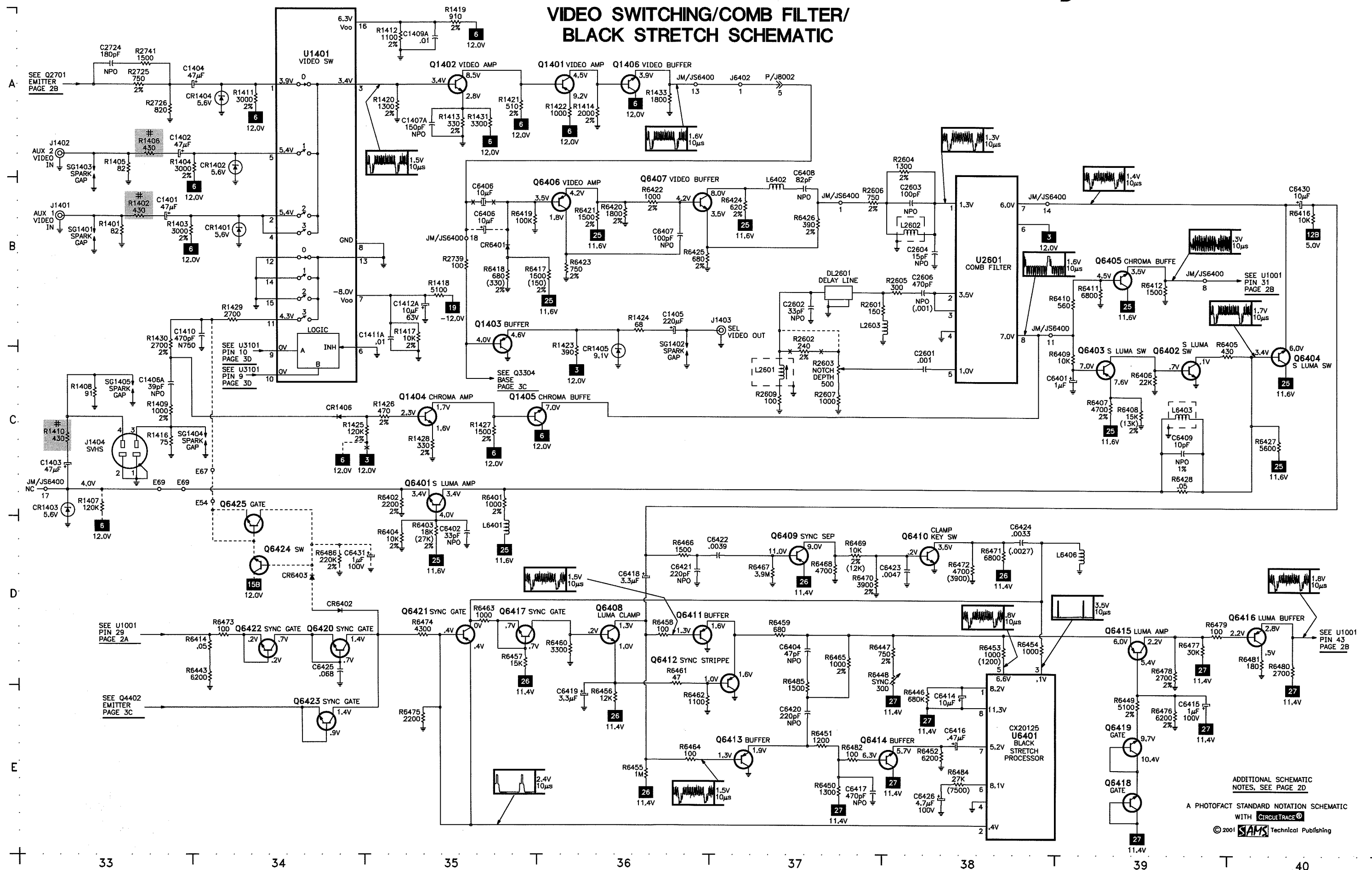


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VIDEO SWITCHING/COMB FILTER/ BLACK STRETCH SCHEMATIC



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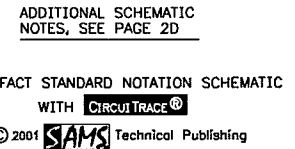
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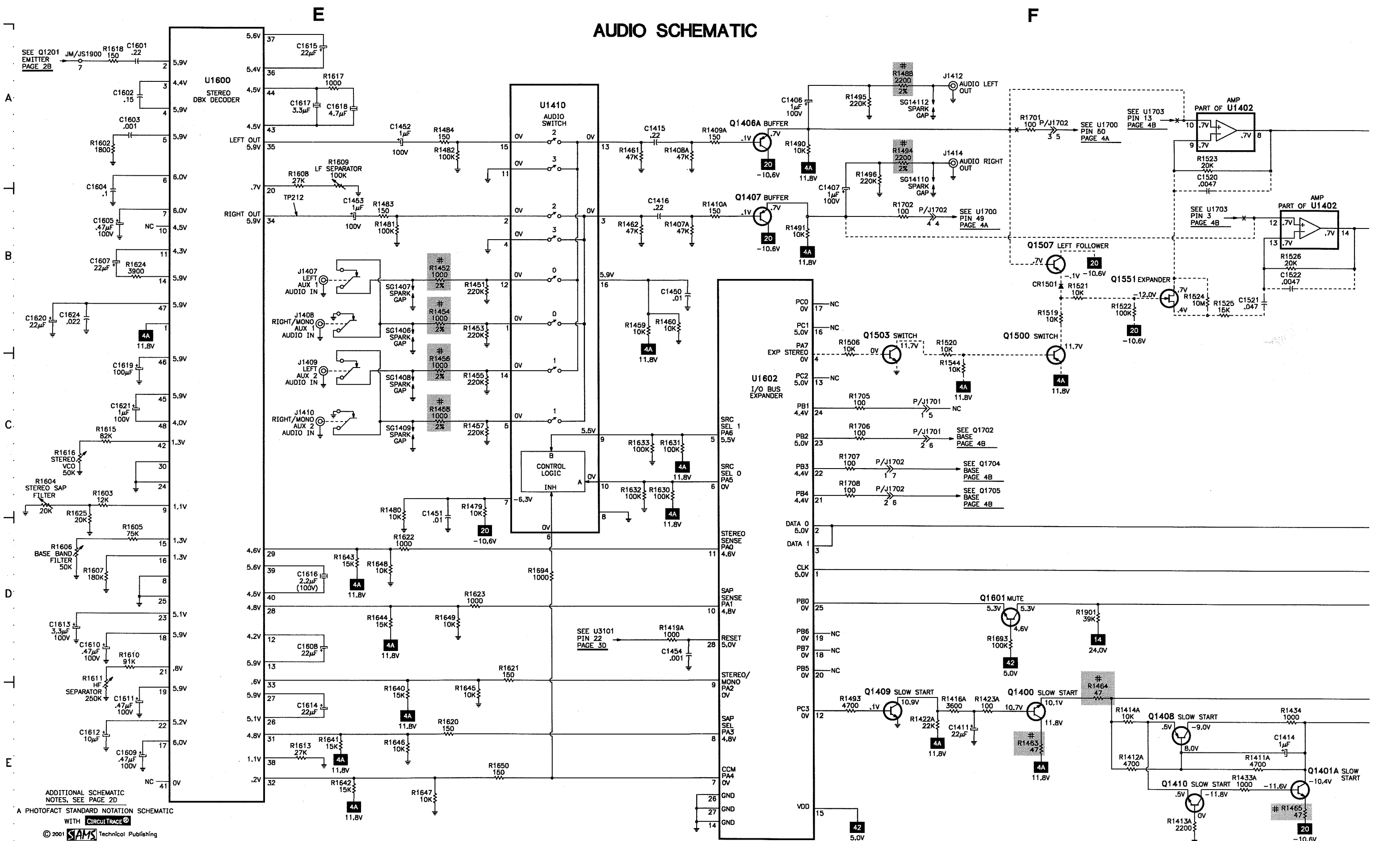
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AUDIO SCHEMATIC



