

SAFETY PRECAUTIONS

SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. Before replacing parts, disconnect power source to protect electrostatically sensitive parts. Do not attempt to modify any circuit unless so recommended by the manufacturer. When servicing the receiver, use an isolation transformer between the line cord and power receptacle.

SERVICING THE HIGH VOLTAGE AND CRT

Use EXTREME CAUTION when servicing the high voltage circuits. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver ground and CRT anode lead. DO NOT lift the CRT by the neck. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays. Keep an accurate high voltage meter available at all times. Check meter calibration periodically. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer. Check repaired area for poorly soldered connections, and check entire circuit board for solder splashes. Check board wiring for pinched wires or wires contacting any high wattage resistors. Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

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

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5436 West 78th Street
Indianapolis, IN 46268 - 4149

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

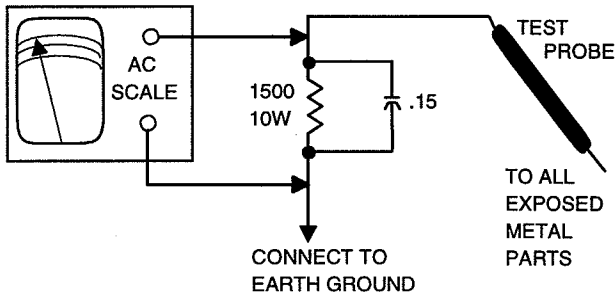
SAFETY CHECKS -- FIRE AND SHOCK HAZARD

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.



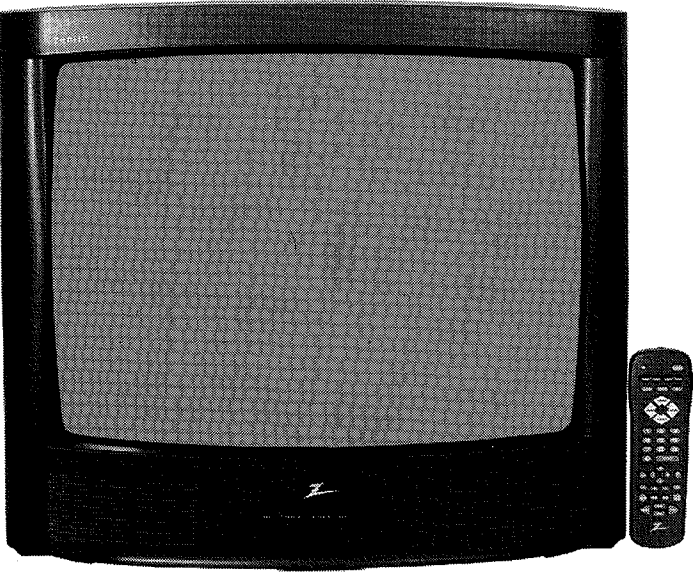
HIGH VOLTAGE SHUTDOWN TEST

Turn receiver on, adjust customer controls for normal operation. Temporarily short across RX3022. The receiver should lose raster. If the receiver does not lose raster the shutdown circuit should be repaired. Turn receiver off, wait 30 seconds and test for normal operation.

PHOTOFACT® Technical Service Data

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ZENITH
Model B27A10Z

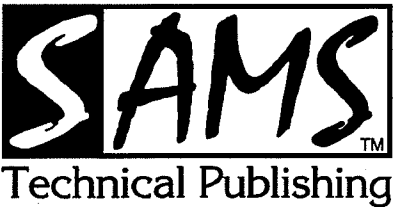


Representative Model
Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models:

MODELS	MODELS
B27A10Z5	B27A10ZCF
B27A10Z6	LGB29A10ZM
B27A10ZC	LGB29A10ZM5
B27A10ZC5	LGB29A13ZM
B27A10ZC6	



JUNE 2001 SET 4448

SET 4448

MODEL B27A10Z

ZENITH

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For Supplier Address,
See PHOTOFACT Annual Index



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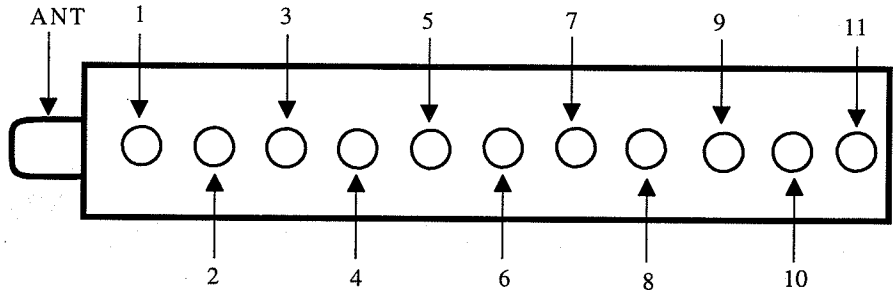
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TUNER INFORMATION

TUNER VOLTAGE CHART				
Pin		VHF Low Band	VHF High Band	UHF Band
1	AGC	2.5V	2.2V	1.9V
2	TU	1.1V	4.0V	5.9V
3	EN/AS	1.2V	1.2V	1.2V
4	CLK	4.8V	4.8V	4.8V
5	DATA	4.8V	4.8V	4.8V
6	+9V	8.9V	8.9V	8.9V
7	+5V	5.0V	5.0V	5.0V
8	LOCK	0V	0V	0V
9	+33V	33.0V	33.0V	33.0V
10	IF2	0V	0V	0V
11	IF OUT	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



