

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.

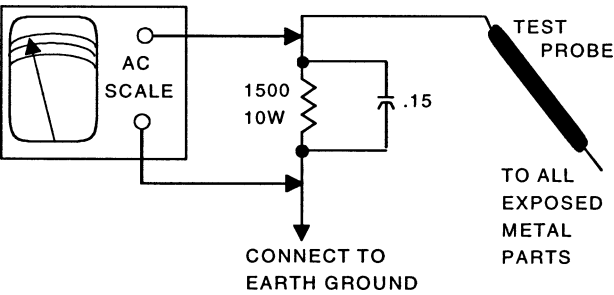
SAFETY CHECKS — FIRE AND SHOCK HAZARD

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

Momentarily short BC14901 (see Q14901 base) to ground. The receiver should lose raster and sound. If receiver does not lose raster and sound, the shutdown circuit should be repaired. To resume normal operation, remove AC power for approximately 30 seconds and then turn the receiver on.

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.

Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein.

© 2002 SAMS Technical Publishing

5436 West 78th Street  
Indianapolis, IN 46268-4149

Printed in the United States of America 5 4 3 2 1

02PF01954

UPC  
HERE

SET 4600

MODEL F35317YX1 (CHASSIS CTC203CA)

RCA

PHOTOFACT<sup>®</sup> Technical Service Data  
SILVER

INDEX

Error Codes Chart ..... 1  
GridTrace Location  
Main Board ..... 4  
High Voltage Shutdown Test ..... 1  
IC Functions ..... 2  
Important Parts Information ..... 1  
Miscellaneous Adjustments ..... 1  
Parts List ..... 4  
Placement Chart ..... 1  
Safety Precautions ..... 1  
Schematic Component Location ..... 4  
Schematic Notes ..... 2  
Schematics  
Audio ..... 3  
Comb Filter ..... 3  
Gemstar 4 ..... 3  
Power Supply ..... 2  
Television ..... 2  
Test Equipment ..... 4  
Tuner Information ..... 1

RCA

Model F35317YX1 (Chassis CTC203CA)



Representative Model

Essential coverage  
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models and chassis:

Models	Chassis
F31317YX1	CTC203CA
F31317YX3	CTC203CA2
F31317YX51	CTC203CA5
F31317YX51	CTC203CA9
F31317YX53	CTC203CA6
F31317YX53	CTC203CA10
F35317YX51	CTC203CA5
F35317YX53	CTC203CA9



Technical Publishing

JUNE 2002 SET 4600

For Supplier Address,  
See PHOTOFACT Annual Index

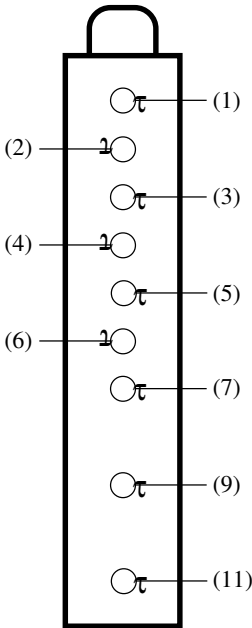
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	2.5V	2.5V	3.0V
(2) NC	1.3V	4.3V	5.7V
(3) +5V	5.2V	5.2V	5.2V
(4) CLK	5.1V	5.1V	5.1V
(5) DATA	5.1V	5.1V	5.1V
(6) +5V	5.2V	5.2V	5.2V
(7) +5V	5.2V	5.2V	5.2V
(9) +32V	34.5V	34.5V	34.5V
(11) IF	0V	0V	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



MISCELLANEOUS ADJUSTMENTS

COLOR TEMPERATURE

NOTE: See Service Adjustment Parameters to change drive and bias values.

Press menu button for collapsed raster service line. Disconnect the antenna. Preset the red, green, and blue drive values to 32. Adjust screen control for a service line that is just visible. Adjust red, green, and blue drives to obtain a white raster. Check the low light to high light gray scale tracking. Repeat the procedure, if necessary, to obtain the best performance.

NOTE: All procedures require an antenna connected and power applied to the set.

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 should measure between 30.5kV and 32.5kV.

SERVICE MENU

The following adjustment procedures are accessed thru a service menu. To access the service menu, turn the receiver on, press the menu button and hold it down while pressing the power button. While holding down the menu button, release the power button and press the volume + button. The screen will display a one line menu, on the left the parameter P0, and on the right the value of that parameter V0. Release buttons. Adjustments are made by selecting the proper parameter and changing the value of that parameter. To change the parameter number use channel up and down buttons. To adjust the current value of that parameter use volume + and - buttons. To access and change any of the adjustments, the proper parameter pass number must be entered. This information is listed at the beginning of the alignment. When these parameters are modified, the T-Chip and the corresponding EEPROM are updated. All service adjustments are bus controlled, except focus and screen.

NOTE: In order to adjust the RF AGC, audio or video levels, tuner, PIP, or stereo circuits, the ChipperCheck hardware and software must be used. This can be purchased from Thomson Electronics. Before making any changes to any of the values, record the On Set values.

SERVICE ADJUSTMENT PARAMETERS

Parameter No.	Parameter Name	On Set Value	Value Range	Comment
0	Pass number for service adjustment parameters.	Must set to 76		May not advance until value is set to 76.
1	Error Code 1	0	0 - 255	Displays the first error detected. Set to 0 before exiting. See Error Codes Chart.
2	Error Code 2	0	0 - 255	Displays the second error detected. Set to 0 before exiting. See ErrorCodes Chart.
3	Error Code 3	0	0 - 255	Displays the last error detected. Set to 0 before exiting. See Error Codes Chart.
4	Horizontal Phase	10	0 - 15	Tune in a crosshatch pattern, adjust to center the pattern on the screen.
5	EW DC (Width)	16	0 - 31	Tune in a crosshatch pattern, adjust for slight horizontal overscan.
6	EW Amplitude	8	0 - 15	Set value to 8.
7	EW Tilt	8	0 - 15	Set value to 8.
8	Top Corner Pin Correction	2	0 - 7	Set value to 2.
9	Bottom Corner Pin Correction	2	0 - 7	Set value to 2.
10	Vertical DC	33	0 - 63	Tune in a crosshatch pattern, adjust to center vertically.
11	Vertical Size	84	0 - 127	Tune in a crosshatch pattern, adjust for slight vertical overscan.
12	Vertical Countdown Mode	0	0 - 3	Set value to 0. ( 0 = Standard, 1 = Non-Standard, 2 = 50Hz, 3 = 48Hz )
13	Red Bias	30	0 - 127	Press menu button on the TV set for setup line.
14	Green Bias	15	0 - 127	Press menu button on the TV set for setup line.
15	Blue Bias	34	0 - 127	Press menu button on the TV set for setup line.
16	Red Drive	41	0 - 63	-
17	Green Drive	33	0 - 63	-
18	Blue Drive	32	0 - 63	-
19	Gemstar Horizontal OSD Position	166	0 - 255	Set value to 166.
20	Gemstar Vertical OSD Position	68	0 - 255	Set value to 68.
21	Gemstar PIP Horizontal Position	40	0 - 255	Set value to 40.
22	Gemstar PIP Vertical Position	43	0 - 255	Set value to 43.
23	Gemstar PIP Window Vertical Size	3	0 - 13	Set value to 3.

## ERROR CODES CHART

Error Code DEC	HEX	Error Location	Condition Indicated
0	00	No error code	-
1	01	16.0V fault	16.0V STBY source is failing.
3	03	12.0V run fault	12.0V source is failing.
4	04	T4 Chip	Run supply failed.
8	08	T4 Chip	X-ray protection caused high voltage shutdown.
9	09	T4 Chip (POR)	Power supply problem at (POR) power on reset.
10	0A	F2 PIP module error (POR)	Power supply problem at (POR) power on reset/PIP.
11	0B	Stereo decoder (POR)	Power supply problem at reset/Stereo decoder.
16	10	Run IIC Bus held low	Run IIC clock or data held low.
18	12	Standby IIC Bus held low	Standby IIC clock or data held low.
23	17	Gemstar 4 Board	Guide fatal error on set using Gemstar 4 Board.
24	18	Gemstar 4 Board	Task monitor error on set using Gemstar 4 Board.
25	19	Gemstar 4 Board	Watchdog error on set using Gemstar 4 Board.
34	22	Gemstar Board	Gemstar fails to acknowledge.
44	2C	F2 PIP module error	F2PIP fails to acknowledge.
102	66	Octal DAC	Octal DAC fails to acknowledge.
128	80	Stereo decoder	Stereo decoder fails to acknowledge.
160	A0	Main or PIP tuner EEPROM	Main or PIP tuner EEPROM fails to acknowledge.
186	BA	T4 Chip	T4 Chip fails to acknowledge.
196	C4	Main tuner PLL/DAC	Main tuner PLL IC fails to acknowledge.
198	C6	Main tuner PLL/DAC	Main tuner DAC IC fails to acknowledge.

### ERROR CODES

If certain failures occur, the matching error codes will be stored in the EEPROM. These error codes will be displayed in parameters 1, 2, and 3. The first failure error code will be stored at parameter 1 and the second failure error code will be stored at parameter 2. Parameter 3 will be updated to display the most recent failure occurred in the chassis. If a failure of a bus IC occurred, the normal acknowledgment checking of that bus will be disabled in the service mode and the address of that IC which failed will be stored in one of the error code parameters. After every repair is done to the chassis it is recommended to check the error code parameters, and reset them back to value 0.

