

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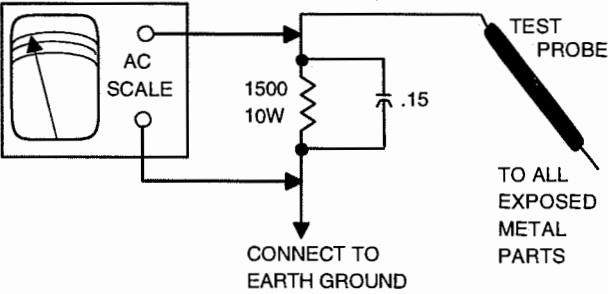
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SAFETY CHECKS -- FIRE AND SHOCK HAZARD
Cold Leakage Checks for Receivers with Isolated Ground

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.



HORIZONTAL OSCILLATOR DISABLE TEST

Connect a variable power supply through a blocking diode to cathode of D530. Increase power supply voltage, the receiver should lose horizontal sync when voltage reaches about 28.5V. If the receiver fails to lose horizontal sync, the horizontal oscillator disable circuit needs repaired.



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PHOTOFACT® Technical Service Data

SET 3710

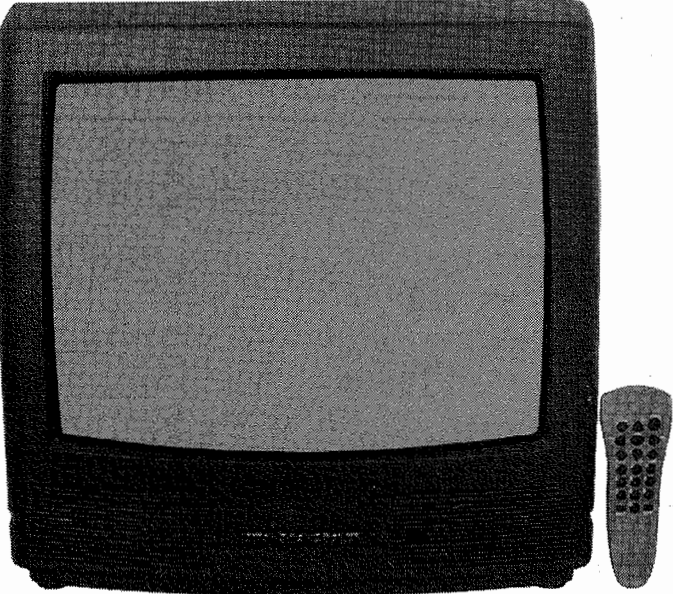
MODEL CT1924C221 (CHASSIS 19X603)

CROSLEY

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CROSLEY
Model CT1924C221 (Chassis 19X603)



Representative Model

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list



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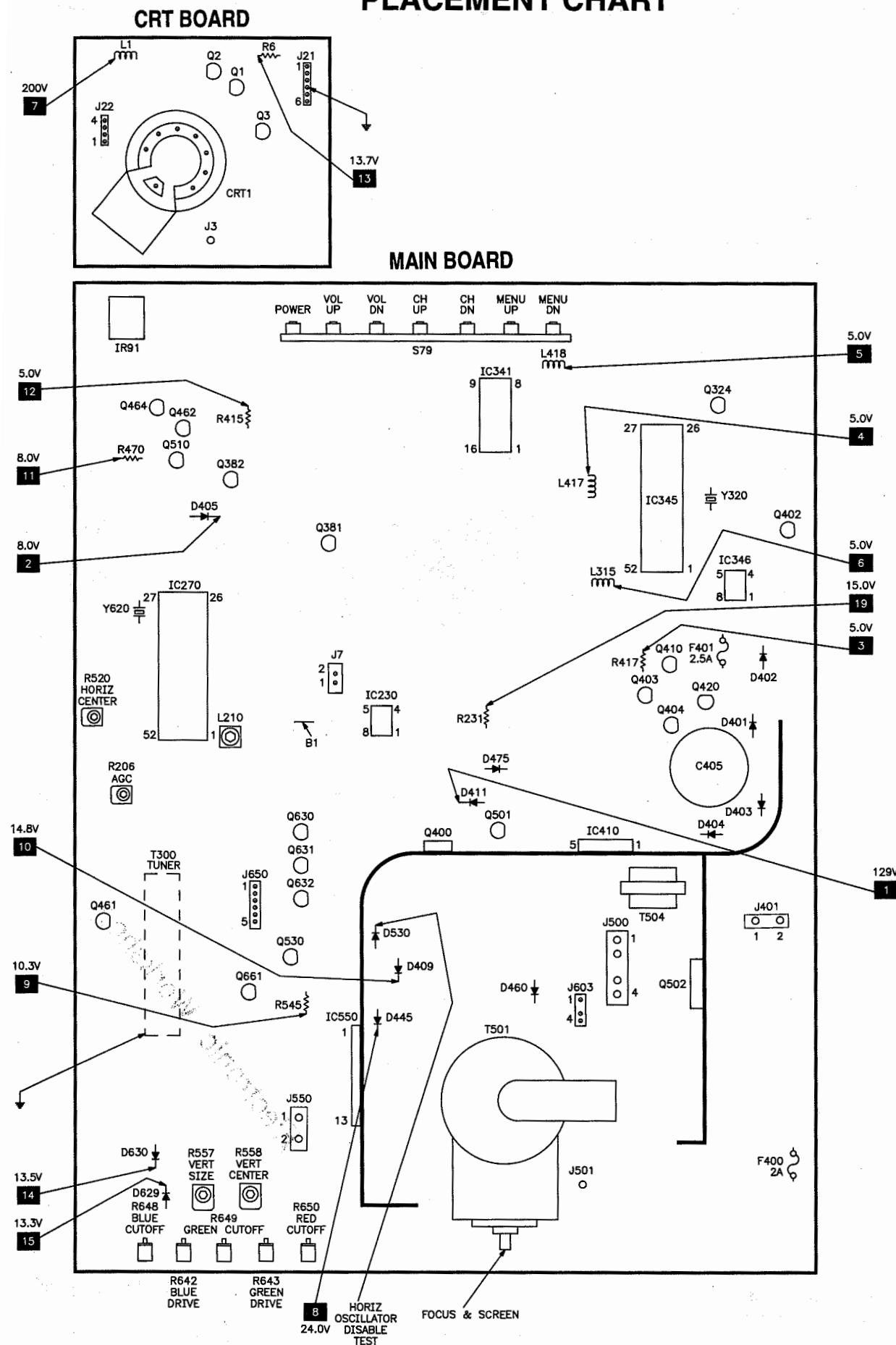
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For Supplier Address,
See PHOTOFACT Annual Index