SCHEMATIC COMPONENT LOCATION GUIDE

C841	B24	C2220	E11	C6079M	A26	IC6001	C28	R1213M	A4	R2242M	B12	R6046M	C27
C842	B23	C2221	B11	C6090M	B26	IC6002	D25	R1214M	A5	R2243M	B7	R6047M	B27
C843	C31	C2222	C12	C6092M	A27	ICX2200	A5	R1215M	B5	R2244M	D2	R6048M	C27
C851	B30	C2223	B6	C6093M	D26	ICX2200	B11	R1216M	B4	R2245M	A10	R6049	C27
C852	C31	C2224	B10	C6094M	D27	ICX2200	B3	R1217M	B5	R2247M	A8	R6050M	C27
C853	B32	C2225	B12	C6095M	C27	ICX2200	B7	R1218M	B5	R2249M	A9	R6053M	B26
C854	B32	C2226	D2	C6098	D26	ICX2200	D2	R1219M	B5	R2250M	A9	R6058M	A26
C855M	B31	C2229M	A10	CR2201	B7	ICX3400	C18	R1220M	B6	R2251	A9	R6059M	E26
C861	C30	C2230	A9	CR2202	D1	ICX3401	B22	R1221M	B6	R2252M	B10	R6060M	E25
C862	C31	C2231	A10	CRY6001	E26	ICX3402	C22	R1222M	A2	R2254M	B9	R6061M	A26
C863	C31	C2232M	B10	CX2105	E14	IR6000	A25	R1223M	A3	R2259M	A8	R6072	E27
C864	C31	C2235M	B10	CX2107	D8	KX3401	B18	R1224M	A2	R2260M	B8	R6080	E25
C865M	C31	C2236M	B9	CX2110	D5	L1200	C23	R1225	C3	R2261M	B8	R6082M	D27
C1200M	C3	C2237M	B6	CX3003	E9	L1201	B2	R1401	B29	R2262M	B8	R6090M	C25
C1201M	B1	C2238M	B23	CX3004	E3	L1202	A3	R1402	B29	R2263	C11	RX2115	E7
C1202M	B1	C2241	C11	CX3007	E9	L1203	B23	R1404M	B31	R2264	C11	RX2116	E8
C1203M	B2	C2242M	B12	CX3205	E6	L1204	B5	R1405M	B30	R2265M	C11	RX2117	D7
C1204M	B2	C2254	E2	CX3207A	D10	L1205	B5	R1406M	B31	R2269M	B12	RX2124	E13
C1205M	B3	C3201M	E4	CX3208	E13	L1206	C4	R1407M	B30	R3201M	E4	RX3008	E3
C1206	C4	C3202	E4	CX3210	E8	L1207	C23	R1408M	B31	R3202M	E5	RX3009M	E3
C1207	D2	C3203	E6	CX3212	E8	L2201	A10	R1417	D30	R3203	E4	RX3010M	D3
C1208M	D2	C3204	E5	CX3215	D9	L2202	B9	R1418M	D31	R3204	E6	RX3016	E3
C1209M	C24	C3206	E7	CX3216	E8	L3200	A18	R1420M	D31	R3205	E6	RX3022	E2
C1210	C24	C3209	E12	CX3217	E9	L3405	B22	R1421M	A6	R3412M	B21	RX3207	E6
C1211M	B4	C3419	A22	CX3218	E9	L3407	B1	R1422M	A6	R3414	B21	RX3208	E13
C1212	B4	C3421	B20	CX3219	E2	L5101	E14	R1425M	B31	R3418	C21	RX3209	D10
C1213M	A6	C3425	B23	CX3253	E13	L5102	D16	R2101	D4	R3419	B17	RX3211	E10
C1214	A6	C3426	D24	CX3254	E12	L5103	C16	R2102M	D5	R3440	B18	RX3214	D9
C1215M	B23	C3429	B24	CX3400	D20	L6001	D22	R2103	D5	R5101M	B14	RX3215	E9
C1216	C24	C3460	C24	CX3401	A17	L6002	E25	R2104	D5	R5102M	B14	RX3216	E13
C1217M	B4	C5101	E13	CX3402	A18	L6003	C28	R2105	E6	R5103	B14	RX3217	A16
C1218M	B4	C5102M	B14	CX3403	A19	L6007	D26	R2106	E6	R5105M	B15	RX3218	E7
C1219M	C24	C5103M	B14	CX3404	A18	LX3201	E9	R2107M	E6	R5106M	B14	RX3400	B17
C1220M	B23	C5104	E15	CX3405	A18	LX3202	E7	R2108	E6	R5107	B15	RX3401	A18
C1221M	C24	C5105M	C14	CX3406	B19	LX3262	D9	R2109M	D6	R5108M	C14	RX3403	D17
C1222	C24	C5106M	C14	CX3407	A24	LX3401	A17	R2110M	D6	R5109M	C14	RX3404	D18
C1223M	A2	C5107	C15	CX3408	C18	LX3403	A22	R2111M	E6	R5110	C14	RX3405	C19
C1224	A2	C5108M	A14	CX3409	C18	LX3404	B20	R2112M	D7	R5112M	C15	RX3406	D17
C1413	A32	C5109M	A14	CX3410	D17	LX3410	C19	R2113	D7	R5113M	C14	RX3407	D19
C1414	A29	C5110	D14	CX3411	D19	P3401	A17	R2114	D8	R5114	C15	RX3408	D19
C1415	B30	C5111	D15	CX3412	D17	Q800	C31	R2118	D8	R5115	C15	RX3409	D18
C1416	A31	C6001M	D25	CX3413	D18	Q1200	B2	R2119	D8	R5116	D16	RX3417	B22
C1417	A31	C6003M	A26	CX3415	C19	Q1201	B5	R2120M	D5	R5117M	A14	RX3423	C21
C1418	A30	C6004	A25	CX3416	D19	Q1202	B6	R2121	A28	R5118M	A14	RX3427	D21
C1419	A29	C6005M	A25	CX3418	D19	Q2201	A13	R2122	A27	R5119	A14	RX3428	C23
C1420	B31	C6006	B26	CX3420	A24	Q2202	C13	R2123M	A27	R5120M	A15	RX5104	B15
C1421	B31	C6007M	D26	CX3424	B24	Q2203	B13	R2202M	B12	R5121M	A14	RX5111	C15
C1422	B30	C6009	E25	CX3430	B24	Q2204	D13	R2203M	A27	R5123	A15	RX5122	A15
C1423	D32	C6010M	E25	D1401	C31	Q2205	D12	R2204M	A27	R5124M	D14	SP1	B32
C1424	B31	C6011M	E26	D2201	E1	Q2206	A9	R2205M	A27	R5125	D15	SP2	C32
C1425	B30	C6012M	D23	D2202	C11	Q2208	B8	R2206M	A27	R5126	D15	SW1	B25
C1427	A30	C6013	D24	D2203	D12	Q2209	C11	R2207M	B27	R5127	D16	SW2	C25
C1428	A30	C6014M	E25	D2204	E12	Q3201	E4	R2208M	B27	R6001M	D26	SW3	B25
C1429	D32	C6015M	E25	D2205	C12	Q3202	E5	R2209M	A13	R6002M	D26	SW4	C25
C1430	B24	C6016	D25	D3410	A22	Q3402	C21	R2210	D2	R6003M	D25	SW5	B25
C1433M	B23	C6017	D23	D3411	B20	Q3403	B17	R2211M	A14	R6004M	D25	THX3415	A18
C1436	A29	C6018M	E27	D5101	C15	Q3404	B21	R2212M	D3	R6005M	D4	TP6010	B28
C1437	D32	C6019M	E27	D5102	D14	Q5101	B15	R2213M	A13	R6006M	E27	TX3204	D11
C1438	D31	C6020	C28	D6001	D26	Q5102	C15	R2214M	D4	R6008M	D4	TX3205	E6
C1439	D31	C6021M	C28	D6002	A2	Q5103	A15	R2215M	C13	R6012	C25	TX3401	A20
C2101	D4	C6023M	D27	DX2101	D5	Q5104	D15	R2216	D1	R6015	C25	U1200	B2
C2102	E6	C6028	C1	DX2102	D5	Q6001	D25	R2217M	C14	R6016	B26	U1201	A5
C2103	E6	C6029M	B1	DX2103	A27	Q6002	D4	R2218M	C13	R6017M	C25	U1202	B5
C2104	D6	C6030	B1	DX2104	E13	QX3203	E7	R2219M	B13	R6018	B25	V1	B16
C2106	D7	C6031M	E13	DX3005	E3	QX3401	D18	R2220	B11	R6019M	B25	ZD1405	D31
C2108	D8	C6032	E14	DX3006	E9	R843	C31	R2221M	B14	R6020M	C25	ZD6001	E13
C2109	A28	C6037	D24	DX3201	E12	R851M	B30	R2222M	B13	R6021M	B25	ZDX3004	E3
C2111	E13	C6038M	B27	DX3203	E9	R852M	B30	R2223	B11	R6022M	C25	ZDX3401	C24
C2112	E13	C6040M	B27	DX3204	E2	R853	C32	R2224M	D1	R6023M	B25		
C2201M	B12	C6041M	A26	DX3252	E12	R854M	C31	R2225M	D2	R6024M	B25		
C2202M	B7	C6042M	B26	DX3401	A19	R861M	C30	R2226	E2	R6025M	C25		
C2203	B11	C6043M	C26	DX3402	A19	R862M	C30	R2227M	E3	R6026	B27		
C2204	B11	C6045M	E28	DX3403	A19	R863	C31	R2228	E3	R6027	A26		
C2205	B11	C6046M	D27	DX3404	A19	R864M	C31	R2229M	D2	R6028	A25		
C2206M	D3	C6047M	C27	DX3405	B18	R1201M	C3	R2230M	D13	R6029M	A25		
C2207	D1	C6048M	C27	DX3406	C18	R1202M	B1	R2231M	D1	R6031M	B26		
C2208	D1	C6049M	B27	DX3407	D19	R1203M	B1	R2232M	D12	R6032M	D25		
C2209	D1	C6050M	C27	DX3408	D19	R1204M	B1	R2233	E12	R6034M	E26		
C2210M	D1	C6051M	E27	DY1	D9	R1205M	B1	R2234M	D13	R6035M	E25		
C2213M	D3	C6052M	E26	FX3401	A17	R1206M	B2	R2235	E12	R6037M	D25		
C2214M	D1	C6053M	D27	FX3402	B20	R1207M	B2	R2236M	C11	R6039M	E27		
C2215M	D1	C6055M	D27	IC804	B31	R1208M	B2	R2237M	C12	R6041	C27		
C2216	D2	C6056M	D26	IC1400	A30	R1209M	B2	R2238M	D12	R6042M	C27		
C2217M	D2	C6058M	C25	IC1402	B31	R1210M	B3	R2239M	C12	R6043	B27		
C2218	C13	C6061M	C26	IC2100	D5	R1211M	B3	R2240M	D13	R6044M	C27		
C2219	D13	C6068M	D4	IC6000	A26	R1212M	E2	R2241M	D13	R6045M	C27		

MISCELLANEOUS ADJUSTMENTS

This receiver employs digital customer controls which are accessed through the service menu. All adjustments were performed at reset unless otherwise indicated. Record all the data values for all functions in the service menu before making any changes.

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness and color to minimum. Connect a high voltage probe to CRT anode. High voltage should read 28kV to 30kV.

SERVICE MENU

To access the service menu adjustments by using the remote transmitter keypad, press and hold the menu button until the menu display disappears from the screen. Key in 9, 8, 7, 6, and press the enter button.

To access the service menu adjustments by using the receiver keypad, press the menu button until the display disappears from the screen. Without releasing the menu button simultaneously press the adjust right and channel up buttons.

