

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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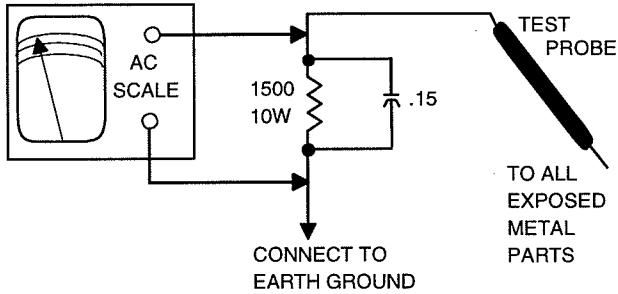
SAFETY CHECKS -- FIRE AND SHOCK HAZARD

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.

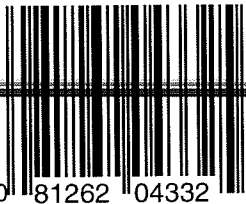


HIGH VOLTAGE SHUTDOWN TEST

Apply 120VAC. Connect a jumper wire to XRP1 and XRP2. The set should go into shutdown, losing picture and sound. If set does not go into shutdown, the shutdown circuit requires repair. To resume normal operation, remove jumper wire.



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PHOTOFACT® Technical Service Data

SET 4332

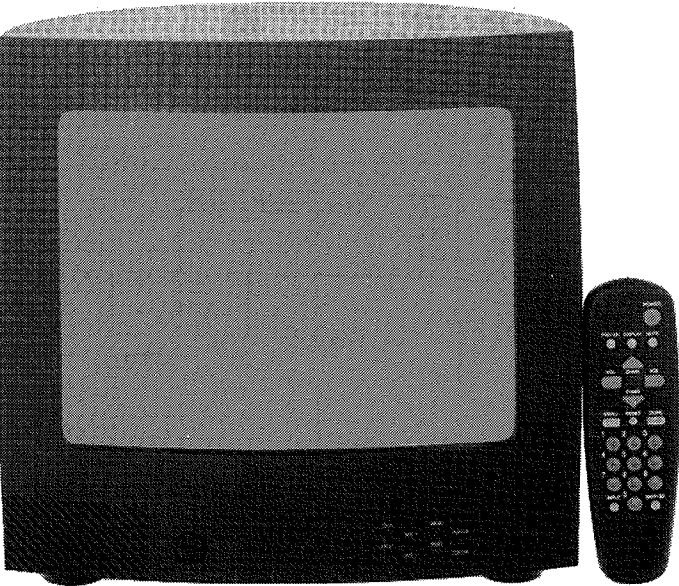
MODEL X13050GSF04 (CHASSIS TX825XB)

RCA

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RCA  
Model X13050GSF04 (Chassis TX825XB)

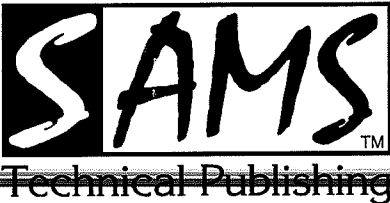


Representative Model  
Essential coverage  
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models and chassis:

MODELS	CHASSIS
X13101GSC04	TX825XB
X13101GSC24	TX825XB
X13101GSF04	TX825XB
X13101GSF24	TX825XB



AUGUST 2000 SET 4332

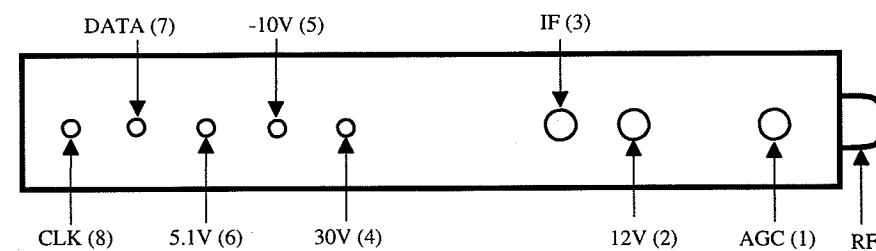
## TUNER INFORMATION

## TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
AGC (1)	3.8V	4.4V	4.9V
12V (2)	12.0V	12.0V	12.0V
IF (3)	0V	0V	0V
30V (4)	33.3V	33.3V	33.3V
-10V (5)	-11.7V	-5.6V	-11.7V
5.1V (6)	5.0V	5.0V	5.0V
DATA (7)	5.0V	5.0V	5.0V
CLK (8)	5.0V	5.0V	5.0V

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

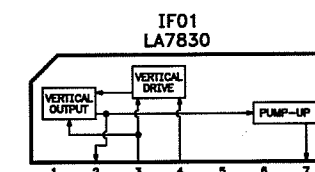
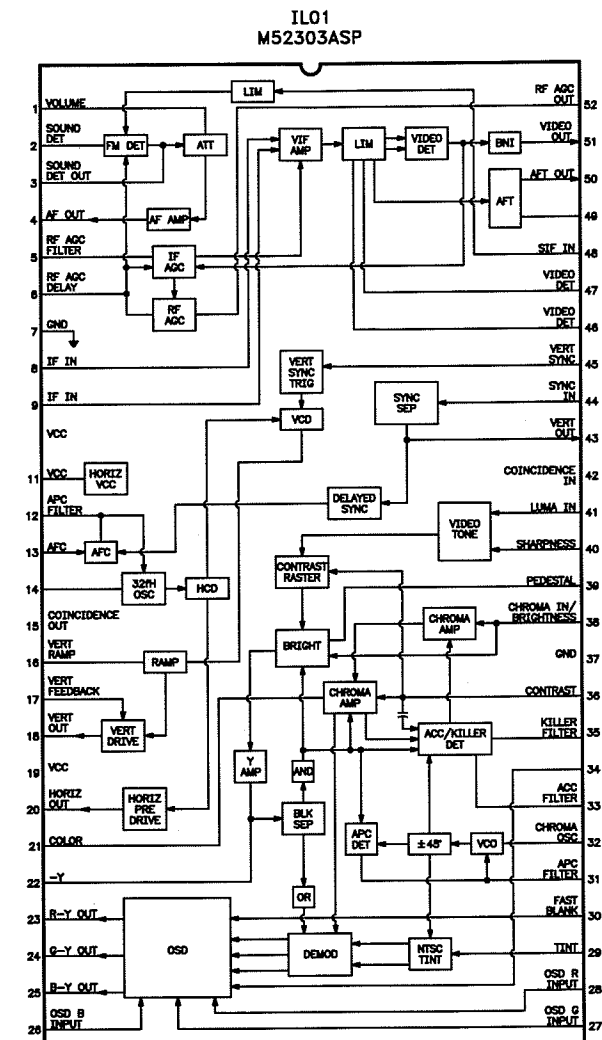


