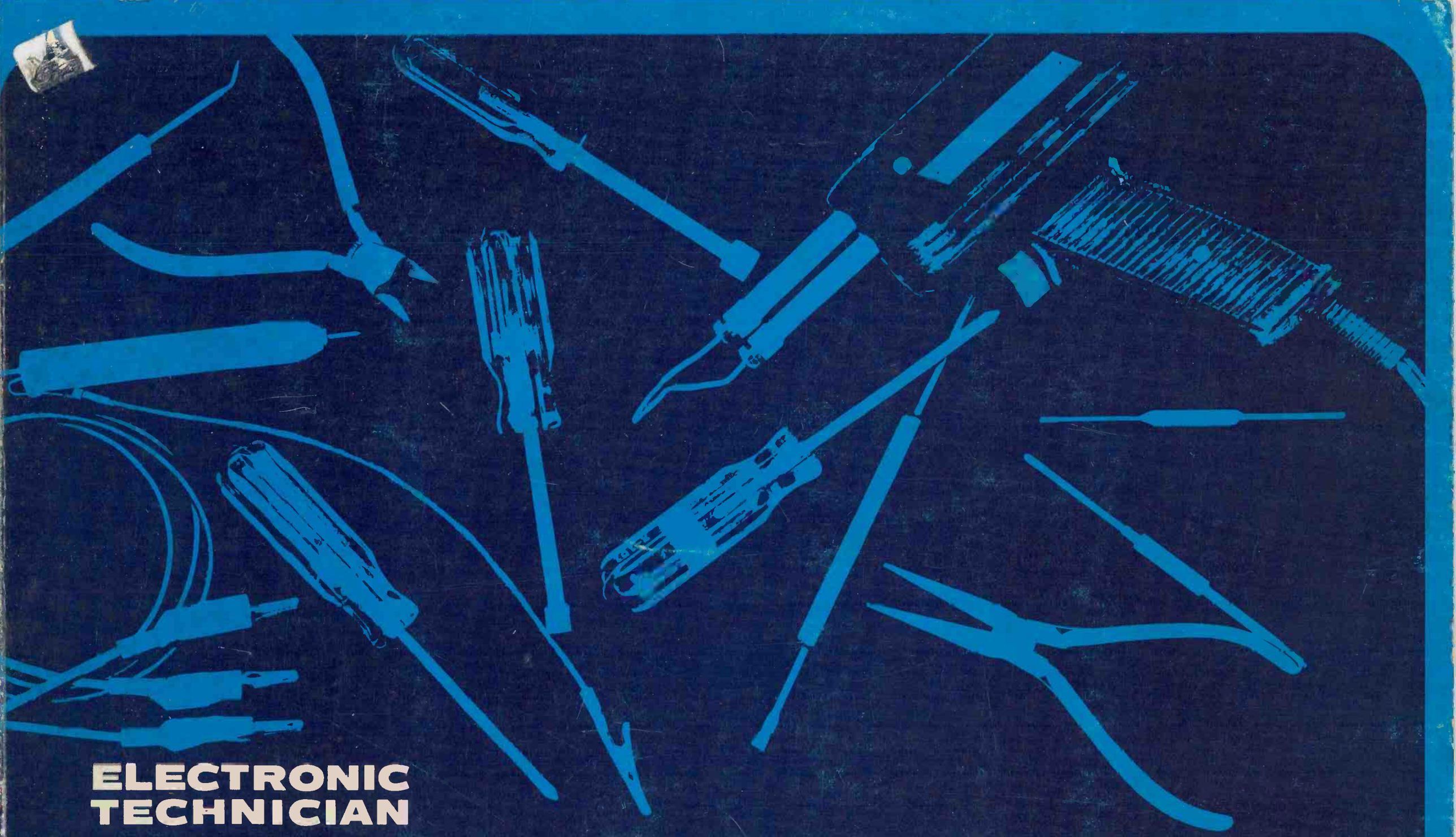

ELECTRONIC TECHNICIAN

TEKFAX 108

VOLUME 8

TV SCHEMATICS ☐ OVER 21 MANUFACTURERS ☐ COVERS HUNDREDS OF CHASSIS & MODEL NUMBERS

PUBLISHED BY ELECTRONIC TECHNICIAN MAGAZINE, OJIBWAY BUILDING, DULUTH, MINNESOTA 55802

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ADMIRAL
TV Chassis G2

Symbol	Description	Admiral Part No.
R115	13K 2w G2-1	61B24-252
R115	10K 1w G2-2	60B14-103
R208	1M volume control with switch	75C120-1
R319	3.3K 2w	61C24-237
R320	30K contrast control	75C121-3
R322	100K brightness control	75C121-2
R402A	vert lin control } dual	75C95-6
R402B	height control }	
R421	1M thermistor	60A64-1
R422	1.2M, vertical hold control	75C121-1
R4601K	1K 5% ½w WW	60B28-92
R461	1.5Ω WW	60B28-60
R501	13Ω 5W	61C20-56
R502	5.5Ω fuse type	61C48-1
R503	330Ω 5w	61C20-66
R504	150Ω 5w	61C20-44
C202	4.5pf 5% composition	65C40-57
C203	82pf 5% 500v, cer disc	65D10-98
C207	18pf 5% cer. disc	65D10-140
C208	.02μf GMV 500v cer disc	65D10-280
C211	.01μf 1kv, cer disc	65D10-373
C301	6.8pf 5% composition	65C41-141
C311	4.7pf 5% 500v cer disc	65D10-101
C312	4.5pf 5% composition	65D40-57
C313	47pf 500v NPO cer disc	65D10-198
C314	47pf 5% 500v	6510-92
C327	6.8pf ¼% 500v NPO	65D10-102
C406	330pf 10% 5kv	65D10-266
C411	.001μf 1kv	65D10-320
C417	.001μf 1kv	65D10-147
C427	820pf 5% 500v, polystyrene	65C80-44
C430	5pf 10% 1kv N750	65D10-345
C432	220pf 3kv	65D10-385
C433	920pf 1kv	65D10-384
C435	.047μf 1kv mylar	64C2-88
C503	.001μf 1kv	65D10-147
C504A	150μf 165v } elect	67D15-393
C504B	150μf 150v }	
C504C	200μf 150v }	
L201A & B	IF and phase coil	72C301-2
L202	quad coil	72C132-77
L301	47.25M trap	72C296-4
L302	input IF coil	72C296-3
L305	RF choke	73C31-3
L307	resonant choke	73C45-243
L309	video peaking coil	73C55-23
L310	peaking coil	73C5-40
L401	horiz lock coil	94D17-17
L403	spook choke	73C37-17
L404	spook choke	73C31-11
L503	ac line choke	73C31-1
T201	audio out xformer	79C81-23
T301	1st IF xformer	72C132-76
T302	2nd IF xformer	72C261-8
T303	sound takeoff xformer	72C185-5
T401	vert out xformer	79D100-17
T402	deflection yoke assy	750D305-34
T403	horiz out xformer	79D117-1
CR301	diode, video det	93C8-1
CR401	horiz phase det	93B5-9
CR501	silicon rectifier	93A12-3
	tuner, VHF	94D281-8
	tuner, UHF (G2-1)	94D272-3
	tuner, UHF (G2-2)	94D280-4

RUN CHANGES

(10) Start of production.

SCHEMATIC NOTES:
- ⏚ CHASSIS GROUND
- # PART NOT MOUNTED ON PRECISION WIRED SYSTEM.
- # VOLTAGE WILL VARY WITH SETTING OF CONTROLS. RESISTOR VALUES 1/2 WATT 10%, CAPACITOR VALUES IN PICOFARADS, UNLESS OTHERWISE INDICATED.
- DC VOLTAGES MEASURED AT 120V AC LINE, NO SIGNAL, MAX CONTRAST & BRIGHTNESS, & MIN VOLUME WITH VTVM.

IF AMPLIFIER ALIGNMENT

Connect isolation transformer and polarized line cord between AC line and receiver. Connect negative of 6 volt bias supply to test points "T" and "X" (IF and RF AGC), positive to chassis. See figure 8 for test points and alignment locations.

Using needle nose alligator clip or looped end of hookup wire, connect signal generator high side to test point "G", low side directly to tuner, see figure 2.

Connect VTVM high side to test point "V" through a decoupling filter, see figure 5. Connect low side to chassis.

Set Channel Selector to channel 12. (Or other high end channel which does not affect indication). Turn fine tuning one third turn counterclockwise from full clockwise rotation. Connect jumper wire across antenna terminals.

Allow about 15 minutes for receiver and test equipment to warm up. Use a non-metallic alignment tool.

IMPORTANT: Before proceeding, check signal generator against frequency standard for calibration.

1. Set generator at 42.7MC and adjust T302 top core for maximum.
2. Set generator at 44.2MC and adjust T302 bottom core for maximum.
3. Set generator at 44.8MC and adjust T301 for maximum.
4. Connect wire jumper across IF input coil L302.
5. Set generator at 44.8MC and adjust L108 on VHF tuner for maximum. (Accessible through bottom of etched board).
6. Remove wire jumper of step 4.
7. Set generator at 43.3MC and adjust L302 for maximum.
8. Reduce bias to zero volts.
9. Set generator at 47.25MC and adjust L301 for minimum.
10. Restore -6 volt bias.
11. Disconnect generator and connect sweep generator. Loosely couple marker to sweep connection.
12. Disconnect VTVM, and connect oscilloscope to network.
13. Set sweep frequency at 43MC, sweep width approximately 7MC. Keep marker and sweep outputs at low level to prevent over-loading. A reduction in sweep output should reduce curve amplitude without altering the shape of the response.
14. If 43.73MC marker is not within tolerance or markers not in proper location on curve, adjust T302 bottom core to position 45.75MC marker. Adjust T302 top core to correct shape of curve. Avoid reducing amplitude of curve as much as possible.

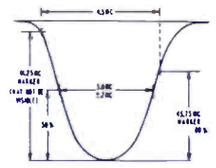


Fig. 2 IF CURVE

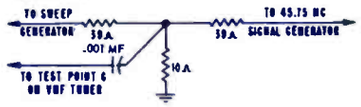


Fig. 4 MATCHING NETWORK

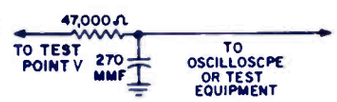


Fig. 5 DECOUPLING FILTER

OVER-ALL VHF AND IF RESPONSE CURVE CHECK

Set VHF Channel Selector on channel 12. Connect negative of -6 volt bias supply to test point "T" (IF AGC) and +1.75 volt to test point "X" (RF AGC) positive to chassis. See Fig. 8.

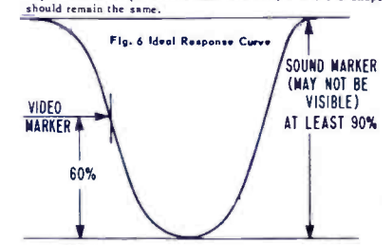
Connect isolation transformer between AC line and receiver. Allow about 15 minutes for receiver and test equipment to warm up.

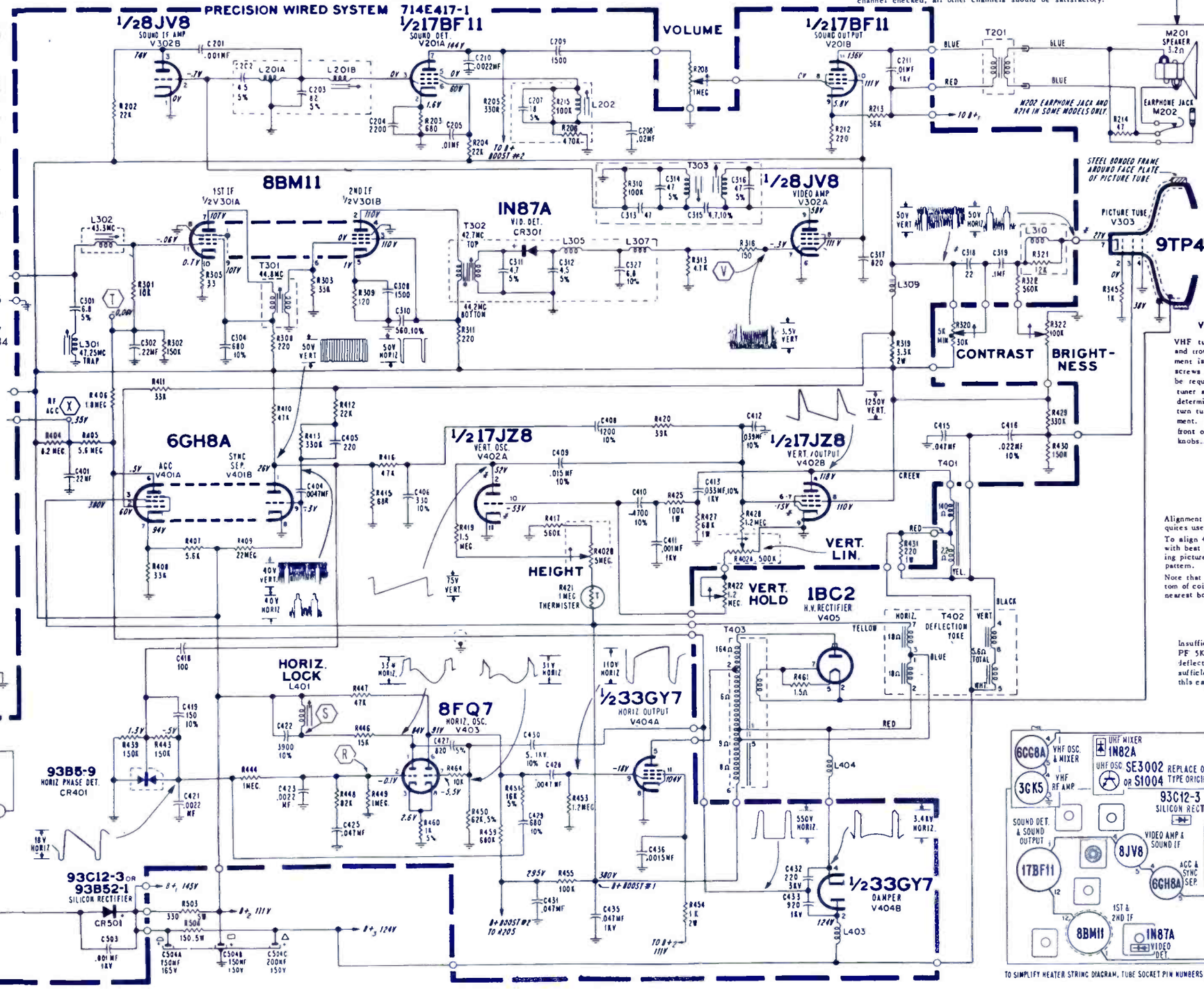
Attach the sweep generator at the VHF tuner antenna terminals, high side through 1200 ohm resistor, low side through 1200 ohm resistor. Place a 330 ohm resistor across the antenna terminals and a 47 ohm resistor across the generator output.

Connect oscilloscope high side to test point "V" through decoupling filter, low side to chassis. Adjust sweep generator for 3 volt peak to peak at test point "V".

Compare response curve obtained against ideal curve shown in fig. 6. If the curve is not within tolerance, adjust the VHF fine tuning to position video marker; adjust T302 top core to correct shape of curve. It should never be necessary to turn slugs more than one turn in either direction. If curve is satisfactory on channel checked, all other channels should be satisfactory.

IMPORTANT: When sweep output is reduced, response curve amplitude on scope should also decrease, but curve shape should remain the same.





VHF AMPLIFIER AND MIXER ALIGNMENT

VHF tuner used in these models features high stability and trouble-free operation. In general, RF and mixer alignment is permanent. However, individual channel oscillator screws or slugs are provided, should oscillator adjustment be required after replacement of VHF oscillator tube. For tuner adjustment locations, see Figure 2. If it is definitely determined that complete tuner alignment is required, return tuner to your Admiral Distributor for repair or replacement. Note: VHF Channel Adjustment can be made from front of set after removing VHF Channel and Fine Tuning knobs.

ALIGNMENT OF 4.5MC TRAP

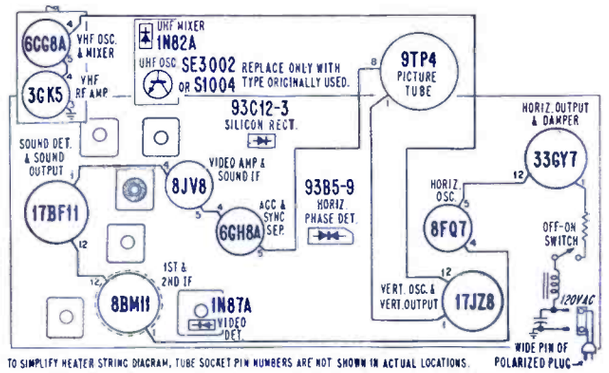
Alignment of 4.5MC (beat interference) trap T303 top slug requires use of a hexagonal non-metallic alignment tool.

To align 4.5MC trap T303 top slug, tune in television station with beat interference pattern in picture. While closely observing picture, adjust slug T303 top slug for minimum interference pattern.

Note that adjustment T303 top slug is slug farthest from bottom of coil. Use caution so as not to disturb bottom slug, slug nearest bottom of coil, as sound IF alignment will be affected.

SERVICE HINT

Insufficient width can be corrected by connecting a 15-56 PF 5KV ceramic disc between terminals 2 and 7 of T402 deflection yoke. Use the smallest value possible to obtain sufficient width. Some sets will already be equipped with this capacitor.

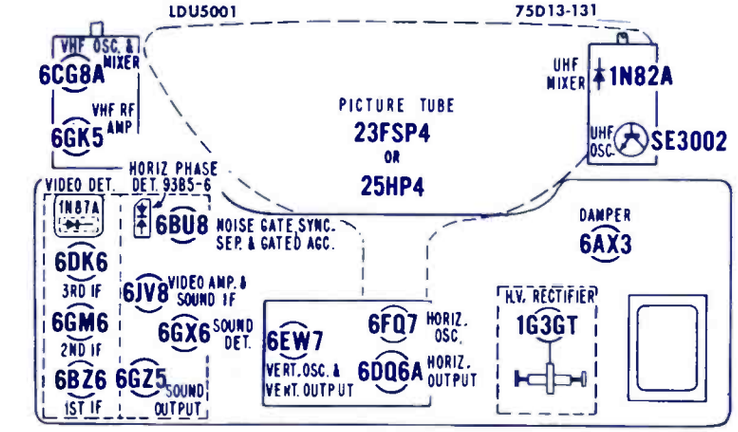


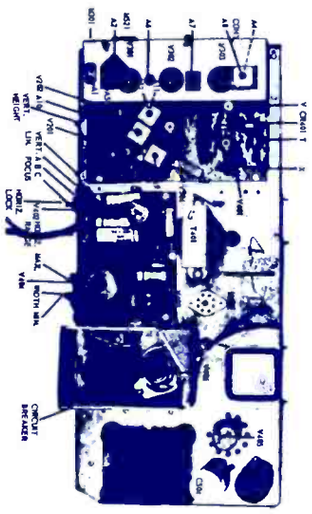
TO SIMPLIFY HEATER STRING DIAGRAM, TUBE SOCKET PIN NUMBERS ARE NOT SHOWN IN ACTUAL LOCATIONS.

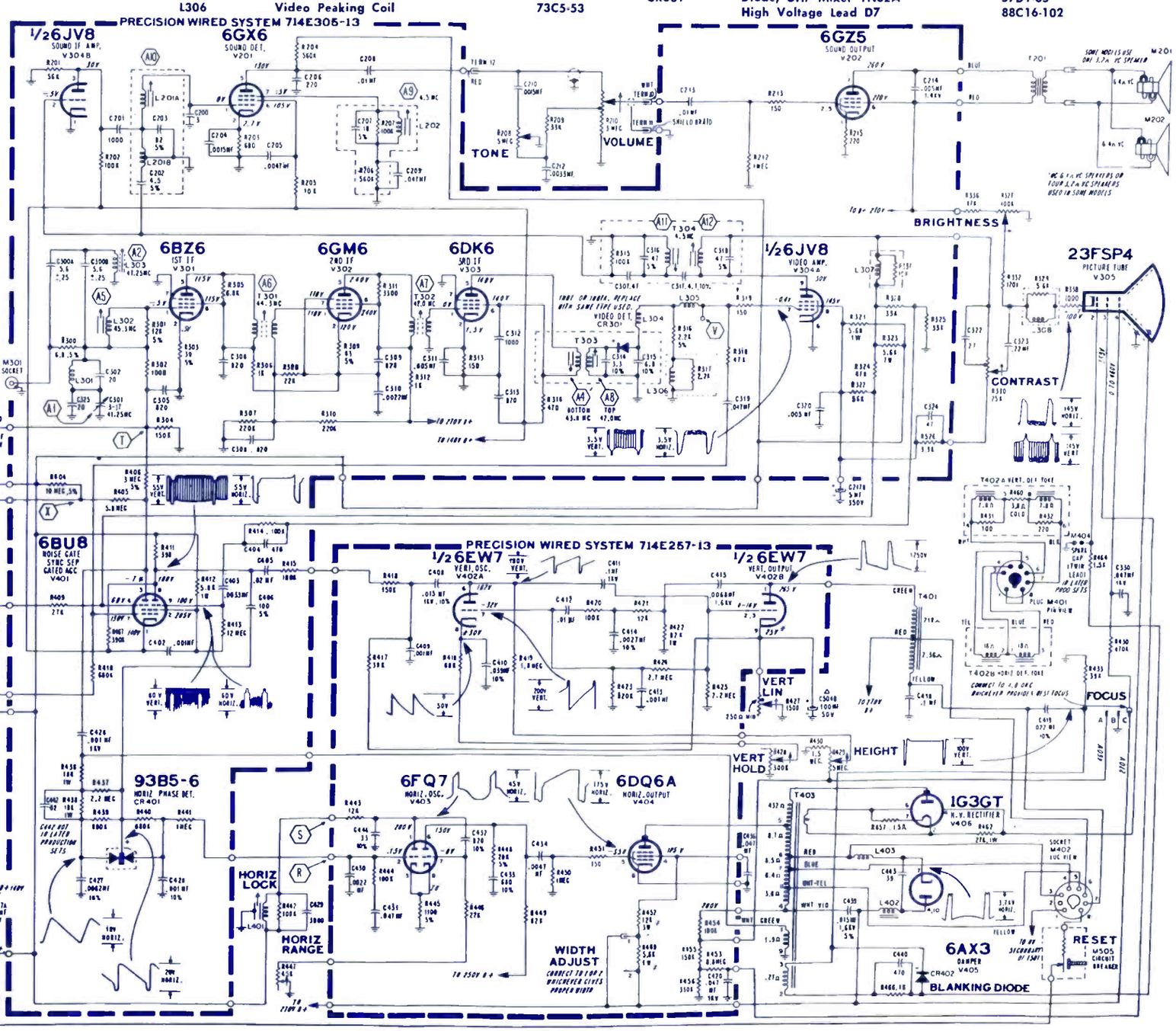
ADMIRAL
TV Chassis D761-1, 1D761-1 and 1D760-1

ELECTRONIC TECHNICIAN TEKFAX

Symbol	Description	Admiral Part No.
R208	Tone Control for LDU3440 & LDU3460	75D13-127
	LD5010 & LD5020	75D13-128
	LG5201 & LG5205	75D13-128
R210	Volume Control for LDU3440 & LD3460	75D44-23
	LD5010 & LD5020	75D44-31
	LG5201 & LG5205	75D44-31
R208	Dual Volume & Tone Control	
R210	for LD5001	75D45-20
R327	Brightness Control for LDU3440 & LD3460	75D13-121
	LD5001	75D13-132
	LD5010 & LD5020	75D13-130
	LG5201 & LG5202	75D13-130
R330	Contrast Control	75D20-126
R408	AGC Control	75D20-118
R427	Vertical Lin. Control	75D81-3
R428	Vertical Hold Control for LDU3440 & LDU3460	75D13-111
	LDU5001	75D13-131
R430	Height Control	75D13-129
R447	Horizontal Range Conrtol	75D13-129
R460	Thermistor in Yoke	75D20-160
C200	3 pf, 10%, NPO, 500 v, Cer. Disc	75D20-131
C201	1000 pf, 500v, Cer. Disc	60A64-1
C203	82 pf, 5%, NPO, 500v, Cer. Disc	65D10-25
C217A	30 µf, 350v Electrolytic	65D10-53
C217B	5 µf, 350v	65D10-98
C307	47 pf, NPO, 500v, Cer. Disc	67B4-62
C408	.015 µf, 10%, 1Kv, Tublar	65D10-198
C411	.1 µf, 1Kv, Tubular	64C2-76
C415	.0068 µf, 1.6Kv, Tubular	64C2-52
C501	.047 µf, 600 v, Special Tubular	64C2-58
C504A	100 µf, 200v	63B12-1
C504B	100 µf, 350v Electrolytic	
C504C	50 µf, 350v	67D15-370
C504D	100 µf, 50v	
C506	100 µf, 200v, Electrolytic	67D15-271
L202	Quadrature Coil	72C132-61
L301	Sound Trap Coil	73B37-16
L303	47.25 Sound Trap	72C132-55
L305	Video Peaking Coil	73B31-3
L306	Video Peaking Coil	73C5-53
L307	Video Peaking Coil	73C5-43
L308	Video Peaking Coil	73C5-50
L310	Filament Choke	73C37-2
L401	Horizontal Lock Coil	94D17-16
L402, 403	Spook Choke	73B31-8
L501	Filter Choke	74C18-47
T201	Audio Output Transformer D7	79D-33-76
	ID.7	79D33-84
T301	First IF Transformer	72C132-57
T302	Second IF Transformer	72C132-57
T303	Third IF Transformer	72C191-9
T304	Sound Take Off Transformer	72C185-2
T401	Vertical Output Transformer	79D100-6
T402	Deflection Yoke D7 Chassis	750C305-23
	1D7 Chassis	750C305-27
T403	Horizontal Output Transformer	79D77-18
T501	Power Transformer	80D84-1
CR301	Diode, Video Detector, in T303	1N87A
CR401	Diode, Dual Horiz. Phase Det	93B5-9
CR402	Horiz. Blanking Diode	93B27-2
CR501, 502	Diode, Rectifier	93B12-1
CR801	Diode, UHF Mixer 1N82A	57D1-65
	High Voltage Lead D7	88C16-102
	Plate Lead & Cap Assy., HOT	88C16-97
	CRT Socket D7	88C16-35
	1D7	87B83-21
	Circuit Breaker	87B83-28
		84B17-4





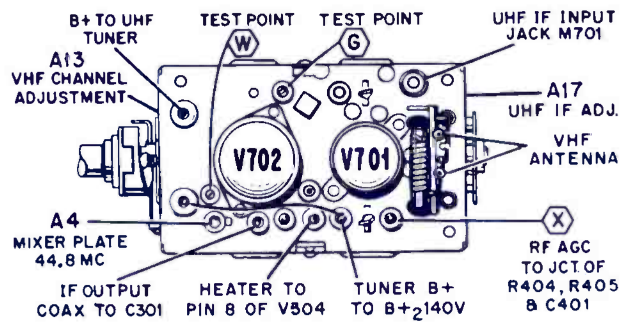


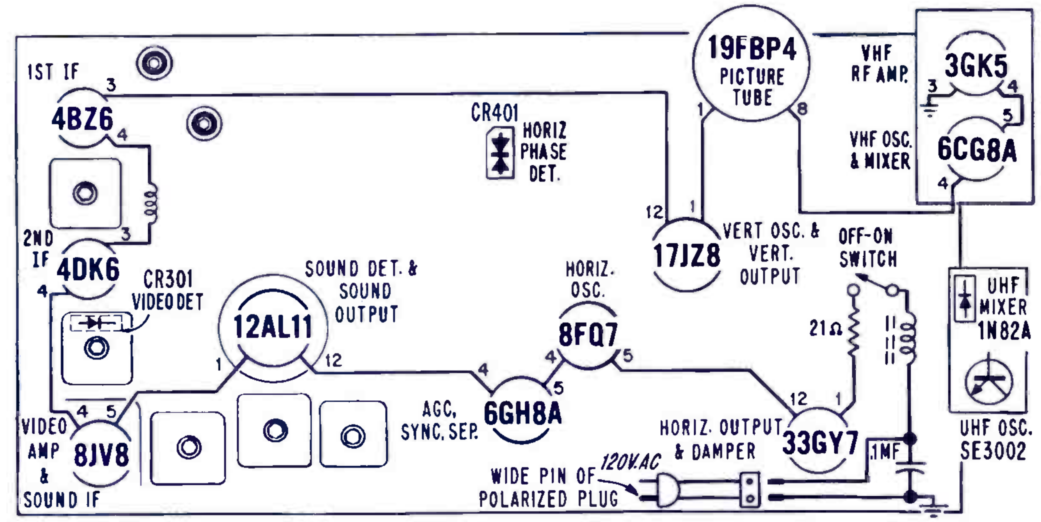
ADMIRAL
TV Chassis G3

MODEL IDENTIFICATION CHART

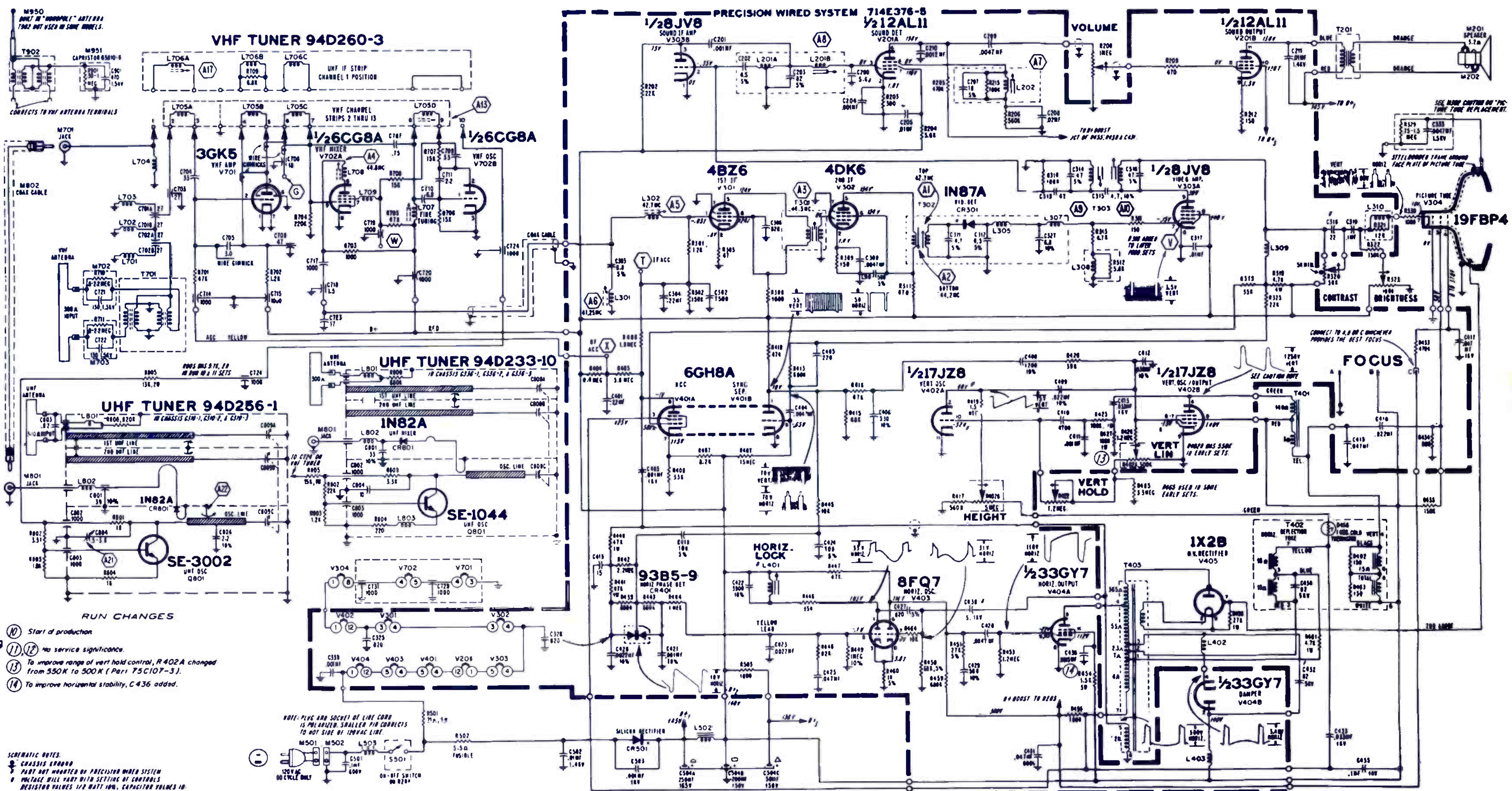
MODEL	NAME	COLOR	CHASSIS
PG9201	Vicroy	Brown	
PG9210	Skipper	Black	G310-1 or G336-1
PG9211	Skipper	Brown & White	G310-1 or G336-1
PG9218	Skipper	Gray & White	G310-1 or G336-1
PG9227	Cornell	Walnut	G310-1 or G336-1
*TG9201H	Caravan	Gray	G310-4

Symbol	Description	Admiral Part No.
R208	1 M, Vol Con. w/sw	75D1-167
R319	4.7k, 4w	61B24-441
R320	30k, Cont. Control	75C20-183
R323	100k, Bright Control	75D20-184
R402A	550k, Vert. Lin. Con.	Dual 75C107-3
R402B	5 M, Ht.	Dual 75C107-3
R422	1.2 M, Vert. Hold Con.	75D20-185
R425	100k, 1w	60C14-104
R427	100k, 1w	60C14-104
R440	47k, 1w	60C14-473
R441	47k, 1w	60C14-473
R450	68k, 5%, ½w	60C7-683
R451	27k, 5%, ½w	60C7-273
R456	27k, 1w	60B14-273
R458	1M, Thermistor	61C41-1
R460	1k, 5%, ½w	60C28-92
R461	4.7k, 1w	60B14-472
R501	21Ω, 5w	61B20-53
R502	5.5 fusible	61B48-1
R805	13k, 2w, with 94D256-1, UHF	61C24-252
R805	15k, 1w, with 94D233-10 UHF	60C14-153
R454	1.5k, 3w	61C24-329
C200	5.6 pf, Cer. Disc	65D10-356
C201	.001 µf, Cer. Disc	65D10-53
C202	4.5 pf, Tubular	65B40-57
C203	82 pf, —5%, NPO, Cer. Disc	65D10-98
C204	.001 µf, Cer. Disc	65D10-53
C205	.01 µf, Cer. Disc	65D10-41
C208	.02 µf, Cer. Disc	65D10-280
C209	.0047 µf, Cer. Disc	65D10-112
C210	.0012 µf, Cer. Disc	65D10-339
C211	.01 µf, 1.4 kv, Cer. Disc	65D10-373
C302	1500 pf, Cer. Disc	65D10-103
C303	6.8 pf, 5%, NPO, Cer. Disc	65D10-102
C313	47 pf, 20%, NPO, Cer. Disc	65D10-19B
C314	47 pf, 5%, NPO, Cer. Disc	65D10-92
C316	47 pf, 5%, NPO, Cer. Disc	65D10-92
C31B	22 pf, N750 (on contrast) Cer. Disc	65D10-134
C331	.001 µf, 1kv, Cer. Disc	65D10-320
C403	.001 µf, 1kv, Cer. Disc	65D10-147
C417	.047 µf, 1kv, Tubular	65C2-30
C418	100 pf, 5%, NPO, Cer. Disc	65D10-105
C419	15 pf, Cer. Disc	65D10-135
C422	3900 pf, Polyester	65C80-19
C424	100 pf, NPO, Cer. Disc	65D10-105
C429	560 pf, 10%, Polyester	65C80-24
C430	5 pf, 1kv, 10%, N750, Cer. Disc	65D10-345
C432	82 pf, 5kv, N1500, Cer. Disc	65D10-337
C434	82 pf, 3kv, N750 (in yoke)	65D10-101
C504A	250 µf, 165v	67D15-382
C504B	200 µf, 200v	67D15-382
C504C	50 µf, 150v	67D15-382
L201A B	IF Transformer & Phase Shifting Coil	72C208-6
L202	Quadrature Coil	72C132-61
L301	47.25 Mc Trap	72C296-2
L302	IF Input Coil	72C296-1
L305	IF Self Resonant Choke	73C31-3
L307	RF Choke	73C31-4
L308	Peaking Coil	73C5-42
L309	Peaking Coil	73C5-44
L310	Peaking Coil	73C5-40
L401	Horizontal Lock Coil	94D17-16
L402	Spook Choke	73B31-11
L403	RF Choke	73B37-17
L502	Filter Choke	74C18-56
L503	Line Choke	73B31-1
T201	Audio Output Transformer	79D33-87
T301	1st IF Transformer	72C132-42
T302	Detector & Interstage Trans.	72C261-2
T303	Sound Takeoff & 4.5 Mc Trap	72C185-2
T401	Vertical Output Transformer	79D100-11
T402	Deflection Yoke	750C305-29
T403	Horiz. Output Transformer	79D109-4
CR301	Diode Video Detector, 1N87A	93C8-1
CR401	Diode, Horiz. Phase Detector (dual)	93A5-9
CR501	Silicon Rectifier	93B12-1
M302	Capristor	63C10-2





TO SIMPLIFY HEATER STRING DIAGRAM, TUBE SOCKET PIN NUMBERS ARE NOT SHOWN IN ACTUAL LOCATIONS.



RUN CHANGES

(10) Start of production

(11), (12) No service significance.

(13) To improve range of vert hold control, R402A changed from 550K to 500K (Part 75C107-3).

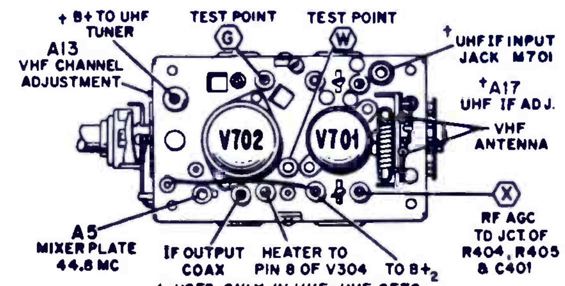
(14) To improve horizontal stability, C436 added.

ADMIRAL
TV Chassis G4, 2G4, 8G4, 9G4

ELECTRONIC TECHNICIAN TEKFAX

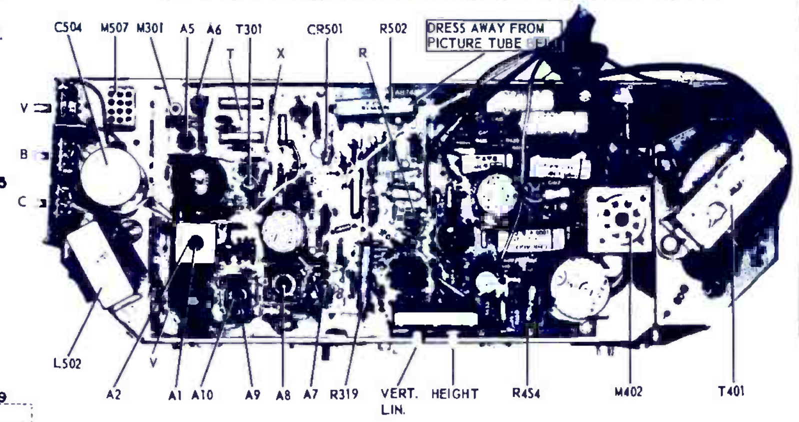
MODEL IDENTIFICATION CHART

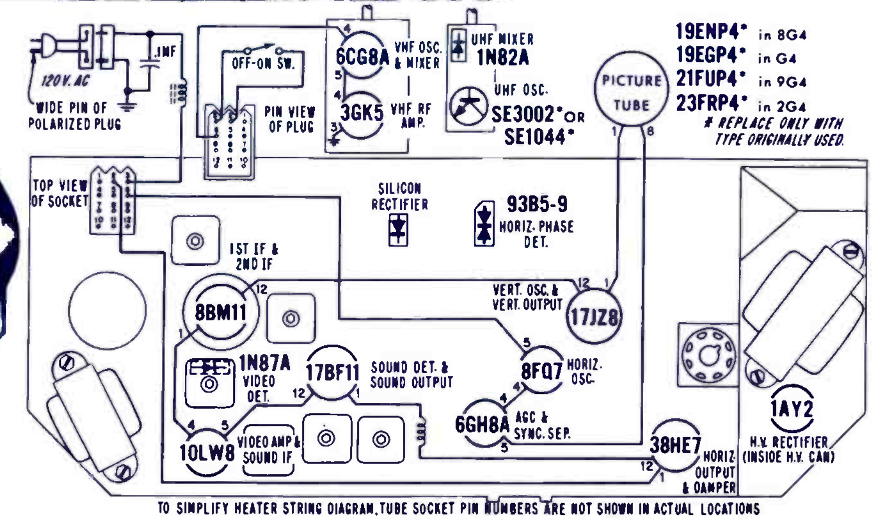
MODEL	COLOR	NAME	SIZE	CHASSIS
PG9300M	Black	Ranger	19"	8G423-1
PG9309M	White			
PG9420M	Black	Carousel	19"	G422-1
PG9421M	Tan			
PG9621M	Sandalwood	Central Park	19"	G417-1 OR G416-1
PG9625M	Green			
PG9637M	Walnut	Jubilee	19"	
PG2101M	Brown	Festival	21"	9G410-1 OR 9G413-1 OR 9G416-1
PG2108M	Gray			
PG2110M	Black	Capri	21"	
PG2119M	White			
PG2127M	Walnut	Promenade	21"	
LG3001M	Walnut	Carlyle	23"	2G424-1



+ USED ONLY IN VHF-UHF SETS.

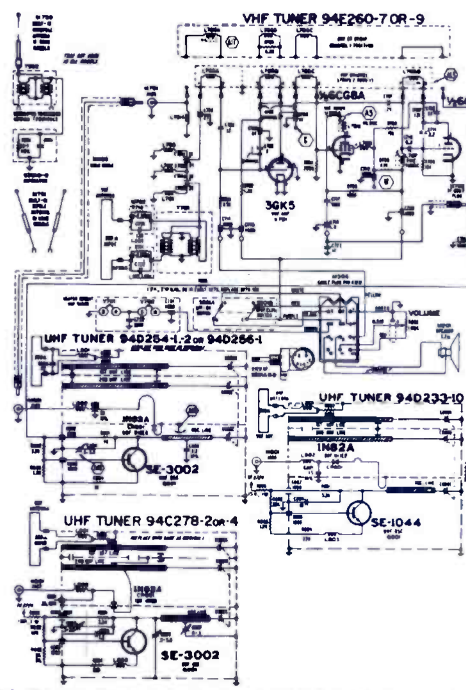
Symbol	Description	Admiral Part No.
T401	vertical output transformer	79C100-12
T402	deflection yoke assembly	750C305-25
T403	Horizontal output transformer	7500C647-4
M302	capristor, RC filter	63C10-3
CR301	diode, video detector	IN87A
CR401	diode, dual	93B5-9
CR501	rectifier, silicon	93B12-3
CR801	diode, UHF mixer	IN82A





CHASSIS TUBE LOCATION CHART

Symbol	Description	Admiral Part No.
R210	27K, 1w	60C14-273
R319	4.7K, 4w	61C24-441
R320	30K, contrast control	75D20-183
R323	30K, brightness control G4, 8G4, 9G4	75D20-184
	2G4	75D20-187
R402A	500K, vertical lin. control } Dual	75D107-3
R402B	5 M, height control } Dual	
R422	1.2 M, vert. hold control G4, 8G4, 9G4	75D20-185
	2G4	75D20-186
R423	220Ω, 1w	60C14-221
R425	100K, 1w	60C14-104
R427	100K, 1w	60C14-104
R440, 41	47K, 1w	60C14-473
R450	62K, 5%, ½w	60B7-623
R451	33K, 5%, ½w	60B7-333
R454	1.5K, 3w	61B24-329
R456	27K, 1w	60C14-273
R457	4.7K, 1w	60C14-472
R458	1 M, thermistor	61B41-1
R460	1K, 5%, ½w	60C28-92
R502	5Ω, 5%, 10w	61C20-24
R503	4.7K, 1w	60B14-472
	6.8K, 1w	60C14-682
R805	• 13K, 2w	61C24-252
R805	18K, 1w	60B14-183
R805	15K, 1w	60B14-153
R805	8.2K, 2w	61B24-247
C201	.001 µf, 500v, cer. disc.	65D10-53
C202	4.5 pf, 5%, 500v, cer.	65B40-57
C203	82 pf, 5%, NPO, 500v, cer. disc.	65D10-98
C207	18 pf, 5%, N220, 500v, cer. disc.	65D10-140
C208	.02 µf, GMV, 500v, cer. disc.	65D10-280
C212	.01 µf, GMV, 1.4kv, cer. disc.	65D10-373
C301	6.8 pf, 5%, NPO, 500v, cer. disc.	65D10-102
C313	47 pf, NPO, 500v, cer. disc.	65D10-198
C314	47 pf, 5% NPO, 500v, cer. disc.	65D10-92
C316	47 pf, 5%, NPO, 500v, cer. disc.	65D10-92
C327	6.8 pf, 10%, 500v, ceramic	65B41-141
C332, 333	820 pf, 500v, cer. disc.	65D10-91
C403	.001 µf, GMV, lkv, cer. disc.	65D10-147
C404	.0047 µf, 500v, cer. disc.	65D10-112
C405	220 pf, 500v, cer. disc.	65D10-83
C406	330 pf, 10%, 500v, cer. disc.	65D10-266
C408	1500 pf, 10%, 500v, Polystyrene	65C80-39
C409	.002 µf, 10%, 500v, tubular	64C26-11
C413	.033 µf, 10%, 1kv, tubular	64C2-53
C415	.047 µf, 1kv, tubular	64C2-30
C416	.047 µf, 1kv, tubular	64C2-30
C418	100 pf, 5%, NPO, 500v, cer. disc.	65D10-105
C422	3900 µf, 10%, 500v Polystyrene	65D80-19
C427	820 pf, 5%, 500v, polystyrene	65C80-44
C429	1500 pf, 10%, 500v, polystyrene	65C80-39
C430	5pf, 10%, 1kv, cer. disc.	65D10-345
C432	110 pf, 5kv, cer. disc.	65D10-249
C433	39 pf, 5kv, cer. disc.	65D10-318
C434	82 pf, 3kv, cer. disc.	65D10-13
C435	.1 µf, 1kv, tubular	64C2-52
C436	.033 µf, 1kv, tubular	64C2-53
C504A	250 µf, 200v } Electrolytic	6715-382
C504B	200 µf, 150v } Electrolytic	
C504C	50 µf, 150v } Electrolytic	
L201A & B	Coil, Phase Shift & IF Sound	72C208-6
L202	Quadrature Coil	72C132-66
L301	47.25 Trap Coil	72C296-2
L302	IF Input transformer	72C296-1
L305	RF choke	73B31-3
L307	RF choke	73B31-4
L309	RF choke	73B5-20
L310	peaking coil	73B5-40
L304	filament choke	73B31-12
L308	peaking coil	73B5-53
L401	Horizontal Lock Coil	94D17-16
L403	spook choke	73C37-17
L404	damper choke	73B31-11
L502	filter choke	74C18-53
L503	line choke	73C31-1
T201	Audio Output Transformer	79C88-6
T301	first IF transformer	72C132-42
T302	Second IF transformer	72C261-5
T303	sound takeoff & 4.5mc trap	72C185-2



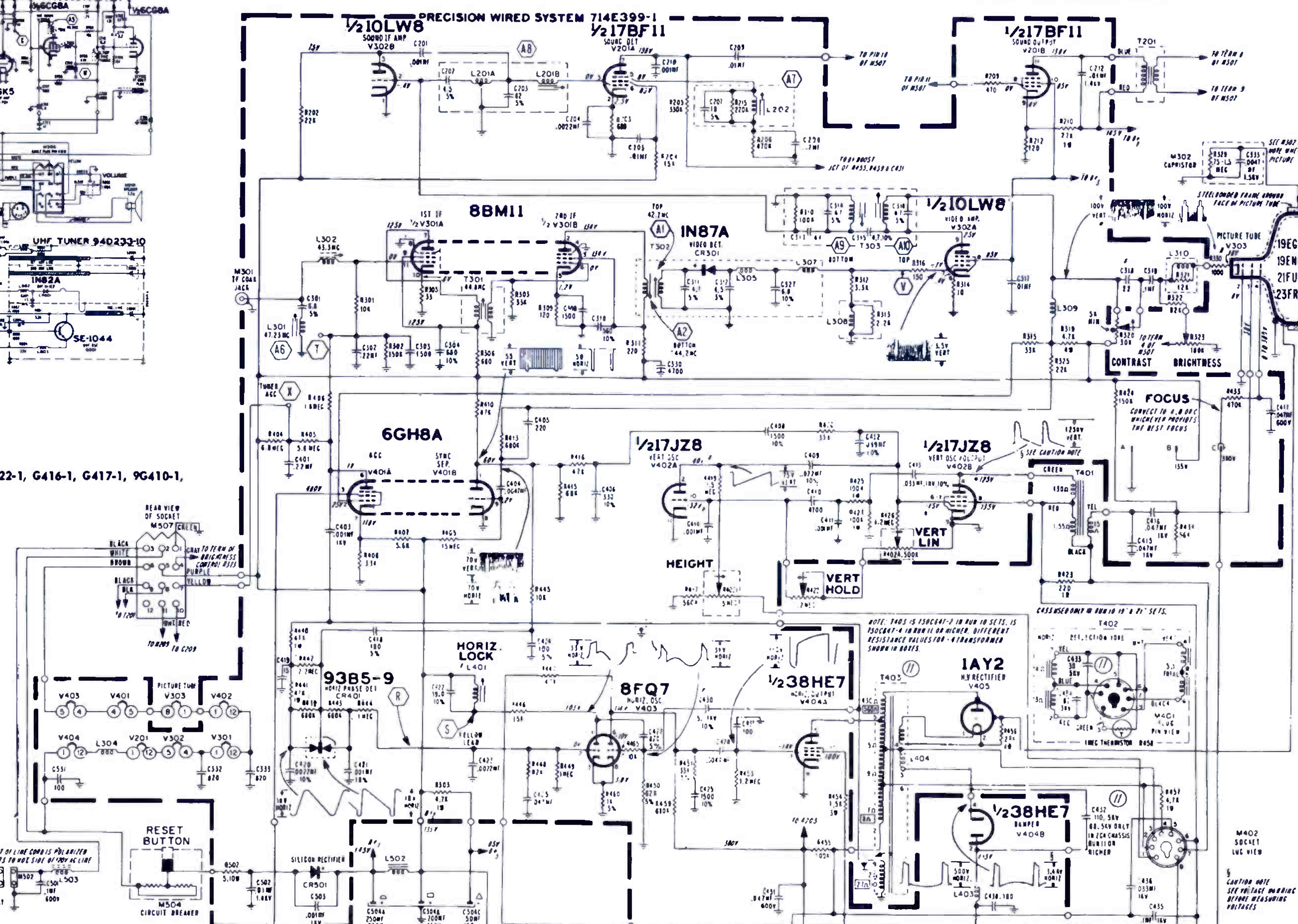
TUNER CLUSTER FOR CHASSIS G422-1, G416-1, G417-1, 9G410-1, 2G424-1

RUN CHANGES

(10) Start of production

(11) For improved performance T403 was changed from part # 750C647-2 to 750C647-4. T402 was changed from part #750C305-28 to #750C305-25. C432 was changed from 110pf to 68pf in 2G4 chassis only. Replace components with same part number as originally used in set

SCHEMATIC NOTES:
CHASSIS GROUND
* PART NOT MOUNTED ON PRECISION WIRED SYSTEM
+ VOLTAGES WILL VARY WITH SETTING OF CONTROLS
UNLESS OTHERWISE INDICATED, ALL CAPACITOR VALUES IN PICOFARADS. ALL RESISTOR VALUES ARE 1/2 WATT. G4, 2G4, 8G4 & 9G4 CHASSIS ARE ELECTRICALLY IDENTICAL EXCEPT FOR VALUE OF C432. SEE SEPERATE SCHEMATIC FOR VHF-UHF TUNERS AND CONTROL CIRCUITRY.



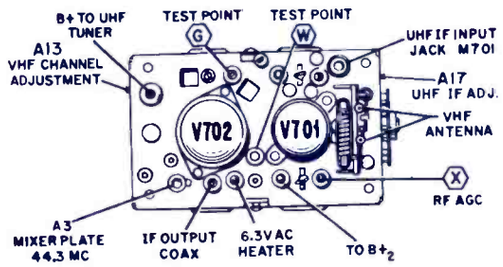
ELECTRONIC TECHNICIAN OJIBWAY BUILDING, DULUTH, MINNESOTA 55802

ADMIRAL

TV Chassis G6

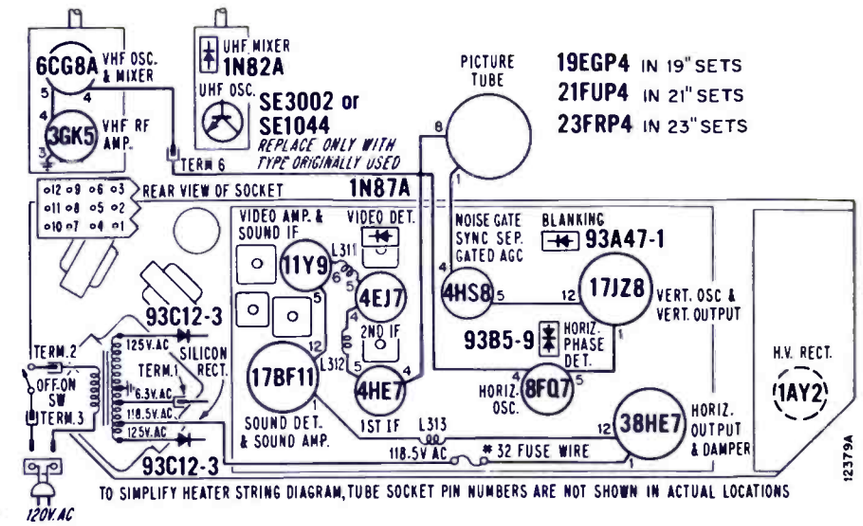
ELECTRONIC TECHNICIAN **TEKFAX**

TOP VIEW OF VHF TUNER



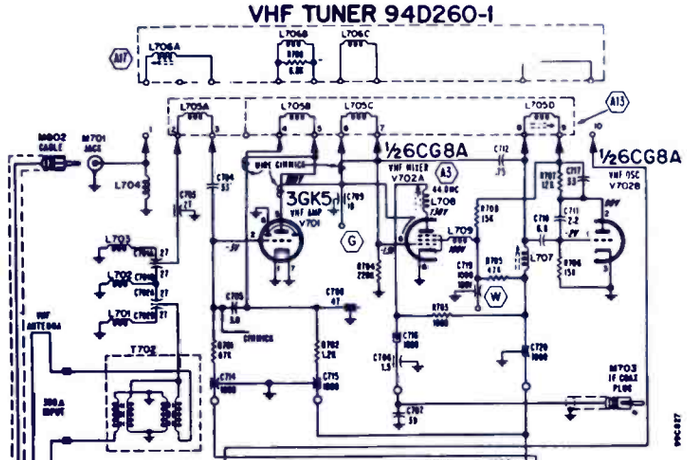
Symbol	Description
R210	27,000Ω, 2 w
R300	12Ω, 5 percent, ½ w (special)
R307	6800Ω, 1w
R317	10k, 1 w
R319	5600Ω, 7w
R320	30,000Ω, contrast control
R323	1 MEG, Brightness Control
R402	30,000Ω, A.G.C. Control
R407	3,300Ω, 1w
R417	2.7 MEG, Height Control
R422	1.2 MEG, Vert. Hold Control
R423	150Ω, 1w
R425	100k, 1w
R427	68k, 1w

		Admiral Part No.
R430	350k, Vert. Lin. Control	75D101-5
R440, 441	4.7k, 1w	60C14-473
R454	1500Ω, 3w	61C24-329
R456	27k, 1w	60C14-273
R457	4.7k, 1w	60C14-472
R461	45k, Horiz. Range Control	75C101-7
R503	330Ω, 3w	61C20-60
R805	9100Ω, 2w, Early Prod.	61C24-248
C306	20 pf, 500v, NPO, Cer. Disc.	65D10-123
C413	.033 µf, 1kv, 10 percent, Tubular Mylar	64C2-53
C414	.001 µf, 1kv, Cer. Disc.	65D10-147
C415, 416	.047 µf, 1kv, Tubular Mylar	64C2-33
C417	.047 µf, 1kv, Tubular Mylar	64C34-34
C430	5 pf, 1 kv, 10 percent, N750, Cer. Disc.	65D10-345
C504B	150 µf, 175v	
C504C	150 µf, 175v Electrolytic	67D15-383
C504D	150 µf, 175v	
L201	Quadrature Coil	72B132-61
L402	Plate Choke	73C31-11
L403	Spook Choke	73C37-17
L404	Width Coil	94A279-1
L502	Filter Choke	74C28-1
T201	Sound IF Transformer	72B222-6
T202	Audio Output Transformer	79D33-85
T301	1st IF Transformer	72B222-4
T303	Sound Takeoff Transformer	72B185-2
T401	Vertical Output Transformer	79D100-10
T402	Deflection Yoke	750C305-28
T403	Horizontal Output Transformer	750C647-1
T501	Power Transformer	80D87-2
CR301	Diode Video Detector	93C8
CR401	Diode, Hor. Phase Detector (dual)	93B5-9
R402	Diode, Blanking	93B47-1
CR501, 502	Diode, Silicon Rectifier	93B12-3

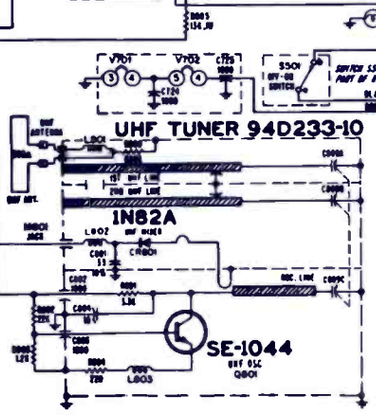


TOP VIEW OF CHASSIS SHOWING TUBE LOCATIONS

VHF TUNER 94D260-1



UHF TUNER 94D233-10



CLUSTER ASSY. FOR G613-1 CHASSIS

RUN CHANGES

(10) Start of production.

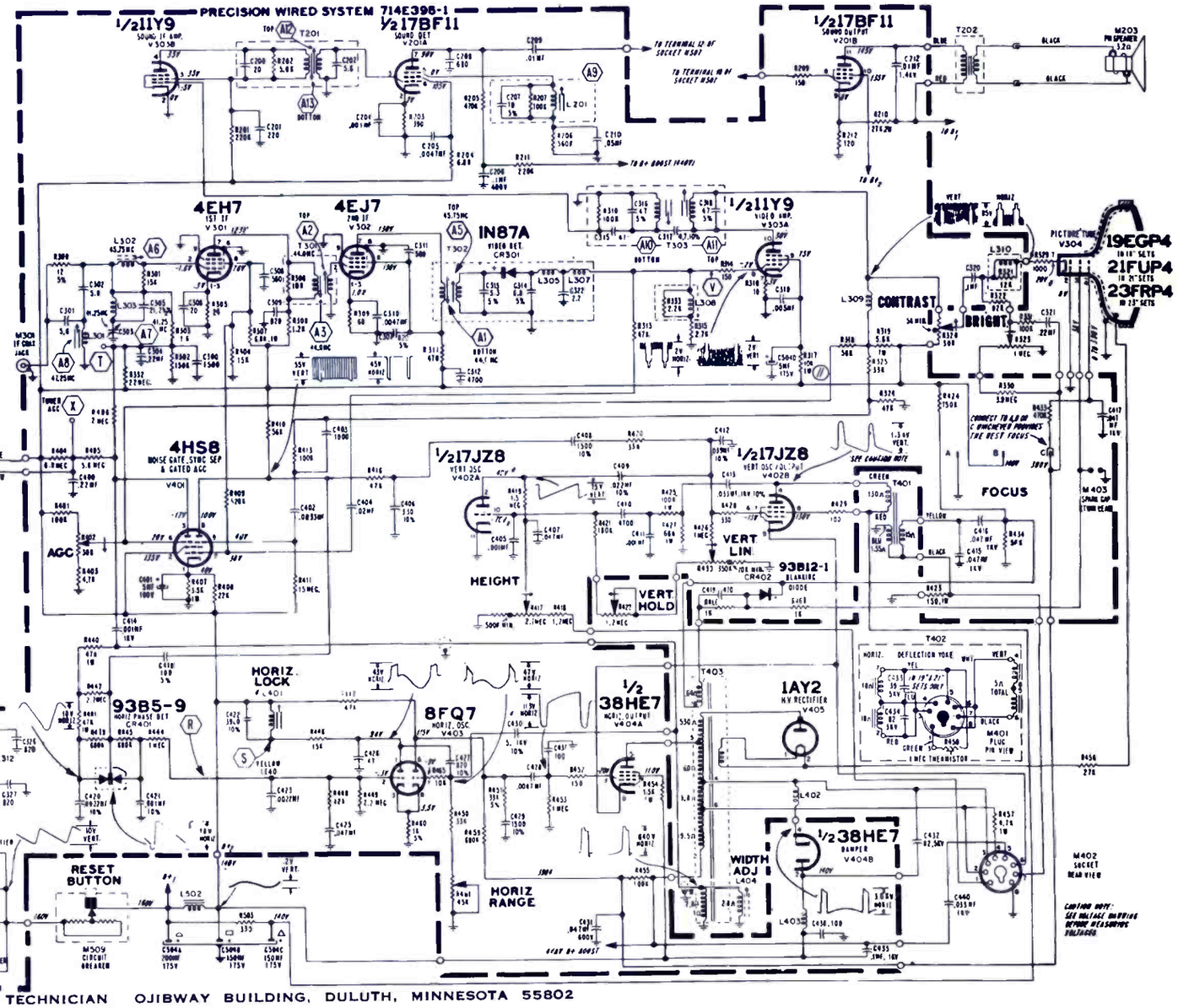
(11) For improved video linearity, resistor R317 was changed from 5.6 K to 10 K.

(12), (13) No service significance.

SCHEMATIC NOTES:
- ⏚ CHASSIS GROUND.
- ▲ PART NOT INCLUDED ON PRECISION WIRED SYSTEM
- ◆ VOLTAGE WILL VARY WITH SETTING OF CONTROLS.

RESISTOR VALUES IN OHMS, 10%, & CAPACITOR VALUES IN MICROFARADS UNLESS NOTED OTHERWISE. INDICATED SEE SCHEMATIC SCHEMATIC FOR PRINTED CIRCUITS AND CONTROL CIRCUITRY.

PRECISION WIRED SYSTEM 714E398-1



ADMIRAL
Color TV Chassis
G11

ELECTRONIC TECHNICIAN TEKFAX

CONDITIONS FOR OBSERVING WAVEFORMS

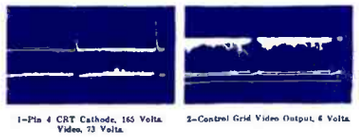
- Video waveforms are taken with transmitted black and white signal input to television receiver.
- Chroma waveforms taken with color bar generator providing signal presentations of standard color bar pattern. Set color bar generator at 100% modulation.
- Receiver was adjusted for approximate peak-to-peak output of 10 volts at video test point TP4 (pin 3 of V401A with terminal "MM" of PWS200 grounded to chassis).
- Set all receiver controls for normal picture.
- Oscilloscope sweep was set at 30 cycles for vertical waveforms and at 7,875 cycles for horizontal waveforms, to permit 2 complete cycles to be observed.
- Shape of waveform patterns should resemble those given below. Peak-to-peak voltages may vary, depending on calibration of test equipment and chassis parts tolerances.

OSCILLOSCOPE WAVEFORM PATTERNS

Oscilloscope waveform patterns taken at important observation test points throughout the television chassis. Voltages given below the wave form pictures are peak to peak measurements.

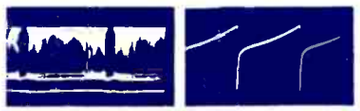
All waveforms were taken with a wideband oscilloscope having a probe with low input capacity. Warning: If waveform peak-to-peak voltage exceeds voltage input rating of oscilloscope, it is recommended that a voltage divider network be used to prevent damage to oscilloscope. Conditions for taking waveforms are given at right.

Warning: Pulsed high voltages are present at the caps of V704, V702, V703and at base of V405, V705 and V706. Do not attempt to observe waveforms at these points unless suitable test equipment is used.



1–Pin 4 CRT Cathode, 165 Volts. Video, 73 Volts.

2–Control Grid Video Output, 6 Volts.

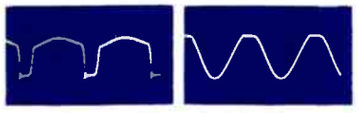


5–Control Grid, 1st Video Amplifier 10 Volts.

6–Vertical Oscillator Plate, 132 Volts. (1.9V integrated vert. sync. pulse)

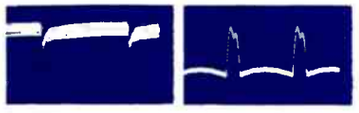
9–Vertical Output Screen, 16 Volts.

10–Center Terminal, Phase Detector, (horiz.), 27 Volts



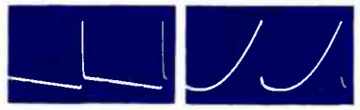
13–Horizontal Oscillator Screen Grid, 62 Volts.

14–Horizontal Oscillator Control Grid, 65 Volts.



17–Sync. Separator Plate, 65 Volts.

18–AGC Plate, 432 Volts.

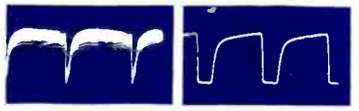


3–Vertical Output Plate 1200 Volts. CAUTION: MEASURE W/H.V. PROBE!

4–Vertical Output Cathode 18 Volts.

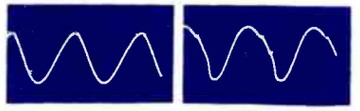
7–Vertical Oscillator Grid, 170 Volts.

8–Vertical Oscillator Cathode, 100 Volts.



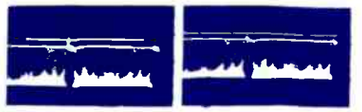
11–Active Negative Terminal, Phase Detector (horiz.), 1.8 Volts.

12–Horizontal Output Grid (Control Grid), 220 Volts.



15–Horizontal Reactance Plate, 73 Volts

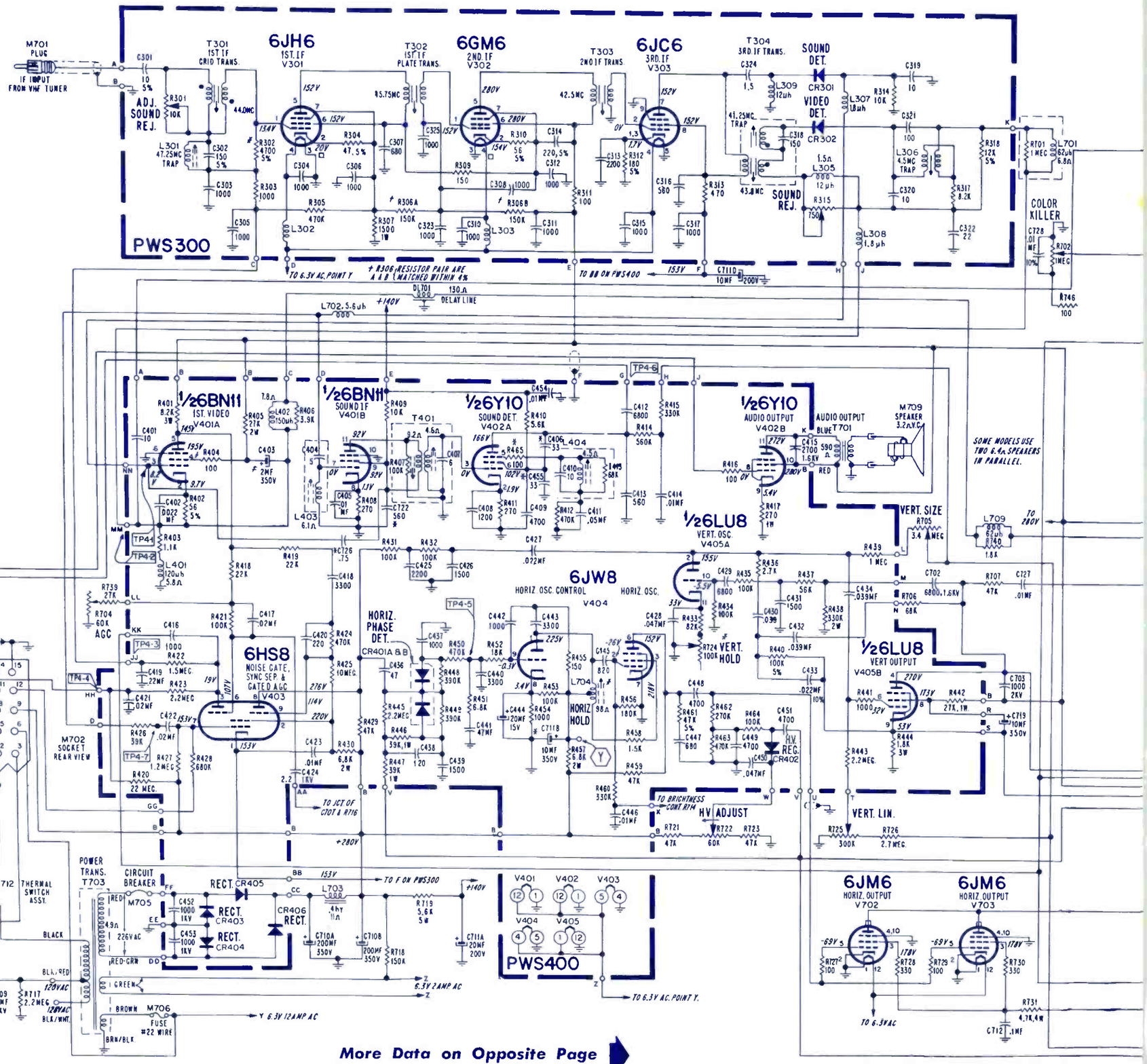
16–Horizontal Reactance Grid, 2.9 Volts.



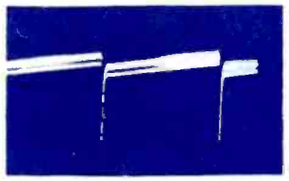
19–AGC Suppressor (Injection) Grid, 100 Volts.

20–Sync. Separator Suppressor (Injection) Grid, 100 Volts.

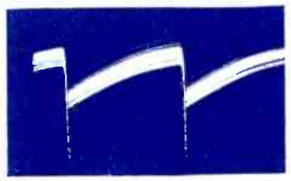
VHF Tuner	94E253-2
RF Amp	6AH5
VHF Osc	6CG8A
UHF Tuner	94D233-10
UHF Osc	SE-1044 Transistor



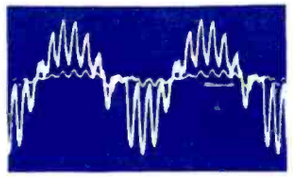
More Data on Opposite Page



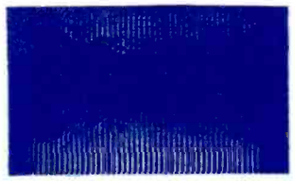
24–M708 Socket Pin 5, 19.5 Volts.



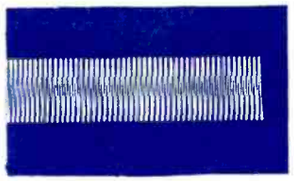
28–M708 Socket Pin 7, 13.5 Volts.



32–Pin 12 CRT Socket Blue Difference Signal, 121 Volts.

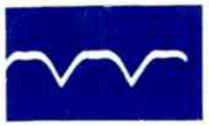


36–Pin 7 6LE8 R-Y Reference Signal, 66 Volts. No Chroma Applied.



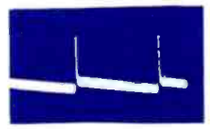
40–Pin 2 Color Oscillator Control Grid Monochrome Signal, 15.5 Volts.

21–Sync. Separator, AGC Gate Noise Control Grid, .41 Volts.

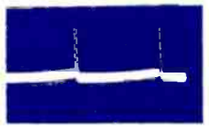


22–Output of Filter Choke, 1.5 Volts

23–Input of Filter Choke, 13.7 Volts.



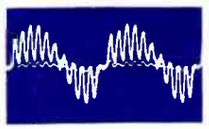
25–M708 Socket Pin 4, 7 Volts.



26–M708 Socket Pin 6, 5.3 Volts.

27–M708 Socket Pin 3, 6.3 Volts.

29–Yellow Lead Terminal 4 of Yoke, 205 Volts.

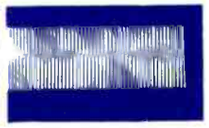


30–Pin 2 CRT Socket Red Difference Signal, 86 Volts.

31–Pin 6 CRT Socket Green Difference Signal, 33 Volts.

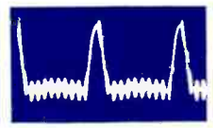
33–Pin 2 6LE8 R-Y Reference Signal, 22.6 Volts. No Chroma Applied.

34–Pin 9 6LE8 Color Bar Pattern and Reflex at Control Grid, 6.5 Volts.



35–Plate of Oscillator (3.58MC), 83 Volts.

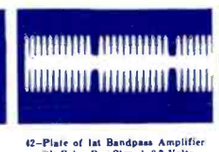
37–Pin 4 Burst Amplifier Plate, 415 Volts.



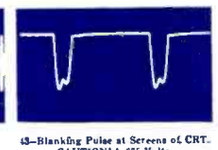
38–Pin 1 Burst Amplifier Control Grid, 72 Volts.

39–Pin 2 Color Oscillator Control Grid with Color Bar Pattern, 20 Volts.

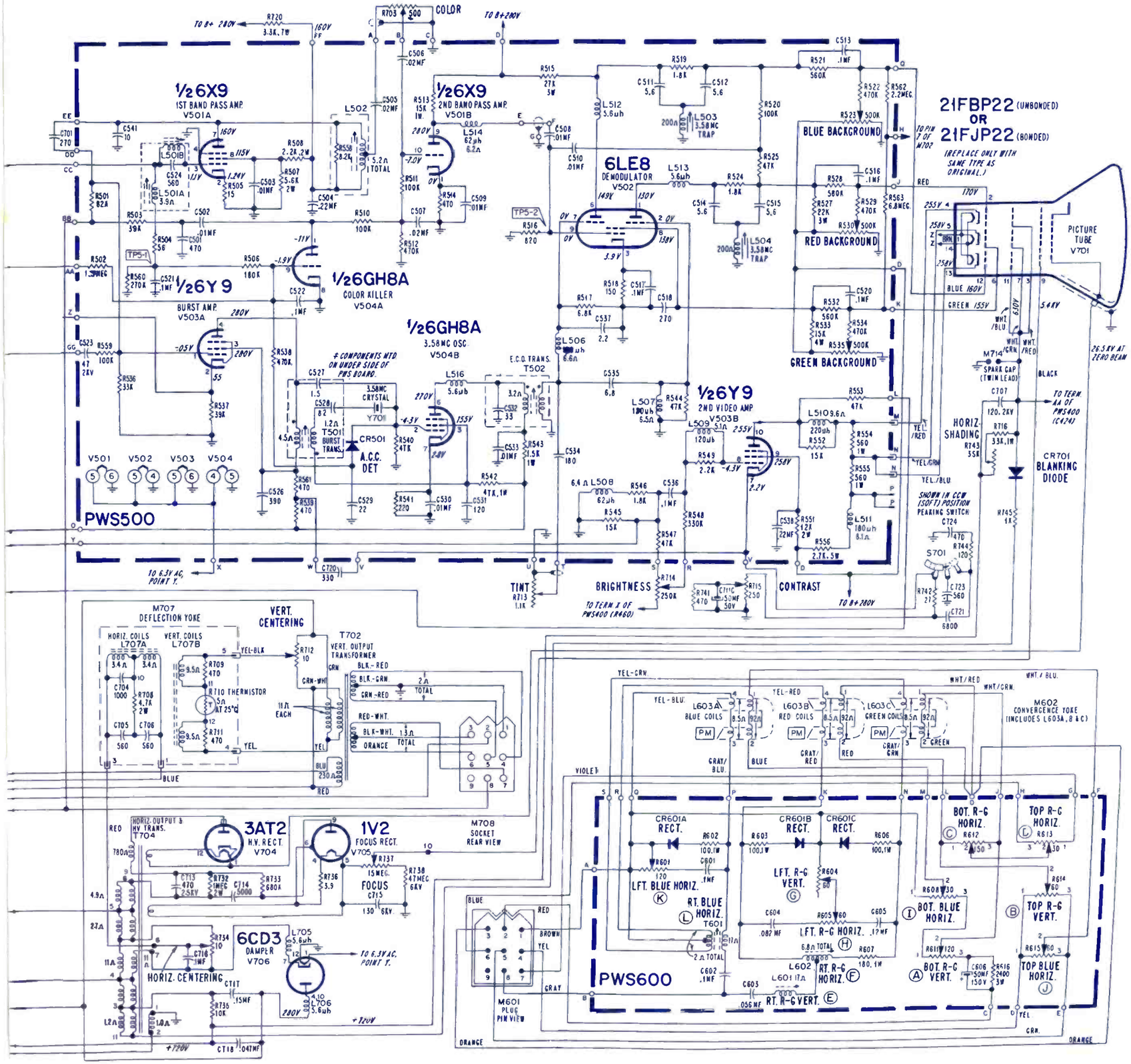
41–Input of 1st Bandpass Amplifier with Color Bar Signal, .9 Volts.

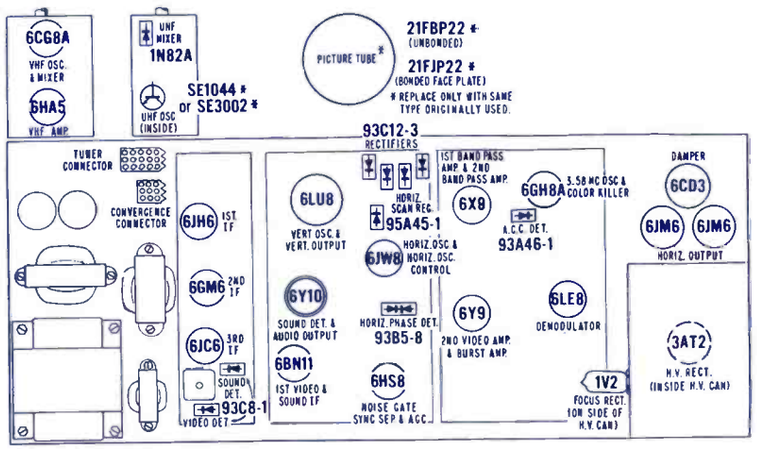


42–Plate of 1st Bandpass Amplifier with Color Bar Signal, 83 Volts.



43–Blanking Pulse at Screens of CRT. CAUTION!! 675 Volts.





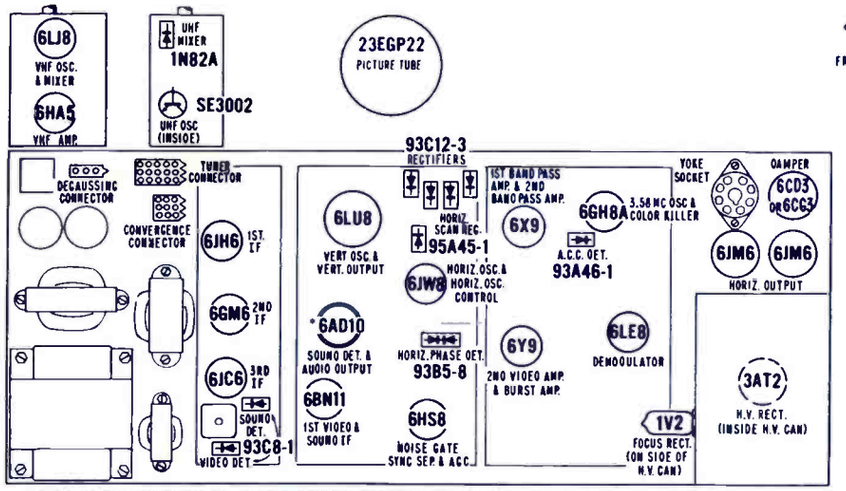
More Data on Opposite Page

ADMIRAL
Color TV Chassis G11

ADMIRAL
Color TV Chassis
G13 Series

ELECTRONIC TECHNICIAN **TEKFAX**

Symbol	Description	Admiral Part No.
R301	10K adj sound rej control	75B101-2
R306A&B	150K 2w matched pair	60C55-2
R315	750Ω sound rej control	75B101-3
R401	8.2K 3w	61C24-347
R523	500K blue background	
R530	500K red background	
	Triple Control	75C95-7
R535	500K green background	
R533	15K 4w	61C24-453
R542	47K 1w	60C14-473
R556	2.7K 5w	61C24-535
R601	120Ω left blue horiz control	75B64-25
R604	120Ω left R-G vert control	75B64-25
R605	150Ω, left R-G horiz control	75B64-27
R608	30Ω bottom blue horiz control (Run 10)	75B64-26
R608	150Ω bottom blue horiz control (Run 11 and up)	75B64-7



* 6Y10 IN RUN 12 THRU 14. NOT DIRECTLY INTERCHANGABLE. REPLACE WITH TYPE ORIGINALLY USED.

TUBE LOCATION DRAWING OF CHASSIS

RUN CHANGES

(10) Start of production

(11) To improve convergence range T702 changed from part #79D106-4 to #79D106-6. R617 & R618 changed from 68 to 120 ohms. R614 & R615 changed from 60 to 150 ohms, R608 changed from 30 to 150 ohms. R611 changed from 150 to 500 ohms. C602 changed from 25mf, 10V to 50mf 10V.

(12) 6Y10 tube used as an alternate for V402. C406 & C435 added. R417 changed from 180 to 270 ohm, 1W and pin 10 of V402 is connected to B+280 when 6Y10 is used. Replace V402 with same type as originally used.

(13) To improve chroma gain R514 was changed from 680 ohms to 330 ohms.

(14) To improve chroma gain R516 was changed from 820 ohms to 1500 ohms, R520 was changed from 180K to 270K, R525 was changed from 56K to 100K.

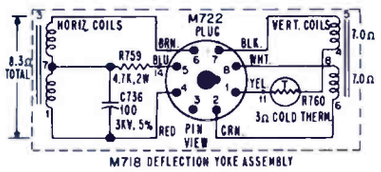
(15) 6AD10 tube used for V402. C406 & C435 removed. R417 changed from 270 to 150 ohms, 1W. Pin 10 of V402 is connected to B+140. Replace V402 with same type originally used.

(16) thru (24) No service significance.

(25) R741 removed for improved brightness control. For improved reliability, R732 changed from 2 to 6 watts, R733 and C714 removed. To eliminate possibility of dark vertical bars on weak signals, C737 was added across CR702. To shift range of static convergence, R616 lead removed from term. "T" and is connected to term. "A" (chassis ground.) T704 changed from part no. 79D110-4 to 79D110-5. See separate schematic for T704 circuit in sets run 10 thru 24.

(26) No service significance.

(27) No service significance.



M718 DEFLECTION YOKE ASSEMBLY

SCHEMATIC NOTES:

⏚ CHASSIS GROUND

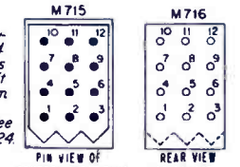
PART NOT MOUNTED ON PRECISION WIRED SYSTEM. RESISTOR VALUES 1/2 WATT, 10% & CAPACITOR VALUES IN PICOFARADS UNLESS OTHERWISE INDICATED. SEE SEPARATE SCHEMATIC FOR VHF-UHF TUNERS AND CONTROL CIRCUITRY.

RESISTANCE VALUES OF COILS LESS THAN 1Ω NOT SHOWN.

VOLTAGES MEASURED WITH VTVM AT 120VOLTS AC LINE. NO SIGNAL OR UNUSED UHF CHANNEL.

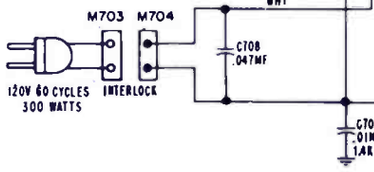
ALL CONTROLS IN NORMAL OPERATING POSITION.

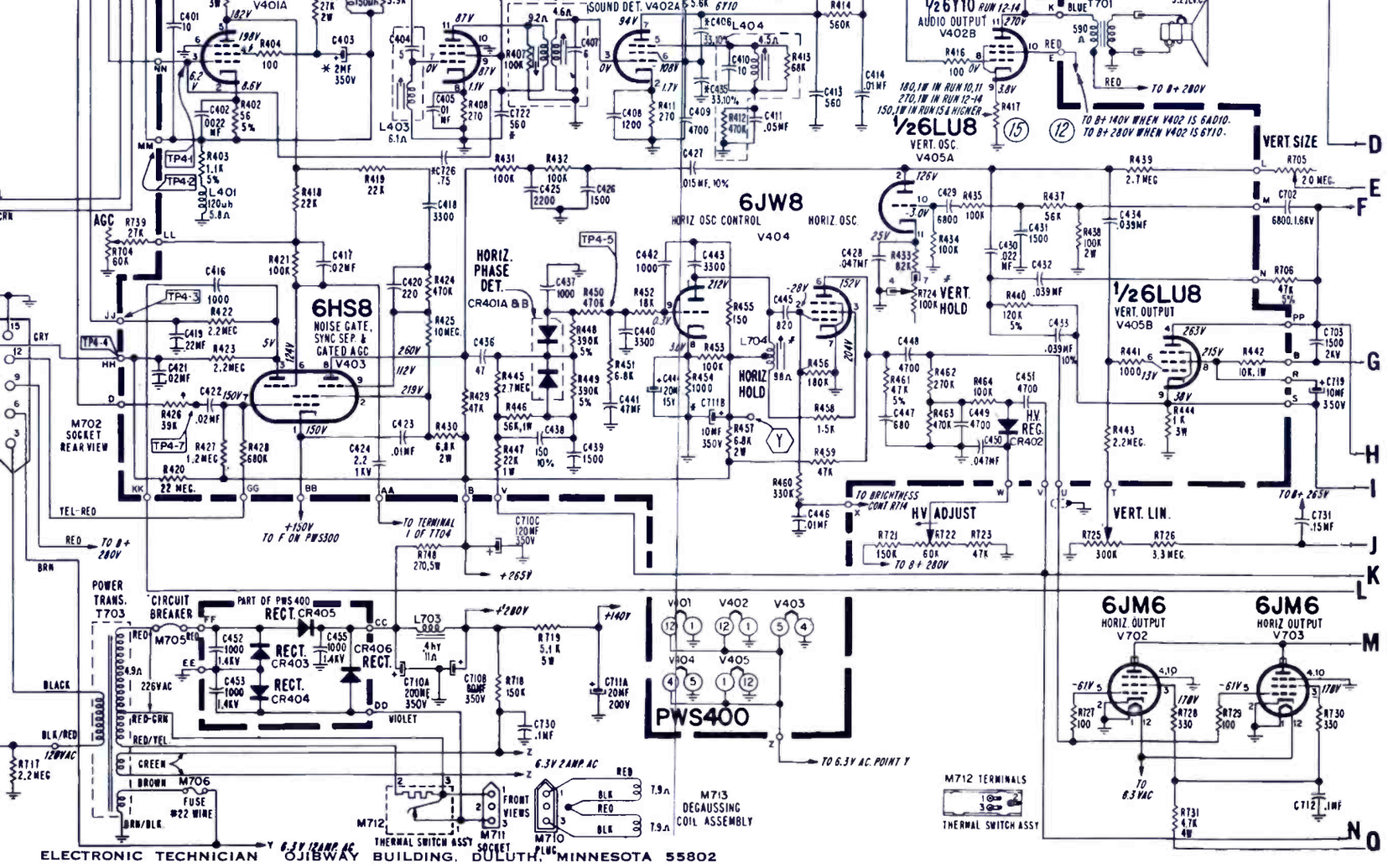
+ THIS PART IS LOCATED UNDER THE SHIELD CAN OF L403



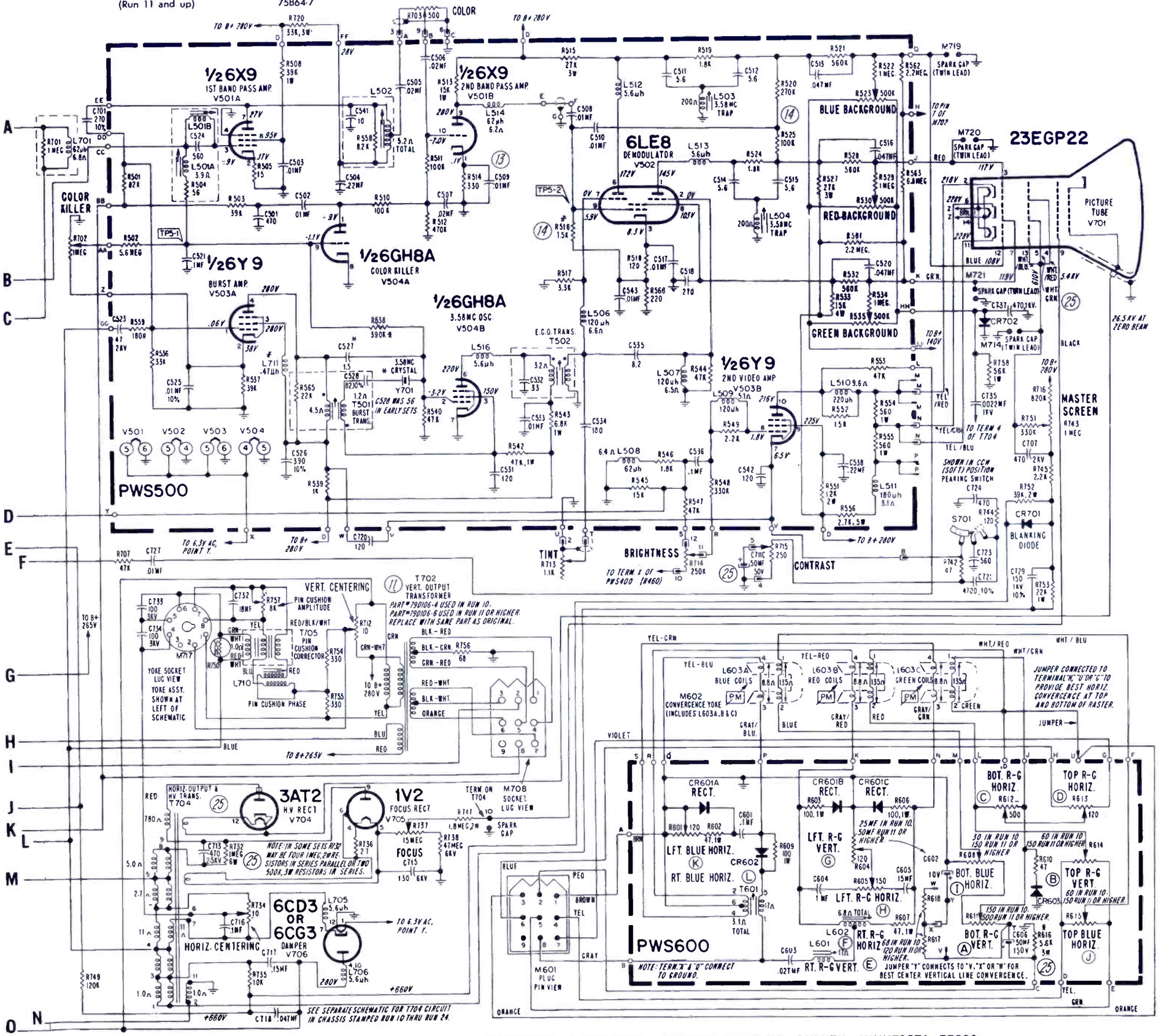
NOTE CONTROL CABLE PLUG & SOCKET USED ON 1613 CHASSIS ONLY.

→ INDICATES SOCKET TERMINAL.
→ INDICATES PLUG TERMINAL.





R611	150Ω bottom R-G vert control (Run 10)	75B64-27	R615	60Ω top blue horiz control (Run 10)	75B64-24	R713	1.1K tint control (G13)	75C110-6	R731	4.7K 4w	61C24-441
R611	500Ω bottom R-G ver control (Run 11 and up)	75B64-31	R615	150Ω top blue horiz control (Run 11 and up)	75B64-7	R714	250K brightness control (G13)	75C96-17	R732	500K 3w (order 2)	61C24-377
R612	500Ω bottom R-G horiz control	75B64-31	R616	5.6K 3w	61C24-343	R715	250Ω contrast control (G13)	75D110-4	R734	10K horiz centering control	750D64-17
R613	120Ω top R-G horiz control	75B64-5	R702	1M color killer control	75C110-2	R719	5.1K 5w	61C24-542	R737	15M focus control	75B108-1
R614	60Ω top R-G vert control (Run 10)	75B64-24	R703	500Ω color control (G13)	75D110-5	R720	33K 3w (G13)	61C24-361	R738	47M 6kv	60B30-4
R614	150Ω top R-G vert control (Run 11 and up)	75B64-7	R704	60K AGC control	75D96-8	R722	HV adjustment control	75C96-8	R743	1M master screen control	75B112-6
			R705	20M vert size control	75D110-8	R724	vert hold control (G13)	75C110-3	R748	270Ω 5w (1G13)	61C20-70
			R712	10Ω vert centering control	75D64-17	R725	300K vert lin control	75B110-1	R750	voltage dependent resistor	61B46-2
									R757	8K pin cushion amp control	75D110-9



ADMIRAL
Color TV Chassis G13 Series

R760	3Ω thermistor part of yoke	
C301	9.5pf 5% 500v cer disc	65D10-380
C301	10pf 5% 500v early production	65D10-23
C302	150pf 5% 500v cer disc	65D10-292
C314	220pf 5% N2200 500v cer disc	65D10-330
C319	10pf N150 500v cer disc	65D10-298
C320	10pf N150 500v cer disc	65D10-299
C322	22pf N150 500v cer disc	65D10-300
C403	2µf 350v elect	67D4-59
C414	.01µf 1kv cer disc	65D10-328
C415	2700pf 1.6kv tubular	64C34-22
C424	2.2pf 1kv cer disc	65D10-369
C436	47pf NPO cer disc	65D10-303
C443	3300pf 5% 500v	65D48-24
C444	20µf 15v elect	67D4-71
C452, 53	1000pf 1.4kv cer disc	65D10-248
C455	1000pf 1.4kv cer disc	65D10-248
C511, 12	5.6pf NPO mica	65D6-170
C514, 15	5.6pf NPO mica	65D6-170
C523	47pf 2kv N2200 cer disc	65D10-269
C528	56pf 5% cer disc N750 early prod	65D10-106
C528	82pf NPO cer disc late prod	65D10-312
C531	120pf N1500 500v cer disc	65D10-136
C532	33pf NPO cer disc	65D10-217
C542	120pf N750 500v cer disc	65D10-306
C602	25µf 10v elect (Run 10)	67D4-75
C602	50µf 10v elect (Run 11 & up)	67D4-78
C606	50µf 150v elect	67B27-5
C702	6800pf 1.6kv tubular	64C2-58
C709	.01µf 1.4kv cer disc	65D10-348
C710A C710B	200µf 350v 80µf 350v elect	67D15-392
C710C	120µf 350v	
C711A	20µf 200v	
C711B	10µf 350v elect	67D15-387
C711C	50µf 50v	
C711D	10µf 200v	
C713	470pf 2.5kv cer disc	65D10-372
C715	130pf 6kv cer disc	65D10-270
C717	.15µf 1kv tubular	64C2-54
C719	10µf 350v elect	67D4-68
C722	560pf N1500 cer disc	65D10-296
C723	560pf cer disc (G13) 5%	65D10-207
C727	.01µf 1kv cer disc	65D10-328
C729	150pf 1kv 10% cer disc	65D10-317
C733, 34	100pf 3kv cer disc	65D10-59
C735	.0022µf 1kv cer disc	65D10-42
C736	100pf 3kv 5% cer disc	65D10-272
C737	470pf 1kv cer disc	65D10-350
L301	47.25 MAz trap	72C251-1
L304	choke, 5.6µh	73B45-243
L305	12µh coil	73B44-8
L306	4.5MHz sound trap	72B216-4
L307	1.8µh coil	73B53-231
L308	1.8µh coil	73B45-231
L309	12µh coil	73B45-251
L401	120µh coil video peaking	73B55-12
L403	sound take off coil	72B287-2
L404	quad coil	72B287-1
L501A&B	bandpass input coil	72C268-2
L502	bandpass coil	72C269-2
L503-03	3.58MHz trap	72C286-1
L508	62µh coil	73B55-2
L512, 13	5.6µh coil	73B45-243
L601	right R-G vert control	94D175-1
L602	right R-G horiz control	94D175-4
L603A	blue convergence coils	94D303-55
L603B	red convergence coils	94D303-56
L603C	green convergence coils	94D303-54
L701	62µh with R701 1M	73B46-21
L704	horiz hold coil	94A268-1
L710	pin cushion phase coil	94D277-1
L711	.47µh coil peaking	73C55-20
T301	1st IF grid xformer	72C251-2
T302	1st IF plate xformer	72C251-3
T303	2nd IF xformer	72C251-3
T304	3rd IF xformer	72C220-2
T401	sound IF xformer	72B218-5
T501	burst xformer	72B284-3
T502	E.C.O. xformer	72B285-1
T601	right blue horiz control	94D175-5
T701	audio output xformer	79D33-86
T702	vert output xformer (run 10)	79D106-4
T702	vert output xformer (run 11 and up)	79D106-6
T703	power xformer	80D92-1
T704	horiz output & HV xformer	79D110-4
T705	pin cushion correction xformer	79D112-4
CR301	sound det	93C8-1
CR302	video det	93C8-1
CR401	horiz phase det	93B5-10
CR402	HV reg diode	93B45-1
CR403-04	power rectifier	93B12-3
CR405, 06	power rectifier	93B12-3
CR601A CR601B CR601C	rectifier, triple	93C1-21
CR602	rectifier	93B27-2
CR603	rectifier	93B48-2
CR701	blanking diode	93B45-2
CR702	diode	93B30-3
DL701	delay line	72B217-3
Y701	3.58MHz crystal	93B22-3
S701	peaking switch (G13)	77B162-2

ADMIRAL
TV Chassis G7 Series

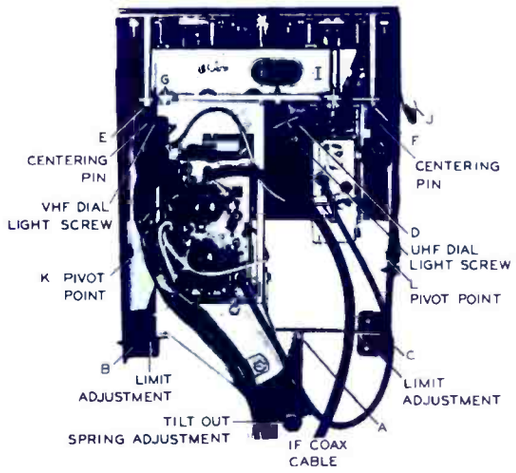
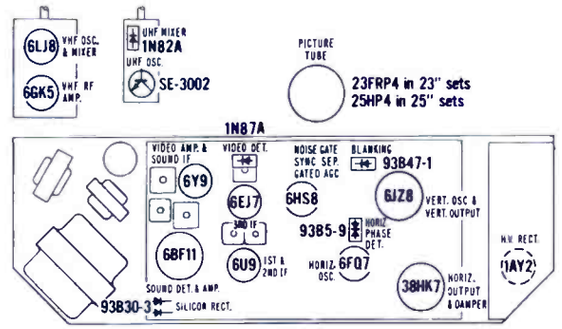
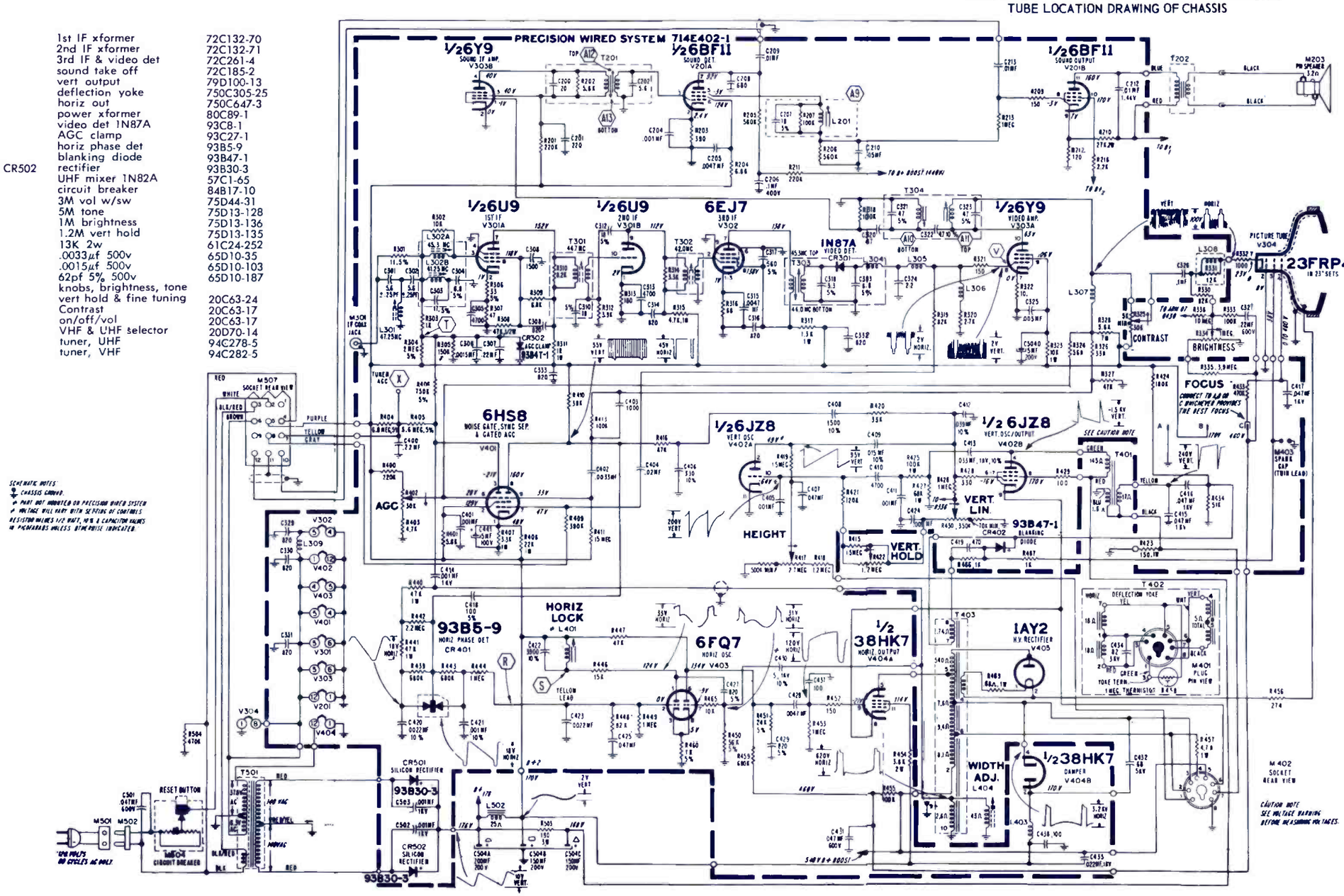


Fig. B 1G7 Tilt-Out Assembly View For Removal Instructions

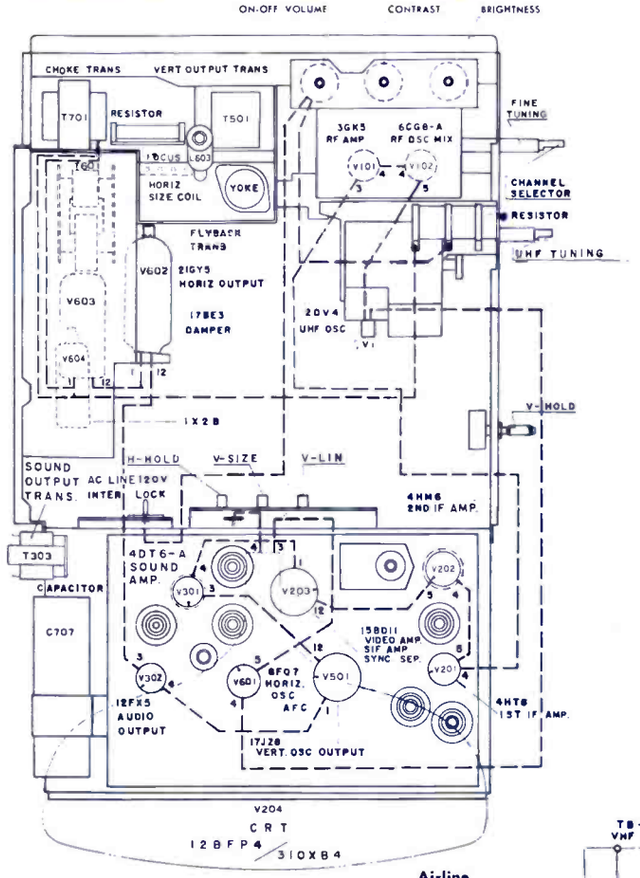


TUBE LOCATION DRAWING OF CHASSIS

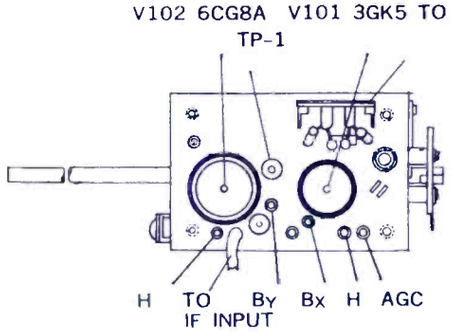
Symbol	Description	Admiral Part No.
R210	27K 2w	61C24-259
R301	11Ω 5% ½w	60C28-76
R304	2M 5% ½w	60C7-205
R306	33Ω 5% ½w	60C7-330
R311	1000Ω 1w	60C14-102
R315	4.7K 1w	60C14-472
R317	1.5K 1w	60C14-152
R323	10K 1w	60C14-103
R325	30K contrast	75D112-1
R334	1M brightness G7	75D111-1
R328	5.6K 7w 10%	61C24-743
R402	30K AGC control	75D101-4
R404	6.8M 5% ½w	60C7-685
R405	5.6M 5% ½w	60C7-565
R406	750K 5% ½w	60C7-754
R407	3.3K 1w	60C14-332
R408	22K 1w	60C14-223
R417	2.7M height	75D101-6
R422	112M vert hold G7	75D111-2
R423	150Ω 1w	60C14-151
R425	100K 1w	60C14-104
R427	68K 1w	60C14-683
R430	350K vert lin	75D101-5
R440, 441	47K 1w	60C14-473
R450	56K 5% ½w	60C7-563
R451	24K 5% ½w	60C7-243
R454	3.6K 2w	61C24-238
R456	27K 1w 10%	60C14-273
R457	4.7K 1w	60C14-472
R458	thermistor	60A64-1
R460	1K 5% ½w	60C28-92
R469	.68Ω 1w	60D28-98
R503	180Ω 3w	61C20-63
C209	.01μf, 500v GMV	65D10-3
C212	.01μf 1.4kv	65D10-65
C213	.01μf 500v GMV	65D10-3
C301, 302	5.6pf+ .25pf 500v	65D6-170
C303	17pf 5% 500v	65D10-366
C304	6.8pf 5% 500v	65D28-141
C305	4700pf 500v	65D10-112
C306	.0015μf 500v	65D10-103
C308	1500pf 500v	65D10-349
C310, 312	18pf 5% 500v	65D10-121
C317	560pf 5% 500v	65D10-159
C318	3.3pf 5% 500v	65D10-130
C319	6.8pf 5% 500v	65D28-141
C321	47pf 5% 500v	65D10-92
C327	.22μf 1kv mylar	64C34-36
C412	.039μf 10% 600v mylar	64C26-25
C413	.033μf 10% 1kv mylar	64C2-53
C414	.001μf 1kv	65D10-147
C415, C416	.047μf 1kv mylar	64C2-33
C417	.047μf, 1kv mylar	64C2-33
C418	100pf 5% NPO 500v	65D10-105
C430	5pf 10% 1kv	65D10-345
C432	68pf 5kv	65D10-243
C434	82pf 3kv	65D10-337
C435	.002μf 1kv mylar	64C34-36
C441	5μf 100v elect	67C4-70
C502, C503	.001μf 1kv	65D10-147
C504A	200μf 200v	
C504B	150μf 200v elect	67C15-389
C504C	150μf 200v	
L201	quad coil	72C132-61
L301	47.25Mc trap	72C132-55
L302	IF input coil	72C250-3
L303	RF choke	72C250-3
L304	RF choke	73C55-19
L305	RF choke	73C31-4
L306	peaking coil	73C5-53
L307, L308	peaking coil	73C55-17
L309	filament choke	73C37-2
L401	horiz lock coil	94C17-16
L403	spook choke	73C37-17
L404	width coil	94E279-2
L502	filter choke	74C18-58
T201	sound IF	72C222-6
T202	audio out	79C33-88
T301	1st IF xformer	72C132-70
T302	2nd IF xformer	72C132-71
T303	3rd IF & video det	72C261-4
T304	sound take off	72C185-2
T401	vert output	79D100-13
T402	deflection yoke	750C305-25
T403	horiz out	750C647-3
T501	power xformer	80C89-1
CR301	video det 1N87A	93C8-1
CR302	AGC clamp	93C27-1
CR401	horiz phase det	93B5-9
CR402	blanking diode	93B47-1
CR501, CR502	rectifier	93B30-3
CR801	UHF mixer 1N82A	57C1-65
M504	circuit breaker	84B17-10
R208A	3M vol w/sw	75D44-31
R208B	5M tone	75D13-128
R323	1M brightness	75D13-136
R422	1.2M vert hold	75D13-135
R805	13K 2w	61C24-252
C211	.0033μf 500v	65D10-35
C215	.0015μf 500v	65D10-103
C707	62pf 5% 500v	65D10-187
	knobs, brightness, tone	
	vert hold & fine tuning	20C63-24
	Contrast	20C63-17
	on/off/vol	20C63-17
	VHF & UHF selector	20D70-14
	tuner, UHF	94C278-5
	tuner, VHF	94C282-5

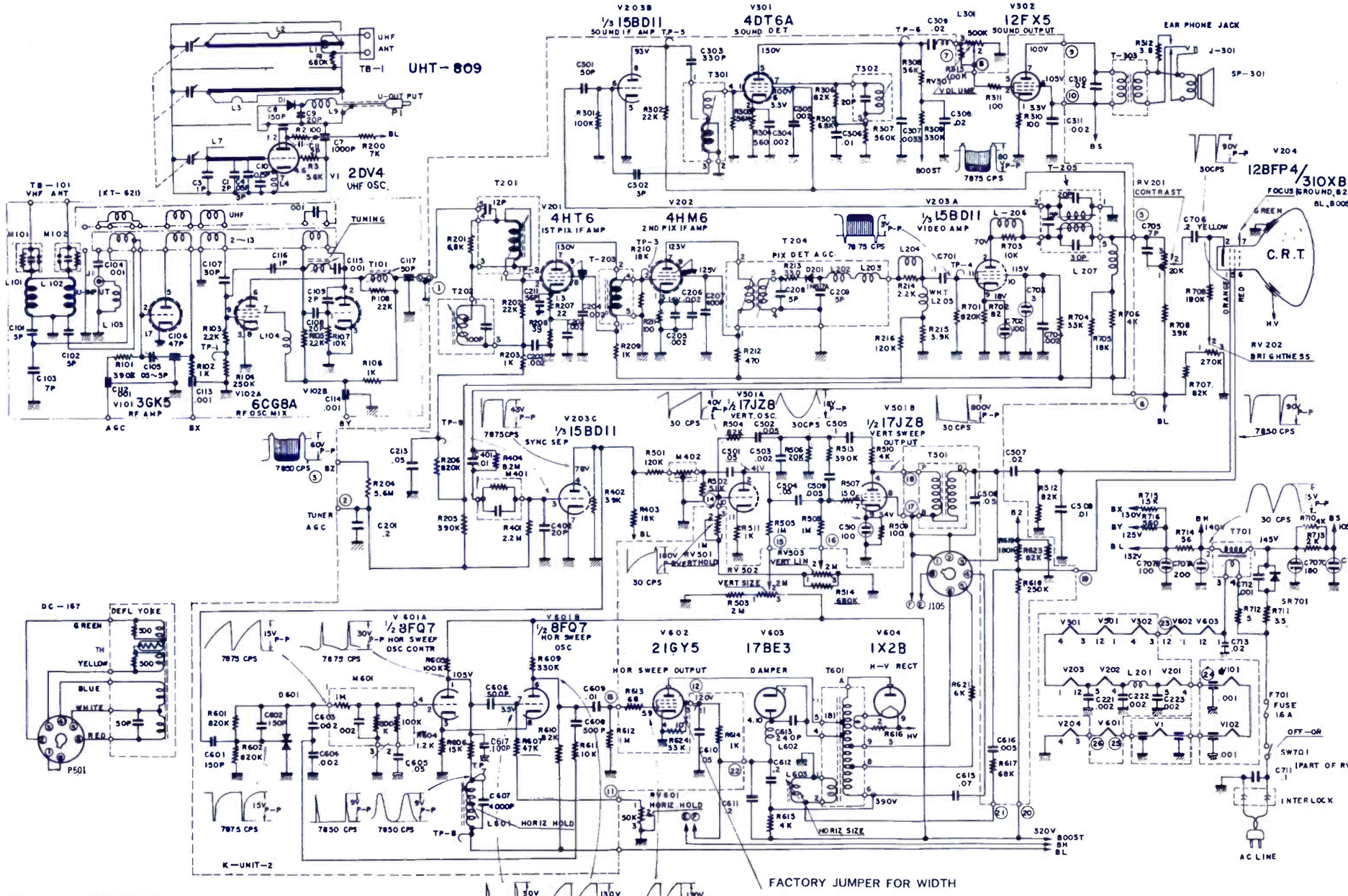


AIRLINE
TV Model Gen-
1266A



V102 6CG8A V101 3GK5 TO VHF ANT.





Symbol	Description	Airline Part No.
C201	.2 μfd, ±20%, 150v, discap	TV33120
C213	.05 μfd, ±20%, 150v, tubular	TV33103
C221, C222, C223	.002 μfd, +100 −0%, 400v, discap	DD-202
C510	100 μfd, 10v, +200 −10%, Elect.	TV321211
C601, C602	150 pf, ±10%, 500v, discap	DD-151
C608	500 pf, ±10%, 500v, mylar	TV33135
C613	240 pf, ±5%, 4500v, discap	TV33139
C702	100 μfd, +200 −10%, 10v, Elect.	TV321211
C703	3 μfd, +150 −10%, 150v, Elect.	TV3278
C707A	200 μfd	
C707B	100 μfd 180v, Elect.	TV3279
C707C	180 μfd	
C707D	50 μfd	
C711	.1 μfd, Special (Oil)	TV33101
R312	3.8Ω, 3w, ±20%, resin	TV2328
R404	8.2 M, ½w, ±10%, solid	CB1582
R623	82K, ½w, ±10%, solid	CB1382
R706	4K, 2w, ±10%, carbon	CD1239
R710	4K, 2w, ±10%, carbon	CD1239
R711	3.5Ω, 15w, ±5%, resin	TV2325
R712	5Ω, 15w, ±10%, resin	TV2326
R713	2K, 3w, ±10%, carbon	WE5220
R715	1.5K, 1w, ±10%, carbon	CC1215
RV201	20K, pot., contrast	TV2572
RV202	270K, pot., brightness	TV2573
RV301, SW701	500K, pot., volume with on-off switch	TV2574
RV501	1 M, Pot., vert. hold	TV2575
RV502	2 M, pot., vert. size	
RV503	2 M, pot., linearity	TV2577
RV601	50K, pot., horiz. hold	
L201	Coil, RF choke	TV61167
L202	coil, filter	TV61168
L203	coil, filter	TV61169
L204	coil, peaking	TV61170
L205	coil, peaking	TV61171
L206	coil, peaking	TV61172
L207	coil, peaking	TV61173
L601	coil, horiz. hold	TV61174
L602	coil, snivet	TV61175
L603	coil, horiz. size	TV61176
T201	transformer, 1st pix IF	TV62161
T202	transformer, 47.25 MC trap	TV62162
T203	transformer, 2nd pix IF	TV62163
T204	transformer, pix detector	TV62164
T205	transformer, 4.5 MC trap	TV62165
T301	transformer, sound IF	TV62166
T302	transformer, sound detector	TV62167
T303	transformer, audio output	TV1185
T501	transformer, vert. output	TV1186
T601	transformer, horiz. output	TV1187
T701	transformer, power choke	TV1188
M401	Capristor	TV3454
M402	Capristor	TV3455
M601	RC Network	TV3456
D201	Diode, 1N87A	1N87A
D601	dual diode	TV24124
SR701	rectifier	TV24125

SP301	speaker, 11CMx7CM	TV1041
	tuner, VHF	TV3580
	tuner, UHF	TV3581
	window, picture tube (plastic)	TV70109
	yoke, deflection (assembly)	TV61177

AIRLINE
TV Model
Gen-1866A

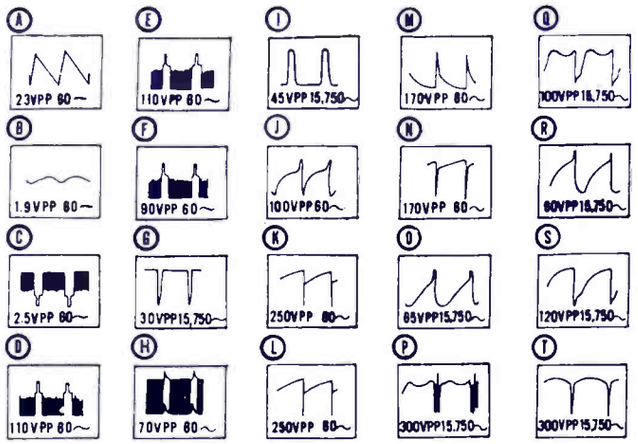
ELECTRONIC TECHNICIAN TEKFAX

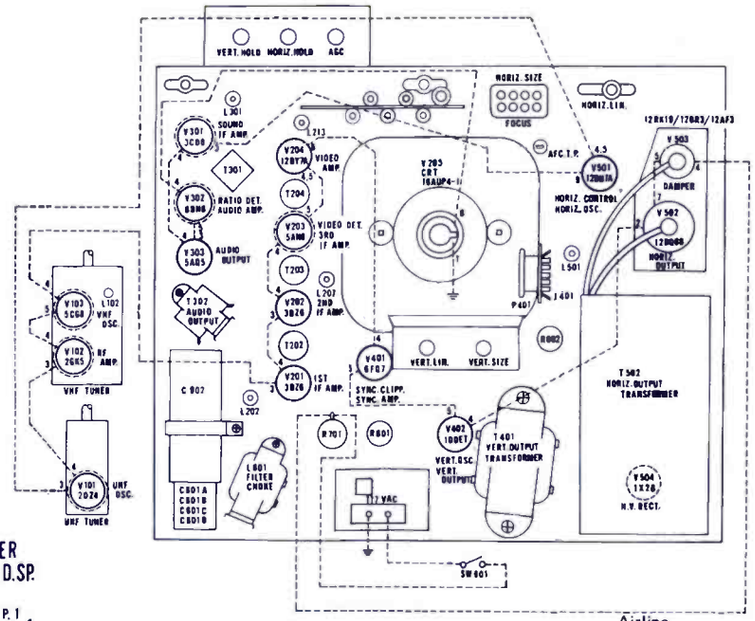
OSCILLOSCOPE WAVEFORM PATTERNS

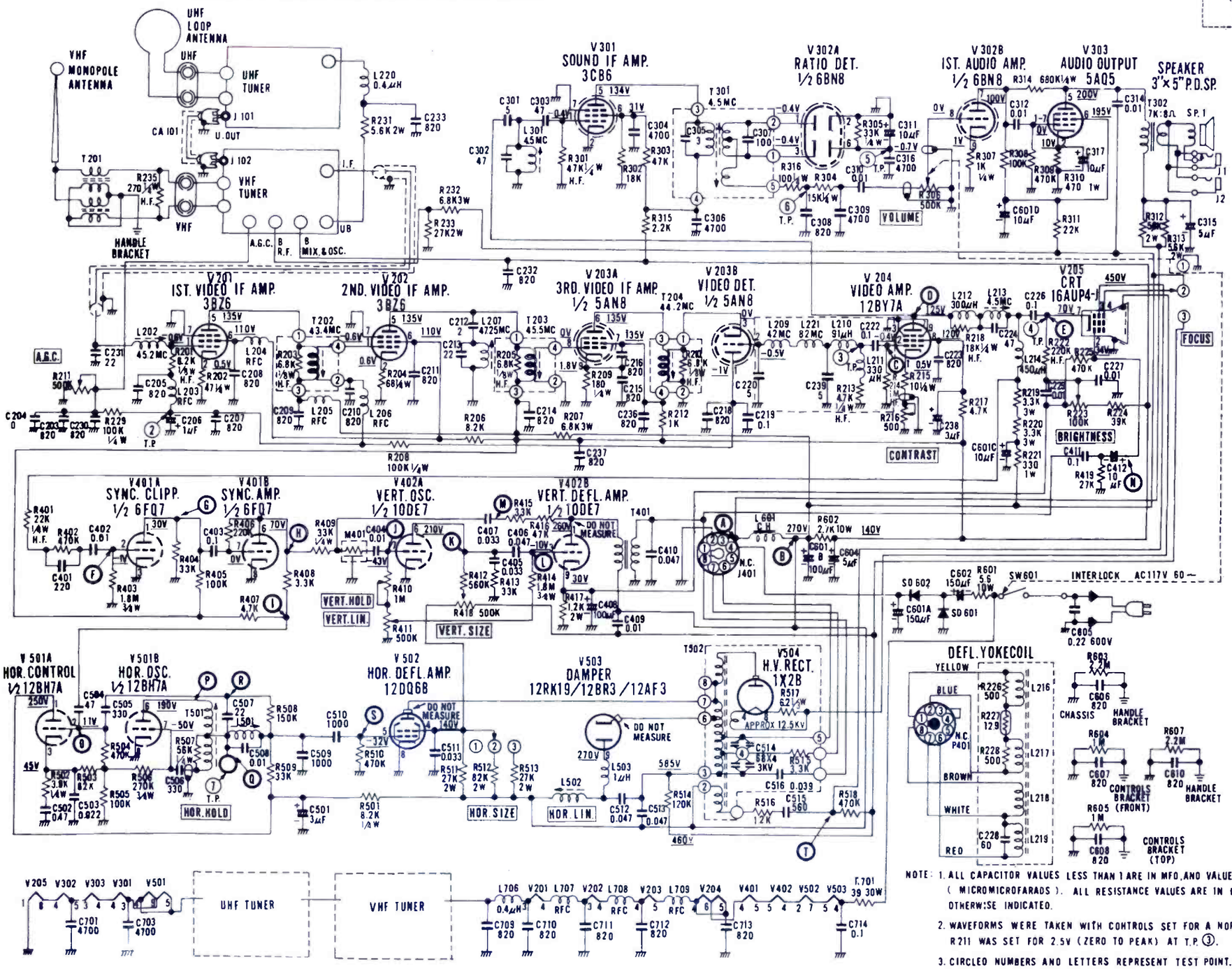
The waveforms shown on the schematic diagram are as observed on a Tektronix type 524D wide band television oscilloscope with the receiver tuned to a reasonably strong signal and a normal picture. The voltages shown on each waveform are the approximate peak to peak amplitudes. The frequency accompanying each waveform indicates the repetition rate of the waveform not the sweep rate of the oscilloscope. If the waveforms are observed on the oscilloscope with a poor high frequency response, the corners of the pulses will tend to be more rounded than those shown on the schematic diagram and the amplitude of any high frequency pulse will tend to be less.

DC SOCKET VOLTAGES

All DC voltages shown on the schematic are measured with a high impedance VTVM and under zero signal conditions, when AGC and Contrast Control are fully turned clockwise.







Symbol	Description	Airline Part No.
R211	500K AGC control	TV2548
R216	500 contrast control	TV2549
R223	100K brightness control	TV2550
R306	500K vol control incl. SW601	TV2551
R410	1M vert hold control	TV2552
R411	500K vert lin control	TV2553
R413	33K 0.5w 5% carbon (film)	CB5333
R503	82K 0.5w 5% carbon (film)	CB5382
R505	100K 0.5w 5% carbon (film)	CB5410
R506	270K 0.75w 5% carbon (film)	CC5427
R509	33K 0.5w 5% carbon (film)	CB5333
R517	6.2K 0.33w 5% WW	WB5262
R601	5.6 10w 5% WW	TV2311
R701	39 30w 5% WW	TV2313
C206	1μf 50v elect	TV3287
C224	47pf 500v silvered mica 10%	DD-470
C228	60pf 3kv ceramic 10%	TV3375
C305	3pf 250v ceramic ±0.5p	DD-030
C311	10μf 50v elect	TV3289
C315	5μf 300v elect	TV3290
C317	10μf 50v elect	TV3289
C408	100μf 50v elect	TV3291
C412	10μf 50v elect	TV3289
C501	3μf 350v elect	TV3292
C601A	150μf 350v	TV3296
C601B	100μf 350v	
C601C	10μf 350v	
C601D	10μf 350v	
C602	150μf 180v elect	TV3294
C604	5μf 300v elect	TV3290
M401	integrate circuit	TV3426
L202	coil, 1st IF 45.2Mc (incl. R201)	TV6199
L203	coil, 1μh RF choke F	TV6100
L204	coil, 1μh RF choke F	TV6100
L205	coil, 1μh RF choke F	TV6100
L206	coil, 1μh RF choke F	TV6100
L207	coil, adj 47.25Mc trap (incl. C213)	TV61101
L209	42Mc video det	TV61188
L210	coil, 91μh video grid	TV61103
L211	coil, 330μh video grid	TV61104
L212	coil, 300μh +18khf peaking	TV61105
L213	coil, adj 4.5Mc trap (incl C224)	TV61106
L214	coil, 450μh peaking	TV61107
L216	coil, vert	yoke
L217	coil, vert	(incl R226, R227,
L218	coil, horiz	R228, C228, P401
L219	coil, horiz	& centering rings) TV61108
L220	coil, 0.4μh RF choke K	TV61109
L221	coil, 82Mc video det	TV61189
L301	coil, adj sound input 4.5Mc (incl C302)	TV61111
L501	coil, horiz ringing	TV61112
L502	coil, horiz lin	TV61113
L503	coil, 1μh RF choke A	TV61114
L601	coil, 0.46H line choke	TV61115
L706	coil, 0.4μh RF choke K	TV61109
T202	xformer 2nd IF 43.4MHz (incl R203)	TV6294
T203	xformer, 3rd IF 45.5MHz (incl R205)	TV6295
T204	xformer, 4th IF 44.2MHz (incl R210)	TV6296
T301	xformer, adj 4.5MHz ratio (incl C305 & C307)	TV6297
T302	xformer, audio out	TV1165
T401	xformer, vert out	TV1166
T501	xformer, horiz osc	TV1167
T502	xformer, horiz output (incl R515, R517, C514 & C516)	TV1168

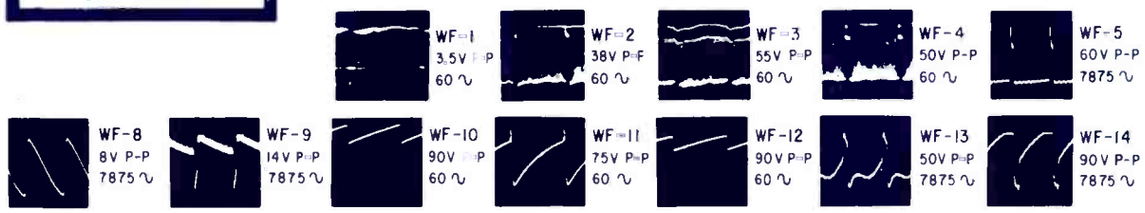
NOTE: 1. ALL CAPACITOR VALUES LESS THAN 1 ARE IN MFD. AND VALUES GREATER THAN 1 IN PF (MICROMICROFARADS). ALL RESISTANCE VALUES ARE IN OHMS 1/2 WATT UNLESS OTHERWISE INDICATED.