The receiver is now in service menu mode with function 03 H Pos 6 displayed. The first line on the service menu is a version number of the software used in the receiver. On the bottom is a date the module went through the factory. Use the select up and down buttons to select function. Use the adjust buttons to make changes to selected function. The function 00 F Mode (Factory Mode) is always set to 0. Only the first seven items in the service menu can be brought up. Use the select key to select the 00 F Mode function and change the adjustment to 1, now all the menu items will be accessible.

NOTE: Set value of function 00 F Mode (Factory Mode) to 0 before exiting the service menu mode. If not set to 0 the receiver will not shut off with the remote or power button on the receiver.

Exit Service Menu

Press enter button to exit the service menu.

HORIZONTAL SIZE

Tune in a crosshatch pattern. Call up service menu, select function 13, set data value for slight overscan on both sides.

RF AGC

Tune in a picture. Call up service menu, select function 17, set data value to a point where snow appears in picture, then to a point where snow disappears. Check all other channels for snow free picture.

WHITE COMPRESSION

Tune in a picture. Set picture settings to preset. Call up service menu, select function 19, set data value to 0.

COLOR TEMPERATURE

Tune in a crosshatch pattern. Set brightness, picture, and color to minimum. Call up service menu, select functions 22, 23, and 24, set data values to 0. Select functions 25 and 26 and reduce data values until one predominate color is just visible. Adjust data values for functions 22, 23, and 24 of the two least predominate colors to obtain a white pattern. Tune in an active black and white channel and adjust functions 25 and 26 for best white to black tracking at high and low brightness.

CONVERGENCE / PURITY

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

SERVICE MENU CHART

FUNCTION 221-01384-01	DATA VALUE	ON-SET VALUE	RANGE	NOTES
00 F MODE	0	0	0 - 1	Factory Mode. Normal setting is 0, when set to 1, all other functions are accessible.
01 PRE PX	0	1	0 - 1	Stores customer video menu picture preference (Preset). 0 is custom, 1 is preset stored.
02 V POS	13	11	0 - 24	Vertical position of On Screen Displays (Menus & Captions).
03 H POS	6	7	0 - 20	Horizontal position of On Screen Displays (Menus & Captions).
04 LEVEL	1	1	0 - 1	Short pins 3 and 4 on connector 4G9 then set to level 1. Remove jumper.
05 BAND	0	0	0 - 7	This setting depends upon input signal. 0 Broadcast Fixed, 1 CATV AFC, 2 HRC AFC, 3 ICC AFC, 4 Broadcast AFC, 5 CATV Fixed, 6 HRC Fixed, 7 ICC Fixed.
06 AC ON	0	0	0 - 1	Enables AC Power On feature.
07 RF BPF	1	1	0 - 1	RF Bandpass.
08 3.58T	0	0	0 - 1	3.58MHz Trap.
09 RF BRT	33	23	0 - 63	RF Brightness.
10 AX BRT	33	23	0 - 63	Auxiliary Brightness.
11 MAX CON	63	63	0 - 63	Maximum Contrast.
12 V SIZE	125	117	0 - 254	Vertical Size.
13 H SIZE	0	97	0 - 254	Horizontal Size.
14 V PHASE	2	2	0 - 7	Vertical Phase.
15 H PHASE	14	18	0 - 31	Horizontal Phase.
16 AUD LVL	46	48	0 - 63	Audio Level.
17 RF AGC	31	42	0 - 63	Tune in the weakest available channel and adjust for a snow free picture.
18 H AFC	1	1	0 - 1	Horizontal AFC.
19 WH COMP	0	0	0 - 1	White Compression.
20 60HZ SW	2	2	0 - 2	-
21 PIF VCO	31	43	2 - 127	Picture IF Voltage Controlled Oscillator.
22 R CUT	0	16	0 - 254	Red Cutoff.
23 G CUT	0	4	0 - 254	Green Cutoff.
24 B CUT	0	31	0 - 254	Blue Cutoff.
25 G GAIN	103	103	0 - 254	Green Gain.
26 B GAIN	75	80	0 - 254	Blue Gain.
27 C Type	2	3	0 - 3	Chassis Type. 0 Mono, 1 Mono W/Aux, 2 Stereo No MTS, 3 Stereo W/Aux.
28 Scroll	0	0	0 - 1	Selects the method the user menus will appear on the screen.
29 6 Keys	0	1	0 - 1	Set to 0 for the 10 key keyboard, set to 1 for the 6 key keyboard.
30 Spkr Sw	0	0	0 - 1	Internal Speaker Switch.
31 Surf	0	0	0 - 1	Surf Mode.
32 A ATT	9	9	0 - 15	Audio Input Attenuator.
33 Spectrl	31	10	0 - 63	High Frequency Separation.
34 W Band	31	18	0 - 63	Low Frequency Separation.

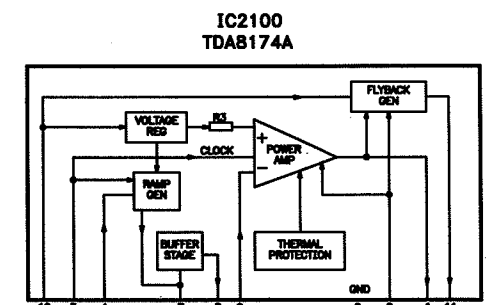
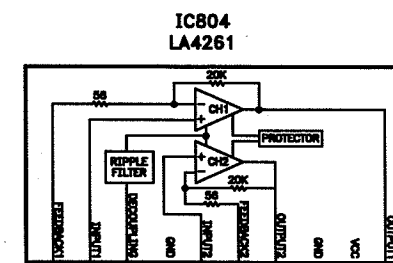
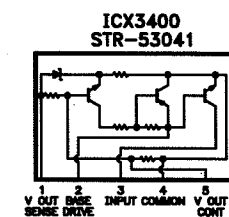
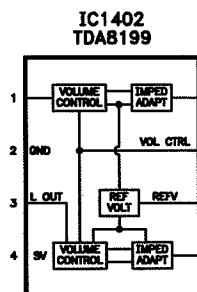
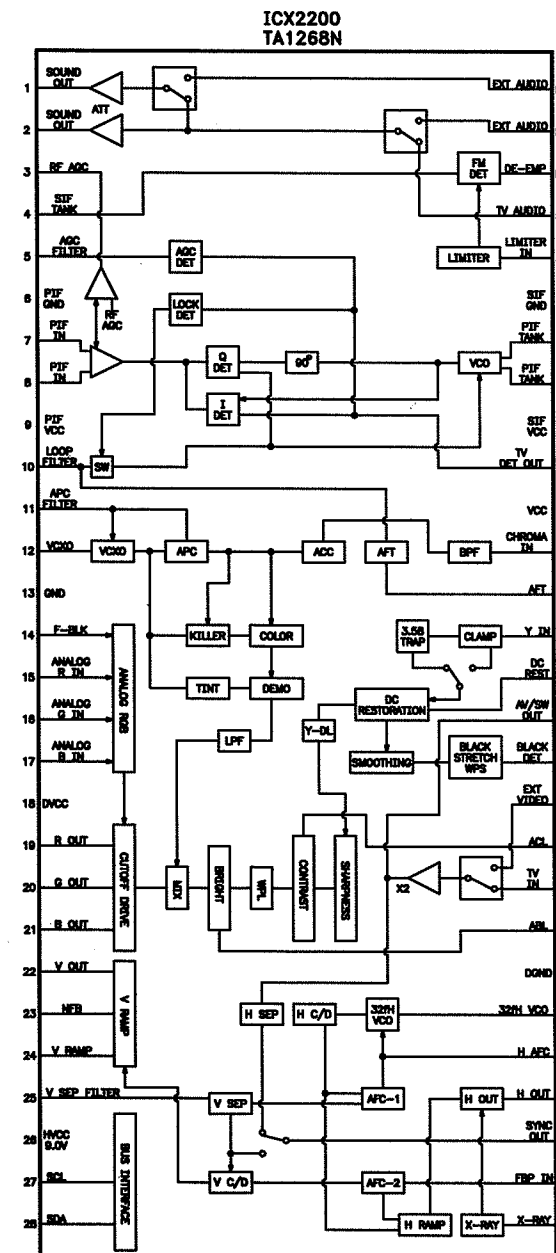
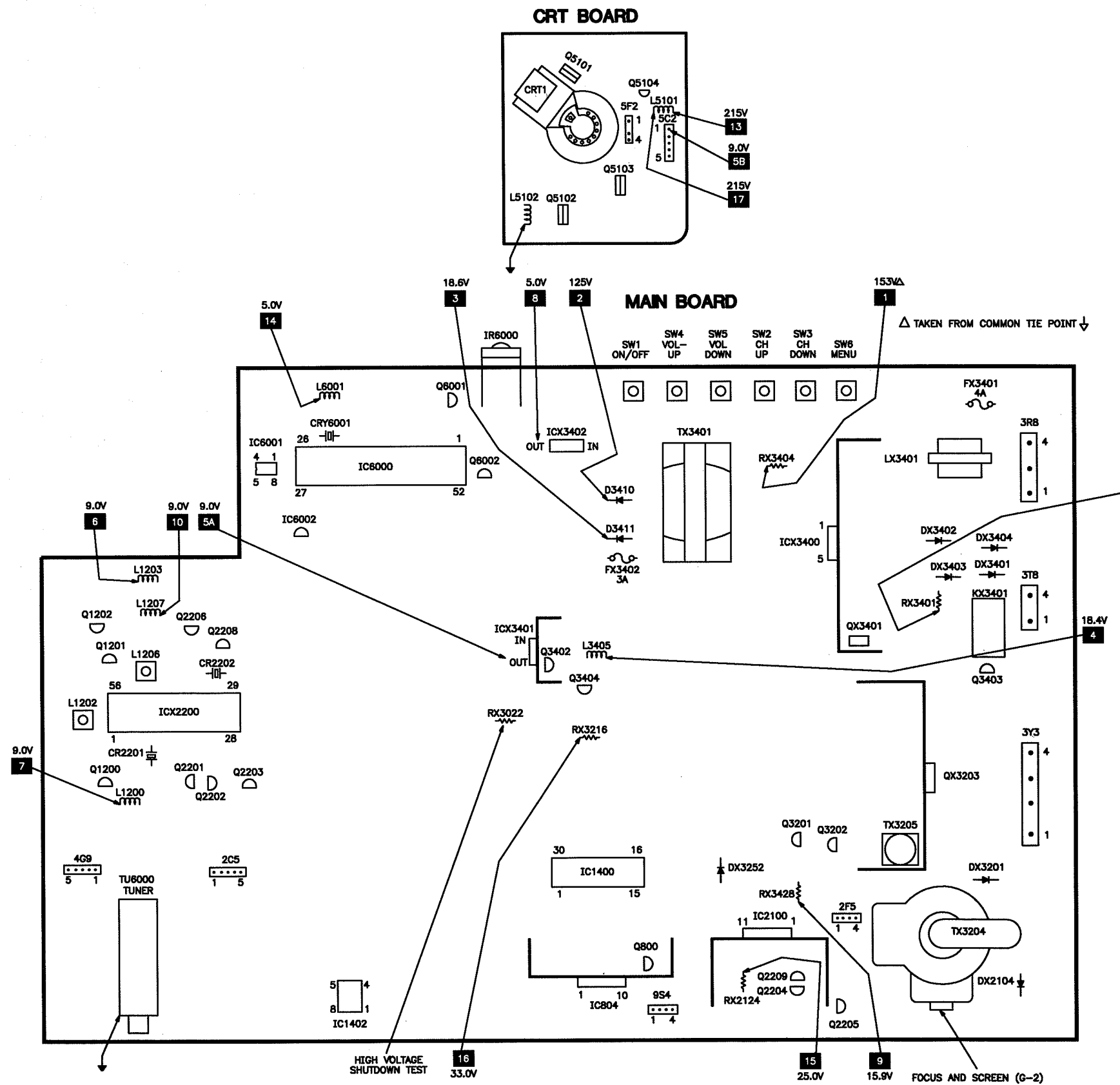
TEST EQUIPMENT