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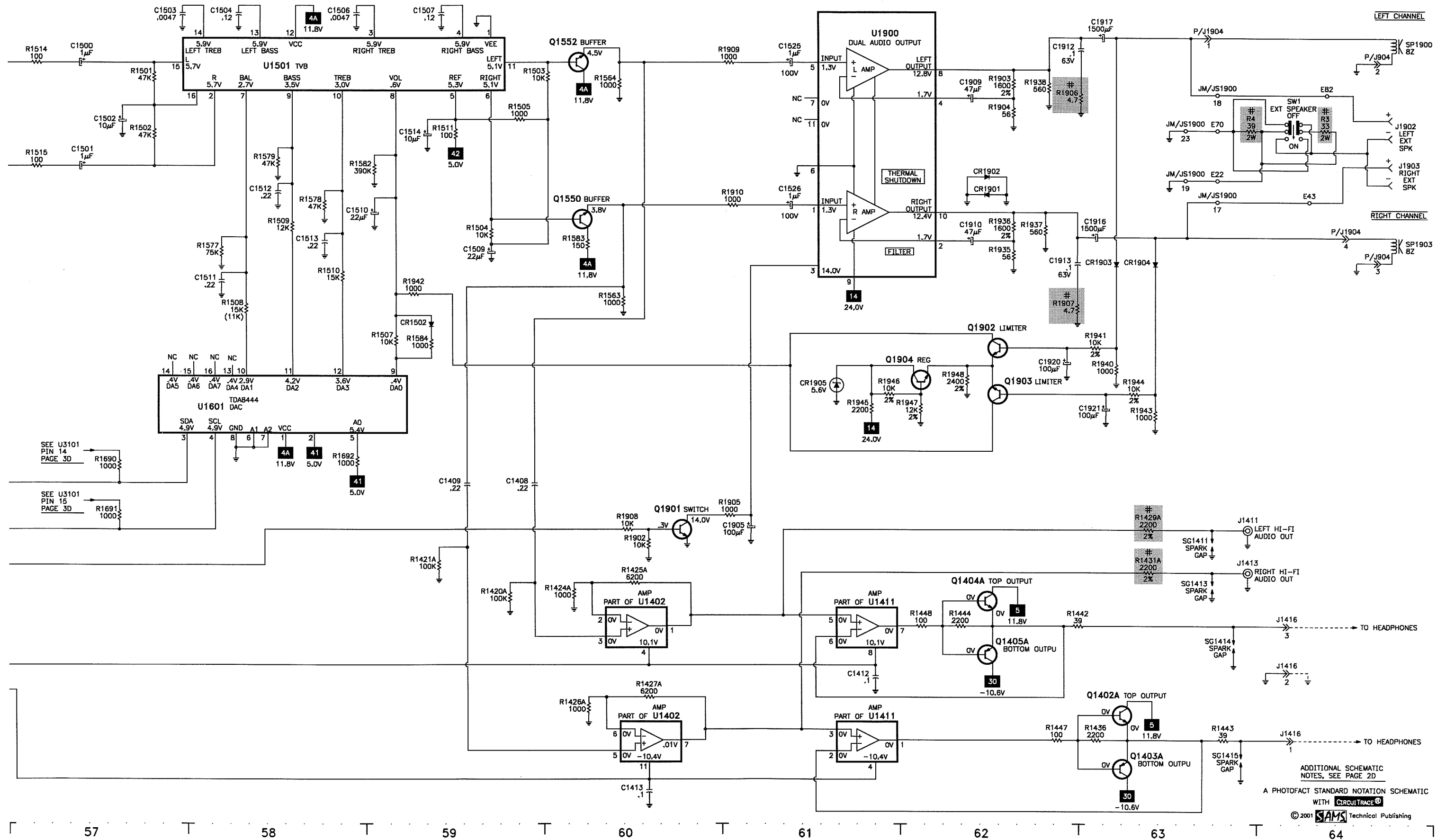
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AUDIO SCHEMATIC continued

H



RCA

MODEL F27700MGFB1 (CHASSIS CTC169CA5)