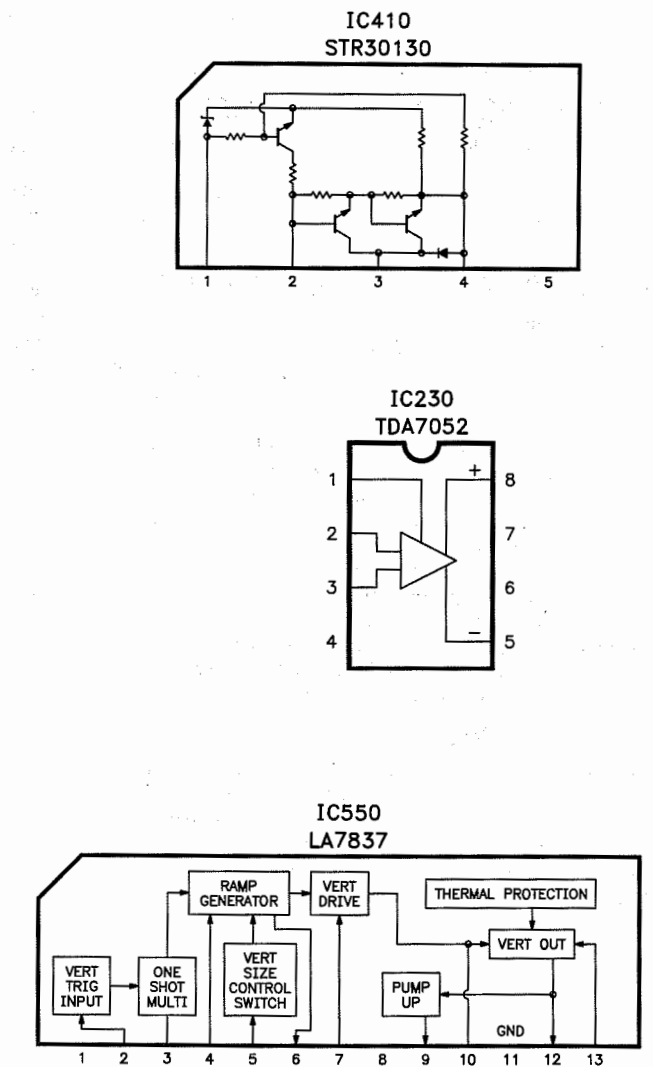
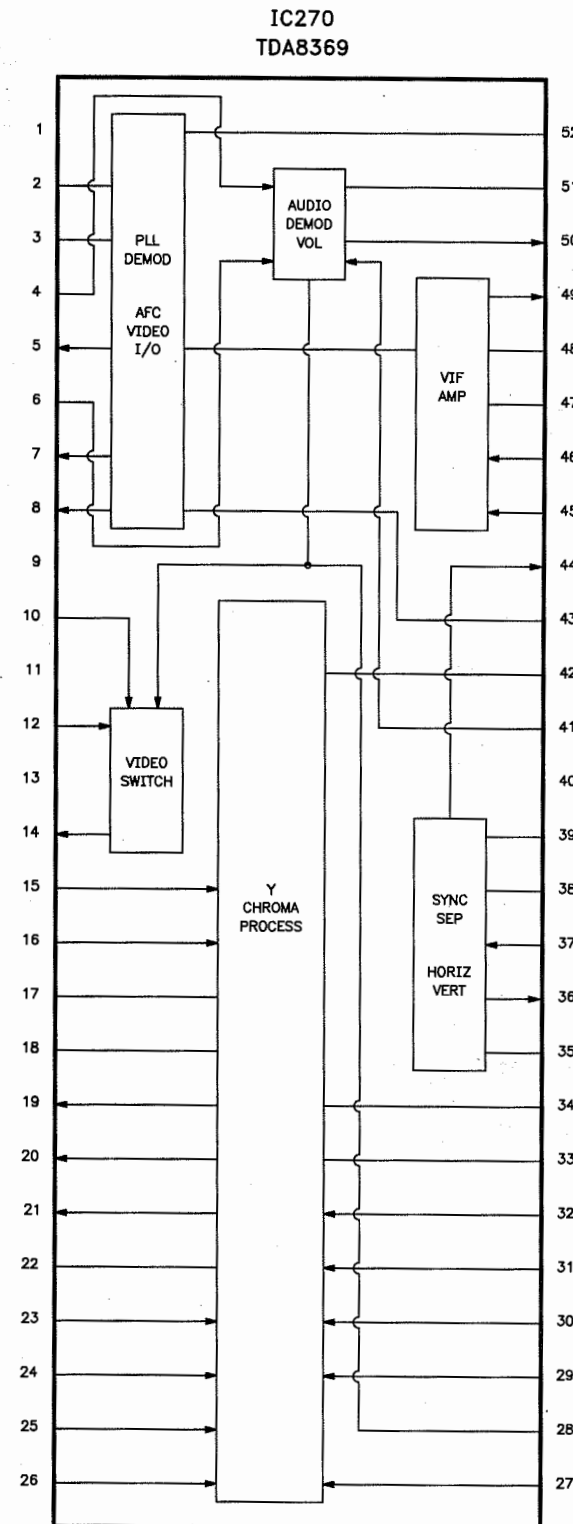
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PLACEMENT CHART



IC FUNCTIONS



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MODEL CT1924C221 (CHASSIS 19X603)

MISCELLANEOUS ADJUSTMENTS

RF AGC

Tune in a medium strength station. Rotate R206 clockwise until snow appears, then back to a point where snow just disappears.

HORIZONTAL CENTERING

Tune in an active station. Adjust R520 for best horizontal centering.

VERTICAL SIZE / CENTERING

Tune in an active station. Adjust R557 for a slight underscan at the top and bottom of the screen. Adjust R558 to center the picture. Adjust R557 for a slight overscan.

COLOR PURITY

Operate the receiver for 15 minutes. Use a degaussing coil to demagnetize the CRT and mounting hardware. Position the convergence/purity assembly with the 2Y pole rings over the gun element gap nearest the CRT bell gap (between G2 and G3). Turn R649 to maximum and R643 to minimum. Loosen the yoke and remove the yoke wedges. Slide the yoke against the bell of the CRT and tighten the clamp enough to hold the yoke in position. Tune in a single-cross pattern and adjust the 2Y pole rings for parallel red and blue lines, as centered and overlapped as possible, on the top and bottom of the screen. Tune in a white screen. Turn R650, R648, and R643 controls to maximum, and R649 and R642 controls to minimum. Spread the 2X pole rings for a centered green area. Move the yoke back for best green purity and tighten the yoke clamp just enough to hold the yoke in position. Perform convergence adjustment.

COLOR TEMPERATURE

Disconnect the antenna. Set the brightness, sharpness, tint, and picture to midrange. Set the color, screen, R642, R643, R648, R649, and R650 controls to minimum. Disconnect the vertical yoke connector. Adjust the screen control to obtain a faintly visible line, note the predominant color. Adjust the two remaining cutoff controls for best white balance of line. Reconnect the vertical yoke connector. Tune in a black and white picture and adjust the drive controls for best white balance at all brightness levels. Set the color to midrange.

