

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.

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

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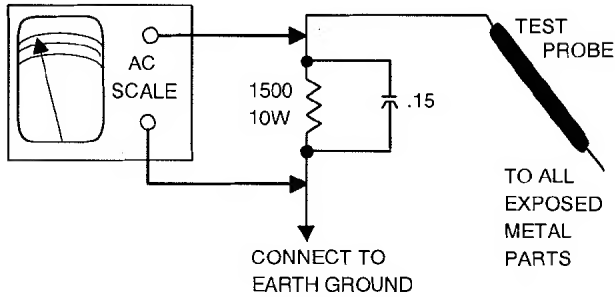
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SAFETY CHECKS -- FIRE AND SHOCK HAZARD
Cold Leakage Checks for Receivers with Isolated Ground

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.

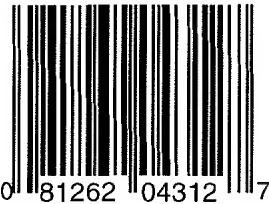


HIGH VOLTAGE SHUTDOWN TEST

Apply 120VAC, turn the receiver on, and set all customer controls for normal operation. Measure the voltage at TP7. Voltage should measure between 16.5V and 21.0V. If voltage exceeds this range the circuit must be repaired. Momentarily connect a jumper between TP7 and the cathode of D421. 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 30 seconds and then restore AC power.



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PHOTOFACT® Technical Service Data

SET 4312

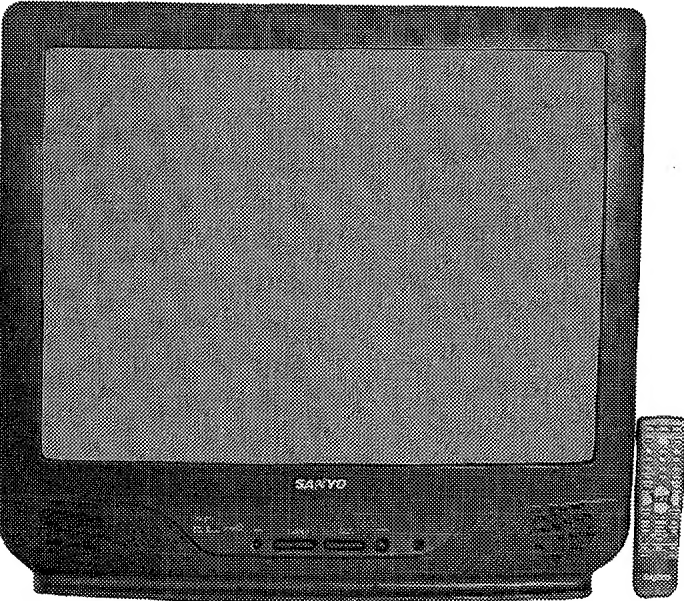
MODEL DS27890 (CHASSIS 27890-00/01)

SANYO

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Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

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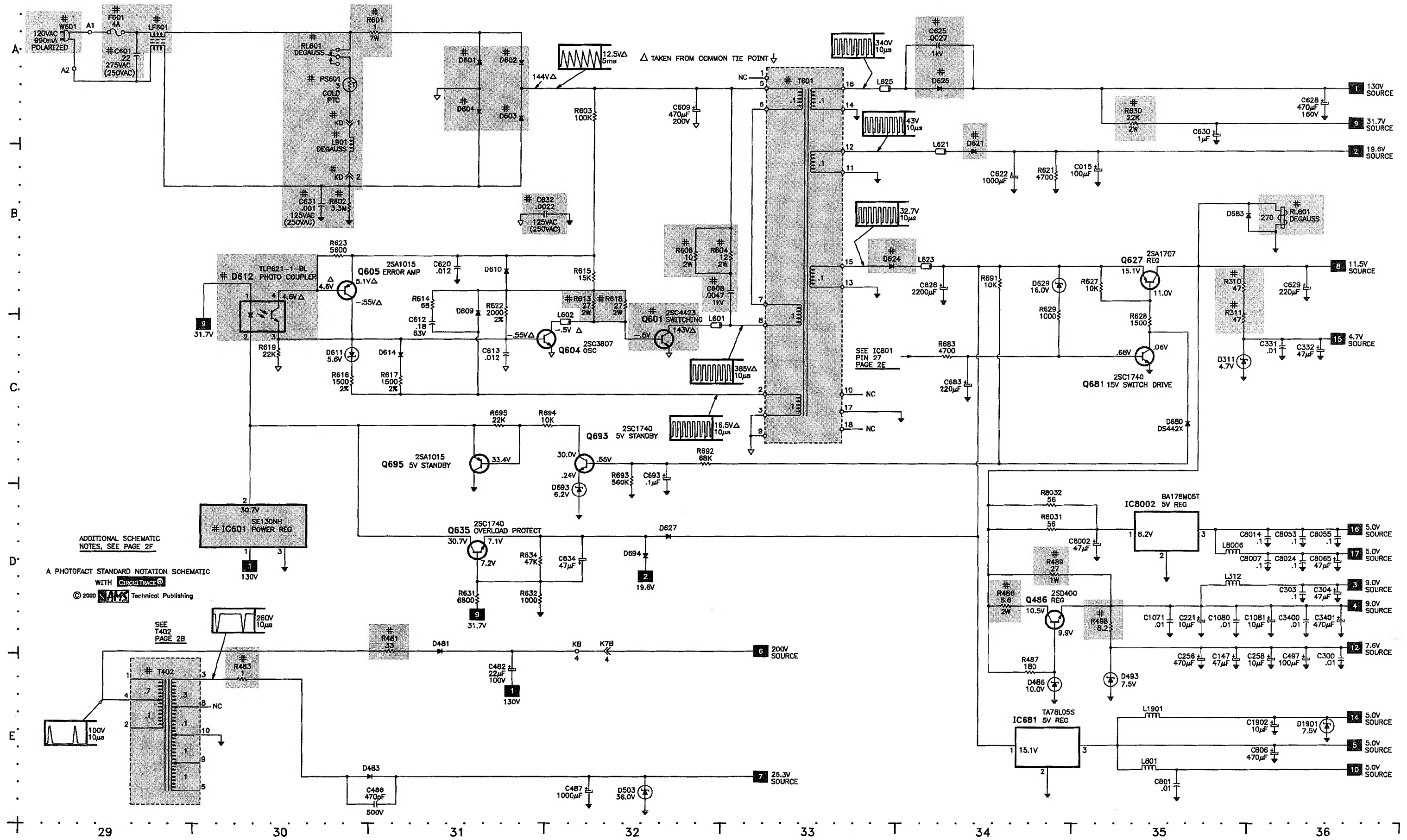
JULY 2000 SET 4312

For Supplier Address,
See PHOTOFACT Annual Index

POWER SUPPLY SCHEMATIC

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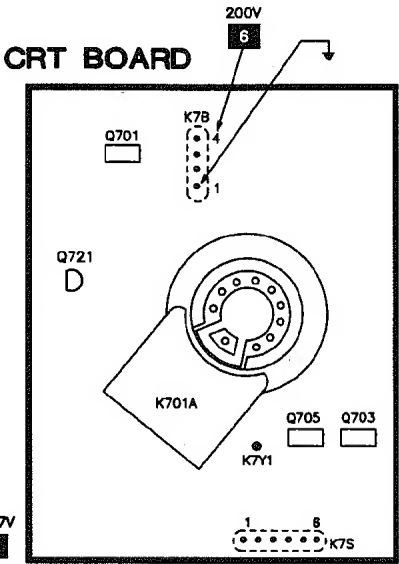
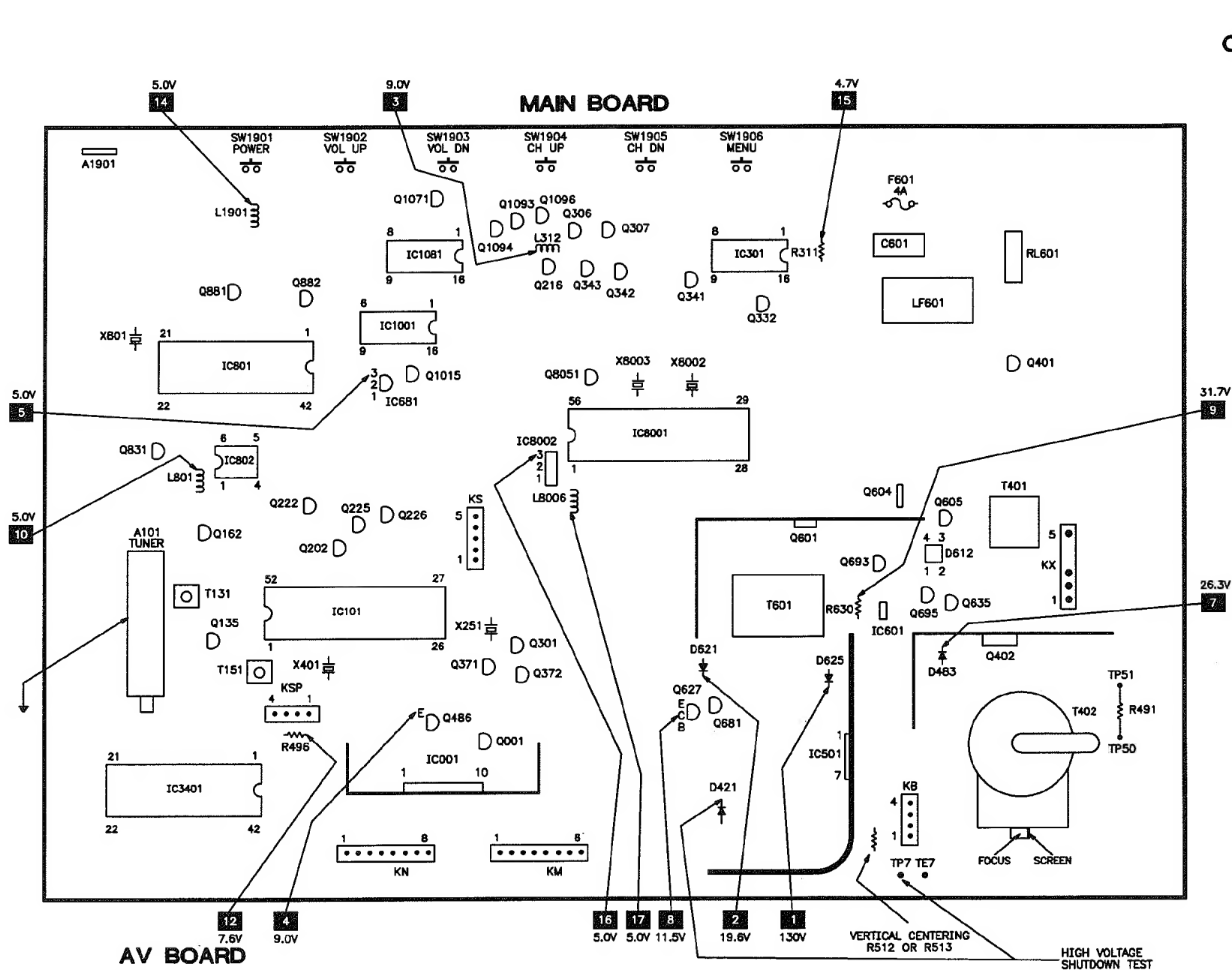
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PLACEMENT CHART