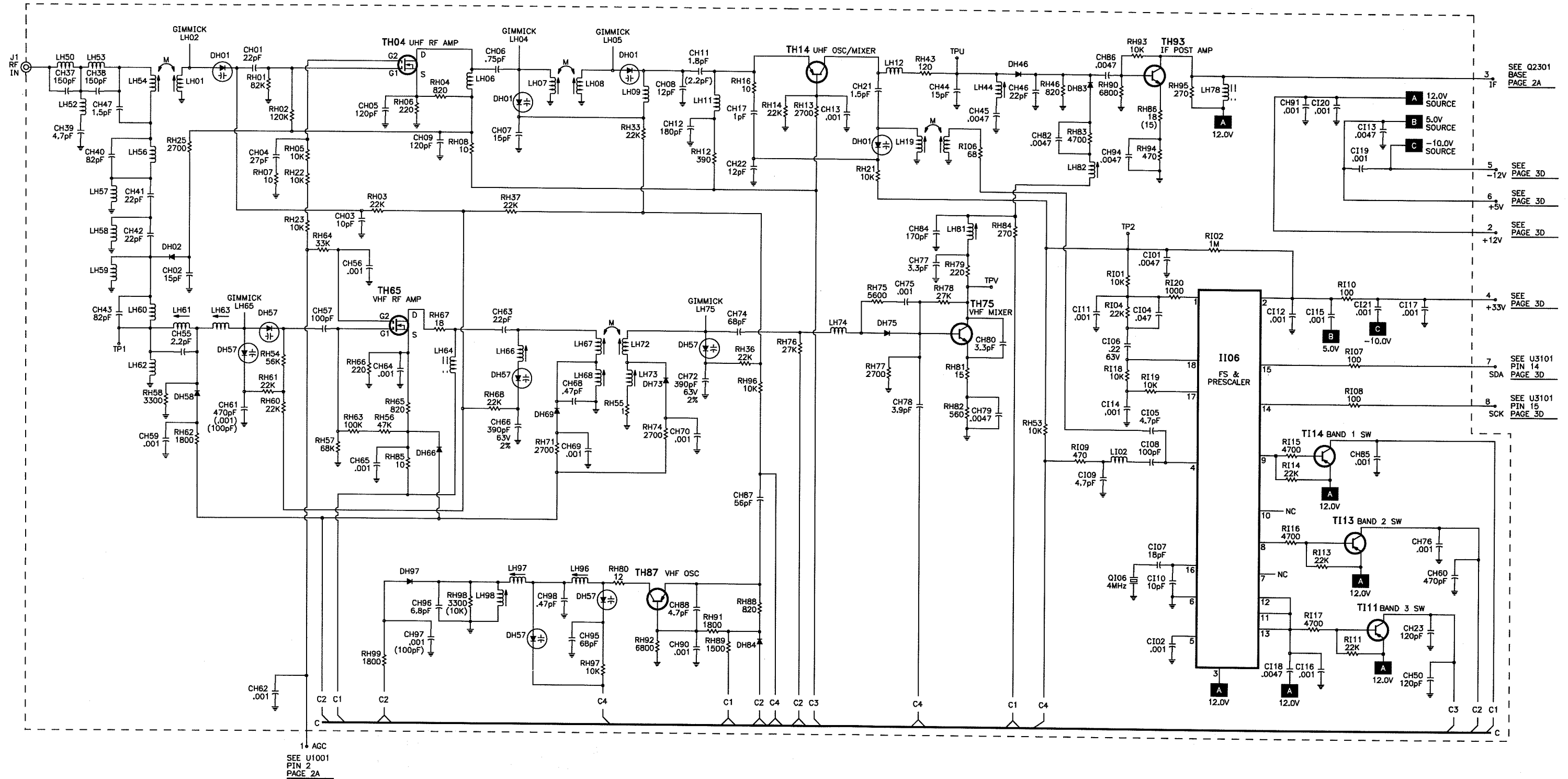
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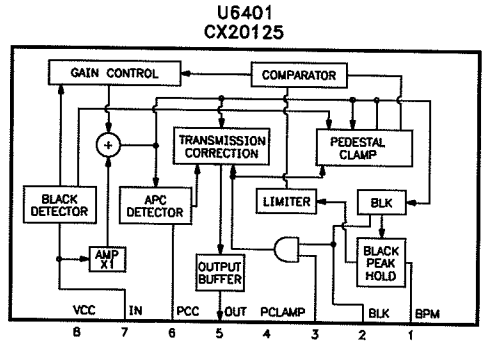
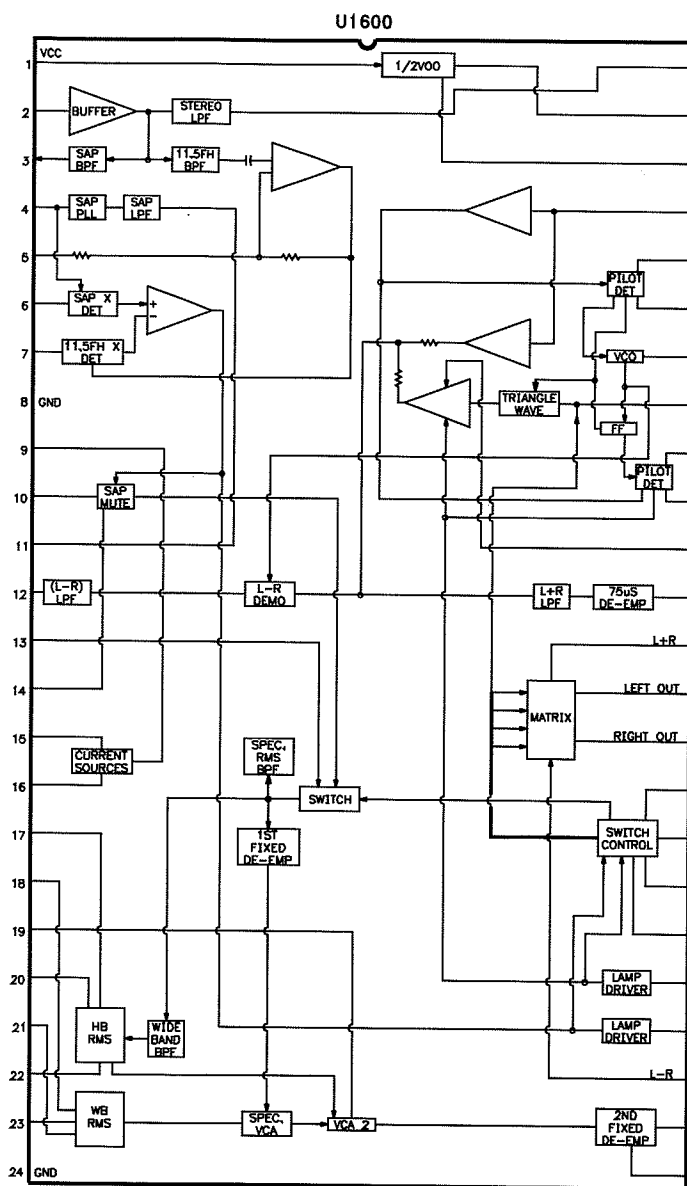
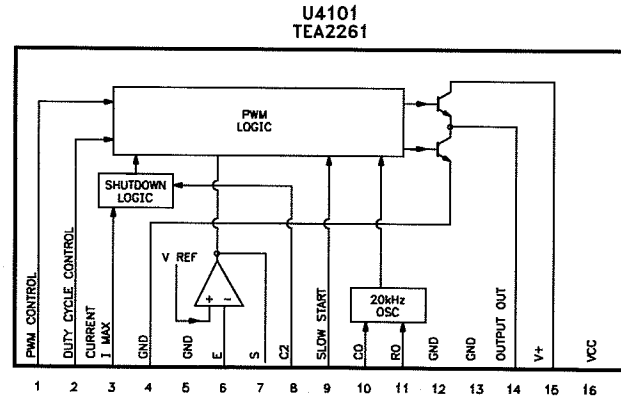
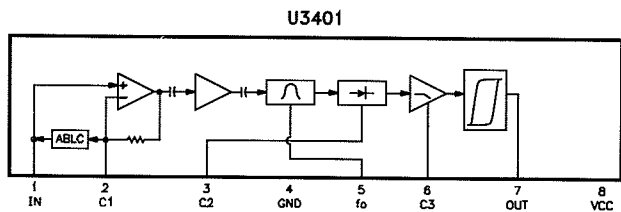
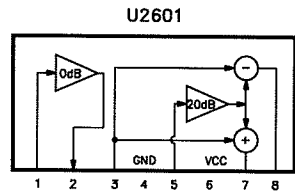
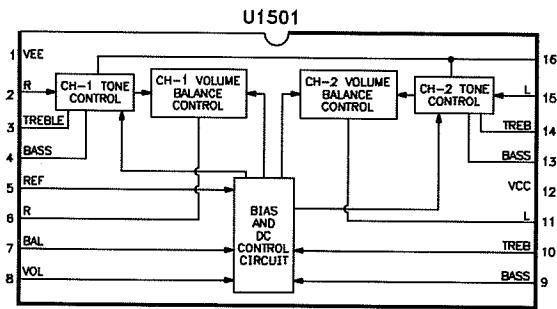
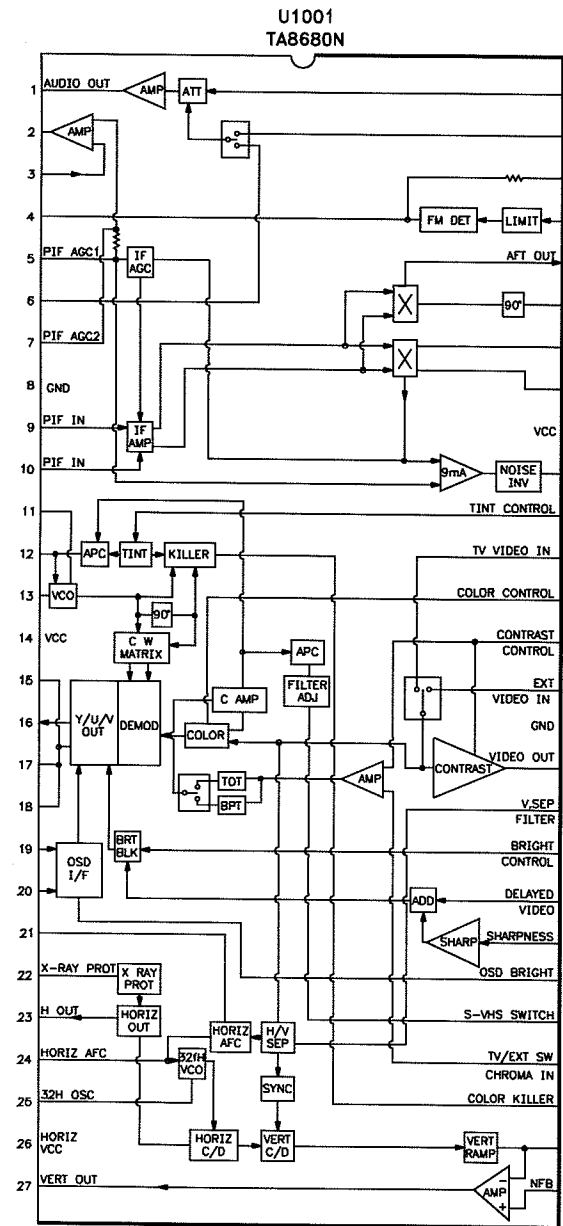
TUNER SCHEMATIC