2. WAVEFORMS WERE TAKEN WITH CONTROLS SET FOR A NORMAL PICTURE R211 WAS SET FOR 2.5V (ZERO TO PEAK) AT T.P. ③.

3. CIRCLED NUMBERS AND LETTERS REPRESENT TEST POINT.

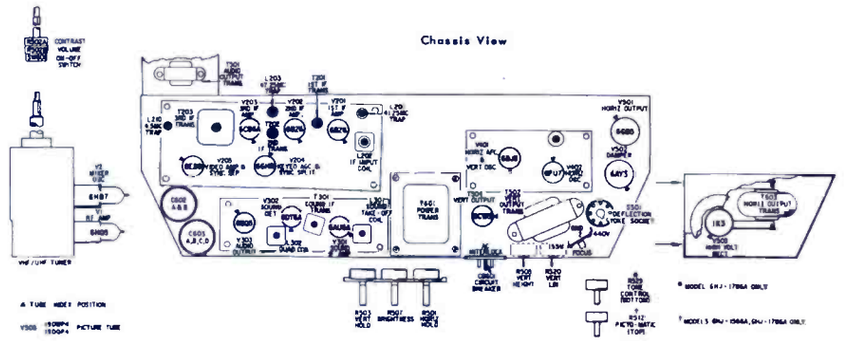
AIRLINE
TV Models
GHJ-1466A,
GHJ-1566A,
GHJ-1786A
GHJ-4516A,
GHJ-4546A,
GHJ-4556A

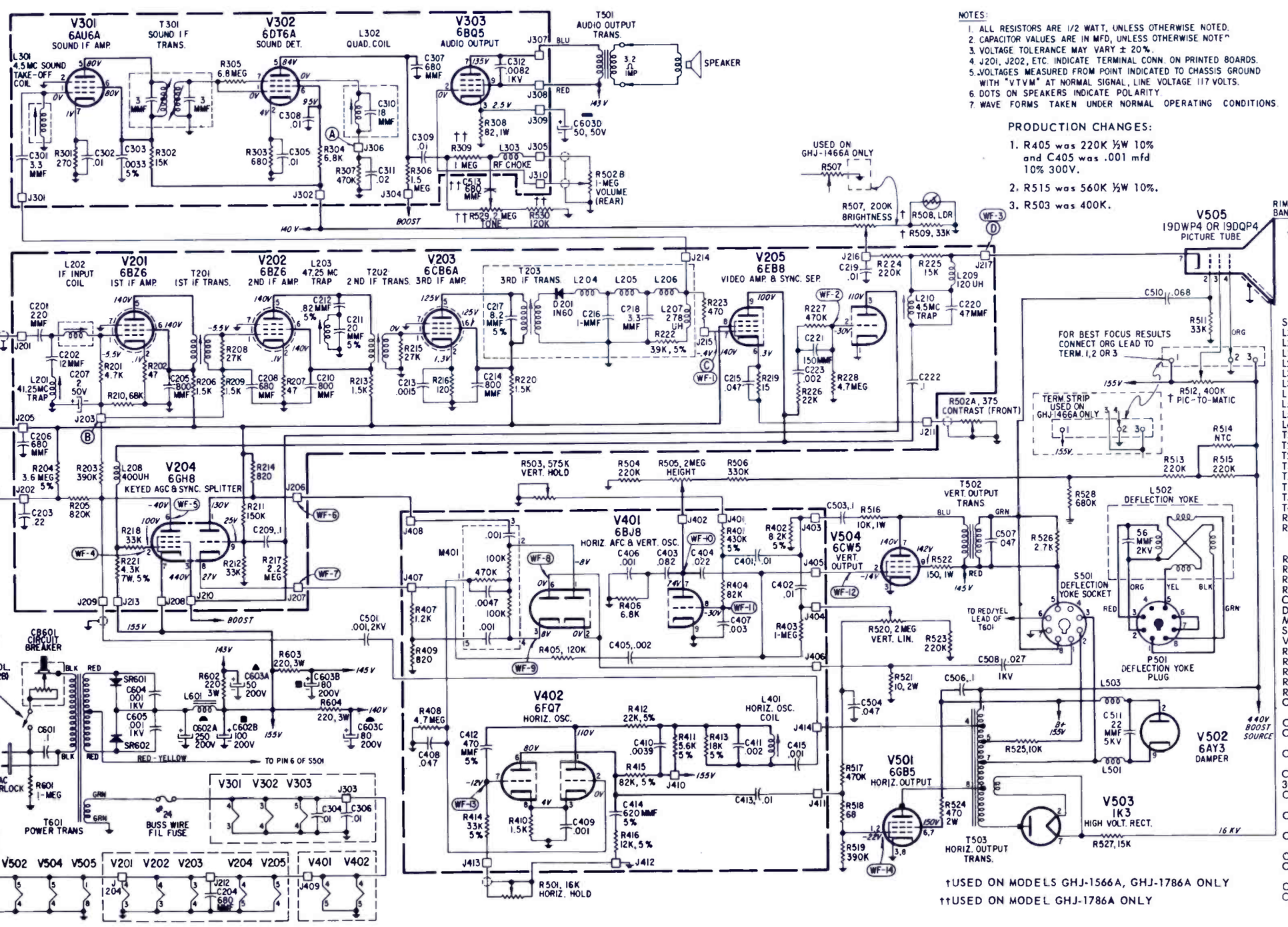
ELECTRONIC TECHNICIAN TEKFAX



TUBE AND TRANSISTOR COMPLEMENT

Ref.	Type	Function
V1	6HQ5	RF Amplifier
V2	6HB7	Mixer/Oscillator
Q51	24T-002	UHF Oscillator Transistor
V201	6BZ6	1st IF Amplifier
V202	6BZ6	2nd IF Amplifier
V203	6CB6A	3rd IF Amplifier
V204	6GH8	Keyed AGC & Sync Splitter
V205	6EB8	Video Amplifier & Sync Separator
V301	6AU6A	Sound IF Amplifier
V302	6DT6A	Sound Detector
V303	6BQ5	Audio Output
V401	6BJ8	Horiz. AFC & Vertical Oscillator
V402	6FQ7	Horizontal Oscillator
V501	6GB5	Horizontal Output
V502	6AY3	Damper
V503	1K3	High Voltage Rectifier
V504	6CW5	Vertical Output
V505	19DWP4 or 19DQP4	Picture Tube





NOTES:
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.
2. CAPACITOR VALUES ARE IN MFD, UNLESS OTHERWISE NOTED.
3. VOLTAGE TOLERANCE MAY VARY ± 20%.
4. J201, J202, ETC. INDICATE TERMINAL CONN. ON PRINTED BOARDS.
5. VOLTAGES MEASURED FROM POINT INDICATED TO CHASSIS GROUND WITH "VTVM" AT NORMAL SIGNAL, LINE VOLTAGE 117 VOLTS.
6. DOTS ON SPEAKERS INDICATE POLARITY.
7. WAVE FORMS TAKEN UNDER NORMAL OPERATING CONDITIONS.

PRODUCTION CHANGES:

1. R405 was 220K ½W 10% and C405 was .001 mfd 10% 300V.
2. R515 was 560K ½W 10%.
3. R503 was 400K.

†USED ON MODELS GHJ-1566A, GHJ-1786A ONLY

††USED ON MODEL GHJ-1786A ONLY

VHF

Channel 2	15mv.	Channel 7	20mv.
Channel 5	15mv.	Channel 13	20mv.

UHF

Channel 14-83 ..... 50mv. avg.

SENSITIVITY

Sensitivity (To produce 20 volts peak to peak at input to picture tube. Measured according to I.R.E. standards. All controls, including fine tuning, set for maximum video output. Video signal measured between grid and cathode of picture tube).

SPECIFICATIONS

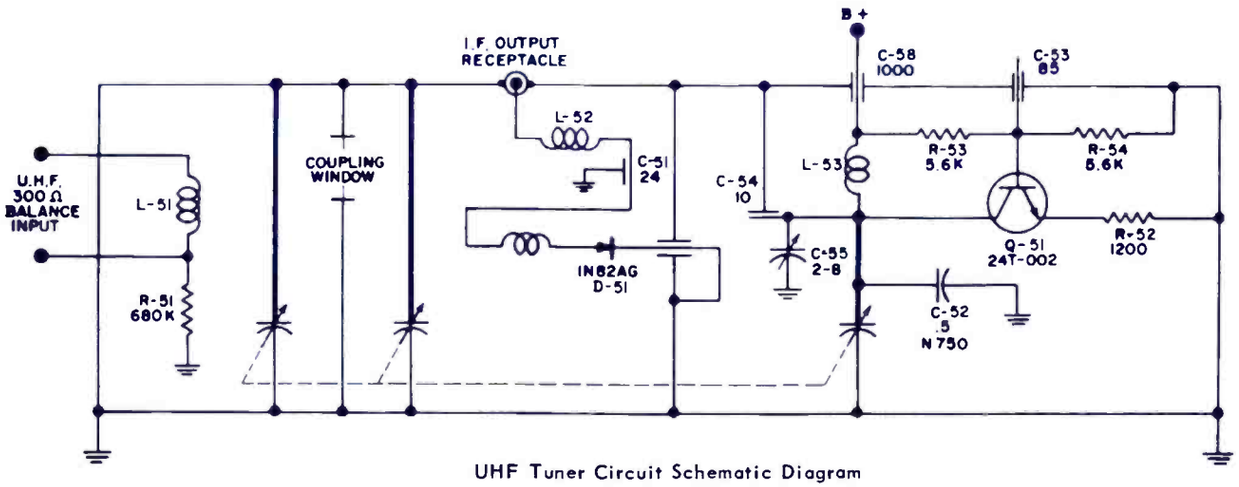
Operating Voltage	110–120VAC 60cps
AC Power Consumption	175 watts
Tuning Ronge	Channels 2 thru 83
Antenna Input Impedance	300 ohms Balanced
Intermediate Frequencies (Picture IF)	45.75 MC
(Sound IF)	41.25 MC
(Intercarrier Sound IF)	4.5 MC
Power Output	2 Watts (Max)
Speaker	3" x 5" P.M. .68 oz. Magnet 3.2 ohms V.C.1. (400 cycles)

Symbol	Description	Airline Part No.
L201	coil, 41.25 Mc trap	109-028400
L202	coil, video IF input	109-028500
L203	coil, 47.25 Mc trap	109-028700
L210	coil, 4.5 Mc trap	109-029500
L301	coil, 4.5 Mc sound take-off	109-029700
L302	coil, quadrature	109-029900
L401	coil, horiz osc	110-028200
L501	coil, RF choke	111-026701
L502	deflection yoke & plug	027-030100
L601	coil, filter choke	032-002500
T201	xformer, 1st IF	109-028600
T202	xformer, 2nd IF	109-028800
T203	xformer, 3rd IF	109-028900
T301	xformer, Sound IF	109-029800
T501	xformer, audio out	031-008700
T502	xformer, vert out	033-009700
T503	xformer, horiz out	033-009800
T601	xformer, power	033-009600
R501	16kΩ horiz hold	055-044000
R502A, B	control, dual 375Ω contrast (A); 1M vol (B) with push-pull switch	055-043800
R503	400kΩ vert hold	055-043900
R505	2M height	055-043400
R507	200kΩ brightness	055-044100
R520	2M vert lin	055-043400
CB601	circuit breaker	099-002700
D201	diode, video det	1N60
M401	horiz AFC pac	134-039100
SR601	rectifier, silicon	004-002700
VDR501	resistor, voltage dependant	057-001100
R204	3.6 M, 5%	CB5536
R221	4.3kΩ, 7w, 5% WW	053-432750
R222	3.9kΩ, 5%	CB5239
R514	thermistor, NTC	057-001000
R603, 604	220Ω, 3w	065-011300
C202	12 pf, 5% NPO, ceramic disc	DD-120
C207	2 µfd, 50v, elect	034-023300
C211	20 pf, 5%, NPO, ceramic disc	862-200651
C212	.82 pf, 5%, NPO, ceramic tubular	889-820651
C302, 305, 308, 309	.01 µfd, GMV, ceramic disc	DD-103
C312	8200 pf, 1kv, ceramic disc	816-822721
C412	470 pf, 5%, 300v, silver mica	045-007800
C414	620 pf, 5%, 300v, silver mica	045-007900
C502	16 µfd, 25v, NP, elect	034-020800
C602A, B	250 µfd, 250v (A) 100 µfd 200 volt (B), elect	034-023200
C603A, B, C, D	50 µfd 200v (A), 80 µfd 200v (B), 80 µfd 200v (C), 50 µfd 50v (D), elect	034-023100

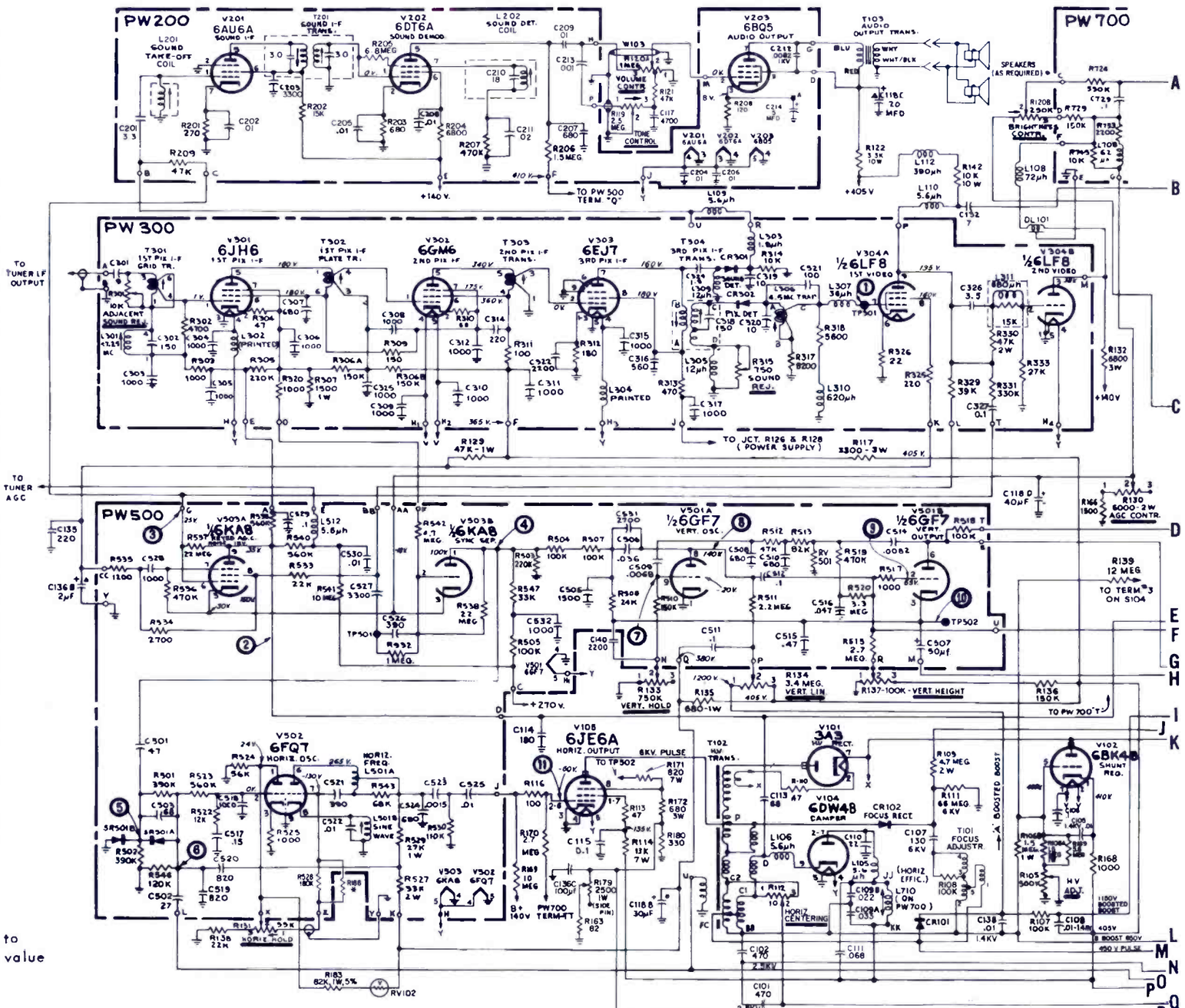
AIRLINE
Color GHJ
8046A

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C101, 102	ceramic 470pf 10% 2500v N2200	035-042700
C103	ceramic 100pf 5% 3000v N1500 (part of yoke)	
C104	ceramic .0018μf 5% 500v (part of yoke)	
C105	ceramic 0.01μf +80-20% 1400v	837-103896
C107	ceramic 130pf 20% 6000v N2200	035-033300
C108	ceramic 0.01μf +80-20% 1400v	837-103896
C110	ceramic 22pf 20% 1000v N750	10TCU-Q22
C113	ceramic 68pf 10% 4000v N1500	886-680017
C114	ceramic 180pf 10% 1000v	DD181
C116	paper .0033μf 10% 1600v	046-019200
C118A, B, C,D	elect 160/30/20/40/μf 250/450/450/150v	034-019300
C119	cer 47pf ±10% 2500v N2200	885-470918
C123	elect 160μf 250v	034-019100
C124A, B, C, D	elect 80/50/20/50μf 450/450/250/50v	034-019200
C132	tubular 7pf 0.5pf 500v NPO	809-709661
C135	cer. 220pf ±10% 500v N1500	885-22617
C136A, B, C, D	elect 80/2/100/25μf 450/350/25/25v	034-024300
C138	ceramic 0.01μf +80-20% 1400v	837-103896
C142	elect 10μf 10v NP	034-024500
C211	ceramic .02μf +80-20% 500v	DD203
C214	elect 5μf 25v	034-025200
C301	ceramic 9pf ±0.25pf 500v NPO	809-909641
C307	ceramic 680pf 10% 500v N2200	866-681618
C314	ceramic 220pf 10% 500v N1500	865-221617
C316	ceramic 560pf 5% 500v N1500	866-561657
C319, 320	ceramic 10pf ±0.5pf 500v NPO	TCZ-10
C326	ceramic 3.5pf ±.25pf 500v NPO	TCZ-3R3
C501	ceramic 47pf 10% 400v	10TCC-Q47
C502	ceramic 27pf 20% 500v N750	TCN-27
C503	ceramic 68pf 10% 500v NPO	10TCC-Q68
C507	elect 50μf 150v	034-019000
C514	paper 0.0082μf 20% 1000v	046-015700
C521	ceramic 390pf 5% 1500v N1500	035-034100
C531	ceramic 2700pf 10% 500v N5600	866-272610
C705	ceramic 120pf 20% 500v N750	TCN-120
C709	ceramic 4pf ±0.5pf 500v NPO	861-409661
C710, 711	ceramic 0.01μf +100-0% 500v	DD-103
C714, 715	mica 330pf 5% 500v	CD15-F331J
C717	ceramic 10pf 500v NPO	TCZ-10
C718	ceramic 220pf 10% 500v N750	10TCU-T22
C720, 721	ceramic 33pf 20% 500v N150	863-330624
C722	ceramic 10pf 10% 500v NPO	TCZ-10
C724	ceramic 82pf 10% 500v NPO	866-820611
C730	ceramic 330pf 5% 500v N750	10TCU-T33
C735	ceramic 6pf ±0.5pf 500v NPO	TCZ-6
C748	ceramic 120pf 10% 500v N2200	862-121618
C807	elect 25μf 6v	024-024400
R110	47Ω 10% 3w	057-000900
R111	film type 66M 20% 6000v	057-000400
R114	fixed film 13,000Ω 10% 7w	054-133710
R117	fixed film 3300Ω 10% 3w	054-332310
R122	fixed film 3300Ω 10% 10w	053-332110
R126	fixed film 680Ω 10% 4w	054-681410
R127	WW 1400Ω 10% 18w	053-142310
R128	fixed film 820Ω 10% 7w	054-821710
R132	fixed film 6800Ω 10% 3w	054-682310
R142	WW 10,000Ω 10% 10w	053-103110
R146	fixed film 2700Ω 10% 3w	054-272310
R149	fixed film 5600Ω 10% 4w	054-562410
R151	fixed film 39,000Ω 10% 4w	054-393410
R159	fixed film 39,000Ω 10% 3w	054-393310
R162	fixed film 1000Ω 10% 3w	054-102310
R171	fixed film 820Ω 10% 7w	054-821710
R172	680Ω 10% 3w	051-681310
R183	82,000Ω 5% 1w	CC5382
R310	68Ω 5% ½w	CB5068
R317	8200Ω 5% ½w	CB5282
R318	5600Ω 5% ½w	CB5256
R330	47,000Ω 5% 2w	CD5347
R508	24,000Ω 5% ½w	CB5324
R527	fixed film 33,000Ω 10% 2w	054-333210
R528	180,000Ω 5% ½w	CB5418
R530	110,000Ω 5% ½w	CB5411
R706	39,000Ω 5% ½w	CB5339
R711	680Ω 5% ½w	CB5168
R725	270Ω 5% 1w	CC5127
R728	fixed film 270Ω 10% 3w	054-271310
R746	1500Ω 5% ½w	CB5215
R750A, B	1M 10% ½w (matched pair)	052-000500
R762	100Ω 5% ½w	CB5110
RT101	thermistor 1.25Ω 25% hot	057-001200
RT102	thermistor T C 5Ω cold (part of yoke)	
RV101	varistor 175v 15% 1ma	057-001500
RV102	varistor 110v 10% 1ma	057-001600
RV103	varistor 20v 20% 67ma	057-001300
RV501	varistor 1480v 15% 10ma	057-000200
R105	control, high-volt adj 500,000Ω	055-036500
R112	control, horiz centering 10Ω	055-039100
R119	control, tone 2.5M	055-047700
R120A, B	control, dual-on-off-vol 1M (A) brightness 250,000Ω (B)	055-045500
R130	control, AGC 6000Ω 2w	055-037800
R131	control, horiz hold 35,000Ω	055-047500
R133	control, vert hold 750,000Ω	055-047600
R134	control, vert lin 3.4M	055-037200
R137	control, height 100,000Ω	055-036600
R141	control, contrast 368Ω	055-047400
R143A, B	control, dual tint 1200Ω (A) color 500 (B)	055-045600
R144	control, color killer 1M	055-036400
R153	control, blue drive 6000Ω	055-036800
R154	control, green drive 6000Ω	055-036700
R155	control, green screen 1.5M	055-037000
R156	control, red screen 1.5M	055-036900
R157	control, blue screen 1.5M	055-037100
R178	control, pin cushion top & bottom 15,000Ω	055-047800
R179	control, pin cushion side 2500Ω 1w	055-047900
R301	control, sound rej 10,000Ω	055-037900
R315	control, sound rej 750Ω	055-038000
R801	control, horiz left blue #2 60Ω 3w	056-046800
R804	control, left vert fed/grn 150Ω 2w	056-047300
R805	control, left horiz red/grn 120Ω 2w	056-047200
R808	control, bottom blue horiz lines 60Ω 3w	056-046800
R811	control, top red/grn vert lines 150Ω 2w	056-047300
R812	control, bottom red/grn horiz lines 500Ω 3w	056-046700
R813	control, top red/grn horiz lines 120Ω 2w	056-047200
R814	control, bottom red/grn vert lines 60Ω 3w	056-046800
R815	control, top blue horiz lines 60Ω 3w	056-046800
CR101	rectifier, selenium	004-003100
CR102	rectifier, selenium	044-003200
CR301	diode, snd det	1N60
CR302	diode, crystal	003-005400
CR801A, B, C, D	rectifier, selenium	004-003700
SR101, 102	rectifier, silicon	004-002700
SR103	rectifier, silicon	004-002800
SR501A, B	rectifier, selenium	004-002900
Y101	crystal, 3.58Mc	136-000100
T101	coil, focus control	111-032200
T102	xformer, hi-volt	033-010200
T103	xformer, audio out	031-009400
T104	xformer, vert out	033-010300
T105	xformer, power	033-008500
T106	xformer, video peaking	111-022900
T107	xformer, vert pin cushion phase	111-010400
T108	xformer, horiz pin cushion phase	111-010500
T201	xformer, snd IF	109-029800
T301	xformer, pix IF input	109-022100
T302	xformer, 1st pix IF	109-022400
T303	xformer, 2nd pix IF	109-022300
T304	xformer, 3rd pix IF (incls C318)	109-022300
T701	xformer, band pass	109-023100
T702	xformer, burst phase	109-023600
T703	xformer, 3.58Mc osc	109-024500
L101, 104	yoke, deflection (incls C103, C104, R101, R104, R182)	027-031400
L105, 106	reactor, 5.6μh	111-021200
L107	reactor, filter choke	032-002600
L109, 111	reactor, 5.6μh	111-021200
L112	coil, peaking 390μh	111-021800
L113	coil, degaussing	111-032100
L114	coil, vert pin cushion phase	111-032400
L201	coil, snd take-off	109-029700
L202	coil, snd detector	109-029900
L301	coil, 47.25Mc trap	109-022200
L501A, B	coil, horiz sine wave	109-021600
L512	reactor, RF choke 5.6μh	111-021100
L701	coil, chroma take-off	111-023500
L709	reactor, 120μh (incls R759)	111-021400
L710	coil, horiz efficiency	111-032300
L801	coil, red green right vert lines	111-031800
L802	coil, red green right horiz lines	111-031700
L803	coil, blue horiz shape	111-031900
L804	coil, horiz right blue	111-031600
PW200	circuit, printed snd circuit	073-033200
PW300	circuit, printed pix assem	073-031000
PW500	circuit, printed deflection circuit	073-032100
PW700	circuit, printed chroma circuit	073-030200
PW800	circuit, printed convergence circuit	073-034100
CB101	breaker, circuit 3 amp	099-002500
F103	fuse, heater fuse	099-002600
DL101	line, delay	111-023800

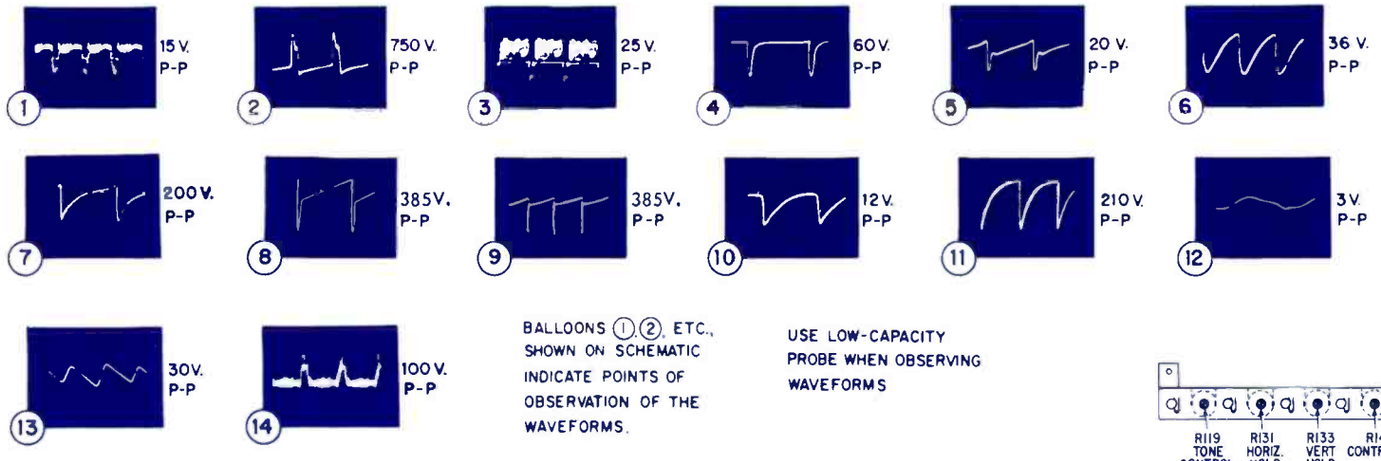
*Value may vary from 1.5 megohm, ½W, 5% to 2.7 megohm, ½W, 5%. Replace with exact value of component removed.

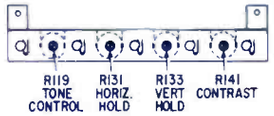


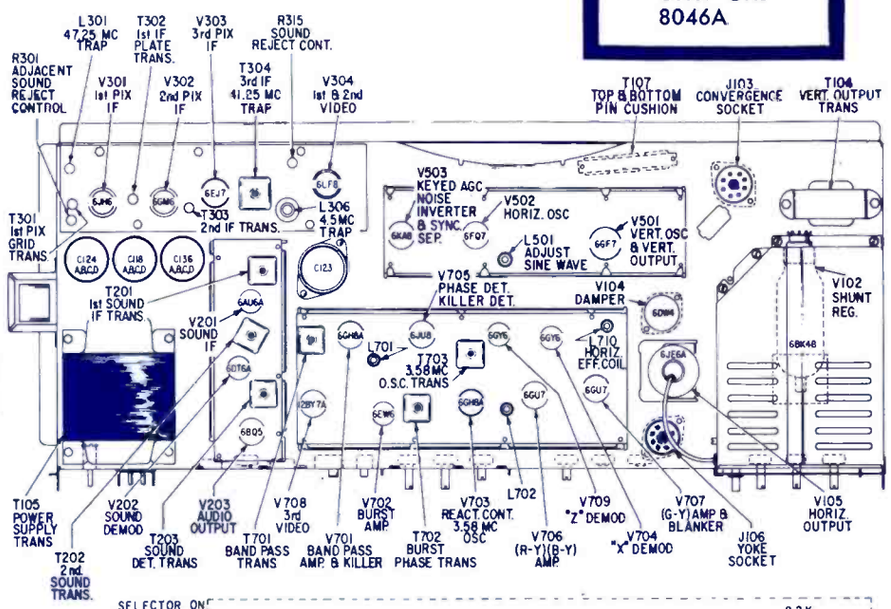
UHF Tuner Circuit Schematic Diagram

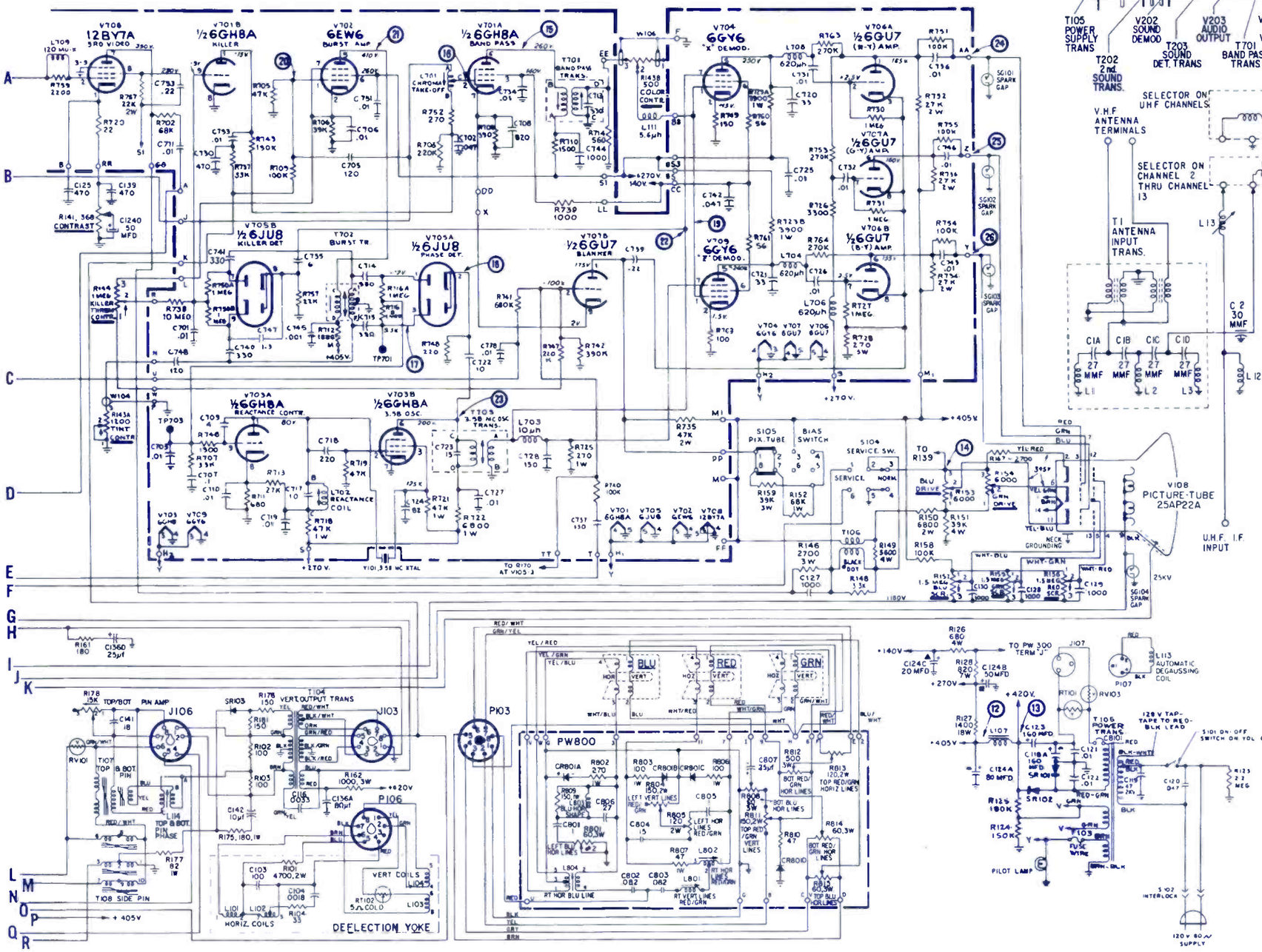


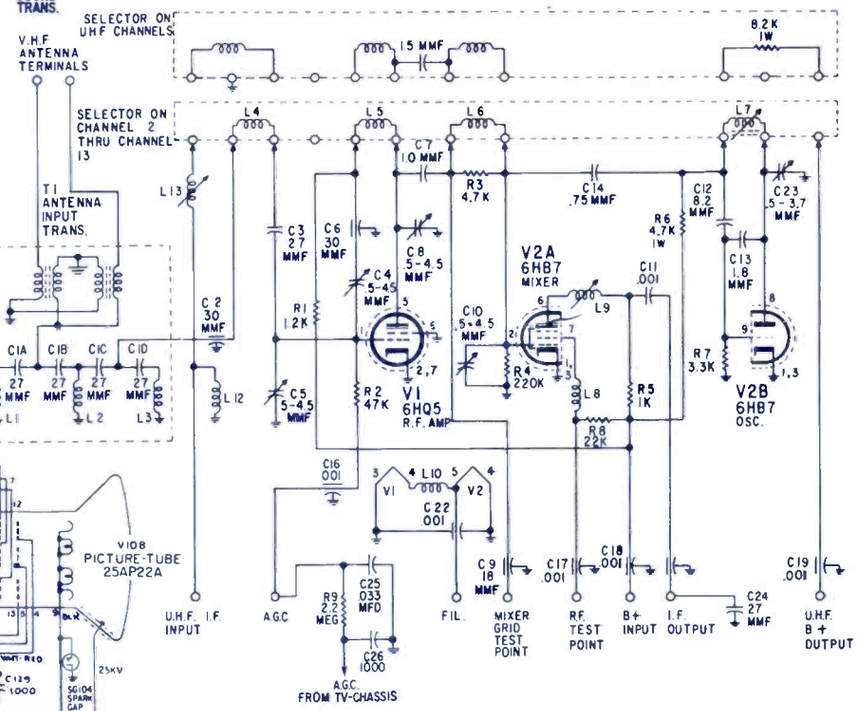
AIRLINE
Color GHJ
8046A











VHF Tuner Circuit Schematic Diagram

ELECTRICAL SPECIFICATIONS

ANTENNA INPUT IMPEDANCE	300 ohms balanced
CONVERGENCE	Magnetic
FOCUS	Electrostatic
AUDIO POWER OUTPUT RATING	2.5 watts max.
INTERMEDIATE FREQUENCIES	
Picture I-F Carrier Frequency	45.75 mc.
Sound I-F Carrier Frequency	41.25 mc.
Color Sub-Carrier Frequency	42.17 mc. (Nominal)
PICTURE SIZE	Approx. 295 sq. in. on a 25AP22A Picture Tube
POWER INPUT	120 volts AC, 60 cycle
POWER RATING	350 watts total
SPEAKER SIZE AND TYPE	See Parts List
SWEEP DEFLECTION	Magnetic
TELEVISION R-F FREQUENCY RANGE	
All 12 television channels	54 mc. to 88 mc., 174 mc. to 216 mc.
Any of 70 UHF channels	470 mc. to 890 mc.

CORONADO

TV Model TV2-9368A

ELECTRONIC TECHNICIAN TEKFAX

OSCILLOSCOPE WAVEFORM PATTERNS

The waveforms shown on the schematic diagram are as observed on a Tektronix type 524D wide band television oscilloscope with the receiver tuned to a reasonably strong signal and a normal picture. The voltages shown on each waveform are the approximate peak to peak amplitudes. The frequency accompanying each waveform indicates the repetition rate of the waveform not the sweep rate of the oscilloscope. If the waveforms are observed on the oscilloscope with a poor high frequency response, the corners of the pulses will tend to be more rounded than those shown on the schematic diagram and the amplitude of any high frequency pulse will tend to be less.

DC SOCKET VOLTAGES

All DC socket voltages shown on the schematic are measured with a high impedance VTVM and under zero signal conditions.

SCHEMATIC IS DIVIDED INTO FOUR SECTIONS WITH EACH SECTION HAVING ITS OWN SERIES OF REFERENCE NUMBERS.

ALL RESISTANCE VALUES IN OHMS AND HALF WATT UNLESS OTHERWISE NOTED.

K=1000 MEG.=1,000,000

ALL CAPACITANCE VALUES LESS THAN 1.0 IN MF. AND ABOVE 1.0 IN PF. UNLESS OTHERWISE NOTED.

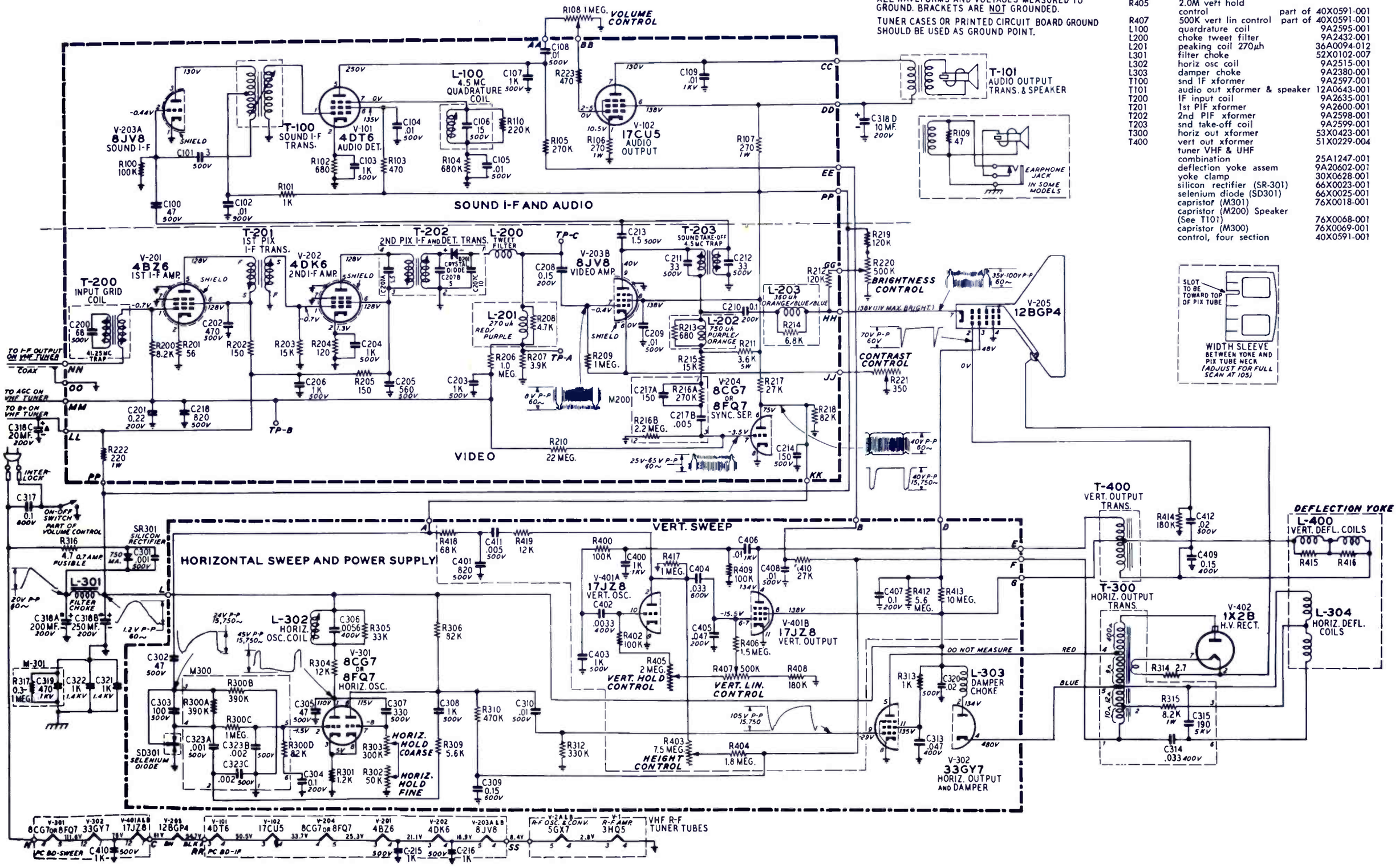
COIL RESISTANCE VALUES LESS THAN 1.0 OHM ARE NOT SHOWN.

CAUTION

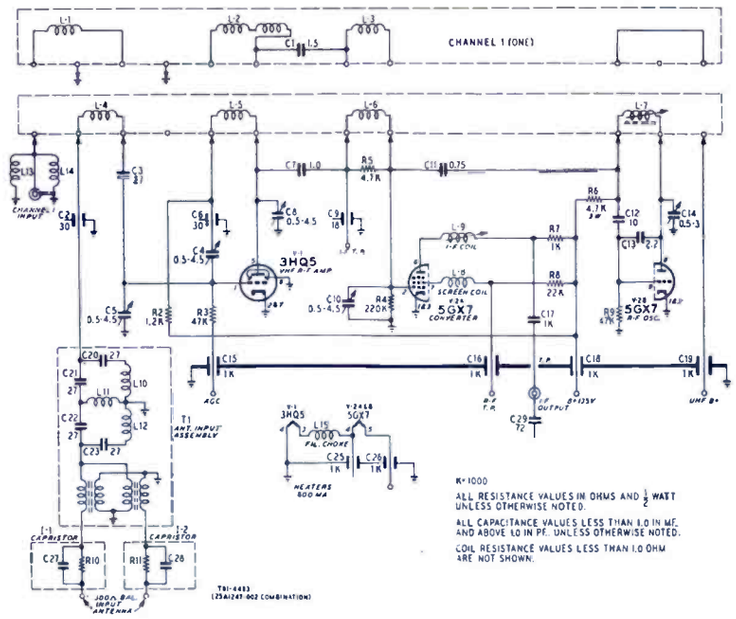
ALL WAVEFORMS AND VOLTAGES MEASURED TO GROUND. BRACKETS ARE NOT GROUNDED.

TUNER CASES OR PRINTED CIRCUIT BOARD GROUND SHOULD BE USED AS GROUND POINT.

SYMBOL	DESCRIPTION	CORONADO PART NO.
C109	.01μf 1 kv ceramic	80X0098-018
C315	190pf 5kv ceramic	80X0098-028
C318A	200μf 200v	
C318B	250μf 200v dry elect	45X0519-001
C318C	20μf 200v	
C318D	10μf 200v	
C319	part of	76X0018-001
C321, C322	.0001μf 1.4kv ceramic	80X0098-027
C400	.001μf 1kv ceramic	80X0099-016
C406	.01μf 1kv ceramic	80X0098-018
R108	1.0M on-off vol control	36X0465-001
R211	3.6K 5.0w pyrex	43X0331-001
R220	500K brightness control	40X0585-028
R221	350Ω contrast control	40X0586-016
R302	horiz hold part of	40X0591-001
R303	300K horiz hold	40X0590-001
R316	4.7Ω fus res	43X0431-001
R403	7.5M height control part of	40X0591-001
R405	2.0M vert hold control part of	40X0591-001
R407	500K vert lin control part of	40X0591-001
L100	quardrature coil	9A2595-001
L200	choke tweet filter	9A2432-001
L201	peaking coil 270μh	36A0094-012
L301	filter choke	52X0102-007
L302	horiz osc coil	9A2515-001
L303	damper choke	9A2380-001
T100	snd IF xformer	9A2597-001
T101	audio out xformer & speaker	12A0643-001
T200	IF input coil	9A2635-001
T201	1st PIF xformer	9A2600-001
T202	2nd PIF xformer	9A2598-001
T203	snd take-off coil	9A2599-001
T300	horiz out xformer	53X0423-001
T400	vert out xformer	51X0229-004
	tuner VHF & UHF combination	25A1247-001
	deflection yoke assem	9A20602-001
	yoke clamp	30X0628-001
	silicon rectifier (SR-301)	66X0023-001
	selenium diode (SD301)	66X0025-001
	capristor (M301)	76X0018-001
	capristor (M200) Speaker (See T101)	76X0068-001
	capristor (M300)	76X0069-001
	control, four section	40X0591-001



CORONADO
TV Model TV2-9398A

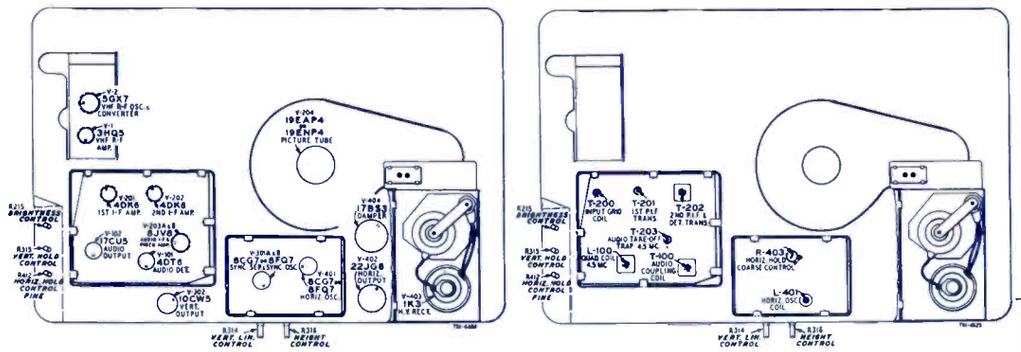


OSCILLOSCOPE WAVEFORM PATTERNS

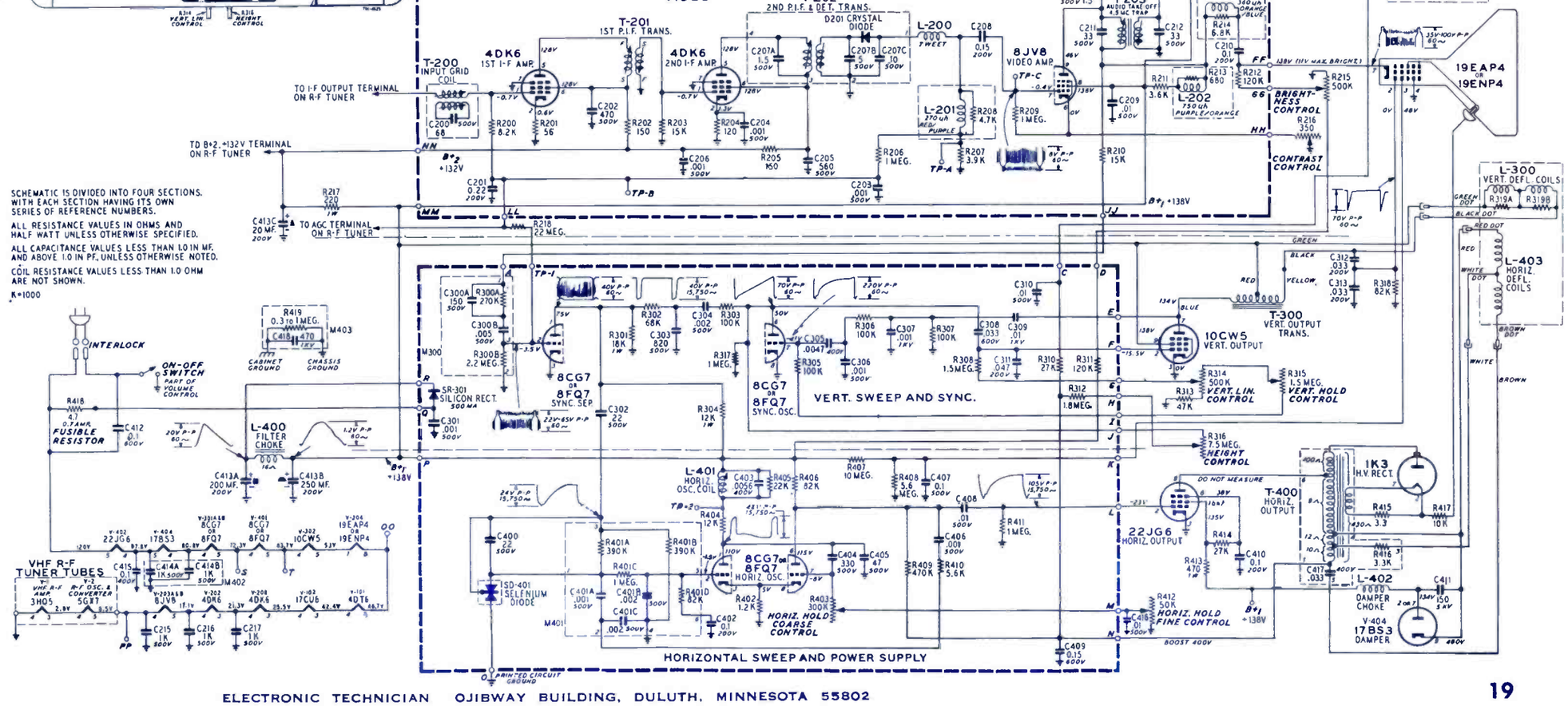
The waveforms shown on the schematic diagram are as observed on a Tektronix type 524D wide band television oscilloscope with the receiver tuned to a reasonably strong signal and a normal picture. The voltages shown on each waveform are the approximate peak to peak amplitudes. The frequency accompanying each waveform indicates the repetition rate of the woveform not the sweep rate of the oscilloscope. If the waveforms are observed on the oscilloscope with a poor high frequency response, the corners of the pulses will tend to be more rounded than those shown on the schematic diagram and the amplitude of any high frequency pulse will tend to be less.

DC SOCKET VOLTAGES

All DC socket voltages shown on the schematic are measured with a high impedance VTVM and under zero signal conditions.



Symbol	Description	Coronado Part No.
C109	.01 μf 1kv ceramic	80X0098-018
C307	1k pf 1kv ceramic	80X0099-016
C412	.1 μf 600v tubular	350X1044-064
C413A	200 μf	
C413B	250 μf	
C413C	20 μf 200v dry electrolytic	45X0519-001
C413D	10 μf	
C414A	1k pf 500v dual ceramic	80X0003-001
C414B		
C416	.01 μf 500v ceramic	80X0026-001
C417	.033 μf 400v mylar	342X3334-040
R108	1.0 M on-off volume control	36X0453-002
R215	500k brightness control	40X0585-010
R216	350Ω contrast control	40X0585-027
R314	500k vert. lin. control	40X0585-004
R315	1.5 M vert. hold control	40X0585-008
R316	7.5 M height control	40X0585-002
R403	300k horiz. hold control (coarse)	40X0590-001
R412	50k horiz. hold control (fine)	40X0585-009
R415	3.3Ω 0.5 wirewound	43X0238-001
R418	4.7Ω fus. Res.	43X0431-001
L100	quadrature coil	9A2595-001
L200	choke tweet filter	9A2432-001
L201	peaking coil-270 μh	36A0094-012
L202	peaking coil-750 μh	36A0094-013
L203	peaking coil-360 μh	36A0094-014
L300	part of deflection yoke assembly	
L400	filter choke	52X0102-006
L401	horizontal oscillator coil	9A2515-001
L402	damper choke	9A2380-001
L403	part of deflection yoke assembly	
T100	sound IF coil	9A2597-001
T101	audio output transformer	51X0235-004
T200	IF input coil	9A2596-001
T201	1st PIF transformer	9A2600-001
T202	2nd PIF transformer	9A2598-001
T203	sound take-off coil	9A2599-001
T300	vertical output transformer	51X0229-003
T400	horizontal output transformer	53X0418-001
	tuner, VHF & UHF combination	25A1247-002
	deflection yoke assembly	9A2584-001
	yoke clamp	30X0628-001
	Silicon rectifier (SR-301)	66X0023-001
	selenium diode (SD-401)	66X0025-001
	capristor (M-403)	76X0018-001
	capristor (M-300)	76X0068-001
	capristor (M-401)	76X0069-001



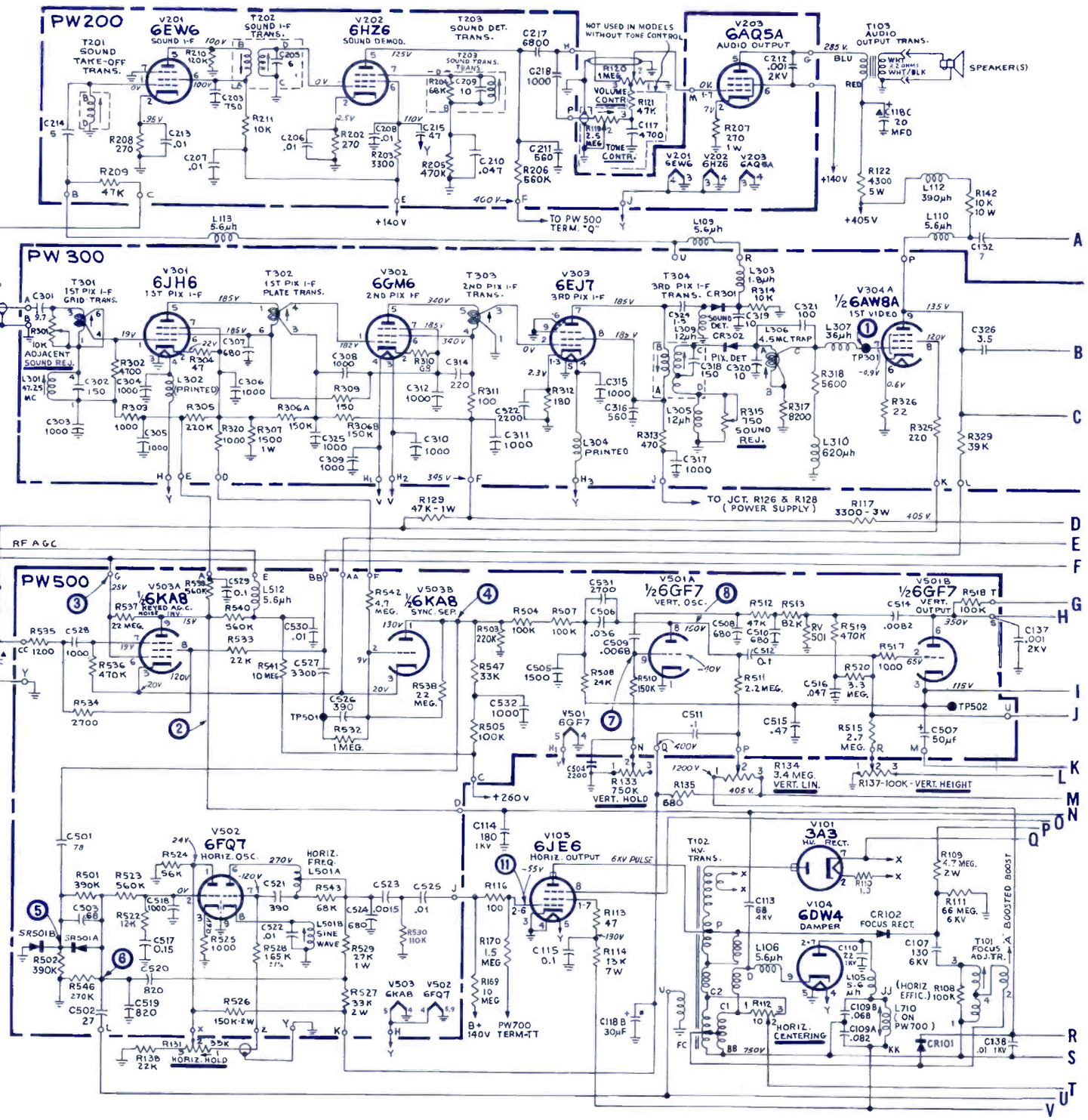
CORONADO 9681

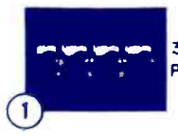
ELECTRONIC TECHNICIAN TEKFAX

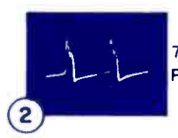
SYMBOL	DESCRIPTION	CORONADO PART NO.
C101	100pf 3 kv ceramic	80X0098-024
C102	560pf 2.5kv ceramic	80X0098-025
C104	part of deflection yoke	
C105		
C108	.01μf 1kv ceramic	80X0098-022
C138		
C107	130pf 6kv ceramic	80X0098-012
C110	22pf 1kv ceramic	80X0098-016
C113	68pf 4kv ceramic	80X0098-014
C114	180pf 1kv ceramic	80X0098-021
C118A	160μf 250v	
C118B	30μf 450v elect	45X0505-001
C118C	20μf 450v	
C118D	40μf 150v	
C119	47pf 2kv ceramic	80X0098-015
C123	160μf 250v elect	45X0508-001
C124A	80μf 450v	
C124B	50μf 450v elect	45X0507-001
C124C	20μf 250v	
C124D	50μf 50v	
C136A	80μf 450v	
C136B	2μf 350v elect	45X0506-001
C137	.001μf 2kv tubular	359X1022-200
C212	.001μf 2kv paper	359X1022-200
C309		
C310	1Kpf 1kv ceramic	47X0652-001
C507	50μf 150v elect	45X0509-001
C514	.0082μf 1kv mylar	347X8224-100
C521	390pf 1000v ceramic	80X0098-026
C737	150pf 1kv ceramic	80X0099-73
R105	500K control, HV adj	40X0580-002
R106A R106B	carbon 1.5M 1w matched pair	43X0445-001
R111	66M 6kv film	43X0451-001
R112	10Ω horiz cent control	40X0581-001
R114	13K 7w film control, vert	43X0368-001
R117	3.3K 3w film	43X0375-001
R120	1M control, on-off vol	36X0459-001
R122	4.3K 5w film	43X0434-001
R126	1.2K 4w pyrex	43X0373-001
R127	1.4K 18w WW	43X0401-013
R128	1.2K 7w pyrex	43X0370-001
R130	6K 2w control AGC	40X0577-002
R131	35K control horiz hold	40X0593-003
R132	6.8K 3w film	43X0378-001
R133	750K control, vert hold	40X0593-001
R134	3.4M control, vert lin	40X0580-009
R140	250K control, brightness	40X0579-005
R141	368Ω control, contrast	40X0593-002
R142	10K 10w WW	43X0401-012
R143	1.2K control, tint	40X0579-006
R144	1M control, color killer	40X0580-001
R145	500Ω control, color	40X0579-004
R146	2.7K 3w film	43X0376-001
R149	5.6K 4w film	43X0371-001
R151	39K 4w film	43X0450-004
R152	68K 1w carbon	340X4683-810
R153	6K control, blue drive	40X0580-005
R154	6K control, green drive	40X0580-004
R155	1.5M control, green screen	40X0580-007
R156	1.5M control, red screen	40X0580-006
R157	1.5M control, blue screen	40X0580-008
R159	39K 3w film	43X0450-003
R162	1K 3w film	43X0450-001
R163	5.6K 3w film	43X0450-002
R164	2.2K 3w film	43X0438-001
R301	10K .2w control snd rej	40X0571-001
R306A R306B	150K .5w matched pair carbon	4340449-001
R315	750Ω .5w control snd rej	40X0572-001
R526	150K 2w film	43X0450-008
R527	33K 2w film	43X0439-001
R528	165K .5w film	43X0450-016
R716A R716B R750A R750B	1M .5w matched pair	43X0447-001
R723A R723B	3.9K 1w matched pair	43X0448-001
R728	270Ω 3w film	43X0440-001
R801	120Ω 1w WW pot	40X0570-003
R811		
R804		
R805	60Ω 1w WW pot	40X0570-004
R814		
R815		
R808	30Ω 1w WW pot	40X0570-002
R813		
R812	150Ω 1w WW pot	40X0570-001
L107	filter choke	52X0115-001
L108	peaking coil 72μh	36A0096-006
L301	47.25MHz trap	9A2563-001
L307	peaking coil 36μh	36A0096-001
L309	RF choke 12μh coil	9A2553-003
L501A	horiz freq sine wave coil	9A2554-001
L501B		
L701	chroma take-off xformer	9A2566-001
L702	reactance control coil	9A2564-001
L708	peaking coil 62μh	36A0095-001
L710	horiz efficiency coil	9A2558-001
L801	convergence coil	9A2555-001
L802	convergence coil	9A2557-001
T101	focus coil	9A2572-001
T102	horiz out xformer	53X0416-001
T103	audio out xformer	51X0236-001
T104	vert out xformer	51X0237-001
T104	vert out xformer	51X0237-002
T105	power xformer	53X0414-001
T106	mutual coupling coil	9A2574-001
T201	snd take-off xformer	9A2560-001
T202	4.5MHz xformer	9A2561-001
T203	quadrature xformer	9A2559-001
T301	IF input xformer	9A2562-001
T302	1st pix xformer	9A2562-003
T303	2nd pix xformer	9A2562-002
T304	3rd pix xformer	9A2569-001
T701	band pass xformer	9A2570-001
T702	burst phase xformer	9A2567-001
T703	3.58MHz osc xformer	9A2568-001
T801	convergence coil	9A2556-001
	UHF tuner	25A1243-004
	VHF tuner	25A1249-001
	deflection yoke assem	9A2576-001
	printed cir board snd (PW200)	38A2905-000
	printed cir board pix (PW300)	38A3096-000
	printed cir board deflection (PW500) with tubes	38A2907-000
	printed cir board chroma (PW700)	38A2908-000
	printed cir board convergence (PW800)	38A3210-000
	horiz AFC rectifier (SR501A&B)	66X0025-001
	convergence rectifier (triple) (CR801A, B, C)	66X0033-001
	convergence rectifier (SR801)	66X0038-001
	silicon power rectifier 500 PIV (SR101, SR102)	66X0023-003
	switch (S104 service normal)	2A0579-001
	switch (S103 video peaking S105 kine bias)	2A0579-002
	focus rectifier (CR102)	66X0035-001
	boosted boost rectifier (CR101)	66X0036-001
	varistor RV501	43X0446-001

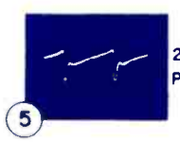
BALLOONS ①②, ETC., SHOWN ON SCHEMATIC INDICATE POINTS OF OBSERVATION OF THE WAVEFORMS.

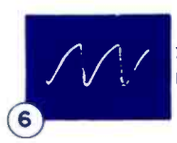
USE LOW-CAPACITY PROBE WHEN OBSERVING WAVEFORMS

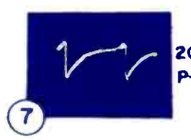


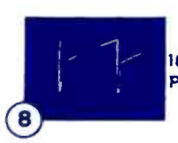


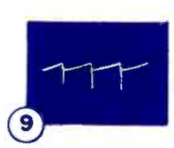


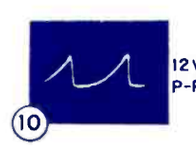


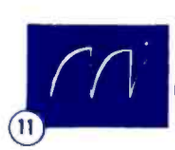


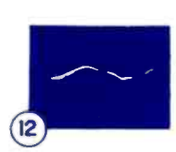


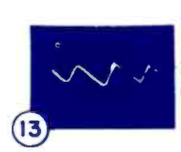


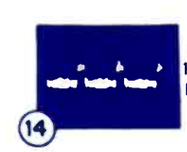




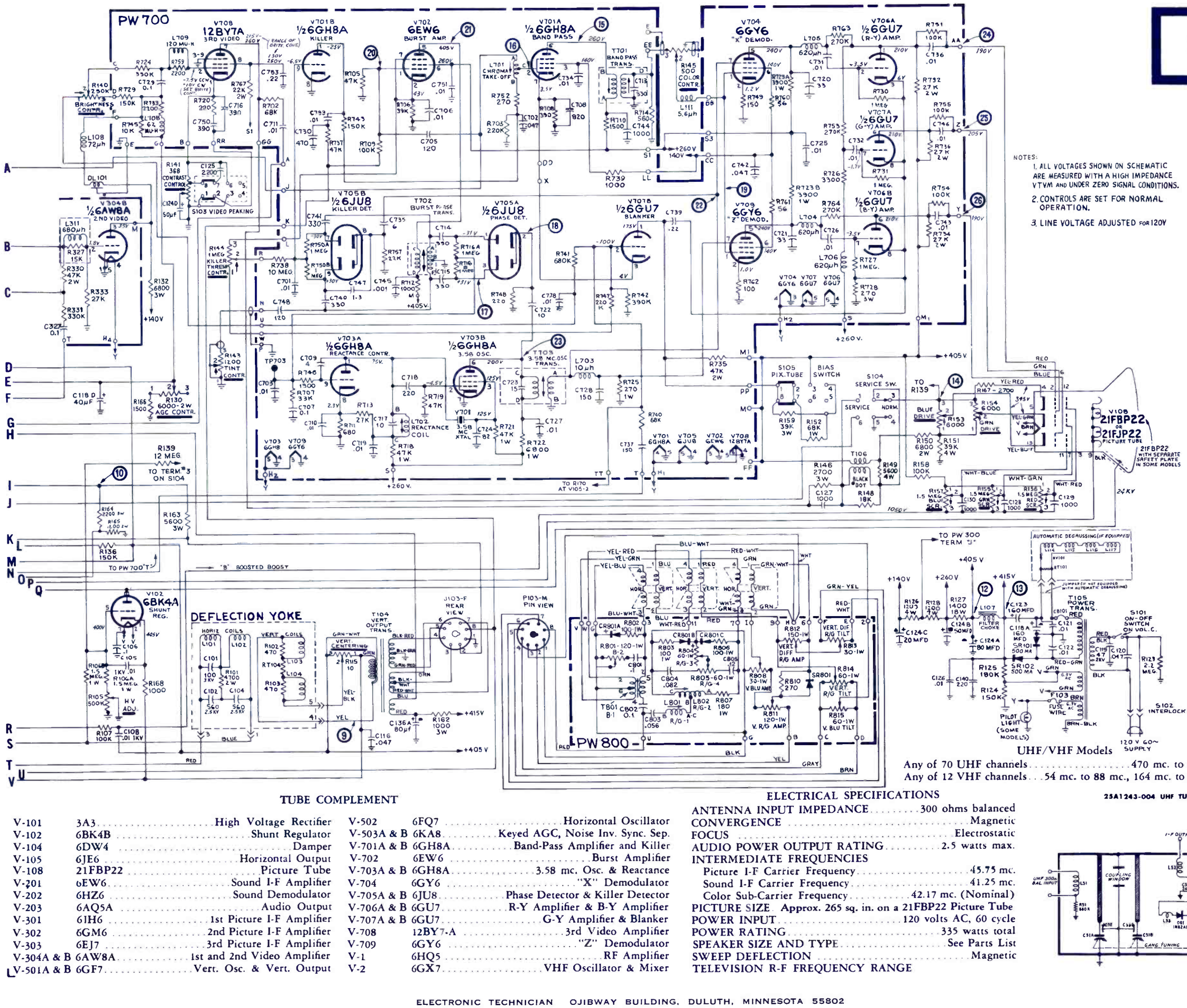








CORONADO 9681



NOTES:

1. ALL VOLTAGES SHOWN ON SCHEMATIC ARE MEASURED WITH A HIGH IMPEDANCE VTVM AND UNDER ZERO SIGNAL CONDITIONS.
2. CONTROLS ARE SET FOR NORMAL OPERATION.
3. LINE VOLTAGE ADJUSTED FOR 120V

UHF/VHF Models

Any of 70 UHF channels ..... 470 mc. to 890 mc.
Any of 12 VHF channels ... 54 mc. to 88 mc., 164 mc. to 216 mc.

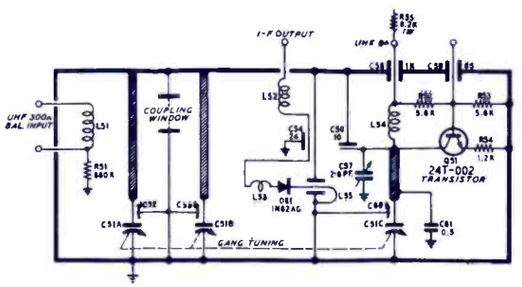
TUBE COMPLEMENT

V-101	3A3	High Voltage Rectifier
V-102	6BK4B	Shunt Regulator
V-104	6DW4	Damper
V-105	6JE6	Horizontal Output
V-108	21FBP22	Picture Tube
V-201	6EW6	Sound I-F Amplifier
V-202	6HZ6	Sound Demodulator
V-203	6AQ5A	Audio Output
V-301	6IH6	1st Picture I-F Amplifier
V-302	6GM6	2nd Picture I-F Amplifier
V-303	6EJ7	3rd Picture I-F Amplifier
V-304A & B	6AW8A	1st and 2nd Video Amplifier
V-501A & B	6GF7	Vert. Osc. & Vert. Output
V-502	6FQ7	Horizontal Oscillator
V-503A & B	6KA8	Keyed AGC, Noise Inv. Sync. Sep.
V-701A & B	6GH8A	Band-Pass Amplifier and Killer
V-702	6EW6	Burst Amplifier
V-703A & B	6GH8A	3.58 mc. Osc. & Reactance
V-704	6GY6	"X" Demodulator
V-705A & B	6JU8	Phase Detector & Killer Detector
V-706A & B	6GU7	R-Y Amplifier & B-Y Amplifier
V-707A & B	6GU7	G-Y Amplifier & Blanker
V-708	12BY7-A	3rd Video Amplifier
V-709	6GY6	"Z" Demodulator
V-1	6HQ5	RF Amplifier
V-2	6GX7	VHF Oscillator & Mixer

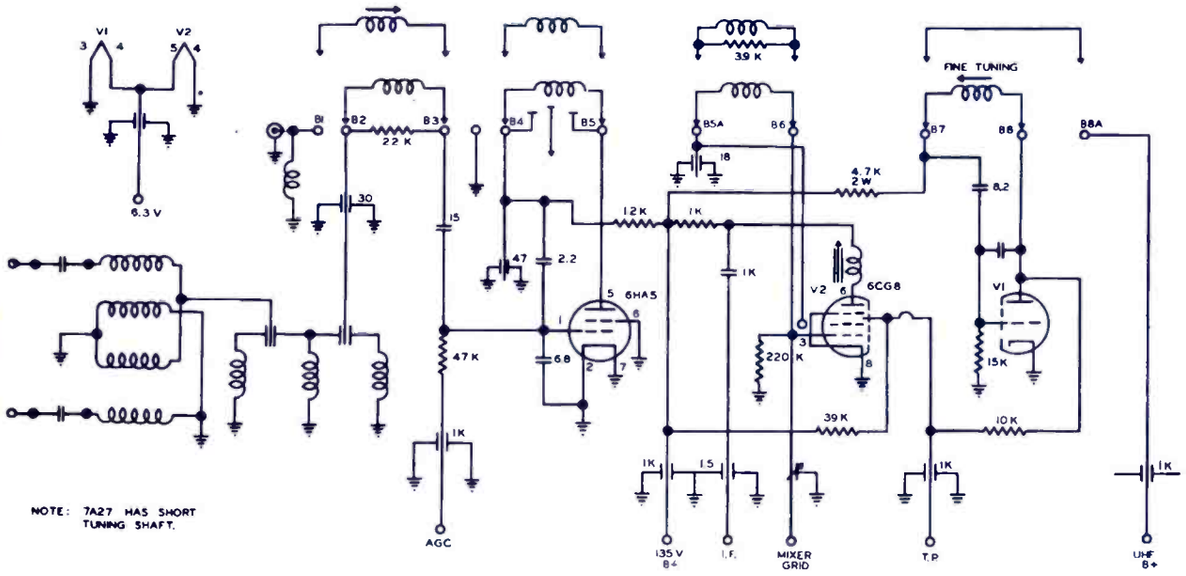
ELECTRICAL SPECIFICATIONS

ANTENNA INPUT IMPEDANCE	300 ohms balanced
CONVERGENCE	Magnetic
FOCUS	Electrostatic
AUDIO POWER OUTPUT RATING	2.5 watts max.
INTERMEDIATE FREQUENCIES	
Picture I-F Carrier Frequency	45.75 mc.
Sound I-F Carrier Frequency	41.25 mc.
Color Sub-Carrier Frequency	42.17 mc. (Nominal)
PICTURE SIZE	Approx. 265 sq. in. on a 21FBP22 Picture Tube
POWER INPUT	120 volts AC, 60 cycle
POWER RATING	335 watts total
SPEAKER SIZE AND TYPE	See Parts List
SWEEP DEFLECTION	Magnetic
TELEVISION R-F FREQUENCY RANGE	

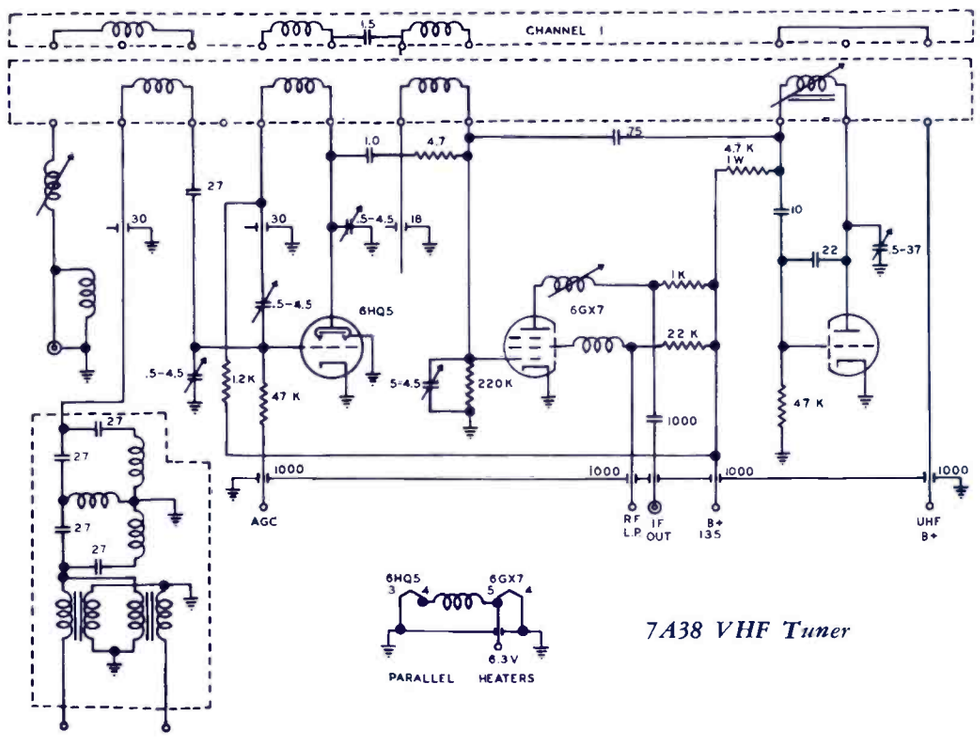
25A1243-004 UHF TUNER SCHEMATIC



CURTIS MATHES
GMC 20



7A19 and 7A27 VHF Tuners

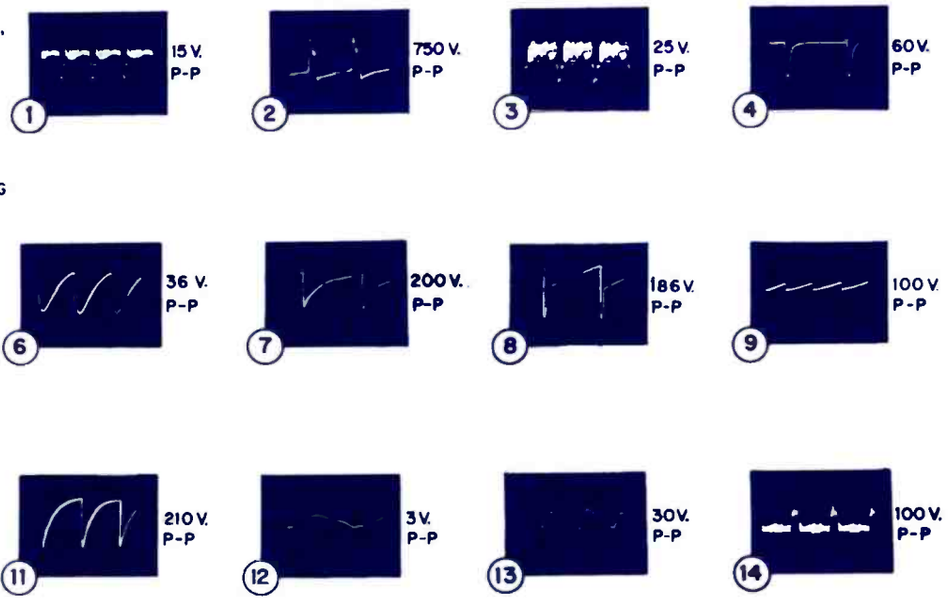


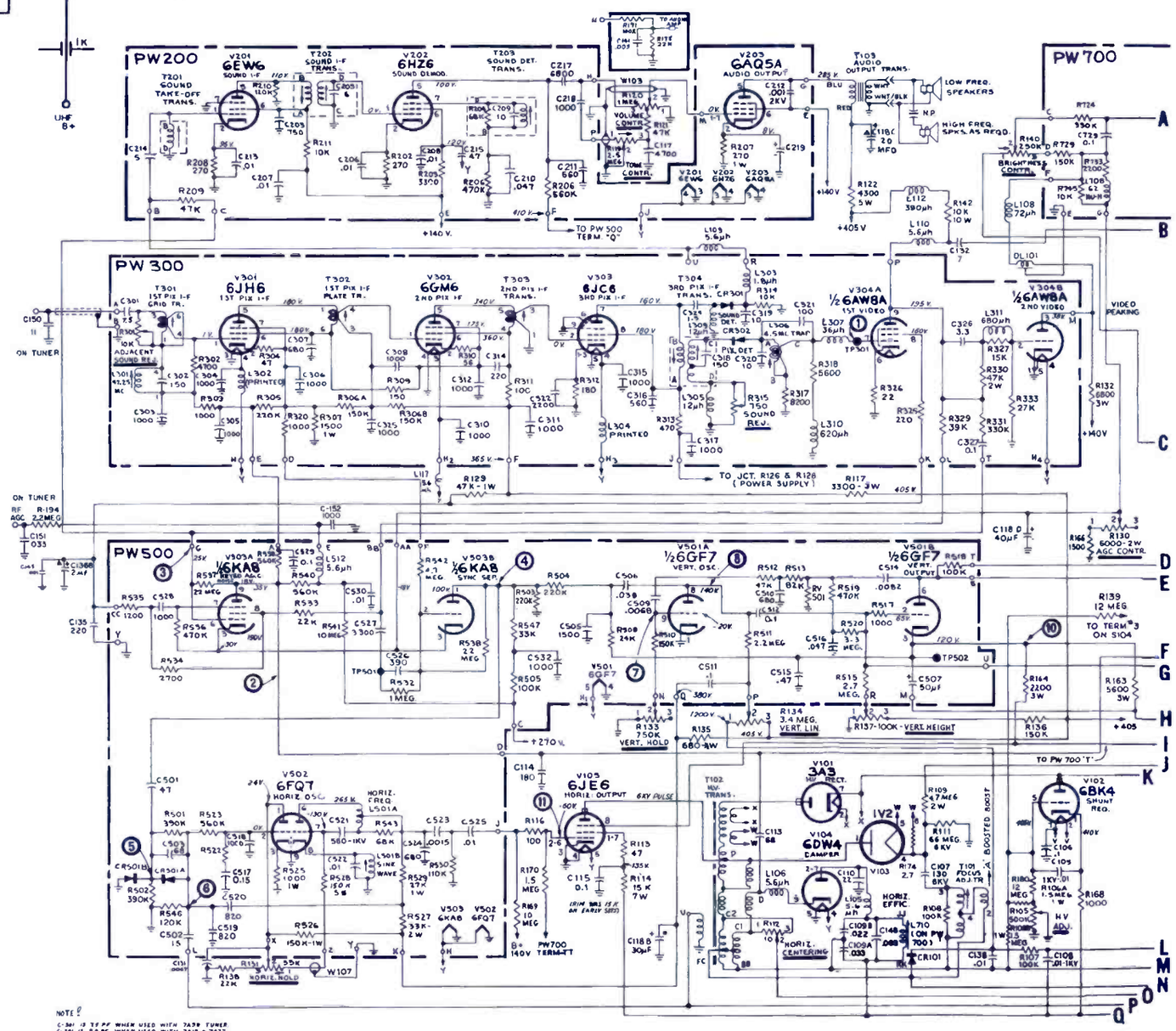
7A38 VHF Tuner

BALLOONS ①②, ETC., SHOWN ON SCHEMATIC INDICATE POINTS OF OBSERVATION OF THE WAVEFORMS.

CHANNEL 1 USE LOW-CAPACITY PROBE WHEN OBSERVING

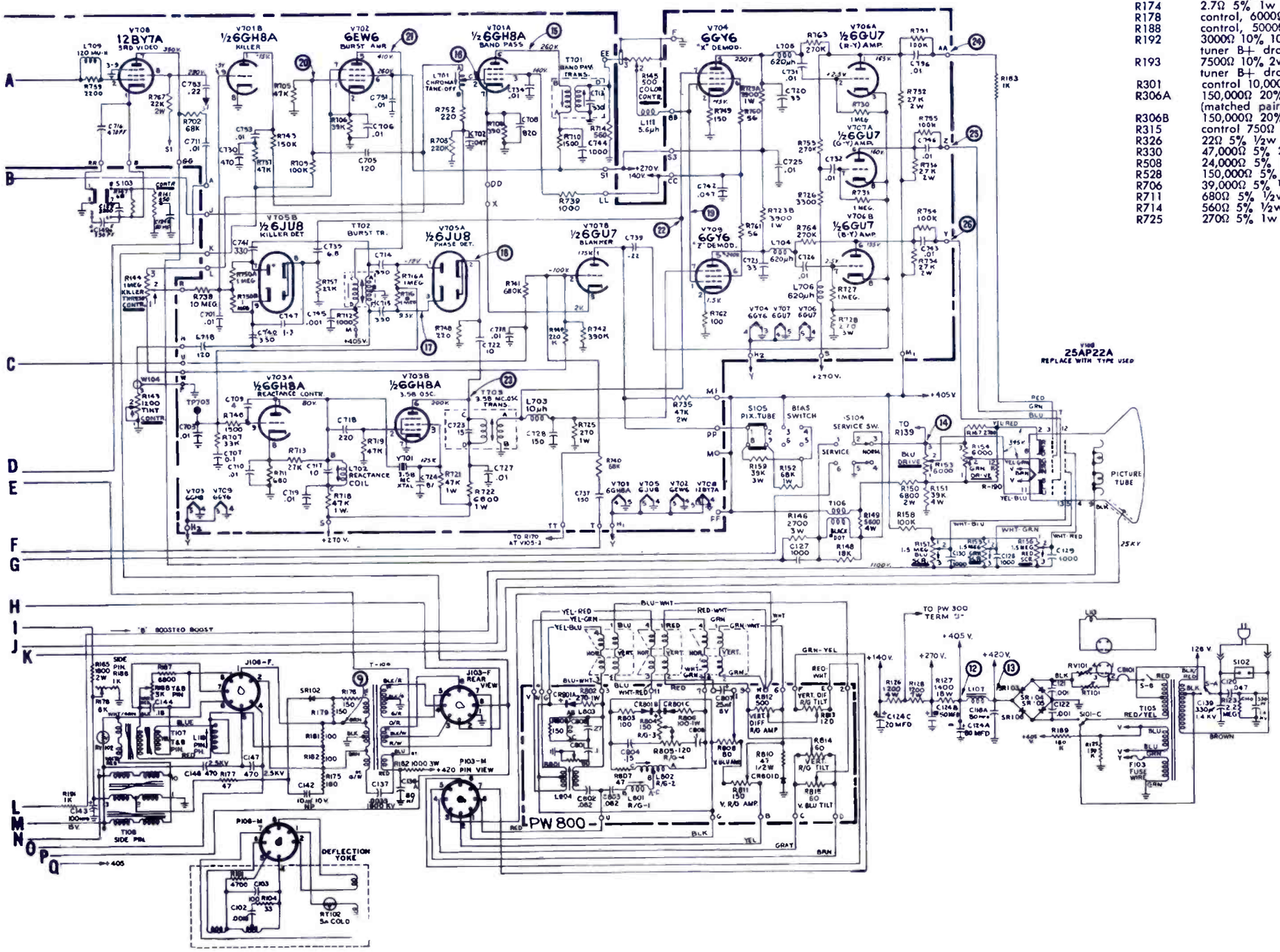
CHANNEL 2-13 WAVEFORMS





TV CHASSIS TUBE COMPLEMENT

CM 6JH6	1st IF Amplifier
CM 6GM6	2nd Picture IF Amplifier
CM 6JC6	3rd Picture IF Amplifier
CM 6AW8	1st and 2nd Video Amplifier
CM 12BY7	3rd Video Amplifier
CM 6EW6	Sound IF Amplifier
CM 6HZ6	Sound Demodulator
CM 6AQ5A	Audio Output
CM 6GF7	Vertical Oscillator and Vertical Output
CM 6FQ7	Horizontal Oscillator
CM 6KA8	Keyed AGC, Noise Inv., Sync Sep.
CM 6JE6A	Horizontal Output
CM 6DW4	Damper
CM 6BK4	Shunt Regulator
CM 3A3	High Voltage Rectifier
CM 6EW6	Burst Amplifier
CM 6GH8A	Band-Pass Amplifier and Killer
CM 6JU8	Phase Detector and Killer Detector
CM 6GH8A	3.58Mc Oscillator and Reactance Control
CM 6GY6	"X" Demodulator
CM 6GY6	"Z" Demodulator
CM 6GU7	R-Y Amplifier and B-Y Amplifier
CM 6GU7	G-Y Amplifier and Blanker
CM 1V2	Focus Rectifier
CM 25AP22A	Picture Tube (Capped and Fritted)

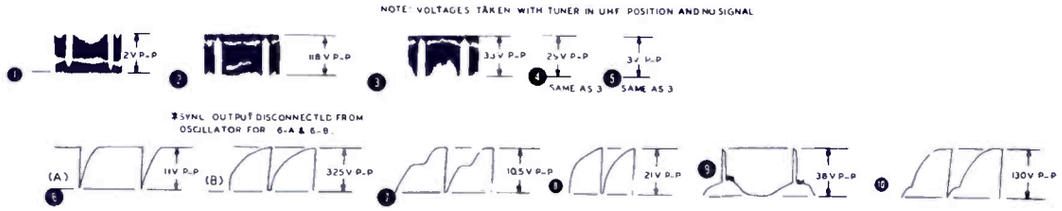


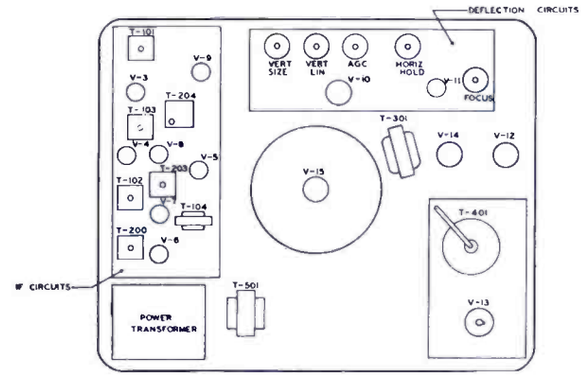
SYMBOL	DESCRIPTION	CURTIS MATHES PART NO.
R106A	1.5M 10% 1w part A (matched pair)	10R515-020
R106B	1.5M 10% 1w part B	10R515-020
R114	15,000Ω 5% 10w WW	08A039-000
R116	100Ω 20% ½w	05R110-020
R117	33000Ω 10% 3w film	08A071-000
R119	control, tone 2.5M	02A094-004
R120	control, vol on-off 1.0M	02A108-000
R122	43000Ω 10% 5w film	08A072-000
R127	14000Ω 10% 18w WW	08A087-000
R128	12000Ω 10% 7w film	08A074-000
R130	control, AGC 6000Ω WW	08A052-008
R131	control, hor hold 35,000Ω	02A094-001
R133	control, vert hold 750,000Ω	02A094-002
R134	control, vert lin 3.4M	02A044-25
R137	control, vert height 100,000Ω	02A044-011
R140	control, brightness 250,000Ω	02A094-007
R141	control, contrast 350Ω	02A094-003
R143	control, tint 1200Ω	02A094-006
R144	control, color killer 1M	02A044-008
R145	control, color 500Ω	02A094-005
R146	2700Ω 10% 3w film	08A077-000
R149	5600Ω 10% 4w film	08A082-000
R151	39,000Ω 10% 4w film	08A090-000
R153	control, blue drive 6000Ω	02A044-028
R154	control, grn drive 6000Ω	02A044-024
R155	control, grn screen 1.5M	02A044-027
R156	control, red screen 1.5M	02A044-023
R157	control, blue screen 1.5M	02A044-026
R159	39,000Ω 10% 3w	08A094-000
R162	1000Ω 10% 3w film	08A079-000
R163	5600Ω 10% 3w film	08A091-000
R164	2200Ω 10% 3w film	08A092-000
R168	1000Ω 5% ½w	05R210-005
R174	2.7Ω 5% 1w (IRC-BWH)	08A150-004
R178	control, 6000Ω WW	08A052-008
R188	control, 5000Ω	02A058-000
R192	3000Ω 10% 10w WW VHF tuner B+ dropping resistor	08A045-000
R193	7500Ω 10% 2w film UHF tuner B+ dropping resistor	08A117-001
R301	control 10,000Ω 2w	02A078-002
R306A	150,000Ω 20% ½w carbon (matched pair)	05R415-020
R306B	150,000Ω 20% ½w carbon	05R415-020
R315	control 750Ω ½w	02A044-029
R326	22Ω 5% ½w	05R022-005
R330	47,000Ω 5% 2w	20R347-005
R508	24,000Ω 5% ½w	05R324-005
R528	150,000Ω 5% 2w film	08A117-002
R706	39,000Ω 5% ½w	05R339-005
R711	680Ω 5% ½w	05R168-005
R714	560Ω 5% ½w	05R156-005
R725	270Ω 5% 1w	10R127-005
R728	270Ω 3w	08A097-000
R733	2200Ω 5% ½w	05R222-005
R746	1500Ω 5% ½w	05R215-005
R750A	1M (matched pair)	05R510-010
R750B	1M (matched pair)	05R510-010
R762	100Ω 5% ½w	05R110-005
R801	60Ω 3w	08A052-015
RT101	rhermistor	08A113-000
RT102	thermistor 5Ω (part of yoke)	
RV101	varistor	08A114-000
RV102	varistor	08A151-000
RV501	varistor	08A111-000
C105	ceramic .01μf +80%-20% 1000v	05A064-001
C107	ceramic 130pf 20% N2200 6000v	05A068-037
C110	22pf 20% N750 1000v	06A068-016
C113	68pf 10% N1500 4000v disc ceramic	05A068-027
C114	180pf 10% Z5P 1000v disc ceramic	05A068-039
C121	.001μf GMV-Z5U 1kv disc ceramic	05A068-060
C122	.001μf GMV-Z5U 1kv disc ceramic	05A068-060
C124	80/50/450v 20/250v 50/50v elect	04A059-000
C125	2200pf 10% Z5P 1kv disc ceramic	05A068-066
C132	6.8pf ±.5pf 500v disc ceramic	05A068-009
C135	220pf N1500 500v disc ceramic	05A068-044
C136	80/450v 2/350v elect	04-A061-000
C137	molded tubular 0033μf 10% 1600v	05A053-003
C138	.01μf GMV-Z5U 1kv disc ceramic	05A068-077
C139	330pf RMC type U 1400v	05A068-047
C140	330pf RMC type U 1400v	05A068-047
C142	elect non-pol 10μf 10v	04A030-034
C143	elect 100μf 15v	04A037-000
C146	disc ceramic 470pf N1500 2.5kv	05A068-099
C147	disc ceramic 470pf N1500 2.5kv	05A068-099
C149	330pf 10% N1500 500v disc ceramic	05A068-049
C150	11pf 5% NPO 500v 26 in. IF cable	05A068-109
C310	1000pf disc cermaic 1000v	05A068-060
C501	47pf 10% NPO 500v	05A051-008
C507	50μf 150v 85 degree C elect	04A030-019
C521	560pf 5% disc ceramic 1kv	05A062-049
C709	4pf 5% 500v	05A051-026
C714	330pf 5% 500v silver mica	05A062-002
C715	330pf 5% 500v silver mica	05A062-002
C728	150pf 5% 500v silver mica	05A062-003
C730	470pf 5% 500v	05A051-022
C735	6.8pf 5% NPO	05A068-009
C740	330pf 5% 500v silver mica	05A062-002
C741	330pf 5% 500v silver mica	03A062-002
C807	elect 25μf 6v	04A030-035
DL101	delay line	01A167-000
L105, 106	coil 5.6μh	14A015-000
L107	choke	10A037-000
L113	coil, degaussing	01A249-000
L118	coil, pin cushion phase adj	01A245-000
L303	reactor 1.8μh	14A017-000
L512	5.6μh RF choke	14A015-000
L701	chroma take-off	01A159-000
L702	reactance coil	01A164-000
L710	coil, horiz efficiency	01A246-000
T101	xformer, focus adj	01A133-001
T102	xformer, HV	01A244-000
T104	xformer, vert out	10A058-000
T103	xformer, audio out	10A021-001
T105	xformer, power	12A068-000
T106	xformer, video peaking	01A135-000
T107	top and bottom pin cushion	10A057-000
T108	side pin cushion modulator xformer	10A056-000
T201	xformer, sound take off	01A163-000
T202	xformer, sound IF	01A156-000
T203	xformer, sound det	01A162-000
T301	xformer, 1st pix IF input	01A154-001
T302	xformer, 1st pix IF input	01A154-005
T303	xformer, 2nd pix IF	01A154-004
T304	xformer, 3rd pix IF	01A157-000
T701	xformer, band pass	01A155-000
T702	xformer, burst phase	01A160-000
T703	3.58Mc osc xformer	01A165-000
CB101	switch circuit protector (reset type)	06A046-002
SR102	silicon rectifier	21A006-000
SR103, 104 105, 106	silicon rectifier	21A008-000
CR101	selenium rectifier	21A004-000
CR301, 302	diode, crystal IN60	
CR501A, B	selenium rectifier	21A002-000
CR801A, B, C, D	selenium rectifier	21A-005-000
S101	on-off switch	02A108-000
S103	video peaking	06A048-000
S104	switch, normal-service	06A045-000
S105	pix tube bias switch	06A048-000
Y701	3.58MHz crystal	09A001-000
PW200	printed sound circuit	14B035-000
PW300	printed pix assem	14B036-000
PW500	printed deflection circuit	14B037-000
PW700	printed chroma circuit	14B081-000
PW800	printed convergence circuit	14B080-000

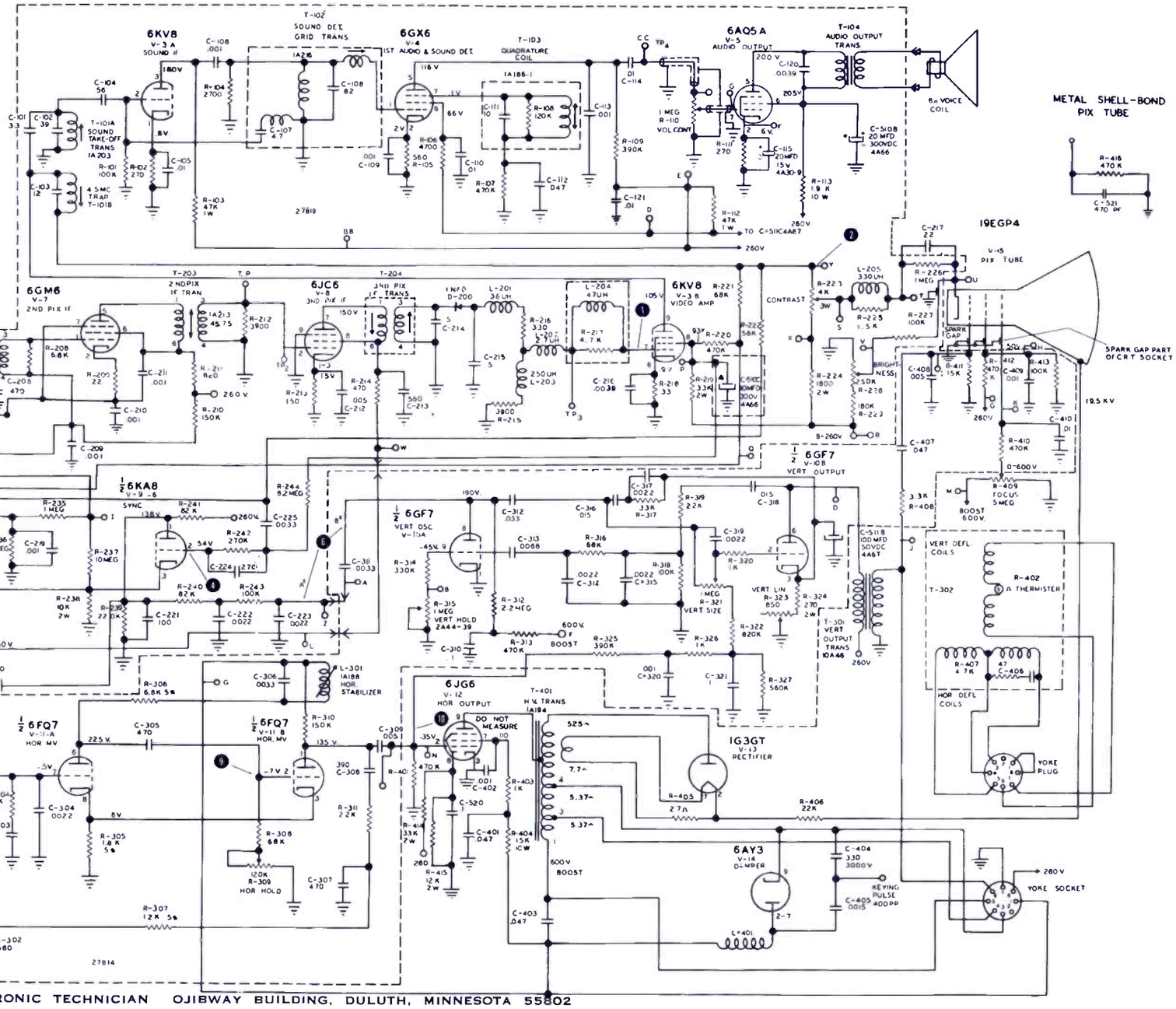
CURTIS MATHES
TV Chassis TV-19-1

Symbol	Description	Curtis Mathes Part No.
C104	56 cer-5% NPO 500v	5A51-46
C115	20 μf Elect. 15v	4A30-9
C119	39 cer-5%-NPO 500v	5A68-21
C200	11 cer-5%-NPO 1000v	5A51-60
C201	47 cer-5%	Pt of 1A214 (T-200)
C208	470 cer-5%-N750 500v	5A51-22
C213	560 cer-5%-N1500 500v	5A51-5
C214	5 cer-5%-NPO 1000v	5A51-63
C215	5 cer-5%-NPO 500v	5A51-63
C220	56 cer-5%-NPO 500v	5A51-46
C305	470 Silver mica-5% 300v	
C307	470 cer-5%-N750 500v	5A51-22
C402	.001 cer-GMV-Z5U 500v	5A68-58
C404	330 cer-10%-N1500 3000v	5A68-46
C603	150 μf Elect. 200v	4A42
C604	100 μf Elect. 200v	4A66
C605	90 μf Elect. 300v	4A67
R110	1M-Pot-volume control	2A89
R113	1.9k-film-10% 10w	8A40
R114	3750 wire-10% 5w	8A105
R219	33k film-10% 2w	8A96
R223	4k Pot-contrast control	8A52-10
R224	1.8k film-10% 2w	8A93
R228	250k Pot-brightness control	2A44-40
R245	4.7k film-10% 3w	8A95
R309	120 k Pot-horizontal hold control	2A44-36
R315	1M Pot-vertical hold control	2A44-39
R321	1M Pot-vertical size control	2A44-35
R323	850 Pot-vertical lin. control	2A44-29
R328	120k Pot-AGC control	2A44-36
R404	15k Wire-5% 10w	8A39
R409	5M Pot-focus control	2A44-41
R414	33k film-10% 2w	8A96
R601	Circuit breaker	6A46-1
T103	Quadrature coil	1A186-1
T104	Audio output xformer	10A48
T202	1st IF xformer	1A212
T203	2nd IF xformer	1A213
T204	3rd IF xformer	1A202
T301	Vertical output xformer	10A46
T401	Horizontal output xformer	1A194
T302	Deflection yoke	1A210
J600	Power xformer	12A56
D200	Diode	1N60
D300	Dual diode	21A2
D600	Silicon rectifier	V442
D601	Silicon rectifier	V442
	VHF tuner	7A29
	UHF tuner	7A35

Schematic Reference	Type
V-1	6GK5 RF Amplifier
V-2	6CG8 Mixer--Oscillator
V-3	6KV8
V-4	6GX6
V-5	6AQ5
V-6	6BZ6
V-7	6GM6
V-8	6JC6
V-9	6KA8
V-10	6GF7
V-11	6FQ7
V-12	6JG6
V-13	1G3GT
V-14	6AY3
V-15	19EGP4



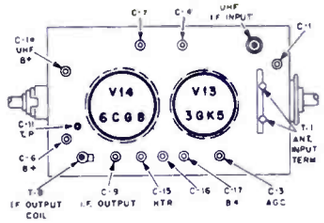




DUMONT
TV Chassis 120780, 783, 810

SYMBOL NO.	TUBE TYPE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN *2
V-1	6LN8	*33K	10K	*8.2K	(FILAMENT)		*8.2K	220	0	2.7M			
V-2	4DT6A	10	470	(FILAMENT)		1.4M	*3.3K	470K	–	–			
V-3	17CS/17CU5	180	20 to 1M	(FILAMENT)		20 to 1M	*470	*600	–	–			
V-4	4EH7	142	100K	142	(FILAMENT)		0	*470	*470	0			
V-5	4EJ7	100	0	100	(FILAMENT)		0	*220	*220	0			
V-6	8AWBA	0	500K to 2M	5M to 6.2M	(FILAMENT)		15	90	*2.2K	*4.4K			
V-7	C.R.T.	(FIL)	3.4K	440K	0	–	–	90K to 300K	(FIL)	–			
V-8	6LX8	205K	320K	0	(FILAMENT)		*22K	2.2K	5 to 32K	33K			
V-9	21KA6	(FIL)	–	*1.1K	10K	560K	–	–	–	–	0	–	(FIL)
V-10	1K3	–	INF.	–	INF.	–	–	INF.	–	(CAP) 800K			
V-11	20AQ3	–	–	–	(FILAMENT)		–	–	–	*0	(CAP) 800K		
V-12	10CW5	–	2.2M to 2.7M	22	(FILAMENT)		–	250	–	*0			

NOTES: All resistance readings are in ohms, unless otherwise specified.
"K" denotes kilohms, "M" denotes megohms.
*Indicates measurements taken with common lead of meter connected to junction of L-15 and C-60B (B+ point).



CONDITIONS FOR CHASSIS READINGS

VOLTAGES AND WAVESHAPES were taken under actual operating conditions, with normal picture and sound being received. AGC voltage developed on the I-F AGC line (test point C) was minus nine volts. Input voltage to chassis under test was 120 volts, 60-cycle AC. Frequencies indicated for the waveshapes shown are approximate sweep settings for the oscilloscope being used (one-half actual frequency of signal being measured).

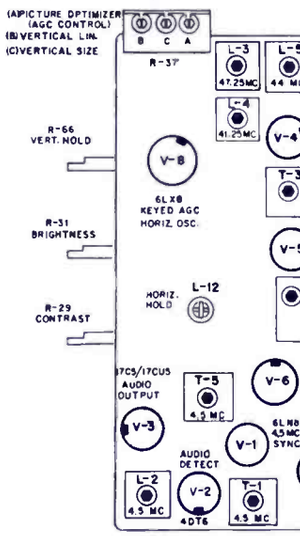
RESISTANCE MEASUREMENTS were taken with no power. Where readings are effected by control settings, both maximum and minimum values are shown.

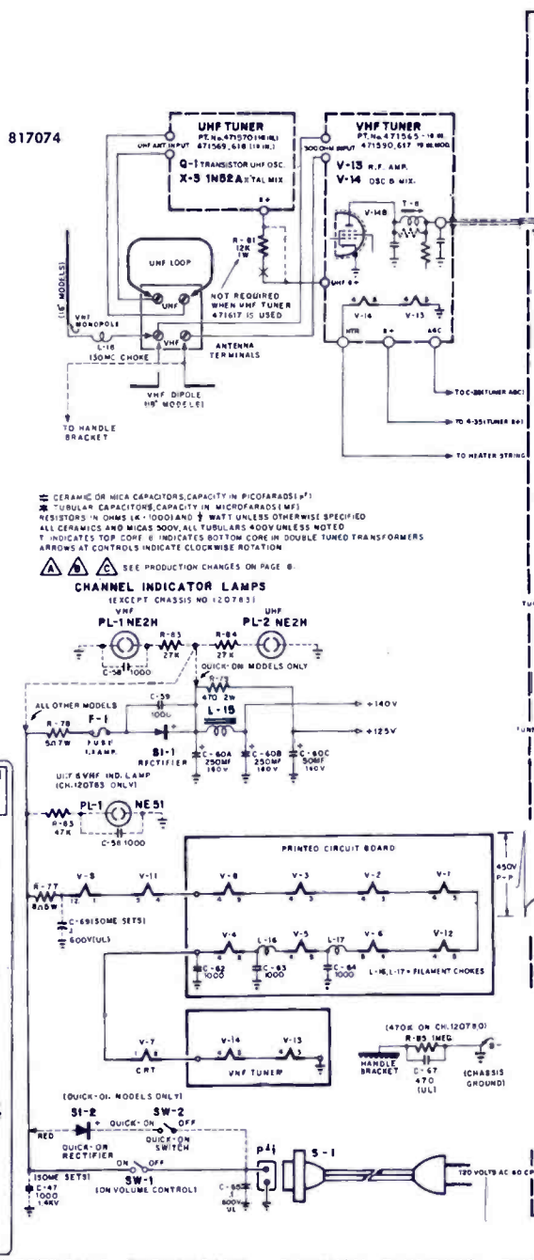
ALL MEASUREMENTS were taken between points indicated and chassis ground (unless otherwise noted), using an RCA Voltohmyst or equivalent VTVM. A low-capacity probe was used for all waveshapes shown in the schematic diagram. All readings obtained may vary ±10% due to normal component tolerances and strength of input signal to chassis under test.

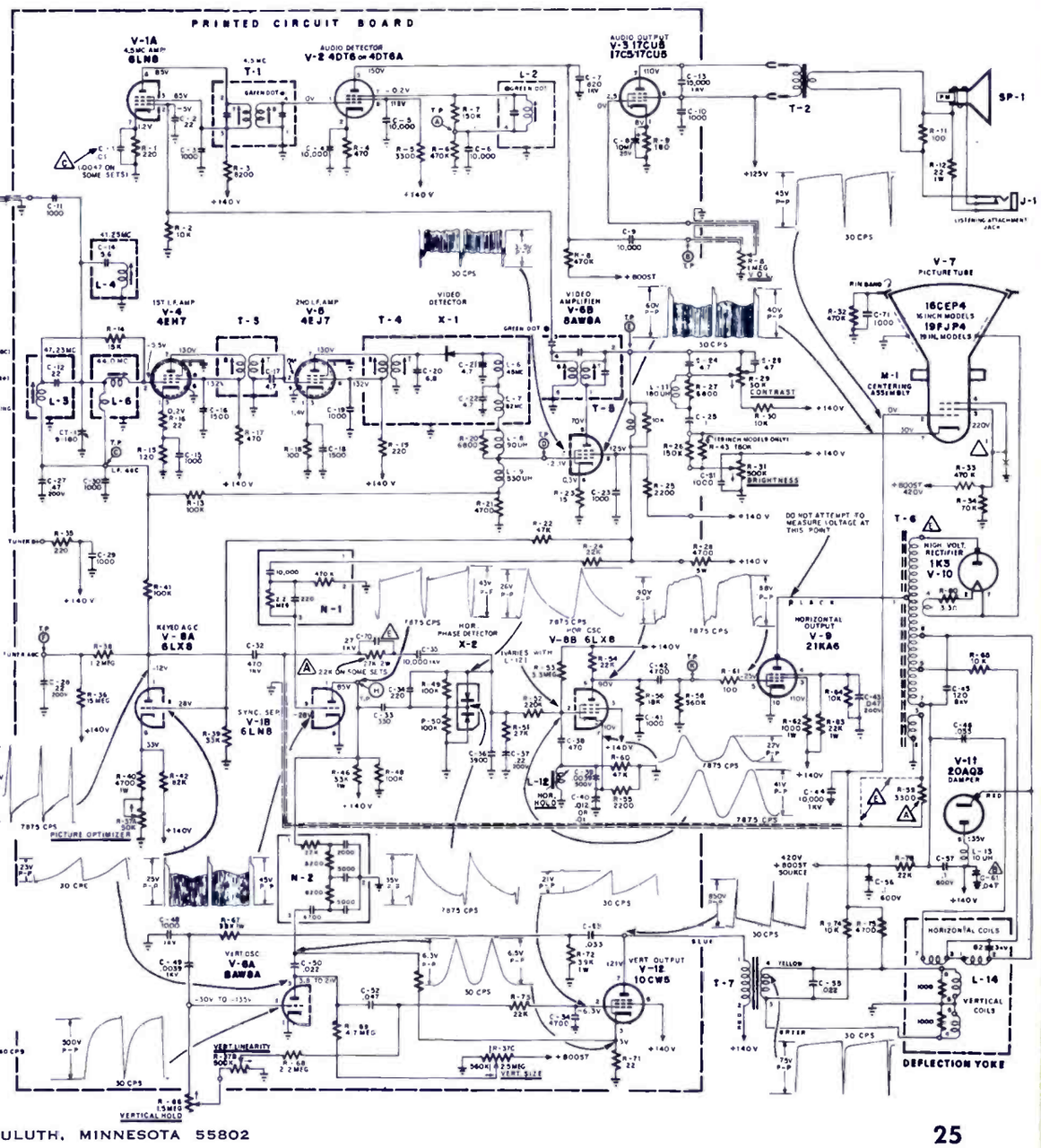
MODEL – CHASSIS CROSS-REFERENCE

MODEL NO.	MODEL NAME	CABINET STYLE	TV CHASSIS	VHF TUNER	UHF TUNER	C.R.T.
46P01	LARK	PORTABLE	120780A	471565	471570	16CEP4
46P02	ROBIN					
49P03	MARINER		120783A	471590	471569	19FJP4
49P06	SURVEYOR		120810A	471617	471618	

Symbol	Description	Dumont Part No.
R10	Volume control - 1 M (Ch. 120780)	390814
	Volume control - 1 M (Ch. 120783)	390833
	Volume control - 1 M (Ch. 120810)	390877
R28	resistor - 4.7K ±10% WW 5 w	397158
R29	contrast control - 30K	390747
R31	brightness control - 500K	390748
R37A, B, C	control - triple - pict. opt. 50K, vertical lin. 500K vertical size 2.5 M	390740
R66	vertical hold control - 1.5 M	390749
R77	resistor - 8 Ω ±10% WW 5 w	394284
R78	resistor - 5 Ω ±10% WW 7 w	394216
C4, 6	Ceramic - 10,000 pf - GMV 500 v	928924X
C8	electrolytic - 10 μfd at 25 v	925458
C13	ceramic - 15,000 pf ±20% 1Kv	929028K
C32	ceramic - 470 pf ±10% 1Kv	928934K
C35, 44	ceramic - 10,000 pf ±20% 1Kv	929023K
C45	ceramic - 120 pf ±10% - 5Kv	929037
C47	ceramic - 1000 pf GMV 1.4Kv	929000
C48	ceramic - 1000 pf ±10% 1Kv	929024K
C49	molded - .0039 μfd ±10% 1Kv	924832M
C62, 63, 64	ceramic - 1000 pf - GMV - 500 v	928933X
C67	ceramic - 470 pf - GMV - 1.6Kv	929026
C70	ceramic - 27 pf N1500 - 1Kv	929157
N1	couplate - sync separator	923059
N2	couplate - vertical integrator	923159
L2	sound quadrature coil - 4.5 Mc	720404
L12	horizontal oscillator coil (hold control)	716151
L13	Choke - 10 μh - Damper Plate	705021
L14	Deflection Yoke Assembly	708415
L15	Filter Choke - Power Supply	737048
L16-17	filament choke	705031
T1	sound interstage transformer 4.5 Mc	720513
T3	IF transformer - interstage	720454
T4	IF transformer - video detector	720455
T5	sound take-off transformer - 4.5 Mc	720512
T6	horizontal output transformer (or)	738192
T6	horizontal output transformer	738206
T7	vertical output transformer	738193
Q1	transistor - UHF oscillator (part of UHF tuner)	
X1	diode-video detector - 1N295	817077
X2	dual diode-horizontal phase detector	817074
X3	diode-crystal mixer (Part of UHF Tuner)	



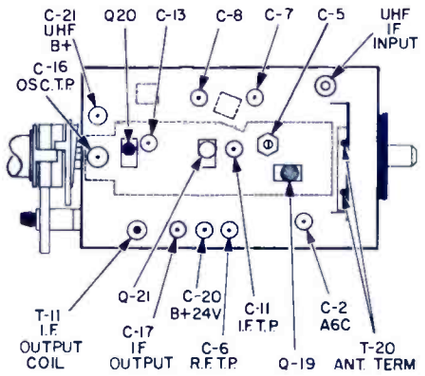


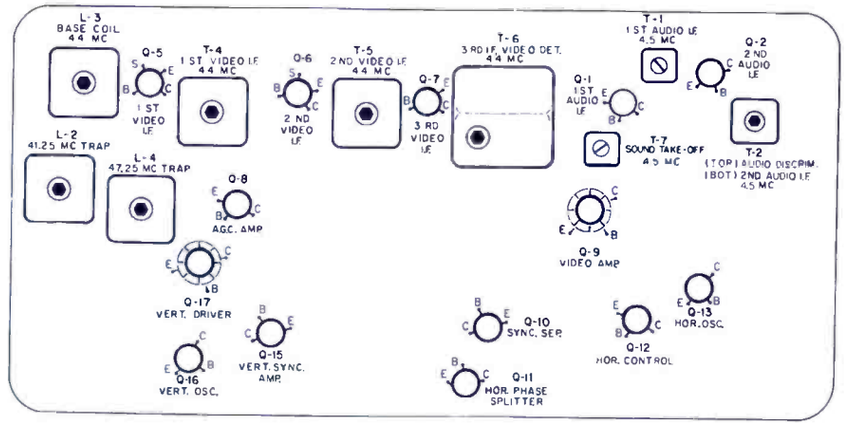


EMERSON

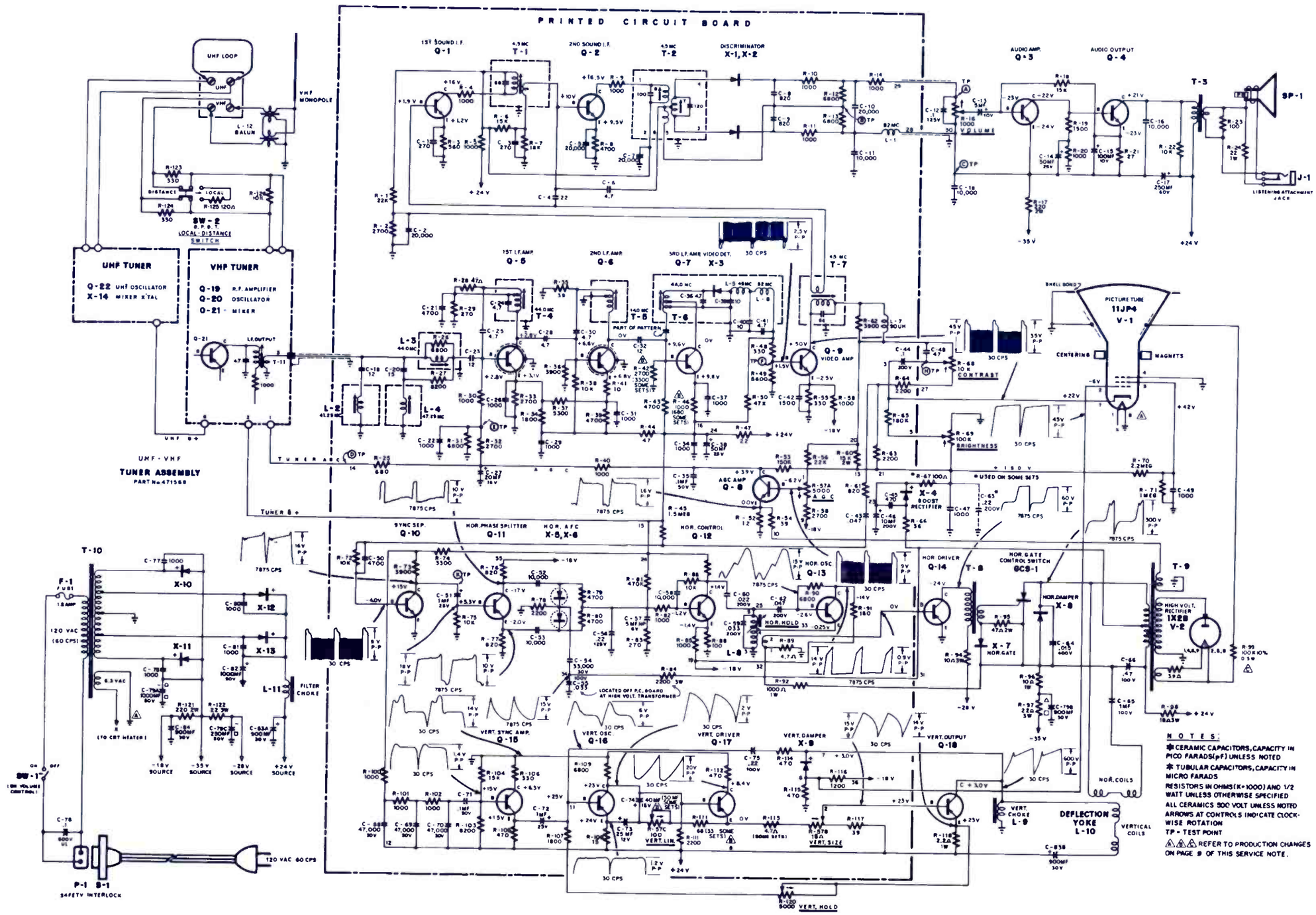
TV Chassis 120771

ELECTRONIC TECHNICIAN TEKFAX





Symbol	Description	Emerson Part No.
R16	Control-Volume-w/switch 1k	390843
R57A, B, C	Control (Triple)-AGC 5k v size 15Ω v. lin. 100	390841
R59	Resistor-1k ½ w ±5%	330492
R68, 69	Control (Dual)-Contrast 10k (Rear), Brt. 100k (Front)	390842
R120	Control-Vertical Hold-5k	390844
C13	Electrolytic-5μfd-10v	925597
C14	Electrolytic-50 μfd-25v	925605
C15	Electrolytic-100 μfd-10v	925607
C17	Electrolytic-250 μfd-10v	925610
C-35, 62, 71	Ceramic-0.1 μfd GMV-30v	928752k
C27	Electrolytic-20 μfd-15v	925611
C38	Electrolytic-50 μfd-25v	925605
C46	Electrolytic-10 μfd-200v	925613
C57	Electrolytic-5 μfd-6v non-polarized	925619
C73	Electrolytic-25 μfd-15v	925640
C74	Electrolytic-40 μfd-10v	925639
C79	Electrolytic-1000+900 +250 μfd-50v	925608A
C82	Electrolytic-1000 μfd-50v	925609
C83	Electrolytic-900+900 μfd-30v	925612
C84	Electrolytic-900 μfd-25v	925623
T1	Transformer-Audio I-F	720497
T2	Coil-Audio Discriminator	720498
T3	Transformer-Audio Output	734231
T4	Transformer-1st Video I-F	720499
T5	Transformer-2nd Video I-F	720503
T6	Transformer-3rd Video I-F	720501
T7	Transformer-Sound Take-Off	720511
T8	Transformer-Horizontal Drive	720502
T9	Transformer-High Voltage	738200A
T10	Transformer-Power	730123B
Q1, 2	Transistor 1st & 2nd Audio I-F NPN	815146
Q3	Transistor-1st Audio NPN	815147
Q4	Transistor-Audio Output NPN	815148
Q5, 6	Transistor-1st & 2nd Video I-F PNP	815141
Q7	Transistor-3rd Video I-F PNP	815142
Q8	Transistor-AGC Amplifier NPN	815144
Q9	Transistor-Video Amplifier NPN	815143
Q10	Transistor-Sync Separator NPN	815149
Q11	Transistor-Horiz. Phase Splitter PNP	815150
Q12	Transistor-Horizontal Reactance NPN	815154
Q13	Transistor-Horiz. Oscillator PNP	815155
Q14	Transistor-Horiz. Driver PNP	815156
Q15	Transistor-Vert. Sync Amplifier PNP	815150
Q16	Transistor-Vert. Oscillator PNP	815151
Q17	Transistor-Vertical Amplifier PNP	815152
Q18	Transistor-Vertical Output PNP	815153
GCS1	Gate Controlled Switch	815157
X1, 2, 3	Diode-1N295-Video Detector	817077
X4	Diode-Video Supply Rectifier	817142
X5, 6	Diode-Horizontal AFC	817139
X7	Diode-Horizontal Gate	817140
X8	Diode-Horizontal Damper	817141
X9	Diode-Vertical Damper	817138
X10, 11 12, 13	Diode-Power Supply Rectifier	817143
V2	Vacuum Tube-1X2B-High Volt. Rectif.	800095
V1	CRT-11JP4	810100



NOTES:

✱ CERAMIC CAPACITORS, CAPACITY IN PICO FARADS (pF) UNLESS NOTED

✱ TUBULAR CAPACITORS, CAPACITY IN MICRO FARADS

RESISTORS IN OHMS (K=1000) AND 1/2 WATT UNLESS OTHERWISE SPECIFIED

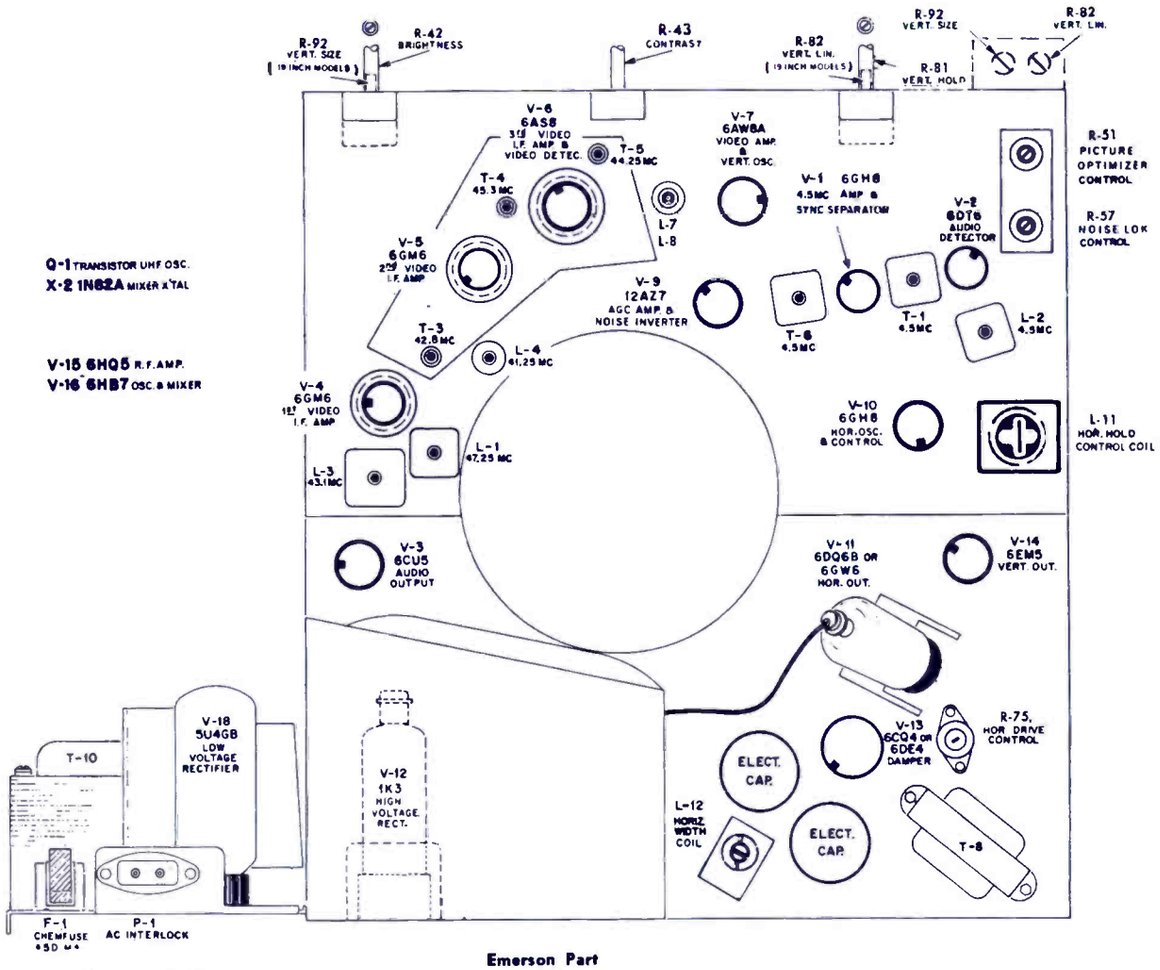
ALL CERAMICS 500 VOLT UNLESS NOTED

ARROWS AT CONTROLS INDICATE CLOCKWISE ROTATION

TP = TEST POINT

⚠ ⚠ ⚠ REFER TO PRODUCTION CHANGES ON PAGE 9 OF THIS SERVICE NOTE.

EMERSON
TV Chassis 120758, 759, 760

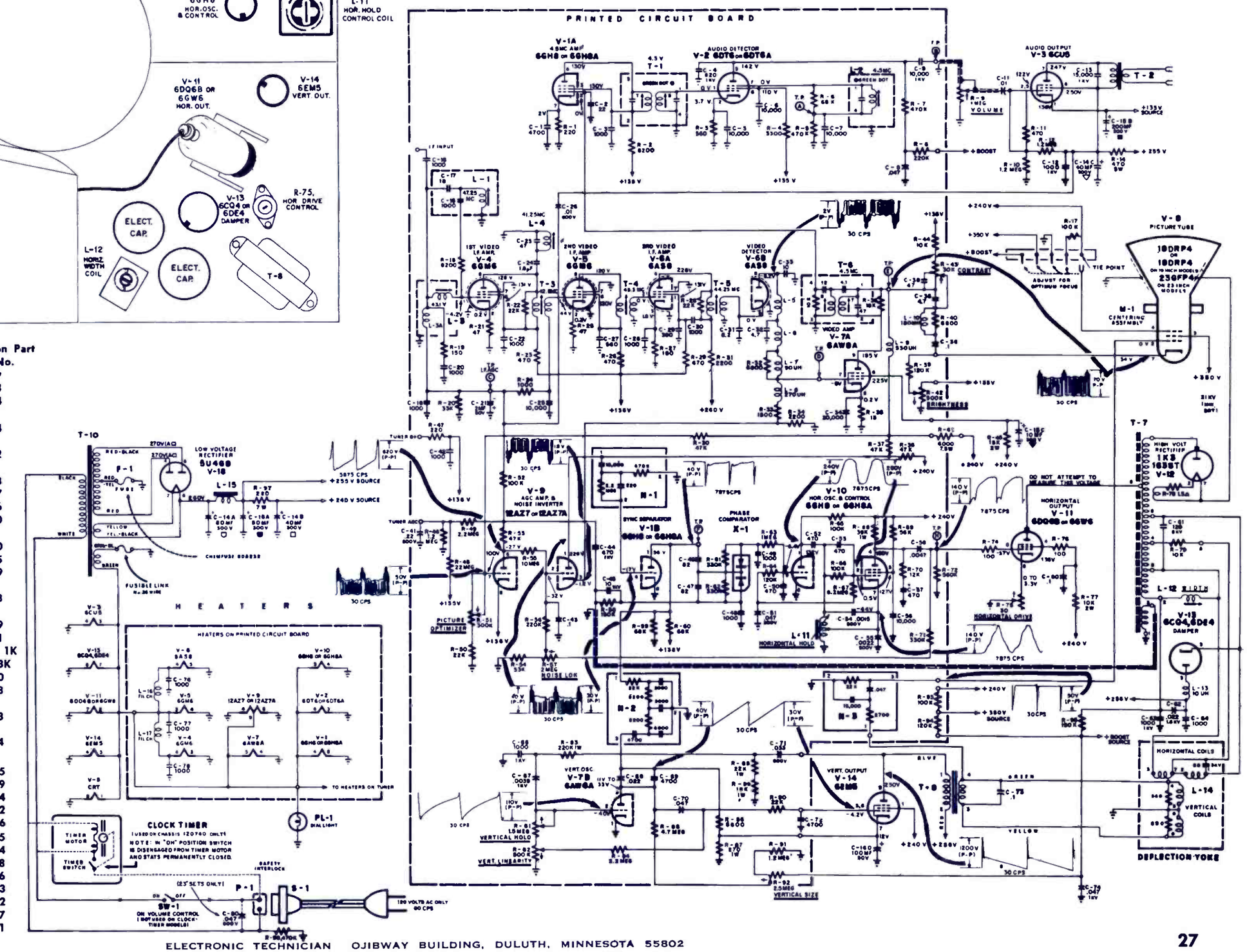


Q-1 TRANSISTOR UHF OSC.
X-2 1N82A MIXER X'TAL

V-15 6HQ5 R.F. AMP.
V-16 6HB7 OSC. & MIXER

T-1	Sound Interstage Transformer	720486
T-2	Audio Output Transformer	734221
T-6	Sound Take-off coil & 4.5 Mc Trap	720447
T-7	Horizontal Output Transformer	738191
T-8	Vertical Output Transformer	738189
T-10	Power Transformer	730114

Symbol	Description	Emerson Part No.
R-14	Resistor-470 Ω 10% 5w	397149
R-41	Resistor-6,000 Ω 10% 7½w	394243
R-97	Resistor-220 Ω 10% 7w	394234
R-9	Control-Vol-1 MΩ with Sw (Ch. 120758, 759)	390804
R-9	Control-Vol-1 MΩ less Sw (Ch 120760)	390802
R-42, 92	Control-Dual Brgt. & Vert. Size (19" Sets)	390628
R-42	Control-Brgt. (23" Sets)	390837
R-43	Control-Contrast (19" Sets)	390706
R-43	Control-Contrast-30,000 Ω (23" Sets)	390840
R-51, 57	Control-Dual Picture Optimizer Noise-Lok	390740
R-75	Control-Horizontal Drive- 30 Ω 2w	390625
R-81, 82	Control-Dual-Vert. Hold & Lin.	390629
R-81	Control-Vert. Hold (23" Sets) (19" Sets)	390838
R-82, 92	Control-Dual-Vert. Lin. & Size (23" Sets)	390839
C-T	Capacitor-Ceramic-39 pf 500v	928931
C-4	Capacitor-Ceramic-820 pf 1Kv	92905 1K
C-9	Capacitor-Ceramic-10,000 pf 1Kv	929023K
C-12	Capacitor-Ceramic-1,000 pf 1Kv	929000
C-13	Capacitor-Ceramic-15,000 pf 1 Kv	929028
C-14	Capacitor-Electro. —80+40+40 μf @ 300 v, plus 100 uf @ 50 v	925513
C-15	Capacitor-Electro. —80+10 μf @ 300v plus 200 @ 200 v	925514
N-1	Couplate-Sync Separator	923175
N-2	Couplate-Vertical Intergrator	923159
N-3	Couplate-Vertical Retrace Suppression	923174
L-3A	RF Choke - 45 Mc (IF Input)	705042
L-7	Peaking Coil - 90 μh	708406
L-8	Peaking Coil - 270 μh	708405
L-9	Peaking Coil - 530 μh	708404
L-11	Horizontal Oscillator Coil	716148
L-12	Width Coil	708416
L-14	Deflection Yoke Assembly (19" Sets)	708403
L-14	Deflection Yoke Assembly (23" Sets)	708402
L-15	Filter Choke - B+ Rectifier	737047
L-16, 17	RF Choke - Filament	705031



EMERSON
Color
120814-A

PC-2
VIDEO AND SOUND BOARD

VOLTAGE MEASUREMENTS

ALL MEASUREMENTS WERE MADE WITH COLOR SIGNAL AT ANTENNA TERMINALS.
ASTERISK (*) INDICATES MEASUREMENT MADE WITH CROSS HATCH SIGNAL (NO COLOR). **V204 PIN 2 DEPENDS UPON BRIGHTNESS CONTROL SETTING.