### 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.

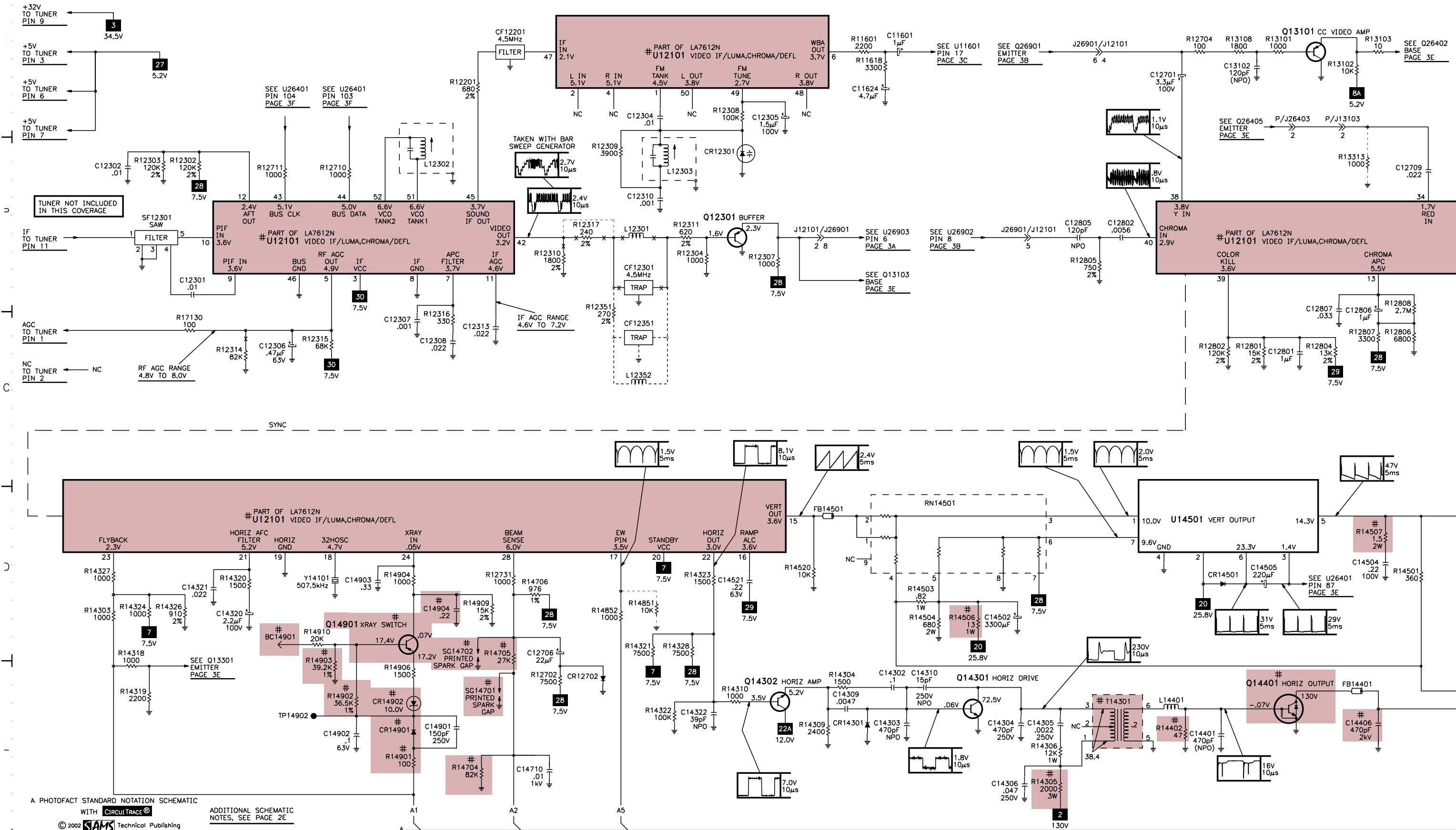
### Participating Vendors

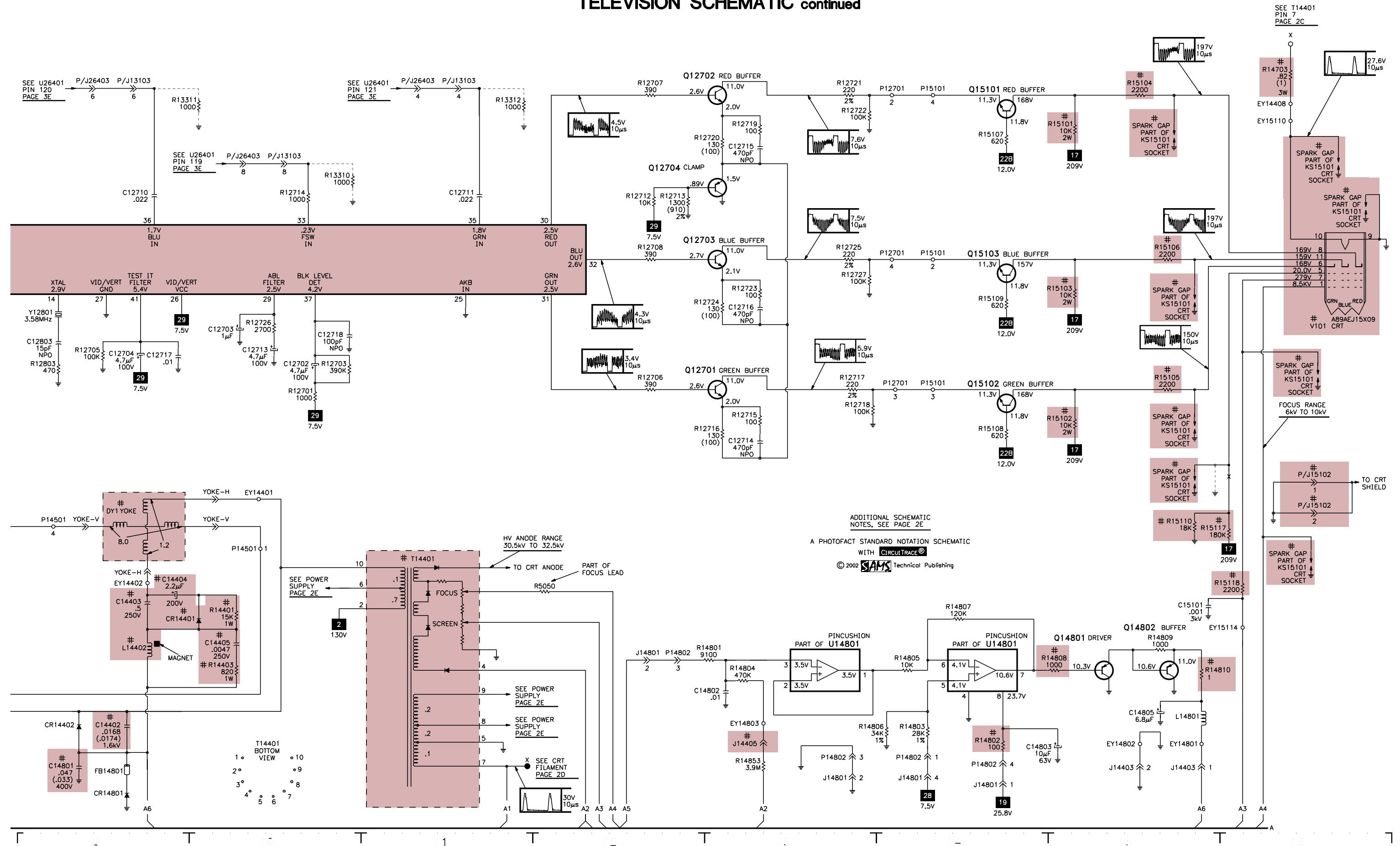
Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

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



TELEVISION SCHEMATIC

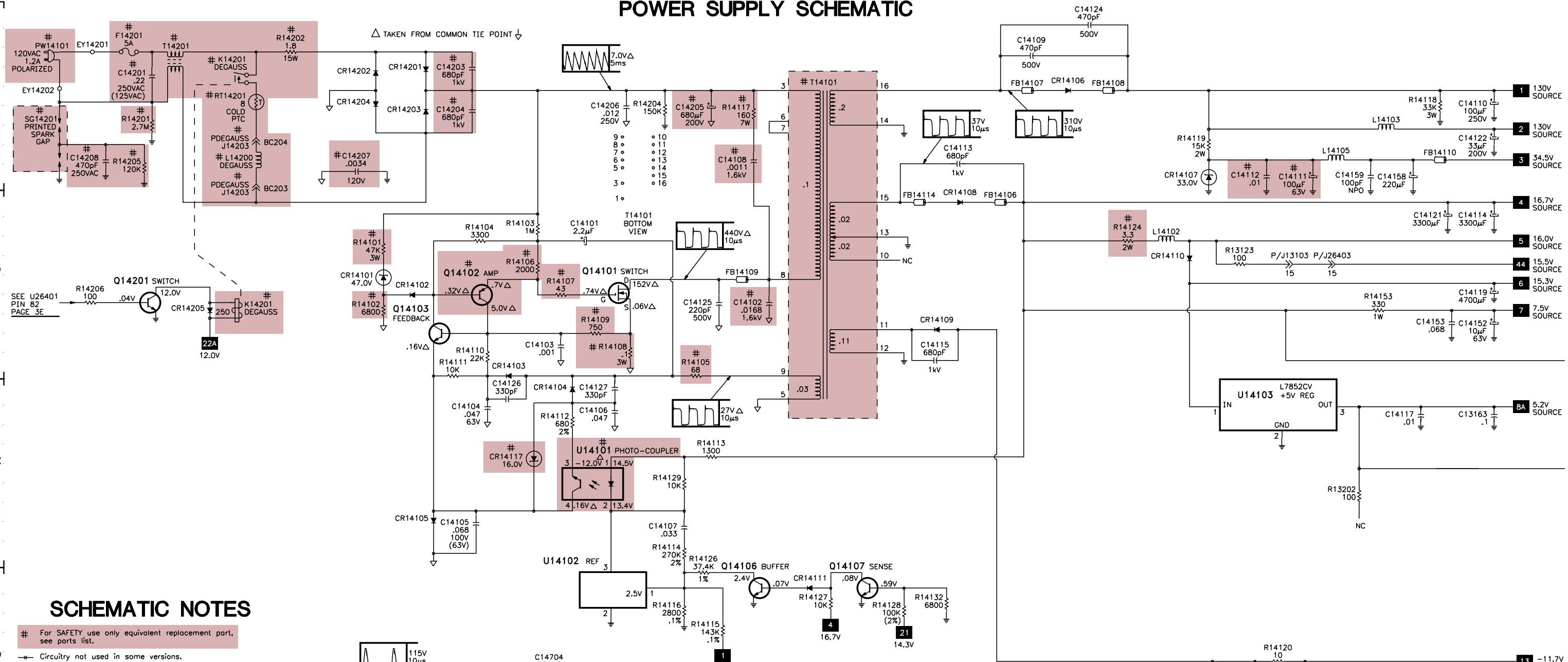


**TELEVISION SCHEMATIC** continued

E

## POWER SUPPLY SCHEMATIC

F



## 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.

Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.

Resistors are 1/2W or less, 5% or greater unless noted.

Value in ( ) used in some versions.

Measurements with switching as shown unless noted.

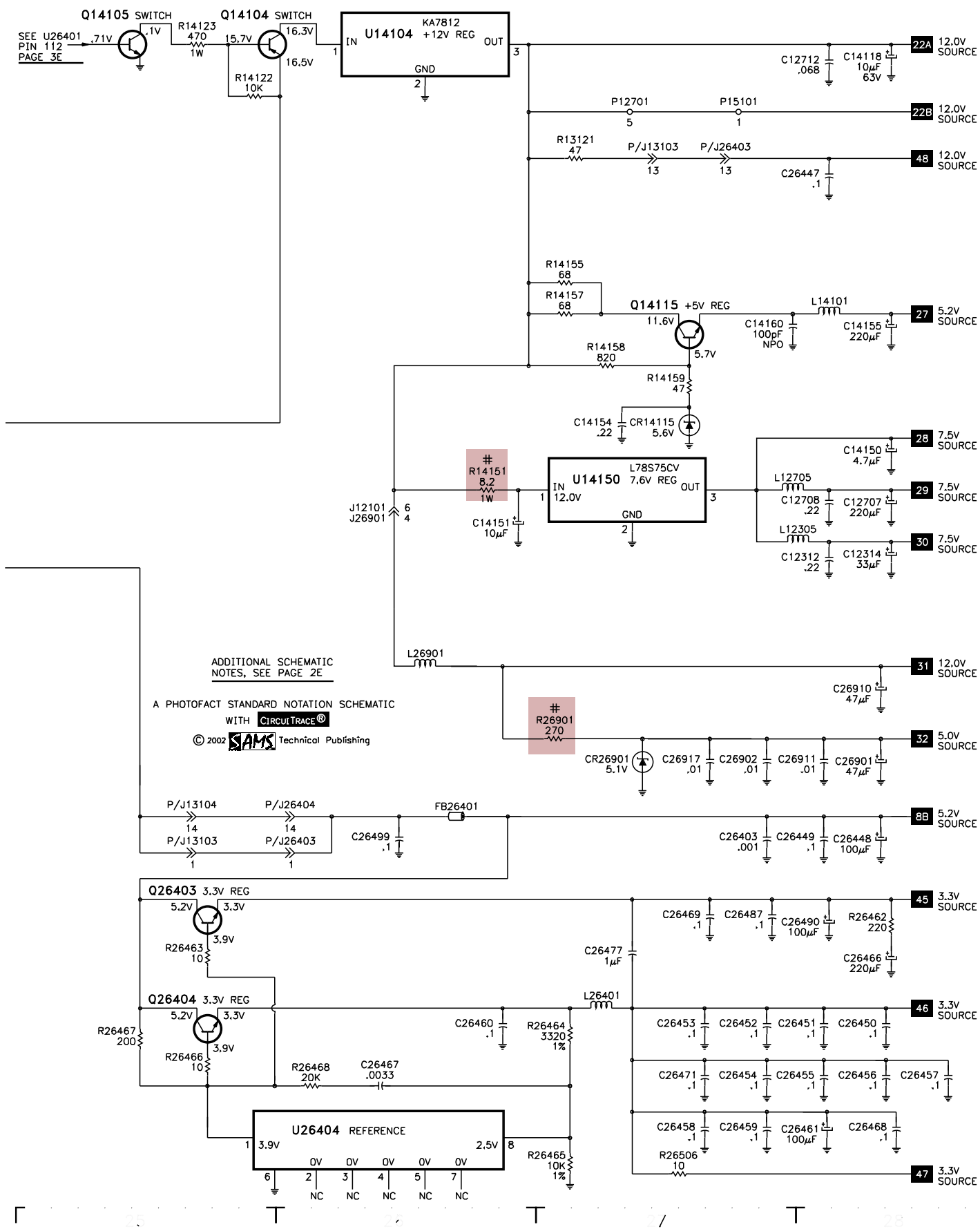
Rated voltage shown on zener diodes.

