

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 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 inner 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.

TEST JIG HOOKUP				
Function	Chek-A-Color Adapter No.	PC Board Plug No.	Pin	Color
CRT	B239	KX	1	Red
Yoke	D4137		3	Blue
Yoke Setting	YP1		4	Yellow
Comments	Focus Tap		5	Green

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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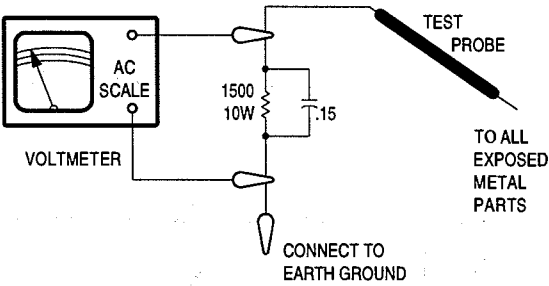
SAFETY CHECKS -- FIRE AND SHOCK HAZARD

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 14.5V 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.



97PF01129



PHOTOFACT® Technical Service Data

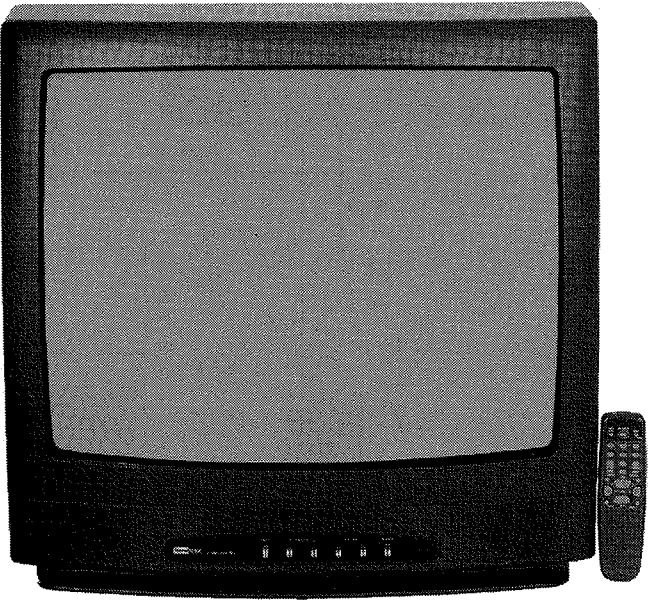
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MODEL AVM-2556 (CHASSIS G5F-2555)

SANYO

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SANYO  
Model AVM-2556 (Chassis G5F-25560)



Representative Model  
Complete coverage  
for servicing a television receiver...

- Schematics
- Parts list
- Component locations
- Troubleshooting guide

Coverage includes these additional models and chassis:

MODELS	CHASSIS
DS25650	25650-00
DS25650	25650-01

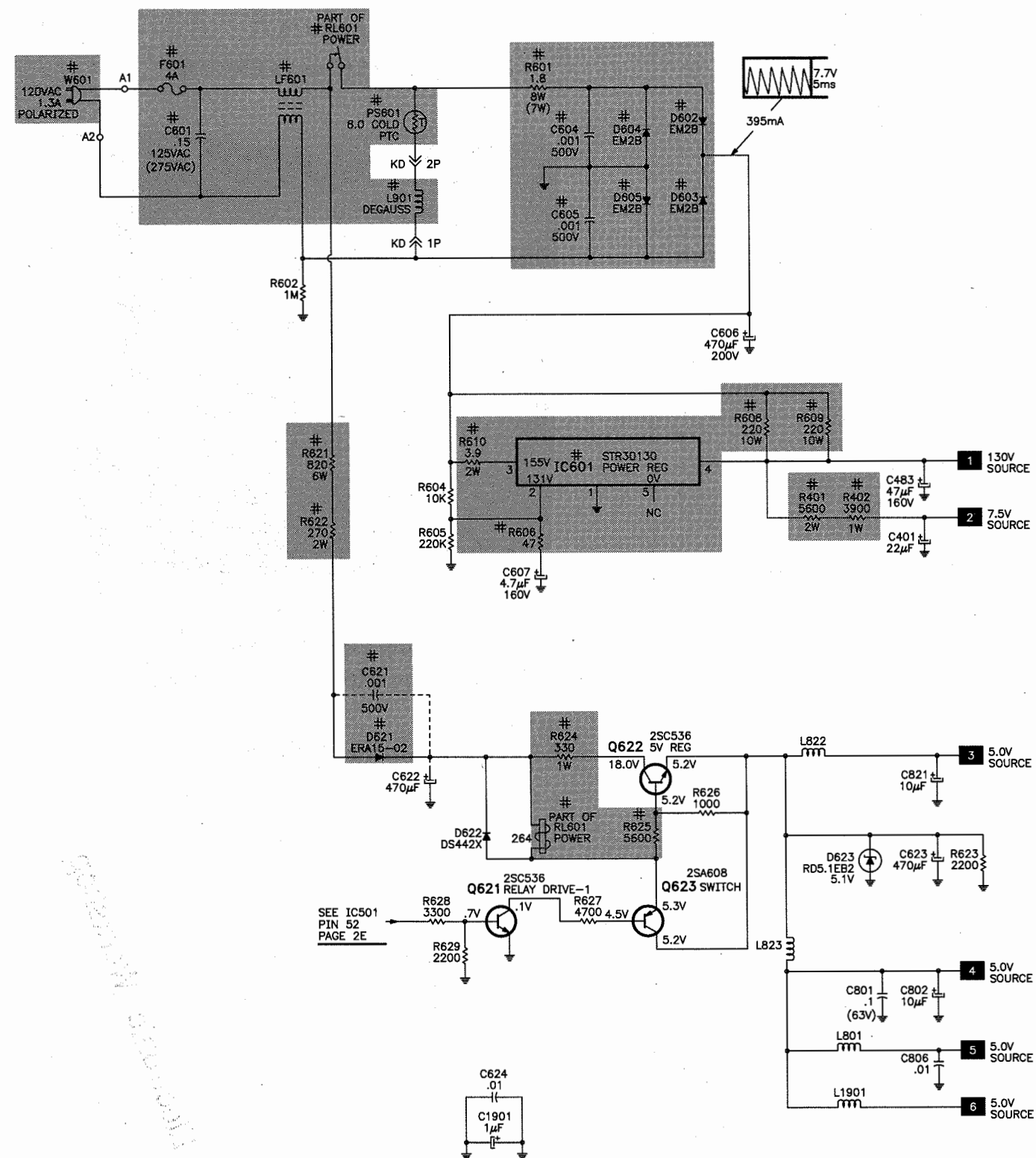


HOWARD W. SAMS & COMPANY

MARCH 1997 SET 3794

For Supplier Address,  
See PHOTOFACT Annual Index

POWER SUPPLY SCHEMATIC



VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 3

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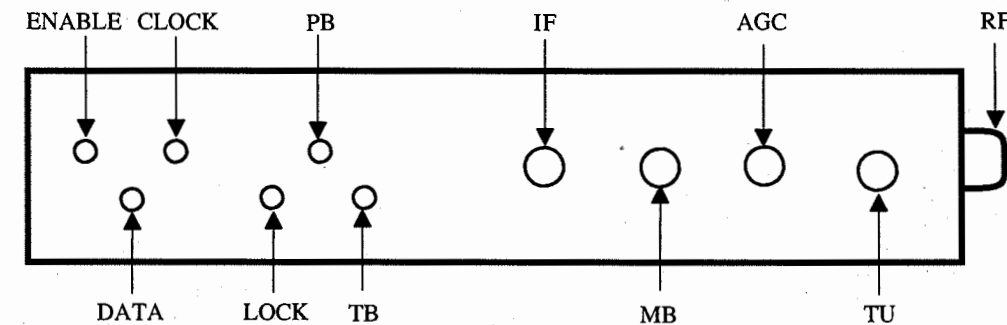
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
TU	1.5V	4.2V	6.4V
AGC	6.5V	6.5V	6.5V
MB	8.7V	8.7V	8.7V
IF	0V	0V	0V
TB	20.0V	21.0V	21.8V
PB	5.1V	5.1V	5.1V
LOCK	.1V	.1V	.1V
CLOCK	0V	0V	0V
DATA	4.9V	4.9V	4.9V
ENABLE	.1V	.1V	.1V

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



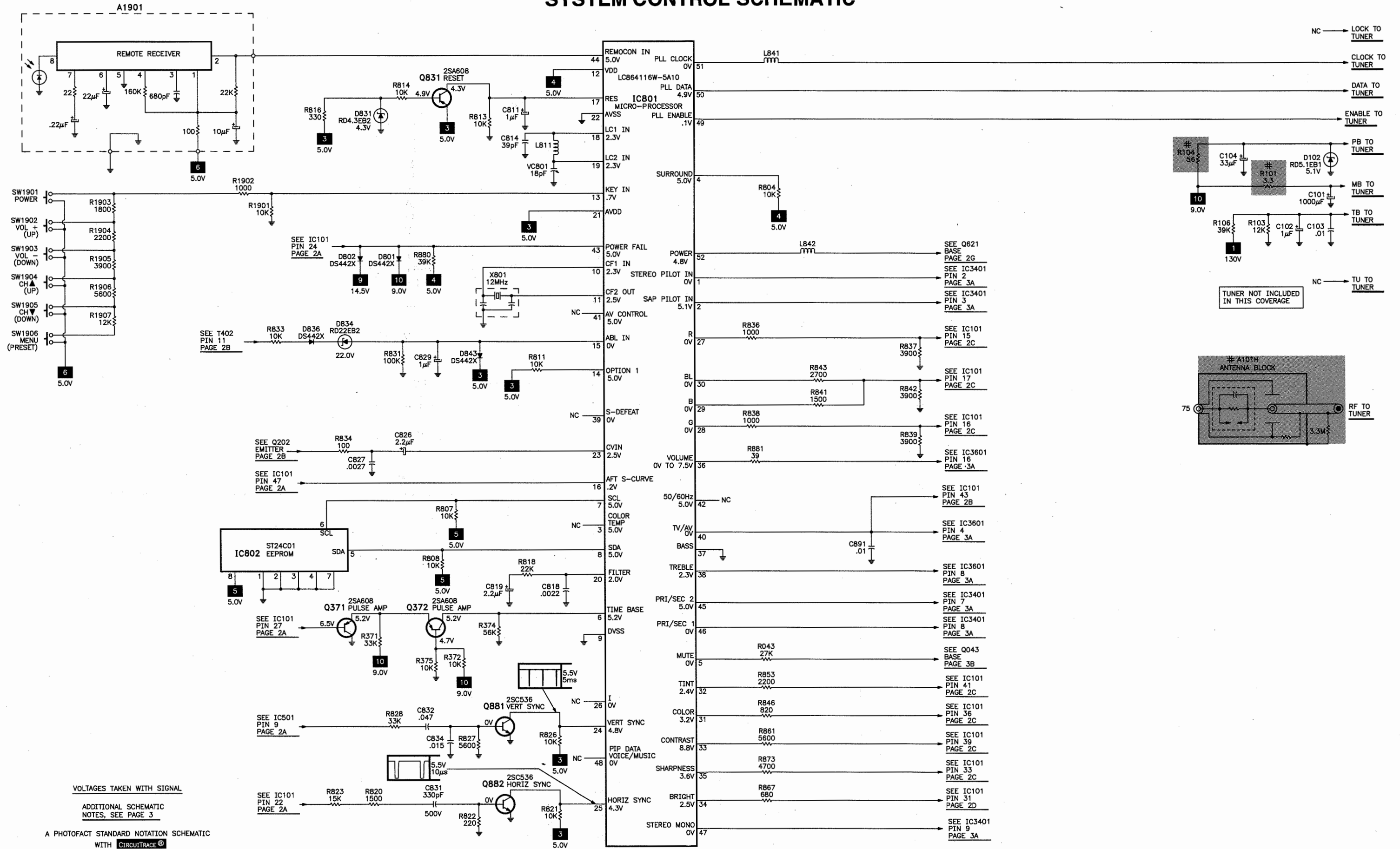
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MODEL AVM-2556 (CHASSIS G5F-25560)