## TEST EQUIPMENT

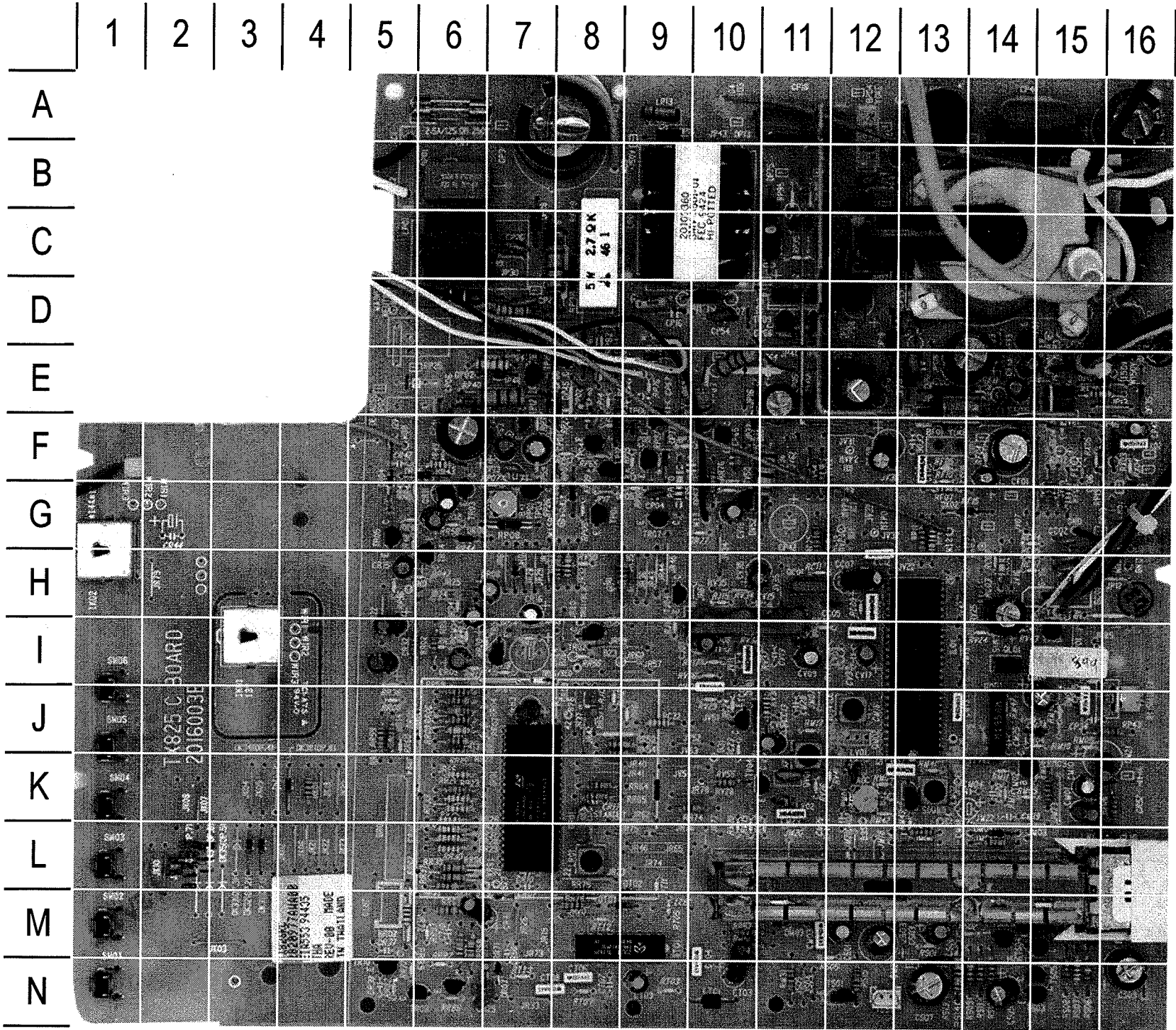
Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

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	TT46
Hi-Voltage Probe	HP200	Horizontal Analyzer	HA-2500
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

## IC FUNCTIONS



MAIN BOARD - TOP VIEW

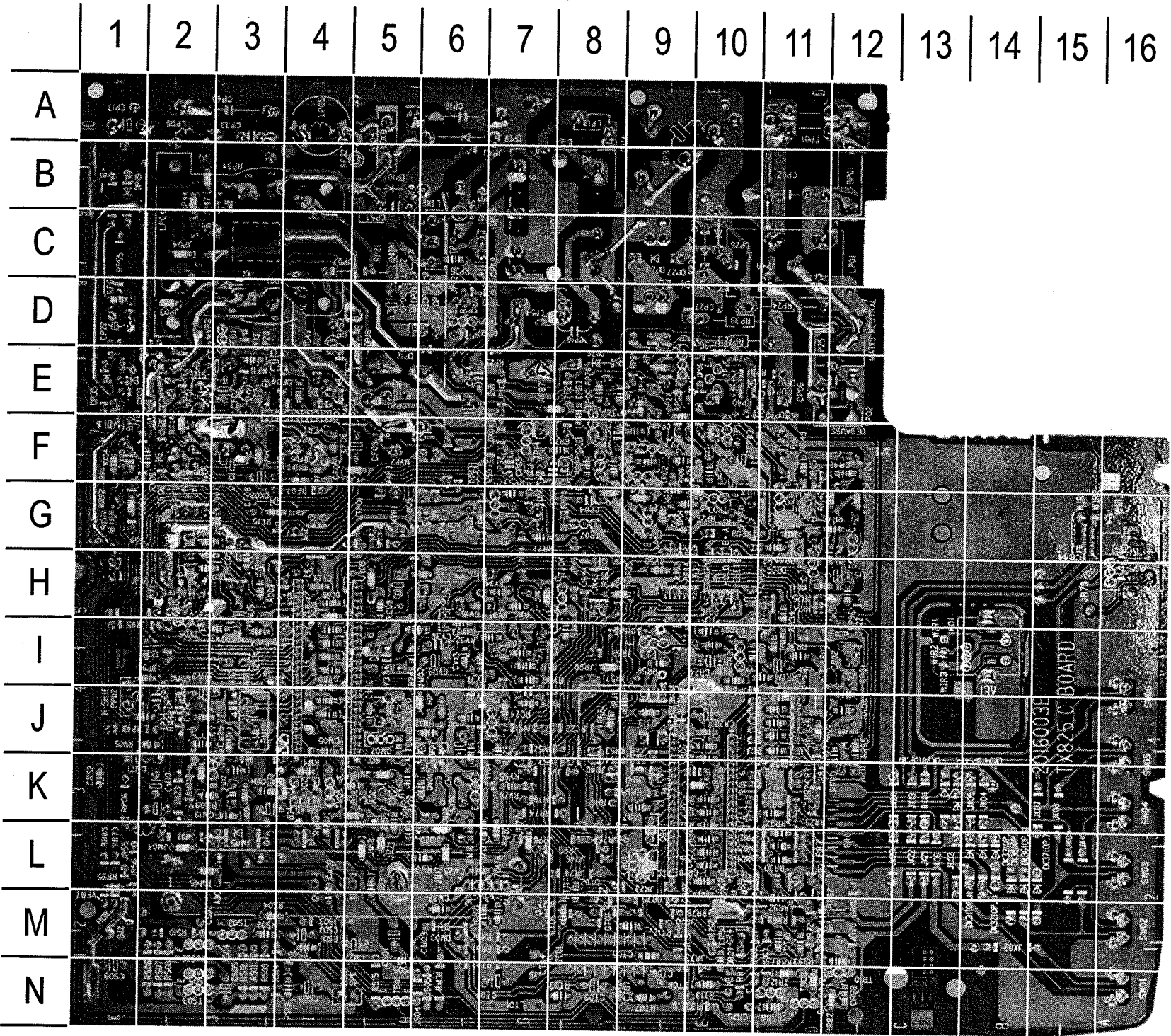


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MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

