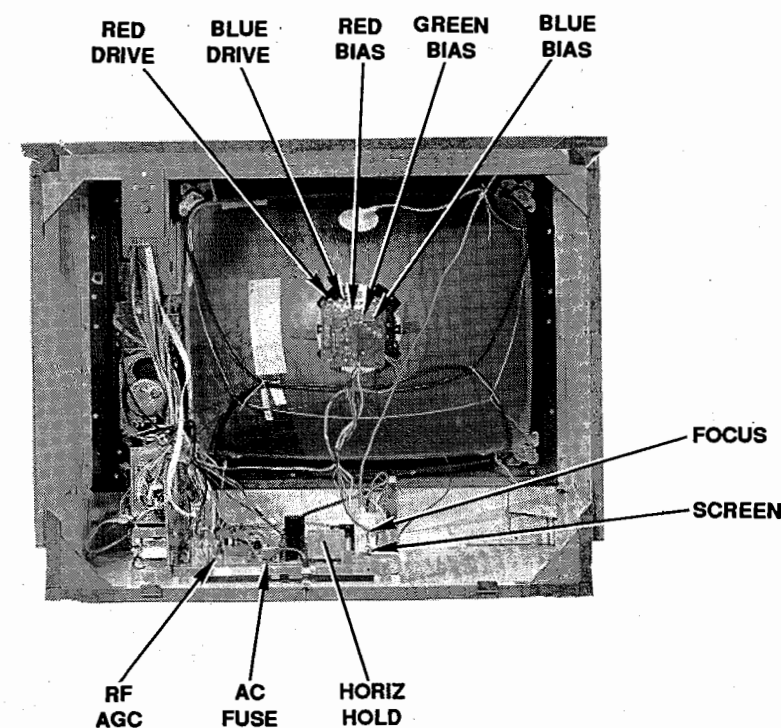


# CABINET - REAR VIEW



## TEST JIG HOOKUP

Function	Chek-A-Color Adapter No.	PC Board Plug No.	Pin	Color
CRT	B243	O	1	Red
Yoke	D4125		3	Blue
Yoke Setting	YP1		4	Yellow
Comments	Focus Tap		5	Green

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

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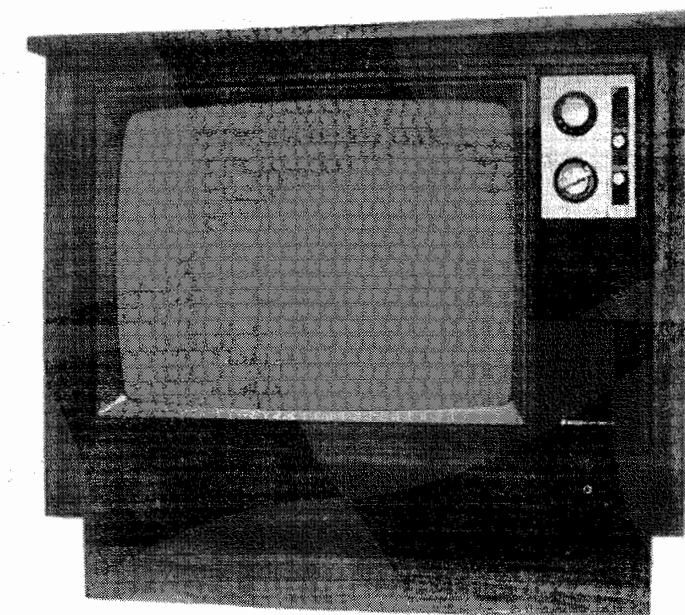
# PHOTOFACT® Technical Service Data

SET 3069

MODEL 25E02 (CHASSIS C4-25R)

SAMPO

**SAMPO**  
Model 25E02 (Chassis C4-25R)



Essential coverage  
for servicing a television receiver...