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

PLACEMENT CHART

IC FUNCTIONS



TO TUNER
IF2
PIN 10

NC

TUNER NOT INCLUDED
IN THIS COVERAGE

SEE IC6000
PIN 3
PAGE 2G

TO TUNER
+9V
PIN 6

TO TUNER
+5V
PIN 7

TO TUNER
IF OUT
PIN 11

TO TUNER
AGC
PIN 1

TO TUNER
+33V
PIN 9

16
33.0V

SEE IC6000
PIN 6
PAGE 2G

SEE Q6001
BASE
PAGE 2G

(1) USED IN MODELS B27A10Z5,
B27A10ZC5, AND LGB29A10ZM5
(2) USED IN MODELS B27A10Z,
B27A10Z6, B27A10ZC, B27A10ZC6,
B27A10ZCF, LGB29A10ZM,
AND LGB29A13ZM

ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2E

A PHOTOFAC STANDARD NOTATION SCHEMATIC
WITH CIRCUITRACE

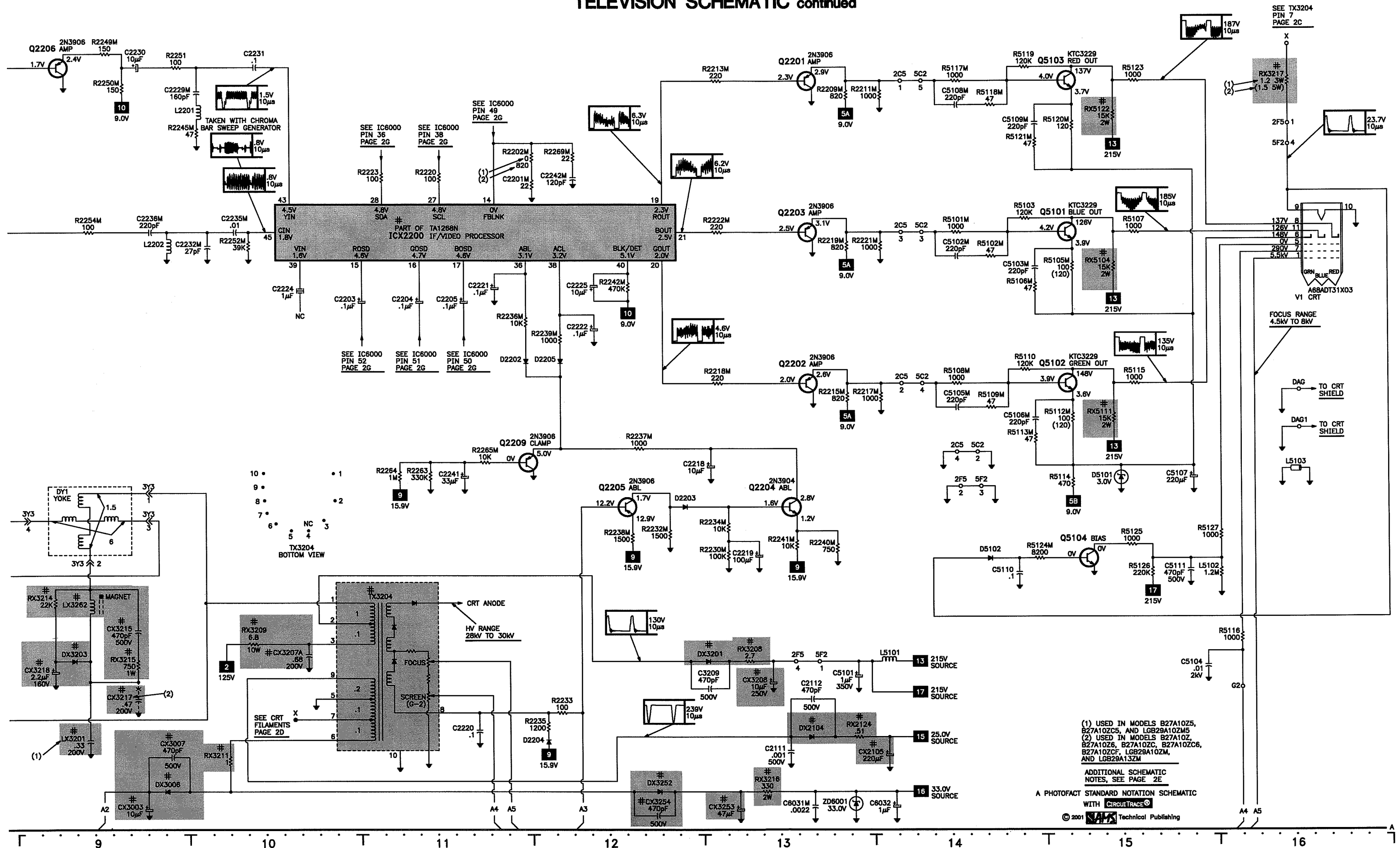
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1 2 3 4 5 6 7 8