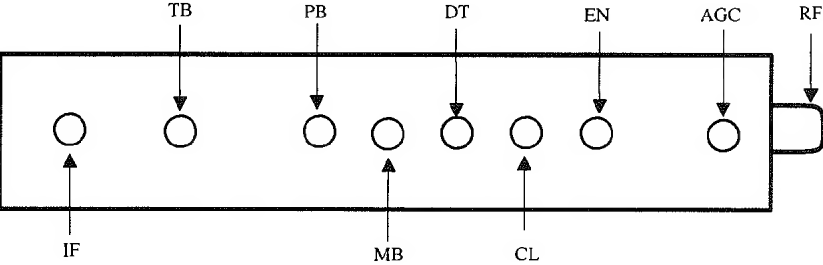
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
AGC	2.5V	2.3V	2.2V
EN	0V	0V	0V
CL	4.2V	4.2V	4.2V
DT	4.1V	4.1V	4.1V
MB	5.1V	5.1V	5.1V
PB	5.1V	5.1V	5.1V
TB	33.6V	33.6V	33.6V
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



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

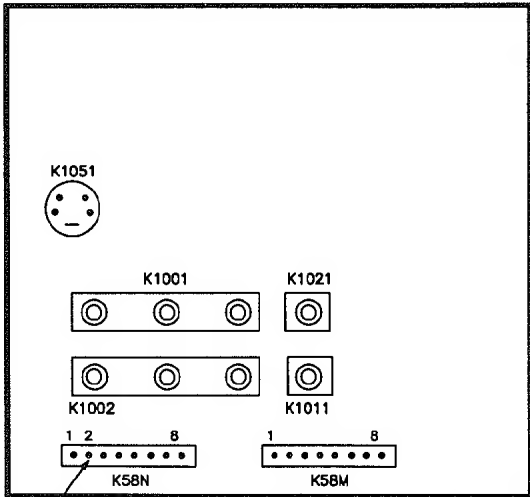
Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams Annual Index for their current address.

- Philips ECG Company (ECG)
- Terrell & Nobis (TNI Electronics)
- Sencore, Inc.

TEST EQUIPMENT

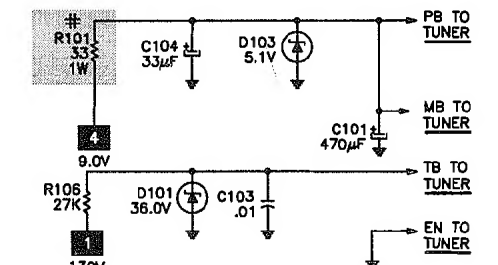
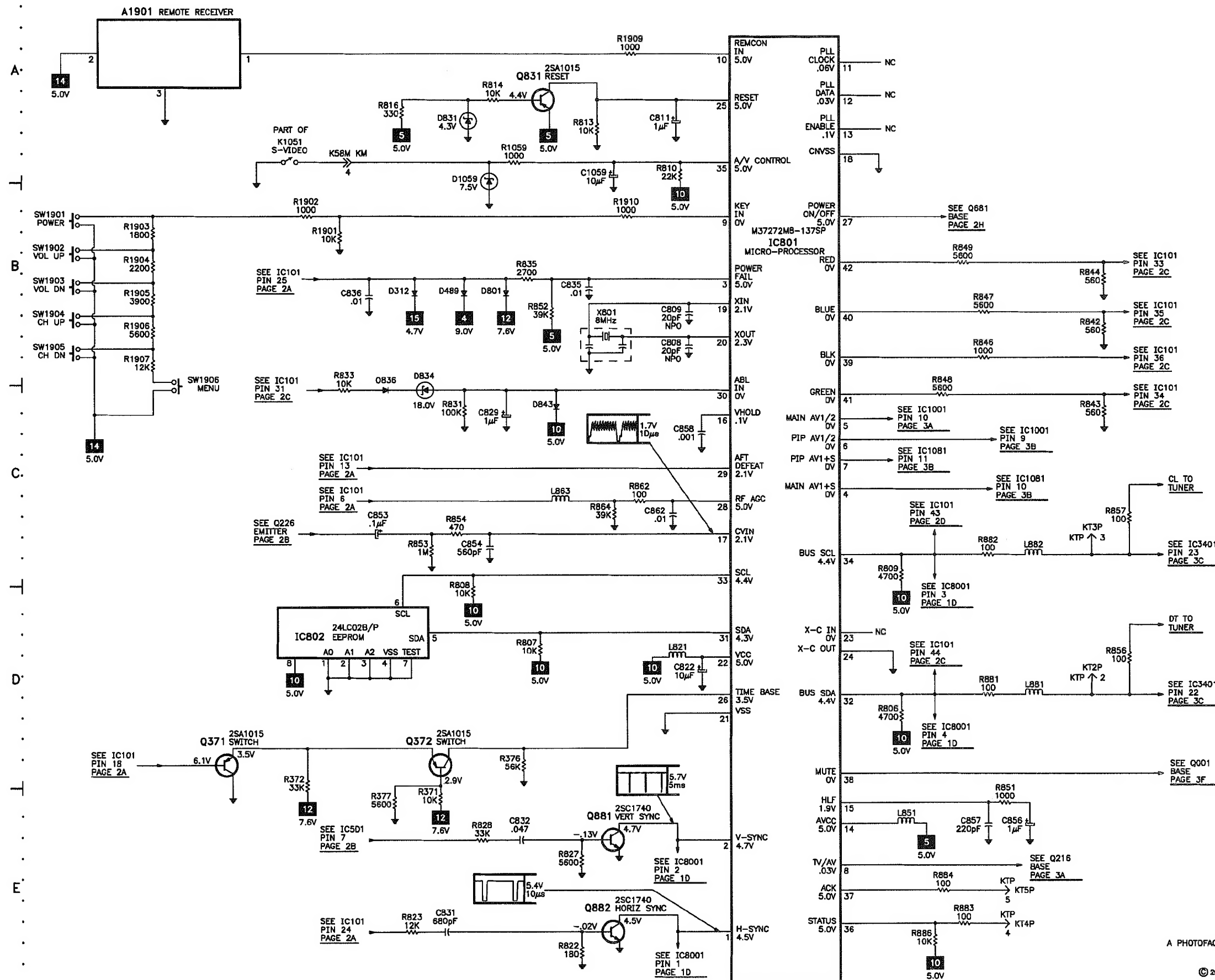
Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

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



SANYO
MODEL DS27890 (CHASSIS 27890-00/01)

SYSTEM CONTROL SCHEMATIC



TUNER NOT INCLUDED IN THIS COVERAGE

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 **CIRCUITRADE** 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 PHOTOFAC STANDARD NOTATION SCHEMATIC
WITH **CIRCUITRADE**
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SCHEMATIC COMPONENT LOCATION GUIDE