BF01	F13	CR31	I5	IL01	J13	RP68	E12	SW05	K1
BP01	F13	CR32	I5	IR01	J7	RP72	D7	SW06	J1
BP02	E5	CR40	J7	IT01	M9	RP81	E6	TC01	J10
BP04	A12	CR41	M6	JM05	L14	RP82	E8	TF01	D14
BS01	N12	CS01	M12	JR35	H9	RP85	D8	TJ04	H9
CC02	G15	CS02	M15	JV17	G15	RP87	E10	TM02	K14
CC03	H15	CS03	M13	LM02	K13	RP95	C11	TM03	K13
CC04	H15	CS05	N14	LM03	J12	RR01	J6	TP01	G8
CC05	H12	CS06	M13	LM04	J15	RR02	I5	TP02	F8
CC06	H12	CS07	N13	LM07	J11	RR04	J6	TP03	G7
CC07	H12	CS09	N16	LM08	L16	RR07	J6	TP04	F8
CC11	I12	CT03	N10	LP01	C6	RR10	J6	TP05	F9
CC12	G12	CT04	N10	LP02	C12	RR11	J5	TP06	E9
CF01	F14	CT06	N8	LP03	B9	RR13	J6	TP09	D11
CF02	E14	CT08	N8	LP04	C14	RR14	J5	TP10	C11
CF05	F13	CT09	N9	LP05	A13	RR16	I6	TP11	E8
CF08	F14	CV06	J11	LP06	A15	RR21	K6	TP12	F7
CF09	F12	CV09	I11	LP11	C12	RR22	J6	TP13	D11
CF13	E14	CV12	I10	LP13	A9	RR23	K6	TP14	F10
CJ07	I10	CV14	I10	LR01	L8	RR24	K6	TP15	E7
CM01	K15	CV17	I12	LS02	M16	RR25	K6	TR01	I7
CM03	M11	CV18	G10	LT01	N10	RR26	K6	TR02	I8
CM07	K13	CV35	H10	LV01	K12	RR27	L6	TR03	G6
CM10	K15	CV36	I11	LV02	K11	RR28	L6	TR04	G6
CM13	J13	CX02	F16	PF01	E15	RR29	L6	TR05	G5
CM14	J15	DC01	J10	PM01	K12	RR35	L6	TR07	G9
CM15	H15	DF04	E13	PP01	G7	RR37	L6	TR08	N6
CM21	K16	DK31	L3	PP02	J16	RR39	L6	TR10	N5
CM22	M12	DM03	M11	QC01	I11	RR43	F6	TR12	N6
CM23	K11	DM04	L14	QL01	I14	RR51	M10	TS01	N12
CM34	H6	DP02	E7	QM01	J14	RR52	M10	TS02	M14
CP01	F7	DP04	G8	QM02	J12	RR53	J8	TS03	N15
CP02	B6	DP05	F8	QR01	L8	RR54	J8	TS04	M15
CP03	F9	DP06	E7	QV01	K11	RR57	J8	TS05	N15
CP04	G9	DP10	B12	RC02	H14	RR59	J6	TV04	K11
CP05	E11	DP11	D10	RC18	G12	RR63	M6	TV05	I15
CP06	E5	DP12	E12	RC22	J9	RR64	K8	TV50	G10
CP08	D12	DP13	A11	RC25	G11	RR65	K8	VV01	I11
CP13	F7	DP14	A9	RF01	E14	RR67	M6	XRP1	F16
CP16	D9	DP15	D12	RF07	G13	RR68	M6	XRP2	G16
CP17	A16	DP16	D12	RF09	G15	RR70	G9		
CP18	A11	DP18	D12	RF13	E13	RR71	N7		
CP20	E12	DP19	B16	RF20	E15	RR73	M16		
CP22	D16	DP20	E13	RK01	K4	RR74	K10		
CP23	E14	DP21	D12	RM03	K15	RR75	M8		
CP25	E15	DP26	C7	RM31	N31	RR76	F10		
CP26	C7	DP27	C8	RM35	K14	RR78	M8		
CP27	D7	DP28	C7	RM38	L13	RR83	G14		
CP31	A7	DP29	C8	RP02	E8	RR84	H8		
CP33	A14	DP35	E16	RP03	G7	RR85	M16		
CP35	J15	DP37	F8	RP04	D7	RR89	M5		
CP40	A15	DP46	E7	RP06	K16	RS06	N15		
CP41	F6	DP54	D8	RP08	G7	RS07	N15		
CP42	G11	DP67	F10	RP11	G13	RS08	N15		
CP47	F16	DP75	B11	RP18	G16	RS09	N14		
CP48	E8	DP76	E9	RP19	F15	RS10	M15		
CP53	B12	DP77	F9	RP23	E10	RS11	N14		
CP54	D10	DP78	E6	RP24	D6	RS12	N14		
CP55	E13	DR02	H7	RP25	E5	RS14	N13		
CP56	F9	DR04	F5	RP28	C8	RS15	N12		
CP59	D13	DR05	F5	RP32	B12	RT02	M10		
CP63	F7	DR06	G6	RP34	B14	RV21	E15		
CP65	F10	DR07	N7	RP38	C7	RV22	F11		
CP66	D11	DT01	M9	RP39	D7	RV28	K10		
CP68	C11	DT02	M9	RP40	E7	RV30	J11		
CR08	H7	DV52	G11	RP43	J16	RV52	H8		
CR09	I6	DX01	F10	RP53	D13	RV54	E11		
CR11	G6	DX02	G14	RP55	C16	RX03	F16		
CR12	G6	DX03	E16	RP56	D16	SW01	NI		
CR15	H5	FP01	A6	RP62	F11	SW02	M1		
CR16	H7	IF01	E14	RP63	D16	SW03	L1		
CR29	N7	IK01	I3	RP67	G13	SW04	K1		

MAIN BOARD - BOTTOM VIEW



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MAIN BOARD - BOTTOM VIEW, GRIDTRACE  
LOCATION GUIDE

CC08	H4	RJ15	H7	RR61	J8
CC13	J6	RJ17	I7	RR62	M12
CF06	F4	RJ18	I8	RR66	L10
CF07	E4	RM04	K5	RR69	I10
CF14	I2	RM05	J2	RR72	N12
CJ08	I7	RM06	K2	RR77	G7
CM02	K5	RM09	K3	RR82	N12
CM04	K3	RM10	J2	RR86	N11
CM05	J4	RM11	K3	RR87	N11
CM11	I4	RM12	K3	RR92	L11
CM12	I4	RM15	J3	RR93	M11
CM16	J5	RM16	L6	RR95	L1
CM17	J4	RM17	J6	RS01	M4
CM18	J5	RM19	L7	RS02	M3
CM19	K3	RM20	L7	RS03	L5
CM20	K3	RM36	L6	RS04	M3
CM24	J2	RM40	I11	RS05	M6
CM25	J3	RM41	K4	RS13	N4
CM26	L5	RM42	K5	RT03	N8
CM27	M6	RM43	L4	RT05	M8
CM28	J6	RP05	G9	RT07	N9
CM29	L7	RP07	G11	RT11	L8
CM30	L4	RP09	F9	RT12	M9
CP34	J2	RP10	G8	RT13	N10
CP49	E11	RP12	F9	RV24	I3
CP67	E8	RP13	F9	RV25	H14
CR07	L10	RP14	E9	RV26	K6
CR10	L10	RP15	F8	RV29	J7
CR17	K9	RP16	E8	RV31	J6
CR18	K10	RP21	C5	RV32	I7
CR19	J10	RP26	G10	RV33	I6
CR20	J10	RP27	E9	RV34	H7
CR21	M7	RP35	C6	RV36	I7
CR22	M7	RP37	F10	RV37	I7
CR23	J10	RP59	F10	RV40	K5
CR25	K10	RP61	E9	RV41	I6
CR26	K10	RP64	D1	RV43	I3
CR27	L10	RP65	F9	RV50	H9
CR28	L10	RP70	F8	RV53	G7
CR37	M12	RP76	E8	RV55	K7
CR38	N12	RP96	H12	RX02	G1
CR42	F12	RP97	F8	RX04	F1
CR50	M10	RP98	I2	RX05	F2
CR52	K1	RR03	J11		
CT05	M9	RR05	J12		
CT07	N9	RR06	J11		
CT10	M11	RR08	J12		
CV07	J4	RR09	J11		
CV08	J4	RR12	J11		
CV13	I6	RR17	I11		
CV15	H6	RR18	I10		
CV19	H4	RR19	I10		
CV51	I4	RR20	I11		
RC03	H3	RR30	L11		
RC04	G3	RR31	L11		
RC05	H3	RR32	L11		
RC06	H3	RR33	K11		
RC07	H3	RR34	H11		
RC09	H5	RR36	I11		
RC11	H6	RR38	J12		
RC15	I4	RR42	G12		
RC23	J7	RR44	G11		
RC24	J7	RR45	G12		
RC26	H4	RR46	G12		
RF04	F3	RR47	H12		
RF05	F4	RR48	G12		
RF10	F4	RR49	F11		
RF11	E3	RR55	J12		
RE15	G3	RR56	I9		
RJ12	J9	RR58	G11		
RJ13	J9	RR60	J12		