CONVERGENCE

Operate the receiver for fifteen minutes. Set R642, R643, R648, R649, and R650 to midrange. Tune in a dot pattern. Adjust the 4 pole magnet tabs to converge the red and blue dots at the center of the screen. Adjust the 6 pole magnet tabs to converge the red/blue dots with the green dots at the center of the screen. Spread 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 rubber wedges between the 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 right or left to converge the horizontal lines at the top and bottom of the screen, and vertical lines at the right and left sides of the screen. Repeat convergence procedure as necessary to obtain best overall convergence. Perform Color Temperature Adjustment.

SERVICE TEST MODE INFORMATION

NOTE: To perform all of the test mode functions, use a prior year 23 or 25 push-button "stick" transmitter or a NAP universal remote transmitter.

To enter service test mode, turn the receiver on, then enter 0, 6, 2, 5, 9, 6, and press the menu button, without allowing time out between key entries. The two line screen display indicates circuit and register information as follows.

Top left; 62000-1 indicates the software version of the microprocessor in use.

Top right; D indicates the failure of a functional part of the system. Error codes will be displayed only if the function is not operating properly or the receiver does not include a particular feature. A = tuner, B = memory, and D = automatic volume level.

Bottom left; channel number.

Bottom middle; name of current register.

Bottom right; register value in hexadecimal.

Corner markers are on both ends of the bottom line.

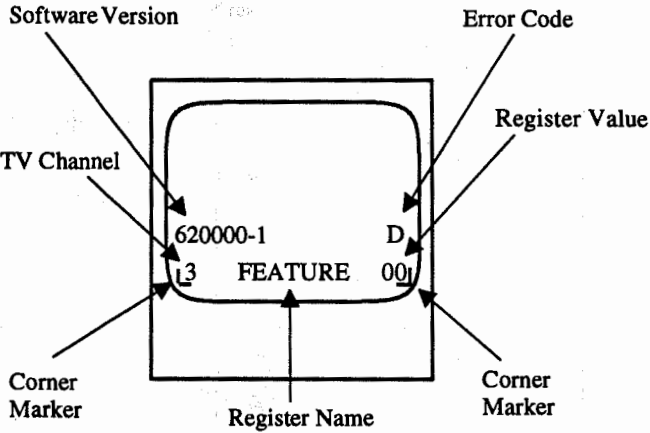
To access a register press menu button on remote transmitter until the desired register appears on screen. Change the value of a selected register by pressing the + or - keys. Press the "Status/Exit" key on the remote transmitter to display the runtime. The runtime is displayed in hexadecimal format on the upper left hand corner of the screen. Store the register value by turning the receiver off with the power switch on the cabinet, not on the remote transmitter. To exit the service test mode press the power button on the receiver.

See table below for register information.

Register	Factory Value
FEATURE	00
BRIGHT	1F
PICTURE	1F
COLOR	1F
TINT	1F
SHARP	1F
OSD	23
VOL INC	08

MEMORY IC346 REPLACEMENT

Before replacing IC346, enter the test service mode and record all the register values.



SERVICE TIPS

VERTICAL DRIVE LINE

If a slight vertical drive line is present on the screen, check that jumper B1 is installed. Jumper B1 is located at J-8 on the main board GridTrace photo.

VIDEO SMEAR

Some early production units may have a slight video smear on bright objects. Add a 1M resistor part number 4835 116 57322 from pin 52 of IC270 to ground. This will only apply to the early production units.

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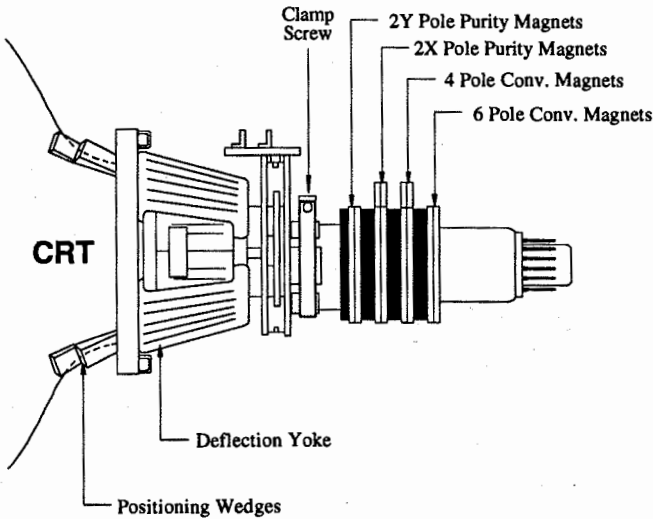
MODEL CT1924C221 (CHASSIS 19X603)

TEST EQUIPMENT

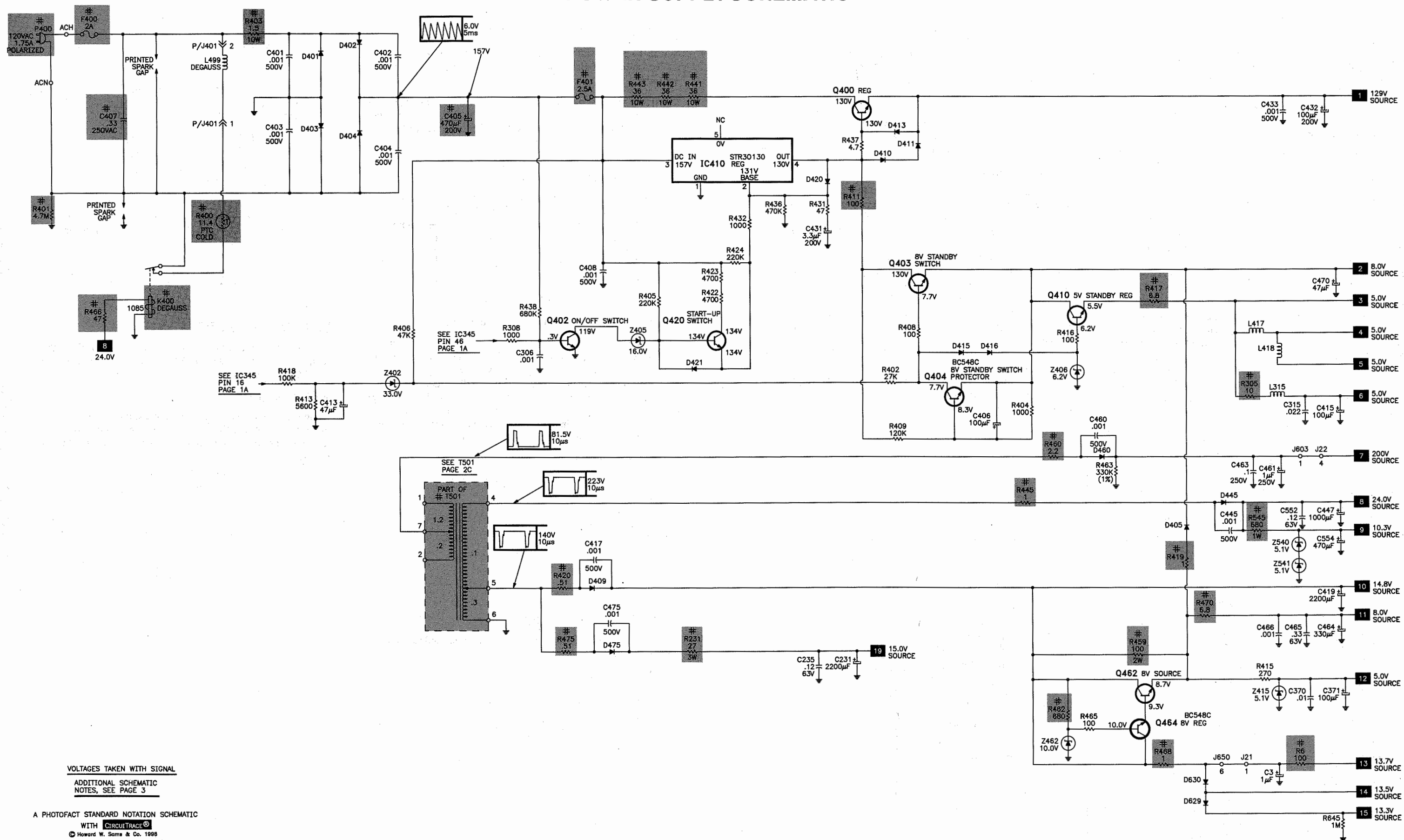
Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