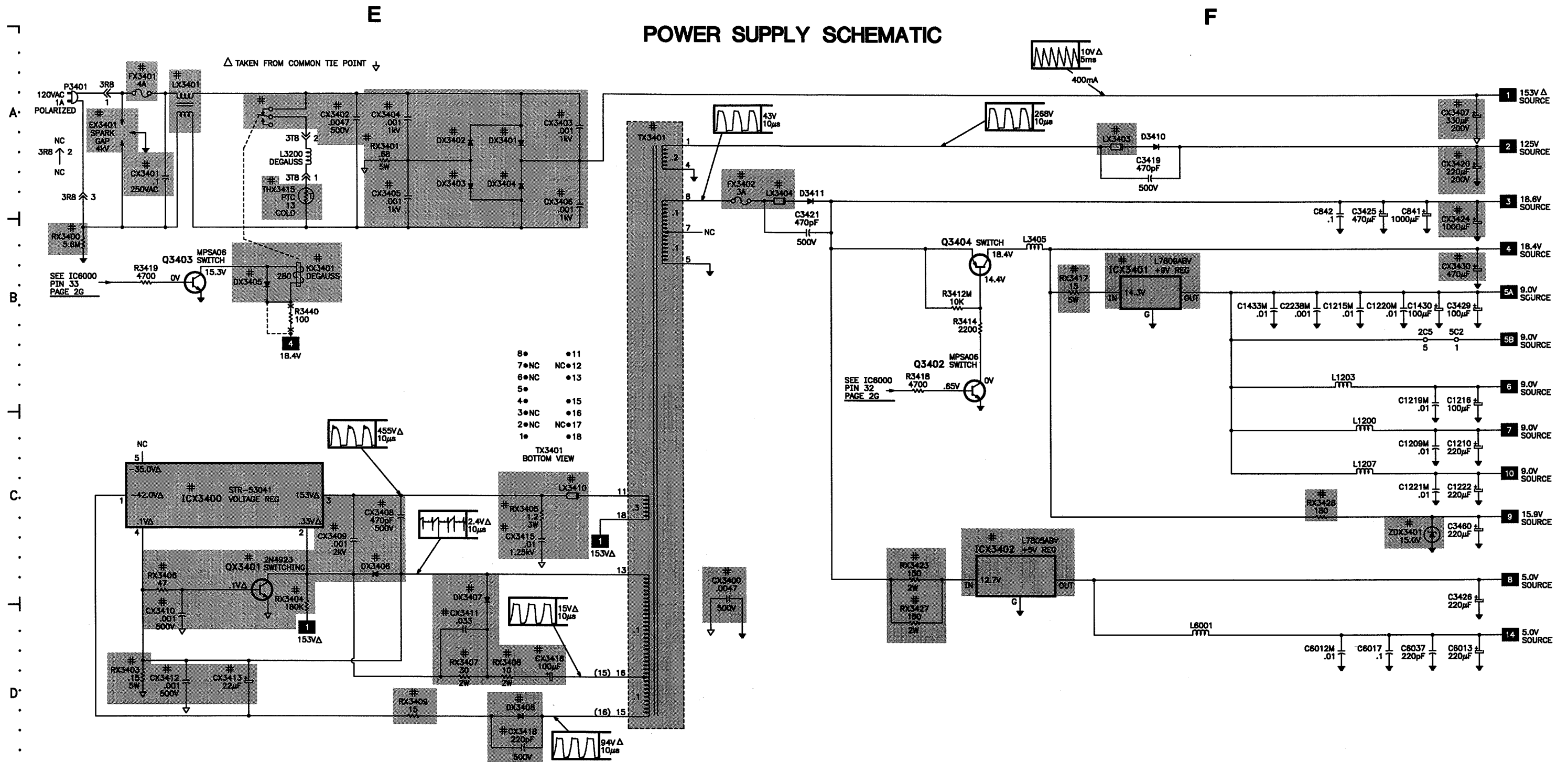
(1) USED IN MODELS B27A10Z5,
B27A10ZC5, AND LGB29A10ZM5
(2) USED IN MODELS B27A10Z,
B27A10Z6, B27A10ZC, B27A10ZC6,
B27A10ZCF, LGB29A10ZM,
AND LGB29A13ZM

ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2E

FACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITTRACE®**

TELEVISION SCHEMATIC continued

POWER SUPPLY SCHEMATIC

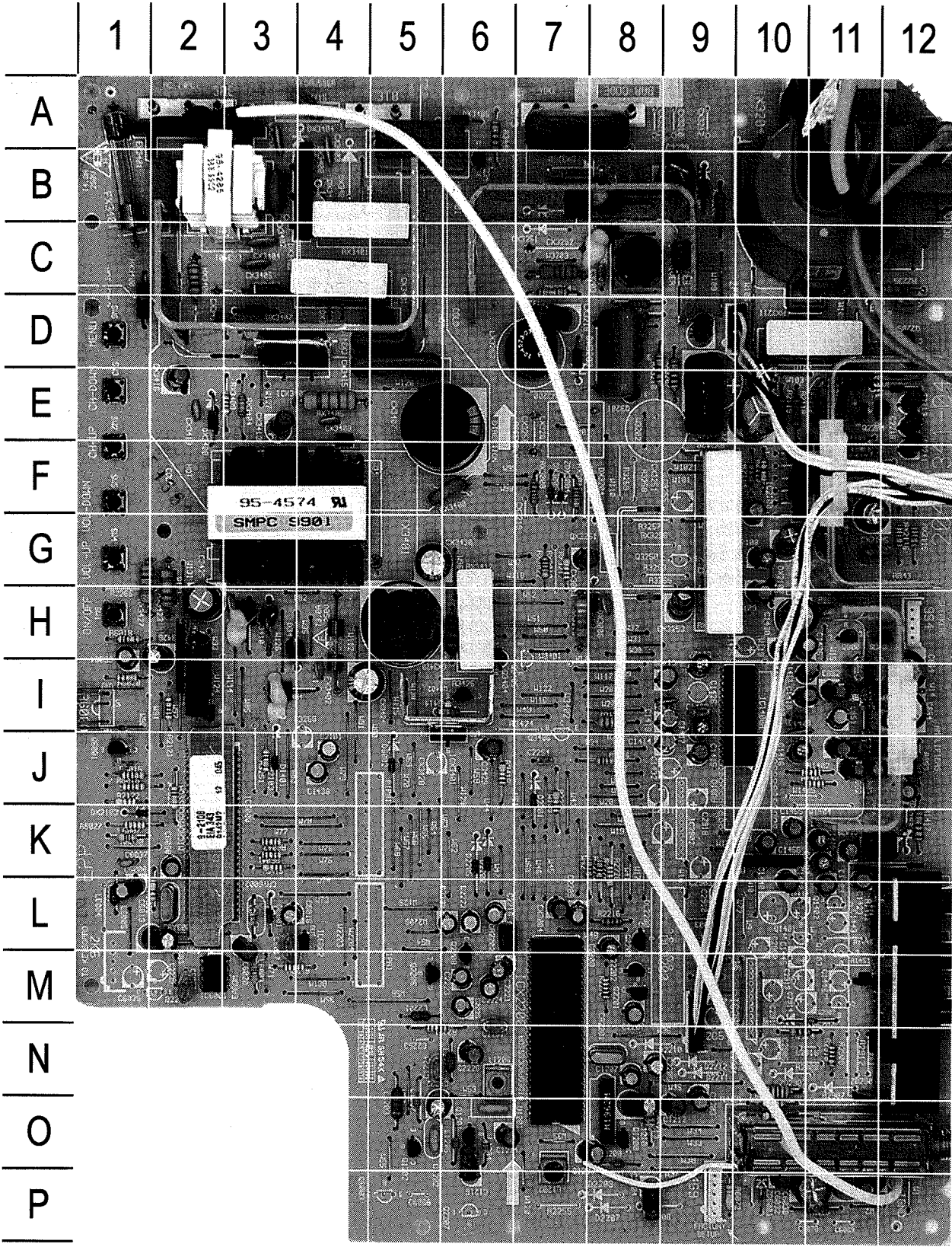


G



E.