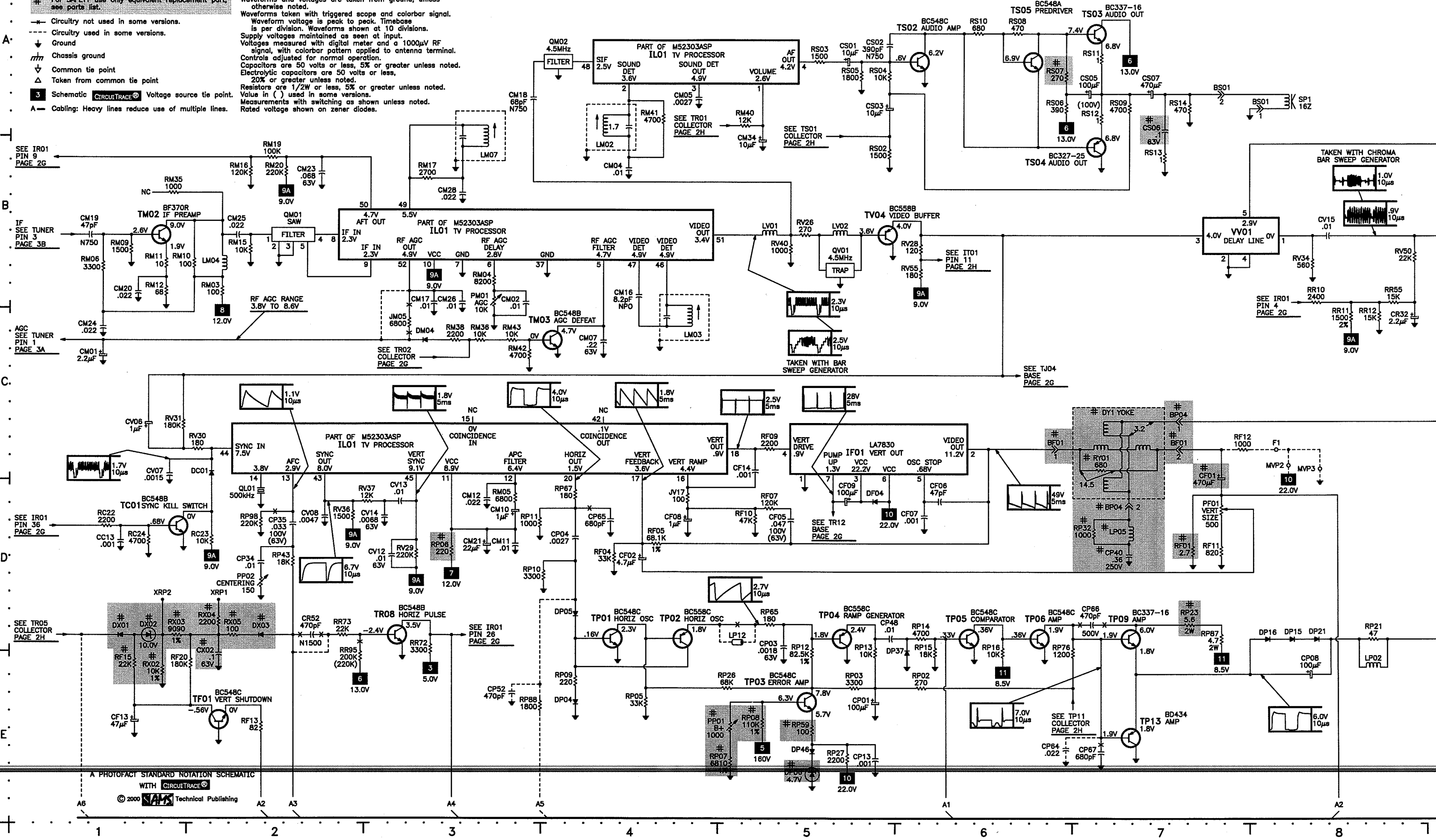
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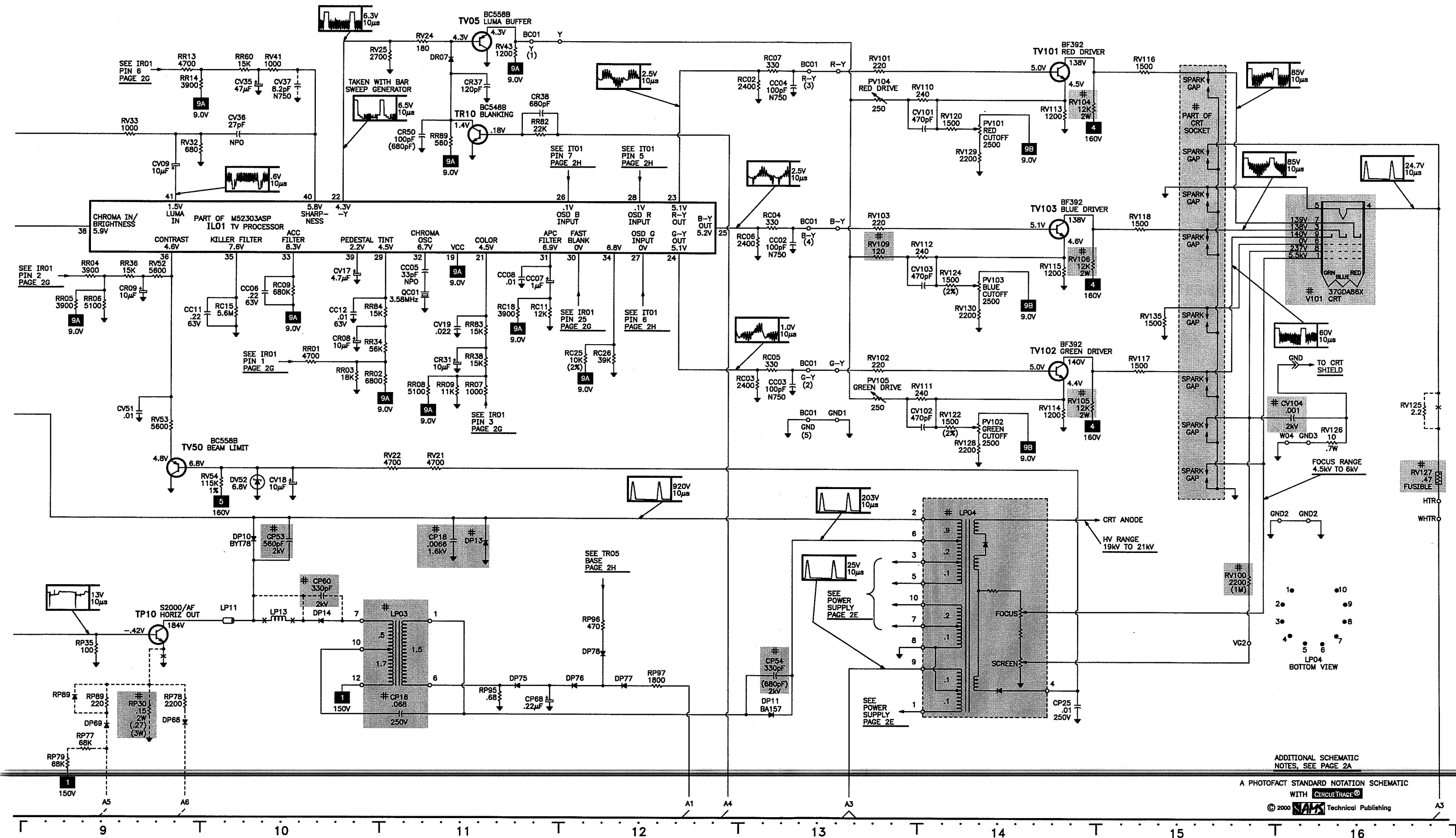
MODEL X13050GSF04 (CHASSIS TX825XB)