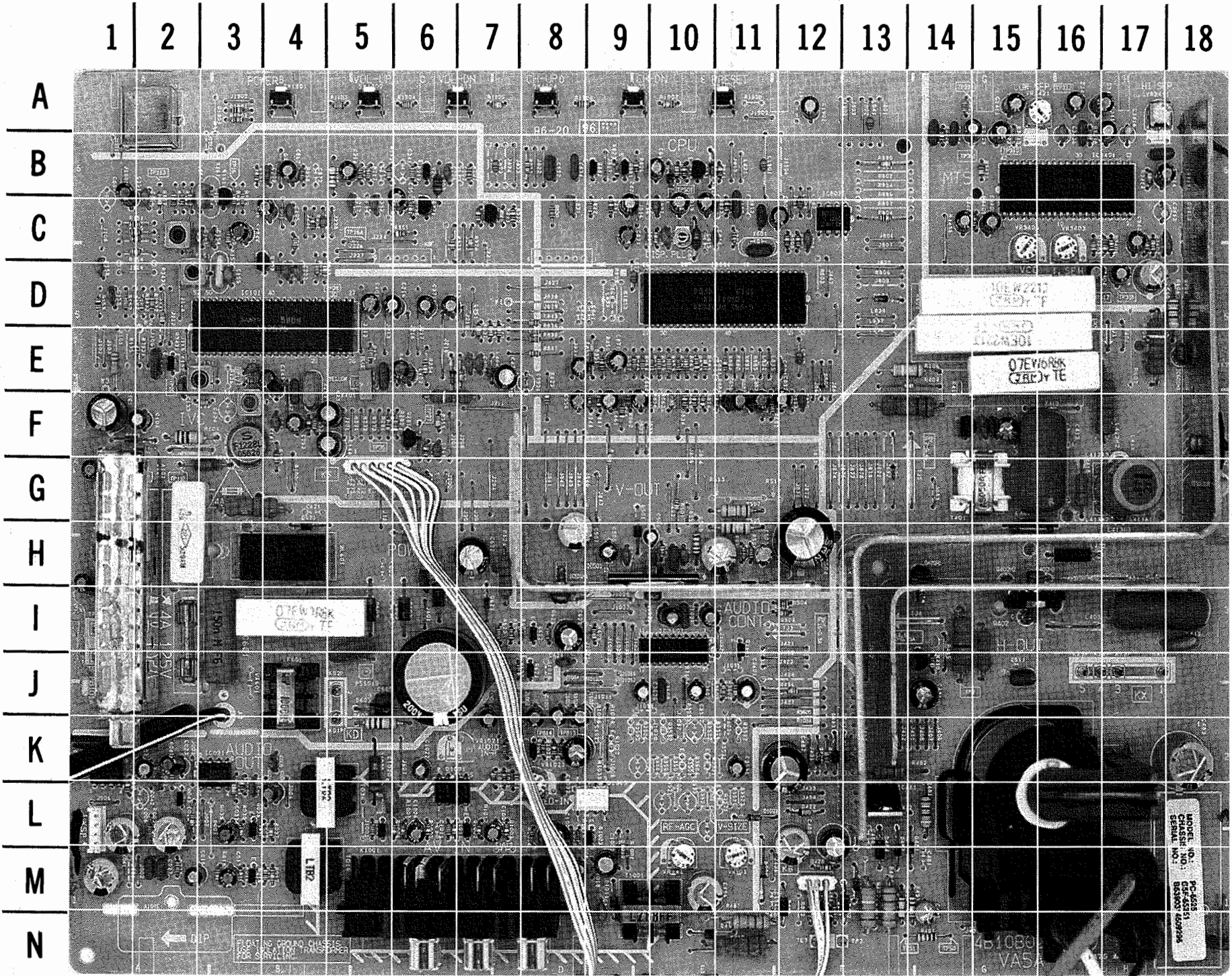
## MAIN BOARD, GRIDTRACE LOCATION GUIDE

A101	I-1	C482	L-12	C3401	C-14	IC021	L-3	R023	M-2	R481	L-14	R846	E-9	R3421	B-15
A1001	A-2	C483	K-18	C3402	C-15	IC101	E-2	R036	L-4	R482	M-12	R847	F-9	R3424	A-14
C001	K-7	C484	M-12	C3404	D-16	IC481	L-13	R037	L-4	R483	K-13	R848	F-9	R3426	B-14
C002	L-2	C487	K-12	C3406	D-17	IC501	H-10	R038	L-3	R484	M-13	R850	E-9	R3431	D-2
C003	K-2	C489	L-12	C3407	C-18	IC601	G-18	R039	L-3	R486	I-14	R851	C-4	R3432	D-2
C006	L-1	C491	J-14	C3408	C-17	IC801	D-12	R041	K-2	R488	N-11	R853	E-10	R3601	J-11
C007	M-2	C493	N-14	C3409	B-17	IC802	C-13	R042	K-2	R489	N-11	R856	F-9	R3602	J-11
C008	K-4	C496	M-10	C3411	A-15	IC3401	C-15	R043	L-2	R490	J-14	R858	B-4	R7931	E-2
C016	M-2	C501	H-11	C3412	A-17	IC3601	I-10	R101	E-1	R491	N-14	R860	F-9	R7932	D-2
C017	M-3	C502	H-10	C3413	C-18	K1001	M-5	R103	H-1	R492	M-13	R861	E-10	RL601	H-4
C021	K-7	C503	H-11	C3414	B-18	KB	M-12	R104	F-2	R493	M-14	R862	F-10	SW1901	A-4
C022	L-3	C504	H-12	C3416	A-17	KD	J-5	R106	E-13	R494	M-13	R864	E-9	SW1902	A-5
C023	K-2	C505	H-10	C3417	A-17	KS	G-5	R111	C-3	R496	J-12	R866	F-9	SW1903	A-7
C026	L-2	C506	H-10	C3418	A-16	KSP	L-1	R112	C-3	R497	M-13	R867	E-10	SW1904	A-8
C027	M-2	C507	H-8	C3419	A-16	KX	J-17	R133	F-3	R501	G-10	R868	F-10	SW1905	A-9
C036	L-4	C508	H-9	C3422	A-15	L101	G-3	R141	E-3	R502	H-10	R869	F-10	SW1906	A-11
C037	L-3	C509	H-9	C3423	A-15	L164	B-2	R142	G-4	R503	I-12	R871	E-10	T016	M-4
C041	M-1	C511	J-15	C3424	A-14	L201	D-4	R151	C-1	R504	I-12	R872	D-4	T036	L-5
C101	F-1	C556	F-8	C3426	A-14	L203	B-6	R152	D-1	R505	H-11	R873	E-10	T131	E-3
C102	G-1	C601	I-3	C3436	A-16	L401	H-15	R153	D-1	R506	H-11	R874	F-10	T141	F-3
C103	H-1	C604	H-6	C3531	K-11	L402	H-16	R155	C-1	R507	G-11	R876	E-10	T151	D-2
C104	F-2	C605	J-5	C3601	J-11	L404	E-7	R156	C-1	R508	H-10	R877	D-4	T161	C-2
C131	E-2	C606	J-6	C3602	I-10	L413	G-17	R157	C-2	R509	H-11	R880	B-13	T401	G-15
C133	E-2	C607	D-17	C3603	I-10	L801	C-12	R159	C-3	R511	I-15	R881	E-10	T402	L-16
C141	E-3	C622	H-7	C3604	I-10	L811	C-10	R161	C-1	R601	I-4	R882	F-11	T1001	M-9
C142	F-4	C623	I-8	C3606	J-9	L822	D-9	R162	C-2	R602	K-5	R884	E-11	TE7	N-12
C143	E-4	C624	J-8	C3607	J-10	L823	B-7	R163	C-2	R604	E-17	R886	F-11	TP7	N-12
C144	F-5	C801	C-11	C3608	J-10	L826	C-4	R164	C-2	R605	E-18	R892	F-11	TP50	N-14
C150	C-11	C802	C-12	C7922	C-3	L841	A-13	R201	B-3	R606	D-18	R893	F-12	TP51	N-13
C151	B-1	C806	C-12	D102	F-1	L842	E-12	R202	C-4	R608	D-15	R1001	M-9	VC801	C-10
C152	H-1	C811	B-10	D201	B-4	L1901	B-11	R204	B-5	R609	E-15	R1002	L-6	VR141	M-10
C153	D-1	C814	C-11	D351	E-6	LF001	J-4	R205	C-4	R610	E-17	R1003	L-7	VR501	M-11
C154	C-3	C818	C-10	D361	F-6	PS601	J-5	R207	B-7	R621	H-2	R1004	L-8	VR1023	L-8
C155	D-3	C819	C-10	D421	K-12	Q016	M-3	R212	B-6	R622	G-3	R1006	L-6	VR3403	C-16
C156	B-2	C821	C-9	D422	L-12	Q036	L-3	R213	B-5	R623	I-7	R1007	L-6	VR3406	C-15
C158	D-1	C826	C-9	D428	M-13	Q043	L-2	R216	B-5	R624	H-7	R1008	L-5	VR3411	A-17
C161	C-2	C827	C-10	D429	L-13	Q161	B-3	R217	B-5	R625	I-7	R1011	L-6	VR3421	A-16
C203	D-4	C829	C-10	D481	L-14	Q202	D-4	R251	F-4	R626	I-8	R1012	L-7	X141	F-3
C205	C-4	C831	C-8	D482	M-13	Q203	B-6	R252	F-4	R627	J-7	R1013	L-6	X153	D-3
C206	B-6	C832	B-8	D483	K-12	Q281	F-6	R282	F-6	R628	I-9	R1016	L-8	X161	B-3
C208	B-4	C834	B-8	D484	M-13	Q371	C-6	R284	F-5	R629	I-8	R1017	M-8	X251	E-4
C214	B-5	C851	E-8	D486	M-12	Q372	C-7	R351	C-6	R804	C-13	R1018	M-9	X401	E-5
C215	D-6	C856	C-4	D487	M-13	Q401	F-14	R352	C-6	R807	C-12	R1020	K-5	X801	C-11
C216	D-6	C861	F-9	D491	N-10	Q402	I-15	R354	E-6	R808	C-12	R1022	K-7		
C217	C-5	C862	B-4	D501	H-9	Q491	J-14	R355	F-6	R811	B-11	R1023	K-7		
C251	F-5	C868	F-9	D602	I-5	Q621	J-8	R358	E-7	R813	C-11	R1026	K-7		
C252	E-4	C871	E-9	D603	I-6	Q622	I-8	R361	F-6	R814	B-10	R1027	K-7		
C253	F-4	C883	F-11	D604	I-6	Q623	J-7	R363	G-6	R816	B-10	R1031	K-8		
C324	E-7	C886	F-11	D605	J-5	Q831	B-10	R371	C-7	R818	C-10	R1032	K-8		
C351	B-6	C890	F-10	D621	H-4	Q881	B-9	R372	C-7	R820	C-8	R1037	K-8		
C352	C-5	C891	E-12	D622	H-6	Q882	B-9	R373	C-6	R821	C-9	R1038	K-8		
C361	F-6	C892	F-12	D623	I-7	Q1001	L-5	R374	C-7	R822	C-9	R1901	A-3		
C371	D-6	C1001	N-9	D801	E-12	Q1002	L-7	R375	C-7	R823	F-8	R1902	A-3		
C401	D-5	C1002	M-9	D802	M-11	Q1003	L-9	R401	F-14	R826	B-9	R1903	A-5		
C402	E-6	C1003	L-8	D831	B-10	Q1021	K-8	R402	F-6	R827	B-9	R1904	A-6		
C403	E-5	C1006	L-6	D834	D-13	Q3431	E-2	R403	E-6	R828	G-9	R1905	A-7		
C404	E-7	C1007	L-7	D836	G-13	Q3601	I-11	R404	E-14	R831	C-11	R1906	A-8		
C406	F-15	C1008	M-8	D843	B-10	R001	L-3	R406	E-15	R833	M-13	R1907	A-10		
C407	F-15	C1020	L-5	D851	E-9	R002	L-1	R407	F-17	R834	B-8	R3401	C-15		
C408	F-15	C1022	K-6	D1001	L-6	R003	L-2	R411	E-16	R836	E-8	R3402	C-17		
C411	I-17	C1023	K-8	D1003	L-8	R016	M-3	R418	G-16	R837	E-7	R3403	C-16		
C412	I-18	C1026	J-8	D1011	M-9	R017	M-4	R421	M-12	R838	E-8	R3404	C-17		
C414	F-16	C1027	J-8	D1012	M-9	R018	M-2	R422	M-12	R839	E-7	R3406	C-17		
C418	G-18	C1031	K-8	D1021	L-11	R019	M-4	R423	K-12	R841	E-8	R3407	C-17		
C421	E-7	C1032	L-8	F601	I-2	R021	L-4	R426	E-5	R842	E-7	R3414	B-17		
C473	E-15	C1901	A-12	IC001	L-1	R022	L-3	R428	M-12	R843	D-8	R3418	B-16		

