

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.

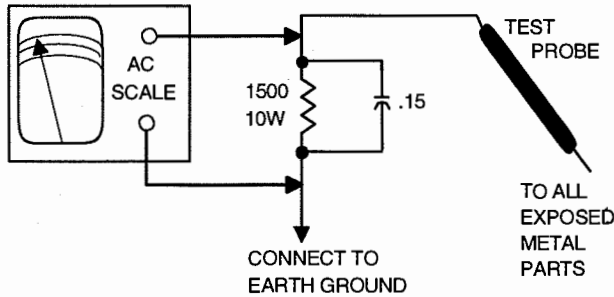
SAFETY CHECKS -- FIRE AND SHOCK HAZARD

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 and press the power button. Momentary place a 3900 ohm resistor across R652. The receiver should shutdown. If the receiver does not shut down, the shutdown circuit should be repaired. To resume normal operation, remove AC power and wait 30 seconds. Reapply 120VAC, press the power button, and check for normal operation.

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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SET 4203

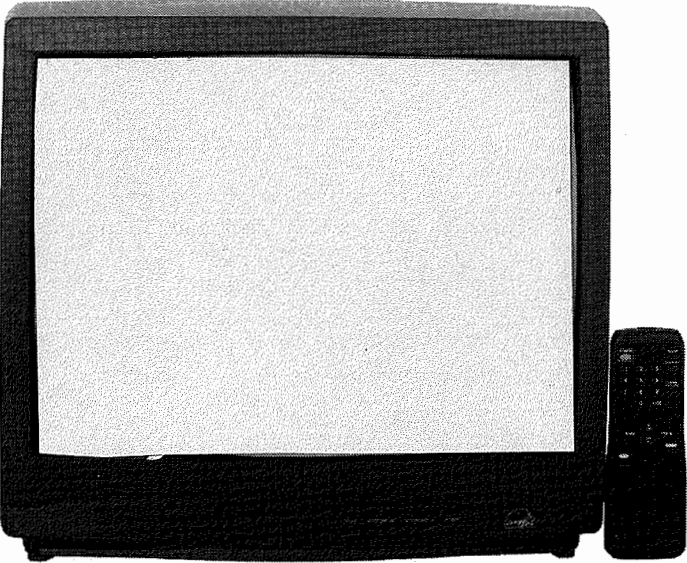
MODEL F4819U

FUNAI

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FUNAI
Model F4819U



Representative Model

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list



HOWARD W. SAMS & COMPANY

OCTOBER 1999 SET 4203

MISCELLANEOUS ADJUSTMENTS

+B

Connect a voltmeter to the cathode of D651. Adjust VR661 for 116V ±.5V.

AGC

Turn receiver on and tune in an active station. See Service Mode and select AGC. Set the data value to minimum, then increase the data value to a point where snow just disappears.

SUB BRIGHTNESS

Tune in an active channel. Set color and contrast to minimum. Set brightness to midrange. See Service Mode and select sub bright. Adjust the data value to a point where highlights are just visible.

COLOR TEMPERATURE

Disconnect the antenna and allow a 10 to 30 minute warm up time. Set tint, bright, and contrast to midrange. Set color and screen control fully counterclockwise. See Service Mode, select each cut off and drive, and set each data value to minimum. Adjust the screen control to obtain a just visible line of one predominant color. Adjust the data value of the two remaining cutoff controls for a dim white line. Tune in a black and white picture and adjust the data values of the drives for best black and white picture at all brightness levels. Set the color to midrange.

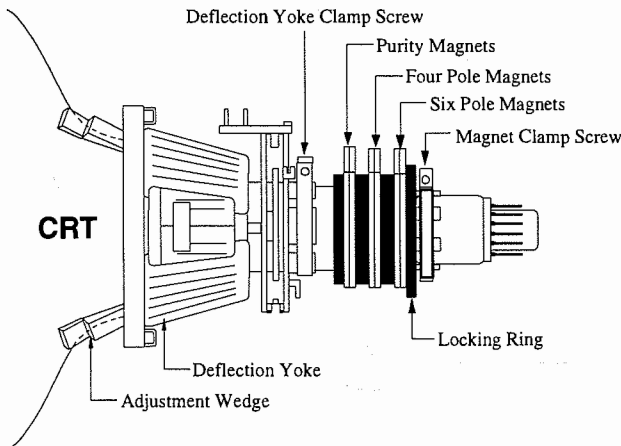
CONVERGENCE

Connect a color bar generator to the antenna input and tune in a dot pattern. Loosen the locking ring. 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. Since the 4 and 6 pole magnets interact, repeat the adjustment until center convergence is correct.

Tune in a crosshatch pattern. Remove the rubber wedges between deflection yoke and the CRT. Loosen the clamp screw. 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. Replace the rubber wedges. Tighten the clamp screw. Tighten the locking ring.

CRT NECK ASSEMBLY



PURITY

Operate the receiver for 15 minutes warm up time. Use a degaussing coil to demagnetize the CRT. See Service Mode, select each cut off control, and set the data values to minimum to obtain a green picture. Adjust drive controls if necessary. Loosen the deflection yoke and move it back as far as possible. Loosen the locking ring and move the purity tabs to center the green band. Slowly slide the deflection yoke forward until a uniform green band is obtained. Tighten the screw on retainer and the locking ring.

SERVICE MODE

To enter the service mode, tune in a picture, and turn off the receiver. Within 5 seconds press 2, 7, 1, and mute on the remote. The receiver will turn on with 1 in each corner and minute counter in the middle. The following list details the features of the service mode. Each adjustment or screen display can be entered by pressing the number on the remote. The data can be changed with the channel up or down buttons on the remote. To exit the service mode, press the power button.

- 1 Horizontal position (HP).
- 2 AGC (TV AGC).
- 3 AFT (TV VCO)
- 7 Red, green, and blue rasters (Press 7 repeatedly to switch between rasters.)
- 8 Cut offs and Drives (C \ D -) After entering CD, press 1 for red cut off, press 2 for green cut off, press 3 for blue cut off, The picture will collapse to a horizontal line. Press 4 for red drive, press 5 for blue drive.
- 0 Horizontal adjust (H- ADJ) and chroma trap (C- TRP) Press 0 repeatedly to switch between horizontal adjust and chroma trap.

Adjustment	Data Range	On-Set Value
Horizontal position (HP)	0 - 15	8
AGC (TV AGC)	0 - 127	87
AFT (TV VCO)	0 - 255	128
Red cut off (COR)	0 - 255	30
Green cut off (COG)	0 - 255	63
Blue cut off (COB)	0 - 255	79
Red drive (DR)	0 - 127	82
Blue drive (BR)	0 - 127	57
Horizontal adjustment (H-ADJ)	0, 1	0
Chroma trap (C-TRP)	0 - 3	1

The sub adjustments can be accessed while in the service mode by pressing the menu button repeatedly on the remote. The data for the sub adjustments can be changed with the volume up and down buttons on the remote. The channel up and down buttons will select presets of each sub adjustment.