UNLESS OTHERWISE SPECIFIED
‡ CERAMIC OR MICA CAPACITORS, CAPACITY IN PICOFARADS (pF).
‡ TUBULAR CAPACITORS, CAPACITY IN MICROFARADS (MF).
ALL CERAMICS AND MICAS 500V, ALL TUBULARS 400V
RESISTORS IN OHMS (K=1000) AND 1/2 WATT
ARROWS AT CONTROLS INDICATE CLOCKWISE ROTATION
T - TOP CORE, B - BOTTOM CORE IN DOUBLE TUNED TRANS.

T-201 SOUND TAKE-OFF
SOUND I.F. AMP V-201 6EW6
T-202 SOUND I.F.
SOUND DEMOD. V-202 6HZ6
T-203 SOUND DET. TRANS.
AUDIO OUTPUT V-203 6AQ5A
AUDIO OUTPUT TRANS T-101
TO SPEAKER(S) AS REQ'D
(SW-1 ON AM-FM STEREO TUNER)
R-101 1MEG VOLUME
R-102 2.5MEG TONE
TO PC-3, PIN 25

1ST VIDEO I.F. AMP V-205 6JH6
T-205 1ST VIDEO I.F.
2ND VIDEO I.F. AMP V-206 6GM6
T-206 2ND VIDEO I.F.
3RD VIDEO I.F. AMP V-207 6EJ7
T-207 3RD VIDEO I.F.
VIDEO DET. X-202
SOUND DET. X-201
L-209 4.5MC TRAP
1ST & 2ND VIDEO AMP V-208 6LF8 or 6AW8A
DL-201 DELAY LINE
3RD VIDEO AMP V-204 12BY7A
I.F. INPUT T-204

UNIT DOT O1
R-271 6800 2W BLUE DRIVE
R-272A 6000 GREEN DRIVE
R-272B 6000
R-273 39K 4W
TO H.T. RS ON PC-2
TO Y ON T-105
T-102 HORIZONTAL OUTPUT TRANS
HOR. OUTPUT V-101 6JE6
HV RECTIFIER V-102 3A3
DAMPER V-103 6DW4A(B)
FOCUS RECT. SE-102
FOCUS ADJ. TRANS T-103
CONTRAST R-107 3K8
BRIGHTNESS R-106 250K
SW-202 SERVICE SWITCH
SW-201 VIDEO PEAKING SW
TO PC-3 PIN 22
TO PC-3, PIN 23

UHF TUNER
VHF TUNER
Q-1 TRANSISTOR UHF OSC
X-3 TUNING CRYSTAL
V-106 6HQ5 R.F. AMP
V-107 6BX7 OSC. & MIX.
TUN. AGC
TO Y ON T-105
+140V (TO PC-2, PIN 57)
+270V (TO PC-2, PIN 48)

KEYED AGC & NOISE INV. V-209A 6KA8
SYNC AMP V-209B 6KA8
R-264 6K 2W AGC
TO PC-3 PIN 18

TO SW-1 ON AM-FM TUNER (120VAC, 60 CPS)
SW-101 ON-OFF SWITCH (ON VOLUME CONT.)
CB-101 CIRCUIT BREAKER
T-106 POWER TRANS
RV-102 RV-103 DEGAUSSING COIL
P-101 S-101 SAFETY INTERLOCK
FUSE WIRE FL-101 FL-102
HEATERS
+420V SOURCE +405V SOURCE +270V SOURCE +140V SOURCE
120 VAC 60 CPS

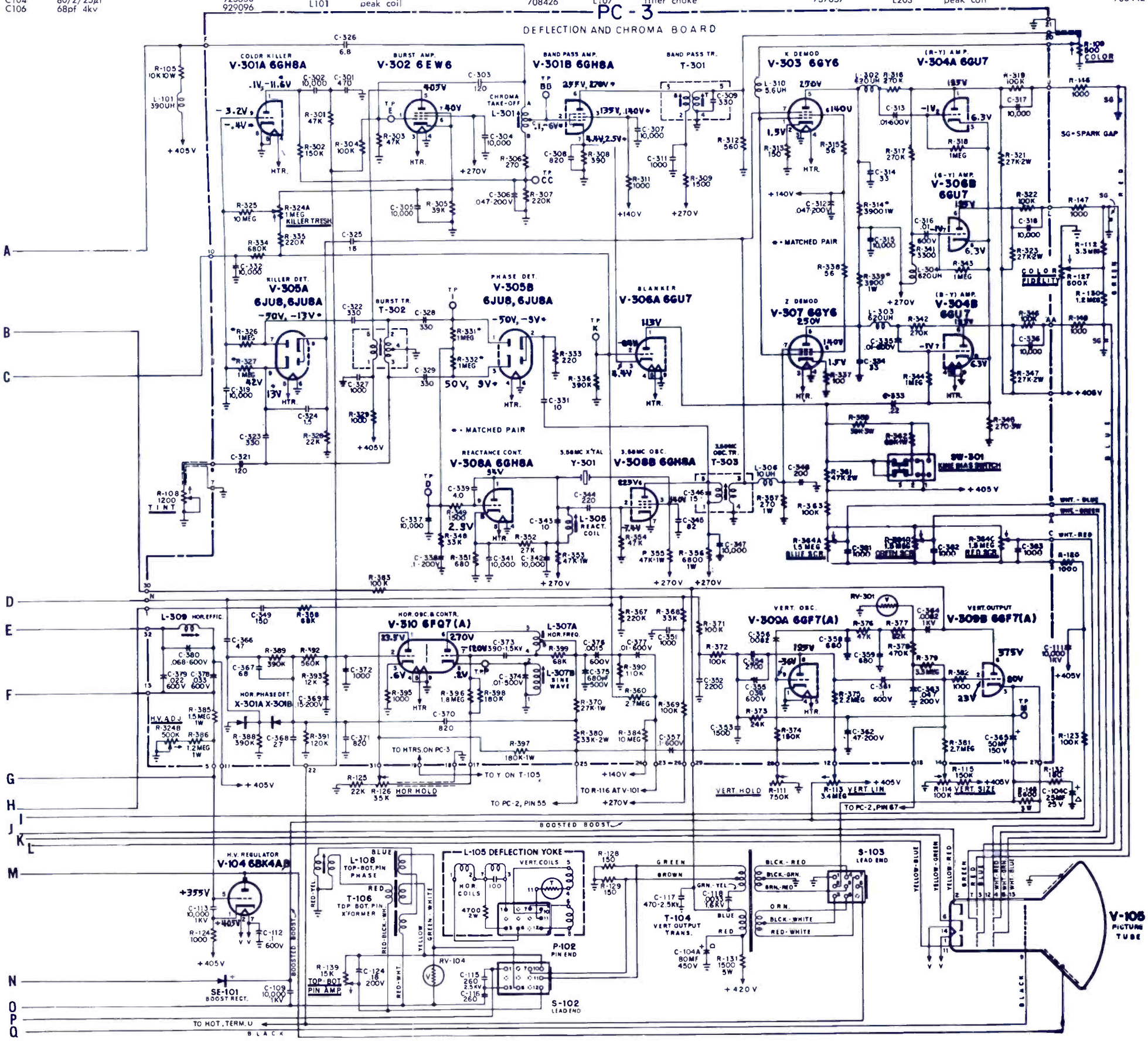
L-109 CONV. YOKE
BLUE RED GREEN
HOR. BLUE SHAPE L-803
T-801 RIGHT BLUE HOR. LINES
L-801 RIGHT R-G VERT. LINES
L-802 RIGHT R-G HOR. LINES
R-G VERT TOP LINES
R-G HOR BOT LINES
P-103 PIN END

PC-8
CONVERGENCE BOARD

SYMBOL	DESCRIPTION	EMERSON PART NO.
C102	160/30/20/40µf	925585
C103	80/50/20/50µf	925586
C104	80/2/25µf	925650
C106	68pf 4kv	929096
C108	130pf 6kv	929094
C118	003µf 1.6kv	927028M
CB101	circuit breaker	808022
DL201	delay line	709008
L101	peak coil	708426
L103	RF choke	705047
L104	RF choke	705047
L105	deflection yoke	708476
L106	degaussing coil	708473
L107	filter choke	737057
L108	pincushion phase coil	708464
L109	convergence yoke assembly	471629
L201	RF choke	705047
L202	peak coil	7C8425
L203	peak coil	708442

PC - 3

DEFLECTION AND CHROMA BOARD



L204	peak coil	708443
L205	47.25MHz trap	708427
L206	peak coil	708428
L207	RF choke	705047
L208	peak coil	708428
L209	4.5MHz trap	708432
L211	peak coil	708429
L301	chroma take-off coil	708438
L305	reactance coil	708439
L307	horiz osc coils	708434
L309	horiz efficiency coil	708462
L801	right red-grn vert lines coil	708436
L802	right red-grn horiz lines coil	708437
L803	horiz blue shape coil	708468
R104	4.3K 5w 10%	394256
R105	10K 10w 10%	394260
R118	13K 7w 10%	394255
R121	66M 4w 6kv	39176A
R136	1K 5w 10%	39274
R137	1.1K 20w 10%	394276
R138	1K 10w 10%	394275
R139	top-bot pincushion control 15K	390858
R141	8.2K 5w 10%	394273
RV102	thermistor	397187
RV103	volt dep resistor	397186
RV104	volt dep resistor	397191
R212	adj sound control 10K K	390789
R231	snd rej control 750Ω	390883
R264	AGC control 6K	390882
R272	blue-grn drive control 6K-6K	390881
R324	killer HV control 1M 500K	390880
R364	blue-grn red screen control 1.5M (3)	390879
RV301	varistor	397171
R801	left blue horiz line control 60Ω	390859
R804	left-red grn vert line control 150Ω	390795
R805	left-red grn horiz line control 120Ω	390792
R808	vert blue amp control 60Ω	390793
R811	red-grn vert bot lines control 150Ω	390795
R812	red-grn horiz bot lines control 500Ω	390860
R813	red-grn horiz top lines control 120Ω	390792
R814	red-grn vert top lines control 60Ω	390793
R815	vert blue tilt control 60Ω	390793
SE101	selenium rect (by boost)	817124
SE102	selenium rect (focus)	817123
SI101	silicon rect (power suppiy)	817122
SI102	silicon rect (power suppiy)	817122
SE801	silicon rect (4 section)	817149
SW101	on-off switch	part of R101
SW201	video peaking switch	510234
SW202	serv switch	510235
SW301	kine bias switch	510234
T101	audio out trans	734223
T103	focus adj trans	708461
T104	vert out trans	738207
T105	power trans	730129
T106	top-bot pincushion trans	738209
T201	snd take-off trans	720469
T202	snd IF trans	720471
T203	snd quad rtans	720472
T204	IF input trans	720474
T205	1st video IF trans	720514
T206	2nd video IF trans	720476
T207	3rd video IF trans	720518
T208	video peaking trans	708474
T301	bandpass trans	720515
T302	burst trans	720516
T303	3.58MHz osc trans	720517
T801	right blue horiz lines trans	708456
X201	crystal diode (snd det)	817125
X202	crystal diode (video det)	817125
X301	horiz phase det	817126
Y301	3.58MHz crystal	817147
R101	vol control 1M (120814) (120835)	390876
R102	tone control 2.5M (120814)	390869
R106	brightness control 250K (120814)	390871
R107	contrast control 368Ω (120814)	390868
R108	tint control 1.2K (120814)	390872
R109	color control 500Ω (120814)	390870
R111	vert hold control 750K (120814)	390866
R113	vert lin control 3.4M (120814)	390873
R114	vert size control 100K (120814)	part of R106
R126	horiz hold control 35K (120814)	390867
T102	horiz out xformer (120814)	738213
	anode lead assem	440128
R101	vol control 1M (120822)	390854
R102	tone control 2.5M (120822)	390849
R106	brightness control 250K (120822) (120835) (120844)	390852
R107	contrast control 368Ω (120822	390847
R108	tint control 1.2K (120822) (120835)	390853
R109	color control 500Ω (120822) (120835)	390851
R111	vert hold control 750K (120822)	390848
R113	vert lin control 3.4M (120822)	390908
R114	vert size control 100K (120822)	390785
R126	horiz hold control 35K (120822)	390850
R127	color fidelity control 500K (120822)	390900
T102	horiz out trans w/horiz centering control (120822) (120835) (120844)	738214
R102	tone control 2.5M (120835) (120844)	390907
R111	vert hold control 750K (120835)	390906

EMERSON
TV Chassis
120779, 780, 781,
782, 783, 784, 785

ELECTRONIC TECHNICIAN TEKFAX

UHF TUNER REPLACEMENT INFORMATION

UHF tuner 471569 is supplied with gear and lever assembly nylon gear and front bracket. UHF tuners 471566 and 471570 are supplied with gear and lever assembly, tuning shaft assembly and front bracket. Therefore, if returning one of these units for service or replacement, it should be shipped complete with I-F output cable and all of the aforementioned items. Only the antenna lead-in wire should be removed.

Symbol	Description	Emerson Part No.
R10	volume control 1M (Except Ch. 120783, 784, 785	390814
	volume control 1M (Chassis 120783, 120785)	390833
	volume control 1M (Chassis 120784 only)	390834
R28	resistor 4.7K ±10% wire-wound 5w	397158
R29	contrast control 30K	390747
R31	brightness control 500K	390748
R37A, B, C	control-triple-pict. opt. 50K vertical Lin. 500K vertical size 2.5M	390750
R66	vertical hold control 1.5M	390749
R77	resistor 8Ω±10% wirewound 5w	394284
R78	resistor 5Ω±10% wirewound 7w	394216
C4, 6	ceramic 10,000 pf GMV 500v	928924X
C8	electrolytic 10 μfd at 25v	925458
C10, 31	ceramic 1000 pf GMV 500v	928933
C12	ceramic 22pf NPO ±10% 500v	928824X
C13	ceramic 15,000 pf ±20% 1kv	929028k
C14	ceramic 5.6 pf NPO ±10% 500v	928817X
C20	ceramic 6.8 pf NPO ±10% 500v	928818X
C32	ceramic 470pf ±10% 1kv	928934K
C35,44	ceramic 10,000pf ±20% 1kv	929023K
C45	ceramic 120pf ±10% 5kv	929037
C46	mineral oil .033 μfd ±20% 400v	924534M
C47	ceramic 1000pf GMV 1.4kv (19" models only)	929000
C48	ceramic 1000pf ±10% 1kv	929024K
C49	molded .0039 μfd ±10% 1kv	924832M
C56, 57	mineral oil 0.1 μfd ±20% 600v	924715M
C58, 59	ceramic 1000 pf GMV 500v	928933
C60A, B, C	electrolytic 250+ 250 + 50 μfd at 160 v	925621
C62, 63, 64	ceramic 1000pf GMV 500v	928933X
C67	ceramic 470pf GMV 1.6kv	929026
CT1	trimmer 9 180 pf variable	900221
N1	couplate sync separator	923059
N2	couplate vertical integrator	923159
L2	sound quadrature coil 4.5 Mc	720404
L3	adjacent channel sound trap 47.25 Mc	720452
L4	self-channel sound trap 41.25 Mc	720453
L5	input IF coil 45Mc	720451
L6	choke 45 Mc video detector	705040
L7	choke 82 Mc video detector	704041
L8	peaking coil 90 μh video amp.	708406
L9, 10	peaking coil 530 μh video amp.	708404
L11	peaking coil 180μh video amp.	708401
L12	horizontal oscillator coil (hold control)	716151
L13	choke 10μh damper plate	705021
L14	deflection yoke assembly	708415
L15	filter choke power supply	737048
L16, 17	filament choke	705031
T1	sound interstage transformer 4.5 Mc	720513
T2	audio output transformer	(Part of SP-1)
T3	IF transformer interstage	720454
T4	IF transformer video detector	720455
T5	sound take-off transformer 4.5Mc	720512
T6	horizontal output transformer	738192
T7	vertical output transformer	738193
T8	IF output coil (part of tuner)	
P1	polarized interlock plug	505081
Q1	transistor UHF oscillator (part of UHF tuner)	
SI-1	silicon rectifier	817068
X1	diode video detector 1N295	817077
X2	dual diode horizontal phase detector	817074

SYMBOL NO.	TUBE TYPE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12
V-1	6LN8	*33K	10K	*8.2K	(FILAMENT)		*8.2K	220	0	2.7M			
V-2	4DT6A	10	470	(FILAMENT)		1.4M	*3.3K	470K	–	–			
V-3	17CS/17CU5	180	20 to 1M	(FILAMENT)		20 to 1M	*470	*600	–	–			
V-4	4EH7	142	100K	142	(FILAMENT)		0	*470	*470	0			
V-5	4EJ7	100	0	100	(FILAMENT)		0	*220	*220	0			
V-6	8AW8A	0	500K to 2M	5M to 6.2M	(FILAMENT)		15	90	*2.2K	*4.4K			
V-7	C.R.T.	(FIL)	3.4K	440K	0	–	–	90K to 300K	(FIL)	–			
V-8	6LX8	205K	320K	0	(FILAMENT)		*22K	2.2K	5 to 32K	33K			
V-9	21KA6	(FIL)	–	*1.1K	10K	560K	–	–	–	–	0	–	(FIL)
V-10	1K3	–	INF.	–	INF.	–	–	INF.	–	(CAP) 800K			
V-11	20AQ3	–	–	–	(FILAMENT)		–	–	–	*0	(CAP) 800K		
V-12	10CW5	–	2.2M to 2.7M	22	(FILAMENT)		–	250	–	*0			

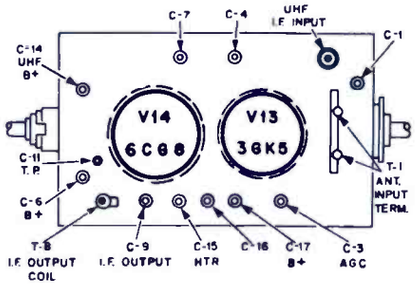
NOTES: All resistance readings are in ohms, unless otherwise specified.
"K" denotes kilohms, "M" denotes megohms.
*Indicates measurements taken with common lead of meter connected to junction of L-15 and C-60B (B+ point).

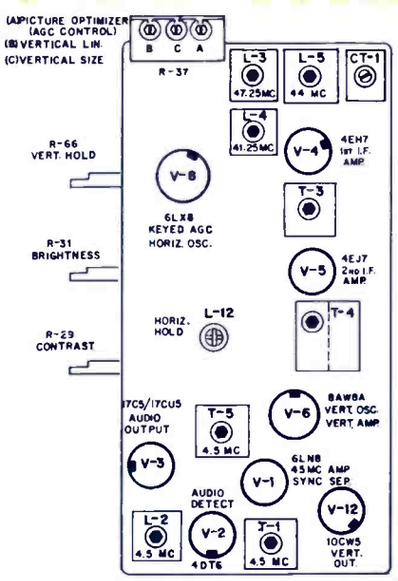
CONDITIONS FOR CHASSIS READINGS

VOLTAGES AND WAVESHAPES were taken under actual operating conditions, with normal picture and sound being received. AGC voltage developed on the I-F AGC line (test point C) was minus nine volts. Input voltage to chassis under test was 120 volts, 60-cycle AC. Frequencies indicated for the waveshapes shown are approximate sweep settings for the oscilloscope being used (one-half actual frequency of signal being measured).

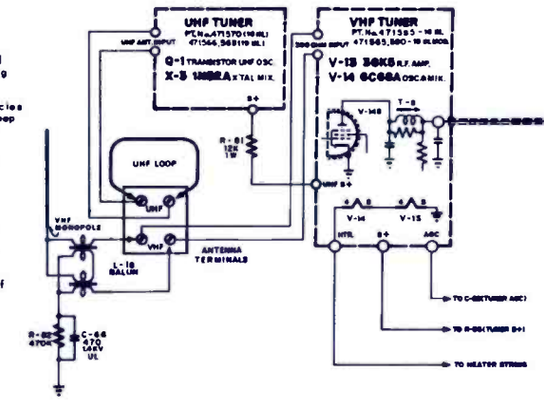
RESISTANCE MEASUREMENTS were taken with no power. Where readings are affected by control settings, both maximum and minimum values are shown.

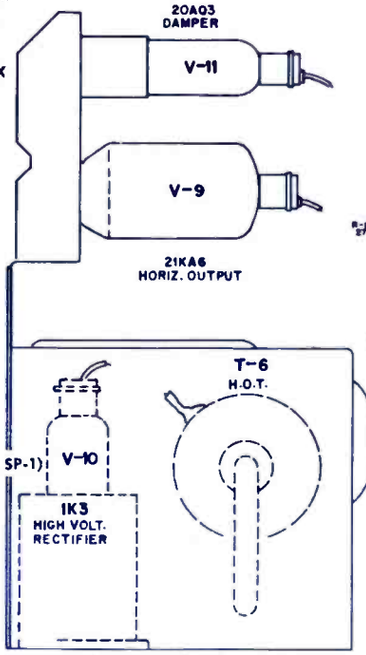
ALL MEASUREMENTS were taken between points indicated and chassis ground (unless otherwise noted), using an RCA Voltohmyst or equivalent VTVM. A low-capacity probe was used for all waveshapes shown in the schematic diagram. All readings obtained may vary ±10% due to normal component tolerances and strength of input signal to chassis under test.



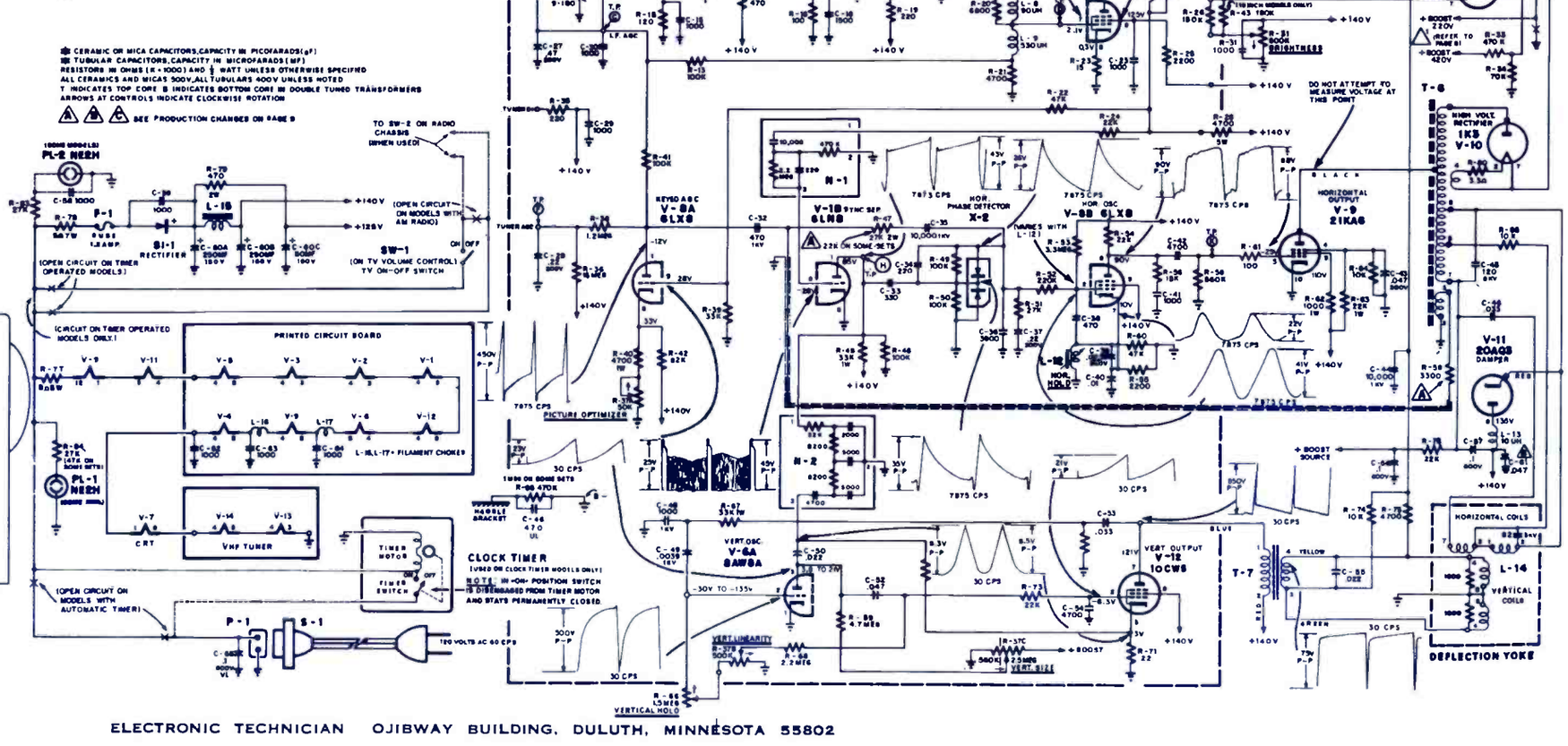


(A) PRINTED CIRCUIT CHASSIS





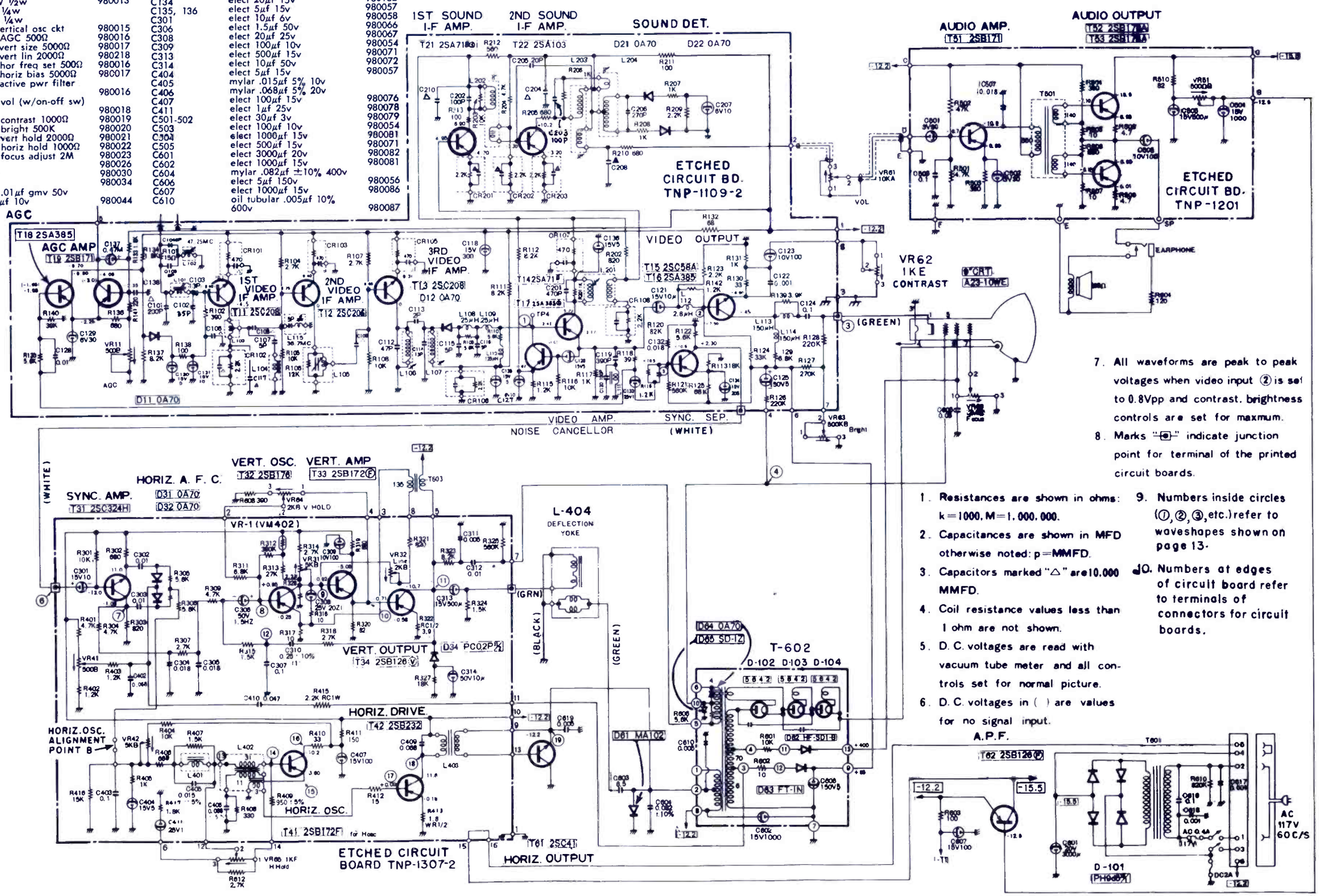
(B) HIGH VOLTAGE SECTION



EMERSON
TV Model 9P50

ELECTRONIC TECHNICIAN **TEKFAX**

Symbol	Description	Emerson Part No.
R31	3.3K 5% 1/8w	
R32	5.6K 5% 1/8w	
R33	820Ω 5% 1/8w	
R34	2.2K 5% 1/8w	
R129	6.8K 5% 1/2w	
R317	10Ω 10% 1/4w	
R413	1.8K WW 1/2w	980013
R505, 507	10Ω 5% 1/4w	
R508, 509	4.7Ω 5% 1/4w	
VR1	positor-vertical osc ckt	980015
VR11	control, AGC 500Ω	980016
VR31	control, vert size 5000Ω	980017
VR32	control, vert lin 2000Ω	980218
VR41	control, hor freq set 500Ω	980016
VR42	control, horiz bias 5000Ω	980017
VR51	control, active pwr filter 500Ω	980016
VR61	control, vol (w/on-off sw) 10,000Ω	980018
VR62	control, contrast 1000Ω	980019
VR63	control, bright 500K	980020
VR64	control, vert hold 2000Ω	980021
VR65	control, horiz hold 1000Ω	980022
VR66	control, focus adjust 2M	980023
C14	trimmer	980026
C21	trimmer	980030
C32	trimmer	980034
C106, 108, 109	ceramic .01μf gmv 50v	
C110-111	elect 30μf 10v	980044
C118	elect 300μf 15v	980049
C121	elect 10μf 15v	980052
C125	elect 5μf 150v	980056
C126	elect 5μf 15v	980057
C127	elect 10μf 6v	980058
C129	elect 30μf 6v	980060
C130	elect 5μf 15v	980057
C131	elect 10μf 15v	980052
C134	elect 20μf 15v	980152
C135, 136	elect 5μf 15v	980057
C301	elect 10μf 6v	980058
C306	elect 1.5μf 50v	980066
C308	elect 20μf 25v	980067
C309	elect 100μf 10v	980054
C313	elect 500μf 15v	980071
C314	elect 10μf 50v	980072
C404	elect 5μf 15v	980057
C405	mylar .015μf 5% 10v	
C406	mylar .068μf 5% 20v	
C407	elect 100μf 15v	980076
C411	elect 1μf 25v	980078
C501-502	elect 30μf 3v	980079
C503	elect 100μf 10v	980054
C504	elect 1000μf 15v	980081
C505	elect 500μf 15v	980071
C601	elect 3000μf 20v	980082
C602	elect 1000μf 15v	980081
C604	mylar .082μf ±10% 400v	
C606	elect 5μf 150v	980056
C607	elect 1000μf 15v	980086
C610	oil tubular .005μf 10% 600v	980087
C616	oil tubular .1μf 20% 400v	980089
C617, 618	ceramic .001μf 10% 1.4kv	
CR101, 102	CR combination .01μf plus 470Ω ±5%	980092
CR102	CR combination .01μf plus 2.2K ±5%	980093
CR105, 107	CR combination .01μf plus 470Ω ±10%	980094
CR106, 108	CR combination .01μf plus 2.2K ±10%	980095
CR201, 02, 03	CR combination .01μf plus 2.2K ±10%	980095
L10	rotor ass'y incl coil blocks	980096
L11	RF choke coil	980097
L21	converter xformer	980098
L31	RF choke coil	980097
L32	equalizer coil	980100
L101	input xformer	980101
L102	adjacent channel trap	980102
L103	interstage coupling choke	980103
L104	sound trap	980104
L105	interstage coupling choke	980105
L106	video det xformer (primary)	980106
L107	video det xformer (secondary)	980107
L108, 109	peaking coil 25 microhenries	980108
L115	trap coil 36.7Mc	980113
L201	sound IF pickup coil	980114
L202	sound IF interstage coupler	980115
L203	ratio det coil (primary)	980116
L204	ratio det coil (secondary)	980117
L401	horiz Afc xformer	980118
L402	horiz osc xformer	980119
L403	horiz drive xformer	980120
L404	deflection yoke assembly	980121
T501	audio drive xformer	980122
T601	power xformer	980123
T602	flyback xformer (incl D102, 103, 104)	980124
T603	vert choke	980125
T1	RF amplifier	980135
T2, 3	RF mixer, VHF local osc	980136
T4	UHF local osc	980137
T11, 13	video IF amplifier	980138
T12	video IF amplifier	980139
T14	video amplifier	980140
T15	video amplifier	980141
T16, 17	Noise canceller, sync sep	980142
T18	AGC amplifier	980142
T19	AGC amplifier	980144
T21	sound IF amplifier	980140
T22	sound IF amplifier	980146
T31	sync amplifier	980147
T32	vert osc	980148
T33	vert amplifier	980149
T34	vert out	980150
T41	horiz osc	980149
T51	audio amplifier	980144
T52, 53	audio out	980153
T61	horiz out	980154
T62	active power filter	980155

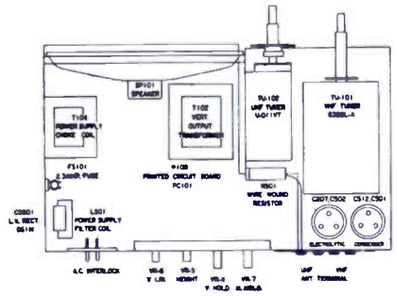


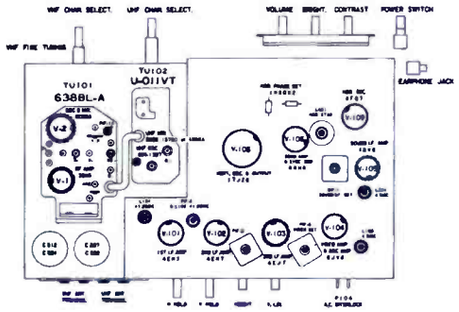
7. All waveforms are peak to peak voltages when video input ② is set to 0.8Vpp and contrast, brightness controls are set for maxmum.
8. Marks "⊕" indicate junction point for terminal of the printed circuit boards.

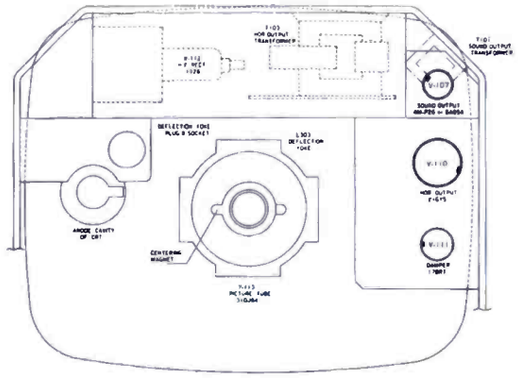
1. Resistances are shown in ohms: k=1000, M=1,000,000.
2. Capacitances are shown in MFD otherwise noted: p=MMFD.
3. Capacitors marked "△" are10,000 MMFD.
4. Coil resistance values less than 1 ohm are not shown.
5. D. C. voltages are read with vacuum tube meter and all controls set for normal picture.
6. D. C. voltages in ( ) are values for no signal input.
9. Numbers inside circles (①, ②, ③, etc.) refer to waveshapes shown on page 13.
10. Numbers at edges of circuit board refer to terminals of connectors for circuit boards.

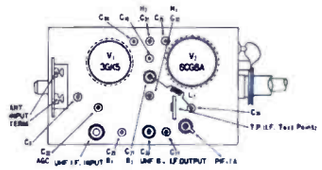
EMERSON
TV Model 12P50

ELECTRONIC TECHNICIAN TEKFAX









CONDITIONS FOR CHASSIS READINGS

VOLTAGES AND WAVESHAPES were taken under actual operating conditions, with normal picture and sound being received. AGC voltage developed on the I-F AGC line (test point L) was minus six volts. Input voltage to chassis under test was 120 volts, 60-cycle AC. Frequencies indicated for the waveshapes shown are approximate sweep settings for the oscilloscope being used (one-half actual frequency of signal being measured).

RESISTANCE MEASUREMENTS were taken with no power.

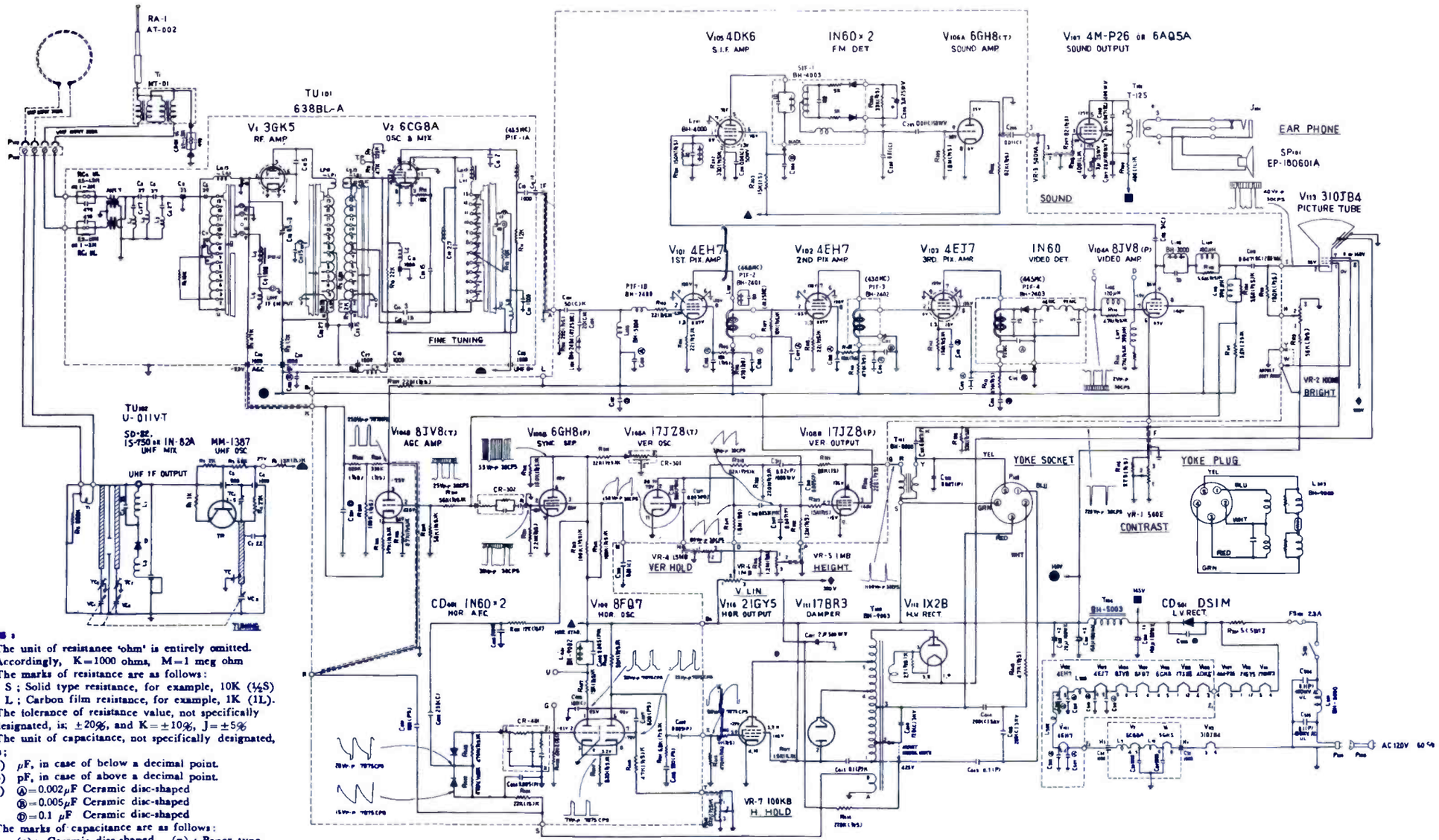
Where readings are affected by control settings, both maximum and minimum values are shown.

ALL MEASUREMENTS were taken between points indicated and chassis ground (unless otherwise noted), using an RCA Voltohmyst or equivalent VTVM. A low-capacity probe was used for all waveshapes shown in the schematic diagram. All readings obtained may vary ±10% due to normal component tolerances and strength of input signal to chassis under test.

RESISTANCE READINGS

SYMBOL NO.	TUBE TYPE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12
V-1	3GK5	0	2.5M	(FILAMENT)		*1.2K	0	0	— —	— —	— —	— —	— —
V-2	6CG8A	10K	*10K	0	(FILAMENT)		*1.2K	*22K	.0	225K	— —	— —	— —
V-101	4EH7	22	5M	22	(FILAMENT)		0	*470	*18.5K	0	— —	— —	— —
V-102	4EH7	22	5M	22	(FILAMENT)		0	*470	*18.5K	0	— —	— —	— —
V-103	4EJ7	150	0	150	(FILAMENT)		0	*470	*470	0	— —	— —	— —
V-104	8JV8	17K	35K	530K	(FILAMENT)		10 to 175	120	*0	5.6K	— —	— —	— —
V-105	4DK6	2	330	(FILAMENT)		*15K	*15K	0	— —	— —	— —	— —	— —
V-106	6GH8	*82K	2.5M	*100K	(FILAMENT)		75K	0	0	1.8M	— —	— —	— —
V-107	4MP26 or 6AQ5A	0 to 500K	400	(FILAMENT)			620	420	N.C.	— —	— —	— —	— —
V-108	17JZ8	(FIL)	*1.8M to 2.8M	N.C.	150	N.C.	1.2M to 1.7M	1.2M to 1.7M	220	0	500K to 2.0M	0	(FIL)
V-109	8FQ7	1.6K	400K	820	(FILAMENT)		*56K	50K to 90K	820	0	— —	— —	— —
V-110	21GY5	(FIL)	**0 to 500K	*1.5K	0	470K	**470K	*1.5K	N.C.	470K	0	*1.5K	(FIL)
V-111	17BR3	N.C.	*0	N.C.	(FILAMENT)		N.C.	N.C.	N.C.	N.C.	(CAP) 1.2M	— —	— —
V-112	1X2B	INF	INF	INF	INF	INF	INF	N.C.	INF	INF	(CAP) 1.2M	— —	— —
V-113	C.R.T. 310JB4	33K	180K to 120K	(FILAMENT)		33K	*1M	*0 or 0	— —	— —	— —	— —	— —

NOTES: All resistance readings are in ohms, unless otherwise specified; "K" denotes kilohms; "M" denotes megohms.
"N.C." denotes no connection to terminal indicated.
* Indicates measurements taken with common lead of meter connected to junction of T-104 and C-501 (B+140V point).
** are used relay terminals.



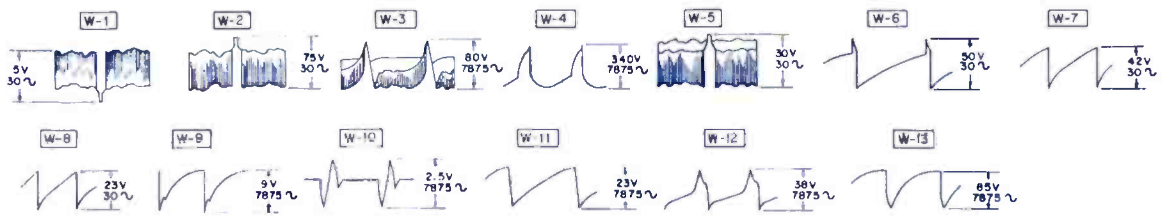
NOTES:

1. The unit of resistance 'ohm' is entirely omitted. Accordingly, K=1000 ohms, M=1 meg ohm
2. The marks of resistance are as follows:
   S ; Solid type resistance, for example, 10K (1/2S)
   L ; Carbon film resistance, for example, 1K (1L).
3. The tolerance of resistance value, not specifically designated, is; ±20%, and K=±10%, J=±5%
4. The unit of capacitance, not specifically designated, is;
   a) μF, in case of below a decimal point.
   b) pF, in case of above a decimal point.
   c) Ⓐ=0.002μF Ceramic disc-shaped
      Ⓑ=0.005μF Ceramic disc-shaped
      Ⓓ=0.1 μF Ceramic disc-shaped
5. The marks of capacitance are as follows:
   (c); Ceramic disc-shaped (p) ; Paper type
   (sc); Molded super type (ps); Styrol type
6. The tolerance of capacity, value not specifically designated, but except the electrolytic capacitor is: ±20%, and K=±10%, J=±5%
7. Combination of the electrolytic capacitor (block):
   #1 160+20μF 180WV #2 160+20μF 180WV

Symbol	Description	Emerson Part No.
VR1, 2, 3	control-triple cont. bright volume	043121
VR4, 5, 6, 7	Control-quadruple v. hold, height v. lin. h. hold	043120
R501	resistor-5Ω-WW ±5% 5 w	040048
RC1, 2	UL resi-cap. 0.5 ~ 1.5 M or 1 ~ 2 Meg 470 pf +100 —0%	RC11045
C311	paper-0.02 μf ±20% 1 kv	
C410	ceramic-120 pf ±10% 3 kv	
C414, 415	ceramic-200 pf ±10% 3 kv	
C504, 505	UL Paper-0.1 μf ±20% 450 VAC	E38007
CR101	UL resi-cap 0.7 ~ 1.5 M 470pf +100 —0%	MU-82D002-3
CR301	couplate-vert. integrator	039001
CR302	couplate-sync, separator	039004
CR401	couplate-horizontal integrator	039005
PIF1B	IF coil-interstage	BH-2400,020102
PIF-2	IF transformer-interstage	BH-2401,020103
PIF3	IF transformer-interstage	BH-2402,020104
PIF4	IF transformer-video detector	BH-2403,020105
SIF1	sound detector transformer 4.5 Mc	BH-4003,021025
L101	adjacent channel sound trap-47.25 Mc	BH-2404,020106
L102	self channel sound trap-41.25 Mc	inclusive PIF 2
L103	input IF choke coil	BH-5004,020128
L106	peaking coil 120 μH video amplifier	022027
L201	sound take-off coil-4.5 Mc	BH-4000,020109
L303	deflection yoke assembly	BH-9000,021130
L401	horiz. stabilizing coil	BH-9002,021132
L501	filter coil-power supply	BH-5000,020111
L502, L503	filament choke	020113
T101	sound output transformer	T-125,020039
T102	vert. output transformer	BH-8000,020040
T103	horiz. output transformer	BH-9003,021139
T104	filter choke-power supply	BH-5003,020114
V1	3GK5	
V2	6CG8A	
V101	4EH7	
V102	4EH7	
V103	4EJ7	
V104	8JV8	
V105	4DK6	
V106	6GH8	
V107	4MP26 or 6AQ5A	
V108	17JZ8	
V109	8FQ7	
V110	21GY5	
V111	17BR3	
V112	1X2B	
V113	310JB4	
CD401	germanium diode 1N60 (2 Req'd)	
CD501	silicon rectifier-power supply	DSIM
SP101	speaker-2.5x6.5 in. PM	EP-160601A 052033
P102	antenna terminal board	062152

ELECTRONIC TECHNICIAN TEKFAX

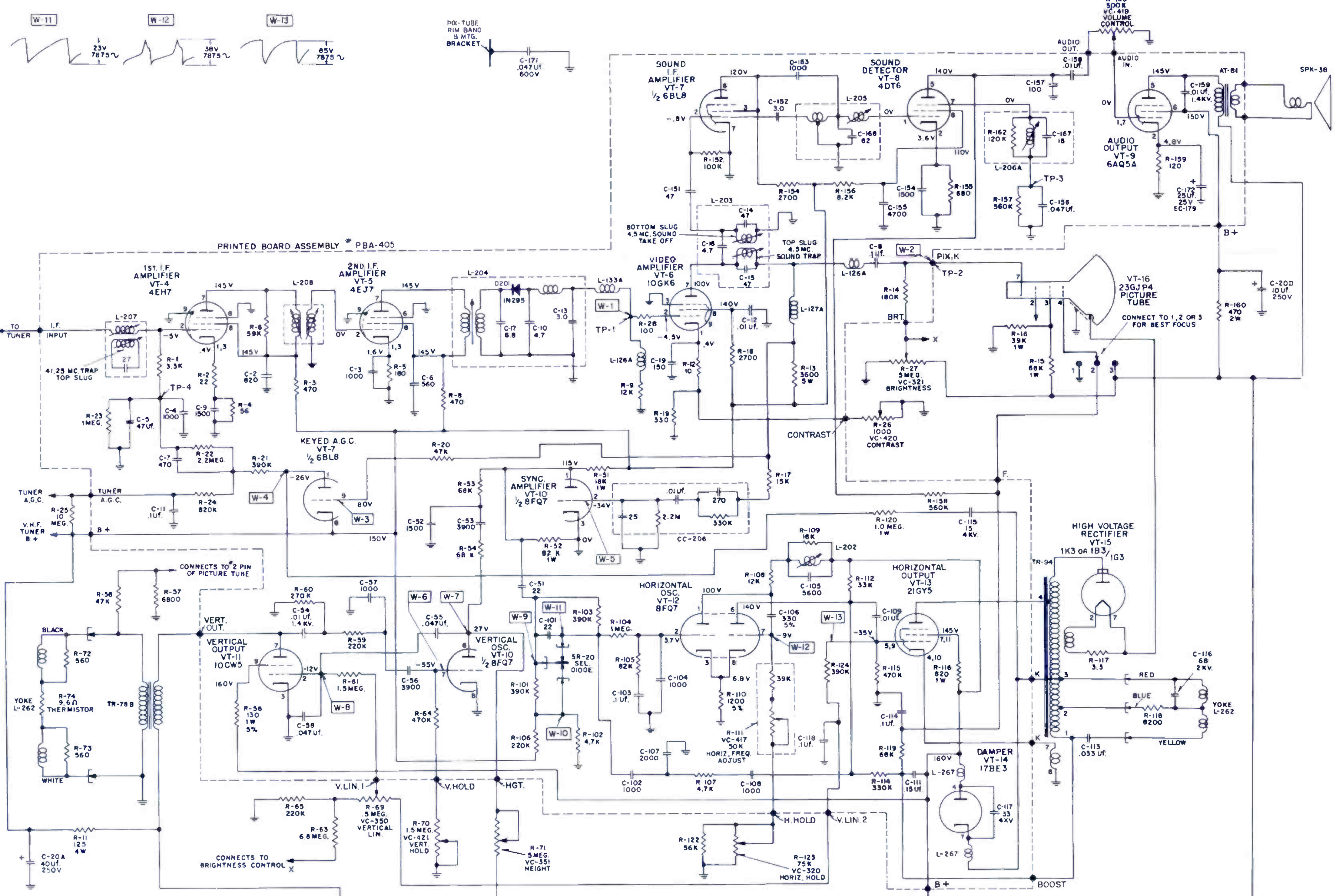
FIRESTONE
TV Model
13 G 244



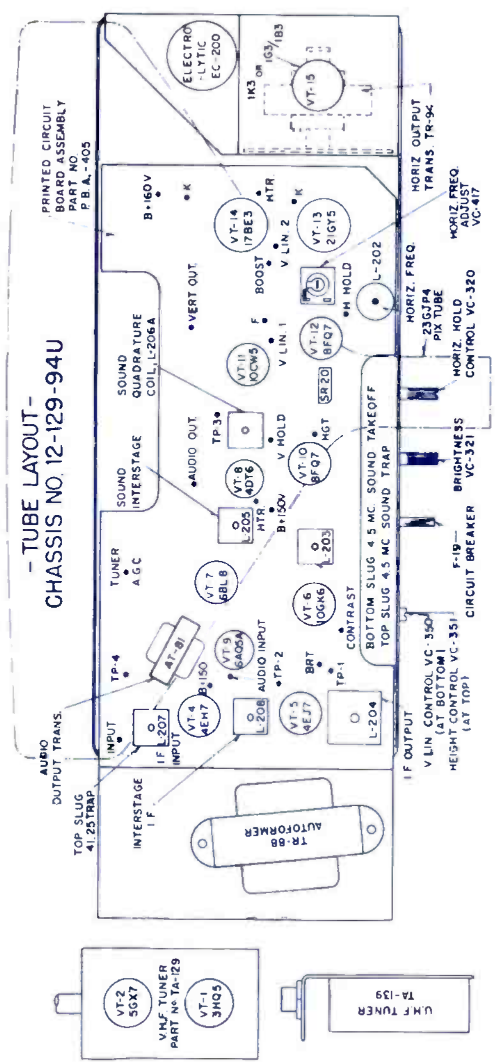
Symbol	Partial Parts List Firestone Part No.	Description
R27	VC-321	Brightness, 5MΩ
R26	VC-420	Contrast, 1000Ω
R71	VC-351	Height, 5MΩ
R111	VC-417	Horiz Freq Adj 50K
R123	VC-320	Horiz Hold, 75K
R70	VC-421	Vert Hold, 1.5MΩ
R69	VC-350	Vert Lin, 500K
R163	VC-419	Volume/On-Off 500K
AT-81	AT-81	Audio Output Transformer
FC-23A	FC-23A	Filter Choke
L-202	L-202	Horiz Freq Coil
TR-94	TR-94	Horiz Output Transformer
TR-88	TR-88	Auto-Transformer
TR-78B	TR-78B	Vertical Output Transformer
L-262	L-262	Deflection Yoke

Tuner— KRK 114B/KRK 120

RF Amp 3GK5
RF Osc 5KE8

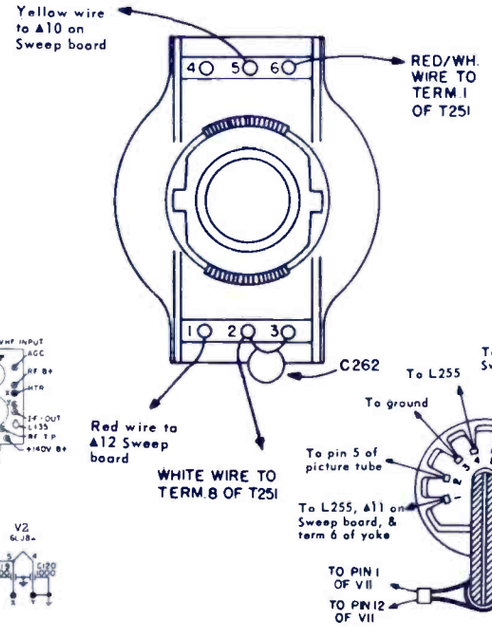


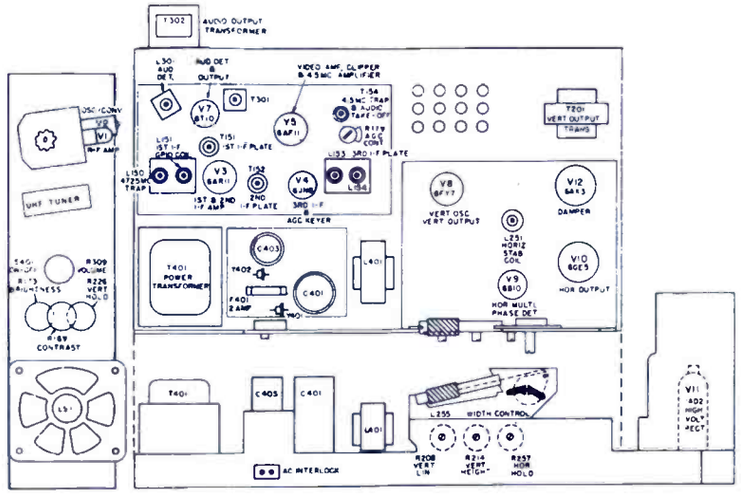
NOTE:
1 – LINE VOLTAGE 117 VOLTS A.C. THROUGH ISOLATION TRANSFORMER.
2 – ALL VOLTAGES SHOWN ON SCHEMATIC ARE D.C. READINGS.
3 – VOLTAGE READINGS TAKEN WITH NORMAL SIGNAL INPUT, USING A V.T.V.M.
4 – CONTROLS SET FOR NORMAL OPERATION.
5 – WAVE FORMS TAKEN WITH NORMAL SIGNAL INPUT.
6 – ALL WAVEFORM VOLTAGES SHOWN ON SCHEMATIC ARE PEAK TO PEAK READINGS.

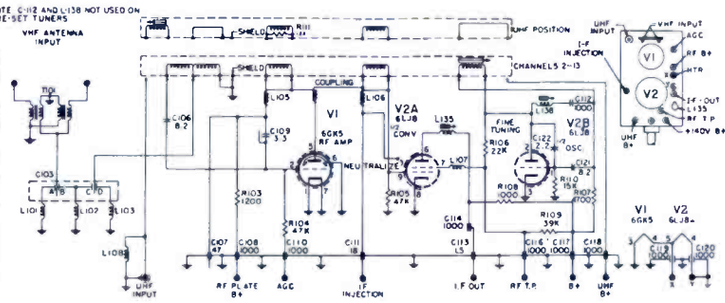


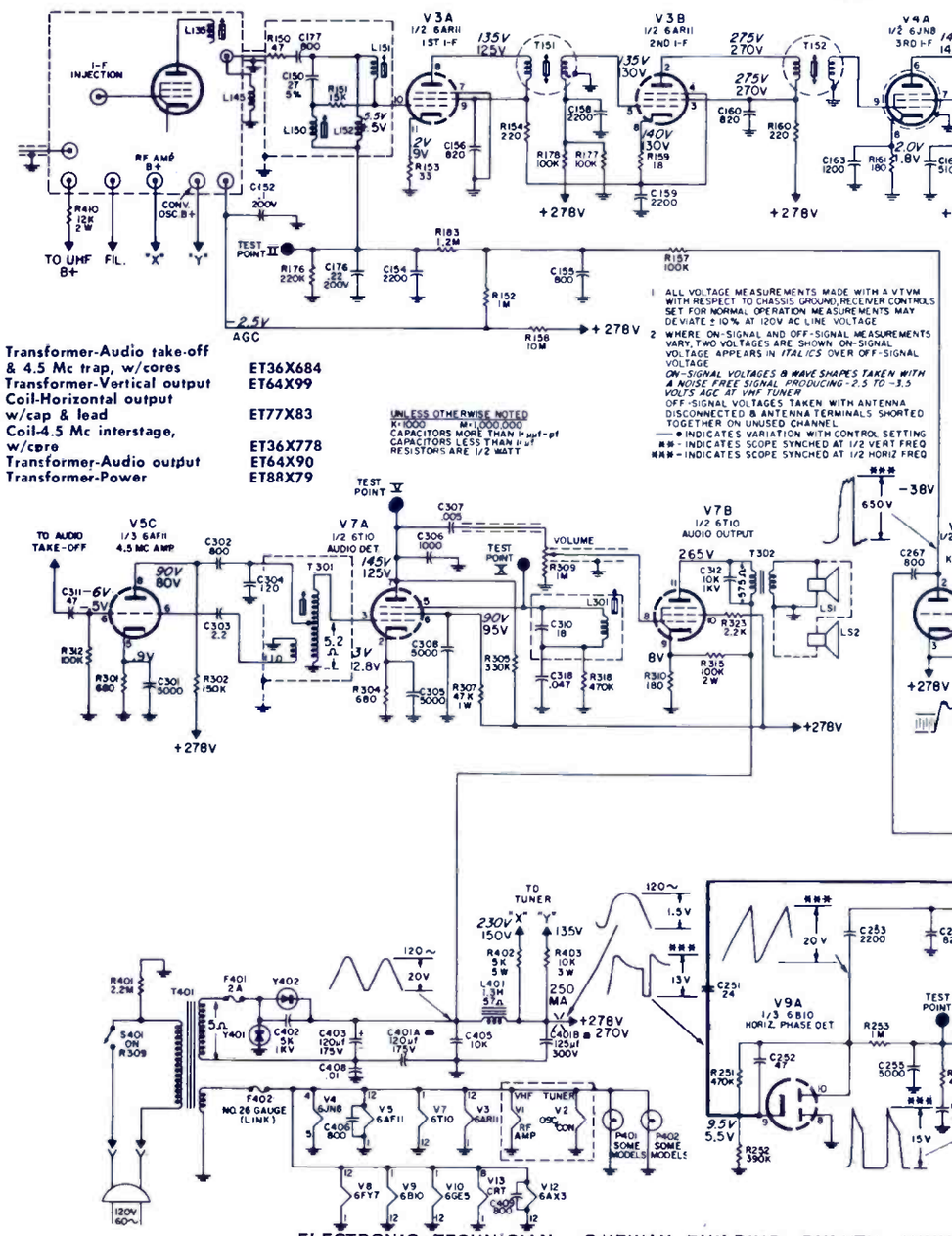
GENERAL ELECTRIC
TV Chassis AB

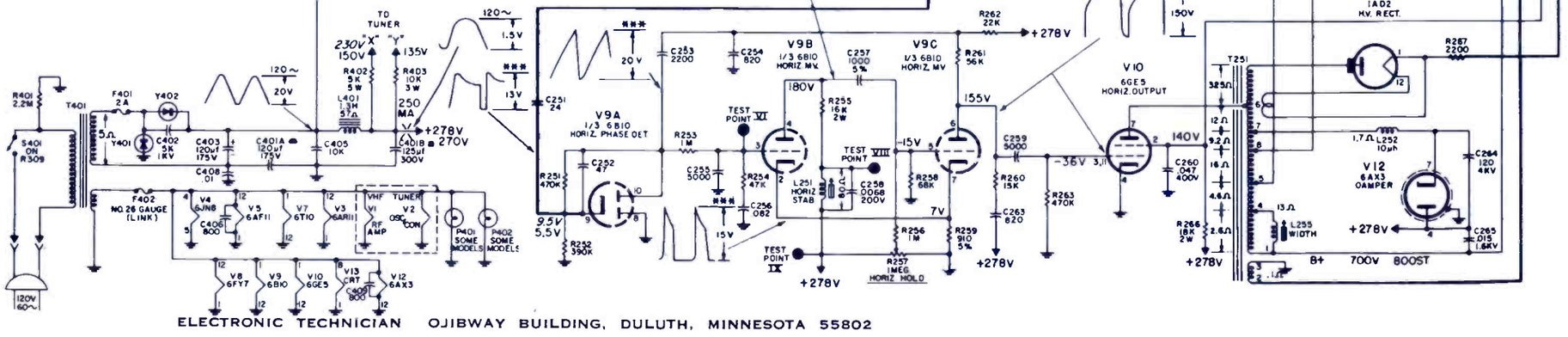
Symbol	Description	GE Part No.
R163	12,000Ω, 10%, 7w, glass	ET14X104
R167	15,000Ω, 10%, 3w glass	ET14X145
R269	600,000Ω, 25%, Thermistor	ET14X192
R403	10,000Ω, 10%, 7w, glass	ET14X150
R169	25,000Ω, w/stop @22k, Contrast	ET49X518
R173	200,000Ω, 20% Bright	ET49X516
R179	50,000Ω, 30%, AGC	ET49X520
R208	5 M, 30%, Vert. Lin.	ET49X519
R214	1500Ω, 20%, Vert. Height	ET49X419
R226	1 M, 20%, Vert. Hold	ET49X517
R257	1 M, w/stop @ 120k, Horiz. Hold	ET49X380
R309	2 M, volume, w/push-pull Switch S401	ET49X386
C401A	120 μf, +100 —10% @ 175v	ET31X237
C401B	125 μf, +100 —10% @ 300v	
C401C	5 μf, +100 —10% @ 200v	
C401D	100 μf, +100 —10% @ 75v	
C403	120 μf, +100 —10% @175v	ET31X224
C150	27 pf, 5%, 500v, NPO Ceramic	ET18X421
C160	820 pf, 10%, 500v, Ceramic	ET22X82
C169	5000 pf, GMV, 500v, Ceramic	ET22X98
C170	10 pf, 5%, 500v, NPO Cer.	ET18X226
C206	100 pf, 10%, 500v, N750 Cer.	ET18X228
C212	3900 pf, 20%, 500v SSHiK Cer.	ET22X144
C251	24 pf, 10%, 500v, NPO, Cer.	ET18X123
C254	820 pf, 10%, 500v, SSHiK Cer.	ET22X94
C257	1000 pf, 5%, 500v Silver Mica	ET19X39
C262	47 pf, 10%, 2kv, N2200 Ceramic	ET18X459
C263	820 pf, 10%, 500v, N2200 Ceramic	ET18X520
C264	120 pf, 10%, 4kv, N1600 Cer.	ET18X519
C268	.1 μf, 20%, 1kv Paper	ET25X24
C301	5000 pf, GMV, 500v Cer.	ET22X96
C303	2.2 pf, 5%, 500v Composition	ET21X45
C305	5000 pf, GMV, 500v Ceramic	ET22X96
C307	5000 pf, GMV, 500v Cer.	ET22X96
C308	5000 pf, GMV, 500v, Ceramic	ET22X98
C312	5000 pf, GMV, 1kv, Ceramic	ET22X165
C402	5000 pf, GMV, 1 kv, Semi HiK Cer.	ET22X165
C405	10,000 pf, GMV, 450v Semi HiK Cer.	ET22X22
C408	10,000 pf, GMV, 1400v, Cer.	ET22X47
L150	Coil-47.25 Mc trap w/core	ET36X742
L151	Coil-1st IF grid, w/core	ET36X682
L152	Coil-Choke, IF Coupling	ET36X760
L153	Coil-3rd, IF plate, w/core	ET36X586
L154	Coil-Video Det. secondary, w/core	ET36X587
L157	Coil-Choke, 10 μh	ET36X420
L158	Coil-Choke, 36.2 μh	ET36X583
L160	Coil-Choke, 360 μh, 7%	ET36X717
L161	Coil-Choke, 390 μh, 7%	ET36X264
L162	Coil-Choke, 300 μh, 7%	ET36X375
L201, 253	Deflection Yoke—Less centering ring and retainer	ET76X39
L251	Coil-Horizontal Stabilizer w/core	ET36X692
L252	Coil-Damper choke, 10 μh, 10%	ET36X105
L255	Coil-Width control	ET36X651
L301	Coil-Audio Det. w/core	ET36X732
L401	Reactor-B+ filter, 1.3 Hy.	ET63X58
T151	Transformer-1st IF plate w/core	ET61X158
T152	Transformer-2nd IF plate w/core	ET61X148
T154	Transformer-Audio take-off & 4.5 Mc trap, w/cores	ET36X684
T201	Transformer-Vertical output	ET64X99
T251	Coil-Horizontal output w/cap & lead	ET77X83
T301	Coil-4.5 Mc interstage, w/core	ET36X778
T302	Transformer-Audio output	ET64X90
T401	Transformer-Power	ET88X79



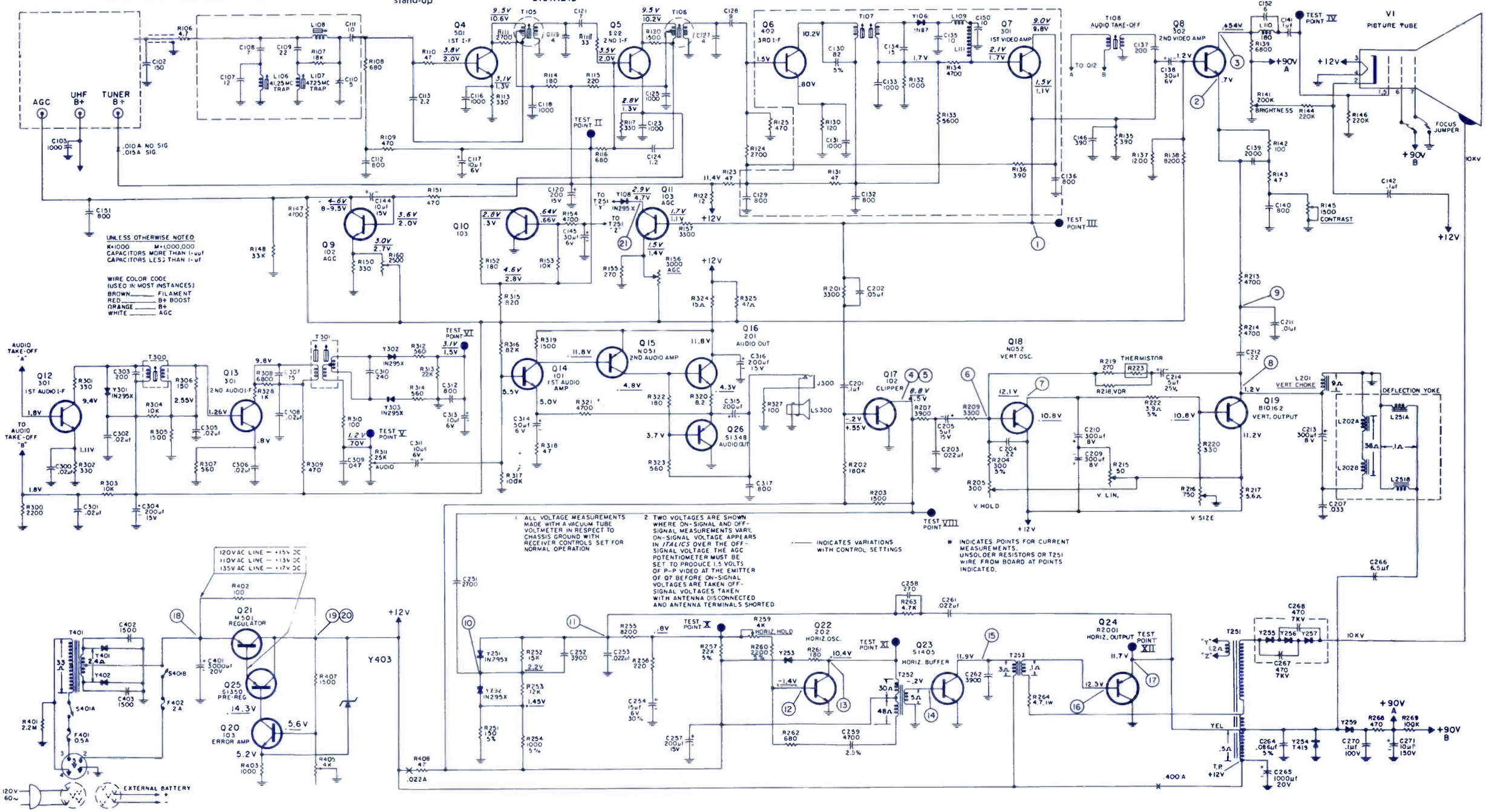








Symbol	Description	GE Part No.
R223	thermistor 1.90K 25% at 25 degrees C ¼w	ET14X208
R218	varistor 10v 15% 1Ma	ET14X203
R141	brightness 200,000Ω 25% w/stop (CCW) at 50K	ET49X542
R145	contrast 1500Ω 30%	ET49X525
R156	AGC 3000Ω 30%	ET49X529
R160	AGC bias 1875Ω w/stop at 625Ω 30%	ET49X544
R205	vertical hold 300Ω 20%	ET49X558
R215	vert lin 50Ω 20%	ET49X578
R216	vert size 750Ω 20%	ET49X579
R259	hroiz hold 4000Ω 20%	ET49X526
R311	volume w/ac switch 25000Ω 30%	ET49X523
R405	regulator 4000Ω 30%	ET49X529
C107	12pf 5% 500v N750	ET18X284
C108	7pf 10% 500v N750	ET18X556
C109	22pf 5% 500v N750	ET18X422
C110	5pf 10% 500v N750	ET18X416
C111	10pf 5% 500v NPO	ET18X226
C113	2.2pf 5% 500v composition	ET21X45
C119	4pf 10% 500v N750	ET18X555
C121	7pf 10% 500v N750	ET18X556
C127	4pf 10% 500v N750	ET18X555
C128	9pf 10% 500v N750	ET18X557
C130	82pf 5% 500v N750	ET18X219
C134	15pf 5% 500v N750	ET18X417
C137	200pf 10% 500v N750	ET18X503
C152	6pf 5% 500v NPO	ET18X543
C211	10,000pf GMV 1400v Hi-K	ET22X47
C267	470pf +100 -0% 7kv	ET22X194
C308	20,000pf +80-20% 50v	ET22X190
C402, C403	1500pf GMV 500v	ET22X156
C264	.056µf 5% 200v mylar durez dipped	ET25X52
C270	.1µf 20% 600v paper, durez dipped	ET25X24
C309	.068µf 10% 1kv papermolded	ET26X60
C117	10µf +100-10% 6v	ET31X238
C120	200µf +100-10% 15v Min standup	ET31X263
C138	30µf +100-10% 6v mln	ET31X243
C144	10µf +30-10% 15v min stand-up	ET31X241
C145	30µf +100-10% 6v min stand-up	ET31X243
C205	5µf +30-10% 15v min stand-up	ET31X240
C209, C210, C213	300µf +50-10% 8v min stand-up	ET31X246
C214	5µf +30-10% 50v min stand-up	ET31X260
C254	15µf +30-10% 6v min stand-up	ET31X261
C257	200µf +100-10% 15v min stand-up	ET31X263
C265	1000µf +100-10% 20v min stand-up	ET31X249
C266	6.5µf 20% 150v paper metalized	ET25X53
C271	10µf +100-10% 150v min stand-up	ET31X242
C304	200µf +100-10% 15v min stand-up	ET31X263
C311, C313	10µf +100-10%, 6v min stand-up	ET31X238
C314	50µf +100-10% 6v mln	ET31X262
C315	200µf +100-10% 15v min stand-up	ET31X263
C316	200µf +100-10% 15v mln	ET31X245
C401	3000µf +100-10% 20v	ET31X239
L106	coil, 41.25Mc IF trap	ET36X748
L107	coil, 47.25Mc IF trap	ET36X750
L108	coil, IF link	ET36X749
L109	coil, 44.00MHz self resonant	ET36X751
L110	coil, choke 180µh 7% single pi	ET36X821
L111	coil, choke 10µh 10% 88Mc	ET36X420
L201	coil, choke 9.3Ω vert inductance	ET63X66
L202	coil, deflection yoke horlz & vert	ET76X40
L251	xformer, antenna balun	ET51X18
T101	xformer, IF 1st and 2nd	ET61X159
T105, T106	xformer, IF video det & 3rd IF	ET56X59
T107	xformer, 4.5Mc trap and STO	ET61X160
T108	xformer, horiz output complete w/air seal & rectifier lead (7.25")	ET77X87
T251	xformer, horiz blocking osc	ET35X50
T252	xformer, horiz buffer (14)	ET51X22
T253	xformer, 4.5MHz audio interstage	ET51X21
T300	xformer, 4.5MHz ratio det	ET56X60
T301	xformer, power	ET88X88
T401	tuner, VHF 500, minature transistorized	ET86X254
	tuner, UHF 410	ET85X51
Y106	diode, germanium vid det	ET16X1
Y108	diode, germanium AGC coupling	
Y251	diode, silicon horiz phase det	
Y252	diode, silicon horlz phase det	
Q4	NPN first IF amplifier	ET15X21
Q5	NPN second IF amplifier	ET15X21
Q6	NPN third IF amplifier	ET15X9
Q7	NPN first video amplifier	ET15X23
Q8	NPN video output	ET15X8
Q9	NPN RF AGC	ET15X10
Q10	NPN IF AGC amplifier	ET15X11
Q11	NPN IF AGC keyer	ET15X11
Q12	NPN first audio IF amplifier	ET15X23
Q13	NPN second audio IF amplifier	ET15X19
Q14	NPN first audio amplifier	ET15X18
Q15	PNP audio driver	ET15X31
Q16	NPN audio out	ET15X20
Q17	NPN sync clipper	ET15X10
Q18	PNP vert osc	ET15X32
Q19	PNP vert out	ET15X17
Q20	NPN error amplifier	ET15X18
Q22	NPN horiz osc	ET15X20
Q23	NPN horiz buffer	ET15X12
Q24	PNP pre-regulator	ET15X33
Q25	PNP audio out	ET15X33



1. ALL VOLTAGE MEASUREMENTS MADE WITH A VACUUM TUBE VOLTMETER IN RESPECT TO CHASSIS GROUND WITH RECEIVER CONTROLS SET FOR NORMAL OPERATION
2. TWO VOLTAGES ARE SHOWN WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS VARY. ON-SIGNAL VOLTAGE APPEARS IN *ITALICS* OVER THE OFF-SIGNAL VOLTAGE THE AGC POTENTIOMETER MUST BE SET TO PRODUCE 1.5 VOLTS OF P-P VIDEO AT THE EMITTER OF Q7 BEFORE ON-SIGNAL VOLTAGES ARE TAKEN OFF-SIGNAL VOLTAGES TAKEN WITH ANTENNA DISCONNECTED AND ANTENNA TERMINALS SHORTED

—— INDICATES VARIATIONS WITH CONTROL SETTINGS

* INDICATES POINTS FOR CURRENT MEASUREMENTS. UNSOLDER RESISTORS OR T251 WIRE FROM BOARD AT POINTS INDICATED.

GENERAL ELECTRIC
Color TV Chassis CB

ELECTRONIC TECHNICIAN TEKFAX

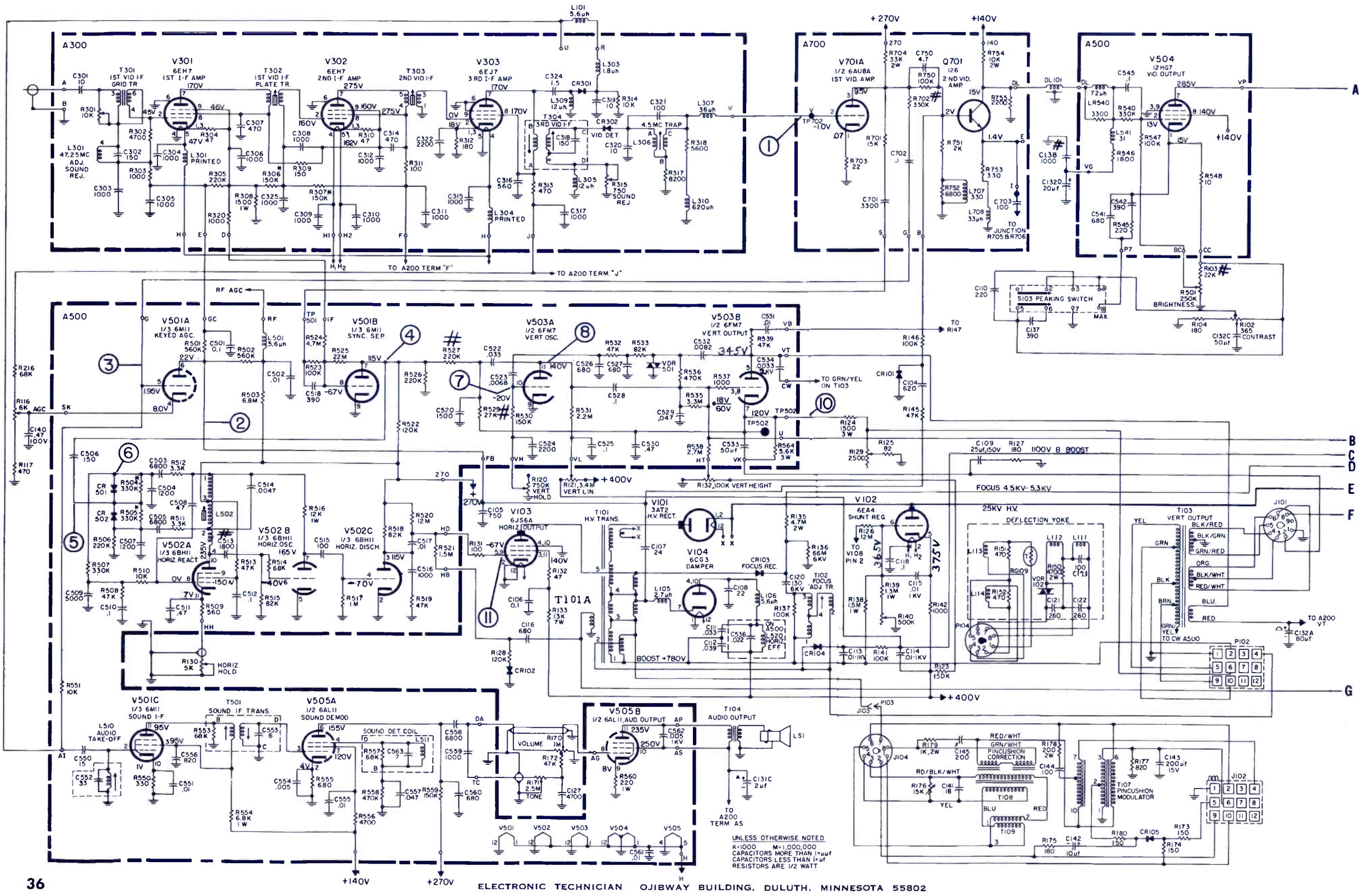
25 Inch CB Chassis Schematic Diagram
USE WITH CHASSIS STAMPED WITH NUMBERS "EN105" AND LOWER

● VARIES WITH CONTROL SETTINGS
SIGNIFIES PRODUCTION CHANGES

RESISTANCE VALUES IN OHMS
K=1000 MEG=1,000,000

UNLESS OTHERWISE NOTED
CAPACITORS MORE THAN 1=MMF
CAPACITORS LESS THAN 1=MF

ALL VOLTAGES MEASURED WITH A VTVM AND NO SIGNAL INPUT.
WITH LINE VOLTAGE AT 120VAC, VOLTAGES
SHOWN MAY DEVIATE ±20%.



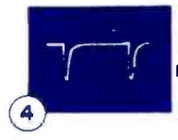
MISCELLANEOUS WAVEFORMS

BALLOONS, ① ②, ETC., SHOWN ON SCHEMATIC INDICATE POINTS OF OBSERVATION OF THE WAVEFORMS.

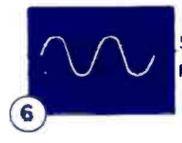

① 3V. P-P


② 110V. P-P


③ 8V. P-P

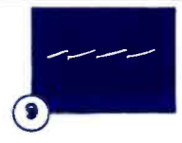

④ 100V. P-P

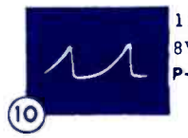

⑤ 60V. P-P

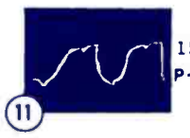

⑥ 50V. P-P


⑦ 135V. P-P

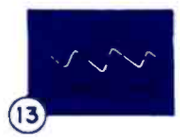

⑧ 225V. P-P


⑨ 120V. P-P

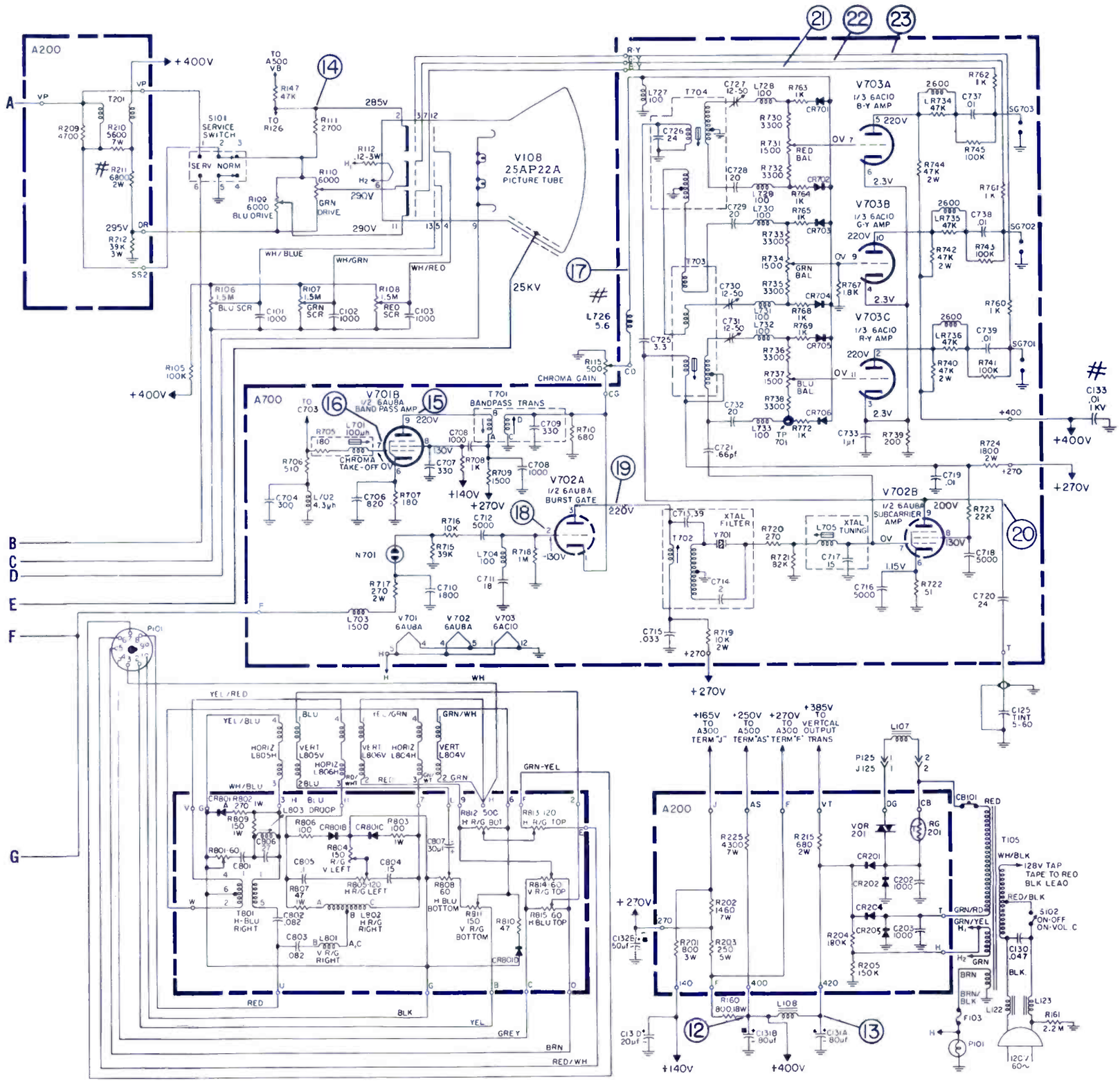

⑩ 12V.—21" 8V.—25" P-P


⑪ 155V. P-P


⑫ 3V. P-P


⑬ 30V. P-P

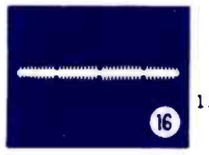

⑭ 85V. P-P

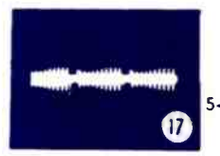


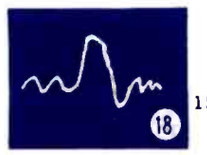
CHROMA WAVEFORMS

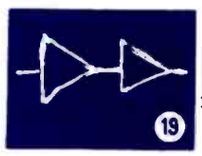
NOTE: CHROMA WAVEFORM TESTS PERFORMED WITH STRONG COLOR BAR PATTERN AND R145 AT 25% OF RANGE. USE LOW CAPACITY PROBE (2µµf.) AND WIDE BAND SCOPE TO OBSERVE WAVEFORMS AND VOLTAGES BELOW


⑮ 250V. P-P


⑯ 15V. P-P

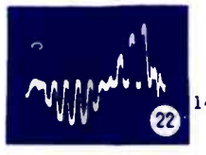

⑰ 5-10V P-P

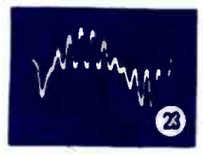

⑱ 150V. P-P

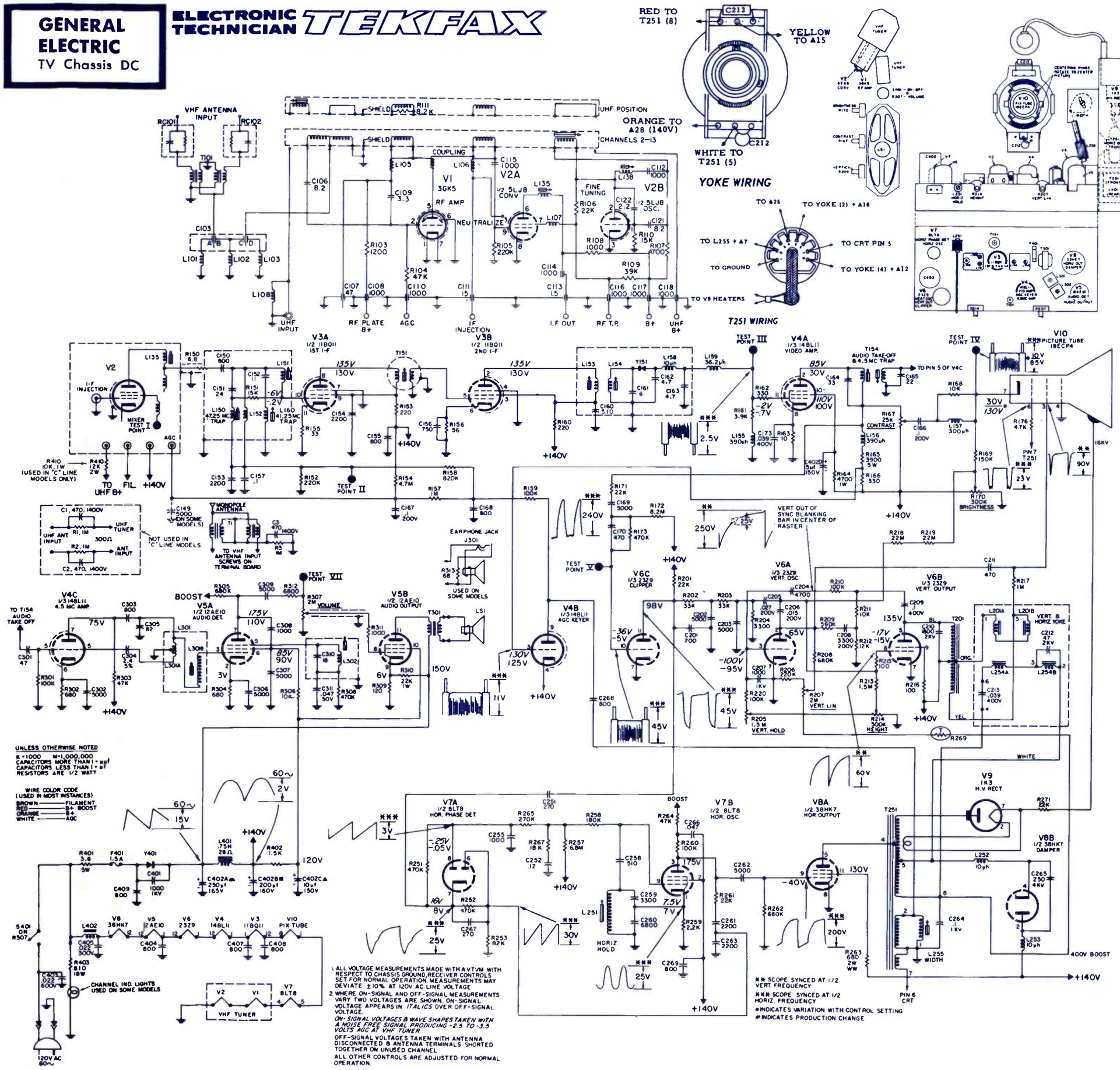

⑲ 200V. P-P-P


⑳ 200V. P-P


㉑ 160V. P-P


㉒ 140V. P-P

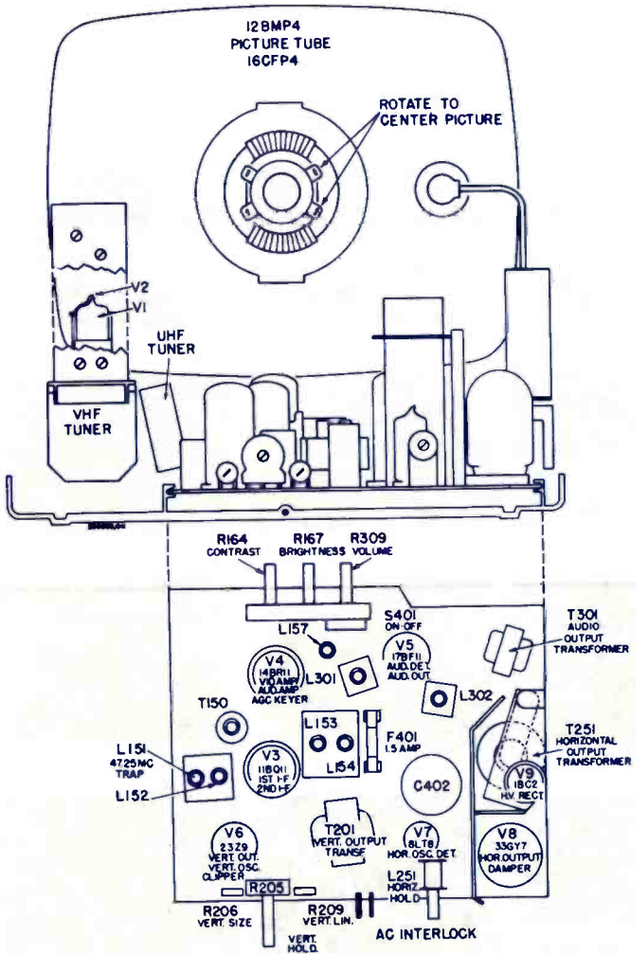

㉓ 220V. P-P



Symbol	Description	G-E Part No.
R269	125K 25% 25°C thermistor	ET14X197
R401	3.6Ω 10% 7w WW	ET14X183
R403	810Ω 5% 18w	ET14X189
R410	12K 10% 2w glass	ET14X104
R167	25K contrast, w/stop at 22K (M423C)	ET49X513
R170	300K 30% brightness (M423C)	ET49X512
R205	1.5M 30% vert hold (M423)	ET49X514
R167	25K contrast, w/stop at 22K (M400C)	ET49X502
R170	300K 30% brightness M400C	ET49X501
R205	1.5M 30% vert hold M400	ET49X503
R207	2M 30% vert lin	ET49X499
R214	500K 20% vert size	ET49X500
R307/ S401	2M 30% volume, w/ac rotary switch (M423C)	ET49X550
R307/ S401	2M 30% volume w/ac rotary switch M400C	ET49X454
C402A	250μf, +100/—10% 200v	ET31X231
C402B	200μf +100/—10% 200v	
C402C	10μf +100/—10% 200v	
C402D	10μf +100/—10% 200v	
C1-C3	470pf GMV 1400v	ET22X151
C149	5000pf GMV 500v	ET22X67
C150	800pf 20% 500v	ET22X80
C151	24pf 5% 500v	ET18X123
C156	750pf 10% 500v SSHiK	ET22X174
C169	5000pf GMV 500v	ET22X67
C202	5000pf GMV, 500v	ET22X67
C203	5000pf GMV, 500v	ET22X67
C204	4700pf 10% 1kv paper molded	common
C207	1000pf 20% 1kv SSHiK	ET18X188
C210	1800pf 20% 2kv SSHiK	ET22X161
C212	47pf 10% 2kv N2200	ET18X459
C258	510pf 5% 500v char D	ET19X86
C262	5000pf GMV 1kv SSHiK	ET22X85
C264	1μf 20% 1kv paper molded	common
C267	270pf 10% 500v N750	ET18X598
C302	5000pf GMV 500v	ET22X67
C303	800pf 10% 500v N750	ET22X80
C304	2.4pf 5% 500v comp	ET21X12
C306	5000pf GMV 500v	ET22X67
C307	5000pf GMV 500v	ET22X67
C309	5000pf GMV 500v	ET22X67
C401	1000pf GMV 2kv SSHiK	ET22X101
L150	coil, 47.25Mc link assy w/core	ET36X647
L151	coil, 1st IF grid w/core	ET36X824
L152	coil, IF link shunt	ET36X725
L153	coil, video det, primary w/core	ET36X825
L154	coil, video det, sec., w/core	ET36X587
L155	coil, choke, 390μh 7% single Pi	ET36X264
L156	coil, choke, 390μh 7% single Pi	ET36X264
L157	coil, choke, 300μh 7% single Pi	ET36X718
L158	coil, choke, 10μh	ET36X420
L159	coil, choke, 36.2μh 44Mc	ET36X583
L160	coil, 41.25Mc link trap assy	ET36X823
L201, L254	yoke, torodial, deflection lens centering ring, retainer, and spacer, with Magnets	ET76X39
L251	coil, horiz osc	ET35X51
L252, L253	coil, choke, 10μh 10%	ET36X105
L255	coil, width control	ET36X774
L301	coil, 4.5Mc interstage w/core	ET36X695
L302	coil, quad w/core	ET36X732
L401	reactor, B+ filter choke	ET63X65
L402	coil, line filter choke	ET36X822
T151	xformer, 1st IF w/core	ET61X162
T154	xformer sound take-off, 4.5Mc trap with core	ET36X731
T201	xformer, vert out	ET64X106
T251	coil-horiz out, xformer w/cap and lead assy	ET77X86
T301	xformer, audio out	ET64X85
L136	coil, converter plate choke	ET36X747
	core, tuning for L150	ET12X37
	core, tuning for L151	ET12X63
	core, tuning for L153, L251, L301	ET12X42
	core, tuning for T154 trap & sound take-off	ET12X52
	core, tuning for L154, L160	ET12X72
	core, for width coil, L255	ET12X138
	core, tuning for L302	ET12X97
	core, tuning for T151	ET12X133
	core, half for horiz output T251	ET12X104
	diode, video det, Y151	ET16X1
	diode, silicon, power rectifier, Y401	ET57X25
	fuse, 1.5 amp 250v fast blow F401	ET10X42
	UHF tuner minature, continuous, 410C-2	ET85X54
	VHF tuner 13 position triode	ET86X255
	VHF tuner 13 position triode	ET86X256

GENERAL ELECTRIC

TV Chassis SB



Symbol	Description	G-E Part No.
R164	25k, Contrast	ET49X552
R205	1.2 M 30%, Vert. Hold	ET49X551
R206	500k, Height	ET49X535
R209	2 M, Vert. Lin.	ET49X536
R151	12k, 2w	ET14X104
R163	4700, 3w	ET14X133
R270	1.6Ω (Resistive Lead, H.V. Filament)	ET65X36
R403	160, 5w, Wirewound	ET14X200
C402A	300 μf, 175v	ET31X254
C402B	200 μf, 150v	
C402C	10 μf, 150v	
C402D	100 μf, 150v	
C51	470, 1400v, GMV, HiK	ET22X151
C151	800, 20%, SSHK	ET22X80
C154	2200, SSHK	ET22X129
C161	6Pf	ET18X424
C168	5000, GMV, 450v, HiK	ET22X96
C204	3900, SSHK	ET22X144
C206	.018 μf, 200v Mylar D.D.	ET25X58
C209	470, SSHK	ET22X90
C262	300, 4000v, N1600	ET18X425
C264	36, 2000v, N1500	ET18X577
C265	91, N750	ET18X575
C310	5000, GMV, 450v, HiK	ET22X96
C401	1000, GMV, 1400v, HiK	ET22X58
L145	Coil-IF Link Choke	ET36X785
L150	Coil-9.3 μh, Choke	ET36X784
L151	Coil-47.25Mc Trap	ET36X753
L152	Coil-1st IF Grid	ET36X754
L153	Coil-2nd IF Plate (Primary)	ET36X757
L154	Coil-Video Detector (Secondary)	ET36X587
L155	Coil-44Mc Resonant, 36.2 μh	ET36X583
L157	Coil-Audio Takeoff	ET36X663
L158	Coil-750 μh, 7%, Single Pi	ET36X376
L159	Coil-227 μh, Special	ET36X758
L160	Coil-219Mc, 1.8 μh	ET36X722
L201A, B	Yoke Deflection, 20mm, Toroidal	ET76X41
L251	Coil-Horizontal Oscilator	ET35X51
L252	Coil-3μh, Choke	ET36X633
L301 A, B	Coil-Audio Interstage	ET36X786
L302	Coil-Quadrature	ET36X665
T150	Transformer-IF	ET61X163
T201	Transformer-Vertical Output	ET64X111
T251	Transformer-Horizontal Output	ET77X90
T301	Transformer-Audio Output	ET64X100

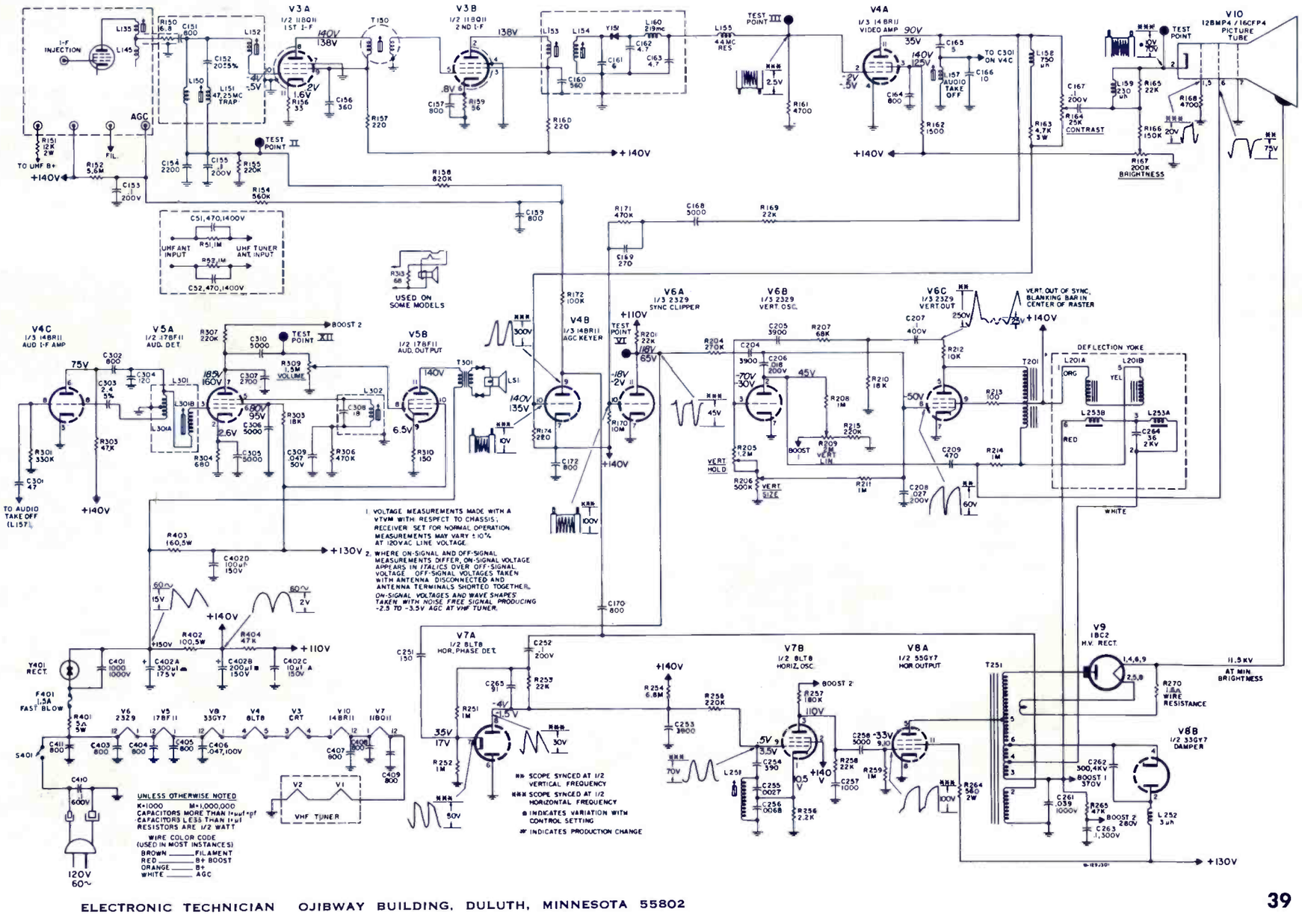
TUBE AND SEMICONDUCTOR COMPLEMENT

SYMBOL	FUNCTION	TYPE
V1	R-F Amplifier	
V2	VHF Mixer-Osc.	
V3	1st & 2nd I-F Amplifiers	11BQ11
V4	Video Amp., AGC Keyer 4.5 mc. Aud. Amp.	14BR11
V5	Audio Det., Audio Output	17BF11
V6	Vert. Osc., Vert. Output, Clipper	23Z9
V7	Hor. Phase Det., Hor. Osc.	8LT8
V8	Horizontal Output, Damper	33GY7
V9	H.V. Rectifier	1BC2
V10	Picture Tube	12BMP4 16CFP4
Y151	Video Det. Crystal Diode	ET16X1
Y401	Silicon Power Rectifier	ET57X30

TELEVISION RECEIVER SPECIFICATIONS

POWER INPUT RATING:	Frequency..... 60 cycles Voltage..... 110—128 volts Wattage at 120 Volts Standard Chassis..... 110 watts
R-F FREQUENCIES:	Channels VHF..... 2 through 13 Frequencies.. 54—88MC, 174—216MC Channels UHF..... 14 through 83 Frequencies..... 470—890MC
OPERATIONAL FREQUENCIES:	Picture IF Carrier..... 45.75MC Sound IF Carrier..... 41.25MC Intercarrier Sound..... 4.5MC
AUDIO POWER OUTPUT:	Maximum..... 1 watt

CHASSIS TYPE: SB
PICTURE TUBE TYPE: 12BMP4
VHF TUNER: ET86X236
UHF TUNERS: ET85X50, ET85X52, ET85X46



1. VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS. RECEIVER SET FOR NORMAL OPERATION. MEASUREMENTS MAY VARY ±10% AT 120VAC LINE VOLTAGE.
2. WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS DIFFER, ON-SIGNAL VOLTAGE APPEARS IN *ITALICS* OVER OFF-SIGNAL VOLTAGE. OFF-SIGNAL VOLTAGES TAKEN WITH ANTENNA DISCONNECTED AND ANTENNA TERMINALS SHORTED TOGETHER. ON-SIGNAL VOLTAGES AND WAVE SHAPES TAKEN WITH NOISE FREE SIGNAL PRODUCING -2.5 TO -3.5V AGC AT VHF TUNER.

UNLESS OTHERWISE NOTED
K=1000 M=1,000,000
CAPACITORS MORE THAN 1 are pf
CAPACITORS LESS THAN 1 are μf
RESISTORS ARE 1/2 WATT

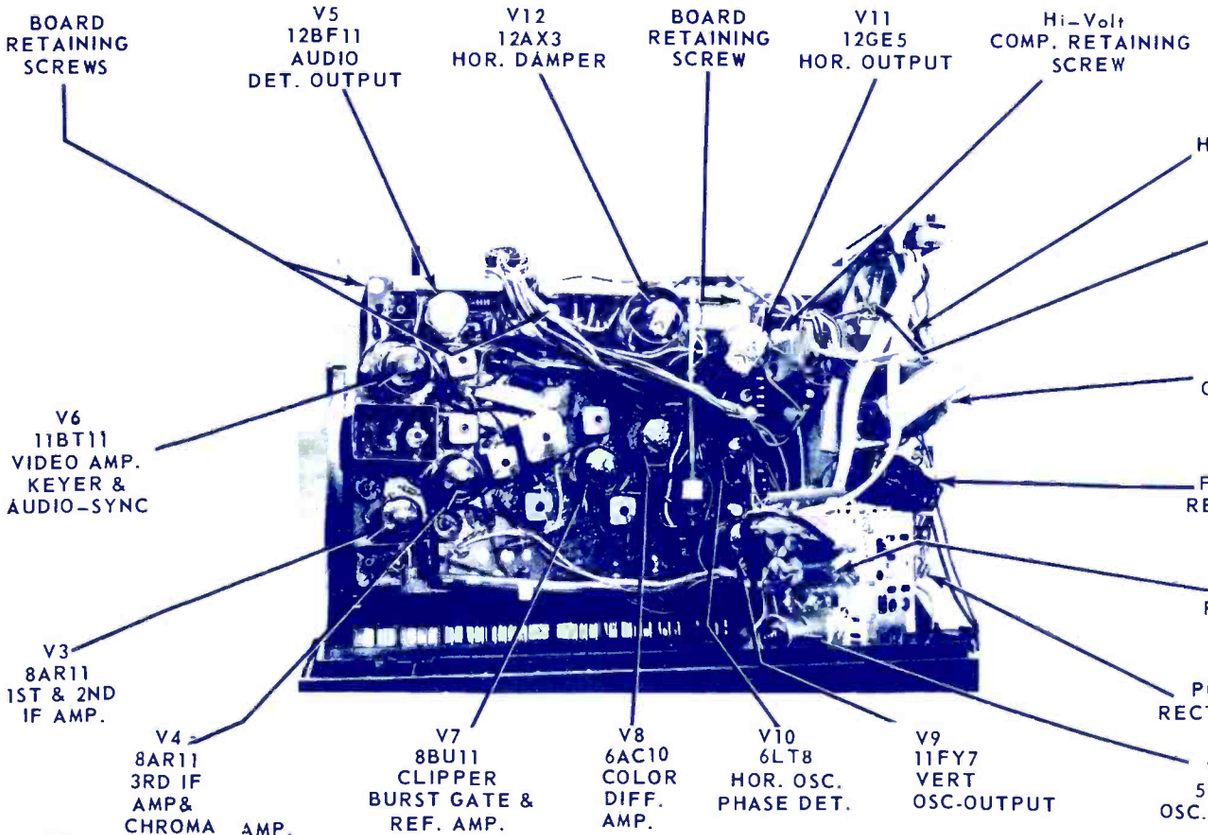
WIRE COLOR CODE (USED IN MOST INSTANCES)
BROWN ——— FILAMENT
RED ——— B+ BOOST
ORANGE ——— B+
WHITE ——— AGC

* SCOPE SYNCED AT 1/2 VERTICAL FREQUENCY
** SCOPE SYNCED AT 1/2 HORIZONTAL FREQUENCY
⊕ INDICATES VARIATION WITH CONTROL SETTING
# INDICATES PRODUCTION CHANGE

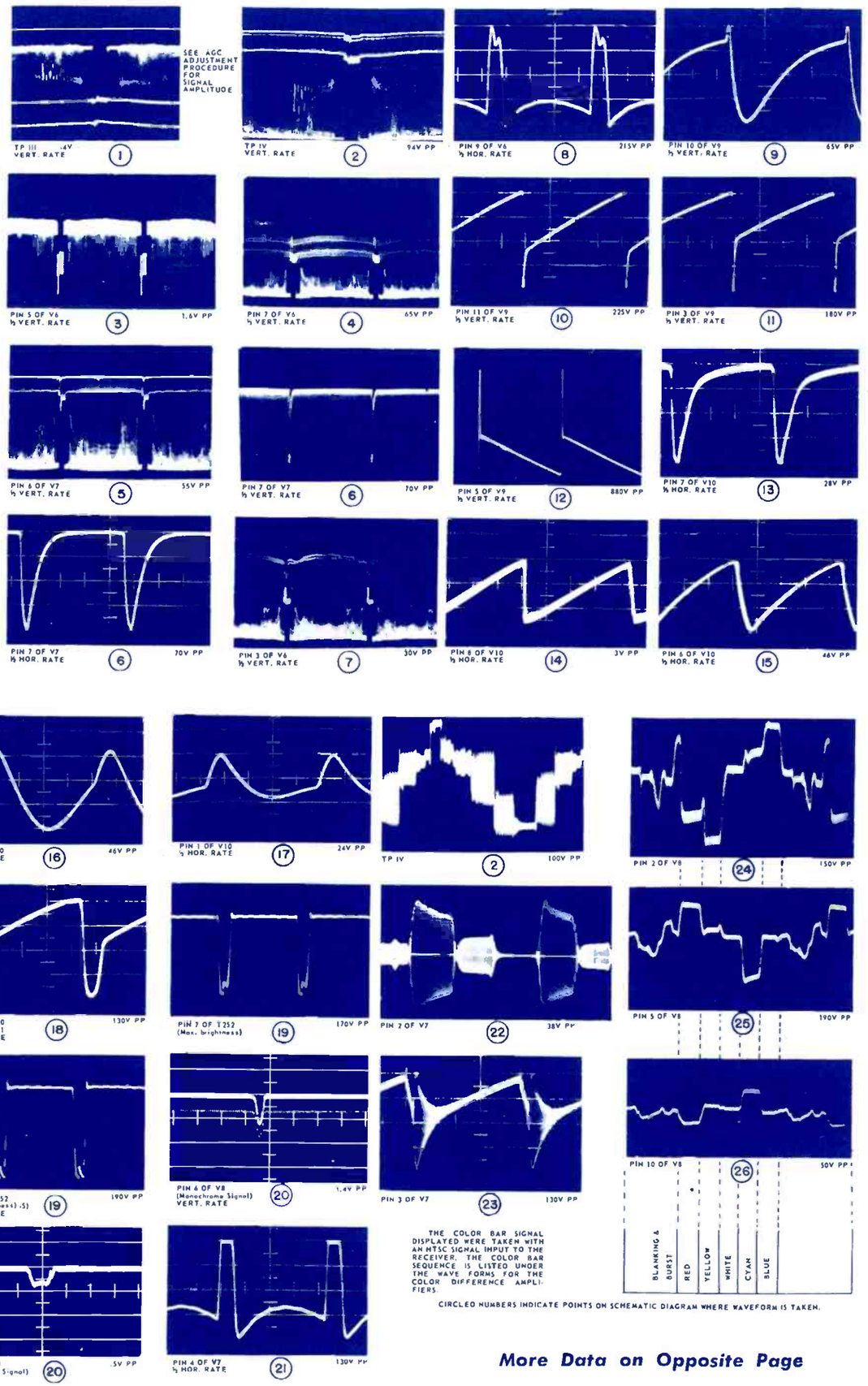
GENERAL ELECTRIC
Color TV Chassis HB

ELECTRONIC TECHNICIAN **TEKFAX**

SYMBOL	DESCRIPTION	GE PART NO.
R178	10,000Ω 10% 10WW	
R179	16,000Ω 10% 3w metal film	ET14X205
R184	3600Ω 10% 3w metal film	ET14X202
R212	thermistor 1.052M	ET14X206
R259	2200Ω 10% ½w carbon film	
R267	15,000Ω 10% 4w metal film	ET14X145
R301	22,000Ω 10% 4w metal film	ET14X172
R401	3.6Ω 10% 7w WW	
R402	300Ω 10% WW	
R404	1350Ω 10% 10w WW	ET14X207
R410	25,000Ω 10%	
R410	15K 3w	
R410	12K 2w	ET14X104
R410	10K 2w	
R514	6200Ω 2w carbon	
R183	250Ω 30% (triple control)	ET49X592
R539, 545	500,000Ω 30% green & blue brite	
R186	100,000Ω 30% brightness	ET49X587
R195	40,000Ω 20% AGC (dual control)	ET49X593
R213	3.4M 30% vert height	
R207	1.2M 30% vert hold	ET49X588
R218	2000Ω 20% vert lin	ET49X590
R308	1 M 30% vol w/ac switch S401	ET49X589
R504	500Ω 20% color	ET49X586
R517, 524	2000Ω 30% blue & red bal (dual control)	ET49X594
R546, 547, 548	1M blue red & grn screen (triple control)	ET49X591
C402	220μf +50 −10% 200v	ET31X264
C403A	120μf +100 −10% 350v	ET31X265
B	100μf +100 −10% 300v	
C	100μf +100 −10% 150v	
D	100μf +150 −10% 75v	
C404A	80μf +100 −10% 175v	ET31X266
B	10μf +100 −10% 150v	
C	4μf +100 −10% 300v	
C51, 52	470pf GMV 1400v cer	ET22X151
C153	27pf 5% 500v NPO cer	ET18X421
C168	10pf 5% 500v NPO cer	ET 8X226
C170	100pf 10% 500v N750 cer	ET18X228
C172	100pf 5% 500v NPO cer	ET18X534
C173	33pf 5% 500v NPO cer	ET18X186
C179	5000pf GMV 450v cer	ET22X96
C187	470pf GMV 1.4kv cer	ET22X151
C206	.033μf 10% 1kv paper	
C209	1000pf 20% 2kv cer	ET22X207
C220	120pf 10% 500v N740 cer	ET18X559
C251	56pf 5% N750 cer	ET18X329
C258	510pf 5% 500v char D silver mica	ET19X86
C268	.1μf 20% 1kv paper	
C269	120pf 10% 4kv N2200 cer	ET18X519
C270	10,000pf GMV 1400v ceramic	ET22X47
C304	150pf 10% 500v N750 cer	ET18X499
C400	1000pf GMV 2kv cer	ET22X101
C405	1000pf GMV 2kv cer	ET22X101
C408	5000pf GMV 450v cer	ET22X96
C412	5000pf 20% 1kv ceramic	ET22X181
C503	5000pf GMV 450v cer	ET22X96
C505	330pf 5% 500v silver mica	ET19X87
C506	22pf 10% 500v NPO cer	ET18X366
C509	39pf 5% 500v N750 cer	ET18X285
C512	10,000pf GMV 450v cer	ET22X22
C513	2.4pf 5% 500v composition	ET21X12
C514	10pf 5% 500v NPO cer	ET18X226
C516, 517	10,000pf GMV 450v cer	ET22X22
C524	36pf 5% 500v N750 cer	ET18X588
C525	36pf 5% 500μ N750 cer	ET18X588
C532	36pf 5% 500v N750 cer	ET18X588
C544, 545	470pf GMV 1.4kv cer	ET22X151
L145	coil, choke IF coupling (ET86X244)	ET36X747
L145	coil, choke IF coupling (ET86X265)	ET36X783
L152	coil, 1st IF grid w/core	ET36X807
L157	coil, choke 27μh 7%	ET36X808
L158	coil, choke 390μh 7%	ET36X264
L158	coil, choke 180μh 7%	ET36X826
L159	coil, choke 120μh 7%	ET36X4 0
L160	coil, choke 160μh 7%	ET36X434
L161	coil, choke 360μh 7%	ET36X717
L162	coil, delay line	ET36X809
L201, 253	deflection yoke horiz & vert	ET76X43
L202, 203	deflection coils	
L251	coil, horiz osc w/core	ET35X52
L252, 254, 255	coil, choke 10μh 10%	ET36X105
L300	coil audio det w/core	ET36X814
L401	filter, B+ choke	ET63X67
L402, 403	coil, choke ac line filter	ET36X828
L500	coil, 3.58Mc trap w/core	ET36X810
L501	coil, 3.58Mc peaking w/core	ET36X811
L502, 503	coil, choke 56μh 7%	ET36X812
L506	coil, choke 5.6μh 10%	ET36X536
L555	coil, picture tube degaussing	ET36X819
T151	xformer, 1st video IF plate	ET61X169
T152	xformer, 2nd video IF plate	ET61X170
T153	xformer, 3rd video IF plate & trap w/cores	ET61X171
T154	xformer, chroma take-off (for 8AR11)	ET61X172
T154	xformer, chroma take-off w/core (for 8BQ11)	ET61X177
T200	xformer, vert out	ET64X113
T252	xformer, horiz out coil w/cap H lead assem	ET77X89
T300	xformer, 4.5MHz interstage w/core	ET36X813
T301	xformer, audio out	ET64X100
T401	xformer, CRT fil	ET64X115
T501	xformer, chroma amp output w/cores	ET61X173
T502	xformer crystal filter w/cores	ET61X174
T503	xformer, chroma demodulator w/cores	ET61X175
Y150, 151	diode, germanium	ET16X1
Y152	diode, silicon	ET16X20
Y250	diode, silicon	ET57X25
Y401, 402 403	diode, silicon	ET57X30
Y502, 503 504, 505	diode, germanium	ET16X21
	tuner, UHF transistorized (order ET85X50)	ET85X52
	tuner, UHF transistorized	ET85X54
	tuner, VHF thirteen position	ET86X265
	tuner, VHF (order ET86X265)	ET86X244



WAVEFORMS FOR POINTS INDICATED



THE COLOR BAR SIGNAL DISPLAYED WERE TAKEN WITH AN NTSC SIGNAL IMPUT TO THE RECEIVER. THE COLOR BAR SEQUENCE IS LISTED UNDER THE WAVE FORMS FOR THE COLOR DIFFERENCE AMPLIFIERS.

CIRCLED NUMBERS INDICATE POINTS ON SCHEMATIC DIAGRAM WHERE WAVEFORM IS TAKEN.

More Data on Opposite Page

HB CHASSIS SCHEMATIC DIAGRAM

GENERAL ELECTRIC
Color TV Chassis HB

NOTE: C.R.T. SOCKET HAS BUILT IN SPARK GAP. USE ONLY EXACT REPLACEMENT PART.

DO NOT SUBSTITUTE UNAUTHORIZED UHF TUNER IN RECEIVERS ORIGANALLY EQUIPPED WITH AN ET85X54 TUNER

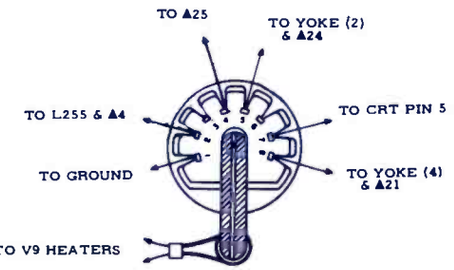
UNLESS OTHERWISE NOTED
K=1000 M=1,000,000
CAPACITORS MORE THAN 1=μμf=pf
CAPACITORS LESS THAN 1=μf
RESISTORS ARE 1/2 WATT

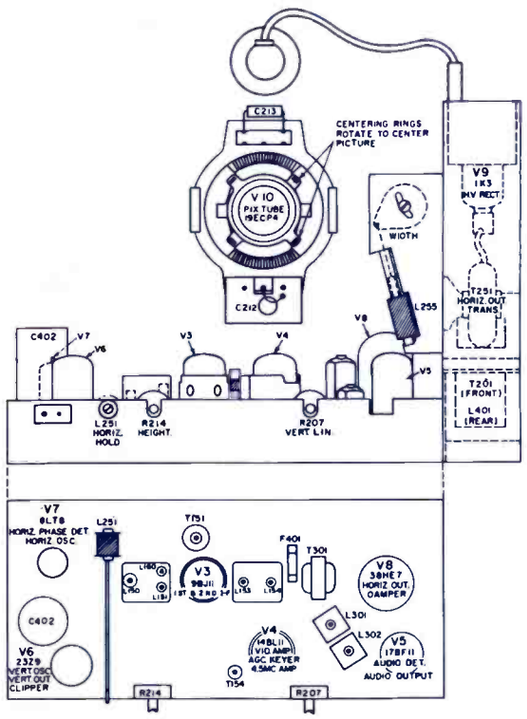
1. VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS; RECEIVER SET FOR NORMAL OPERATION. MEASUREMENTS MAY VARY ±10 %. AT 120VAC LINE VOLTAGE.
# INDICATES PRODUCTION CHANGE

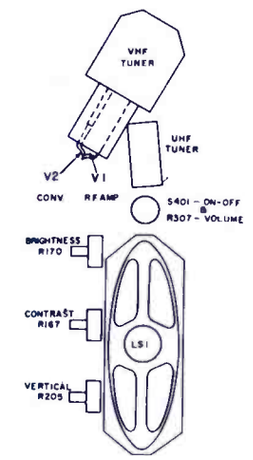
2. WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS DIFFER: ON-SIGNAL VOLTAGE APPEARS IN *ITALICS* OVER OFF-SIGNAL VOLTAGE. OFF-SIGNAL VOLTAGES TAKEN WITH ANTENNA DISCONNECTED AND ANTENNA TERMINALS SHORTED TOGETHER.

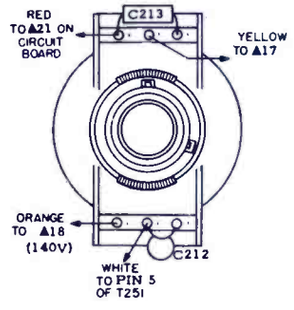
ON-SIGNAL VOLTAGES AND WAVE SHAPES TAKEN WITH NOISE FREE SIGNAL

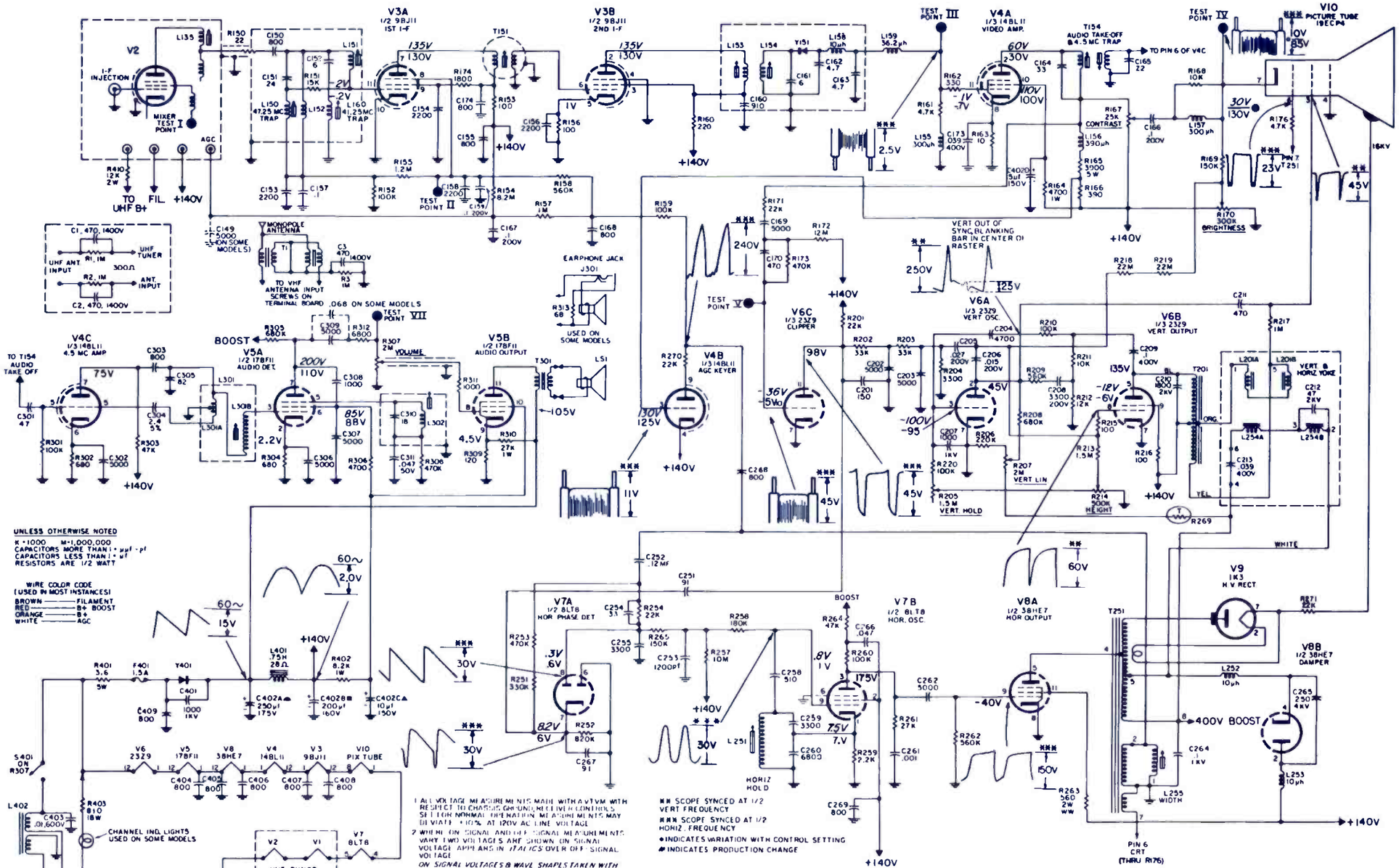
More Data on Opposite Page











GENERAL ELECTRIC
TV Chassis DB

ELECTRONIC TECHNICIAN TEKFAX

Symbol	Description	GE Part No. Common
R263	560 Ω, 10%, 2w, Wire Wound	
R269	125K, 25%, 25°C Thermistor	ET14X197
R401	3.6Ω, 10%, 7w, Wire Wound	ET14X183
R403	810Ω, 5%, 18w	ET14X189
R410	12K, 10%, 2w Glass	ET14X104
R167	25KΩ, Contrast, w/Stop at 22K	ET49X502
R170	300KΩ, 30%, Brightness	ET49X501
R205	1.5 MΩ, 30%, Vert. Hold	ET49X503
R207	2 MΩ, 30%, Vert. Lin.	ET49X499
R214	500K Ω, 20%, Vert. Size	ET49X500
R307/ S401	2 MΩ, 30%, Volume, w/ac Rotary Switch	ET49X454
C402A	250 µf, +100/—10%, 200v	ET31X231
C402B	200 µf, +100/—10%, 200v	
C402C	10 µf, +100/—10%, 200v	
C402D	10 µf, +100/—10%, 200v	
C1-C3	470 pf, GMV, 1400v	ET22X151
C152	6 pf, 10%, 500v, N220	ET18X530
C160	910 pf, 10%, 500v	ET22X87
C207	1000 pf, 20%, 1Kv, SSHK	ET18X188
C210	1800 pf, 20%, 2Kv	ET22X161
C258	510 pf, 5%, 500v, Char. D	ET19X86
C265	250 pf, 10%, 4500 v, N1500	ET18X412
C268	800 pf	ET22X80
C304	2.4 pf, 5%, 500v, Comp.	ET21X12

L153	COIL-Video Det., Primary w/Core	ET36X536
L154	COIL-Video Det., Sec., w/Core	ET36X587
L156	COIL-Choke 390 µh, 7%, Single Pi	ET36X264
L157	COIL-Choke, 300 µh, 7%, Single Pi	ET36X718
L158	COIL-Choke, 10 µh	ET36X420
L159	COIL-Choke, 36.2 µh, 44Mc	ET36X583
L160	COIL-41.25 Mc Link Trap Assy	ET36X770
L201 L254	YOKE-Toroidal, Deflection, Less Centering Ring, Retainer, and Spacer, with Magnets	ET76X39
L251	COIL-Horizontal Oscillator	ET35X51
L252	COIL-Choke, 10 µh, 10%	ET36X105
L255	COIL-Width Control	ET36X774
L301	COIL-4.5 Mc Interstage w/Core	ET36X695
L302	COIL-Quadrature w/Core	ET36X732
L401	Reactor-B+ Filter Choke	ET63X65
L402	COIL-Line Filter Choke	ET36X729
T151	Transformer-1st IF w/Core	ET61X162
T154	Transformer-Sound Take-off, 4.5 Mc Trap with Core	ET36X731
T201	Transformer-Vertical Output	ET64X106
T251	COIL-Horizontal Output XFMR w/Cap and Lead Assembly	ET77X86
T301	Transformer-Audio Output	ET64X105

T251 WIRING

YOKE WIRING

UNLESS OTHERWISE NOTED
K = 1000   M = 1,000,000
CAPACITORS MORE THAN 1 = µµf = pf
CAPACITORS LESS THAN 1 = µf
RESISTORS ARE 1/2 WATT

WIRE COLOR CODE
(USED IN MOST INSTANCES)
BROWN —— FILAMENT
RED —— B+ BOOST
ORANGE —— B+
WHITE —— AGC

1. ALL VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS GROUND, RECEIVER CONTROLS SET FOR NORMAL OPERATION. MEASUREMENTS MAY DEVIATE ±10% AT 120V AC LINE VOLTAGE.
2. WHERE ON SIGNAL AND OFF SIGNAL MEASUREMENTS VARY TWO VOLTAGES ARE SHOWN. ON SIGNAL VOLTAGE APPEARS IN *ITALICS* OVER OFF SIGNAL VOLTAGE.