A1901	A-21	C509	D-5	C3440	D-47	D836	C-22	Q341	C-39	R307	B-11	R691	B-34	R1901	B-22
C001	A-48	C511	D-10	C3442	B-46	D843	C-23	Q342	C-40	R308	B-12	R692	C-32	R1902	B-22
C002	B-48	C516	D-8	C3444	B-46	D1001	D-40	Q343	C-39	R309	B-12	R693	D-32	R1903	B-21
C003	A-48	C601	A-29	C3446	C-45	D1004	E-40	Q371	D-21	R310	B-35	R694	C-31	R1904	B-21
C004	B-48	C608	B-33	C3448	B-45	D1008	C-43	Q372	D-22	R311	C-35	R695	C-31	R1905	B-21
C005	B-50	C609	A-32	C8002	D-35	D1009	D-43	Q401	E-7	R312	C-38	R701	B-18	R1906	B-21
C007	B-50	C612	C-31	C8007	D-36	D1051	B-42	Q402	E-9	R332	A-38	R702	B-18	R1907	B-21
C010	B-50	C613	C-31	C8014	D-36	D1052	C-43	Q486	D-34	R333	A-39	R703	C-19	R1909	A-23
C011	A-50	C620	B-31	C8018	B-1	D1059	B-23	Q601	C-32	R334	A-40	R704	C-18	R1910	B-23
C015	B-35	C622	B-34	C8019	B-1	D1901	E-36	Q604	C-31	R341	C-39	R705	C-18	R3401	D-47
C016	D-48	C625	A-34	C8022	D-3	F601	A-29	Q605	B-30	R342	C-39	R706	C-19	R3402	D-47
C017	D-48	C626	B-34	C8023	C-2	IC001	A-49	Q627	B-35	R343	C-40	R707	A-18	R3403	C-47
C101	B-28	C628	A-36	C8024	D-36	IC101	A-8	Q635	D-31	R347	C-40	R708	A-18	R3404	C-47
C103	B-28	C629	B-36	C8025	D-3	IC101	B-14	Q681	C-35	R348	C-40	R709	B-19	R3405	C-47
C104	B-27	C630	B-35	C8028	C-2	IC101	B-6	Q693	C-32	R349	C-40	R711	A-19	R3406	C-47
C106	C-5	C631	B-30	C8029	C-1	IC101	B-9	Q695	C-31	R351	C-5	R712	C-19	R3407	C-47
C131	B-9	C632	B-31	C8030	D-3	IC101	D-6	Q701	B-19	R352	C-5	R713	B-19	R3408	C-47
C133	B-8	C634	D-32	C8032	E-3	IC301	B-38	Q703	C-19	R353	E-5	R715	B-19	R3421	B-47
C139	B-9	C683	C-34	C8033	A-1	IC501	D-8	Q705	A-19	R371	E-22	R716	C-19	R3422	B-47
C142	C-7	C693	D-32	C8036	A-1	IC601	D-30	Q721	D-18	R372	E-22	R717	A-19	R3431	B-47
C143	C-6	C701	D-19	C8038	D-1	IC681	E-34	Q831	A-23	R373	D-6	R722	D-18	R3432	C-47
C147	E-35	C703	B-18	C8039	D-1	IC801	B-24	Q881	E-23	R376	D-23	R723	D-18	R3434	B-47
C151	B-7	C705	C-18	C8041	E-3	IC802	D-22	Q882	E-23	R377	E-22	R724	D-18	R3435	B-47
C161	B-6	C707	B-18	C8042	E-3	IC1001	D-40	Q900	B-20	R400	C-17	R803	A-16	R3436	C-47
C166	C-8	C708	D-20	C8043	D-2	IC1001	D-41	Q1015	D-40	R401	C-17	R804	A-17	R3437	C-47
C202	B-13	C721	D-18	C8044	D-2	IC1001	E-43	Q1071	A-12	R403	B-17	R806	D-25	R3440	D-47
C208	B-16	C801	E-35	C8045	E-2	IC1081	A-42	Q1093	E-42	R404	E-7	R807	D-23	R3441	B-45
C211	A-14	C806	E-36	C8046	D-2	IC1081	B-43	Q1094	E-41	R406	E-7	R808	D-23	R3442	B-45
C212	B-16	C808	B-24	C8048	E-2	IC1081	D-43	Q1096	E-42	R407	E-7	R809	C-25	R3443	B-45
C221	D-35	C809	B-24	C8049	E-2	IC3401	A-46	Q8051	A-3	R411	E-9	R810	B-24	R3444	B-45
C252	C-16	C811	A-24	C8050	E-3	IC8001	A-2	R001	A-47	R418	D-10	R813	A-23	R3445	C-45
C253	C-16	C822	D-24	C8051	E-3	IC8002	D-35	R002	B-47	R421	E-6	R814	A-23	R3446	C-45
C256	E-35	C829	C-23	C8052	D-1	K1001	B-45	R003	A-48	R422	E-7	R816	A-22	R3447	C-45
C258	E-36	C831	E-22	C8053	D-36	K1001	D-39	R004	B-48	R423	D-6	R822	E-23	R3448	B-45
C272	D-16	C832	E-23	C8055	D-36	K1002	B-45	R008	B-49	R426	D-7	R823	E-22	R8001	B-1
C300	E-36	C835	B-23	C8056	E-2	K1002	E-39	R011	C-49	R428	E-6	R827	E-23	R8002	B-1
C303	D-36	C836	B-22	C8057	E-2	K1011	B-48	R012	C-49	R481	E-31	R828	E-23	R8003	C-1
C304	D-36	C841	B-16	C8058	E-2	K1021	C-48	R101	B-27	R482	E-6	R831	C-23	R8004	C-1
C307	B-11	C842	B-15	C8065	D-36	K1051	B-22	R106	B-27	R483	E-30	R833	C-22	R8007	C-2
C308	B-11	C843	B-15	C8067	A-1	K1051	C-42	R133	B-8	R485	D-16	R835	B-23	R8009	C-2
C309	B-38	C853	C-22	C8068	B-1	L164	B-8	R136	A-9	R486	D-34	R842	B-26	R8013	C-1
C310	B-39	C854	C-23	D101	B-27	L166	C-8	R137	A-10	R487	E-34	R843	C-26	R8016	A-1
C312	B-12	C856	E-25	D103	B-28	L305	B-39	R138	B-9	R489	D-34	R844	B-26	R8017	A-1
C313	B-37	C857	E-25	D311	C-35	L306	B-11	R142	C-6	R491	D-13	R846	B-25	R8018	E-3
C314	B-37	C858	C-24	D312	B-22	L309	B-39	R143	B-5	R492	D-15	R847	B-25	R8021	E-3
C315	B-37	C862	C-24	D351	E-5	L310	D-37	R151	B-7	R493	D-13	R848	C-25	R8023	A-3
C316	B-37	C1000	B-43	D421	D-7	L312	D-35	R159	A-7	R494	D-13	R849	B-25	R8024	A-2
C317	C-37	C1001	D-39	D422	D-7	L332	A-39	R160	B-8	R497	A-20	R851	E-25	R8028	A-3
C318	C-37	C1004	E-40	D428	E-6	L341	C-39	R161	B-6	R498	D-35	R852	B-23	R8030	D-3
C322	C-37	C1051	B-42	D429	E-6	L401	E-8	R162	B-6	R503	D-7	R853	C-22	R8031	D-34
C323	C-37	C1052	C-43	D481	E-31	L402	E-9	R163	B-7	R504	D-8	R854	C-23	R8032	D-34
C331	C-36	C1059	B-23	D482	E-6	L413	D-10	R164	B-8	R505	D-8	R856	D-26	R8035	B-2
C332	C-36	C1071	D-35	D483	E-30	L601	C-32	R165	B-8	R506	D-8	R857	C-26	R8036	B-2
C336	A-39	C1080	D-35	D486	E-34	L602	C-32	R167	B-5	R507	D-8	R859	C-39	R8067	A-1
C341	C-39	C1081	D-36	D487	B-34	L621	B-34	R168	B-5	R508	D-8	R862	C-23	R8068	B-2
C342	C-39	C1902	E-36	D489	B-23	L623	B-34	R169	B-7	R509	D-8	R864	C-23	RL601	A-30
C343	C-40	C3400	D-36	D493	E-35	L625	A-33	R202	B-10	R511	D-10	R881	D-25	RL601	B-36
C344	C-40	C3401	D-36	D501	D-9	L800	C-27	R204	B-13	R512	D-11	R882	C-25	SP901	B-51
C351	C-5	C3402	C-46	D503	E-32	L801	E-35	R205	B-13	R513	D-11	R883	E-25	SP902	A-51
C352	D-5	C3403	C-46	D601	B-16	L813	B-16	R207	B-10	R517	D-9	R884	E-25	SW1901	B-21
C371	D-6	C3404	D-47	D602	A-31	L814	B-17	R212	B-16	R518	D-8	R886	E-25	SW1902	B-21
C401	B-17	C3406	E-47	D603	A-31	L821	D-24	R216	C-39	R601	A-30	R1001	D-39	SW1903	B-21
C403	C-17	C3407	A-46	D604	A-31	L851	E-25	R217	C-39	R602	B-30	R1002	D-41	SW1904	B-21
C405	B-17	C3408	C-47	D609	C-31	L863	C-23	R221	C-11	R603	A-32	R1003	D-41	SW1905	B-21
C406	E-7	C3409	D-47	D610	B-31	L881	D-25	R222	C-11	R604	B-33	R1004	E-39	SW1906	C-21
C407	E-7	C3410	D-47	D611	C-30	L882	C-25	R223	C-11	R606	B-32	R1005	E-40	T131	B-8
C408	E-7	C3411	D-46	D612	B-30	L901	B-30	R224	C-11	R613	C-32	R1006	E-40	T151	B-6
C410	E-9	C3412	E-46	D612	C-30	L902	D-10	R225	C-12	R614	C-31	R1011	D-42	T401	E-7
C412	E-10	C3413	C-47	D612	C-30	L1901	E-35	R226	C-12	R615	B-32	R1012	E-40	T402	D-11
C416	E-10	C3414	D-46	D614	C-31	L8006	D-35	R251	C-16	R616	C-30	R1015	E-41	T402	E-29
C421	D-6	C3416	C-47	D621	B-34	LF601	A-29	R252	C-16	R617	C-31	R1051	B-42	T601	A-33
C426	D-6	C3417	D-46	D624	B-33	PS601	A-30	R271	B-15	R618	C-32	R1052	C-43	W601	A-29
C473	E-9	C3418	D-46	D625	A-34	Q001	C-49	R272	D-16	R619	C-30	R1053	B-42	X141	B-5
C482	E-31	C3419	D-46	D627	D-32	Q135	A-9	R273	D-16	R621	B-34	R1054	B-43	X153	A-7
C484	E-6	C3423	E-46	D629	B-34	Q162	B-8	R276	D-16	R622	C-31	R1059	B-23	X161	B-8
C486	E-30	C3424	D-46	D680	C-35	Q202	B-10	R281	E-5	R623	B-30	R1071	A-12	X251	B-14
C487	E-32	C3426	E-46	D683	B-35	Q216	C-39	R287	A-17	R627	B-35	R1081	C-43	X401	D-6
C493	D-13	C3427	E-46	D693	D-32	Q222	C-11	R288	B-17	R628	C-35	R1082	D-43	X801	B-23
C497	E-36	C3428	C-46	D694	D-32	Q225	C-11	R289	B-18	R629	C-34	R1091	E-42	X8002	D-1
C502	D-9	C3429	E-46	D721	D-18	Q226	C-12	R301	C-14	R630	B-35	R1092	E-42	X8003	D-1
C503	D-8	C3431	E-46	D722	D-18	Q301	C-14	R302	C-14	R631	D-31	R1093	E-42		
C504	D-8	C3435	B-47	D801	B-23	Q306	B-11	R303	C-14	R632	D-31	R1094	E-42		
C505	D-5	C3437	C-47	D831	A-23	Q307	B-12	R305	B-10	R634	D-31	R1095	E-42		
C506	D-7	C3439	C-46	D834	C-22	Q332	A-39	R306	B-11	R683	C-34	R1096	E-43		