Sub Adjustments	Data Range	On-Set Value
Sub bright	64 - 192	148
Sub contrast	78 - 92	84
Sub color	68 - 82	74
Sub tint	32 - 95	58

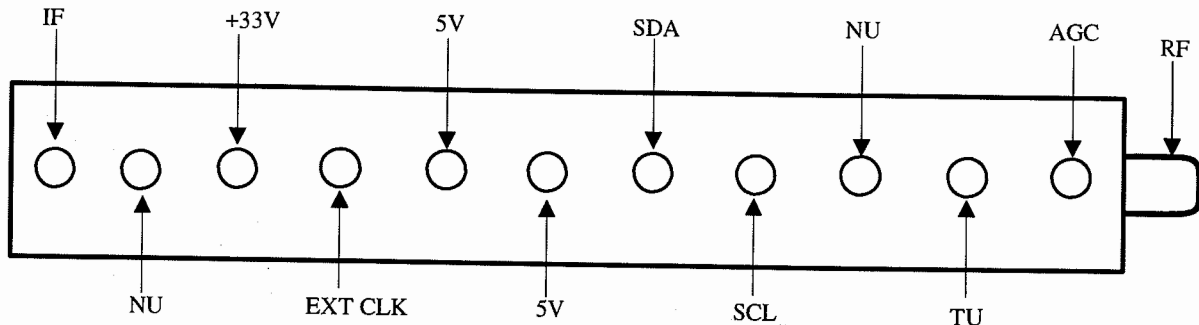
TUNER INFORMATION

TUNER VOLTAGE CHART

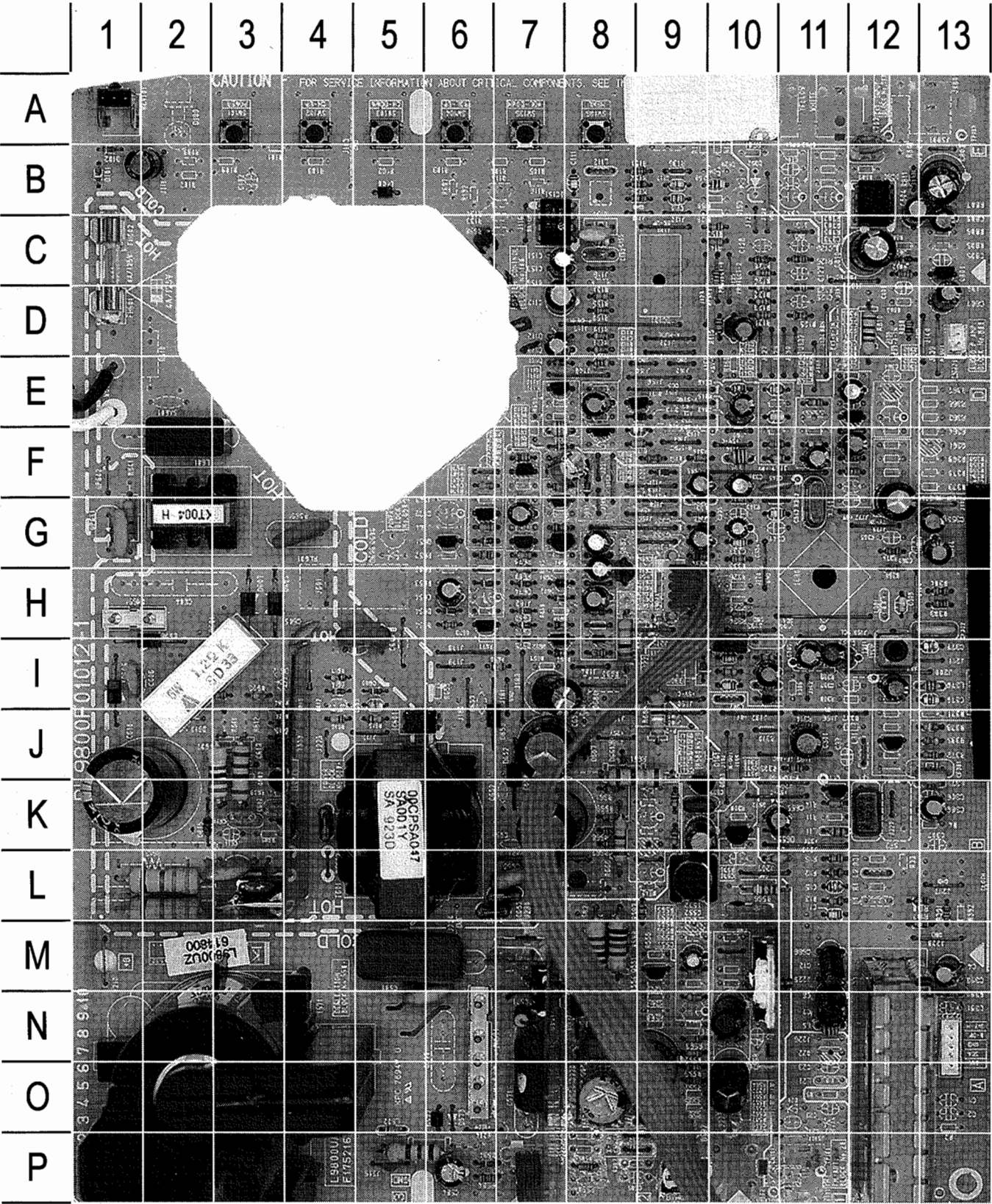
Pin		VHF Low Band	VHF High Band	UHF Band
1	(AGC)	1.6V	1.4V	1.8V
2	(TU)	1.2V	3.5V	5.7V
3	(NU)	0V	0V	0V
4	(SCL)	5.1V	5.1V	5.1V
5	(SDA)	5.1V	5.1V	5.1V
6	(5V)	5.0V	5.0V	5.0V
7	(5V)	5.0V	5.0V	5.0V
8	(EXT CLK)	3.1V	3.1V	3.1V
9	(+ 33V)	34.7V	34.7V	34.7V
10	(NU)	0V	0V	0V
11	(IF)	0V	0V	0V