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IC FUNCTIONS



SCHEMATIC COMPONENT LOCATION GUIDE

C1201	B5	C1711	C69	C2704	B8	C3323	C42	C4611	C23	CR3103	B7	L2305	B3	Q4101	C20	R1416A	E54	R1544	C54	R1739	C71	R2309	C3	R2918	C16	R3332	D46	R4312	D23	R4825	D13	R6482	E37
C1203	A6	C1712	B69	C2705	A11	C3401	B41	C4612	C24	CR3301	B44	L2306	B3	Q4105	D19	R1417	C35	R1563	C60	R1740	C70	R2310	B4	R2919	C14	R3333	D46	R4313	D23	R4826	E13	R6483	D27
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C1401	B33	C1714	E65	C2707	A10	C3403	B42	C4702	D12	CR3401	B44	L2601	C37	Q4107	D20	R1419	A35	R1577	B58	R1742	E66	R2312	B3	R2921	C29	R3335	B44	R4315	E1	R4902	E2	R6485	E37
C1402	B33	C1715	E65	C2708	A10	C3404	B42	C4703	D12	CR3402	B42	L2602	B38	Q4108	E18	R1419A	D52	R1578	B58	R1743	D69	R2313	C2	R2922	A12	R3336	B45	R4317	E22	R4903	D2	R6486	D34
C1403	C33	C1716	D65	C2709	B10	C3406	B24	C4704	D12	CR3403	E27	L2603	B37	Q4109	D20	R1420	A35	R1579	B58	R1744	C70	R2314	B2	R2923	A12	R3337	C46	R4318	E22	R4904	D2	R6487	C27
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C1451	D51	C1745	C65	C2814	B7	C4111	C21	C4901	E2	CR4201	B18	L5006	B30	Q4802	E15	R1431A	D63	R1621	E51	R1765	D67	R2701	B5	R3104	E42	R3406	B42	R4507	D4	R6403	D35	SW3411	D41
C1452	A51	C1746	D65	C2815	B7	C4112	C21	C4902	E2	CR4302	E24	L6401	D35	Q4803	E6	R1432	E26	R1622	D51	R1766	D67	R2702	B12	R3105	E41	R3424	E27	R4508	D5	R6404	D35	SW3413	D41
C1453	B50	C1747	B66	C2905	B12	C4113	D21	C4903	D2	CR4303	E24	L6402	B37	Q4804	E14	R1433	A36	R1623	D51	R1767	D68	R2703	C11	R3107	D42	R3601	C48	R4509	D5	R6405	C39	SW3421	D41
C1454	D52	C1748	D65	C2909	A12	C4114	E18	C4905	D2	CR4304	D3	L6403	C39	Q4805	E13	R1433A	E56	R1624	B49	R1768	E66	R2704	C12	R3108	E41	R3405	A42	R4506	D7	R6406	C39	SW3423	D41
C1455	E12	C1749	C65	C2910	A13	C4115	D19	C4906	D2	CR4305	E1	L6406	D39	Q4901	D2	R1434	E56	R1625	D49	R1769	E67	R2705	A12	R3109	E42	R3602	C1	R4510	D7	R6407	C39	SW3431	D41
C1456	B28	C1750	E68	C2911	B14	C4116	E1	C5001	E31	CR4401	E5	P1	A17	Q5001	A29	R1435	B27	R1630	C52	R1770	E67	R2706	B10	R3110	E42	R3604	A48	R4512	D7	R6408	C39	SW3433	D41
C1500	A57	C1751	C65	C2918	B16	C4118	B19	C5002	C31	CR4402	E5	Q1201	A6	Q5002	C30	R1436	E63	R1632	C52	R1772	A65	R2708	B9	R3112	E42	R4001	A18	R4514	D4	R6410	B39	T4102	A21
C1501	B57	C1752	B66	C2919	B15	C4136	D19	C5013	B29	CR4403	C13	Q1401	A36	Q5003	B30	R1442	D62	R1633	C52	R1773	B27	R2709	A9	R3113A	E42	R4002	A18	R4515	D6	R6411	B39	T4301	D7
C1502	B57	C1753	D69	C2920	A16	C4138	E20	C5014	A29	CR4404	C13	Q1401A	A36	Q6401	D35	R1443	E63	R1633	C52	R1774	B27	R2710	A10	R3114	E42	R4003	A19	R4516	C4	R6412	B39	T4301	E4
C1503	A57	C1754	C69	C2924	A14	C4139	E20	C5015	C29	CR4501	D5	Q1401A	A36	Q6402	C39	R1444	D62	R1636	B23	R1775	B65	R2711	A10	R3115	E42	R4004	A18	R4517	D3	R6414	B39	T4401	C9
C1504	A58	C1755	B68	C2925	B14	C4140	A22	C6401	C39	CR4502	D4	Q1402	A35	Q6403	C39	R1445	E12	R1640	E51	R1776	D69	R2712	B10	R3116	E42	R4005	A19	R4518	C18	R6416	B40	U1001	B2
C1506	A58	C1756	D69	C2926	C14	C4141	A28	C6402	D35	CR4503	E7	Q1402A	A35	Q6404	C40	R1446	E62	R1641	E50	R1777	B67	R2713	C11	R3117	E42	R4006	A18	R4519	C18	R6417	B36	U1401	A34
C1507	A59	C1757	B65	C2928	B28	C4142	B22	C6403	C28	CR4504	D7	Q1403	C35	Q6405	B39	R1447	D62	R1642	E50	R1778	B67	R2714	C11	R3118	E42	R4007	A18	R4520	C19	R6418	B35	U1402	A55
C1508	B27	C1758	C66	C3101	E41	C4143	B22	C6404	D37	CR4511	C3	Q1403A	E63	Q6406	B36	R1451	B51	R1643	D51	R1781	E51	R1782	B72	R3119	E42	R4008	A18	R4521	D5	R6419	B35	U1403	A55
C1509	B59	C1759	B68	C3102	E41	C4144	B22	C6405	C28	CR4512	D5	Q1404	C35	Q6407	B36	R1452	B51	R1644	D51	R1782	E51	R1783	E68	R3120	E42	R4009	A18	R4522	D4	R6420	B36	U1404	D60
C1510	B59	C1760	B68	C3103	E27	C4145	A28	C6406	B35	CR4606	C23	Q1404A	D62	Q6408	D36	R1453	B51	R1645	D51	R1783	E51	R1784	E69	R3121	E42	R4010	A18	R4523	C8	R6421	B36	U1405	E60
C1511	B58	C1761	D66	C3104	A43	C4146	D22	C6407	B35	CR4701	D12	Q1405	C35	Q6409	D37	R1454	B51	R1646	D51	R1784	E51	R1785	E69	R3122	E42	R4011	A18	R4524	D3	R6422	B36	U1410	A52
C1512	B58	C1762	D66	C3105	E42	C4147	D22	C6408	B37	CR4702	D11	Q1405A	E62	Q6410	D38	R1455	C51	R1647	D51	R1785	E51	R1786	E69	R3123	E42	R4012	A18	R4525	D5	R6423	B36	U1411	D61
C1513	B58	C1763	D67	C3106	E41	C4148	D21	C6409	B37	CR4703	E11	Q1406	A36	Q6411	D38																		

MISCELLANEOUS ADJUSTMENTS

B+ STANDBY

Tune in a picture. Set brightness, contrast, and color to minimum. Connect a voltmeter to the cathode of CR4116. With 120VAC line input, adjust R4113 for 140V ±.5V.