A PHOTOCAT STANDARD NOTATION SCHEMATIC

WITH CIRCUITTRACE®

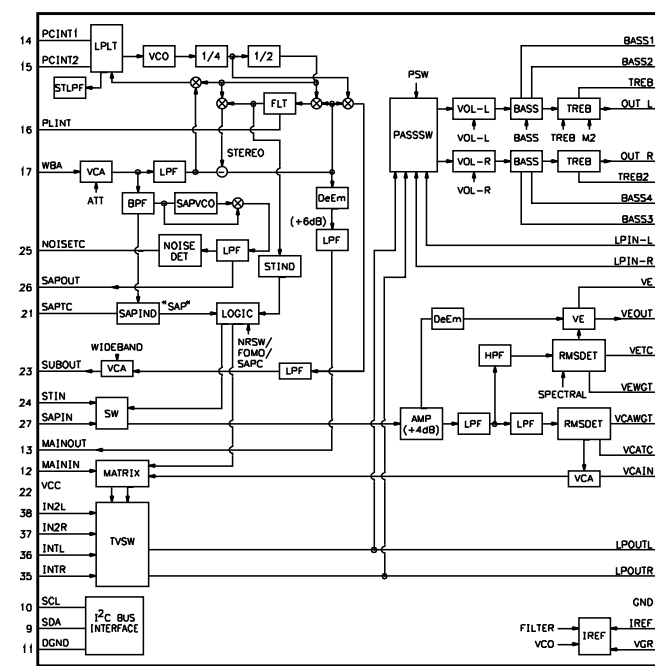
© 2002 SAMS Technical Publishing

G  
POWER SUPPLY SCHEMATIC continued

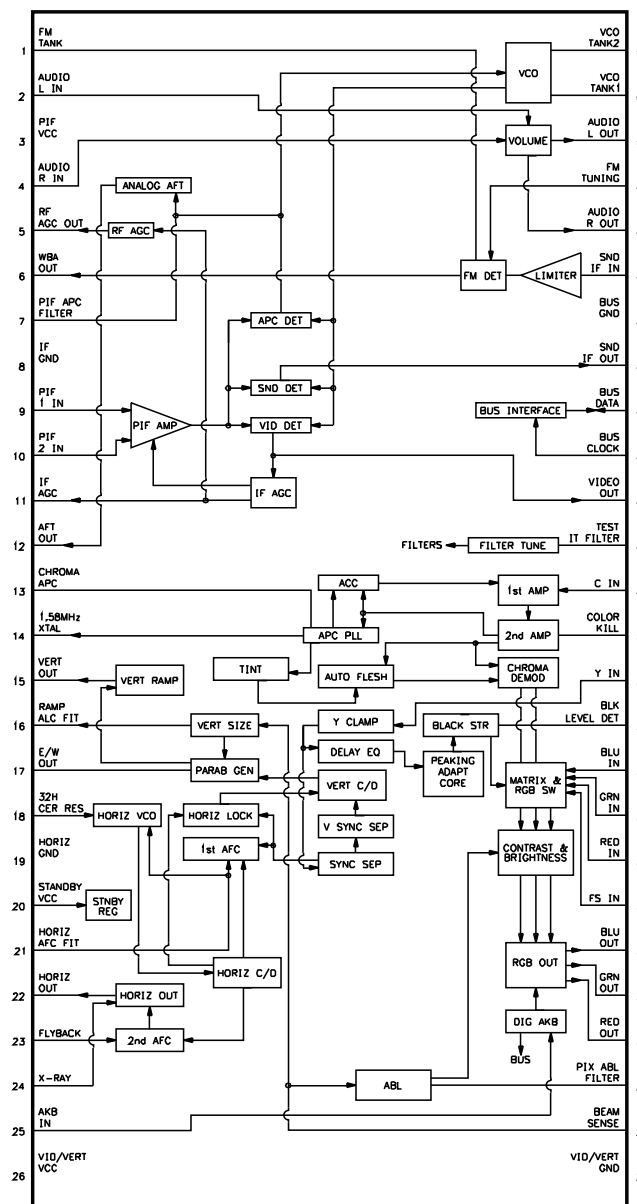


IC FUNCTIONS

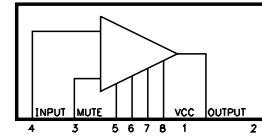
U11601  
CXA2074S



U12101  
LA7612N



U11900, U11901  
TDA7267

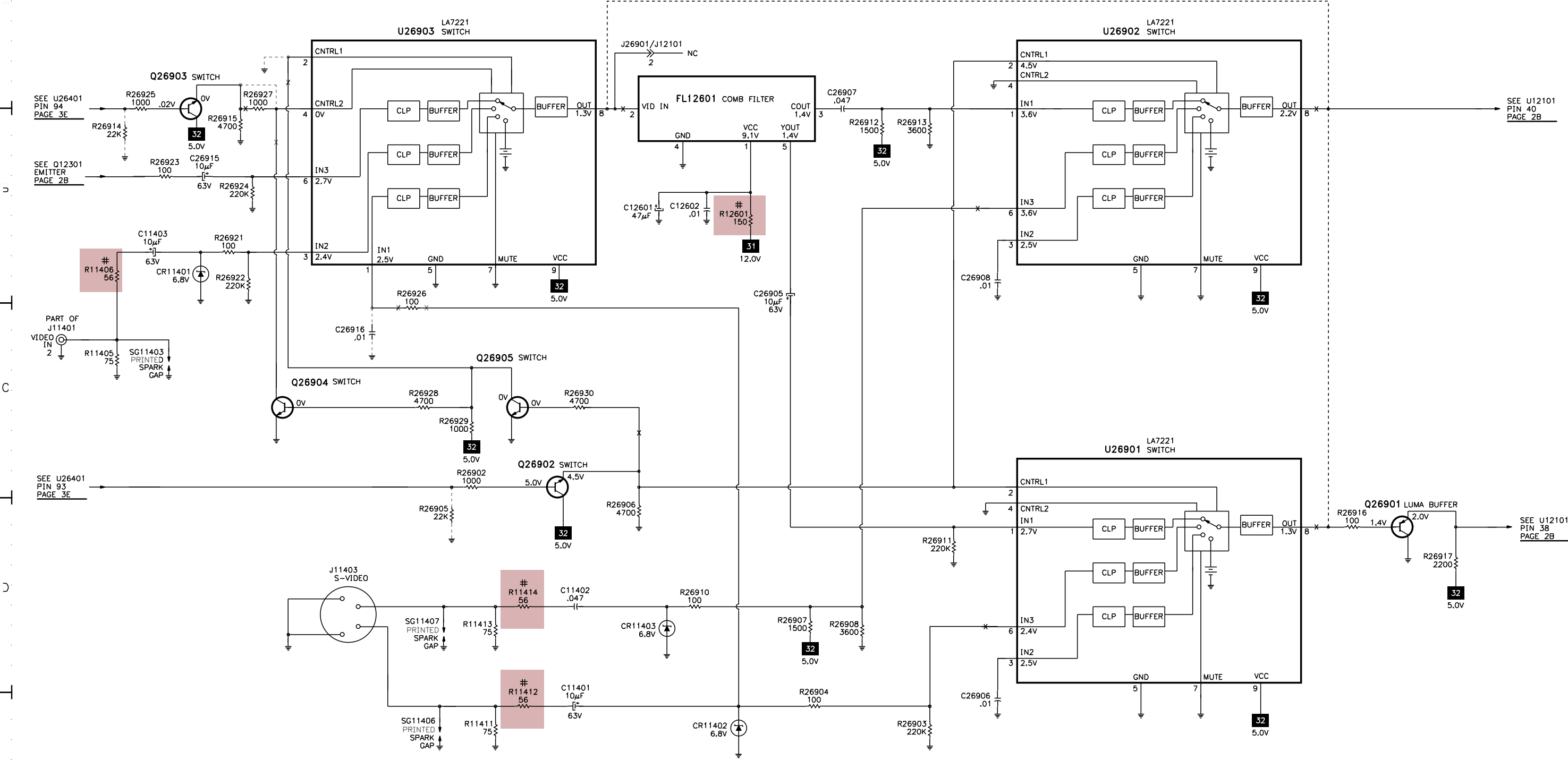


RCA  
MODEL F35317YX1 (CHASSIS CTC203CA)

A

B

COMB FILTER SCHEMATIC



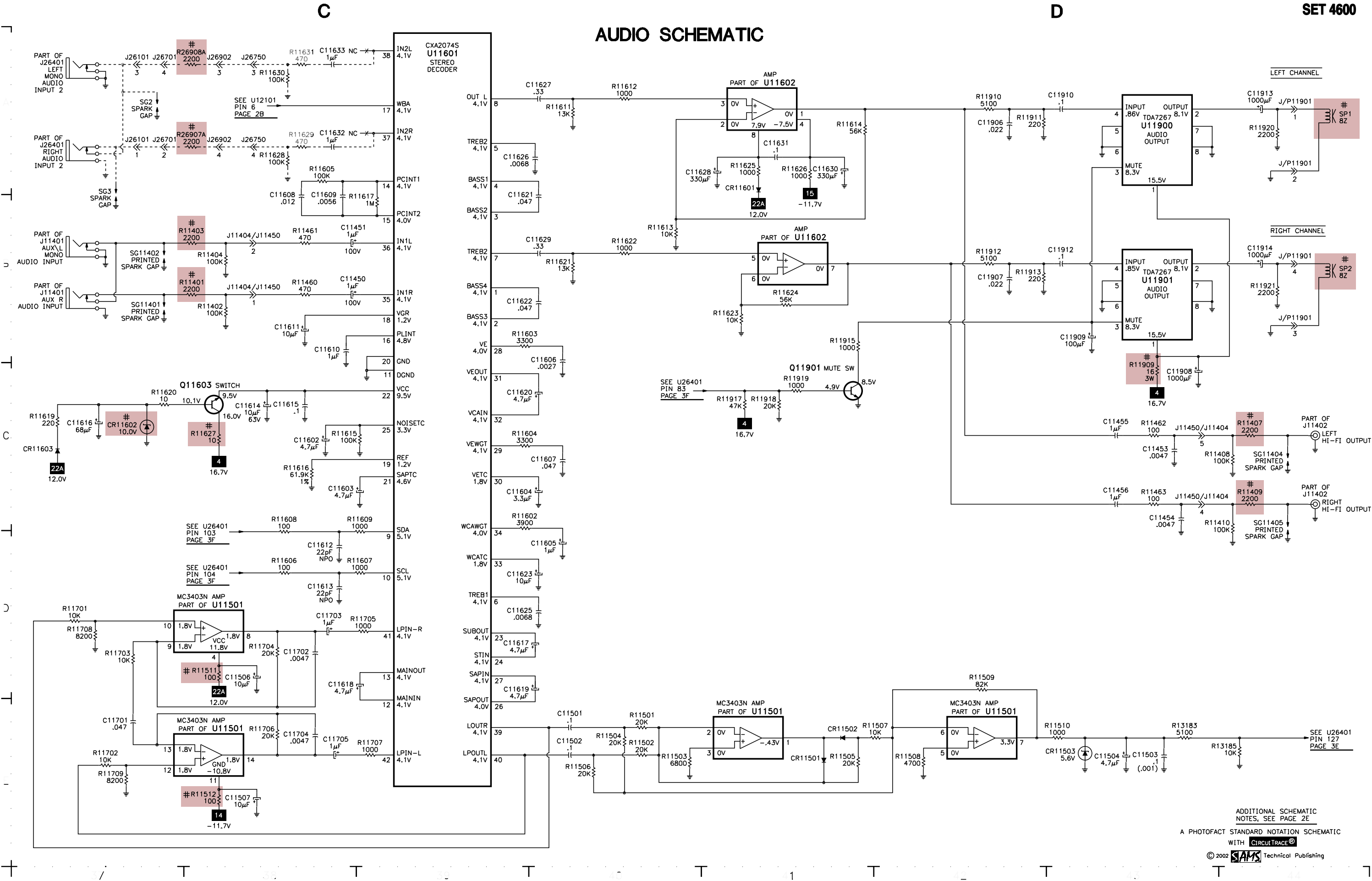
ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 2E