ON SIGNAL VOLTAGES & WAVE SHAPES TAKEN WITH A NOISE FREE SIGNAL PRODUCING 1.5 TO 2.5 VOLTS AGC AT VHF TUNER.

OFF SIGNAL VOLTAGES TAKEN WITH ANTENNA DISCONNECTED & ANTENNA TERMINALS SHORTED TOGETHER ON UNUSED CHANNEL.

ALL OTHER CONTROLS ARE ADJUSTED FOR NORMAL OPERATION.

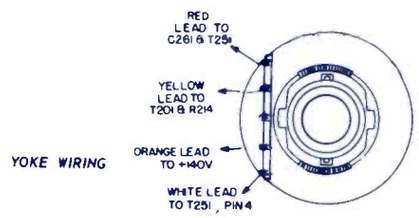
** SCOPE SYNCED AT 1/2 VERT FREQUENCY

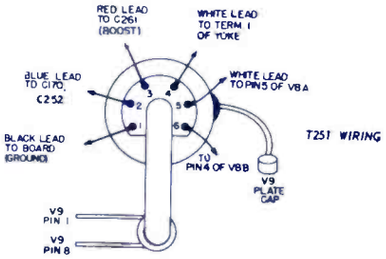
*** SCOPE SYNCED AT 1/2 HORIZ. FREQUENCY

● INDICATES VARIATION WITH CONTROL SETTING

✱ INDICATES PRODUCTION CHANGE

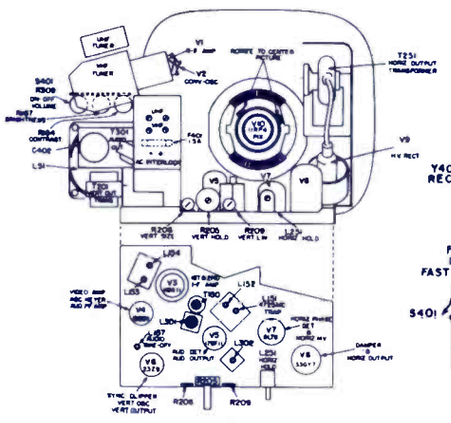
Symbol	Description	GE Part No.
R164	25K contrast	ET49X541
R205	1.2M 30% vert hold	ET49X534
R206	500K height	ET49X535
R209	2M vert lin	ET49X536
R151	12K 2w	ET14X104
R163	4700 3w	ET14X133
R270	1.6Ω (resistive lead, HV filament)	ET65X36
R401	5Ω 5w WW	common
R402	100 5w WW	common
R403	160 5w WW	ET14X200
C402A	300μf 175v	ET31X268
C402B	200μf 150v	
C402C	10μf 150v	
C402D	100μf 150v	
C51-54	470 1400v GMV HiK	ET22X151
C152	24 5% NPO	ET18X123
C161	6pf N750	ET18X424
C162, C163	4.7 20% NPO	ET18X501
C165	5 N750	ET18X416
C166	10 5% N750	ET18X310
C168	5000 GMV 450v HiK	ET22X96
C201	120 5% NPOK	ET18X559
C254	390 N750	ET18X576
C258	5000 GMV 450v HiK	ET22X96
C259	62 NPO	ET18X592
C262	280 4000v N1600	ET18X374
C301	47 5% N750	ET18X253
C303	2.2 5% composition	ET21X45
C304	120 N750	ET18X559
C307	3900 1kv SSHK	ET22X144
C308	18 N470	ET18X399
C310	5000 GMV 450v HiK	ET22X96
C401	1000 GMV 1400v HiK	ET22X58
C404	.01μf GMV 1400v HiK	ET22X47
L145	coil choke 5.6μh	ET36X815
L150	coil link shunt	ET36X816
L151	coil 47.25Mc trap	ET36X753
L152	coil 1st IF grid	ET36X754
L153	coil 2nd IF Plate (primary)	ET36X757
L154	coil video det (secondary)	ET36X587
L155	coil 44Mc resonant 36.2μh	ET36X583
L157	coil audio take off	ET36X663
L158	coil 120μh 7% single Pi	ET36X817
L159	coil 227μh special	ET36X758
L160	coil 219Mc 1.8μh	ET36X722
L201A, B	yoke deflection 20MM toroidal	ET76X41
L253A, B	coil horiz osc	ET35X51
L251	coil 3μh choke	ET36X633
L252	coil audio interstage	ET36X818
L301A, B	coil quad	ET36X665
L302	xformer IF	ET61X161
T150	xformer vert out	ET64X114
T201	xformer horiz out	ET77X92
T251	xformer audio out	ET64X100
T301	UHF tuner transistorized (replace ET85X52)	ET85X50
	UHF tuner transistorized (replace ET85X50)	ET85X52
	VHF tuner 13pos manual triode	ET86X245

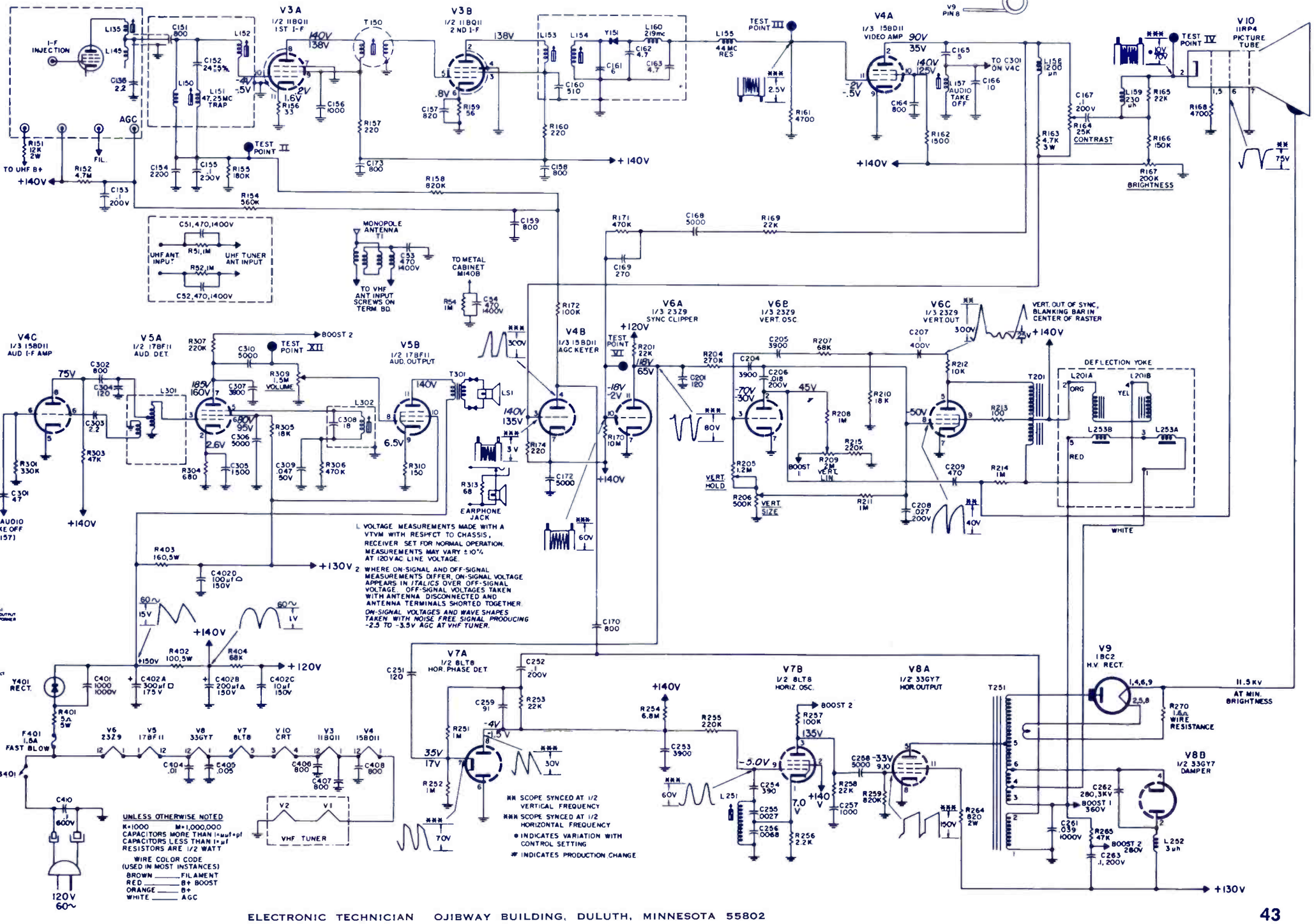




TELEVISION RECEIVER SPECIFICATIONS	
POWER INPUT RATING:	Frequency ..... 60 cycles Voltage ..... 110–128 volts Wattage at 120 Volts Standard Chassis ..... 110 watts
R-F FREQUENCIES:	Channels VHF ..... 2 through 13 Frequencies ..... 54–88MC, 174–216MC Channels UHF ..... 14 through 83 Frequencies 470–890MC
OPERATIONAL FREQUENCIES:	Picture IF Carrier ..... 45.75MC Sound IF Carrier ..... 41.25MC Intercarrier Sound 4.5MC
AUDIO POWER OUTPUT:	Maximum ..... 1 watt
LOUDSPEAKER:	Type ..... Alnico PM Voice Coil Impedance @ 400 Cycles ..... 3.2 ohms
ANTENNA:	External Terminals: Impedance: 300 ohms balanced to ground

TUBE AND SEMICONDUCTOR COMPLEMENT		
SYMBOL	FUNCTION	TYPE
V1	R-F Amplifier	(See Tuner)
V2	VHF Mixer-Osc.	
V3	1st & 2nd I-F Amplifiers	11BQ11
V4	Video Amp., AGC Keyer 4.5 mc. Aud. Amp.	15BD11
V5	Audio Det., Audio Output	17BF11
V6	Vert. Osc., Vert. Output, Clipper	23Z9
V7	Hor. Phase Det., Hor. Osc.	8LT8
V8	Horizontal Output, Damper	33GY7
V9	H.V. Rectifier	1BC2
V10	Picture Tube	11RP4
Y151	Video Det. Crystal Diode	ET16X1
Y401	Silicon Power Rectifier	ET57X30





HOFFMAN
Color
913-162205

SYMBOL	DESCRIPTION	HOFFMAN PART NO.
C314	ceramic 200pf 10% 500v N1500	865-221617
C316	ceramic 560pf 5% 500v N1500	866-561657
C319, 320	ceramic 10pf ±.5pf 500v NPO	808-10061
C502	ceramic 27pf 20% 500v N750	861-270626
C503	ceramic 68pf 10% 500v NPO	866-68C611
C514	paper .0082μf 20% 1000v	046-015700
C521	ceramic 390pf 5% 1500v N1500	035-034100
C524	mica 680pf 5% 500v	045-007300
C531	ceramic 2700pf 10% 500v N5600	866-272610
C705	ceramic 120pf 20% 500v N750	809-121626
C709	ceramic 4pf ±.5pf 500v NPO	861-409661
C717	ceramic 10pf 500v NPO	861-100611
C718	ceramic 220pf 10% 500v N750	866-221616
C720, 721	ceramic 33pf 20% 500v N150	863-330624
C722	ceramic 10pf 10% 500v NPO	861-100611
C724	ceramic 82pf 10% 500v NPO	866-820611
C730	ceramic 330pf 5% 500v N750	866-331656
C735	ceramic 6pf ±.5pf 500v NPO	861-609661
C748	ceramic 120pf 10% 500v N2200	862-121618
C807	elect 25μf 6v	034-024400
CB101	breaker-circuit 3 amp	099-002500
CR101	rectifier, selenium	004-003100
CR102	rectifier, selenium	004-003200
CR301	diode, snd detector 1N60	003-007500
CR302	diode, crystal	003-005400
CR801A, B, C, D	rectifier, selenium	004-003700
DL101	line, delay	111-023800
F103	fuse, heater	099-002600
L101	deflection yoke (models IP5001, W5002, SP5003, FP5004)	027-032000
L101	deflection yoke (models 1P5001, B; W5002, B; SP5003, B; FP5004, B; W5310, SP5311, W5320, MS5322, W5330, SP5331)	027-031400
L107	reactor, filter choke	032-002600
L113	coil degaussing (models IP5001, W5002, SP5003, FP5004)	111-032500
L113	coil, degaussing (models IP5001B; W5002B, SP5003B, FP5004B, W5310, SP5311, W5320, MS5322)	111-032600
L113	coil, degaussing (models W5310, SP5311, W5320, MS5322, W5330, SP5331)	111-032100
L114	coil, vert pin cushion phase	111-032400
L116	reactor, instant warm-up	032-002800
L117	relay, indicator	140-00200
L118	relay, power	140-000400
L201	coil, snd take-off	109-029700
L202	coil, snd detector	109-029900
L203	coil, RF choke	111-030000
L512	reactor, RF choke 5.6μh	111-021100
L701	coil, chroma take-off	111-023500
L710	coil, horiz efficiency	111-032300
L801	coil, red/green right vert lines	111-031800
L802	coil, red/green right horiz lines	111-031700
L803	coil, blue horiz shape	111-031900
L804	coil, horiz right blue	111-031600
PW200	circuit, printed snd board	073-033300
PW200	circuit, printed snd board	073-033200
PW300	circuit, printed video IF board	073-031000
PW500	circuit, printed deflection board	073-032300
PW700	circuit, printed chroma board	073-030500
PW800	circuit, printed convergence board	073-034100
R111	film type 66M 20% 6000v	057-000400
R112	control, horiz centering 10Ω	055-039100
R114	fixed film 13,000Ω 10% 7w	054-133710
R117	fixed film 3300Ω 10% 3w	054-332310
R119	control, tone 2.5M	055-047700
R120	control, contrast 368	055-050000
R120A, B	control, dual contrast 368Ω (A) on-off vol 1M(B)	055-049000
R126	fixed film 680Ω 10% 4w	054-681410
R127	WW 1400Ω 10% 18w	065-010600
R128	fixed film 820Ω 10% 7w	054-821710
R130	control, AGC 6000Ω 2w	054-037800
R131	control, horiz hold 35,000Ω	055-047500
R132	fixed film 6800Ω 10% 3w	054-682310
R133	control, vert hold 750,000Ω	055-047600
R134	control, vert lin 3.4M	055-037200
R137	control, height 100,000Ω	055-036600
R141	control, brightness 250,000Ω	055-049100
R142	WW 10,000Ω 10% 10w	053-103110
R143	control, intensity 500Ω	055-049400
R144	control, color killer 1M	055-036400
R146	fixed film 2700Ω 10% 3w	054-272310
R149	film type 5600Ω 10% 4w	054-562410
R150	fixed film 6800Ω 10% 2w	054-682210
R152	control, pix tube bias 6000Ω 2w	056-037800
R153	control, blue drive 6000Ω	055-036800
R154	control, green drive 6000Ω	055-036700
R155	control, green screen 1.5M	055-037000
R156	control, red screen 1.5M	055-036900
R157	control, blue screen 1.5M	055-037100
R162	fixed film 1000Ω 10% 3w	054-102310
R171	fixed film 820Ω 10% 7w	054-821710
R172	fixed film 680Ω 10% 4w	054-681410
R178A,B	control, dual high volt adj 500,000Ω(A) pin cushion top & bottom 25,000Ω(B)	055-049500
R179	control, pin cushion side 2500Ω 1w	055-047900
R183	82,000Ω 5% 1w	051-823151
R184	control, cinema 500,000Ω	055-049300
R190	control, tint 1200Ω	055-049200
R749	150Ω 5% ½w	051-151551
R801	control, horiz left blue ⇄2 60Ω 3w	056-046800
R804	control, left vert red/green 150Ω 2w	056-047300
R805	control, left horiz red/green 120Ω 2w	056-047200
R808	control, bottom blue horiz lines 60Ω 3w	056-046800
R811	control, top red/green vert lines 150Ω 2w	056-047300
R812	control, bottom red/green horiz lines 500Ω 3w	056-046700
R813	control, top red/green horiz lines 120Ω 2w	056-047200
R814	control, bottom red/green vert lines 60Ω 3w	056-046800
R815	control, top blue horiz lines 60Ω 3w	056-046800
RT101	thermistor, 1.25Ω 25% hot	057-001200
RT102	thermistor, 5Ω cold (part of yoke)	
RV101	varistor, 175v 15% 1ma	057-001500
RV102	varistor, 110v 10% 1ma	057-001600
RV103	varistor, 20v 20% 67ma	057-001300
RV501	varistor, 1480v 15% 10ma	057-000200
SR101, 102	rectifier, silicon	004-002700
SR103	rectifier, silicon	004-002800
SR501A, B	rectifier, selenium	004-002900
SW104	switch, vacation	146-007700
SW105	switch, normal purity	146-007800
SW106	swtich, peak	146-007800
SW109	color, defeat switch (part of intensity control)	
T101	coil, focus	111-032200
T102	xformer, high volt	033-010200
T104	xformer, vert out	033-010300
T105	xformer, power	033-008500
T107	xformer, vert pin cushion phase	033-010400
T108	xformer, horiz pin cushion phase	033-010500
T201	xformer, snd IF	109-029800
T301	xformer, pix IF input	109-022100
T302	xformer, 1st pix IF	109-022400
T303	xformer, 2nd pix IF	109-022300
T304	xformer, 3rd pix IF (incls C318)	109-023300
T701	xformer, band pass	109-023100
T702	xformer, burst phase	109-023600
T703	xformer, 3.58MHz osc	109-024500
Y101	crystal, 3.58MHz	136-000100
	magnet, purity & blue lateral	112-001700
	tuner, VHF	006-016200
	tuner, UHF	006-016300

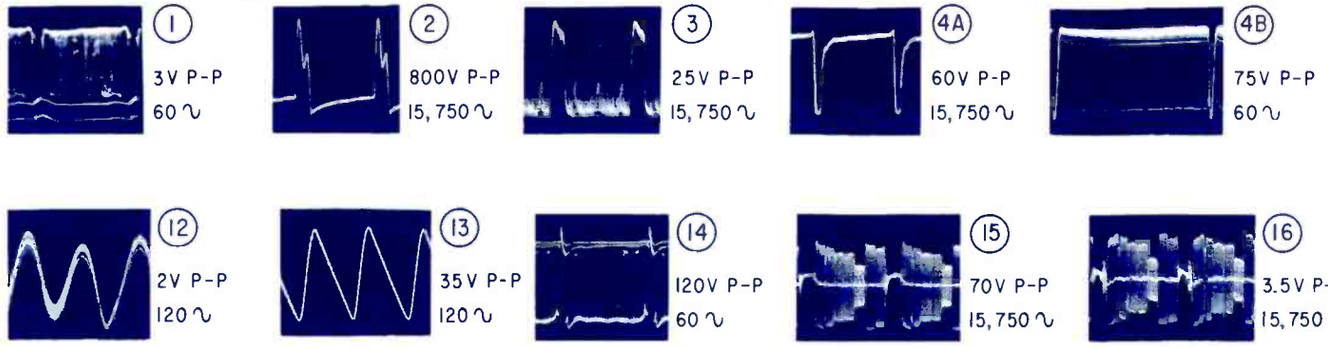
ELECTRICAL SPECIFICATIONS

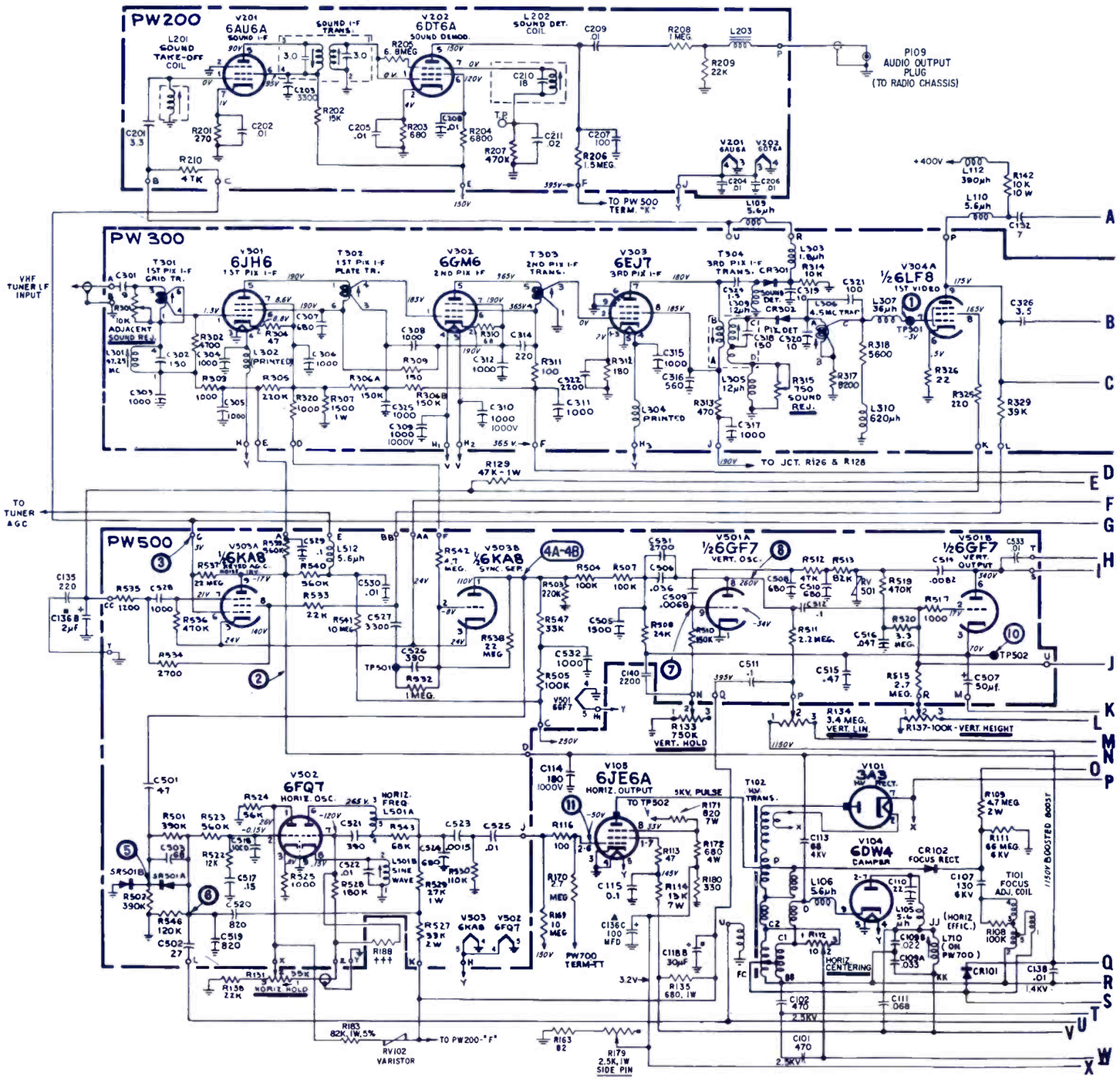
ANTENNA INPUT IMPEDANCE ..... 300 ohms balanced
CONVERGENCE ..... Magnetic
FOCUS ..... Electrostatic
AUDIO POWER OUTPUT RATING ..... 2.5 watts max.
INTERMEDIATE FREQUENCIES
- Picture I-F Carrier Frequency ..... 45.75 mc.
- Sound I-F Carrier Frequency ..... 41.25 mc.
- Color Sub-Carrier Frequency ..... 42.17 mc. (Nominal)

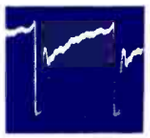
POWER INPUT ..... 120 volts AC, 60 cycle
POWER RATING ..... 360 watts total
SPEAKER SIZE AND TYPE ..... See Parts List
SWEEP DEFLECTION ..... Magnetic
TELEVISION R-F FREQUENCY RANGE
All 12 television channels.... 54 mc. to 88 mc., 174 mc. to 216 mc.
Any of 70 UHF channels ..... 470 mc. to 890 mc.

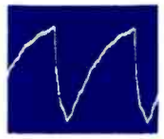
TUBE AND TRANSISTOR COMPLEMENT

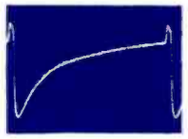
V1	6HQ5	RF Amplifier
V2	6HB7	VHF Oscillator & Mixer
Q1	GMO380	UHF Oscillator-Transistor
V101	3A3	High Voltage Rectifier
V102	6BK4B	Shunt Rectifier
V104	6DW4	Damper
V105	6JE6A	Horizontal Output
V108	25AP22A	Picture Tube (Models W5310, SP5311, W5320, MS5322, W5330, SP5331)
V108	23EGP22	Picture Tube (Models IP5001,B; W5002,B; SP5003,B; FP5004,B)
V201	6AU6A	Sound IF Amplifier
V202	6DT6A	Sound Demodulator
V203	6BQ5	Audio Output (Models IP5001,B; W5002,B; SP5003,B; FP5004,B; W5310, SP5311, W5320, MS5322)
V301	6JH6	1st Picture IF Amplifier
V302	6GM6	2nd Picture IF Amplifier
V303	6EJ7	3rd Picture IF Amplifier
V304A & B	6LF8	1st and 2nd Video Amplifier
V501A & B	6GF7	Vert. Osc. & Vert. Output
V502	6FQ7	Horizontal Oscillator
V503A & B	6KA8	Keyed AGC, Noise Inv., Sync. Sep.
V701A & B	6GH8A	Band - Pass Amplifier and Killer
V702	6EW6	Burst Amplifier
V703A & B	6GH8A	3.58 mc. Osc. & Reactance Control
V704	6GY6	"X" Demodulator
V705A & B	6JU8	Phase Detector & Killer Detector
V706A & B	6GU7	R-Y Amplifier & B-Y Amplifier
V707A & B	6GU7	G-Y Amplifier & Blanker
V708	12BY7A	3rd Video Amplifier
V709	6GY6	"Z" Demodulator

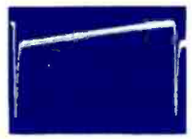


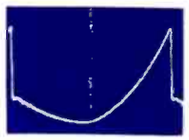


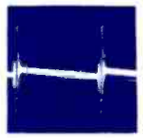


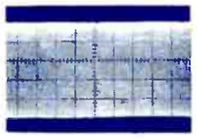


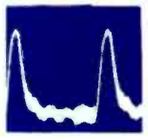


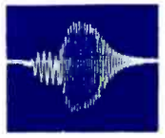


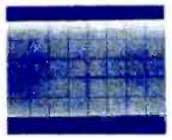


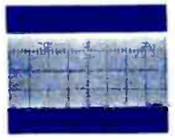


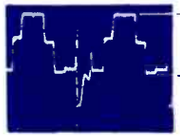


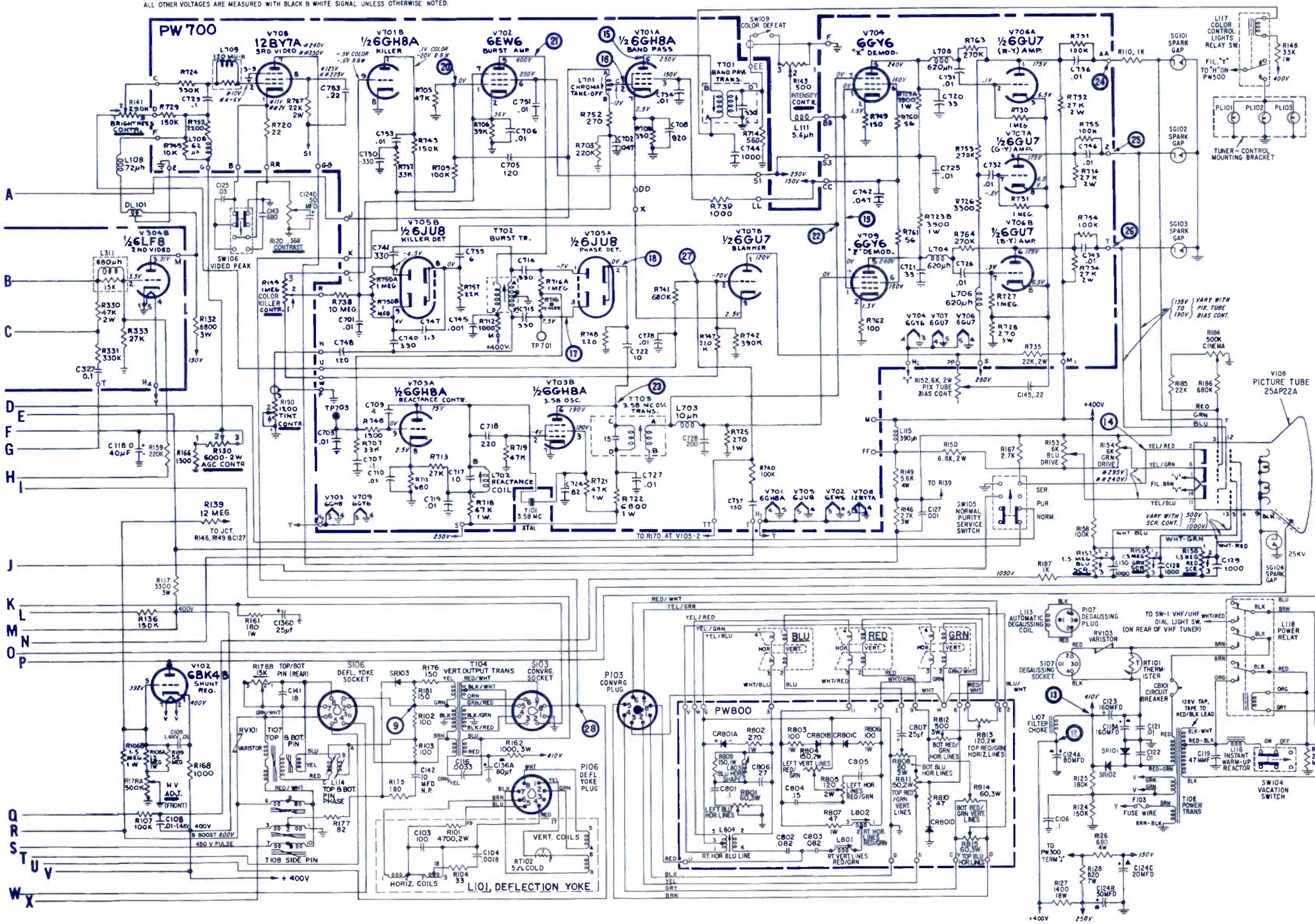












HOFFMAN
Color
913-162205

⑤ 15V P-P 15,750 ∿

⑥ 30V P-P 15,750 ∿

⑦ 100V P-P 60 ∿

⑧ 330V P-P 60 ∿

⑨ 75V P-P 60 ∿

⑩ 12V P-P 60 ∿

⑪ 210V P-P 15,750 ∿

⑰ 55V P-P 15,750 ∿

⑱ 13V P-P 15,750 ∿

⑲ 5V P-P 15,750 ∿

⑳ 50V P-P 15,750 ∿

㉑ 170V P-P 15,750 ∿

㉒ 25V P-P 15,750 ∿

㉓ 200V P-P 15,750 ∿

㉔ 140V 195V P-P 15,750 ∿

㉕ 65V 160V P-P 15,750 ∿

㉖ 155V 185V P-P 15,750 ∿

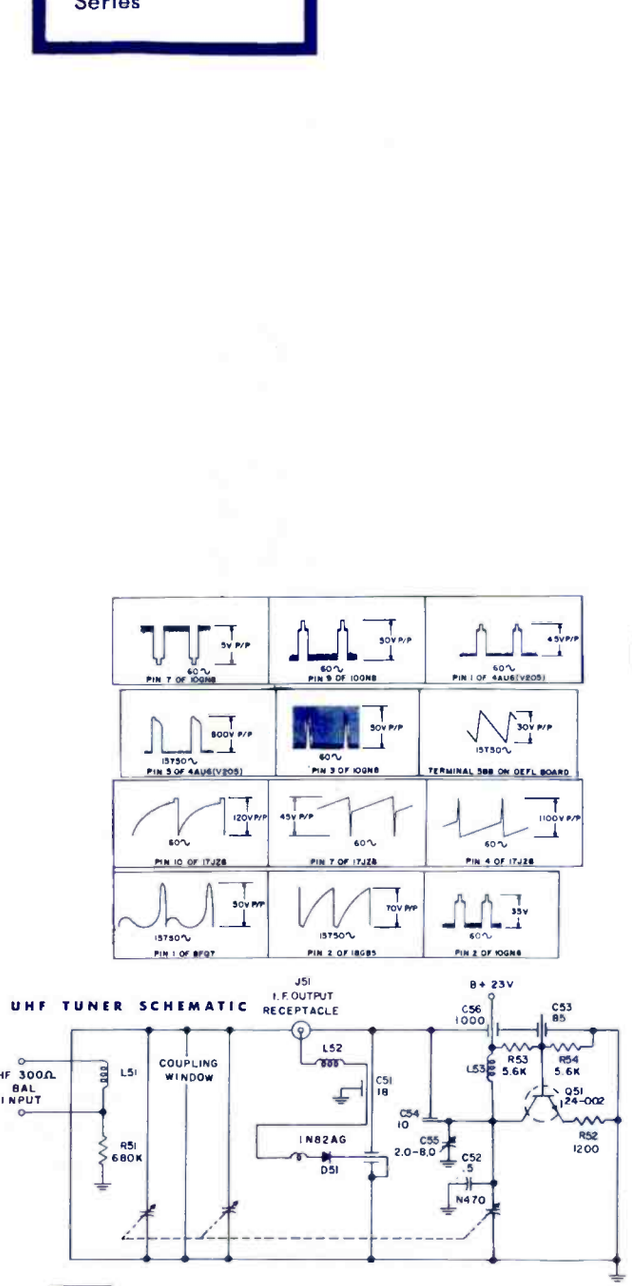
㉗ 200V P-P 15,750 ∿

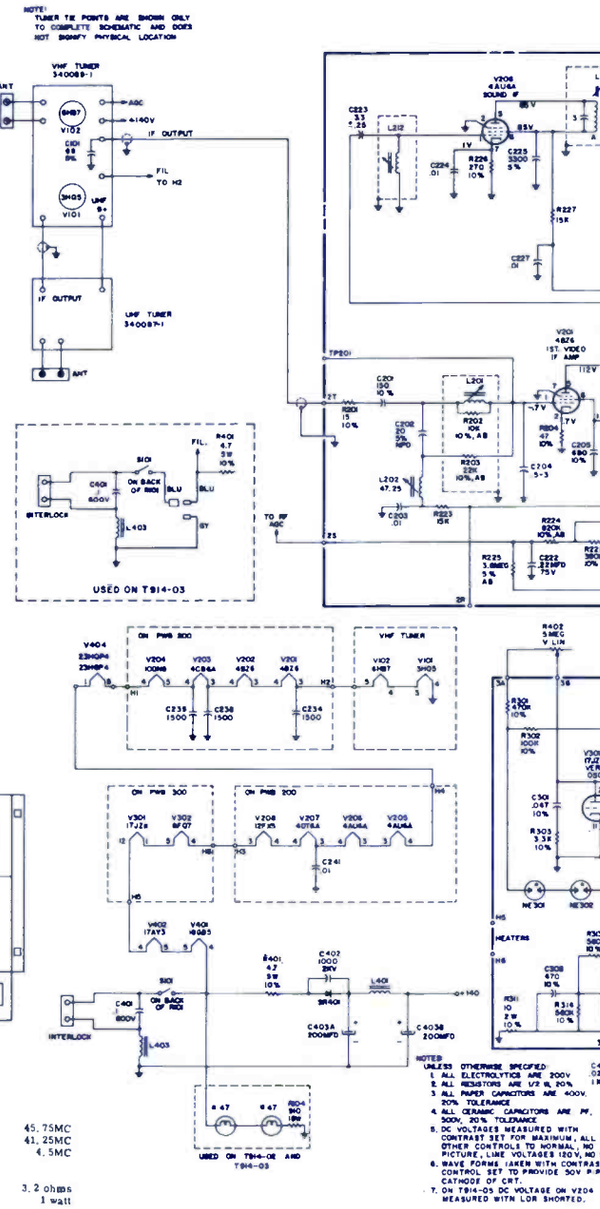
㉘ 230V P-P 15,750 ∿

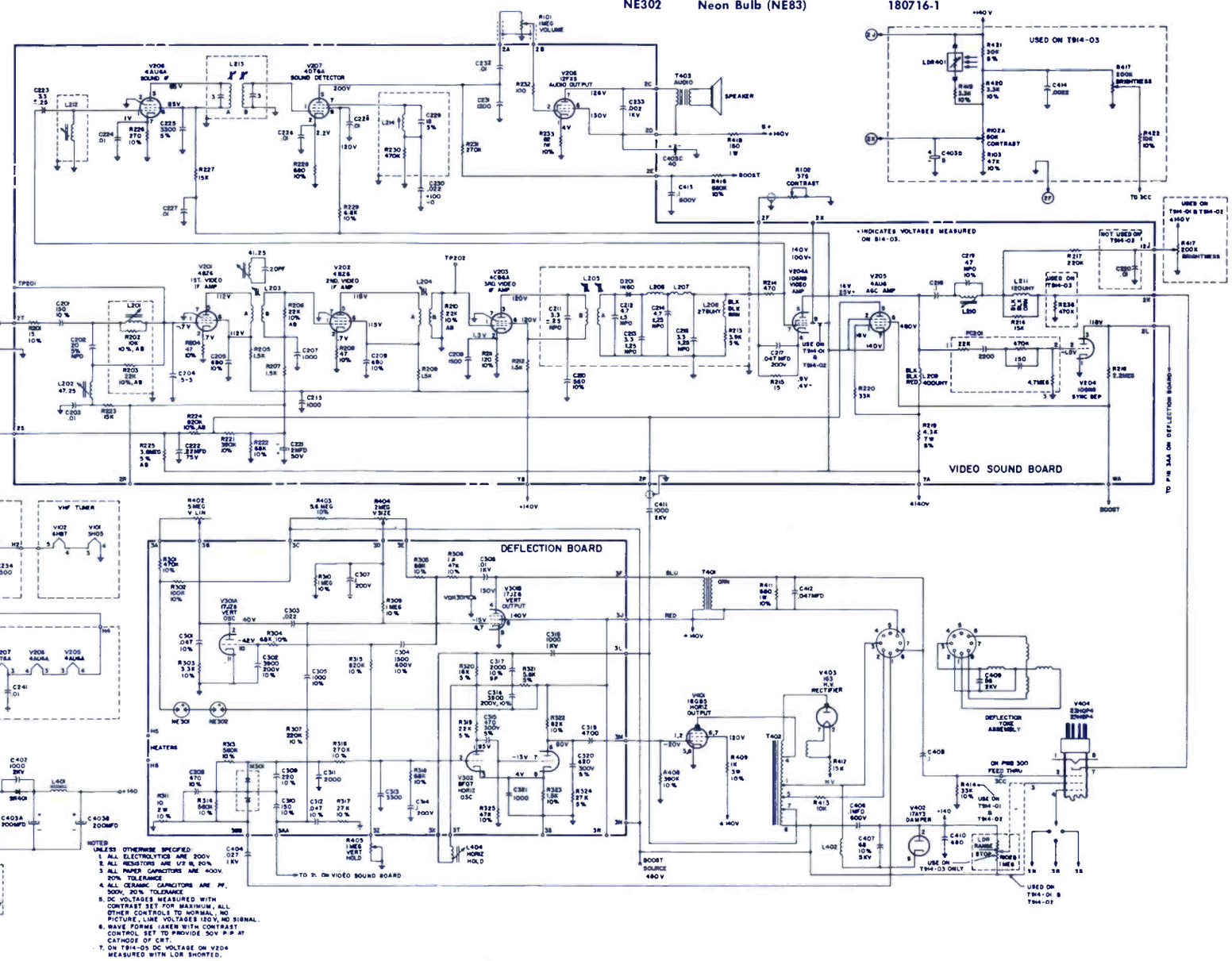
NOTES:
(*) VOLTAGES TAKEN WITH BRIGHTNESS CONT. AT MAX.—NORMAL CONTRAST.
(**) VOLTAGES TAKEN WITH BRIGHTNESS CONT. AT MIN.—NORMAL CONTRAST.
ALL OTHER VOLTAGES ARE MEASURED WITH BLACK & WHITE SIGNAL UNLESS OTHERWISE NOTED.

MODEL AND CHASSIS REFERENCE

Model	TV Chassis	AM/FM Chassis
W-5330	913-162205	902-035000
SP-5331	913-162205	902-035000







MAGNAVOX
TV Chassis T-914
Series

ELECTRONIC TECHNICIAN TEKFAX

Symbol	Description	Magnavox Part No.
L201	IF Input Coil	360848-1
L202	47.25 Mc Trap	360842-1
L203	1st IF Coil & 41.25 Mc Trap	361178-1
L204	2nd IF Coil	360849-2
L205	3rd IF Coil	361161-1
L206	90 Mc Tweet Coil	360852-4
L207	90 Mc-160 Mc Tweet Coil	361157-1
L208	270 μhy Peaking Coil	360853-1
L209	400 μhy Peaking Coil	360853-7
L210	4.5 Mc Trap	360851-1
L211	120 μhy Peaking Coil	360853-8
L212	Sound Take-Off Coil	360845-1
L213	Sound IF Coil	360846-2
L214	Quadrature Coil	360847-2
L301	Horizontal Oscillator Coil	361171-1
L401	Filter Choke	320125-1
L402	Damper Choke	360783-3
L403	Choke	361075-1
T401	Vertical Output Transformer	320314-2
T402	H.V. Transformer	361113-1
T403	Audio Output Transformer	320379-7
C101	Ceramic, 68 pf, 5% (NPO)	
C201	Ceramic, 150 pf, 10%	
C204	Trimmer, .5-3 pf	250371-1
C205	Ceramic, 680 pf, 10%	
C208	Ceramic, 680 pf, 10%	
C211	Ceramic, 3.3 pf, ±.25 pf (NPO)	
C212	Ceramic, 4.7 pf, 10% (NPO)	
C213	Ceramic, 3.3 pf, ±.25 pf (NPO)	
C214	Ceramic, 4.7 pf, 10% (NPO)	
C216	Ceramic, 3.3 pf, ±.25 pf (NPO)	
C219	Ceramic, 47 pf, 10% (NPO)	
C220	Ceramic, .01 μfd	
C222	Paper, .22 μfd, 75v	250555-41
C223	Ceramic, 3.3 pf, ±.25 pf (NPO)	
C230	Ceramic, .022 μfd, GMV	
C305	Paper, .001 μfd, 10%, 500v (Special)	250525-1023
C315	Silver Mica, 470 pf, 5%, 300v	250365-347
C316	Mylar, 3900 pf, 10%, 200v	250369-1
C317	Paper, 2000 pf, 10% (Special)	250442-2
C318	Silver Mica, 1000 pf, 1000v	250542-1020
C320	Silver Mica, 620 pf, 5%, 300v	250365-350
C403	Electrolytic, 200/200/40 μfd 200v (T914-01 & 02)	270021-120
C403	Electrolytic, 200 μfd, 200v, 200/40/5 μfd, 150v	270021-121
C404	Paper, .027 μfd, 1000v (Special)	250290-13
R104	910, 18w, 10%	240088-1
R219	4300, 5%, 7w	240086-2
R311	10, 2w, 10%	
R401	4.7, 5w (WW) 10%	240080-19
R409	1000, 31w (Glass), 10%	230150-318
R101	1 M, Off-On-Volume	220135-1
R102	375, Contrast (T914-01 & 02)	220126-85
R102	50 k, Contrast, 1M, LDR Range (T914-03	220149-22
R402	5 M, Vert. Lin.	220189-24
R404	2M, Vert. Size	220189-23
R405	1M, Vert. Hold	220189-19
R417	200k, brightness	220189-22
D201	Video Detector Diode	530065-1
M301	Horizontal AFC Diode	530093-1
SR301	Silicon Rectifier	530082-2
PC201	Printed Pac	250526-1
VDR201	Varistor	230167-2
LDR401	Light Dependant Resistor (LDR)	230168-1
NE301	Neon Bulb (NE83)	180716-1
NE302	Neon Bulb (NE83)	180716-1

Ref.	Function	Type
V101	VHF RF Amplifier	3HQ5
V102	VHF Mixer/Oscillator	6HB7
V201	1st Video IF Amplifier	4BZ6
V202	2nd Video IF Amplifier	4BZ6
V203	3rd Video IF Amplifier	4CB6
V204	Video Amplifier & Sync Separator	10GN8
V205	AGC Amplifier	4AU6
V206	Sound IF Amplifier	4AU6
V207	Sound Detector	4DT6
V208	Audio Output	12FX5
V301	Vertical Oscillator & Output	17JZ8
V302	Horizontal Oscillator	8FQ7
V401	Horizontal Output	18GB5
V402	Damper	17AY3
V403	H. V. Rectifier	1G3GT
V404	Picture Tube	23HQP4/23HGP4

UHF TUNER SCHEMATIC

CHASSIS LAYOUT

NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL ELECTROLYTICS ARE 200V
2. ALL RESISTORS ARE 1/2 W, 20%
3. ALL PAPER CAPACITORS ARE 400V, 20% TOLERANCE
4. ALL CERAMIC CAPACITORS ARE PF, 500V, 20% TOLERANCE
5. DC VOLTAGES MEASURED WITH CONTRAST SET FOR MAXIMUM, ALL OTHER CONTROLS TO NORMAL, NO PICTURE, LINE VOLTAGES 120V, NO SIGNAL.
6. WAVE FORMS TAKEN WITH CONTRAST CONTROL SET TO PROVIDE 50V P-P AT CATHODE OF CRT.
7. ON T914-03 DC VOLTAGE ON V204 MEASURED WITH LDR SHORTED.

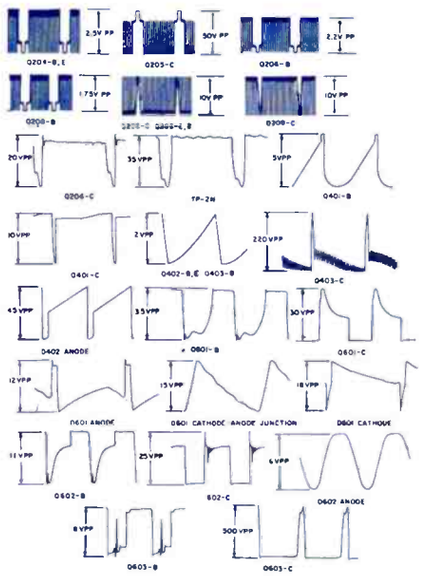
T-914 SERIES TELEVISION CHASSIS

SPECIFICATION

Power Source Rating		IF System	
Frequency	60 cycles	Video IF	45.75MC
Voltage	117 volts	Sound IF	41.25MC
Wattage	140 watts	Intercarrier Sound IF	4.5MC
Tuning Range	Channels 2-83	Audio System	
Antenna Input Impedance	Balanced 300 ohms	Output Impedance	3.2 ohms
		Power Output	1 watt

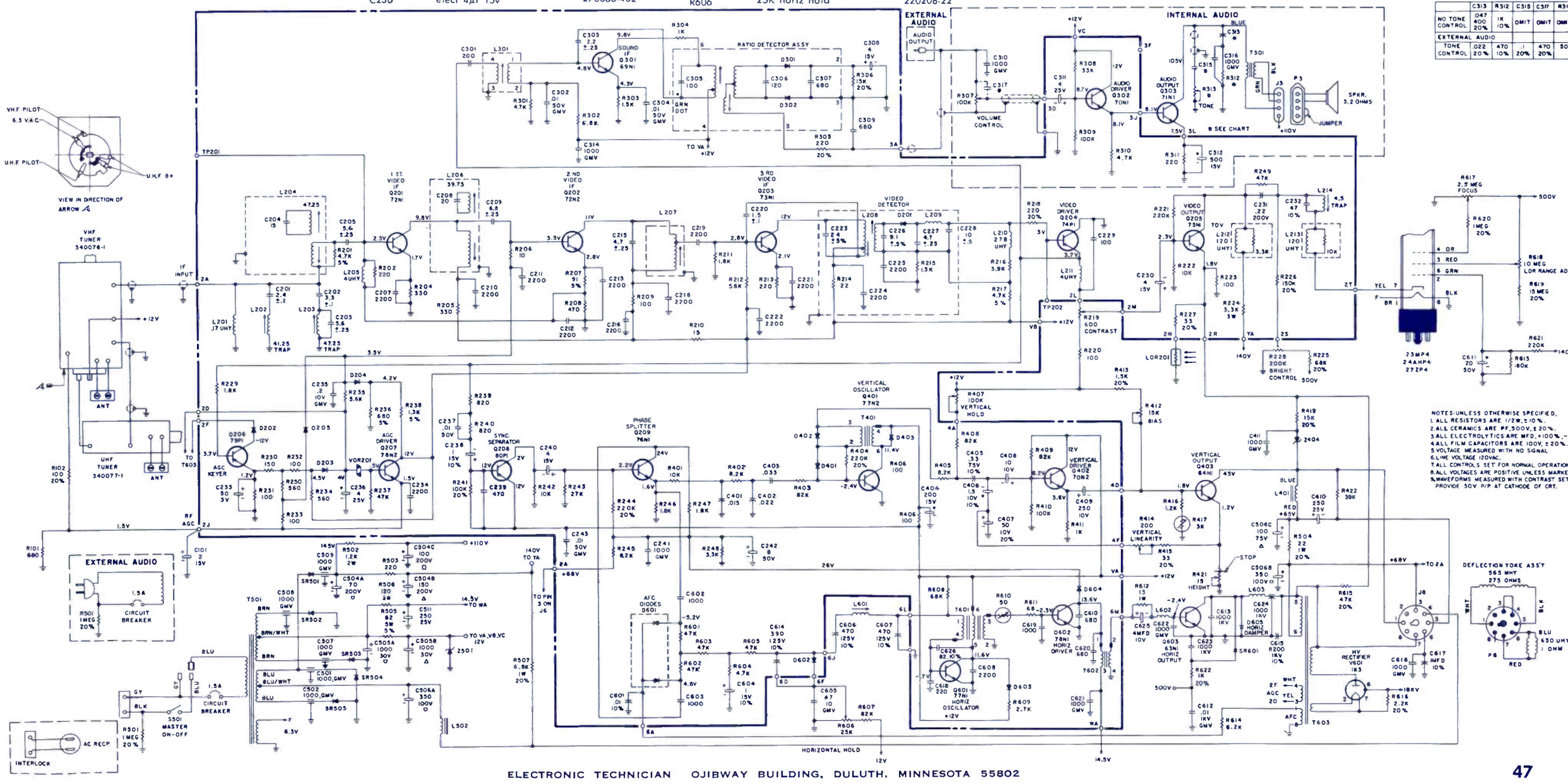
MAGNAVOX
TV Chassis T908 Series

P/P VOLTAGES & WAVEFORMS



Symbol	Description	Magnavox Part No.
T301	audio out xformer	320327-2
T401	vert xformer	320322-1
T501	power xformer	300233-1
T601	horiz xformer	320323-1
T602	horiz driver	361160-1
T603	high volt xformer	361158-1
L201	link coil, .17µh	361151-1
L202	41.25Mc trap	361152-1
L203	47.25Mc trap	360843-1
L204	IF input & 47.25Mc trap	361193-1
L205	RF choke	361159-1
L206	1st IF & 39.75Mc trap	361154-1
L207	2nd IF xformer	361155-1
L208	3rd IF xformer	361156-1
L209	tweet choke	361157-1
L210	peaking coil, 278µh	360853-6
L211	RF choke	361159-1
L212	peaking coil, 120µh	360853-9
L213	peaking coil, 120µh	360853-10
L214	4.5Mc trap	360851-1
L301	sound take-off xformer	361149-1
L302	ratio det xformer	361150-1
L401	vert out choke	320319-1
L502	filter reactor	320321-1
L601	horiz ringing coil	361097-1
L602	RF choke	360676-10
L603	suppressor coil	361077-2
C101	elect 2µf 15v	270082-401
C201	2.4pf ±.1pf	250546-2496
C202	3.3pf ±.1pf	250545-3396
C203	5.6pf ±.25pf	250546-5697
C205	5.6pf ±.25pf	250546-5697
C209	6.8pf ±.25pf	250546-6897
C215	4.7pf ±.25pf	250546-4797
C220	1.5pf ±.1pf	250546-1596
C223	24pf 5%	
C226	9.1pf ±.5pf	250546-9198
C227	4.7pf ±.25pf	250546-4797
C228	10pf ±.5pf	250546-1008
C230	elect 4µf 15v	270068-402
C233	elect 50µf 3v	270068-313
C236	elect 4µf 25v	270068-602
C240	elect 4µf 15v	270068-402
C242	elect 8µf 35v	270082-705
C303	2.2pf ±.25pf	250546-2297
C308	elect 4µf 15v	270068-402
C311	elect 4µf 25v	270068-602
C312	elect 500µf 15v	270068-428
C404	elect 200µf 15v	270068-423
C407	elect 50µf 10v	270068-1313
C408	elect 10µf 10v	270068-305
C409	elect 250µf 10v	270068-324
C410	elect 250µf 25v	270082-622
C504	elect 70/150/100µf, 200v (908-01 & 03)	270021-119
C504	elect 70/150µf 200v (908-02 & 04)	270021-117
C505	elect 1000/1000µf 30v	270021-122
C506	elect 350/350µf 100v, 100µf 75v	270021-118
C511	elect 250µf 25v	270082-622
C611	elect 20µf 50v	270082-709
C612	.01µf 1kv	
C613	1000pf 1kv	
C614	polystyrene, 390pf 125v	
C615	paper 8200pf 1kv	
C623	1000 1kv	
C624	1000 1kv	
C625	elect 4µf 10v	270027-43
R505	82 5% 5w WW	
R506	120 10% 5w WW	
R507	6.8K 20% 1w	
R219	600 contrast	220208-18
R228	200K brightness	220208-19
R307	100K off-on volume	220135-25
R313	50K tone	220208-32
R407	100K vert hold	220208-20
R412	15K vert bias	220208-36
R414	200K vert lin	220208-23
R421	15 vert height WW	220167-8
R606	25K horiz hold	220208-22
D205	silicon diode	530072-8
D401	silicon diode	530072-9
D402	silicon diode	530072-9
D403	siilcon diode	530072-9
Z404	zener diode	530117-1
Z501	zener diode	530073-13
D601	dual selenium diode	530045-4
D602	varicap diode	530112-1
D603	silicon diode	530072-8
D604	silicon diode	530072-9
D605	silicon	530113-1
SR501	silicon rectifier	530082-3
SR502	silicon rectifier	530082-3
SR502	silicon rectifier	530071-2
SR503	silicon rectifier	530071-2
SR504	silicon rectifier	530071-2
SR505	silicon rectifier	530071-2
SR601	silicon rectifier	530113-1
VDR201	varistor	230173-1
R610	thermistor	230172-1
	tuner UHF	340077-1
	tuner VHF	340076-1
R417	thermistor	230171-1
R617	2.5M focus	220208-25
R618	10M LDR range adj	220208-24
Q201	NPN transistor silicon	610072-1
Q202	NPN transistor silicon	610072-2
Q203	NPN transistor silicon	610073-1
Q204	PNP transistor silicon	610074-2
Q205	NPN transistor silicon	610075-1
Q206	PNP transistor germanium	610079-1
Q207	NPN transistor silicon	610076-2
Q208	PNP transistor germanium	610080-1
Q209	NPN transistor silicon	610076-1
Q301	NPN transistor silicon	610069-1
Q302	NPN transistor silicon	610070-1
Q303	NPN transistor silicon	610071-1
Q401	NPN transistor silicon	610077-2
Q402	NPN transistor silicon	610070-2
Q403	NPN transistor silicon	610064-1
Q601	NPN transistor silicon	610077-1
Q602	NPN transistor silicon	610078-1
Q603	NPN transistor silicon	610063-1
D201	video det diode	530065-1
D202	silicon diode	530072-8
D203	silicon diode	530072-8
D204	silicon diode	530072-8

	C313	R312	C315	C317	R313
NO TONE CONTROL	047 400 20%	1K 10%	OMIT	OMIT	OMIT
EXTERNAL AUDIO					
TONE CONTROL	022 20%	470 10%	.1 20%	470 20%	50K



MAGNAVOX
Tv Chassis T910

ELECTRONIC TECHNICIAN TEKFAX

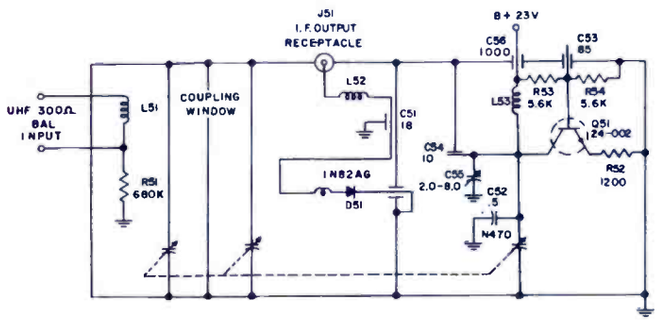
SPECIFICATIONS

Power Source Rating		IF System	
Frequency	60 cycles	Video IF	45.75MC
Voltage	117 volts	Sound IF	41.25MC
Wattage	130 watts	Intercarrier Sound IF	4.5MC
Tuning Range	Channels 2-83	Audio System	
		Output Impedance	3.2 ohms
Antenna Input Impedance	Balanced 300 ohms	Power Output	1 watt

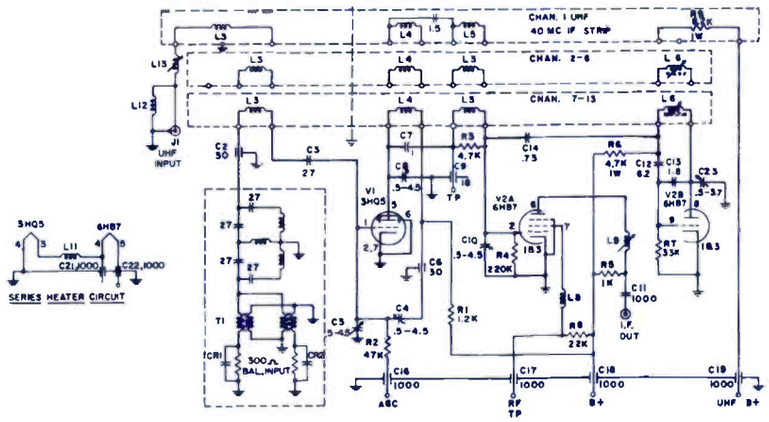
TUBE COMPLEMENT

Ref.	Function	Type	Ref.	Function	Type
V101	VHF Mixer Oscillator	6HB7	V7	Sound Detector & Audio Output	13V10
V102	VHF RF Amplifier	3HQ5	V8	Vertical Oscillator & Output	15KY8
V1	1st Video IF Amplifier	4BZ6	V9	Horizontal Oscillator	8FQ7
V2	2nd Video IF Amplifier	4BZ6	V201	Horizontal Output	18GB5
V3	3rd Video IF Amplifier	4CB6	V202	Damper	17AY3
V4	Video Amp. & Sync Separator	10GN8	V203	H. V. Rectifier	1G3GT
V5	AGC Amp. & Sync Splitter	6GH8	V204	Picture Tube	19FTP4/19FLP4
V6	Sound IF Amp.	4AU6			

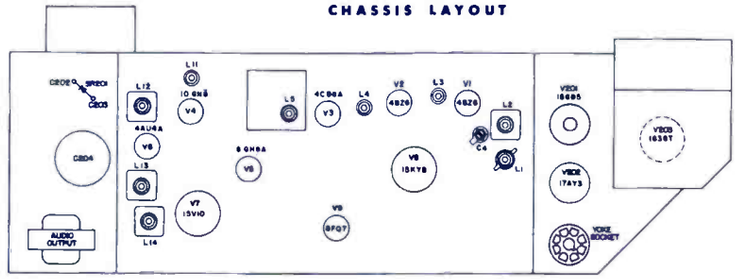
UHF TUNER SCHEMATIC

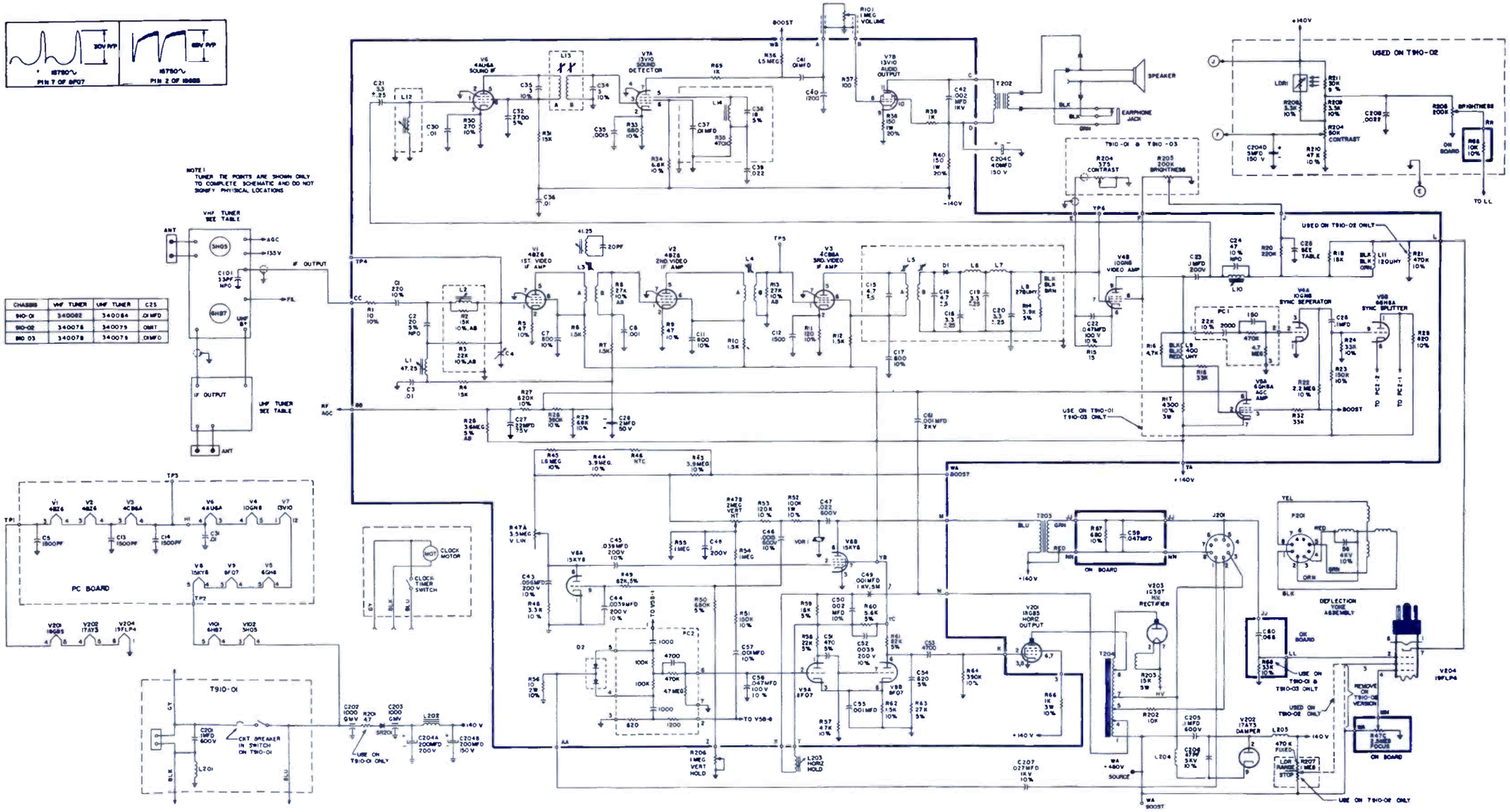


VHF TUNER SCHEMATIC



CHASSIS LAYOUT

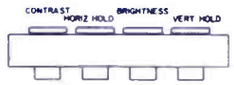


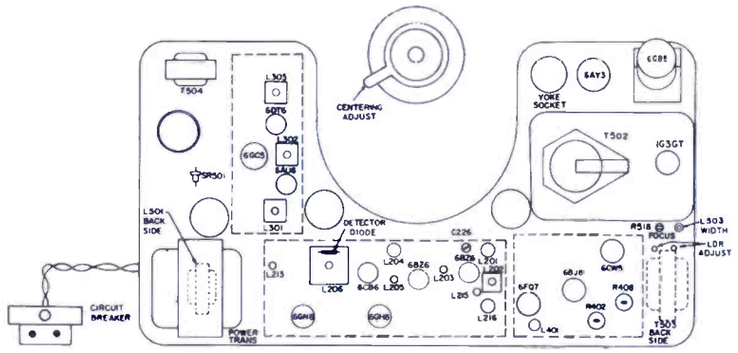


Symbol	Description	Magnavox Part No.
L1	47.25Mc trap	360842-1
L2	IF input coil	360848-1
L3	1st IF coil	361170-1
L4	2nd IF coil	360849-2
L5	3rd IF coil	361161-1
L6	90Mc tweet coil	360852-4
L7	90-160Mc tweet coil	361157-1
L8	278μh peaking coil	360853-1
L9	400μh peaking coil	360853-7
L10	4.5Mc trap	360851-1
L11	120μh peaking coil	360853-8
L12	4.5Mc sound take-off coil	360845-1
L13	4.5Mc sound IF coil	360846-3
L14	4.5Mc quad coil	360847-2
L201	line radiation choke	361075-1
L202	reactance choke	320325-1
L203	horiz osc coil	361171-1
L204	RF choke	360783-2
L205	RF choke	360783-2
T202	audio out xformer	320309-3
T203	vert out xformer	320328-1
T204	horiz out xformer	361172-1
C2	20pf 5% (NPO)	250546-2005
C4	trimmer	250371-2
C15	3.3pf ±.25pf	250546-3397
C16	4.7pf ±.25pf	250546-4798
C18	8.2pf ±.25pf	250546-8295
C19	4.7pf ±.25pf	250546-4798
C24	47pf 10% NPO	
C28	elect 2μf 50v	270082-701
C33	3pf 10% N330	250528-3099
C34	3pf 10% N1500	250529-3099
C38	18pf 5%	250527-1805
C39	.022μf GMV	
C49	silver mica, 1000pf 1000v	250542-1020
C51	polystyrene, 470pf 5%	250525-4712
C54	polystyrene, 620pf 5%	250525-6212
C204	elect 200μf 200v, 200/40μf 150v	270021-120
C204	elect 200μf 200v, 200/40/5μf, 150v	270021-121
C206	ceramic 82pf 10% 5000v	250475-30
C207	paper, .027μf 10% 1000v (special)	250290-13
R17	4300, 3w	230150-333
R26	3.6M 5%	
R46	thermistor	230130-2
R49	82K 5%	
R50	680K 5%	
R58	22K 5%	
R59	18K 5%	
R60	5600Ω 5%	
R61	82K 5%	
R63	27K 5%	
R66	1000Ω 3w	230150-318
R201	4.7 fusible	240080-19
R211	30K 5%	
R47	3.5M vert lin 2M height 2.5M focus	220218-1
R101	1M. off-on-vol (T910-02 & 03)	220135-21
R101	1M off-on-vol (T910-01)	220219-1
R204	375 contrast (T910-01 & 03)	220208-29
R204	50K contrast (T910-02)	220208-30
R205	200K brightness	220208-27
R206	1M vert hold	220208-31
R207	400K LDR range adjust	220208-26
LDR1	LDR	230168-1
VDR1	VDR	230167-2
SR201	silicon rectifier	530082-2
D1	video det diode (1N60)	530065-1
D2	dual selenium diode	530045-4
PC1	printed pac	250526-1
PC2	printed pac	250541-1
	VHF tuner (910-01)	340082-1
	VHF tuner (910-02 & 03)	340078-1
	UHF tuner (910-01)	340084-1
	UHF tuner (910-02 & 03)	340079-1

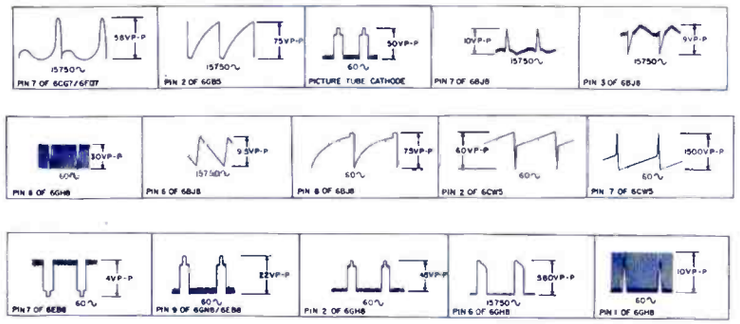
MAGNAVOX
TV Chassis T907 Series

CHASSIS LAYOUT





VOLTAGE WAVEFORMS



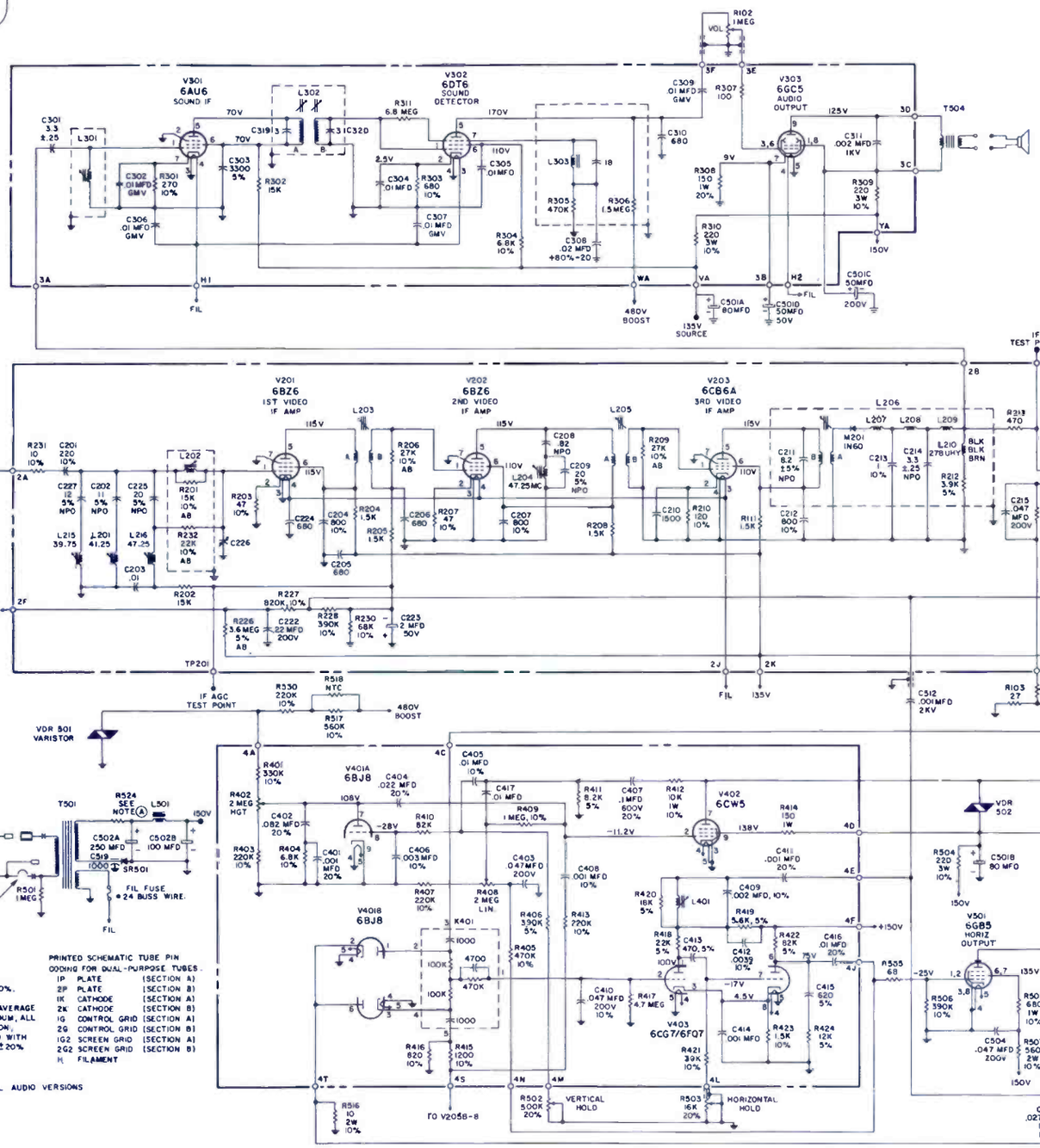
SPECIFICATIONS

Power Source Rating		I-F System	
Frequency	60 cycles	Picture I-F	45.75MC
Voltage	117 volts AC	Sound I-F	41.25MC
Wattage	175 watts	Intercarrier Sound I-F	4.5MC
Tuning Range	Channels 2-83	Audio System	
Antenna Input Impedance		Output Impedance	3.2 ohms
VHF/UHF	Balanced 300 ohms	Power Output	1 watts

TUBE COMPLEMENT

Ref.	Function	Type	Ref.	Function	Type
V1	R-F Amplifier	6HQ5	V302	Audio Output (When Used)	6GC5
V2	Mixer Oscillator	6HB7	V401	Vertical Oscillator & Horiz. AFC	6BJ8
V201	1st Video I-F Amp.	6BZ6	V402	Vertical Output	6CW5
V202	2nd Video I-F Amp.	6BZ6	V403	Horizontal Oscillator	6FQ7/6CG7
V203	3rd Video I-F Amp.	6CB6	V501	Horizontal Output	6GB5
V204	Video Amp. & Sync Sep.	6EB8/6GN8	V502	Damper	6AY3
V205	AGC Amp. & Sync Splitter	6GH8	V503	H. V. Rectifier	1G3GT
V301	Sound I-F Amp.	6AU6	V504	Picture Tube	See Schematic
V302	Audio Detector	6DT6			

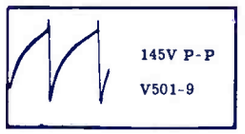
Symbol	Description	Magnavox Part No.
L201	41.25Mc trap	360843-1
L202	video IF input coil	360848-1
L203	1st video IF coil	360849-1
L204	47.25Mc trap	360842-1
L205	2nd video IF coil	360849-1
L206	3rd video IF coil	360849-2
L207	90Mc tweet coil	360852-2
L208	177Mc tweet coil	360852-3
L209	43Mc tweet coil	360852-1
L210	278μhy peaking coil	360853-1
L211	43Mc tweet coil	366852-1
L212	400μhy peaking coil	360853-2
L213	4.5Mc trap	360851-1
L214	120μhy peaking coil	360853-3
L215	39.75Mc trap	360850-1
L216	47.25Mc trap	360842-1
L301	4.5Mc sound take-off coil	360845-1
L302	4.5Mc sound IF coil	360846-1
L303	quad coil	360847-1
L401	horiz osc coil	360854-1
L501	filter choke	320125-1
L502	RF choke	360783-1
T501	power xformer	300210-1
T502	HV xformer	360998-2
T503	vert out xformer	320316-1
T504	audio out xformer	320120-2
	deflection yoke assy	703046-7
C101	33pf 5% NPO	250508-3305
C101	47pf, 5% NPO	250508-4705
C208	.82pf 5% NPO	250088-184
C209	20pf 5% NPO	250373-2005
C211	8.2pf 5% NPO	250373-8298
C217	47pf 10% NPO	
C223	elect 2μf 50v	270082-701
C225	20pf 5% NPO	250373-2005
C301	3.3pf ±.25pf NPO	250373-3397
C303	3300pf 5%	
C311	2000pf 2000v	
C411	silver mica, 1000pf 1000v	250365-554
C413	silver mica 470pf 5% 300v	250364-347
C415	silver mica 620pf 5% 300v	250365-350
C501	elect 80/80μf 200v	270021-110
C501	elect 80/80/50μf 50v	270021-105
C502	elect 250/100μf 200v	270021-104
C502	elect 250/100/5μf 200v	270021-108
C507	47pf 10% 5000v	
C509	5000pf 1000v	
C512	1000pf 2000v	
C514	paper .027μf 10% 1000v special	250290-13
C519	feed thru 1000pf	250539-1
R217	4300 5% 7w	240086-2
R226	3.6M 5%	
R309	220 3w	230150-302
R310	220 3w	230150-302
R504	220 3w	230150-302
R507	560 2w WW	240090-1
R518	thermistor	230130-2
R101	375 contrast	220126-85
R102	1M off-on vol	220135-18
R402	2M height	220166-3
R408	2M vert lin	220166-3
R502	500K vert hold	220146-67
R503	16K horiz hold	220146-55
R520	200K brightness	220146-10
R522	400K LDR range adjust	220146-35
R523	2.5M focus	220146-18
R531	50K contrast (magnalux versions)	220146-60
LDR501	LDR	230156-1
VDR501	VDR	230167-2
VDR502	VDR	230167-2
SR501	silicon rectifier	530082-2
M201	video det diode (1N60)	530065-1
PC401	horiz AFC pac	250377-1
	VHF tuner	340040-1
	VHF tuner (907-03)	340047-1
	UHF tuner	340072-1

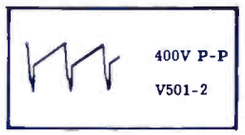


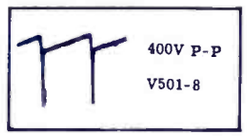
MAGNAVOX
Color TV Chassis
T919 Series

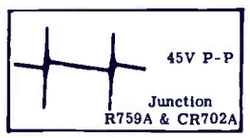
ELECTRONIC TECHNICIAN TEKFAX

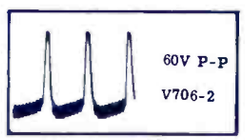
Peak to Peak voltages measured using a keyed Rainbow Color Generator. Some voltage values and waveforms will vary depending upon the control settings and the type of equipment used.

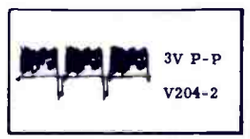


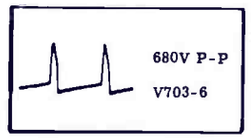


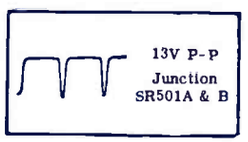


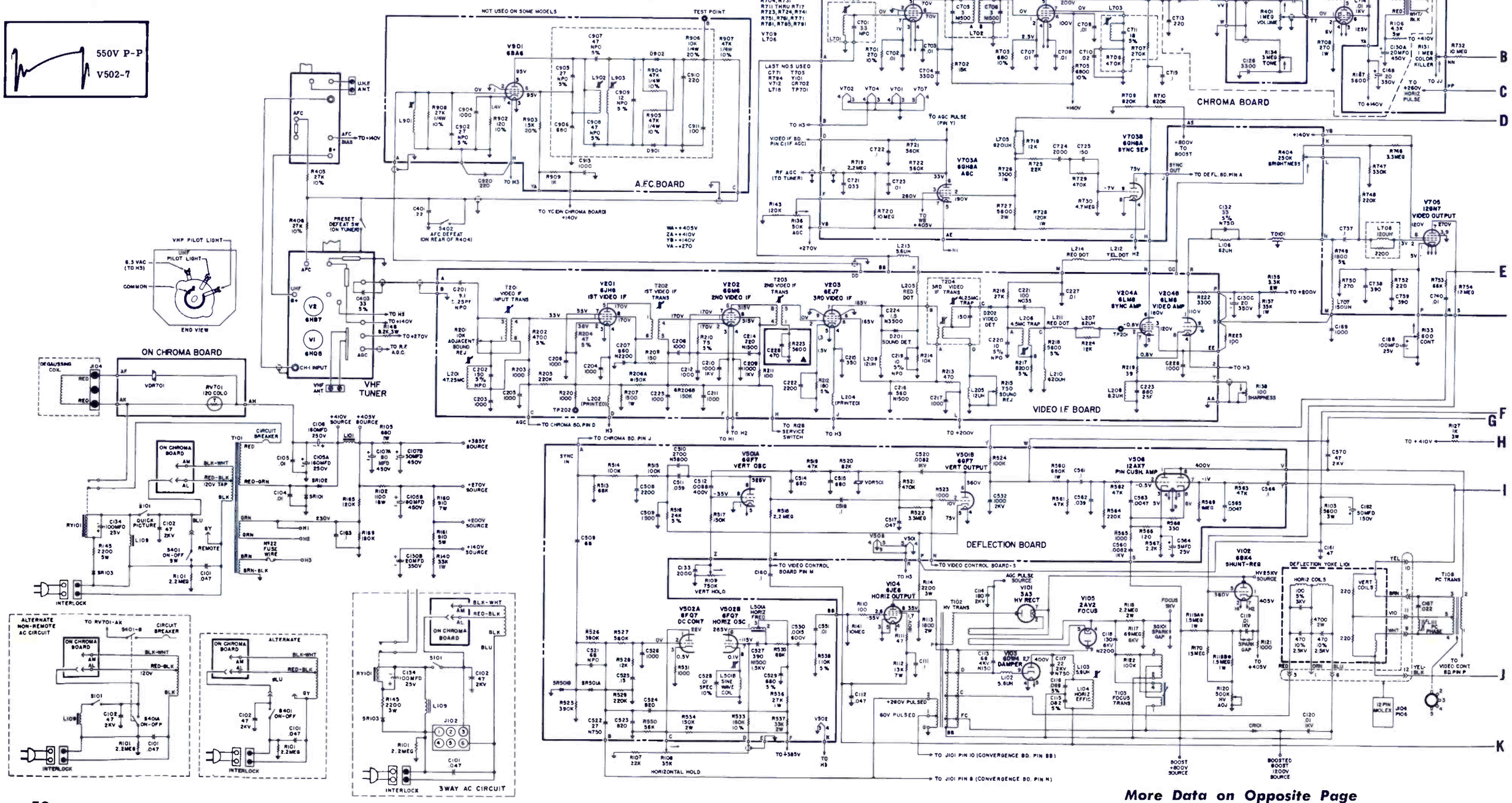






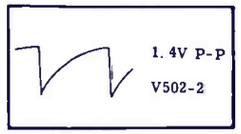


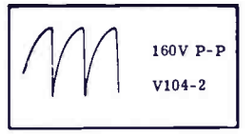


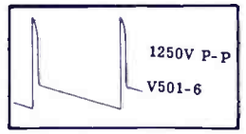


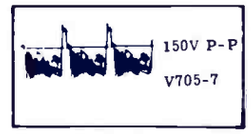
More Data on Opposite Page

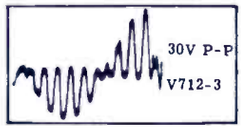
MAGNAVOX
Color TV Chassis T919 Series

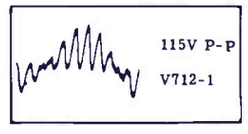




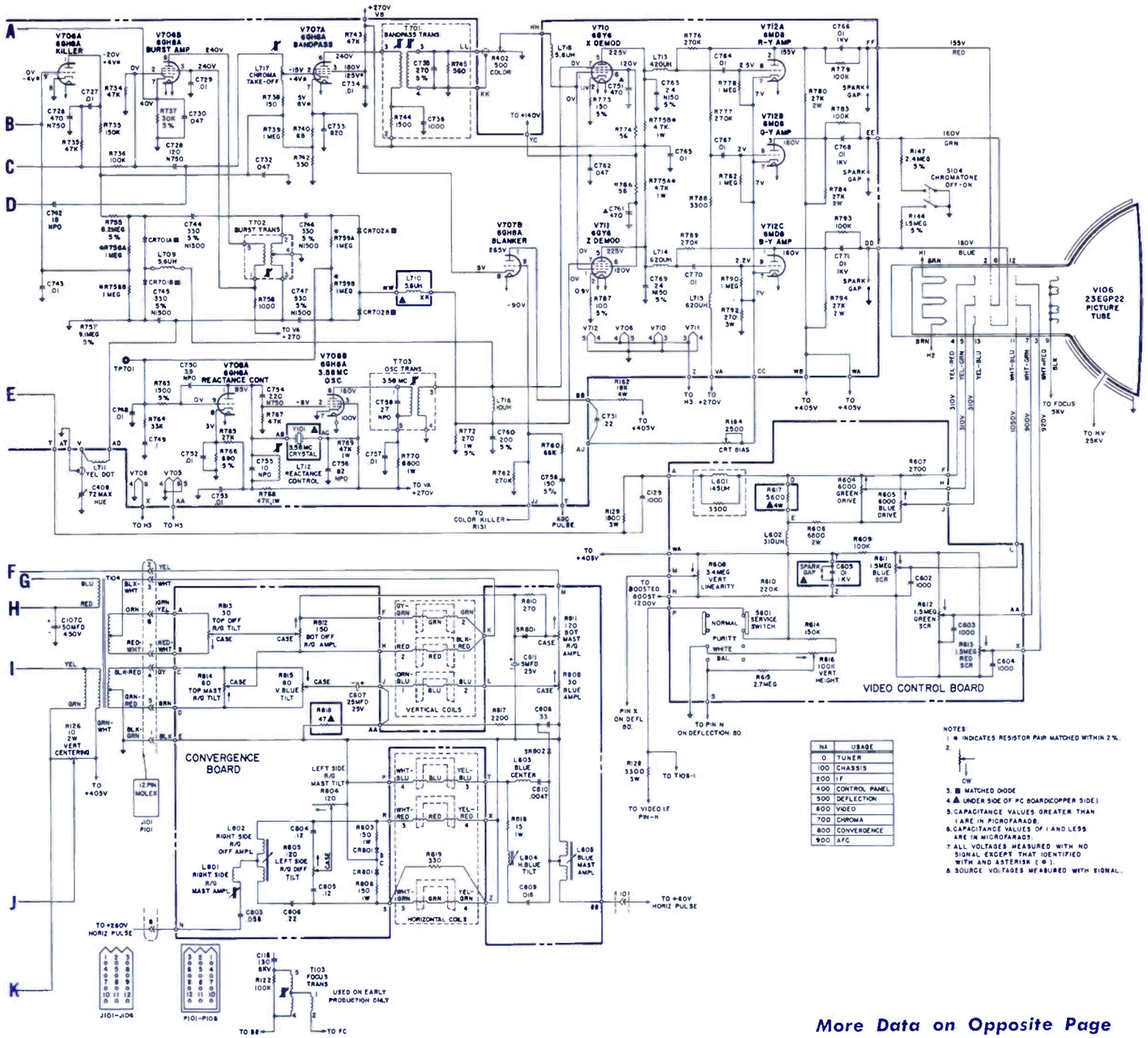








SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
T101	power xformer	300238-1
T102	HV xformer	361197-1
T103	focus xformer	361240-2
T104	vert out xformer	320317-2
T105	audio out xformer	320130-3
T106	pin cushion xformer	361134-3
T201	video IF input xformer	360951-1
T202	1st video IF xformer	360951-6
T203	2nd video IF xformer	360951-5
T204	3rd video IF xformer & 41.25MHz trap	360952-2
T701	bandpass xformer	361192-1
T702	burst xformer	361094-1
T703	3.58MHz osc xformer	361198-1
L101	reactance choke	320124-4
L102	5.6μh choke	360676-5
L103	5.6μh choke	360676-5
L104	horiz efficiency coil	361022-3
L106	62μh peaking coil	361091-2
L109	reactance choke (int. audio version)	320232-3
L109	reactance choke (ext. audio version)	320232-2
L110	5.6μh choke	360676-7
L111	pin cushion phasing coil	361135-1
L201	47.25MHz trap	360951-4
L203	177MHz tweet coil	360852-3
L205	12μh coil	361043-4
L206	4.5MHz trap	360953-2
L207	62μh peaking coil (5%)	361091-1
L208	8.2μh coil	360676-11
L209	12μh coil	360676-1
L210	620μh peaking coil	361043-3
L212	86MHz tweet coil	360852-2
L213	5.6μh coil	360676-7
L214	177MHz tweet coil	360852-3
L501	horiz osc & sinc wave coil	360960-2
L601	145μh peaking coil	361091-3
L602	310μh peaking coil	361091-4
L701	sound take-off coil	360845-2
L702	sound IF coil	360846-3
L703	quad coil	360847-2
L704	RF choke	360968-1
L705	620μh peaking coil	360853-11
L707	150μh peaking coil	360853-5
L708	120μh peaking coil	360853-4
L709	5.6μh coil	360676-9
L710	5.6μh coil	360676-11
L711	86MHz tweet coil	360852-3
L712	reactance coil	360963-4
L713	620μh peaking coil	360853-11
L714	620μh peaking coil	360853-11
L715	620μh peaking coil	360853-11
L716	12μh coil	361043-1
L717	chroma take-off coil	360959-4
L718	5.6μh coil	360676-9
L801	R/G Master Amplitude Coil	361092-1
L802	R/G differential amplitude coil	361092-3
L803	blue center coil	361092-1
L804	horiz blue tilt coil	361188-1
L805	blue master amplitude coil	361092-5
L901	AFC input coil	361080-1
L902	AFC discriminator (primary)	361080-2
L903	AFC discriminator (secondary)	361080-5
	deflection yoke	361130-302
C102	ceramic 47pf 2000v	
C105	elect 160μf 250v 80μf 450v	270071-6
C106	elect 160μf 250v	270071-3
C107	elect 80/30/50μf 450v	270071-7
C113	ceramic 68pf 10% 4000v (N1500)	250475-24
C114	ceramic 180pf 5% 2000v	
C117	ceramic 22pf 1000v (N750)	250475-7
C118	ceramic 130pf 6000v (N2200)	250475-11
C119	ceramic .01μf 1400v (w/spark gap)	250562-1
C120	ceramic .01μf 1000v	
C130	elect 20μf 450v 20/20μf 350v	270023-42
C130	elect 20μf 450v 20μf 350v	270023-43
C132	ceramic 33pf 5% (N750)	250470-3305
C134	elect 100μf 25v	270082-617
C162	elect 50μf 150v	270027-39
C166	elect 100μf 25v	270082-617
C168	elect 20μf 350v	270027-20
C201	ceramic 9.1pf ±.25pf (NPO)	250373-9197
C202	ceramic 150pf 5%	
C207	ceramic 680pf 10% (N2200)	250236-56
C209	ceramic 1000pf 1000v	
C210	ceramic 1000pf 1000v	
C214	ceramic 220pf 10% (N1500)	250236-59
C216	ceramic 560pf 10% (N1500)	250236-58
C219	ceramic 10pf 5% (NPO)	250508-1005
C220	ceramic 10pf 5% (NPO)	250546-1005
C506	ceramic 68pf 10% (NPO)	
C510	ceramic 2700pf 10% (N5600)	250236-64
C520	paper .0082μf 1000v	
C521	ceramic 68pf 10% (NPO)	
C522	ceramic 27pf 10% (N750)	250549-2709
C525	polystyrene .15μf 75v	250555-37
C527	ceramic 390pf 5% 1500v (N1500)	250236-63
C528	paper .01μf 10% 400v (special)	250484-1
C564	elect 5μf 25v	270082-603
C701	ceramic 3.3pf ±.25pf (NPO)	250546-3397
C704	ceramic 3300pf 5%	
C705	ceramic 3pf 10% (N1500)	250529-3099
C706	ceramic 3pf 10% (N1500)	250529-3099
C711	ceramic 18pf 5%	
C714	ceramic 2000pf 1000v	
C726	ceramic 470pf (N750)	
C728	ceramic 120pf 10% (N750)	
C735	silver mica 270pf 5%	
C742	ceramic 18pf 10% (NPO)	250546-1809
C744	ceramic 330pf 5% (N1500)	250529-3315
C745	ceramic 330pf 5% (N1500)	250529-3315
C746	ceramic 330pf 5% (N1500)	250529-3315
C747	ceramic 330pf 5% (N1500)	250529-3315
C750	ceramic 3.9pf 10% (NPO)	250546-3999
C754	ceramic 220pf 10% (N750)	250549-2219
C755	ceramic 10pf 10% (NPO)	250546-1009
C756	ceramic 82pf 10% (NPO)	250546-8209
C758	ceramic 27pf 10% (NPO)	250546-2709
C760	mica 200pf 5%	
C763	ceramic 24pf 5% (N150)	250527-2405
C766	ceramic .01μf 1000v	
C768	ceramic .01μf 1000v	
C769	ceramic 24pf 5% (N150)	250527-2405
C807	elect 25μf 25v	270068-609
C811	elect 5μf 25v	270082-603
C902	ceramic 27pf 5% (NPO)	250546-2705
C905	ceramic 27pf 5% (NPO)	250546-2705
C907	ceramic 47pf 5% (NPO)	250546-4705
C908	ceramic 47pf 5% (NPO)	250546-4705
C909	ceramic 12pf 5% (NPO)	250546-1205
R102	1100 18w WW	240088-4
R103	5600 3w (glass)	230150-336
R106	4300 5w (glass)	230150-533
R112	13K 7w (glass)	230150-745
R113	1800 2w (glass)	230160-65
R114	220 3w (glass)	230150-326
R117	66M 20% (6kv breakdown)	230161-1
R127	1000 3w (glass)	230150-318
R128	3300 3w (glass)	230150-330
R129	1800 3w (glass)	230150-324
R145	2200 3w glass)	230150-330
R146	1.5M 5%	
R147	2.4M 5%	
R148	8200 3w (glass)	230150-340
R160	910 7w (glass)	230150-717
R161	910 5w (glass)	230150-517
R162	18K 4w (glass)	230150-448
R202	4700 5%	
R206A, B	150K (matched within 2%)	
R217	8200 5%	
R218	5600 5%	
R516	24K 5%	
R617	5600 4w	230150-436
R749	1800 5%	
R756A, B	1M (matched within 2%)	
R759A, B	1M (matched within 2%)	
R763	1500 5%	
R780	27K 2w (glass)	230160-79
R792	270 3w (glass)	230150-304
R794	27K 2w (glass)	230160-79
R108	35K horiz hold	220146-48
R109	750K vert hold	220146-50
R120	500K HV adjust	220189-4
R126	10 2w vert centering	220181-1
R131	1M color killer	220208-34
R133	600 contrast	220146-29
R134	3M tone	220146-26
R136	50K AGC	220208-33
R138	100 sharpness	220146-62
R164	2500 CRT Bias	220181-11
R201	10K adj sound rejection	220182-1
R215	750 sound rejection	220166-4
R401	1M off-on-vol w/S401 (919-03)	220135-12
R401	1M off-on-vol w/S401A&B (919-01-07)	220135-23
R401	1M off-on-vol w/S401 (919-02 & 04)	220135-24
R402	500 color (919-01, 02, 04 & 07)	220126-95
R402	500 color (919-03 & 08)	220126-91
R402	500 color (919-05 & 06)	220126-96
R404	250K brightness w/S402 (919-03 & 08)	220135-13
R404	250K brightness w/S402 (919-05 & 06)	220135-20
R404	250K brightness w/S402, (919-01, 02, 04 & 07)	220135-22
C406	5.2 to 67pf hue (919-03 & 08)	260189-1
C406	5.2 to 67pf hue (919-01, 02, 04 & 07)	260189-2
C406	5.2 to 67pf hue (919-05 & 06)	260189-3
R604	6000 green drive	220166-14
R605	6000 blue drive	220166-15
R608	3.4M vert lin	220166-19
R611	1.5M blue screen	220166-17
R612	1.5M green screen	220166-16
R613	1.5M red screen	220166-18
R616	100K height	220166-20
R804	120 R/G master tilt horiz	220167-6
R805	120 R/G differential tilt (horiz)	220167-6
R808	30 blue amplitude (vert)	220167-4
R811	120 R/G master amplitude vert	220167-6
R812	150 R/G differential amplitude vert	220167-5
R813	30 R/G differential tilt (vert)	220167-4
R814	60 R/G master tilt vert	220167-5
R815	60 blue tilt vert	220167-5
CR101	selenium rectifier	530097-3
SR101	silicon rectifier	530088-1
SR102	silicon rectifier	530088-1
SR103	silicon rectifier	530082-2
D201	germanium diode	530065-2
D202	germanium diode	530065-2
SR501	selenium rectifier	530093-1
CR701A, B	matched silicon diodes	170733-1
CR702A, B	matched silicon diodes	170733-1
CR801	selenium diode	530087-2
SR801	silicon diode	530098-1
SR802	silicon diode	530098-2
D902	germanium diode	530105-1
D903	germanium diode	530105-1
S101	quick-picture switch	160370-6
S104	chromatone switch	160370-6
RY101	degaussing relay	160326-6
Y101	3.58MHz crystal	530089-2
TD101	delay line	360949-5
SG101	spark gap	180832-1
VDR501	varistor	230167-5
S601	service switch	160370-2
VDR701	varistor	230175-2
RV701	thermistor	230170-2
	blue lateral magnet & purity ring	361163-2
	purity magnet assembly (2 used)	704031-1
	degaussing coil (4 used)	361128-1
	convergence coils assembly	361177-104
	VHF tuner	340096-2
	UHF tuner	340064-1



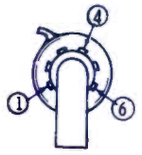
NO.	USAGE
0	TUNER
100	CHASSIS
200	IF
400	CONTROL PANEL
500	DEFLECTION
600	VIDEO
700	CHROMA
800	CONVERGENCE
900	AFC

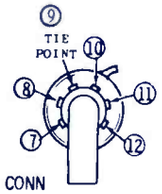
NOTES:
1. ● INDICATES RESISTOR PAIR MATCHED WITHIN 2%.
2. CW
3. ■ MATCHED DIODE
4. ▲ UNDER SIDE OF PC BOARD(COPPER SIDE)
5. CAPACITANCE VALUES GREATER THAN 1 ARE IN PICOFARADS.
6. CAPACITANCE VALUES OF 1 AND LESS ARE IN MICROFARADS.
7. ALL VOLTAGES MEASURED WITH NO SIGNAL EXCEPT THAT IDENTIFIED WITH AND ASTERISK (●).
8. SOURCE VOLTAGES MEASURED WITH SIGNAL.

More Data on Opposite Page

MOTOROLA
TV Chassis TS-454

Symbol	Description	Motorola Part No.
E-2	Earphone: 12BP71 series	50D67734A01
E-101	Diode, crystal: video det	48C65837A02
E-301	Res-Cap: audio det plate	51D67701A01
E-304	Speaker, 3 PM: 8Ω VC	50D67688A02
E-401	Res-Cap: AGC	51D67748A01
E-402	Res-Cap: clipper grid	51D67701A02
E-501	Diode, low power: blue-horiz phase det	48D67120A02
E-502	Diode, low power, blue-horiz phase det	48D67120A02
E-801	Diode, silicon: power rect	48C66037A12
L-100	47.25 Mc trap	24D67754A01
L-108	Audio Take-Off & 4.5 Trap: incl cap & res	1V66539A40
L-500	Horiz Osc: incl mtg nut	24D65853A08
L-501	Choke, horiz suppressor	24C66772A06
L-701	Yoke, defl: 114 deg	24D67621A01
L-801	Line Choke: ac	24C67534A02
L-802	Filter Choke	25D67554A02
R-110	4700K 10% 3w glass	17K751479
R-153	820 10% 2w glass	17S10130A18
R-617	Varistor: vert trans	6C66263A01
R-618	Thermistor .4 Ω Hot ±10% 2.6Ω cold (on yoke)	6C65884A05
R-800	33 5% 10w ww	17S135060
R-801	5 10w ww fusing	17C67673A01
R-111	Contrast: 25.5K with 4.5K stop	18D67502A03
	Contrast: 25.5K without stop (in A-04 & later)	18D67502A04
R-200	Brightness: 100K	18D67559A10
R-308	On-Off & Vol: 2 meg	18D67559A11
R-604	Vertical Lin. Size & Hold: 2 meg 2 meg & 1.2 meg	18D67678A01
T-102	1st IF	24D67754A02
T-103	2nd IF & Video Det: incl cap, E101 & L104	1V66539A39
T-301	Audio IF, 4.5 MC: incl cap & cores	1V66539A41
T-302	Audio Output	25D67552A04
T-501	Horiz Output Trans	24D67602A02
T-601	Vertical Output	25D67749A01





T501 CONN

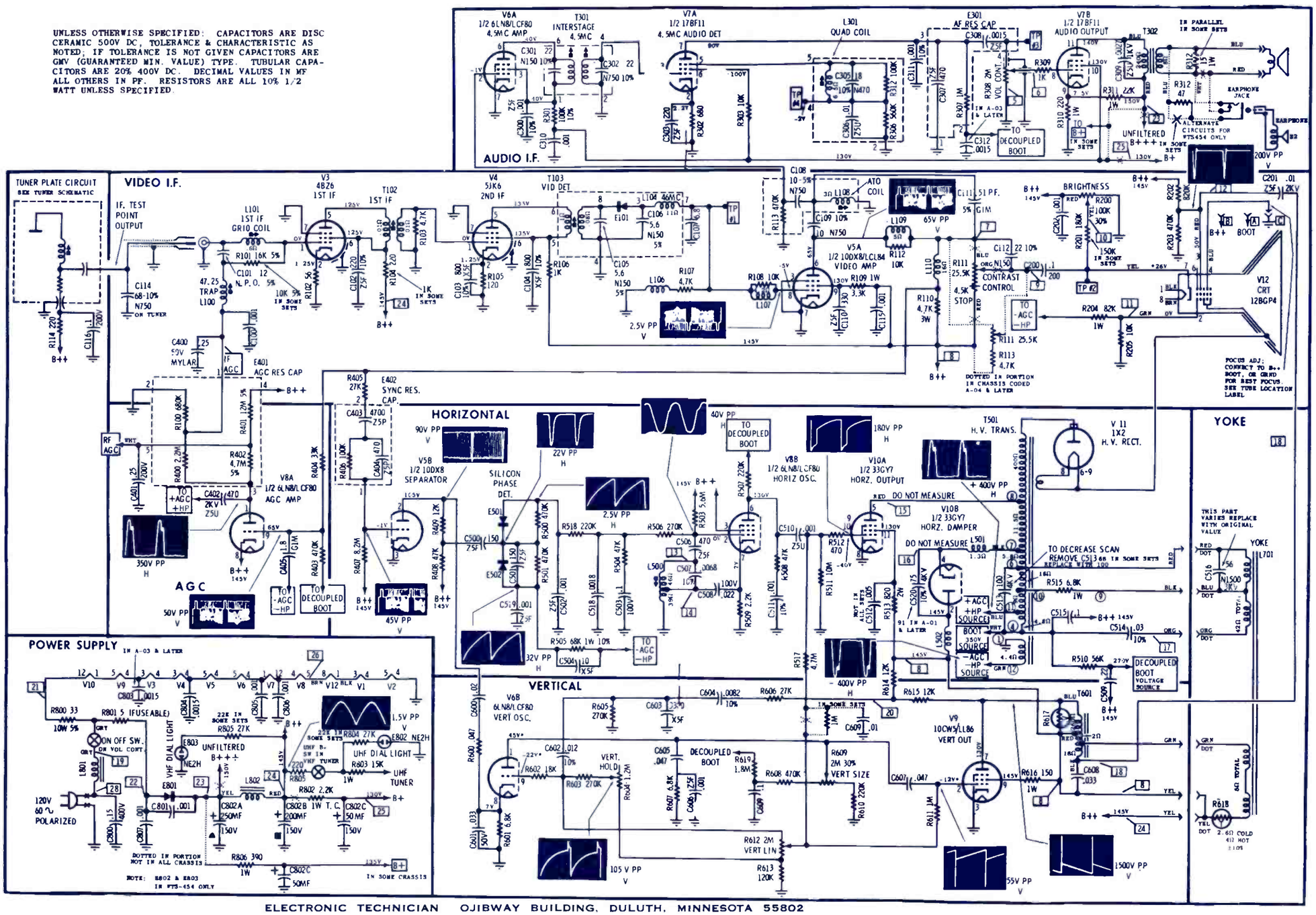
NOTES:
VOLTAGE MEASUREMENTS
1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM. ±20%
2. LINE VOLTAGE MAINTAINED AT 120V AC.
3. TAKEN WITH CONTRAST CONTROL AT MINIMUM AND ALL OTHER CONTROLS IN NORMAL OPERATING POSITION WITH NO SIGNAL INPUT.
4. TUNER ON CHANNEL 13 OR CHANNEL OF LEAST NOISE WITH ANTENNA TERMINALS SHORTED.

WAVEFORM MEASUREMENTS
1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A WIDE-BAND OSCILLOSCOPE.
2. OSCILLOSCOPE SYNCED NEAR SWEEP RATE INDICATED.
3. TAKEN WITH STRONG SIGNAL, CONTRAST CONTROL AT MAXIMUM: ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.

* INDICATES VOLTAGE VARIES WITH CONTROL SETTINGS.

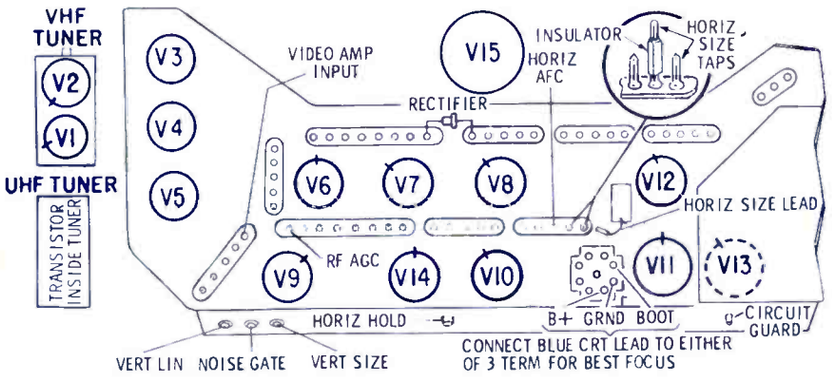
** INDICATES SPECIAL COMPONENTS, SEE REPLACEMENT PARTS LIST FOR PROPER REPLACEMENT PART NUMBER.

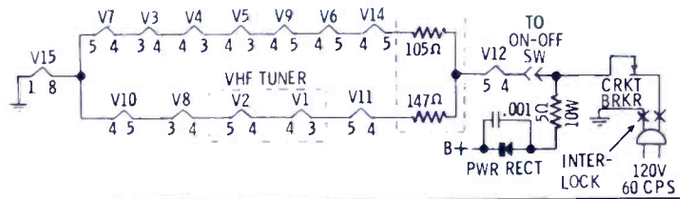
UNLESS OTHERWISE SPECIFIED: CAPACITORS ARE DISC CERAMIC 500V DC, TOLERANCE & CHARACTERISTIC AS NOTED; IF TOLERANCE IS NOT GIVEN CAPACITORS ARE GMV (GUARANTEED MIN. VALUE) TYPE. TUBULAR CAPACITORS ARE 20% 400V DC. DECIMAL VALUES IN MF ALL OTHERS IN PF. RESISTORS ARE ALL 10% 1/2 WATT UNLESS SPECIFIED.



MOTOROLA
TV Chassis TS, TTS and VTS-587

REF NO.	TUBE TYPE	FUNCTION
V1	4HA5	RF AMP
V2	9KZ8	MIX OSC
V3	6BZ6A	1ST IF AMP
V4	6BZ6	2ND IF AMP
V5	6DK6	3RD IF AMP
V6	16GK6	VIDEO AMP
V7	9A8/PCF80	SOUND IF & VERT OSC
V8	6DT6	AUDIO DET
V9	9A8/PCF80	NOISE INV & AGC AMP
V10	9A8/PCF80	SYNC CLIPPER & HORIZ OSC
V11	27GB5/PL500	HORIZ OUTPUT
V12	12BE3	DAMPER
V13	3A3/3AW3	HV RECT
V14	15CW5/PL84	VERT OUTPUT
V15	23DAP4	PIC TUBE



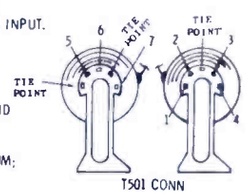


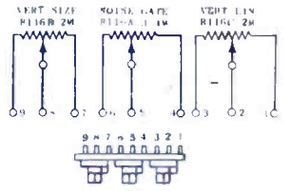
NOTES:
VOLTAGE MEASUREMENTS
1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM. ±20%
2. LINE VOLTAGE MAINTAINED AT 120V AC.
3. VOLTAGES INDICATED BY AN ASTERISK WILL VARY WITH ASSOCIATED CONTROL SETTINGS.
4. TAKEN WITH CONTRAST CONTROL AT MINIMUM AND ALL OTHER CONTROLS IN NORMAL OPERATING POSITION WITH NO SIGNAL INPUT.
5. TUNER ON CHANNEL 13 OR CHANNEL OF LEAST NOISE WITH ANTENNA TERMINALS SHORTED.

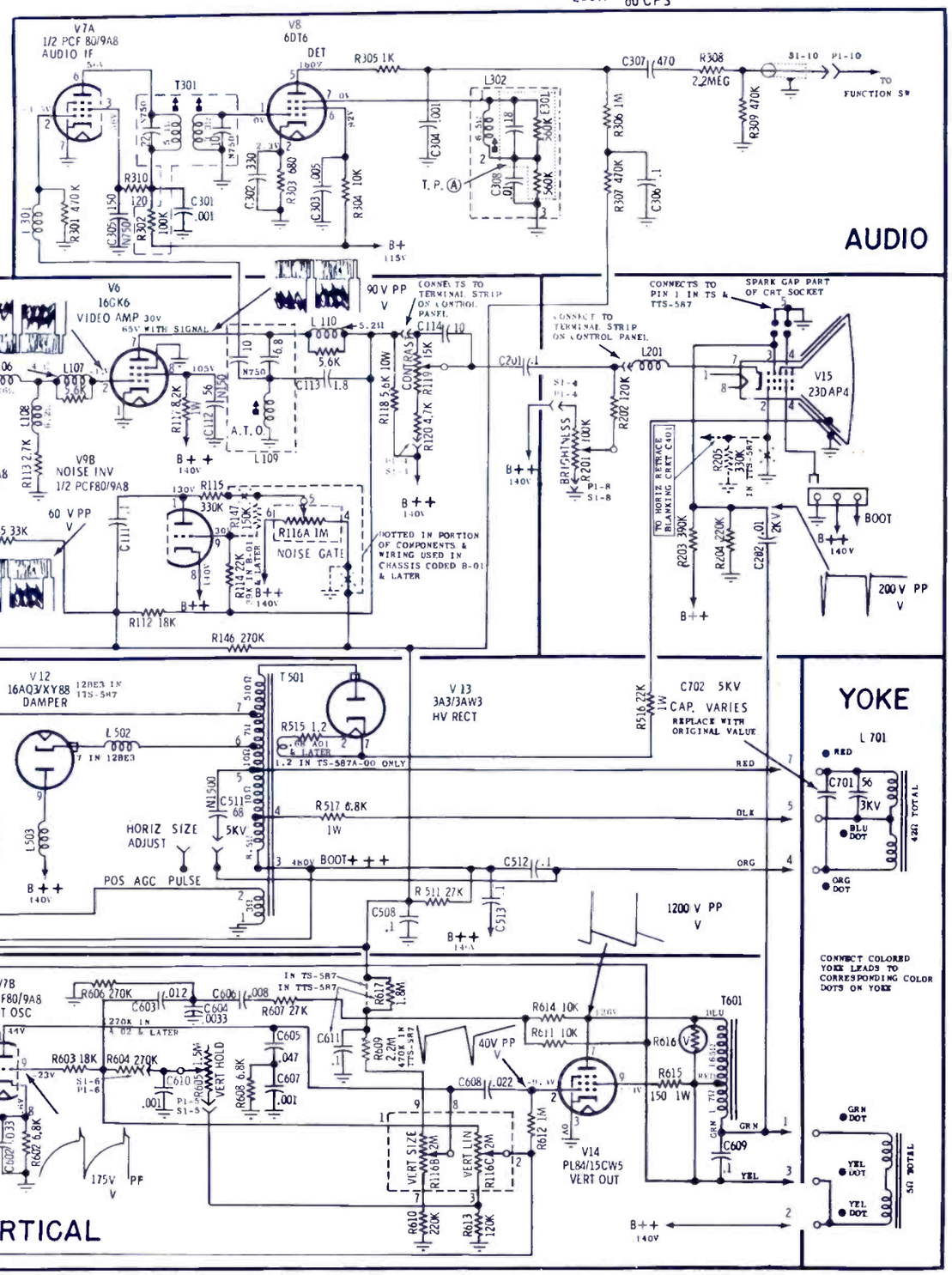
WAVEFORM MEASUREMENTS
1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A WIDE-BAND OSCILLOSCOPE.
2. OSCILLOSCOPE SYNCED NEAR SWEEP RATE INDICATED.
3. TAKEN WITH STRONG SIGNAL, CONTRAST CONTROL AT MAXIMUM; ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.

CAPACITORS UNLESS OTHERWISE SPECIFIED, VALUES LESS THAN ONE IN MF. ALL OTHERS IN MMF.

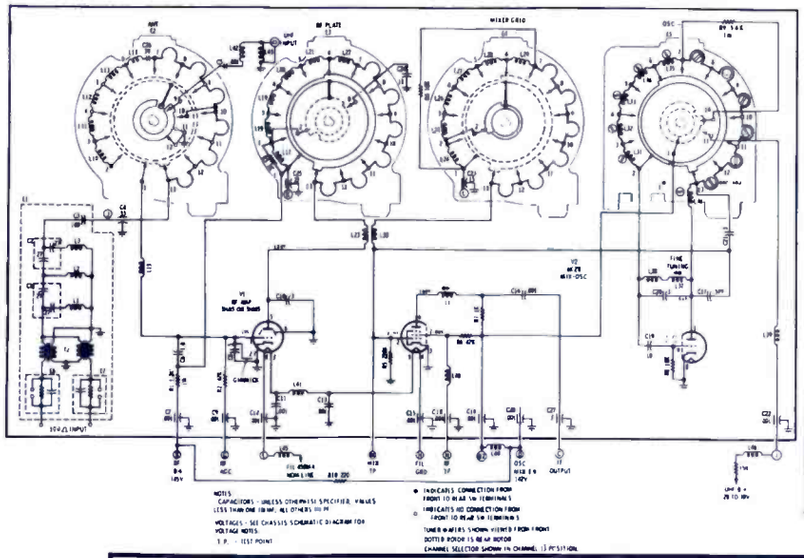
TS, TTS & VTS-587 SCHEMATIC DIAGRAM
NOTE: CHANGES NOTED ON SCHEMATIC AS TTS-587B ALSO APPLY TO VTS-587B CHASSIS.

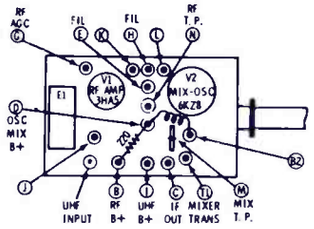






MOTOROLA
TV Chassis TS-596





ELECTRICAL SPECIFICATIONS

Power Rating: 145 watts

Source: 120 volts, 60 cycle AC

INTERMEDIATE FREQUENCIES

IF: Video 45.75Mc
Sound 41.25Mc

Sound IF: 4.5Mc

MODEL BREAKDOWN CHART

MODEL	CHASSIS	VHF TUNER	UHF TUNER	CRT
19BP117BA	DTS-596	CMTT-393Y	HTT-615	19EGP4
19BP118BB,C,W	DTS-596	CMTT-393Y	HTT-615	19EGP4

Symbol	Description	Motorola Part No.
	3.9 pf ±.5%, 500v, NPO (Use 21S180A85)	21S122455
	5.6 pf ±.5%, 500v, N150	21S129194
	8.2 pf ±.5%, 500v, NPO	21S132305
	10 pf ±.5 pf, 500v, N750	21S124553
	10 pf ±.5%, 500v, NPO	21S41000A63
	10 pf, 10%, 500v, N750 (Use 21R124553)	21S121114
	22 pf, 10%, 500v, N150	21S120539
	27 pf, 10%, 500v, N750	21S180B23
	56 pf 10%, 3kv, N1500 (Use 21R125528)	21R127008
	68 pf, 10%, 4kv, N2200	21S180B35
	120 pf, 5%, 5kv, N2200	21S180A21
	150 pf, 10%, 500v, N750, (Use 21R124608)	21S121228
	250-200-50-5/175v electrolytic	23C65807A24
E102	Diode, crystal: video det (1N64A)	48C65837A02
E301	Res-Cap, quadrature	51D65239A19
E302	Res-Cap, audio plate	51D65239A29
E400	Res-Cap, clipper	51D65239A21
E401 & E402	Diode, Low Power: horiz phase det	48D67120A02
E601	Diode, crystal: vertical blanking (1N64A)	48C65837A02
E800	Circuit Breaker	80C66390A11
E801	Diode, silicon: pwr rect	48S191A02
	Res-Cap, isolation (bezel trim to grnd)	51C67517A01
E101	47.25 Mc Trap & Grid Coil Assembly (L-T01): incls C100, C103, R100 & R102	24V66547A06
L102	Choke, IF resonant	24C67324A14
L103	Choke, IF resonant	24C66772A08
L104	Coil, compensating: 100 µh/18k	24C65828A35
L105	Coil, compensating: 900 µh	24C65828A45
L106	4.5 Mc Trap & A.T.O. Coil Assem: incls C116, L301 & R300	24P65133A78
L107	Coil, compensating: 75 µh/8.2k	24C65828A44
L200	Choke, 46Mc (in CRT cathode lead)	24S132921
L301	Coil, compensating: 7.5 µh	24C65828A40
L302	Sound Quadrature: incls C307 & E301	24P65131A04
L500	Horiz Osc: incls core & mtg nut	24C65853A11
L501	Choke, horiz supp (Use 24C66772A05)	24C66772A03
L502	Coil, compensating: 6.6 µh	24C65828A17
L800	Choke, filter (Use 25C65806A08)	25D67554A01
L801	Choke, line	24C67534A01
R101	4.3, 5%, ½w	6S10053B76
R111	6.8k, 10%, 4w, mtl film	17510130A01
R126	5.6k, 10%, 10w, WW	17K747879
R514	1k, 10%, 5w, WW	17B65823A04
R517	1.2, 10%, 2w, WW	17S742780
R618	Varistor: 1w (vert out transformer)	6C66263A01
R800	5, 10%, 15w	17S754364
R125	contrast: 15k	18D66966A41
R200	Brightness: 100k	18D66966A40
R309	On-Off & Volume: 2M	18D66836A25
R604	vertical hold: 1.2 M	18D66966A39
R616	Vertical Lin; 2M, Noise Gate; 1M, Vert Size; 2 M	18D66401A12
T101	1st IF: incls core & coil mtg nut	24K747587
T102	2nd IF: incls core & coil mtg nut	24K751248
T103	Video Det: incls C112, C113, C114, E102, L102	24V66547A04
T301	IF Inter-Stage: 4.5 Mc; incls C301, C302 & C303	24P65133A80
T302	Audio Output	24D67552A06
T500	Horiz Output & HV: complete NOTE: Pri/sec winding only can be purchased separately.	24D67878A02
T601	Vertical Output	25D65840A16

CAPACITORS UNLESS OTHERWISE SPECIFIED, VALUES LESS THAN ONE IN MF; ALL OTHERS IN PF.

* INDICATES SPECIAL COMPONENTS, SEE REPLACEMENT PARTS LIST FOR PROPER REPLACEMENT PART NUMBER.

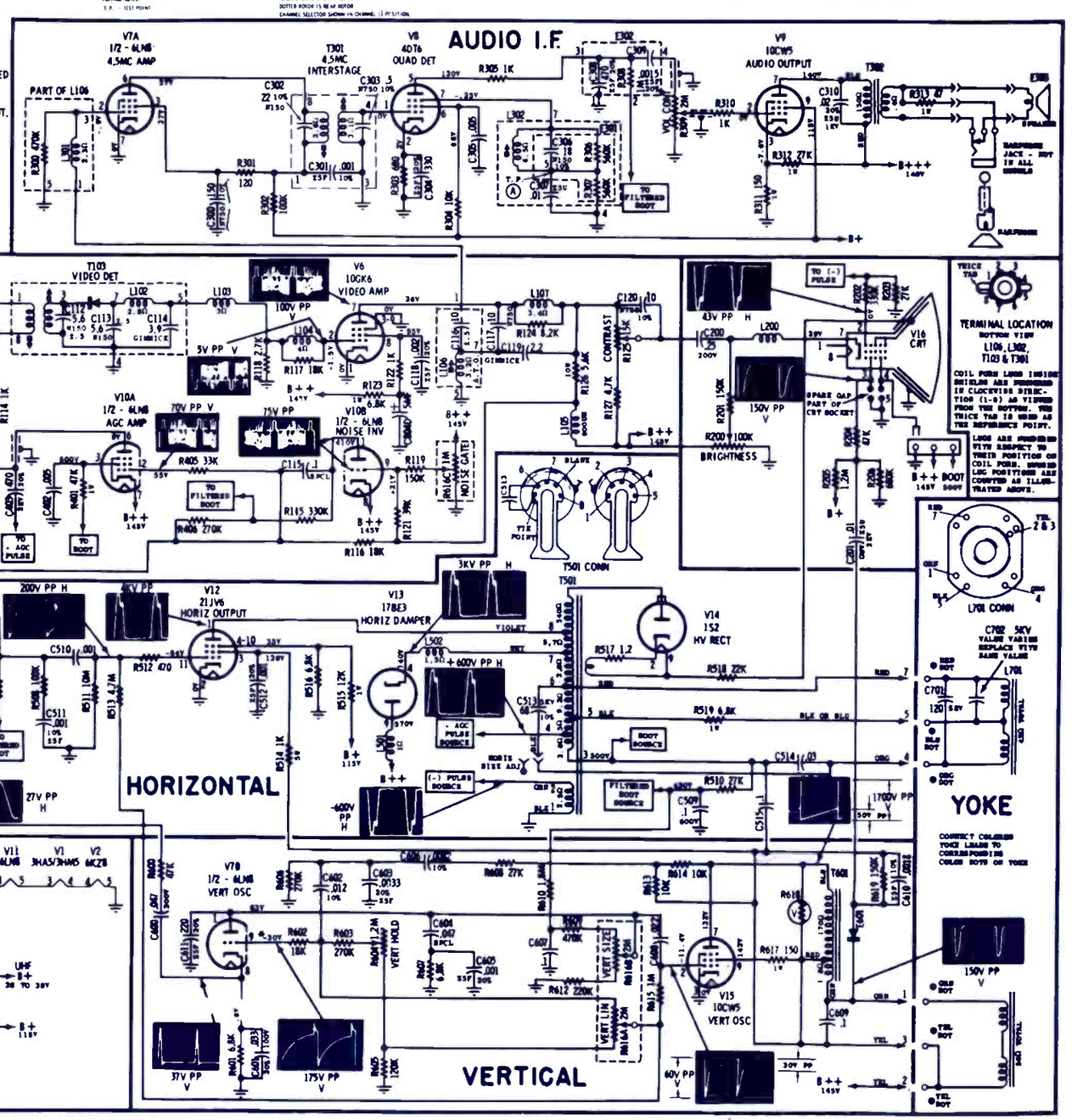
NOTES:

VOLTAGE MEASUREMENTS

1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM, ± 20%
2. LINE VOLTAGE MAINTAINED AT 120V AC.
3. VOLTAGES INDICATED BY AN ASTERISK WILL VARY WITH ASSOCIATED CONTROL SETTINGS.
4. TAKEN WITH CONTRAST CONTROL AT MINIMUM AND ALL OTHER CONTROLS IN NORMAL OPERATING POSITION WITH NO SIGNAL INPUT.
5. TUNER ON CHANNEL 13 OR CHANNEL OF LEAST NOISE WITH ANTENNA TERMINALS SHORTED.

WAVEFORM MEASUREMENTS

1. TAKEN FROM POINT INDICATED TO CHASSIS WITH A WIDE-BAND OSCILLOSCOPE.
2. OSCILLOSCOPE SYNCED NEAR SWEEP RATE INDICATED.
3. TAKEN WITH STRONG SIGNAL, CONTRAST CONTROL AT MAXIMUM; ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.