MISCELLANEOUS ADJUSTMENTS

HIGH VOLTAGE CHECK

Tune in a picture. Set customer controls to minimum. Connect a high voltage probe to CRT anode. High voltage should measure 27.5kV to 29kV.

CONVERGENCE / PURITY

The deflection yoke is bonded to the CRT. Convergence and purity adjustments are not required.

ENTERING SERVICE MODE

Disconnect the AC power cord. While pressing the menu button on the front of the set, connect the AC power cord. Use the channel up and down buttons to select the service number. Use volume up and down buttons to change the value. To exit service mode press the menu button.

HORIZONTAL POSITION

Tune in a crosshatch pattern. Enter the service mode and select service number 01. Adjust for the best horizontal centering.

RF AGC DELAY

Tune in a picture. Enter the service mode and select service number 03. Adjust where no snow (noise) appears in picture.

VERTICAL SIZE

Tune in a crosshatch pattern. Enter the service mode and select service number 07. Adjust for proper vertical size and best vertical linearity.

VERTICAL CENTERING

Tune in a crosshatch pattern. Check that the pattern is centered. If too low, install resistor R513 (470 ohms 1W). If too high, install resistor R512 (470 ohms 1W).

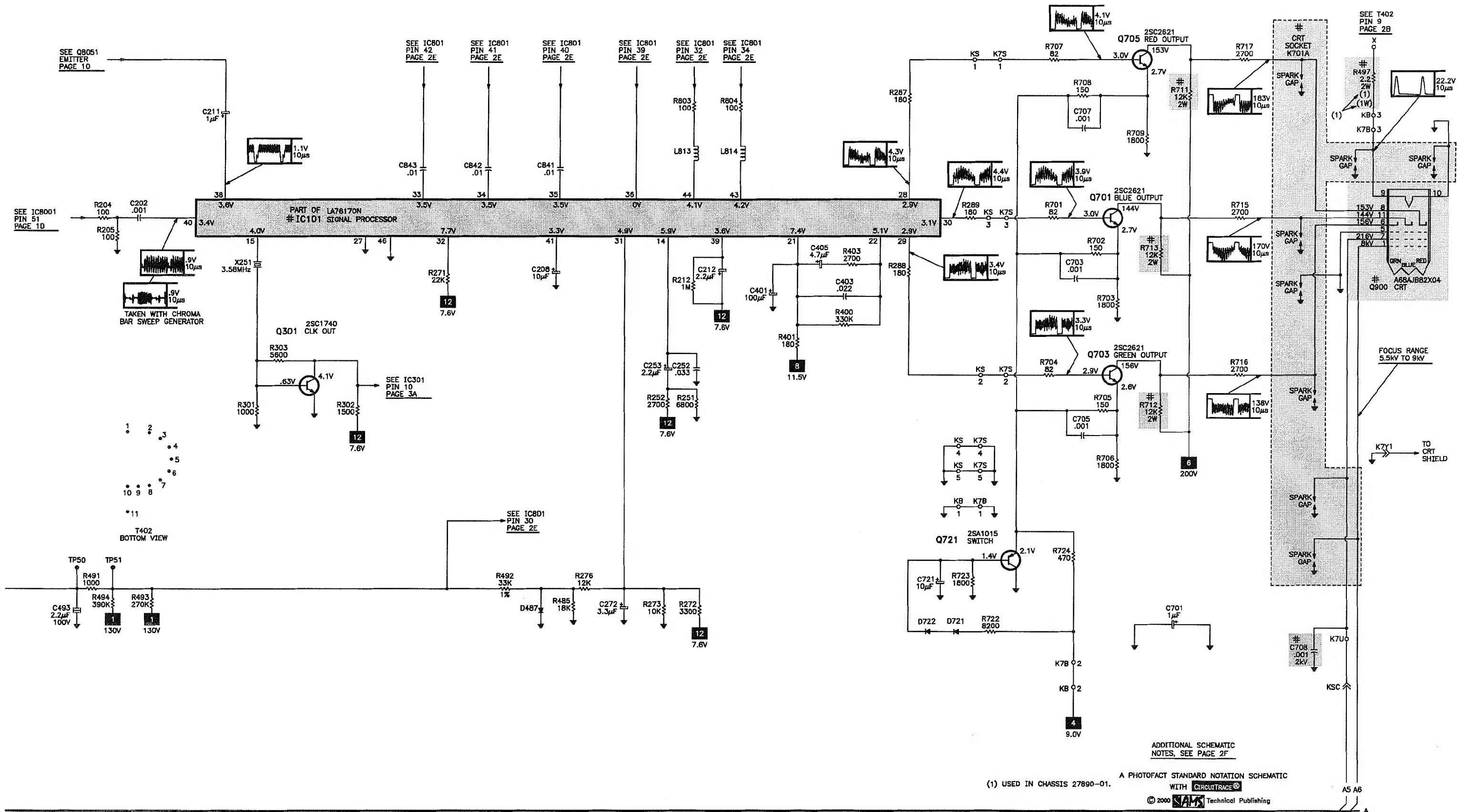
GRAY SCALE

Tune in an active channel. Enter the service mode. Set the value of service numbers 08, 09, and 10 to 0. Set the value of service numbers 11 and 12 to 55. Set screen control, color, brightness, and picture to minimum. Adjust screen control, if necessary, to obtain a barely visible horizontal line. Select service number