- Schematics
- Component locations
- Parts lists



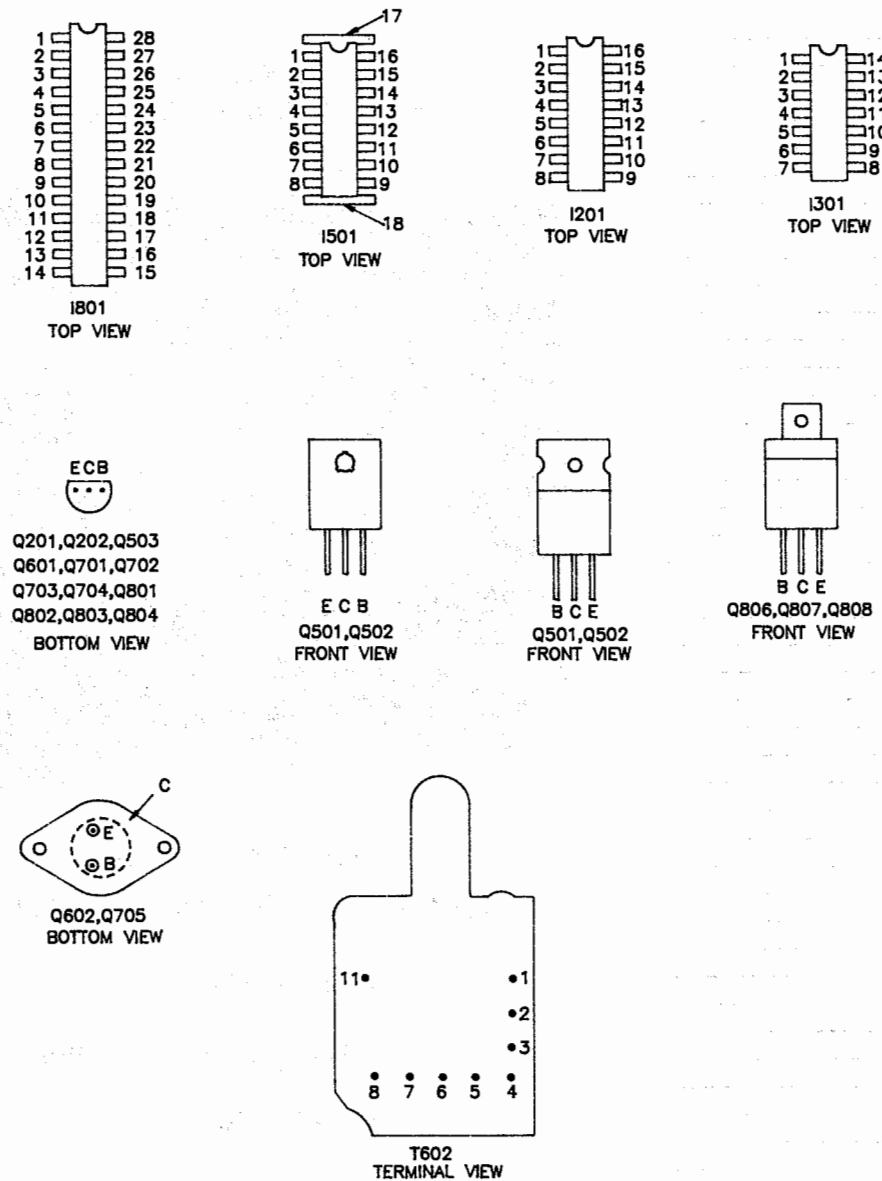
**HOWARD W. SAMS & COMPANY**

NOVEMBER 1992 SET 3069

For Supplier Address,  
See PHOTOFACT Annual Index

3069

TERMINAL GUIDES AND NOTES



**For SAFETY use only equivalent replacement part, see parts list.**

- Circuitry not used in some versions
- - - Circuitry used in some versions
- Nominal value
- ⊕ Ground
- ⊕ Chassis
- Common tie point

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

Waveforms: triggered scope, keyed rainbow generator. Item numbers in rectangles appear in the alignment/adjustment instructions.

Supply voltage maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

Terminal identification may not be found on unit.

Capacitors are 50 volts or less.

5% or greater unless noted.

Electrolytic capacitors are 50 volts or less.

20% or greater unless noted.

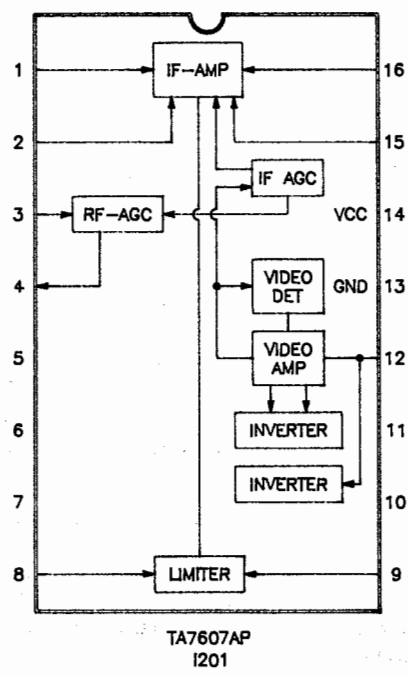
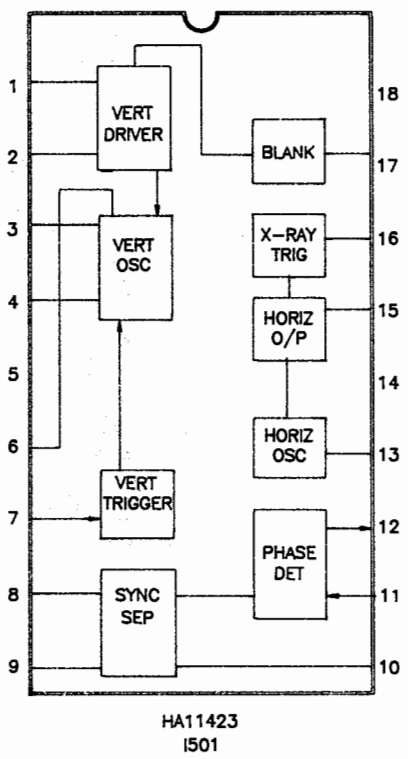
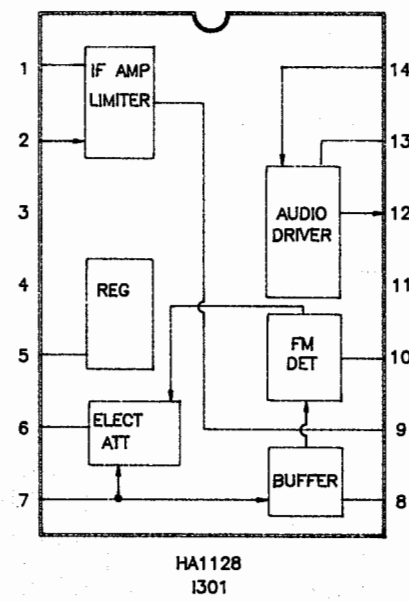
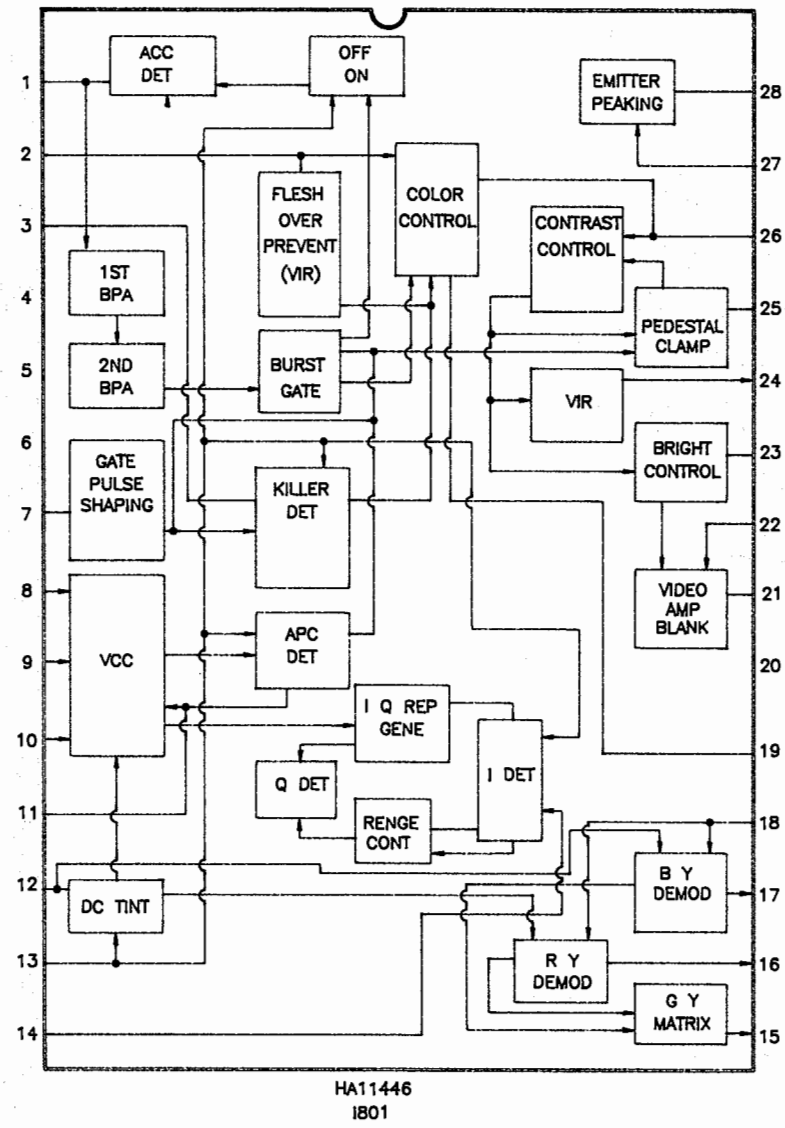
Resistors are 1/2W or less.