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



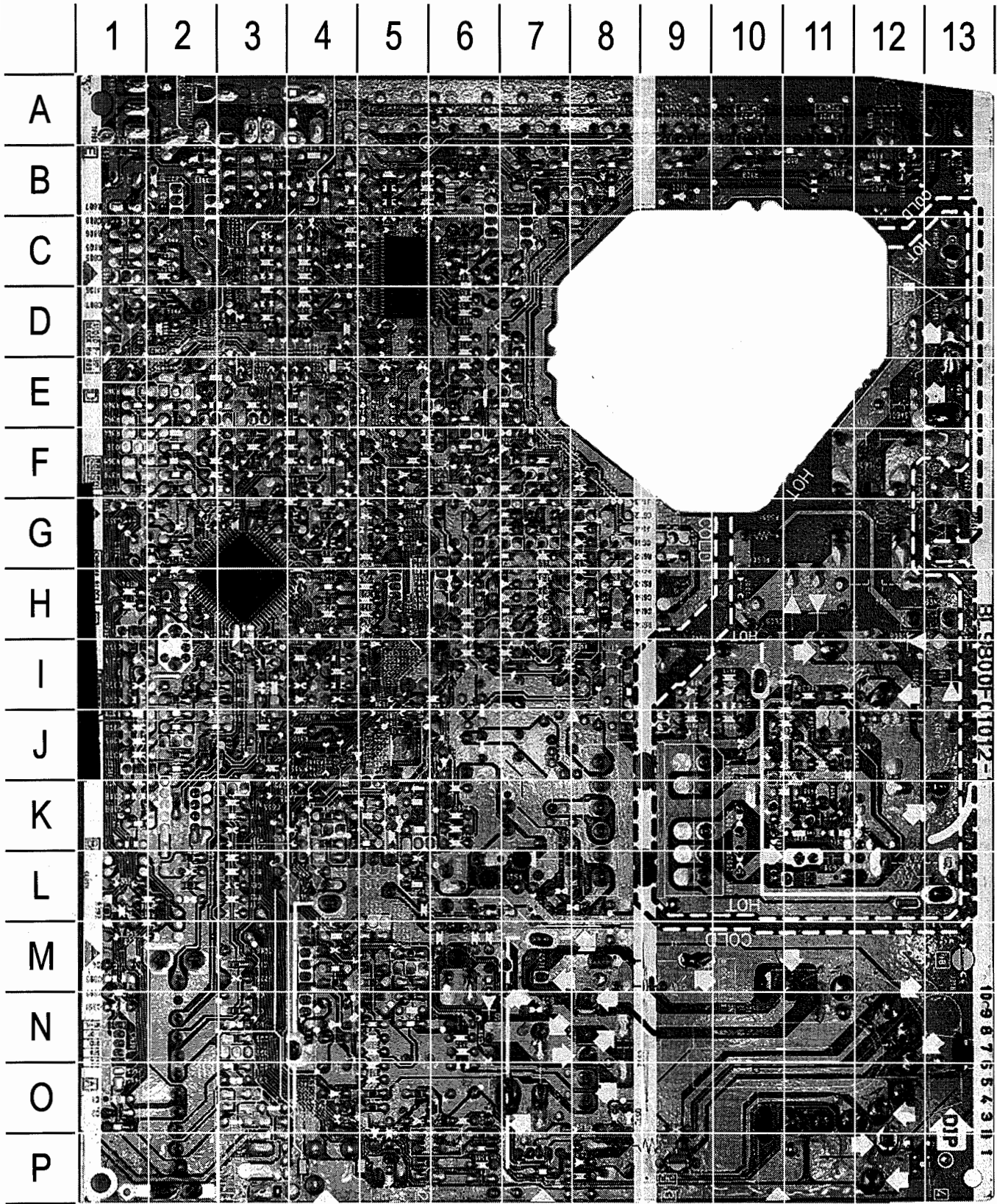
MAIN BOARD - TOP VIEW



MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

BC571	N7	C603	I5	D655	K10	R125	D11	R599	P9
BC601	K4	C605	H4	D656	I8	R126	C11	R601	I2
BC651	L6	C606	I1	D660	H7	R127	D11	R602	I3
BC652	L7	C609	L3	D661	J8	R128	C10	R603	I3
C4	M13	C610	K1	D667	J8	R141	C10	R604	J3
C8	N11	C611	K3	D670	H7	R150	D8	R611	J3
C9	L11	C613	J3	D672	G6	R151	B9	R612	J3
C11	L11	C642	H5	D673	H6	R152	B9	R613	L2
C15	L11	C650	L7	D674	H7	R153	C10	R614	J3
C101	B1	C654	H6	D675	H7	R154	B9	R615	J5
C111	B8	C655	K10	D681	H7	R155	D8	R616	J4
C112	D7	C656	K6	D682	H7	R160	E8	R617	I4
C113	E8	C657	J7	D691	F8	R163	E11	R641	G1
C114	D10	C658	I7	D801	C12	R171	D8	R651	J9
C115	B9	C681	H8	F601	C1	R172	F9	R654	H6
C117	B9	C682	H8	GP641	G1	R302	I10	R656	I7
C119	D7	C684	G8	IC151	C7	R303	H13	R660	H7
C152	C8	C685	F9	IC551	M10	R304	H13	R661	K8
C153	C7	C686	M11	IC601	J5	R305	J11	R662	I9
C158	B10	C693	G7	IC801	C13	R311	I10	R664	I7
C171	F9	C694	F8	J124	C10	R314	J11	R665	I7
C301	J11	C802	B12	L5	N11	R321	H9	R666	K8
C302	I11	C803	B13	L11	K11	R322	H9	R667	K8
C303	I10	C804	B12	L111	F7	R323	H9	R668	K8
C304	I11	C807	D13	L301	I10	R324	H10	R669	K8
C309	I10	C808	C13	L335	F10	R331	G9	R673	F6
C311	I10	C810	C12	L371	K13	R333	G10	R674	G6
C331	G9	CF301	J13	L376	I13	R341	F10	R676	G6
C332	G9	CF302	H13	L572	P5	R343	G10	R679	G7
C333	G10	CN301	N13	L601	G2	R346	F9	R680	H7
C334	G10	CN571	N6	PS691	G4	R349	F7	R681	G7
C336	F10	CN691	H1	Q11	K11	R352	F10	R682	H8
C342	G10	CN801	D13	Q111	E7	R355	F12	R683	I9
C343	E10	D100	B5	Q112	F8	R356	F12	R686	H8
C345	F10	D101	B1	Q171	E9	R360	G12	R695	F7
C346	E10	D102	B1	Q321	G7	R361	F11	R802	C12
C351	E10	D111	E7	Q351	E12	R372	J13	R808	D12
C353	E10	D112	D7	Q376	J12	R374	G12	R809	B2
C354	F11	D113	E9	Q551	M9	R378	J13	R810	D12
C355	G13	D161	J10	Q571	N7	R391	L13	R811	B12
C356	F12	D301	I10	Q572	K10	R393	N13	RCV101	A1
C359	E12	D321	I9	Q601	L3	R395	J13	SF1	K12
C360	G12	D322	I9	Q602	K3	R552	O9	SW101	A3
C361	G12	D323	H9	Q651	G6	R553	O9	SW102	A4
C374	G13	D328	F7	Q652	I7	R558	N9	SW103	A5
C375	H12	D381	F9	Q672	G6	R560	M9	SW104	A6
C376	I13	D552	N10	Q673	H6	R562	N9	SW105	A7
C377	I13	D571	N8	Q681	G7	R563	N9	SW106	A8
C382	I12	D572	O6	Q682	H8	R566	L10	T301	I12
C386	K13	D584	P6	Q683	K9	R572	O8	T571	O2
C389	I11	D591	O9	Q691	G7	R573	O8	T572	L9
C552	N8	D592	P9	Q692	F7	R574	M8	T601	L5
C553	M9	D596	O10	Q801	C13	R575	M8	TU1	O12
C555	N10	D605	H3	R12	L11	R579	K9	VR661	P9
C556	O9	D606	I1	R13	L11	R580	K9	WH301A	H9
C559	O10	D607	H3	R14	K11	R581	M7	WH501A	P7
C571	O7	D608	I2	R15	L11	R582	M8	X151	C8
C574	O8	D609	I5	R114	D10	R583	P5	X311	I10
C577	K9	D611	K3	R115	F9	R584	P6	X341	G11
C578	K9	D613	J3	R117	M1	R585	P8		
C580	M5	D614	I4	R118	L1	R586	P6		
C581	N5	D615	K2	R119	D8	R587	L9		
C584	P6	D651	L7	R121	D10	R588	M8		
C591	O9	D652	J7	R122	D10	R591	O5		
C601	F2	D653	J6	R123	D10	R592	O8		
C602	J3	D654	H6	R124	C10	R597	N10		

MAIN BOARD - BOTTOM VIEW



MAIN BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

C7	N3	R1	L2	R156	C7	R384	J2	R598	P7
C12	M3	R3	O1	R158	B4	R387	I2	R652	G8
C32	J3	R4	K1	R309	K4	R388	J2	R653	H8
C151	C7	R11	K3	R325	H4	R392	L1	R655	I8
C155	C8	R101	B11	R326	H4	R394	F2	R657	I7
C310	H4	R102	B9	R327	G7	R555	M5	R658	H7
C335	G4	R103	B8	R328	F7	R556	M5	R675	G8
C341	G4	R104	B7	R345	E4	R557	M4	R677	H8
C358	G2	R105	B7	R354	F3	R559	N5	R678	H8
C365	G2	R107	B12	R358	F2	R561	N5	R684	G7
C387	I2	R109	B11	R359	F2	R568	N5	R685	H7
C558	N4	R111	E7	R368	E1	R576	K4	R692	G7
C805	C1	R112	E6	R373	F1	R577	K5	R693	F7
C809	D2	R113	E6	R376	J2	R593	P6	R803	C2
IC101	D5	R129	B4	R377	J2	R594	O5	R804	D2
IC301	H3	R142	B4	R382	I2	R595	O5		