A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH CIRCUITRACE®

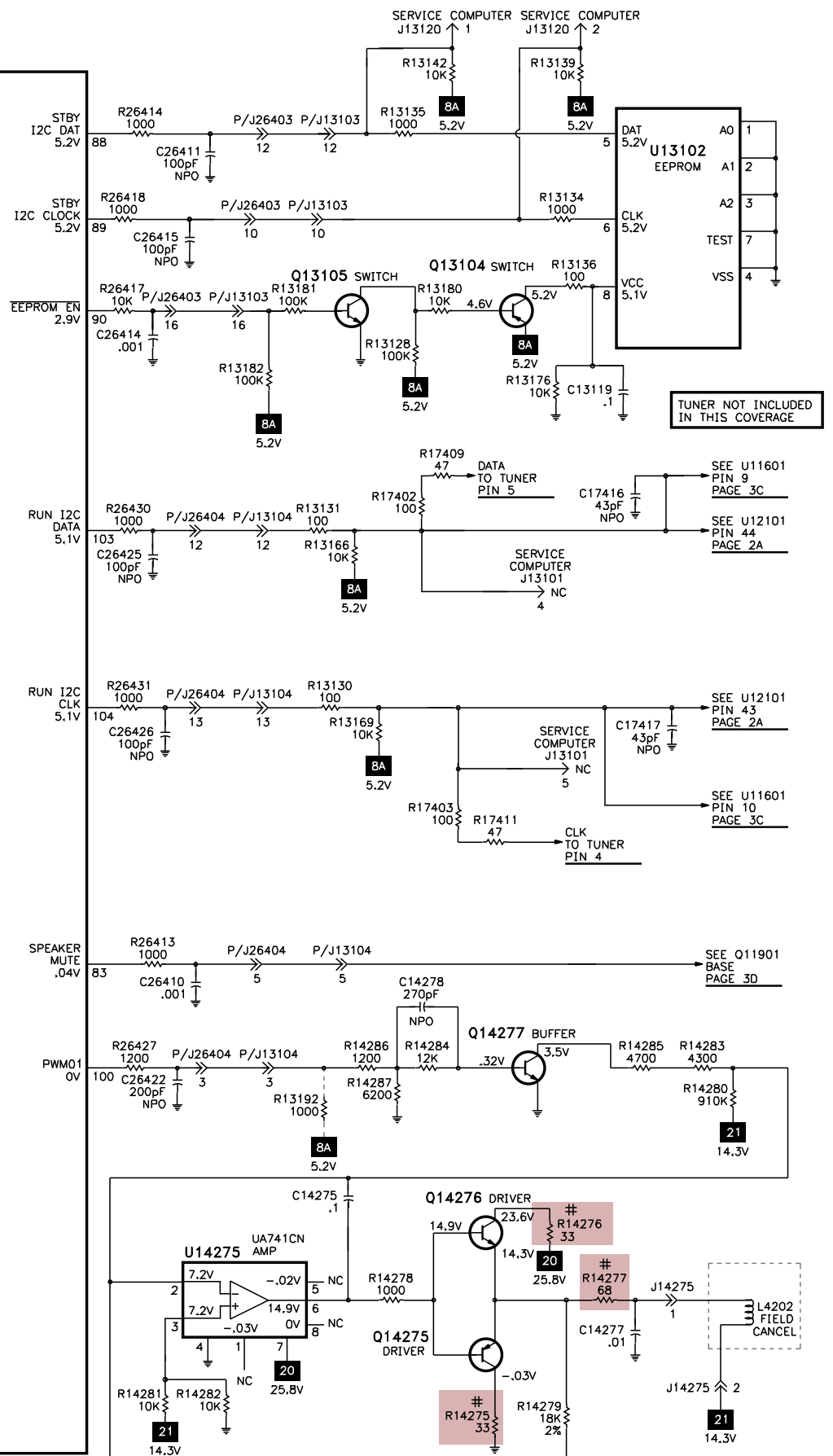
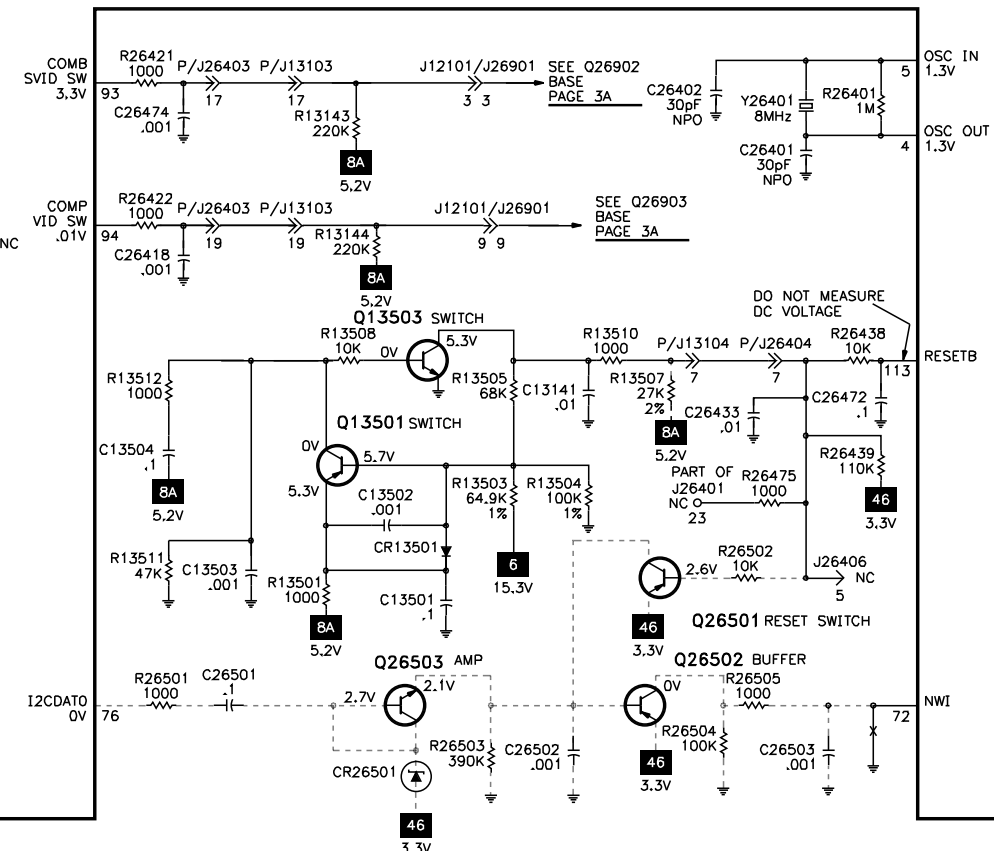
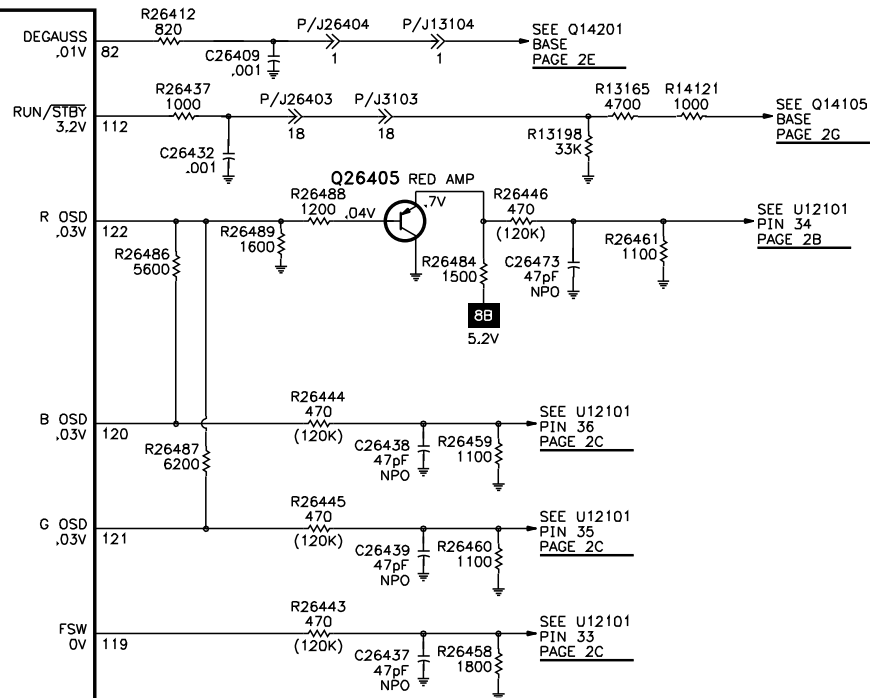
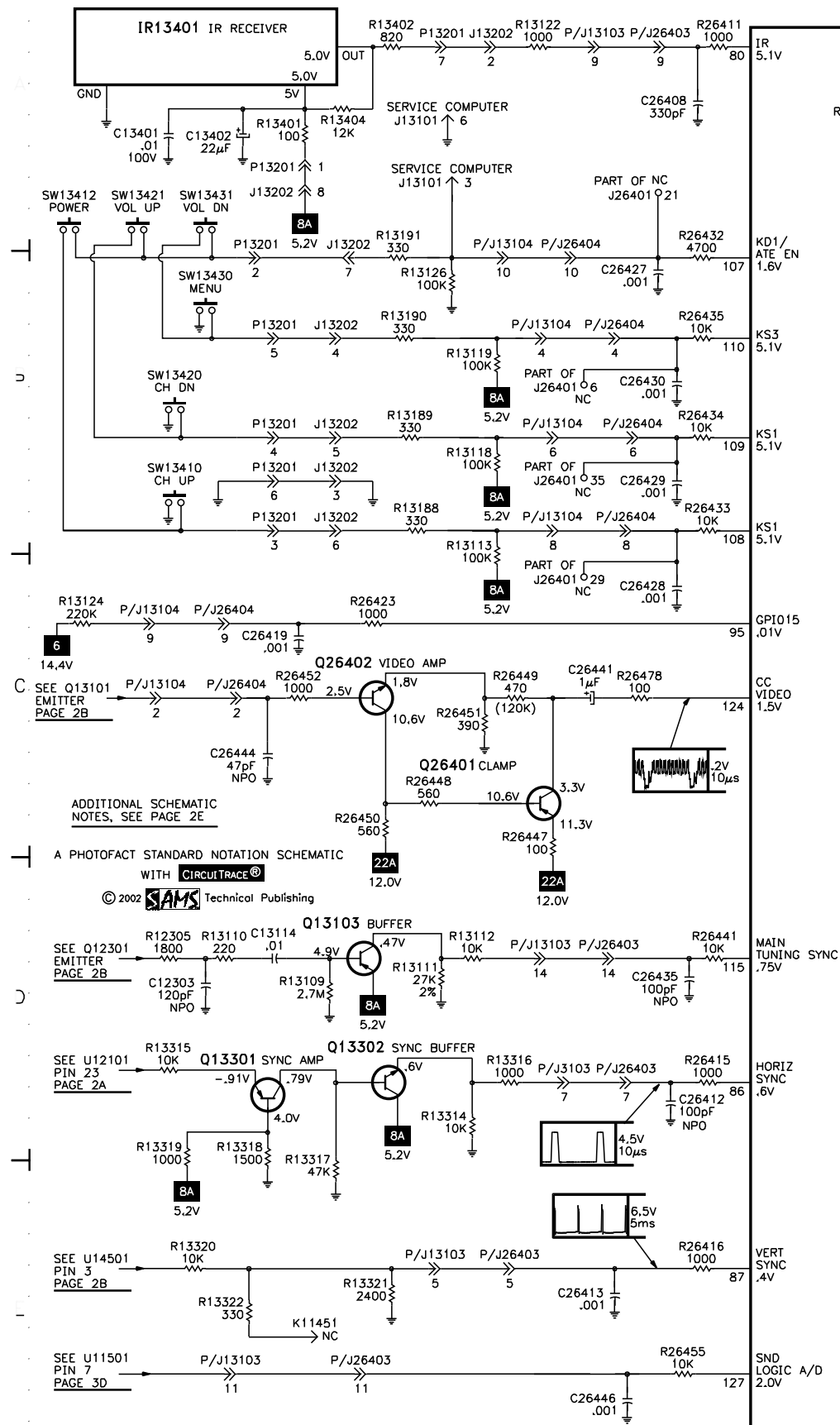
© 2002 SAMS Technical Publishing