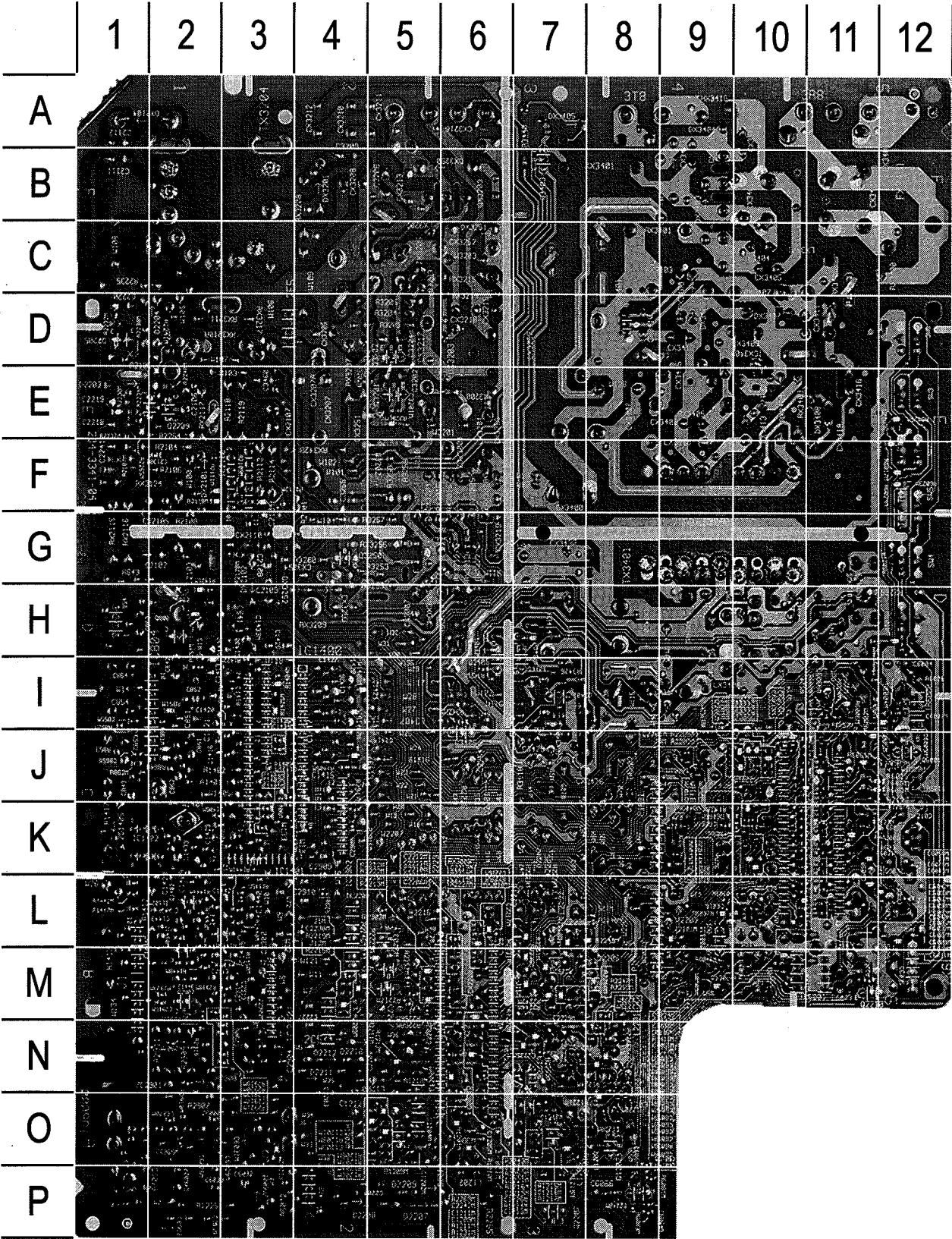
MAIN BOARD - TOP VIEW



MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

2C5	N9	C2221	M6	CX3415	D5	LX3201	E7	R6015	J1
2F5	D10	C2222	L6	CX3416	E2	LX3202	C8	R6016	J1
3R8	A2	C2223	M6	CX3418	E2	LX3262	D7	R6018	H1
3T8	A5	C2224	M6	CX3420	H4	LX3401	B2	R6026	J2
3Y3	A8	C2225	M6	CX3424	I4	LX3403	H3	R6027	K1
4G9	P9	C2226	N6	CX3430	G5	LX3404	I3	R6028	I1
9S4	H12	C2231	N6	D1401	J3	LX3410	E4	R6041	K3
C841	H10	C2241	E12	D2201	J7	Q800	H11	R6043	K3
C842	I11	C2254	J7	D2202	K6	Q1200	O8	R6049	M4
C843	J12	C3202	E8	D2203	E12	Q1201	O6	R6072	P9
C851	I11	C3203	C8	D2204	D11	Q1202	O5	R6080	L2
C852	I11	C3204	D8	D2205	K6	Q2201	M8	RX2115	G12
C853	J12	C3206	B8	D3410	H3	Q2202	M8	RX2116	G12
C854	I12	C3209	A9	D3411	H3	Q2203	L8	RX2117	E10
C861	J11	C3419	H3	D6001	L3	Q2204	E12	RX2124	F12
C862	J11	C3421	I4	D6002	J5	Q2205	D12	RX3008	F7
C863	H12	C3425	H2	DX2101	F11	Q2206	M5	RX3016	P7
C864	I12	C3426	H2	DX2102	G10	Q2208	M6	RX3022	G7
C1206	O8	C3429	J6	DX2103	K1	Q2209	E11	RX3207	E9
C1207	N8	C6004	H1	DX2104	A12	Q3201	E8	RX3208	B9
C1210	O8	C6006	L1	DX3005	F7	Q3202	D8	RX3209	G9
C1212	O9	C6009	M2	DX3006	H8	Q3402	I6	RX3211	D11
C1214	O6	C6013	L2	DX3201	B9	Q3403	B6	RX3214	C7
C1216	O6	C6016	L3	DX3203	D7	Q3404	H6	RX3215	C7
C1222	O5	C6017	L3	DX3204	F8	Q6001	J1	RX3216	H7
C1224	N5	C6020	M3	DX3252	G9	Q6002	I2	RX3217	D11
C1413	I11	C6028	P12	DX3401	B4	QX3203	B8	RX3218	E8
C1414	J9	C6030	P11	DX3402	B4	QX3401	D5	RX3400	D1
C1415	J9	C6032	P10	DX3403	B4	R843	G1	RX3401	B4
C1416	J10	C6037	K1	DX3404	A3	R853	J12	RX3403	C4
C1417	I9	C6098	K2	DX3405	A6	R863	H11	RX3404	E3
C1418	I11	CR2201	N8	DX3406	C4	R1225	P11	RX3405	E4
C1419	I9	CR2202	L6	DX3407	D3	R1401	J11	RX3406	C4
C1420	I10	CRY6001	L2	DX3408	E2	R1402	J11	RX3407	C3
C1421	I10	CX2105	F11	EX3401	A2	R1417	K12	RX3408	C2
C1422	I9	CX2107	E10	FX3401	B1	R2101	G9	RX3409	E3
C1423	K11	CX2110	G10	FX3402	H4	R2103	J3	RX3423	G2
C1424	I9	CX3003	G8	IC804	J1	R2104	F11	RX3427	G1
C1425	H10	CX3004	L7	IC1400	J10	R2105	E12	RX3428	F9
C1427	H9	CX3007	H8	IC1402	K12	R2106	F12	SW1	H1
C1428	I9	CX3205	D9	IC2100	F10	R2108	G11	SW2	F1
C1429	K11	CX3207A	E9	IC6000	J2	R2113	F10	SW3	E1
C1430	H10	CX3208	B9	IC6001	M2	R2114	F10	SW4	G1
C1436	H11	CX3210	A9	IC6002	L4	R2118	E10	SW5	F1
C1437	K11	CX3212	A9	ICX2200	O7	R2119	E10	THX3415	A4
C1438	J4	CX3215	D7	ICX3400	D3	R2121	I2	TU6000	O12
C1439	K11	CX3216	A7	ICX3401	J6	R2122	J1	TX3204	B11
C2101	J4	CX3217	D8	ICX3402	I2	R2210	M8	TX3205	C8
C2102	G11	CX3218	D7	IR6000	I1	R2216	L8	TX3401	F4
C2103	G11	CX3219	F7	KX3401	A5	R2220	K8	U1200	O8
C2104	F10	CX3253	H9	L1200	O8	R2223	K8	U1201	O6
C2106	E11	CX3254	G9	L1201	O8	R2226	J7	U1202	O5
C2108	G10	CX3400	F6	L1202	P7	R2228	K8	ZD1405	K12
C2109	H10	CX3401	B2	L1203	O5	R2233	D11	ZD6001	P10
C2111	A12	CX3402	B3	L1204	O6	R2235	C12	ZDX3004	F7
C2112	A12	CX3403	A4	L1205	O6	R2251	N5		
C2203	O9	CX3404	C3	L1206	N6	R2263	F11		
C2204	P8	CX3405	C3	L1207	O5	R2264	E11		
C2205	N8	CX3406	A3	L2201	M5	R3203	D8		
C2207	M8	CX3407	E5	L2202	N6	R3204	D8		
C2208	L8	CX3408	E4	L3405	H6	R3205	D8		
C2209	L7	CX3409	D3	L3407	I8	R3414	H6		
C2216	L6	CX3410	D5	L6001	L1	R3418	J6		
C2218	E12	CX3411	D2	L6002	L3	R3419	K3		
C2219	E12	CX3412	D4	L6003	M3	R3440	A6		
C2220	D12	CX3413	E3	L6007	K1	R6012	O10		