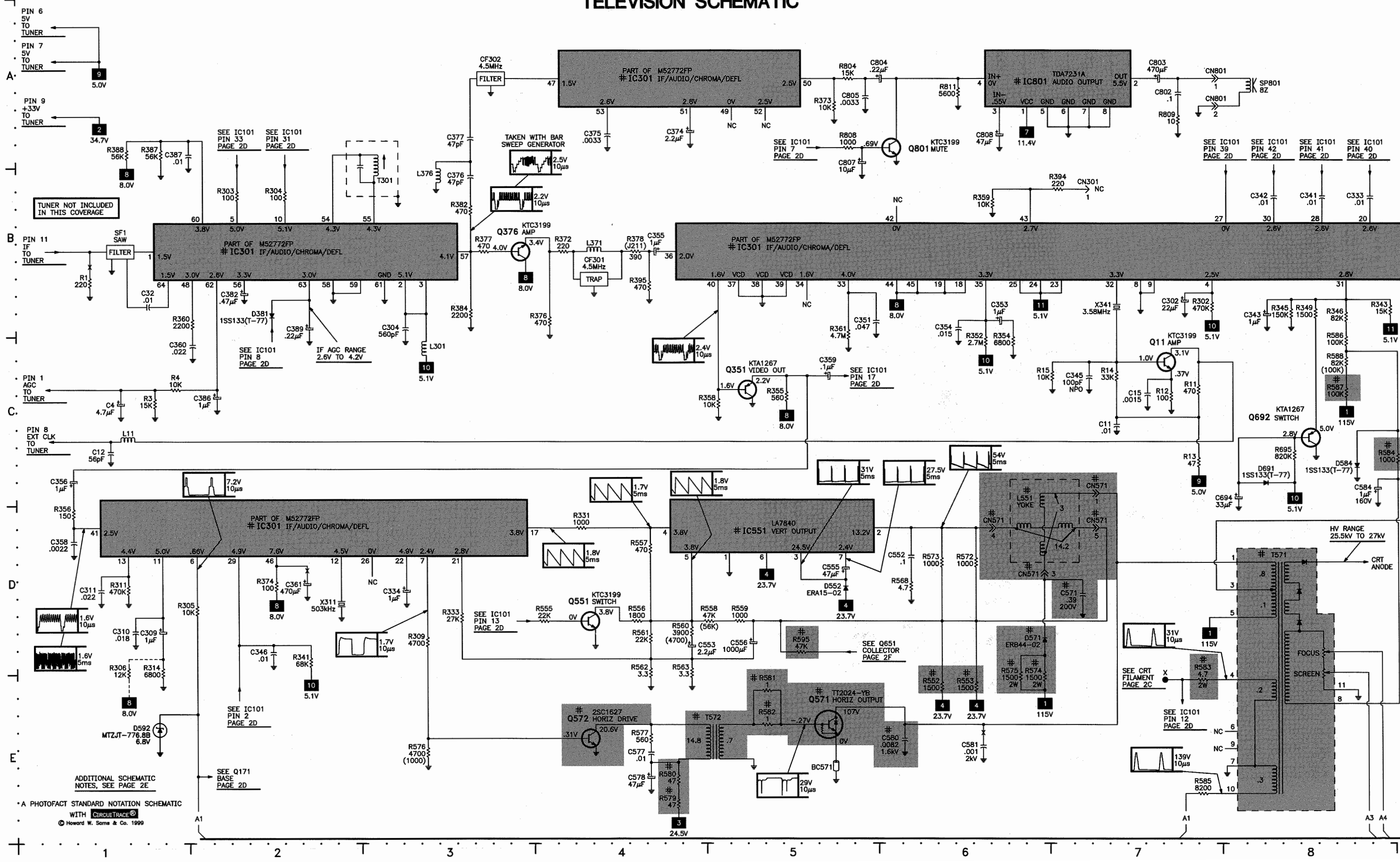
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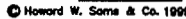
MODEL F4819U

A

B

TELEVISION SCHEMATIC





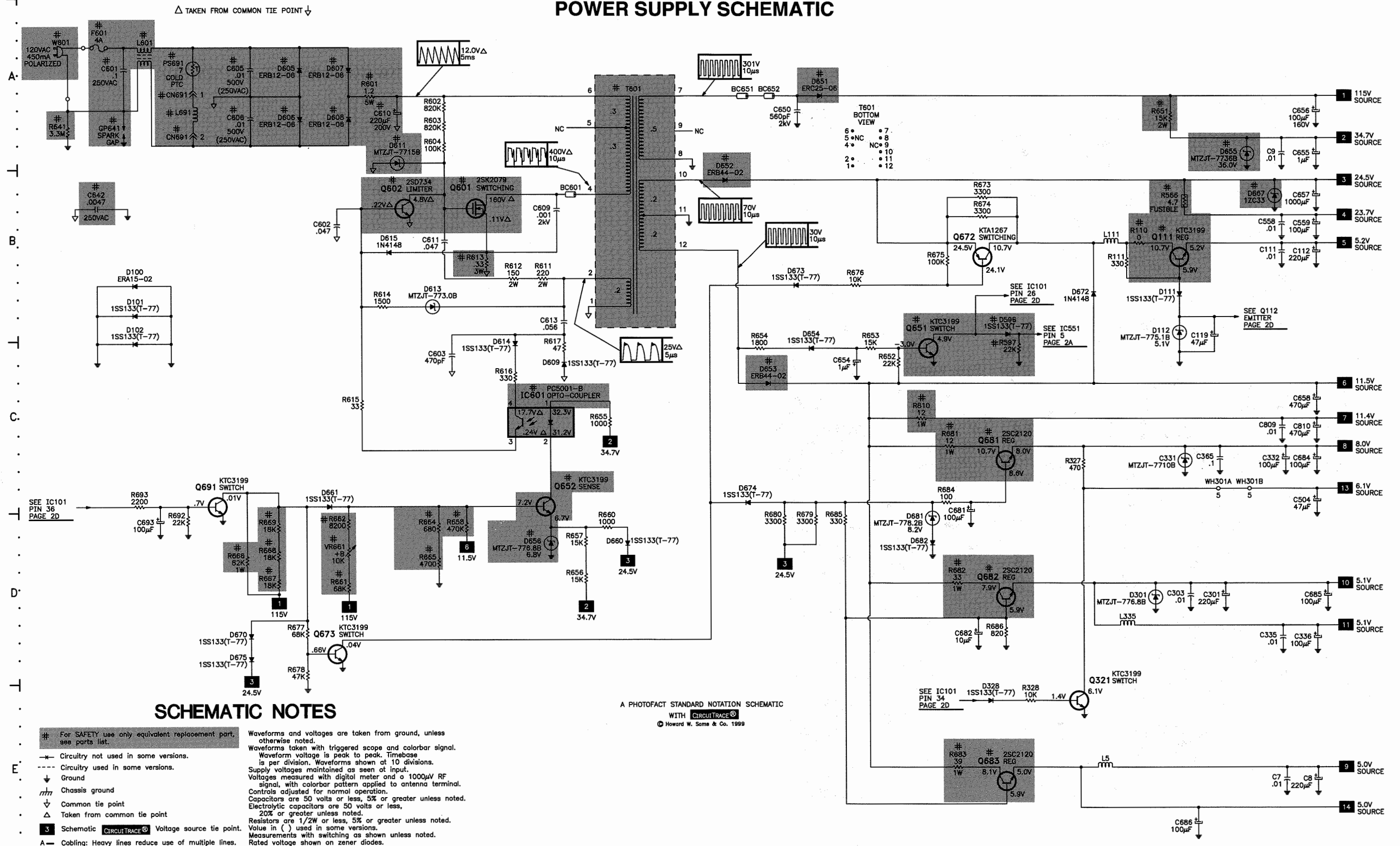
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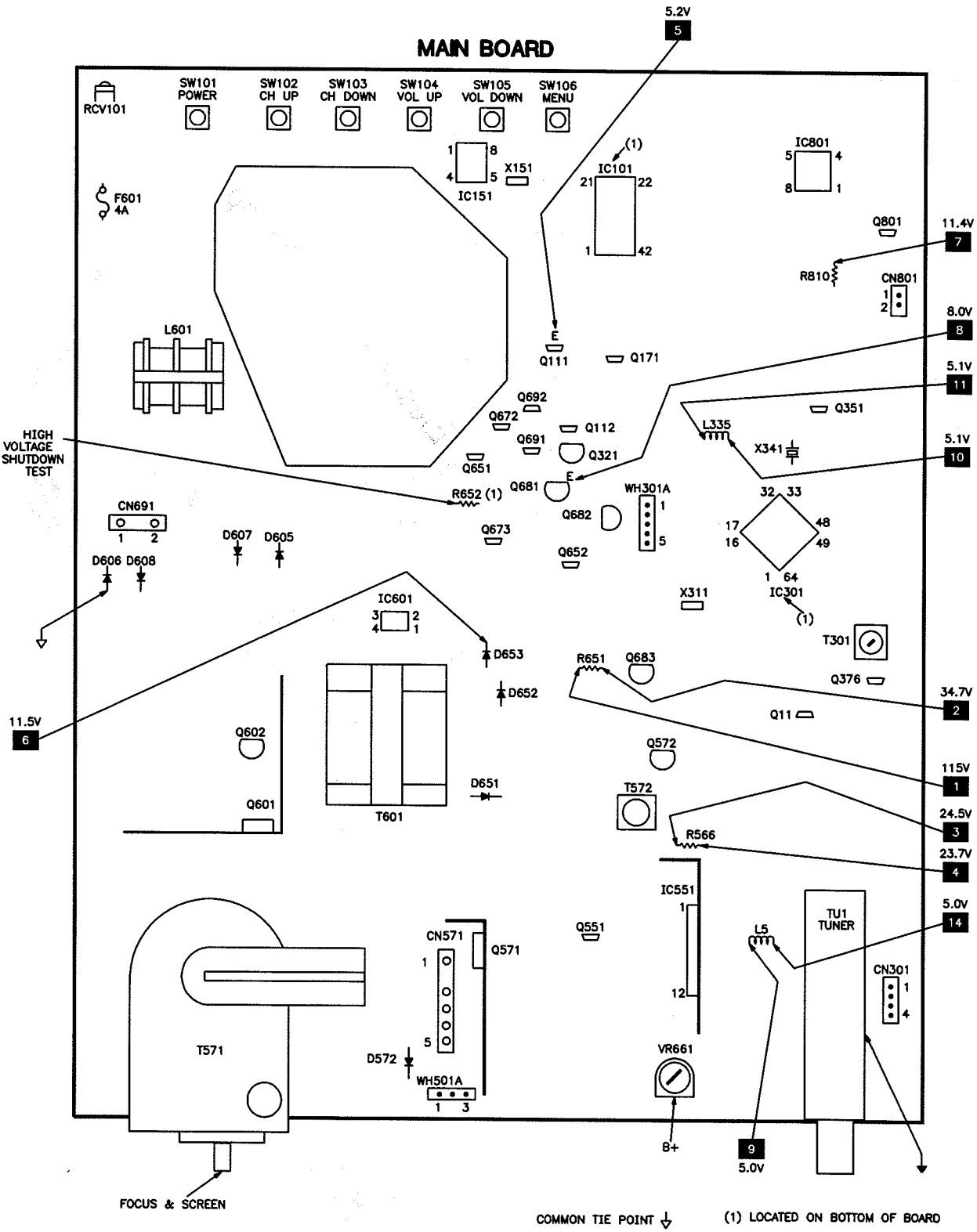
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F