AUDIO SCHEMATIC

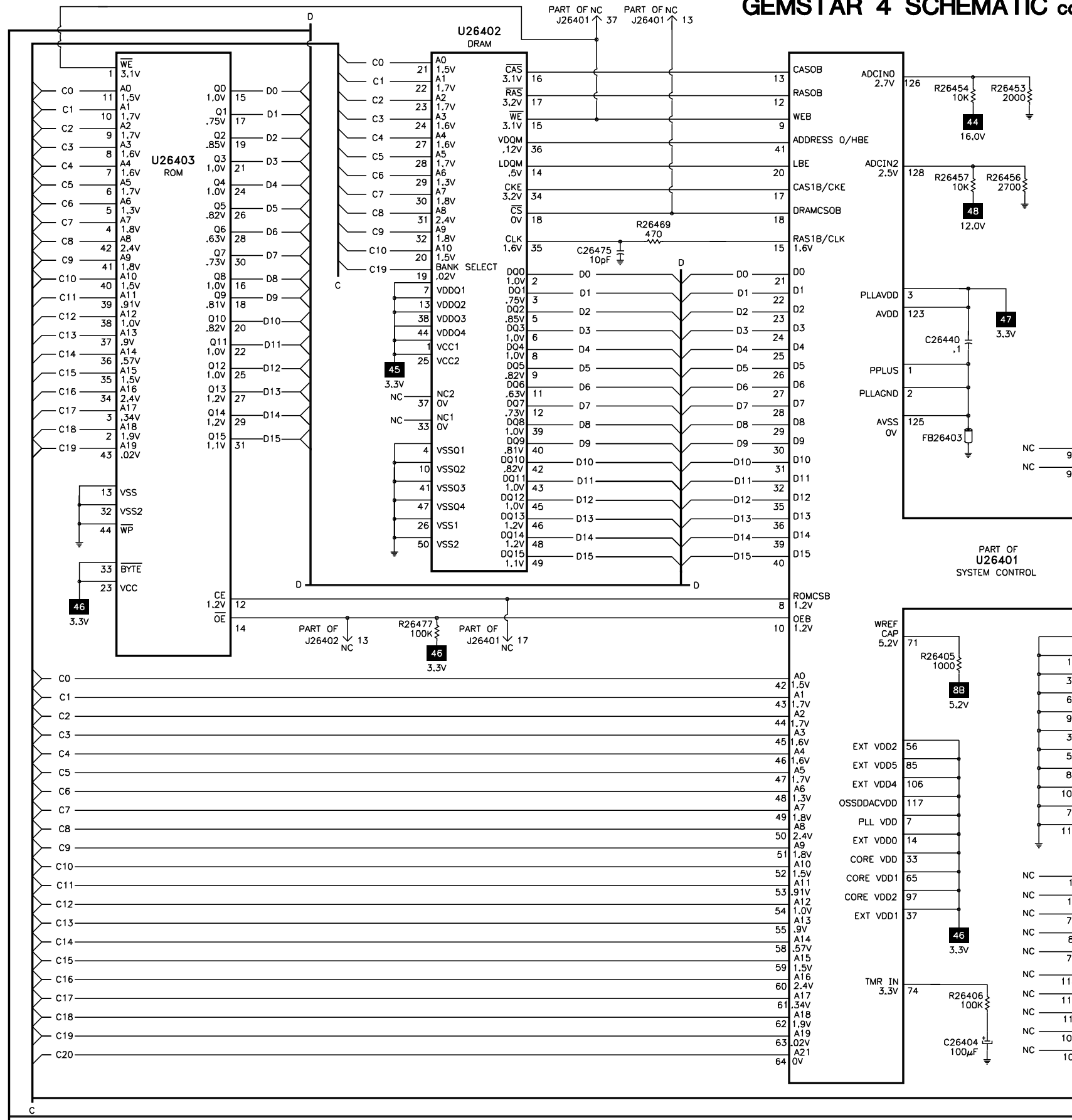


E

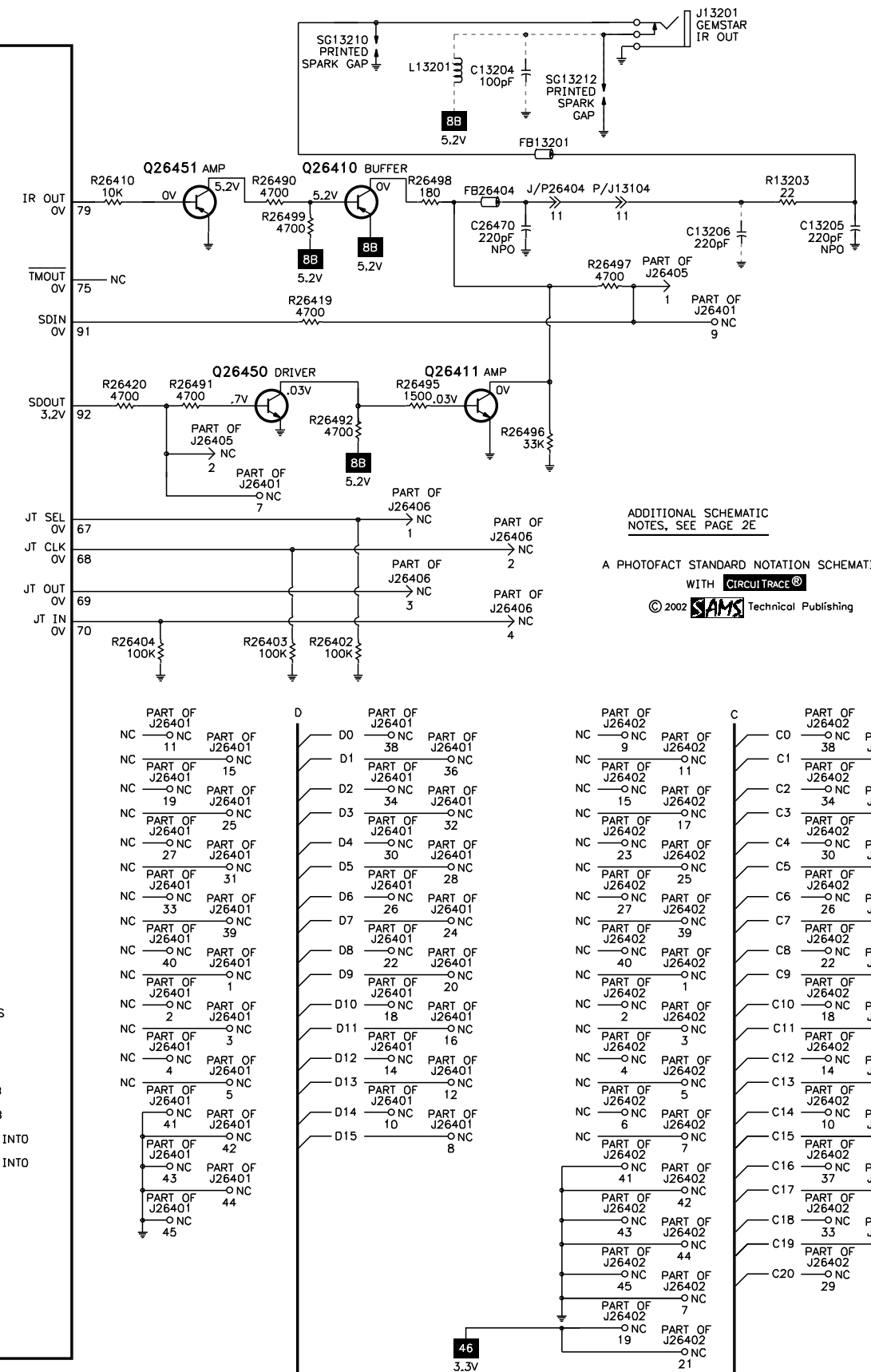
## GEMSTAR 4 SCHEMATIC



## GEMSTAR 4 SCHEMATIC continued



## H



**RCA**

**MODEL F35317YX1 (CHASSIS CTC203CA)**

SCHEMATIC COMPONENT LOCATION GUIDE																													
C11401	E31	C12302	B1	C14113	B21	C14801	E9	C26471	E27	CR14402	E9	Q12301	B4	R11412	E31	R11911	A42	R13103	A8	R13508	D48	R14309	E5	R17351	C4	R26469	B55	SW13430	B45
C11402	D31	C12303	D45	C14114	B24	C14802	E13	C26472	D49	CR14501	D7	Q12701	C13	R11413	D31	R11912	B42	R13108	A7	R13510	D49	R14310	E4	R17402	B51	R26475	E49	SW13431	B45
C11403	B29	C12304	A4	C14115	C21	C14803	E15	C26473	B49	CR14701	E19	Q12702	A13	R11414	D31	R11913	B42	R13109	D45	R13511	E47	R14318	E1	R17403	C51	R26477	C54	T14101	A21
C11450	B38	C12305	A5	C14116	D23	C14805	E15	C26474	D47	CR14702	D19	Q12703	B13	R11460	B38	R11915	B41	R13110	D45	R13512	D47	R14319	E1	R17409	B51	R26478	C46	T14201	A17
C11451	B38	C12306	C2	C14117	C24	C14901	E3	C26475	B55	CR14704	E20	Q12704	B13	R11461	B38	R11917	C41	R13111	D46	R14101	B18	R14320	D2	R17411	C51	R26484	B48	T14301	E7
C11453	C43	C12307	C3	C14118	A28	C14902	E2	C26477	E27	CR14801	E9	Q13101	A8	R11462	C43	R11918	C41	R13112	D46	R14102	B18	R14321	D4	R26401	C49	R26486	B47	T14401	D11
C11454	C43	C12308	C3	C14119	B24	C14903	D3	C26487	D27	CR14901	E3	Q13103	D46	R11463	C43	R11919	C41	R13113	C46	R14103	B19	R14322	E4	R26402	C59	R26487	B48	T14401	E18
C11455	C43	C12310	B4	C14121	B24	C14904	D3	C26490	D28	CR14902	E3	Q13104	B51	R11501	E40	R11920	A44	R13118	B46	R14104	B19	R14323	D4	R26403	C58	R26488	A48	U11501	D37
C11456	C43	C12312	C28	C14122	A24	C15101	D15	C26499	D26	CR26501	E48	Q13105	B51	R11502	E40	R11921	B44	R13119	B46	R14105	C20	R14324	D1	R26404	C58	R26489	B48	U11501	E37
C11501	E40	C12313	C3	C14124	A22	C17416	B52	C26501	E48	CR26901	D27	Q13301	D45	R11503	E40	R12201	A3	R13121	B27	R14106	B19	R14326	D1	R26405	C57	R26490	A58	U11501	E41
C11502	E40	C12314	C28	C14125	B20	C17417	C52	C26502	E49	DY1	D9	Q13302	D46	R11504	E40	R12302	B2	R13122	A46	R14107	B19	R14327	D1	R26406	E57	R26491	B58	U11501	E42
C11503	E43	C12601	B32	C14126	C19	C26401	D49	C26503	E49	F14201	A17	Q13501	D48	R11505	E41	R12303	B1	R13123	B23	R14108	B20	R14328	D4	R26410	A58	R26492	B59	U11601	A39
C11504	E43	C12602	B32	C14127	C20	C26402	C49	C26901	D28	FB13201	A59	Q13503	D48	R11506	E40	R12304	B4	R13124	C45	R14109	B19	R14401	D10	R26411	A47	R26495	B59	U11602	A41
C11506	D38	C12701	A7	C14150	C28	C26403	D27	C26902	D27	FB14106	B22	Q14101	B20	R11507	E41	R12305	D45	R13126	B46	R14110	B19	R14402	E7	R26412	A47	R26496	B59	U11602	B41
C11507	E38	C12702	C10	C14151	C26	C26404	E57	C26905	C32	FB14107	A22	Q14102	B19	R11508	E42	R12306	E24	R13128	B51	R14111	C19	R14403	E10	R26413	D50	R26497	B59	U11900	A43
C11601	A5	C12703	C10	C14152	B24	C26408	A47	C26906	E33	FB14108	A22	Q14103	B19	R11509	E42	R12307	B5	R13130	C51	R14112	C19	R14501	D8	R26414	A50	R26498	A59	U11901	B43
C11602	C38	C12704	C9	C14153	B24	C26409	A48	C26907	B33	FB14109	B20	Q14104	A25	R11510	E42	R12308	A5	R13131	B51	R14113	C20	R14503	D5	R26415	D47	R26499	A58	U12101	A4
C11603	C38	C12706	D4	C14154	B27	C26410	D50	C26908	B33	FB14110	A24	Q14105	A25	R11511	D38	R12309	B4	R13134	A51	R14114	C20	R14504	D6	R26416	E47	R26501	E47	U12101	B2
C11604	C40	C12707	C28	C14155	B28	C26411	A50	C26910	C28	FB14114	B21	Q14106	D20	R11512	E38	R12310	B4	R13135	A51	R14115	D20	R14506	D6	R26417	B50	R26502	E49	U12101	B7
C11605	D40	C12708	C28	C14158	B24	C26412	D47	C26911	D28	FB14401	E8	Q14107	D21	R11513	E23	R12311	B4	R13136	B51	R14116	D20	R14507	D8	R26418	A50	R26503	E48	U12101	D2
C11606	C40	C12709	B8	C14159	B23	C26413	E46	C26915	B29	FB14501	D5	Q14115	B27	R11514	D23	R12314	C2	R13139	A52	R14117	A20	R14508	E20	R26419	B58	R26504	E49	U13102	A52
C11607	C40	C12710	B9	C14160	B27	C26414	B50	C26916	C30	FB14801	E9	Q14201	B17	R11601	A5	R12315	C2	R13142	A51	R14118	A24	R14509	E21	R26420	B58	R26505	E49	U14101	C19