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, contrast, and color to minimum. Connect a high voltage probe to the CRT anode. High voltage must measure 27.5kV to 30kV. High voltage must never exceed 30kV.

RF AGC

NOTE: R2311 should not require adjustment unless the tuner, U1001, or R2311 has been replaced.

Tune in the weakest local station. Adjust R2311 fully counterclockwise, and then clockwise for best picture. Check all other available channels for proper adjustment.

CONTRAST PRESET

Tune in a crosshatch pattern. Set brightness and color to minimum, contrast to midrange. Adjust R2730 to a point where highlights are visible.

TINT PRESET

Tune in an active channel. Adjust R2816 for proper flesh tones.

HORIZONTAL PHASE

Tune in a crosshatch pattern. Adjust R4306 to center the pattern horizontally.

VERTICAL HEIGHT

Tune in a crosshatch pattern. Adjust R4522 for slight over scan on top and bottom.

PINCUSHION

Tune in a crosshatch pattern. Adjust R4805 for straight vertical lines at the top and bottom of the screen. Adjust R4802 for a slight overscan.

SUB BRIGHTNESS

Tune in a crosshatch pattern. Set contrast, brightness, and color to minimum. Adjust R3346 for faintly visible highlights. Set contrast, brightness, and color to maximum. Check for blooming, readjust if necessary.

CHROMA FILTER

Tune in a color bar pattern. Adjust R2802 for the proper color display.

COMB FILTER

Tune in a color bar pattern. Connect oscilloscope to pin 7 of U2601. Adjust R2603 and L2601 for minimum level of chroma burst on the waveform.

COLOR TEMPERATURE

Tune in a crosshatch pattern. Set color, contrast, R2913, R2917, R2921, and screen control to minimum. Set R2926, R2928, and brightness to midrange. Obtain a service line by shorting the collector of Q4505 to ground. Advance screen control until a line of one predominate color is just visible. Adjust R2913, R2917, and R2921 to obtain a white line. Set brightness and contrast to

maximum. Adjust R2926 and R2928 for best black and white picture. Check tracking at low and high brightness.

SYNC LEVEL

Tune in a color bar signal. Connect an oscilloscope to the emitter of Q6416. Adjust R6448 for 1.8V p-p waveform.

CONVERGENCE/ PURITY

The deflection yoke is bonded to the CRT. Purity and convergence adjustments are not required.

STEREO ADJUSTMENTS

NOTE: Adjustments were made using a TV/stereo generator connected to the antenna terminals. Set receiver to stereo mode.

WIDE BAND AUDIO LEVEL

Select 300Hz audio frequency, and L+R modulating signal. Connect oscillo-scope to TP1205. Adjust R1204 for .3Vp-p.

STEREO/SAP FILTER

Select SAP, 1kHz audio frequency, and L+R modulating signal. Connect oscil-loscope to pin 3 of U1600. Adjust R1604 for minimum indication.

STEREO VCO

Select pilot, 1kHz audio frequency, and L+R modulating signal. Connect a digital voltmeter to pin 42 of U1600. Adjust R1616 for 1.3V.

BASE BAND FILTER (LPF)

Remove power and unsolder jumper wire JW212. Connect an audio generator to TP212. Apply AC power, and set the frequency on the audio generator for 15734Hz. Short pin 39 to pin 40 of U1600. Connect oscilloscope to pin 39 of U1600. Adjust R1606 for minimum response. Remove short and reconnect jumper wire JW212 to the circuit.

SEPARATION

Select pilot, 300Hz audio frequency, and right modulating signal. Connect an oscilloscope to pin 35 of U1600, adjust R1609 for minimum amplitude. Change audio frequency to 8kHz. Adjust R1611 for minimum amplitude. Re-peat process until no further decrease in the waveform amplitude is obtained.

PIP ADJUSTMENTS

LUMINANCE REFERENCE LEVEL

Tune in a color bar signal. Select PIP mode to display the color bar signal on the main and PIP picture. Set color level on menu to minimum. Adjust R8031 for equal luminance levels on both the main and PIP picture.

CHROMA REFERENCE LEVEL

Tune in a color bar signal. Select PIP mode to display the color bar signal on the main and PIP picture. Tune in a color picture off the air, adjust R8037 for equal color levels on both the main and PIP picture.

NEW CIRCUIT

VERTICAL CIRCUIT

The vertical reset pulse from pin 29 of U1001 turns on Q4505 which allows C4518 and C4519 to discharge thru R4504 and resets Q4506. When Q4505 is turned off, C4518 and C4519 charge thru R4507. R4522 adjusts the amount of voltage to C4518 and C4519. This causes a vertical ramp signal to be applied to pin 3 of U4501. Current for vertical deflection is supplied from pins 2 and 3 of T4401. During horizontal retrace, pin 2 of T4401 is more positive than pin 3 of T4401 which causes upward deflection. During horizontal trace, pin 2 of T4401 is more negative than pin 3 of T4401 which causes downward deflection. The net current is controlled by the ON and OFF time of SCR501. U4501 controls the ON and OFF time of SCR501. A horizontal ramp signal is applied to pin 2 of U4501. When the voltage at pin 3 of U4501 exceeds the voltage at pin 2 of U4501, SCR501 is turned on which allows negative current flow thru the yoke.

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- 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.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- NTE Electronics, Inc. (NTE)
- Sencore, Inc.