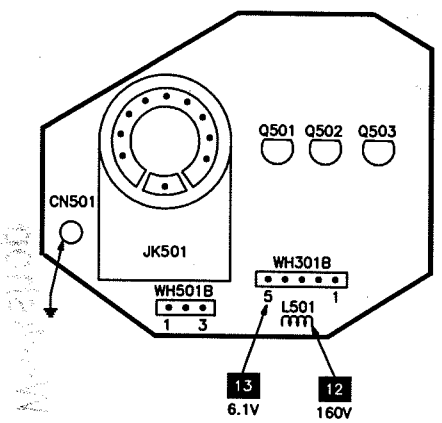
POWER SUPPLY SCHEMATIC



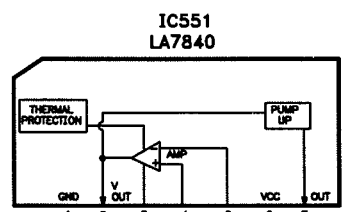
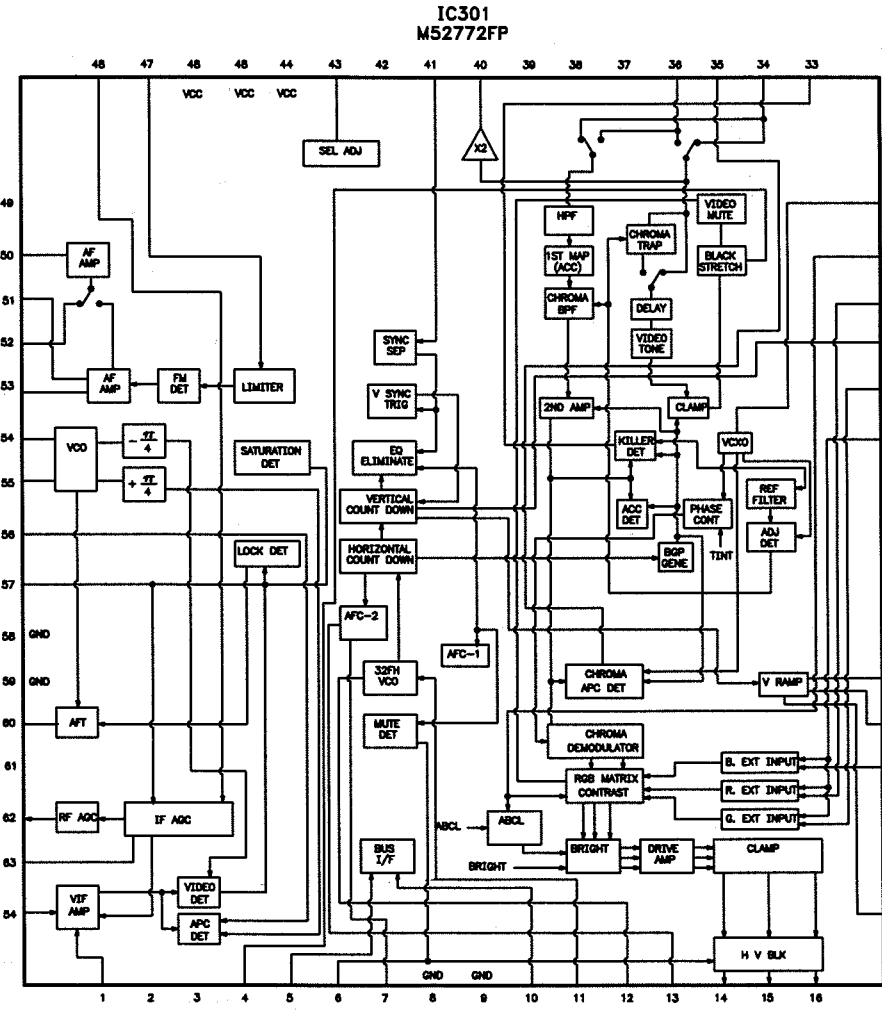
PLACEMENT CHART