## SYSTEM CONTROL SCHEMATIC

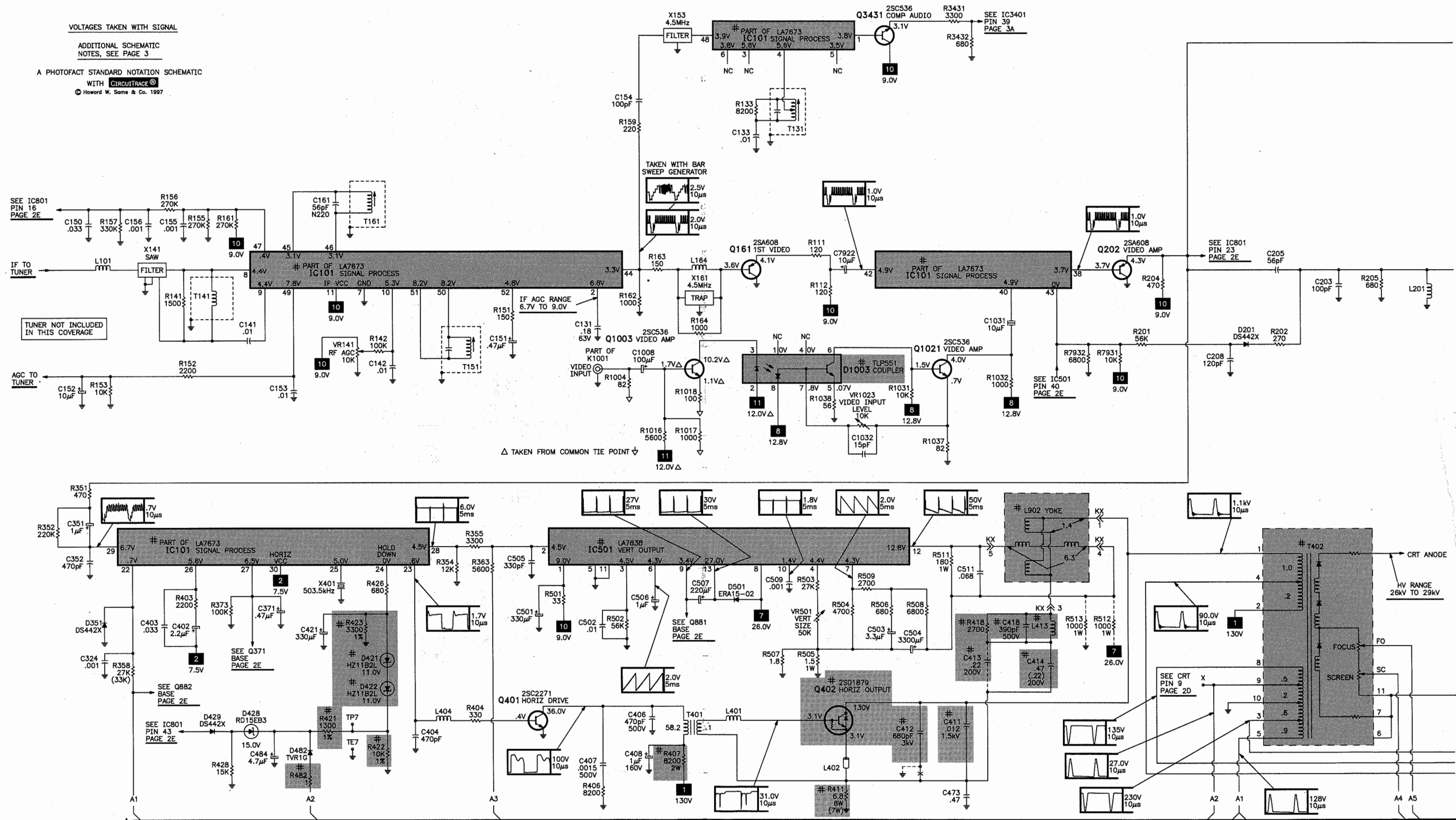


MAIN BOARD



## A

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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TROUBLESHOOTING

POWER SUPPLY

Check F601. If open, check D602 thru D605, C601, C604, C605, C606, Q402, and IC601. Apply 120VAC and check for 5.2V at the emitter of Q622. If the voltage is missing, check C622, R621, R622, LF601, D621, D623, and Q622. Turn receiver on and check for 130V at pin 4 of IC601. If voltage is missing, check IC601, Q621, Q623, RL601, R601, and D602 thru D605. If 130V is present, refer to "Horizontal" section of this Troubleshooting guide.

HIGH VOLTAGE SHUTDOWN

NOTE: Care should be taken in defeating the high voltage shutdown circuit as this may cause excessive X-Ray radiation and damage to the CRT and T402. Monitor the high voltage and troubleshoot.

The high voltage from T402 is monitored and rectified by D482. Should the high voltage increase, the voltage at the cathode of D422 will also increase and trigger D422 and D421. This will cause deflection portion of IC101 to shut down the horizontal drive signal at pin 23 of IC101, causing the receiver to lose sound and raster.

Voltages Taken in Shutdown

IC101	
Pin 22	0V
Pin 23	0V
Pin 24	.7V

HORIZONTAL

Determine if the TV is in shutdown, refer to the "High Voltage Shutdown" section of this Troubleshooting guide. If TV is not in shutdown, inject a horizontal signal at base of Q402. If horizontal deflection is now present, check Q401, T401, and pins 22 thru 27 of IC101. If horizontal deflection is still missing, check Q402, D483, D484, D486, D481, and T402. The high voltage rectifier is part of T402 and if defective will affect the performance of the horizontal circuits. Width or foldover problems may be caused by C411, C412, C413, C414, C418, C473, and L413 being defective.

VERTICAL

Inject a vertical signal at pin 2 of IC501. If vertical deflection is present, check pin 28 of IC101. If there is still no vertical deflection, check IC501 and the deflection yoke. Vertical linearity or foldover problems may be caused by sweep shaping and bias circuits, check C501, C503, C504, C506, and C507.

IF AGC

Inject a video IF signal at the IF input and check for video on the CRT. If video is present, check the tuner and tuner control circuits. If video is missing on the CRT, check for a video waveform at pin 44 of IC101. If video waveform is present, refer to the "Video" section of this Troubleshooting guide. Apply AGC bias to pin 2 of IC101 and check for a video waveform at pin 44 of IC101. If video waveform is present, check pins 2, 10, 47, and 49 of IC101. If video waveform is still missing, check IC101.

VIDEO

Inject a video signal at pin 44 of IC101 and check for video on CRT. If video is present refer to the "IF AGC" section of this Troubleshooting guide. If video is missing, check for video waveform at pin 38 of IC101, if video waveform is missing, check pins 38 and 42 of IC101 and check Q161. If the waveform is present at pin 38 of IC101, check for video waveform at pin 34 of IC101. If the waveform is missing, check Q202, Q203 and IC101. If waveform is present, check for waveform at pin 21 of IC101. If waveform is present, check Q281, SW701, Q701, Q703 and Q705. If waveform is missing, check IC101.