SCHEMATIC NOTES

TELEVISION SCHEMATIC

- # For SAFETY use only equivalent replacement part, see parts list.
  - Circuitry not used in some versions.
  - - - Circuitry used in some versions.
  - A Ground
  - Chassis ground
  - Common tie point
  - Taken from common tie point
  - 3 Schematic Voltage source tie point.
  - A Cabling: Heavy lines reduce use of multiple lines.
- Waveforms and voltages are taken from ground, unless otherwise noted.  
Waveforms taken with triggered scope and colorbar signal.  
Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.  
Supply voltages maintained as seen at input.  
Voltages measured with digital meter and a 1000μV RF signal, with colorbar pattern applied to antenna terminal.  
Controls adjusted for normal operation.  
Capacitors are 50 volts or less, 5% or greater unless noted.  
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.  
Resistors are 1/2W or less, 5% or greater unless noted.  
Value in ( ) used in some versions.  
Measurements with switching as shown unless noted.  
Rated voltage shown on zener diodes.





# POWER SUPPLY SCHEMATIC

## SCHEMATIC COMPONENT LOCATION GUIDE

BP01	A17	CP42	D19	CV36	B10	LM02	B4	RM09	B1	RP89	E9	RR73	D2	RV115	B14
CC02	B13	CP47	E20	CV37	A10	LM03	C4	RM10	B2	RP95	E11	RR74	D25	RV116	A15
CC03	C13	CP48	D5	CV51	C9	LM04	B2	RM11	B1	RP96	E12	RR75	C26	RV117	C15
CC04	A13	CP49	B18	CV101	B13	LM07	B3	RM12	B1	RP97	E12	RR76	E18	RV118	B15
CC05	B11	CP52	E3	CV102	C13	LM08	D19	RM15	B2	RP98	D2	RR77	E18	RV120	B14
CC06	C10	CP53	D10	CV103	C13	LM01	A18	RM16	B2	RP01	C10	RR78	C24	RV122	C14
CC07	B11	CP54	E13	CV104	C16	LP02	E8	RM17	B3	RR02	C11	RR82	B11	RV124	C14
CC08	B11	CP55	D18	CX02	E2	LP03	D11	RM19	B2	RR03	C10	RR83	C11	RV125	C16
CC11	C10	CP56	D18	DC01	D2	LP04	D14	RM20	B2	RR04	B9	RR84	C11	RV126	C16
CC12	C10	CP59	C18	DF04	D5	LP04	D17	RM31	B27	RR05	C9	RR85	D22	RV127	D16
CC13	D1	CP60	D10	DK31	B22	LP05	D7	RM35	B1	RR06	C9	RR86	D22	RV128	C14
CF13	E1	CP63	D24	DK32	B22	LP06	C17	RM36	C3	RR07	C11	RR87	D22	RV129	B14
CF14	C5	CP64	E6	DK34	B22	LP11	D10	RM38	C3	RR08	C11	RR89	B11	RV130	C14
CF01	D7	CP65	D4	DK35	B22	LP12	E5	RM40	B5	RR09	C11	RR92	B24	RV135	C15
CF02	D4	CP66	D7	DK36	B22	LP13	D10	RM41	B4	RR10	C8	RR93	D24	RX02	E1
CF05	D5	CP67	E7	DK37	B22	LP99	A18	RM42	C3	RR11	C8	RR95	E2	RX03	D1
CF06	D6	CP68	E11	DK38	B22	LR01	E24	RM43	C3	RR12	C8	RS01	D26	RX04	D2
CF07	D6	CR07	C26	DM03	A27	LS02	C19	RP02	E6	RR13	A9	RS02	B5	RX05	D2
CF08	D4	CR08	C10	DM04	C3	LT01	B25	RP03	E5	RR14	A10	RS03	A5	RY01	D7
CF09	D5	CR09	C9	DP02	B19	LV01	B5	RP04	D26	RR16	D26	RS04	A5	SP1	A8
CJ07	D22	CR10	C24	DP04	E4	LV02	B5	RP05	E4	RR17	D25	RS05	A5	SW01	B21
CJ08	D22	CR11	C19	DP05	D4	LV103	C18	RP06	D3	RR18	D25	RS06	A6	SW02	A21
CM01	C1	CR12	C19	DP06	E5	PF01	D7	RP07	E5	RR19	D25	RS07	A6	SW03	B21
CM02	C3	CR15	E25	DP10	D10	PM01	C3	RP08	E5	RR20	D25	RS08	A6	SW04	A21
CM03	A27	CR16	E24	DP11	E13	PP01	E5	RP09	E4	RR21	C23	RS09	A7	SW05	B21
CM04	B4	CR17	E24	DP12	D18	PP02	D2	RP10	D3	RR22	C23	RS10	A6	SW06	B21
CM05	A4	CR18	E24	DP13	D11	PV101	B14	RP11	D3	RR23	C23	RS11	A7	TC01	D1
CM07	C4	CR19	E23	DP14	D10	PV102	C14	RP12	E5	RR24	C23	RS12	B7	TF01	E2
CM10	D3	CR20	D24	DP15	D8	PV103	C14	RP13	E5	RR25	C23	RS13	B7	TJ04	D22
CM11	D3	CR21	A24	DP16	D7	PV104	A13	RP14	D6	RR26	B23	RS14	A7	TM02	B1
CM12	D3	CR22	A24	DP18	C18	PV105	C13	RP15	E6	RR27	B23	RS15	D25	TM03	C3
CM13	D19	CR23	C20	DP19	C17	QC01	C11	RP16	E6	RR28	B23	RT02	B25	TP01	D4
CM14	D19	CR25	D23	DP20	D18	QL01	D2	RP18	A27	RR29	B23	RT03	B26	TP02	D4
CM15	D20	CR26	D23	DP21	D8	QM01	B2	RP19	A27	RR30	B23	RT05	B24	TP03	E5
CM16	C4	CR27	E24	DP26	A19	QM02	A3	RP21	D8	RR31	B23	RT07	B26	TP04	D5
CM17	C3	CR28	E24	DP27	A19	QR01	D23	RP23	D7	RR32	B23	RT11	A26	TP05	D6
CM18	A3	CR29	D22	DP28	B19	QV01	B5	RP24	B18	RR33	B23	RT12	A26	TP06	D6
CM19	B1	CR31	C11	DP29	B19	RC02	A13	RP25	B18	RR34	C11	RT13	D27	TP09	D7
CM20	B1	CR32	C8	DP35	E18	RC03	C13	RP26	E4	RR35	B24	RV21	D11	TP10	D9
CM21	D3	CR37	A11	DP37	E6	RC04	B13	RP27	E5	RR36	B9	RV22	D11	TP11	D26
CM22	D19	CR38	B11	DP46	E5	RC05	C13	RP28	B19	RR37	E23	RV24	A11	TP12	D26
CM23	B2	CR40	D24	DP54	D26	RC06	B13	RP30	E9	RR38	C11	RV25	A11	TP13	E7
CM24	C1	CR41	D24	DP67	D19	RC07	A13	RP32	D7	RR39	E24	RV26	B5	TP14	D19
CM25	B2	CR42	E26	DP68	E9	RC09	C10	RP34	C17	RR42	E25	RV28	B6	TP15	B19
CM26	C3	CR50	B11	DP69	E9	RC11	C11	RP35	E9	RR43	E26	RV29	D3	TR01	D25
CM27	B27	CR52	D2	DP75	E11	RC15	C10	RP37	D26	RR44	D25	RV30	C2	TR02	D24
CM28	B3	CS01	A5	DP76	E12	RC18	C11	RP38	B18	RR45	E25	RV31	C1	TR03	B19
CM29	E20	CS02	A5	DP77	E12	RC22	D1	RP39	B18	RR46	E26	RV32	B10	TR04	E26
CM30	D20	CS03	A5	DP78	E12	RC23	D2	RP40	B18	RR47	E25	RV33	B9	TR05	E26
CM34	B5	CS05	A6	DR02	E24	RC24	D1	RP43	D2	RR48	E26	RV34	B8	TR07	E18
CP01	E5	CS06	B7	DR04	E25	RC25	C12	RP53	D18	RR49	B19	RV36	D2	TR08	D3
CP02	A18	CS07	A7	DR05	C19	RC26	C12	RP55	C17	RR51	A24	RV37	D2	TR10	B11
CP03	D5	CS09	C20	DR06	D25	RF01	D7	RP56	D18	RR52	A24	RV40	B5	TR12	D22
CP04	D4	CT03	B25	DR07	A11	RF04	D4	RP59	E5	RR53	A24	RV41	A10	TS01	D25
CP05	D20	CT04	B24	DT01	B26	RF05	D4	RP61	D26	RR54	A24	RV43	A11	TS02	A6
CP06	A18	CT05	B25	DT02	B26	RF07	D5	RP62	D19	RR55	C8	RV50	B8	TS03	A7
CP08	E8	CT06	B26	DV52	D10	RF09	C5	RP63	E18	RR56	D24	RV52	B9	TS04	B7
CP13	E5	CT07	B26	DX01	D1	RF10	D5	RP64	C18	RR57	D24	RV53	C9	TS05	A6
CP16	E11	CT08	B26	DX02	D1	RF11	D7	RP65	D5	RR58	E27	RV54	D10	TV04	B5
CP17	C20	CT09	C25	DX03	D2	RF12	C7	RP67	D4	RR59	C24	RV55	B6	TV05	A11
CP18	D11	CT10	B25	DY1	C7	RF13	E2	RP68	C18	RR60	A10	RV100	D15	TV50	D9
CP20	C19	CV06	C1	FP01	A17	RF15	E1	RP70	D18	RR61	C24	RV101	A13	TV101	A14
CP22	C18	CV07	D1	IF01	C5	RF20	E2	RP72	B18	RR62	A23	RV102	C13	TV102	C14
CP23	D20	CV08	D2	IK01	A22	RJ12	D22	RP76	E6	RR63	A23	RV103	B13	TV103	B14
CP25	E14	CV09	B9	IL01	A4	RJ13	D23	RP77	E9	RR64	E24	RV104	A14	V101	C16
CP26	B19	CV12	D3	IL01	B10	RJ15	D22	RP78	E9	RR65	E24	RV105	C14	VV01	B7
CP27	A19	CV13	D3	IL01	B3	RJ17	D22	RP79	E9	RR66	D23	RV106	B14		
CP31	B20	CV14	D3	IL01	C2	RJ18	D22	RP81	B18	RR67	D22	RV109	B13		
CP33	C17	CV15	B8	IR01	A23	RK01	A22	RP82	E26	RR68	E23	RV110	A13		
CP34	D2	CV17	B10	IT01	A25	RM03	B2	RP85	D18	RR69	E24	RV111	C13		
CP35	D2	CV18	D10	JM05	C3	RM04	B3	RP87	D7	RR70	E18	RV112	B13		
CP40	D7	CV19	C11	JR35	E19	RM05	D3	RP88	E3	RR71	D25	RV113	B14		
CP41	B20	CV35	A10	JV17	D4	RM06	B1	RP89	E9	RR72	E3	RV114	C14		

ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 2A

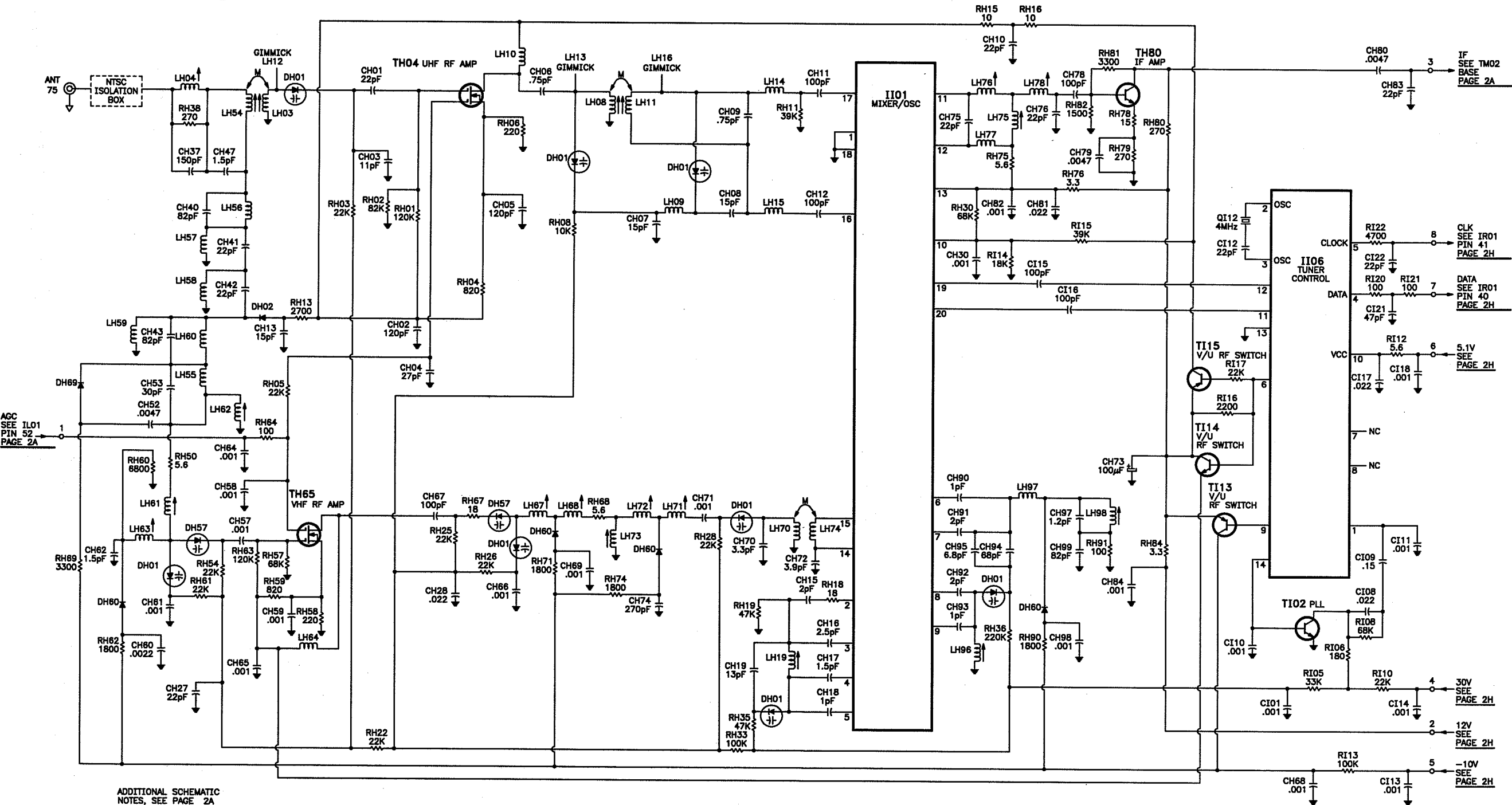
A PHOTOFACT STANDARD NOTATION SCHEMATIC  
WITH CIRCUIT TRACE