5% or greater unless noted.

Value in ( ) used in some versions.

Measurements with switching as shown, unless noted.

IC FUNCTIONS



SAMPO

MODEL 25E02 (CHASSIS C4-25R)

PARTS LIST continued

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
CF301	Filter	38CERAMIC-FIL-1006B	Ceramic
CT201	Trap	47CERAMIC-TRAP-1001	4.5MHz
# F701	Fuse	62FUSE-052	3.5A/125V AC
FB601	Ferrite Bead	28BEAD-CORE-1004	-
FB701	Ferrite Bead	28BEAD-CORE-1004	-
FB702	Ferrite Bead	28BEAD-CORE-1004	-
# L300	Degaussing	65Coil-ADG-1019	-
P300	Cord, AC	28CORD-AC-052B	Power
SF201	Filter	50SAW-FIL-1008	Saw
# SW900	Switch	49VRZ-R-1004	On/Off
SW1000	Switch	43SW-P-1147	AFT
# V600	CRT	59CRT-25VGW22	-
VR301	VDR	-	-
X801	Crystal	15CRYSTAL-006A	3.58MHz
	Board	69PWB-1442-01 (1)	Main
	Board	37PWB-1497 (1)	CRT
	Board	42PWB-1725 (1)	Auto
	Board	25PWB-1759-001 (1)	Sound
	Socket	35SO-1312	CRT
	UHF Tuner	06TUN-UAMI-563 (1)	-
	VHF Tuner	66TUN-VAZ3-865 (1)	-

# For SAFETY use only equivalent replacement part.  
(1) Contact PTS Electronics Corporation for replacement; order by manufacturer's part number.

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.

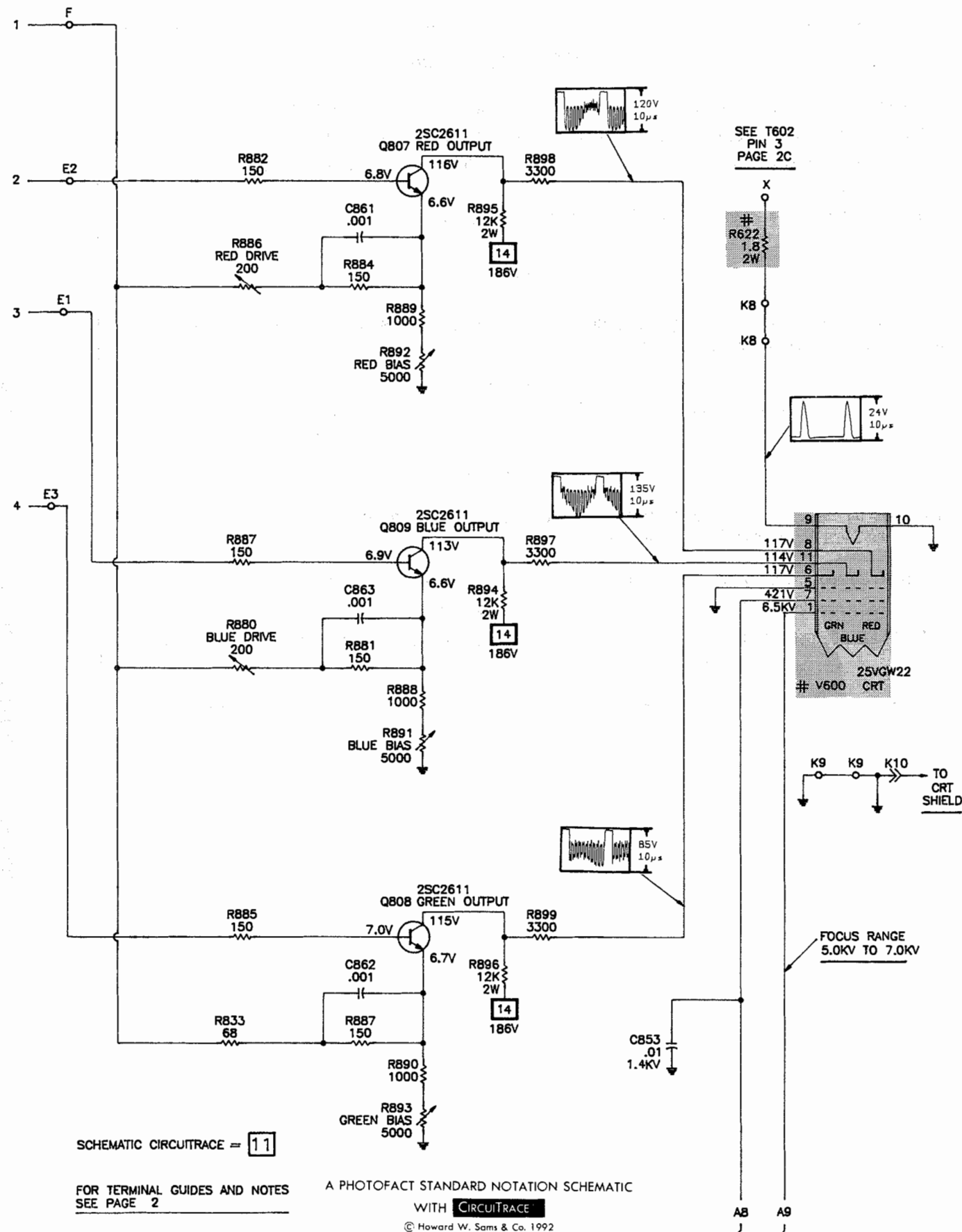
- |  |  |
|--|--|
| ▪ Custom Components Corporation (Chek-A-Color) | ▪ Quam-Nichols Co. (Quam)                      |
| ▪ NTE Electronics, Inc. (NTE)                  | ▪ Sencore, Inc.                                |
| ▪ Philips ECG Company (ECG)                    | ▪ Thomson Consumer Electronics, Inc. (SK, TCE) |
| ▪ PTS Electronics Corporation (PTS)            |  |