C

TELEVISION SCHEMATIC continued

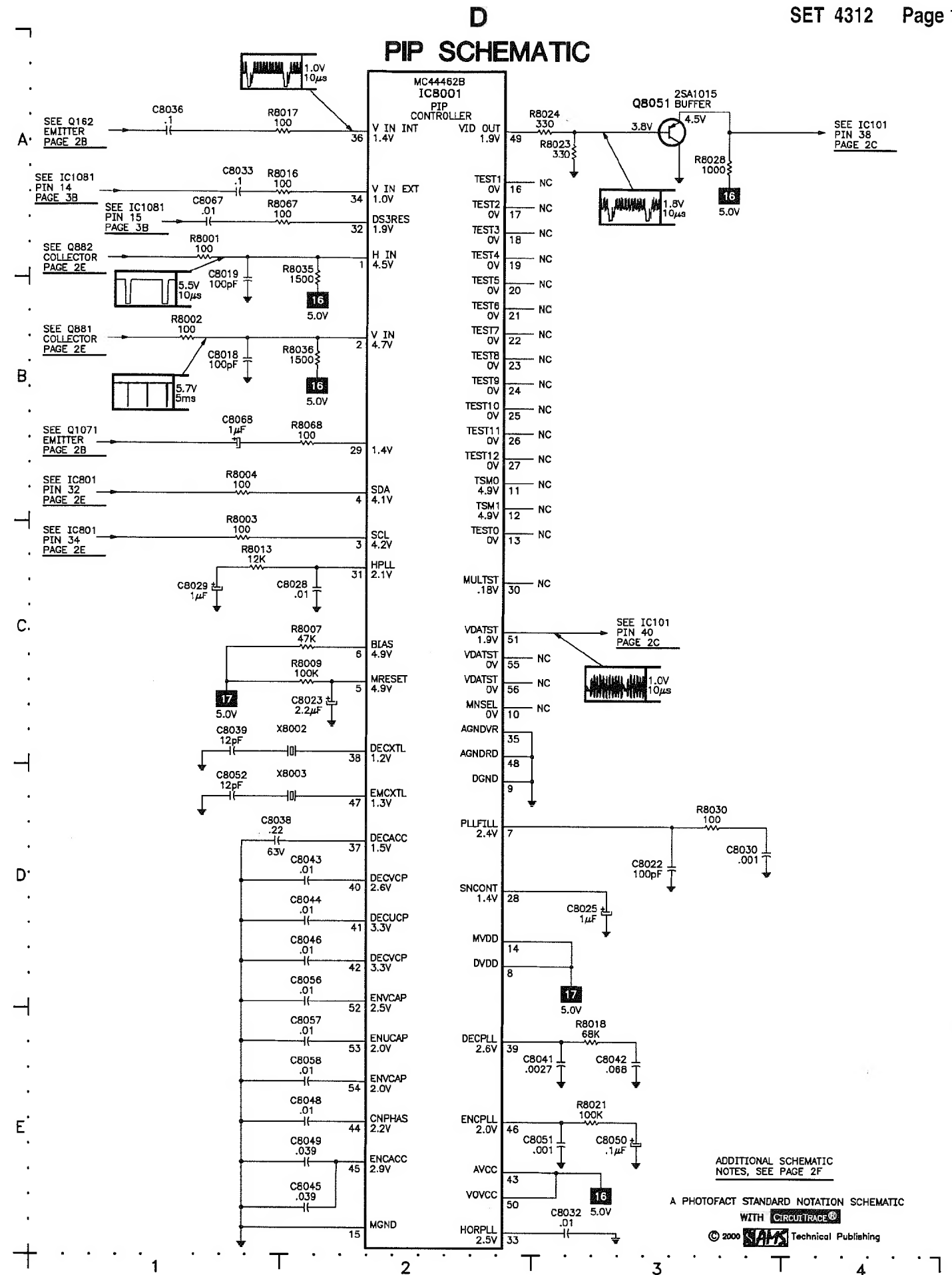
D



MISCELLANEOUS ADJUSTMENTS continued

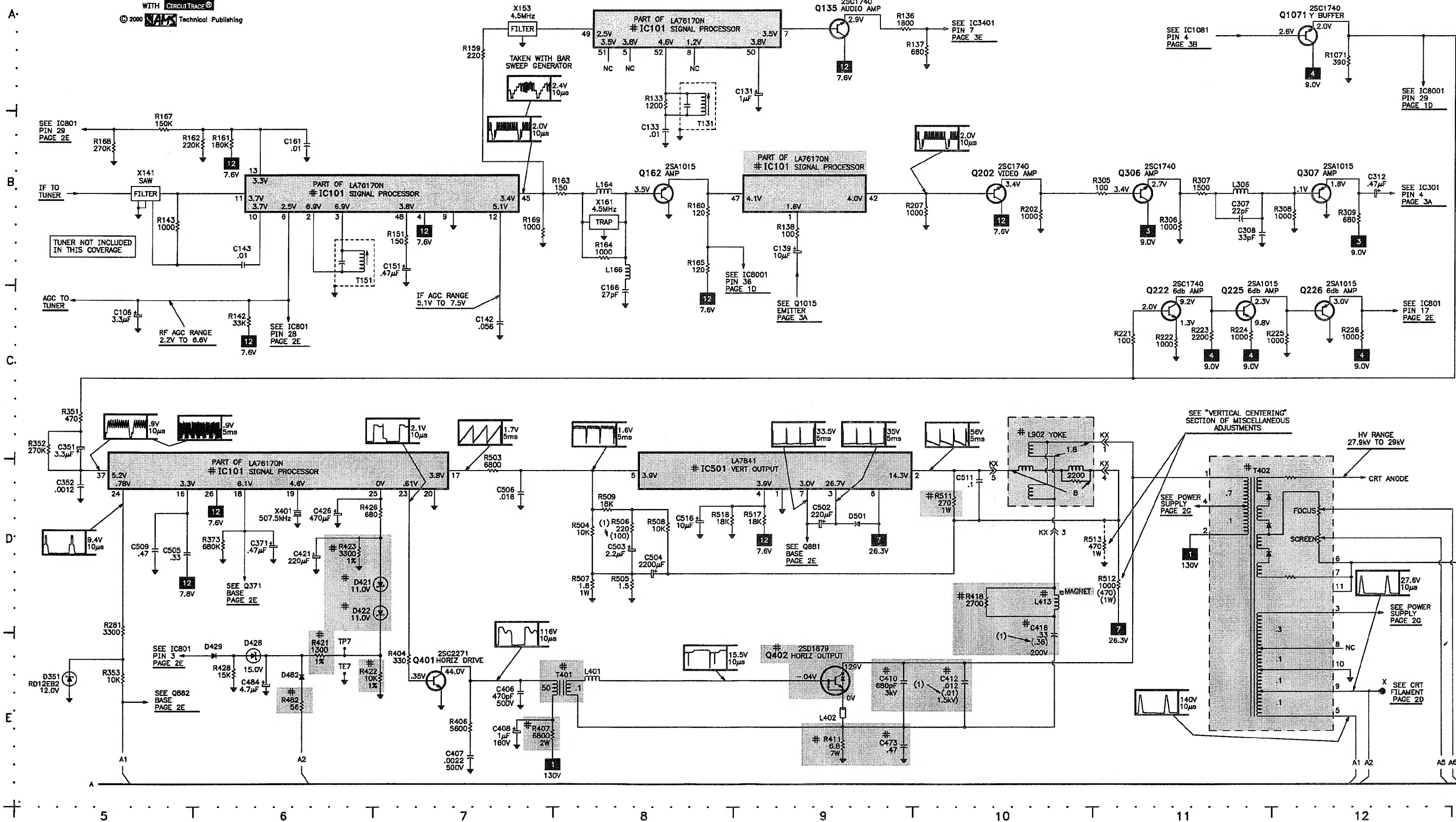
SERVICE MODE ADJUSTMENT CHART

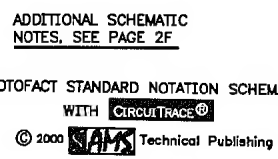
Service No.	Adjustment	Value Range	Initial Value	On-Set Value	Notes
01	HP	0 - 31	19	19	H-Position (H-Centering)
02	IAS	0, 1	0	0	IF AGC Switch, 0 = TV (Normal), 1 = AV (IF Gain Minimum)
03	RAD	0 - 63	25	38	RF AGC Delay
04	PT	0 - 127	64	62	PLL Tuning
05	ADA	0 - 63	31	30	APC Detect
06	CD	0, 1	0	0	C-Diff
07	VS	0 - 63	32	27	Vertical Size
08	RB	0 - 127	0	40	Red Bias
09	GB	0 - 127	0	28	Green Bias
10	BB	0 - 127	0	0	Blue Bias
11	RD	0 - 127	60	71	Red Drive
12	BD	0 - 127	60	58	Blue Drive
13	TDS	0, 1	0	0	Trap & D (B.P.F.) Switch, 0 = Off, 1 = On
14	AF	0, 1	1	1	Auto Flesh, 0 = Off, 1 = On
15	BS	0, 1	0	0	Black Stretch, 0 = On, 1 = Off
16	VL	0 - 7	4	4	Video Level
17	FL	0 - 31	15	15	FM Level
18	NIS	0, 1	1	1	Black Noise Inverter, 0 = On, 1 = Off
19	ABL	0, 1	1	1	ABL Defeat, 0 = On, 1 = Off
20	WP	0, 1	1	1	White Peak, 0 = On, 1 = Off
21	GD	0 - 15	7	7	Green Drive Reduction
22	VC	0 - 7	0	0	Vert. Comp
23	VD	0 - 63	32	32	Vert. DC
24	AG	0 - 3	0	0	AFC Gain 00 = Auto, 01 = High gain, 10 = Low gain, 11 = None-Gate.
25	SB	0 - 63	32	27	Sub Brightness
26	SCO	0 - 31	8	9	Sub Color
27	STI	0 - 31	19	19	Sub Tint
28	SSH	0 - 15	8	8	Sub Sharpness
29	OPT	0 - 255	116	116	Option, data 1 should be to "116", in binary 8 bit 01110100
30	OP2	0 - 255	54	54	Option, data 2 should be to "54", in binary 8 bit 00110110
31	HR	0 - 63	47	47	OSD H-Position
32	INP	0 - 63	32	19	Input Level
33	STE	0 - 63	32	24	Stereo VCO
34	FIL	0 - 63	63	27	Filter
35	LSP	0 - 63	32	11	Low Separation
36	HSP	0 - 63	32	19	High Separation
37	SPV	0 - 63	32	28	SAP VCO
38	PCO	0 - 63	32	32	PIP Color
39	PTI	0 - 63	32	32	PIP Tint
40	DRV	0 - 127	60	71	Red Drive, press 1 to decrease value and 3 to increase value
	DRV	0 - 127	60	58	Blue Drive, press 7 to decrease value and 9 to increase value
41	-	0 - 127	0	-	Red Bias, press 1 to decrease value and 3 to increase value
	-	0 - 127	0	-	Green Bias, press 4 to decrease value and 6 to increase value
	-	0 - 127	0	-	Blue Bias, press 7 to decrease value and 9 to increase value



ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2F

A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITTRACE®**
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PARTS LIST

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.
D101	RD36EB1	407 056 2307	ECG5037A
	MTZJ36A	407 100 0204	-
D103	RD5.1FB2	407 056 8903	ECG135A
	RD5.1FB3	407 056 9009	-
D311	MTZJ4.7A	407 099 5006	-
	RD5.1EB1	407 056 7906	ECG5010A
D312	DS442X	407 005 4505	ECG519
	1N4148	408 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D351	MTZJ12B	407 099 6607	ECG5021T1
	MTZJ12C	407 063 8408	ECG5021T1
	RD12EB2	407 054 3207	ECG5021T1
	RD12EB3	407 054 3306	ECG5021A
# D421, 22	HZJ11B2L	407 158 1307	ECG5020A
D428	MTZJ15A	407 099 6904	-
	RD15EB1	407 054 5706	ECG5023A
D429	DS442X	407 005 4505	ECG519
	1N4148	408 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D481	ERA18-04	407 124 6404	ECG552
	ES1	407 007 6606	ECG552
	RMPG06G	407 124 5506	ECG552
	TVR1G	407 011 4407	ECG552
D482	ERA18-04	407 124 6404	ECG552
D483	ES1	407 007 6606	ECG552
	RMPG06G	407 124 5506	ECG552
D486	MTZJ10B	407 099 6102	-
	RD10EB2	407 054 0008	ECG5019A
D487	ERA15-02	407 005 8602	ECG552
	MPG06D	407 088 6502	ECG552
	S5277B	407 011 3004	ECG552
	1N4002ID	408 009 9404	ECG116
D489	DS442X	407 005 4505	ECG519
	1N4148	408 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D493	RD7.5EB3	407 057 6502	ECG5015A
	MTZJ7.5C	407 063 9306	-
D501	ERA15-02	407 005 8602	ECG552
	MPG06D	407 088 6502	ECG552
	S5277B	407 011 3004	ECG552
	1N4002ID	408 009 9404	ECG116
D503	RD36EB1	407 056 2307	ECG5037A
	MTZJ36A	407 100 0204	-
# D601 Thru			
# D604	1S1887A	407 013 3200	ECG552
	EM2B	407 005 7605	ECG125
	GP15G	408 008 8606	ECG125
D609	ERA18-02	407 124 6503	ECG552
	ES1Z	407 007 6903	ECG552
	RMPG06D	407 124 5605	ECG587
	BYD33D	408 009 9008	ECG569
D610	1N4148	408 008 2406	ECG519
	1S2076A	407 013 4306	ECG519
	1S2471	407 013 6508	ECG519
D611	MTZJ5.6C	407 063 8903	-
	RD5.6EB3	407 057 0104	ECG5011A
# D612	TLP621-1-BL	407 175 9904	ECG3098
	ON3131S	407 147 5705	-
	PC817C	407 104 2402	ECG3098
	PC817D	407 106 6101	ECG3098
D614	1N4148	408 008 2406	ECG519
	1S2076A	407 013 4306	ECG519
	1S2471	407 013 6508	ECG519
# D621	RU3YX	407 106 2806	ECG588
# D624	RU4YXLF-L1	407 129 6706	ECG580
# D625	RU4AMLF-L1	407 129 7000	ECG580
D627	1N4148	408 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
	DS442X	407 005 4505	ECG519
D629	MTZJ16A	407 099 7208	-
	RD16EB1	407 054 7007	ECG5025A

For SAFETY use only equivalent replacement part.

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.
D680, 83	DS442X	407 005 4505	ECG519
	1N4148	408 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D693	MTZJ6.2B	407 099 5402	ECG5013T1
	RD6.2EB2	407 057 2702	ECG5013A
D694	1N4148	408 008 2406	ECG519
	DS442X	407 005 4505	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D721, 22	DS442X	407 005 4505	ECG519
	1N4148	407 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D801	DS442X	407 005 4505	ECG519
	1N4148	408 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D831	MTZJ3.6B	407 065 1308	-
	RD4.3EB2	407 056 4707	ECG5008A
D834	RD18EB3	407 054 8509	ECG5027A
	MTJ18C	407 099 7703	-
D836, 43	DS442X	407 005 4505	ECG519
	1N4148	408 008 2406	ECG519
	ISS133	407 012 4406	ECG519
	1S2076	407 013 4207	ECG177
	1S2473	407 013 7109	ECG177
D1001, 04	MTZJ10B	407 099 6102	-
	RD10EB2	407 054 0008	ECG5019A
D1008, 09	MTZJ3.6B	407 065 1308	-
	RD4.3EB2	407 056 4707	ECG5008A
D1051, 52	MTZJ10B	407 099 6102	-
	RD10EB2	407 054 0008	ECG5019A
D1059, 1901	MTZJ7.5C	407 063 9306	-
	RD7.5EB3	407 057 6502	ECG5015A
IC001	LA4600	409 389 4607	-
# IC101	LA76170N	409 431 2100	-
IC301	TC90A44P	409 406 1107	-
# IC501	LA7841	409 340 1904	-
# IC601	SE130NH	409 172 8102	-
IC681	TA78L05S	409 241 8309	ECG977
	MC78M05CT	409 172 1509	ECG960
	UPC78L05J	409 066 7303	ECG977
	UPC78M05AHF	409 320 5700	ECG960
IC801	M37272M8-137SP	410 342 5306	-
IC802	24LC02B/P	409 333 3700	-
	ST24C02B6	409 376 1503	-
IC1001	TC4053BP	409 051 3006	ECG4053B
IC1081	TC4053BP	409 051 3006	ECG4053B
IC3401	UPC1851BCU	409 432 7807	-
IC8001	MC44462B	409 418 8418	-
IC8002	BA178M05T	409 241 5407	ECG1960
Q001, 135	2SC1740S-Q	405 011 8401	ECG85
	2SC1740S-R	405 011 8500	ECG85
	2SC1740S-S	405 011 8609	ECG85
	2SC1815-GR	405 012 2002	ECG85
	2SC1815-O	405 012 2101	ECG85
	2SC1815-Y	405 012 2309	ECG85
	2SC945A-PA	405 020 7501	ECG85
	2SC945A-QA	405 020 7709	ECG85
	2SC945A-RA	405 020 7907	ECG85
Q162	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A

For SAFETY use only equivalent replacement part.