RASTER

Check the CRT and CRT voltages. If red is missing, check pin 18 of IC101 and Q705. If green is missing, check pin 19 of IC101 and Q703. If blue is missing, check pin 20 of IC101 and Q701. If the raster has a keystone shape, check the deflection yoke. If the raster has height or width problems, refer to the "Vertical," "Horizontal," and "Power Supply" sections of this Troubleshooting guide.

CHROMA

Check for a chroma waveform at pin 36 of IC101. If the waveform is missing, refer to "Video" section of this Troubleshooting guide. If the waveform is present, check for the proper waveforms at pins 18, 19, and 20 of IC101. If the proper waveforms are missing, check pins 12 thru 20, 36, and 41 of IC101. If the proper waveforms are present, refer to the "Raster" section of this Troubleshooting guide. Check for 3.58MHz at pin 13 of IC101.

AUDIO

Tune in an active station that's transmitting a stereo signal and check for a MTS waveform at pin 39 of IC3401. If the MTS waveform is missing, check Q3431, pins 1, 4, and 48 of IC101. If the waveforms are present, check for audio waveforms at pin 4 of IC001 and pin 4 of IC021. If audio waveforms are missing, check IC3401 and IC3601. If audio waveforms are present check IC001, IC021, Q043, and pin 5 of IC801.

POWER FAILURE DETECTOR

This receiver uses a power failure detector, pin 43 of IC801, which checks for an abnormal failure of power supply circuits. If an unexpected failure is caused by any one of three conditions, the receiver will shut itself off in about 2.5 seconds to prevent damage.

The three conditions are:

- 1. Failure within the power supply.
- 2. A short circuit on the load side of the power supply.
- 3. Stoppage of horizontal oscillation caused by shutdown circuits.

The power will shut itself off within 2.5 seconds if any of these conditions remain uncorrected. To see if this circuit has been activated, check pin 3 of IC481 for a voltage of 9.0V.

MISCELLANEOUS ADJUSTMENTS

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, contrast, and color to minimum. Connect a high voltage probe to CRT anode. High voltage range should be between 26kV and 29kV.

B+ 130V CHECK

Tune in a picture. Set picture and brightness to normal. Check the voltage at pin 4 of IC601, it should be 130V ±1.0V.

RF AGC

Turn receiver on and tune in an active station. Turn VR141 fully clockwise, then counterclockwise to a point where snow just disappears.

SUB BRIGHTNESS

Tune in a color bar pattern. Set picture and brightness to normal. Connect positive lead of a digital voltmeter to TP51 and the negative lead to TP50. Disconnect AC line cord. While pressing the menu button on the front of the receiver, reconnect AC line cord. "SUBBRIGHT ADJUST" display appears on the screen. Adjust sub brightness level with volume + or volume - button for 628mV ± 10mV. Press the menu button on the receiver to turn off the subbright adjust display.

VERTICAL CENTERING

Tune in a crosshatch pattern. If pattern is low, install R513 (1000 1W). If pattern is high, install R512 (1000 1W). See pin 4 of connector KX, page 2B.

DISPLAY PLL

Turn receiver on and tune in an active station. Adjust VC801 for a stable channel display with no oscillation. Check every active channel, repeat the process if necessary.

WHITE BALANCE

Turn receiver on. Allow a 10 to 30 minute warm up time. Tune in an inactive channel. Set screen, VR703, VR702, and VR701 to minimum. Set VR704 and VR705 to midrange. Set SW701 to service position. Advance the screen control until a faint line of one predominant color appears on the screen. Adjust VR701, VR702, and VR703 for a dim white line. Set SW701 to normal position. Adjust VR704 and VR705 for best black and white picture on screen.

PURITY

Operate the receiver for 15 minutes to allow warm-up of CRT. Use a degaussing coil to demagnetize the CRT. Tune in a green raster. Slide deflection yoke back as far as possible. Adjust purity tabs to center the vertical green band. Slide the deflection yoke forward to produce a uniform green screen.

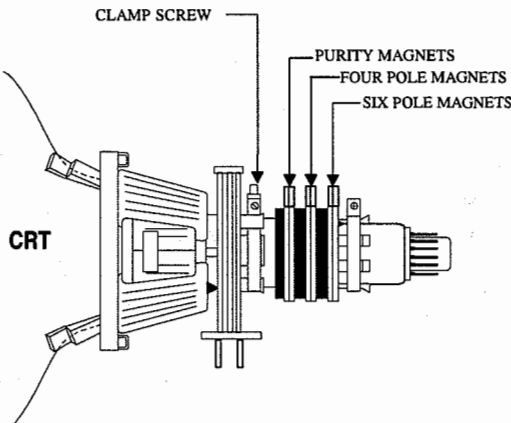
CONVERGENCE

Tune in a dot pattern. Adjust the 4 pole magnets to converge the red and blue dots at the center of the screen. Adjust the 6 pole magnets to converge the red/blue dots over the green dots at the center of the screen.

NOTE: Rotate the two tabs of each set of magnets equally and opposite to converge vertically and rotate both tabs in the same direction to converge horizontally. The 4 and 6 pole magnets interact, repeat adjustment until center convergence is correct.

Tune in a crosshatch pattern. Remove the tilt adjustment wedges between deflection yoke and the CRT. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke to the right or left to converge the horizontal line at the top and bottom of the screen and the vertical line at the right and left sides of the screen. Repeat convergence procedure if necessary to obtain best overall convergence. Replace the tilt adjustment wedges.

CRT NECK ASSEMBLY



STEREO ADJUSTMENTS

All adjustments were made using a MTS TV/stereo generator connected to the antenna terminals. Set customer controls to normal listening levels. Select the stereo mode.

SAP VCO

Select SAP mode on the receiver. Set generator to SAP, 1kHz, and L-R modulated signal. Connect oscilloscope to pin 42 of IC3401. Adjust VR3403 for maximum amplitude of waveform.

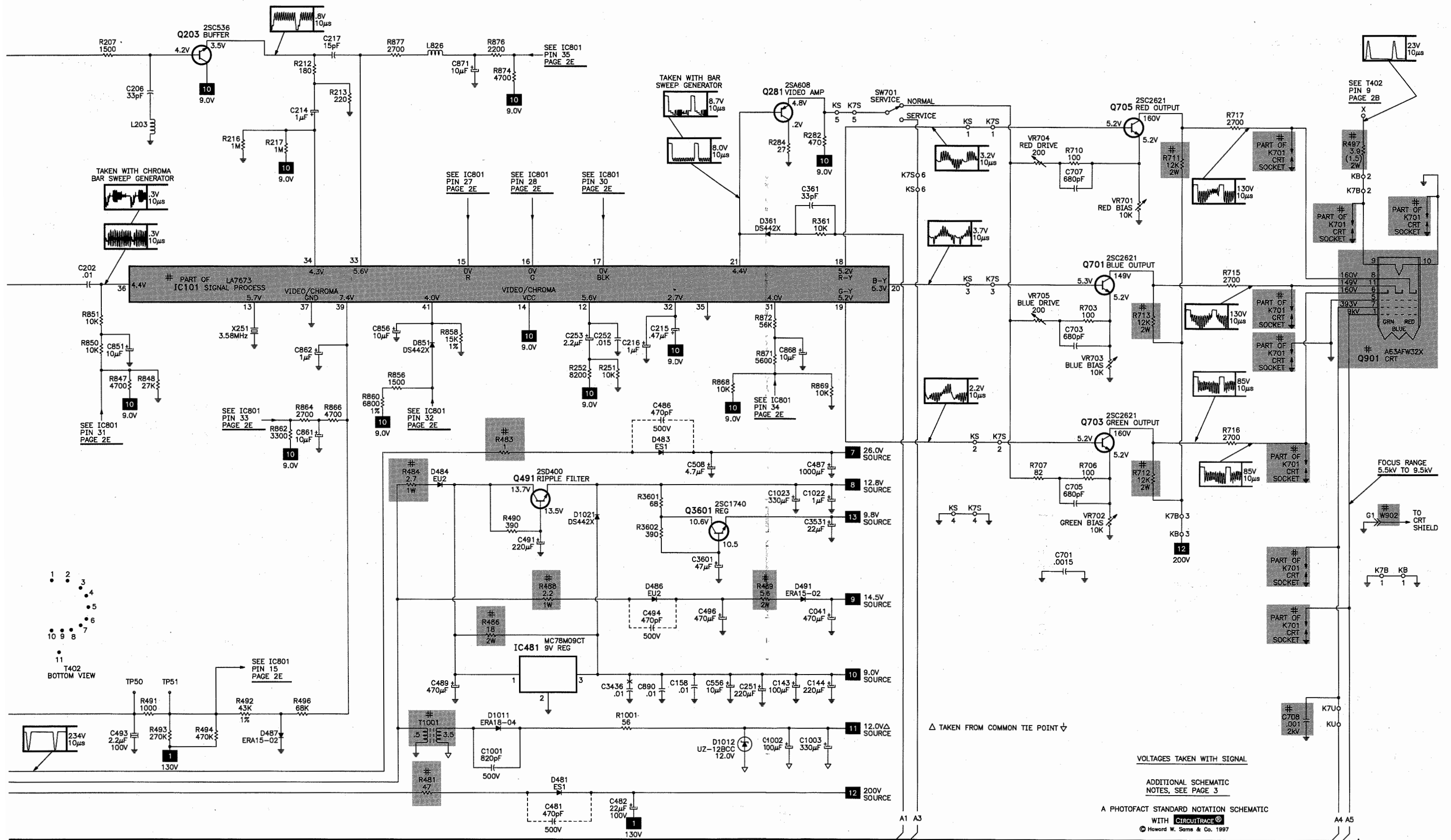
Stereo VCO

Set generator to pilot, 1kHz, and L-R modulated signal. Connect oscilloscope to pin 26 of IC3401. Adjust VR3406 for maximum amplitude of waveform.