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Type No.	Mfr. Part No.	NTE Part No.
CR1401 Thru CR1404	-	176746	NTE5011A	CR4805	-	138974	NTE5069A	Q4304	-	146847	NTE123AP
	-	215488	NTE136A		-	227919	-		-	223704	-
CR1405	-	192848	NTE5018A	# CR4901	-	164717	NTE519	Q4305, 06	-	215495	-
	-	227362	-	# CR4902	-	157301	NTE177	2SD1885	-	200167	NTE2324%
CR1406	-	164874	NTE177	CR5003	-	159429	NTE5019T1	Q4402	-	215495	-
CR1501, 02	-	164717	NTE519		-	174489	NTE177	Q4505	-	146847	NTE123AP
CR1901, 02	-	147015	NTE125	# CR5004, 04	-	139706	NTE177		-	223704	-
CR1903, 04	-	164717	NTE519	CR6401, 02, 03	-	174489	NTE177	Q4506	-	148970	-
CR1905	-	161081	NTE5011T1		-	164717	NTE519	Q4507	-	146847	NTE123AP
CR2701, 02	-	164717	NTE519		-	215495	-		-	223704	-
CR2704, 05, 06	-	164717	NTE519	Q1201	-	179740	NTE2406	Q4601	-	146847	NTE123AP
CR2802	-	164717	NTE519	Q1400	-	215496	-		-	223704	-
CR2901	-	164717	NTE519	Q1401A	-	179740	NTE2406	Q4702, 03, 04	-	157627	NTE54
CR3101	-	176746	NTE5011A	Q1402	-	215495	NTE159	Q4705	-	146847	NTE123AP
	-	215488	NTE136A	Q1402A	-	179740	NTE2406		-	223704	-
CR3102, 03	-	164717	NTE519	Q1403	-	143806	NTE159	Q4801	-	215496	-
CR3301, 02	-	164717	NTE519	Q1403A	-	179741	NTE2407	Q4802	-	200168	-
CR3401	-	150711	-	Q1404	-	215495	-	Q4803	-	146847	NTE123AP
CR3402	-	182827	NTE5010A	Q1404A	-	179740	NTE2406		-	223704	-
CR3403	-	175393	-	Q1405	-	215495	-	Q4804, 05	-	215495	-
CR3601	-	200155	NTE5035A	Q1405A	-	179741	NTE2407	# Q4901	-	147665	NTE159
	-	215489	-	Q1406	-	215495	-	Q5001, 02, 03	-	208434	NTE376%
CR4001 Thru	-		-	Q1406A	-	179741	NTE2407	Q6401, 02	-	179740	NTE2406
CR4004	-	147015	NTE125	Q1407, 08	-	179741	NTE2407	Q6403	-	179741	NTE2407
CR4101	-	207878	NTE519	Q1409	-	179740	NTE2406	Q6404, 05	-	179740	NTE2406
	-	223338	-	Q1410	-	179741	NTE2407	Q6406	-	179741	NTE2407
CR4102	-	164717	NTE519	Q1500	-	179741	NTE2407	Q6407	-	179740	NTE2406
CR4105	-	207878	NTE519	Q1503	-	179740	NTE2406	Q6408	-	146847	NTE123AP
CR4106	-	176296	NTE552	Q1507	-	179741	NTE2407	Q6409	-	179741	NTE2407
# CR4111 (1)	-	202055	NTE242	Q1550	-	179740	NTE2406	Q6410	-	146847	NTE123AP
CR4112	-	164874	NTE177	Q1551	-	192849	-	Q6411, 12, 13	-	179741	NTE2407
CR4115	-	226783	-	Q1552	-	179740	NTE2406	Q6414	-	179740	NTE2406
	-	136634	NTE143A	Q1601	-	179740	NTE2406	Q6415, 16	-	179741	NTE2407
CR4116	-	200157	NTE142A	Q1702, 04, 05	-	179740	NTE2406	Q6417 Thru	-		
# CR4117	-	176296	NTE552	Q1901 Thru	-			Q6420	-	179740	NTE2406
# CR4118, 19, 20	-	164590	NTE580	Q1904	-	179740	NTE2406	Q6421	-	179741	NTE2407
# CR4121	-	136634	NTE143A	Q2301	-	146848	NTE229	Q6422, 23	-	179740	NTE2406