CRT BOARD



IC FUNCTIONS



FUNAI MODEL F4819U

SCHEMATIC COMPONENT LOCATION GUIDE

BC571	E-5	C510	D-12	D513	B-10	Q376	B-3	R302	B-7	R533	B-10	R668	D-18
BC601	B-20	C552	D-6	D520	C-11	Q501	A-11	R303	B-2	R534	A-11	R669	D-18
BC651	A-21	C553	D-4	D552	D-5	Q502	C-11	R304	B-2	R552	E-6	R673	B-22
BC652	A-21	C555	D-5	D571	D-6	Q503	B-11	R305	D-2	R553	E-6	R674	B-22
C4	C-1	C556	D-5	D572	D-9	Q551	D-4	R306	E-1	R555	D-3	R675	B-22
C7	E-24	C558	B-24	D584	C-8	Q572	E-4	R309	D-3	R556	D-4	R676	B-21
C8	E-24	C559	B-24	D591	E-10	Q601	B-19	R311	D-1	R557	D-4	R677	D-18
C9	B-24	C571	D-7	D592	E-1	Q602	B-19	R314	E-1	R558	D-4	R678	D-18
C11	C-7	C574	E-10	D596	C-22	Q651	C-22	R321	A-9	R559	D-5	R679	D-21
C12	C-1	C577	E-4	D605	A-18	Q652	D-19	R322	C-9	R560	D-4	R680	D-21
C15	C-7	C578	E-4	D606	A-18	Q672	B-22	R323	B-9	R561	D-4	R681	C-22
C32	B-1	C580	E-6	D607	A-18	Q673	D-18	R324	A-9	R562	E-4	R682	D-22
C101	B-13	C581	E-6	D608	A-18	Q681	C-22	R325	C-9	R563	E-4	R683	E-22
C111	B-24	C584	C-8	D609	C-20	Q682	D-22	R326	B-9	R566	B-23	R684	D-22
C112	B-24	C591	E-10	D611	B-19	Q683	E-22	R327	C-23	R568	D-6	R685	D-21
C113	D-13	C601	A-17	D613	B-19	Q691	D-18	R328	E-22	R572	D-6	R686	D-22
C114	D-14	C602	B-18	D614	C-19	Q692	C-8	R331	D-4	R573	D-6	R692	D-17
C115	B-15	C603	C-19	D615	B-19	Q801	B-5	R333	D-3	R574	E-6	R693	D-17
C117	B-15	C605	A-18	D651	A-21	Q571	E-5	R341	D-2	R575	E-6	R695	C-8
C119	C-23	C606	A-18	D652	B-20	R1	B-1	R343	B-8	R576	E-3	R802	E-13
C151	B-14	C609	B-20	D653	C-21	R3	C-1	R345	B-8	R577	E-4	R803	E-13
C152	C-14	C610	A-19	D654	C-21	R4	C-1	R346	B-8	R579	E-4	R804	A-5
C153	B-14	C611	B-19	D655	B-23	R11	C-7	R349	B-8	R580	E-4	R808	B-5
C155	C-13	C613	B-20	D656	D-19	R12	C-7	R352	C-6	R581	E-5	R809	A-7
C158	E-14	C642	B-17	D660	D-20	R13	C-7	R354	C-6	R582	E-5	R810	C-22
C171	C-13	C650	A-21	D661	D-18	R14	C-7	R355	C-5	R583	E-7	R811	A-6
C301	D-23	C654	C-21	D667	B-24	R15	C-6	R356	D-1	R584	C-8	RCV101	B-13
C302	B-7	C655	B-24	D670	D-18	R101	A-14	R358	C-5	R585	E-7	SF1	B-1
C303	D-23	C656	A-24	D672	B-23	R102	A-13	R359	B-6	R586	C-8	SP801	A-8
C304	C-3	C657	B-24	D673	B-21	R103	A-13	R360	C-2	R587	C-8	SW101	A-14
C309	D-1	C658	C-24	D674	D-21	R104	A-13	R361	C-5	R588	C-8	SW102	A-14
C310	D-1	C681	D-22	D675	D-18	R105	A-13	R368	B-14	R591	E-10	SW103	A-13
C311	D-1	C682	D-22	D681	D-22	R107	B-13	R372	B-4	R592	E-9	SW104	A-13
C331	C-23	C684	C-24	D682	D-22	R109	A-14	R373	A-5	R593	E-9	SW105	A-13
C332	C-24	C685	D-24	D691	C-8	R110	B-23	R374	D-2	R594	E-9	SW106	A-13
C333	B-8	C686	E-23	D801	E-13	R111	B-23	R376	B-4	R595	D-5	T301	B-3
C334	D-3	C693	D-17	F601	A-17	R112	D-13	R377	B-3	R597	C-22	T571	D-8
C335	D-24	C694	C-8	IC101	A-14	R113	D-13	R378	B-4	R598	E-15	T572	E-4
C336	D-24	C802	A-7	IC151	C-15	R114	D-14	R382	B-3	R599	E-15	T601	A-20
C341	B-8	C803	A-7	IC301	A-4	R115	D-14	R384	B-3	R601	A-18	V501	B-12
C342	B-8	C804	A-5	IC301	B-2	R117	B-16	R387	B-1	R602	A-19	VR661	D-18
C343	B-8	C805	A-5	IC301	B-5	R118	B-16	R388	B-1	R603	A-19	W601	A-17
C345	C-7	C807	B-5	IC301	D-2	R119	B-13	R391	B-15	R604	A-19	X151	D-14
C346	D-2	C808	A-6	IC551	D-5	R121	D-15	R392	B-15	R611	B-19	X311	D-2
C351	B-5	C809	C-24	IC601	C-19	R122	D-15	R393	B-15	R612	B-19	X341	B-7
C353	C-6	C810	C-24	IC801	A-6	R123	D-15	R394	B-6	R613	B-19		
C354	C-6	CF301	B-4	J124	E-13	R124	E-15	R395	B-4	R614	B-19		
C355	B-4	CF302	A-3	L5	E-23	R125	D-15	R501	B-11	R615	C-18		
C356	C-1	D100	B-17	L11	C-1	R126	D-15	R502	C-11	R616	C-19		
C358	D-1	D101	B-17	L111	B-23	R127	D-15	R503	B-11	R617	C-20		
C359	C-5	D102	C-17	L301	C-3	R128	E-15	R505	C-11	R641	A-17		
C360	C-2	D111	B-23	L335	D-23	R129	D-14	R506	A-11	R651	A-23		
C361	D-2	D112	C-23	L371	B-4	R141	B-15	R507	C-11	R652	C-21		
C365	C-23	D113	E-13	L376	B-3	R142	C-15	R508	B-11	R653	C-21		
C374	A-4	D161	E-13	L501	D-10	R150	C-15	R511	B-10	R654	C-21		
C375	A-4	D301	D-23	L551	D-6	R151	B-15	R512	C-10	R655	C-20		
C376	B-3	D321	B-9	L572	D-9	R152	B-15	R513	B-10	R656	D-20		
C377	A-3	D322	C-9	L601	A-17	R153	B-15	R514	B-11	R657	D-20		
C382	B-2	D323	B-9	L691	A-17	R154	B-15	R516	B-10	R658	D-19		
C386	C-2	D328	E-22	PS691	A-17	R155	D-15	R517	B-11	R660	D-20		
C387	B-1	D381	B-2	Q11	C-7	R156	B-14	R518	C-10	R661	D-18		
C389	C-2	D501	B-10	Q111	B-23	R158	E-14	R519	C-11	R662	D-18		
C501	B-10	D502	C-10	Q112	D-13	R160	C-13	R520	B-10	R664	D-19		
C502	C-10	D503	B-10	Q171	C-14	R163	C-13	R521	B-11	R665	D-19		
C503	B-10	D511	B-10	Q321	E-22	R171	C-14	R531	A-10	R666	D-18		
C504	C-24	D512	C-10	Q351	C-5	R172	C-13	R532	C-10	R667	D-18		

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)
- 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

PARTS LIST

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.	NTE Part No.
C331	MTZJT-7710B	QDTB00MTZJ10	-	-
D100	ERA15-02	AERA1502****	ECG552	NTE552
D101, 02, 11	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
D112	MTZJT-775.1B	QDTB0MTZJ5R1	ECG5010T1	-
D113	MTZJT-773.9B	QDTB0MTZJ3R9	-	-
# D161	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
D301	MTZJT-776.8B	QDTB0MTZJ6R8	-	-
D321, 22, 23	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
D328, 81	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
D501, 02, 03	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
D511, 12, 13 D520	MTZJT-778.2B	QDTB0MTZJ8R2	-	-
	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
D552	ERA15-02	AERA1502****	ECG552	NTE552
# D571	ERB44-02	QDPZ0ERB4402	ECG552	NTE552
# D572	ERA22-02	QDPZ0ERA2202	ECG116	NTE116
D584	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
# D591	MTZJT-7736B	QDTB00MTZJ36	-	-
D592	MTZJT-776.8B	QDTB0MTZJ6R8	-	-
# D596	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
# D605 Thru				
# D608	ERB12-06	QDQZ0ERB1206	ECG125	NTE125
	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
# D611	MTZJT-7715B	QDTB00MTZJ15	-	-
	MTZJT-773.0B	QDTB0MTZJ3R0	-	-
	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
D614	1SS176TPA7	1SS176T	-	-
	1N4148	QDTZ001N4148	ECG519	NTE519
	1N4148	QDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
D615	1N4148	QDTZ001N4148	ECG519	NTE519
# D651	ERC25-06	QDQZ0ERC2506	ECG580	NTE580
# D652, 53	ERB44-02	QDPZ0ERB4402	ECG552	NTE552
	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
# D655	MTZJT-7736B	QDTB00MTZJ36	-	-