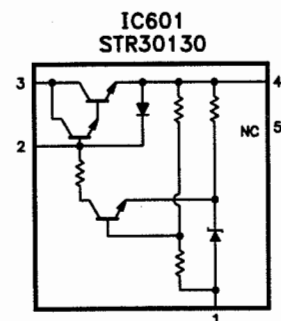
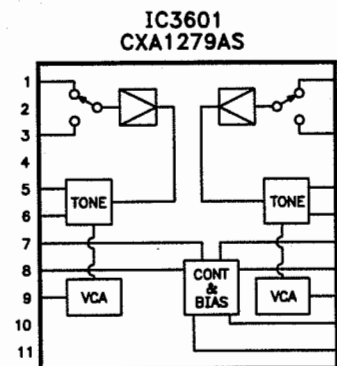
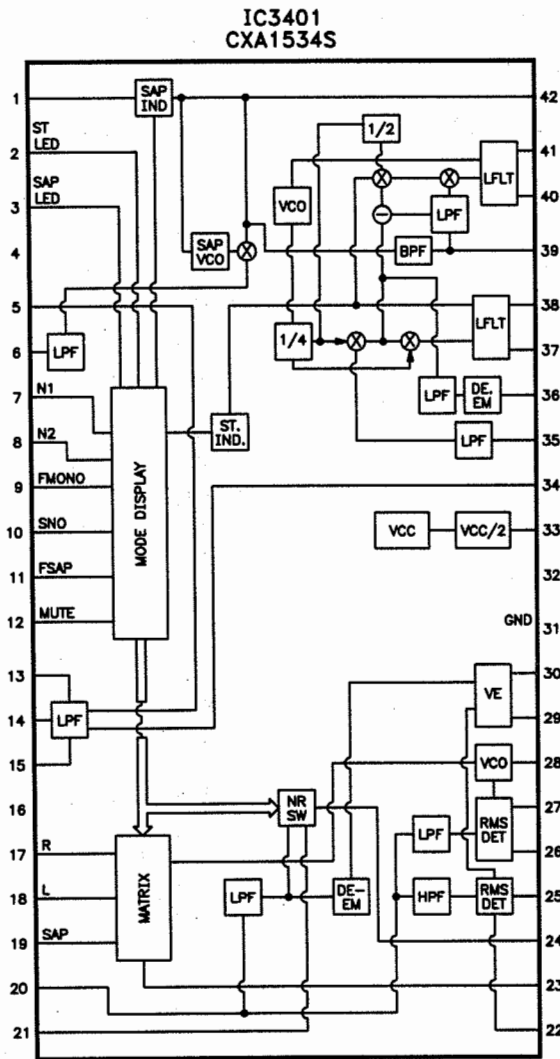
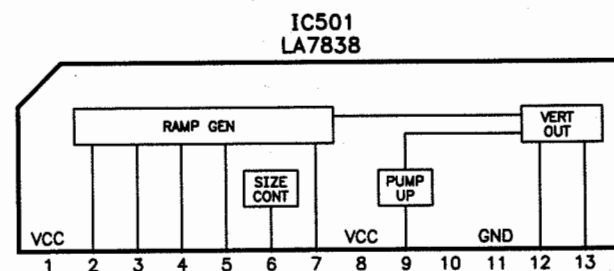
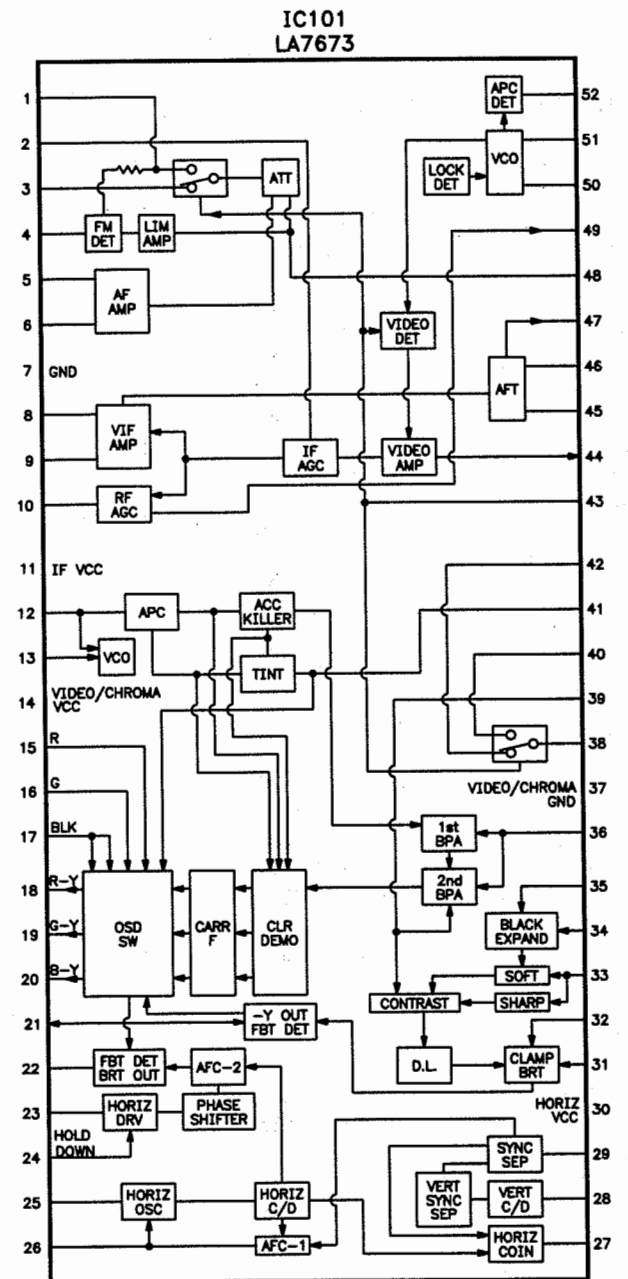
Separation

Set generator to pilot, 300Hz, and left modulated signal. Connect oscilloscope to pin 17 of IC3401. Adjust VR3421 for minimum amplitude of waveform. Change to 8kHz and adjust VR3411 for minimum amplitude of waveform.

# TELEVISION SCHEMATIC continued



## IC FUNCTIONS



## 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 CIRCUITRACE® Voltage source tie point.

A Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless noted otherwise.  
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.

## 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	PR57
Generators		Capacitance Analyzer	LC101, LC102
RGB	CM2000	CRT Analyzer	CR70
Multiburst Signal	VG91	AC Leakage Tester	PR57
Color Bar	VG91	Inductance Analyzer	LC101, LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	TV Stereo Power Monitor	SR68, PA81
Frequency Meter	SC3100	Field Strength Meter	SL750
Hi-Voltage Probe	HP200	Transistor Tester	TF46
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

PARTS LIST continued

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
# PS601	8.0 Cold PTC	408 000 3203	-
	8.0 Cold PTC	408 003 6409	-
	8.0 Cold PTC	408 021 4302	-
# R101	3.3 5% 1/4W	401 017 6304	QW3D3
# R104	56 5% 1/2W	401 010 7001	HW056
# R401	5600 5% 2W	401 068 8807	2W256
# R402	3900 5% 1W	401 061 7401	1W239
# R407	8200 5% 2W	401 069 8202	2W282
# R411	6.8 10% 7W Wirewound	-	-
	6.8 10% 8W Wirewound	402 067 8201	-
	6.8 10% 8W Wirewound	402 057 2707	-
# R418	2700 5% 1/2W Nonflammable	401 009 1607	HW227
# 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	47 5% 1/2W Nonflammable	401 010 2600	HW047
# R482	1 5% 1/4W Nonflammable	401 011 9004	QW1D0
# R483	1 5% 1/2W Nonflammable	401 006 7701	HW1D0
# R484	2.7 5% 1W	401 060 0403	1W2D7
# R486	18 5% 2W	401 065 9609	2W018
# R488	2.2 5% 1W	401 059 9608	1W2D2
# R489	5.6 5% 2W	401 068 6209	2W5D6
	43K 1% 1/6W	401 180 8006	-
# R497	3.9 5% 1W	401 061 0808	1W3D9
# R497 (1)	1.5 5% 2W	401 064 5305	2W1D5
# R601	1.8 10% 7W Wirewound	-	-
	1.8 10% 8W Wirewound	402 071 3001	-
# R606	47 5% 1/2W Nonflammable	401 010 2600	HW047
# R608, 09	220 10% 10W Wirewound	402 060 4606	10W122
# R610	3.9 5% 2W	401 067 3100	2W3D9
# R621	820 10% 6W Wirewound	402 057 4107	-
	820 10% 6W Wirewound	402 057 4206	-
# R622	270 5% 2W	401 067 0000	2W127
# R624	330 5% 1W	401 061 2505	1W133
# R625	5600 5% 1/6W	401 027 2600	-
# R711, 12, 13	12K 5% 2W	401 065 4604	2W312
	15K 1% 1/6W	401 052 9308	-
	6800 1% 1/6W	401 053 4708	-
# R1020	3.3M 10% 1/2W	402 000 0705	HW533
R3403	45.3K 1% 1/6W	401 103 1503	-
R3404	47K 1% 1/6W	401 095 0409	-
R3421	43K 1% 1/6W	401 180 8006	-
VR141	10K RF AGC	645 001 9319	-
	10K RF AGC	645 006 5095	-
VR501	50K Vertical Size	645 001 9364	-
	50K Vertical Size	645 006 5217	-
VR701	10K Red Bias	610 020 9053	-
	10K Red Bias	610 020 9077	-
	10K Red Bias	610 020 9084	-
VR702	10K Green Bias	610 020 9053	-
	10K Green Bias	610 020 9077	-
	10K Green Bias	610 020 9084	-

# For SAFETY use only equivalent replacement part.  
(1) Used in chassis 25650-00 and 25650-01.

CONTROLS & RESISTORS continued

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
VR703	10K Blue Bias	610 020 9053	-
	10K Blue Bias	610 020 9077	-
	10K Blue Bias	610 020 9084	-
VR704	200 Red Drive	610 020 8599	-
	200 Red Drive	610 020 8612	-
	200 Red Drive	610 020 8629	-
VR705	200 Blue Drive	610 020 8599	-
	200 Blue Drive	610 020 8612	-
	200 Blue Drive	610 020 8629	-
VR1023	5000 Video Input Level	645 006 2476	-
	5000 Video Input Level	645 006 5200	-
VR3403	20K 1.5FH Bandpass Filter	645 006 2421	-
	20K 1.5FH Bandpass Filter	645 006 5132	-
VR3406	20K VCO	645 006 2421	-
	20K VCO	645 006 5132	-
VR3411	5000 High Separation	645 006 2476	-
	5000 High Separation	645 005 5200	-
VR3421	10K Low Separation	645 001 9319	-
	10K Low Separation	645 006 5095	-



Created with pride by the employees  
of Howard W. Sams & Company.