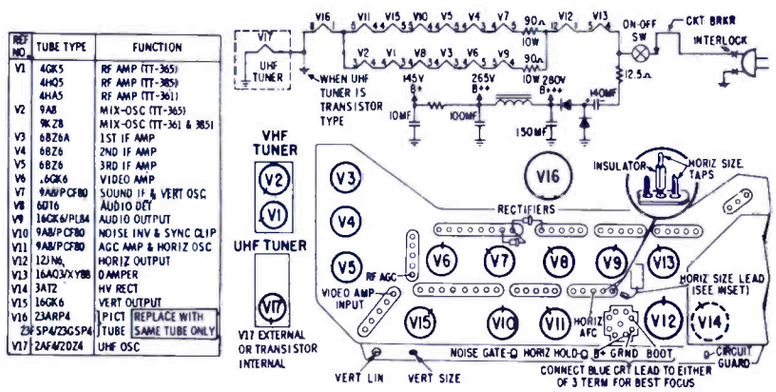


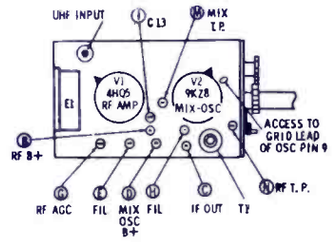
MOTOROLA
TV Chassis TS-588

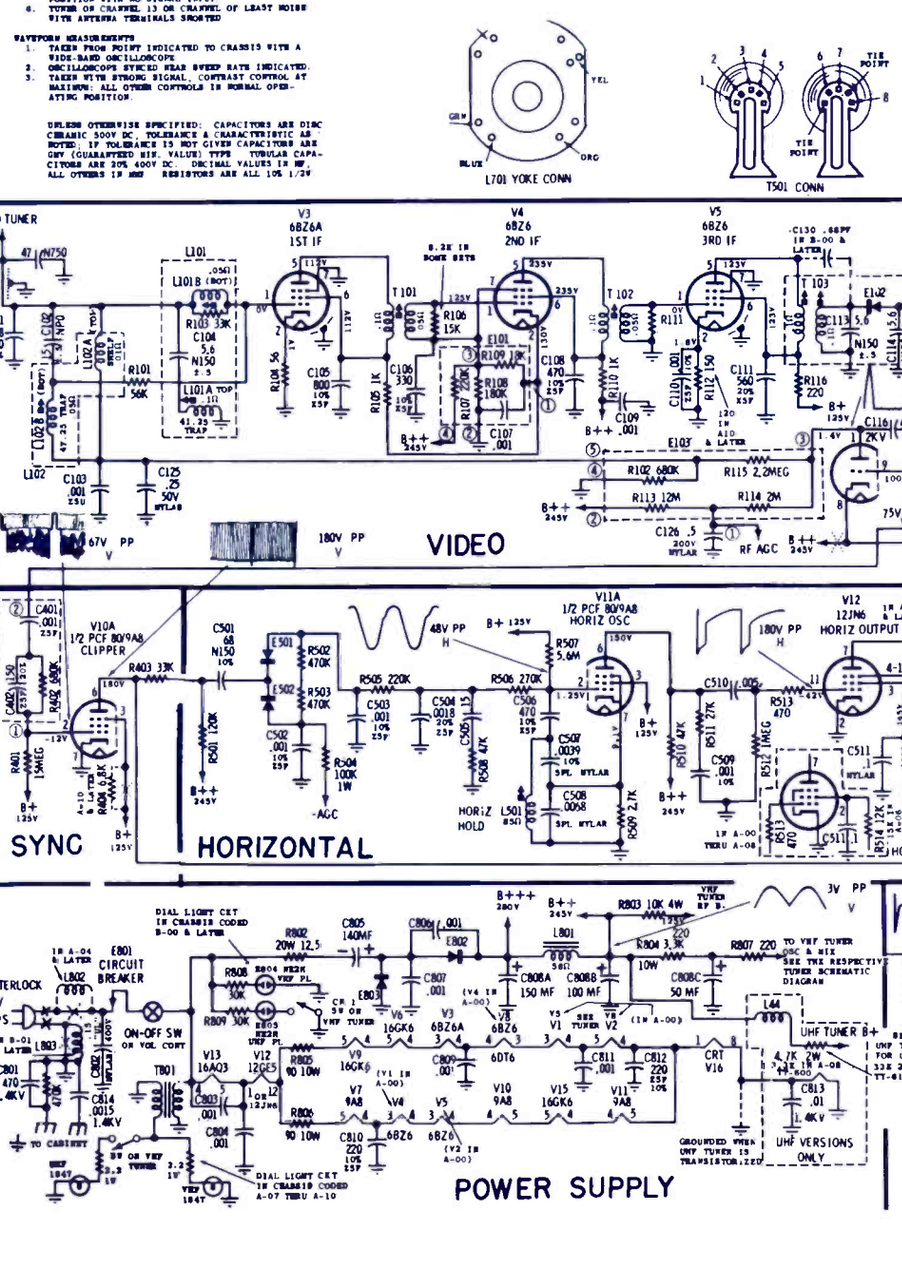
Symbol	Description	Motorola Part No.
E101	res-cap, 2nd IF	51D65239A17
E102	diode, crystal (video det)	48C65837A02
E103	res-cap, AGC	51D65239A04
E201	diode, low power (blue)	48D67120A02
E301	res-cap, audio det plate	51D65239A29
E302	res-cap, quadrature det	51D65239A19
E401	res-cap, clipper grid	51D67056A11
E501	diode, low power (blue-horiz phase det)	48D67120A02
E502	diode, low power (blue horiz phase det	48D67120A02
E602	res-cap, integrator	51D65239A22
E801	circuit breaker	80C66390A11
E802	diode, silicon power rectifier	48D66037A03
E803	diode, silicon power rectifier	48D66037A03
L104	choke, resonant (7.5 μh)	24C6672A01
L107	4.5 Mc trap & audio take-off: incl core	24D65950A03
L201	choke, suppressor (in CRT socket lead	24R132921
L302	audio quadrature coil assem: incl res-cap 302 & C-310	24P65132A04
L502	choke, horiz suppressor	24C66772A05
L503	choke, horiz suppressor	24C66772A05
L701	yoke, deflection: 114°	24D66926A08
L801	choke, filter	25C65806A11
R126	noise gate: 1M	18D66836A29
R128	contrast; 30K	18D66966A20
R202	brightness: 100K	18D66966A09
R310	on-off & vol: 2M	18D65083A46
R611	vert. size: 4M	18D66836A27
R619	vert. linearity: 500	17D65820A08
R622	vert. hold: 750K	18D66966A21
	12.5 10% 20w WW	17K134084
	90 5% 10w WW	17K132986
	3300 10% 10w	17K132552
	5600 10% 5w	17K754325
	10K 10% 4w glass	17K738297
T101	1st IF interstage assem: incl core & coil mtg nut	24K747587
T102	2nd IF interstage assem: incl core & coil mtg nut	24K751248
T103	video detector trans assem: incl C113, C114, C115, E102, L103 & cores	24P65132A10
T301	4.5 Mc audio IF: incl C302, C303, C304 & core	24P65132A03
T302	audio output (Use 25D65984A04)	25D65984A19
T501	horiz. output & HV: compl.	24D66258A19
T601	vertical output	25D65840A13

MODEL BREAKDOWN CHART

MODEL	CHASSIS	VHF TUNER	UHF TUNER	CRT
Y23T35E	KTS-588	LCMTT-365Y or CPTT-361Y	STT-600	23ARP4
Y23T35EF	SKTS-588	CPTT-361Y	STT-600	23ARP4
Y23K136M,W	KTS-588	LCMTT-365Y or CPTT-361Y	STT-600	23ARP4
Y23K136MF,WF	SKTS-588	CPTT-361Y	STT-600	23ARP4
23BT101AN,AE	VKTS-588	OPTT-385Y	HTT-615	23FSP4 or 23GSP4
23BK164AW,AM	KTS-588Y	LCMTT-365Y	STT-600	23ARP4
23BU170AM,AW	VKTS-588Y	OPTT-385Y	HTT-620 or HTT-615	23FSP4 or 23GSP4
23BS171AM,AW	VKTS-588Y	OPTT-385Y	HTT-620 or HTT-615	23FSP4 or 23GSP4
23BU172AS	VKTS-588Y	OPTT-385Y	HTT-620 or HTT-615	23FSP4 or 23GSP4
23BL173AM,AW	VKTS-588Y	OPTT-385Y	HTT-620 or HTT-615	23FSP4 or 23GSP4
23BL174AS	VKTS-588Y	OPTT-385Y	HTT-620 or HTT-615	23FSP4 or 23GSP4



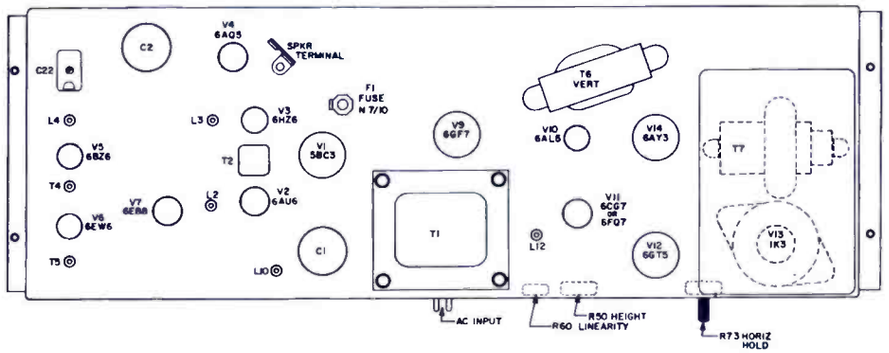




MUNTZ

TV Chassis Run Number T68A14 and T68A15

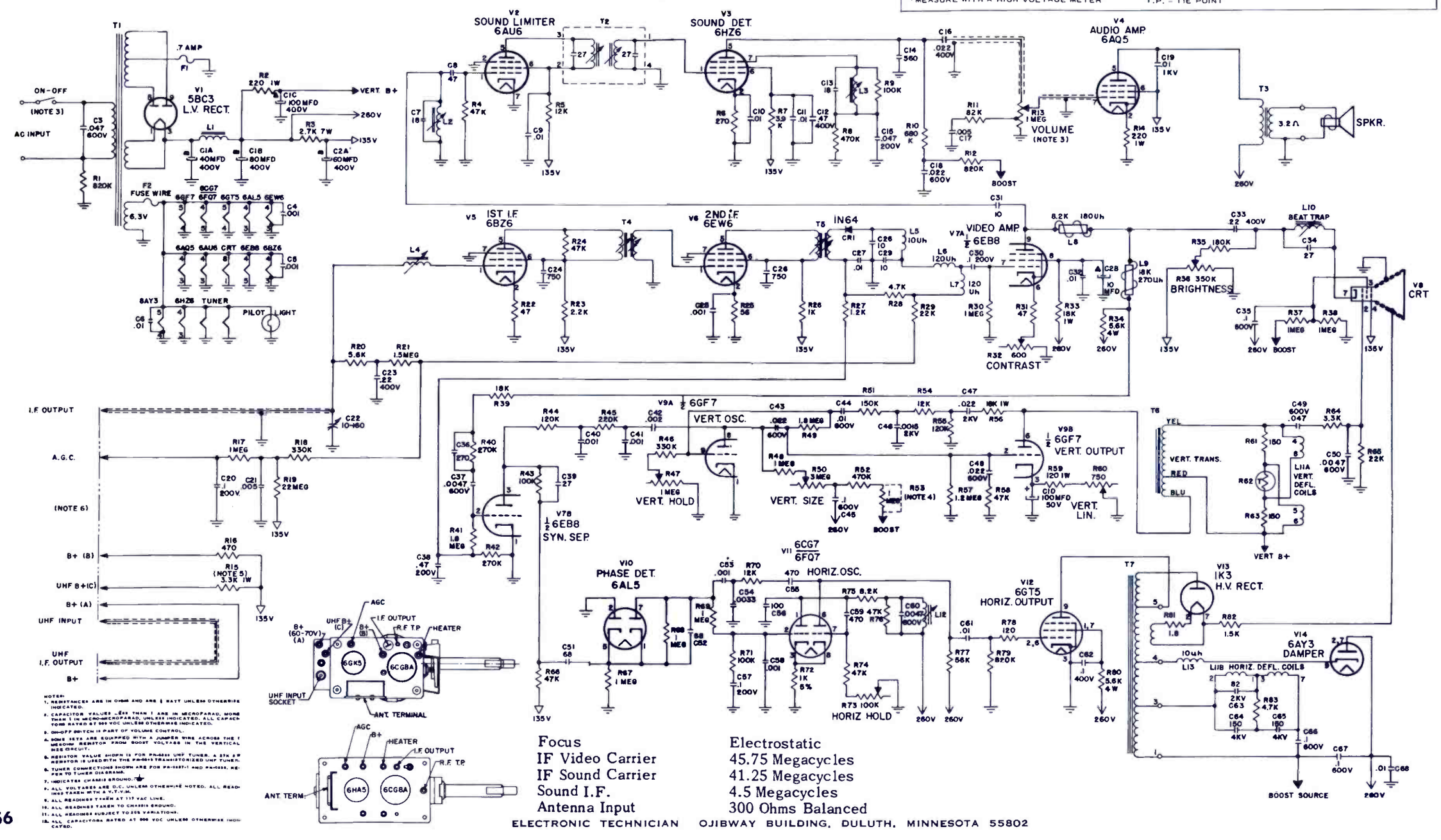
ELECTRONIC TECHNICIAN TEKFAX



Operating Line Voltage 108-125 Volts A.C.
Power Consumption 250 Watts
Audio Power Output 2.5 Watts Maximum
Voice Coil Impedance 3.2 Ohms
Deflection Electromagnetic

V #	TUBE TYPE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10
1	5BC3	253		253		*289AC			T.P. 289AC	289AC	
2	6AU6	-.25	GND	GND	FIL.	60	60	GND			
3	6HZ6	0	1.7	GND	FIL	160	88	-1.9			
4	6AQ5	N/C	4.2	GND	FIL	245	135	0	T.P.		
5	6BZ6	0	-.56	GND	FIL	83	83	GND			
6	6EW6	0	.7	GND	FIL	94	94	GND			
7	6EB8	GND	2.2	74	FIL	GND	5.2	0	175	173	T.P.
V9	6GF7	GND	-21	14	GND	FIL	207	-11	182	-51	
V10	6AL5	4.3	GND	GND	FIL	4.3	GND	-.75			
V11	6FQ7/6CG7	203	-.75	7.5	FIL	GND	187	-12	7.5	GND	N/C
12	6GT5	132	-37	GND	GND	FIL				920*	
14	6AY3	N/C	N/C	N/C	GND	FIL	N/C	260	N/C	845*	

*MEASURE WITH A HIGH VOLTAGE METER T.P. = TIE POINT



NOTES:
1. RESISTANCES ARE IN OHMS AND ARE ½ WATT UNLESS OTHERWISE INDICATED.
2. CAPACITOR VALUES LESS THAN 1 ARE IN MICROFARAD, MORE THAN 1 IN MICRO-MICROFARAD, UNLESS INDICATED. ALL CAPACITORS RATED AT 500 VDC UNLESS OTHERWISE INDICATED.
3. ON-OFF SWITCH IS PART OF VOLUME CONTROL.
4. SOME SETS ARE EQUIPPED WITH A JUMPER WIRE ACROSS THE 1 MEGOHM RESISTOR FROM BOOST VOLTAGE IN THE VERTICAL DEFLECTION CIRCUIT.
5. RESISTOR VALUE SHOWN IS FOR PH-0686 UHF TUNER. A 27K 2 W RESISTOR IS USED WITH THE PH-0685 TRANSISTORIZED UHF TUNER.
6. TUNER CONNECTIONS SHOWN ARE FOR PH-0687-1 AND PH-0688. REFER TO TUNER DIAGRAMS.
7. INDICATES CHASSIS GROUND.
8. ALL VOLTAGES ARE D.C. UNLESS OTHERWISE NOTED. ALL READINGS TAKEN WITH A V.T.V.M.
9. ALL READINGS TAKEN AT 117 VAC LINE.
10. ALL READINGS TAKEN TO CHASSIS GROUND.
11. ALL READINGS SUBJECT TO 25% VARIATIONS.
12. ALL CAPACITORS RATED AT 500 VDC UNLESS OTHERWISE INDICATED.

Focus	Electrostatic
IF Video Carrier	45.75 Megacycles
IF Sound Carrier	41.25 Megacycles
Sound I.F.	4.5 Megacycles
Antenna Input	300 Ohms Balanced

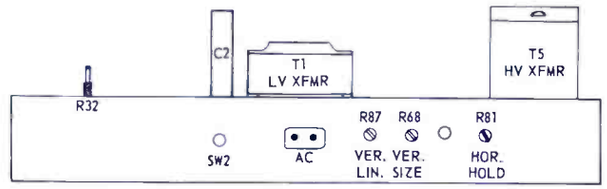
MUNTZ
TV Chassis Run Number T68H28

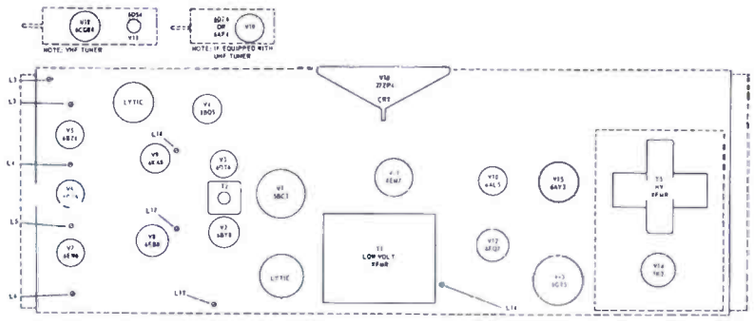
RESISTANCE CHART

Setting of controls: Contrast, Brightness, Vert. Hold, Volume, Hor. Hold, H & Vert. Line, all counter clock-wise position, Vert. Size, Clock-wise.
GND=Chassis ground, N/C=no connection, T/P=tie point, FIL=filament winding, K=1000 ohms, M=megaohm.

*SUFFIX CHART
No Suffix # ..... Chassis Ground
Suffix #1 ..... 135 Volt Buss
Suffix #2 ..... 260 Volt Buss
Suffix #3 ..... Audio B+
Suffix #4 ..... Boost Voltage
Suffix #5 ..... Vertical B+

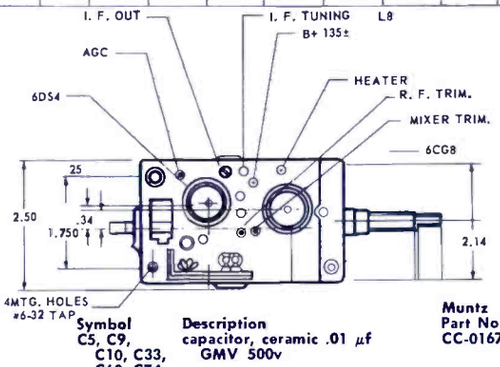
SYMBOL	TYPE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10
V1	5BC3	236 [5]	N/C	2.7K [1]	N/C	19	N/C	N/C	N/C	19	
V2	6BY8	47K	GND	GND	0	GND	5M	12K [1]	GND		
V3	6DT6	3.8	680	GND	FIL	270 [3]	33K [1]	470K			
V4	6BQ5	N/C	0	150	GND	FIL	N/C	325 [3]	N/C	0 [2]	
V5	6BZ6	1M	47	GND	FIL	2.2K [1]	2.2K [1]	GND			
V6	6BZ6	1M	68	GND	FIL	2.2K [1]	2.2K [1]	GND			
V7	6EW6	0	150	GND	FIL	1K [1]	1K [1]	GND			
V8	6EB8	3.3K	42.3K	11.5K [2]	FIL	GND		18K [2]	3.3K [2]	T/P	
V9	6KA8	47K [2]	4.7M [1]	0 [1]	FIL	38K [2]	180K [1]	3.7K	2.8M	T/P	
V10	6AL5	12K	12K	GND	FIL	5M	GND	5M			
V11	6EM7	1M	375 [5]	120	250K	1.2M [4]	GND	FIL	N/C		
V12	6FQ7	8.2K [2]	5.1M	1K	FIL	GND	47K [2]	47K	GND	N/C	
V13	6GT5	5.6K [2]	820K	GND	GND	FIL	820K	5.6K [2]	N/C	27 [4]	
V14	1K3										
V15	6AY3	N/C	0 [2]	N/C	GND	FIL	N/C	0 [2]	N/C	18 [4]	
V16	27ZP4	GND	120K [2]	470K [4]	120K [2]	N/C	N/C	170K [1]	FIL		



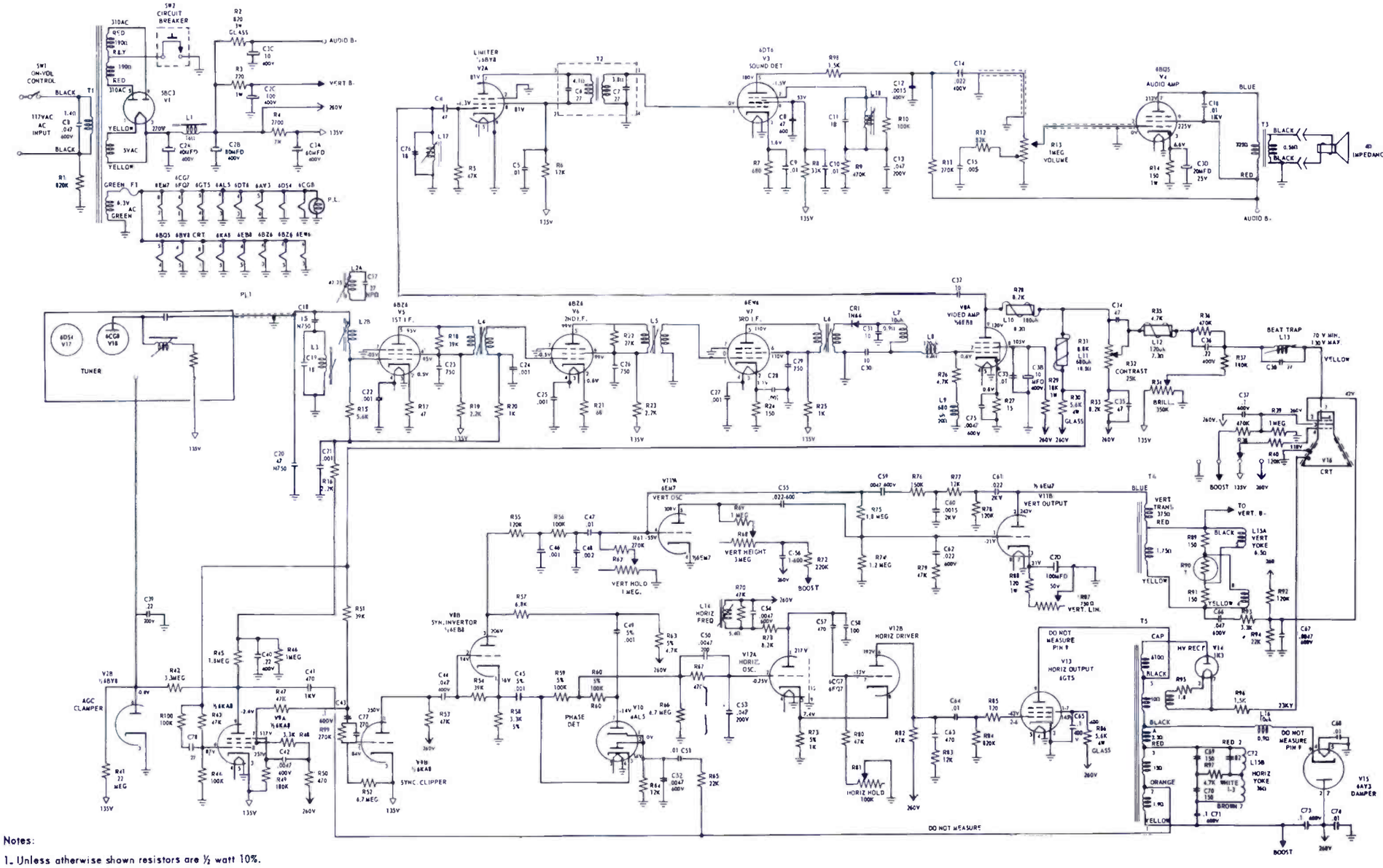


SPECIFICATIONS

Power Supply	108-125 Volts AC
Power Consumption	225 Watts
Sound Output	2.5 Watt Max.
Voice Coil Impedance	3.2 OHM
Deflection	Electromagnetic
Focus	Electrostatic
Video Carrier	45.75 Megacycles
Sound Carrier	41.25 Megacycles
Sound IF	4.5 Megacycles
Antenna Input	300 OHMS Balanced



Symbol	Description	Muntz Part No.
C5, C9, C10, C33, C68, C74	capacitor, ceramic .01 μf GMV 500v	CC-0167
C41	capacitor, ceramic 470pf 20% GP 1KVDC	CC-0254
C45, C49	capacitor, silver mica 1000 pf 5% 500v	CM-0055
C46	capacitor, ceramic 1000 pf 10% GP 300v	CC-0194
C60	capacitor, molded .0015 μf 10% 2KVDC	CPM-0181
C61	capacitor, molded .022 μf 10% 2KVDC	CPM-0180
C78	capacitor, ceramic 27 pf ±10% N330 500v	CC-0231
CR1	geranium diode 1N64	CX-0036
L1	filter choke	LC-0100-4
L2	IF input coil	LC-0118
L3	41.25 Mc trap coil	LC-0117
L4	1st. video IF coil	LC-0119
L5	2nd. video IF coil	LC-0120
L6	3rd. video IF coil	LC 0121
L7, L16	choke coil 10 μh (68 Mc self resonating)	LC-0098
L8	peaking coil .120 μh (Brown-Red Dot)	LC-0101-1
L9	peaking coil .680 μh (Blue-Grey Dot)	LC-0101-3
L10, R28	peaking coil .180 μh (Brown-Grey Dot/8.2k Ω resistor 10%)	LC-0101-4
L11, R31	peaking coil .680 μh/6.8k Ω 10% resistor (Brown-Red Dot)	LC-0101-6
L12, R35	peaking coil 120 μh/4.7K 10% resistor (Brown-Red Dot)	LC-0101-5
L13, L17, L18	Sound IF, beat trap & Quadrature coil	LC-0107
L14	horizontal ringing coil	LO-0077-1
L15A, L15B	vertical & horizontal deflection yoke	LC-0115
SW2	circuit breaker	PR-0330
R2	resistor, glass 820 Ω 10% 3w	RG-820-13
R4	resistor, wirewound 2.7K 10% 7w	RW-2701-17
R13, SW1	control, volume on-off 1M	VC-0076
R30, R85	resistor, glass 5.6K 10% 4w	RG-5601-14
R32	control, contrast 30K	VC-0077
R34	control, brightness 350K	VC-0078
R58	resistor, carbon 3.3K 5% ½w	RC-3301-58
R59, R60	resistor, carbon 100K 5% ½w	RC-1003-58
R62	control, vertical hold 1M	VC-0079
R68	control, vertical height 3M	VC-0080
R81	control, Hor. hold 100K	VC-0082
R87	control, vertical linearity 750 Ω	VC-0081
R90	termister part of yoke assembly	
R95	resistor, wirewound 1.8 Ω 10% ½w	RW-0018-18
T1	power transformer 110VAC	TP-0037
T2	sound driver transformer	LI-0060
T3	audio output transformer	TO-0062
T4	vertical output transformer	TO-0061
T5	horizontal output transformer	TO-0060



Notes:

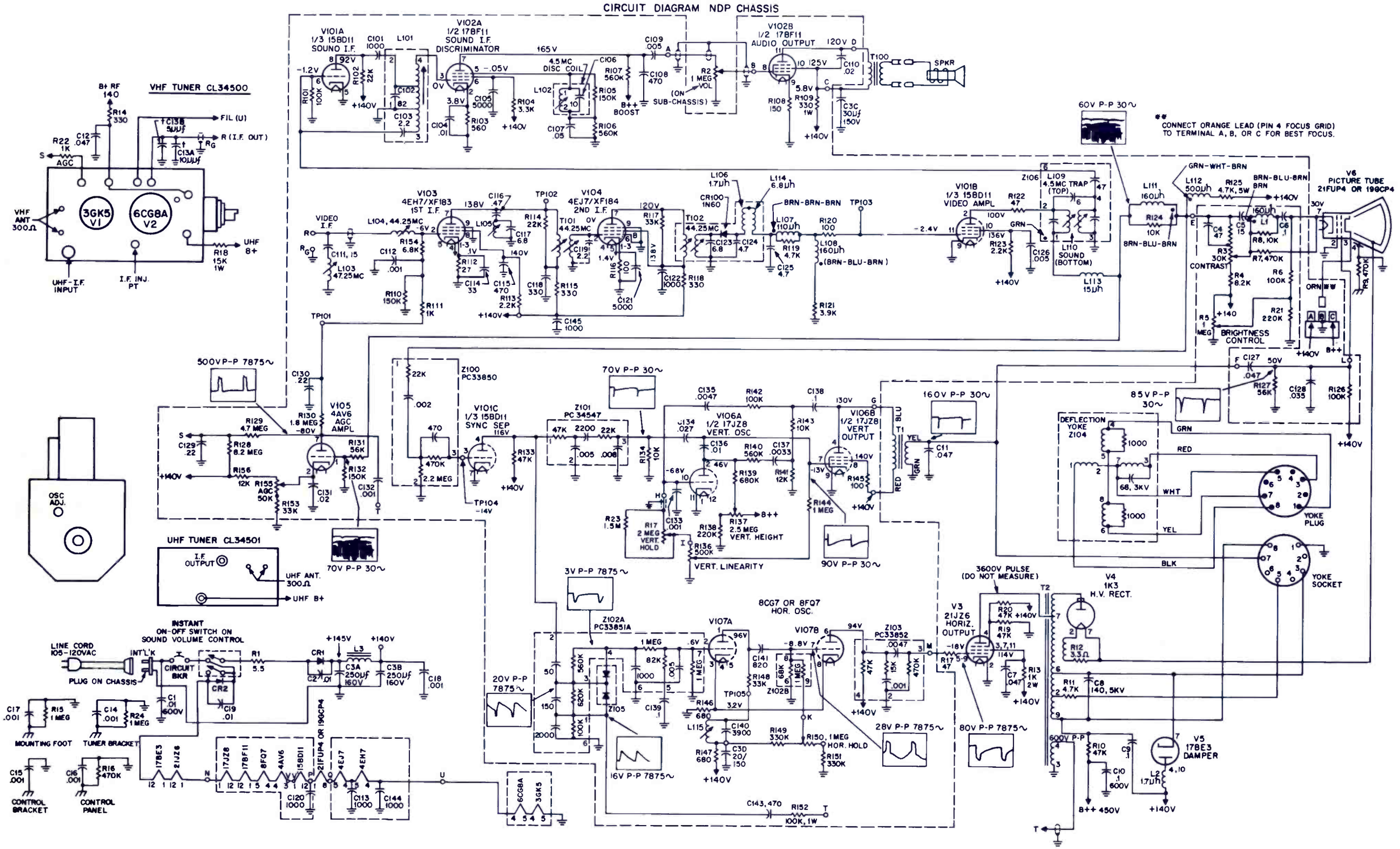
1. Unless otherwise shown resistors are ½ watt 10%.
2. Capacitors whose specified values are greater than 1 are in micromicrofarad unless specifically stated. Those less than 1 are in microfarad.
3. Capacitor voltage ratings are 500 V.D.C. working unless specifically stated.

OLYMPIC
TV Chassis NDP

ELECTRONIC TECHNICIAN TEKFAX

NOTES:
ALL RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE NOTED.
ALL CAPACITOR VALUES LESS THAN 1.0 ARE IN MICROFARADS AND GREATER THAN 1.0 ARE IN MICRO-MICROFARADS UNLESS OTHERWISE NOTED.
ALL VOLTAGES ±15%, MEASURED WITH A VTVM, BETWEEN INDICATED POINTS AND GROUND WITH AN INPUT VOLTAGE OF 120V, 60~ AND NORMAL SIGNAL INPUT WITH CONTRAST CONTROL SET TO PRODUCE 50V, P-P AT KINESCOPE.
†SOME SETS HAVE A 5UUf OR A 10UUf CAPACITOR OR BOTH IN PARALLEL.

CIRCUIT DIAGRAM NDP CHASSIS



OLYMPIC
TV Model 6P28, 6P29, 6P30

ELECTRONIC TECHNICIAN TEKFAX

CHASSIS 14416U
14516U

TUBE COMPLEMENT

V1	3HA5	RF Amp
V2	5GS7	Mixer-osc
V3	4EH7	1st Video IF Amp
V4	4EJ7	2nd Video IF Amp
V5	10JY8	Video Amp, Sync. Separator
V6	6GH8A	Sound IF Amp, Audio Amp
	or6U8	
V7	12FX5	Audio Output
V8	8B10	Horizontal Phase Detector, Horizontal Oscillator
V9	17JZ8	Vertical Oscillator, Vertical Output
V10	21GY5	Horizontal Output
V11	17BE3	Damper
V12	16BMP4	Picture Tube
V13	1X2B	HV Rectifier
	M-1387	UHF osc

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V 1	3HA5	440KΩ	0Ω	—	—	75KΩ	0Ω	0Ω					
V 2	5GS7	11KΩ	75KΩ	0Ω	—	—	75KΩ	90KΩ	0Ω	200KΩ			
V 3	4EH7	33Ω	180KΩ	33Ω	—	—	0Ω	75KΩ	75KΩ	0Ω			
V 4	4EJ7	68Ω	0Ω	68Ω	—	—	0Ω	75KΩ	75KΩ	0Ω			
V 5	10JY8	0Ω	1.6MΩ	130KΩ	—	—	●3 400Ω	1MΩ	75KΩ	80KΩ			
V 6	6GH8A	150KΩ	2.5Ω	85KΩ	—	—	85KΩ	150Ω	0Ω	2.2MΩ			
V 7	12FX5	150Ω	●3 500KΩ	—	—	●2 500KΩ	75KΩ	75KΩ					
V 8	8B10	—	1.2KΩ	1MΩ	83KΩ	146KΩ	150KΩ	1.2KΩ	700KΩ	300KΩ	47KΩ	0Ω	—
V 9	17JZ8	—	●3 1.3MΩ	NC	75KΩ	NC	●4 1.6MΩ	●4 1.6MΩ	75KΩ	0Ω	●5 1.3MΩ	0Ω	—
V10	21GY5	—	NC	75KΩ	0Ω	1MΩ	NC	75KΩ	NC	1MΩ	0Ω	75KΩ	—
V11	17BE3	—	NC	75KΩ	75KΩ	NC	NC	1MΩ	NC	NC	75KΩ	NC	—
V12	16BMP4	—	100KΩ	1.1MΩ	●7 1.1MΩ	NC	NC	●6 220KΩ	—				
V13	1X2B	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12

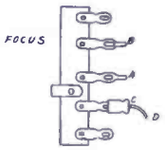
NC NO CONNECTION

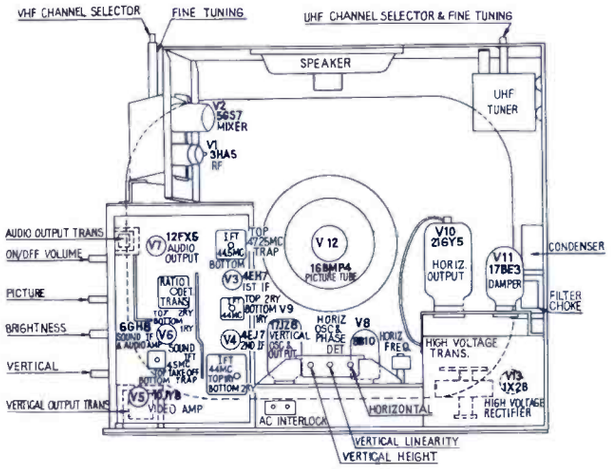
● 1 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF PICTURE.
● 2 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF VOLUME.
● 3 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF VERTICAL HEIGHT.
● 4 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF VERTICAL LINEA.
● 5 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF VERTICAL HOLD.
● 6 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF BRIGHT.
● 7 THIS READING WILL VARY DEPENDING UPON THE CONDITION OF FOCUS.

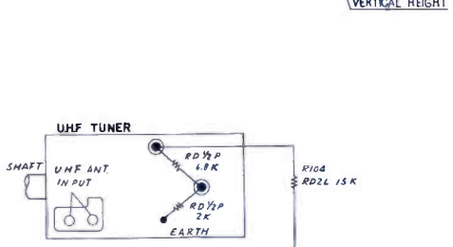
NOTE:

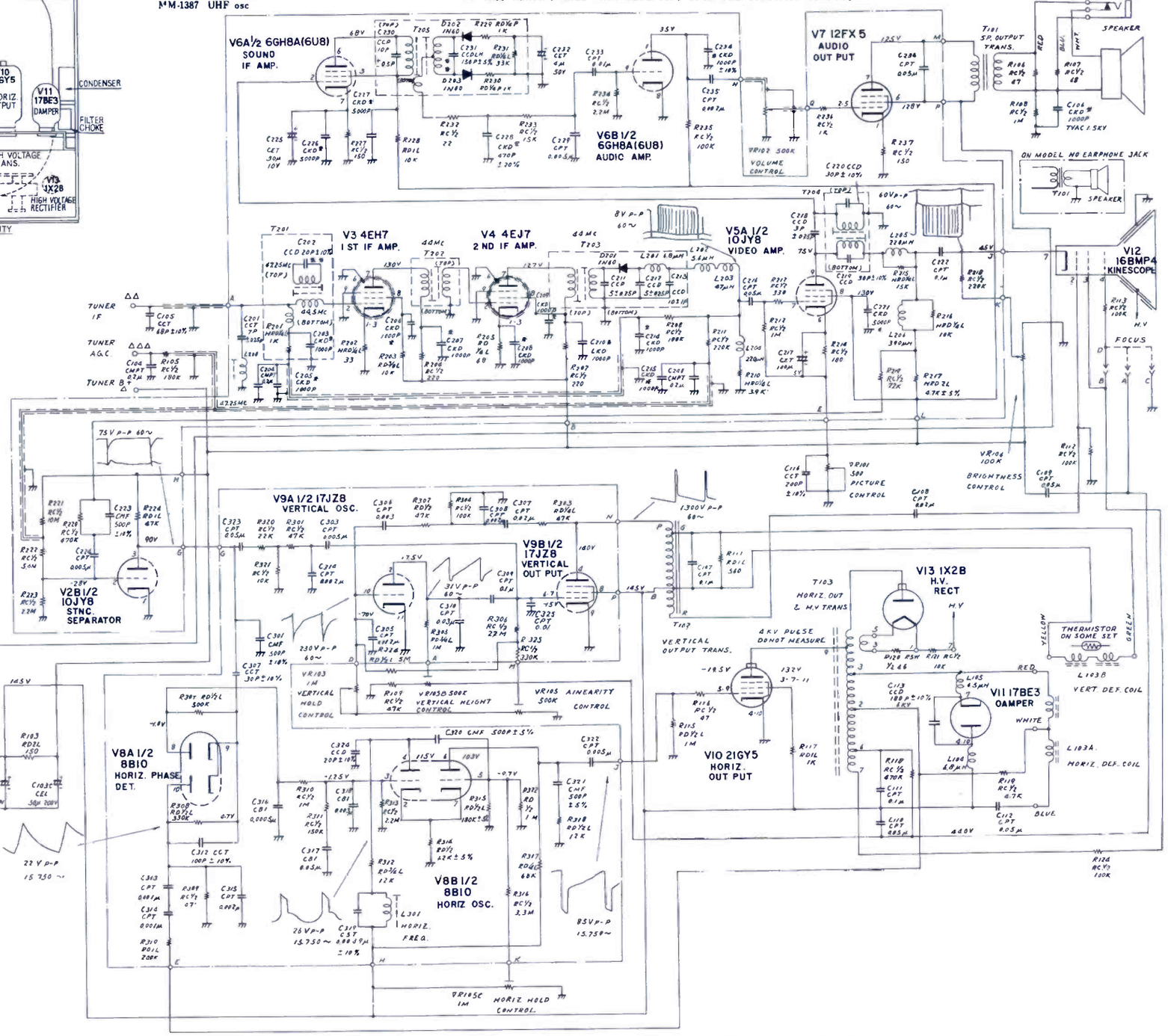
1. ALL CARBON DEPOSIT FILM RESISTOR (RD) VALUES IN OHMS ± 10% TOLERANCE 1/2 WATT UNLESS OTHERWISE NOTED.
2. ALL CARBON COMPOSITION RESISTOR (RC) VALUES IN OHMS ± 20% TOLERANCE 1/2 WATT UNLESS OTHERWISE NOTED
3. ALL MICA AND PAPER CONDENSERS ± 20% TOLERANCE UNLESS OTHERWISE NOTED.
4. ALL CERAMIC CONDENSER (✱ MARK DISC TYPE) VALUES IN MICRO-MICRO FARADS +100% −0% TOLERANCE UNLESS OTHERWISE NOTED
5. ALL VOLTAGE MEASURED BETWEEN POINTS INDICATED AND CHASSIS USING AN ELECTRONIC VOLTMETER. ALL VOLTAGE READINGS ± 15% WITH INCOMING SIGNAL AND WITH CONTRAST CONTROL SET TO RRODUCE 60 VOLTS PEAK TO PEAK AT KINESCOPE.
6. ✱✱ MARK HEAT COEFFICIENT

CONNECT ORANGE LEAD FROM TERMINAL D TO A, B, OR C, WHICHEVER GIVES BEST FOCUS.









DISASSEMBLY INSTRUCTIONS

To Remove Chassis

1. Remove 4 push-on type knobs from side of cabinet.
2. Remove UHF, VHF channel selector & fine tuning knobs.
3. Remove 2 bolts holding chassis at bottom.
4. Remove 2 wing nut at top of inside of cabinet holding chassis and handle.
5. Remove yoke, high voltage lead, picture tube socket and picture tube ground lead.
   (also earphone lead on left side of chassis on earphone equipped model).

To Remove Picture Tube And Safety Window After Removing Chassis.

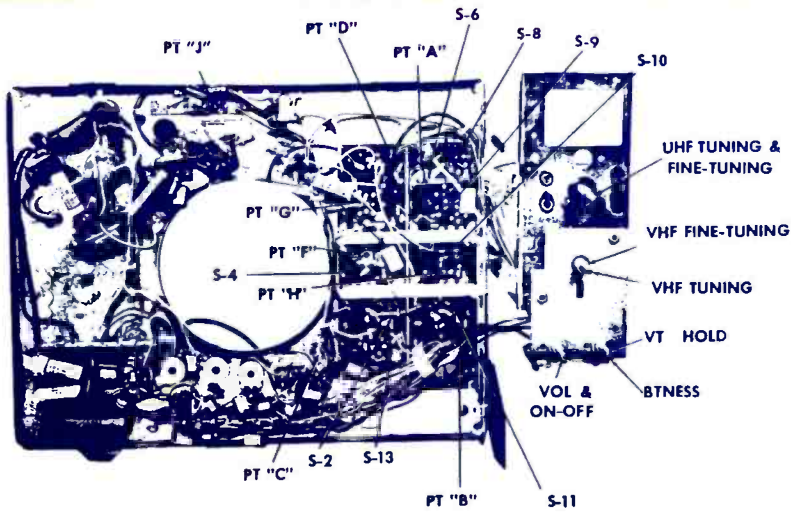
1. Remove nut holding picture tube wire band.
2. Pull picture tube and safety window straight out rear of cabinet.

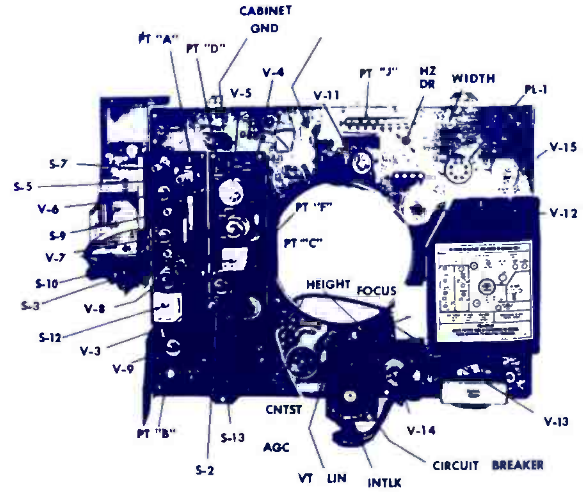
Symbol	Description	Olympic Part No.
C113	180pf 10% 6kv	EP-2560
C118	1000pf +100% −0% 1500v	CCD
C201	7pf ±.25p	EP-2270
C203	1000pf +100% −0	CKD
C205	1000pf +100% −0	CKD
C206	1000pf +100% −0	CKD
C207	1000pf +100% −0	CKD
C208	1000pf +100% −0	CKD
C209	1000pf +100% −0	CKD
C210	1000pf +100% −0	CKD
C211	5pf ±.25p	CCD
C212	5pf ±.25p	CCD
C221	5000pf +100% −0	CKD
C226	5000pf +100% −0	CKD
C321	500pf 5%	CMF
VR101	500 variable, pix power	EP-2414
VR102	500K variable, volume	EP-2413
VR103	1M variable, vert hold	EP-2415H
VR104	100K variable, brightness	EP-2416H
VR105A	500K variable, vert lin	EP-2547
VR105B	500K variable, vert height	EP-2547
VR105C	1M variable, horiz hold	EP-2547
		EP-1318H
R101	5Ω 10% 10w	RWL
R217	4.7K 5% 2w	HRD
R314	1.2K 5% ½w	RD
R315	180K 5% ½w	RD
T101	speaker out	TLT-158
T102	vert out	TDT-402
T103	horiz out	TDT-401-1
T201	I-F-T A	TRT-594H
T202	I-F-T B	TRT-595
T203	I-F-T C	TRT-596H
T204	sound I-F-T	TRT-498J
T205	ratio det	TRT-551H
L101	choke coil	TDT-360J
L102	P. S. choke coil	TLT-157
L103A & B	deflection coil	TDT-400H-1
L104	choke coil 6.8µh	TRT-612
L105	choke coil 6.5µh	TRT-459J
L201	choke coil 6.8µh	TRT-612
L202	inductor 5.6µh	TRT-565-2
L203	inductor 47µh	TRT-565-5
L204	inductor 220µh	TRT-565-11
L205	inductor 220µh	TRT-565-11
L206	inductor 390µh	TRT-565-14
L207	choke coil	TRT-160H
L208	trap coil	TRT-610
L301	AFC coil	TDT-396
S101	rectifier, silicon	EP-1259-2
F101	fuse 2 amp	EP-1317
D201		1N60
D202		1N60
D203		1N60
	UHF tuner for all 6P models	TCH-2155-1
	UHF tuner cable for all 6P models	EP-2558-1

ELECTRONIC TECHNICIAN TEKFAX

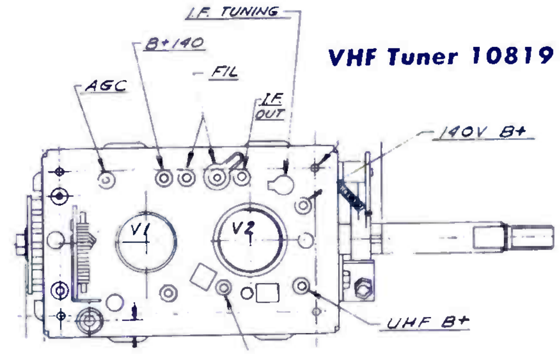
PACKARD BELL

TV Chassis 88-18C



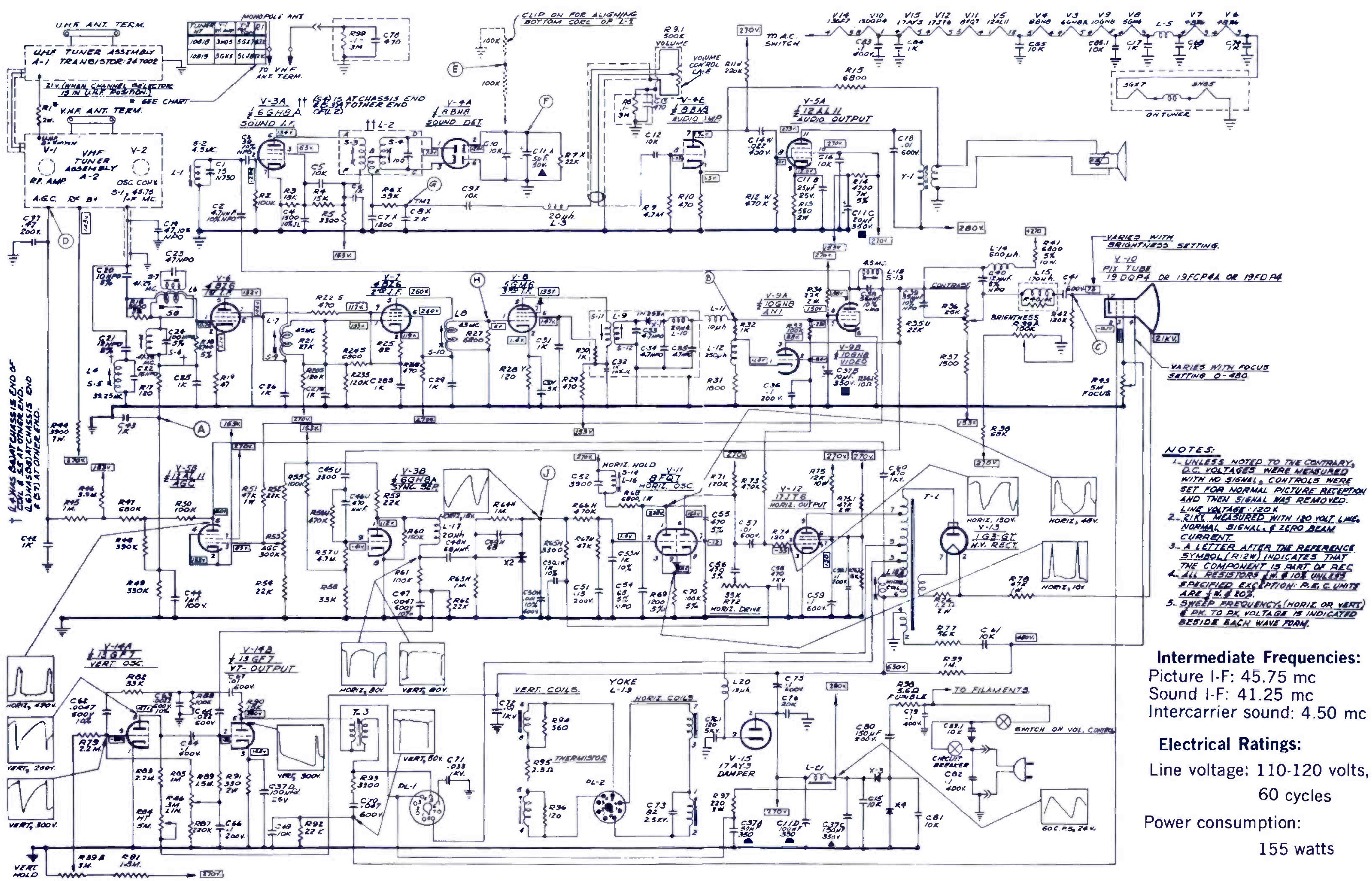


VHF Tuner 10819



V-1	RF amplifier	
	In tuner 10818	3HQ5
	In tuner 10819	3GK5
V-2	Oscillator/Converter	
	In tuner 10818	5GX7
	In tuner 10819	5LJ8

Symbol	Description	Packard Bell Part No.
"H"	PEC, hz osc circuitry	24576C
"S"	PEC, video I-F circuitry	24536C
"U"	PEC, sync grid circuitry	24538F
"W"	PEC, audio circuitry	24539C
"X"	PEC, de-emphasis circuitry	24540E
"Y"	PEC, Tub-R-Cap	24541D
C2	Ceramic, 4.7 Pf 10% NPO	23978
C3	Ceramic, 39 Pf 10% NPO	23807
C11A	Electrolytic, 5 µfd/50v	24204
C11B	Electrolytic, 25 µfd/25v	24204
C11C	Electrolytic, 20 µfd/350v	24204
C11D	Electrolytic, 100 µfd/350v	24204
C20	Ceramic 10 Pf 5% NPO	23636
C21	Ceramic 12 Pf 5% NPO	23893
C32	Ceramic 1000 Pf 10% JL	23983
C37A	Electrolytic 50 µfd/350v	24268
C37B	Electrolytic 10 µfd/350v	24268
C37C	Electrolytic 150 µfd/350v	24268
C37D	Electrolytic 100 µfd/25v	24268
C55	Mica 470 Pf 5%	23294
C76	Ceramic, 20.00 Pf	24545
C80	Electrolytic 150 µfd/200v	24267
R9.1	500,000Ω, volume & on-off	25118
R36	25,000Ω, contrast	25142
R39A	100,000Ω, brightness	25144
R39B	3 M, vt hold	25144
R43	5 M, focus	25910
R53	300,000Ω, AGC	25151
R72	35,000Ω, hz drive	25136
R84	5 M, height	25910
R86	3 M, vt linearity	25867
L1	Sound take-off	29877
L6	1st I-F & trap (includes C23)	29874A
L7	2nd I-F	29875B
L8	3rd I-F	29875B
L9	4th I-F	29885
L16	Hz oscillator coil	29699A
L17	Choke, RF, 20 µh	29782C
L18	Width coil	29718C
L19	Deflection coils (yoke) (Includes R94, -95, -96, & C-73)	29797
L20	Choke, RF, 12 µh	29646B
L21	Filter choke	27018
X1	Detector diode 1N295A	72080
X2	Dual diode	72053
X3	Silicon diode 1N1763	72041
R14	4700Ω, 5%, 7w	73327
R16	5600Ω, 5%	73034-1
R18	2700Ω, 5%	73030-1
R41	6800Ω, 5%, 10w	73899
R44	3900Ω, 7w	73715
R51	47,000Ω, 1w	73245
R69	1200Ω, 5%	73026-1
R70	100,000Ω, 5%	73049-1
R75	12,000Ω, 10w	73705
R75.1	47,000Ω, 2w	73795
R81	1.8 M	73064
R97	220Ω, 2w	73513
R98	5.6Ω, fusible	73500
T1	Audio output, 5500Ω to 3.2	89579
T2	Horizontal output	89572
T3	Vertical output	89580



NOTES:

1. UNLESS NOTED TO THE CONTRARY, D.C. VOLTAGES WERE MEASURED WITH NO SIGNAL, CONTROLS WERE SET FOR NORMAL PICTURE RECEPTION AND THEN SIGNAL WAS REMOVED. LINE VOLTAGE: 120 V.
2. 21KV. MEASURED WITH 120 VOLT LINE, NORMAL SIGNAL, & ZERO BEAM CURRENT.
3. A LETTER AFTER THE REFERENCE SYMBOL (R12W) INDICATES THAT THE COMPONENT IS PART OF PEC.
4. ALL RESISTORS 1/2 W. & 10% UNLESS SPECIFIED. EXCEPTION: P.E.C. UNITS ARE 1/4 W. & 20%.
5. SWEEP FREQUENCY, (HORIZ OR VERT) & PK. TO PK. VOLTAGE IS INDICATED BESIDE EACH WAVE FORM.

Intermediate Frequencies:

Picture I-F: 45.75 mc
Sound I-F: 41.25 mc
Intercarrier sound: 4.50 mc

Electrical Ratings:

Line voltage: 110-120 volts, 60 cycles

Power consumption: 155 watts

ELECTRONIC TECHNICIAN OJIBWAY BUILDING, DULUTH, MINNESOTA 55802

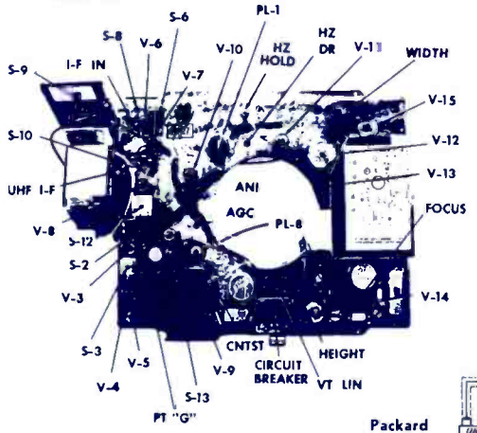
PACKARD BELL
TV Chassis 88-19

SPECIFICATIONS:

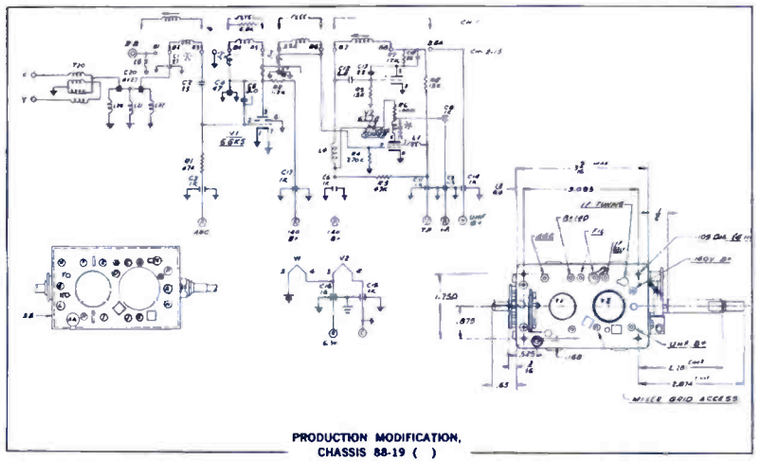
Model	Height	Width	Depth	Shipping Wt.
19T40 19T40A	15½"	21¼"	12½"	50 lbs.
19T41	15½"	21¼"	12½"	50 lbs.
19T42 19T42A	15¼"	24"	13"	50 lbs.
19T43 19T43A	15¼"	24"	13"	50 lbs.

Intermediate Frequencies:
Picture I-F: 45.75 mc
Sound I-F: 41.25 mc
Intercarrier sound: 4.50 mc

Electrical Ratings:
Line voltage: 110-120 volts, 60 cycles
Power consumption:
TV chassis alone:
19T40, -41, -42, & -43: 180 watts
19T40A, -42A, & -43A: 200 watts
Added consumption for clock: 3 watts
Added consumption for remote control and motor: 35 watts



Symbol	Description	Packard Bell Part No.
A1	UHF tuner assembly (transistorized)	10820
A2	VHF tuner assembly (88-19C, -19E, & -19F)	10800D
A3	VHF tuner assembly (88-19D)	10802D
A4	VHF tuner assembly (alternate for A2)	10824
H	PEC, hz osc. circuitry	24576C
S	PEC, video IF voltage divider	24536C
U	PEC, sync. sep. grid circuitry	24538F
W	PEC, audio coupling circuitry	24539C
X	PEC, de-emphasis circuitry	24540E
Y	PEC, Tub-R-Cap	24541D
C1	Ceramic, 39 pf, 10%, NPO	23807
C9	ceramic, 1000 pf, GMV	23860
C16A	electrolytic, 5 µfd/50v	24204
C16B	electrolytic, 25 µfd/25v	
C16C	electrolytic, 20 µfd/350v	
C16D	eletrolytic, 100 µfd/350v	
C22	ceramic, 10 pf, 5%, NPO	23636
C23	ceramic, 12 pf, 5%, NPO	23893
C24	ceramic, 15 pf, 10%, NPO	23803
C37A	electrolytic, 10 µfd/350v	24256
C37B	electrolytic, 100 µfd/25v	
C37C	electrolytic, 50 µfd/350v	
C37D	electrolytic, 150 µfd/200v	
C85	electrolytic, 150 µfd/200v	24257
R3	500,000Ω, volume, w/sw (88-19C & -19F)	25118
R4A	3 M, vt hold	
R4B	100,000Ω, brightness	25144
R7	500,000Ω, volume, no sw (88-19E)	25130B
RB	500,000Ω, volume, w/sw (88-19D)	25134A
R51	300,000Ω, ANI	25138
R52	25,000Ω, contrast	25626
R54	5 M, focus	25910
R67	300,000Ω, AGC	25138
R86	35,000Ω, hz drive	25136
R99	5 M, height	25910
R103	3 M, vt. linearity	25867
L1	sound take off (includes C4)	29838
L2	ratio detector	29694
L3	choke, RF, 20 uh	29782C
L17	Hz oscillator coil	29894A
L18	width coil	29718C
L19	deflection coils (yoke) includes R111, 112, 113, C79, & PL9 yoke cover: 34103	29797
L20	choke, RF, 12 µh	29646B
L21	choke, filter	27017A
L22	choke, filament	29789
X1	dual diode	72053
X2	silicon diode, 500 ma	72041
X3	same as X2	
R1	4700Ω, 7w, 5%	73327
R24	4700Ω, 5%, 7w	73327
R91	10,000Ω, 7w	73744
T1	audio output	89578A
T2	hz output	89572
T3	vt output	89543A
T4	power transformer	89567C

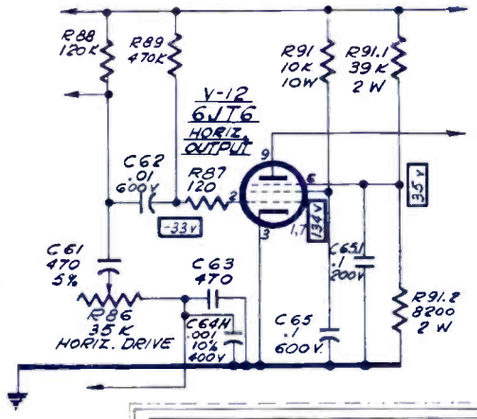


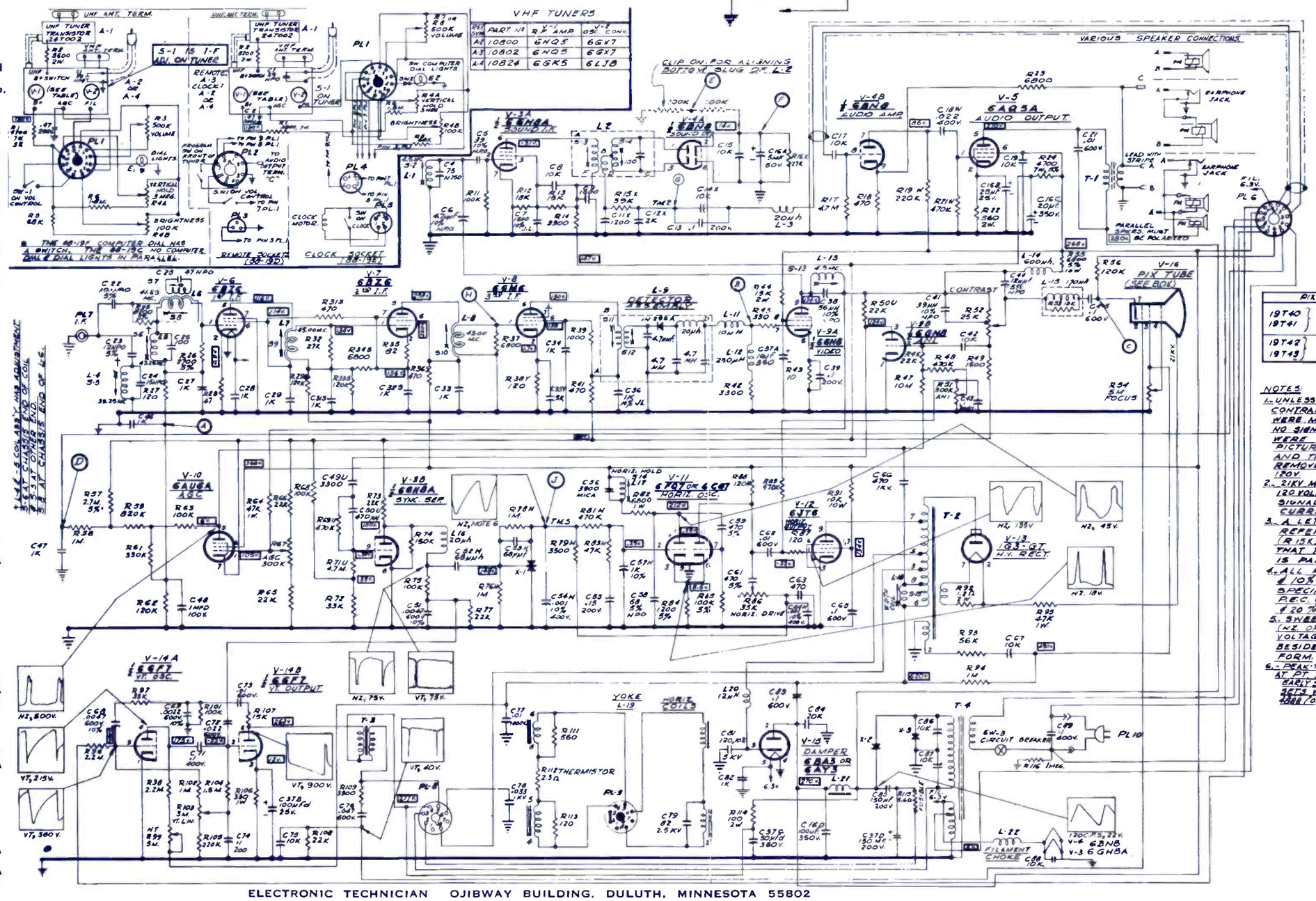
PRODUCTION MODIFICATION, CHASSIS 88-19 ( )

To prevent interference from snivets, the following production modification was made:
Grid three of the 6JT6 horizontal output tube was lifted from ground and a capacitor and resistor inserted in parallel between it and ground. The grid itself was connected through another resistor to B+, resulting in about 35 volts at the grid terminal.
The additional components were

C-65.1	Cap'r, mylar, .1 mfd, 200 v	23 104 201 006
R-91.1	Resistor, 39,000 ohms, 10%, 2 w	73444
R-91.2	Resistor, 8200 ohms, 10%, 2 w	73436

Chassis stamped 4906 (or higher) contain this modification.





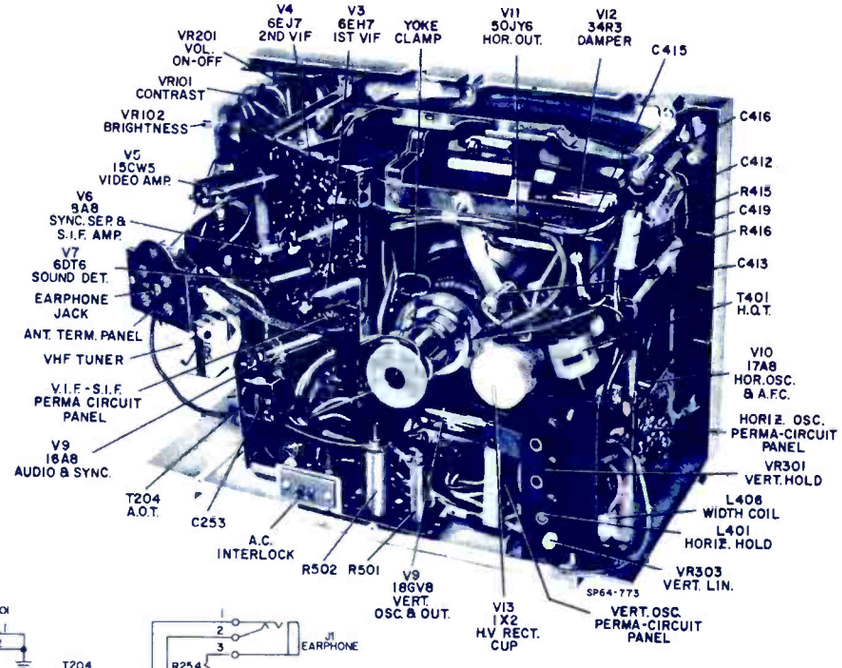
PHILCO
TV Chassis N1200 and N1204

N1200 RESISTANCE CHART

			PIN NUMBERS								
SYMBOL	TUBE		1	2	3	4	5	6	7	8	9
V3	6EH7	1ST VIF	33Ω	2.5MΩ	33Ω	FIL	FIL	0Ω	17KΩ	40KΩ	0Ω
V4	6EJ7	2ND VIF	82Ω	0Ω	82Ω	FIL	FIL	0Ω	13KΩ	13KΩ	0Ω
V5	15CW5	VID. OUT.		820KΩ	47Ω	FIL	FIL	INF.	20KΩ	INF.Ω	125KΩ
V6	6A8	1ST IF AND SYNC. SEP	18KΩ	39KΩ	15KΩ	FIL	FIL	12.5KΩ	270Ω	0Ω	1.2MΩ
V7	6DT6	SND. DET.	1.5Ω	560Ω	FIL	FIL	900KΩ	38KΩ	600KΩ		

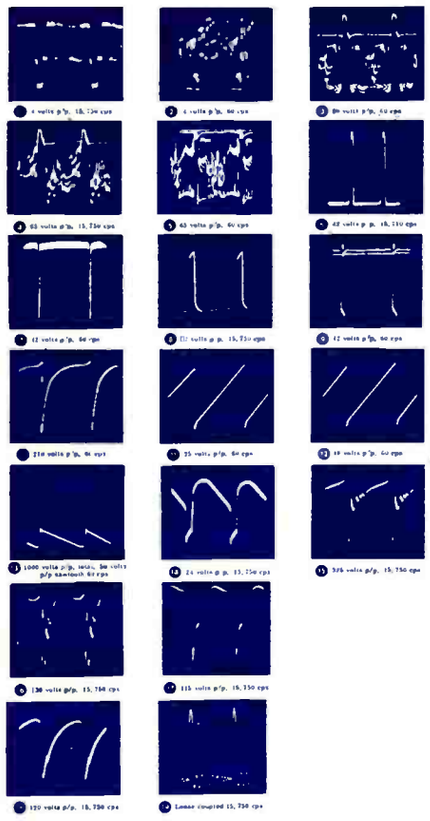
			PIN NUMBERS								
SYMBOL	TUBE		1	2	3	4	5	6	7	8	9
V8	16A8	AUD. OUT & SYNC SEP.	350KΩ	170Ω	1.2KΩ	FIL	FIL	16.5KΩ	18KΩ	0Ω	30KΩ
V9	18GV8	VERT OSC. & OUT.	4.2MΩ	1MΩ	0Ω	FIL	FIL	12KΩ	12KΩ	100Ω	1.4MΩ
V10	17A8	HORIZ. OSC. & AFC	45KΩ	302KΩ	15.5KΩ	FIL	FIL	15.5KΩ	220KΩ	0Ω	280KΩ
V11	50JY6	HOR. OUT		FIL	24KΩ	15KΩ	680KΩ	FIL	0Ω	0Ω	
V12	34R3	DAMPER			FIL	FIL				15.5KΩ	15.5KΩ

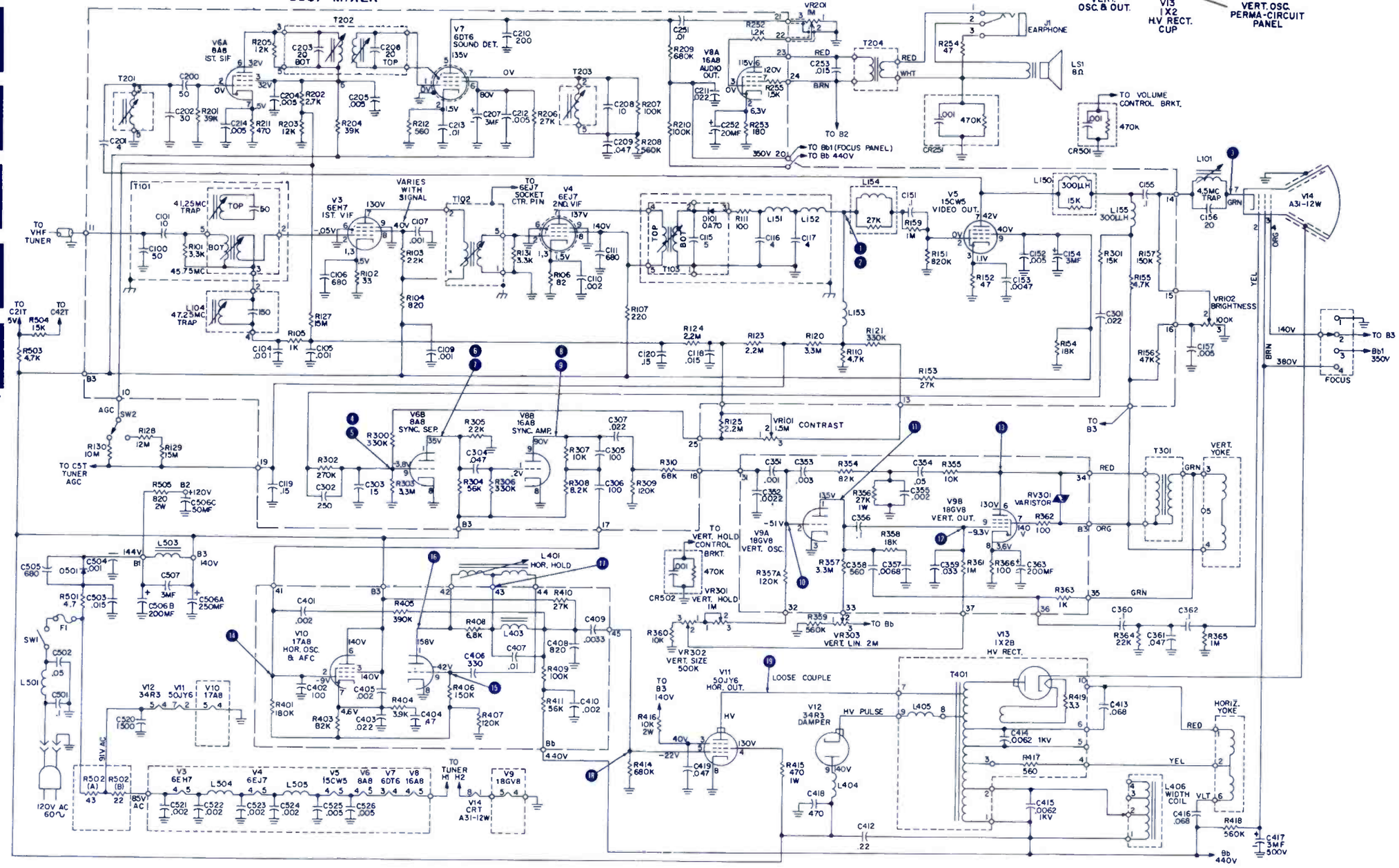
Symbol	Description	Philco part no.
C116	4pf/500v	ECC-D5040D
C118	.015 μf/100v	ECQ-M4153M
C154	3 μf/150v	ECE-B150V3
C210	200pf/500v	ECC-D5201K
C252	20 μf/25v	ECE-B25V20
C302	250pf/500v	ECC-D5251K
C410	2000pf/500v	ECK-5202PU
C414	.0062μf/1000v	ECN-D10622K
C415	.0062μf/1000v	ECN-D10622K
C416	.068μf/600v	ECN-D6683K
C417	3μf/500v	ECE-C500V3
C510	470pf/2000v	ECK-D0471PW
C511	470pf/2000v	ECK-D20471PW
L153	Peaking, Shunt	TLB-351-999
L154	Peaking, Series	TLB-750-272
L155	Peaking, Shunt	TLB-301-999
L401	Hor. Osc.	TLH-303-1
L403	Hor. Stabilizer	TLH-210
L404	Choke, Damper Plate	TLM-080-999
L405	Choke, Damper Cathode	TLM-080-999
L406	Hor. Width	TLH-719
L501	Choke, RF	TLP-8501
L503	Choke, Power	TLP-452-1
L155	4.7K Ω 8w	ERM-9PT472
R417	560 Ω	Part of T401
R501	4.7 Ω 10w	ERM-10H4R7



TNT-86713 Tuner, UHF — V2T 7GS7 OSC.-MIXER — VIT 4GK5 RF AMP

TNR-5611U Tuner, VHF



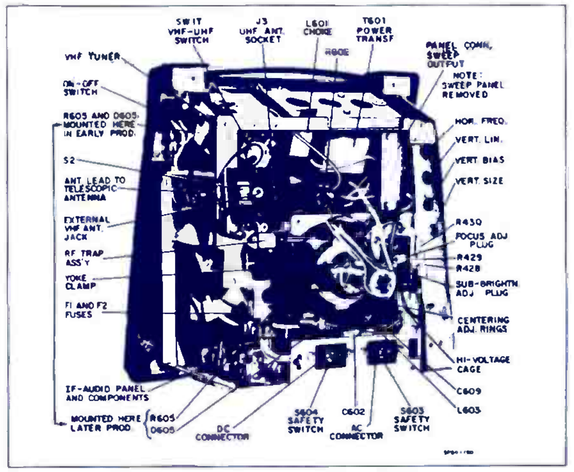


R502A	(A) 43-10w	ERE-20G650
B	(B) 22-5w	
RV301	Varistor vert. out.	229-1200-8
SW1	Switch, On-Off	Part of VR201
SW2	Switch, AGC	ESR-E112L26A
T101	1st VIF	TLI-1153
T102	2nd VIF	TLI-1152
T103	Video Det.	TLI-5152
T201	1st SIF	TLS-1106
T202	2nd SIF	TLS-2102
T203	Quadrature	TLS-1507
T204	Audio Output	ETA-28A14A
T301	Vert. Output	TLV-227
T401	Horiz. Output	TLF-413
VR101	1.5 Meg. Contrast	229-1200-3
VR102	100K Brightness	229-1200-4
VR201	1 Meg. volume-On-Off	229-1200-2
VR301	1 Meg. Vert. Hold	229-1200-5
VR302	500K vert. size	229-1200-11
VR303	2 Meg. Vert. Lin.	229-1200-6
Yoke	Yoke, Hor. - Vert.	TLY-462-1

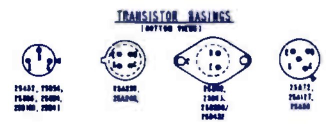
PHILCO

TV Chassis N1052

Symbol	Description	Philco Part No.
C213	30 µf 12v filter 2nd IF	320-0240
C236	200 µf 6v contr. cont.	320-0249
C501	4 µf 25v vert. osc.	320-0275
C502	50 µf 6v vert. osc.	320-0276
C503	100 µf/6v vert. lin.	320-0277
C504	100 µf/15v vert. osc.	320-0270
C505	50 µf/6v TR502 base	320-0231
C506	5 µf/12v vert. feedbk.	320-0237
C507	500 µf/6v TR502 emit.	320-0201
CR201	PEC TR201 emitter	320-6001
CR202	PEC T202 primary	320-6002
CR203	PEC TR202 emitter	320-6001
CR204	PEC T203 primary	320-6002
CR205	PEC TR203 emitter	320-6002
CR206	PEC TR204 emitter	320-6002
CR302	PEC T301 secondary	320-6007
CR303	PEC TR301 emitter	320-6002
CR304	PEC TR301 collector	320-6001
CR305	PEC TR302 base	320-6003
CR306	PEC TR302 emitter	320-6004
CR307	PEC T303 primary	320-6005
CR308	PEC ratio detector	320-6006
D151	SD82 UHF mixer	324-0114
D201	1N60M video det.	Part of VDI
D202	1N60 AGC gate	34-8022-6
D302	1N60 ratio det.	34-8022-6
D303	1N60 ratio det.	34-8022-6
D401	1N60 horiz. phase	34-8022-6
D402	1N60 horiz. phase	34-8022-6
D403	1S90 horiz. out.	324-0117
D404	1S777 damper	324-0118
D405	1S93 focus	324-0119
D501	1S34 vert. osc.	32-0035
D601 2, 3, 4,	Power rect. assy. (4 YS-1 rectifiers)	324-0120
R233	Control 1kΩ contr.	323-0172
R242	Control 500Ω, AGC	323-0164
R318	Control, volume 5kΩ	323-0171
R406	Control 2kΩ hor. hold	323-0173
R411	Control 2k hor. freq.	323-0167
R432	Control 100kΩ brightness	Part of 323-0172
R502	Control 2kΩ vert. hold	Part of 323-0173

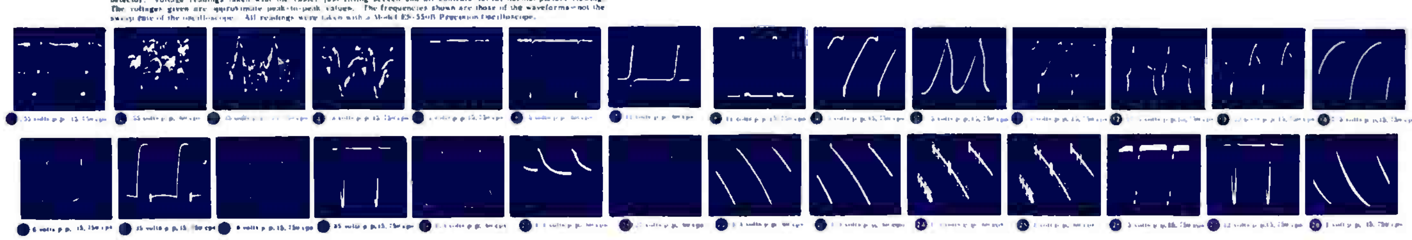


N1052 Chassis Rear View with Sweep Panel Removed

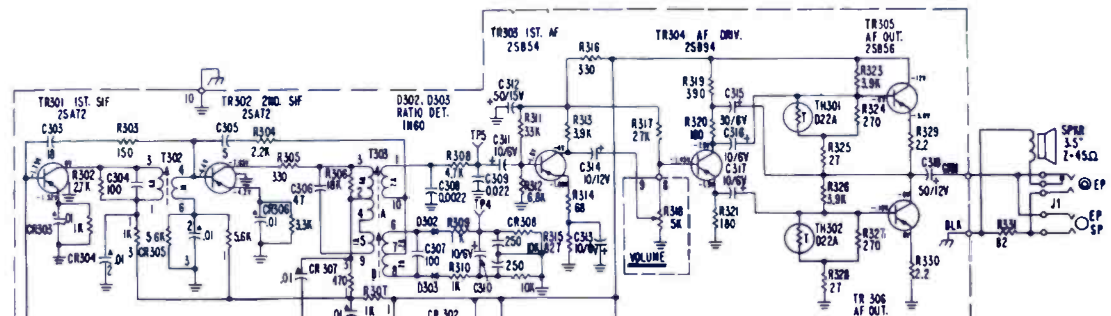
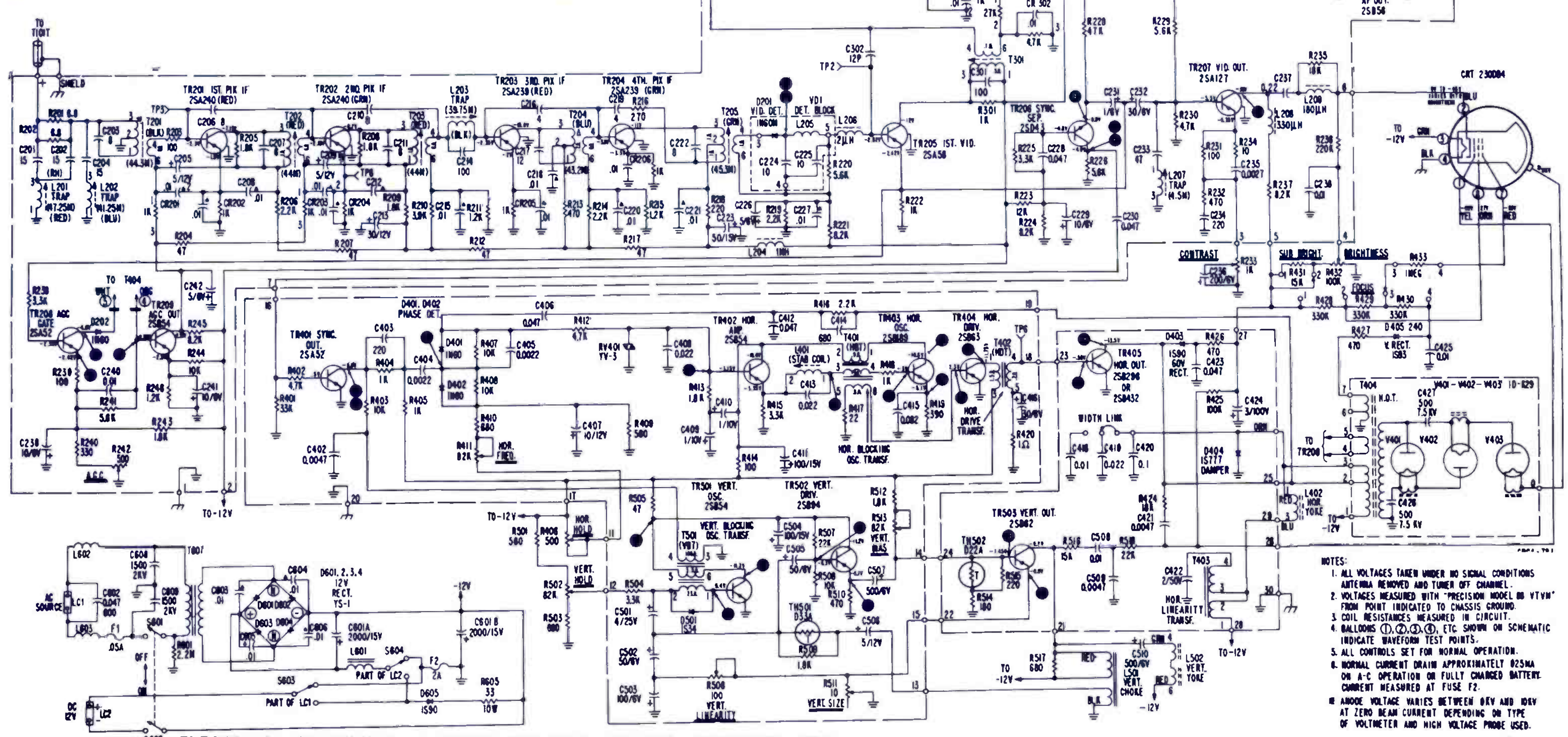


OSCILLOSCOPE WAVEFORM PATTERNS

These waveforms were taken with the receiver adjusted for an approximate peak-to-peak output of .35 volts at the video detector. Voltage readings taken with the raster just filling screen and all controls set for normal picture viewing. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms—not the sweep rate of the oscilloscope. All readings were taken with a Model ES-550B Precision Oscilloscope.



Symbol	Description	Philco Part No.
R506	Control 100Ω, vert. lin.	323-0169
R511	Control 10Ω, vert. size	323-0170
R513	Control 2kΩ vert. bias	323-0167
T303	Ratio Detector	322-0402
T401	Horiz. Oscillator	322-0413
T402	Horiz. Drive	322-0414
T403	Horiz. Linearity	322-0411
T404	Horiz. Output	322-0416
T501	Vert. Oscillator	322-0415
T601	Power, AC	322-0417
TH101	D33A TR103 base	323-0163
TH301	D22A TR305 base	323-0070
TH302	D22A TR306 base	323-0070
TH501	D33A vert. choke	323-0163
TH502	D22A TR503 base	323-0070
TR101	2SA432 RF amp	324-0110
TR102	2SA230 VHF mixer	324-0111
TR103	2SA229 VHF osc.	324-0112
TR151	M8124 UHF osc.	324-0113
TR201	2SA240 1st VIF	324-0098
TR202	2SA240 2nd VIF	324-0098
TR203	2SA239 3rd VIF	324-0099
TR204	2SA239 4th VIF	324-0099
TR205	2SA58 1st video amp	324-0121
TR206	2SD43 sync. sep.	324-0122
TR207	2SA127 video out.	324-0123
TR208	2SA52 AGC gate	324-0100
TR209	2SB54 AGC out.	324-0029
TR301	2SA72 1st SIF	324-0082
TR302	2SA72 2nd SIF	324-0082
TR303	2SB54 1st audio	324-0029
TR304	2SB94 audio driver	324-0124
TR305	2SB56 audio output	324-0030
TR306	2SB56 audio output	324-0030
TR401	2SA52 sync. output	324-0100
TR402	2SB54 horiz. amp	324-0029
TR403	2SB189 horiz. osc.	324-0125
TR404	2SB63 horiz. drive	324-0126
TR405	2SB296 horiz. output early prod.	324-0115
	2SB432 horiz. output later prod.	324-0128
TR501	2SB54 vert. osc.	324-0029
TR502	2SB94 vert. drive	324-0124
TR503	2SB62 vert. output	324-0116

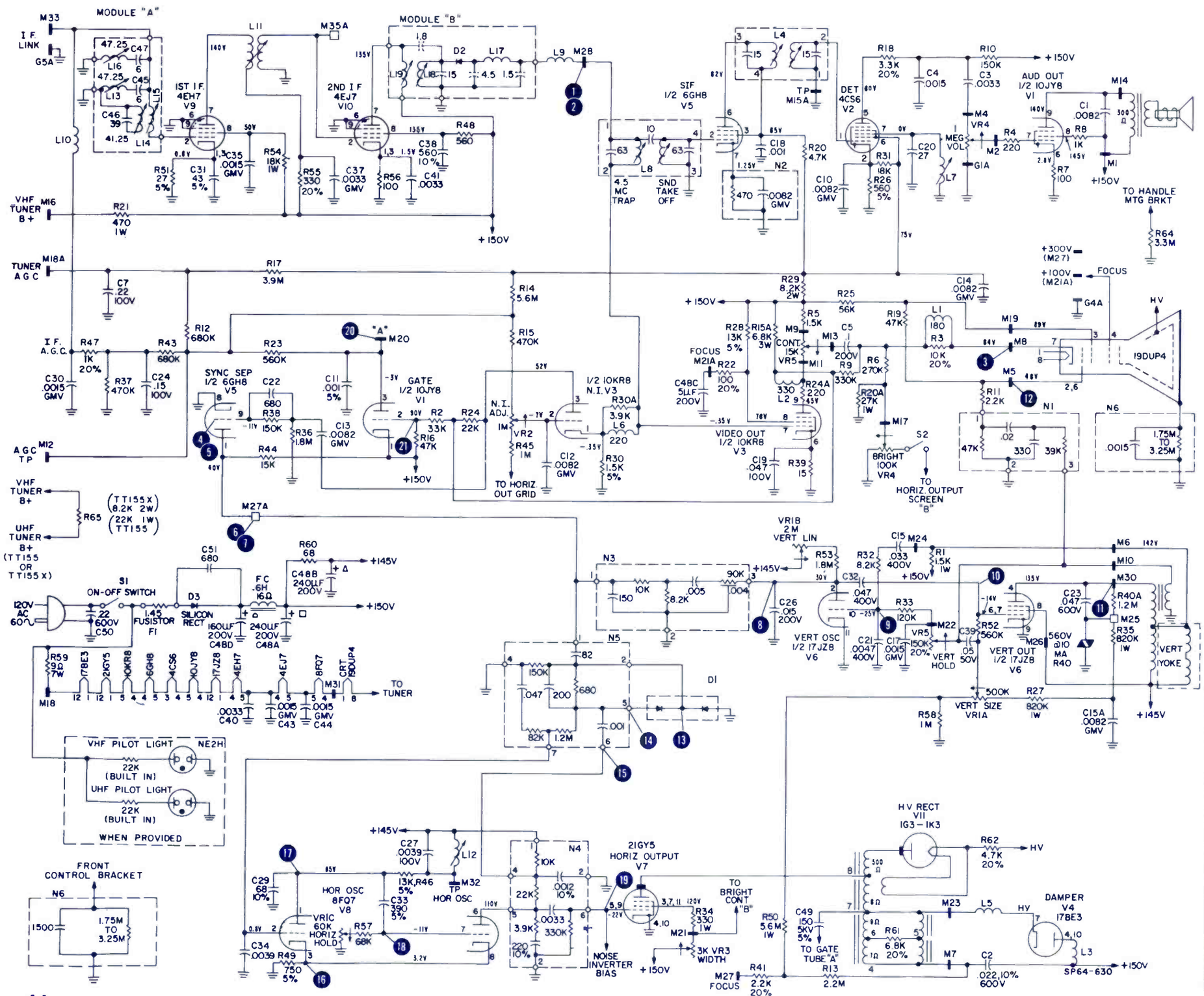



NOTES:
1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS ANTENNA REMOVED AND TUNER OFF CHANNEL.
2. VOLTAGES MEASURED WITH "PRECISION MODEL 88 VTVM" FROM POINT INDICATED TO CHASSIS GROUND.
3. COIL RESISTANCES MEASURED IN CIRCUIT.
4. BALLOONS ①, ②, ③, ④, ETC SHOWN ON SCHEMATIC INDICATE WAVEFORM TEST POINTS.
5. ALL CONTROLS SET FOR NORMAL OPERATION.
6. NORMAL CURRENT DRAIN APPROXIMATELY 825MA ON A-C OPERATION OR FULLY CHARGED BATTERY. CURRENT MEASURED AT FUSE F2.
* ANODE VOLTAGE VARIES BETWEEN 8KV AND 10KV AT ZERO BEAM CURRENT DEPENDING ON TYPE OF VOLTMETER AND HIGH VOLTAGE PROBE USED.

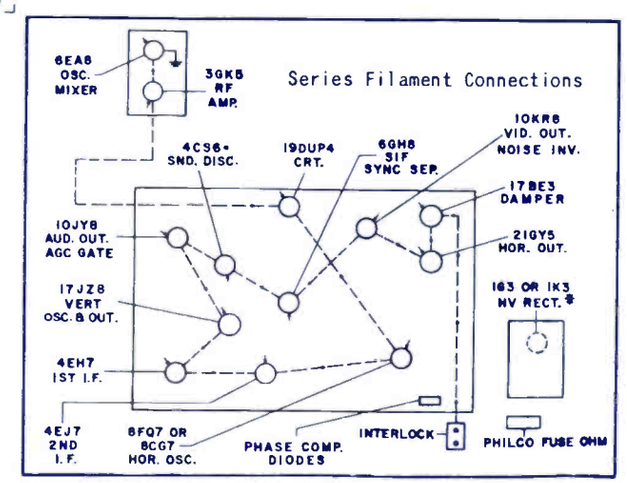
PHILCO
TV Chassis 15J25

ELECTRONIC TECHNICIAN TEKFAX

1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS. ANTENNA REMOVED AND TUNER OFF CHANNEL.
2. VOLTAGES MEASURED WITH A PRECISION MODEL 88 V.T.V.M. FROM POINT INDICATED TO CHASSIS GROUND.
3. ALL COIL RESISTANCES READ WITH COIL IN CIRCUIT.
4. BALLOONS (8). (9). ETC., SHOWN ON SCHEMATIC, INDICATE WAVEFORM TEST POINTS.



Symbol	Description	Philco Part No.
C1	.0082μf	30-1262-55
C2	.022μf 10%	30-4650-60
C7	.22μf, 100v	30-4695-32
C11	.001μf, 5%	30-1285-27
C12	.0082μf, GMV, N.I.	30-1285-16
C13	.0082μf, GMV	30-1285-16
C14	.0082μf, GMV	30-1285-16
C15A	.0082μf, GMV	30-1285-16
C17	.0015μf, GMV	30-1285-14
C20	27pf	30-1287-10
C31	43pf, 5%	30-1287-16
C33	390pf, 5%	30-4699-3
C35	.0015μf, GMV	30-1285-14
C37	.0033μf, GMV	30-1283-40
C41	.0033μf, GMV	30-1283-40
C43	.0015μf, GMV	30-1285-14
C44	.0015μf, GMV	30-1285-14
C48	elect, 4 section 160/200V, 240/200v, 240/200v, 5/200v	30-2601-33
C49	150pf, 5kv, 5%	30-1246-15
D1	diode, dual, horz. phase comp.	34-8037-1
D2	diode, 1N60C, video det.	34-8022-6
D3	diode, silicon rectifier	34-8054-7
F1	fusistor, 1.45Ω (and panel)	76-13605-2
F.C.	filter choke, .8 hy, 16Ω	32-10010-5
H.O.T.	xformer, horz. output	32-10008-6
L1	coil, 180 mh, video plate series	32-4762-7
L2	coil, 330 mh, video plate shunt	32-4762-20
L3	coil, RF choke, 60 Mc damper plate	32-4112-62
L4	xformer, interstage	32-4745-8
L5	coil, RF choke, 60 Mc damper cathode	32-4112-62
L6	coil, 220 mh, 2nd detector	32-4762-25
L7	coil, quad. snd. det.	32-4876-1
L8	xformer, 4.5 Mc trap and sound take-off	32-4688-11
L11	xformer, 1st VIF	32-4686-34
L12	coil, horiz stab.	32-4754-3
L13	coil, 47.25 Mc trap	32-4652-78
L18	coil, video det	32-4652-79
L19	coil, 2nd video IF plate	32-4652-78
N1	RC network, vert. retrace	30-6024-9
N2	RC network, SIF cathode	30-6031-19
N3	RC network, vert integrator	30-6030-12
N4	RC network, horiz osc	30-6551-2
N5	RC network, phase comparer	30-6035-2
N6	RC network (used with 19DUP4 CRT only) isolation	30-6058-2
R15A	6.8kΩ, 3w	33-1363-46
R40	varistor, 560v @ 10 ma, vert. comp.	33-1373-6
R59	9Ω, 7w, filament drop	33-1363-93
V.O.T.	xformer, vert. out	32-10012-6
VR1	control, 3 section	33-5595-8
VR2	control, noise adjust (1 M)	33-5613-1
VR3	control, width (3K)	33-5591-30
VR4	control, dual brightness (100k) and on-off-volume (1M)	33-5604-41
VR5	control, dual, contrast (15k) & vert. hold (150k)	33-5604-40
	yoke	76-12942-4
	yoke, cover and clamp assy.	76-12399-1
	perma-circuit panel, VOS	27-10657-4
	perma-circuit panel, VIF trap	27-10561-6
	perma-circuit panel, VIF det	27-10561-4



ELECTRONIC TECHNICIAN OJIBWAY BUILDING, DULUTH, MINNESOTA 55802

PHILCO
TV Chassis 15N50

RESISTANCE CHART - 15N50

TUBE	USE	PIN NUMBERS											
		1	2	3	4	5	6	7	8	9	10	11	12
V1 6JZ8	Osc. Out. & AGC	FIL.	900kΩ	10kΩ	11kΩ	11kΩ	100Ω*	100Ω*	14kΩ	390Ω	34kΩ	10kΩ	FIL.
V2 6FQ7	Horiz. Osc.	26kΩ	2MΩ	820Ω	FIL.	FIL.	40kΩ	100Ω**	820Ω				
V3 6EH7	1st VIF	22Ω	310kΩ	22Ω	FIL.	FIL.	GND.	11kΩ	34kΩ	GND			
V4 6CS6	2nd. Disc	5.5Ω	560Ω	FIL.	FIL.	800Ω	11kΩ	3.5Ω					

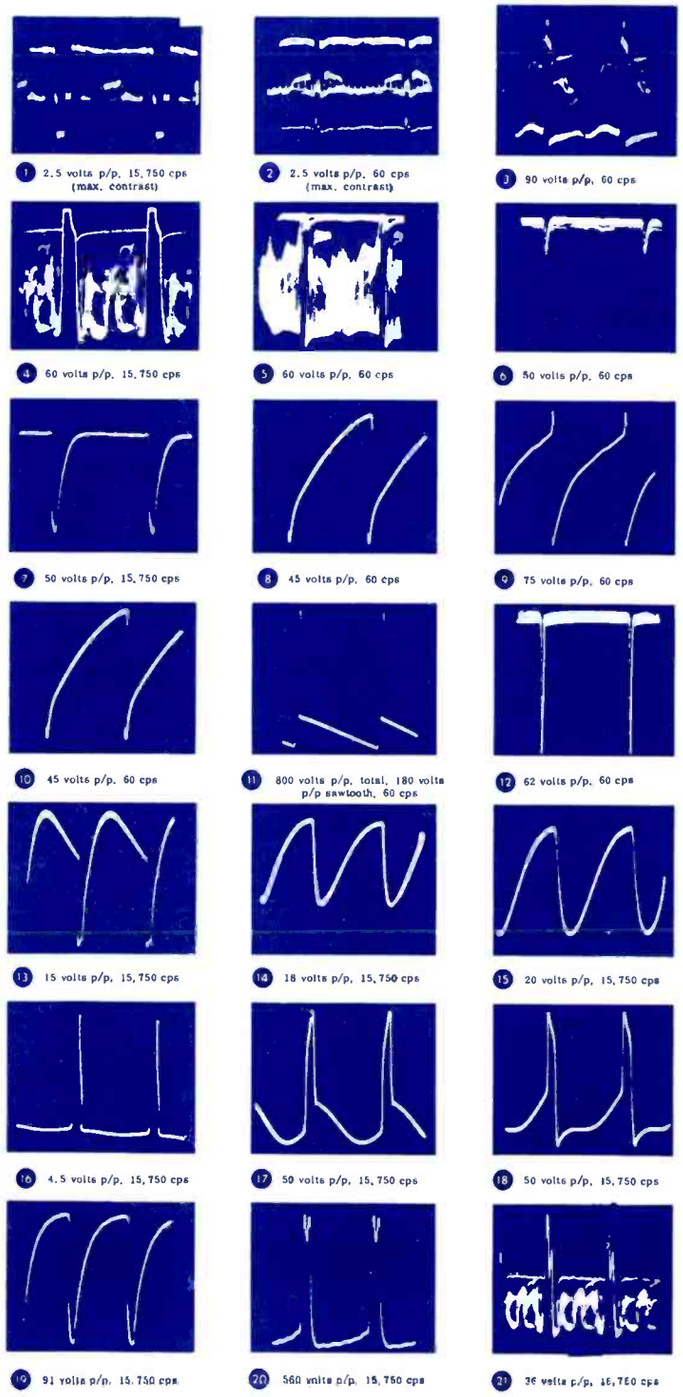
TUBE	USE	PIN NUMBERS											
		1	2	3	4	5	6	7	8	9	10	11	12
V8 6GH8	2nd. I-F & A.G.C.	37kΩ	0Ω	13kΩ	FIL.	FIL.	13kΩ	220Ω	3.6kΩ	2.6kΩ			
V9 6BE3	Damper	FIL.	0Ω	0Ω	10kΩ	INF.	INF.	INF.	INF.	10kΩ	INF.	0Ω	FIL.
V10 6KR8	Video Out. Sync Sep.	GND.	1.5M Ohm	12kΩ	FIL.	FIL.	27Ω	3kΩ*	19kΩ	15kΩ			

TUBE	USE	PIN NUMBERS											
		1	2	3	4	5	6	7	8	9	10	11	12
V5 6JZ8	Vert. Osc. Vert. Amp.	0Ω	3.6kΩ	INF.	10kΩ	FIL.	1MΩ	1MΩ	11kΩ	GND.	300kΩ	GND.	FIL.
V6 6GY5	Horiz. Out.	FIL.	INF.	10kΩ	GND.	INF.	10kΩ	10kΩ	10kΩ	800kΩ	GND.	10kΩ	FIL.
V7 6EJ7	2nd VIF	100Ω	0.5Ω	100Ω	FIL.	FIL.	GND.	11kΩ	11kΩ	GND.			

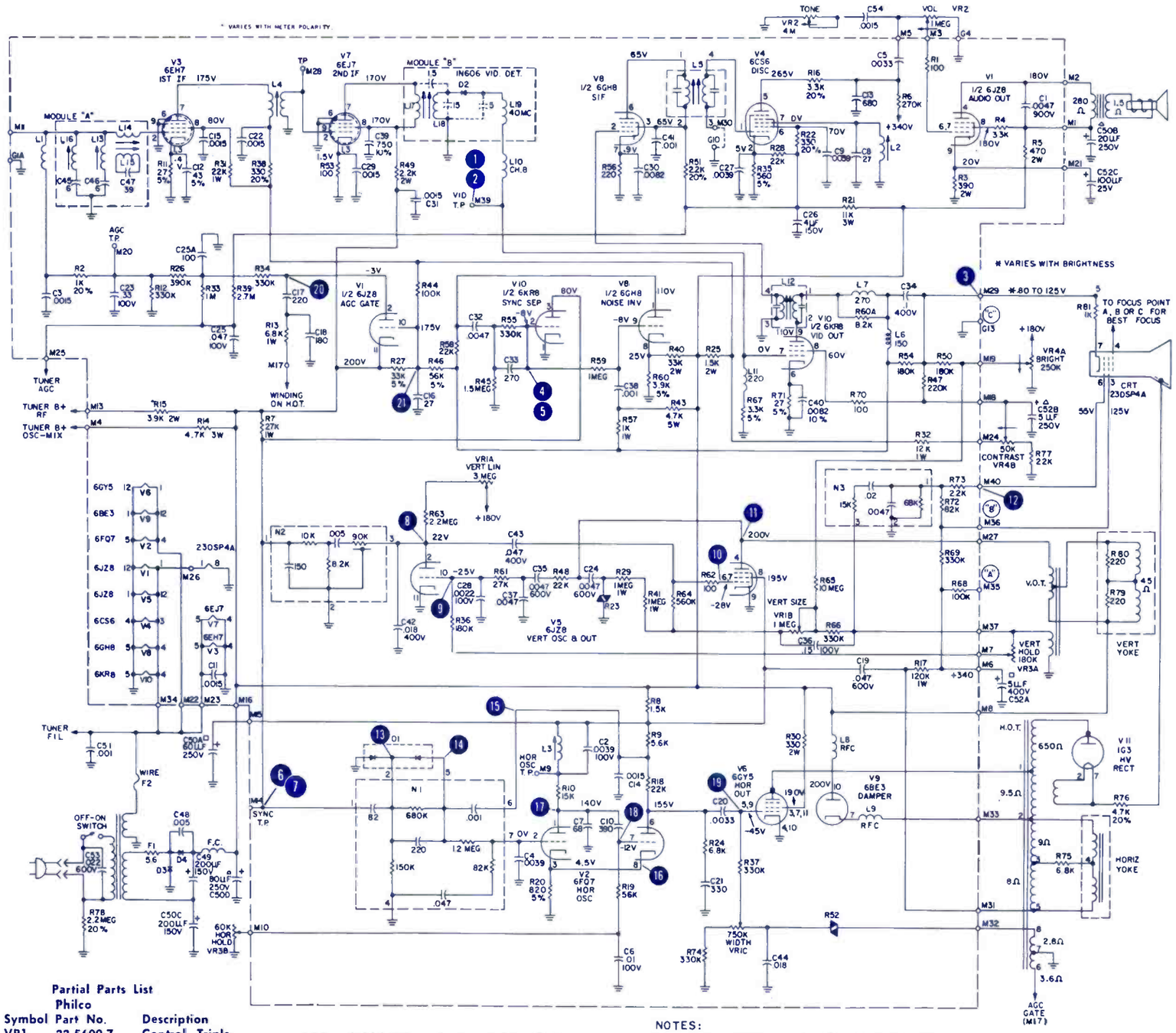
* VOLUME CONTROL AT MINIMUM.
** VARIES WITH HORIZONTAL HOLD CONTROL.

OSCILLOSCOPE WAVEFORM PATTERNS - 15N50

These waveforms were taken with the receiver adjusted for an approximate peak-to-peak of 2.5 volts at the video detector. Voltage readings taken with the raster just filling the screen and all controls set for normal picture viewing except for photos one and two which show maximum contrast. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms, not the sweep rate of the oscilloscope. All readings were taken with a Model ES-550B Precision Oscilloscope.



1. 2.5 volts p/p, 15,750 cps (max. contrast)
2. 2.5 volts p/p, 60 cps (max. contrast)
3. 90 volts p/p, 60 cps
4. 60 volts p/p, 15,750 cps
5. 60 volts p/p, 60 cps
6. 50 volts p/p, 60 cps
7. 50 volts p/p, 15,750 cps
8. 45 volts p/p, 60 cps
9. 75 volts p/p, 60 cps
10. 45 volts p/p, 60 cps
11. 800 volts p/p, total, 180 volts p/p sawtooth, 60 cps
12. 62 volts p/p, 60 cps
13. 15 volts p/p, 15,750 cps
14. 18 volts p/p, 15,750 cps
15. 20 volts p/p, 15,750 cps
16. 4.5 volts p/p, 15,750 cps
17. 50 volts p/p, 15,750 cps
18. 50 volts p/p, 15,750 cps
19. 91 volts p/p, 15,750 cps
20. 560 volts p/p, 15,750 cps
21. 36 volts p/p, 15,750 cps



Partial Parts List

Symbol	Philco Part No.	Description
VR1	33-5600-7	Control, Triple Vert size 1MΩ Vert lin 3MΩ Width 750K
VR2	33-5604-42	Control, Dual, On-off-Volume 1MΩ Tone 4MΩ
VR3	33-5604-44	Control, Dual Horiz hold 60K Vert hold 180K

AOT	32-8747-7	Audio output transformer
HOT	32-10002-6	Horiz output transformer
PT	32-10011-1	Power transformer
VOT	32-10012-1	Vert output transformer
	76-13222-2	Deflection yoke and cable assy.
R23	33-1373-8	Varistor, vertical
R52	33-1373-7	Varistor, horiz
FC	32-10010-2	Filter choke

NOTES:

1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS. ANTENNA REMOVED AND TUNER OFF CHANNEL.

VOLTAGES MEASURED WITH A "PRECISION MODEL 88" V.T.V.M. FROM POINT INDICATED TO CHASSIS GROUND.

COIL RESISTANCES READ WITH COIL IN CIRCUIT EXCEPT FOR: A.O.T. SECONDARY, HORIZONTAL AND VERTICAL YOKE WHERE THE COMPONENTS WERE DISCONNECTED AND MEASURED INDIVIDUALLY.

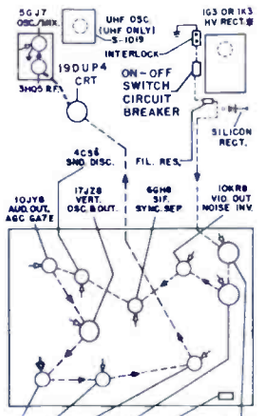
PHILCO
TV Chassis 16J27

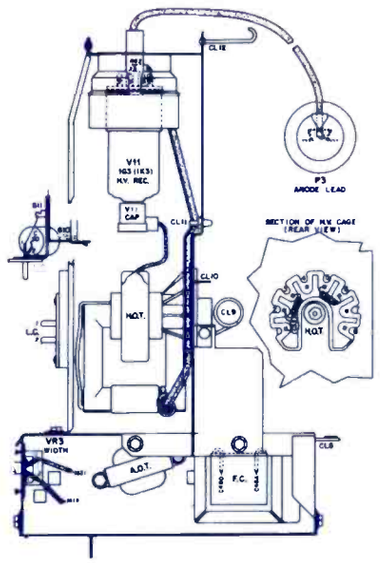
ELECTRONIC TECHNICIAN **TEKFAX**

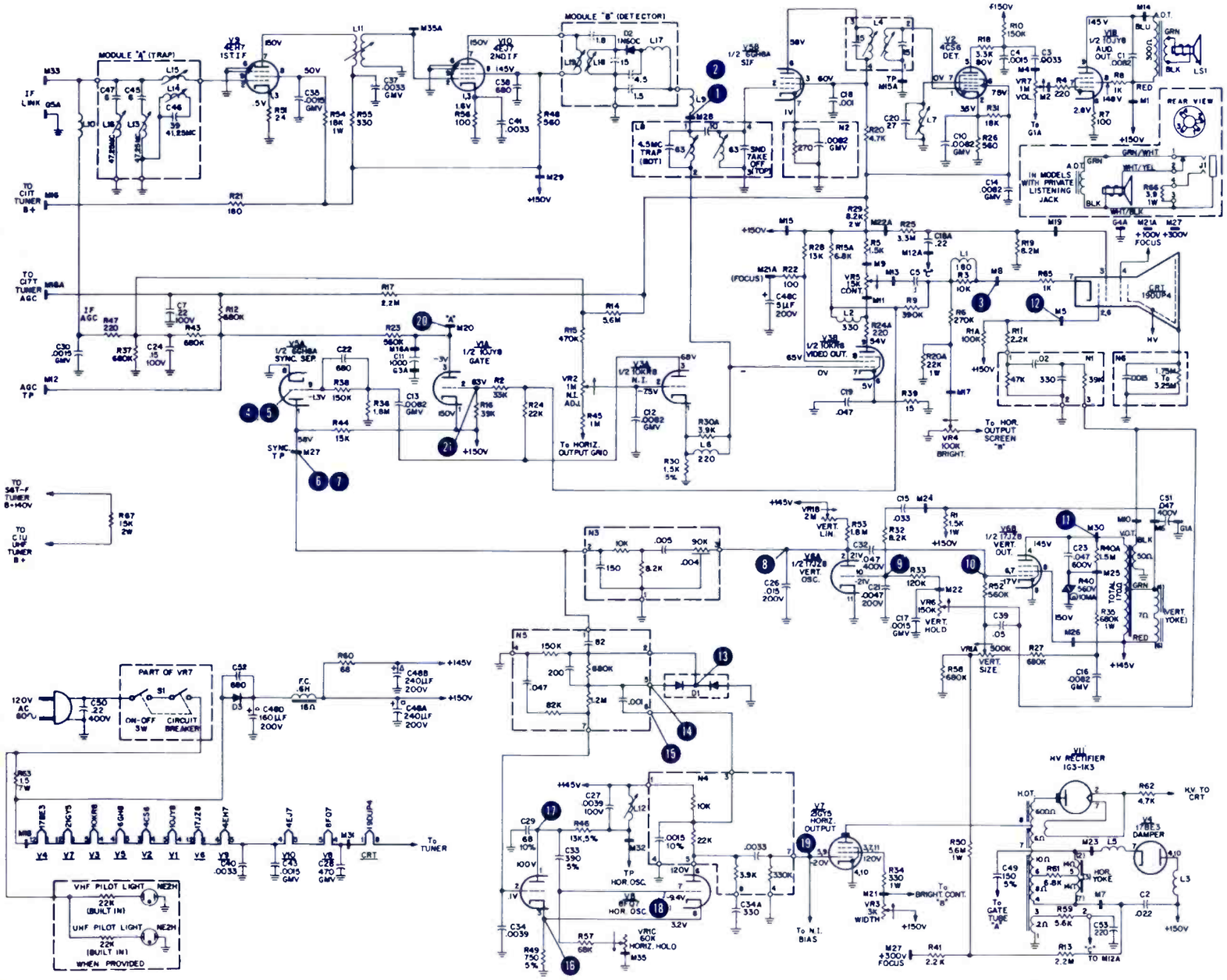
16J27 VOLTAGE AND RESISTANCE CHART

TUBE	USE	PIN NUMBERS 1	2	3	4	5	6	7	8	9	10	11	12
V1 10JY8	Aud. Det. & Gate	150V 12KΩ	83V 36KΩ	-3V 1.3MΩ	FIL	FIL	2.8V 100Ω	0V 260Ω	148V 12KΩ	145V 12KΩ			
V2 4C5S	Sound Detector	0V 6Ω	3.3V 500Ω		FIL	80V 200KΩ	75V 12KΩ	0V 3.5Ω					
V3 10KR8	Video Det. & D.C.	-.05 300Ω	-7.3 900KΩ	68V 35KΩ	FIL	FIL	3V 15Ω	0V 300Ω	65V 25KΩ	34V 12KΩ			
V4 17BE3	Damper	FIL	INF	INF	150V 12KΩ	INF	INF	HV 9MΩ	INF	INF	190V 12KΩ	INF	FIL
V5 6BH8	Snd. IF & Sync Sync Sec.	58V 12KΩ	0V 2Ω	60V 12KΩ	FIL	FIL	58V 12KΩ	1V 270Ω	GND	-1.3V 1.9MΩ			

TUBE	USE	PIN NUMBERS 1	2	3	4	5	6	7	8	9	10	11	12
V6 17JZ8	Vert. Osc. & Output	FIL	21V 3.8MΩ	INF	145V 12KΩ	INF	.17V 1.8MΩ	.17V 1.8MΩ	150V 12KΩ	GND	.21V 200KΩ	GND	FIL
V7 21GY5	Horiz. Output	FIL	INF	120V 12KΩ	0V GND	-20V 300KΩ	120V 12KΩ	120V 12KΩ	120V 12KΩ	-20V 300KΩ	0V GND	120V 12KΩ	FIL
V8 6FQ7	Horiz. Osc.	100V 25KΩ	1V 2.2MΩ	3.2V 750Ω	FIL	FIL	120V 45KΩ	-9.4V 95KΩ	3.2V 750Ω	GND			
V9 4EH7	1st Vid. IF	5V 24Ω	0V 420KΩ	5V 24Ω	FIL	FIL	GND	150V 12KΩ	50V 20KΩ	GND			
V10 4EJ7	2nd Vid. IF	1.6V 100Ω	0V 0Ω	1.6V 100Ω	FIL	FIL	GND	150V 12KΩ	145V 12KΩ	GND			





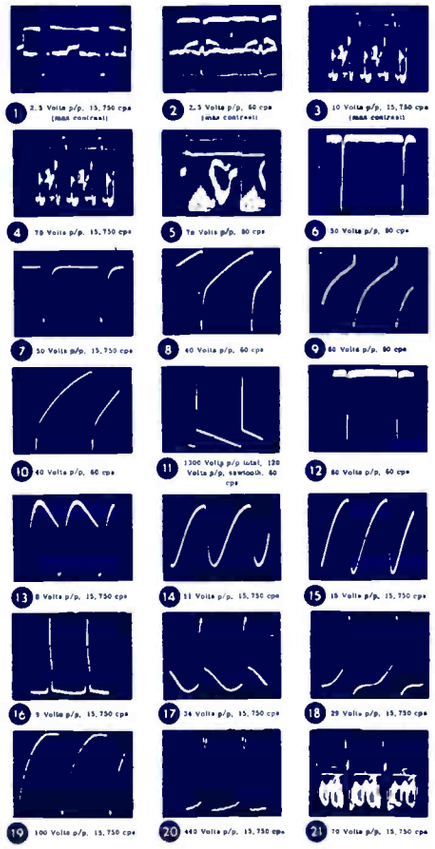


NOTES:

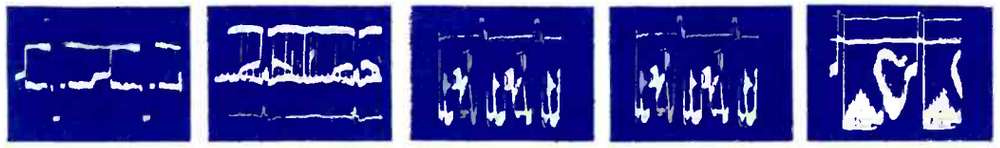
1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS. ANTENNA REMOVED AND TUNER OFF CHANNEL.
2. VOLTAGES MEASURED WITH A V.T.V.M. FROM POINT INDICATED TO CHASSIS GROUND.
3. COIL RESISTANCES READ WITH COIL IN CIRCUIT.
4. BALLOONS 10 11 ETC., SHOWN ON SCHEMATIC INDICATE WAVEFORM TEST POINTS.
5. CONTROL SETTINGS:
   VOLUME - MINIMUM
   CONTRAST - MID-RANGE
   BRIGHTNESS - MID-RANGE
   ALL OTHER CONTROLS SET FOR NORMAL OPERATION

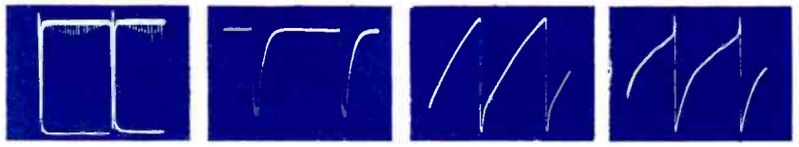
OSCILLOSCOPE WAVEFORMS

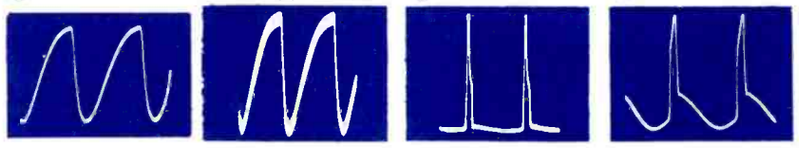
These waveforms were taken with the receiver adjusted for an approximate output of 2.5V p/p at the video detector. Voltage readings taken with raster just filling screen and all controls set for normal picture viewing except for photos 1, 2 and 3 where contrast was at maximum. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms, not the sweep rate of the oscilloscope. All readings taken with Model E8-550B Precision Oscilloscope.

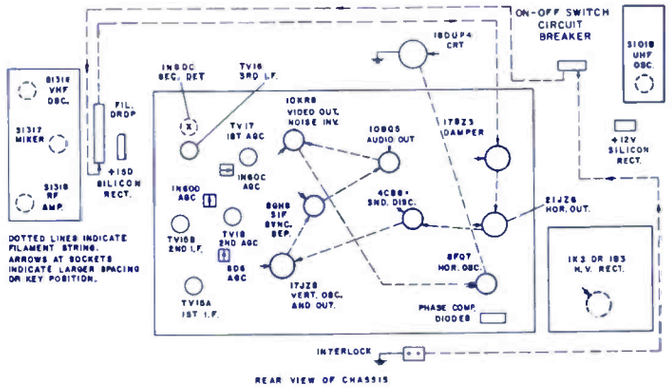


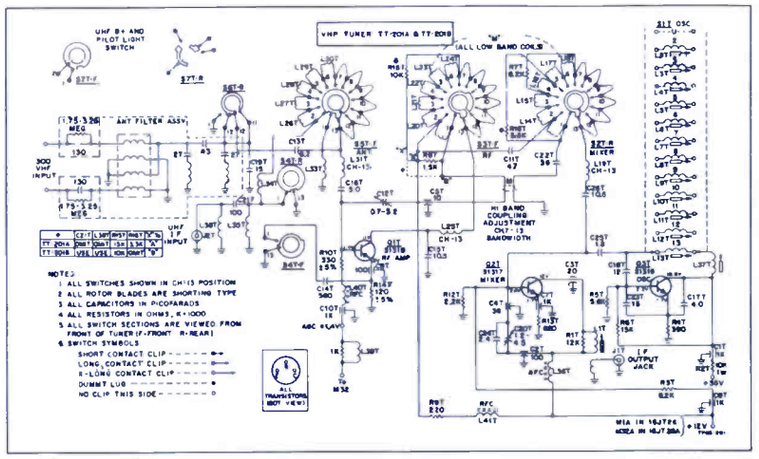
Symbol	Description	Philco Part No.
C37	.0033μf	30-1283-40
C45	6 pf	30-1251-70
C46	39 pf, 41.25 Mc trap	30-1251-71
C47	6 pf	30-1287-12
C48	elec. 160/240/240/5 @200v	30-2601-33
C49	150 pf	30-1246-31
C53	220 pf	30-1294-19
D1	diode, phase comp	34-8037-1
D2	diode, 2nd det	34-8022-6
D3	diode, silicon rectifier	34-8054-7
F.C.	filter choke, .6 hy, 16Ω	32-10010-8
H.O.T.	xformer, horiz output	32-10008-7
L1	coil, 180 mh plate series	32-4762-7
L2	coil, 330 mh plate shunt	32-4762-20
L3	choke, RF 60 mc damper	32-4112-62
L4	xformer, interstage	32-4745-8
L5	choke, RF 60 Mc damper	32-4112-62
L6	coil, 220 mh 2nd det	32-4762-25
L7	coil, quadrature	32-4876-1
L8	xformer, 4.5 Mc trap & snd take-off	32-4688-11
L9	coil, ch 6 beat	32-4645-7
L12	coil, horiz stab	32-4754-3
L15	coil, 1st grid pole	32-4652-79
L18	coil, video det	32-4652-79
L19	coil, 2nd IF plate	32-4652-78
N1	retrace supp	30-6024-9
N2	SIF cathode	30-6031-16
N3	vert integrator	30-6030-12
N4	horiz osc C1-N4 cap., .0015 μf 10% C2-N4 cap., .003 μf R1-N4 res., 10kΩ R2-N4 res., 22kΩ R3-N4 res., 3.9kΩ R4-N4 res., 330kΩ	30-6057-1
N5	phase comparer	30-6035-2
N6	isolation	30-6058-2
R31	18kΩ, snd det bleeder	
R35	680kΩ, 1w, vert bias	
R40	varistor, 560v @ 10 ma	33-1373-6
R63	1.5Ω, 7w, filament drop	33-1363-134
S1	switch, on off & circuit breaker	
V.O.T.	xformer, vert out	32-10012-5
VR1	3 section vert size 500K vert line 2 M horiz hold 60k	33-5595-8
VR2	noise adjust, 1M	33-5613-1
VR3	width, 3k	33-5591-30
VR4	brightness, 100k	33-5605-36
VR5	contrast, 15k	33-5605-38
VR6	vert hold, 150k	33-5605-37
VR7	on-off volume & circuit breaker	33-5605-50
	perma-circuit panel, VOS	27-10657-9
	perma-circuit panel, VIF trap (Module "A")	27-10561-9
	perma-circuit panel, VIF det (Module "B")	27-10561-4
	VIF detector panel assy (Mod. "B")	38-10115
	VIF trap panel assy (Mod. "A")	38-10116
	yoke & cable assy	76-12942-7
	yoke cover & clamp	76-13432-3
	tuner, UHF TT-152A	76-13872-1
	tuner, VHF TT-162A	76-13579-6

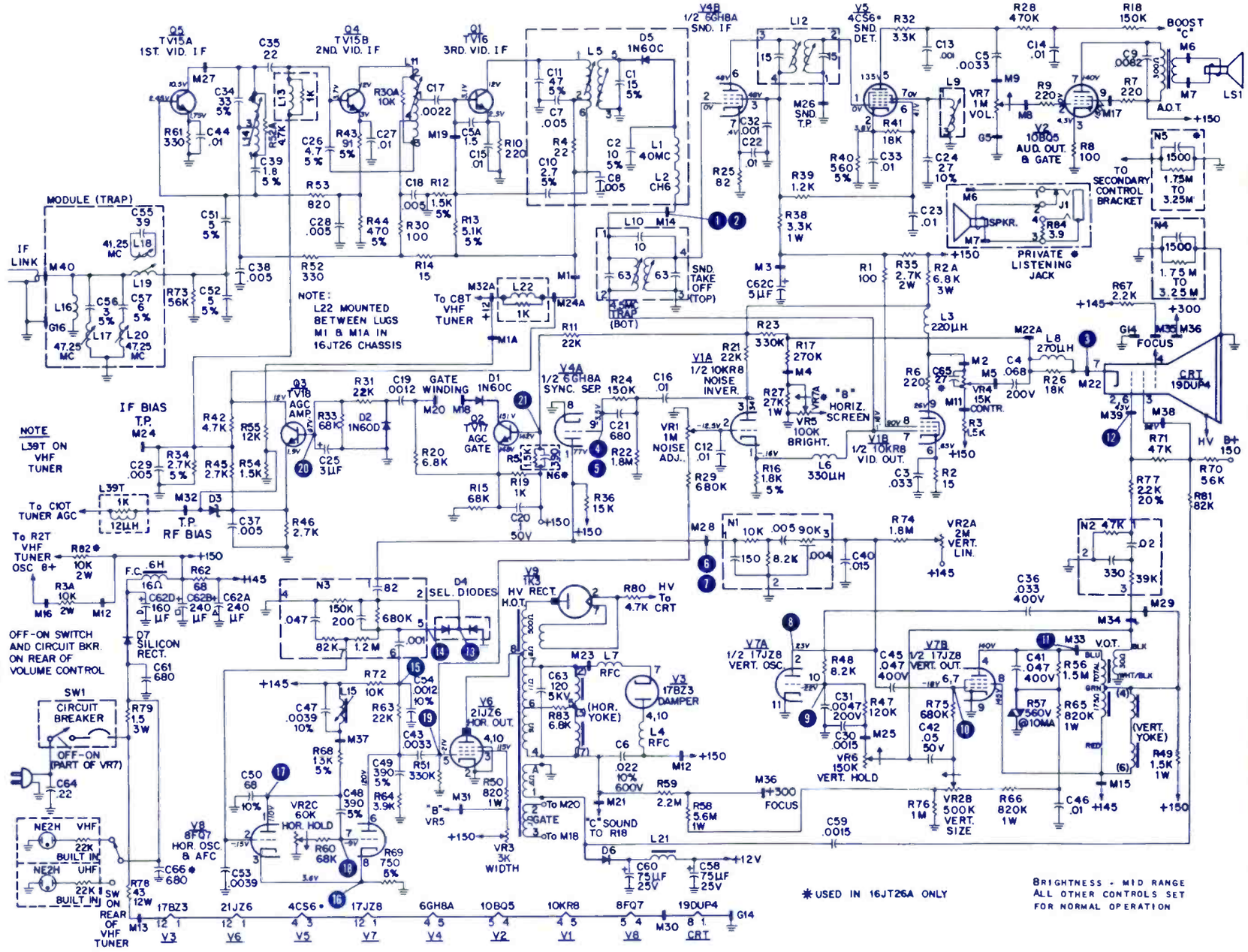












PHILCO
TV Chassis 16JT26
and 16JT26A

ELECTRONIC TECHNICIAN TEKFAX

16JT26 VOLTAGE AND RESISTANCE CHART

TUBE	USE	1	2	3	4	5	6	7	8	9	10	11	12
V1 10KR8	Video Output & Noise Inv.	-16v [illegible]	12.5v [illegible]	34v 30KΩ	FIL	FIL	65v 15Ω	-16v [illegible]	90v 10M	26v 12KΩ			
V2 10GV5	Audio Output & Gate	NC	0v 280Ω	4.3v 100Ω	FIL	FIL	NC	140v 10KΩ	NC	150v 10KΩ			
V3 17BZ3	Damper	FIL	16KΩ	10KΩ	150v 1MΩ	NC	NC	520v 8.2MΩ	NC	NC	150v 1MΩ	10MΩ	FIL
V4 6GH8A	Snd. IF & Sync Sep.	77v 11KΩ	0v 2.5Ω	46v 10KΩ	FIL	FIL	46v 10KΩ	6v 62Ω	0v GND	-3.5v 1.8MΩ			

TUBE	USE	1	2	3	4	5	6	7	8	9	10	11	12
V5 4CS6	Sound Out.	0v 5.5K	3.8v 560Ω	FIL	FIL	135v 9KΩ	47v 10KΩ	0v 4Ω					
V6 21JZ6	Horiz. Out.*	FIL	0v GND	115v 12KΩ	0v GND	-21v 310KΩ	NC	NC	NC	-21v 310KΩ	0v GND	NC	FIL
V7 12JZ8	Vert. Osc. & Output	FIL	23v 3MΩ	NC	150v 10KΩ	NC	-18v 1.6MΩ	-16v 1.6MΩ	145v 10KΩ	0v GND	-22v 200KΩ	0v GND	FIL
V8 8FQ7	Horiz. Osc.	110v 22KΩ	-15v 3MΩ	3.6v 750Ω	FIL	FIL	120v 4.1KΩ	-9v 80KΩ	3.6v 750Ω	0v GND			

*WITH POSITIVE LEAD OF VTVM AT GROUND

16JT26 TRANSISTOR VOLTAGE CHART

TRANSISTOR		USE	C	B	E
Q1	TV16	3rd Video IF	12v	3.1v	2.3v
Q2	TV17	AGC Gate	151v	142v	146v
Q3	TV18	AGC Amp	12v	4.7v	1.6v
Q4	TV15B	2nd Video IF	12v	3.7v	3.0v
Q5	TV15A	1st Video IF	10.5v	2.45v	1.75v

OSCILLOSCOPE WAVEFORMS

These waveforms were taken with the receiver adjusted for an approximate output of 2.5V p/p at the video detector. Voltage readings taken with raster just filling screen and all controls set for normal picture viewing except for photos 1, 2 and 3 where contrast was at maximum. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms...not the sweep rate of the oscilloscope. All readings taken with Model ES-550B Precision Oscilloscope.

① 3 Volts p/p, 15,750 cps

② 3 Volts p/p, 60 cps

③ 110 Volts p/p, 15,750 cps

④ 100 Volts p/p, 15,750 cps

⑤ 100 Volts p/p, 60 cps

⑥ 50 Volts p/p, 60 cps

⑦ 50 Volts p/p, 15,750 cps

⑧ 40 Volts p/p, 60 cps

⑨ 70 Volts p/p, 60 cps

⑩ 40 Volts p/p, 60 cps

⑪ 1300 Volts p/p total, 130 Volts p/p sawtooth, 60

⑫ 70 Volts p/p, 60 cps

⑬ 13 Volts p/p, 15,750 cps

⑭ 11 Volts p/p, 15,750 cps

⑮ 15 Volts p/p, 15,750 cps

⑯ 10 Volts p/p, 15,750 cps

⑰ 38 Volts p/p, 15,750 cps

⑱ 29 Volts p/p, 15,750 cps

⑲ 100 Volts p/p, 15,750 cps

⑳ 7 Volts p/p, 15,750 cps

㉑ 7 Volts p/p, 15,750 cps

Symbol	Description	Philco Part No.
C15	.01 mf	30-1238-6
C24	27 pf	30-1293-50
C25	elec. 3 mf/15v	30-2610-3
C58	elec. 75 mf/25v	30-2611-11
C60	elec. 75 mf/25v	30-2611-11
C62	elec. 4 sect 240/240/160/5 @ 200v filter	30-2601-38
C63	120 pf, 5Kv	30-1246-36
D1	AGC gate	34-8022-6
D2	AGC filter	34-8022-7
D3	zener AGC	34-8057-7
D4	selenium phase comp	34-8037-1
D5	2nd det	34-8022-6
D6	silicon, rectifier 12v	34-8054-9
D7	silicon rect B+	34-8054-7
F.C.	filter choke .6 hy 16	32-10010-7
H.O.T.	Transf., horiz output	32-10037-1
L1	choke, 40 Mc	32-4837-1
L5	transf., 2nd det (16JT26)	32-4884-2
L13	choke, AGC, 40 Mc	32-4887-1
L15	coil, horiz stab	32-4754-3
L21	coil, 12v supply	32-4857-2
L22	choke, IF B+	32-4887-1
N1	vert integrator	30-6030-12
N2	vert retrace	30-6024-9
N3	phase comparer	30-6035-2
N4	isolation	30-6058-2
N5	isolation, control brkt (16JT26A)	30-6058-2
N6	gate base (16JT26A)	30-6031-28
Q1	TV-16, 3rd IF	34-6000-71
Q2	TV-17, gate	34-6001-63
Q3	TV-18, AGC amp	34-6001-64
Q4	TV-15B, 2nd IF	34-6000-70
Q5	TV-15A, 1st IF	34-6000-69
R2A	6.8KΩ, 3 w video plate	33-1363-46
R78	43Ω, 12 w, fil drop	33-1363-133
R79	1.5 Ω, 3 w, surge	33-1363-132
R84	3.9 Ω, lw, pvt listen (16JT26A)	66-9398360
V.O.T.	transformer, vertical output	32-10012-7
VR1	noise adjust 1M	33-5613-1
VR2	triple section	33-5595-12
A	vert lin 2M	
B	vert size 500K	
C	horz hold 60K	
VR3	width 3K	33-5609-9
VR4	contrast 15K (16JT26)	33-5605-45
VR4	contrast (16JT26A)	33-5619-4
VR5	brightness 100K (16JT26)	33-5605-46
VR6	vert hold 150K (16JT26)	33-5605-47
VR6	vert hold (16JT26A)	33-5619-3
VR7	on-off volume 1M (16JT26)	33-5605-48
VR7	on-off volume & brightness (16JT26A)	33-5618-16
	yoke & cable assy	76-12942-6
	Tuner, TT-152 (UHF)	76-13827-1
	Tuner, TT-201B (VHF)	76-13851-4

DOTTED LINES INDICATE FILAMENT STRING. ARROWS AT SOCKETS INDICATE LARGER SPACING OR KEY POSITION.