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.	NTE Part No.
# D656	MTZJT-776.8B	QDTB0MTZJ6R8	-	-
	D660, 61	1SS133(T-77)	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
# D667	1ZC33	QDQZ0001ZC33	-	-
	D670	1SS133(T-77)	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
D672 Thru D675	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
D681 D682, 91	MTZJT-778.2B	QDTB0MTZJ8R2	-	-
	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
# D801	1SS133(T-77)	QDTZ001SS133	ECG519	NTE519
	1N4148	NDTZ001N4148	ECG519	NTE519
	1SS176TPA7	1SS176T	-	-
	1SS176TPA7	1SS176T	-	-
# IC101	M37272M8-093FP	QSMQB0SMB227	-	-
	IC151	24LC01B/P	NSMMA0SMH002	-
	AT24C01A-10PC	NSMMA0AZ003	-	-
	ST24C01FB6	NSMMA0ZSS004	-	-
# IC301	ST24C01CB1	NSMMA0ZSS002	-	-
	M52772FP	QSBLA0RMB024	-	-
	LA7840	QSBLA0SSY074	-	-
	PF5001-B	QPE300PF5001	-	-
# IC551	PF5001-C	QPE300PF5001	-	-
	TDA7231A	NSBLA0SSS001	-	-
	Q11	KTC3199(GR)	NQS10KTC3199	ECG85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
# IC601	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
# IC801	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
# Q111	KTA1267(GR)	NQS10KTA1267	ECG2362	NTE2362
	KTA1266(GR)	NQS40KTA1266	ECG290A	NTE290A
	2SA1318(T)-AANP	2SA1318TZ	ECG159	NTE159
	2SA1318(U)-AANP	2SA1318TU	ECG159	NTE159
Q112	2SA1015-GR(TPE2)	QQS102SA1015	ECG290A	NTE290A
	KRC103M	NQSZ0KRC103M	ECG2357	NTE2357
	2SC3400	2SC3400Z	ECG2357	NTE2357
	2SC3400	2SC3400Z	ECG2357	NTE2357
Q171	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
Q321	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85

For SAFETY use only equivalent replacement part.

FUNAI

MODEL F4819U

PARTS LIST continued

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.	NTE Part No.
Q351	KTA1267(GR)	NQS10KTA1267	ECG2362	NTE2362
	KTA1266(GR)	NQS40KTA1266	ECG290A	NTE290A
	2SA1318(T)-AANP	2SA1318TZ	ECG159	NTE159
	2SA1318(U)-AANP	2SA1318UZ	ECG159	NTE159
	2SA1015-GR(TPE2)	QQS102SA1015	ECG290A	NTE290A
Q376	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
Q501, 02, 03	2SC2482	QQSZ02SC2482	ECG399	NTE399
	2SC3468(E)-AE	QQSE02SC3468	ECG399	NTE399
	2SC3468(D)-AE	QQDE02SC3468	ECG399	NTE399
	2SC2271(D)-AEMP	2SC2271DZ	ECG399	NTE399
	2SC2271(E)-AEMP	QQSE02SC2271	ECG399	NTE399
Q551	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
# Q571	TT2024-YB	QQQZ00TT2024	-	-
# Q572	2SC1627Y-TPE2	QQSY02SC1627	ECG289A	NTE289A
# Q601	2SK2079-01MR	QFFZ02SK2079	-	-
# Q602	2SD734F-NP-AQ	QQSF002SD734	ECG85	NTE85
# Q651	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
# Q652	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
Q672	KTA1267(GR)	NQS10KTA1267	ECG2362	NTE2362
	KTA1266(GR)	NQS40KTA1266	ECG290A	NTE290A
	2SA1318(T)-AANP	2SA1318TZ	ECG159	NTE159
	2SA1318(U)-AANP	2SA1318UZ	ECG159	NTE159
	2SA1015-GR(TPE2)	QQS102SA1015	ECG290A	NTE290A
Q673	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85
# Q681, 82, 83	2SC2120-O(TPE2)	QQS002SC2120	ECG289A	NTE289A
	2SC2120(Y)	QQSY02SC2120	ECG289A	NTE289A
	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
Q691	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85

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.	NTE Part No.
Q692	KTA1267(GR)	NQS10KTA1267	ECG2362	NTE2362
	KTA1266(GR)	NQS40KTA1266	ECG290A	NTE290A
	2SA1318(T)-AANP	2SA1318TZ	ECG159	NTE159
	2SA1318(U)-AANP	2SA1318UZ	ECG159	NTE159
	2SA1015-GR(TPE2)	QQS102SA1015	ECG290A	NTE290A
Q801	KTC3199(GR)	NQS10KTC3199	ECG85	NTE85
	KTC3198GR	NQS40KTC3198	ECG85	NTE85
	2SC3331(T)-AANP	2SC3331TZ	ECG293	NTE293
	2SC3331(U)-AANP	2SC3331UZ	ECG293	NTE293
	2SC1815-GR(TPE2)	QQS102SC1815	ECG85	NTE85

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
# C158	.1 +80% -20% 50V	CCA1JZT0F104
	100pF 5% 50V NPO	CCD1JJSCH101
	.001 10% 2kV	CCD3DKD0B102
	.001 10% 2kV	CCD3DKP0B102
	.001 10% 2kV	CA3D102MR030
# C571	.39 5% 200V	CT2D394F7001
	.39 5% 200V	CA2D394KF002
# C574	4.7µF 20% 250V	CE2EMASDL4R7
# C580	.0082 5% 1.6kV	CT3C822F7002
	.0082 5% 1.6kV	1220499
C581	.001 10% 2kV	CCD3DKA0B102
	.001 10% 2kV	CA3D102KG004
# C591	10µF 20% 50V	CE1JMASDL100
# C601	.1 20% 250VAC	CT2E104DC009
# C605, 06	.01 +80% -20% 500V	CCD2JZD0F103
	.01 250VAC	CCD2EZA0F103
C609	.001 10% 2kV	CCD3DKD0B102
	.001 10% 2kV	CCD3DKP0B102
	.001 10% 2kV	CA3D102MR030
# C610	220µF 20% 200V	CA2D221EA036
# C642	.0047 20% 250VAC	CCG2HMN0F472
	.0047 250VAC	CCG2EMP0E472
C650	560pF 10% 2kV	CA3D561KG004
	560pF 10% 2kV	CCD3DKA0B561

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
BC571	Ferrite Bead	LLBF00STU026
BC601	Ferrite Bead	LLBF00ZTU021
BC651, 52	Ferrite Bead	LLBF00ZTU021
	100µH	LLARJCSTU101
L5	100µH	LLARKDSKA101
	18µH	LLAXJATTU180
L11	18µH	LLAXKDTKA180
L111	22µH	LLARKBSTU220
	22µH	LLARKDQKA220
L301	3.3µH	LLAXJATTU3R3
	3.3µH	LLAXKDTKA3R3
L335	100µH	LLARJCSTU101
	100µH	LLARKDSKA101
L371	8.2µH	LLAXJATTU8R2
	8.2µH	LLAXKDTKA8R2
L376	15µH	LLAXJATTU150
	15µH	LLAXKDTKA150
L501	180µH	LLARJCSTU181
	180µH	LLARKDSKA181
# L551	Yoke Horiz 2.15mH	LLBY00ZQS004
	Vert 26.5mH	
# L572	33µH	LLAXJATTU330
	33µH	LLAXKDTKA330
# L601	Line Filter	LLBG00ZKT004
	Line Filter	LLBG00ZLH001
# L691	Degaussing	LLBH00ZWR003
	Degaussing	LLBH00ZTZ003
T301	VCO	LFA08V0KV002
	VCO	LFA08V0LH002
# T571 (1)	Horizontal Output	LTF00CPXB010
	Horizontal Output	LTF00CPX5003
# T572	Horizontal Drive	LTH00CPA5003
# T601	Switching	LTT00CPSA047
	Switching	LTT00CPKT028

For SAFETY use only equivalent replacement part.

(1) Screen and Focus controls are part of T571.