PARTS LIST continued

Item No.	Function/Rating	Mfr. Part No.	Notes	Item No.	Function/Rating	Mfr. Part No.	Notes	Item No.	Function/Rating	Mfr. Part No.	Notes
C1616	2.2µF 50V NP	190527	-	# DF4500 (4)	Yoke	-	Horiz .945mH, Vert 21mH	R1427	1500 2% 1/8W	181482	-
C1617	3.3µF 50V NP	190528	-	DL2601	Delay Line	223169	-	R1428	330 2% 1/8W	181488	-
C1618	4.7µF 50V NP	190529	-	DL2701	Delay Line	195704	-	# R1429A	2200 5% 1/2W	176632	-
C1713	180pF 5% 50V NPO	190543	-	# F4001	Fuse	175425	5Amp, 125V, Fast Acting	R1430	2700 2% 1/4W	176648	-
C2308	180pF 5% 50V NPO	190543	-	FB4101, 02	Ferrite Bead	152102	-	# R1431A	2200 5% 1/2W	176632	-
C2309	12pF 5% 50V NPO	174403	-	FB4103	Ferrite Bead	153328	-	# R1432	10 5% 1/4W	829010	-
C2310	18pF 5% 50V NPO	214028	-		Ferrite Bead	226467	-	# R1452, 54	1000 2% 1/4W	108865	-
C2312	7pF ±.5pF 50V NPO	174401	-	FB4401	Ferrite Bead	161237	-	# R1456, 58	1000 2% 1/4W	108865	-
C2316	560pF 5% 50V NPO	200139	-		Ferrite Bead	227410	-	# R1463, 64, 65	47 5% 1/4W	829047	-
C2602	33pF 5% 50V NPO	174408	-	FB4402	Ferrite Bead	206390	-	# R1488, 94	2200 2% 1/4W	176632	-
C2603	100pF 5% 50V NPO	174412	-	# FL4001	Line Filter	207879	-	R1604	20K Stereo SAP Filter	191389	-
C2604	15pF 5% 50V NPO	174404	-	J1401	Jack	190514	Aux 1 Video In	R1606	50K Base Band Filter	190526	-
C2606	.001 10% 50V	197600	-	J1402	Jack	190514	Aux 2 Video In	R1609	100K LF Separator	181108	-
	470pF 5% 50V NPO	214035	-	J1403	Jack	190514	Video Out	R1611	250K HF Separator	195951	-
C2704	7pF ±.5pF 50V NPO	174401	-	J1404	Jack	195705	SVHS	R1616	50K Stereo VCO	190526	-
C2707	82pF 5% 50V NPO	176828	-	J1407	Jack	190513	Aux 1 Audio In Left	# R1655	3.3 5% 1/2W	175772	-
C2718	100pF 5% 50V NPO	174412	-	J1408	Jack	190512	Aux 1 Audio In Right	# R1656	10 10% 1/4W	829010	-
C2724	180pF 5% 50V NPO	193338	-	J1409	Jack	192513	Aux 2 Audio In Left	R1718	43K 2% 1/10W	205363	-
C2804	15pF 5% 50V NPO	174404	-	J1410	Jack	190512	Aux 2 Audio In Right	R1743	100 2% 1/4W	175325	-
C2811, 12, 13	22pF 5% 50V NPO	194903	-	J1411, 12	Jack	190516	Assembly	R1903	1600 2% 1/2W	175311	-
C2814	68pF 5% 50V NPO	174410	-	J1413, 14	Jack	190515	Assembly	# R1906, 07	4.7 5% 1/4W	147960	-
C2815	27pF 10% 50V NPO	192050	-	# K4201	Relay	190490	Degaussing	R1936	1600 2% 1/2W	175311	-
C2905, 09	18pF 5% 50V NPO	174405	-	# KS5001	Socket	189986	CRT	R1941, 44, 46	10K 2% 1/10W	195937	-
C2924, 26	560pF 5% 50V NPO	200139	-	L2301	.68µH	195708	-	R1948	2400 2% 1/10W	205342	-
C3110	22pF 10% 50V NPO	194903	-	L2302	2.2µH	197616	-	# R2301	100 5% 1/4W	175325	-
C3119, 20	33pF 5% 50V NPO	174408	-	L2303	-	190506	-	R2302	1500 2% 1/8W	181482	-
C3128	560pF 5% 50V NPO	200139	-	L2304	-	190503	-	R2303	390 2% 1/8W	178284	-
C3144	560pF 10% 50V NPO	202904	-	L2305	2.2µH	197616	-	R2306	100 2% 1/8W	181486	-
C3145	100pF 10% 50V NPO	193340	-	L2306	-	206035	-	R2307	620 2% 1/8W	181493	-
C3301, 02	100pF 5% 50V NPO	174412	-	L2307	12µH	210687	-	R2311	10K RF AGC	181107	-
C3303	100pF 5% 50V NPO	193340	-	L2601	18µH	223800	-		10K RF AGC	189853	-
C3306	100pF 5% 50V NPO	174412	-	L2602	39µH	195710	-	# R2320	100 2% 1/8W	181486	-
C3314	220pF 5% 50V NPO	178188	-	L2603	10µH	161243	-	# R2323	1.2 5% 1/4W	200172	-
C3315	100pF 5% 50V NPO	174412	-	L2702	39µH	195710	-	R2602	240 2% 1/8W	190460	-
C3316	560pF 10% 50V NPO	202904	-	L2704	-	195750	-	R2603	500 Notch Depth	181112	-
C3317	15pF 5% 50V NPO	202907	-	L2705	4.7µH	158726	-	R2604	1300 2% 1/8W	182823	-
C3318, 20, 21	27pF 5% 50V NPO	174407	-	L2706	10µH	175409	-	R2606	750 2% 1/8W	181056	-
C3323	82pF 5% 50V NPO	192049	-	L2801, 02, 03	22µH	195712	-	R2703	1000 2% 1/8W	190462	-
# C4002, 05	680pF 20% 1kV	190538	-	L2804	-	200161	-	R2706	10K 2% 1/8W	174364	-
# C4006	Capristor	250102	470pF, 11M	L3101	10µH	175409	-	R2708	1500 2% 1/4W	175367	-
# C4007	680µF 10% 200V	190560	-	# L3601	-	161243	-	R2710	100 2% 1/8W	181486	-
# C4008	.005 20% 120V	195697	-	L3602	-	207880	-	R2711	750 2% 1/8W	181056	-
# C4110	470pF 5% 1.5kV N1500	143242	-	L4101	2.2µH	190480	-	R2719	15.4K 1% 1/4W	200175	-
	470pF 5% 2kV	227068	-	# L4201	Degaussing	250050	-	# R2721	27K 5% 1/2W	206037	-
C4111	680pF 20% 1kV	190538	-	# L4401	Horizontal Linearity	196064	-	R2725	750 2% 1/10W	202914	-
# C4112	.0056 5% 800V	201619	-	L4701	47µH	190729	-	R2730	1000 Contrast Preset	181109	-
C4116	47pF 5% 50V NPO	143867	-	# L4702	10µH	175409	-	R2732	1500 2% 1/8W	181482	-
C4140	680pF 20% 1kV	190538	-	# L4803	Pincushion	206391	-	R2733	620 2% 1/8W	181493	-
# C4141	470µF 20% 180V	200147	-	L5001	100µH	161243	-	R2734	1000 2% 1/8W	190462	-
C4155	470pF 5% 50V N750	210893	-	L5004, 05, 06	47µH	195713	-	R2735	100 2% 1/8W	181486	-
# C4401	.015 1.6kV	206007	-	L6401, 02	22µH	195712	-	R2736	910 2% 1/8W	205291	-
# C4402	.056 5% 400V	200149	-	L6403	120µH	195750	-	R2737	1000 2% 1/8W	190462	-
# C4403	.5 5% 250V	200150	-	L6406	-	176622	-	R2740	560 2% 1/8W	182822	-
# C4406	470pF 5% 1.5kV N1500	143242	-	# P1	Line Cord	187802	AC, Polarized	R2742	1500 2% 1/8W	181482	-
	470pF 5% 2kV	227068	-	# R3	33 5% 2W	196014	-	R2801	1000 2% 1/8W	190462	-
# C4407	.0047 10% 250V	190534	-	# R4	39 5% 2W	175788	-	R2802	30K Chroma Filter	177366	-
# C4503	2200µF 10% 35V	200151	-	R1203	470 2% 1/8w	182628	-	R2804	120K 2% 1/8W	180816	-
# C4511	1.54µF 5% 250V	200152	-	R1204	5000 WBA Level	181113	-	R2813	22K 2% 1/8W	174367	-
C4701	.01 20% 1kV	137583	-	# R1402	430 5% 1/4W	829143	-	R2814	30K 2% 1/10W	200176	-
C4702, 04, 13	680pF 20% 1kV	190538	-	R1403	3000 2% 1/10W	194917	-	R2816	10K Tint Preset	181107	-
# C4716	.082 10% 250V	181404	-	R1404	3000 2% 1/8W	190464	-		10K Tint Preset	189853	-
C4801	10µF 20% 50V NP	227053	-	# R1406	430 5% 1/4W	829143	-	R2901, 02, 03	1000 2% 1/8W	190462	-
# C4905	1µF 20% 100V	220998	-	R1409	1000 2% 1/8W	190462	-	R2910	220 2% 1/8W	181492	-
C5001	.001 10% 3KV	120696	-	# R1410	430 5% 1/4W	829143	-	R2913	4500 Red Bias	190533	-
C6402	33pF 5% 50V NPO	174408	-	R1411	3000 2% 1/10W	194917	-	R2914	220 2% 1/8W	181492	-
C6404	47pF 5% 50V NPO	174409	-	R1412	1100 2% 1/10W	202586	-	R2917	4500 Blue Bias	190533	-
C6406	10µF 20% 25V NP	146256	-	R1413	330 2% 1/8W	181488	-	R2918	220 2% 1/8W	181492	-
C6407	100pF 5% 50V NPO	174412	-	R1414	2000 2% 1/4W	175321	-	R2921	4500 Green Bias	190533	-
C6408	82pF 5% 50V NPO	176828	-	R1417	10K 2% 1/8W	174364	-	R2922	220 2% 1/8W	181492	-
C6409	10pF 1% 50V NPO	174402	-	R1419	910 2% 1/8W	205291	-	# R2924	10 5% 1/4W	829010	-
C6417	470pF 10% 50V NPO	174416	-	R1420	1300 2% 1/8W	182823	-	R2926	100 Red/Blue Drive	190531	-
C6420, 21	220pF 5% 50V NPO	178188	-	R1421	510 2% 1/10W	202585	-	R2928	100 Green Drive	190531	-
CF1201	Filter	195702	4.5MHz	R1425	120K 2% 1/8W	180816	-	R2935	220 2% 1/8W	181492	-
CF2301	Filter	181125	4.5MHz	R1426	470 2% 1/8W	182628	-	R2938	200 2% 1/8W	178280	-