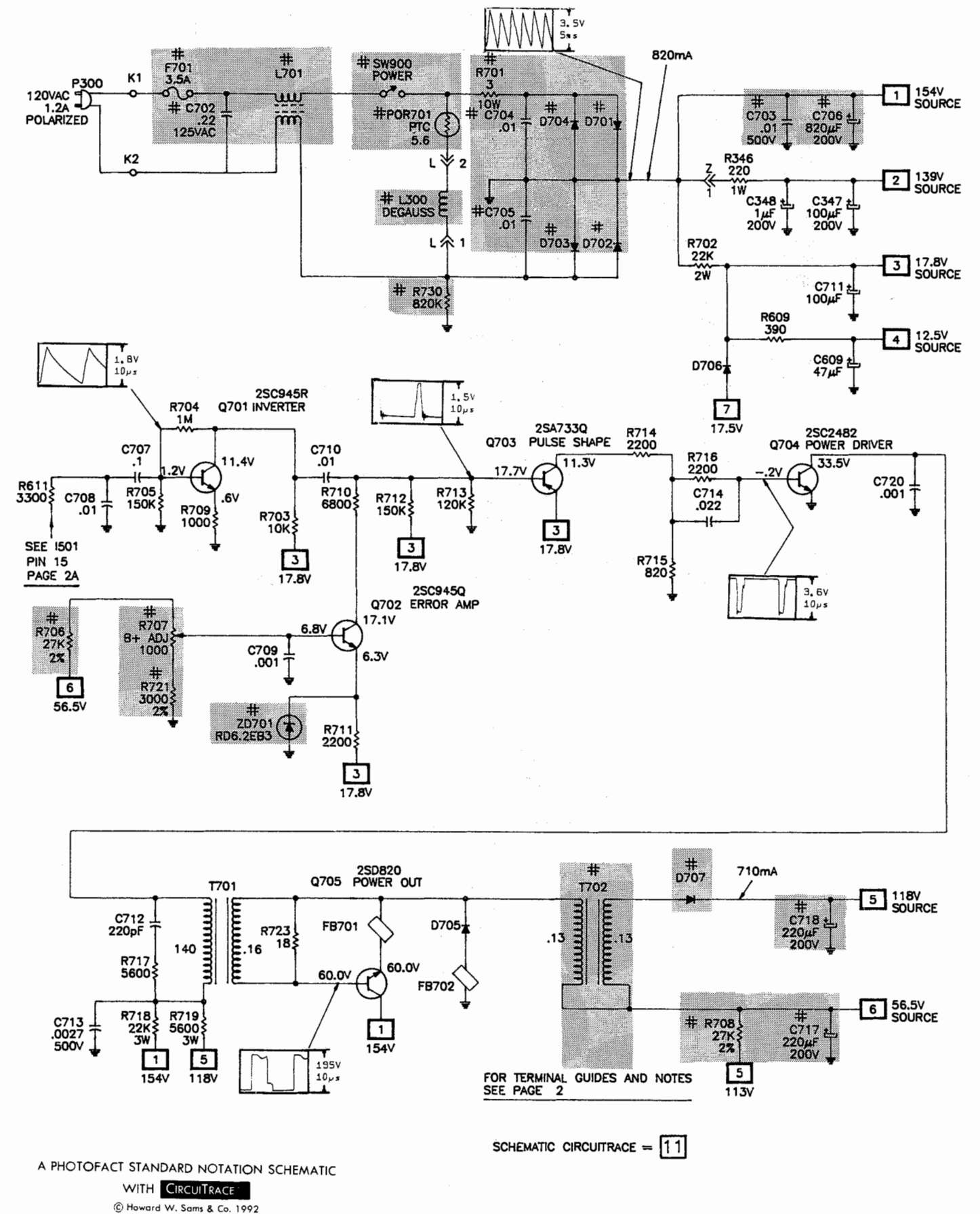
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employees of Howard W. Sams  
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B. Bryant, D. Curran,  
G. Farrell, B. Fink,  
M. Herkless, J. Kocha,  
F. Malek, B. Skinner, J. Watson