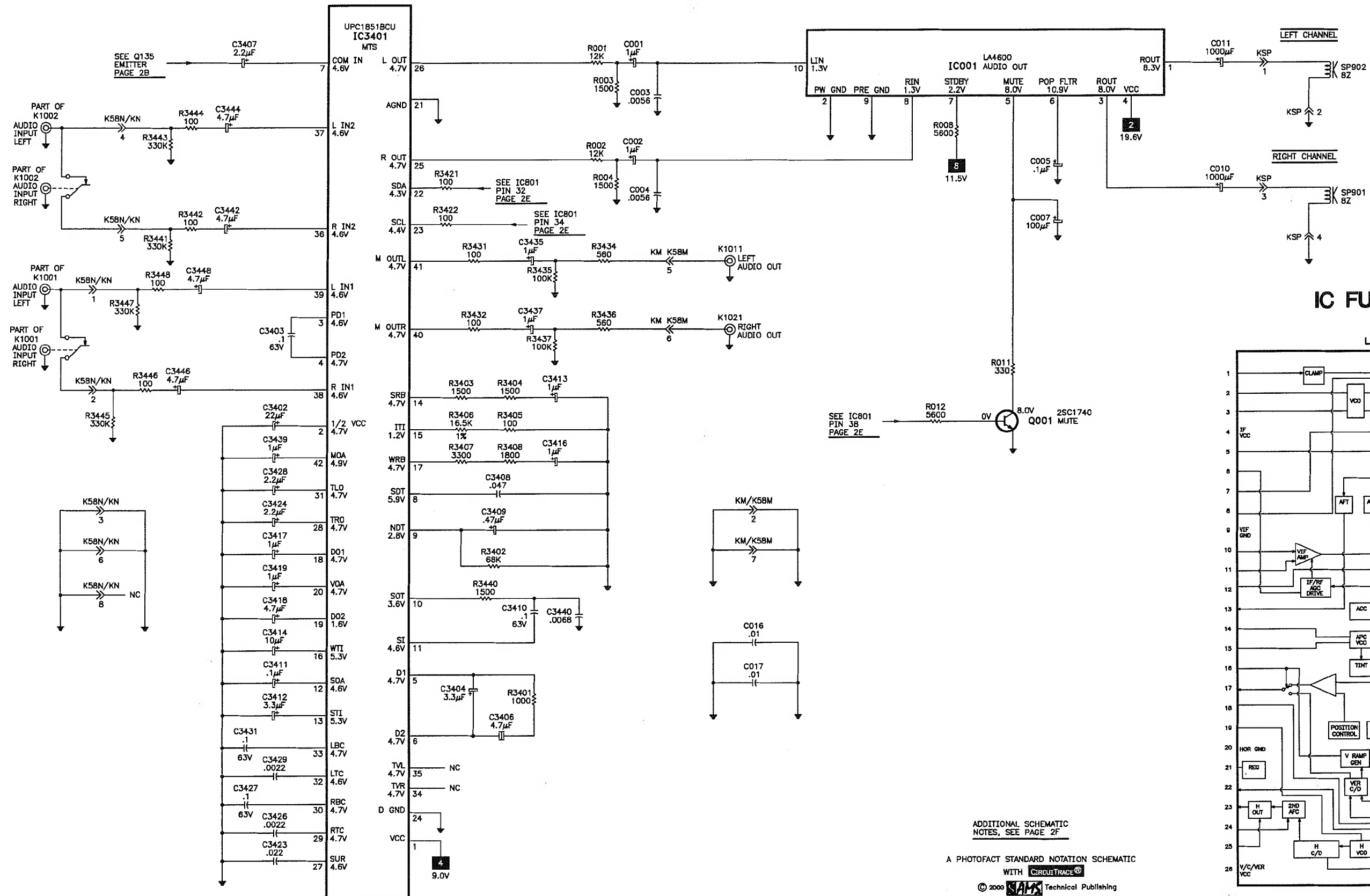
SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

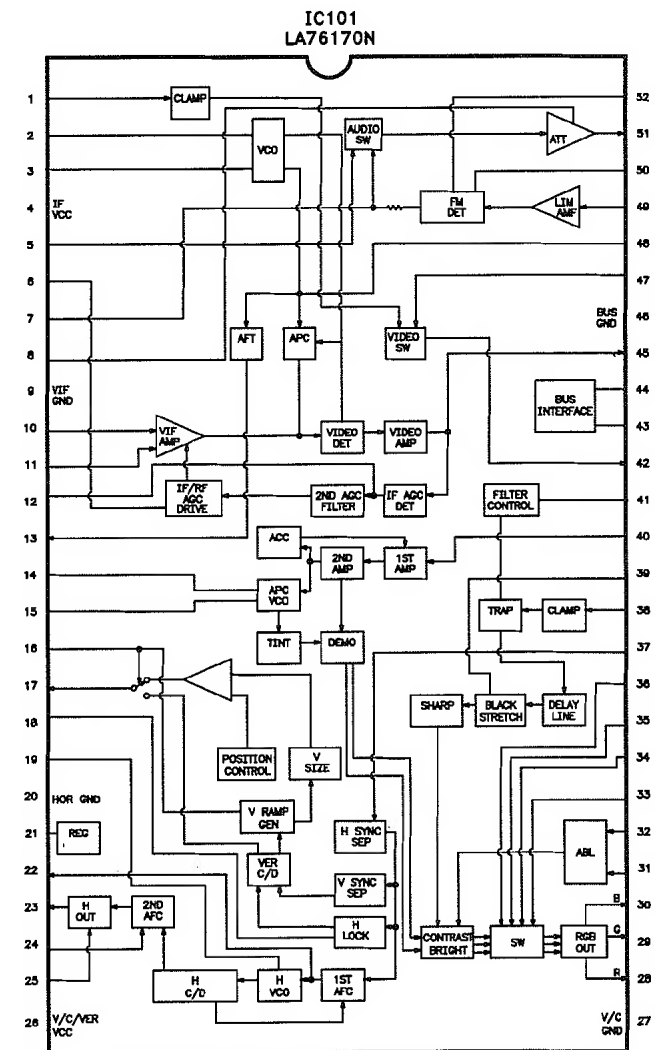
Item No.	Type No.	Mfr. Part No.	ECG Part No.
Q202, 16, 22	2SC1740S-Q	405 011 8401	ECG85
	2SC1740S-R	405 011 8500	ECG85
	2SC1740S-S	405 011 8609	ECG85
	2SC1815-GR	405 012 2002	ECG85
	2SC1815-O	405 012 2101	ECG85
	2SC1815-Y	405 012 2309	ECG85
	2SC945A-PA	405 020 7501	ECG85
	2SC945A-QA	405 020 7709	ECG85
	2SC945A-RA	405 020 7907	ECG85
Q225, 26	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A
Q301, 06	2SC1740S-Q	405 011 8401	ECG85
	2SC1740S-R	405 011 8500	ECG85
	2SC1740S-S	405 011 8609	ECG85
	2SC1815-GR	405 012 2002	ECG85
	2SC1815-O	405 012 2101	ECG85
	2SC1815-Y	405 012 2309	ECG85
	2SC945A-PA	405 020 7501	ECG85
	2SC945A-QA	405 020 7709	ECG85
	2SC945A-RA	405 020 7907	ECG85
Q307, 32	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A
Q341, 42, 43	2SC1740S-Q	405 011 8401	ECG85
	2SC1740S-R	405 011 8500	ECG85
	2SC1740S-S	405 011 8609	ECG85
	2SC1815-GR	405 012 2002	ECG85
	2SC1815-O	405 012 2101	ECG85
	2SC1815-Y	405 012 2309	ECG85
	2SC945A-PA	405 020 7501	ECG85
	2SC945A-QA	405 020 7709	ECG85
	2SC945A-RA	405 020 7907	ECG85
Q371, 72	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A
Q401	2SC2271-D-CTV	405 013 6207	ECG399
	2SC2271-E-CTV	405 013 6306	ECG399
# Q402	2SD1879-OTB-YB	405 082 2407	ECG2331
Q486	2SD400-E-MP	405 023 5009	ECG382
	2SD400-F-MP	405 023 5306	ECG382
# Q601	2SC4423-CTV	405 095 9004	ECG2308
Q604	2SC3807-R-CTV-YA	405 058 0208	ECG2504
Q605	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A
Q627	2SA1707-S	405 089 0000	-
	2SA1707-T	405 089 0109	-
	2SB985-S	405 009 6907	-
	2SB985-T	405 009 7003	-
Q635, 81, 93	2SC1740S-Q	405 011 8401	ECG85
	2SC1740S-R	405 011 8500	ECG85
	2SC1740S-S	405 011 8609	ECG85
	2SC1815-GR	405 012 2002	ECG85
	2SC1815-O	405 012 2101	ECG85
	2SC1815-Y	405 012 2309	ECG85
	2SC945A-PA	405 020 7501	ECG85
	2SC945A-QA	405 020 7709	ECG85
	2SC945A-RA	405 020 7907	ECG85
Q695	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA608-F-CTV-NP	405 004 4809	ECG290A

For SAFETY use only equivalent replacement part.

AUDIO SCHEMATIC



IC FUNCTIONS



SANYO

MODEL NS27890 / CHASSIS 27890-00/01\

ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2F

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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PARTS LIST continued

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.
Q701, 03, 05	2SC2621-E-RA	405 041 6705	ECG157
	2SC2621-C-RA	405 066 4304	ECG157
	2SC2621-D-RA	405 041 6507	ECG157
	2SC2688(1)-K	405 066 9903	ECG157
	2SC2688(1)-L	405 067 0008	ECG157
Q721, 831	2SC2688(1)-M	405 067 0107	ECG157
	2SC3620(LB-SAN-1)	406 000 3605	ECG157
	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
	2SA1015-Y(SAN)	405 001 7605	ECG290A
Q881, 82	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A
	2SC1740S-Q	405 011 8401	ECG85
Q1015, 71, 93	2SC1740S-R	405 011 8500	ECG85
	2SC1740S-S	405 011 8609	ECG85
	2SC1815-GR	405 012 2002	ECG85
	2SC1815-O	405 012 2101	ECG85
	2SC1815-Y	405 012 2309	ECG85
Q1094	2SC945A-PA	405 020 7501	ECG85
	2SC945A-QA	405 020 7709	ECG85
	2SC945A-RA	405 020 7907	ECG85
	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
Q1096	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A
Q8051	2SC1740S-Q	405 011 8401	ECG85
	2SC1740S-R	405 011 8500	ECG85
	2SC1740S-S	405 011 8609	ECG85
	2SC1815-GR	405 012 2002	ECG85
	2SC1815-O	405 012 2101	ECG85
	2SC1815-Y	405 012 2309	ECG85
	2SC945A-PA	405 020 7501	ECG85
	2SC945A-QA	405 020 7709	ECG85
	2SC945A-RA	405 020 7907	ECG85
	2SA1015-GR(SAN)	406 000 6804	ECG290A
	2SA1015-O(SAN)	405 001 7407	ECG290A
	2SA1015-Y(SAN)	405 001 7605	ECG290A
	2SA564A-Q(CU)	405 004 3109	ECG290A
	2SA564A-R(CU)	405 004 3208	ECG290A
	2SA933S-Q	405 006 1707	ECG290A
	2SA933S-R	405 006 1806	ECG290A