Equipment	Sencore No.
Oscilloscope	SC3100
Generators	
RGB	CM2000
Multiburst Signal	VG91
Color Bar	VG91
TV Stereo	VG91
Digital VOM	SC3100
Frequency Meter	SC3100
Hi-Voltage Probe	HP200
Accessory Probes	TP212
Isolation Transformer	PR57
Capacitance Analyzer	LC101, LC102
CRT Analyzer	CR70
AC Leakage Tester	PR57
Inductance Analyzer	LC101, LC102
Flyback Yoke Tester	TVA92
TV Stereo Power Monitor	SR68, PA81
Field Strength Meter	SL750
Transistor Tester	TF46
Video Analyzer	VG91, TVA92

CRT NECK ASSEMBLY



POWER SUPPLY SCHEMATIC



VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 3

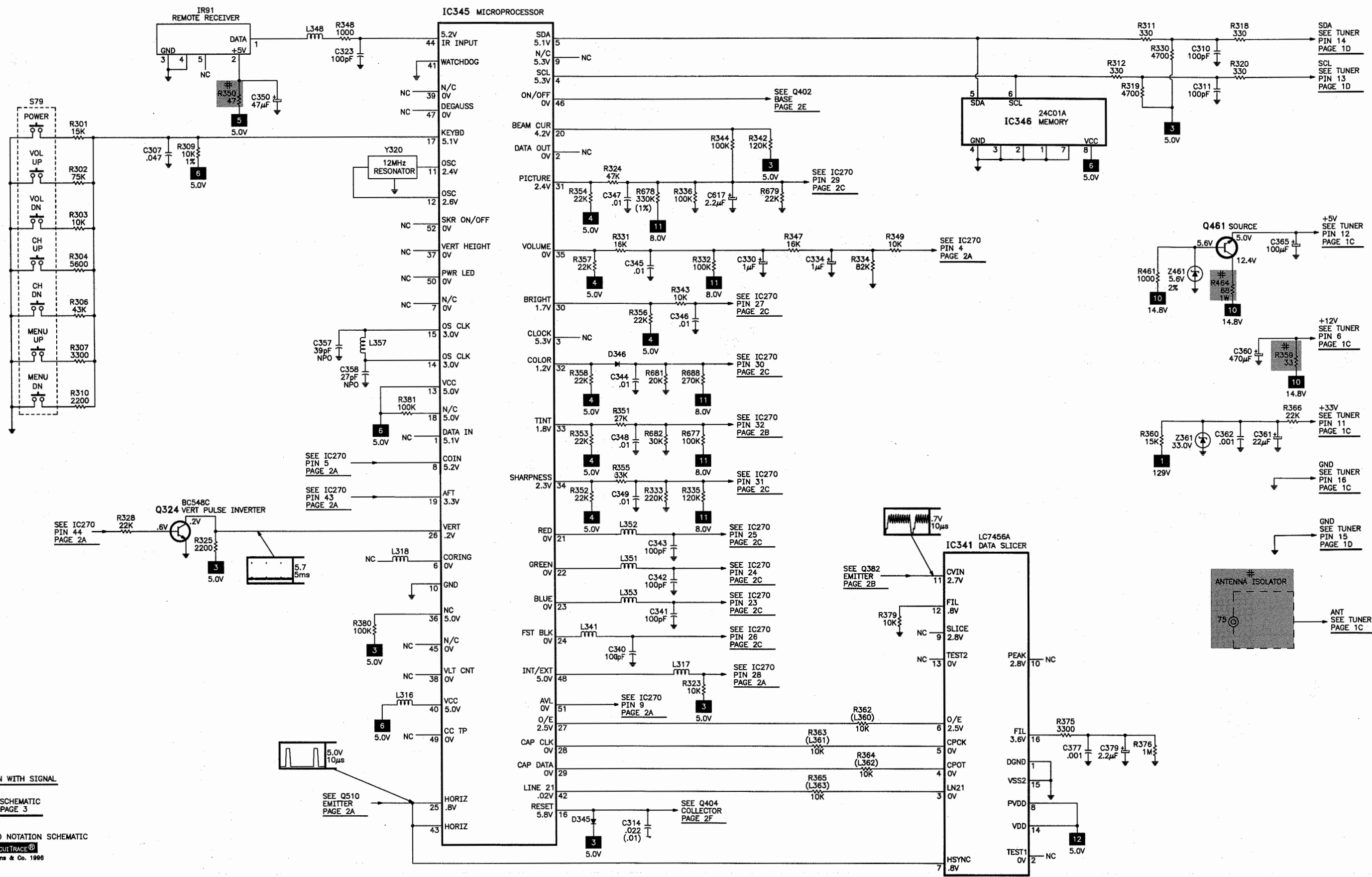
A PHOTOFAC T STANDARD NOTATION SCHEMATIC

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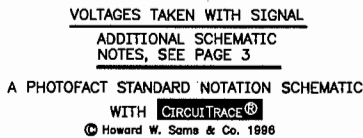
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SYSTEM CONTROL SCHEMATIC



VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 3

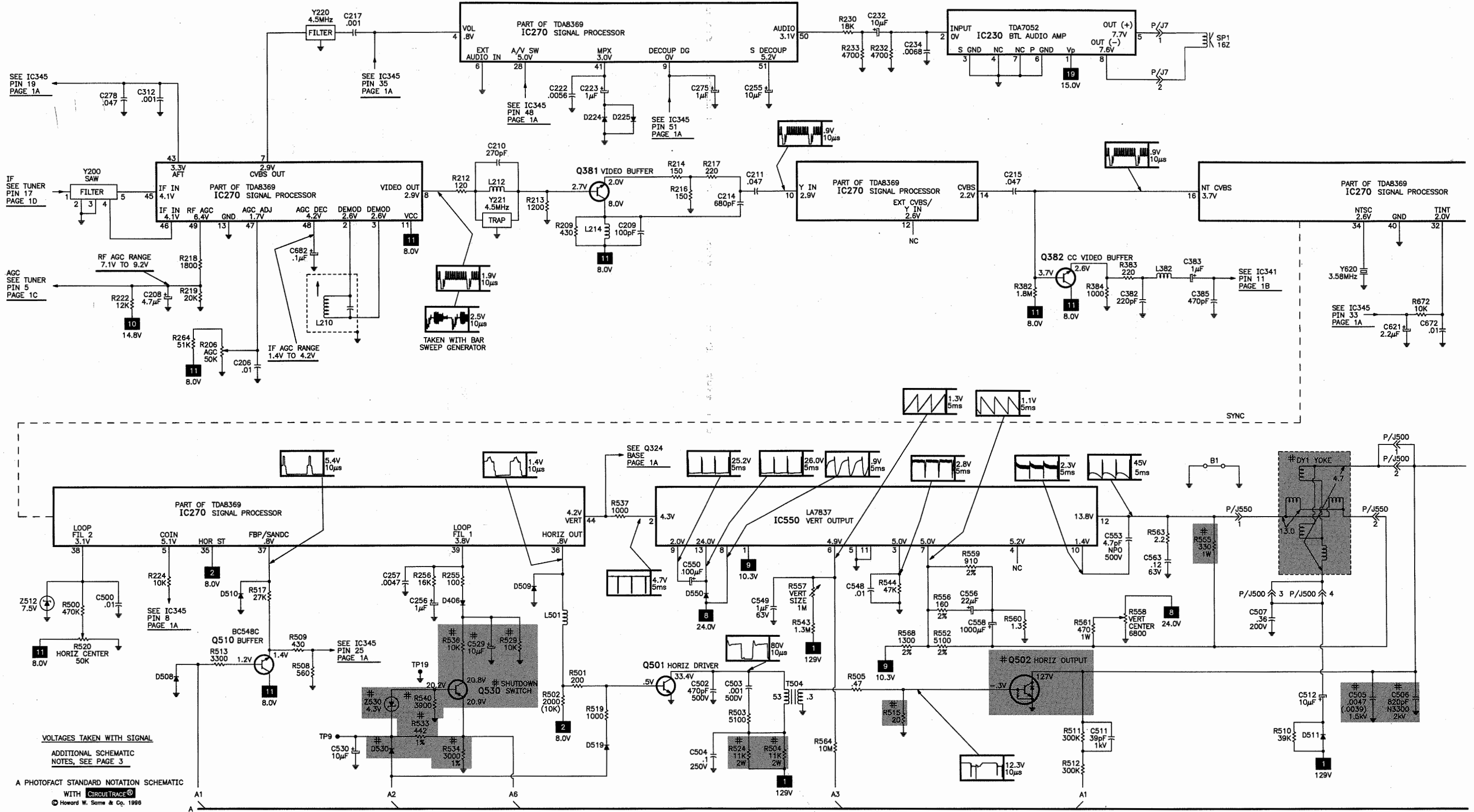




A

TELEVISION SCHEMATIC

B



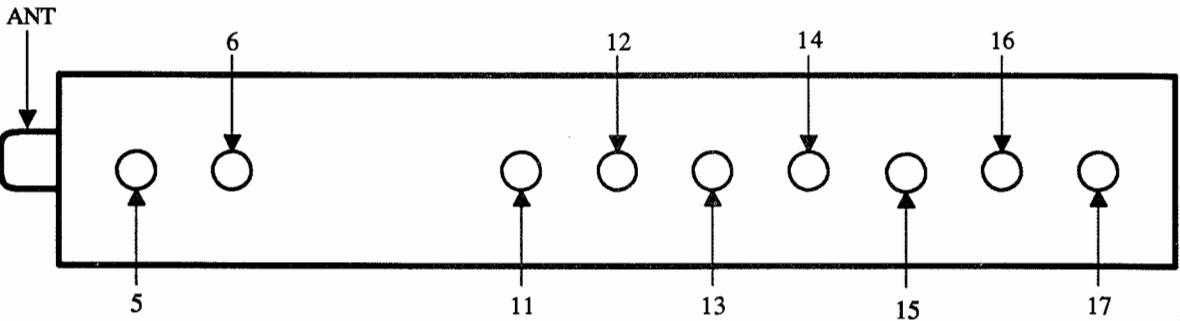
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	Function	VHF Low Band	VHF High Band	UHF Band
5	AGC	7.8V	7.1V	7.6V
6	+12V	12.6V	12.5V	12.4V
11	+33V	1.0V	1.6V	1.7V
12	+5V	5.0V	5.0V	5.0V
13	SCL	5.3V	5.3V	5.3V
14	SDA	5.3V	5.3V	5.3V
15	GND	0V	0V	0V
16	GND	0V	0V	0V
17	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, GRIDTRACE LOCATION GUIDE