## CRT SCHEMATIC



## POWER SUPPLY SCHEMATIC



PARTS LIST

SEMICONDUCTORS

(Select replacement for best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
D501, 02	1N4148	76SD-1N4148(AU)	NTE519	ECG519	SK3100
D503, 04	-	64RECT-SI-1001(AU)	NTE116	ECG116	SK3312
D505	1N4148	76SD-1N4148(AU)	NTE519	ECG519	SK3100
# D601	-	57RECT-SI-1021(AU)	NTE552	ECG552	SK9000
D602, 03	-	63RECT-SI-1021	NTE552	ECG552	SK9000
D604	-	87RECT-SI-154(AU)	NTE552	ECG552	SK9000
# D701 - D704	-	21RECT-SI-1039(AU)	NTE116	ECG116	SK3312
D705	-	87RECT-SI-154(AU)	NTE552	ECG552	SK9000
D706	-	64RECT-SI-1001(AU)	NTE116	ECG116	SK3312
# D707	-	33RECT-SI-1066	-	ECG552	-
D801	1N4148	76SD-1N4148(AU)	NTE519	ECG519	SK3100
D803 - D808	1N4148	76SD-1N4148(AU)	NTE519	ECG519	SK3100
D811, 14	1N4148	76SD-1N4148(AU)	NTE519	ECG519	SK3100
I201	TA7607AP	20SI-TA7607AP	NTE1545	ECG1545	SK9379
	M51358P	80SI-M51358P	NTE1545	ECG1545	SK9379
I301	HA1128	41SI-HA1128	NTE712	ECG712	SK3072
# I501	HA11423	57SI-HA11423	NTE1471	ECG1471	SK9194
# I801	HA11446	50SI-HA11446	NTE1650	ECG1650	SK7606
Q201	2SC1906	06ST-2SC1906	NTE107	ECG107	SK3293
Q202	2SC1815Y	18ST-2SC1815Y(AP)E	NTE85	ECG85	SK3124A
Q301	2SC1921	73ST-2SC1921-03	NTE399	ECG399	SK9352
	2SC1921-03	-	NTE399	ECG399	SK9352
Q302	2SD669	77ST-2SD669AC	NTE373	ECG373	SK9041
	2SD669A	-	NTE373	ECG373	SK9041
	2SD669C	-	NTE373	ECG373	SK9041
	2SD669AC	-	NTE373	ECG373	SK9041
Q303	2SB649	44ST-2SB649AC	NTE374	ECG374	SK9042
	2SB649A	-	NTE374	ECG374	SK9042
	2SB649C	-	NTE374	ECG374	SK9042
	2SB649AC	-	NTE374	ECG374	SK9042
Q501, 02	2SC2073SO	-	NTE375	ECG375	SK3929
	2SC2073	13ST-2SC2073SO	NTE375	ECG375	SK3929
	2SC2344	58ST-2SC2344E	NTE375	ECG375	SK3929
Q503	2SC2271E	80ST-2SC2271E	NTE399	ECG399	SK9352
	2SC2482	05ST-2SC2482	NTE399	ECG399	SK9352
Q601	2SC2482	05ST-2SC2482	NTE399	ECG399	SK9352
Q602	2SD871	48ST-2SD871	NTE89	ECG89	SK9119
	2SD994	16ST-2SD994	NTE89	ECG89	SK9119
Q701	2SC945R	16ST-2SC945Q/R(AU)E	NTE85	ECG85	SK3124A
	2SC945Q	-	NTE85	ECG85	SK3124A
Q702	2SC945Q	70ST-2SC945Q	NTE85	ECG85	SK3124A
Q703	2SA733Q	31ST-2SA733Q/R(AU)E	NTE290A	ECG290A	SK3114A
	2SA733R	-	NTE290A	ECG290A	SK3114A
Q704	2SC2482	05ST-2SC2482	NTE399	ECG399	SK9352
Q705	2SD820	39ST-2SD820	NTE165	ECG165	SK3710
Q801, 02	2SC1815Y	18ST-2SC1815Y(AP)E	NTE85	ECG85	SK3124A
Q803	2SA1015O	38ST-2SA1015O(AP)B	NTE290A	ECG290A	SK9132
Q804	2SC1815Y	18ST-2SC1815Y(AP)E	NTE85	ECG85	SK3124A
Q807 - D809	2SC2611	-	NTE157	ECG157	SK3747
	2SC1514	43ST-2SC1514-15	NTE376	ECG376	SK9362A

# For SAFETY use only equivalent replacement part.

SEMICONDUCTORS continued

(Select replacement for best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
ZD501	HZ12A2	50SZ-HZ12A2	NTE5021T1	ECG5021T1	SK9971
	RD12EB3	84SZ-RD12EB3	NTE5021A	ECG5021A	SK12A
# ZD601	HZ20-04	32SZ-HZ20-04(AU)	NTE5029A	ECG5029A	SK20A
ZD602	HZ12A2	50SZ-HZ12A2	NTE5021T1	ECG5021T1	SK9971
	RD12EB3	84SZ-RD12EB3	NTE5021A	ECG5021A	SK12A
# ZD701	RD6.2EB3	58SZ-RD6.2EB3	NTE5013A	ECG5013A	SK6A2
ZD801	RD10EB	37SZ-RD10EB	NTE5019A	ECG5019A	SK10A
ZD802	RD12EB	03SZ-RD12EB(AU)	NTE5021T1	ECG5021T1	SK9971
	RD12B	71SZ-RD12B(AU)	NTE5021A	ECG5021A	SK12A
	WZ120	56SZ-WZ120(AU)	NTE5021A	ECG5021A	SK12A
ZD803	RD12FB3	68SZ-RD12FB3	NTE142A	ECG142A	SK12V
ZD804	RD12EB	03SZ-RD12EB(AU)	NTE5021T1	ECG5021T1	SK9971
	RD12B	71SZ-RD12B(AU)	NTE5021A	ECG5021A	SK12A
	WZ120	56SZ-WZ120(AU)	NTE5021A	ECG5021A	SK12A
ZD805	HZ9B3	53SZ-HZ9B3	NTE5017A	ECG5017A	SK8A7
	RD9.1EB2	60SZ-RD9.1EB2	NTE5018A	ECG5018A	SK9A1