MAIN BOARD - BOTTOM VIEW



MAIN BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

C855M	I1	C6014M	L10	R1205M	O5	R2207M	J10	R3202M	E4
C865M	J1	C6015M	L10	R1206M	O5	R2208M	J10	R3412M	H7
C1200M	O6	C6018M	L10	R1207M	O5	R2209M	M4	R6001M	J12
C1201M	O5	C6019M	K10	R1208M	O5	R2211M	M4	R6002M	J11
C1202M	O5	C6021M	M11	R1209M	O5	R2212M	M5	R6003M	I12
C1203M	O5	C6023M	J10	R1210M	O6	R2213M	M5	R6004M	I12
C1204M	O5	C6029M	O2	R1211M	N6	R2214M	M6	R6005M	I12
C1205M	O6	C6031M	O3	R1212M	N5	R2215M	M4	R6006M	I11
C1208M	N5	C6038M	J10	R1213M	N5	R2217M	M4	R6008M	I11
C1209M	N6	C6040M	K11	R1214M	N6	R2218M	M5	R6017M	F12
C1211M	N6	C6041M	K11	R1215M	O7	R2219M	M4	R6019M	H12
C1213M	O6	C6042M	K11	R1216M	N6	R2221M	M5	R6020M	F12
C1215M	N8	C6043M	J11	R1217M	O7	R2222M	M5	R6021M	G12
C1217M	O7	C6045M	L11	R1218M	O7	R2224M	L6	R6022M	E12
C1218M	O7	C6046M	K10	R1219M	O7	R2225M	L6	R6023M	F12
C1219M	N6	C6047M	L10	R1220M	O8	R2227M	M6	R6024M	F12
C1220M	O8	C6048M	K10	R1221M	O8	R2229M	L7	R6025M	E12
C1221M	N6	C6049M	K10	R1222M	N7	R2230M	E1	R6029M	L12
C1223M	N6	C6050M	K10	R1223M	N7	R2231M	L7	R6031M	K11
C1433M	H3	C6051M	K11	R1224M	N8	R2232M	D1	R6032M	K11
C2201M	J9	C6052M	K11	R1404M	I3	R2234M	E1	R6034M	L11
C2202M	M5	C6053M	J10	R1405M	J4	R2236M	M7	R6035M	L10
C2206M	M6	C6055M	J10	R1406M	I3	R2237M	E1	R6037M	L9
C2210M	M6	C6056M	L10	R1407M	I4	R2238M	D1	R6039M	L10
C2213M	L6	C6058M	J11	R1408M	I4	R2239M	L7	R6042M	K10
C2214M	M6	C6061M	J9	R1418M	K10	R2240M	E2	R6044M	K10
C2215M	L6	C6068M	I11	R1420M	K10	R2241M	E2	R6045M	K10
C2217M	L7	C6079M	J11	R1421M	H2	R2242M	M7	R6046M	M9
C2229M	N7	C6090M	K11	R1422M	I2	R2243M	M6	R6047M	K10
C2232M	N7	C6092M	K11	R1425M	I3	R2244M	M7	R6048M	K10
C2235M	N7	C6093M	K11	R2102M	K10	R2245M	N8	R6050M	M9
C2236M	N7	C6094M	K10	R2107M	F1	R2247M	M7	R6053M	J11
C2237M	O8	C6095M	J10	R2109M	F3	R2249M	L8	R6058M	J11
C2238M	M4	R851M	I2	R2110M	F2	R2250M	L7	R6059M	L10
C2242M	N6	R852M	I1	R2111M	F2	R2252M	N6	R6060M	L10
C3201M	E5	R854M	I2	R2112M	F3	R2254M	N8	R6061M	J11
C6001M	J12	R861M	J2	R2120M	G3	R2259M	M7	R6082M	J10
C6003M	J12	R862M	J1	R2123M	K11	R2260M	M7	R6090M	I11
C6005M	K11	R864M	J2	R2202M	J10	R2261M	M7	RX3009M	L6
C6007M	L11	R1201M	O6	R2203M	J10	R2262M	M7	RX3010M	L6
C6010M	L11	R1202M	O3	R2204M	J10	R2265M	E1		
C6011M	L11	R1203M	O5	R2205M	J10	R2269M	N6		
C6012M	L11	R1204M	O5	R2206M	J10	R3201M	E5		

ZENITH

MODEL B27A10Z

PARTS LIST

SEMICONDUCTORS

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D1401	-	103-00461A	NTE519
D2201 Thru	-		
D2205	-	103-00461A	NTE519
D3410, 11	-	103-00589	NTE577
D5101	-	103-00279-04A	-
D5102	-	103-00344-06A	-
D6001, 02	-	103-00461A	NTE519
# DX2101	-	103-00347-03A	-
# DX2102, 03	-	103-00461A	NTE519
# DX2104	-	103-00339-04A	NTE580
# DX3005	-	103-00461A	NTE519
# DX3006	-	103-00344-06A	-
# DX3201	-	103-00344-06A	-
# DX3203	-	103-00347-03A	-
# DX3204	-	103-00461A	NTE519
# DX3252	-	103-00344-06A	-
# DX3401 Thru	-		
# DX3404	-	103-00588A	-
# DX3405	-	103-00347-03A	-
# DX3406, 07, 08	-	103-00344-06A	-
IC804	LA4261	221-00598-01	NTE1685
IC1400	CXA2104S	221-01382	-
IC1402	TDA8199	221-01380	-
IC2100	TDA8174A	221-00992-01	NTE1858
IC6000	M37271MF	221-01384-01	-
IC6001	24C04PC	221-00745-04	-
IC6002	KIA7042P	221-01177A	-
# ICX2200	TA1268N	221-01165	-
# ICX3400	STR-53041	223-00028	NTE1840
# ICX3401	L7809ABV	221-00213-09	NTE1910
# ICX3402	L7805ABV	221-00213	NTE960
Q800	2N3904	121-01310A	NTE123AP
Q1200	-	121-01261A	-
Q1201, 02	2N3904	121-01310A	NTE123AP
Q2201, 02, 03	2N3906	121-01311A	NTE159
Q2204	2N3904	121-01310A	NTE123AP
Q2205, 06	2N3906	121-01311A	NTE159
Q2208, 09	2N3906	121-01311A	NTE159
Q3201	2N3904	121-01310A	NTE123AP
Q3202	MPSA06	121-01264-01A	NTE287
Q3402, 03	MPSA06	121-01340A	NTE287
Q3404	-	121-01102A	NTE25
Q5101, 02, 03	KTC3229	121-01291-01	NTE376%
Q5104	-	121-01140A	-
Q6001, 02	2N3904	121-01310A	NTE123AP
# QX3203	2SD2499	121-01383	-
# QX3401	2N4923	121-01348	NTE184
ZD1405	-	103-00279-21A	NTE142A
ZD6001	-	103-00279-36A	NTE5085A
# ZDX3004	-	103-00472A	NTE142A
# ZDX3401	-	103-00279-24A	-

For SAFETY use only equivalent replacement part.
% Use insulating hardware supplied with replacement.

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

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

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

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.
R1404M	61.9K 1% 1/10W	063-11244-76A
# RX2115, 16	1.8 5% 1/2W	63-11110-06
# RX2117	2.7 5% 1/4W	063-10235-10
# RX2124	.51 5% 1/2W	063-11214-16
# RX3008	2210 1% 1/4W	063-10936-37
# RX3009M	100K 5% 1/10W	063-11059-97A
# RX3010M	100 5% 1/10W	063-11059-25A
# RX3016, 22	4320 1% 1/4W	063-10936-72
# RX3207	75 5% 1/2W	063-10243-45
# RX3208	2.7 5% 1/2W	063-10565-10
# RX3209	6.8 10% 10W Wirewound	063-10460-44A
# RX3211	1 5% 1/2W	063-10565
# RX3214	22K 5% 1/2W	063-10244-04
# RX3215	750 5% 1W	063-10832-69B
# RX3216	330 5% 2W	063-11160-60B
# RX3217 (1)	1.2 5% 3W	063-11164-02B
# RX3217 (2)	1.5 5% 5W	063-10442-28A
# RX3218	100 5% 1/2W	063-10243-48
# RX3400	5.6M 20% 1/2W	063-11264-01
# RX3401	.68 10% 5W Wirewound	063-10444-20A
# RX3403	.15 5% 5W	063-10442-04A
# RX3404	180K 5% 1/2W	063-11088-26
# RX3405	1.2 5% 3W	063-11164-02B
# RX3406	47 5% 1/4W	063-10235-40
# RX3407	30 5% 2W	63-11160-35B
# RX3408	10 5% 2W	063-11160-24B
# RX3409	15 5% 1/2W	063-10565-28
# RX3417	15 10% 5W Wirewound	063-10444-52B
# RX3423, 27	150 5% 2W	063-11160-52B
# RX3428	180 5% 1/4W	063-10235-54
# RX5104, 11, 22	15K 5% 2W	63-10837B
# THX3415	13 Cold PTC	63-10710A

For SAFETY use only equivalent replacement part.
(1) Used in models B27A10Z5, B27A10ZC5 and LGB29A10ZM5.
(2) Used in models B27A10Z, B27A10Z6, B27A10ZC, B27A10ZC6, B27A10ZCF, LGB29A10ZM, and LGB29A13ZM.