C11608	B38	C12711	B11	C14201	A17	C26415	A50	C26917	D27	FB26401	D26	Q14275	E51	R11602	D39	R12316	C3	R13143	D48	R14119	A23	R14520	D5	R26421	C47	R26506	E27	U14102	D19
C11609	B38	C12712	A28	C14203	A19	C26418	D47	CF12201	A3	FB26402	E24	Q14276	E51	R11603	C39	R12317	B4	R13144	D48	R14120	D23	R14701	D19	R26422	D47	R26901	D27	U14103	C23
C11610	C38	C12713	C10	C14204	A19	C26419	C45	CF12301	B4	FB26403	B57	Q14277	D51	R11604	C39	R12601	B32	R13165	A49	R14121	A49	R14702	D20	R26423	C46	R26902	D31	U14104	A26
C11611	B38	C12714	C13	C14205	A20	C26422	D50	CF12351	C4	FB26404	A59	Q14301	E6	R11605	B38	R12701	C10	R13166	B51	R14122	A25	R14703	A16	R26427	D50	R26903	E33	U14150	C27
C11612	D38	C12715	B13	C14206	A20	C26425	B50	CR111401	B29	FL12601	B32	Q14302	E5	R11606	D38	R12702	E4	R13169	C51	R14123	A25	R14704	E3	R26430	B50	R26904	E32	U14275	E50
C11613	D38	C12716	B13	C14207	B18	C26426	C50	CR111402	E32	IR13401	A45	Q14401	E7	R11607	D38	R12703	C10	R13176	B51	R14124	B22	R14705	E3	R26431	C50	R26905	D31	U14501	D7
C11614	C38	C12717	C9	C14208	A17	C26427	B46	CR111403	D32	J11401	B37	Q14801	E15	R11608	D38	R12704	A7	R13180	B51	R14126	D20	R14706	D3	R26432	B47	R26906	D32	U14801	E13
C11615	C38	C12718	C10	C14275	E51	C26428	C47	CR111501	E41	J11401	B37	Q14802	E15	R11609	D38	R12705	C9	R13181	B51	R14127	D21	R14801	E12	R26433	C47	R26907	D32	U14801	E14
C11616	C37	C12801	C8	C14276	E20	C26429	B47	CR111502	E41	J11401	C29	Q14901	D3	R11611	A40	R12706	C12	R13182	B51	R14128	D21	R14802	E14	R26434	B47	R26907A	A37	U26401	C48
C11617	D39	C12802	B7	C14277	E52	C26430	B47	CR111503	E43	J11402	C44	Q15101	A14	R11612	A40	R12707	A12	R13183	E43	R14129	C20	R14803	E14	R26435	B47	R26908	D33	U26401	C57
C11618	D38	C12803	C9	C14278	D51	C26432	A48	CR111504	E23	J11402	C44	Q15102	C14	R11613	B40	R12708	B12	R13185	E44	R14130	D23	R14804	E13	R26437	A47	R26908A	A37	U26402	A55
C11619	D39	C12805	B6	C14302	E5	C26433	D49	CR111505	E24	J11403	D30	Q15103	B14	R11614	A41	R12710	B2	R13188	C46	R14132	D21	R14805	E14	R26438	D49	R26910	D32	U26403	A53
C11620	C40	C12806	C8	C14303	E5	C26435	D47	CR111601	B41	J13201	A60	Q26401	C46	R11615	C38	R12711	B2	R13189	B46	R14151	C26	R14806	E14	R26439	D49	R26911	D33	U26404	E26
C11621	B40	C12807	C8	C14304	E6	C26437	C48	CR111602	C37	J26401	A37	Q26402	C46	R11616	C38	R12712	B12	R13190	B46	R14153	B23	R14807	D14	R26441	D47	R26912	B33	U26901	C34
C11622	B40	C13102	A7	C14305	E6	C26438	B48	CR111603	C37	J26401	A37	Q26403	D25	R11617	B39	R12713	B12	R13191	B46	R14155	B27	R14808	E14	R26443	C48	R26913	B33	U26902	A34
C11623	D40	C13114	D45	C14306	E6	C26439	B48	CR12301	B5	K14201	A18	Q26404	E25	R11618	A5	R12714	B10	R13192	D51	R14157	B27	R14809	D15	R26444	B48	R26914	B29	U26903	A31
C11624	A5	C13119	B52	C14309	E5	C26440	B57	CR12702	E4	K14201	B18	Q26405	A48	R11619	C37	R12715	C13	R13198	A49	R14158	B27	R14810	E15	R26445	B48	R26915	B30	V101	C16
C11625	D40	C13141	D49	C14310	E5	C26441	C46	CR13501	E48	L12301	B4	Q26410	A59	R11620	C37	R12716	C13	R13202	C23	R14159	B27	R14851	D4	R26446	A48	R26916	D35	Y12801	B9
C11626	A39	C13163	C24	C14320	D2	C26444	C45	CR14101	B18	L12302	B3	Q26411	B59	R11621	B40	R12717	C13	R13203	A60	R14201	A17	R14852	D4	R26447	D46	R26917	D36	Y14101	D2
C11627	A39	C13204	A59	C14321	D2	C26446	E46	CR14102	B19	L12303	B4	Q26450	B58	R11622	B40	R12718	C13	R13310	B10	R14202	A18	R14853	E13	R26448	C46	R26921	B30	Y26401	C49
C11628	A41	C13205	A60	C14322	E4	C26447	B28	CR14103	C19	L12305	C27	Q26451	A58	R11623	B41	R12719	A13	R13311	A10	R14204	A20	R14901	E3	R26449	C46	R26922	B30		
C11629	B39	C13206	A60	C14401	E7	C26448	D28	CR14104	C19	L12352	C4	Q26501	E49	R11624	B41	R12720	A13	R13312	A11	R14205	A17	R14902	E2	R26450	C46	R26923	B29		
C11630	A41	C13401	A45	C14402	E9	C26449	D28	CR14105	C19	L12705	C27	Q26502	E49	R11625	A41	R12721	A13	R13313	B8	R14206	B17	R14903	E2	R26451	C46	R26924	B30		
C11631	A41	C13402	A45	C14403	D9	C26450	E28	CR14106	A22	L13201	A59	Q26503	E48	R11626	A41	R12722	A13	R13314	D46	R14275	E51	R14904	D3	R26452	C45	R26925	B29		
C11632	A38	C13501	E48	C14404	D9	C26451	E28	CR14107	B23	L14101	B28	Q26901	D35	R11627	C38	R12723	B13	R133											