# For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function	Mfr. Part No.	On-Unit No.
# DY1	Yoke	(1)	-
L601	Horiz Linearity	85 COIL-H-LINE-1014	-
T601	Horiz Driver	48 TRNS-DRIVE-1016	-
# T602	Horiz Output	49 TRNS-FB-3009(2)	-
T701	Power Driver	48 TRNS-DRIVE-1016	-
# T702	Converter	34 TRNS-CVT-3005	-

# For SAFETY use only equivalent replacement part.

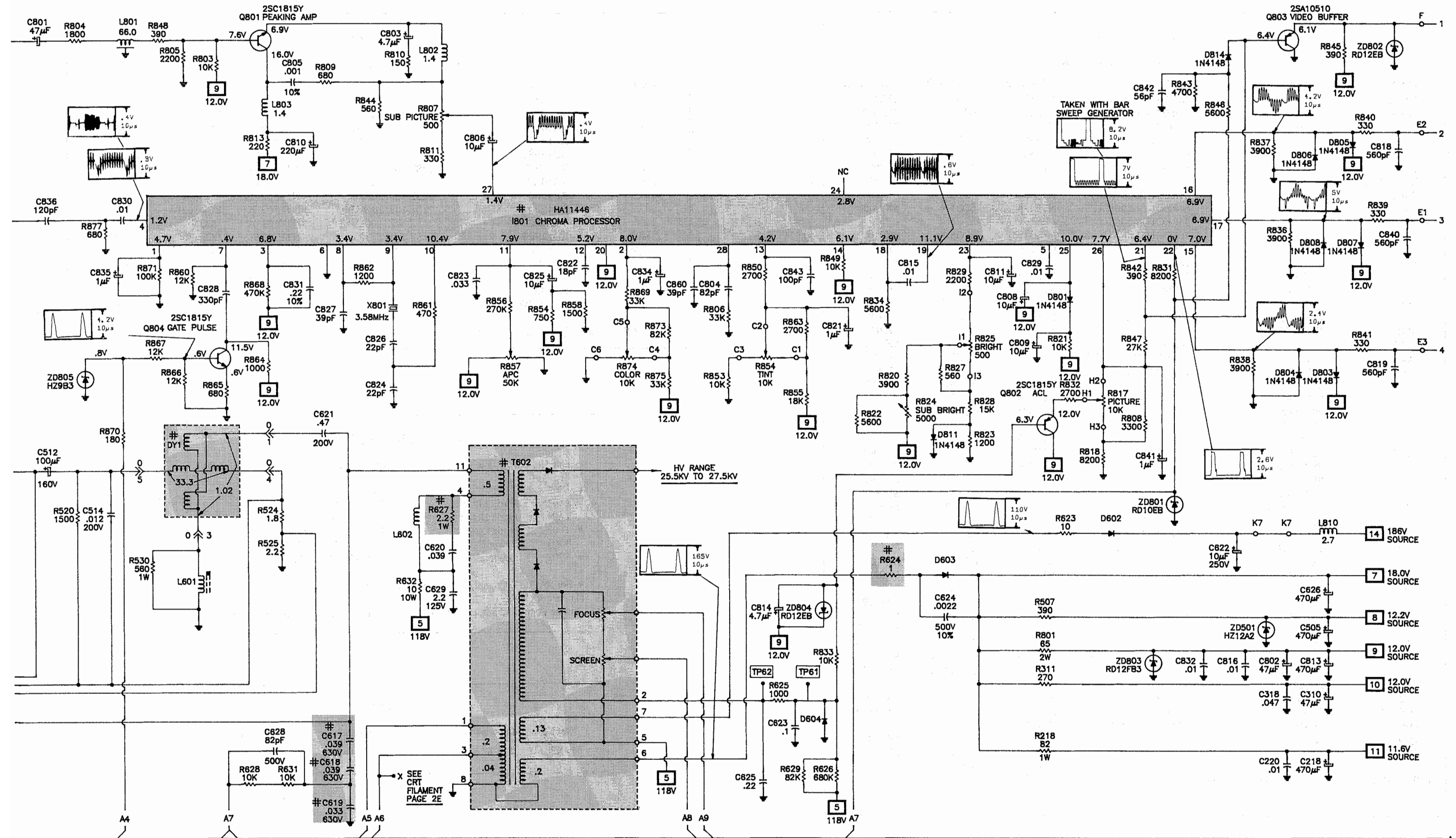
(1) Part of CRT.

(2) The Focus and Screen Controls are part of Horiz Output Transformer T602.

SPEAKER

Item No.	Description	Mfr. Part No.	Quam Part No.
SPK301	4" x 6" 8 Ohm	20 SPK-1043B	46C3Z8





PARTS LIST continued

CONTROLS

(All wattages 1/2 watt or less, unless otherwise listed.)

Item No.	Function	Resistance	Mfr. Part No.
R219	RF AGC	10K	59VR-SF-1105
R315	Volume	50K	(1)
R347	Treble	10K	28VRA-R-1025
R506	Vert Hold	10K	75VRB-R-1206
R522	V-Size	100	31VR-SF-1150B
R608	Horiz Hold	5K	57VR-SF-437A
# R707	B+ ADJ	1000	36VR-SF-1049A
R807	Sub. Picture	500	04VR-SF-435A
R817	Picture	10K	(2)
R824	Sub. Bright	5000	57VR-SF-437A
R825	Bright	500	55VRB-R-1207
R852	Sub. Tint	10K	24VR-SF-443A
R854	Tint	10K	75VRB-R-1206
R857	APC	50K	56VR-SF-1070A
R874	Color	10K	75VRB-R-1206
R880	Blue Drive	200	65VR-SF-1299
R886	Red Drive	200	65VR-SF-1299
R891	Blue Bias	5000	14VR-SF-452
R892	Red Bias	5000	14VR-SF-452
R893	Green Bias	5000	14VR-SF-452

# For SAFETY use only equivalent replacement part.  
(1) Part of On /Off Switch SW900 Part No 49VRZ-R-1004.  
(2) Part of AFT Switch SW1000 Part No 43SW-P-1147.