PARTS LIST continued

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
# PS691	7 Cold PTC	QNZQ58BL7R0F	-
# R110	0 1/8W	RRX8JB6Z0000	-
	0 1/10W	RRXAZB6Z0000	-
# R158	22K 5% 1/8W	RRX8JB6Z0223	EW322
	22K 5% 1/10W	RRXAJB6Z0223	-
# R501, 02, 03	15K 5% 1W	RN01153KE007	1W315
	15K 5% 1W	RN01153ZU001	1W315
	15K 5% 1W	RN01153UB001	1W315
# R552, 53	1500 5% 1/4W	RCX4JATZ0152	QW215
	1500 5% 1/6W	RCX6JATZ0152	-
# R566	4.7 5% 1/4W Fusible	RFX44R7KA007	-
	4.7 5% 1/4W Fusible	RFX44R7UB002	-
# R574, 75	1500 5% 2W	RN02152KE007	2W215
	1500 5% 2W	RN02152ZU001	2W215
	1500 5% 2W	RN02152UB001	2W215
# R579, 80	47 5% 1/4W	RCX4JATZ0470	QW047
	47 5% 1/6W	RCX6JATZ0470	-
# R581, 82	1 5% 1/4W	RCX4JATZ01R0	QW1D0
# R583	4.7 5% 2W	RN024R7KE010	2W4D7
	4.7 5% 2W	RN024R7ZU001	2W4D7
	4.7 5% 2W	RN024R7UB001	2W4D7
# R584	1000 5% 1/4W	RCX4JATZ0102	QW210
	1000 5% 1/6W	RCX6JATZ0102	-
# R587	100K 5% 1/4W	RCX4JATZ0104	QW110
	100K 5% 1/6W	RCX6JATZ0104	-
# R591	100K 5% 1/8W	RRX8JB6Z0104	EW410
	100K 5% 1/10W	RRXAJB6Z0104	-
# R592	180K 5% 1/4W	RCX4JATZ0184	QW418
	180K 5% 1/6W	RCX6JATZ0184	-
# R593	100K 5% 1/8W	RRX8JB6Z0104	EW410
	100K 5% 1/10W	RRXAJB6Z0104	-
# R594	68K 5% 1/8W	RRX8JB6Z0683	-
	68K 5% 1/10W	RRXAJB6Z0683	-
# R595	47K 5% 1/8W	RRX8JB6Z0473	-
	47K 5% 1/10W	RRXAJB6Z0473	-
# R597	22K 5% 1/8W	RRX8JB6Z0223	EW022
	22K 5% 1/10W	RRXAJB6Z0223	-
# R598	47K 5% 1/8W	RRX8JB6Z0473	EW047
	47K 5% 1/10W	RRXAJB6Z0473	-
# R599	22K 5% 1/4W	RCX4JATZ0223	QW322
	22K 5% 1/6W	RCX6JATZ0223	-
# R601	1.2 10% 5W Wirewound	RW051R2PG001	5W1D2
	1.2 5% 5W Wirewound	RW051R2Y4001	5W1D2
# R613	.33 5% 3W	RN03JZQZ0R33	-
	.33 5% 3W	RN03JZPZ0R33	-
# R641	3.3M 5% 1/2W	RCX2335A4001	HW533
	3.3M 5% 1/2W	RMX2335KA011	HW533
# R651	15K 5% 2W	RN02153KE007	2W315
	15K 5% 2W	RN02153ZU001	2W315
	15K 5% 2W	RN02153UB001	2W315

For SAFETY use only equivalent replacement part.

CONTROLS & RESISTORS continued

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
# R658	470K 5% 1/8W	RRX8JB6Z0474	EW147
	470K 5% 1/10W	RRXAJB6Z0474	-
# R661	68K 5% 1/4W	RCX4JATZ0683	QW368
	68K 5% 1/6W	RCX6JATZ0683	-
# R662	8200 5% 1/4W	RCX4JATZ0822	QW282
	8200 5% 1/6W	RCX6JATZ0822	-
# R664	680 5% 1/4W	RCX4JATZ0681	QW168
	680 5% 1/6W	RCX6JATZ0681	-
# R665	4700 5% 1/4W	RCX4JATZ0472	QW047
	4700 5% 1/6W	RCX6JATZ0472	-
# R666	82K 5% 1W	RN01823KE009	1W282
# R667, 68, 69	18K 5% 1/4W	RCX4JATZ0183	QW318
	18K 5% 1/6W	RCX6JATZ0183	-
# R681	12 5% 1/4W	RCX4JATZ0120	QW012
	12 5% 1/6W	RCX6JATZ0120	-
# R682	33 5% 1W	RN01330KE007	1W033
	33 5% 1W	RN01330ZU001	1W033
	33 5% 1W	RN01330UB001	1W033
# R683	39 5% 1W	RN01390KE007	1W039
	39 5% 1W	RN01390ZU001	1W039
	39 5% 1W	RN01390UB001	1W039
# R802	2200 5% 1/4W	RCX4JATZ0222	QW222
	2200 5% 1/6W	RCX6JATZ0222	-
# R803	2200 5% 1/8W	RRX8JB6Z0222	EW222
	2200 5% 1/10W	RRXAJB6Z0222	-
# R810	12 5% 1W	RN01JZQZ0120	1W012
	12 5% 1W	RN01JZPZ0120	1W012
# VR661	10K +B	VRCB103KA011	-
	10K +B	VRCB103HH009	-

For SAFETY use only equivalent replacement part.

CABINET PARTS

Item	Mfr. Part No.
Cabinet Front	0EM100957
Cabinet Front Assembly	0EM200992
Cabinet Rear	0EM000344
Cabinet Rear Assembly	0EM200994

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
CF301	Trap	1810897	4.5MHz
CF302	Filter	FBB455PMR001	4.5MHz
# F601	Fuse	PAGJ20CAG402	4 Amp, 125V, Fast Acting
# GP641	Spark Gap	FAZ000LD6002	-
	Spark Gap	FAZ000LW1001	-
# JK501	Socket	JSCC220PK003	CRT
RCV101	Receiver	USESJRSKK023	Remote (PIC-26042SR)
SF1	Filter	FBB456PSY008	SAW
SP801	Speaker	DSD0808XQ010	3" Round, 8 Ohms
	Speaker	1520614	3" Round, 8 Ohms
SW101	Switch	SST0101AL038	Power
	Switch	SST0101HH003	Power
SW102	Switch	SST0101AL038	Channel Up
	Switch	SST0101HH003	Channel Up
SW103	Switch	SST0101AL038	Channel Down
	Switch	SST0101HH003	Channel Down
SW104	Switch	SST0101AL038	Volume Up
	Switch	SST0101HH003	Volume Up
SW105	Switch	SST0101AL038	Volume Down
	Switch	SST0101HH003	Volume Down
SW106	Switch	SST0101AL038	Menu
	Switch	SST0101HH003	Menu
TU1 (1)	Tuner	UTUNNTUAL018	UHF/VHF
	Tuner	UTUNNTUSP012	UHF/VHF
# V501	CRT	TCRT190QS009	A48JLL90X
	CRT	TCRT190QS018	A48JLL90X52
# W601	Line Cord	WAC0172AS004	AC, Polarized
	Line Cord	WAC0172LW005	AC, Polarized
X151	Resonator	FY0805PLN001	8MHz
	Resonator	FY0805PTE001	8MHz
X311	Resonator	FY0504PMR001	503kHz
X341	Crystal	FXD355LLN001	3.58MHz
	Fuse Holder	XH01Z00LY001	For F601 (2 Used)
	Fuse Holder	XH01Z00DK001	For F601 (2 Used)
	Fuse Holder	1790424	For F601 (2 Used)
	Magnet	XM04000BV003	Purity/Convergence
	Magnet	XM05000BV001	Rubber
	PC Board	0ESA02852	Main and CRT
	Transmitter	N0255UD	Remote
	Wedge	XV10000T4001	Yoke Positioning (3 Used)
	Wedge	XV10000D9001	Yoke Positioning (3 Used)

For SAFETY use only equivalent replacement part.

(1) Contact TNI Electronics for replacement; order by manufacturer's part number.