MAIN BOARD



A SAMS Technical Publishing GRIDTRACE™ PHOTO

MAIN BOARD, GRIDTRACE LOCATION GUIDE

BC14901	O7	C12715*	G4	C14505	C7	J14203	M11	R11615*	N2	R12808*	J6	R14123	D10	T14201	M11
C11450	O3	C12716*	H4	C14506	C7	J14275	C5	R11616*	N2	R13101	D1	R14124	D9	T14301	H8
C11451	O3	C12717*	J5	C14507*	C7	J14405	M9	R11617*	M2	R13102	D2	R14126*	E12	T14401	N9
C11453*	O3	C12718*	I5	C14521	H5	J14801	G5	R11618*	N2	R13103	D2	R14127*	D10	TU17101	N4
C11454*	O3	C12801*	I5	C14701	M7	K14201	K11	R11619*	O2	R13108	F3	R14128	E9	U11501	J2
C11455*	O3	C12802*	J4	C14702*	M8	L12301*	J4	R11620*	O2	R13109*	E2	R14129*	H1	U11601	L2
C11456*	N3	C12803*	J5	C14703	E9	L12302	K4	R11621*	M1	R13110*	C2	R14130	F12	U11602*	L1
C11501*	K2	C12805*	J4	C14704	E8	L12303	K5	R11622*	L1	R13111*	E2	R14132*	D11	U11900	I2
C11502*	K2	C12806	J6	C14706*	M8	L12305	J6	R11623*	L1	R13112*	D2	R14151	G5	U11901	H2
C11503*	K1	C12807*	J5	C14710	N10	L12705	H5	R11624*	L1	R13113*	B2	R14153	E6	U12101	J5
C11504	K1	C13102*	E1	C14711	L8	L14101	M6	R11625*	L1	R13118	C2	R14155	E6	U13102	E3
C11506	K1	C13114*	D2	C14801	I8	L14102	D6	R11626*	K2	R13119	C2	R14157	E6	U14101	H12
C11507	J2	C13119*	E3	C14901	E8	L14103	G9	R11627	F2	R13121*	D4	R14158	F6	U14102	E12
C11601	N2	C13141*	C4	C14902	E8	L14105	D11	R11701*	K2	R13122*	E4	R14159	F6	U14103	E5
C11602	N2	C13163*	F5	C14903*	I5	L14401	I8	R11702*	K2	R13123	D4	R14201	N12	U14104	C8
C11603	N2	C13205*	O1	C14904*	K6	L14402	F9	R11703*	K2	R13124*	C4	R14202	O11	U14150	G5
C11604	M3	C13501*	B4	C17416*	L4	P12701	G3	R11704*	K2	R13126*	C2	R14204	M10	U14275	B5
C11605*	M3	C13502*	B3	C17417*	L4	P14401	D8	R11705	K2	R13128*	D2	R14205	N12	U14501	C7
C11606*	M3	C13503*	B3	CF12201	J4	P14501	D6	R11706*	J3	R13130*	B2	R14206*	D7	Y12801	I6
C11607*	M3	C13504*	B4	CF12301	J4	Q11501*	G2	R11707	K2	R13131*	B2	R14275	B6	Y14101	I6
C11608*	M2	C14101	K11	CR11501*	J1	Q11603	O2	R11708*	K2	R13134*	E2	R14276	B6		
C11609*	M2	C14102	H10	CR11502*	K1	Q11901*	J1	R11709*	K2	R13135*	D2	R14277	B5		
C11610*	M2	C14103*	K11	CR11503	K1	Q12301*	J4	R11909	G2	R13136*	E3	R14278	B5		
C11611	M2	C14104	J12	CR11504	G2	Q12701*	H4	R11910*	I2	R13139*	E2	R14279*	B5		
C11612*	M1	C14105	J12	CR11505*	J2	Q12702*	G4	R11911*	I2	R13142*	E2	R14280*	C6		
C11613*	M2	C14106*	H11	CR11601*	L1	Q12703*	H4	R11912*	H2	R13143	C4	R14281*	C6		
C11614	N2	C14107*	F12	CR11602	N2	Q12704*	G4	R11913*	H2	R13144	C4	R14282*	C5		
C11615*	N2	C14108	I11	CR11603*	O2	Q13101*	E2	R11915*	J1	R13165*	D2	R14283*	C5		
C11616	N2	C14109	F10	CR12301*	K5	Q13103*	D2	R11917	F2	R13166*	B2	R14284*	C5		
C11617	N3	C14110	E10	CR12702	G6	Q13104*	D2	R11918*	J1	R13169*	B2	R14285*	C5		
C11618	M2	C14111	D12	CR13501	B3	Q13105*	D2	R11919*	J1	R13176*	E3	R14286*	C5		
C11619	N3	C14112	D11	CR14101	K10	Q13301*	D4	R11920*	I1	R13180*	D2	R14287*	C5		
C11620	M3	C14113	F11	CR14102	K11	Q13302*	D4	R11921*	G1	R13181*	D2	R14303	H6		
C11621*	L2	C14114	F11	CR14103	H12	Q13501*	B3	R12201*	J4	R13182*	D2	R14304*	G8		
C11622*	L2	C14115	F11	CR14104	H12	Q13503*	B4	R12302*	J6	R13183*	D4	R14305	I8		
C11623	M3	C14116	E11	CR14105	J11	Q14101	J11	R12303*	J5	R13185*	E4	R14306	H8		
C11624	N1	C14118	E9	CR14106	F10	Q14102	J11	R12304*	J4	R13188	B2	R14309	G8		
C11625*	L2	C14119	F5	CR14107	D12	Q14103	J11	R12305*	J4	R13189	B2	R14310	H7		
C11626*	L2	C14121	F12	CR14108	F10	Q14104	D10	R12306*	J5	R13190	B2	R14318	D6		
C11627*	M2	C14122	H9	CR14109	F11	Q14105*	D10	R12307*	J3	R13191	B2	R14319	D6		
C11628	L1	C14124	F10	CR14110	D5	Q14106*	E12	R12308*	K5	R13198*	D3	R14320*	I6		
C11629*	L2	C14125	I11	CR14111	E11	Q14107*	D11	R12309*	K5	R13201*	A6	R14322*	I6		
C11630	K2	C14126*	I12	CR14113*	P3	Q14115	E6	R12310*	J5	R13203	O1	R14323*	I6		
C11631*	L1	C14127*	I12	CR14114*	P3	Q14201*	D7	R12311*	J4	R13314*	E4	R14324*	H6		
C11701*	J2	C14150	H5	CR14115	F6	Q14275	B5	R12314*	K5	R13315*	D4	R14326*	I6		
C11702*	K2	C14151	H5	CR14117	I12	Q14276	B5	R12315*	K5	R13316*	E4	R14327*	H6		
C11703	K2	C14152	H6	CR14201	O10	Q14277*	C5	R12316*	J5	R13317*	E4	R14328*	G6		
C11704*	J3	C14153*	I5	CR14202	O11	Q14301	H9	R12317*	K4	R13318*	E4	R14401	G8		
C11705	J2	C14154*	F6	CR14203	N10	Q14302*	G8	R12701*	I4	R13319*	D5	R14402	I7		
C11906*	I2	C14155	O5	CR14204	N11	Q14401	J8	R12702	G5	R13320	D5	R14403	G9		
C11907*	H2	C14158	L6	CR14205	D11	Q14901	K7	R12703*	I4	R13321*	F5	R14501	C6		
C11908	I2	C14159*	L6	CR14301	G8	R14704	I3	R12704	I3	R13322	F4	R14503	B6		
C11909	H2	C14160*	M6	CR14401	F8	R11461*	O3	R12705*	J5	R13501*	B4	R14504	D7		
C11910*	H2	C14201	M12	CR14402	K8	R11462*	O3	R12706*	I4	R13503*	B4	R14506	D6		
C11912*	G2	C14203	O10	CR14501	C7	R11463*	O3	R12707*	I4	R13504*	B3	R14507	B6		
C11913	I1	C14204	O11	CR14701	M8	R11501*	K3	R12708*	I4	R13505*	B3	R14508	D6		
C11914	G1	C14205	L10	CR14702	F8	R11502*	K3	R12710	K4	R13508*	B3	R14509	D7		
C12301*	J5	C14206	M10	CR14704	M8	R11503*	K1	R12711	K4	R13510*	C4	R14520*	I5		
C12302*	J5	C14207	O11	CR14801	J8	R11504*	K3	R12712*	G4	R13511*	B3	R14701	N7		
C12303*	J4	C14208	N12	CR14901	E7	R11505*	K1	R12713*	G4	R13512*	B3	R14702	E9		
C12304*	K5	C14275*	B5	CR14902	J7	R11506*	K3	R12714*	I4	R14101	J10	R14703	E7		
C12305	K5	C14276*	B6	F14201	L11	R11507*	K1	R12715*	H4	R14102	J10	R14704	O9		
C12306	N6	C14277*	B5	FB13201	O1	R11508*	K1	R12716*	G4	R14103	K10	R14705	L9		
C12307*	J5	C14278*	C5	FB14106	F10	R11509*	K1	R12717	G4	R14104	K11	R14706	G5		
C12308*	J5	C14302*	G8	FB14107	F10	R11510*	K1	R12718*	G3	R14105	H11	R14852*	I6		
C12310	K5	C14303*	G8	FB14108	F10	R11511	J1	R12719*	G4	R14106	K11	R14853	M9		
C12312*	K5	C14304	H8	FB14109	I11	R11512	J2	R12720*	G4	R14107	J11	R14901	E7		
C12313*	J5	C14305	H8	FB14110	L5	R11513*	G2	R12721	G4	R14108	J11	R14902	K7		
C12314	K6	C14306	H8	FB14114	F10	R11514*	G2	R12722*	H3	R14109	J11	R14903	N7		
C12701	I4	C14309*	G8	FB14401	J8	R11601*	N2	R12723*	I4	R14110	I11	R14904	G6		
C12702	I4	C14310	G8	FB14501	I6	R11602*	M3	R12724*	I4	R14111	I12	R14905*	O7		
C12703	H5	C14320	I6	FB14801	J9	R11603*	M3	R12725	G4	R14112*	H11	R14906*	J6		
C12704	H3	C14321*	I5	J11403	L9	R11604*	M3	R12726*	H4	R14113	F11	R14909*	I6		
C12706	F6	C14322*	I6	J11450	N3	R11605*	M2	R12727*	G3	R14114*	E12	R17130*	O6		
C12707	H5	C14401*	J8	J11451	K3	R11606*	M2	R12731	H4	R14115	E11	R17402*	L4		
C12708*	H5	C14402	K8	J11901	H1	R11607*	M2	R12801*	I5	R14116	E12	R17403*	L4		
C12709*	I4	C14403	F8	J12101	I3	R11608*	M1	R12802*	I5	R14117	I10	R17409*	M4		
C12710*	I4	C14404	F7	J13101	D1	R11609*	M2	R12803*	J6	R14118	E11	R17411*	M4		
C12711*	I4	C14405	F9	J13103	E3	R11611*	M1	R12804*	I4	R14119	D12	RN14501	C7		
C12712*	G3	C14406	J8	J13104	C3	R11612*	L2	R12805*	J4	R14120	D9	RT14201	L11		
C12713	H4	C14502	B7	J13201	O1	R11613*	L1	R12806*	J6	R14121	E9	SF12301	J6		
C12714*	G4	C14504	B6	J13202	C1	R11614*	L2	R12807*	J6	R14122	D10	T14101	G11		

\* Located on bottom of board.