COILS (RF-IF)

Item No.	Rating	Mfr. Part No.
L201	IF Peaking	26PKFA-R82K
L204	1.5uH	10PLKA-1R5J
L205	PIF Detector	61COIL-DET-1014
L206	AFT	39COIL-DET-1007
L207	180MHz Filter	23COIL-SPE-1003
L208	10uH	23PLKA-100K
L301	4.5MHz SIF Detect	42COIL-DET-296
L302	22uH	47PLKA-220K
L602	RF Choke	47CHOK-LE-1017
# L701	Line Filter	14COIL-FIL-1019
L801	Delay Line	09COIL-DELAY-1022
L802	56uH	24PLKA-470K
L803	56uH	24PLKA-470K
L806	12uH	59PLKA-120J
L807	10uH	41PLKA-100J
L810	22uH	07PLKA-181K
T001	Balon	-
T201	PIF	01CoilK-IF-1070
T301	Sound Output	72TRNS-S-OPT-1023B

# For SAFETY use only equivalent replacement part.

RESISTORS

Item No.	Rating	Mfr. Part No.	NTE Replacement
# POR701	5.6 Cold PTC	43SQ-0020	-
# R613	4700 2% 1/4W Carbon Film	441/4P-472G(AU)	QW247
# R617	2200 5% 2W Mtl Oxd	292PHU-222J-H	2W222
# R618	18K 2% 1/4W Cbn Film	501/4P-183G(AU)	QW318
# R619	8200 2% 1/4W Cbn Film	661/4P-822G(AU)	QW282
# R620	330 2% 1/4W Cbn Flm	-	QW133
	33 2% 1/4W Cbn Flm	021/4P-331G	QW033
# R621	56 2% 1/4W Cbn Flm	-	QW056
# R622	1.8 5% 2W Mtl Oxd	342PLU-1R8J-H	2W1D8
# R624	1 5% 1/2W Cbn Flm	091/2M-1R0J	HW1D0
# R627	2.2 1W 5% Mtl Oxd	311PLU-2R2J-H	1W2D2
R632	10 5% 10W WW	5010LCM-100J-W	10W010
# R701	3 10% 10W WW	8110LCU-3R0K-W	10WD30
# R706	27K 2% 1/4W Cbn Flm	521/4P-273G(AU)	QW327
# R708	27K 2% 1/4W Cbn Flm	521/4P-273G(AU)	QW327
R718	22K 5% 3W Mtl Oxd	113PHU-223J-H	3W322
R719	5600 5% 3W Mtl Oxd	243PHU-562J-H	3W256
# R721	3000 2% 1/4W Cbn Flm	-	QW230
# R730	820K 10% 1/2W Cbn Flm	051/2MF-824K	HW482

# For SAFETY use only equivalent replacement part.

CAPACITORS

Item	Rating	Mfr. Part No.
C222	2 NPO 50V ±.25	31DCK-5-209C(AU)
C223	27 NPO 50V 5%	21DCH-5-278J(AU)
C224	2 NPO 50V ±.25	31DCK-5-209C(AU)
C225	120 NPO 50V 5%	44DCH-5-127J(AU)
C311	10 50V 1%	07DSL-5-108F(AU)
# C616	330pF 2KV 10%	65 DK-2K-337K
# C617	.039 630V 5%	46 PFB-63-395J
# C618	.039 630V 5%	46 PFB-63-395J
# C619	.033 630V 5%	65 PFB-63-335J
# C702	.22 125VAC	60MPFK-12.5-224K-UC
	.1 125VAC	09 MPFK-12.5-104M-UL
# C703	.01 500V 20%	62DX-50-105M
# C704	.01 500V 20%	62DX-50-105M
# C705	.01 500V 20%	62DX-50-105M

# For SAFETY use only equivalent replacement part.

ELECTROLYTIC CAPACITORS

Item	Rating	Mfr. Part No.
# C612	33uF 16V	30CU-1.6-332Y(AU)
# C613	4.7uF	68CU+5-473Y(AU)
# C706	820 200V	4320L-820Y
# C717	220 200V	1320L-220Y-A
# C718	220 200V	1320L-220Y-A

# For SAFETY use only equivalent replacement part.

CABINET PARTS

Item	Part No.
Cabinet	45 CAB-1239
Cabinet Back	78 COV-B-1241
Door	57 DOOR-1158
Mask	24 MASK-1063
Panel	07 PANEL-1199