## H

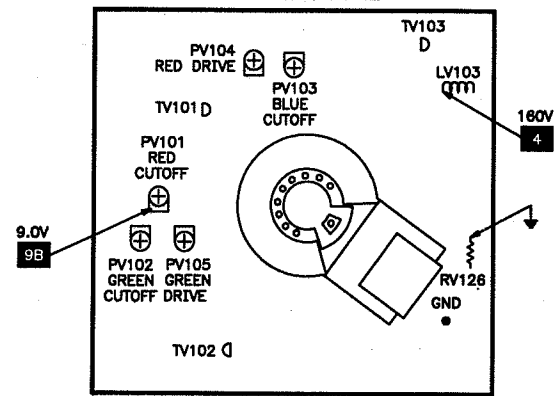


TUNER SCHEMATIC

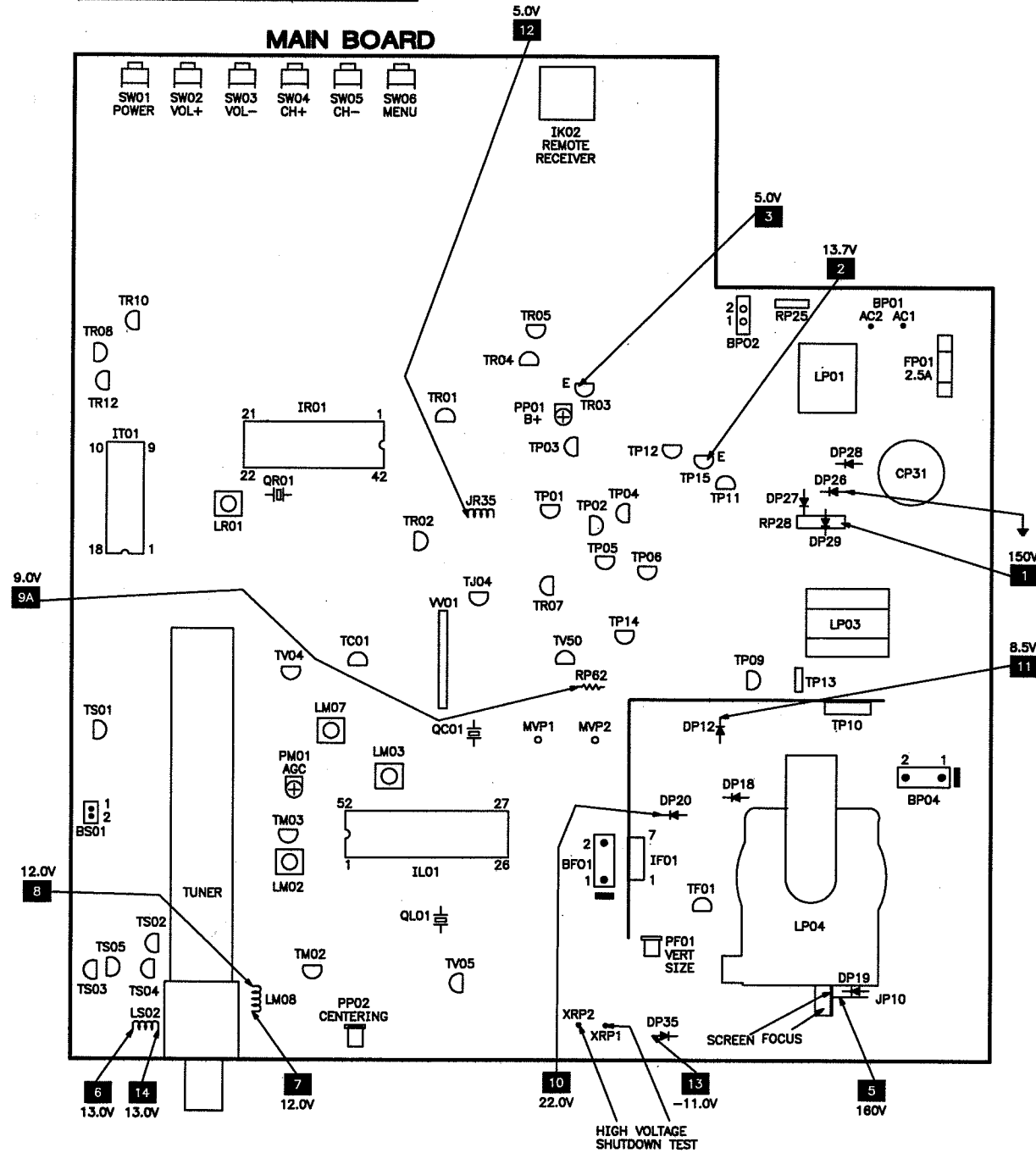
MTP-M-4006R  
FOR REFERENCE ONLY



## CRT BOARD



## MAIN BOARD



- 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.

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.

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

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

PARTS LIST

SEMICONDUCTORS			
(Select the replacement that gives the best results.)			
Item No.	Type No.	Mfr. Part No.	ECG Part No.
DC01	-	198589	ECG519
DF04	-	198597	ECG116
DK31, 32	-	198589	ECG519
DK34 Thru	-		
DK38	-	198589	ECG519
DM03	-	198600	-
DM04	-	198589	ECG519
DP02	-	220637	-
DP04, 05	-	198589	ECG519
# DP06	-	223083	-
DP10	BYT78	198594	-
DP11, 12	BA157	198590	ECG558
# DP13	-	198596	-
DP14	-	210226	-
DP15, 16	-	198597	ECG116
DP18, 19, 20	BA157	198590	ECG558
DP21	-	198597	ECG116
# DP26 Thru	-		
# DP29	-	209919	ECG125
DP35, 37	-	198589	ECG519
DP46, 54	-	198589	ECG519
DP67	-	220637	-
DP68, 69	-	198589	ECG519
DP75	-	198590	ECG580
DP76, 77, 78	-	198589	ECG519
DR02	-	198589	ECG519
DR04	-	220638	-
DR05	-	220639	-
DR06, 07	-	198589	ECG519
DT01, 02	1N4148	198589	-
DV52	-	220638	-
# DX01	-	198589	ECG519
# DX02	-	159429	ECG5019T1
# DX03	-	198589	ECG519
IF01	LA7830	188086	ECG1773
IL01	M52303ASP	210543	-
IR01	ST6497B1/FBS	220096	-
IT01	MC144143P1	220114	-
RP89	-	198589	-
TC01	BC548B	198743	ECG123AP
TF01	BC548C	198746	ECG199
TJ04	BC558B	198745	ECG159
TM02	BF370R	206017	-
TM03	BC548B	198743	ECG123AP
TP01	BC548C	198746	ECG199
TP02	BC558C	198747	ECG159
TP03	BC548C	198746	ECG199
TP04	BC558C	198747	ECG159
TP05, 06	BC548C	198746	ECG199
TP09	BC337-16	216099	ECG123AP
TP10	S2000/AF	227518	-
TP11	BC558C	198747	ECG159
TP12	BC548C	198746	ECG199
TP13	BD434	220673	ECG153
TP14	BC337-16	216099	ECG123AP
TP15	-	198752	-
TR01	BC548B	198743	ECG123AP
TR02	BC558B	198745	ECG159
TR03	BC548B	198743	ECG123AP
TR04, 05	BC548C	198746	ECG199
# 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.
TR07	BC337-16	216099	ECG123AP
TR08, 10, 12	BC548B	198743	ECG123AP
TS01	BC548B	198743	ECG123AP
TS02	BC548C	220674	ECG199
TS03	BC337-16	216099	ECG123AP
TS04	BC327-25	220675	ECG298
TS05	BC548A	220674	ECG199
TV04, 05	BC558B	198745	ECG159
TV50	BC558B	198745	ECG159
TV101, 02, 03	BF392	198763	ECG287

CABINET PARTS	
Item	Mfr. Part No.
Button Cluster (1)(2)	221587
Button Cluster (2)	221826
# Cabinet Front Mask (1)	MK1723
# Cabinet Front Mask (2)	MK1681
# Cabinet Rear (1)(2)	BK1553
IR Window (1)(2)	221027
# For SAFETY use only equivalent replacement part.	
(1) Used in model X13050GSF04.	
(2) Used in models X13101GSC04/SC24/SF04/SF24.	