B1	J-8	C405	B-8	D410	F-9	Q461	N-11	R348	F-2	R464	N-12	R655	J-11
C206	M-9	C406	C-7	D411	G-10	Q462	L-3	R349	K-8	R465	L-3	R656	K-11
C208	M-13	C407	B-16	D413	G-10	Q464	M-3	R350	L-1	R466	D-17	R662	J-13
C209	J-4	C408	E-11	D415	C-8	Q501	F-10	R351	D-4	R468	L-15	R663	E-16
C210	I-6	C413	A-4	D416	C-7	Q502	B-13	R352	D-4	R470	M-3	R672	N-5
C211	J-7	C415	B-6	D420	E-9	Q510	L-3	R353	D-4	R475	H-13	R673	M-5
C214	J-5	C417	I-12	D421	D-9	Q530	J-12	R354	D-3	R500	N-7	R674	N-4
C215	K-7	C419	H-13	D445	I-14	Q630	J-10	R355	D-4	R501	E-8	R675	M-5
C217	K-8	C431	D-9	D460	E-13	Q631	J-10	R356	D-3	R502	E-7	R677	N-5
C222	M-8	C432	G-11	D475	G-9	Q632	J-11	R357	D-3	R503	E-11	R678	N-6
C223	M-8	C433	G-13	D508	I-2	Q661	K-13	R358	D-2	R504	F-12	R679	M-6
C231	H-6	C445	I-14	D509	M-7	R203	L-5	R359	N-12	R505	C-11	R681	N-3
C232	I-8	C447	H-14	D510	M-7	R204	L-4	R360	K-12	R508	H-2	R682	E-4
C234	H-8	C460	E-13	D511	F-13	R206	M-9	R362	E-2	R509	L-5	R685	M-16
C235	H-7	C461	D-16	D519	H-11	R209	J-4	R363	E-3	R510	F-13	R686	M-15
C246	K-6	C463	E-15	D530	I-11	R212	J-7	R364	F-3	R511	F-12	R687	M-15
C250	M-6	C464	K-7	D550	J-16	R213	I-5	R365	F-3	R512	F-11	R688	M-3
C251	L-9	C465	K-7	D629	M-16	R214	I-6	R366	L-12	R513	J-3	S79	J-1
C252	N-6	C466	K-7	D630	L-16	R216	I-5	R367	L-2	R515	C-12	T300	L-12
C253	K-9	C470	L-5	D661	H-16	R217	J-5	R368	K-3	R517	L-4	T501	F-15
C254	K-9	C475	F-9	F400	A-15	R218	L-10	R371	K-2	R519	H-11	T504	C-11
C255	L-9	C500	M-7	F401	B-7	R219	M-14	R372	K-2	R520	N-7	TP9	J-11
C256	N-6	C502	F-10	IC230	H-8	R222	M-13	R373	K-2	R524	F-12	TP19	H-11
C257	M-7	C503	E-11	IC270	L-8	R224	J-7	R374	K-2	R529	H-8	Y200	M-8
C258	K-6	C504	E-11	IC341	F-3	R230	J-7	R375	F-3	R530	H-12	Y220	K-8
C275	J-8	C505	D-12	IC345	C-5	R231	G-8	R376	F-3	R533	I-11	Y221	I-6
C278	N-9	C506	D-12	IC346	B-6	R232	H-8	R379	G-2	R534	H-11	Y320	B-4
C306	A-4	C507	D-16	IC410	D-10	R233	I-8	R380	E-5	R536	I-10	Y620	M-6
C307	B-3	C511	F-12	IC550	I-13	R246	K-6	R381	B-3	R537	K-9	Z361	K-12
C310	A-3	C512	E-12	IR91	M-1	R250	M-6	R382	K-6	R538	I-13	Z402	D-7
C311	A-3	C529	H-9	J7	I-7	R251	L-9	R383	K-4	R540	I-12	Z405	C-7
C312	B-3	C530	H-11	J401	B-12	R252	L-9	R384	K-4	R543	H-9	Z406	D-7
C314	B-2	C548	J-13	J500	D-12	R254	L-10	R400	A-11	R544	J-14	Z415	G-2
C315	C-4	C549	K-14	J501	E-16	R255	K-5	R401	C-15	R545	J-13	Z461	N-11
C323	D-5	C550	J-14	J550	J-15	R256	N-7	R402	D-7	R552	L-15	Z462	L-3
C330	M-2	C552	J-16	J603	E-13	R264	N-10	R403	A-5	R555	K-15	Z512	N-7
C334	M-4	C553	I-16	J650	K-11	R301	B-1	R404	D-8	R556	L-15	Z530	I-12
C340	D-2	C554	K-13	K400	A-12	R302	C-1	R405	D-9	R557	K-16	Z540	J-13
C341	D-2	C556	L-16	L210	K-8	R303	C-1	R406	D-7	R558	K-16	Z541	I-14
C342	D-2	C558	K-15	L212	I-5	R304	C-1	R408	D-8	R559	L-15		
C343	D-2	C563	K-14	L214	J-4	R305	E-6	R409	D-8	R560	K-16		
C344	E-3	C616	N-3	L315	D-6	R306	C-1	R411	E-9	R561	K-15		
C345	E-3	C617	N-5	L316	D-5	R307	B-1	R413	A-2	R563	K-15		
C346	E-3	C618	M-5	L317	F-4	R308	E-5	R415	K-3	R564	H-15		
C347	E-4	C621	M-5	L318	E-5	R309	B-3	R416	D-7	R568	I-14		
C348	E-4	C633	K-10	L341	C-2	R310	B-1	R417	D-7	R569	H-15		
C349	E-4	C634	K-10	L348	M-2	R311	B-5	R418	B-1	R630	K-5		
C350	L-2	C635	K-11	L351	C-2	R312	B-5	R419	L-4	R631	K-5		
C355	M-4	C661	G-17	L352	C-2	R318	A-1	R420	I-12	R632	K-5		
C357	B-4	C663	D-16	L353	C-2	R319	A-3	R422	C-7	R633	K-9		
C358	B-4	C668	M-5	L357	B-4	R320	A-1	R423	B-7	R634	K-10		
C360	M-12	C672	M-4	L382	H-2	R323	F-4	R424	D-9	R635	K-10		
C361	K-11	C674	M-5	L417	E-5	R324	D-3	R431	D-10	R636	K-10		
C362	L-13	C675	M-5	L418	E-2	R325	B-2	R432	D-10	R637	K-10		
C365	N-11	C682	M-10	L501	K-5	R328	C-2	R436	D-10	R638	K-10		
C370	G-3	D224	N-8	L630	K-10	R330	B-2	R437	E-10	R639	M-16		
C371	G-3	D225	N-8	N401	D-17	R331	D-3	R438	B-5	R642	L-17		
C377	H-3	D345	B-1	Q324	C-3	R332	N-3	R441	I-9	R643	K-17		
C379	F-3	D346	D-3	Q381	I-5	R333	L-2	R442	I-8	R645	M-16		
C382	G-3	D401	A-8	Q382	K-4	R334	M-4	R443	D-8	R648	M-17		
C383	H-2	D402	B-7	Q400	H-10	R335	M-3	R445	H-13	R649	L-17		
C385	H-2	D403	A-9	Q402	A-5	R336	J-2	R459	K-3	R650	J-17		
C401	B-8	D404	B-10	Q403	D-7	R342	B-2	R460	E-13	R651	M-16		
C402	B-7	D405	L-4	Q404	C-8	R343	D-3	R461	N-12	R652	K-17		
C403	A-9	D406	I-8	Q410	C-7	R344	C-3	R462	L-3	R653	J-17		
C404	B-10	D409	H-12	Q420	C-8	R347	M-3	R463	D-15	R654	J-11		

PARTS LIST continued

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
# C2	.01 10% 630V	4835 121 47335
C357	39pF 5% 50V NPO	4835 122 47021
C358	27pF 5% 50V NPO	4835 122 47018
# C405	470µF 20% 200V	4835 124 47097
# C407	.33 20% 250VAC	4835 121 47463
# C505	.0047 5% 1.5kV	4835 121 47026
	.0039 5% 1.5kV	4835 121 47242
# C506	820pF 10% 2kV N3300	4835 122 57004
C511	39pF 5% 1kV	4835 122 47224
# C529	10µF 50V	4835 124 47499
C553	4.7pF 10% 500V NPO	4835 122 47452

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
# DY1	Yoke	-
	Horiz 4.7mH	
	Vert 13.0mH	
L1	100µH	4835 157 57047
L210	VCO	4835 150 57067
L212	4.76µH	4835 157 67011
L214	10µH	4835 150 57006
L315	2.7µH	4835 157 67006
L316, 17, 18	1.8µH	4835 157 67033
L341	3.9µH	4835 157 67007
L348	2.7µH	4835 157 67006
L351, 52, 53	3.9µH	4835 157 67007
L357	8.2µH	4835 150 57068
L382	22µH	4835 150 57007
L417, 18	2.7µH	4835 157 67006
L499	Degaussing	4835 157 97054
L501	2.7µH	4835 157 67006
L630	2.2µH	4835 157 67005
# T501 (1)	Horizontal Output	4835 140 67133
T504	Horizontal Driver	4835 142 47021

For SAFETY use only equivalent replacement part.
(1) Focus and screen controls are part of T501.