# TELEVISION SCHEMATIC

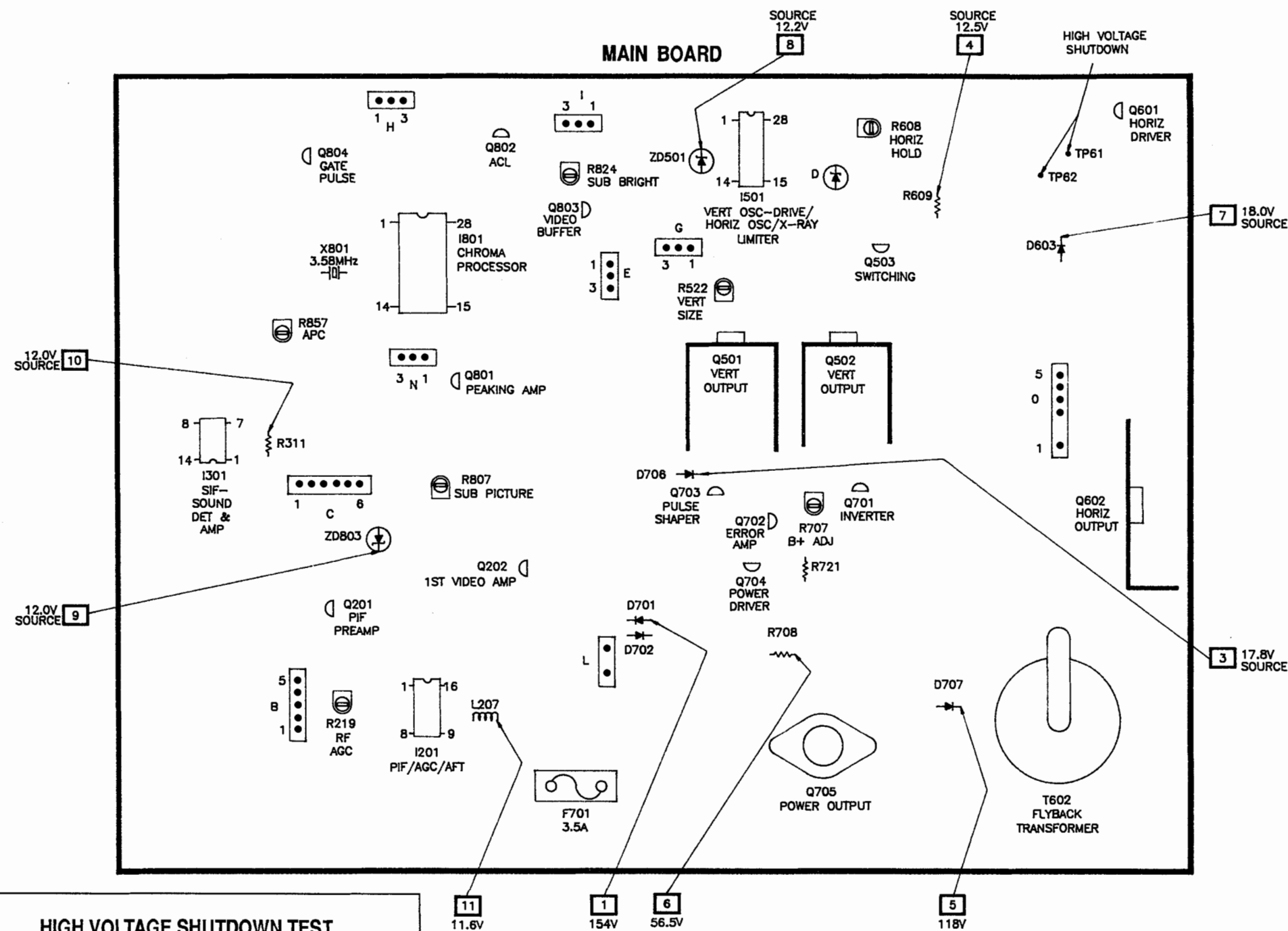
FOR TERMINAL GUIDES AND NOTES  
SEE PAGE 2

**CABLING:**  
HEAVY LINES REDUCE  
USE OF MULTIPLE LINES

SEE Q701  
INVERTER  
PAGE 2F



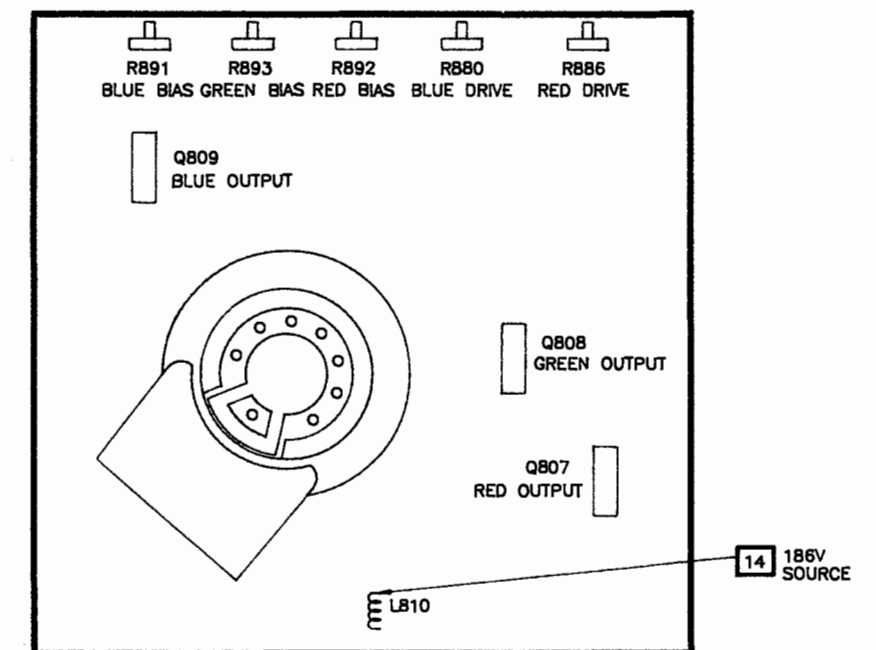
## PLACEMENT CHART



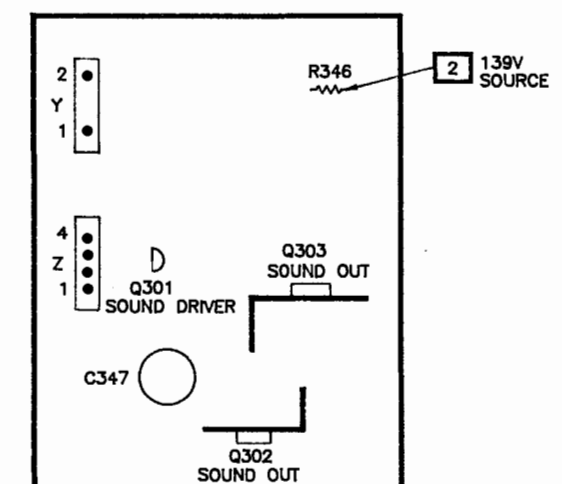
## HIGH VOLTAGE SHUTDOWN TEST

Connect a high voltage probe to the CRT anode. Connect a voltmeter to TP61 and TP62. Connect a 100K adjustable resistor in parallel with R721. Turn brightness and picture controls fully clockwise. Turn set on and adjust the variable resistor for 1.6V reading on voltmeter. Slowly rotate the brightness and picture controls counterclockwise, while monitoring the high voltage, and ensure that the high voltage is between 28.3KV and 29.9KV when the set goes into shutdown.

## CRT BOARD



## AUDIO BOARD



NOTES

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	SC3080
Generators	
RGB	CM2000
Multiburst Signal	VG91
Color Bar	VG91
TV Stereo	VG91
Digital VOM	SC3080
Frequency Meter	SC3080
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

SAMPO

MODEL 25E02 (CHASSIS C4-25R)