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R. Raus, B. Skinner*

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
L101	-	610 032 9386
L164	15µH	645 003 9713
	15µH	645 016 2657
L201	10µH	610 031 3873
	10µH	645 016 2534
L203	56µH	645 008 0234
	56µH	610 029 7784
L401	Filter	610 032 4381
	Filter	610 032 4404
L402	Ferrite Bead	610 031 9998
L404	120µH	645 008 2771
	120µH	645 016 2626
# L413	Horizontal Linearity	610 000 1046
L801	5.6µH	645 008 2894
	5.6µH	645 016 3104
L811	5.6µH	645 008 0180
L822, 23	5.6µH	645 008 2894
	5.6µH	645 016 3104
L826	120µH	645 008 2771
	120µH	645 016 2626
L841, 42	5.6µH	645 008 2894
	5.6µH	645 016 3104
# L901	Degaussing	610 229 3203
	Degaussing	610 232 2392
# L902	Yoke Horiz 1.3mH Vert 16.5mH	645 009 9274
# L902 (2)	Yoke	610 003 4846
# L902 (2)	Yoke	610 003 4853
L1901	5.6µH	645 008 2894
	5.6µH	645 016 3104
# LF601	Line Filter	610 031 5938
	Line Filter	610 223 1212
# T016, 36	Audio Output	645 009 0035
T131	FM Detect	610 037 7615
T141	SAW Filter	645 000 5237
T151	VCO	645 000 5206
T161	AFT	610 037 6564
T401	Horizontal Drive	610 000 7901
	Horizontal Drive	610 000 7918
# T402 (1)	Horizontal Output	645 000 0881
	Horizontal Output	645 004 7411
# T1001	Isolation	645 011 6032
	Isolation	610 229 9007
	Isolation	610 011 8081

# For SAFETY use only equivalent replacement part.  
(1) Focus and screen controls are part of T402.  
(2) Used in chassis 25650-00 and 25650-01.

PARTS LIST

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.

- Custom Components Corporation (Chek-A-Color)
  - NTE Electronics, Inc. (NTE)
  - Philips ECG Company (ECG)
  - PTS Electronics Corporation (PTS)
- Sencore, Inc.
  - Terrell & Nobis (TNI Electronics)
  - Thomson Consumer Electronics, Inc. (SK, TCE)

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
D102	RD5.1EB1	407 056 8002	NTE5010A	ECG5010A	SK5A1
	RD5.1EB1	407 056 8200	NTE5010A	ECG5010A	SK5A1
	UZ5.1BCB	407 051 8402	-	-	-
	UZ5.1BCC	407 163 8209	-	-	-
D201	DS442X	407 005 4505	NTE519	ECG519	SK3100
	GMA01	407 007 9904	NTE519	ECG519	SK3100
	1N4148	408 008 2406	NTE519	ECG519	SK3100
	1SS133	407 012 4406	NTE519	ECG519	SK3100
	1SS176	407 012 5809	NTE177	ECG177	SK9091
	1S1555	407 013 1206	NTE177	ECG177	SK9091
	1S2076	407 013 4207	NTE177	ECG177	SK9091
	1S2473	407 013 7109	NTE177	ECG177	SK9091
	DS442X	407 005 4505	NTE519	ECG519	SK3100
	GMA01	407 007 9904	NTE519	ECG519	SK3100
D351, 61	1N4148	408 008 2406	NTE519	ECG519	SK3100
	1SS133	407 012 4406	NTE519	ECG519	SK3100
	1SS176	407 012 5809	NTE177	ECG177	SK9091
	1S1555	407 013 1206	NTE177	ECG177	SK9091
	1S2076	407 013 4207	NTE177	ECG177	SK9091
	1S2473	407 013 7109	NTE177	ECG177	SK9091
	HZ11B2L	407 158 1307	NTE5020A	ECG5020A	SK11A
	RD15EB3	407 054 5904	NTE5024A	ECG5024A	SK15A
	UZ-15BCC	407 164 7102	-	-	-
	DS442X	407 005 4505	NTE519	ECG519	SK3100
D421, 22 D428	GMA01	407 007 9904	NTE519	ECG519	SK3100
	1N4148	408 008 2406	NTE519	ECG519	SK3100
	1SS133	407 012 4406	NTE519	ECG519	SK3100
	1SS176	407 012 5809	NTE177	ECG177	SK9091
	1S1555	407 013 1206	NTE177	ECG177	SK9091
	1S2076	407 013 4207	NTE177	ECG177	SK9091
	1S2473	407 013 7109	NTE177	ECG177	SK9091
	ES1	407 007 6606	NTE552	ECG552	SK9000
	ERA18-04	407 124 6404	NTE552	ECG552	SK9000
	RMPG06G	407 124 5506	NTE552	ECG552	SK9000
D429	TVR1G	407 011 4407	NTE552	ECG552	SK9000
	ES1	407 007 6606	NTE552	ECG552	SK9000
D481	ERA18-04	407 124 6404	NTE552	ECG552	SK9000
	RMPG06G	407 124 5506	NTE552	ECG552	SK9000
D482	EU2	407 007 7603	NTE552	ECG552	SK9000
	ERA15-02	407 005 8602	NTE552	ECG552	SK9000
D483	MPG06D	407 088 6502	NTE552	ECG552	SK9000
	S5222B	407 011 3004	-	-	-
D484, 86	1N4002ID	408 009 9404	NTE116	ECG116	SK3311
	ERA15-02	407 005 8602	NTE552	ECG552	SK9000
D487	MPG06D	407 088 6502	NTE552	ECG552	SK9000
	S5277B	407 011 3004	NTE552	ECG552	SK9000
D491	1N4002ID	408 009 9404	NTE116	ECG116	SK3311
	ERA15-02	407 005 8602	NTE552	ECG552	SK9000
D501	MPG06D	407 088 6502	NTE552	ECG552	SK9000
	S5277B	407 011 3004	NTE552	ECG552	SK9000
	1N4002ID	408 009 9404	NTE116	ECG116	SK3311

# For SAFETY use only equivalent replacement part.

SANYO

MODEL AVM-2556 (CHASSIS G5F-25560)

PARTS LIST continued

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
Q3431	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A
	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
Q3601	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
C161	56pF 5% 50V N220	403 028 2019
# C411	.012 +50% -10% 1.5kV	404 057 8406
# C412	680pF 10% 3kV	403 165 6710
	680pF 10% 3kV	403 185 9408
# C413 (1)	.22 5% 200V	403 082 8405
# C414	.47 5% 200V	403 083 1009
# C414 (1)	.22 5% 200V	403 082 8405
# C418	390pF 10% 500V	403 076 2917
C493	2.2µF 20% 100V NP	404 056 5307
# C601	.15 20% 125VAC	404 047 3701
	.15 20% 275VAC	404 066 1900
# C604, 05, 21	.001 10% 500V	403 075 7111
# C708	.001 +100% -0% 2kV	403 077 2718
# C1020	.0022 20% 125VAC	404 008 6802
C1031	10µF 20% 16V NP	403 085 4008
C3413	3.3µF 10% 10V Tantalum	403 090 6004
	3.3µF 10% 10V Tantalum	403 124 7908
C3416	10µF 10% 10V Tantalum	403 090 3607
	10µF 10% 10V Tantalum	403 090 3706
VC801	18pF 5% 50V Trimmer	403 014 0319

# For SAFETY use only equivalent replacement part.  
(1) Used in chassis 25650-00 and 25650-01.

CABINET PARTS

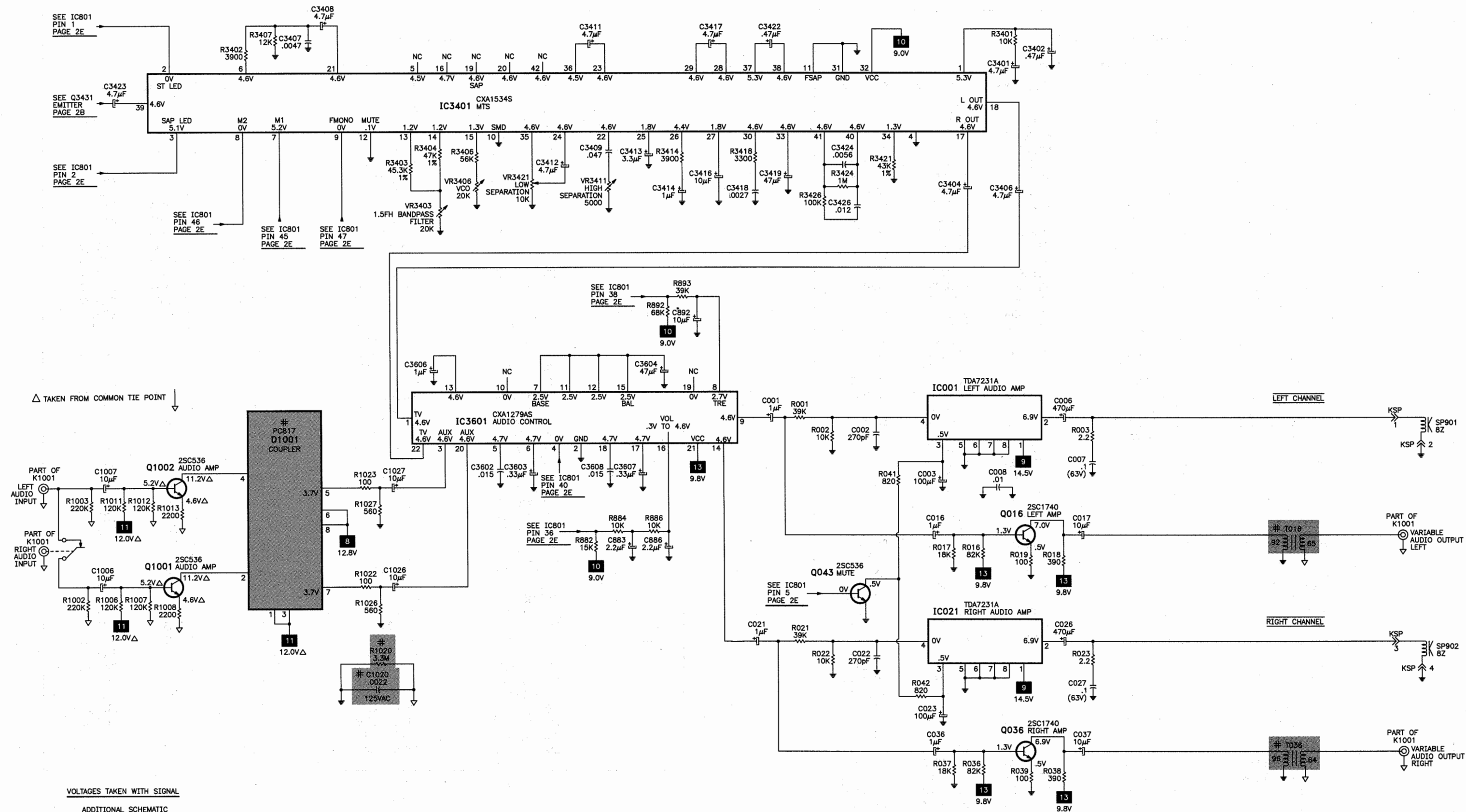
Item	Mfr. Part No.
<b>Model AVM-2556</b>	
Badge (Sanyo)	610 236 9274
Button Unit	610 257 8614
Cabinet Front Assembly	610 258 1966
Cabinet Back	610 245 7445
Cabinet Back	610 254 5531
<b>Model DS25650</b>	
Badge (Sanyo)	610 236 9274
Button Unit	610 257 8614
Cabinet Front Assembly	610 261 1540
Cabinet Back	610 245 7445
Cabinet Back	610 254 5531
<b>Transmitter</b>	
Battery Cover	610 254 0550
Battery Cover	610 254 0581