REAR VIEW OF CHASSIS

•	C217	L38T	R57	R67	"X" To
TT 201A	OMIT	OMIT	15K	3.3K	"A"
TT 201B	V2E	V2E	10K	OMIT	"B"

NOTES
1 ALL SWITCHES SHOWN IN CH 13 POSITION
2 ALL ROTOR BLADES ARE SHORTING TYPE
3 ALL CAPACITORS IN PICOFARADS
4 ALL RESISTORS IN OHMS, K=1000
5 ALL SWITCH SECTIONS ARE VIEWED FROM FRONT OF TUNER (F=FRONT R=REAR)
6 SWITCH SYMBOLS
SHORT CONTACT CLIP
LONG CONTACT CLIP
X-LONG CONTACT CLIP
DUMMY LUG
NO CLIP THIS SIDE

NOTE: L22 MOUNTED BETWEEN LUGS M1 & M1A IN 16JT26 CHASSIS

NOTE L39T ON VHF TUNER

OFF-ON SWITCH AND CIRCUIT BKR. ON REAR OF VOLUME CONTROL

✱ USED IN 16JT26A ONLY

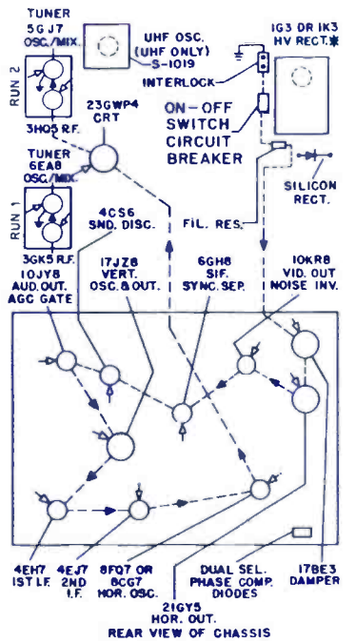
BRIGHTNESS - MID RANGE ALL OTHER CONTROLS SET FOR NORMAL OPERATION

PHILCO
TV Chassis 16N35

ELECTRONIC TECHNICIAN **TEKFAX**

16N35 VOLTAGE AND RESISTANCE CHART

TUBE	USE	1	2	3	4	5	6	7	8	9	10	11	12
V1 10JY8	AUDIO DET. & GATE	150V 12kΩ	90V 36kΩ	-.8 1.5MΩ	FIL	FIL	2.8V 100Ω	0V 260Ω	145V 12kΩ	140V 12kΩ			
V2 6CS6	SOUND DETECTOR	0V 8Ω	4.1V 500Ω	FIL	FIL	80V 150kΩ	70V 12kΩ	0V 3.5Ω					
V3 10EB9	AGC/DC INVERTER & VIDEO AMP.	-.35V 120Ω	-7V 900kΩ	35V 35kΩ	FIL	FIL	4V 15Ω	-.35V 100Ω	76V 25kΩ	45V 12kΩ			
V4 17BE3	DAMPER	FIL	INF	INF	150V 12kΩ	INF	INF	HV 8MΩ	INF	INF	150V 12kΩ	INF	FIL
V5 6GH8	SOUND IF & SYNC DEP.	75V 12kΩ	0V 2Ω	65V 12kΩ	FIL	FIL	62V 12kΩ	1.25V 270Ω	GND	-11V 1.8MΩ			
V6 17JZ8	VERT. OSC. & VERT. OUT.	FIL		30V 3.8MΩ		135V 12K		-14V 1.8M	-14V 1.8M	143V 12K	GND	-.25V 200Ω	GND FIL
V7 21GY5	HORIZONTAL OUTPUT	FIL			120V 12kΩ	GND	-.22V 300Ω	120V 12kΩ	120V 12kΩ	120V 12kΩ	-.22V 300Ω	GND	120V 12kΩ FIL
V8 8FQ7	60HZ OSC. & AFC	102V 250Ω	-8V 1.8MΩ	3.2V 750Ω	FIL	FIL	-100V 45kΩ	-11V 35kΩ	3.2V 750Ω	GND			
V9 4EH7	1ST I.F. AMP.	6V 2kΩ	0V 420kΩ	6V 2kΩ	FIL	FIL	GND	140V 12kΩ	50V 30kΩ	GND			
V10 4EJ7	2ND I.F. AMP.	1.3V 100Ω	0V OCL	1.3V 100Ω	FIL	FIL	GND	135V 12kΩ	135V 12kΩ	GND			



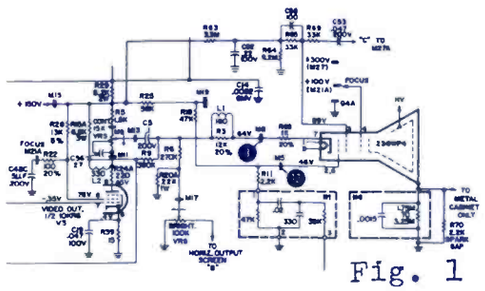
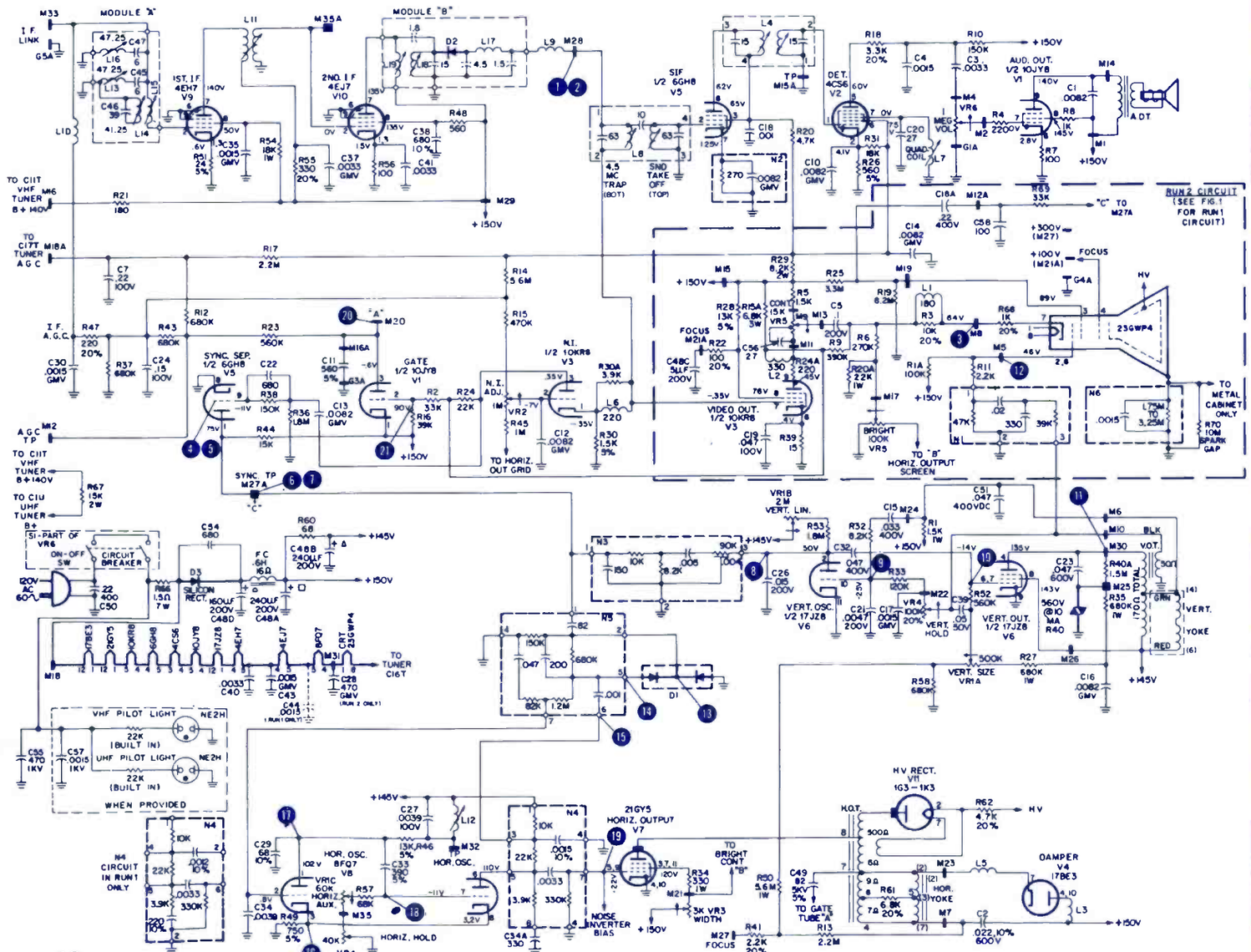
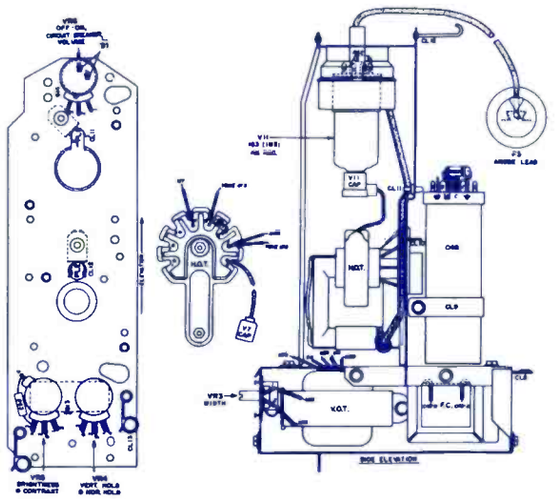


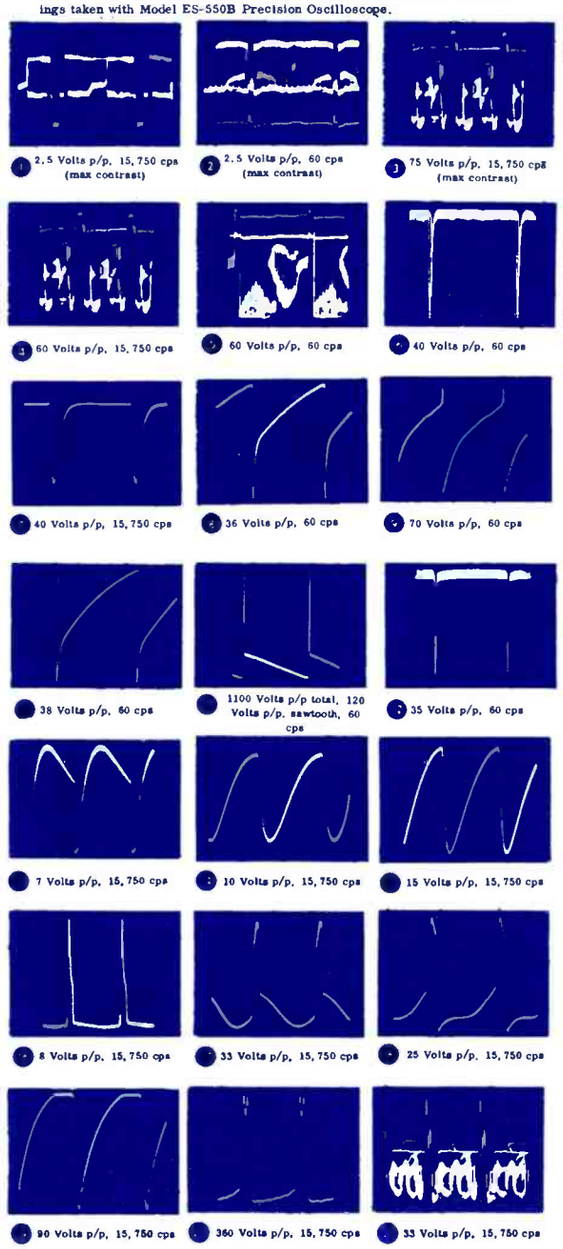
Fig. 1





OSCILLOSCOPE WAVEFORMS

These waveforms were taken with the receiver adjusted for an approximate output of 2.5V p/p at the video detector. Voltage readings taken with raster just filling screen and all controls set for normal picture viewing except for photos 1, 2 and 3 where contrast was at maximum. The voltages given are approximate peak-to-peak values. The frequencies shown are those of the waveforms...not the sweep rate of the oscilloscope. All readings taken with Model ES-550B Precision Oscilloscope.



Symbol	Description	Philco Part No.
C30	.0015 μf GMV	30-1285-14
C35	.0015 μf GMV	30-1285-14
C43	.0015 μf GMV	30-1285-14
C44	.0015 μf GMV fil. byp. (Run 1)	30-1285-14
C49	82 pf 5kv	30-1246-21
C55	470 pf 1kv	30-1262-17
C57	.0015 μf 1kv	30-1294-35
D1	diode, dual sel., phase comp.	34-8037-1
D2	diode, crystal 2nd det.	34-8022-6
D3	rectifier, silicon-power	34-8054-7
FC	filter choke, 16Ω, .6 hy	32-10010-5
H.O.T.	transf., horiz. output	32-10008-6
L1	video plate peaking, 180 μh	32-4762-7
L2	video plate shunt, 330 μh	32-4762-20
L3	RF choke 60 Mc damper plate	32-4112-62
L4	transf., snd. interstage	32-4745-8
L5	RF choke 60 Mc damper cathode	32-4112-62
L7	snd. quadrature	32-4876-1
L8	transf., 4.5 Mc trap & snd. T.O.	32-4688-11
L10	tuner coupling	32-4652-96
L18	video detector choke	32-4652-79
L19	2nd VIF plate	32-4652-78
N1	retrace supp.	30-6024-9
N2	SIF cathode	30-6031-16
N3	vertical integrator	30-6030-12
N4	horiz. osc. (Run 1)	30-6551-2
N4	horiz. osc. (Run 2)	30-6057-1
N5	phase comparer	30-6035-2
N6	Isolation (Run 1)	30-6040-2
R6	270kΩ, brightness	
R15A	6.8kΩ, 3w, video plate	33-1363-46
R23	560kΩ, AGC	
R40	varistor, 560v @ 10 ma, vert. comp.	33-1373-6
R51	27Ω, 5%, 1st IF cath. (Run 1)	66-0278250
	24Ω, 5%, 1st IF cath. (Run 2)	66-0248250
R66	1.5Ω, 7w, surge	33-1363-134
V.O.T.	transf., vert. out.	32-10012-6
VR1	3 section	33-5595-8
	VR1A-vert. size (500k)	
	VR1B-vert. lin. (2M)	
	VR1C-horiz. hold centering (60k)	
VR2	noise adjust (1M)	33-5613-1
VR3	width (3k)	33-5591-30
VR4	dual vert. hold (100k) horiz. hold (40k)	33-5618-3
VR5	dual brightness (100k)	33-5604-37
VR6	on-off-volume (1M) with circuit breaker	33-5605-49
	transf., ant. matching (on cab. back)	32-8856
	yoke & cable assy.	76-12942-5
	perma-circuit panel VOS (Run 1)	27-10657-6
	perma-circuit panel VOS (Run 2)	27-10657-9
	perma-circuit panel VIF trap	27-10561-9
	perma-circuit panel VIF det.	27-10561-4
	detector panel assy. (Mod. B)	38-10115
	VIF trap panel assy. (Mod. A)	38-10116
	tuner UHF TT-155X Run 1	76-13588-6
	tuner VHF TT-163 Run 1	76-13579-2
	tuner UHF TT-152 Run 2	76-13827-1
	tuner VHF TT-163A Run 2	76-13579-5

NOTES:

1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS, ANTENNA REMOVED AND TUNER OFF CHANNEL.
2. VOLTAGES MEASURED WITH A V.T.V.M. FROM POINT INDICATED TO CHASSIS GROUND.
3. COIL RESISTANCES READ WITH COIL IN CIRCUIT.
4. BALLOONS ● ● ETC. SHOWN ON SCHEMATIC INDICATE WAVEFORM TEST POINTS.
5. CONTROL SETTINGS:
   VOLUME - MINIMUM
   CONTRAST - MID RANGE
   BRIGHTNESS - MID RANGE
   ALL OTHER CONTROLS SET FOR NORMAL OPERATION
6. FOR COMPONENT VARIATIONS (RUN 1 & RUN 2) SEE PARTS LIST.

RCA VICTOR
TV Chassis
KCS136M

Symbol	Description	RCA Part No.
C101	ceramic .0039μf 10% 1000v	109060
C110	ceramic 470pf 10% 1000v	109383
C111	ceramic 100pf 10% 4000v N1500	114765
C119	4 elect	112581
A	150μf 200v	112581
B	100μf 350v	112581
C	5μf 150v	112581
D	100μf 50v	112581
C120	3 elect	109977
A	10μf 350v	109977
B	10μf 400v	109977
C	20μf 25v	109977
C130	ceramic .01μf +100-0% 500v	73960
C142	ceramic .01μf +100-10% 500v	73960
C201	ceramic 39pf 10% 500v N150	109931
C202	ceramic 3pf ±1pf 1000v N750	109932
C203	ceramic 12pf 10% 500v N150	
C204	ceramic 56pf 20% 500v N750	73960
C208½	ceramic .01μf +100-0% 500v	
C209	ceramic .001μf +100-0% 500v	77252
C214	ceramic 11.5pf 5% 500v NPO	
C215	ceramic 110pf 5% 500v NPO	109438
C216	ceramic .001μf +100-0% 500v	
C217	ceramic .001μf +100-0% 500v	
C224	ceramic 5pf ±0.5pf 500v NPO	105674
C225	ceramic 5pf ±0.5pf 500v NPO	102882
C227	ceramic 100pf 10% 500v N750	
C231	ceramic 47pf ±1pf 500v N750	
C233	ceramic 15pf 10% 500v N750	
C234	ceramic 15pf 10% 500v N750	
C238	ceramic 33pf 10% 500v N750	
C502	ceramic 100pf 10% 500v N750	105674
C5T4	ceramic .001μf 10% 2000v	104222
C515	ceramic 68pf 10% 500v N750	104224
C518	ceramic 100pf 10% 500v N750	105674
C522	ceramic 1000pf 10% 1000v	105778
C524	mica 470pf 5% 1000v	105672
CR101	diode, rectifier FD333	116052
CR201	diode, crystal 2nd det	112524
L101	coil, width	112511
L102	coil, RF choke 8.2μh	107385
L103	coil, RF choke 8.2μh	107385
L104	reactor, B+ filter choke	100286
L105	part of yoke	
L106	part of yoke	
L107	part of yoke	
L108	part of yoke	
L109	coil, peaking	113953
L201	coil, printed on board	
L202	coil, filament choke	112509
L203	coil, peaking 250μh	109944
L204	coil, peaking 36μh	109758
L205	coil, RF choke 2.7μh	107463
L206	coil, peaking 390μh	109945
L207	coil, peaking 180μh	109946
L209	coil, peaking 72μh	109943
L501	coil, horiz freq and sine wave	109947
PC101	circuit-printed component (incl R119, R120, R121, R146)	112525
PC501	circuit-printed component (incl C504, R514)	109326
PC502	circuit-printed component (incl C511, R522)	109325
PW200	circuit-printed IF & video circuit (less tubes)	112585
PW500	circuit-printed deflection circuit (less tubes)	109990
R105	fixed film 2200Ω 10% 4w	113948
R110	control, brightness	113955
R114	control, focus	109974
R119	control, AGC (part of PC101A)	
R120	control, noise stabilizer (part of PC101B)	
R121	control, height (part of PC101C)	

VOLTAGES MEASURED WITH "VOLTOHMYST" AND WITH NO SIGNAL INPUT, AND SHOULD HOLD WITHIN ±20% WITH 120 VOLT A.C. SUPPLY.

*VOLTAGES MEASURED WITH 1 MEG. 1/2 WATT RESISTOR IN SERIES WITH METER PROBE.

R122	control, vert hold	113956
R124	control, vert lin	113030
R129	control, horiz hold	113957
R131	WW 150Ω 10% 7w	113949
R132	fixed film 10,000Ω ±10% 3w	213756
R207	22,000Ω 5% ½w	502322
R210	56Ω 5% ½w	502056
R213	150,000Ω 5% ½w	502415
R214	150,000Ω 5% ½w	502415
R215	6800Ω 5% ½w	502268
R216	12Ω 5% ½w	502012
R218	6800Ω 5% ½w	502268
R223	3600Ω 5% ½w	502236
R226	WW 8200Ω 10% 7w	106975
R231	control, contrast	109976
R534	fixed film 85,000Ω ±5% ½w	114766
R542	fixed film 4700Ω ±10% 3w	104835
SR101	rectifier, silicon 1N3194	113998
SR501	diode, selenium	109474
T101	xformer, output	109991
T102	xformer, hi-voltage	113958
T103	xformer, vert out	109783
T104	xformer, power	113216
T201	xformer	109949
A	4.5MHz and sound take off	109949
B	4.5MHz and sound take off	109949
T202	xformer, sound det grid (incl C206, C207)	109951
T203	xformer, snd det 3rd grid (incl C210, R205)	109948
T204	xformer, IF pix	109323
T205	xformer, 1st IF grid trap	109322
T206	xformer, 1st IF pix	109071
T207	xformer, 2nd IF pix	109158
T208	xformer, 3rd IF pix	109076
RT126	thermistor temperature compensating 12.92Ω cold (part of yoke)	107420
	transmitter remote control (KRT4B) BG-249MR, WR	12A104
	yoke, deflection	113045

RCA VICTOR

Color TV Chassis
CTC17X

ELECTRONIC TECHNICIAN TEKFAX

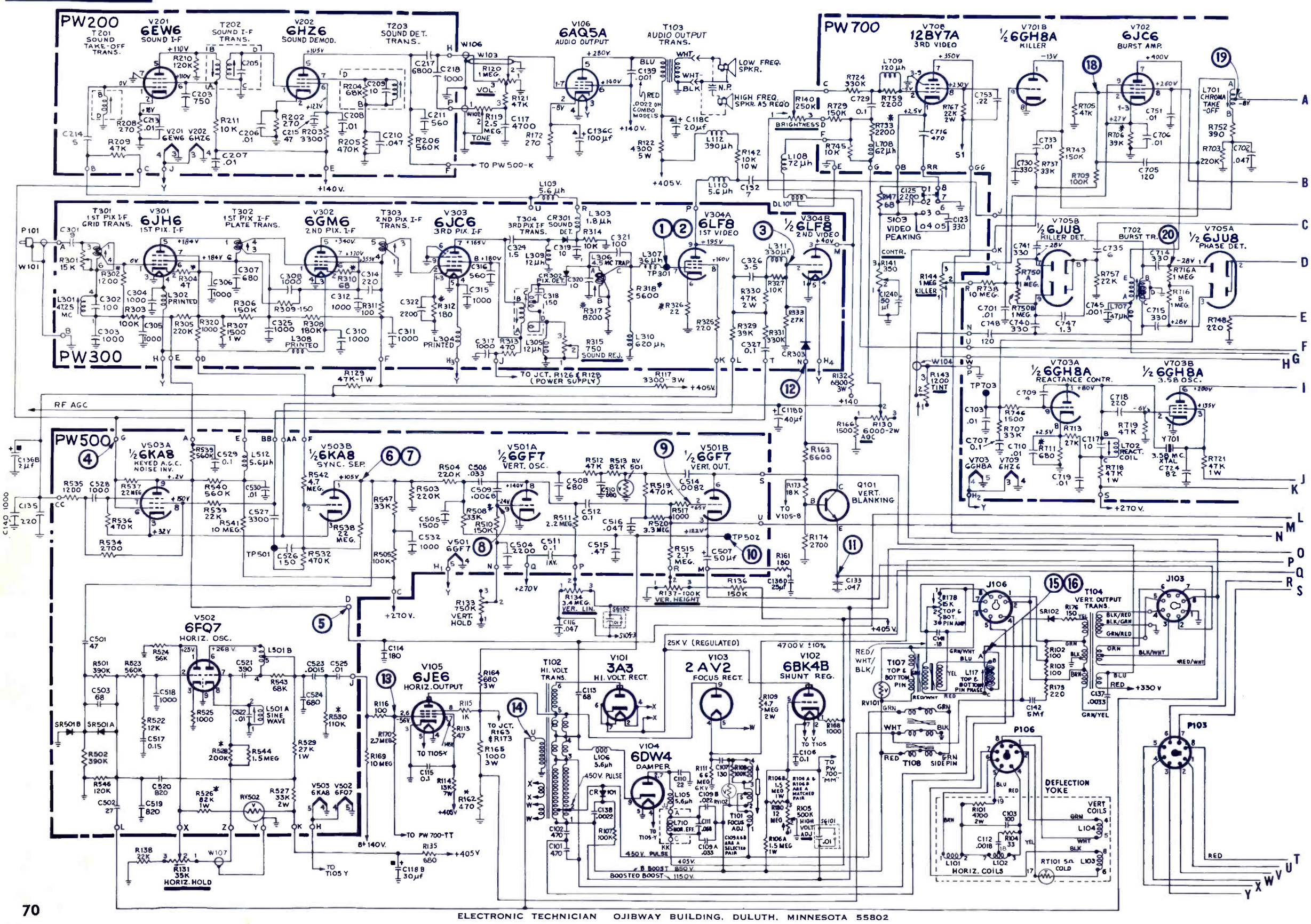
RESISTANCE VALUES IN OHMS K=1000

CAPACITANCE VALUES LESS THAN 1 IN μf, 1 AND ABOVE IN μμf, UNLESS OTHERWISE INDICATED.

DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.

VOLTAGES MEASURED WITH "VOLTOHMYST" AND WITH NO SIGNAL INPUT, AND SHOULD HOLD WITHIN ± 20% WITH 120 VOLT A.C. SUPPLY.

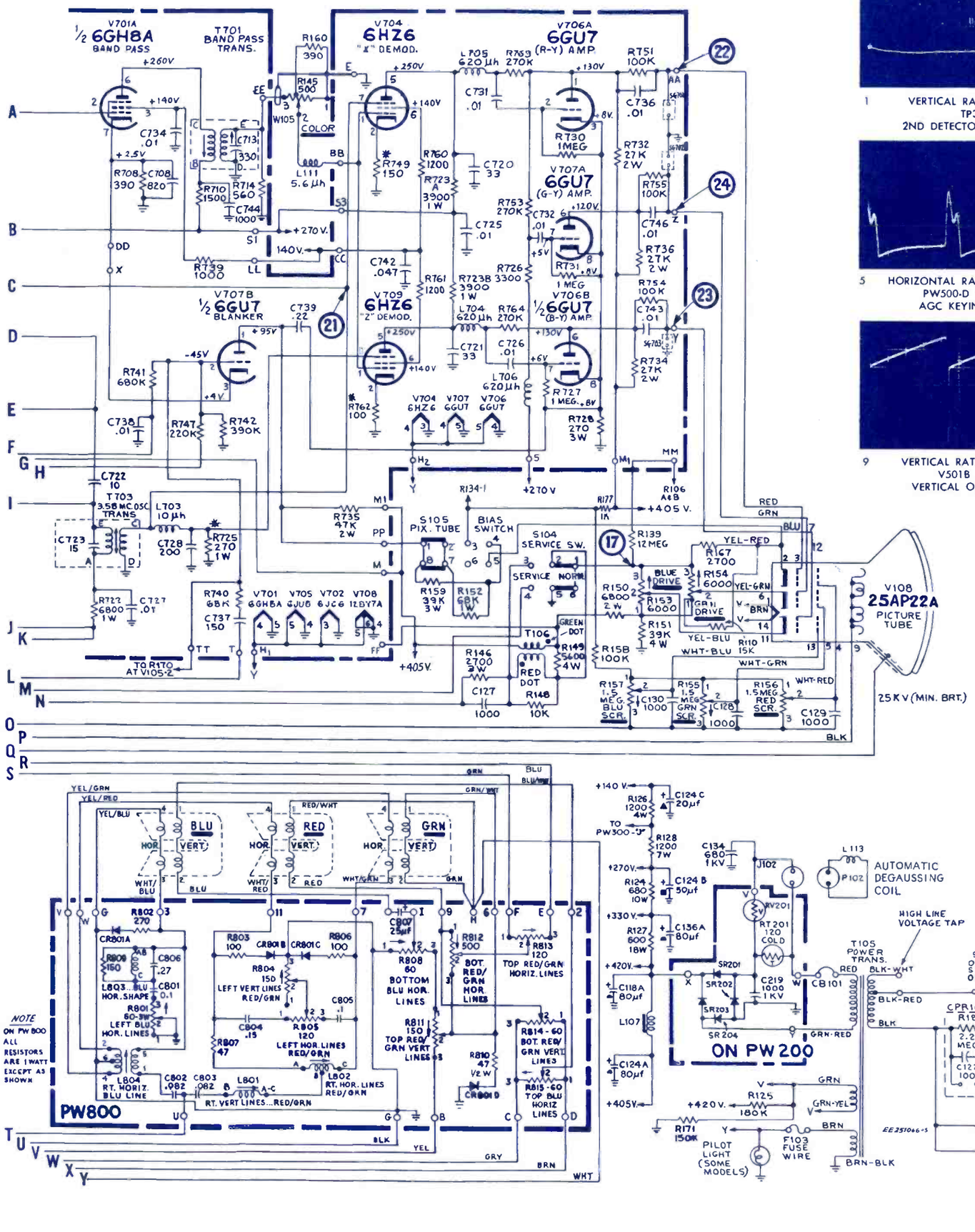
* INDICATES 5% TOLERANCE.

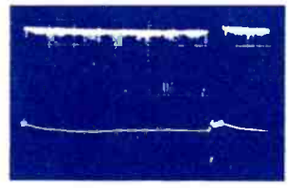


NOTE: Voltage Waveforms taken with a wideband oscilloscope using a low capacitance probe. Color Bars from the WR64A Color Bar / Dot / Crosshatch Generator used for the chroma circuit voltage waveforms.

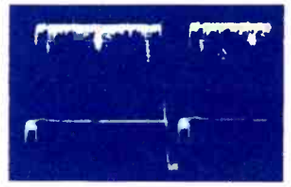
CTC17X CHASSIS VOLTAGE WAVEFORMS

RCA VICTOR
Color TV Chassis CTC17X

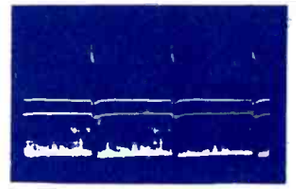




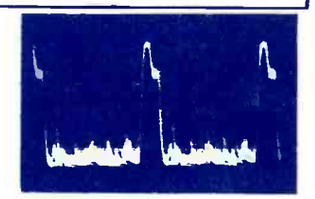
1 VERTICAL RATE 3V P-P
TP301
2ND DETECTOR TEST POINT



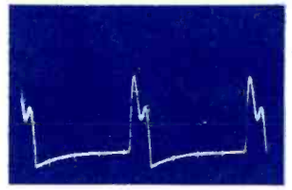
2 HORIZONTAL RATE 3V P-P
TP301
2ND DETECTOR TEST POINT



3 VERTICAL RATE 5V P-P
V304B 6LP8-2
2ND VIDEO AMP. GRID

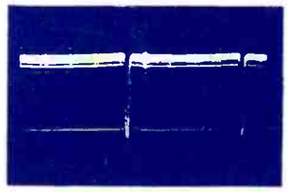


4 HORIZONTAL RATE 25V P-P
PW500-G (6KA8-6)
AGC GRID



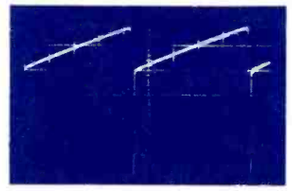
5 HORIZONTAL RATE 750V P-P
PW500-D (6KA8-9)
AGC KEYING PULSE

6 HORIZONTAL RATE 60V P-P
V503B 6KA8-1
SYNC SEPARATOR PLATE



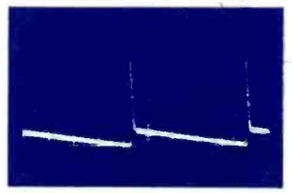
7 VERTICAL RATE 100V P-P
V503B 6KA8-1
SYNC SEPARATOR PLATE

8 VERTICAL RATE 100V P-P
V501A 6GF7-9
VERTICAL OSCILLATOR GRID

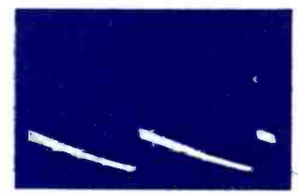


9 VERTICAL RATE 300V P-P
V501B 6GF7-2
VERTICAL OUTPUT GRID

10 VERTICAL RATE 10V P-P
TP502
VERTICAL OUTPUT CATHODE

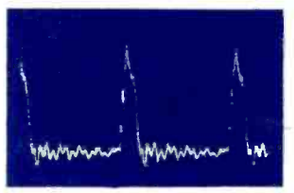


11 VERTICAL RATE 18V P-P
Q101-E
BLANKER KEYING PULSE

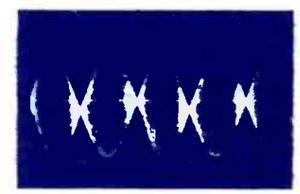


12 VERTICAL RATE 8.5V P-P
PW300-N
VERTICAL BLANKING PULSE

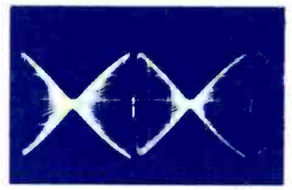
13 HORIZONTAL RATE 200V P-P
V105 6JE6-2, 6
HORIZONTAL OUTPUT GRID



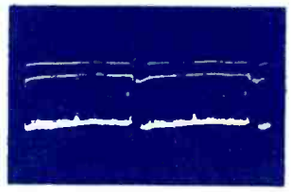
14 HORIZONTAL RATE 250V P-P
T102-U (AFC REFERENCE AND
CONVERGENCE PULSE)



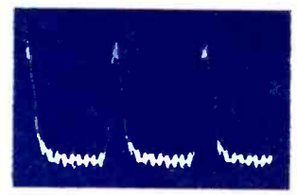
15 HORIZONTAL RATE 40V P-P
L117-A (GROUND POINT R178-2)
TOP AND BOT. PIN AMP.



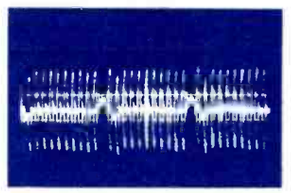
16 VERTICAL RATE 40V P-P
L117-A (GROUND POINT R178-2)
TOP AND BOT. PIN AMP.



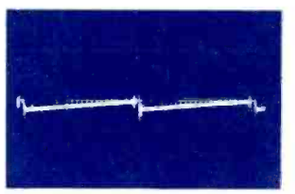
17 VERTICAL RATE 60V P-P
S104-1 (SERVICE SWITCH)
VIDEO ("Y" SIGNAL)



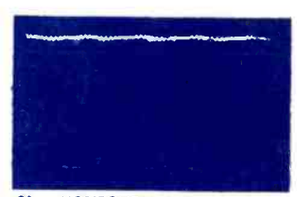
18 HORIZONTAL RATE 50V P-P
V702 6JC6-2 (COLOR)
BURST AMPLIFIER GRID



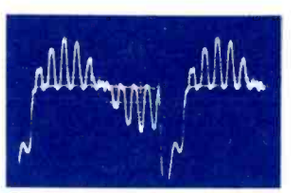
19 HORIZONTAL RATE 3V P-P
V701A 6GH8A-2 (COLOR)
BAND PASS AMPLIFIER



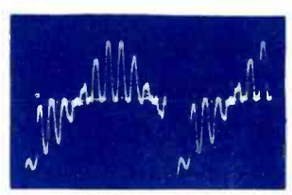
20 HORIZONTAL RATE 90V P-P
V705A 6JU8-1 (COLOR)
PHASE DETECTOR



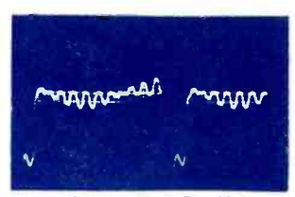
21 HORIZONTAL RATE 25V P-P
V704 6HZ6-7 (COLOR)
"X" DEMODULATOR



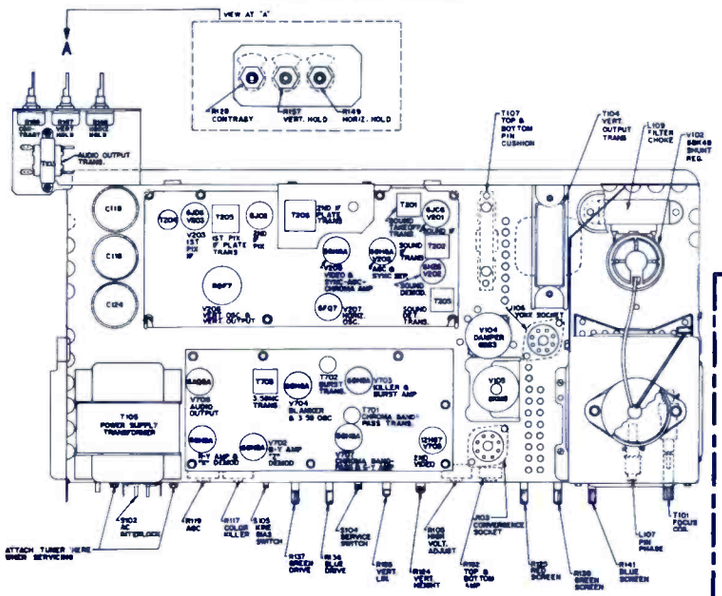
22 HORIZONTAL RATE 100V P-P
PW700-AA (COLOR)
RED—"Y"

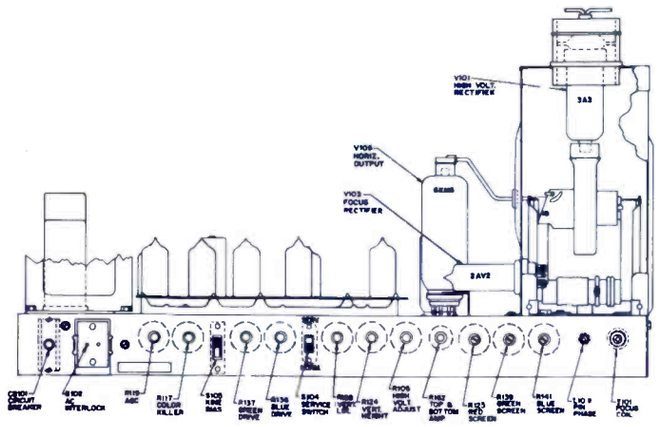


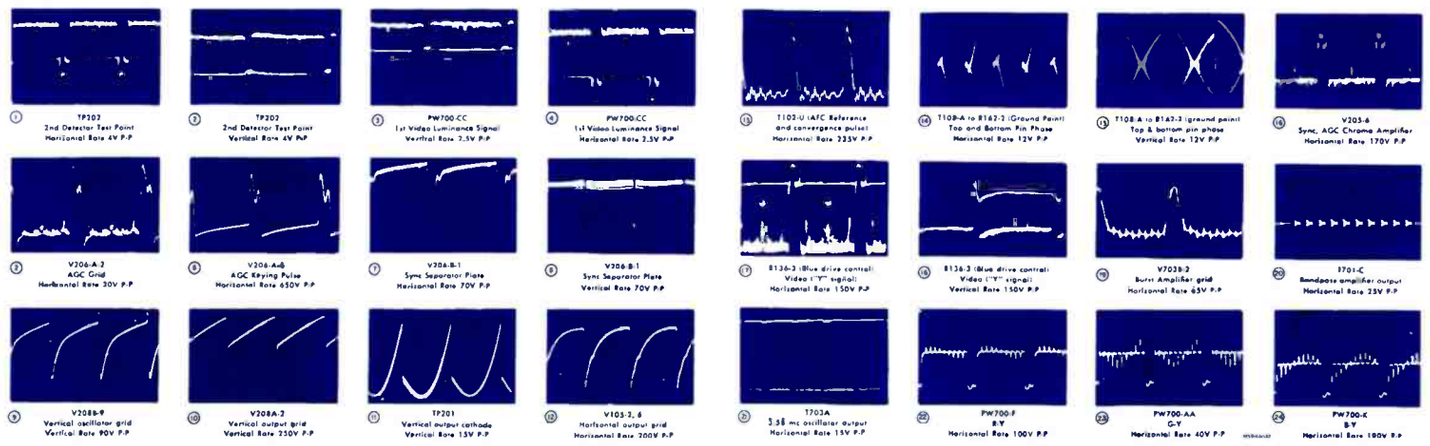
23 HORIZONTAL RATE 130V P-P
PW700-Y (COLOR)
BLUE—"Y"

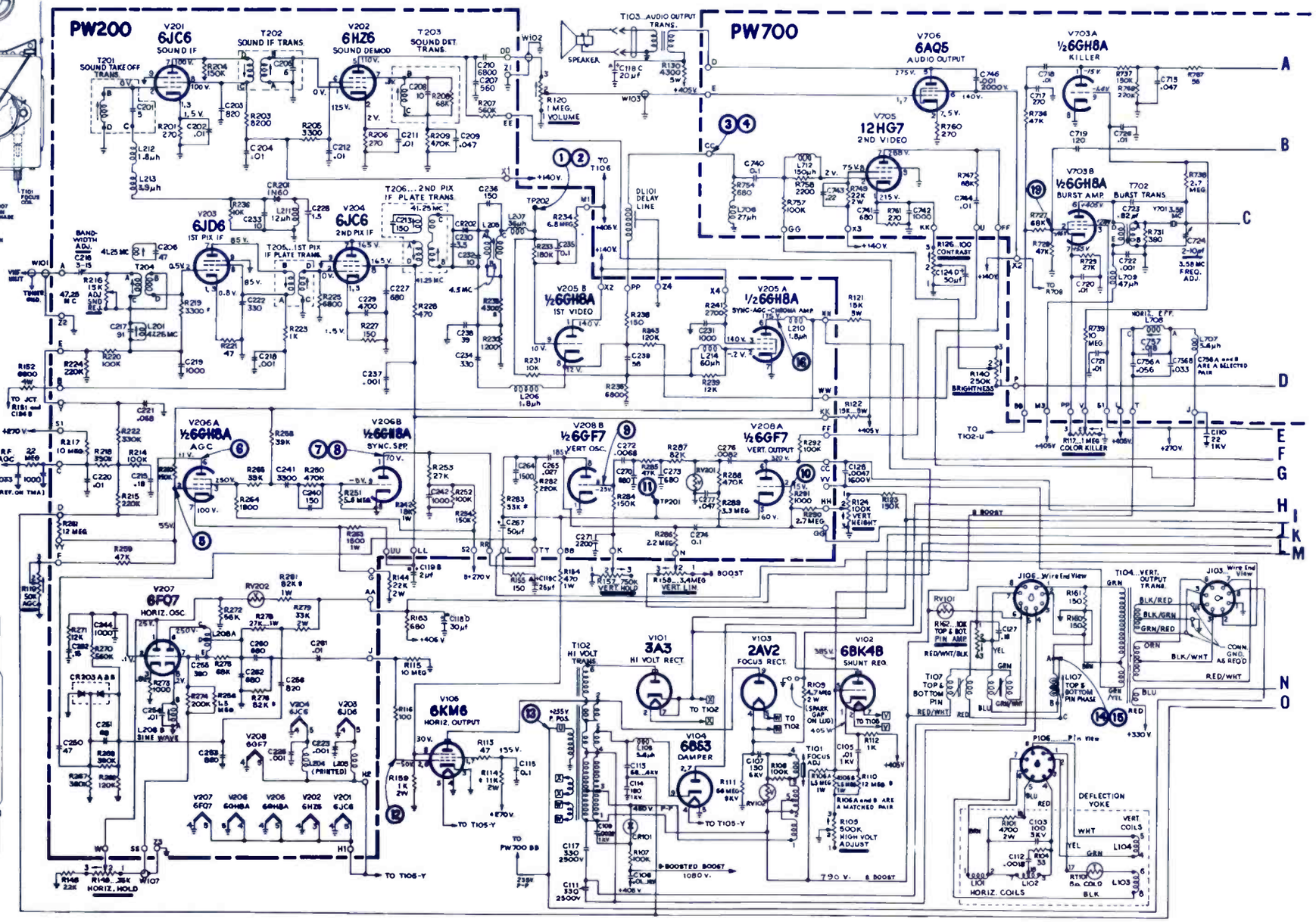


24 HORIZONTAL RATE 33V P-P
PW700-Z (COLOR)
GREEN—"Y"









RCA VICTOR

Color TV Chassis
CTC19

ELECTRONIC TECHNICIAN TEKFAX

FEBRUARY • 1966

CTC19 CHASSIS VOLTAGE WAVEFORMS

① TP202 2nd Detector Test Point Horizontal Rate 4V P-P

② TP202 2nd Detector Test Point Vertical Rate 4V P-P

③ PW700-CC 1st Video Luminance Signal Vertical Rate 2.5V P-P

④ PW700-CC 1st Video Luminance Signal Horizontal Rate 2.5V P-P

⑤ V206-A-2 AGC Grid Horizontal Rate 30V P-P

⑥ V206-A-6 AGC Keying Pulse Horizontal Rate 650V P-P

⑦ V206-B-1 Sync Separator Plate Horizontal Rate 70V P-P

⑧ V206-B-1 Sync Separator Plate Vertical Rate 70V P-P

⑨ V208B-9 Vertical oscillator grid Vertical Rate 90V P-P

⑩ V208A-2 Vertical output grid Vertical Rate 250V P-P

⑪ TP201 Vertical output cathode Vertical Rate 15V P-P

⑫ V105-2, 6 Horizontal output grid Horizontal Rate 200V P-P

⑬ T102-U (AFC Reference and convergence pulse) Horizontal Rate 235V P-P

⑭ T108-A to R162-2 (Ground Point) Top and Bottom Pin Phase Horizontal Rate 12V P-P

⑮ T108-A to R162-2 (ground point) Top & bottom pin phase Vertical Rate 12V P-P

⑯ V205-6 Sync, AGC Chroma Amplifier Horizontal Rate 170V P-P

⑰ R136-3 (Blue drive control) Video ("Y" signal) Horizontal Rate 150V P-P

⑱ R136-3 (Blue drive control) Video ("Y" signal) Vertical Rate 150V P-P

⑲ V703B-2 Burst Amplifier grid Horizontal Rate 65V P-P

⑳ T701-C Bandpass amplifier output Horizontal Rate 25V P-P

㉑ T703A 3.58 mc oscillator output Horizontal Rate 15V P-P

㉒ PW700-F R-Y Horizontal Rate 100V P-P

㉓ PW700-AA G-Y Horizontal Rate 40V P-P

㉔ PW700-K B-Y Horizontal Rate 180V P-P

NOTE: Voltage Waveforms taken with a wideband oscilloscope using a low capacitance probe. Color Bars from the WR64A Color Bar / Dot / Crosshatch Generator used for the chroma circuit voltage waveforms.

CTC19 CHASSIS LAYOUT

TUBE AND TRANSISTOR COMPLEMENT

V201	RCA 6JC6	Sound I-F Amplifier
V202	RCA 6HZ6	Sound Demodulator
V203	RCA 6JD6	1st Picture I-F Amplifier
V204	RCA 6JC6	2nd Picture I-F Amplifier
V205A V205B	RCA 6GH8A	Sync, AGC, Chroma Amplifier 1st Video Amplifier
V206A V206B	RCA 6GH8A	AGC Sync Separator
V207	RCA 6FQ7	Horizontal Oscillator & Control
V208A V208B	RCA 6GF7	Vertical Output Vertical Oscillator
V701A V701B	RCA 6GH8A	R-Y Amplifier "X" Demodulator
V702A V702B	RCA 6GH8A	B-Y Amplifier "Z" Demodulator
V703A V703B	RCA 6GH8A	Color Killer Burst Amplifier
V704A V704B	RCA 6GH8A	Blanker 3.58 mc Oscillator
V705	RCA 12HG7	2nd Video Amplifier
V706	RCA 6AQ5A	Audio Output
V707A V707B	RCA 6GH8A	Chroma Bandpass Amplifier G-Y Amplifier
V101	RCA 3A3	High Voltage Rectifier
V102	RCA 6BK4B	Shunt Regulator
V103	RCA 2AV2	Focus Rectifier
V104	RCA 6BS3	Damper
V105	RCA 6KM6	Horizontal Output
V108	RCA 19EYP22	Color Picture Tube

KRK128A/120RB VHF/UHF Tuners

V1	RCA 6DS4	VHF R-F Amplifier & UHF I-F Amplifier
V2A V2B	RCA 6KE8	VHF Mixer & UHF I-F Amplifier VHF Oscillator
RCA Q51		S103T (Fairchild)

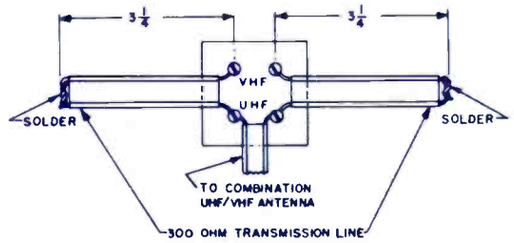
CTC19 Chassis Layout

More Data on Opposite Page

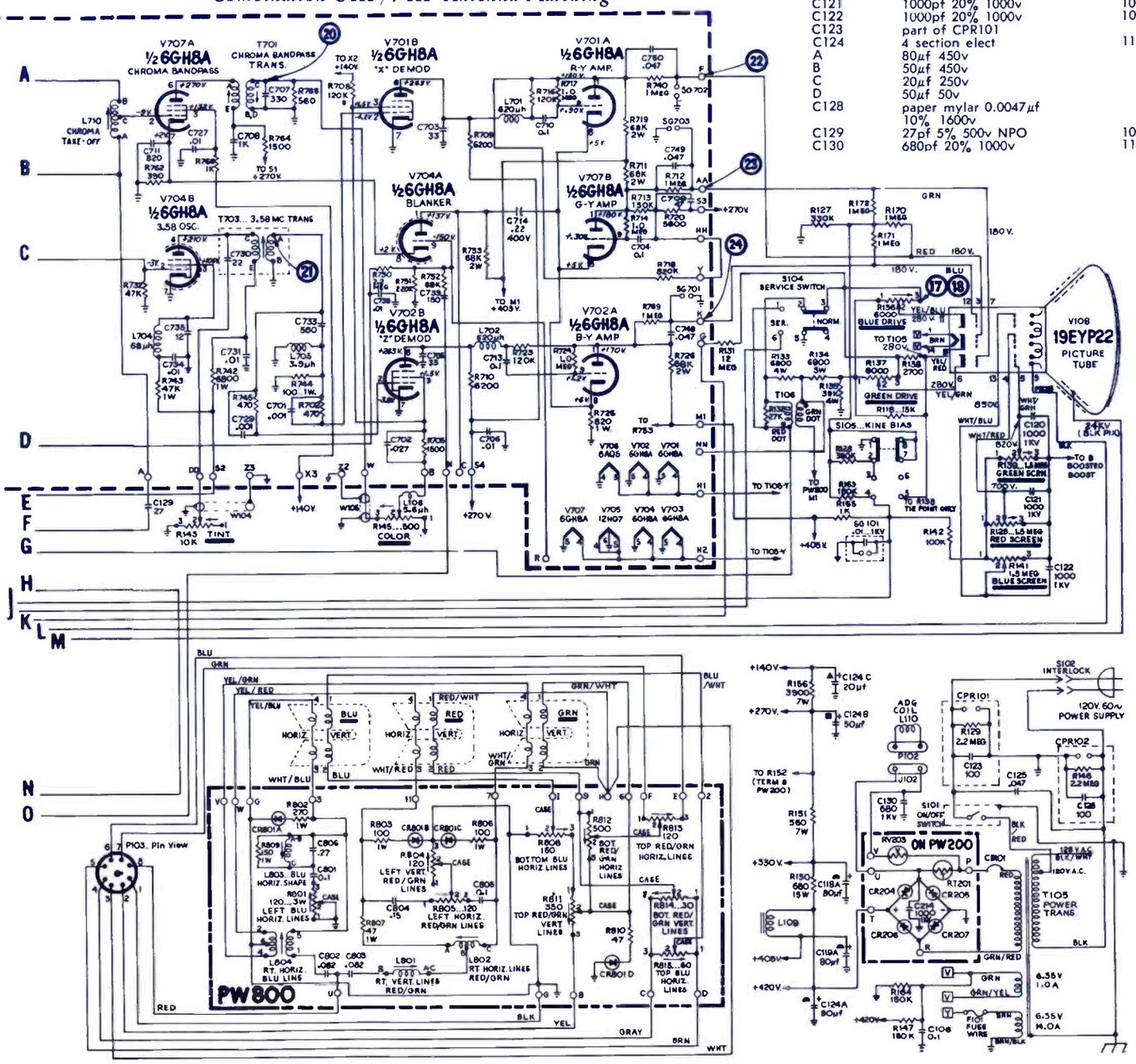
ELECTRICAL SPECIFICATIONS
Television Instrument

ANTENNA INPUT IMPEDANCE	300 ohms balanced
CONVERGENCE	Magnetic
FOCUS	Electrostatic
AUDIO POWER OUTPUT RATING	2.5 watts max.
INTERMEDIATE FREQUENCIES	
Picture I-F Carrier Frequency	45.75 mc.
Sound I-F Carrier Frequency	41.25 mc.
Color Sub-Carrier Frequency	42.17 mc. (Nominal)
PICTURE	
SIZE	Approx. 180 sq. in. (min.) on a 19EYP22 Picture Tube
POWER INPUT	125 volts AC, 60 cycle
POWER RATING	305 watts total
SWEEP DEFLECTION	Magnetic
TELEVISION R-F FREQUENCY RANGE	
All 12 VHF television Channels	54 mc. to 88 mc., 174 mc. to 216 mc.
All 70 UHF channels	470 mc. to 890 mc.

NOTES:
K=1000.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL RESISTORS ARE ½ WATT EXCEPT AS NOTED.
X INDICATES 5% TOLERANCE ON RESISTORS.
ALL CAPACITANCE VALUES 1.0 AND ABOVE ARE IN *pf*, THOSE BELOW 1.0 ARE IN *µf*, UNLESS OTHERWISE INDICATED.
DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.
VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN ±20% AT RATED SUPPLY VOLTAGE.



Combination UHF/VHF Antenna Matching



Symbol	Description	RCA Victor Part No.
R93	fixed film 1600Ω ±10% 3w	113960
R120	control, on-off-volume TMA96C	116564
R120	control, on-off volume TMA96C	116975
R140	control, brightness, TMA96C	116565
R140	control brightness, TMA96H	116972
R143	control tint TMA96C	116567
R143	control, tint TMA96H	116974
R145	control color TMA96C	116566
R145	control color TMA96H	116973
S101	switch on-off (part of R120)	
C105	.01µf +80 —20% 1000v	113639
C107	130pf 20% 6000v N2200	109229
C108	.01µf +80 —20% 1000v	113639
C109	paper mylar 0.0022µf ±20%, 1000v	
C110	22pf 20% 1000v N750	105233
C111	330pf 10% 2500v N1500	116504
C113	68pf 10% 4000v N1500	112847
C114	180pf 10% 1000v N1500	109844
C117	330pf 10% 2500v N2200	116504
C118	3 section elect	116503
A	80µf 450v	
B	30µf 450v	
C	20µf 450v	
C119	3 section elect	115869
A	80µf 450v	
B	2µf 350v	
C	25µf 25v	
C120	1000pf 20% 1000v	105778
C121	1000pf 20% 1000v	105778
C122	1000pf 20% 1000v	105778
C123	part of CPR101	
C124	4 section elect	112827
A	80µf 450v	
B	50µf 450v	
C	20µf 250v	
D	50µf 50v	
C128	paper mylar 0.0047µf 10% 1600v	
C129	27pf 5% 500v NPO	100352
C130	680pf 20% 1000v	113165
C203	820pf 5% 500v N2200	
C214	1000pf 20% 1000v	
C217	91pf 5% 500v NPO	
C222	330pf 20% 500v N1500	101725
C227	680pf 10% 500v N2200	102237
C228	1.5pf ±.25pf 500v N3300	103411
C230	3.5pf ±.25pf 500v NPO	
C231	1000pf +100 —0% 500v	
C232	10pf ±.5pf 500v NPO	
C233	10pf 5% 500v NPO	
C234	330pf +100 —0% 500v	
C236	150pf 5% 500v NPO	
C238	39pf 10% 500v N750	107232
C239	56pf 10% 500v N750	107745
C242	1000pf +100 —0% 500v	77252
C250	47pf 10% 500v NPO	109231
C251	68pf 10% 500v NPO	109232
C255	390pf 5% 1500v N1500	109806
C703	33pf 20% 500v N150	109260
C709	47pf 10% 500v N750	102882
C717	270pf 5% 500v N750	
C719	120pf 20% 500v N750	102209
C730	22pf 10% 500v NPO	103534
C735	12pf 5% 500v NPO	
C743	paper mylar .22µf 20% 2000v	
C750	.047µf +100 —20% 100v	117334
C756	paper mylar (matched pair)	
A	.056µf 600v	116577
B	.033µf 600v	
CB101	circuit 1.75 amp	113950
CPR101	circuit printed component (includes C123, R129)	115436
CPR102	circuit printed component (includes C126, R146)	115436
CR101	diode, power rectifier	113391
CR201	diode, rectifier 1N60	112524
CR202	diode, rectifier 1N60	112524
CR203	rectifier, selenium diode	109474
CR204	diode, silicon rectifier 1N3195	113998
CR205	diode, silicon rectifier 1N3195	113998
CR206	diode, silicon rectifier 1N3195	113998
CR207	diode, silicon rectifier 1N3195	113998
CR801	rectifier, selenium	114013
A	rectifier, selenium	
B	rectifier, selenium	
C	rectifier, selenium	
D	rectifier, selenium	
DL101	line A delay	116505
F101	fuse heater	102792
J102	connector, ADG	101998
J103	connector, 8 pin convergence	31251
J106	connector, 8 pin yoke	102787
L106	reactor, RF choke	116643
L109	reactor, filter choke	116648
L205	xformer, 4.5Mc trap	116543
L206	coil, RF choke 1.8µh	109248
L207	coil, peaking 36µh	101819
L208	coil, horiz sine wave	116506
A	coil, horiz sine wave	
B	coil, horiz sine wave	
L210	coil, RF choke 1.8µh	109248
L211	coil, RF choke 12µh	100441
L213	reactor, RF choke 3.9µh	116507
L214	coil, peaking 120µh (incl R239)	116508
L214	coil, peaking 60µh (incl R239)	116894
L708	coil, horiz efficiency	114152
L709	coil, peaking 47µh	114000
L710	xformer, chroma take off	116539
L712	coil, peaking 150µh (incl R758)	116499
L801	coil, right red/green vert lines	114597
L802	coil, right horiz red/green lines	114598
L803	coil, blue horiz shape	114595
L804	coil, horiz convergence, CTC 19A	116580
PW200	circuit, printed video circuit (less tubes)	116562
PW700	circuit, printed chroma circuit (less tubes)	116563
PW800	circuit, printed convergence board	116561
R105	control, hi-voltage adj	112842
R106	1.5M 1w (matched pair)	109235
R107	1.5M 1w (matched pair)	512410
A	1.5M 1w (matched pair)	
B	100,000Ω ±20% 1w	
R111	fixed film 66M 20% 6000v	114651
R114	fixed film 11,000M 5% 2w	
R117	control, color killer	112841
R119	control, AGC	116556
R120	control, volume (on TMA)	
R121	fixed film 15,000Ω 10% 5w	116515
R122	fixed film 15,000Ω 10% 5w	116515
R124	control, vertical height	112843
R125	control, red screen	113994
R126	control, contrast	116557
R130	fixed film 4300Ω 10% 5w	112852
R133	fixed film 6800Ω 10% 4w	107541
R134	fixed film 6800Ω 10% 3w	105662
R135	fixed film 39,000Ω 10% 4w	105753
R136	control, blue drive	113993
R137	control, green drive	113993
R139	control, green screen	113994
R141	control, blue screen	113994
R149	control, horiz hold	114018
R150	WW 680Ω 10% 15w	116644
R151	WW 560 10% 7w	116645
R152	fixed film 6800Ω 10% 4w	107541
R156	WW 3900Ω 10% 7w	102314
R162	control, top and bottom pin amplifier	116558
R216	control, sound rejection	116457
R221	47Ω 5% ½w	502047
R227	150Ω 5% ½w	502115
R232	4300Ω 5% ½w	502243
R274	200,000Ω 5% ½w	502420
R276	82,000Ω 5% ½w	502382
R279	fixed film 33,000Ω 10% 2w	
R283	33,000Ω 5% ½w	502333
R708	120,000Ω 5% ½w	502412
R709	6200Ω 5% ½w	502262
R710	6200Ω 5% ½w	502262
R711	fixed film 39,000Ω 10% 2w	
R719	fixed film 68,000Ω 10% 2w	
R726	fixed film 68,000Ω 10% 2w	
R729	27,000Ω 5% ½w	502327
R744	100Ω 5% 1w	512110
R753	fixed 33,000Ω 10% 3w	116516
R801	control, left blue horiz lines	116555
R804	control, left vert red/green lines	106320
R805	control, left horiz red/green lines	106320
R808	control, bottom blue horiz lines	109472
R811	control, top red/green vert lines	116635
R812	control, bottom red/green horiz lines	114623
R813	control, top red/green horiz lines	106320
R814	control, bottom red/green vert lines	106321
R815	control, top blue horiz lines	105059
RT101	themistor, part of yoke	
RT201	surge resistor	107191
RV101	varistor	114707
RV102	varistor	112876
RV201	varistor	112876
RV202	varistor	114862
RV203	varistor 67ma at 20v	116534
S104	switch, normal service	46760
S105	switch, kinescope bias	113398
SG101	spark gap 10,000pf 1000v	117139
SG701	spark gap .75pf 1000v	116636
SG702	spark gap .75pf 1000v	116636
SG703	spark gap .75pf 1000v	116636
T101	coil, focus control	113999
T102	xformer, hi voltage	116554
T103	xformer, prim 15,000Ω sec 4Ω	113997
T104	xformer, vert output	116537
T105	xformer, power	116553
T106	coil, video peaking	116538
T107	xformer, top and bottom pin cushion	115874
T201	xformer, sound IF	109261
T202	xformer, input demodulator (Includes C205)	112870
T203	xformer, input demodulator (includes C208, R208)	106383
T204	xformer, 1st pix IF input (includes C206)	116560
T205	xformer, input 2nd pix	116545
T206	xformer, output 2nd pix IF 41.25Mc trap (includes C213)	116544
T701	xformer, band pass	116540
T702	xformer, burst phase	116541
T703	xformer, electron coupled oscillator (includes C730)	116542
Y701	crystal 3.58Mc	105330
	knob, VHF channel selector, GG-530M, W, Y GG-532L	114873
	knob, VHF channel selector, FG-525E, W	115839
	knob, UHF channel selector and fine tuning, GG-530M, W, Y, GG-532L	114898
	knob, UHF channel selector and fine tuning, FG-525E, W	115842
	knob, volume and bright GG-530M, W, Y, GG-532L	114875
	knob, volume and bright, FG-525E, W	115841
	knob, color FG-525E, W	114360
	knob, color GG-530M, W, Y GG-532L	114892
	knob, tint FG-525E, W	114362
	knob, tint GG-530M, W, Y, GG-532L	114893
	knob, horiz vertical contrast FG-525E, W	114032
	knob, horiz vert contrast GG-530M, W, Y, GG-532L	114874
	speaker, 3" X 5" PM 3.2Ω FG-525E, W	112713
	speaker, 4" PM 3.2Ω GG-530M, W, Y, GG-532L	117338
RT101	thermistor, temp compensating 5Ω (part of yoke)	114742
	yoke, deflection	116324

RCA VICTOR
Color TV Chassis CTC19

More Data on Opposite Page

RCA VICTOR
TV Chassis
KCS142XA

ELECTRONIC TECHNICIAN TEKFAX

CHASSIS REMOVAL

The knobs must be removed from the brightness control, volume control, the VHF tuner shaft, and the UHF tuner shaft in order to remove the chassis.

To disassemble the instrument, remove the six screws securing the receiver back. Disconnect the antenna and remove the back. Remove four nuts from tuner mounting assembly. Disconnect remote control plug and remove tuner assembly. Remove fnur hex-head fasteners (two above and two below the chassis). Disconnect the yoke plug and the two speaker pin plugs at the speaker. Remove the chassis partially and disconnect the second anode lead.

To remove the kinescope, remove the long compression bolt which secures the mounting strap of the kinescope.

RCA TUBE AND TRANSISTOR COMPLEMENT

KCS142XA Chassis

Type	Function
RCA 4JD6	1st Picture I-F Amplifier
RCA 4JC6	2nd Picture I-F Amplifier
RCA 11KV8	Video Amplifier and Sound I-F Amplifier
RCA 6HZ6	Sound Det. and Audio Amp.
RCA 6HG5	Audio Output
RCA 8LC8	Sync Sep. and AGC
RCA 13GF7	Vert. Osc. & Vert. Output
RCA 8FQ7	Horizontal Sweep Oscillator and Control
RCA 17JB6	Horizontal Sweep Output
RCA 17AY3	Damper
RCA 1G3GT/1B3GT	High Voltage Rectifier
RCA 19DQP4	Pan-o-Ply Kinescope

A crystal diode is used for the Picture 2nd Detector. Two RCA type 1N3194 silicon rectifiers are used for low voltage rectification.

KRK125F VHF Tuner (TMA1008)

Type	Function
RCA 3GK5	R-F Amplifier
RCA 5KE8	R-F Oscillator and Mixer

KRK120RD UHF Tuner

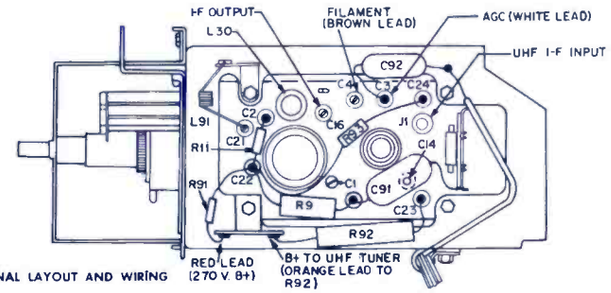
RCA 51037	UHF Oscillator

A 1N82 crystal is used as the UHF mixer.

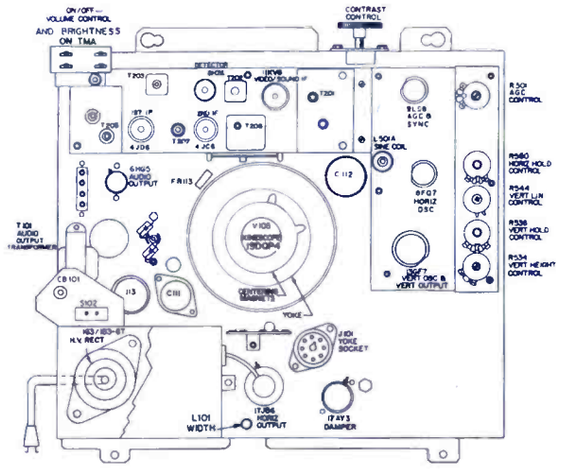
KRS28A Remote Control Amplifier

RCA Q901 (2N2613 Transistor)	1st Amplifier
RCA Q902 (2N2614 Transistor)	2nd Amplifier
RCA Q903 (2N2614 Transistor)	3rd Amplifier
RCA Q904 (2N2614 Transistor)	Driver Amplifier
RCA Q905 (2N2614 Transistor)	Volume Down Relay Keyer
RCA Q906 (2N2614 Transistor)	Channel Relay Keyer
RCA Q907 (2N2614 Transistor)	Volume Up Relay Keyer

Two RCA type 1N3194 silicon Rectifiers are used for low voltage rectification.

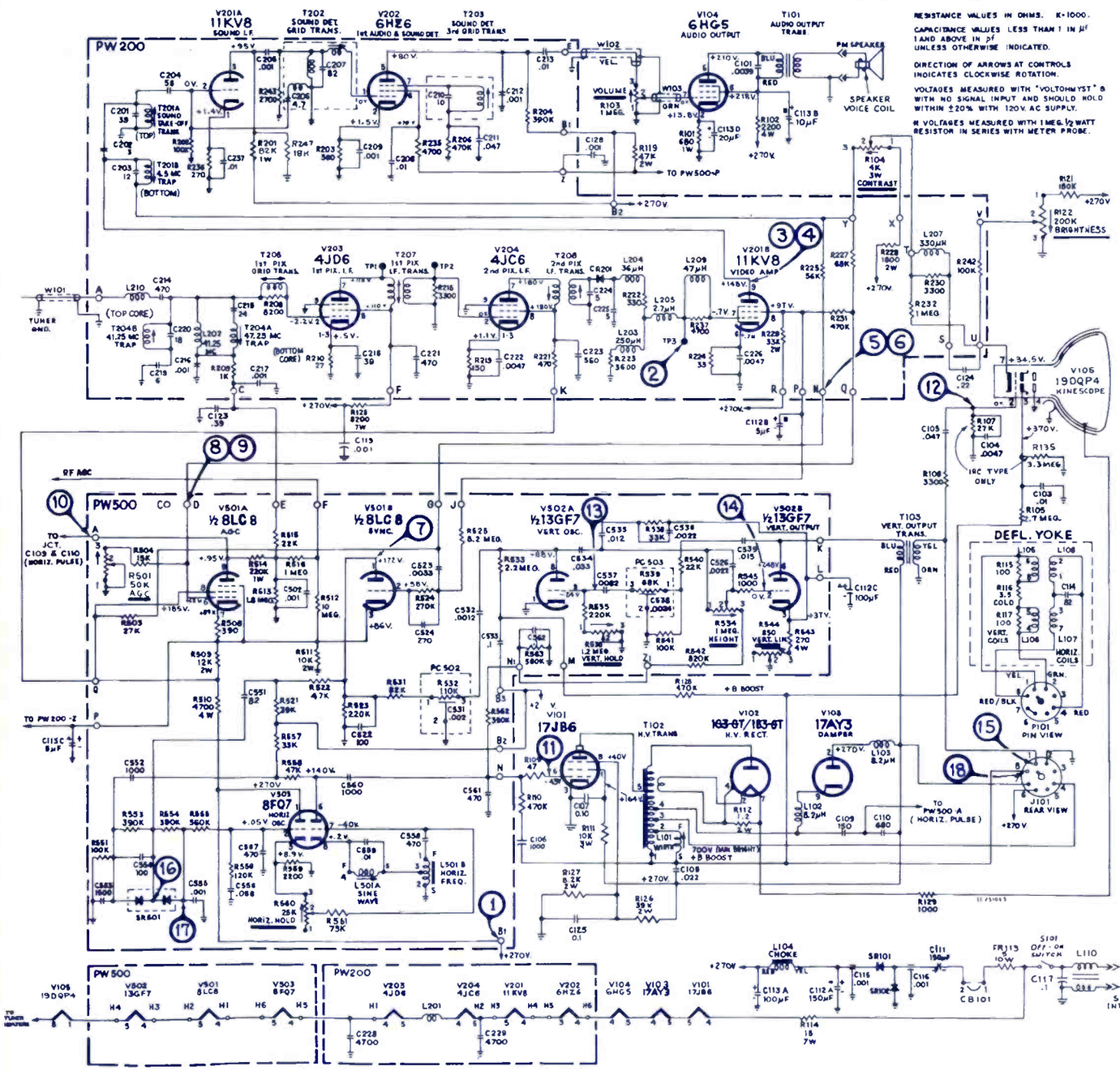


KRK125F VHF TUNER EXTERNAL LAYOUT AND WIRING

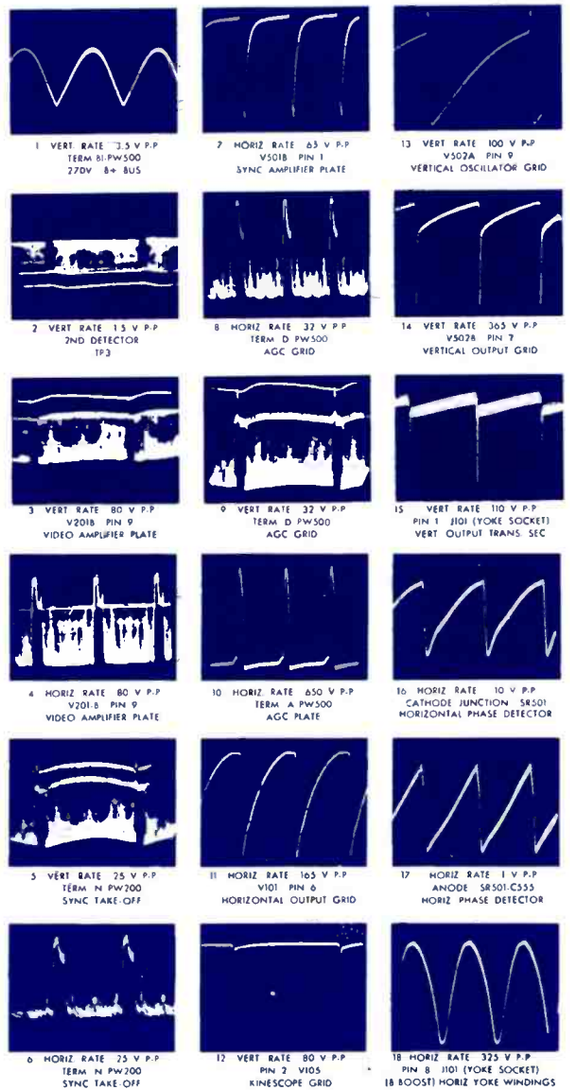


ELECTRICAL SPECIFICATIONS

ANTENNA INPUT IMPEDANCE	300 ohms balanced
AUDIO POWER OUTPUT RATING	1.5 watts maximum
FOCUS	Electrostatic, Fixed Focus
INTERMEDIATE FREQUENCIES	
Picture I-F Carrier Frequency	45.75 mc.
Sound I-F Carrier Frequency	41.25 mc.
PICTURE SIZE	Approx. 172 sq. ins. on a 19DQP4 Kinescope
POWER INPUT	120 Volts AC, 60 cycle
POWER RATING	155 watts
SWEEP DEFLECTION	Magnetic
TELEVISION R-F FREQUENCY RANGE	
All Models	
Any of 12 VHF Channels	54 mc. to 88 mc., 174 mc. to 216 mc.
Any of 70 UHF Channels	470 mc. to 890 mc.
VIDEO RESPONSE	To 3.2 mc.



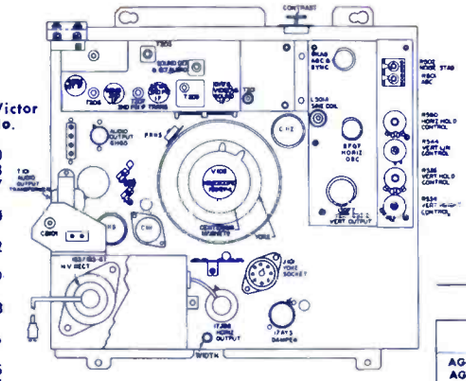
Balloons ①, ②, etc. shown on schematic indicate points of observation of the waveforms



Symbol	Description	RCA Victor Part No.
C101	ceramic—.0039μf ±10%, 1000v	109060
C103	ceramic—.01μf, +100-0%, 1000v	113639
C109	ceramic—150 pf, ±10%, 4000v., N2200	109955
C110	ceramic—680 pf, ±10%, 1000v	113165
C112	3 section elect	113167
C113	4 section elect	109689
C115	feed-thru-1000pf, +100 −0%, 500v	112720
C116	feed-thru—1000 pf, +100-0% 500v	112720
C202	ceramic, radial leads, 3 pf, ±1 pf, 1000v., N750	
C203	ceramic, 12 pf, ±10%, 500v., N150	109932
C204	ceramic, 56 pf, ±20%, 500v., N750	
C215	ceramic, 24 pf, ±5%, 500v., N075	
C218	ceramic, 39 pf, ±10%, 500v., N150	109931
C219	ceramic, 6 pf, ±0.5 pf, 500v., NPO	
C220	ceramic, 18pf, ±5%, 500v., NPO	
C224	ceramic, 5pf, ±0.5 pf, 500v., NPO	
C522	ceramic, 100 pf, ±10%, 500v., N750	105674
C551	ceramic, 82 pf, ±10%, 500v., N750	104214
C554	ceramic, 100pf, ±10%, 500v., N750	105674
C560	ceramic, 1000 pf, ±10%, 1000v	105778
L101	coil, width	112974
L110	reactor, line choke	114293
L202	coil, AGC	113171
L203	coil, peaking 250 μh	109944
L204	coil, peaking 36 μh	109758
L205	reactor, choke 2.7 μh	107463
L501A, B	coil, horiz osc	109947
PC502	circuit-printed component (includes C531-R532)	112628
PC503	circuit-printed component	109325
PW200	circuit-printed IF video circuit (less tubes)	114997
PW500	circuit-printed deflection circuit (less tubes)	114999
R102	WW 2200Ω, ±10%, 4w	103352
R104	contrast	113886
R111	fixed film, 10,000Ω, ±10%, 3w	213756
R112	WW, 1.2Ω, ±5%, 2w	113284
R113	resistor, fuse, 5Ω, ±10%, 10w	114966
R114	WW, 15Ω, ±10%, 7w	113149
R125	WW, 8200Ω ±5%, 7w	113150
R501	control-AGC	113156
R510	fixed film, 4700Ω, ±10%, 4w	112850
R534	height	113162
R536	vert hold	114967
R543	WW, 270Ω, ±10%, 4w	109384
R544	vert lin	113163
R560	horiz hold	113157
R561	fixed film-73,000Ω, ±5%, ½w	113945
SR101	rectfier, silcon 1N3914	113998
SR102	rectifier, silcon 1N3914	113998
SR501	rectifier, selenium	109474
T101	xformer, output	113100
T102	xformer, hi-voltage	113599
T103	xformer-vert out	113096
T201A, B	xformer, 4.5 Mc sound take off	109949
T202	xformer, sound det grid (includes C206-C207)	109951
T203	xformer, sound det 3rd grid (includes C201)	109948
T204A, B	xformer, 1st pix IF grid trap	113425
T205	xformer, 1st pix IF grid	113097
T207	xformer, 2nd pix IF	109158
T208	xformer, 3rd pix IF	113099
R115	resistor, 150Ω, ±10%, ½w. (part of yoke)	502115
R117	resistor, 150Ω, ±10%, ½w (part of yoke)	502115
R116	thermistor, temperature compensating 3.8Ω cold (part of yoke)	107464
	yoke, deflection	109532A

RCA VICTOR
TV Chassis
KCS144E

Symbol	Description	RCA Victor Part No.
R93	Resistor-fixed film, 16,000Ω, ±10%, 3w	113960
R103	Control-on-off-volume	114868
R122	Control-brightness	114867
C101	ceramic-0.0039 μf, ±10%, 1000v	109060
C102	ceramic-47 pf, ±10%, 500v, N750	102882
C103	ceramic-1.01 μf ±100—0%, 1000v	113639
C106	ceramic-1000 pf, ±20%, 1000v	105778
C109	ceramic-180 pf, ±10%, 4000v, N2200	112336
C110	ceramic-680 pf, ±10%, 1000v	113165
C112	3 section electrolytic	113167
A	150 μf, 350v	
B	5 μf, 350v	
C	100 μf, 50v	
C113	4 section electrolytic	109689
A	100 μf, 350v	
B	10 μf, 350v	
C	5 μf, 150v	
D	20 μf, 25v	
C201	ceramic-39 pf, ±10%, 500v, N150	109931
C202	ceramic-3 pf, ±1 pf, 1000v, N750	
C203	ceramic-12 pf, ±10%, 500v, N150	109932
C204	ceramic-56 pf, ±20%, 500v, N750	
C214	ceramic-11.5 pf, ±5%, 500v, NPO	
C215	ceramic-110 pf, ±5%, 500v, NPO	109438
C224	ceramic-5 pf, ±0.5 pf, 500v, NPO	
C225	ceramic-5 pf, ±0.5 pf, 500v N750	
C233	ceramic-15 pf, ±10%, 500v N750	
C234	ceramic-15 pf, ±10%, 500v N750	
C240	ceramic-56 pf, ±5%, 500v NPO	
C522	ceramic-100 pf, ±10%, 500v, N750	105674
C534	paper-0.033 μf, ±10%, 600v N750	113166
C554	ceramic-100 pf, ±10%, 500v N750	105674
CB101	breaker-circuit	114585
L101	coil-width	112974
L109	coil-choke	112337
L202	reactor-filter choke	112509
L205	reactor-filter choke 2.7 μh	107463
L501A	coil-horizontal sine wave	109947
B	coil-horizontal frequency	
PC501	circuit-component (includes R501, AGC, R502 Noise Stabilizer)	113164
PC502	circuit-printed circuit (includes R532, C531)	112628
PC503	circuit-printed circuit (includes C538, R539)	109325
PW200	circuit-printed IF and video circuit (less tubes)	114996
PW500	circuit-printed deflection circuit (less tubes)	114998
R102	WW-2200Ω, ±10%, 4w	103352
R104	control-contrast	114968
R107	27,000Ω, ±10%, ½w (IRC only)	114825
R111	fixed film-8200Ω, ±10%, 3w	106253
R112	WW-1.2Ω, ±5%, 2w	113284
FR113	fuse-5Ω, 10w	114966
R226	WW-8200Ω, ±10%, 7w	106975
R534	control-height	113162
R536	control-vert. hold	114967
R543	WW-270Ω, ±10%, 4w	109384
R544	control-vert. linearity	113163
R560	control-horizontal hold	113157
SR101	rectifier-silicon	113998
SR102	rectifier-silicon	113998
SR501	diode-selenium	109474
T101	transfomer-output	113100
T102	transformer-hi-voltage rectifier	109961
T103	transformer-vertical output	113096
T201A	transformer-4.5 Mc trap	109949
T202	transformer-IF (includes C206-C207)	109951
T203	transformer-sound detector 3rd grid (includes C210)	109948
T204	transformer-1st pix IF grid	109323
T205	transformer-1st IF grid trap	109322
T206	transformer-1st IF pix	109071
T207	transformer-2nd IF pix	109158
T208	transformer-3rd IF pix	109076
R115	resistor-220Ω, ±10%, ½w (part of yoke)	502122
R117	resistor-100Ω, ±10%, ½ w (part of yoke)	502110
R116	thermistor-temperature compensating 3.8Ω cold (part of yoke)	107464
	yoke-deflection	109962



ELECTRICAL SPECIFICATIONS

ANTENNA INPUT IMPEDANCE	300 ohms balanced
AUDIO POWER OUTPUT RATING	1.5 watts maximum
FOCUS	Electrostatic; Fixed Focus
INTERMEDIATE FREQUENCIES	
Picture I-F Carrier Frequency	45.75 mc.
Sound I-F Carrier Frequency	41.25 mc.
PICTURE SIZE	Approx. 172 sq. in. on a 19DQP4 Kinescope
POWER INPUT	120 Volts AC, 60 Cycle
POWER RATING	160 watts
SWEEP DEFLECTION	Magnetic
TELEVISION R-F FREQUENCY RANGE All Models	
Any of 12 VHF Channels	54 mc. to 88 mc., 174 mc. to 216 mc.
Any of 70 UHF Channels	470 mc. to 890 mc.
VIDEO RESPONSE	To 3.2 mc.

MODEL AND CHASSIS CROSS REFERENCE

Model	Name	Chassis	TMA	Tuner	Kinescope	Antennas VHF/UHF
AG-083Y, J, N	*"TOWNSMAN"*	KCS144E	82A	KRK124P/120RD	19DQP4	Dipole/Ring
AG-089E, W, Y	*"MODERNIST"*	KCS144E	82A	KRK124P/120RD	19DQP4	Dipole/Ring

The letter following the third numeral in the model number designates the cabinet finish as follows: E—CHARCOAL LEATHER ROLLER GRAIN VINYL/STORM GRAY, J—ALABASTER/SAFARI BROWN, N—TUSK IVORY/MODERN MIST GOLD, W—HARVEST WALNUT ROLLER GRAIN VINYL, Y (MODEL AG-083Y)—ICEBERG WHITE/SAFARI BROWN, Y (AG-089Y)—DESERT SAND DANISH LINEN TEXTURE ROLLER GRAIN VINYL/ICEBERG WHITE.

RCA TUBES, NUVISTOR, AND TRANSISTOR COMPLEMENT

KCS144E Chassis

Type	Function
RCA 4BZ6	1st Picture I-F Amplifier
RCA 5GM6	2nd Picture I-F Amplifier
RCA 5EW6	3rd Picture I-F Amplifier
RCA 10HF8	Sound I-F Amplifier and Video Amp.
RCA 6HZ6	1st Audio and Sound Detector
RCA 6HG5	Audio Output
RCA 8KA8	AGC and Sync
RCA 13GF7	Vert. Oscillator and Vert. Output
RCA 8FQ7	Horizontal Oscillator and Control
RCA 17JB6	Horizontal Sweep Output
RCA 17AY3	Damper
RCA 1G3/1B3GT	High Voltage Rectifier
RCA 19DQP4	Fixed Focus Kinescope

KRK124P VHF Tuner (TMA82A)

RCA 2CW4	R-F Amplifier
RCA 6KZ8	R-F Oscillator and Mixer

KRK120RD UHF Tuner

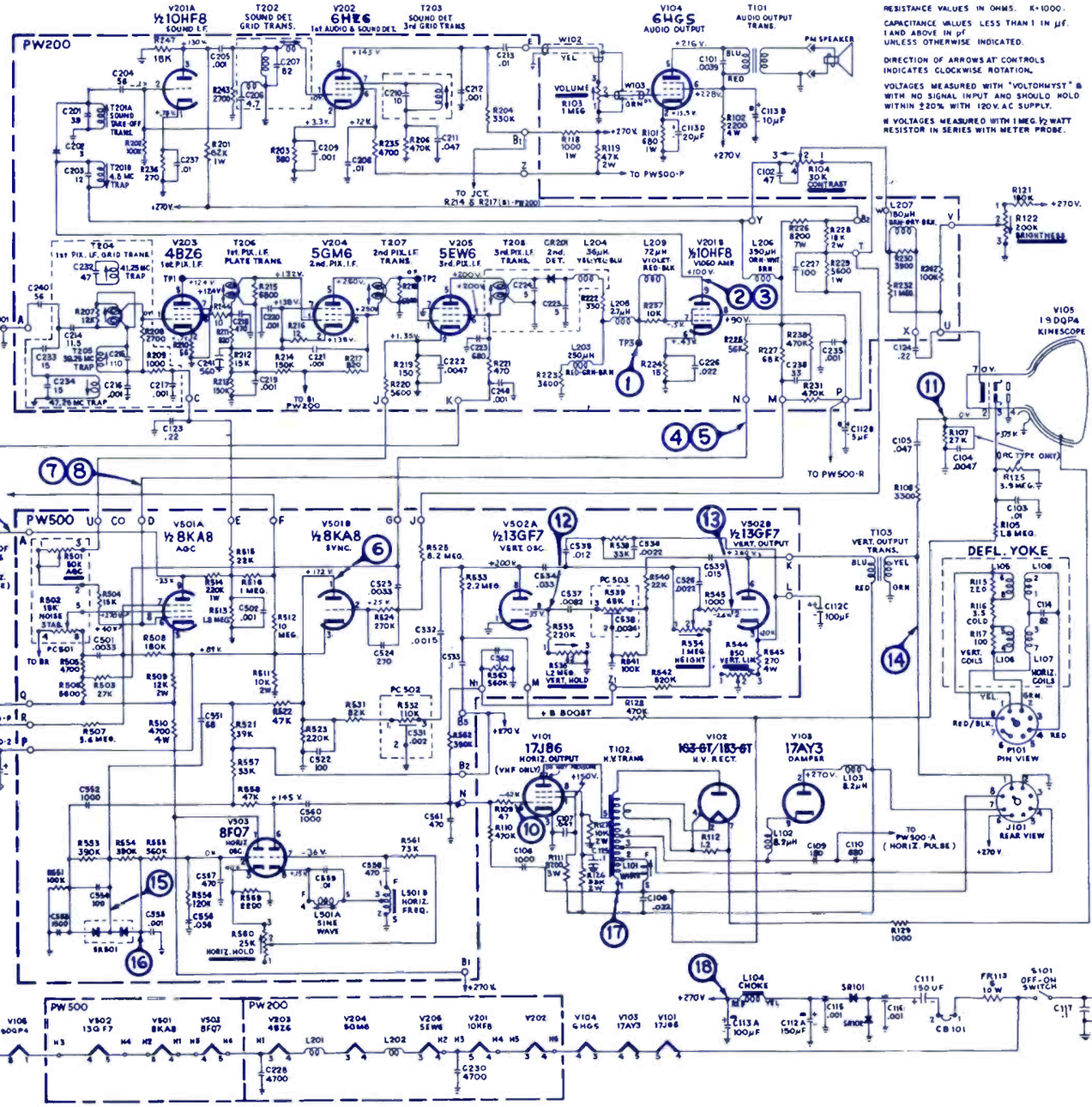
RCA S1037 Transistor	UHF Oscillator

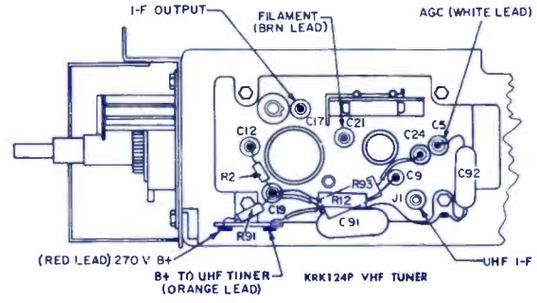
A 1N82 crystal is used as the UHF mixer.

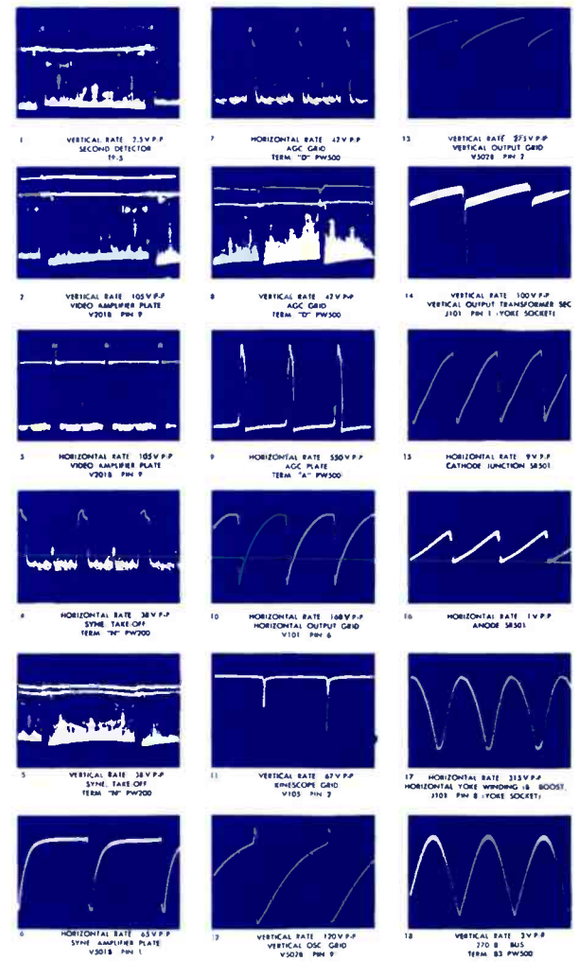
CHASSIS REMOVAL

The knobs must be removed from the brightness control, volume control, VHF tuner shaft, and the UHF tuner shaft in order to remove the chassis.

To disassemble the instrument, disconnect the VHF and UHF antennas. Remove six screws from receiver back (two at top and two at bottom), the screw at the AC power cord, and the screw just below the antenna input terminals, then remove the receiver back. Remove four hex-head nuts from tuner mounting assembly and remove assembly. Remove four hex-head fasteners (two at top and two at bottom of chassis). Disconnect the yoke plug and the two speaker pin plugs at speaker. Remove chassis partially and disconnect the second anode lead.



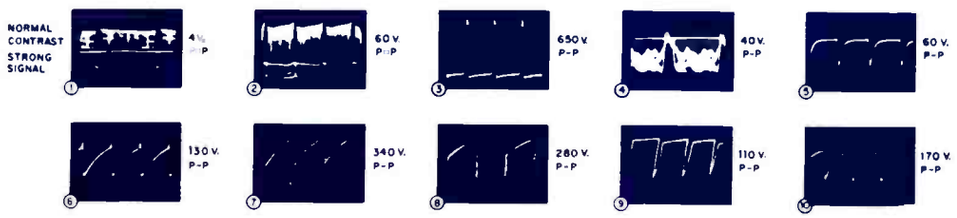




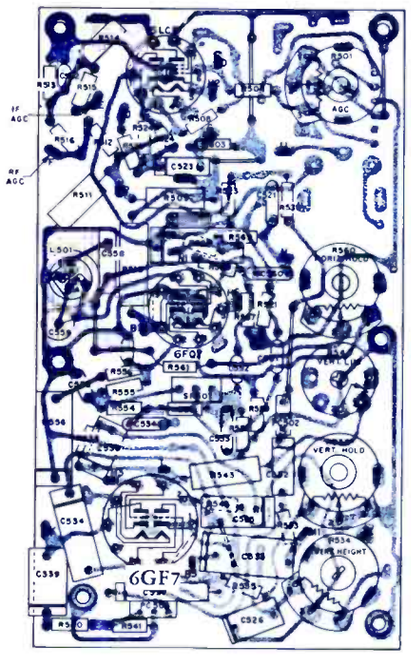
Balloons ①, ③, etc., shown on schematic indicate points of observation of the waveforms

RCA VICTOR
TV Chassis KCS 148

ELECTRONIC TECHNICIAN TEKFAX



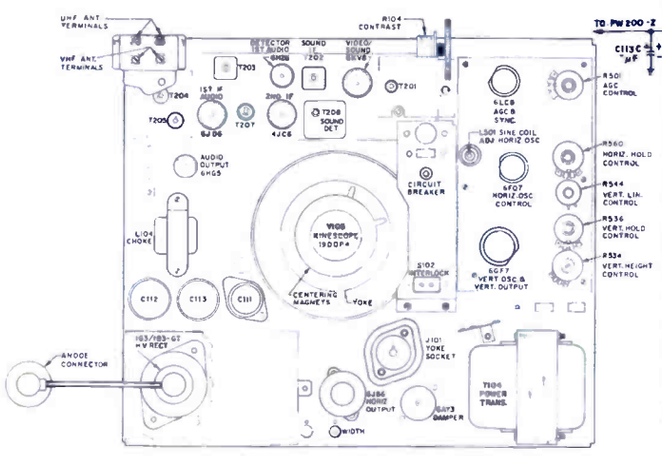
Symbol	Description	RCA Part No.
R103	Resistor-control, on-off-volume	114174
R122	Resistor-control, volume limiter	114173
S10	Switch-UHF tuner, TMA66B	112192
C101	ceramic-0.0039 μf, ±10%, 1000v	109060
C103	ceramic-0.01 μf, +100 − 0%, 1000v	113639
C109	ceramic-150 $\mu\mu$f, ±10%, 4000v, N2200	109955
C111	electrolytic-150 μf, 200v	107472
C112	electrolytic-150/5/100 μf, 350/350/50v	113167
C113	electrolytic-100/10/5/20 μf, 350/350/150/25 v	109689
C551	ceramic-82 $\mu\mu$f, ±10%, 500v, N750	104214
C560	ceramic-1000 $\mu\mu$f, ±10%, 100v	105778
CB101	Breaker-circuit	113950
CR201	Diode-crystal detector	112524
L104	Reactor-B+ filter choke	113256
L207	Coil-peaking 330 μh	113280
L209	Coil-peaking 47 μh	113281
L501	Coil-horizontal oscillator	109947
PC502	Circuit-printed component (includes C531, R532)	112628
PC503	Circuit-printed component (includes C538, R539)	109325
PW200	Circuit-printed IF and video circuit less tubes	114083
PW500	Circuit-printed deflection circuit (less tubes)	114082
R102	fixed film-2000Ω, ±10%, 4 w	113948
R104	Control-contrast	114081
R112	wirewound-0.47Ω, ±5%, 2w	113152
R121	180,000Ω, ±10%, ½ w	502418
R125	wirewound-8200Ω, ±5%, 7w	113150
R501	control-A.G.C.	113156
R510	fixed film-4700Ω, ±10%, 4w	112850
R534	control-height	113162
R536	control-vertical hold	113158
R543	wirewound-820,000Ω, ±10%, ½w	109384
R544	control-vertical linearity	113163
R560	control-horizontal hold	113157
R561	fixed film-73,000Ω, ±5%, ½w	113945
SR101, SR102	Rectifier-silicon	106379
SR501	Rectifier-selenium	109474
T101	Transformer-output	113100
T102	Transformer-hi-voltage	113599
T103	Tranformer-vertical output	113096
T104	Transformer-power	114343
T201	Transformer-sound take-off and 4.5 Mc trap	109949
T202	Transformer-sound detector grid (includes C206, C207)	109951
T203	Transformer-sound detector 3rd grid (includes C210, R205)	109948
T204	Transformer-1st pix IF grid trap	113425
T205	Transformer-1st pix IF grid	113097
T207	Transformer-2nd pix IF	109158
T208	Transformer-3rd pix IF	113099
Y501	Yoke-deflection	109532A



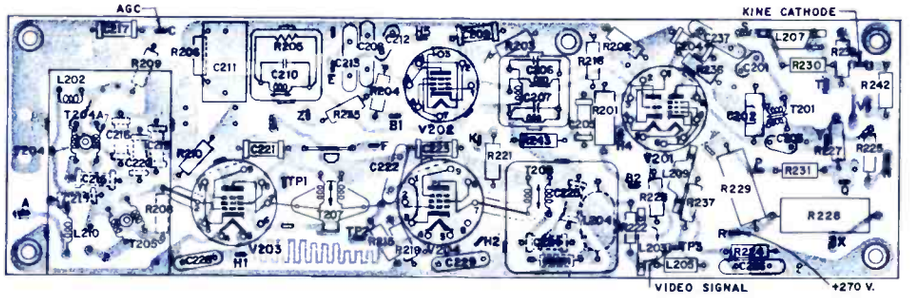
KRK114C VHF Tuner

6GK5.....R-F Amplifier

6KE8.....R-F Oscillator and Mixer



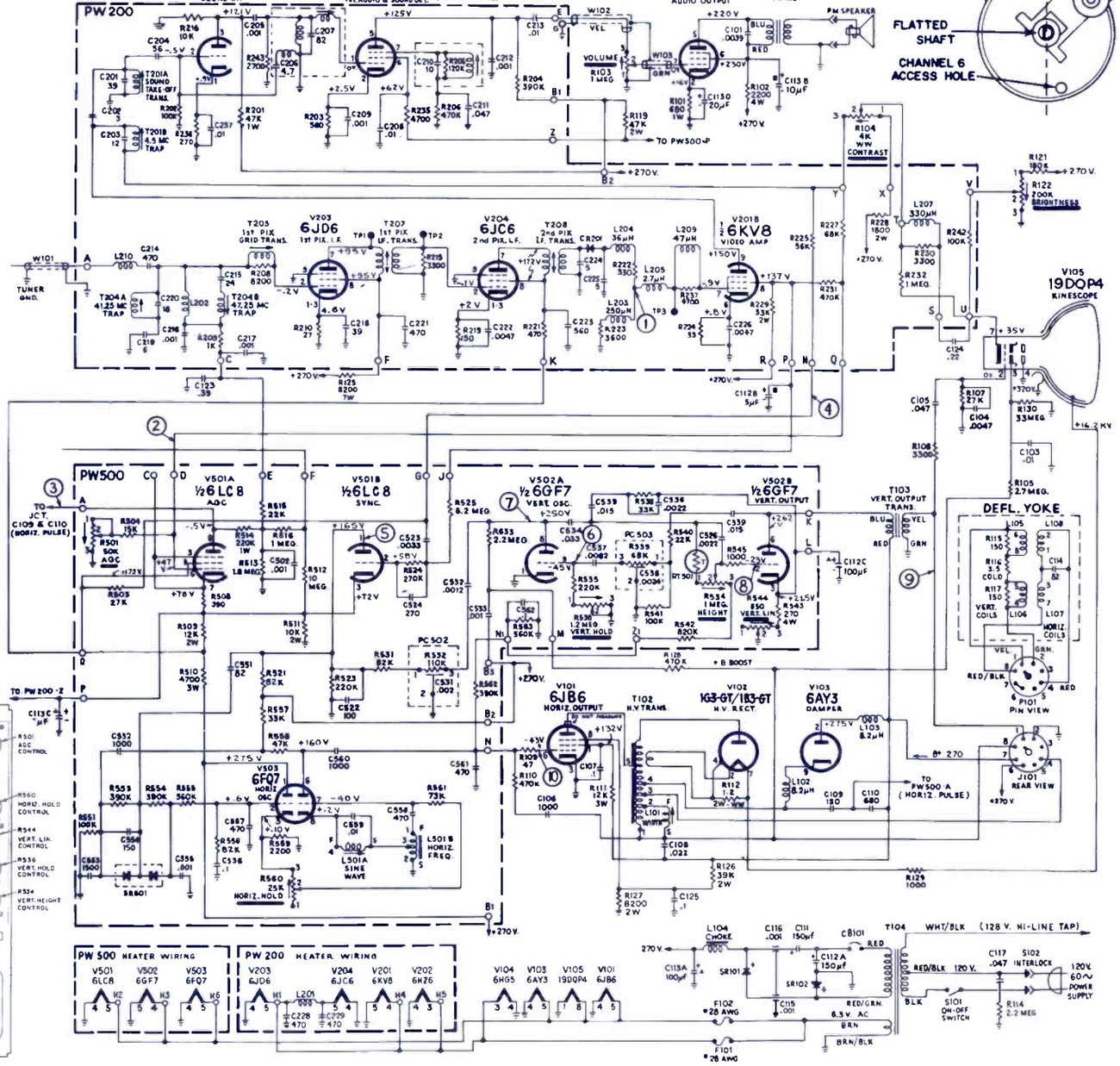
PW500 Deflection Board



KRK120JL, KL UHF Tuner

RCA Transistor.....UHF Oscillator

A 1N82 crystal is used as the UHF mixer.

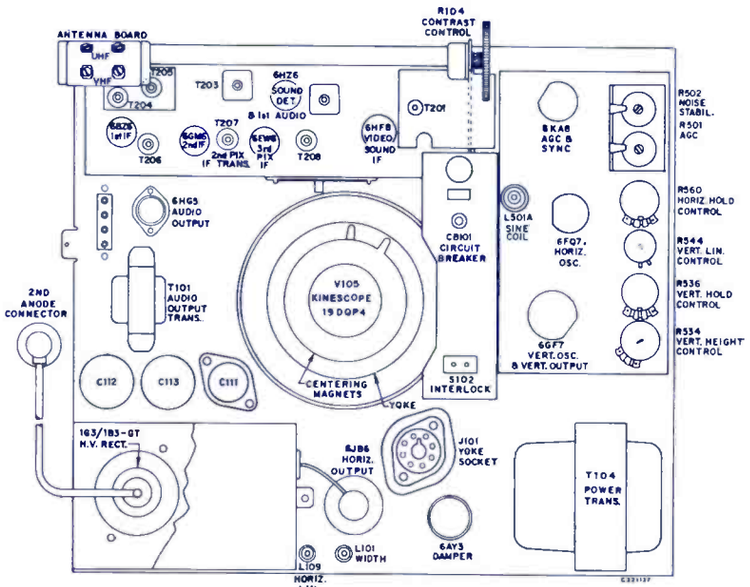


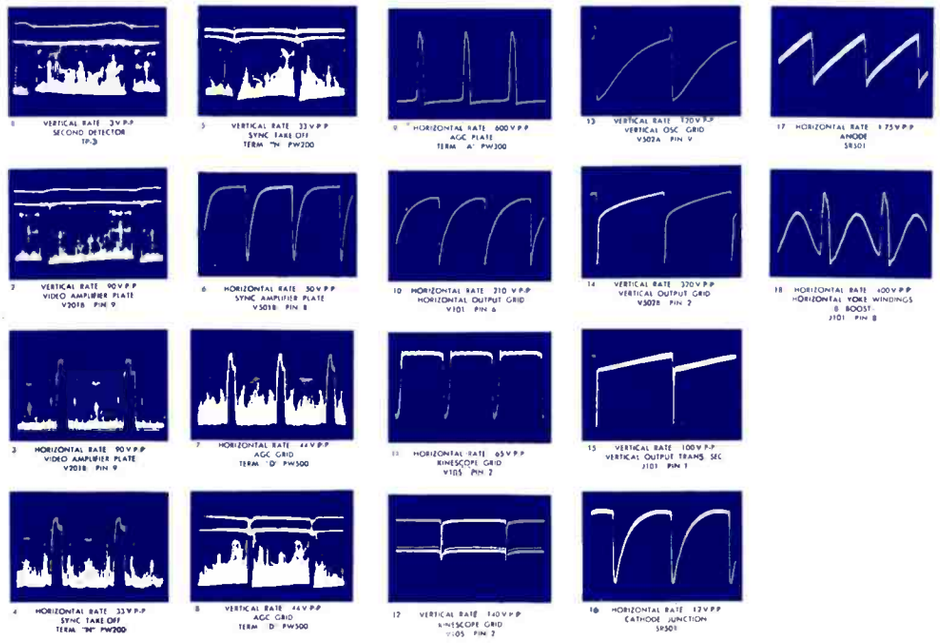
RCA VICTOR
TV Chassis
KCS149AA, AB, AD

ELECTRONIC TECHNICIAN TEKFAX

Type	Function
KRK124K (TMA81A, TMA105A), KRK124M (TMA81B) VHF Tuners	
RCA 6CW4 (Nuvistor)	VHF R-F Amplifier UHF I-F Amplifier
RCA 6KZ8	VHF R-F Oscillator and Mixer UHF I-F Amplifier
KRK120RC, RE UHF Tuners	
RCA S1037	UHF Oscillator

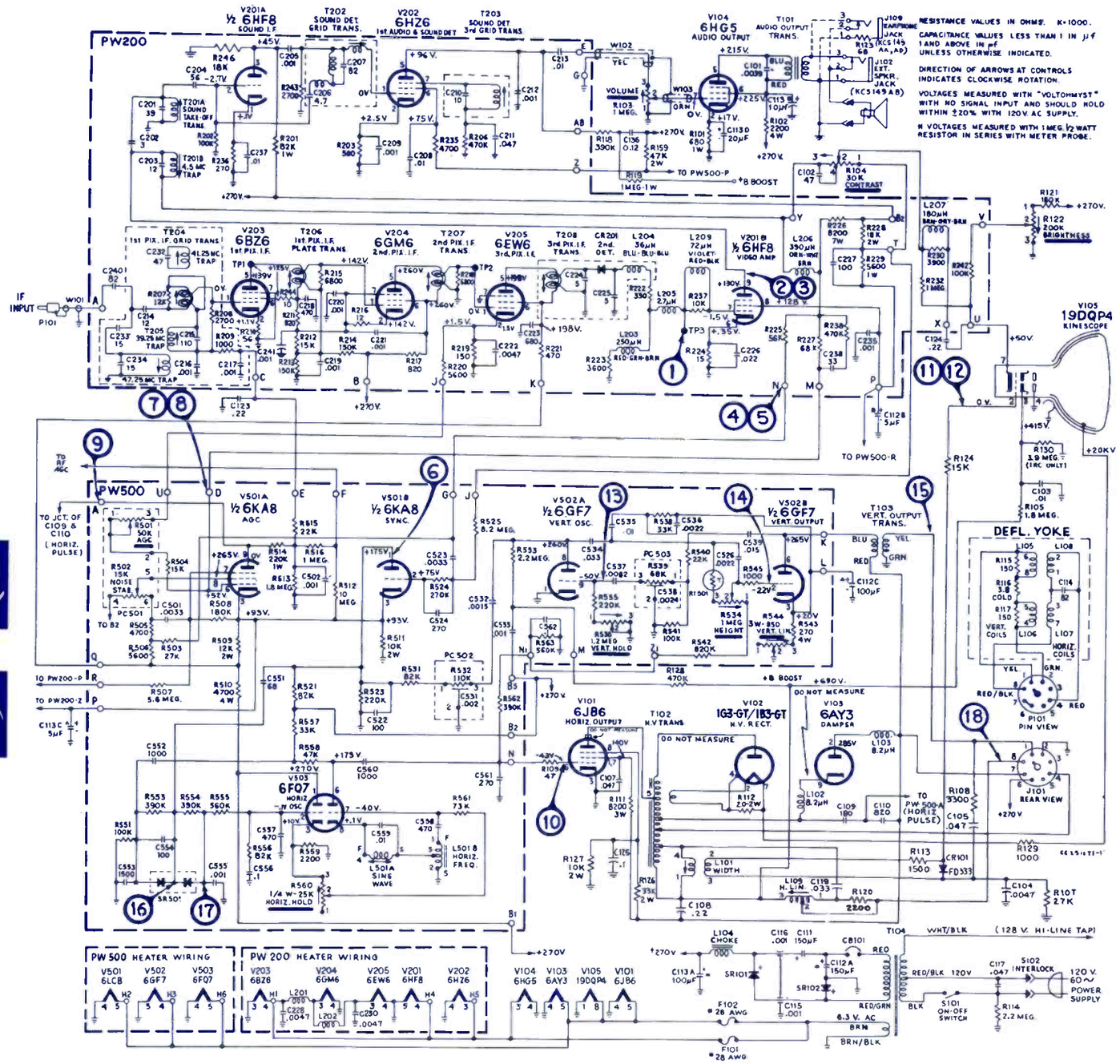
A 1N82 crystal is used as the UHF Mixer.





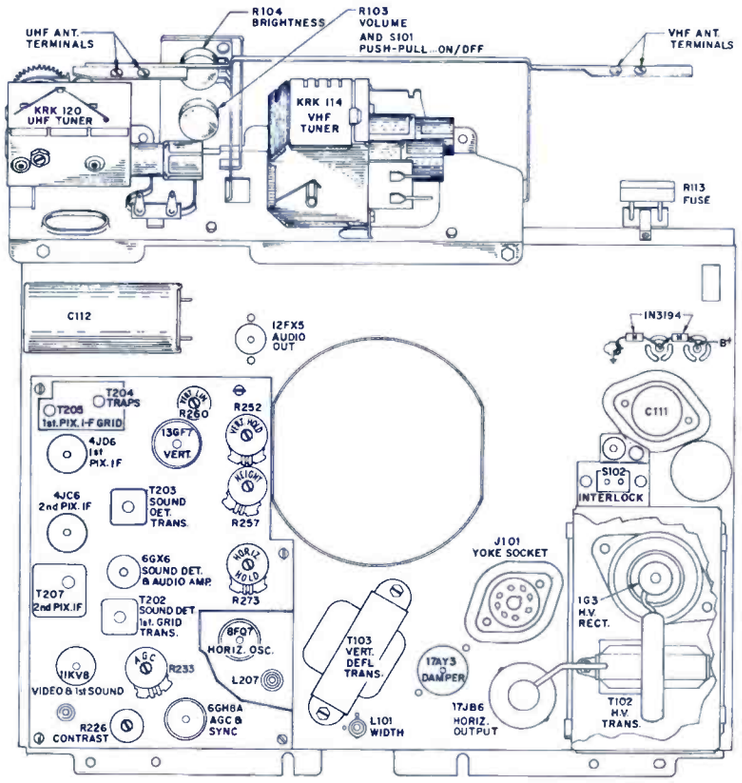
Balloons ①, ②, etc., shown on schematic indicate points of observation of the waveforms

Symbol	Description	RCA Part No.
C102	ceramic-47pf, ±1 pf, 500v	102882
C103	ceramic-0.01 μf, +80 −20%, 1000v	113639
C109	ceramic-180 pf, ±10%, 4000v N2200	112336
C110	ceramic-820pf, ±10%, 1000v	
C111	electrolytic-150 μf, 200v	107472
C112	3 section electrolytic	113167
A	150 μf, 350v	
B	5 μf, 350v	
C	100 μf, 50v	
C113	4 section electrolytic	109689
A	100 μf, 350v	
B	10 μf, 350v	
C	5 μf, 150v	
D	20 μf, 25v	
C522	ceramic-100pf, ±10%, 500v, N750	105674
C560	ceramic-1000pf, ±10%, 1000v	105778
CB101	Breaker-circuit	113950
CR101	Diode (FD333)	
L202	Reactor-choke	112509
R104	control-contrast	114166
R226	wirewound-8200Ω, ±10%, 7w	106975
R510	fixed film-4700Ω, ±10%, 4w	112850
R534	control-height	113162
R536	control-vertical hold	113158
R538	33,000Ω, ±5%, ½w	502333
R543	wirewound-270Ω, ±10%, 4w	109384
R544	control-vertical linearity	113163
R560	control-horizontal hold	113157
R561	73,000Ω, ±5%, ½w	113945
RT501	Thermistor-150,000Ω, ±10% at 25 degrees C	114342
SR101	Rectifier-silicon	113998
SR102	Rectifier-silicon	113998
T101	Transformer-output	113100
T102	Transformer-hi-voltage rectifier	114230
T103	Transformer-vertical output	113096
T104	Transformer-power	114343
T201	Transformer-4.5Mc sound take-off	109949
T202	Transformer-sound detector grid	109951
T203	Transformer-sound detector 3rd grid (includes C210-R205)	109948
T204	Transformer-1st pix IF grid	109323
T205	Transformer-1st IF grid trap	109322
T206	Transformer-1st IF pix	109071
T207	Transformer-2nd IF pix	109158
T208	Transformer-3rd IF pix	109076
C114	Capacitor-ceramic, 82pf, ±10%, 2000v (part of yoke)	107419
P101	Connector-7 pin male for deflection yoke	112728
R115	Resistor-150Ω, ±10%, ½w (part of yoke)	502115
R117	Resistor-150Ω, ±10%, ½w (part of yoke)	502115
R116	Thermistor-temperature compensating 3.8Ω cold (part of yoke)	107464
	Yoke-deflection	109962



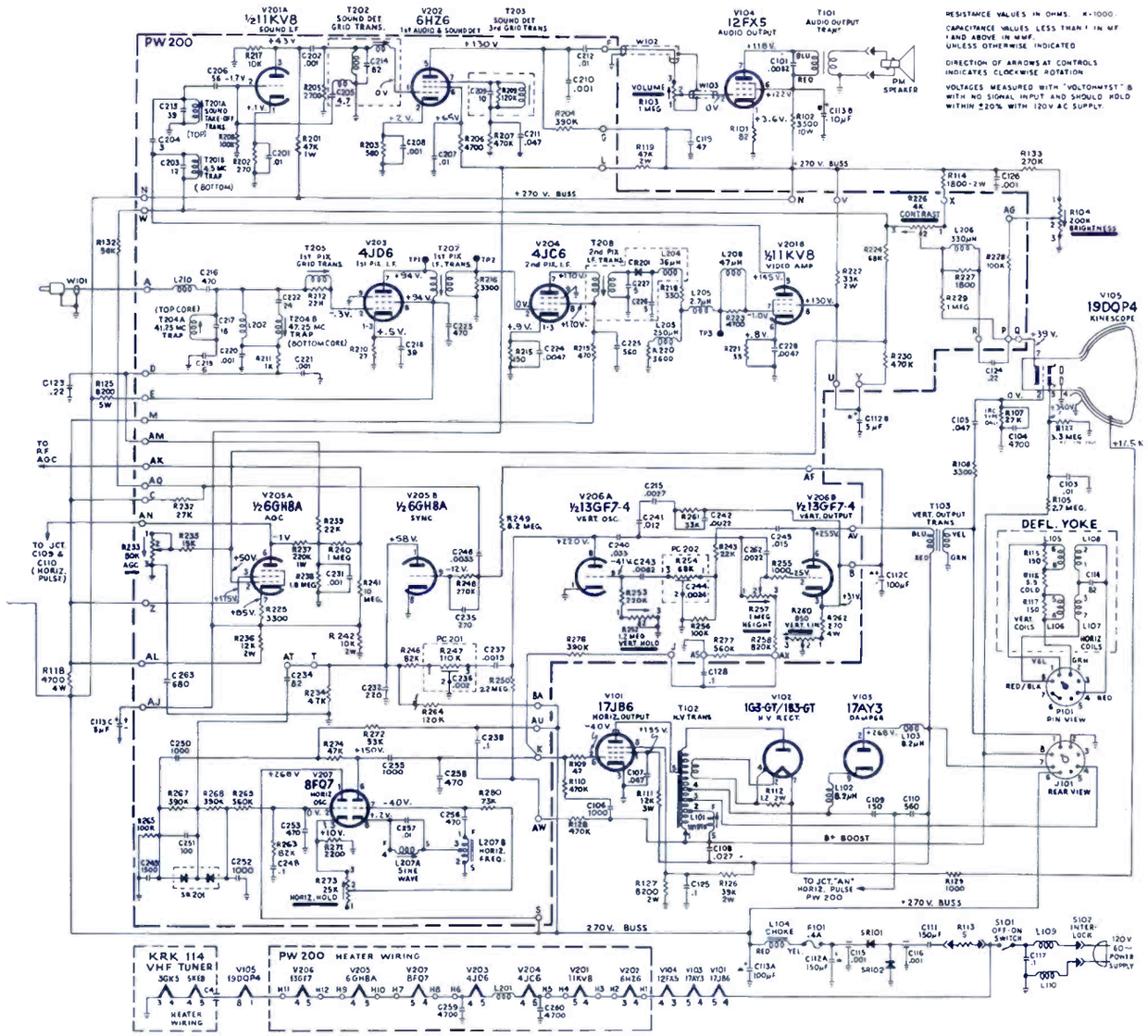
RCA VICTOR
TV Chassis KCS
151A

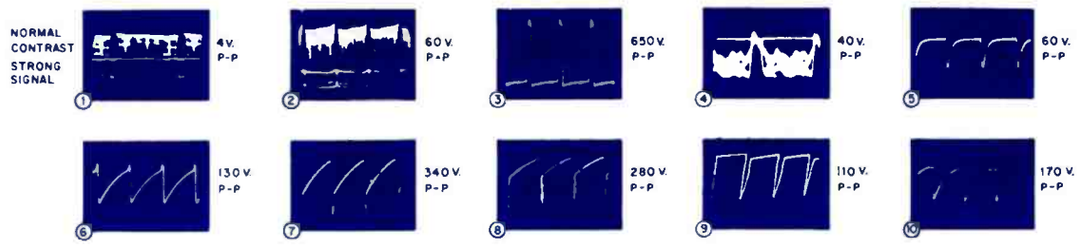
ELECTRONIC TECHNICIAN **TEKFAX**



Partial Parts List
RCA

Symbol	Stock No.	Description
R104	114214	Brightness control 200K
R226	114260	Contrast Control 4K
R257	113432	Height Control 1MΩ
R273	113157	Horiz Hold Control 25K
R252	114259	Vert Hold Control 1.2MΩ
R260	113434	Vert Lin Control 850Ω
R103	114215	Volume Control 1MΩ
T101	113428	Audio Output Transformer
T102	113436	Horiz Output Transformer
T103	113422	Vertical Output Transformer
	109532A	Deflection Yoke





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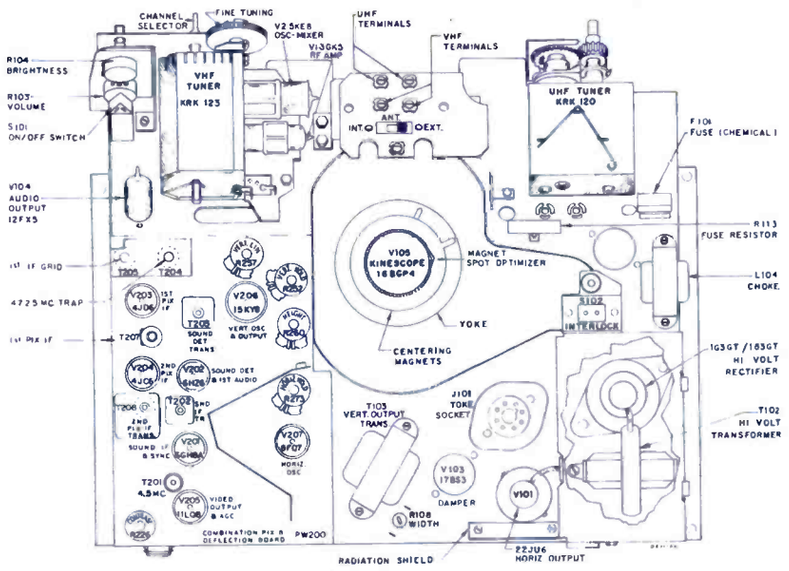


ELECTRICAL SPECIFICATIONS

ANTENNA INPUT IMPEDANCE.....75 ohms unbalanced
300 ohms balanced

AUDIO POWER OUTPUT.....1.5 watts maximum

FOCUS.....Electrostatic, Fixed Focus

INTERMEDIATE FREQUENCIES
Picture I-F Carrier Frequency.....45.75 mc.
Sound I-F Carrier Frequency.....41.25 mc.

PICTURE SIZE.....Approx. 125 ins. on a 16BGP4 Kinescope

POWER INPUT.....120 Volts AC, 60 Cycle

POWER RATING.....115 watts

SWEEP DEFLECTION.....Magnetic

TELEVISION R-F FREQUENCY RANGE
All Models
Any of 12 VHF Channels....54 mc. to 88 mc., 174 mc. to 216 mc.
Any of 70 UHF Channels.....470 mc. to 890 mc.

VIDEO RESPONSE.....to 3.2 mc.

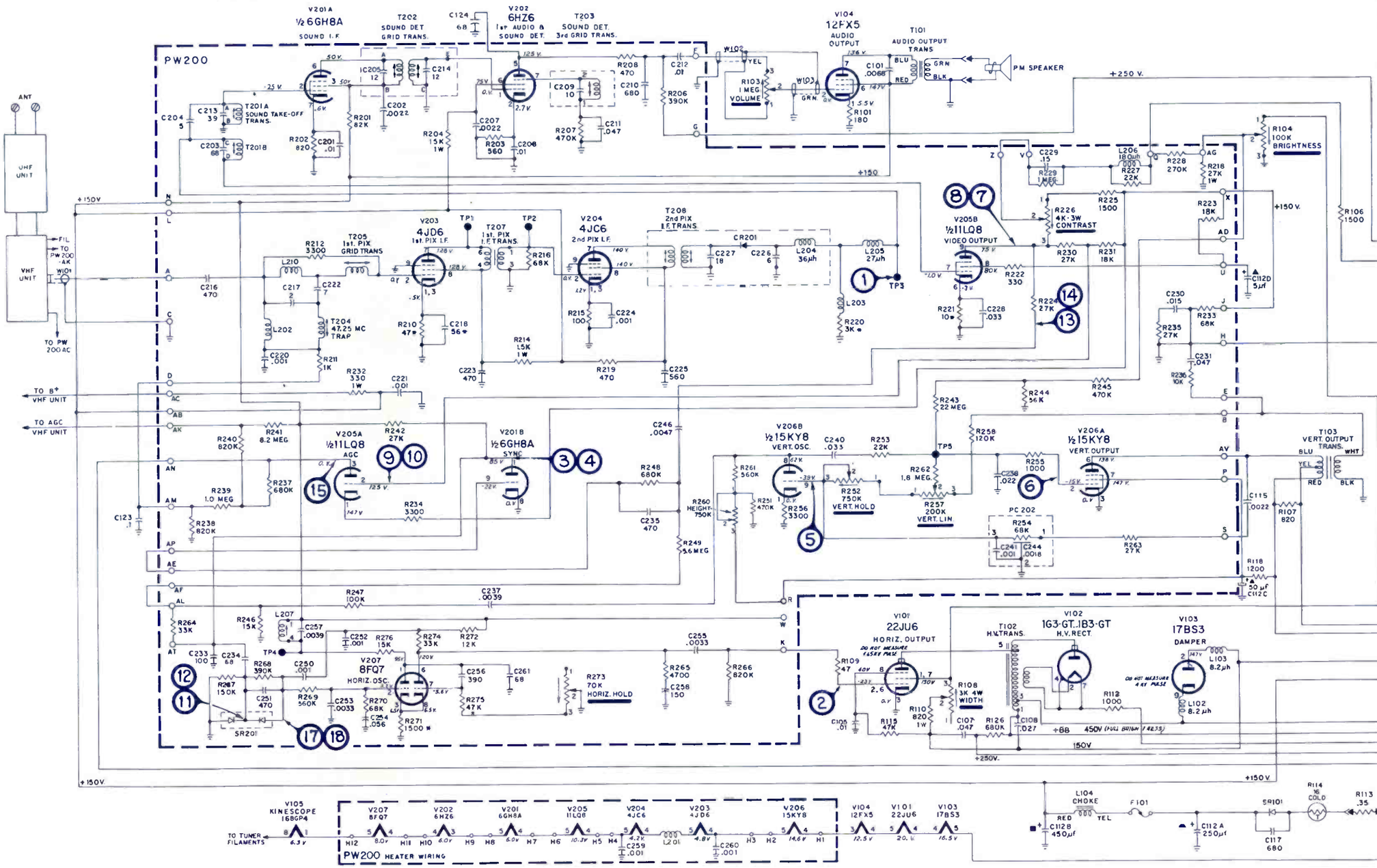
RCA TUBE AND TRANSISTOR COMPLEMENT

Type	Function
KCS152 Chassis	
RCA 4JD6	1st Picture I-F Amplifier
RCA 4JC6	2nd Picture I-F Amplifier
RCA 6GH8A	Sync Sep. and Sound I-F Amplifier
RCA 6HZ6	Sound Det. and Audio Amp.
RCA 12FX5	Audio Output
RCA 11LQ8	Video Output and AGC
RCA 15KY8	Vert. Osc. & Vert. Output
RCA 8FQ7	Horizontal Sweep Oscillator and Control
RCA 22JU6	Horizontal Sweep Output
RCA 17BS3	Damper
RCA 1G3GT/1B3GT	High Voltage Rectifier
RCA 16BGP4	Kinescope

A crystal diode for the Picture 2nd Detector.
An RCA type 1N1394 silicon rectifier is used for low voltage rectification.

Type	Function
KRK123A VHF Tuner (TMA79C)	
RCA 3GK5	R-F Amplifier
RCA 6KZ8	R-F Oscillator and Mixer
KRK120JU, KU, LU UHF Tuner	
RCA SE1037 (JU)	UHF Oscillator
RCA 35449 (KU)	UHF Oscillator
RCA GM770 (LU)	UHF Oscillator

A 1N82 crystal is used as the UHF Mixer.

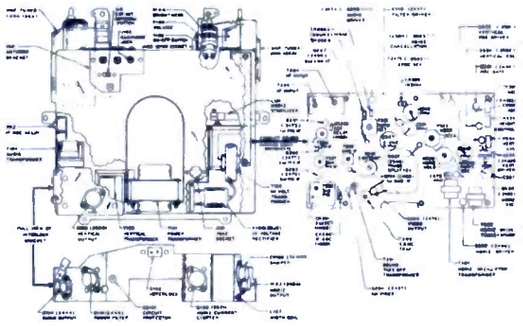


1. ALL RESISTANCE VALUES ARE IN OHMS.
2. K = 1000
3. ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN μf, 1.0 AND ABOVE ARE IN μf, EXCEPT AS INDICATED.
4. * INDICATES 5%.
5. ALL RESISTORS ARE ½ WATT, EXCEPT AS INDICATED.

DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.

ALL VOLTAGES WITH NO SIGNAL.

RCA VICTOR
TV Chassis KCS153



ELECTRICAL SPECIFICATIONS

ANTENNA INPUT IMPEDANCE ..... VHF, 75 ohm unbalanced and 300 ohm balanced
UHF, 300 ohm balanced

AUDIO POWER OUTPUT RATING ..... 0.75 Watts Max.

MODEL AND CHASSIS CROSS REFERENCE

Model	Name	Chassis	Tuners	Kinescope	Earphone	Antenna
AG-005J	*"GAMIN"*	KCS153A	KRK126A 122A	12BNP4	No	Monopole
AG-013E,N,Y	*"DAPPER"*	KCS153B	KRK126A 122A	12BNP4	Yes	Monopole

The letter following the third numeral in the model number designates the cabinet finish as follows: E—BLACK/FOG WHITE, J—ALABASTER/SAFARI BROWN, N—TUSKON IVORY/MOON MIST GOLD, Y—FOG WHITE/BLACK/TERRA COTTA BROWN.