CAPACITORS & ELECTROLYTICS		
Item No.	Rating	Mfr. Part No.
CC02, 03, 04	100pF 5% 50V N750	198579
CC05	33pF 5% 50V NPO	210153
# CF01	470µF 20% 25V	220623
CM16	8.2pF 10% 50V NPO	202047
CM18	68pF 5% 50V N750	198554
CM19	47pF 5% 50V N750	198555
# CP02	.1 20% 250V	220625
# CP06	.068 20% 250V	220627
# CP16	.068 20% 250V	220627
# CP17	100µF 160V	194728
# CP18	.0066 1.6kV	198562
# CP20	1000µF 20% 16V	185862
# CP22	22µF 20% 100V	210156
# CP23	1000µF 20% 25V	190721
# CP26, 27	.0015 10% 1kV	198565
# CP31	330µF 200V	182286
# CP40	.36 5% 250V	198567
# CP41	1000µF 20% 25V	190721
# CP53	560pF 2kV	198568
# CP54	330pF 2kV	198569
	680pF 2kV	225440
# CP55	.001 1kV	198570
# CP60	330pF 2kV	198569
CR52	470pF 5% 50V N1500	198572
	470pF 5% 50V	198566
CS02	390pF 5% 50V N750	220630
# CS06	.1 10% 63V	220631
CV36	27pF 5% 50V NPO	220634
CV37	8.2pF 10% 50V N750	220918
# CV104	.001 2kV	198806
# CX02	.1 10% 63V	198551
# For SAFETY use only equivalent replacement part.		

PARTS LIST continued

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.
PF01	500 Vertical Size	198627
PM01	10K AGC	198628
# PP01	1000 B+	198629
PP02	150 Centering	210546
PV101	2500 Red Cutoff	216051
PV102	2500 Green Cutoff	216051
PV103	2500 Blue Cutoff	216051
PV104	250 Red Drive	216052
PV105	250 Green Drive	216052
RC25	10K 5% 1/4W	-
	10K 2% 1/4W	829310
# RF01	2.7 5% 1/2W	198648
RF05	68.1K 1% .16W	198790
# RF15	22K 5% .16W	198714
# RP06	220 5% 1/4W	209917
# RP07	6810 1% .16W	220649
# RP08	110K 1% .4W	220650
RP12	82.5K 1% .16W	220651
# RP18	8200 5% 1/4W	175366
# RP19	9100 5% 1/4W	829291
# RP23	5.6 5% 2W	220652
# RP24	470K 10% 1/2W	180243
# RP25	7.5 Cold PTC	198688
# RP28	2.7 10% 5W Wirewound	220653
# RP30	.15 5% 2W	832B15
	.27 5% 3W	221585
# RP32	1000 10% 1/2W	206386
# RP34	33 5% 1W	198695
# RP39	220 5% .43W	220656
# RP53	.39 5% 1/4W	198701
# RP55	10 5% .35W	210185
# RP56	15K 5% 1/4W	198703
# RP59	100 5% .16W	198660
# RP61	3300 5% .16W	198638
# RP68	.68 5% .4W	216049
RR11	1500 2% 1/4W	829215
RR37	10K 2% 1/4W	829310
RR39, 64, 65, 67	10K 5% 1/4W	-
	10K 2% 1/4W	829310
RR74	10K 2% 1/4W	829310
RR76	680 2% 1/4W	-
	680 5% 1/4W	220664
RR77	680 2% .16W	220665
# RS07	270 5% 1/4W	220648
RS15	10K 2% 1/4W	829310
RV54	115K 1% 1/4W	210194
# RV100	2200 5% 1/2W	176632
	1M 5% 1/2W	180028
# RV104, 05, 06	12K 5% 2W	183193
# RV109	120 5% 1/4W	210196
RV122, 24	1500 5% 1/4W	-
	1500 2% 1/4W	829215
# RV127	.47 5% 1/2W Fusible	220672
# RX02	10K 1% 1/4W	198739
# RX03	9090 1% 1/2W	198740
# RX04	2200 5% .16W	198698
# RX05	100 5% .16W	198660
# RY01	680 5% 1/2W	175364

# For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
# DY1	Yoke Horiz 2.5mH Vert 23.8mH	198805
JR35	100µH	220641
LM02	Sound Detector	198613
LM03	Video Detector	206385
LM04	.82µH	198615
LM07	AFT	210787
LM08	47µH	198617
# LP01	Line Filter	190507
	Line Filter	228335
LP02	6µH	198619
# LP03	Switch Mode	220642
# LP04 (1)	Horizontal Output	198622
# LP05	90µH	205416
LP06	50µH	198624
LP11, 12	Ferrite Bead	224167
LP13	6µH	198619
# LP99	Degaussing	198807
LR01	35µH OSD Oscillator	205430
LS02	47µH	198617
LT01	Ferrite Bead	220643
LV01	1.5µH	198783
LV02	12µH	198782
LV103	150µH	210247

# For SAFETY use only equivalent replacement part.  
(1) Focus and screen controls are part of LP04.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
# BP01	Line Cord	198540	AC, Polarized
# BP04	Connector	198777	Yoke, Horizontal
# BF01	Connector	198778	Yoke, Vertical
# FP01	Fuse	198605	2.5Amp, 250VAC
IK01	Receiver	216467	Remote
	Receiver	225629	Remote
QC01	Filter	198630	3.58MHz
QL01	Crystal	198633	500kHz
QM01	Filter	210250	SAW
QM02	Filter	210239	4.5MHz
QR01	Crystal	210549	8MHz
QV01	Trap	205431	4.5MHz
SP1	Speaker	198787	1 1/2" X 3 3/4", 16 Ohms, 2W
SW01	Switch	215500	Power
SW02	Switch	215500	Volume +
SW03	Switch	215500	Volume -
SW04	Switch	215500	Channel +
SW05	Switch	215500	Channel -
SW06	Switch	215500	Menu
# V101	CRT	37GDA86X	-
	CRT	A34JLN60X	-
VV01	Delay Line	198753	-
#	Adapter	193983	Antenna 75/300 Ohms
	Antenna	220689	UHF/VHF
#	Connector	200489	Antenna
	Magnet	179805	Beam Bender
	PC Board	223147	CRT
	PC Board	210628	Earphone
	PC Board	210629	FM Converter
	Transmitter	213725	Remote (CRK63D1)
	Transmitter (1)	226551	Remote (CRK10A1)
	Tuner (2)	231110	UHF/VHF (MTP-M-4006R)
	Wedge	149903	Yoke Positioning (3 Used)

# For SAFETY use only equivalent replacement part.  
(1) Used in models X13101GSC24 and X13101GSF24.  
(2) Contact TNI Electronics for replacement; order by part number on tuner.

RCA

MODEL X13050GSF04 (CHASSIS TX825XB)