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
# A101	Tuner (1)(2)	645 012 2156	UHF/VHF
# A101H	Block	645 011 9682	Antenna
A1901	Receiver	645 007 1546	Remote
# F601	Fuse	423 018 8101	4Amp, 125V, Fast Acting
	Fuse	423 007 1601	4Amp, 125V, Fast Acting
	Fuse	423 007 1809	4Amp, 125V, Fast Acting
# K701	Socket	610 010 4181	CRT
K1001	Jack	645 001 6097	Assembly
# Q901	CRT	413 007 7000	A63AFW32X
# Q901 (3)	CRT	413 007 7703	A63ADG32X
# Q901 (3)	CRT	413 007 6508	A63ABG26X
# Q901 (4)	CRT	413 007 6805	A63LAV61X
# RL601	Relay	645 000 4155	Power
	Relay	645 011 2713	Power
	Relay	645 015 8629	Power
SP901, 02	Speaker	610 055 6614	3" Round, 8 Ohm, 2W
SW701	Switch	610 011 4227	Service
SW1901	Switch	645 004 3062	Power
SW1902	Switch	645 004 3062	Volume +
SW1903	Switch	645 004 3062	Volume -
SW1904	Switch	645 004 3062	Channel Up
SW1905	Switch	645 004 3062	Channel Down
SW1906	Switch	645 004 3062	Menu
# W601	Line Cord	610 222 9639	AC, Polarized
X141	Filter	421 001 9104	SAW
X153	Filter	610 015 2946	4.5MHz
X161	Trap	610 015 3066	4.5MHz
	Trap	610 015 3059	4.5MHz
X251	Crystal	610 204 4195	3.58MHz
	Crystal	610 245 9746	3.58MHz
	Crystal	610 012 0655	3.58MHz
X401	Crystal	645 003 4107	503.5kHz
	Crystal	610 012 2970	503.5kHz
X801	Crystal	645 000 5299	12MHz
#	Connector	610 246 1671	Ground
	Fuse Holder	610 012 4356	For F601 (2 Used)
	Fuse Holder	645 006 4760	For F601 (2 Used)
	Magnet	610 217 7794	Purity/Convergence
	PC Board (1)	610 256 2217	CRT
	PC Board (1)	610 258 4004	Main
	PC Board (1)	610 259 0012	Remote Control
	PC Board (1)	610 259 0029	Remote Control
	Transmitter	645 012 6406	Remote
	Transmitter	645 012 6420	Remote
	Wedges	610 117 0154	Yoke Positioning (3 Used)
	Wedges	610 117 7924	Yoke Positioning (3 Used)

# For SAFETY use only equivalent replacement part.  
(1) Contact PTS Electronics Corporation for replacement; order by manufacturer's part number.  
(2) Contact TNI Electronics for replacement; order by part number on tuner.  
(3) Used in chassis 25650-00.  
(4) Used in chassis 25650-01.

AUDIO SCHEMATIC



△ TAKEN FROM COMMON TIE POINT ↓

VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 3

PARTS LIST continued

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
Q203	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A
	2SA1015-O(SAN)	405 001 7407	NTE290A	ECG290A	SK9132
	2SA1015-Y(SAN)	405 001 7605	NTE290A	ECG290A	SK9132
	2SA564A-Q(CU)	405 004 3109	NTE290A	ECG290A	SK3932
Q281	2SA564A-R(CU)	405 004 3208	NTE290A	ECG290A	SK3932
	2SA608-E-CTV-NP	405 004 4205	NTE290A	ECG290A	SK3114A
	2SA608-F-CTV-NP	405 004 4809	NTE290A	ECG290A	SK3114A
	2SA933S-Q	405 006 1707	NTE290A	ECG290A	SK9132
	2SA933S-R	405 006 1806	NTE290A	ECG290A	SK9132
	2SA1015-O(SAN)	405 001 7407	NTE290A	ECG290A	SK9132
	2SA1015-Y(SAN)	405 001 7605	NTE290A	ECG290A	SK9132
	2SA564A-Q(CU)	405 004 3109	NTE290A	ECG290A	SK3932
	2SA564A-R(CU)	405 004 3208	NTE290A	ECG290A	SK3932
	2SA608-E-CTV-NP	405 004 4205	NTE290A	ECG290A	SK3114A
Q371, 72	2SA608-F-CTV-NP	405 004 4809	NTE290A	ECG290A	SK3114A
	2SA933S-Q	405 006 1707	NTE290A	ECG290A	SK9132
	2SA933S-R	405 006 1806	NTE290A	ECG290A	SK9132
	2SC2271-D-CTV	405 013 6207	NTE399	ECG399	SK9352
	2SC2271-E-CTV	405 013 6306	NTE399	ECG399	SK9352
	2SD1879-CTV-YB	405 082 2407	NTE2331	ECG2331	SK10088
	2SD400-E-MP	405 023 5009	NTE382	ECG382	SK3849
	2SD400-F-MP	405 023 5306	NTE382	ECG382	SK3849
	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
Q401	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A
# Q402	2SA1015-O(SAN)	405 001 7407	NTE290A	ECG290A	SK9132
	2SA1015-Y(SAN)	405 001 7605	NTE290A	ECG290A	SK9132
	2SA564A-Q(CU)	405 004 3109	NTE290A	ECG290A	SK3932
	2SA564A-R(CU)	405 004 3208	NTE290A	ECG290A	SK3932
	2SA608-E-CTV-NP	405 004 4205	NTE290A	ECG290A	SK3114A
	2SA608-F-CTV-NP	405 004 4809	NTE290A	ECG290A	SK3114A
	2SA933S-Q	405 006 1707	NTE290A	ECG290A	SK9132
	2SA933S-R	405 006 1806	NTE290A	ECG290A	SK9132
Q491	2SD1879-CTV-YB	405 082 2407	NTE2331	ECG2331	SK10088
	2SD400-E-MP	405 023 5009	NTE382	ECG382	SK3849
	2SD400-F-MP	405 023 5306	NTE382	ECG382	SK3849
Q621, 22	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
Q623	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A
	2SA1015-O(SAN)	405 001 7407	NTE290A	ECG290A	SK9132
	2SA1015-Y(SAN)	405 001 7605	NTE290A	ECG290A	SK9132
	2SA564A-Q(CU)	405 004 3109	NTE290A	ECG290A	SK3932
	2SA564A-R(CU)	405 004 3208	NTE290A	ECG290A	SK3932
	2SA608-E-CTV-NP	405 004 4205	NTE290A	ECG290A	SK3114A
	2SA608-F-CTV-NP	405 004 4809	NTE290A	ECG290A	SK3114A
	2SA933S-Q	405 006 1707	NTE290A	ECG290A	SK9132
	2SA933S-R	405 006 1806	NTE290A	ECG290A	SK9132

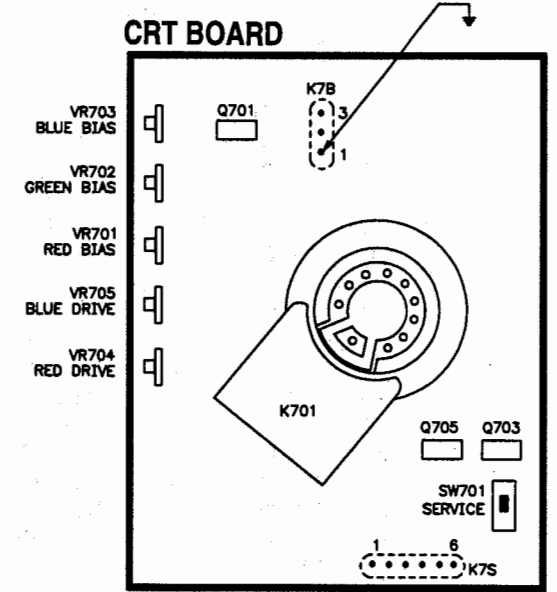
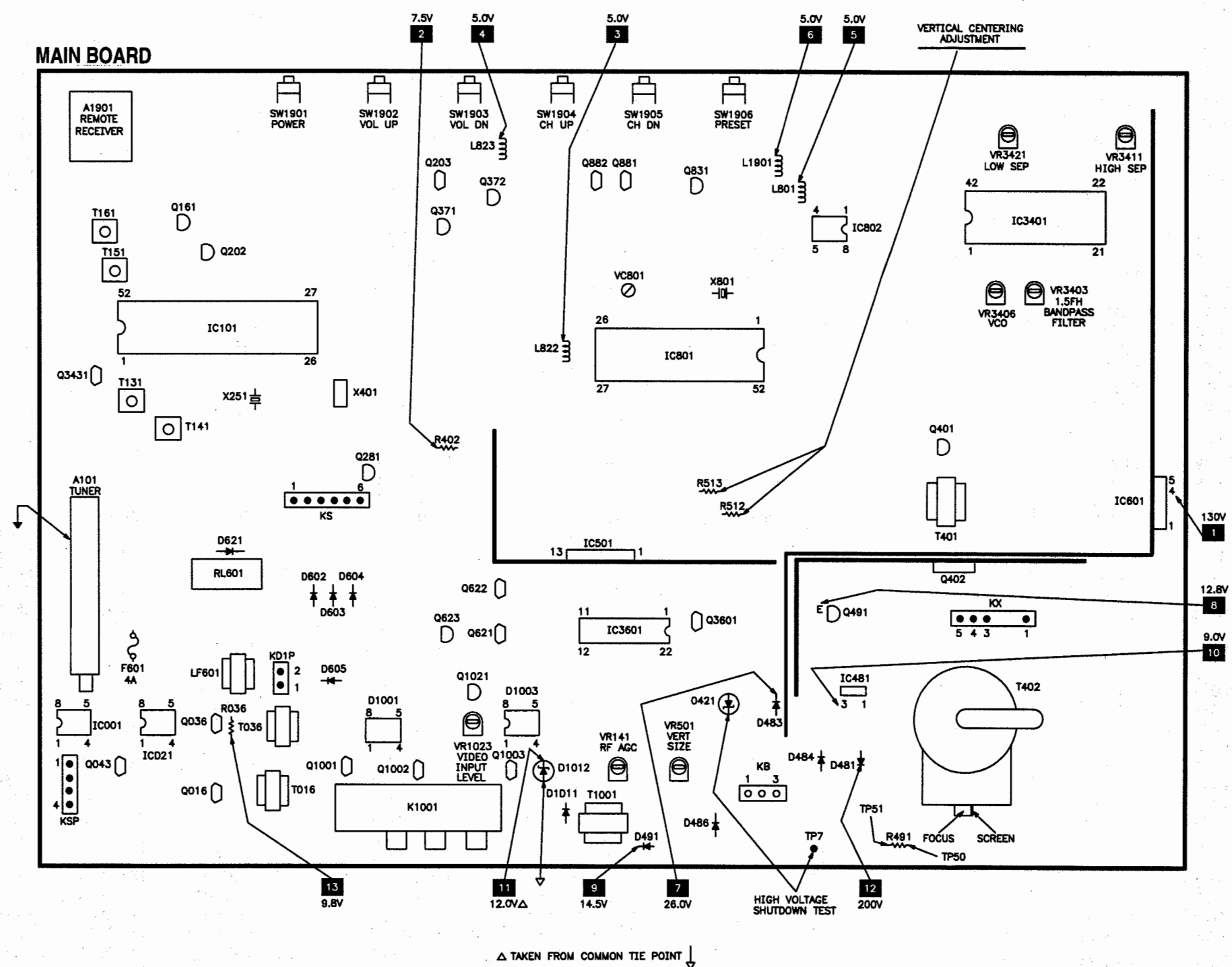
# For SAFETY use only equivalent replacement part.