Symbol	Description	RCA Part No.
C101	Electrolytic—1000 μf, 50v	116024
C102	Feed-Thru, 0.001 μf, +100 —0%, 500v	116040
C103	Feed-Thru, 0.001 μf, +100 —0%, 500v	116040
C104	Feed-Thru, 0.001 μf, +100 —0%, 500v	116040
C105	Electrolytic—100 μf, 50v	116023
C201	Ceramic, 12 pf, ±5%, 500v, NPO	
C202	Electrolytic, —5 μf, 10v	116032
C206	Ceramic, —5 pf, ±0.5 pf, 500v, N150	116026
C207	Ceramic, 4 μf, ±0.5 pf, 500v, N150	116027
C209	Ceramic, 18 pf, ±5%, 500v, NPO	
C214	Electrolytic, 100 μf, 25v	116038
C227	Ceramic, 10pf, ±10%, 500v, NPO	103847
C230	Ceramic, 100 pf, ±20%, 500v, N1500	
C235	Ceramic, 18pf, ±5%, 500v, N150	116028
C242	Ceramic, 39 pf, ±10%, 500v, NPO	

Type	Function
Q101 (2466 Transistor)	Power Filter
Q102 (2494 Transistor)	Horizontal Output
Q103 (2500 Transistor)	Vertical Output
Q104 (2444 Transistor)	Audio Output
Q108 (2671 Transistor)	Horizontal Current Limiter
Q201 (2473 Transistor)	1st Video IF
Q202 (2477 Transistor)	2nd Video IF
Q203 (2476 Transistor)	3rd Video IF
Q204 (2427 Transistor)	1st Video Amplifier
Q205 (2474 Transistor)	Video Output
Q206 (2450 Transistor)	1st Sound IF
Q207 (2450 Transistor)	2nd Sound IF
Q208 (2443 Transistor)	Audio Driver
Q501 (2448 Transistor)	AGC Gate
Q502 (2475 Transistor)	Sync Separator
Q503 (2584 Transistor)	Noise Cancellation
Q504 (2502 Transistor)	Vertical Oscillator
Q505 (2501 Transistor)	Vertical Pre-Driver
Q506 (2482 Transistor)	Vertical Driver
Q507 (2546 Transistor)	Phase Splitter
Q508 (2495 Transistor)	Horizontal Oscillator
Q509 (2496 Transistor)	Horizontal Driver
Q510 (2474 Transistor)	Filter Driver
V106 RCA 2BJ2	Hi Voltage Rectifier
V107 RCA 12BNP4	Kinescope
CR101-104 (40266 Diode)	Rectifier, F.W. Bridge

Type	Function
CR105 (TA115 Diode)	Damper
CR106 (Zener Diode)	AGC Delay Voltage
CR107 (G100B Diode)	Current Limiter
CR201 (1N60 Diode)	2nd Detector
CR202 (1N60 Diode)	AGC
CR203A/B (1N542 Diodes—Matched Pair)	Ratio Detector
CR204 (1N60 Diode)	AGC Delay
CR501 (FD333 Diode)	RF AGC
CR503 (FD333 Diode)	Vertical
CR504A/B (1N60 Diodes—Matched Pair)	AFC
CR506 (1N60 Diode)	Horizontal Oscillator
CR507 (1N3194 Diode)	Horizontal Drive
CR508 (1N3254 Diode)	Horizontal Protection
CR509 (1N3194 Diode)	Rectifier

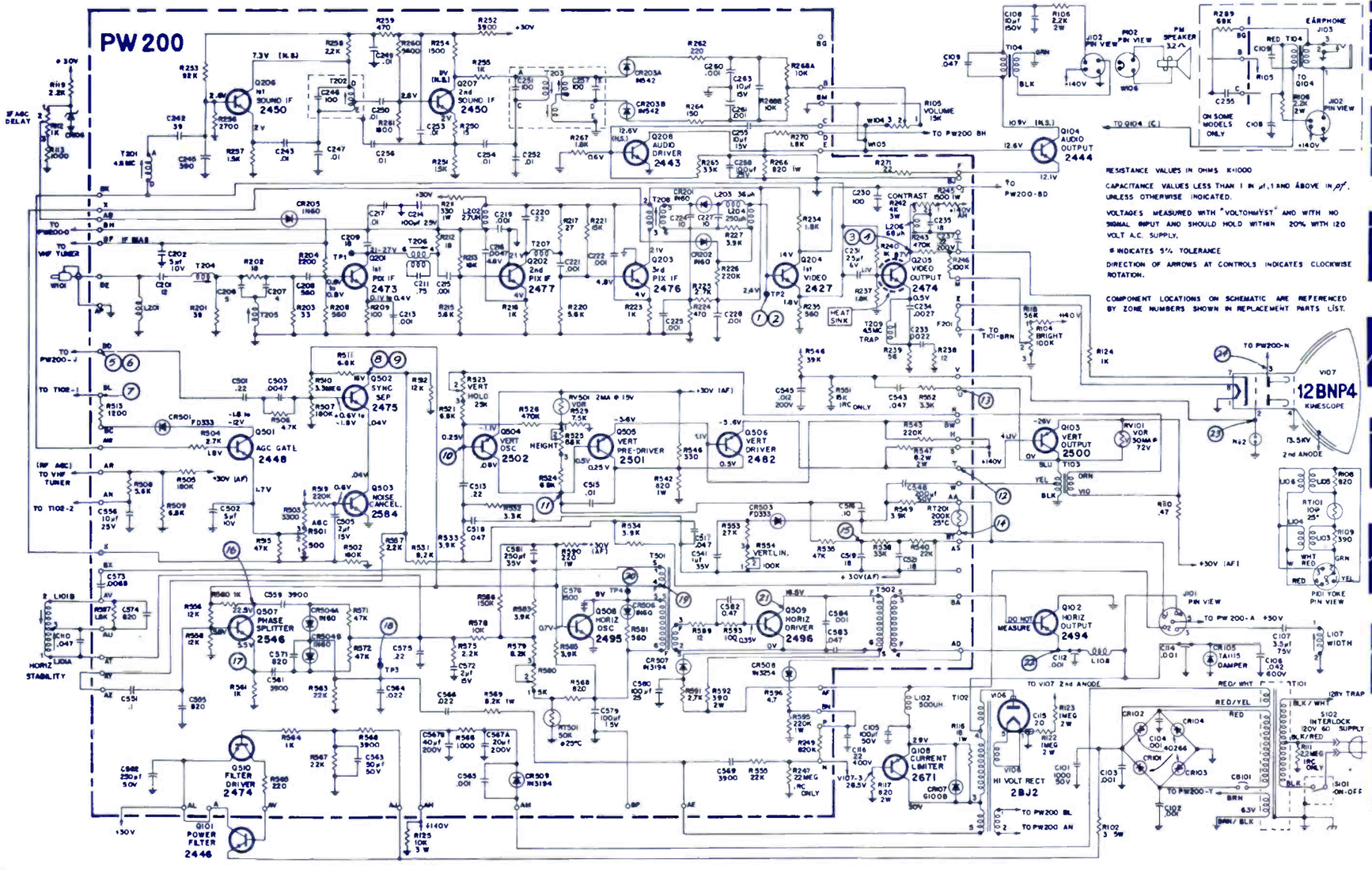
KRK126A VHF Tuner

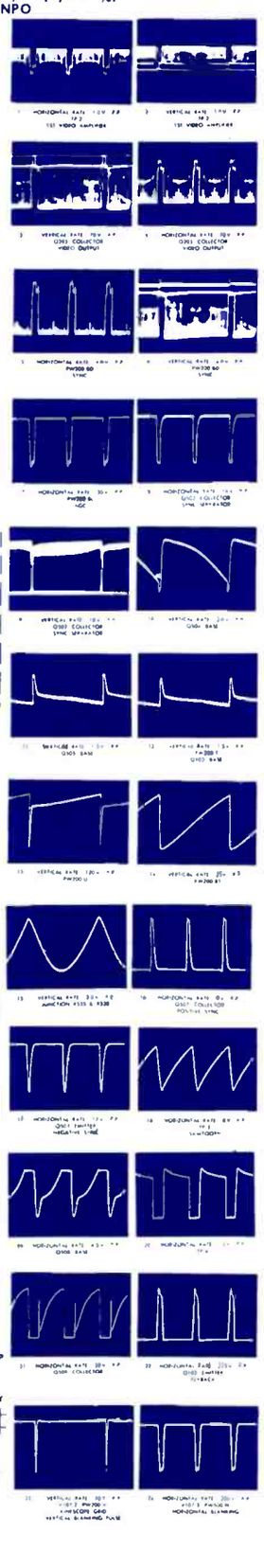
Q1 (2633 Transistor)	RF Amplifier
Q2 (2636 Transistor)	Mixer
Q3 (2634 Transistor)	Oscillator
CR1 (1N60)	Rectifier

KRK122A UHF Tuner

Q51 (B5449 Transistor)	UHF Oscillator
CR51 (1N82AG Crystal)	Mixer

NOTE: The transistors used in these receivers are selected to perform efficiently in a specific circuit function. Order replacement transistors by Stock Number from your authorized RCA Distributor.

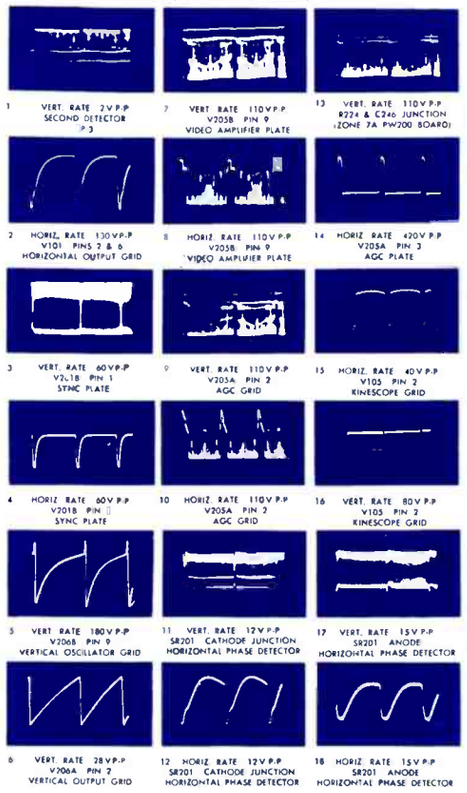




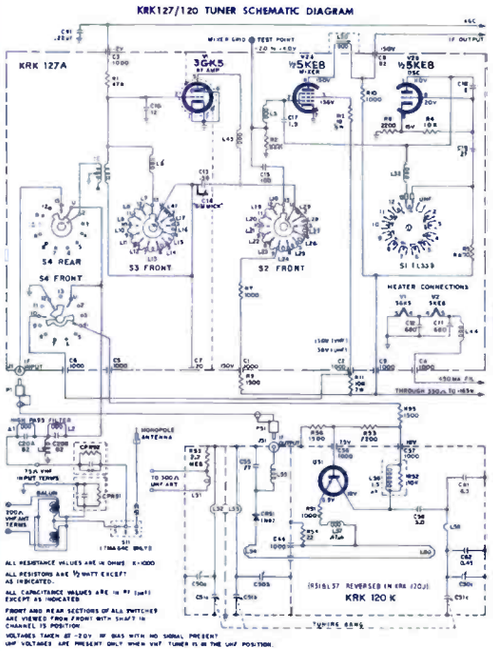
C567	2 section electrolytic	116025
A	20 μf, 200v	
B	40 μf, 200v	
C572	Electrolytic, 2 μf, 15v	116020
CB101	Breaker-Circuit 1.9 amp	116039
CR101	Rectifier, F.W. Bridge 40266	116051
CR102	Rectifier, F.W. Bridge 40266	116051
CR103	Rectifier, F.W. Bridge 40266	116051
CR104	Rectifier, F.W. Bridge 40266	116051
CR105	Diode, Damper TA115	116053
CR106	Diode, Zener 400 MW, 5ma	116049
CR107	Diode, Limiter Profection G100B	116055
CR201	Diode, 2nd Detector 1N60	112524
CR202	Diode, A.G.C. 1N60	112524
CR203	Diode-Sound 1N542 (matched pair)	116050
CR205	Diode, A.G.C. Delay 1N60	112524
CR501	Diode, A.G.C. FD333	116052
CR503	Diode, Vertical FD333	116052
CR504	Diode, A.F.C. 1N60 (matched pair)	116048
CR506	Diode, Horizontal Oscillator 1N60	112524
CR507	Diode, Horizontal Drive 1N3194	113998
CR508	Diode, Horizontal Protection 1N3254	116054
CR509	Rectifier, 1N3194	113998
PW200	Circuit, Printed IF, Video & Sound Circuit	116065
Q101	Transistor, Power Filter 2466	116076
Q102	Transistor Horizontal Output 2494	116086
Q103	Transistor, Vertical Output 2500	116089
Q104	Transistor, Audio Output 2444	116075
Q108	Transistor, Horizontal Current Limiter 2671	116093
Q201	Transistor, 1st Video IF 2473	116080
Q202	Transistor, 2nd Video IF 2477	116083
Q203	Transistor, 3rd Video IF 2476	116082
Q204	Transistor, 1st Video amp 2427	116073
Q205	Transistor, Video Output 2474	116081
Q206	Transistor, 1st Sound IF 2450	116079
Q207	Transistor, 2nd Sound IF 2450	116079
Q208	Transister, Audio Driver 2443	116074
Q501	Transistor, AGC Gate 2448	116078
Q502	Transistor, Sync Sep. 2475	115875
Q503	Transistor, noise cancellation 2584	116085
Q504	Transistor, Vertical Oscillator 2502	116091
Q505	Transistor, Vertical Pre-Driver 2501	116090
Q506	Transistor-Vertical Driver 2482	116084
Q507	Transistor, Phase Splitter 2546	116092
Q508	Transistor, Horizontal Oscillator 2495	116087
Q509	Transistor, Horizontal Driver 2496	116088
Q510	Transistor, Filter Driver 2447	116077
R102	Wirewound, 3Ω, ±10%, 4w	116098
R104	Control-Bright.	116104
R105	Control-Vol. (includes S101)	116104
R106	2200Ω, ±10%, 2w	522222
R110	WW, 0.47Ω, ±10%, 2w	115604
R125	Fixed Film, 10,000Ω, ±10%, 3 w	213765
R242	Control, Contrast	116343
R268	A/B 10,000Ω, ±2%, ½w (matched pair)	116099
R501	Control, AGC	116106
R525	Control, Height	116107
R554	Control, Vertical Linearity	116108
R566	Fixed Film, 1000Ω, ±10%, 3w	106042
R571	47,000Ω, ±2%, ½w (matched pair)	116512
R572	47,000Ω, ±2%, ½w (matched pair)	116512
RT201	Thermistor, 200,000Ω at 25 degrees centigrade	116110
RT501	Thermistor, 50,000Ω, at 25 degrees centigrade	116109
RV101	Thermistor, 30 ma at 72v	116103
RV501	Thermistor, 2 ma at 15v	116102
T101	Transformer, Power	116123
T102	Transformer, Hi-Voltage	116122
T103	Transformer, Vertical Output	116119
T104	Transformer, Output	116118
T201	Coil, 4.5 Mc Sound Take-Off	116117
T202	Transformer, Sound IF (includes C246)	116121
T203	Transformer, Ratio Detector (includes C251-C257)	116120
T204	Transformer, IF Input	113097
T205	Transformer, IF Input	113097
T206	Coil, 1st Pix IF	116115
T207	Transformer, 2nd Pix IF	116114
T208	Transformer, 3rd Pix IF	116116
T209	Transformer, 4.5 Mc Trap	116114
T501	Transformer, Horizontal Oscillator	116124
T502	Transformer, Horizontal Drive	116125
	Balun, Antenna Matching	111973

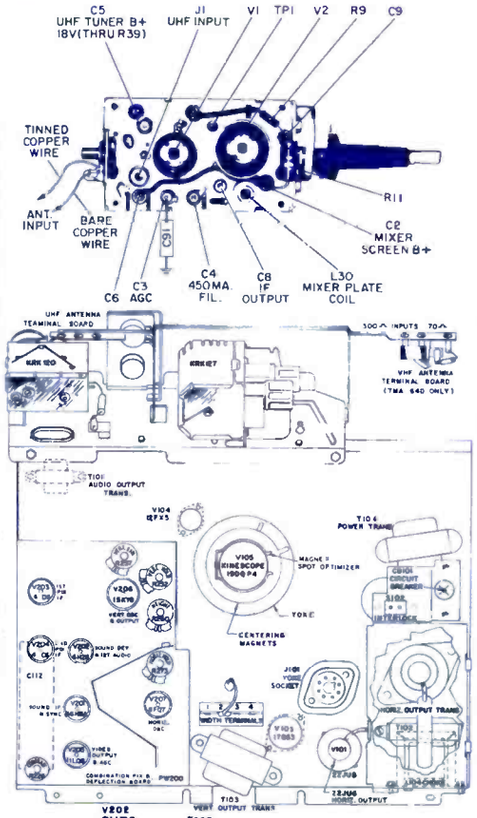
RCA VICTOR
TV Chassis KCS-155

KCS155 WAVEFORMS



KRK127/120 TUNER SCHEMATIC DIAGRAM





RCA TUBE AND TRANSISTOR COMPLEMENT

Type	Function
RCA 4JD6	1st Picture I-F Amplifier
RCA 4JC6	2nd Picture I-F Amplifier
RCA 6GH8A	Sync. Sep. and Sound I-F Amp.
RCA 6HZ6	Sound Det. and Audio Amp.
RCA 12FX5	Audio Output
RCA 11LQ8	Video Output and AGC
RCA 15KY8	Vert. Osc. & Vert. Output
RCA 8FQ7	Horizontal Sweep Oscillator and Control
RCA 22JU6	Horizontal Sweep Output
RCA 17BS3	Damper
RCA 1G3GT/1B3GT	High Voltage Rectifier
RCA 19DQP4 Pan-o-ply	Kinescope

A crystal diode is used for the Picture 2nd Detector.

A RCA type 1N3194 silicon rectifier is used for low voltage rectification.

KRK127A VHF Tuner (TMA64C, D)

RCA 3GK5	R-F Amplifier
RCA 5KE8	R-F Oscillator and Mixer

KRK120JU, KU UHF Tuner

RCA S1037 (JU)	UHF Oscillator
RCA 35449 (KU)	UHF Oscillator

A 1N82 crystal is used as the UHF mixer.

ELECTRICAL SPECIFICATIONS

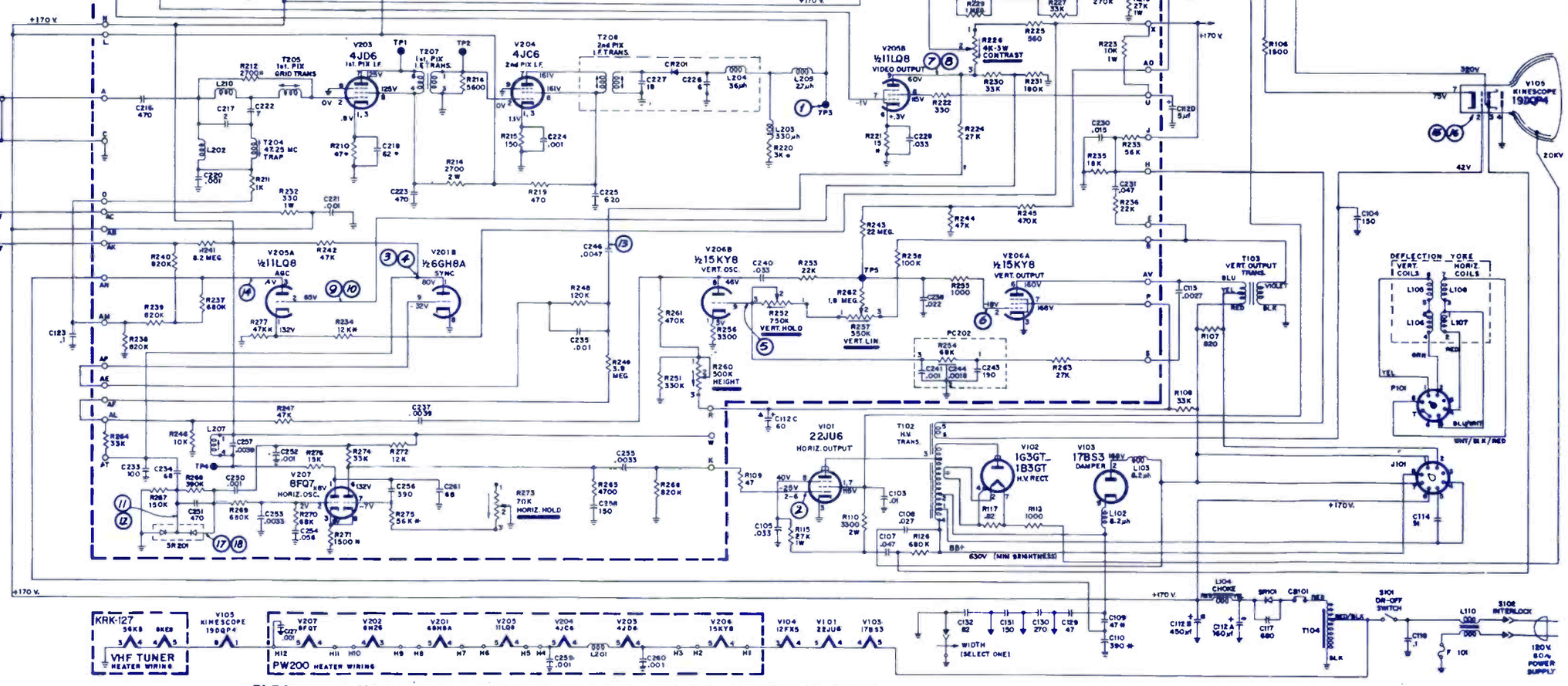
ANTENNA INPUT IMPEDANCE	75 ohm unbalanced 300 ohms balanced
AUDIO POWER OUTPUT RATING	1.5 watts maximum
FOCUS	Electrostatic, Fixed Focus
INTERMEDIATE FREQUENCIES	
Picture I-F Carrier Frequency	45.75 mc.
Sound I-F Carrier Frequency	41.25 mc.
PICTURE SIZE	Approx. 172 sq. in. on a 19DQP4 Kinescope
POWER INPUT	120 Volts AC, 60 Cycle
POWER RATING	160 Watts
SWEEP DEFLECTION	Magnetic
TELEVISION R-F FREQUENCY RANGE	
Any of 12 VHF Channels	54 mc. to 88 mc., 174 mc. to 216 mc.
Any of 70 UHF Channels	470 mc. to 890 mc.
VIDEO RESPONSE	To 3.2 mc.

MODEL AND CHASSIS CROSS REFERENCE

Model	Name	Chassis	TMA	Tuners	Kinescope	Antennas VHF/UHF
AG-050E, J	*"PICKWICK"*	KCS155A	64C	KRK127A/120JU	19DQP4	Monopole/Ring
AG-065E, H, Y	*"SPORTSMAN"*	KCS155B	64D	KRK127A/120JU	19DQP4	Dipole/Ring

The letters following the third numeral in the model number designate the cabinet finish as follows: E—STORM GRAY/SAFARI BROWN, BLACK PEARL/FOG WHITE, H—KLONDIKE GOLD/FOG WHITE, J—ALABASTER/SAFARI BROWN, Y—HONEY BEIGE DANISH LINEN TEXTURE ROLLER GRAIN VINYL/ICEBERG WHITE.

Symbol	Description	RCA Part No.
R93	resistor, 1500Ω, ±10% ½w	502215
R103	control, on off volume, TMA64C	114215
R104	control, brightness	115445
	balun, antenna matching	111973
C109	ceramic, 47 pf, ±5%, 5000v N1500	115423
C110	ceramic, 390 pf, ±5%, 500v, N750	116010
C114	ceramic, 51 pf, ±10%, 2500v N1500	115423
C115	paper, 0.0027 μf, ±10%, 1000v	115424
C129	ceramic, 47 pf, ±10%, 5000v N1500	115425
C130	ceramic, 270 pf, ±10%, 2000v N1500	107419
C131	ceramic, 150 pf, ±10%, 2000v N1500	104224
C132	ceramic, 82 pf, ±10%, 2000v N1500	
C133	ceramic, 68 pf, ±20%, 500v	
C204	ceramic, 5 pf, ±0.5 pf, 500v NPO	
C217	ceramic, 2 pf, ±0.25 pf, 500v NPO	
C218	ceramic, 62 pf, ±5%, 500v, N750	
C237	ceramic, 0.0039 μf, ±10%, 500v N5600	114485
L205	reactor-RF choke, 2.7 μh	109463
L207	coil-horizontal frequency	114486
R226	control-contrast	114260
R257	control-vertical lin	115433
R260	control-height	115434
R273	control-horiz hold	114494
SR101	diode-silicon 1N3194	113998
SR201	diode-selenium	109474
T101	transformer-output	115428
T102	transformer-hi-voltage	115422
T103	transformer-vertcal output	115431
T104	transformer-power	115421
T201	transformer-4.5 Mc sound take off	114489
T202	transformer-sound detector grid	109948
T203	transformer-sound detector 3rd grid	113097
T204	transformer-1st pix grid trap	113097
T205	transformer-1st pix IF grid	113097
T207	transformer-1st pix IF	109158
T208	transformer-2nd pix IF	114317
	yoke-deflection	115457



ALL RESISTANCE VALUES ARE IN OHMS K = 1000

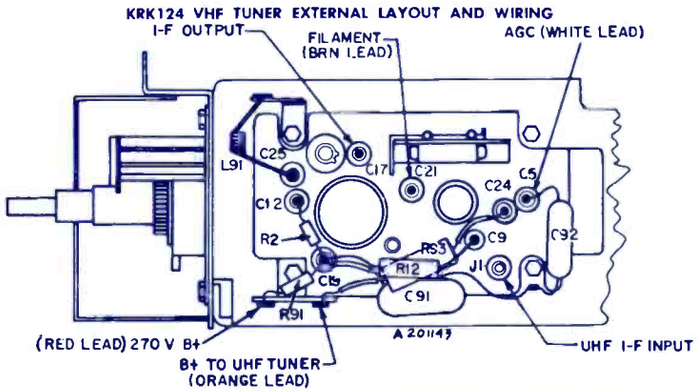
ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN μf, 1.0 AND ABOVE ARE IN μf, EXCEPT AS INDICATED.

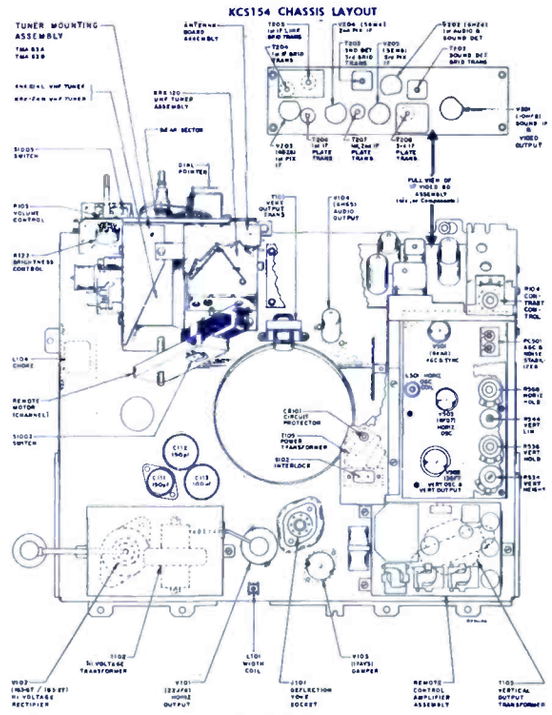
# INDICATES 5%.

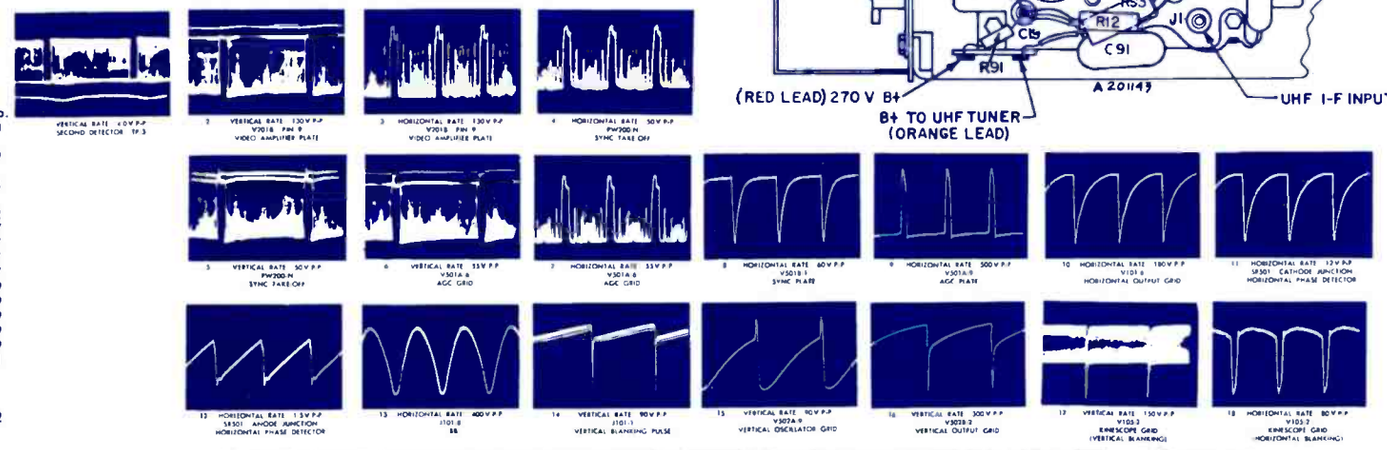
ALL RESISTORS ARE ½ WATT, EXCEPT AS INDICATED.

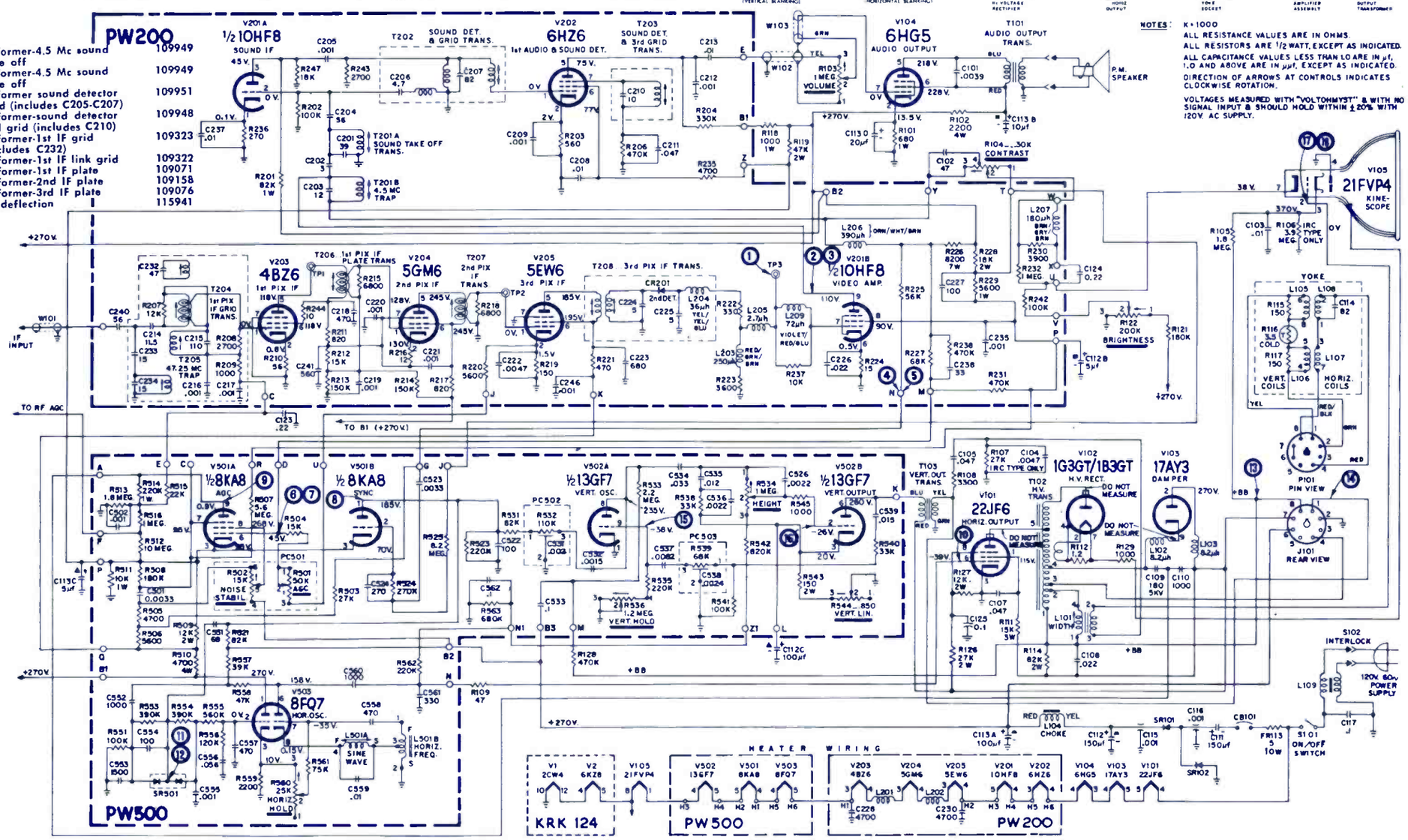
DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.

ALL VOLTAGES MEASURED WITH NO SIGNAL INPUT.









RCA VICTOR
TV Chassis KCS
154A, B

ELECTRONIC TECHNICIAN TEKFAX

Symbol	Description	RCA Part No.
C101	ceramic-0.0039 µf, ±10%, 1000v	109060
C103	ceramic-0.01µf, +100 −0%, 1000v	112639
C109	ceramic-180 pf, ±5%, 5000v, N2200	114715
C111	electrolytic-150 µf, 200v	107472
C112	3 section electrolytic	113167
A	150 µf, 350v	113167
B	5 µf, 350v	113167
C	100 µf, 50v	113167
C113	4 section electrolytic	109689
A	100 µf, 350v	109689
B	10 µf, 350v	109689
C	5 µf, 150v	109689
D	20 µf, 25v	109689
C201	ceramic-39 pf, ±10%, 500v, N150—	109931
C202	ceramic-3 pf, ±0.5 pf, 1000v, NPO	
C203	ceramic-12 pf, ±10%, 500v, N150	109932
C204	ceramic-56 pf, ±20%, 500v, N750	
C214	ceramic-11.5 pf, ±5%, 500v, NPO	
C215	ceramic-110 pf, ±5%, 500v, NPO	109438
C224	ceramic-5 pf, ±0.5%, 500v, NPO	
C227	ceramic-100 pf, ±10%, 500v, N750	
C233	ceramic-15 pf, ±10%, 500v, N750	
C234	ceramic-15 pf, ±10%, 500v, N750	
C238	ceramic-33 pf, ±10%, 500v, N750	
C240	ceramic-56 pf, ±5%, 500v, NPO	
C522	ceramic-100 pf, ±10%, 500v, N750	105674
C551	ceramic-68 pf, ±10%, 500v, N750	
C554	ceramic-100 pf, ±10%, 500v, N750	105674
C558	mica-470 pf, ±5%, 1000v	105672
C560	ceramic-1000 pf, ±10%, 1000v	105778
CR201	diode-crystal detector	112524
FR113	resistor-fusible wirewound, 5 Ω, ±10%, 10w	114966
L101	coil-width	114509
L102	reactor-RF choke 8.2 µh	107385
L103	reactor-RF choke 8.2 µh	107385
L104	reactor-filter choke	116465
L109	coil-line choke	114293
L205	reactor-choke 2.7 µh	107463
L206	coil-peaking 390 µh	109945
L207	coil-peaking 180 µh	109946
L501	coil-horizontal oscillator	109947
PC501	circuit-printed component (includes R501, R502)	113164
PC502	circuit-printed component (includes C531, R532)	112628
PC503	circuit-printed component (includes C538, R539)	109325
PW200	circuit-printed video circuit (less tubes)	114996
PW500	circuit-printed deflection circuit (less tubes)	116358
R102	wirewound-2200 Ω, ±10%, 5w	103352
R104	control-contrast	116468
R111	fixed film-15,000 Ω, ±20%, 3w	112626
R112	wirewound-1.2 Ω, ±10%, 2w	113284
R114	fixed film-82,000 Ω, ±10%, 2w (type C42)	
R224	15 Ω, ±10%, ½w	502015
R226	wirewound-8200 Ω, ±10%, 7w	106975
R501	control-A.G.C. (part of PC501)	
R502	control-noise (part of PC501)	
R510	fixed film-4700 Ω, ±10%, 4w	112850
R534	control-height	113162
R536	control-vertical hold	116469
R544	control-vertical linearity	113163
R560	control-horizontal hold	116470
R561	fixed film-75,000 Ω, ±5%, ½w	224258
S102	connector-2 contact male interlock	100029
SR101	rectifier-silicon 1N3194	113998
SR102	rectifier-silicon 1N3194	113998
SR501	diode-selenium	109474
T201	transformer-4.5 Mc sound take off	109949
A	transformer-4.5 Mc sound take off	109949
B	transformer-4.5 Mc sound take off	109949
T202	transformer sound detector grid (includes C205-C207)	109951
T203	transformer-sound detector 3rd grid (includes C210)	109948
T204	transformer-1st IF grid (includes C232)	109323
T205	transformer-1st IF link grid	109322
T206	transformer-1st IF plate	109071
T207	transformer-2nd IF plate	109158
T208	transformer-3rd IF plate	109076
	yoke-deflection	115941

VERTICAL RATE 4.0 V P-P
SECOND DETECTOR TP 3

2 VERTICAL RATE 130 V P-P
V201B PIN 9
VIDEO AMPLIFIER PLATE

3 HORIZONTAL RATE 130 V P-P
V201B PIN 9
VIDEO AMPLIFIER PLATE

4 HORIZONTAL RATE 50 V P-P
PW200-N
SYNC TAKE OFF

5 VERTICAL RATE 50 V P-P
PW200-N
SYNC TAKE OFF

6 VERTICAL RATE 35 V P-P
V501A-6
AGC GRID

7 HORIZONTAL RATE 35 V P-P
V501A-6
AGC GRID

8 HORIZONTAL RATE 60 V P-P
V501B-1
SYNC PLATE

9 HORIZONTAL RATE 500 V P-P
V501A-9
AGC PLATE

10 HORIZONTAL RATE 180 V P-P
V101-6
HORIZONTAL OUTPUT GRID

11 HORIZONTAL RATE 12 V P-P
SR501 CATHODE JUNCTION
HORIZONTAL PHASE DETECTOR

12 HORIZONTAL RATE 1.5 V P-P
SR501 ANODE JUNCTION
HORIZONTAL PHASE DETECTOR

13 HORIZONTAL RATE 400 V P-P
J101-8
B8

14 VERTICAL RATE 90 V P-P
J101-1
VERTICAL BLANKING PULSE

15 VERTICAL RATE 90 V P-P
V502A-9
VERTICAL OSCILLATOR GRID

16 VERTICAL RATE 300 V P-P
V502B-2
VERTICAL OUTPUT GRID

17 VERTICAL RATE 150 V P-P
V105-2
KINESCOPE GRID
(VERTICAL BLANKING)

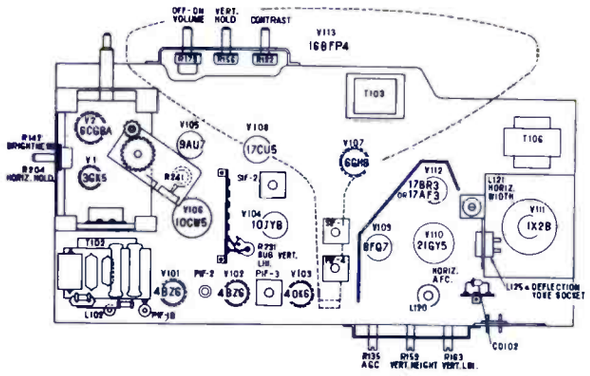
18 HORIZONTAL RATE 80 V P-P
V105-2
KINESCOPE GRID
HORIZONTAL BLANKING

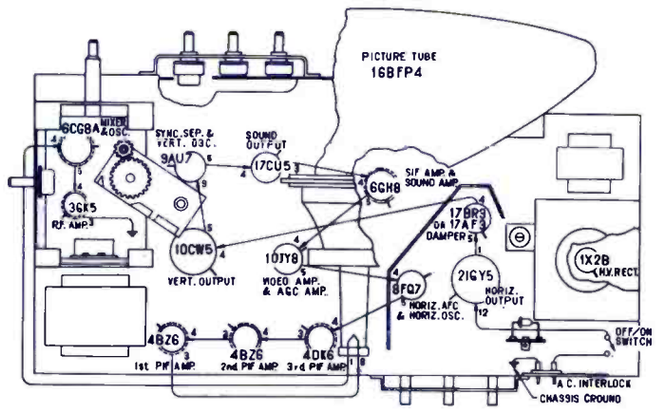
KRK124 VHF TUNER EXTERNAL LAYOUT AND WIRING

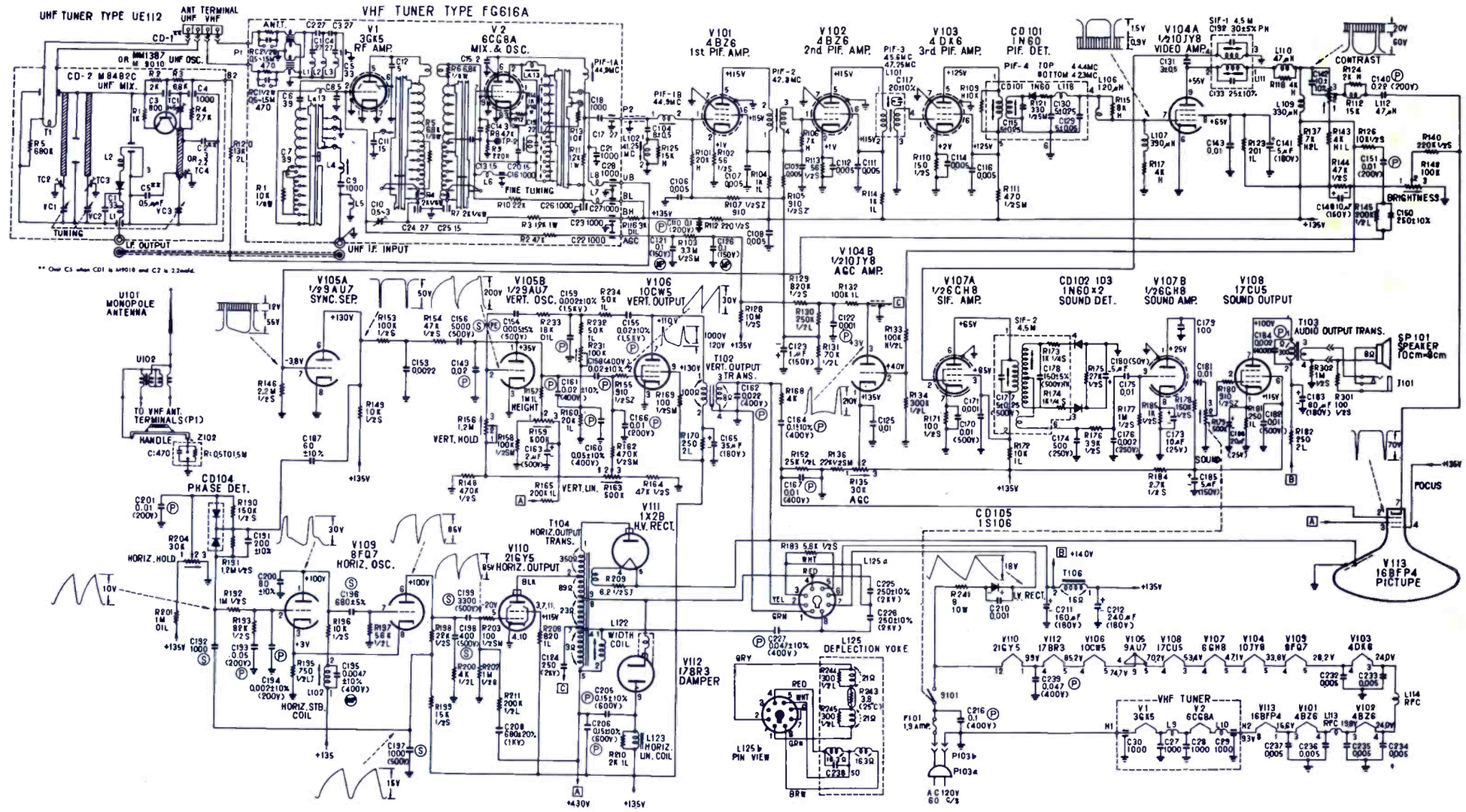
KCS154 CHASSIS LAYOUT

NOTES: K=1000
ALL RESISTANCE VALUES ARE IN OHMS.
ALL RESISTORS ARE 1/2 WATT, EXCEPT AS INDICATED.
ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN µf, 1.0 AND ABOVE ARE IN µµf, EXCEPT AS INDICATED.
DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.
VOLTAGES MEASURED WITH "VOLTOHMYST" & WITH NO SIGNAL INPUT & SHOULD HOLD WITHIN ±20% WITH 120V. AC SUPPLY.

SEARS-SILVERTONE TV Models 6107, 6108







Symbol	Description	Silvertone Part No.
C123	electrolytic, 1 μfd, 150v	302221
C124, C225, C226	ceramic, disc, 250 pf ±10%, 2kv	300654
C133	ceramic, disc, 25 pf, ±10%, (included in SIF-1)	300362
C141, C165, C183, C211, C212	electrolytic, 5 μfd 180 v C141; 35 μfd, 180 v (C165); 60 μfd, 180 v (C183); 160 μfd, 180 v (C211); 240 μfd 180 v (C212)	302131
C142	ceramic, disc 10 pf, ±10%	300560
C148	electrolytic, 10 μfd, 150 v	301784
C155	paper .02 μfd, ±10%, 1.5kv	301282
C156	polystyrene, 5000 pf, ±10%	302213
C163	electrolytic, 2 μfd	301721
C171, C210	ceramic, disc .001 μfd, +100% −0%	300657
C173	electrolytic, 10 μfd, +100% −0% 25v	301386
C174	ceramic, disc, 500 pf +100% −0% 250v	300683
C176	ceramic, disc, .002 μfd, +100% −0%	302555
C177	ceramic, disc, 5 pf ±.25 pf (included in SIF-2)	300321
C180	electrolytic 5 μfd, 50v	301390
C185	electrolytic 5 μfd, 150	301783
C186	electrolytic 20 μfd, 25v	301385
C205, C206	paper, .15 μfd, ±10%, 600v	301349
C208	ceramic, disc 680 pf, 1kv	301936
R122	15 kΩ, contrast	401138
R142	100kΩ, brightness	401135
R156	1.2 M, vert. hold	401136
R159, R163	500Ω, height & vert. linearity	401130
R179	500kΩ, vol. & switch	401139
R204	30kΩ, horiz. hold	401331
R231	100kΩ, sub. vert. linearity	400343
PIF1B	coil, PIF-1B	201147
PIF2	transformer, PIF2	201221
PIF3 & L101	transformer, PIF3 & 47.25 Mc trap	201319
PIF4	transformer, PIF4	201223
SIF1 & L111	coil, SIF1 & 4.5 Mc trap	201152
SIF2	transformer, ratio detector	201320
L102	coil, 41.25 Mc trap	201148
L106	coil, peaking	201170
L107	coil, peaking	201178
L109	coil, peaking	201177
L110, L112	coil, peaking	201167
L113, L114	coil, filament choke	200002
L120	coil, horizontal stabilizer	201207
L122	coil, horizontal width	201051
L123	coil, horizontal lin.	201326
L125	deflection yoke	201329
T102	transformer, vert. output	201325
T103	transformer, sound output	201328
T104	transformer, horiz. output	201327
T106	choke, filter	201291

NOTES:

1. All resistance values in ohms K=1,000, M=1000,000.
2. Type of resistors.

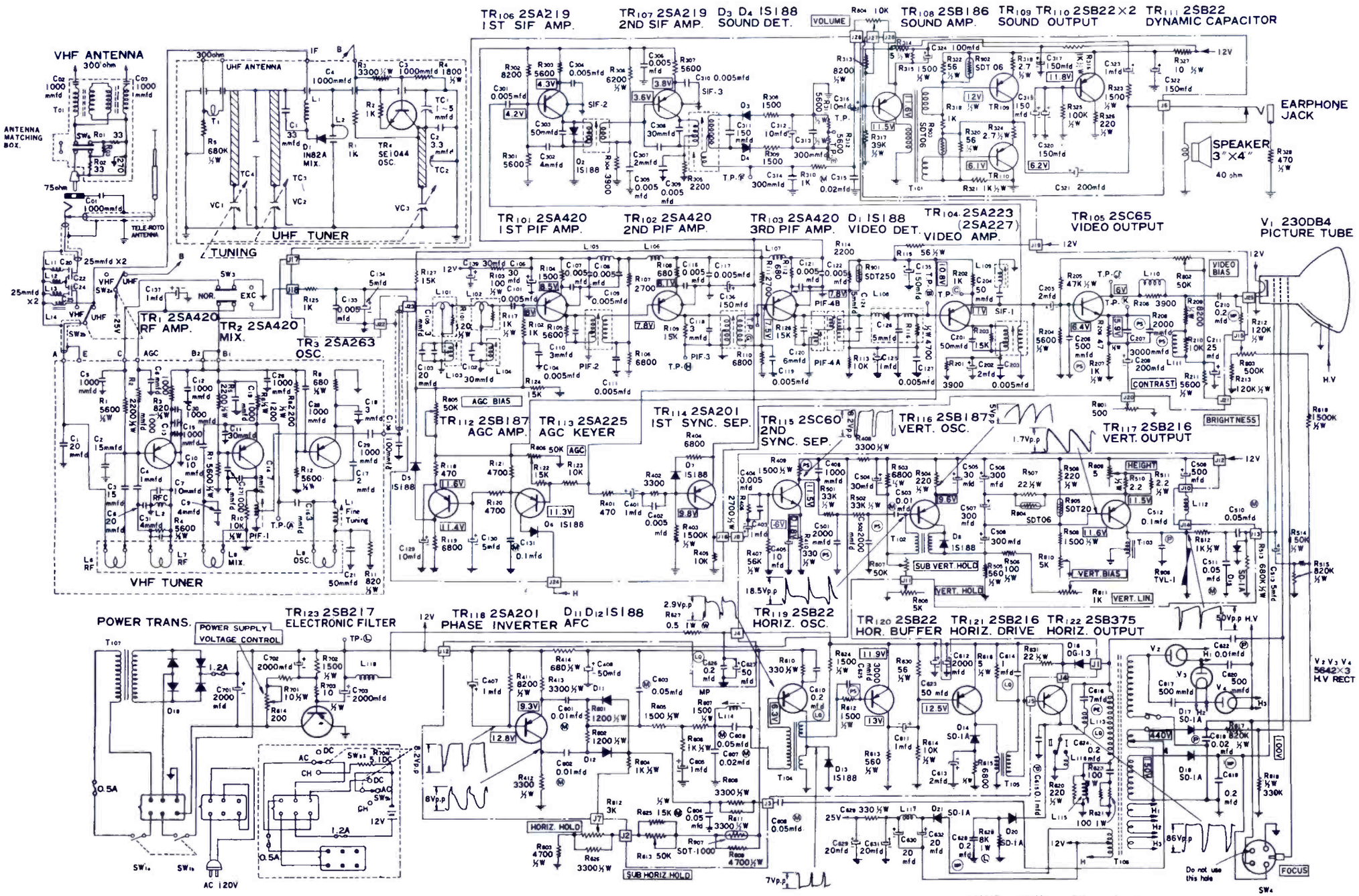
Rating \ Type	Carbon film	High frequency carbon film	Carbon composition	Dippped carbon film
½W	No Indication	H	—	—
½W	½L	H½L	½S	D½L
1W	1L	H1L	—	D1L
2W	2L	H2L	—	D2L

3. All resistors ±10% unless otherwise noted.
   YJ: ±5% (for carbon film), SJ: ±5% (for carbon composition)
   M: ±20%
4. Types of capacitors.
   (P): Paper; Electrolytics
   (M): Metallized paper; (S): Polystyrene
   (MP): Dipped mylar paper
   All capacitors not designated as above are Ceramic capacitors.
5. Unless otherwise noted in schematic, all capacitors values less than 1 are expressed in mfd. and the values more than 1 are in mmfd.
6. Five section electrolytic capacitors.
   C212 (240mfd.) C211 (160mfd.) C183 (60mfd.)
   C165 (35mfd.) C141 (5mfd.)
7. Voltage reading taken with "VTVM" from point indicated to chassis ground, tuner on unused channel, contrast at maximum, AGC at maximum clockwise, other control at normal, line voltage 120 volts.
8. All wave forms measured with strong signal input, contrast set to give normal picture and AGC line operating normally.
9. Voltage readings may vary ±20%.

CAUTION: Discharge or metering of second anode of picture tube must be to main chassis only.

SEARS-SILVERTONE TV Model 5100

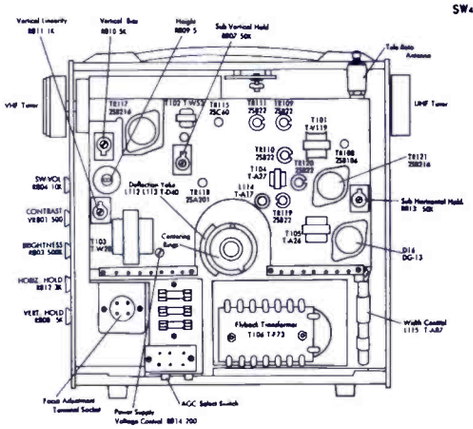
Symbol	Description	Silvertone Part No.
C106, C504, C505, C139	elect 30μf 25wv	T-C7075
C125, C137, C323, C401, C403, C407, C605, C611	elect 1μf 25wv	T-C7068
C135, C317, C319, C320, C322, C136	elect 150μf 12wv	T-C7053
C202, C205	elect 2μf 20wv	T-C7070
C209, C321	elect 200μf 10wv	T-C7036
C211	elect 25μf 100wv	T-C7077
C312	elect 10μf 6wv	T-C7023
C324	elect 100μf 3wv	T-C7033
C408, C623, C627	elect 50μf 25wv	T-C7076
C506, C507	elect 300μf 3wv	T-C7092
C508	elect 300μf 10wv	T-C7093
C509	elect 500μf 12wv	T-C7038
C612, C701, C702, C703	elect 2000μf 20wv	T-C8153
C613	elect 2μf 80wv	T-C7071
C513	elect 5μf 300wv	T-C7011
C629, C630, C631, C632	elect 20μf 50wv	T-C7087
R627	0.5Ω 1w ±5%	T-HRWO. 5-JB
R801	500Ω contrast	T-G1610
R802, R806	50K AGC & video bias	T-G0035
R803	500K brightness	T-G1603
R804	10K volume	T-G1604
R805	50K AGC bias	T-G0023
R807, R813	50K sub vert hold & sub horiz hold	T-G0027
R808	5K vert hold	T-G1611
R809	5Ω vert height	T-G2021
R810	5K vert bias	T-G0029
R811	1K vert lin	T-G0030
R812	3K horiz hold	T-G1605
R814	200Ω power supply volt control	T-G1615
PIF-2	IF xformer, 2nd & 3rd video	T-S8004
PIF-4A	IF xformer, 4th A video	T-S8005A
PIF-4B	IF xformer, 4th B video	T-S8005B
L105, L106	coil, filter	T-L156
L107	video det block	T-S1015
L108	trap, 4.5Mc	T-S48V
L109	IF xformer 1st & 2nd sound	T-S302
L110	coil, peaking	T-L2506
L111	coil, peaking	T-L2504
SIF-3	sound det xformer	T-S303
L112, L113	deflection yoke	T-D40
L114	coil, horiz stabilizer	T-A17
L115	coil, width control	T-A87
L116	coil, deflection compensate	T-L7017
L117, L118	choke, horiz filter	T-L7012
T101	xformer, sound input	T-V119
T102	xforomer, vert osc	T-W53
T103	xformer, vert output	T-W28
T104	coil horiz osc	T-A27
T105	xformer horiz drive	T-A26
T106	xformer flyback	T-F73
T107	xformer, power	T-P34A
TR101, TR102, TR103	1st, 2nd & 3rd PIF 2SA420	T-Q5038
TR104	2SA223 or 2SA227 video amp	T-Q5022
TR105	2SC65 video output	T-Q5032
TR106, TR107	2SA219 1st & 2nd SIF	T-Q5021
TR108	2SB186 sound amp	T-Q5026
TR109, TR110, TR111, TR119, TR120	2S822 sound output, dynamic capacitor, horiz osc. horiz buffer	T-Q5025
TR112, TR116	2SB187 vert osc AGC amp	T-Q5027
TR113	2SA225 AGC keyer	T-Q5023
TR114, TR118	2SA201 1st sync separator, phase inverter	T-Q5020
TR115	2SC60 2nd sync separator	T-Q5031
TR117, TR121	2SB216 vert out, horiz drive	T-Q5028
TR122	2SB375 horiz output	T-Q5030
TR123	2SB217 elect filter	T-Q5036
D1	1S188 video det (included in L108)	T-E1031
D2, D3, D4, D5, D6, D7, D8, D11, D12, D13	1S188 sound det, sound IF limiter, noise limiter vert. osc pulse clipper, AFC phase det & horiz osc pulse clipper	T-E1031
D14, D15, D17, D18, D21, D20, D19	SD-1A reverse current stopper	T-E1029
D16	selenium rectifier, power supply	T-E1042
V2, V3, V4	DG-13 damper	T-E1045
	5642 HV rectifier (3 used)	T-Q3034

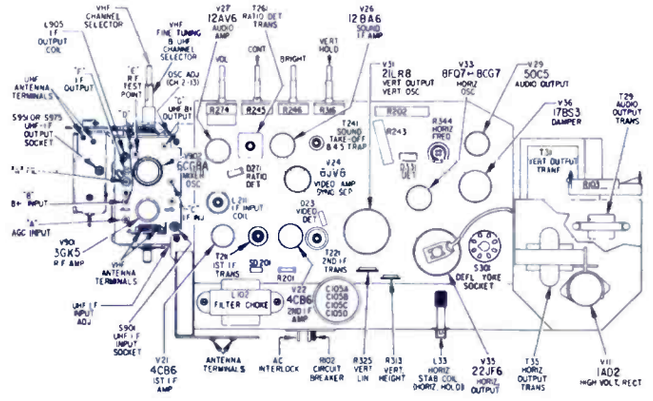


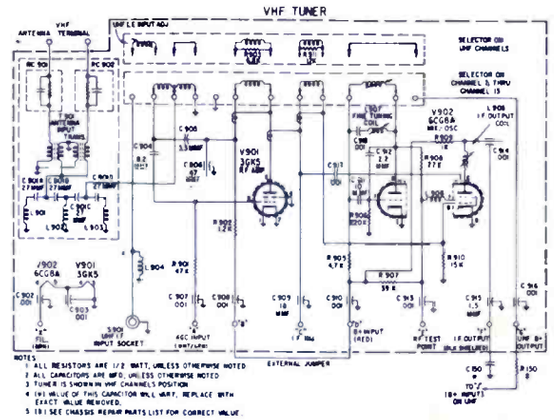
NOTES:

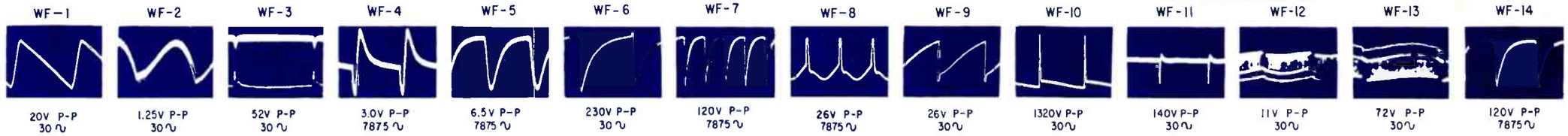
1. All resistance values in ohms K=1,000 M=1,000,000.
2. Types of resistors.
   - (L): Carbon film (W): Wire wound resistor
   - All resistance not designated as above are carbon composition resistors.
3. All resistance 1/4 watt unless otherwise noted.
4. Types of capacitors.
   - (P): Paper
   - (M): Mylar
   - (LQ): Lacquer
   - (PS): Polystyrene
   - Electrolytics
   - (MP): Metalized paper
   - (PE): Polyethylene

   All capacitors not designated as above are ceramic capacitors.
5. Voltage reading taken with "VTVM" from point indicated to chassis ground, Tuner on unused channel, contrast at maximum, AGC at maximum clockwise, other control at normal, line voltage 120 volts.
6. All wave forms measured with strong signal input, contrast set to give normal picture and AGC line operating normally.
7. Voltage reading may vary ±20%.

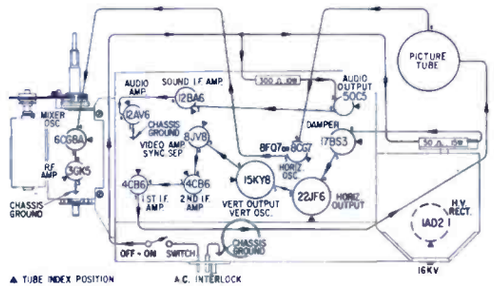


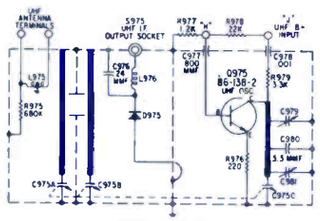


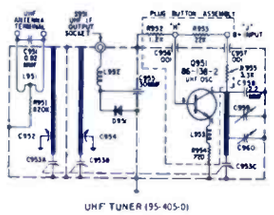


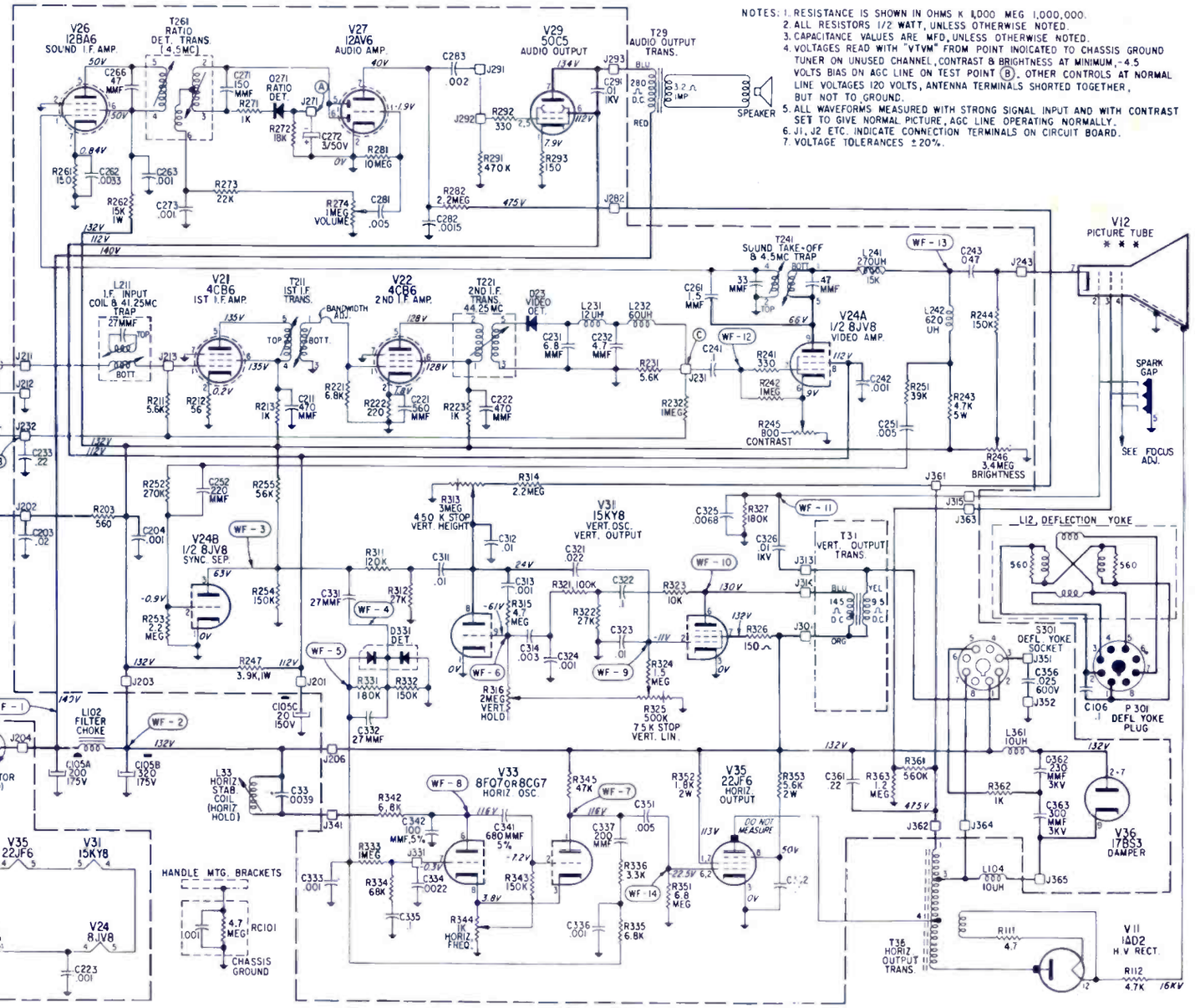


Symbol	Description	Silvertone Part No.
C105A, B, C	electrolytic 200 μfd 175v (A); 300 μfd, 175v (B); 20 μfd 150v (C)	18-269-5
C231	disc, 6.8 pf, 10%, NPO	20-27-0
C232, C264	tubular, 4.7 pf, NPO	20-23-0
C251	Disc, .005 μfd, Z5U	12-502774-6
C252	disc, 220 pf, 10% Z5U	12-221764-4
C261	gimmick, 1.5 pf, NPO	20-1-0
C271	disc, 150 pf, 5%, NPO	20-619-0
C272	electrolytic, 3 pf, 50v	18-170-5
C273	disc, .001 pf, 10%, Z5F	12-102761-3
C274	disc, .001 μfd, Z5U	12-102774-3
C281, C351	disc, .005 pf, Z5U	12-502774-6
C291	disc, .01 GMV, 1Kv	12-103894-8
C314	tubular, .003 μfd, 10% 200v	20-338-1
C321	tubular, .022 μfd, 10%, 400v	20-270-1
C322, C352	tubular, .1 μfd, 100v	20-206-1
C362	disc, 230 pf, 3Kv, N1500	12-231566-8
C363	disc, 300 pf, 3Kv, N1500	12-301566-8
R102	circuit breaker	43-20-2
R103	50Ω, 15w, WW	61-296-0
R201	thermistor (2-10)	61-83-1
R202	300Ω, 10w, WW, 5%	61-299-0
R243	4.7KΩ, 5w	68-47251
R245	800Ω, contrast	24-812
R246	3.4 M, brightness	24-811
R274	1 M, volume	24-814
R313	3 M, vert. height	24-817
R316	2 M, vert hold	24-813
R325	500KΩ, vert. lin.	24-816
R344	1KΩ, horiz freq	24-570
T29	transformer, audio output	80-227-1
T31	transformer, horiz output	80-49-3
T35	transformer, vert output	80-27-2
T211	transformer, 1st IF	10-82-3
T221	transformer, 2nd IF	10-59-3
T241	coil, 4.5 Mc trap & sound take-off	10-209-1
T261	coil, ratio detector	10-260-1
L12	yoke, deflection w/centering device	80-52-4
L33	coil, horizontal stabilizer	10-75-5
L101	choke line, radiation	10-149-1
L102	choke, filter	80-45-6
L104	coil, choke (10 μh)	10-124-1
L211	coil, IF input & 41.25 Mc trap	10-55-3
L221	coil filament	10-156-1
L231	coil, tweet (12 μh)	10-165-1
L232	coil, peaking (60 μh)	10-148-1
L241	coil, peaking (270 μh wound on 15K resistor)	10-150-1
L242	coil, peaking (620 μh)	10-206-1
L361	coil, horiz. suppression	10-238-1







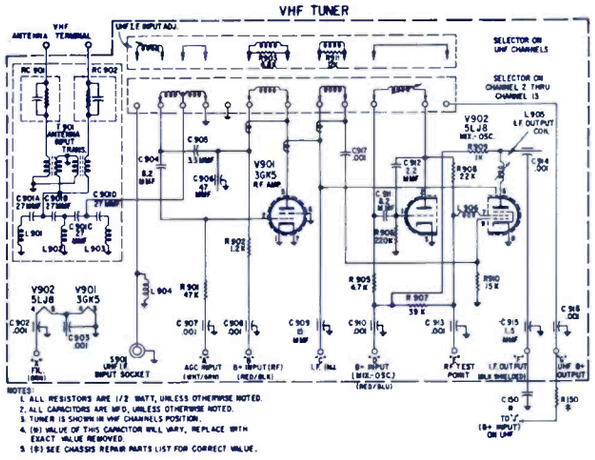


NOTES:
1. RESISTANCE IS SHOWN IN OHMS K 1,000 MEG 1,000,000.
2. ALL RESISTORS 1/2 WATT, UNLESS OTHERWISE NOTED.
3. CAPACITANCE VALUES ARE MFD, UNLESS OTHERWISE NOTED.
4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND TUNER ON UNUSED CHANNEL, CONTRAST & BRIGHTNESS AT MINIMUM, -4.5 VOLTS BIAS ON AGC LINE ON TEST POINT (B). OTHER CONTROLS AT NORMAL LINE VOLTAGES 120 VOLTS, ANTENNA TERMINALS SHORTED TOGETHER, BUT NOT TO GROUND.
5. ALL WAVEFORMS MEASURED WITH STRONG SIGNAL INPUT AND WITH CONTRAST SET TO GIVE NORMAL PICTURE, AGC LINE OPERATING NORMALLY.
6. J1, J2 ETC. INDICATE CONNECTION TERMINALS ON CIRCUIT BOARD.
7. VOLTAGE TOLERANCES ±20%.

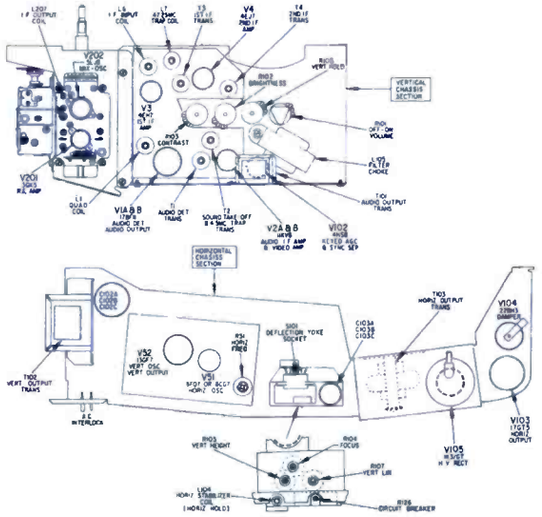
ELECTRONIC TECHNICIAN TEKFAX

SEARS-SILVERTONE
TV Models
6120, 6121, 6124,
6125, 6126

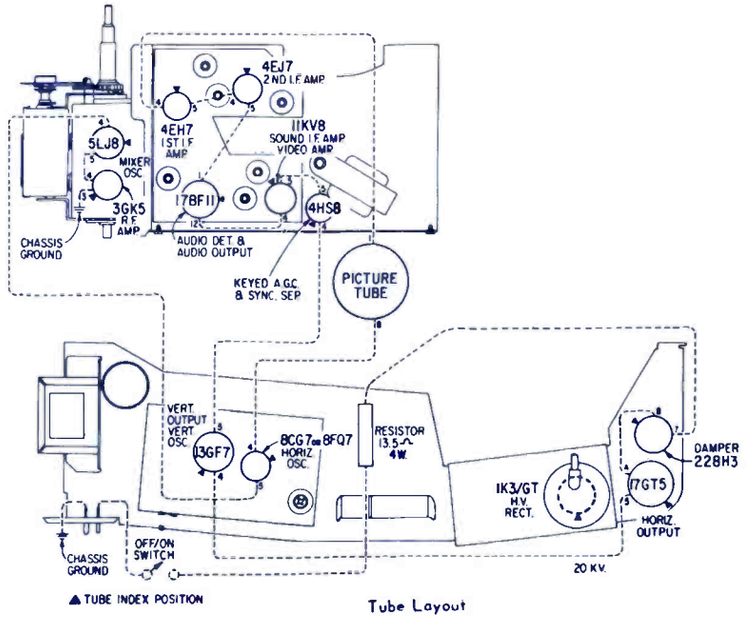
VHF TUNER



NOTES:
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE MFD, UNLESS OTHERWISE NOTED.
3. TUNER IS SHOWN IN VHF CHANNELS POSITION.
4. (@) VALUE OF THIS CAPACITOR WILL VARY, REPLACE WITH EXACT VALUE REMOVED.
5. (@) SEE CHASSIS REPAIR PARTS LIST FOR CORRECT VALUE.



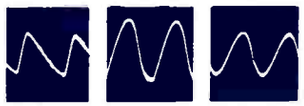
Tube View of Chassis



▲ TUBE INDEX POSITION

Tube Layout

Symbol	Description	Silvertone Part No.
C2	Disc., .01 µfd, 1kv	12-103854-6
C3	Disc., 200 pf, 10%, Z5F	12-201761-2
C4	Disc., 8.2 pf, ±1pf, N750	12-829294-2
C5, C16, C22, C27, C28, C29	Disc., .001 µfd, GMV, Z5U	12-102794-2
C8	Tubular, 1.5 pf, 10% N.P.O. Gimmick	20-1-0
C9	Disc., .001 µfd, 10%, GP	12-102764-3
C17, C30	Disc., .005 µfd, Z5U	12-502704-6
C23	Disc., 12 pf, 5%, N.P.O.	12-120281-2
C24	Disc., 150 pf, 5%, N.P.O.	20-619-0
C31	Disc., 820 pf, 10%, Z5F	20-483-0
C63	Polystyrene Film, 390 pf, 5%	20-277-1
C66	Disc., .01 µfd, 1kv, GMV	20-355-0
C101	Disc., 27 pf	12-270715-4
C102A, B, C	Electrolytic, 100 µfd, 300v (A) 200 µfd, 300v (B) 2 µfd, 300v (C)	18-139-5
C103A, B, C	Electrolytic 20 µfd, 300v (A&B) 50 µfd, 50v (C)	18-52-3
C116	Disc., 240 pf, 3kv, N1500	12-241516-8
C117	Disc., 300 pf, 3kv, N1500	12-301516-8
R14	7.5kΩ, 5w, %	63-75255
R23	4.3kΩ, 5%	64-43205
R24	3.3kΩ, 5%	64-33205
R51	1kΩ, horiz. freq. cont.	24-570
R77	Fused Oxide, 12kΩ, 2w	68-12321
R101	1 M, Vol. & Pull on-push off switch	24-851
R102	3.4 M, Brightness	24-703
R103	30kΩ, contrast	24-717
R104	3.4 M, Focus	24-491
R105	5M, vert. ht.	24-437,
R106	1.5 M, vert. hold	24-706
R107	750Ω, vert. lin.	24-520
R111	2kΩ, 10w, 5%	61-209-0
R115	5.6kΩ, 5w, 5%	68-56255
R124	4.5Ω, 10w WW	61-191-0
R125	13.5Ω, 4w, WW	61-270-0
R126	circuit breaker	43-12-2
RC101	.001 µfd, Capacitor; 4.7 M Resistor	13-17-3
L101	Deflection Yoke & Plug	80-47-4
L102	Choke, horiz. suppression	10-242-1
L103	Coil, Choke RF	10-124-1
L104	Coil, Horiz. stabilizer (horizontal hold)	10-75-5
L105	Choke, Filter	80-20-6
L106	Choke, Line Radiation	10-149-1
T1	Transformer, 4.5 Mc Sound IF	10-53-3
T2	Transformer, 4.5 Mc Trap & Sound Take Off	10-209-1
T3	Transformer 1st IF	10-58-3
T4	Transformer, IF Output	10-59-3
T101	Transformer, Audio Output	80-198-1
T102	Transformer, Vertical Output	80-20-2
T103	Transformer, Horizontal Output	80-42-3
D1	Germanium Diode, Video Detector	86-10-1
D51	Dual Diode	86-9-1
SD101, SD102	Rectifier Silicon (500 Ma)	86-54-3

WF-1

35V P-P 60 ∿

WF-2

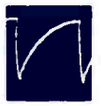
3V P-P 60 ∿

WF-3

2V P-P 60 ∿

WF-4

50V P-P 7875 ∿

WF-5

150V P-P 7875 ∿

WF-6

150V P-P 7875 ∿

WF-7

8V P-P 7875 ∿

WF-8

18V P-P 7875 ∿

WF-9

56V P-P 60 ∿

WF-10

128V P-P 60 ∿

WF-11

200V P-P 60 ∿

WF-12

1040V P-P 60 ∿

WF-13

96V P-P 60 ∿

WF-14

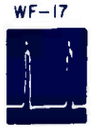
2.6V P-P 60 ∿

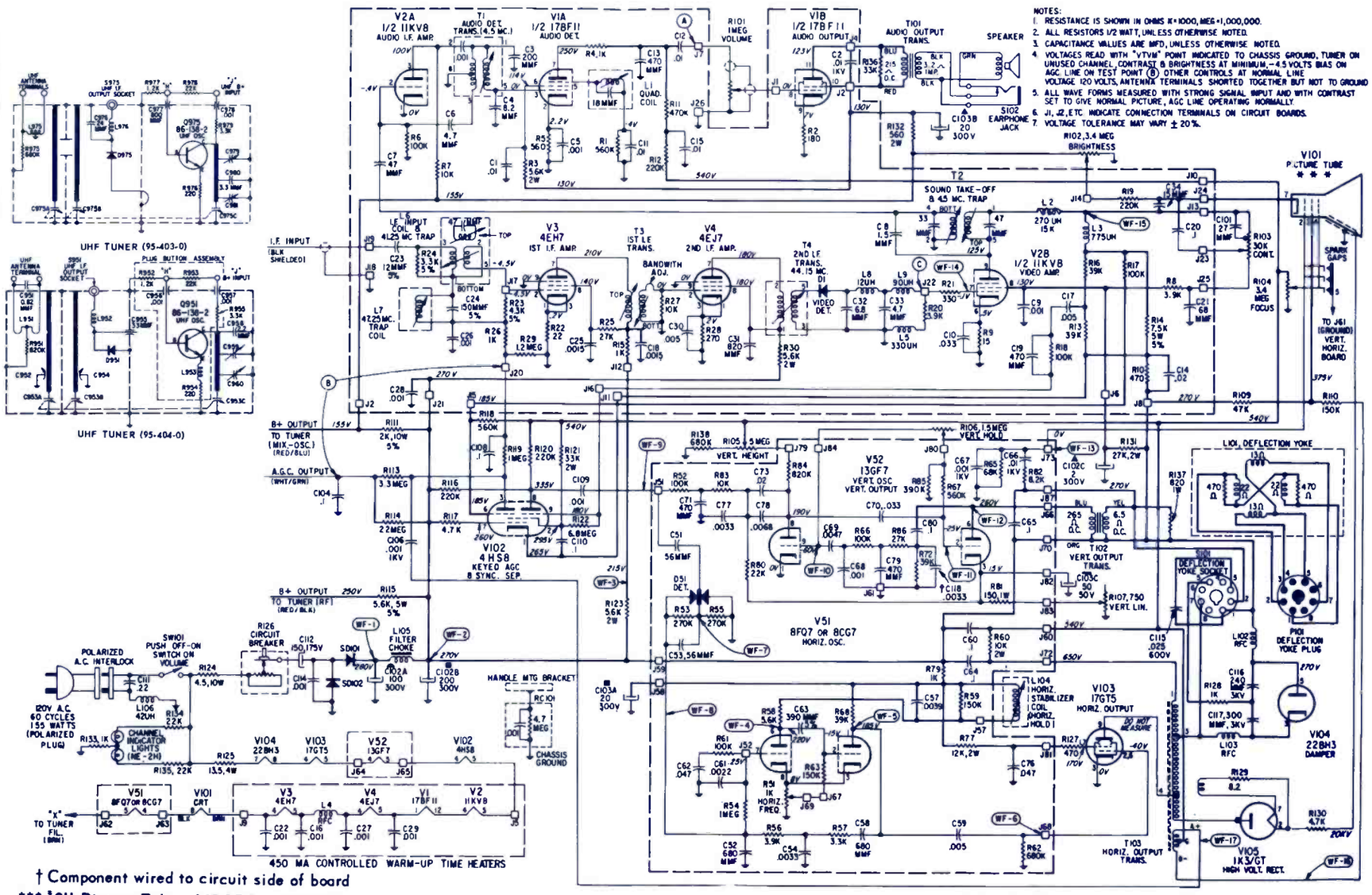
WF-15

98V P-P 60 ∿

WF-16

570V P-P 7875 ∿

WF-17

570V P-P 7875 ∿



NOTES:
1. RESISTANCE IS SHOWN IN OHMS K=1000, MEG=1,000,000.
2. ALL RESISTORS 1/2 WATT, UNLESS OTHERWISE NOTED.
3. CAPACITANCE VALUES ARE MFD, UNLESS OTHERWISE NOTED.
4. VOLTAGES READ WITH "VTVM" POINT INDICATED TO CHASSIS GROUND, TUNER ON UNUSED CHANNEL, CONTRAST & BRIGHTNESS AT MINIMUM, -4.5 VOLTS BIAS ON AGC LINE ON TEST POINT (B) OTHER CONTROLS AT NORMAL LINE VOLTAGE 120 VOLTS, ANTENNA TERMINALS SHORTED TOGETHER BUT NOT TO GROUND
5. ALL WAVE FORMS MEASURED WITH STRONG SIGNAL INPUT AND WITH CONTRAST SET TO GIVE NORMAL PICTURE, AGC LINE OPERATING NORMALLY.
6. J1, J2, ETC. INDICATE CONNECTION TERMINALS ON CIRCUIT BOARDS.
7. VOLTAGE TOLERANCE MAY VARY ± 20%.

† Component wired to circuit side of board

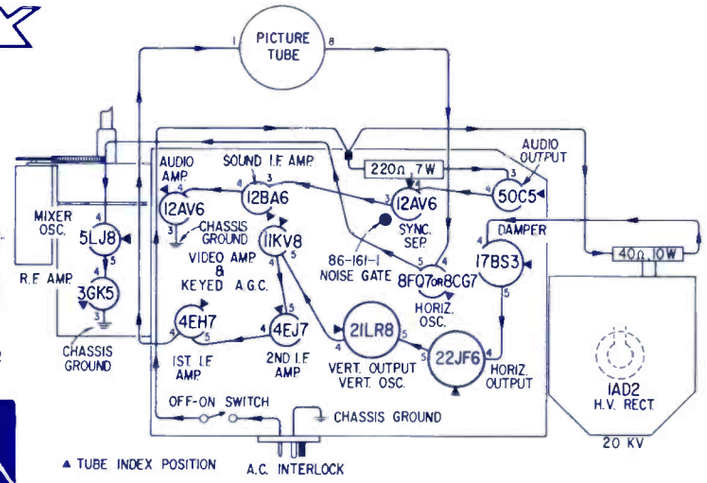
*** 19" Picture Tube - 19DQP4 or 19DWP4

CAUTION: Discharging or metering of second anode of picture tube must be to main chassis only

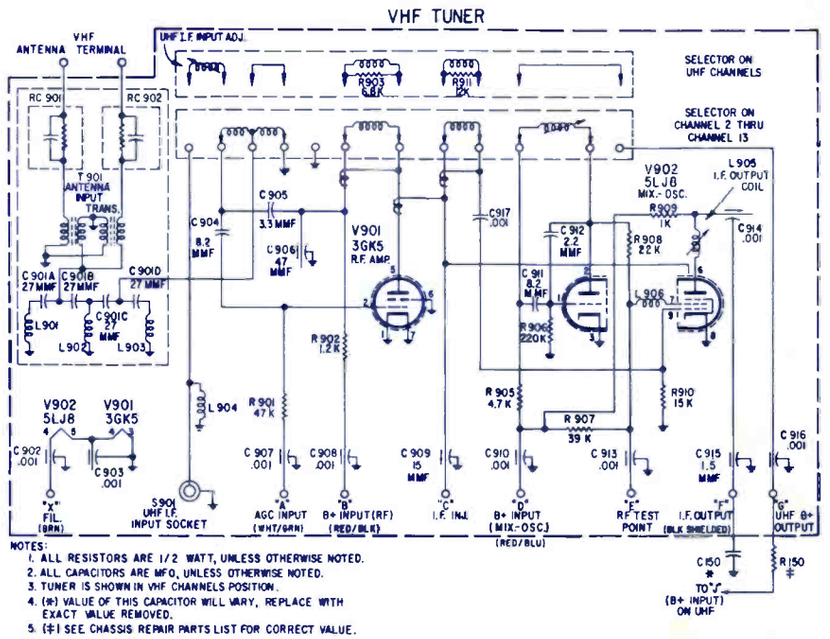
SEARS-SILVERTONE
TV Model 6122

ELECTRONIC TECHNICIAN TEKFAX

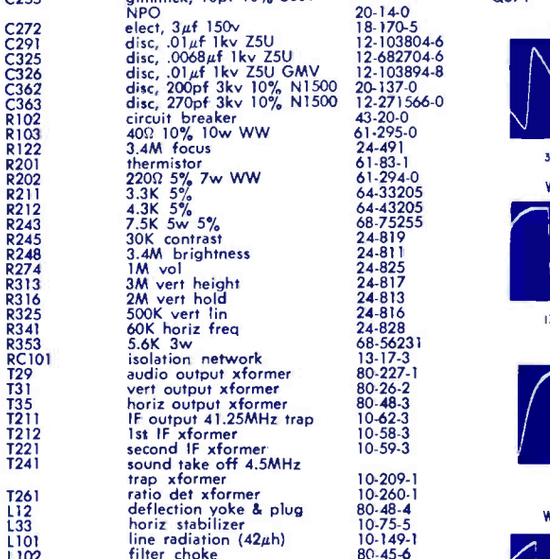
Symbol	Description	Sears Silvertone Part No.
C105A, B, C, D, E	elect, 200μf 175v (A); 300μf 175v (B); 20μf 175v (C&D) 2μf 175v (E)	18-244-5
C231	gimmick, 6.8pf 10% 500v NPO	20-27-0
C232	gimmick, 4.7pf 10% 500v NPO	20-23-0
C255	gimmick, 10pf 10% 500v NPO	20-14-0
C272	elect, 3μf 150v	18-170-5
C291	disc, .01μf 1kv Z5U	12-103804-6
C325	disc, .0068μf 1kv Z5U	12-682704-6
C326	disc, .01μf 1kv Z5U GMV	12-103894-8
C362	disc, 200pf 3kv 10% N1500	20-137-0
C363	disc, 270pf 3kv 10% N1500	12-271566-0
R102	circuit breaker	43-20-0
R103	40Ω 10% 10w WW	61-295-0
R122	3.4M focus	24-491
R201	thermistor	61-83-1
R202	220Ω 5% 7w WW	61-294-0
R211	3.3K 5%	64-33205
R212	4.3K 5%	64-43205
R243	7.5K 5w 5%	68-75255
R245	30K contrast	24-819
R248	3.4M brightness	24-811
R274	1M vol	24-825
R313	3M vert height	24-817
R316	2M vert hold	24-813
R325	500K vert lin	24-816
R341	60K horiz freq	24-828
R353	5.6K 3w	68-56231
RC101	isolation network	13-17-3
T29	audio output xformer	80-227-1
T31	vert output xformer	80-26-2
T35	horiz output xformer	80-48-3
T211	IF output 41.25MHz trap	10-62-3
T212	1st IF xformer	10-58-3
T221	second IF xformer	10-59-3
T241	sound take off 4.5MHz trap xformer	10-209-1
T261	ratio det xformer	10-260-1
L12	deflection yoke & plug	80-48-4
L33	horiz stabilizer	10-75-5
L101	line radiation (42μh)	10-149-1
L102	filter choke	80-45-6
L104	coil, choke	10-242-1
L211	coil, 47.25Mc trap	10-42-3
L221	choke, filament	10-156-1
L231	coil, tweet (12μh)	10-65-1
L232	coil, peaking (90μh)	10-256-1
L233	coil, peaking (330μh)	10-253-1
L241	coil, peaking (270μh wound on 15K resistor)	10-150-1
L242	coil, peaking (1200μh)	10-293-1
D23, D271	diode, germanium	86-10-1
D331	diode, dual selenium det	86-9-1
SD201	rectifier, silicon (500ma)	86-57-3
Q371	noise gate	86-161-2



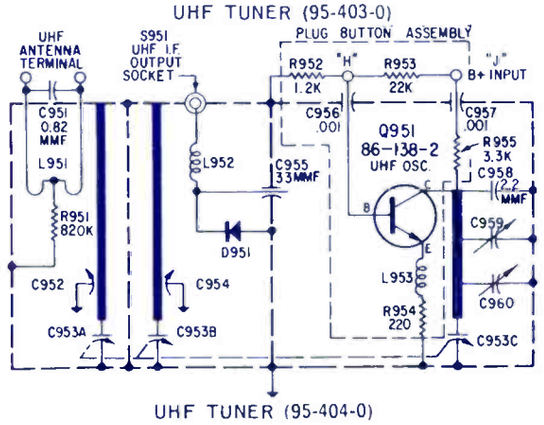
CAUTION: Discharging or metering of second anode of picture tube must be to main chassis only.



NOTES:
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE MFD, UNLESS OTHERWISE NOTED.
3. TUNER IS SHOWN IN VHF CHANNELS POSITION.
4. (*) VALUE OF THIS CAPACITOR WILL VARY, REPLACE WITH EXACT VALUE REMOVED.
5. (‡) SEE CHASSIS REPAIR PARTS LIST FOR CORRECT VALUE.

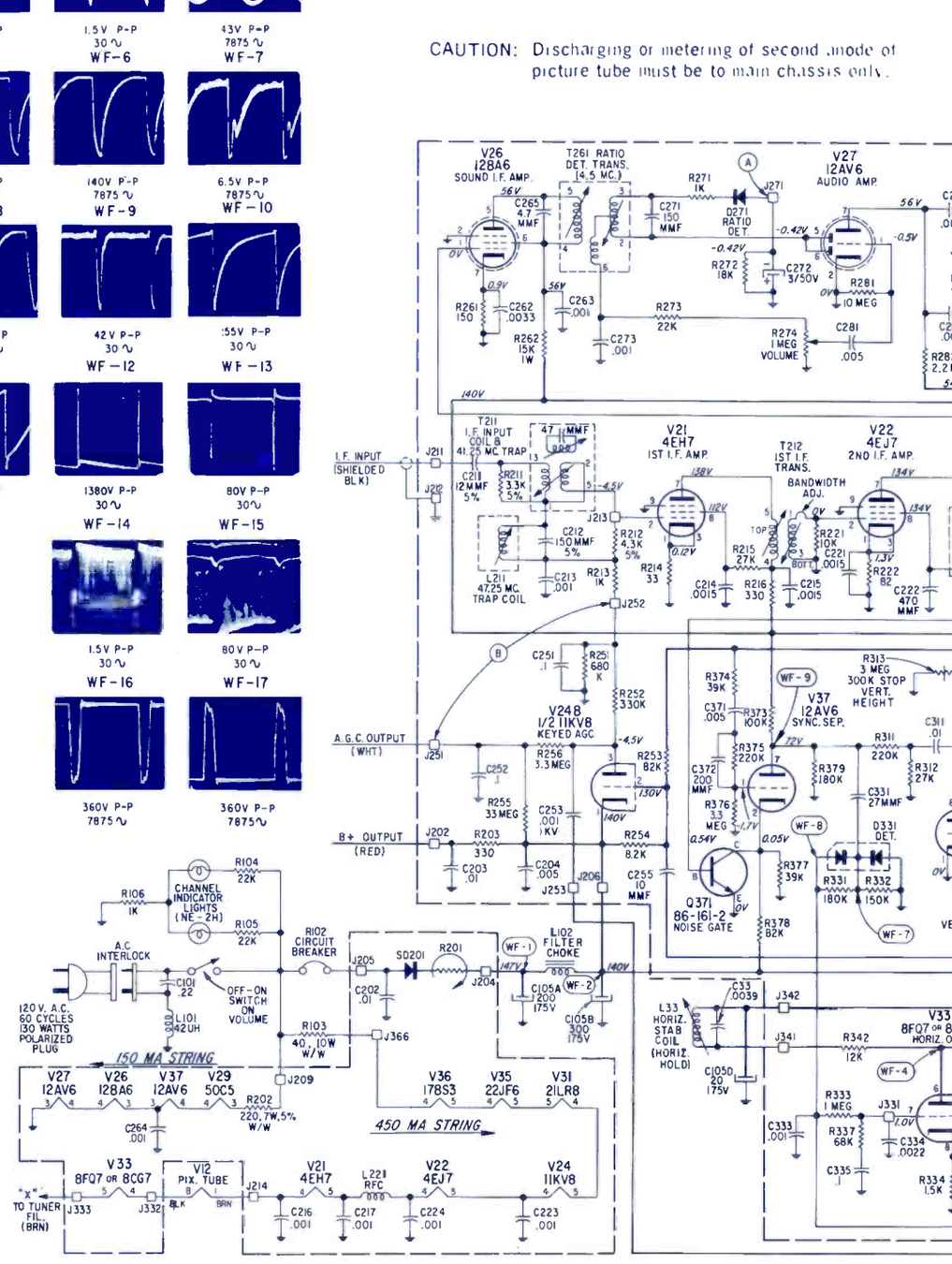


UHF TUNER (95-403-0)



UHF TUNER (95-404-0)

WF-1	36V P-P 30 ∿	
WF-2	1.5V P-P 30 ∿	
WF-4	43V P-P 7875 ∿	
WF-5	138V P-P 7875 ∿	
WF-6	140V P-P 7875 ∿	
WF-7	6.5V P-P 7875 ∿	
WF-8	13V P-P 7875 ∿	
WF-9	42V P-P 30 ∿	
WF-10	55V P-P 30 ∿	
WF-11	26V P-P 30 ∿	
WF-12	1380V P-P 30 ∿	
WF-13	80V P-P 30 ∿	
WF-14	1.5V P-P 30 ∿	
WF-15	80V P-P 30 ∿	
WF-16	360V P-P 7875 ∿	
WF-17	360V P-P 7875 ∿	

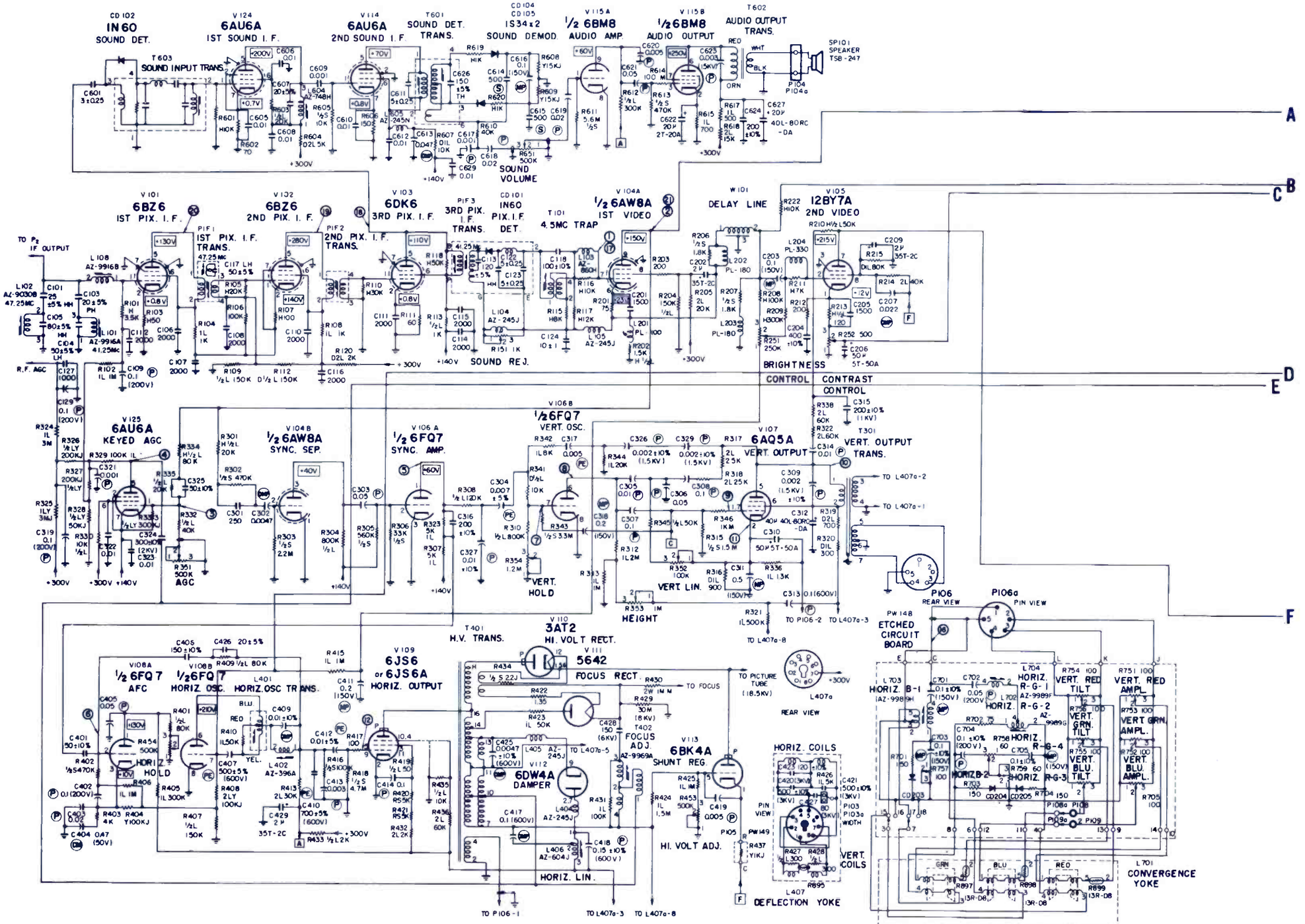


NOTES:
1. RESISTANCE IS SHOWN IN OHMS K 1,000 MEG 1,000,000.
2. ALL RESISTORS 1/2 WATT, UNLESS OTHERWISE NOTED.
3. CAPACITANCE VALUES ARE MFD, UNLESS OTHERWISE NOTED.
4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND TUNER ON UNUSED CHANNEL, CONTRAST & BRIGHTNESS AT MINIMUM, -4.5 VOLTS BIAS ON AGC LINE ON TEST POINT (B). OTHER CONTROLS AT NORMAL LINE VOLTAGES 120 VOLTS, ANTENNA TERMINALS SHORTED TOGETHER, BUT NOT TO GROUND.
5. ALL WAVEFORMS MEASURED WITH STRONG SIGNAL INPUT AND WITH CONTRAST SET TO GIVE NORMAL PICTURE, AGC LINE OPERATING NORMALLY.
6. J1, J2 ETC. INDICATE CONNECTION TERMINALS ON CIRCUIT BOARD.
7. VOLTAGE TOLERANCES ±20%.

SEARS-SILVERTONE Color TV Model 6164

ELECTRONIC TECHNICIAN TEKFAX

Symbol	Description	Silvertone Part No.
C101	25pf 5% N030	399908
C103	20pf 5% N150	399980
C104, C117	50pf 5% N080	399909
C113	tubular, 120pf 5% N030 (included in PIF-3)	399915
C118, C518, C519, C561	disc, 100pf 10% N330	300567
C119, C120, C628	disc .005μf +100% −0%	300016
C122, C123, C611	disc 5pf ±.25pf N330 (C122, C123, included in PIF-3)	300321
C124, C502	disc, 10pf ±1pf N330	300560
C127, C808, C809, C810	disc .001μf +100% −0%	300657
C202, C209, C429	elect 2μf 350v	301727
C208, C211, C212, C501	disc, 30pf 10% N330 (C545, C562 included	
C545, C562	in T504)	300563
C304	PE .007μf 5%	302285
C309, C326, C329	paper .002μf 10% 1.5kv	301279
C312	elect, 40μf 400v (C627, C807, incorporated)	301733
C315	disc, 200pf 10% 1kv	399999
C324, C520, C565	disc, 300pf 10% 2kv	300647
C325, C401	disc, 50pf 10% N330	300565
C410	PE, 700pf 5% 600v	302554
C412	PE, .01μf 5%	302286
C426, C607	tubular, 20pf 5% N330	301432
C428	disc, 150pf 6kv	399985
C504	disc, 430pf 10% N330 (included in T501)	
C509	disc, 80 pf 10% 3kv	300852
C527	disc, 40pf 10% N330	300564
C530	disc, 80pf 10% N330	301717
C541, C622	elect, 20μf 20v	301385
C546, C547, C548	disc, 20pf 10% N330	300561
C601	tubular, 3pf ±.25pf N330	301424
C614, C615	polystyrene, 500pf 10% 1kv	300384
C626	tubular, 150pf 5% N470 (included in T601)	300540
C802	elect, 200μf 250v	399984
C803	elect, 200μf 250v	399997
C804	elect, 120μf 400v	301730
C807	elect, 20μf 400v (includes C312)	301733
C811, C812, C813	disc, .01μf +100% −0%	300015
C815, C816	disc, .001pf +100% −0%	302584
R151	1K 20% .2w sound reject control	400366
R251	250K 20% brightness control	499940
R252	500Ω 20% ½w	499904
R253, R254	15K 20% R253: blue drive R254: green drive	499905
R325	3M 5% 1w	414305
R326, R327	200K 5% ½w	412204
R328	50K 5% ½w	412503
R333	300K 5% ½w	412304
R351	500K 20% ½w AGC control	499902
R352	100K 20% ½w vertical lin control	499901
R353, R552, R851, R852, R853	1M 20% ½w R353: vert height control R552: color killer control R851: red screen control R852: green screen control R853:. blue screen control	499889
R354	1.2M 20% vert hold control	499929
R404	100K 5%	411104
R408	100K 5% 2w	415104
R434	2.2 5% ½w	442229
R437	1K 5%	411102
R453	500K 20% HV adj control	499959
R454	500K 20% horiz hold control	499900
R518, R519	500K 5%	411504
R526	400Ω 5% ½w	412401
R532	600Ω 5% ½w	412601
R533	700Ω 5% ½w	412701
R536	12Ω 5% ½w	412120
R537	56Ω 5% ½w	412560
R551	500Ω 20% color control	499939
R552	1M 20% color killer control	499903
R556	1K 20% ⅛w tint control	499907
R557	1M 20% .2w color balance control	400467
R608, R609	15K 5%	411153
R651	500K 20% ⅛w on-off volume control (incl. S101)	499899
R751, R752, R753, R754, R755, R756	100Ω 20% .6w R751: vert red amplitude control R752: vert blue amplitude control R753: vert green amplitude control R574: vert red tilt control R755: vert blue tilt control R756: vert green tilt control	499892
R757	100Ω 20% 1w horiz blue —2	499891
R758, R759	60Ω 20% 1w R758: horiz red green—4 R739: horlz red green—3	499890
R895	thermistor (included in L407)	
R897, R898, R899	thermistor (included in L701)	
P1F1	xformer, PIF1	299979
P1F2	xformer PIF2	299922
P1F3	xformer PIF3	299849
L101	coil, AZ-9916A, 41.25Mc trap	299937
L102	coil, AZ-9030B, 47.25Mc trap	299980
L103	coil, AZ-860H, peaking	200895
L104, L105, L404, L405, L509	coil, AZ-245J peaking	200145
L106, L107, L606, L803, L108	coil, AZ-127B, filament choke coil, AZ-9916B PIF input	299924
L201	coil, PL-100 peaking	201169
L202, L203	coil, PL-180, peaking	201173
L204	coil, PL-330 peaking	201177
L205, L207	coil, PL-120 peaking	201170
L401	coil, AZ-749F, horiz osc	299847
L402	coil, AZ-396A horiz stabilizer	200116
L406	coil, AZ-604J hroiz lin	200431
L407	deflection yoke	299875
L501, L604	coil, AZ-748H, band pass SIF2	200597
L502	coil, AZ-854G, phase shifter	200626
L503	coil, AZ-599A, reactance	200530
L504, L505	coil, AZ-9946A, phase shifter	299925
L506, L507, L508	coil, PL-680 filter	201181
L605	coil, AZ-245N, SIF choke	200426
L701	convergence yoke	299854
L702	coil, AZ-9989G, convergence	299856
L703	coil, AZ-9989H, convergence	299855
L704	coil, AZ-9989F, convergence	299857
L801	choke, filter	299878
T101	xformer, AZ-9030C, 4.5Mc trap	299979
T301	xformer, vertical output	299889
T401	xformer, AZ-9021C horiz. output	299877
T402	xformer, AZ9969A, focus	299917
T501	xformer, band pass 1st	299859
T502	xformer, AZ599D, band pass, 2nd	299918
T503	xformer, burst phase	200529
T504	xformer, CW driver	299858
T601	xformer, sound demod	200700
T602	xformer, sound output	299850
T603	xformer, sound input	299853
T801	xformer, power	299851



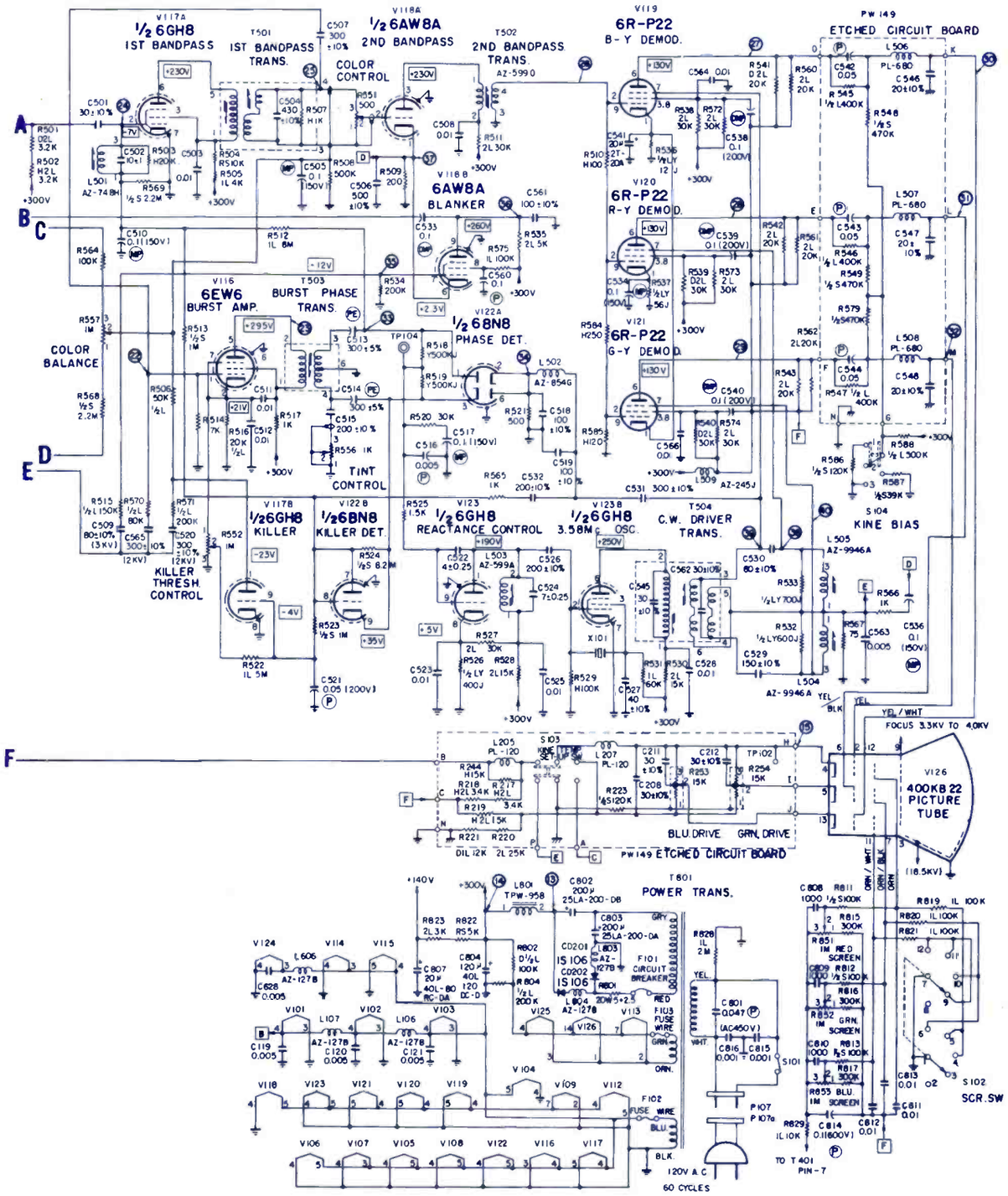
NOTES:

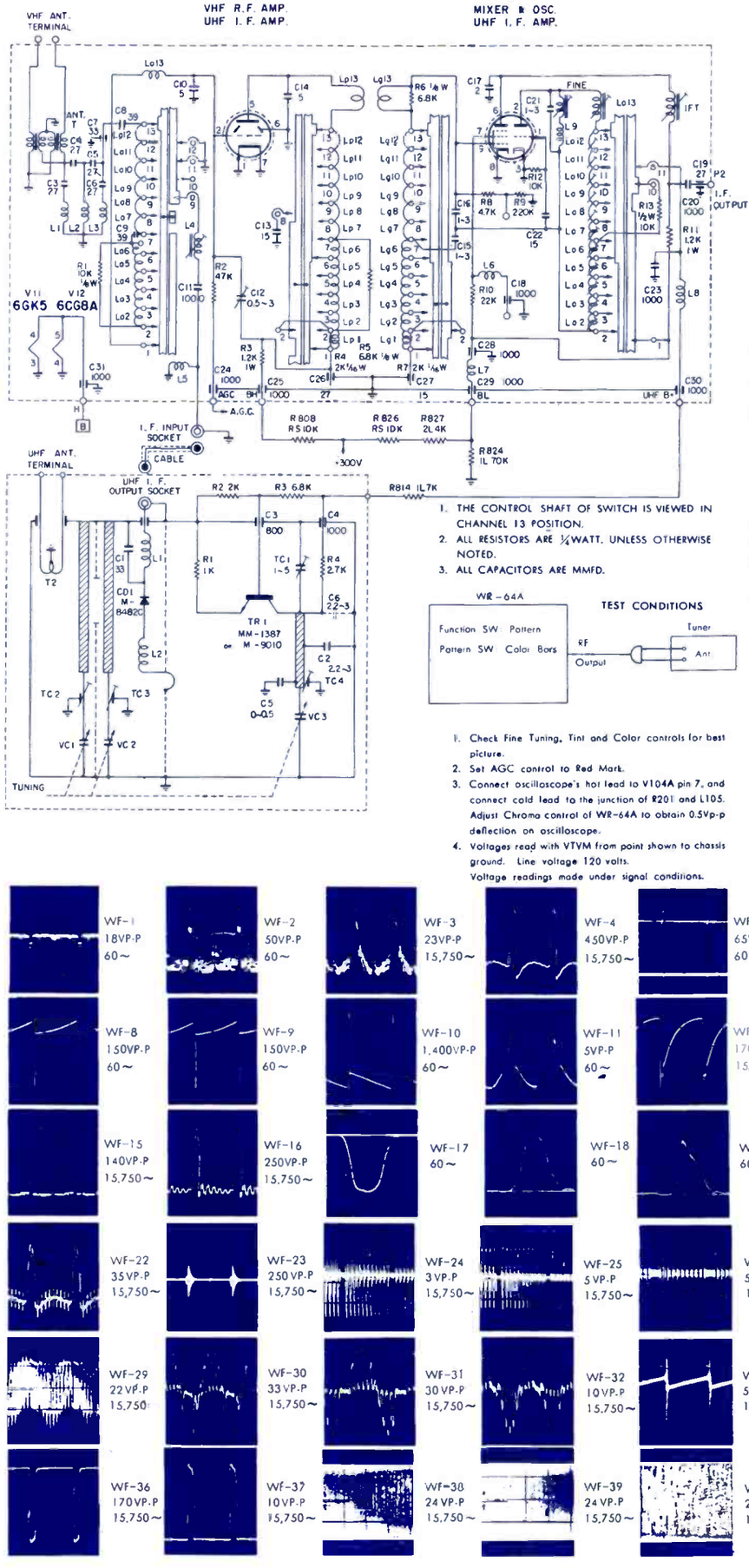
1. All resistance values in ohms K=1,000, M=1,000,000.
2. Type of resistors.

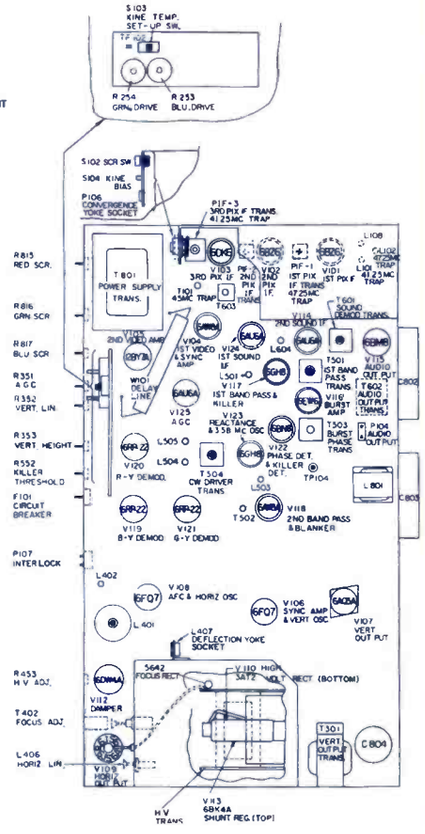
Rating \ Type	Carbon film	High frequency carbon film	Carbon composition	Dipped carbon film
1/8W	1/2 Indication	H	—	—
1/4W	1/4 L	H 1/4 L	1/4 S	D 1/4 L
1 W	1 L	H 1 L	—	D 1 L
2 W	2 L	H 2 L	—	D 2 L

RS: Ceramic Solid Type, 4.5 W

3. All resistors ±10% unless otherwise noted.
   YJ: ±5% M: ±20%
4. Types of capacitors.
   (P): Paper (E): Electrolytics
   (M): Mica (MP): Metallized paper
   (S): Polystyrene (DM): Dipped mylar paper
   (PE): Polyethylene (DM): Dipped mylar
   All capacitors not designated as above are Ceramic capacitors.
5. Unless otherwise noted in schematic, all capacitors values less than 1 are expressed in mfd. and the values more than 1 are in mmfd.
6. Four section electrolytic capacitors.
   C312 (40 mfd.) C627 (20 mfd.) C807 (20 mfd.) } Type 40L-80RC-DA
7. Voltage read with VTVM from point shown to chassis ground, line volage 120 volts.
8. Numbers in circles refer to waveform numbers.







WAVEFORM NOTES

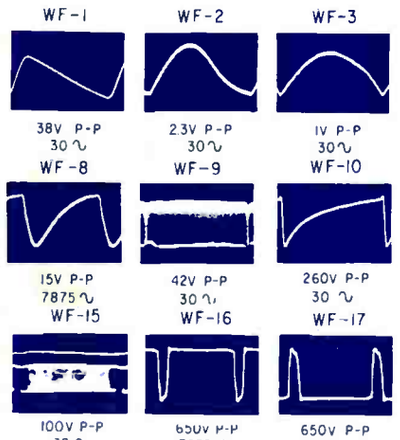
1. All waveforms were taken using a wide band oscilloscope and a low capacity probe.
2. Waveforms 1 through 16 were taken using an air signal.
3. Waveforms 17 through 20 were taken using a sweep signal.
4. Waveforms 21 through 40 were taken using a color bar signal.

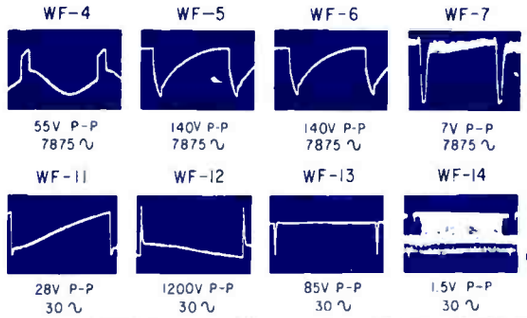
SEARS-SILVERTONE
TV Model 6150, 6151, 6152, 6154, 6155, 6156, 6157

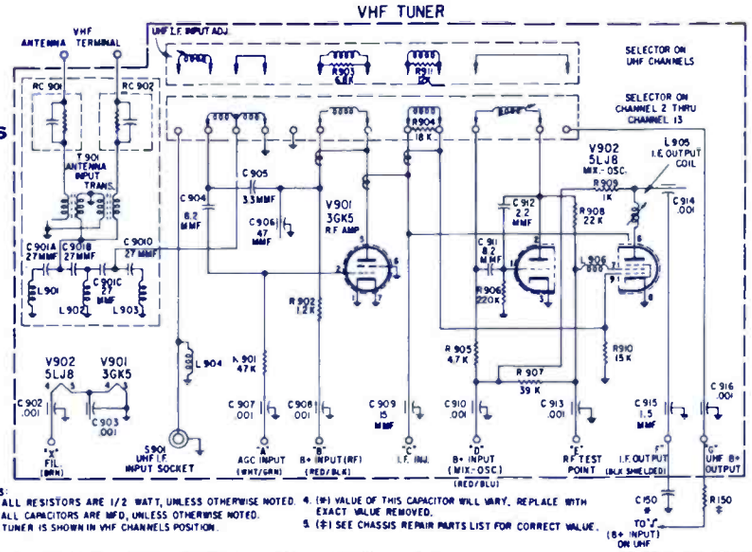
ELECTRONIC TECHNICIAN TEKFAX

COMPLETE MANUFACTURER S' CIRCUIT DIAGRAMS AND TECHNICAL INFORMATION FOR SEVEN NEW SETS

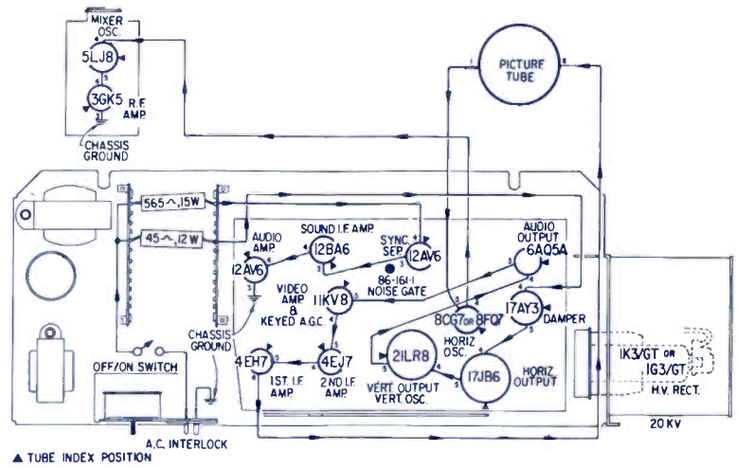
MARCH • 1966





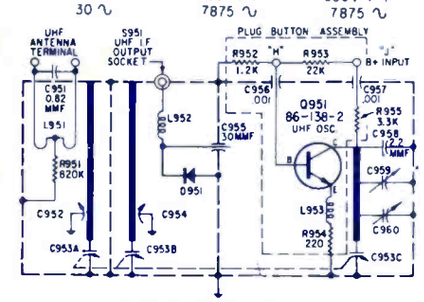


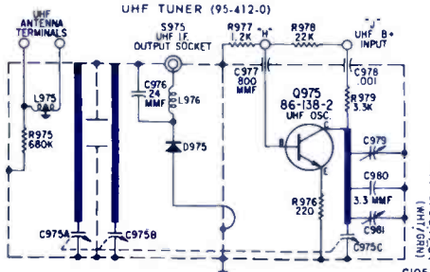
NOTES:
1. ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE MFD, UNLESS OTHERWISE NOTED.
3. TUNER IS SHOWN IN VHF CHANNELS POSITION.
4. (#) VALUE OF THIS CAPACITOR WILL VARY. REPLACE WITH EXACT VALUE REMOVED.
5. (‡) SEE CHASSIS REPAIR PARTS LIST FOR CORRECT VALUE.



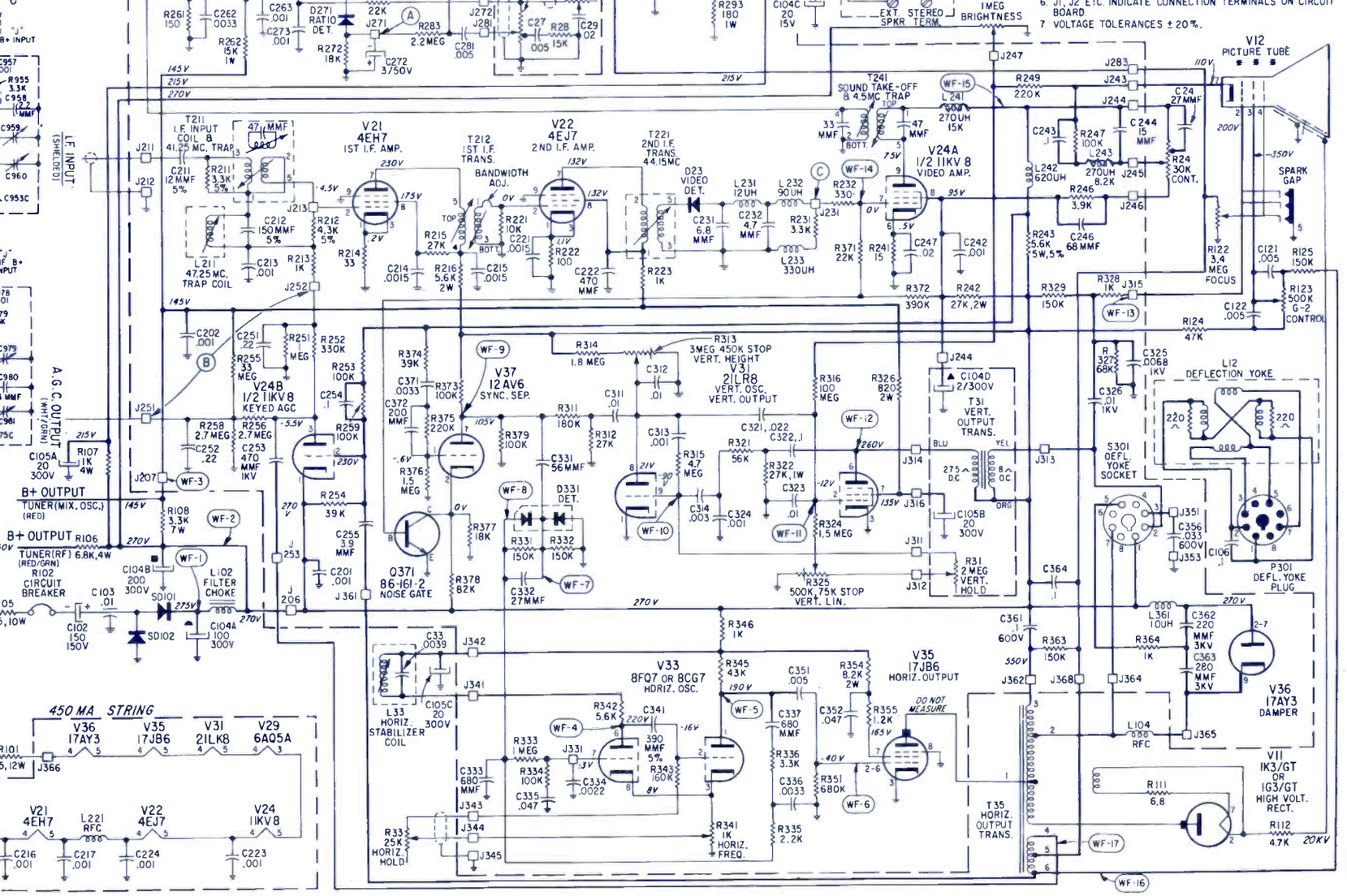
▲ TUBE INDEX POSITION

NOTES
1. RESISTANCE IS SHOWN IN OHMS K 1,000 MEG 1,000,000
2. ALL RESISTORS 1/2 WATT, UNLESS OTHERWISE NOTED
3. CAPACITANCE VALUES ARE MFD, UNLESS OTHERWISE NOTED.
4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND TUNER ON UNUSED CHANNEL, CONTRAST & BRIGHTNESS AT MINIMUM, -4.5 VOLTS BIAS ON AGC LINE ON TEST POINT (B), OTHER CONTROLS AT NORMAL LINE VOLTAGES 120 VOLTS, ANTENNA TERMINALS SHORTED TOGETHER, BUT NOT TO GROUND.
5. ALL WAVEFORMS MEASURED WITH STRONG SIGNAL INPUT AND WITH CONTRAST SET TO GIVE NORMAL PICTURE, AGC LINE OPERATING NORMALLY.
6. J1, J2 ETC. INDICATE CONNECTION TERMINALS ON CIRCUIT BOARD.
7. VOLTAGE TOLERANCES ± 20%.



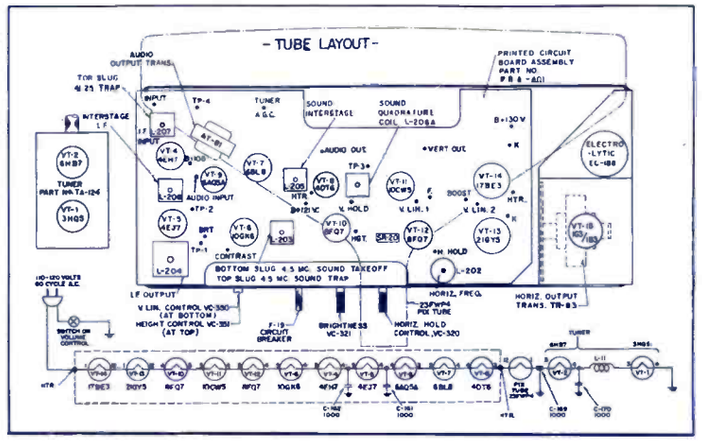


UHF TUNER (95-412-0)



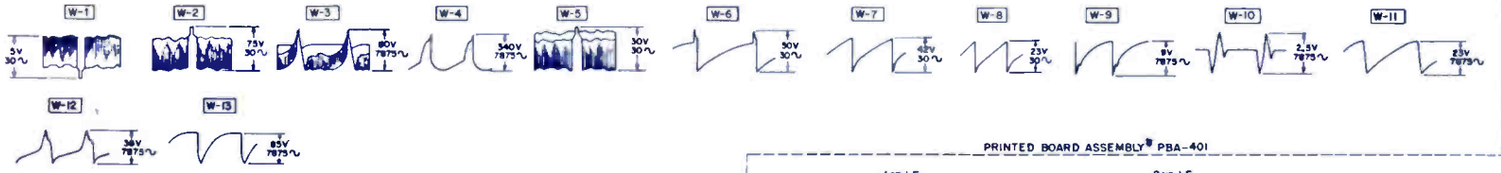
Symbol	Description	Silvertone Part No.
C33	.0039μf 10% 100v ac	20-545-0
C102	elect 150μf 175v	18-250-5
C103	feed thru, .01μf GMV	20-13-3
C104A	100μf 300v (A)	
B	200μf 300v (B)	
C	20μf 15v (C)	elect, 18-156-5
D	2μf 300v (D)	
C105A, B, C	20μf 300v elect (A, B, C)	18-96-3
C121, C122	.005μf +80% −20% Z5U	12-502724-6
C211	12pf 5% NPO	12-120281-2
C212, C271	150pf 5% NPO	20-619-0
C231	gimmick, 6.8pf 10% NPO	20-27-0
C232	gimmick 4.7pf 10% NPO	20-23-0
C247	tubular, .02μf +80% −20%	12-203724-6
C255	3.9pf 10% NPO	20-346-0
C272	elect 3μf 50v	18-170-5
C281, C283	.005μf +80% −20%	12-502774-6
C291	.002μf 2kv	20-623-0
C325	.0068μf +80% −20% 1kv	12-672874-6
C326	.01μf GMV 1kv	12-103894-8
C341	polyfilm 390pf 5%	20-277-1
C362	220pf 3kv	12-221516-8
C363	280pf 3kv	12-281516-8
R24	30K contrast	24-753
R27	1M (vol. push pull on-off)	24-873
R28	15K dep oxide	61-15301-3
R29	1M (tone)	24-752
R31	2M vert hold	24-794
R33	25K horiz hold	24-751
R101	45Ω 12w	61-298-0
R102	circuit breaker	43-12-2
R103	565Ω 5% 15W WW	61-297-0
R104	1.2K 5% 10w	63-12295
R105	4.5Ω 10w	61-191-0
R106	6.8K fused oxide 4w	68-68241
R107	1K fused oxide 4w	68-10241
R108	3.3K 7w	63-33271
R111	6.8Ω 5%	63-68905
R121	1M brightness control	24-754
R122	3.4M focus	24-491
R123	500K (G-2 control)	24-521
R211	3.3K 5%	64-33205
R212	4.3K 5%	64-43205
R243	5.6K 5% 5w	68-56255
R313	3M (vert height control)	24-817
R325	500K vert lin	24-816
R341	1K horiz freq control	24-570
RC101	.001μf capacitor 4.7M resistor	13-17-3
T29	xformer, audio out	80-255-1
T31	xformer, vert out	80-31-2
T35	high voltage xformer & base w/high vol leads & R111	84-17923
T101	choke, line radiation	10-289-1
T211	coil, input IF 41.25Mc trap	10-62-3
T212	first video IF xformer	10-58-3
T221	second video IF xformer	10-59-3
T241	coil, 4.5Mc trap	10-209-1
T261	ratio det xformer	10-260-1
L12	deflection & plug	80-51-4
L33	horiz stabilizer coil	10-75-5
L102	choke filter	80-44-6
L104	coil, choke	10-124-1
L211	coil, 47.25Mc trap	10-86-3
L221	coil, filament choke	10-156-1
L231	coil, peaking 12μh	10-65-1
L232	coil, peaking 90μh	10-256-1
L233	coil peaking 330μh	10-253-1
L241	coil, peaking 150μh	10-255-1
L242	coil, peaking 620μh	10-236-1
L243	coil, peaking 270μh wound on 8.2KΩ resistor	10-170-1
L361	coil, horiz suppression	10-242-1
D23, D271	diode, video & ratio det	86-10-1
D331	diode, dual selenium	86-9-1
SD101, SD102	rectifier, silicon 500ma	86-1-3
Q371	transistor (noise gate)	86-161-2

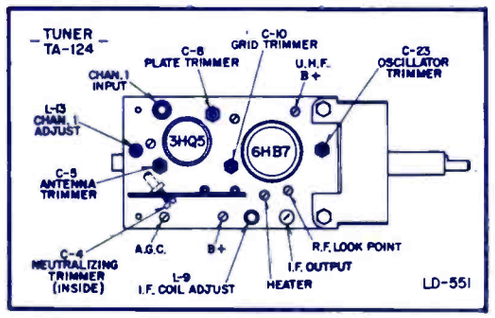
SONORA
TV Model
S64K236M



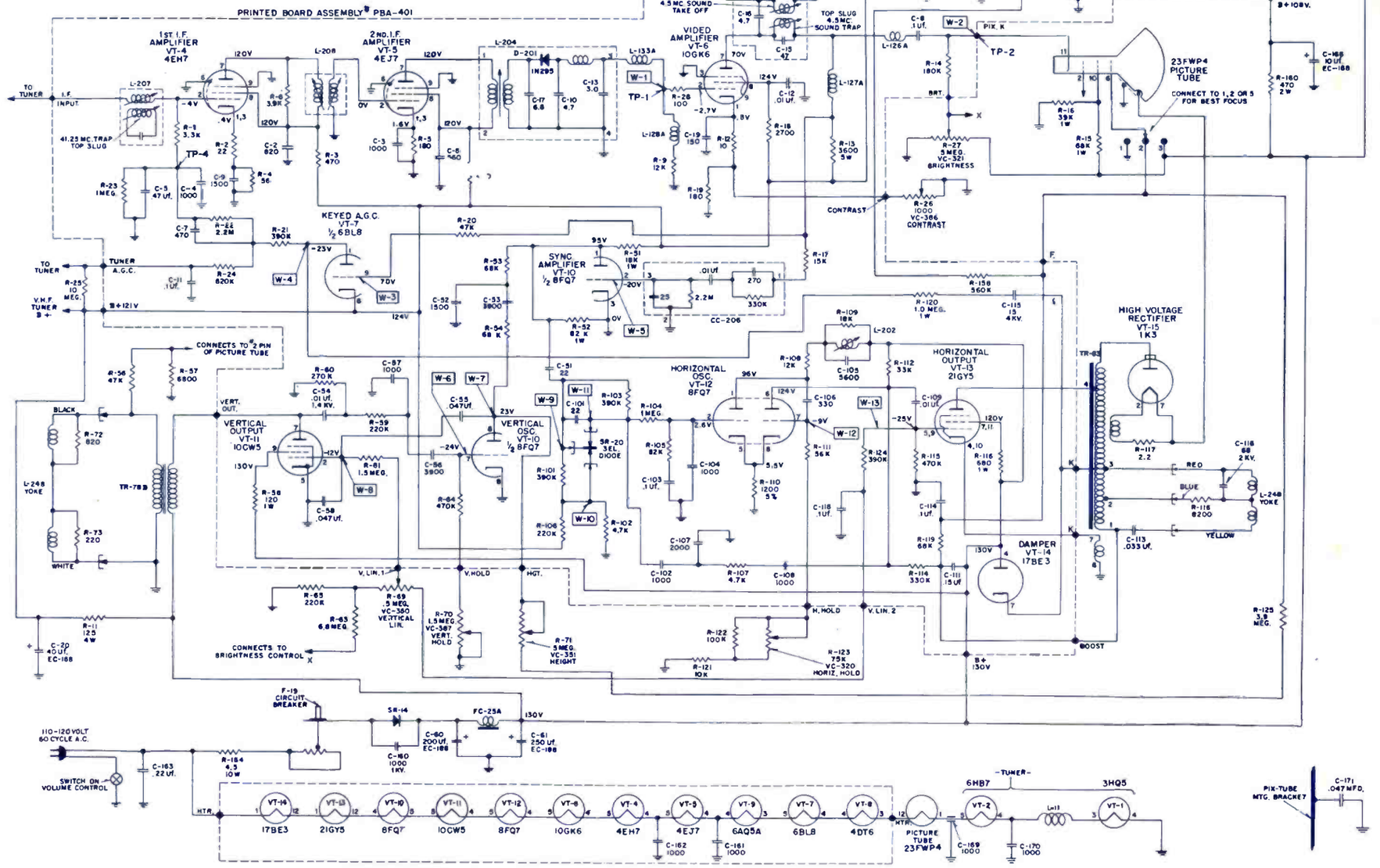
- VOLTAGES & WAVEFORMS -

1- LINE VOLTAGE 115A.C. THROUGH ISOLATION TRANSFORMER.
2- ALL VOLTAGES SHOWN ON SCHEMATIC ARE D.C. READINGS.
3- VOLTAGE READINGS TAKEN WITH NORMAL SIGNAL INPUT USING A V.T.V.M.
4- CONTROLS SET FOR NORMAL OPERATION.
5- WAVEFORMS TAKEN WITH NORMAL SIGNAL INPUT.
6- ALL WAVEFORM VOLTAGES SHOWN ON SCHEMATIC ARE PEAK TO PEAK READINGS.