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
# C410	680pF 10% 3kV	403 324 3007
# C412 (1)	680pF 10% 3kV	403 232 3403
	.012 3% 1.5kV	404 066 4109
	.012 3% 1.5kV	404 079 1607
	.012 3% 1.5kV	403 343 7713
	.011 3% 1.5kV	404 066 4000
# C412 (2)	.011 3% 1.5kV	404 077 4006
	.011 3% 1.5kV	403 343 7614
	.33 5% 200V	403 082 9818
	.36 5% 200V	403 346 7324
	.36 5% 200V	403 216 7611
# C473	.47 5% 63V	403 166 7716
	.47 5% 50V	403 067 7805
	2.2µF 20% 100V NP	404 056 5307
	2.2µF 10% 50V	403 276 0208
	.22 20% 250VAC	404 071 2404
# C601	.22 20% 275VAC	404 066 2204
	.0047 10% 1kV	403 247 5508
	.0047 10% 1kV	403 232 0600
	.0027 10% 1kV	403 232 0402
	.001 10% 125VAC	404 008 6604
# C625	.001 20% 125VAC	404 046 5409
	.001 20% 250VAC	404 073 4000
	.0022 20% 125VAC	404 008 6802
	.0022 20% 125VAC	404 046 5003
	.0022 20% 250VAC	404 073 4604
# C631	.001 +100%-0% 2kV	403 175 3419
	.001 +100%-0% 2kV	403 077 2807
	20pF 5% 50V NPO	403 017 0910
	4.7µF 20% 25V NP	403 166 1605
	3.3µF 10% 10V Tantalum	403 124 9213
# C708	10µF 10% 10V Tantalum	403 299 1820
	C493	
	C503	
	C3406	
	C3412	
# C632	C3414	

For SAFETY use only equivalent replacement part.
(1) Used in chassis 27890-00.
(2) Used in chassis 27890-01.

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.
# PS601	3 Cold PTC	408 006 7304
# R101	33 5% 1W	401 061 1706
# R310, 11	47 5% 1/2W	401 010 2501
# R407	6800 5% 2W	401 069 3702
# R411	6.8 10% 7W Wirewound	402 068 5001
	6.8 10% 7W Wirewound	402 076 0401
	1500 2% 1/6W	401 025 1506
	2000 2% 1/6W	401 158 2708
	2700 5% 1/2W Nonflammable	401 009 1607
# R421	1300 1% 1/6W	401 052 8608
# R422	10K 1% 1/6W	401 052 6802
# R423	3300 1% 1/6W	401 053 2605
# R481	33 5% 1/2W Nonflammable	401 009 4905
# R482	1 5% 1/4W Nonflammable	401 011 9004
# R483	1 5% 1/2W Nonflammable	401 006 7701
# R486	5.6 5% 2W	401 068 6209
# R489	27 5% 1W	401 060 6405
	33K 1% 1/6W	401 156 8504
	2.2 5% 1W	401 059 9608
	1 5% 1W	401 057 8009
	8.2 5% 1/2W	401 011 4306
# R511	270 5% 1W	401 060 7402
# R601	1 10% 7W Wirewound	402 064 2905
	1 10% 7W Wirewound	402 072 3000
	3.3M 10% 1/2W	402 000 0705
	12 5% 2W	401 065 1801
	10 5% 2W	401 064 6302
# R613, 18	27 5% 2W	401 066 9103
# R630	22K 5% 1W	401 060 5002
# R711, 12, 13	12K 5% 2W	401 065 4604
	16.5 1% 1/16W	401 256 8008

For SAFETY use only equivalent replacement part.
(1) Used in chassis 27890-00.
(2) Used in chassis 27890-01.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
L164	15µH	645 003 9713
L166	15µH	645 016 2657
	33µH	645 003 9812
	33µH	645 016 2985
	5.6µH	645 008 2894
	5.6µH	645 016 3104
L305	22µH	645 003 9782
L306	22µH	645 016 2831
L309	5.6µH	645 008 2894
	5.5µH	645 016 3104
	Ferrite Bead	610 078 5946
	5.6µH	645 008 2894
	5.6µH	645 016 3104
L310	5.6µH	645 003 9713
L312	15µH	645 016 2657
L332	8.2µH	645 008 2924
	8.2µH	645 016 3227
	3.3µH	645 017 7675
	Ferrite Bead	610 031 9998
	Horizontal Linearity	645 025 4413
L601	Horizontal Linearity	645 029 8042
	Ferrite Bead	610 078 6820
	Ferrite Bead	610 078 5946
	Ferrite Bead	610 078 5946
	Ferrite Bead	610 078 5946
L602, 21	5.6µH	645 008 2894
L623, 25	5.6µH	645 016 3104
L800	5.6µH	645 008 2894
L801, 13, 14	5.6µH	645 016 3104
	5.6µH	645 008 2894
	5.6µH	645 016 3104
	5.6µH	645 008 2894
	5.6µH	645 016 3104
L821, 51	5.6µH	645 008 2894
L863	5.6µH	645 016 3104
L881, 82	5.6µH	645 008 2894
	5.6µH	645 016 3104
	5.6µH	645 008 2894
	5.6µH	645 016 3104
	5.6µH	645 022 8711
# L901	Degaussing	
# L902 (2)	Yoke Horiz 1.3mH	
	Vert 16.8mH	
	5.6µH	645 008 2894
	5.6µH	645 016 3104
	5.6µH	645 008 2894
L8006	5.6µH	645 008 2894
	5.6µH	645 016 3104
	5.6µH	645 012 0589
	Line Filter	645 026 8274
	SIF	645 027 6095
T131	45.75MHz VCO	645 027 6088
T151	Horizontal Drive	610 000 1138
# T401	Horizontal Drive	610 223 1663
# T402 (1)	Horizontal Output	645 032 8978
	Horizontal Output	645 018 9579
	Power	645 032 5151
# T601		

For SAFETY use only equivalent replacement part.
(1) Screen and focus controls are part of T402.
(2) Bonded part of CRT.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
# A101 (1)	Tuner	645 032 5632	UHF/VHF, 1AV4F1BAM0210
# A1901	Receiver	645 027 4213	Remote
	Fuse	423 018 8101	4Amp, 125V, Fast Acting
	Fuse	423 007 1601	4Amp, 125V, Fast Acting
	Fuse	423 007 1809	4Amp, 125V, Fast Acting
	Fuse Holder	645 000 5077	For F601
F601A, B	Fuse Holder	645 016 0479	For F601
	Socket	645 025 6103	CRT
	Jack	645 032 1979	Assembly
	Jack	610 010 3665	Left Audio Output
	Jack	610 010 3672	Right Audio Output
# K701A	Socket	610 010 8295	S-Video
	Jack	414 010 3409	A68AJB82X04
	Jack	414 010 0903	A68LQT58X02
	Relay	645 000 4155	Degaussing
	Relay	645 011 2713	Degaussing
# Q900 (2)	Relay	645 024 7828	Degaussing
	Relay	645 015 8629	Degaussing
	Relay	645 024 7767	Degaussing
	Relay	645 005 6536	Degaussing
	Relay	645 027 7382	Degaussing
# Q900 (3)	Speaker	645 027 7382	3" Square, 8 Ohms, 2W
	Switch	645 027 7382	Power
	Switch	645 027 7382	Volume Up
	Switch	645 027 7382	Volume Down
	Switch	645 027 7382	Channel Up
# RL601	Switch	645 027 7382	Channel Down
	Switch	645 027 7382	Menu
	Line Cord	645 030 5306	AC, Polarized
	Filter	421 006 3206	SAW
	Filter	610 015 2946	4.5MHz
X141	Filter	645 030 1049	4.5MHz
	Trap	610 015 3059	4.5MHz
	Crystal	610 204 4195	3.58MHz
	Crystal	610 245 9746	3.58MHz
	Crystal	610 012 0655	3.58MHz
X251	Crystal	645 020 9147	507.5kHz
	Resonator	645 026 8434	8MHz
	Crystal	610 234 9085	-
	PC Board	610 276 0125	AV
	PC Board	610 275 9808	CRT
X401	PC Board (2)	610 276 0071	Main
	PC Board (3)	610 280 2535	Main
	Transmitter	645 032 6219	Remote, FXPT

For SAFETY use only equivalent replacement part.
(1) Contact TNI Electronics for replacement; order by manufacturer's part number.
(2) Used in chassis 27890-00.
(3) Used in chassis 27890-01.

CABINET PARTS

Item	Mfr. Part No.
Model DS27890	
Badge (SANYO)	610 236 9274
Button Unit	610 257 8614
Cabinet Front Assembly	610 271 9031
Cabinet Rear	610 266 9244
Dec AV Sheet	610 278 5678
Remote Transmitter	
Battery Cover	610 271 7143