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
# R1	3 5% 1/2W	4835 116 57025	HW3D0
# R3	3.6 5% 1/2W	4835 116 67182	HW3D6
# R6	100 5% 1/4W	4835 116 57318	QW110
# R10, 11, 12	15K 5% 3W	4835 116 67018	3W315
R206	50K AGC	4835 100 17064	-
# R231	27 5% 3W	4835 116 67159	3W027
# R305	10 5% 1/4W	4835 116 57362	QW010
R309	10K 1% 1/8W	4835 116 57481	-
# R350	47 5% 1/3W	4835 116 57069	-
# R359	33 5% 1/3W	4835 116 57159	-
# R400	11.4 Cold PTC	4835 116 47001	-
# R401	4.7M 5% 1/2W	4835 116 57009	HW547
# R403	1.5 10% 10W Wirewound	4835 112 37024	10W1D5
# R411	100 5% 1/3W	4835 116 87002	-
# R417	6.8 5% 1/4W	4835 116 57559	QW6D8
# R419	1 5% 1/3W	4822 111 30483	-
# R420	.51 5% 1/2W	4835 116 67001	HWD51
# R441, 42, 43	36 5% 10W Wirewound	4835 112 37022	-
# R445	1 5% 1/3W	4822 111 30483	-
# R459	100 5% 2W	4835 116 57132	2W110
# R460	2.2 5% 1/3W	4822 111 30492	-
# R462	680 5% 1/4W	4835 116 57477	QW168
R463	330K 5% 1/8W	-	EW433
	330K 1% 1/8W	4835 116 57558	-
# R464	68 5% 1W	4835 116 57279	1W068
# R466	47 5% 1/3W	4835 116 57069	-
# R468	1 5% 1/3W	4822 111 30483	-
# R470	6.8 5% 1/4W	4835 116 57559	QW6D8
# R475	.51 5% 1/2W	4835 116 67001	HWD51
# R504	11K 5% 2W	4835 116 67167	2W311
# R515	20 5% 1/3W	4835 116 57065	-
R520	50K Horizontal Centering	4835 100 17064	-
# R524	11K 5% 2W	4835 116 67167	2W311
# R529	10K 5% 1/4W	4835 116 57321	QW310
# R530	1 5% 1/3W	4822 111 30483	-
# R533	442 1% 1/4W	4835 116 57601	-
# R534	3000 1% 1/4W	4835 116 57553	-
# R536	10K 5% 1/4W	4835 116 57321	QW310
# R540	3900 5% 1/4W	4835 116 57425	QW239
# R545	680 5% 1W	4835 116 67144	1W168
R552	5100 2% 1/8W	4835 110 67225	EW251
# R555	330 5% 1W	4835 116 57382	1W133
R556	160 2% 1/8W	4835 110 67219	EW116
R557	1M Vertical Size	4835 100 17062	-
R558	6800 Vertical Centering	4835 100 17067	-
R559	910 2% 1/8W	4835 110 67238	EW191
R568	1300 2% 1/8W	4835 110 67166	EW213
R642	2000 Blue Drive	4835 100 17073	-
R643	2000 Green Drive	4835 100 17073	-
R648	5000 Blue Cutoff	4835 100 17074	-
R649	5000 Green Cutoff	4835 100 17074	-
R650	5000 Red Cutoff	4835 100 17074	-
R678	330K 5% 1/8W	-	EW433
	330K 1% 1/8W	4835 116 57558	-

For SAFETY use only equivalent replacement part.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
# CRT1	Socket	4835 265 97331	CRT
# F400	Fuse	4835 253 97122	2Amp, 250V, Slow Blow
# F401	Fuse	4835 253 97031	2.5Amp
# K400	Relay	4835 277 27073	Degaussing
IR91	Receiver	4835 219 47281	Remote
N401	Neon Lamp	4835 134 27001	-
S79	Switch	4835 276 57004	Assembly
SP1	Speaker	-	3" Round, 16 Ohms
T300 (1)(2)	Tuner	4835 210 47058	UHF/VHF (003403131005)
# V1	CRT	4835 131 27142	A48AFN36X
Y200	Filter	4835 153 97022	SAW
Y220	Filter	4835 158 97009	4.5MHz
Y221	Trap	4835 154 17001	4.5MHz
Y320	Resonator	4835 157 57129	12MHz
Y620	Crystal	4835 242 77215	3.58MHz
	PC Board (1)	4835 219 57542	CRT (00APT143A001)
	PC Board (1)	4835 219 28419	Main (00EMX620A001)
	Transmitter	4835 219 17661	Remote (T216JGGA01)

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.

CROSLEY

MODEL CT1924C221 (CHASSIS 19X603)

SCHEMATIC NOTES

MAIN BOARD

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.