PARTS LIST continued

Item No.	Function/Rating	Mfr. Part No.	Notes	Item No.	Function/Rating	Mfr. Part No.	Notes	Item No.	Function/Rating	Mfr. Part No.	Notes
R2942, 43	470 2% 1/8W	182628	-	R4805	10K E/W Pin Amp	189853	-	# V101 (5)(6)	-	A68AEG151	A68AEG15X01
R2944	560 2% 1/8W	182822	-	# R4809	390 5% 1/2W	175769	-	# V101 (7)	-	A68AEG351	A68AEG35X01
R2945	200 2% 1/8W	178280	-	R4812	10K 2% 1/8W	174364	-	# V101 (8)	-	A68AEG35X101	-
R2946	1000 2% 1/8W	190462	-	# R4821	150 5% 1W	175784	-	Y2801	Crystal	161235	3.58MHz
# R2947	10 5% 1/4W	829010	-	R4825	3300 2% 1/10W	195938	-	Y3101	Crystal	182839	8MHz
R3115, 17	10K 2% 1/8W	174364	-	# R4901	10K 5% 1/4W	175317	-	Y4301	Resonator	200210	503.3kHz
R3120	560 2% 1/8W	182822	-	# R4902	100 5% 1/4W	175325	-		Adapter	193983	75 To 300 Ohms
R3121, 36	10K 2% 1/8W	174364	-	# R4903	34K 1% 1/4W	207881	-		Button	230506	Channel/Volume
R3138	22K 2% 1/8W	174367	-	# R4904	46.4K 1% 1/4W	204794	-		Button	230504	Cluster
R3141	100 2% 1/8W	181486	-	R4905	22K 2% 1/4W	175054	-		Button	MK1530	Mask
R3143	1000 2% 1/8W	190462	-	R4920	5100 2% 1/4W	175417	-		Button	230505	Menu
R3305	10K 2% 1/8W	174364	-	# R4923	150K XRP	175349	-		Button	230507	Power
R3307	27K 2% 1/10W	205245	-	R6401	1000 2% 1/4W	175055	-		Magnet	179806	Beam Bender
R3309	7500 2% 1/8W	200178	-	R6402	2200 2% 1/8W	181079	-		PC Board	219415	Audio
# R3310	47 5% 1/4W	175040	-	R6403	18K 2% 1/8W	174366	-		PC Board	210880	Black Stretch
R3335	13K 2% 1/10W	205353	-		27K 2% 1/8W	193061	-		PC Board	203094	CRT
R3342	91K 2% 1/10W	200180	-	R6404	10K 2% 1/8W	174364	-		PC Board	204910	Front Panel
R3343	13K 2% 1/8W	178285	-	R6407	4700 2% 1/8W	178287	-		PC Board	219414	SRS
R3346	1500 Sub-Bright	200181	-	R6408	15K 2% 1/8W	192835	-		Transmitter (5)	207873	Remote, CRK59B
R3402	133K 1% 1/4W	195752	-		13K 2% 1/8W	178285	-		Transmitter (6)	221143	Remote, CRK62J
R3602	10K 2% 1/8W	174364	-	R6417	1500 2% 1/8W	181482	-		Transmitter (7)(8)	225839	Remote, CRK70E1
# R4001	2.7 10% 15W Wirewound	190487	-		150 5% 1/8W	179379	-		Tuner	200075	UHF/VHF, M-2016
# R4002	2.7M 10% 1/2W	217662	-	R6418	680 2% 1/8W	178286	-		Tuner	203533	UHF/VHF, M-2030
# R4003	33K 5% 2W	200182	-		330 5% 1/8W	155497	-	# For SAFETY use only equivalent replacement part.			
R4102	5100 2% 1/4W	175417	-	R6420	1800 2% 1/8W	181484	-	% Use insulating hardware supplied with replacement.			
# R4103	51K 5% 1/4W	175315	-	R6421	1500 2% 1/8W	181482	-	(1) Part of B+ regulator kit part number 202055.			
R4104	1500 2% 1/4W	175367	-	R6422	1000 2% 1/8W	190462	-	(2) Used in chassis CTC169CA5.			
R4108	910 2% 1/4W	203097	-	R6423	750 2% 1/8W	181056	-	(3) Used in chassis CTC169CA6 and CTC169CA8.			
# R4110	.18 5% 2W Wirewound	200183	-	R6424	620 2% 1/8W	181493	-	(4) Bonded part of CRT.			
R4113	300 Standby	190525	-	R6425	680 2% 1/8W	178286	-	(5) Used in models F27700MGFB1 and F27700MGJX1.			
R4114	45.3K 1% 1/4W	176506	-	R6426	390 2% 1/8W	178284	-	(6) Used in models F27701BKFE1 and F27701BKJX1.			
R4115	3240 1% 1/4W	200184	-	R6443	4700 2% 1/8W	178287	-	(7) Used in models F27702SBFE1 and F27702SBJX1.			
# R4116 (1)	500 B+ Reg	-	-	R6447	750 2% 1/8W	181056	-	(8) Used in model F27703SBJX1.			
# R4119	330 5% 7W Wirewound	200185	-	R6448	300 Sync	190525	-	(9) Screen and focus controls are part of T4401.			
R4120	10 2% 1/4W	829010	-	R6449	5100 2% 1/8W	175418	-				
# R4126	6.8 5% 3W Wirewound	206016	-	R6465	1000 2% 1/8W	190462	-				
R4139, 45	10K 2% 1/8W	174364	-	R6469	10K 2% 1/8W	174364	-				
R4148	53.6K 1% 1/4W	200189	-		12K 5% 1/8W	174365	-				
# R4149	1.2 5% 1W	831A12	-	R6470	3900 2% 1/8W	157377	-				
R4152	470 2% 1/8W	182628	-	R6476	6200 2% 1/8W	181058	-				
R4306	15K Horizontal Centering	200417	-	R6478	2700 2% 1/8W	181064	-				
R4308	120 2% 1/8W	181485	-	R6486	220K 2% 1/8W	174353	-				
# R4312	47 5% 1/4W	175040	-	# R6487	10 2% 1/4W	829010	-				
# R4313	100 5% 1/2W	176796	-	# RT4201	5.9 Cold PTC	207768	-				
# R4314	39 5% 1/2W	200192	-	# RT4501	.05 5% 1/8W	181161	-				
R4326	3300 2% 1/10W	195938	-	SF2301	Filter	200203	-				
R4327	15K 2% 1/4W	175360	-	SP1900 (5)	Speaker	183159	-				
R4328	5100 2% 1/8W	175418	-	SP1900 (6)	Speaker	208612	-				
# R4401	220 5% 1/2W	176651	-	SP1900 (7)(8)	Speaker	225641	-				
# R4402	10 5% 1/2W	181098	-	SP1903 (5)	Speaker	183159	-				
R4509, 10	10K 2% 1/8W	174364	-	SP1900 (6)	Speaker	208612	-				
R4511	8200 2% 1/8W	181065	-	SP1903 (7)(8)	Speaker	225641	-				
R4513	120 2% 1/8W	181485	-	SW3401	Switch	181724	-				
# R4518	470 5% 1/4W	829147	-		Switch	207842	-				
# R4520	6800 5% 1/2W	179248	-	SW3403	Switch	181724	-				
R4522	15K Vert Height	200417	-		Switch	207842	-				
# R4523	820 5% 1W Nonflammable	175349	-	SW3411	Switch	181724	-				
# R4544	4.7 5% 1/4W	200197	-		Switch	207842	-				
# R4701	10 5% 1/2W Nonflammable	830010	-	SW3413	Switch	181724	-				
# R4703	2.7 5% 3W Wirewound	229882	-		Switch	207842	-				
# R4704	Resistor Block	196072	-	SW3421	Switch	181724	-				
# R4710	12 2% 1/4W	829012	-		Switch	207842	-				
# R4713	82K 5% 1/2W	830382	-	SW3423	Switch	181724	-				
R4715	200 2% 1/4W	175363	-		Switch	207842	-				
R4716	680 2% 1/4W	175312	-	SW3431	Switch	181724	-				
R4717	56 2% 1/4W	175318	-		Switch	207842	-				
R4718	100 2% 1/8W	181486	-	# T4101	Regulator Feedback	200204	-				
# R4719	470 5% 1/2W	830147	-	# T4102	Chopper	207884	-				
# R4720	10 5% 1/2W	830010	-	# T4301	Horizontal Drive	205196	-				
# R4721	3.3M 10% 1/2W	181986	-	# T4401 (9)	Horizontal Output	200207	-				
# R4801	1M 5% 1/8W	174361	-								
R4802	2000 Width	200199	-								