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Function/Rating	Mfr. Part No.	Notes
CR11401	-	232710	-	Q26411, 50, 51	-	215495	-	C26422	200pF 10% 50V NPO	247000	-
CR11402	-	220638	NTE5014A	Q26501	-	-	-	C26425, 26, 35	100pF 10% 50V NPO	243218	-
CR11403	-	232710	-	Q26502	-	-	-	C26437, 38, 39, 44	47pF 5% 50V NPO	244069	-
CR11501, 02	-	232709	-	Q26503	-	-	-	C26470	220pF 5% 50V NPO	249036	-
CR11503	-	215488	NTE136A	Q26901	-	215496	-	C26473	47pF 5% 50V NPO	244069	-
CR11504	-	226463	-	Q26902 Thru	-	-	-	CF12201	Filter	195702	4.5MHz
CR11505	-	232709	-	Q26905	-	215495	-	CF12301	Trap	181125	4.5MHz
CR11601	-	232709	-	U11501	MC3403N	241785	NTE987	CF12351	Trap	181125	4.5MHz
# CR11602	-	159429	NTE5019T1	U11601	CXA2074S	237930	-	# DY1 (3)	Yoke	-	Horiz .95mH, Vert 17.4mH
CR11603	-	232709	-	U11602	-	237474	-	# F14201	Fuse	175425	5A, 125V
CR12301	-	227051	-	U11900, 01	TDA7267	244225	-	FB13201	Ferrite Bead	226467	-
CR12702	-	198589	NTE519	# U12101 (1)	LA7612N	252842	-	FB14106, 07, 08	Ferrite Bead	237504	-
CR13501	-	164874	NTE177	# U12101 (2)	-	241266	-	FB14109, 10	Ferrite Bead	226467	-
CR14101	-	232221	-	U13102	-	251160	-	FB14114	Ferrite Bead	237504	-
CR14102	-	198589	NTE519	# U14101	-	223653	-	FB14401	Ferrite Bead	161237	-
CR14103, 04	-	139706	NTE177	U14102	-	231525	-	FB14501	Ferrite Bead	215547	-
CR14105	-	198589	NTE519	U14103	L7852CV	241752	-	FB14801	Ferrite Bead	232765	-
CR14106	-	243636	-	U14104	KA7812	162394	NTE966	FB26401	Ferrite Bead	239201	-
CR14107	-	217306	-	U14150	L78S75CV	231526	-	FB26402	Ferrite Bead	226467	-
CR14108	-	243636	-	U14275	UA741CN	237477	NTE941M	FB26403, 04	Ferrite Bead	239201	-
CR14109	-	176296	NTE552	U14501	-	215531	-	FL12601	Filter	225701	Comb
CR14110	-	155276	NTE116	U14801	-	223682	-	IR13401	Receiver	245541	Remote
CR14111	-	198589	NTE519	U26401	-	249043	-	J11401	Jack	239389	Assembly
CR14113, 14	-	232709	-	U26402	-	243436	-	J11402	Jack	245283	Assembly
CR14115	-	215488	NTE136A	U26403	-	254910	-	J11403	Jack	195705	S-Video
# CR14117	-	244224	-	U26404	-	237664	-	J13201	Jack	214609	IR Out
CR14201 Thru	-	-	-	U26901, 02, 03	LA7221	227354	-	J26104	Jack	250673	Assembly
CR14204	-	147015	NTE125					# K14201	Relay	256573	Degaussing
CR14205	-	198589	NTE519					KS15101	Socket	233120	CRT
CR14301	-	176296	NTE552					L12301	18μH	243894	-
# CR14401	-	140971	NTE558					L12302	-	215502	-
CR14402	-	242907	-	C11612, 13	22pF 5% 50V NPO	194903	-	L12303	-	233056	-
CR14501	-	155276	NTE116	C12303	120pF 5% 50V NPO	194902	-	L12305	10μH	175409	-
CR14701	-	241304	-	C12714, 15, 16	470pF 5% 50V NPO	214732	-	L12352	18μH	195711	-
CR14702	-	176296	NTE552	C12718	100pF 5% 50V NPO	193340	-	L12705	10μH	175409	-
CR14704	-	207878	NTE519	C12803	15pF 5% 50V NPO	200538	-	L13201	-	-	-
CR14801	-	243636	-	C12805	120pF 5% 50V NPO	194902	-	L14101	100μH	160186	-
# CR14901	-	157301	NTE177	C13102	120pF 5% 50V NPO	194902	-	L14102	27μH	190017	-
# CR14902	-	159429	NTE5019T1	C13205	220pF 5% 50V NPO	205551	-	L14103	22μH	215504	-
CR26501	-	-	-	# C14102	.0168 1.6kV	237355	-	L14105	47μH	244222	-
CR26901	-	198602	-	# C14108	.0011 1.6kV	244208	-	# L14200 (1)	Degaussing	237932	-
Q11501	-	215495	-	# C14111	100μF 20% 63V	237425	-	# L14200 (2)	Degaussing	225836	-
Q11603	-	177788	NTE31	# C14112	.01 10% 50V	240934	-	L14401	4μH	215505	-
Q11901	-	215495	-	C14113, 15	680pF 20% 1kV	190538	-	# L14402	17.5μH	210895	-
Q12301	-	215496	-	C14159, 60	100pF 5% 50V NPO	193340	-	L14801	390μH	237452	-
Q12701, 02, 03	-	215495	-	# C14201	.22 20% 250VAC	-	-	L15101	100μH	160186	-
Q12704	-	215496	-		.22 20% 125VAC	231451	-	L26401	4.7μH	158726	-
Q13101, 03, 04	-	215496	-	# C14203, 04	680pF 20% 1kV	190538	-	L26901	-	244249	-
Q13105	-	215495	-	# C14205	680μF 20% 200V	190560	-	L4202	Field Cancel	237832	-
Q13301	-	215496	-	# C14207	.0034 20% 120V	223330	-	# PW14101	Line Cord	241251	AC, Polarized
Q13302	-	215495	-	# C14208	470pF 250VAC	250102	-	# R11401, 03	2200 5% 1/2W	246613	-
Q13501	-	215496	-	C14278	270pF 5% 50V NPO	197597	-	# R11406	56	247610	-
Q13503	-	215495	-	C14303	470pF 5% 50V NPO	214732	-	# R11407, 09	2200 20% 1/4W	237429	-
Q14101	-	244223	-	C14310	15pF 1% 250V NPO	223899	-	# R11412, 14	56	247610	-
# Q14102	-	147665	NTE159	C14322	39pF 5% 50V NPO	202905	-	# R11511, 12	100 5% 1/4W	198667	-
Q14103	-	232218	-	C14401	470pF 5% 50V NPO	214732	-	R11616	61.9K 1% 1/10W	225705	-
Q14104	-	243955	-	# C14402	.0174 1.6kV	247717	-	# R11627	10 5% 1/4W	241259	-
Q14105, 06, 07	-	215495	-	# C14403	.0168 1.6kV	237355	-	# R11909	16 5% 3W Nonflammable	244213	-
Q14115	-	177788	NTE31		.5 5% 250V	200150	-	R12201	680 2% 1/10W	195939	-
Q14201	-	219412	-		.55 5% 250V	214753	-	R12302, 03	120K 2% 1/10W	207834	-
Q14275	-	219025	NTE159	C14404	2.2μF 20% 200V	247673	-	R12310	1800 2% 1/10W	197903	-
Q14276	-	229220	-	# C14405	.0047 10% 250V	142765	-	R12311	620 2% 1/10W	205339	-
Q14277	-	215495	-	# C14406	470pF 5% 2kV	227068	-	R12317	240 2% 1/10W	197624	-
Q14301	-	146851	NTE287	C14702	470pF 10% 500V NPO	227050	-	R12351	270 2% 1/10W	197623	-
Q14302	-	215495	-	C14704	680pF 20% 1kV	190538	-	# R12601	150 5% 1/4W	176645	-
# Q14401	-	237470	-	C14706	470pF 10% 500V NPO	227050	-	R12713	1300 2% 1/10W	205340	-
Q14801	-	219025	NTE159	C14710	.01 20% 1kV	137583	-		910 2% 1/10W	197627	-
Q14802	-	223656	-	# C14801	.047 5% 600V	203738	-		220 2% 1/4W	175324	-
# Q14901	-	147665	NTE159	# C14904	.033 5% 400V	214747	-		15K 2% 1/10W	205354	-
Q15101, 02, 03	-	215497	NTE2501		.22 25V	217298	-		120K 2% 1/10W	207834	-
Q26401	-	215496	-		.001 10% 3kV	120696	-		13K 2% 1/10W	205353	-
Q26402	-	215495	-	C17416, 17	43pF 5% 50V NPO	214029	-		750 2% 1/10W	202914	-
Q26403, 04	-	177788	NTE31	C26401	27pF 5% 50V NPO	246955	-		27K 2% 1/10W	205245	-
Q26405, 10	-	215496	-	C26402	30pF 5% 50V NPO	243467	-		64.9K 1% 1/10W	247691	-
				C26411, 12, 15	100pF 10% 50V NPO	243218	-				

PARTS LIST continued

Item No.	Function/Rating	Mfr. Part No.	Notes
R13504	100K 1% 1/10W	215221	-
R13507	27K 2% 1/10W	205245	-
# R14101	47K 5% 3W	232213	-
# R14102	6800 5% 1/2W	179248	-
# R14105	68 5% 1/4W	175039	-
# R14106	2000 5% 1/4W	175321	-
# R14107	43 5% 1/4W	244214	-
# R14108	.1 5% 3W Wirewound	244215	-
# R14109	750 5% 1/4W	179317	-
R14112	680 2% 1/10W	195939	-
R14114	270K 2% 1/10W	205375	-
R14115	143K .1% 1/4W	244216	-
R14116	2800 .1% 1/4W	244217	-
# R14117	160 5% 7W Wirewound	227958	-
R14118	33K 5% 3W	243805	-
# R14124	3.3 5% 2W	223680	-
R14126	37.4K 1% 1/10W	215215	-
R14128	100k 2% 1/8W	176816	-
# R14151	8.2 5% 1W	235378	-
# R14201	2.7M 10% 1/2W	217662	-
# R14202	1.8 10% 15W Wirewound	200444	-
# R14205	120K 20% 1/2W	238903	-
# R14275, 76	33 5% 1/4W	175754	-
# R14277	68 5% 1/4W	175039	-
R14279	18K 2% 1/10W	205356	-
# R14305	2000 5% 3W	251832	-
R14326	910 2% 1/10W	197627	-
# R14401	15K 5% 1W	190557	-
# R14402	47 5% 1/2W	241321	-
# R14403	820 5% 1W	175349	-
# R14506	13 5% 1W	231508	-
# R14507	1.5 5% 2W	237441	-
# R14508	1 10% 2W Wirewound	215577	-
# R14701	10 20% 1/2W	241261	-
# R14703	.82 5% 3W Wirewound	243804	-
	1 5% 3W Wirewound	242608	-
# R14704	82K 10% 1/2W	239116	-
# R14705	27K 10% 1/2W	238958	-
R14706	976 1% 1/4W	244246	-
# R14802	100 5% 1/4W Nonflammable	198667	-
R14803	28K 1%	195731	-
R14806	34K 1% 1/4W	207881	-
# R14808	1000 5% 1/4W	237444	-
# R14810	1	233165	-
# R14901	100 5% 1/4W	198667	-
# R14902	36.5K 1% 1/4W	207882	-
# R14903	39.2K 1% 1/4W	190469	-
R14909	15K 2% 1/10W	205354	-
# R15101, 02, 03	10K 5% 2W Nonflammable	176656	-
# R15104, 05, 06	2200 5% 1/2W	247669	-
# R15110	18K	248974	-
# R15117	180K	248976	-
# R15118	2200 5% 1/2W	247669	-
R26464	3320 1% 1/16W	249040	-
R26465	10K 1% 1/10W	252355	-
# R26901	270 5% 1/2W	192410	-
# R26907, 08	2200 5% 1/2W	246613	-
RN14501	Resister Network	215499	-
# RT14201	8 Cold PTC	207768	-
SF12301	Filter	217318	SAW
# SP1, 2	Speaker	243873	60 X 125 MM, 8 Ohms
SW13410	Switch	245531	Channel Up
SW13412	Switch	245531	Power
SW13420	Switch	245531	Channel Down
SW13421	Switch	245531	Volume Up
SW13430	Switch	245531	Menu
SW13431	Switch	245531	Volume Down
# T14101	SMT	244228	-
# T14201	Line Filter	190507	-
# T14301	Horizontal Drive	215541	-
# T14401 (4)	Horizontal Output	244247	-
# TU17101 (5)	Tuner	249035	UHF/VHF
# TU17101 (6)	Tuner	251129	UHF/VHF
# TU17101 (7)	Tuner	248782	UHF/VHF

Item No.	Function/Rating	Mfr. Part No.	Notes
# V101	CRT	HA89AEJ159	A89AEJ15X09
	CRT	HA79AEJ159	A79AEJ15X09
	CRT	A78LCU3013	A78LCU30X13
Y12801	Crystal	161235	3.58MHz
Y14101	Resonator	227064	507.5kHz
Y26401	Crystal	217322	8MHz
	Fuse Holder	176642	For F14201 (2 Used)
	PC Board	249053	Comb Filter
	PC Board	244469	CRT
	PC Board (5)	249017	Gemstar 4
	PC Board (6)(7)	253023	Gemstar 4
	PC Board	244248	Pincushion
	Transmitter	242524	Remote

# For SAFETY use only equivalent replacement part.

- (1) Used in 31” models.  
(2) Used in 35” models.  
(3) Bonded part of CRT.  
(4) Screen and focus controls are part of T14401.  
(5) Used in CTC203CA and CTC203CA2 chassis.  
(6) Used in CTC203CA5 and CTC203CA6 chassis.  
(7) Used in CTC203CA9 and CTC203CA10 chassis.

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.
Oscilloscope	SC3100
Generators	
RGB	CM2125
Multiburst Signal	VG91
Color Bar	VG91
TV Stereo	VG91
Digital VOM	SC3100
Frequency Meter	SC3100
Hi-Voltage Probe	HP200
Accessory Probes	TP212
Isolation Transformer	PR570
Capacitance Analyzer	LC102
CRT Analyzer	CR7000
AC Leakage Tester	PR570
Inductance Analyzer	LC102
Flyback Yoke Tester	TVA92
Field Strength Meter	SL753
Transistor Tester	TF46
Horizontal Analyzer	HA-2500
Video Analyzer	VG91, TVA92