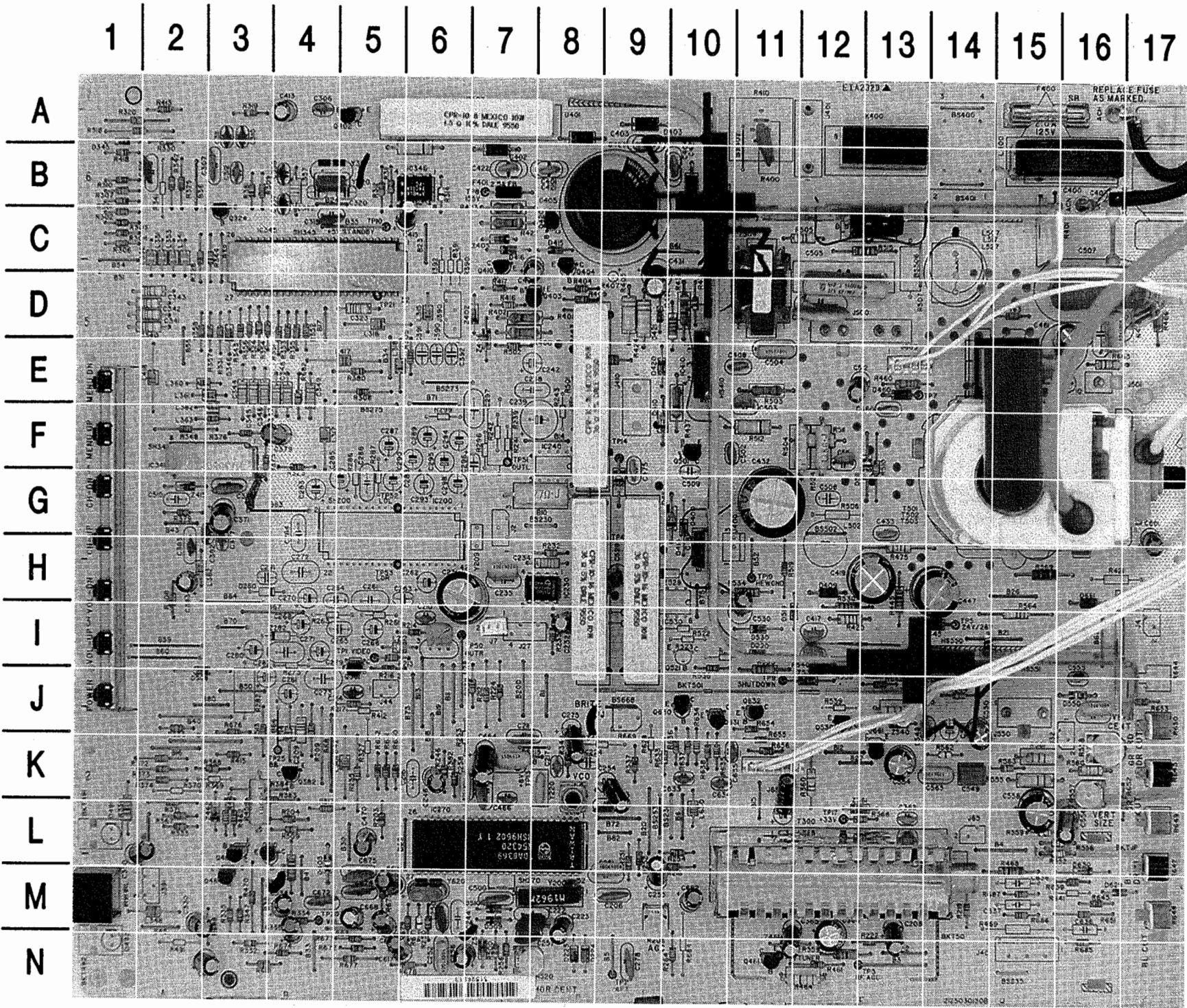
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.

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.



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)



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

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M. Herkless, J. Kocha, F. Malek,
B. Medaris, R. Raus, B. Skinner

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.
D224, 25	-	4835 130 37048	NTE519	ECG519	SK3100
D345, 46	-	4835 130 37048	NTE519	ECG519	SK3100
D401 Thru					
D404	-	4835 130 37829	-	-	-
D405	-	4835 130 37094	NTE580	ECG580	SK5036
D406	-	4835 130 37048	NTE519	ECG519	SK3100
D409	-	4835 130 37094	NTE580	ECG580	SK5036
D410, 11	-	4835 130 41275	-	-	-
D413, 15, 16	-	4835 130 37048	NTE519	ECG519	SK3100
D420, 21	-	4835 130 37048	NTE519	ECG519	SK3100
D445, 60	-	4835 130 37094	NTE580	ECG580	SK5036
D475	-	4835 130 37052	NTE580	ECG580	SK5036
D508, 09, 10	-	4835 130 37048	NTE519	ECG519	SK3100
D511	-	4835 130 37052	NTE580	ECG580	SK5036
D519	-	4835 130 37048	NTE519	ECG519	SK3100
# D530	-	4835 130 37048	NTE519	ECG519	SK3100
D550	-	4835 130 37094	NTE580	ECG580	SK5036
D629	-	4835 130 37048	NTE519	ECG519	SK3100
D630	-	4835 130 37058	NTE587	ECG587	SK9937
D661	-	4835 130 37094	NTE580	ECG580	SK5036
IC230	TDA7052	4835 209 47005	NTE7051	ECG7051	-
IC270	TDA8369	4835 209 88379	-	-	-
IC341	LC7456A	4835 209 88189	-	-	-
IC345	-	4835 209 17557	-	-	-
IC346	24C01A	4835 209 88108	-	-	-
IC410	STR30130	4835 209 47056	NTE1777	ECG1777	SK9870
IC550	LA7837	4835 209 88188	NTE7104	ECG7104	-
Q1, Q2, Q3	-	4835 130 47059	NTE399	ECG399	SK9352
Q324	BC548C	4835 130 47064	NTE199*	ECG199*	SK3245*
Q381	-	4835 130 47064	NTE199*	ECG199*	SK3245*
Q382	-	4835 230 47058	-	-	-
Q400	-	4835 130 47072	NTE198	ECG198	-
Q402	-	4835 130 47059	NTE399	ECG399	SK9352
Q403	-	4835 130 47892	-	-	-
Q404	BC548C	4835 130 47064	NTE199*	ECG199*	SK3245*
Q410	-	4835 130 47051	NTE123AP	ECG123AP	SK3854
Q420	-	4835 130 47059	NTE399	ECG399	SK9352
Q461	-	4835 130 47051	NTE123AP	ECG123AP	SK3854
Q462	-	4835 130 47892	-	-	-
Q464	BC548C	4835 130 47064	NTE199*	ECG199*	SK3245*
Q501	-	4822 130 41782	-	-	-
# Q502	-	4835 130 47897	NTE2353	ECG2353*	-
Q510	BC548C	4835 130 47064	NTE199*	ECG199*	SK3245*
# Q530	-	4835 130 47126	NTE159*	ECG159*	SK3466*
Q630, 31, 32	BC548C	4835 130 47064	NTE199*	ECG199*	SK3245*
Q661	-	4835 130 47051	NTE123AP	ECG123AP	SK3854
Z361	-	4835 130 37502	NTE147A	ECG147A	-
Z402	-	4835 130 37003	-	-	-
Z405	-	4835 130 37501	NTE5075A	ECG5075A	-
Z406	-	4835 130 37121	NTE5013T1	ECG5013T1	SK9969
Z415	-	4835 130 37119	-	-	-
Z461	-	4835 130 37068	NTE5011T1	ECG5011T1	SK9968
Z462	-	4835 130 37203	NTE5019T1	ECG5019T1	-
Z512	-	4835 130 37016	-	-	-
# Z530	-	4835 130 37015	NTE5068A	ECG5068A	SK4V3
Z540, 41	-	4835 130 37119	-	-	-

For SAFETY use only equivalent replacement part.
* Lead configuration may vary from original.