PARTS LIST continued

CAPACITORS & ELECTROLYTICS		
Item No.	Rating	Mfr. Part No.
C1414	10µF 10% 50V	022-07669-15A
C1416, 17	10µF 20% 25V NP	022-08188-05A
C1419	3.3µF 10% 50V	022-07669-14A
C1427	10µF 20% 25V NP	022-08188-05A
C2224	1µF 20% 50V NP	022-08492-01A
C3206	.001 10% 1kV	022-07811A
C5104	.01+80% -20% 2kV	022-07523-01B
# CX2105	220µF 20% 35V	022-08311-13
# CX2107	2200µF 20% 25V	022-08310-17
# CX2110	100µF 20% 35V	022-08311-12A
# CX3003, 04	10µF 20% 50V	022-08312-08A
# CX3007	470pF 10% 500V	022-07786-10C
# CX3205	100µF 20% 16V	022-08309-12A
# CX3207A	.68 10% 200V	022-08159
# CX3208	10µF 20% 250V	022-08317-08
# CX3210 (1)	270pF 10% 2kV	022-08386-08
# CX3212	560pF 10% 2kV	022-08386-05
# CX3215	470pF 10% 500V	022-07786-10C
# CX3216	.013 3% 1.6kV	022-08229-27
# CX3217 (2)	.47 5% 200V	022-08231-12
# CX3218	2.2µF 20% 160V	022-08315-05A
# CX3219	.022 5% 50V	022-08227-04A
# CX3253	47µF 20% 50V	022-08312-11A
# CX3254	470pF 10% 500V	022-07786-10C
# CX3400	.0047 20% 500V	022-07431-06B
# CX3401	.1 20% 250VAC	022-07867-10
# CX3402	.0047 20% 500V	022-07431-06B
# CX3403 Thru		
# CX3406	.001 10% 1kV	022-07811A
# CX3407	330µF 20% 200V	022-08444-09
# CX3408	470pF 10% 500V	022-07786-10C
# CX3409	.001 10% 2kV	022-08386-08
# CX3410	.001 10% 500V	022-07786C
# CX3411	.033 10% 50V	022-08049-18A
# CX3412	.001 10% 500V	022-07786C
# CX3413	22µF 20% 50V	022-08312-09A
# CX3415	.01 5% 1.25kV	022-08008-12
# CX3416	100µF 20% 16V	022-08309-12A
# CX3418	220pF 10% 500V	022-07786-01C
# CX3420	220µF 20% 200V	022-08444-07
# CX3424	1000µF 20% 25V	022-08310-16
# CX3430	470µF 20% 25V	022-08310-15
# LX3201 (1)	.33 5% 200V	022-08231-10
# For SAFETY use only equivalent replacement part.		
(1) Used in models B27A10Z5, B27A10ZC5 and LGB29A10ZM5.		
(2) Used in models B27A10Z, B27A10Z6, B27A10ZC, B27A10ZC6, B27A10ZCF, LGB29A10ZM, and LGB29A13ZM.		

COILS & TRANSFORMERS		
Item No.	Function/Rating	Mfr. Part No.
DY1 (1)	Yoke Horiz 1.12mH Vert 17.7mH	-
L1200	120µH	020-03907-25A
L1201	.82µH	020-04277-09A
L1202	SIF	020-04278B
L1203	10µH	020-03907-12A
L1204	10µH	020-04277-39A
L1205	12µH	020-04277-23A
L1206	12µH	020-04506A
L1207	12µH	020-04277-23A
L2201	15µH	020-04129-22
L2202	4.7µH	020-04129-16
L3200 (5)	Degaussing	020-04330-43
L3200 (6)	Degaussing	020-04330-30
L3405	33µH	020-04462-18A
L3407	100µH	020-03907-24A
L5101	220µH	020-03907-28A
L5103	Ferrite Bead	149-00583-01
L6001	4.7µH	020-04129-16
L6002	6.8µH	020-04277-20A
L6003	1µH	020-04129-08
L6007	4.7µH	020-04129-16
# LX3262	Horizontal Linearity	020-04073-03
# LX3401	Line Filter	095-04593
# TX3204 (2)(3)	Horizontal Output	095-04601-01
# TX3204 (2)(4)	Horizontal Output	095-04372-01
# TX3205	Horizontal Driver	095-04477-01
# TX3401	Chopper	095-04574
# For SAFETY use only equivalent replacement part.		
(1) Part of CRT.		
(2) Screen (G-2) and focus controls are part of TX3204.		
(3) Used in models B27A10Z, B27A10Z6, B27A10ZC, B27A10ZC6, B27A10ZCF, LGB29A10ZM, and LGB29A13ZM.		
(4) Used in models B27A10Z5, B27A10ZC5, and LGB29A10ZM5.		
(5) Used in models B27A10Z, B27A10Z5, B27A10Z6, B27A10ZC, B27A10ZC5, B27A10ZC6, B27A10ZCF, LGB29A10ZM5, and LGB29A10ZM.		
(6) Used in model LGB29A13ZM.		

MISCELLANEOUS			
Item No.	Description	Mfr. Part No.	Notes
CR2201	Crystal	224-00027A	3.58MHz
CR2202	Crystal	224-0017B	503kHz
CRT1	Socket	078-03394-09	CRT
CRY6001	Crystal	224-00074-02A	8MHz
# EX3401	Spark Gap	038-00102	High Voltage, 4kV
# FX3401	Fuse	136-00114-23C	4Amp, 250V, Normal Lag
# FX3402	Fuse	136-00148-23C	3Amp, 250V, Normal Lag
IR6000	Receiver	162-00046	Remote
# KX3401	Relay	195-00161	Power
P3401	Line Cord	A-18681-01	AC, Polarized
SP1, 2	Speaker	049-01368-03	5" X 2 1/4", 8 Ohms, 5W
SW1	Switch	085-01832	On/Off
SW2	Switch	085-01832	Channel Up
SW3	Switch	085-01832	Channel Down
SW4	Switch	085-01832	Volume Up
SW5	Switch	085-01832	Volume Down
SW6	Switch	085-01832	Menu
TU6000 (1)	Tuner	175-02771	UHF/VHF
TU6000 (2)	Tuner	175-02721	UHF/VHF
U1200	Filter	224-00160	SAW
U1201	Filter	224-00139-01A	4.5MHz
U1202	Trap	224-00023A	4.5MHz
V1 (3)	CRT	A-19058-03	A68ADT31X03
V1 (4)	CRT	A-19058-01	-
	Knob Array	046-10578	Pushbutton
	Transmitter (5)	124-00213-23	Remote, SC3492Z
	Transmitter (6)	124-00229	Remote, MBR3345Z
# For SAFETY use only equivalent replacement part.			
(1) Used in models B27A10Z, B27A10Z5, B27A10ZC, B27A10ZC5, B27A10ZCF, LGB29A10ZM, LGB29A10ZM5, and LGB29A13ZM.			
(2) Used in models B27A10Z6 and B27A10ZC6.			
(3) Used in models B27A10Z, B27A10Z6, B27A10ZC, B27A10ZC6, B27A10ZCF, and LGB29A10ZM.			
(4) Used in models B27A10Z5, B27A10ZC5, LGB29A10ZM5, and LGB29A13ZM.			
(5) Used in models B27A10Z, B27A10Z5, B27A10Z6, B27A10ZC, B27A10ZC5, B27A10ZC6, B27A10ZCF, LGB29A10ZM5, and LGB29A10ZM.			
(6) Used in model LGB29A13ZM.			

ZENITH
MODEL B27A10Z