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
Q701, 03, 05	2SC2621-C-RA	405 066 4304	NTE157	ECG157	SK3747
	2SC3620(LB-SAN-1)	406 000 3605	NTE157	ECG157	SK3747
	2SC2621-D-RA	405 041 6507	NTE157	ECG157	SK3747
	2SC2621-E-RA	405 041 6705	NTE157	ECG157	SK3747
	2SC2688(1)-K	405 066 9903	NTE157	ECG157	SK3747
	2SC2688(1)-L	405 067 0008	NTE157	ECG157	SK3747
	2SC2688(1)-M	405 067 0107	NTE157	ECG157	SK3747
	2SA1015-O(SAN)	405 001 7407	NTE290A	ECG290A	SK9132
	2SA1015-Y(SAN)	405 001 7605	NTE290A	ECG290A	SK9132
	2SA564A-Q(CU)	405 004 3109	NTE290A	ECG290A	SK3932
Q831	2SA564A-R(CU)	405 004 3208	NTE290A	ECG290A	SK3932
	2SA608-E-CTV-NP	405 004 4205	NTE290A	ECG290A	SK3114A
	2SA608-F-CTV-NP	405 004 4809	NTE290A	ECG290A	SK3114A
	2SA933S-Q	405 006 1707	NTE290A	ECG290A	SK9132
	2SA933S-R	405 006 1806	NTE290A	ECG290A	SK9132
	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
Q881, 82	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A
	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
Q1001, 02, 03	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A
	2SC1740-R	405 011 7404	NTE85	ECG85	SK3122
Q1021	2SC1740-S	405 011 7503	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC1740-R	405 011 7404	NTE85	ECG85	SK3122
	2SC1740-S	405 011 7503	NTE85	ECG85	SK3122

# PLACEMENT CHART



PARTS LIST
continued

SEMICONDUCTORS continued					
(Select the replacement that gives the best results.)					
Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
# D602 Thru					
# D605	EM2B	407 005 7605	NTE125	ECG125	SK3081
	GP15G	408 008 8606	NTE125	ECG125	SK3081
	1S1887A	407 013 3200	NTE552	ECG552	SK9000
# D621	ERA15-02	407 005 8602	NTE552	ECG552	SK9000
	MPG06D	407 088 6502	NTE552	ECG552	SK9000
	S5277B	407 011 3004	NTE552	ECG552	SK9000
	1N4002ID	408 009 9404	NTE116	ECG116	SK3311
D622	DS442X	407 005 4505	NTE519	ECG519	SK3100
	GMA01	407 007 9904	NTE519	ECG519	SK3100
	1N4148	408 008 2406	NTE519	ECG519	SK3100
	1SS133	407 012 4406	NTE519	ECG519	SK3100
	1SS176	407 012 5809	NTE177	ECG177	SK9091
	1S1555	407 013 1206	NTE177	ECG177	SK9091
	1S2076	407 013 4207	NTE177	ECG177	SK9091
	1S2473	407 013 7109	NTE177	ECG177	SK9091
D623	RD5.1EB2	407 056 8002	NTE5010A	ECG5010A	SK5A1
	RD5.1EB3	407 056 8200	NTE5010A	ECG5010A	SK5A1
	UZ-5.1BCB	407 151 8402	-	-	-
	UZ-5.1BCC	407 163 8209	-	-	-
D801, 02	DS442X	407 005 4505	NTE519	ECG519	SK3100
	GMA01	407 007 9904	NTE519	ECG519	SK3100
	1N4148	408 008 2406	NTE519	ECG519	SK3100
	1SS133	407 012 4406	NTE519	ECG519	SK3100
	1SS176	407 012 5809	NTE177	ECG177	SK9091
	1S1555	407 013 1206	NTE177	ECG177	SK9091
	1S2076	407 013 4207	NTE177	ECG177	SK9091
	1S2473	407 013 7109	NTE177	ECG177	SK9091
D831	RD4.3EB2	407 056 4707	NTE5008A	ECG5008A	SK4A3
	UZ-4.3BCB	407 164 9601	-	-	-
D834	RD22EB2	407 055 2902	-	-	-
	UZ-22BCB	407 164 8109	-	-	-
D836, 43, 51	DS442X	407 005 4505	NTE519	ECG519	SK3100
	GMA01	407 007 9904	NTE519	ECG519	SK3100
	1N4148	408 008 2406	NTE519	ECG519	SK3100
	1SS133	407 012 4406	NTE519	ECG519	SK3100
	1SS176	407 012 5809	NTE177	ECG177	SK9091
	1S1555	407 013 1206	NTE177	ECG177	SK9091
	1S2076	407 013 4207	NTE177	ECG177	SK9091
	1S2473	407 013 7109	NTE177	ECG177	SK9091
# D1001	PC817	-	-	-	-
	PC827C	407 145 3703	-	-	-
	PC827D	407 176 6100	-	-	-
	TLP521-2-BL	-	-	-	-
# D1003	TLP551	408 000 0301	NTE3092	ECG3092	SK9770
D1011	ERA18-04	407 124 6404	NTE552	ECG552	SK9000
	ES1	407 007 6606	NTE552	ECG552	SK9000
	RMPG06G	407 124 5506	NTE552	ECG552	SK9000
D1012	UZ-12BCC	407 162 5308	-	-	-
# For SAFETY use only equivalent replacement part.					

SEMICONDUCTORS continued					
(Select the replacement that gives the best results.)					
Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
D1021	DS442X	407 005 4505	NTE519	ECG519	SK3100
	GMA01	407 007 9904	NTE519	ECG519	SK3100
	1N4148	408 008 2406	NTE519	ECG519	SK3100
	1SS133	407 012 4406	NTE519	ECG519	SK3100
	1SS176	407 012 5809	NTE177	ECG177	SK9091
	1S1555	407 013 1206	NTE177	ECG177	SK9091
	1S2076	407 013 4207	NTE177	ECG177	SK9091
	1S2473	407 013 7109	NTE177	ECG177	SK9091
IC001, 21	TDA7231A	409 343 0409	-	-	-
# IC101	LA7673	409 274 3302	-	-	-
IC481	MC78M09CT	409 370 0007	-	-	-
	BA178M09T	409 367 2809	-	-	-
	UPC78M09AHF	409 366 7904	-	-	-
# IC501	LA7838	409 173 2802	NTE7039	ECG7039	-
# IC601	STR30130	409 243 0806	NTE1777	ECG1777	SK9870
IC801	LC864116W-5A10	410 252 7304	-	-	-
IC802	ST24C01	-	-	-	-
	ST24C01B1	409 270 0008	-	-	-
	XLS24C01AP	409 321 7307	-	-	-
	AT24C01A-10PC-2.5	410 243 3803	-	-	-
	24LC01B/P	409 321 0902	-	-	-
IC3401	CXA1534S	409 272 3205	-	-	-
IC3601	CXA1279AS	409 279 3109	-	-	-
Q016, 36, 43	2SC1740S-Q	405 011 8401	NTE85	ECG85	SK3122
	2SC1740S-R	405 011 8500	NTE85	ECG85	SK3122
	2SC1740S-S	405 011 8609	NTE85	ECG85	SK3122
	2SC1815-GR	405 012 2002	NTE85	ECG85	SK3124A
	2SC1815-O	405 012 2101	NTE85	ECG85	SK3124A
	2SC1815-Y	405 012 2309	NTE85	ECG85	SK3124A
	2SC536-E-NP	405 019 1909	NTE85	ECG85	SK3245
	2SC536-F-NP	405 019 2708	NTE85	ECG85	SK3245
	2SC536-G-NP	405 019 3804	NTE85	ECG85	SK3245
	2SC945A-PA	405 020 7501	NTE85	ECG85	SK3124A
	2SC945A-QA	405 020 7709	NTE85	ECG85	SK3124A
	2SC945A-RA	405 020 7907	NTE85	ECG85	SK3124A
Q161	2SA1015-O(SAN)	405 001 7407	NTE290A	ECG290A	SK9132
	2SA1015-Y(SAN)	405 001 7605	NTE290A	ECG290A	SK9132
	2SA564A-Q(CU)	405 004 3109	NTE290A	ECG290A	SK3932
	2SA564A-R(CU)	405 004 3208	NTE290A	ECG290A	SK3932
	2SA608-E-CTV-NP	405 004 4205	NTE290A	ECG290A	SK3114A
	2SA608-F-CTV-NP	405 004 4809	NTE290A	ECG290A	SK3114A
	2SA933S-Q	405 006 1707	NTE290A	ECG290A	SK9132
	2SA933S-R	405 006 1806	NTE290A	ECG290A	SK9132
Q202	2SA1015-O(SAN)	405 001 7407	NTE290A	ECG290A	SK9132
	2SA1015-Y(SAN)	405 001 7605	NTE290A	ECG290A	SK9132
	2SA564A-Q(CU)	405 004 3109	NTE290A	ECG290A	SK3932
	2SA564A-R(CU)	405 004 3208	NTE290A	ECG290A	SK3932
	2SA608-E-CTV-NP	405 004 4205	NTE290A	ECG290A	SK3114A
	2SA608-F-CTV-NP	405 004 4809	NTE290A	ECG290A	SK3114A
	2SA933S-Q	405 006 1707	NTE290A	ECG290A	SK9132
	2SA933S-R	405 006 1806	NTE290A	ECG290A	SK9132
# For SAFETY use only equivalent replacement part.					