Symbol	Description	Sonora Part No.
C-54, C159	.01μf 1.4kv 20%, ceramic	CC-299
C-115	15pf 4kv 10%, ceramic	CC-300
	xformer, audio output	AT-81
	couplate, sync take-off	CC-206
	elect, 25μf 25v	EC-179
	elect, 250-200-40-10μf 200v	EC-188
	circuit breaker	F-19
	filter choke	FC-23A
R-110	resistor, 1200Ω ½w 5% carbon	IR-101
R-11	resistor, 125Ω 4w 10% carbon	IR-595
	resistor, 51000Ω 1w 5% carbon (VHF-UHF models only)	IR-634
	coil, video peaking	L-126A
	coil, video peaking	L-127A
	RF choke, coil	L-128A
	RF choke, coil	L-133A
	coil, horiz frequency	L-202
	coil, sound take-off & 4.5Mc trap	L-203
	coil, IF output	L-204
	coil, sound interstage	L-205
	coil, sound quad	L-206A
	coil, IF input	L-207
	coil, IF interstage	L-208
	deflection yoke	L-248
C-106	330pf 500v 10% mica	MC-70
	tuner, VHF	TA-124
	tuner, UHF (VHF-UHF models only)	TA-125
	xformer, vertical out	TR-78B
	xformer, horiz out	TR-83
	control, horiz hold 75000Ω	VC-320
	control, brightness, 5M	VC-321
	control, vert lin, .5M	VC-350
	control, height 5M	VC-351
	control, on-off/volume 500,000Ω W/on-off switch	VC-385
	control, contrast 1000Ω	VC-386
	control, vert hold 1.5M	VC-387
R-164	resistor, 4.5Ω 10w 10% WW	WR-99
R-13	resistor, 3600Ω 5w 10% WW	WR-104



SYLVANIA
TV Chassis
AO2-1, -2

Symbol	Description	Sylvania Part No.
C120	.22µf 75v	
C121	1µf 15v elect	41-18227-1
C124	.22µf 75v	
C126	1µf 25v elect	41-18229-1
C127	500µf 15v elect	41-15820-29
C200	22 NPO	
C204	12 NPO	
C212	25µf 3v elect	41-15820-7
C214	10µf 12v elect	41-18227-6
C216	10 NPO	
C217	1.5 NPO	
C224	3.3 NPO	
C228	56 NPO	
C230	22 NPO	
C231	500µf 15v elect	41-15820-29
C232	10 NPO	
C234	10µf 15v elect	41-18227-6
C240	.1µf 200v	
C246	.047µf 100v	
C248	18-N750	
C250	.22µf 75v	
C252	47 N1500	
C254	.1µf 100v	
C302	1µf 15v elect	41-17614-1
C304	.15µf 75v	
C306	75µf 15v elect	41-15837-1
C308	22µf 15v elect	41-17619-1
C310	.47µf 75v	
C312	1000µf 12v elect	41-18226-13
C410	150-N1500	
C412	1µf 15v elect	41-18227-1
C416	.0039µf 100v 5%	
C418	.056µf 100v	
C420	500µf 15v elect	41-15820-29
C422	.056µf 100v	
C428	25µf 10v elect	41-18226-8
C432	100µf 25v elect	41-17611-1
C434	35µf 150v elect	41-17610-1
C435	10µf 150v elect	41-17610-2
C436	3µf 200v	
C437	15µf 250v elect	41-96355-11
C500	2 section elect	41-15825-2
A	3000µf 20v	
B	3000µf 20v	
R126	56K 5%	
R128	10K 5%	
R132	1.8Ω 5%	
R205	1.5K 5% (see code change 02)	
R209	3.3K 5% (see code change 02)	
R256	8.2K 2w	
R326	1.8Ω 5%	36-14764-11
R412	47K 5%	
R414	22K 1w	
R426	10K 5%	
R430	510Ω 5%	
L200	coil link	50-17680-5
L202	coil 47.25MHz trap	57-11637-1
L204	coil IF input	57-11611-1
L206	coil video det	57-15796-1
L208	coil video det	57-15797-1
L212	coil tweet	50-11634-1
L214	coil peaking 220µh	50-15318-12
L218	coil peaking 220µh	50-15318-12
L300	coil vert output	56-17819-1
L302	coil vert deflection	part of yoke
L400	coil horiz freq	50-15834-1
L402	coil horiz deflection	part of yoke
L500	coil B+ choke	56-15826-1
T100	xformer ratio det	57-15790-1
T102	xformer audio output	part of speaker
T200	xformer video IF	57-15795-1
T202	xformer video IF	57-15795-1
T206	xformer sound take off	57-15791-2
T400	xformer horiz drive	56-15822-1
T402	xformer high voltage	50-15824-1
T500	xformer power	55-15830-1
CB500	circuit breaker 2.25amp	29-17620-1
CB502	circuit breaker 3.75amp	29-15832-1
SC100	diode sound det	1N541
SC102	diode sound det	1N541
SC202	diode AGC keyer	1N295
SC203	diode AGC delay	1N295
SC204	diode video det	1N295
SC206	diode dc coupling	D6462
SC400	diode AFC	1N4092
SC402	diode AFC	1N4092
SC404	diode series damper	13-17825-1
SC406	diode video supply	13-14627-3
SC407	diode parallel damper	13-17825-1
SC409	diode yoke protection	13-14627-3
SC411	diode high voltage rectifier	13-16106-2
SC500	diode 12v rectifier	13-18481-2
SC502	diode 12v rectifier	13-18481-2
SK100	socket earphone (-1 ch)	419-0026
SK500	socket power	73-17617-1
SW500	switch on/off	part of R118
SW502	switch UHF B+	33-13819-6
R118	10K vol/on/off	37-17615-3
R232	1K AGC	37-85955-9
R244	10K video bias	37-17621-1
R270	25K contrast	37-17615-2
R280	200K brightness	37-17615-1
R314	250Ω vert lin	37-15902-2
R318	2.5K vert height	part of R314
R328	7.5K vert hold	37-17615-4
R420	10K horiz hold	37-95323-62
Q100	transistor 1st sound IF	13-15808-1
Q102	transistor 2nd sound IF	13-15808-1
Q104	transistor 1st audio amp	13-15840-1
Q106	transistor 2nd audio amp	13-15840-1
Q108	transistor audio output	13-15833-1
Q200	transistor 1st video IF	13-15841-1
Q202	transistor AGC amp	13-15840-1
Q204	transistor 2nd video IF	13-15835-1
Q206	transistor 3rd video IF	13-15810-1
Q208	transistor AGC keyer	13-15808-1
Q210	transistor video amp	13-16840-1
Q212	transistor 2nd video amp	13-15809-1
Q300	transistor sync sep	13-15840-1
Q302	transistor vert osc	2N3638
Q304	transistor vert driver	2N3638
Q306	transistor vert output	13-17608-1
Q400	transistor horiz osc	13-15808-1
Q402	transistor horiz osc	13-15808-2
Q404	transistor horiz driver	2N3567
Q406	transistor horiz output	13-17607-1
	yoke deflection	51-17817-1
	tuner UHF	54-17809-5
	tuner VHF	54-15811-2

PICTURE TUBE REMOVAL

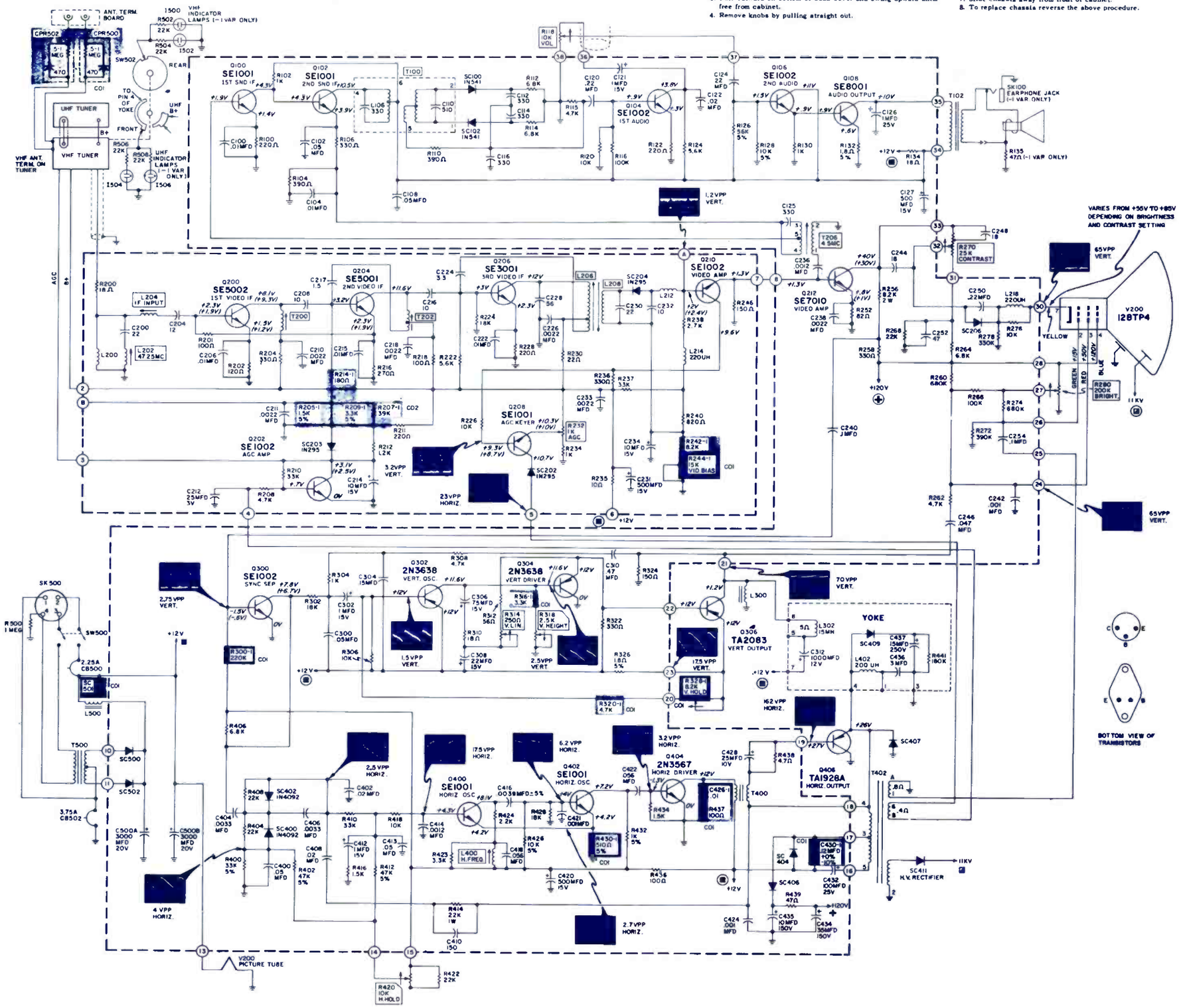
1. Remove chassis from cabinet as outlined under "Chassis Removal".
2. Disconnect high voltage lead and picture tube socket from picture tube.
3. Loosen screw of yoke retaining ring.
4. Remove four (4) screws securing picture tube mounting frame to chassis.
5. USING GOGGLES AND GLOVES, remove picture tube and mounting frame from chassis. IMPORTANT: THE MOUNTING FRAME IS AN INTEGRAL PART OF THE PICTURE TUBE. DO NOT TRY TO SEPARATE.
6. Reverse the above procedure for picture tube installation.

YOKE REMOVAL

1. Remove back of cabinet as outlined under "Chassis Removal".
2. Disconnect picture tube socket.
3. Loosen screw of yoke retaining ring.
4. IDENTIFY and unsolder leads to yoke.
5. Slide yoke off carefully from neck of picture tube.
6. Reverse the above procedure for yoke installation, making certain all leads unsoldered are connected in their original position.

CHASSIS REMOVAL

1. Disconnect power cord and antenna connections.
2. Remove the two screws securing back of cabinet to chassis. (Located below circuit breaker buttons on interlock plate.)
3. Pull outward on bottom of back cover and swing upward until free from cabinet.
4. Remove knobs by pulling straight out.
5. Remove the four (4) screws securing handle to chassis.
6. Remove the four (4) screws securing front of cabinet to chassis. (See figure A for location of screws.)
7. Slide chassis away from front of cabinet.
8. To replace chassis reverse the above procedure.



SYLVANIA
TV Chassis B04-1, -2

SCHEMATIC NOTES

— IMPORTANT —

READ THESE INSTRUCTIONS CAREFULLY AND OBSERVE THE CONDITIONS NOTED WHEN TAKING VOLTAGE READINGS OR OBSERVING WAVEFORMS.

PICTURE TUBE HIGH VOLTAGE ANODE MAY HAVE A POTENTIAL OF 19,000 VOLTS.
OBSERVE ALL HIGH VOLTAGE PRECAUTIONS WHEN SERVICING THE CHASSIS. DO NOT OPERATE THE RECEIVER WITH THE HIGH VOLTAGE COVER REMOVED USE SAFETY GOGGLES AND GLOVES WHEN HANDLING THE PICTURE TUBE.

VOLTAGE MEASUREMENT CONDITIONS UNLESS OTHERWISE SPECIFIED.

1. Voltages measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings in brackets taken with no input; channel selector set to a free channel, antenna disconnected, antenna terminals shorted together and grounded to chassis.
4. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station developing approximately -7 volt on AGC Buss. NOTE: AGC VOLTAGE AT TEST POINT (B) WILL VARY FROM -7 VOLT ON A VERY STRONG SIGNAL TO A +20 VOLT ON A VERY WEAK SIGNAL.
5. Contrast control set to maximum. Brightness control set to minimum.
6. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

SPECIAL VOLTAGE MEASUREMENT CONDITIONS

(B) Picture tube anode voltage measured with VTVM high voltage probe at line voltage of 120 volts under conditions of normal signal, no brightness and correct scan size.

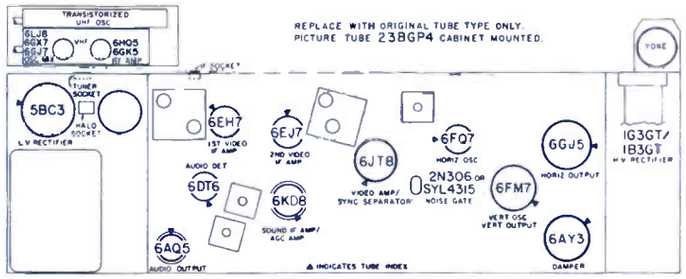
▲ High peak voltage of short duration may damage meter used for this measurement.

WAVEFORM MEASUREMENT CONDITIONS

1. Channel selector set to strong channel.
2. Contrast control set for signal of 70 volt peak to peak at yellow lead of picture tube.
3. Waveforms measured with respect to chassis using a wide band oscilloscope. (Other type oscilloscopes may alter waveform shapes or amplitudes.)
4. The terms 30∿ or 7875∿ refer to scope frequency used.

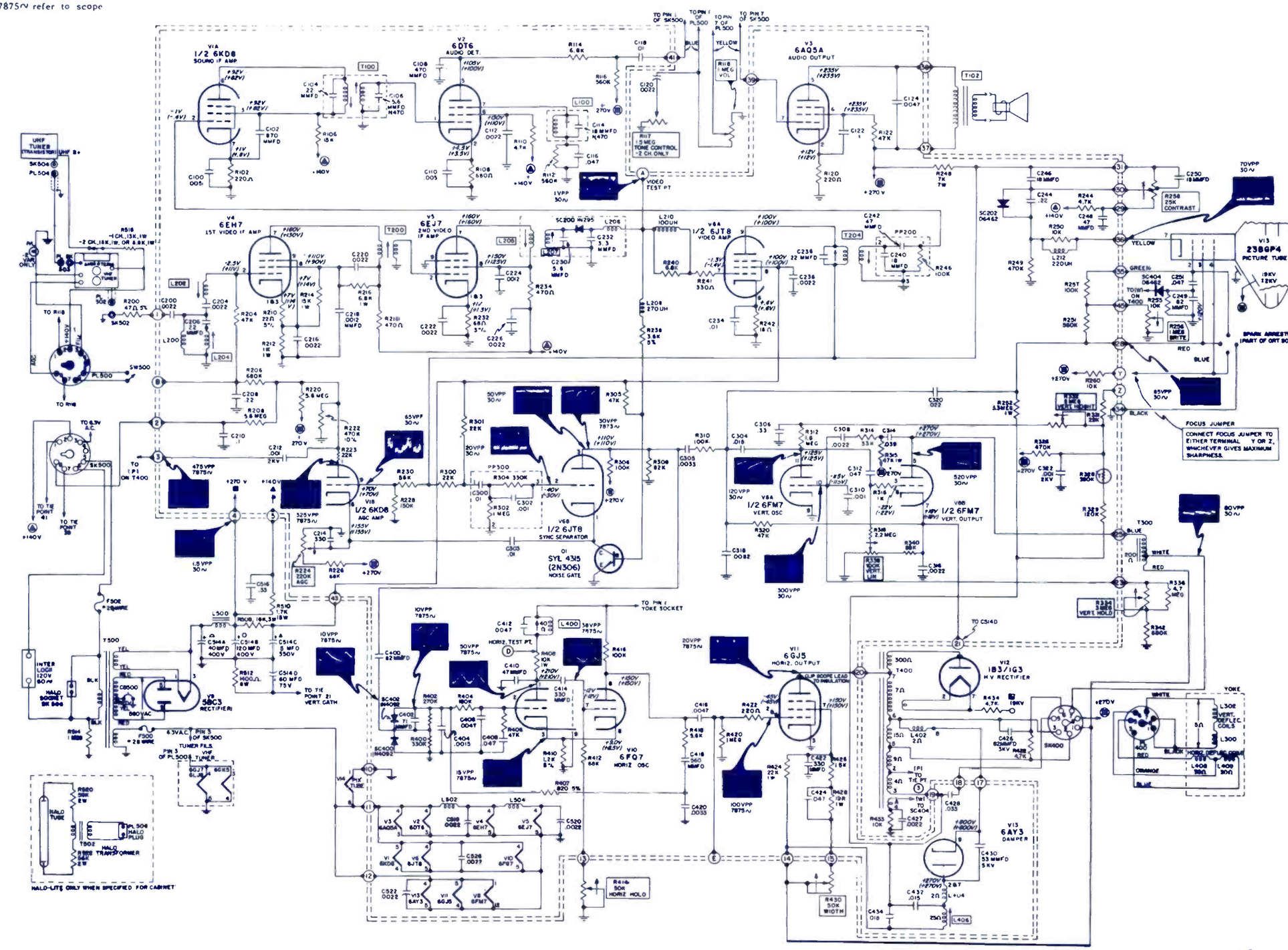
Symbol	Description	Sylvania Part No.
C112	.0022 μfd	43-15009-1
C114	18 pf N470	
C120	.0022 μfd	43-85941-14
C212	.001 μfd 2Kv	43-11028-7
C220	.0022 μfd, GMV	
C226	.0022 μfd, GMV	43-15009-1
C236	.0022 μfd, GMV	43-15009-1
C308	.0022 μfd, 1000v paper	169-0062
C316	.0022 μfd, GMV	43-15009-1
C412	.0047 μfd polystyrene	40-10285-4
C426	82 pf 3Kv	169-0061
C430	33 pf 5Kv	43-11028-5
C514	4 section electrolytic	41-15467-1
A	40 μfd-400v	
B	120 μfd 400v	
C	5 μfd 350v	
D	60 μfd 75v	
C518	.0022 μfd GMV	43-15009-1
C520	.0022 μfd GMV	43-15009-1
C522	.0022 μfd GMV	43-15009-1
C526	.0022 μfd GMV	43-15009-1
R248	7000Ω 7w	189-0088
R328	390,000Ω thermistor	38-11780-3
R508	18,000Ω 3w	35-92495-41
R510	1700Ω 15w	3692898-19
R512	1400Ω, 4w	35-92495-78
R514	1 M	
L100	coil 4.5 Mc	57-11602-1
L200	coil link	50-11609-2
L202	coil IF input	57-11611-1
L204	coil IF trap	57-11637-1
L205	coil video detector	57-11616-2
L206	coil filter	50-11634-1
L207	coil video detector	57-11652-1
L300, L302	coil vert. deflection	part of yoke
L400	coil horiz. frequency	50-11603-2
L402	coil filter	118-0010
L404	coil filter	50-92043-3
L408	coil horiz deflection	part of yoke
L409	coil horiz deflection	part of yoke
L500	coil choke	56-99229-2
L502	coil filament	50-85963-2
L504	coil filament	50-85963-2
T100	transformer sound interstage	57-11606-1
T200	transformer IF interstage	57-11612-2
T204	transformer sound take off	57-11604-1
T300	transformer vert. output	56-15476-1
T400	transformer HV	50-17718-1
T500	transformer power	55-15153-2
T502	transformer halo	55-15477-1
R117	1.5 M tone	part of R118
R118	1 M-volume/on/off (-1 Ch)	37-11959-8
R118	1 M-volume/on/off/ton (-2 Ch)	37-15230-2
R224	220,000Ω — AGC	part of R338
R256	1 M — Brightness	37-97462-9
R258	25,000Ω contrast	153-0331
R332	5 M vert height	part of R338
R334	3 M — vert hold	37-97462-11
R338	100,000Ω vert lin	37-11632-6
R414	50,000Ω horiz hold	37-95323-51
R430	50,000Ω — width	153-0236

TUBE LAYOUT DIAGRAM



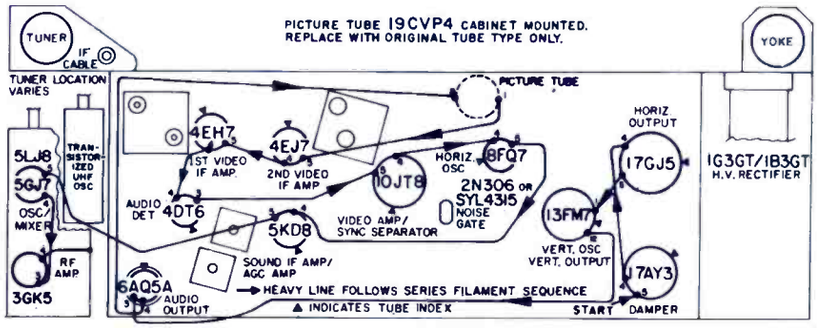
GENERAL SCHEMATIC NOTES

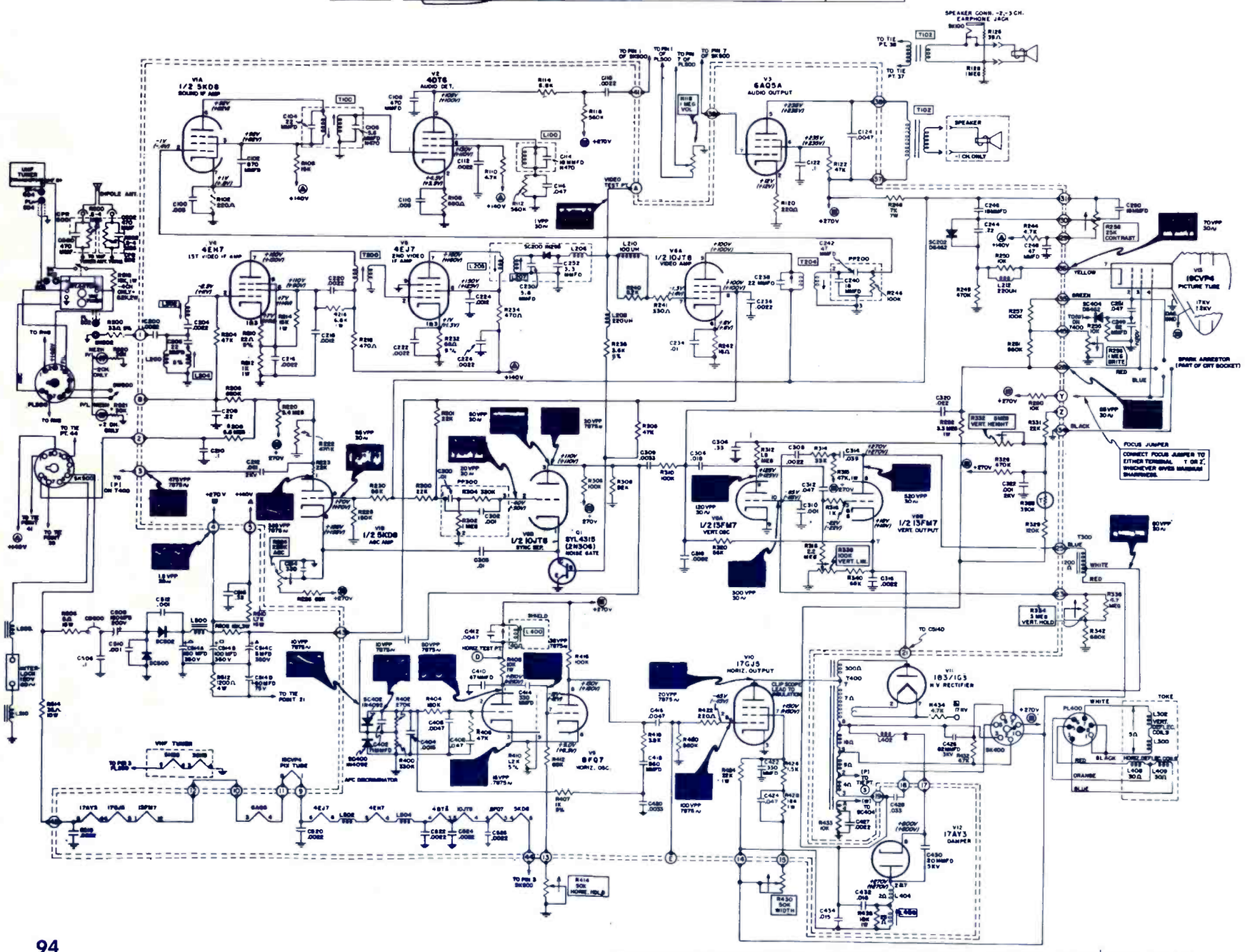
1. Voltage sources are indicated by encircled symbols, corresponding symbols without circles indicate voltage tie points.
2. Average resistances of coils and transformers are shown and are measured with component connected in circuit.
3. Encircled numbers on edge of printed circuit indicate tie points, corresponding with those shown on parts layout of printed board.
4. All capacitors are in microfarads unless otherwise specified.
5. Coils, transformers, plugs and sockets are shown as viewed from the bottom.
6. Arrows on controls indicate direction of clockwise rotation.



SYLVANIA

TV Chassis BO5-1, -2, -3





READ THESE INSTRUCTIONS CAREFULLY AND OBSERVE THE CONDITIONS NOTED WHEN TAKING VOLTAGE READINGS OR OBSERVING WAVEFORMS.

PICTURE TUBE HIGH VOLTAGE ANODE MAY HAVE A POTENTIAL OF 18,000 VOLTS.
OBSERVE ALL HIGH VOLTAGE PRECAUTIONS WHEN SERVICING THE CHASSIS. DO NOT OPERATE THE RECEIVER WITH THE HIGH VOLTAGE COVER REMOVED. USE SAFETY GOGGLES AND GLOVES WHEN HANDLING THE PICTURE TUBE.

SCHEMATIC NOTES

— IMPORTANT —

VOLTAGE MEASUREMENT CONDITIONS UNLESS OTHERWISE SPECIFIED.

1. Voltages measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings in brackets taken with no input; channel selector set to a free channel, antenna disconnected, antenna terminals shorted together and grounded to chassis.
4. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station developing approximately -7 volt on AGC Buss. NOTE: AGC VOLTAGE AT TEST POINT Ⓑ WILL VARY FROM -7 VOLT ON A VERY STRONG SIGNAL TO A +20 VOLT ON A VERY WEAK SIGNAL.
5. Contrast control set to maximum. Brightness control set to minimum.
6. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

SPECIAL VOLTAGE MEASUREMENT CONDITIONS

Ⓑ Picture tube anode voltage measured with VTVM high voltage probe at line voltage of 120 volts under conditions of normal signal, no brightness and correct scan size.

▲ High peak voltage of short duration may damage meter used for this measurement.

WAVEFORM MEASUREMENT CONDITIONS

1. Channel selector set to strong channel.
2. Contrast control set for signal of 70 volt peak to peak at yellow lead of picture tube.
3. Waveforms measured with respect to chassis using a wide band oscilloscope. (Other type oscilloscopes may alter waveform shapes or amplitudes.)
4. The terms 30AV or 7875AV refer to scope frequency used.

GENERAL SCHEMATIC NOTES

1. Voltage sources are indicated by encircled symbols, corresponding symbols without circles indicate voltage tie points.
2. Average resistances of coils and transformers are shown and are measured with component connected in circuit.
3. Encircled numbers on edge of printed circuit indicate tie points, corresponding with those shown on parts layout of printed board.
4. All capacitors are in microfarads unless otherwise specified.
5. Coils, transformers, plugs and sockets are shown as viewed from the bottom.
6. Arrows on controls indicate direction of clockwise rotation.

Symbol	Description	Sylvania Part No.
C112	.0022 μfd	43-15009-1
C118	.0022 μfd	43-15009-1
C200	.0022 μfd	43-15009-1
C204	.0022 μfd	43-15009-1
C206	22 pf-NPO	
C212	.001 μfd-2KV	43-11028-7
C220	.0022 μfd-GMV	
C230	5.6 pf-NPO	
C232	3.3 pf-NPO	
C308	.0022 μfd-1000v-paper	169-0062
C400	82 pf-NPO	
C402	71 pf-NPO	
C414	330 pf-mica	
C426	82 pf-3kv	169-0061
C430	20 pf-5kv	43-11028-4
C514	4 section electrolytic	41-15466-1
R248	7,000Ω-7w	189-0088
R328	390,000Ω-thermistor	38-11780-3
R506	5Ω-15w	36-92898-18
R508	18,000Ω-3w	35-92495-41
R510	1,700Ω-15w	36-92898-19
R512	1,200Ω-4w	35-92495-56
R514	36Ω-10w	36-92898-21
L100	coil-4.5 Mc	57-11602-1
L205	coil-video detector	57-11616-2
L206	coil-filter	50-11634-1
L400	coil-horiz. frequency	50-11603-2
L402	coil-filter	118-0010
L404	coil-filter	50-92043-3
L406	coil-horiz. lin.	50-15019-1
L500	coil-choke	56-11651-1
L508	coil-choke	50-15023-1
L510	coil-choke	50-15023-1
T100	transformer-sound inter.	57-11606-1
T102	transformer-audio output	56-97301-9
T200	transformer-IF interstage	57-11612-2
T204	transformer-sound take-off	57-11604-1
T300	transformer-vert. output	56-15476-1
T400	transformer-HV	50-17685-1
CB500	circuit breaker	29-88908-5
CPR500	capristor	190-0094
CPR502	capristor	190-0094
SC200	diode-video detector	1N295
SC202	diode	D6462
SC400	diode-AFC	1N4092
SC402	diode-AFC	1N4092
SC404	diode	D6462
SC500	rectifier-silicon	13-10102-1
SC502	rectifier-silicon	13-10102-1
R118	1 M-volume/on/off	37-15287-1
R224	220,000Ω-AGC	37-11632-6
R256	1 M-brightness	37-15064-3
R258	25,000Ω-contrast	37-15065-3
R332	5 M-vert. height	Part of R224
R334	3 M-vert. hold	37-15065-4
R338	100,000Ω-vert. lin.	Part of R224
R414	50,000Ω-horiz. hold	37-95323-51
R430	50,000Ω-width	153-0236
	Yoke-deflection	51-15473-1

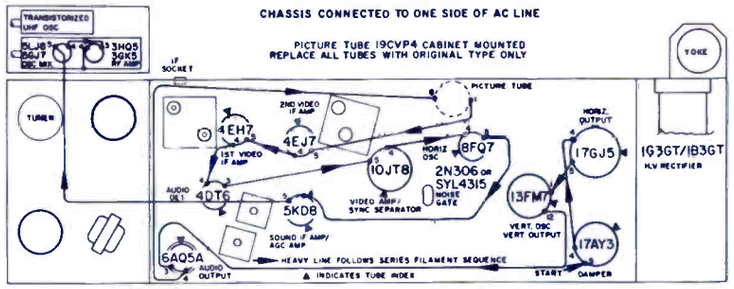
ELECTRONIC TECHNICIAN TEKFAX

SYLVANIA
TV Chassis BO6-1,
-2,-3

TUBE LAYOUT DIAGRAM

CHASSIS CONNECTED TO ONE SIDE OF AC LINE

PICTURE TUBE 19CVP4 CABINET MOUNTED
REPLACE ALL TUBES WITH ORIGINAL TYPE ONLY



Symbol	Description	Sylvania Part No.
C104	2.2 pf, N750, 500v cer.	
C106	5.6 pf, N470, 500v cer.	
C118	.0022 µfd, 500v cer.	43-15009-1
C220	.0022 µfd, GMV, 500v cer.	
C226	.0022 µfd, GMV, 500v cer.	43-15009-1
C236	.0022 µfd, GMV, 500v cer.	43-15009-1
C322	.001 µfd, 2kv	43-11028-7
C412	.0047 µfd, Polystyrene 500v cer.	40-10285-4
C426	82 pf, 3kv	169-0061
C430	20 pf, 5kv	43-11028-4
C508	150 µfd, 200v, Electrolytic	41-11635-1
C514	4 Section Electrolytic	41-15466-1
A	150 µfd, 350v	
B	100 µfd, 350v	
C	5 µfd, 350v	
D	60 µfd, 75v	
C518	.0022 µfd, GMV, 500v cer.	43-15009-1
C520	.0022 µfd, GMV, 500v cer.	43-15009-1
C522	.0022 µfd, GMV, 500v cer.	
C524	.0022 µfd, GMV, 500v cer.	
C526	.0022 µfd, GMV, 500v cer.	43-15009-1
R328	390,000Ω, Thermister, 500v cer.	38-11780-3
R508	18,000Ω, 3w, 500v cer.	35-92495-41
R510	1,700Ω, 15w, 500v cer.	36-92898-19
R512	1,200Ω, 4w, 500v cer.	35-92495-56
R514	36Ω, 10w, 500v cer.	36-92898-21
L100	Coil, 4.5 Mc, 500v cer.	57-11602-1
L200	Coil, Link, 500v cer.	50-11609-1
L202	Coil, IF Input, 500v cer.	57-11611-2
L204	Coil, IF Trap, 500v cer.	57-11637-1
L205	Coil, Video Detector, 500v cer.	57-11616-2
L-206	Coil, Filter, 500v cer.	50-11634-1
L207	Coil, Video Detector 500v cer.	57-11652-1
L208	Coil, Peaking, 220 UH, 500v cer.	50-15318-12
L210	Coil, Peaking, 100 UH, 500v cer.	50-15318-8
L212	Coil, Peaking 220 UH, 500v cer.	50-15318-12
L400	Coil, Horiz, Frequency, 500v cer.	50-11603-2
L402	Coil, Filter	118-0010
L404	Coil, Filter, 500v cer.	50-92043-3
L406	Coil, Horiz. Lin., 500v cer.	50-15019-1
T100	Transformer, Sound Interstage 500v, cer.	57-11606-1
T102	Transformer, Audio Output 500v cer.	143-0095
T200	Transformer, IF Interstage 500v cer.	57-11612-2
T204	Transformer, Sound Take-Off 500v cer.	57-11604-1
T300	Transformer, Vert. Output 500v cer.	56-15476-1
T400	Transformer, HV, 500v cer.	50-17685-1
CB500	Circuit Breaker, 500v cer.	191-0026
CPR500	Capristor, 500v cer.	190-0094
C500	470 pf, 500v cer.	
R500	.5-4 M, 500v cer.	
CPR502	Capristor, 500v cer.	190-0094
C502	470 pf, 500 cer.	
R502	.5-4 M, 500v cer.	
CPR504	Capristor, 500v cer.	32-11488-3
C504	.0022 µfd, 500v cer.	
R504	.5-1 M, 500v cer.	
SC200	Diode, Video Detector, 500v cer.	1N295
SC202	Diode, 500v cer.	D6462
SC400	Diode, AFC, 500v cer.	1N4092
SC402	Diode, AFC, 500v cer.	1N4092
SC404	Diode, 500v cer.	D6462
SC500	Rectifier Silicon, 500v cer.	13-10102-1
SC502	Rectifier, Silicon, 500v cer.	13-10102-1
	Yoke, 500v cer.	51-15473-1
R117	1.5 M, Tone (-2,-3 Ch), 500v cer.	Part of R118
R118	1 M, Volume/On/Off/Tone, 500v cer.	37-15230-1
R118	1M, Vol/On/Off (-1 Ch), 500v cer.	37-11959-8
R224	220,000Ω, AGC, 500v cer.	Part of R338
R256	1 M, Bright., 500v cer.	37-15064-2
R258	25,000Ω, Contrast, 500v cer.	37-15065-1
R332	5 M, Vert. Height, 500v cer.	Part of R338
R334	3 M, Vert. Hold, 500v cer.	37-15065-2
R338	100,000Ω, Vert. Lin. 500v cer.	37-11632-1
R414	50,000Ω, Horiz. Hold 500v cer.	153-0319
R430	50,000Ω, Width, 500v cer.	153-0236

SCHEMATIC NOTES

— IMPORTANT —

READ THESE INSTRUCTIONS CAREFULLY AND OBSERVE THE CONDITIONS NOTED WHEN TAKING VOLTAGE READINGS OR OBSERVING WAVEFORMS.

PICTURE TUBE HIGH VOLTAGE ANODE MAY HAVE A POTENTIAL OF 18,000 VOLTS.
OBSERVE ALL HIGH VOLTAGE PRECAUTIONS WHEN SERVICING THE CHASSIS. DO NOT OPERATE THE RECEIVER WITH THE HIGH VOLTAGE COVER REMOVED. USE SAFETY GOGGLES AND GLOVES WHEN HANDLING THE PICTURE TUBE.

VOLTAGE MEASUREMENT CONDITIONS UNLESS OTHERWISE SPECIFIED.

1. Voltages measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings in brackets taken with no input; channel selector set to a free channel, antenna disconnected, antenna terminals shorted together and grounded to chassis.
4. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station developing approximately -7 volt on AGC Buss. NOTE: AGC VOLTAGE AT TEST POINT (B) WILL VARY FROM -7 VOLT ON A VERY STRONG SIGNAL TO A +20 VOLT ON A VERY WEAK SIGNAL.
5. Contrast control set to maximum. Brightness control set to minimum.
6. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

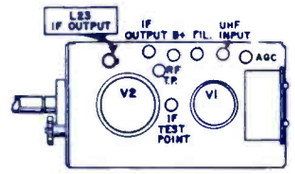
SPECIAL VOLTAGE MEASUREMENT CONDITIONS

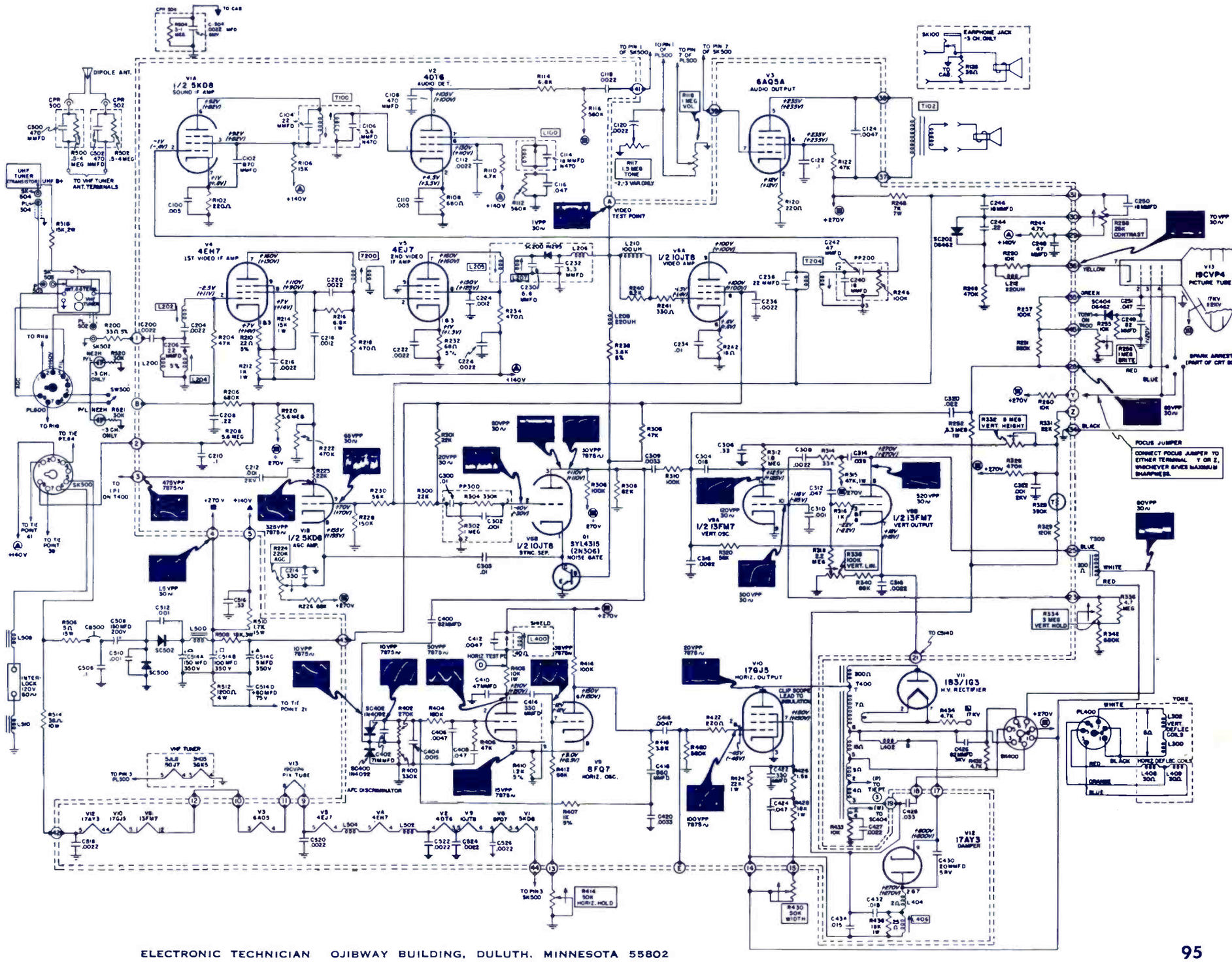
● Picture tube anode voltage measured with VTVM high voltage probe at line voltage of 120 volts under conditions of normal signal, no brightness and correct scan size.

▲ High peak voltage of short duration may damage meter used for this measurement.

WAVEFORM MEASUREMENT CONDITIONS

1. Channel selector set to strong channel.
2. Contrast control set for signal of 70 volt peak to peak at yellow lead of picture tube.
3. Waveforms measured with respect to chassis using a wide band oscilloscope. (Other type oscilloscopes may alter waveform shapes or amplitudes.)
4. The terms 30~ or 7875~ refer to scope frequency used.





SYLVANIA
Color TV Chassis
DO1-1, -2

ELECTRONIC TECHNICIAN TEKFAX

SCHEMATIC NOTES

IMPORTANT

READ THESE INSTRUCTIONS CAREFULLY AND OBSERVE THE CONDITIONS NOTED WHEN TAKING VOLTAGE READINGS OR OBSERVING WAVEFORMS.

GENERAL SCHEMATIC NOTES

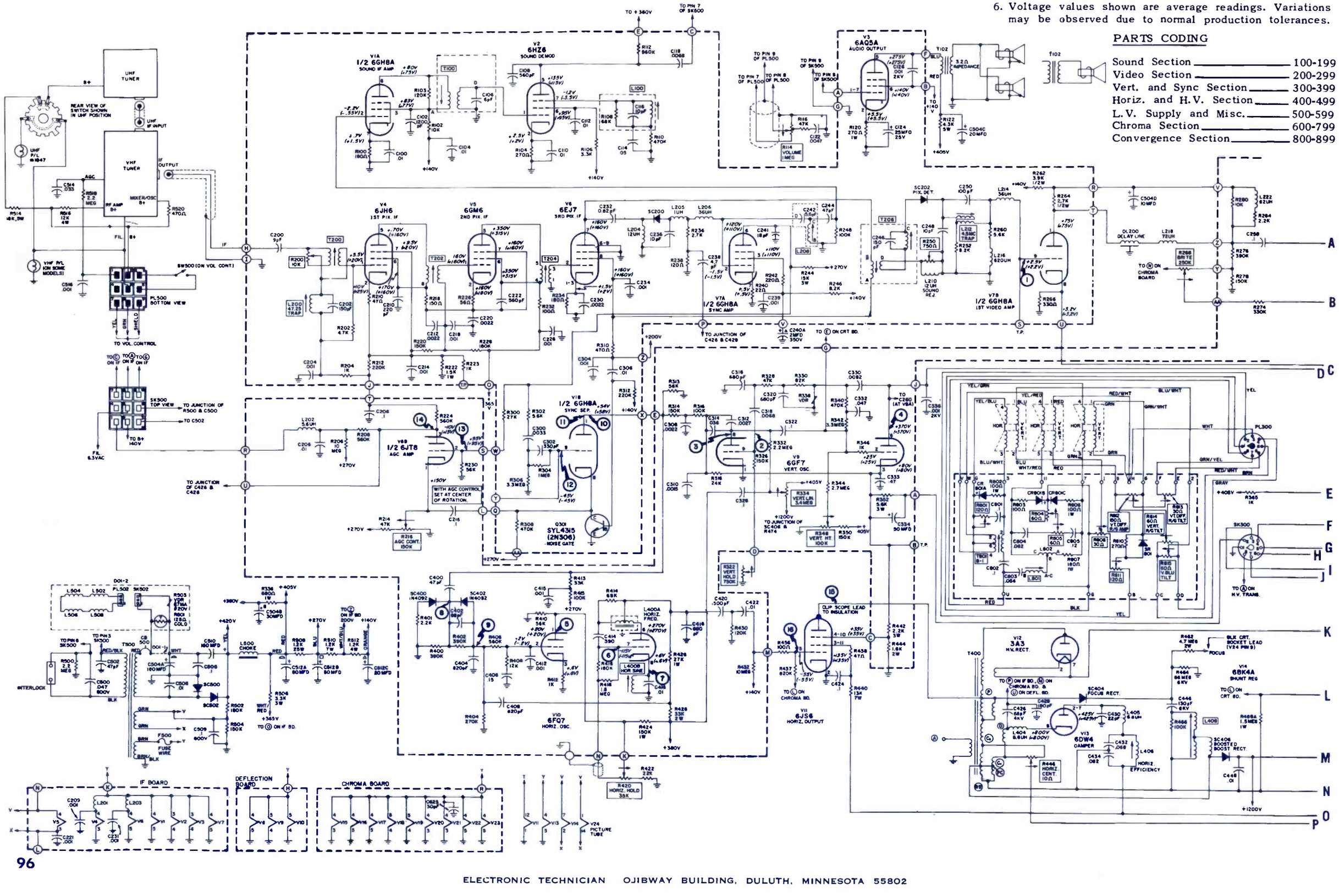
1. Encircled letters on edge of printed circuit indicate tie points, corresponding with those shown on printed board parts layout.
2. (- -) denotes printed board areas.
3. All capacitors are in microfarads unless otherwise specified.
4. Arrows on controls indicate direction of clockwise rotation.

VOLTAGE MEASUREMENT CONDITIONS UNLESS OTHERWISE SPECIFIED.

1. Voltage measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings in brackets taken with no input; channel selector set to a free channel, antenna disconnected, antenna terminals shorted together and grounded to chassis.
4. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station.
5. Contrast and Brightness control set for normal picture.
6. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

PARTS CODING

Sound Section	100-199
Video Section	200-299
Vert. and Sync Section	300-399
Horiz. and H.V. Section	400-499
L.V. Supply and Misc.	500-599
Chroma Section	600-799
Convergence Section	800-899



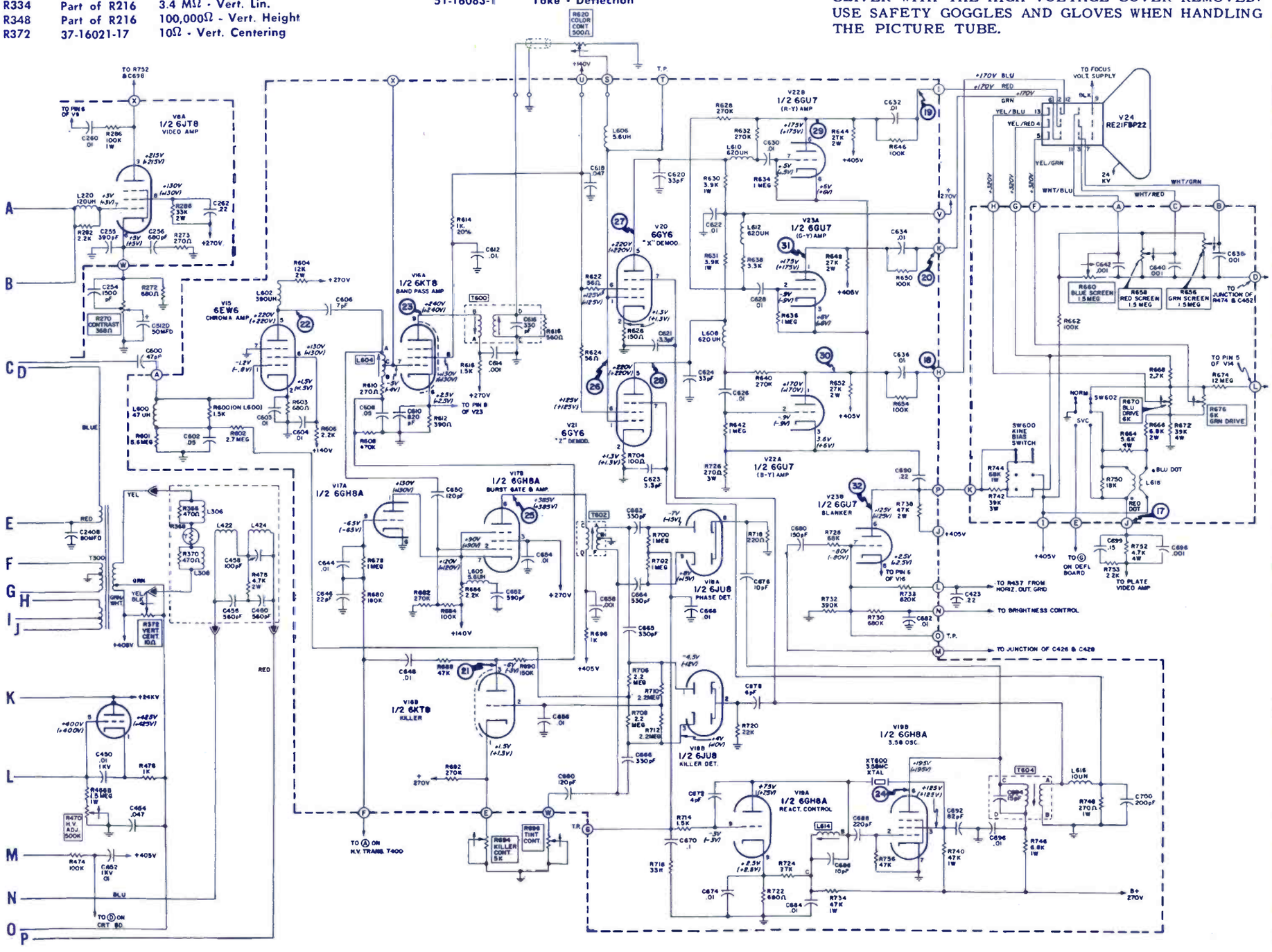
Symbol	Sylvania Part No.	Description
L100	50-16206-2	Coil - 4.5 Mc
L208	50-16206-4	Coil - Sound - Take-Off
L400	50-17102-1	Coil-Horiz Freq and Sine Wave
L406	50-16189-3	Coil - Horiz Efficiency
L408	50-16023-4	Coil - Focus
L502	50-17113-2	Coil - Degaussing (-2 Ch.)
L504	50-17113-3	Coil - Degaussing (-2 Ch.)
T102	56-16018-4	Transformer - Audio Output
T300	56-16017-4	Transformer - Vertical Output
T400	50-16016-2	Transformer - Horizontal Scan
T500	55-16015-1	Tranformer - Power (-1 Ch.)
T500	55-16015-2	Transformer - Power (-2 Ch.)
T600	50-16190-2	Transformer - Band Pass
T602	50-16191-2	Transformer - Burst Phase
T604	50-16192-3	Transformer - 3.58 Mc Osc.
CB500	29-16012-4	Circuit - Breaker
XT600	26-16162-1	Crystal - 3.58 Mc
R114	37-15536-2	1 MΩ - Vol/On/Off
R216	37-11632-3	150,000Ω - AGC
R268	37-16020-15	250,000Ω - Brightness
R270	37-16020-25	368Ω - Contrast
R322	37-16020-23	750,000Ω - Vert. Hoid
R334	Part of R216	3.4 MΩ - Vert. Lin.
R348	Part of R216	100,000Ω - Vert. Height
R372	37-16021-17	10Ω - Vert. Centering
R420	37-16020-26	35,000Ω - Horiz. Hold
R446	37-16021-19	10Ω - Horiz. Centering
R470	37-16020-27	500,000Ω - H. V. Adj.
R620	37-16020-14	500Ω - Color
R656	37-15908-1	1.5 MΩ - Green Screen
R658	Part of R656	1.5 MΩ - Red Screen
R660	Part of R656	1.5 MΩ - Blue Screen
R670	37-15902-1	6,000Ω - Blue Drive
R676	Part of R670	6,000Ω - Green Drive
R694	37-16020-21	5,000Ω - Color Killer
R696	37-16020-16	1,200Ω - Tint
R801	37-16021-5	120Ω - Horiz. Left Blue #2
R804	37-16021-2	60Ω - Horiz. Left Rd. and Grn. #3
R805	37-16021-2	60Ω - Horiz. - Left Rd. and Grn. #4
R808	37-16021-6	30Ω - Vert. Blue Amplitude
R811	37-16021-5	20Ω - Vert. Red and Green Master
R812	37-16021-7	150Ω - Vert. Rd. and Grn. Diff.
R813	37-16021-6	30Ω - Vert. Rd. and Grn. Diff. Tilt
R814	37-16021-2	60Ω - Vert. Rd. and Grn. Master Tilt
R815	37-16021-2	60Ω - Vert. Blue Tilt
	54-15420-3	Tuner - UHF
	51-15505-1	Yoke - Convergence
	51-16083-1	Yoke - Deflection

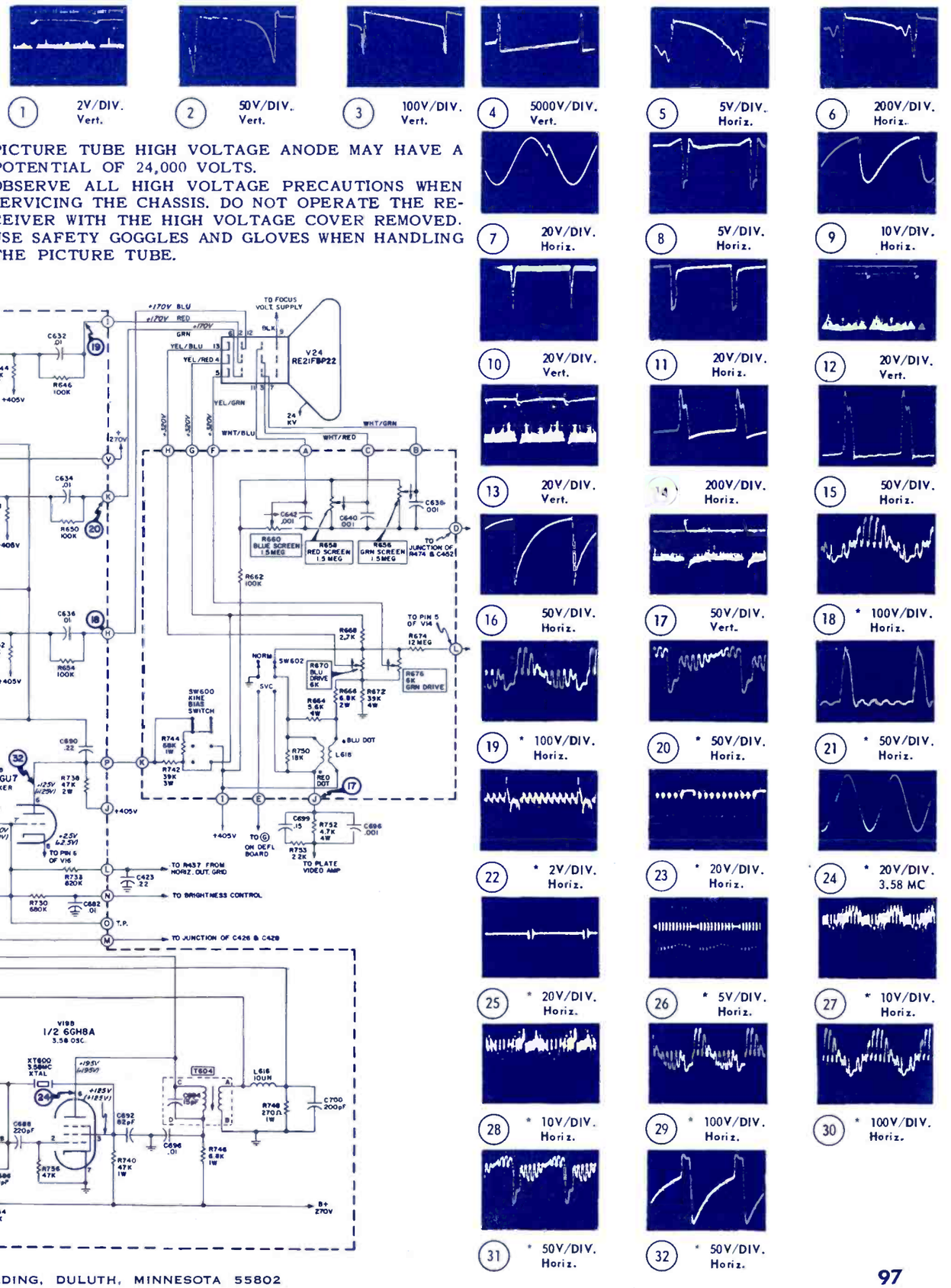
WAVEFORM MEASUREMENT CONDITIONS

1. Waveforms taken using a strong signal (test pattern).
2. All controls set for a normal viewing picture.
3. Waveforms measured with respect to chassis using a TEKTRONIC 535 oscilloscope. (Other type oscilloscopes may alter waveform shapes or amplitude.)
4. The terms "VERT" or "HORIZ" refer to scope frequency.
5. V/DIV refer to peak voltage per each major division.
6. Waveforms marked with an (*) were taken using a color bar generator as signal source.

SYLVANIA
Color TV Chassis DO1-1, -2

PICTURE TUBE HIGH VOLTAGE ANODE MAY HAVE A POTENTIAL OF 24,000 VOLTS.
OBSERVE ALL HIGH VOLTAGE PRECAUTIONS WHEN SERVICING THE CHASSIS. DO NOT OPERATE THE RECEIVER WITH THE HIGH VOLTAGE COVER REMOVED. USE SAFETY GOGGLES AND GLOVES WHEN HANDLING THE PICTURE TUBE.





SYLVANIA
Color TV Chassis
DO3-2

ELECTRONIC TECHNICIAN TEKFAX

SCHEMATIC NOTES

IMPORTANT

READ THESE INSTRUCTIONS CAREFULLY AND OBSERVE THE CONDITIONS NOTED WHEN TAKING VOLTAGE READINGS OR OBSERVING WAVEFORMS.

PICTURE TUBE HIGH VOLTAGE ANODE MAY HAVE A POTENTIAL OF 22,000 VOLTS. OBSERVE ALL HIGH VOLTAGE PRECAUTIONS WHEN SERVICING THE CHASSIS. DO NOT OPERATE THE RECEIVER WITH THE HIGH VOLTAGE COVER REMOVED. USE SAFETY GOGGLES AND GLOVES WHEN HANDLING THE PICTURE TUBE.

VOLTAGE MEASUREMENT CONDITIONS UNLESS OTHERWISE SPECIFIED.

1. Voltage measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings in brackets taken with no input; channel selector set to 6 (red channel), antenna disconnected, antenna terminals shorted together and grounded to chassis.
4. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station.
5. Contrast and Brightness control set for normal picture.
6. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

WAVEFORM MEASUREMENT CONDITIONS

1. Waveforms taken using a strong signal (test pattern).
2. All controls set for a normal viewing picture.
3. Waveforms measured with respect to chassis using a TEKTRONIC 535 oscilloscope. (Other type oscilloscopes may alter waveform shapes or amplitude.)
4. The terms "VERT" or "HORIZ" refer to scope frequency.
5. VPP refer to peak voltage.
6. Waveforms marked with an (*) were taken using a color bar generator as signal source.

GENERAL SCHEMATIC NOTES

1. Encircled letters on edge of printed circuit indicate tie points, corresponding with those shown on printed board parts layout.
2. (+ -) denotes printed board areas.
3. All capacitors are in PF unless otherwise specified.
4. Arrows on controls indicate direction of clockwise rotation.

PARTS CODING

Sound Section	100-199
Video Section	200-299
Vert. and Sync Section	300-399
Horiz. and H.V. Section	400-499
L.V. Supply and Misc.	500-599
Chroma Section	600-699
Convergence Section	700-799

CHASSIS CONNECTED TO ONE SIDE OF AC LINE

TRANSISTOR UHF OSC. — UHF TUNER — IF INPUT

V20 PICTURE TUBE RE19FMP22 CABINET MOUNTED.

NOTE: REPLACE ALL TUBES WITH ORIGINAL TYPE ONLY.

6AQ5A AUDIO OUTPUT — 5JL6 1ST VIDEO IF — 5GX7 OSC/MIXER — 3HQ5 RF AMP VHF TUNER — TUNER MOUNTING POSITION VARIES

4DT6 QUAD DET — 5JK6 2ND VIDEO IF — 6CL8A SD IF/AGC AMP

HEAVY LINE FOLLOWS SERIES FILAMENT SEQUENCE — INDICATES TUBE INDEX

CONVERGENCE SOCKET — DEGAUSSING SOCKET — YOKE SOCKET

5JK6 1ST VIDEO AMP — TUNER SOCKET — 8AC9 CHROMA AMP/PHASE DET — 10JT8 R-Y DEMOD/KILLER AMP — 6GH8A REACTANCE/CHROMA OSC — 3A3 H.V. RECT.

5MB8 2ND VIDEO AMP/BURST GATE AMP — 10LB8 G-Y AMP B-Y DEMOD — 3.58 MC OUT PUT

21LU8 VERT. OSC/OUTPUT — 10JT8 SYNC SEP/VIDEO OUTPUT — SYL4315 OR 2N306 NOISE GATE — 6CL8A HORIZ. OSC/HORIZ. REG — 42KN6 HORIZ. OUTPUT — 34CE3 DAMPER

+275V SUPPLY — +160V SUPPLY — +270V SUPPLY — -140V SUPPLY

1 1.2 VPP Vert.	2 5.5 VPP Vert.	3 440 VPP Horiz.	4 25 VPP Vert.
5 65 VPP Vert.	6 68 VPP Horiz.	7 38 VPP Vert.	8 100 VPP Vert.
9 1000 VPP Vert.	10 32 VPP Horiz.	11 25 VPP Horiz.	12 150 VPP Horiz.
13 28 VPP Horiz.	14 270 VPP Horiz.	15 140 VPP Horiz.	16 200 VPP Horiz.
17 26 VPP Vert.	18 *12 VPP Vert.	19 *120 VPP Horiz.	20 *50 VPP Horiz.
21 *110 VPP Horiz.	22 *30 VPP Horiz.	23 *120 VPP Horiz.	24 *240 VPP Horiz.
25 *145 VPP Horiz.	26 *45 VPP Horiz.	27 *150 VPP Horiz.	28 *8 VPP Horiz.
29 *1.1 VPP Horiz.	30 *90 VPP 3.58 MC	31 *16 VPP Horiz.	32 *230 VPP Horiz.
33 *45 VPP Horiz.	34 125 VPP Vert.		

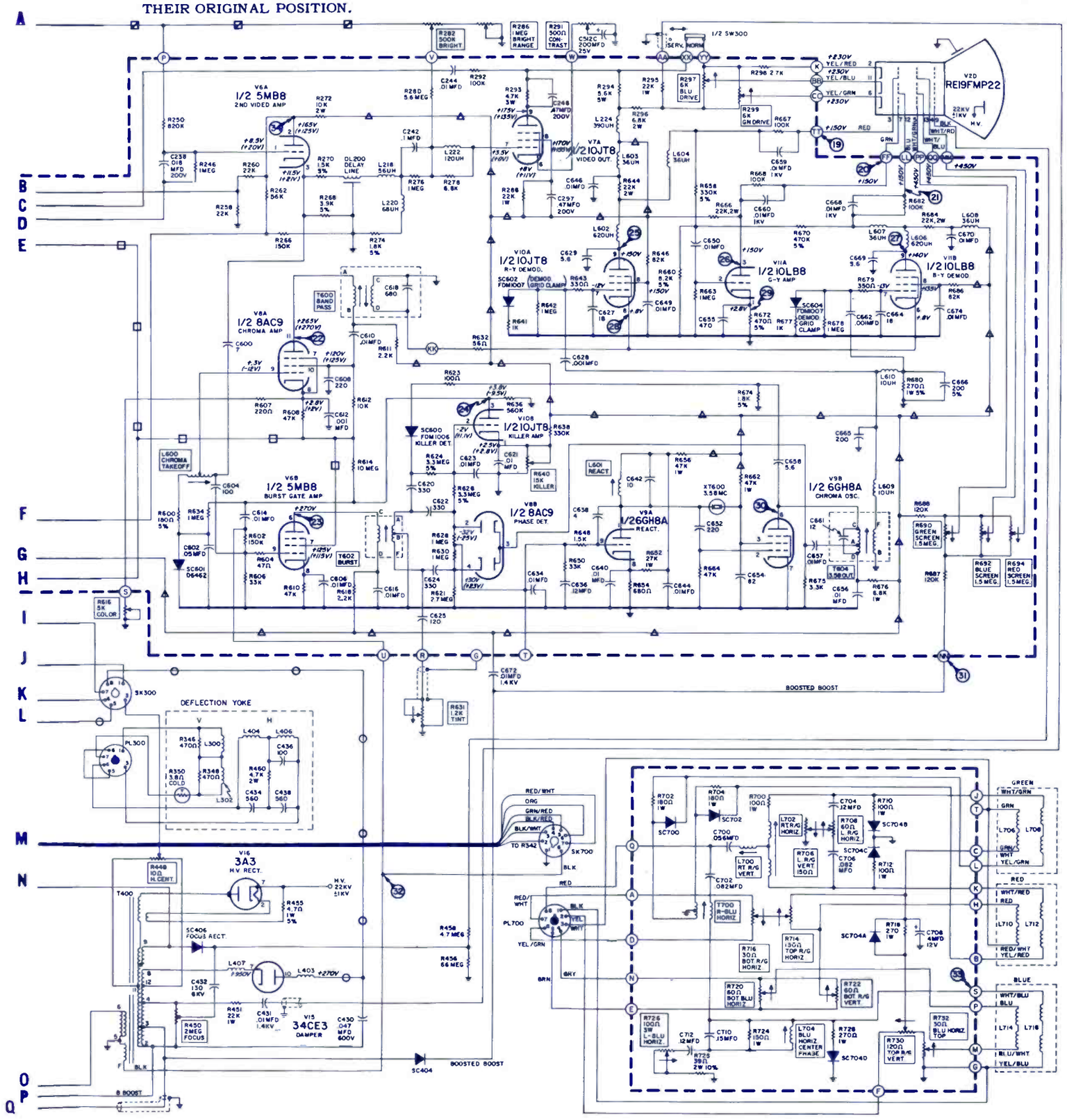
More Data on Opposite Page

PICTURE TUBE REMOVAL →

1. Remove Chassis, Yoke and Degaussing Coil as outlined under their removal procedure.
2. Lay cabinet face down on a soft material so as not to scratch or mar the face of the picture tube or finish on cabinet.
3. Loosen the mounting strap tightening bolt until tension is relieved on strap.
4. Remove picture tube grounding spring.
5. Remove screws securing picture tube mounting brackets to cabinet and remove brackets and strap.
6. USING GOGGLES AND GLOVES, reach under face of tube and lift tube from cabinet.
   NOTE: When replacing tube exercise caution not to damage pins when reconnecting picture tube socket.

SYLVANIA
Color TV Chassis DO3-2

NOTE: TO REPLACE CHASSIS, TUNER CLUSTER, YOKE, PICTURE TUBE AND DEGAUSSING COIL REVERSE THE PROCEDURE GIVEN IN THEIR REMOVAL PROCEDURE MAKING CERTAIN THAT ALL GROUND CABLES ARE REPLACED IN THEIR ORIGINAL POSITION.

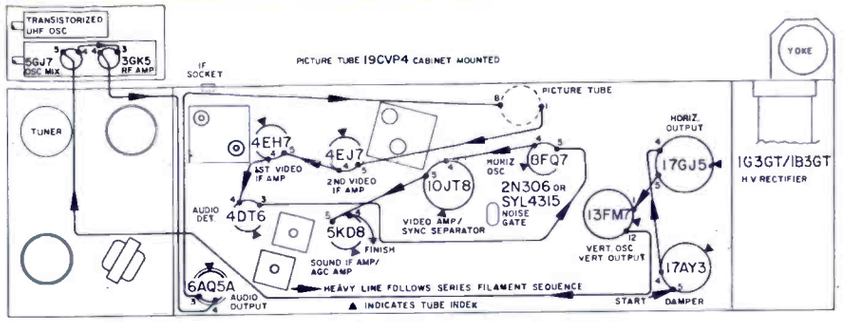


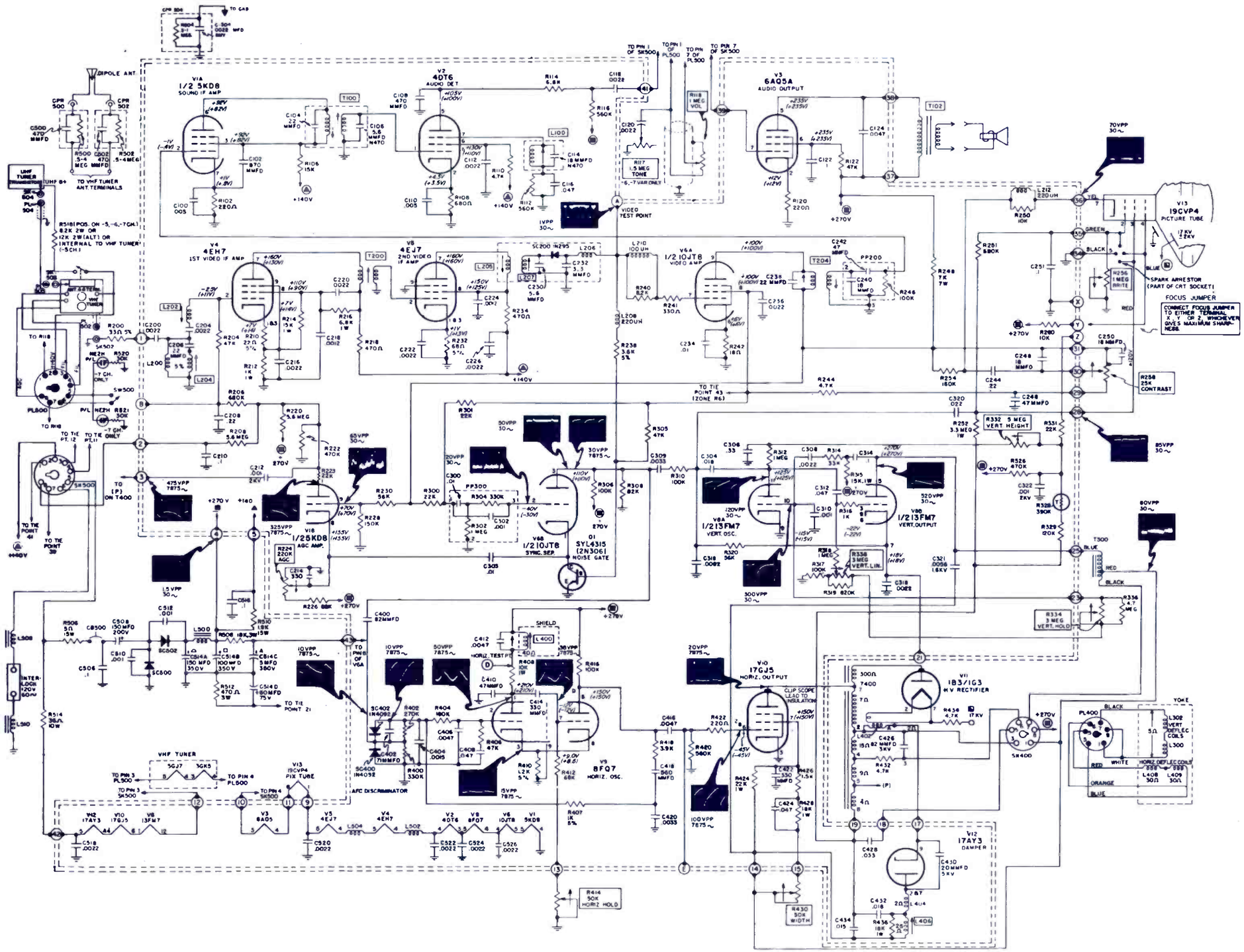
Symbol	Description	Sylvania Part No.
C100	4.7pf NPO 500v	
C104	22pf NPO 500v	
C108	5.6pf NPO 500v	
C110	5.6pf NPO 500v	
C128	.0047μf 1kv	
C204	.001μf 2kv	43-84222-18
C210	22pf NPO 500v	
C228 }	5.6pf NPO 500v	
C230 }	5.6pf NPO 500v	
C236	200μf 25v elect	41-15820-20
C312	.0022μf 2kv	45-15907-3
C320	2 section elect	
A	10μf 350v	41-17318-1
B	50μf 50v	
C321	.01μf 1400v	169-0138
C400	82pf NPO 500v	
C402	100pf NPO 500v	
C408	22pf NPO 500v	
C431	.01μf 1.4kv	169-0138
C500	500μf 200v elect	41-17315-1
C502	.001μf 1.4kv	43-93010-2
C504	.001μf 1.4kv	43-93010-2
C506	3μf 150v elect	41-96355-12
C508	.001μf 1.4kv	43-93010-2
C510	2 section elect	
A	300μf 350v	41-17316-1
B	20μf 350v	
C512	3 section elect	41-17317-1
A	250μf 350v	
B	3μf 350v	
C	200μf 25v	
C600	7pf NPO 500v	
C604	100pf N750 500v	
C608	220pf N750 500v	
C627	18pf NPO 500v	
C629	5.6pf NPO 500v	
C642	10pf NPO 500v	
C659	.01μf 1kv	43-15012-29
C660	.01μf 1kv	43-15012-29
C664	18pf NPO 500v	
C668	.01μf 1kv	43-15012-29
C672	.01μf 1.4kv	169-0138
C708	4μf 12v elect	41-17245-1
R246	1M 2% 500v	35-16258-44
R250	1M 2% 500v	35-16258-44
R256	4.7K 3w 500v	187-0017
R268	3.9K 5% 500v	
R270	1.5K 5% 500v	
R272	10K 2w 500v	
R274	1.8K 5% 500v	
R293	4.7K 3w 500v	187-0017
R294	5.6K 5w 500v	35-92495-49
R345	VDR 1.0ma @ 12v	38-15257-7
R350	3.8Ω thermistor	part of yoke
R455	4.7Ω 5% 1w 500v	
R456	66M 500v	35-97961-3
R502	3.9Ω 25w 500v	36-92898-33
R504	120Ω cold thermistor	38-17071-1
R508	VDR 67ma @ 20v	38-17072-1
R510	1.2K 20w 500v	36-92898-35
R600	180Ω 5% 500v	
R614	10M 500v	
R624	3.3M 5% 500v	
R626	3.3M 5% 500v	
R628 }	1M 2% 500v	35-16258-44
R630 }	1M 2% 500v	35-16258-44
R644	22K 2w 500v	35-92495-87
R658	330K 5% 500v	
R660	8.2K 5% 500v	
R666	22K 2w 500v	35-92495-87
R670	470K 5% 500v	
R672	470Ω 5% 500v	
R674	1.8K 5% 500v	
R680	270Ω 5% 1w 500v	
L100	coil, quad	57-11602-1
L102	coil, filter	50-11378-1
L104	coil, tweet 36μh	50-16103-13
L106	coil, peaking 12μh	50-85953-13
L108	coil, quad	57-11602-1
L200	coil, IF link	50-17680-3
L202	coil IF trap	57-11637-1
L204	coil IF input	57-17842-1
L206	coil peaking 12μh	50-85953-13
L208	coil tweet 36μh	50-16103-13
L210	coil filter	50-11378-1
L212	coil peaking 390μh	50-15318-15
L215	"see misc elect parts"	part of LC202
L216	coil peaking 100μh	50-15318-8
L218	coil peaking 56μh	50-15318-5
L220	coil peaking 68μh	50-15318-6
L222	coil peaking 120μh	50-15318-9
L224	coil peaking 390μh	50-15318-15
L300 }	coil vert deflection	part of yoke
L302 }	coil vert deflection	part of yoke
L400	coil horiz frequency	50-17326-1
L403	coil RF choke	118-0010
L404	coil horiz deflection	part of yoke
L406	coil horiz deflection	part of yoke
L407	coil RF choke	118-0010
L500	coil B plus choke	56-17568-1
L502	coil filament choke	50-85963-2
L504	coil filament choke	50-85963-2
L506	coil degaussing	50-17113-4
L507	coil degaussing	50-17113-4
L508	coil line choke	50-17838-1
L510	coil line choke	50-17838-1
L600	coil, chroma take off	50-16184-4
L601	coil, reactance	50-16185-3
L602	coil, filter 620μh	50-17593-1
L603	coil, peaking 36μh	50-16103-13
L604	coil, peaking 36μh	50-16103-13
L606	coil, peaking 620μh	50-17593-1
L607	coil, peaking 36μh	50-16103-13
L608	coil, peaking 36μh	50-16103-13
L609	coil, peaking 10μh	50-85953-14
L610	coil, peaking 10μh	50-85953-14
L700	coil, convergence rt. R/G vert	50-16248-5
L702	coil, convergence rt. R/G horiz	50-16248-6
L704	coil, convergence blue horiz center	50-17850-1
L706	coil, convergence green	conv. yoke
L708	coil, convergence green	conv. yoke
L710	coil, convergence red	conv. yoke
L712	coil, convergence red	conv. yoke
L714	coil, convergence blue	conv. yoke
L716	coil, convergence blue	conv. yoke
T100	xformer, sound interstage	57-11606-1
T101	xformer, audio output	56-97301-11
T200	xformer, IF interstage	57-17339-1
T202	xformer, IF output	50-17517-1
T204	xformer, 4.5Mc trap	50-16238-5
T300	xformer, vert output	56-17559-2
T400	xformer, horiz output	50-17314-1
T500	xformer, pix tube fil	55-17325-1
T600	xformer, bandpass	50-17542-1
T602	xformer, burstphase	50-16191-2
T604	xformer, 3.58Mc output	50-17597-1
T700	xformer, convergence R. blue horiz	50-16248-8
CB500	circuit breaker	29-17312-1
DL200	delay line	32-16108-3
I400	lamp, Neon	30-17794-2
I500 }	lamp, Neon NE2H	30-97684-2
I502 }	lamp, neon NE2H	30-97684-2
LC202	coil/capacitor combination	50-17246-1
L215	5.6μh	
C235	390	
SC100 }	diode, sound det	IN295
SC200 }	diode, video det	IN295
SC300	diode, vert sync injection	1N4092
SC400 }	diode, AFC	1N4092
SC402 }	diode, AFC	1N4092
SC404	diode, boosted boost	13-16105-3
SC406	diode, focus rect	13-16106-1
SC500	diode, 140v rectifier	13-17174-1
SC502	diode, B plus rectifier	13-17557-1
SC504	diode, B plus rectifier	13-17557-1
SC600	diode, killer det	13-17596-2
SC601	diode, killer clamp	D6462
SC602	diode, demodulator grid clamp	13-17596-3
SC604	diode, demodulator grid clamp	13-17596-3
SC700	diode, silicon	13-10102-1
SC702	diode, silicon	13-10102-1
SC704	diode, silicon 4 section	13-17569-1
SW300	switch, normal/service	33-16011-5
SW500	switch, on/off	part of R114
SW502	switch, dial light	33-17709-1
XT600	crystal, 3.58Mc	26-16162-1
R113	1.5M tone 2ch	37-15229-5
R114	1M vol	37-11959-9
R214	220K AGC	37-11632-7
R232	750Ω snd trap adj	37-17321-1
R282	500K brightness	37-17073-14
R286	1M brightness range	37-17349-2
R291	500Ω contrast	37-17073-12
R297	6K blue drive	37-11632-8
R299	6K green drive	part of R297
R314	5M ver lin	part of R214
R320	750K vert hold	37-17073-11
R334	220K vert height	part of R214
R344	10Ω vert cent	37-16021-17
R414	500K horiz hold	37-17073-10
R424	100K high volt adj	37-17349-1
R448	10Ω horiz cent	37-17539-1
R450	2M focus	37-17320-1
R616	5K color	37-17073-16
R631	1.2K tint	37-17073-13
R640	15K killer	part of R297
R690	1.5M green screen	37-11632-9
R692	1.5M blue screen	part of R690
R694	1.5M red screen	part of R690
R706	150Ω L R/G vert	37-16021-7
R708	60Ω L R/G horiz	37-16021-2
R714	150Ω top R/G horiz	37-16021-7
R716	30Ω bottom R/G horiz	37-16021-6
R720	60Ω bottom blue horiz	37-16021-2
R722	60Ω bottom R/G vert	37-16021-2
R726	100Ω L blue horiz	37-16021-21
R730	120Ω top R/G vert	37-16021-5
R732	30Ω top blue horiz	37-16021-6
Q1	transistor, noise gate	4315
	magnet, blue lateral & purity	22-15948-1
	socket, tube V16	72-17924-1
	yoke, convergence	51-17083-2
	yoke, deflection	51-17570-1

More Data on Opposite Page

SYLVANIA
TV Chassis 584-1
through 7

Symbol	Description	SYLVANIA Part No.
C316	.0022 mfd. - GMV	43-15009-1
C412	.0047 mfd - Polystyrene	40-10285-4
C508	150 mfd - 200v - electrolytic	41-11635-1
C514	4 Section Electrolytic	41-15466-1
A	150 mfd - 350v	
B	100 mfd - 350v	
C	5 mfd - 350v	
D	60 mfd - 75v	
R248	7,000 Ω - 7w	189-0088
R328	390,000 Ω - Thermistor	
L100	Coil - 4.5 Mc	57-11602-1
L200	Coil - Link	50-11609-1
L202	Coil - IF Input	57-11611-2
L204	Coil - IF Trap	57-11637-1
L205	Coil - Video Detector	57-11616-2
L206	Coil - Filter	50-11634-1
L207	Coil - Video Detector	57-11652-1
L208	Coil - Peaking - 220 UH	50-15318-12
L210	Coil - Peaking - 100 UH	50-15318-8
L212	Coil - Peaking - 220 UH	50-15318-12
L300	Coil - Vert. Deflection	Part of Yoke
L302	Coil - Vert. Deflection	Part of Yoke
L400	Coil - Horiz. Frequency	50-11603-2
L404	Coil - Filter	50-92043-3
L406	Coil - Horiz. Lin.	50-15019-1
L408	Coil - Horiz. Deflection	Part of Yoke
R224	220,000 Ω - AGC	Part of R338
R256	1 MΩ - Brightness	37-15064-2
R258	25,000 Ω - Contrast	37-15065-1
R332	5 MΩ - Vert. Height	Part of R338
R334	3 MΩ - Vert. Hold.	37-15065-2
R338	100,000 Ω - Vert. Lin. (—1, —2, —3 CH)	37-11632-1
R338	3 MΩ - Vert. Lin. (—5, —6, —7 CH)	37-11632-2
R414	50,000 Ω - Horiz. Hold	153-0319
R430	50,000 Ω - Width	153-0236
L409	Coil - Horiz. Deflection	Part of Yoke
L500	Coil - Choke	56-11651-1
L502	Coil - Filament	50-85963-2
L504	Coil - Filament	50-85963-2
L508	Coil - Choke	50-15023-1
L510	Coil - Choke	50-15023-1
T100	Transformer - Sound Interstage	57-11606-1
T102	Transformer - Audio Output	143-9995
T200	Transformer - IF Interstage	57-11612-2
T204	Transformer - Sound Take-Off	57-11604-1
T300	Transformer - Vert. Output (—5, —6, —7 CH)	56-15476-1
T300	Transformer - Vert. Output (—5, —6, —7 CH)	56-11607-1
T400	Transformer - HV	50-11605-2
CB500	Circuit Breaker	191-0026
SC200	Diode - Video Detector	1N295
SC400	Diode - AFC	1N4092
SC402	Diode - AFC	1N4092
SC500	Rectifier - Silicon	13-10102-1
SC502	Rectifier - Silicon	13-10102-1
SK400	Socket - Yoke	72-11785-2
SK500	Socket - Tuner	412-0016
SW500	Switch-On/Off Yoke	51-15473-1
R117	1.5 MΩ - Tone (—2, —3, —6, —7 CH)	Part of R118
R118	1 MΩ - Volume/On/Off/Tone	37-15230-1
R118	1 MΩ - Volume/On/Off (—1, —5 CH)	37-11959-6





VOLTAGE MEASUREMENT CONDITIONS UNLESS OTHERWISE SPECIFIED.

1. Voltages measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings in brackets taken with no input; channel selector set to a free channel, antenna disconnected, antenna terminals shorted together and grounded to chassis.
4. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station developing approximately -7 volt on AGC Buss. NOTE: AGC VOLTAGE AT TEST POINT (B) WILL VARY FROM -7 VOLT ON A VERY STRONG SIGNAL TO A +20 VOLT ON A VERY WEAK SIGNAL.
5. Contrast control set to maximum. Brightness control set to minimum.
6. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

SYLVANIA
TV Chassis 585-1, -2,-4,-5

1. Voltages measured to chassis using VTVM.
2. AC power source 120 volt 60 cycle line.
3. Voltage readings in brackets taken with no input; channel selector set to a free channel, antenna disconnected, antenna terminals shorted together and grounded to chassis.
4. Voltage readings not in brackets taken with a strong signal input; tuner set to a strong local station developing approximately -7 volt on AGC Buss. NOTE: AGC VOLTAGE AT TEST POINT (B) WILL VARY FROM -7 VOLT ON A VERY STRONG SIGNAL TO A +20 VOLT ON A VERY WEAK SIGNAL.
5. Contrast control set to maximum. Brightness control set to minimum.
6. Voltage values shown are average readings. Variations may be observed due to normal production tolerances.

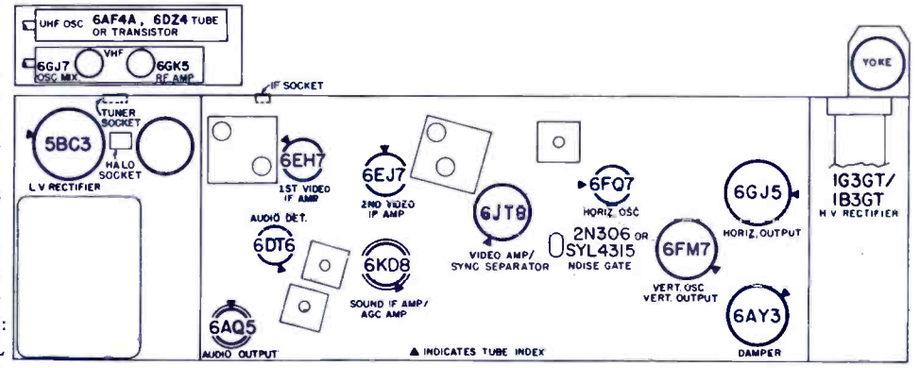
SPECIAL VOLTAGE MEASUREMENT CONDITIONS

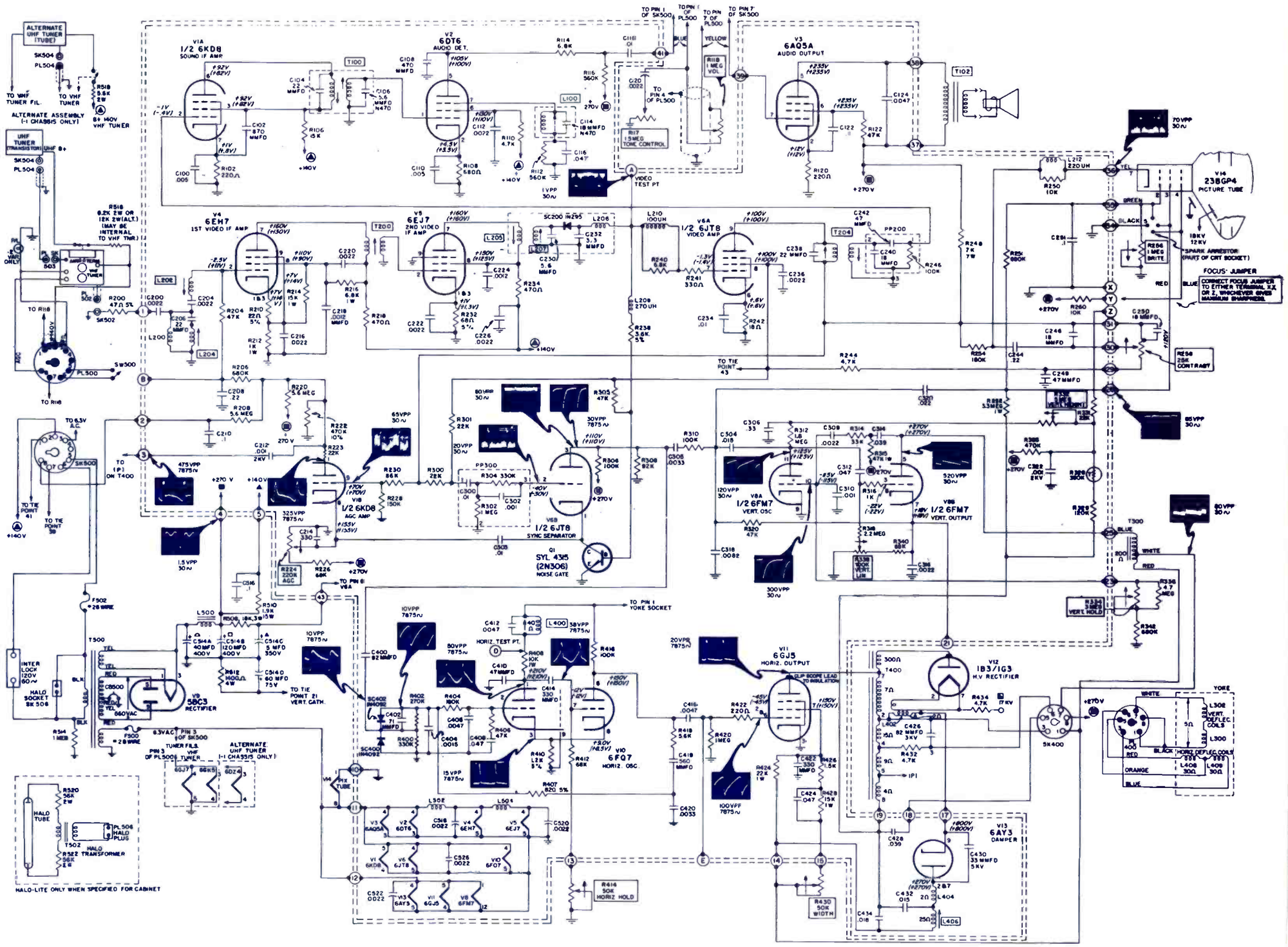
(B) Picture tube anode voltage measured with VTVM high voltage probe at line voltage of 120 volts under conditions of normal signal, no brightness and correct scan size.

▲ High peak voltage of short duration may damage meter used for this measurement.

WAVEFORM MEASUREMENT CONDITIONS

1. Channel selector set to strong channel.
2. Contrast control set for signal of 70 volt peak to peak at yellow lead of picture tube.
3. Waveforms measured with respect to chassis using a wide band oscilloscope. (Other type oscilloscopes may alter waveform shapes or amplitudes.)
4. The terms 30∿ or 7875∿ refer to scope frequency used.

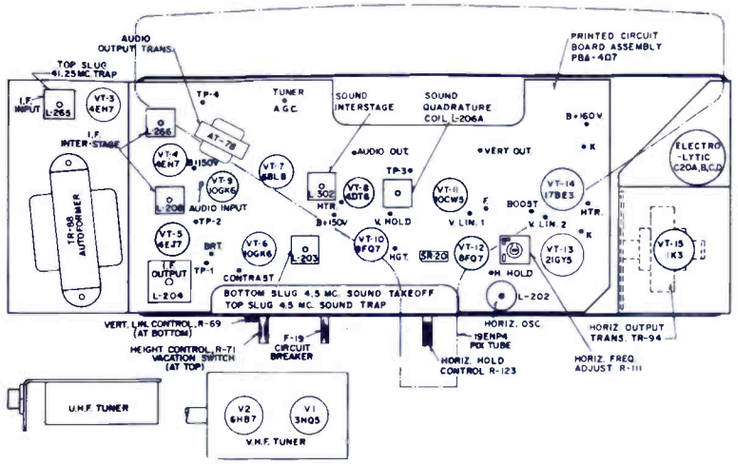


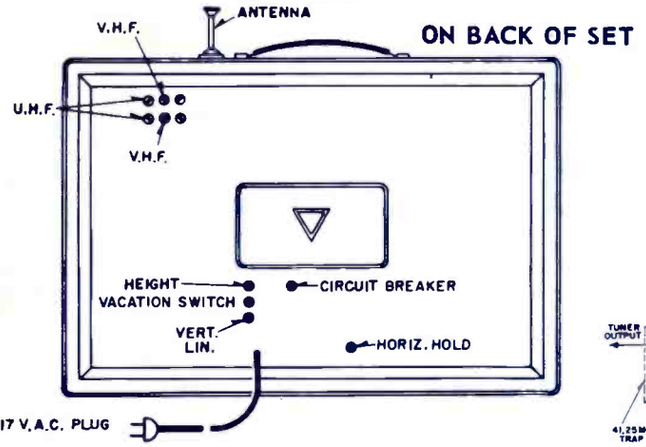


Partial Parts List
Sylvania

Symbol	Part No.	Description
R118	37-11959-8	Volume/on-off 1MΩ
R118	37-15230-2	Volume/on-off/tone(alt)
R256	37-97462-9	Brightness 1MΩ
R258	153-0331	Contrast 25K
R334	37-97462-11	Vert hold 3MΩ
R338	37-11632-2	Control, triple Vert lin 100K AGC 220K Vert height 5MΩ
R414	37-95323-51	Horiz hold 50K
R430	153-0236	Width 50K
T300	56-15476-1	Vert output transformer
T400	50-15157-1	Horiz output transformer
T500	55-15153-2	Power transformer
T502	55-15477-1	Halo transformer
	51-15474-1	Deflection yoke

TRUETONE
TV Chassis Model
2DC3651





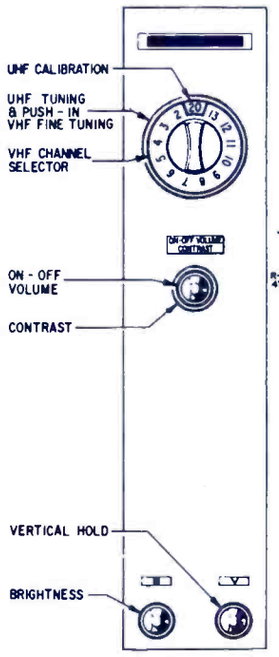
GENERAL SPECIFICATIONS

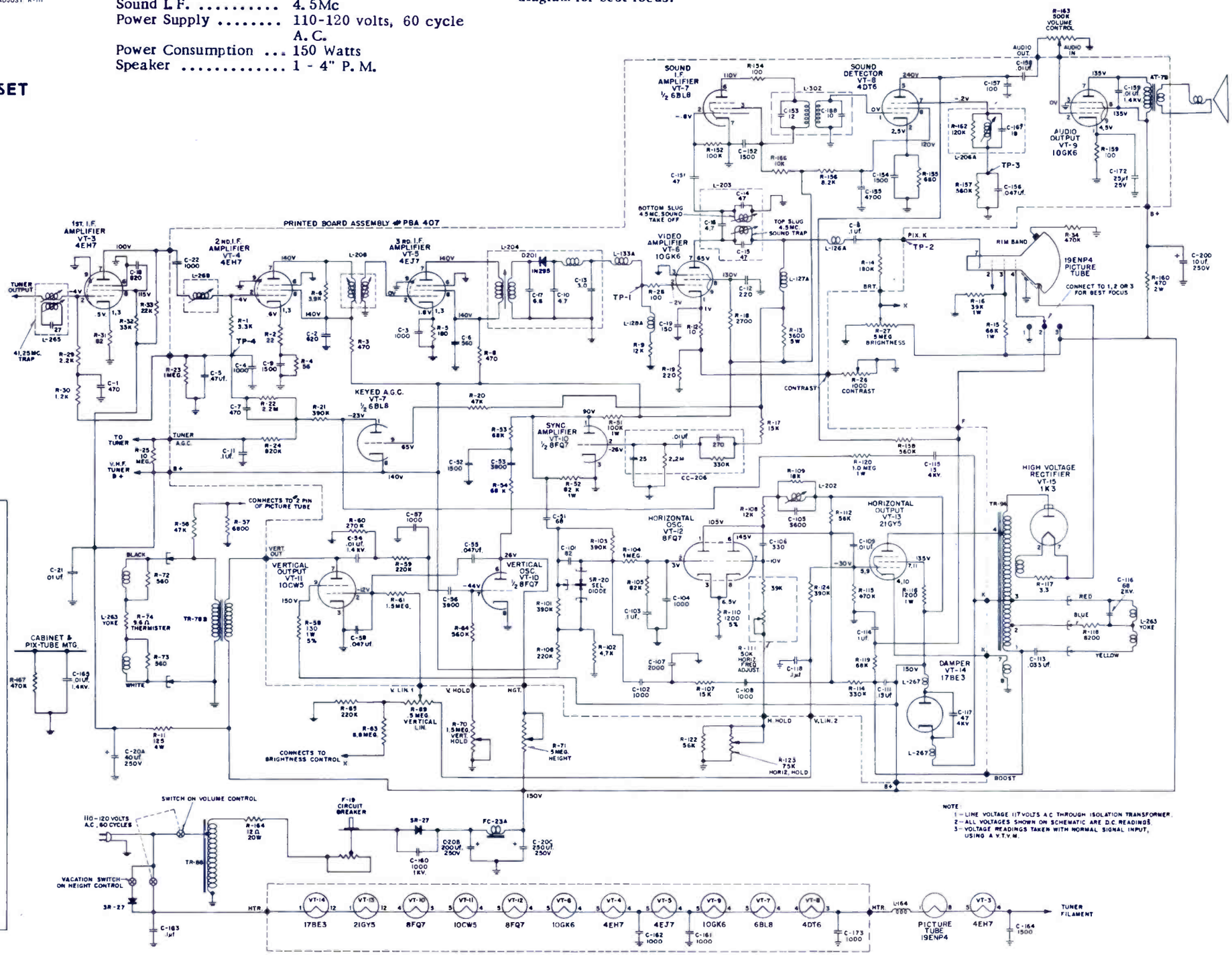
Tubes	16 tubes, including picture tube and 1HV rectifier tube, plus 1 crystal diode, 1 dual selenium diode, 1 transistor and 2 silicon rectifiers
Antenna	External or built in
Antenna Input	300 ohms
Tuning V. H. F.	Channels 2 thru 13
U. H. F.	Channels 14 thru 83
Tuner V.H.F./U.H.F.	Standard Kollsman Tricentric all-channel
Picture Tube	19ENP4
Deflection	114°
I. F. Sound Carrier	41.25Mc
I. F. Picture Carrier	45.75Mc
Sound I. F.	4.5Mc
Power Supply	110-120 volts, 60 cycle A. C.
Power Consumption	150 Watts
Speaker	1 - 4" P. M.

FOCUS

The picture tube is electrostatically focused by means of a focus electrode in the gun assembly. If poor focus is obtained with normal operation of the receiver, check the focus connection strip located on the circuit breaker mounting bracket. Connect the lead (orange) of the picture tube focus electrode to points 1, 2 or 3 as shown on the schematic diagram for best focus.

Symbol	Description	Truetone Part No.
AT78	transformer, audio output	AT-78
FC23A	filter choke	FC-23A
L126A	coil, video peaking	L-126A
L127A	coil, video peaking	L-127A
L128A	coil, RF choke	L-128A
L133A	coil, RF choke	L-133A
L164	choke, heater	L-164
L202	coil, horizontal oscillator	L-202
L203	coil, sound take-off & 4.5 Mc trap	L-203
L204	coil, IF output	L-204
L206A	coil, sound quadrature	L-206A
L208	coil, IF interstage	L-208
L263	deflection yoke	L-263
L265	coil, IF input	L-265
L266	coil, IF interstage	L-266
L267	coil, choke	L-267
L302	coil, sound interstage	L-302
TR78B	transformer, vertical output	TR-78B
TR88	autoformer	TR-88
TR94	transformer, horiz. output	TR-94
R26, 163	control-on-off/volume-dual 1000 Ω 500,000 Ω w/on-off switch	VC-469
R27	brightness, 5M	VC-470
R69	vert. linearity, 0.5 M	VC-350
R70	vert. hold, 1.5M	VC-389
R71	height, 5M w/vacation switch	VC-394
R111	horiz. freq. adjust, 50,000 Ω	VC-417
R123	horiz. hold, 75,000 Ω	VC-320
C1	470 pf 500v 10%	CC-97
C2	820 pf 500v 20%	CC-218
C3, 4, 22 57, 102, 104, 108, 161, 162, 173	1000 pf 500v 10%	CC-244
C5	.47 μfd 100v 20%	PC-133C
C9, 52, 154	1500 pf 600v 20%	CC-221
C20A, B, C, D	250-200-40-10 μfd 250v, electrolytic	EC-200
C54, 159	.01 μfd 1.4 kv 20%	CC-299
C115	15 pf 4kv 10%	CC-300
C116	68 pf 2kv 10%	CC-202
C117	47 pf 4kv 10%	CC-368
C151	47 pf 500v 10%	CC-296
C152	1500 pf 500v 10%	CC-246
C155	4700 pf 500v 20%	CC-227
C172	25 μfd 25v, electrolytic	EC-179
R13	3600Ω 5w 10% wirewound	WR-104
R63	6.8 M ½w 10%	IR-501
R74	thermistor, 9.6 Ω cold	IR-565
R120	1M 1w 10%	IR-594
R164	12Ω 20w 10% wirewound	WR-108

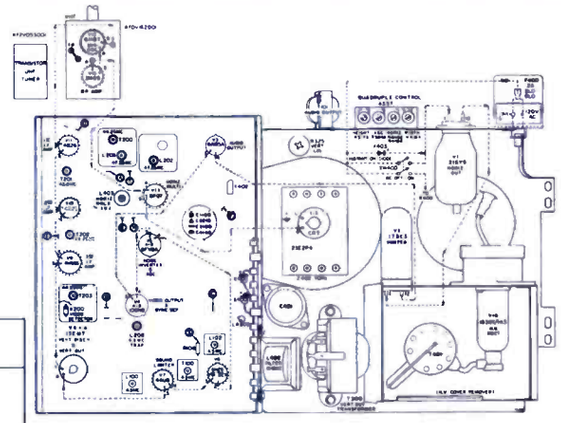




NOTE
1 – LINE VOLTAGE 117 VOLTS A.C. THROUGH ISOLATION TRANSFORMER.
2 – ALL VOLTAGES SHOWN ON SCHEMATIC ARE D.C. READINGS.
3 – VOLTAGE READINGS TAKEN WITH NORMAL SIGNAL INPUT, USING A V.T.V.M.

WESTING-HOUSE

TV Chassis V-2485-11



TUBE COMPLEMENT AND RESISTANT CHART

TUBE	TYPE	FUNCTION	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V1	21GY5	Horiz. out.	40	2.4M	*15K	0	≥2.4M	47	*15K	NC	≥2.4M	0	*15K	33
V2	17BE3	Damper	33	NC	NC	*197	NC	NC	Inf.	NC	NC	*197	NC	28
V3	6AQ5A	Audio Out.	≥300K	660	27	28	*2K	*1.5K	≥300K					
V4	10GN8	Video Out, Sync, Sep.	0	*15M	*38K	23	27	0	≥850	*9K	*4.8K			
V5	6FV8A	Noise Inv., AGC	*17M	*25K	660	21	23	830K	*47	*10K	*25K			
V6	6HZ6	FM Det.	4	820	19	21	*330K	*82K	560K					
V7	4AU6	Sound Lim.	470K	0	17	19	*24K 12K	*24K 12K	0					
V8	13EM7	Vert. Disch. Vert. Out.	2.2M	*350	≥1.3K	≥2M	–	0	13	17				
V9	4HM6	3rd IF Amp.	120	.1	120	11	13	.1	*5.6K	*47K	0			
V10	4BZ6	2nd IF Amp.	*60K	*90K	10	11	*520	*90K						
V11	4BZ6	1st IF Amp.	567K	1.5K	9	10	*90K	*90K	1.5K					
V12	6MB7	Mix.-Osc.	0	220K	0	7	9	*4.3K	*25K	*8K	3.3K			
V13	3HQ5	RF Amp.	4M	0	7	5.5	*4.5K	0	0					
V14	8EQ7	Horiz. MV	*57K	≥40K	820	5.5	2	*16K	1.2M	820	0			
V15	23EZP4	CRT	0	27K	40K	0	–	–	120K	2				
V16	1K3/1G3GT	HV Rect.	INFINITE											

Resistances measured from tube pin to circuit ground.
* Resistance measured from tube pin to junction of X401 & L402.
▲Reading will vary depending on associated control setting.
●R x 100 scale.
NC = No connection.

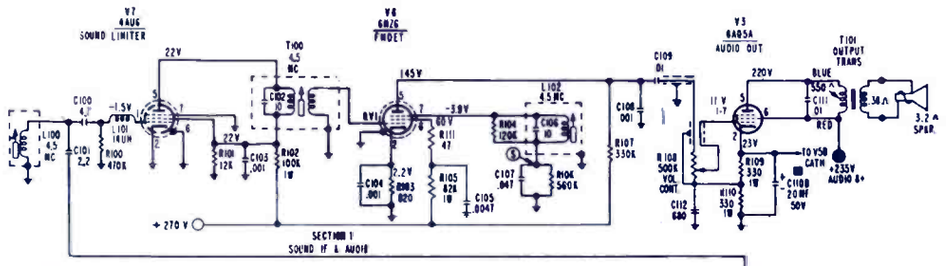
MODEL AND CHASSIS CHART

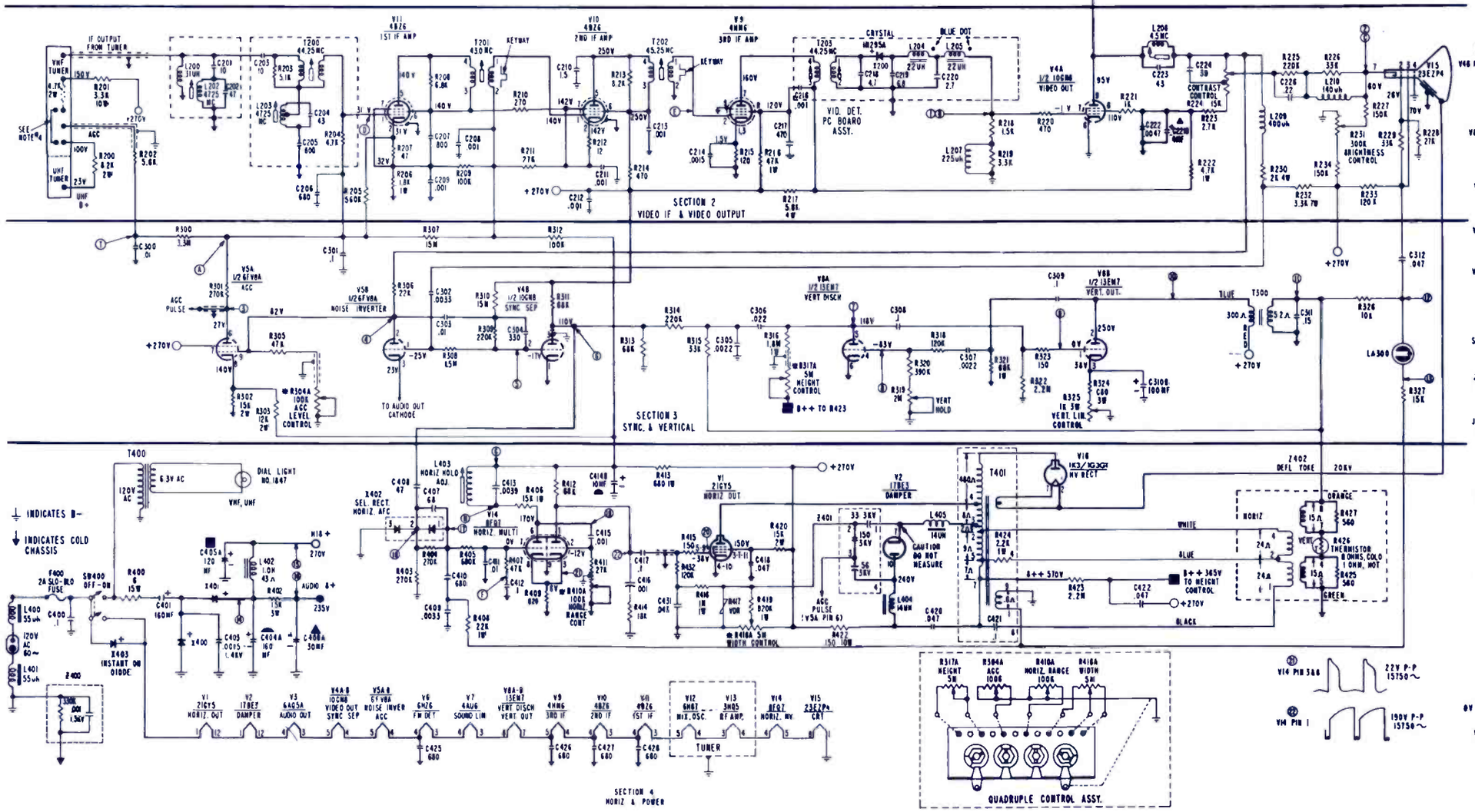
MODEL	CHASSIS	TUNER	FEATURES	CRT
H-K4250 H-K4251 H-K4252 H-K4253	V-2485-11	470V162D01 (VHF) 472V053D01 (UHF)	Memory Fine Tuning Instant-On Illuminated Dial Steel Guard CRT	23EZP4 94°

NOTES:

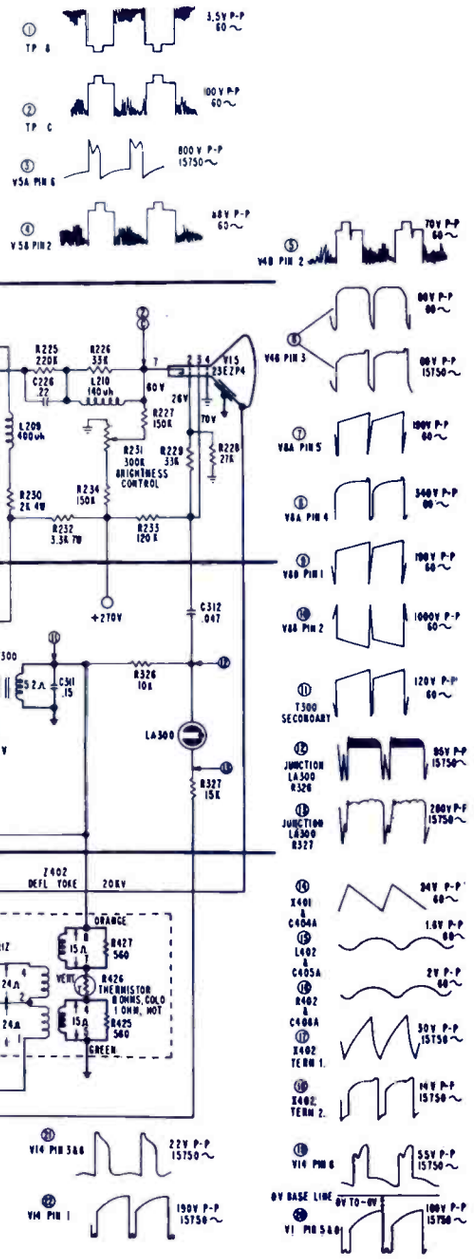
1. ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MF AND VALUES GREATER THAN 1 ARE IN PF WHILE ALL RESISTANCE VALUES ARE IN OHMS, 1/2 WATT UNLESS OTHERWISE INDICATED.
2. DC VOLTAGES MEASURED FROM B-WITH A VTVM, NO SIGNAL APPLIED, LINE VOLTAGE AT 120 VAC
3. WAVEFORMS WERE TAKEN WITH CONTROLS SET FOR NORMAL PICTURE
4. MAKES CONTACT ON CHAN "1"
5. CIRCLED NUMBERS REFER TO WAVE FORMS.

* PART OF QUADRUPLE CONTROL ASSY.





WAVE FORMS TAKEN WITH CONTROLS SET FOR A NORMAL PICTURE

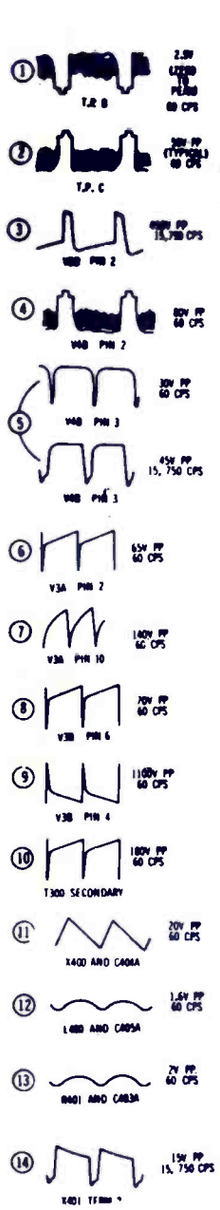


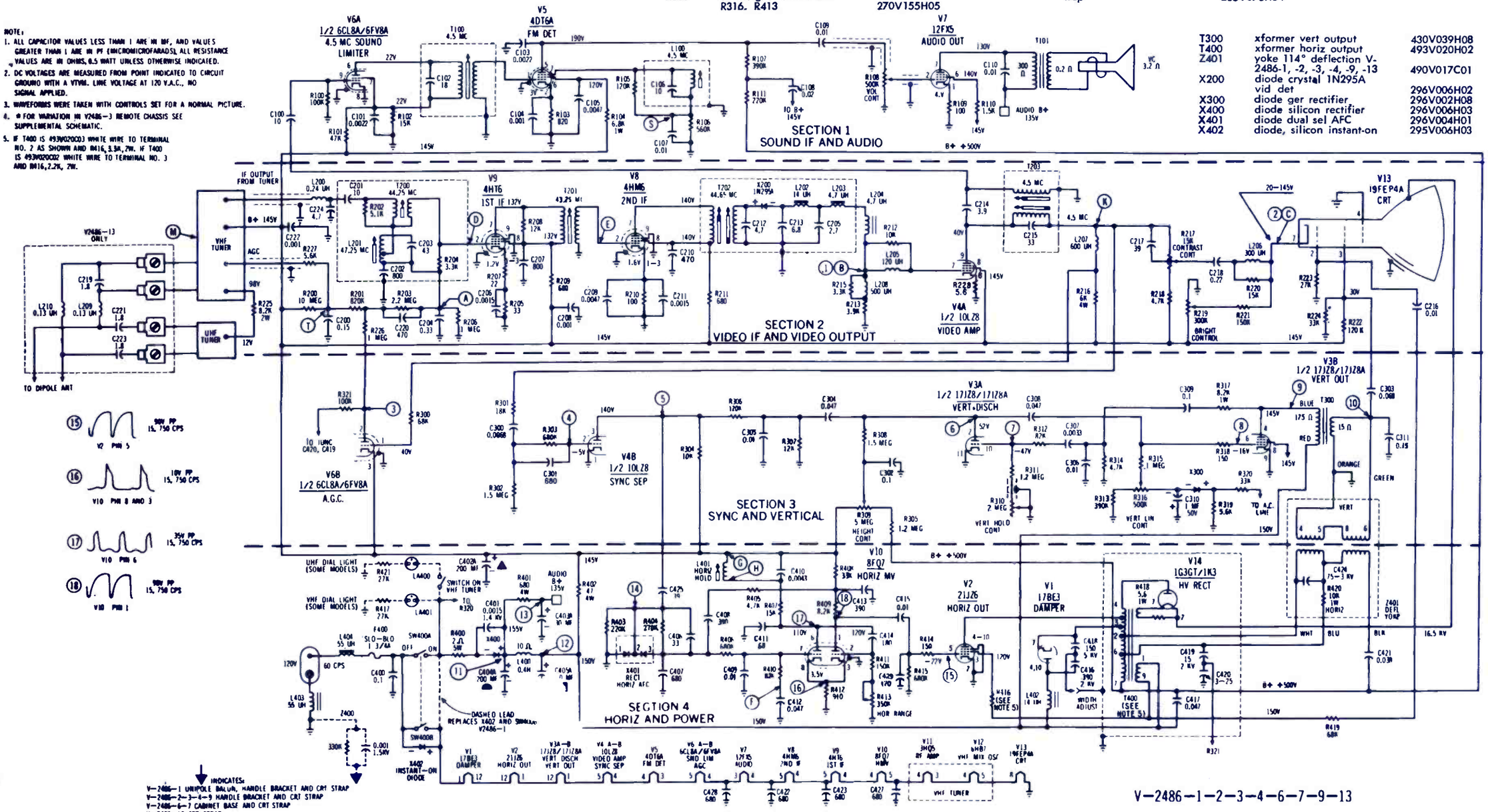
Symbol	Description	Westinghouse Part No.
R108	Control, Volume, 500k, Incl: R231 SW400	270V166H03
T100	Transformer, 4.5 Mc, FM detector grid	235V046H01
T101	Transformer, Audio Output 3.2Ω	430V154H01
C201	10 pf, 500v, NPO, 5%, cer.	215V131A00
C202	47 pf, 500v, NPO, 5%, cer.	215V134A70
C203	10 pf, 500v, NPO, cer.	215V300H76
C204	43 pf, 500v, NPO, 5%, cer.	215V134A30
C210	1.5 pf, 500v, N3300, cer tubular	215V304H06
C221B	4 μf, 350 v, elect (incl: C310B, C414B)	218V054H29
C223	43 pf, 500v, NPO, 5%, cer.	215V134A30
C224	39 pf, 500v, NPO, cer	215V123A90
R200	8.2k, 2w	250V428A22
R217	6.8k, 4w	251V014H45
R224	Control, Contrast, 15k	270V159H12
R230	2k, 4w	251V014H37
R231	Control, Bright, 300k Incl: R108, SW400	270V166H03
T200	Transformer, adj, 44.25 mc, IF input	235V049H01
T201	Transformer, adj, 43.0 mc, 1st IF	235V048H01
T202	Transformer, adj, 45.25 mc, 2nd IF	235V048H04
T203	Transformer, adj, 44.25 μf, 3rd IF	235V116H01
X200	Diode, video det, 1N295A	296V006H02
C310B	100 μf, 50v, elect (incl: C1108, C221B, C414B)	218V054H29
R304A	Control, AGC level, 100k, part of quadruple control assy (incl: R317A, R410A, R418A)	270V162H01
R317A	Control, Height, 5M, part of quadruple control assy (incl: R304A, R410A, R418A)	270V162H01
R319	Control, Vert. Hold, 2M	270V159H10
R325	Control, Vert. Linearity, 1k., 3w	270V138H02
T300	Transformer, vertical output	430V039H09
C403	.0015 μf, 1.4kv, GMV, cer.	215V141A52
C404A	160 μf, 350v, elect	218V053H20
C405A	120 μf, 350v, elect	
C406A	30 μf, 350v, elect	
C407	68 pf, 500v, NPO, cer.	215V126A80
C408	47 pf, 500v, NPO, cer.	215V124A70
C414B	10 μf, 350 v, elect (incl: C1108, C221B, C310B)	218V054H29
R400	6, 15w, candohm	251V028H12
R410A	Control, Horiz Range, 100k part of quadruple control assy (incl: R304A, R317A, R418A)	270V162H01
R411	27k, 5%	250V212A73
R418A	Control, Width, 5M, part of quadruple control assy (incl: R304A, R317A, R410A	270V162H01
R426	Thermistor, 8Ω cold, 1Ω hot	690V011H08
SW400	Switch, off-on, Part of R108, R237	270V166H03
T401	Transformer, horiz out	493V017H01
X400	Diode, silicon, rectifier, 500 ma	295V006H03
X401	Diode, silicon, rectifier, 500 ma	295V006H03
X402	Diode, selenium, AFC	296V004H01
X403	Diode, Silicon, Instant-on	295V006H03
Z400	Capristor, AC Isolation	219V004H03
Z401	Package circuit, AGC pulse and width	219V063H01
Z402	Yoke assy (incl: centering magnets; resistors & wires)	490V013H02

WESTING-HOUSE
TV Chassis
V-2486 Series

Symbol	Description	Westinghouse Part No.
C100	10pf 500v cer N750	215V471A00
C102	18pf 500v cer N750	215V300H53
C106	10pf 500v cer N750	215V471A00
C201	10pf 500v cer NPO	215V300H76
C203	43pf 500v cer NPO 5%	215V134A30
C205	2.7pf 500v cer NPO	215V122A79
C212	4.7pf 500v cer N750	215V300H56
C213	6.8pf 500v cer NPO	215V126A89
C214	3.9pf 500v fixed composition	217V013A99
C215	33pf 500v cer NPO	215V123A30
C217	39pf 500v cer NPO	215V123A90
C224	4.7pf 500v cer N750	215V300H56
C310	1μf 50v elect	218V012H55
C401	.0015μf 1.4kv cer	215V160A03
C402A	200μf 175v elect	
C403A	30μf 175v elect	218V054H30
C404A	200μf 175v elect	
C405A	200μf 175v elect	
C406	33pf 500v cer NPO	215V123A30
C410	.0043μf 500v polystyrene 5%	210V290H12
C411	68pf 500v cer NPO	215V126A80
C420	3.25pf AGC trimmer	217V511H02
C424	75pf 3kv part of yoke	215V300H91
C429	120pf 500v polystyrene, 5%	210V290H11
R108	500K vol control incl SW400, V-2486-1	250V159H06
R108	500K vol control incl push switch SW400A/B, V-2486-3	270V136H09
R108	500K vol control incl SW400A/B V-2486-2-4-9-13	270V159H07
R202	5.1K 0.5w 5% carbon	259V003H28
R213	3.9K 0.5w 5% carbon	250V213A92
R216	6K 4.0w WW	251V014H54
R217	15K contrast control	270V159H04
R219	300K brightness control	270V159H05
R309	5M height control incl R316, R413	270V155H05
R310	2M vert hold control	270V159H10
R316	500K vert lin control incl R309, R413	270V155H05
R400	2Ω 5.0w 10% WW	251V033H14
R401	680Ω 5.0w 10% WW	251V020H78
R402	47Ω 4.0w 10% WW	251V020H79
R413	350K horiz range control incl R309, R316	270V155H05
R416	2.2K 2.0w 10% WW	251V014H28
R416	3.3K 2.0w 10% WW	250V423A32
R418	5.6Ω 1.0w WW	251V005A69
L100	coil adjustable 4.5MHz quad	230V031H01
L200	coil .24μh IF link	230V065H06
L201	coil adjustable 47.25 MHz	230V076H01
L202	coil 14μh	230V130H02
L203	coil 4.7μh	230V130H01
L204	coil 4.7μh	230V130H01
L205	coil 120μh	230V141H03
L206	coil 300μh	230V141H08
L207	coil 600μh	230V141H02
L208	coil 500μh	230V141H04
L209	coil .13μh network board	230V152A01
L210	coil .13μh network board	230V152A01
L400	reactor 375ma choke .4HV 10Ω	430V161B01
L401	coil adjustable horiz hold less shaft	230V144H01
L402	coil 14μh	230V130H02
L403	coil 55μh	230V125H01
L404	coil 55μh	230V125H01
T100	xformer adjustable 4.5MHz sound limiter	235V046H01
T101	xformer audio output	430V150H02
T200	xformer IF input 44.25MHz	235V049H02
T201	xformer 1st IF 43.25MHz	235V048H04
T202	xformer 2nd IF 44.65MHz	235V094H06
T203	xformer sound & 4.5MHz trap	235V076H04
T300	xformer vert output	430V039H08
T400	xformer horiz output	493V020H02
Z401	yoke 114° deflection V-2486-1, -2, -3, -4, -9, -13	490V017C01
X200	diode crystal 1N295A vid det	296V006H02
X300	diode ger rectifier	296V002H08
X400	diode silicon rectifier	296V006H03
X401	diode dual sel AFC	296V004H01
X402	diode, silicon instant-on	295V006H03

NOTE:
1. ALL CAPACITOR VALUES LESS THAN 1 ARE IN MF, AND VALUES GREATER THAN 1 ARE IN PF (MICROMICROFARADS). ALL RESISTANCE VALUES ARE IN OHMS, 0.5 WATT UNLESS OTHERWISE INDICATED.
2. DC VOLTAGES ARE MEASURED FROM POINT INDICATED TO CIRCUIT GROUND WITH A VTVM. LINE VOLTAGE AT 120 V.A.C., NO SIGNAL APPLIED.
3. WAVEFORMS WERE TAKEN WITH CONTROLS SET FOR A NORMAL PICTURE.
4. * FOR VARIATION IN V2486-3 REMOTE CHASSIS SEE SUPPLEMENTAL SCHEMATIC.
5. IF T400 IS 493V020C03 WHITE WIRE TO TERMINAL NO. 2 AS SHOWN AND R416, 3.3K, 2W. IF T400 IS 493V020C02 WHITE WIRE TO TERMINAL NO. 3 AND R416, 2.2K, 2W.

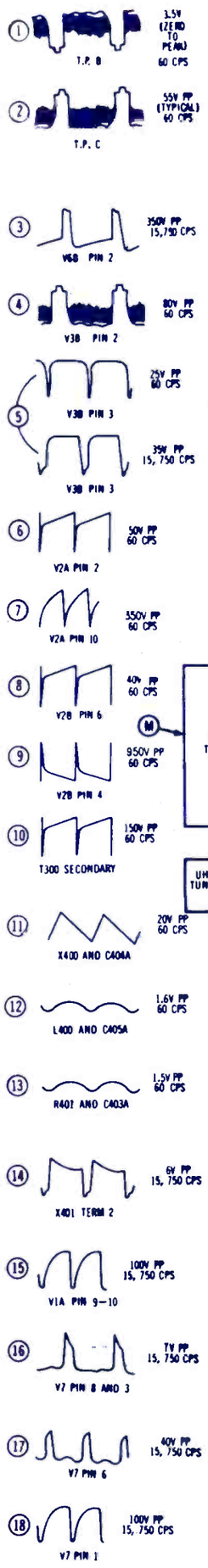


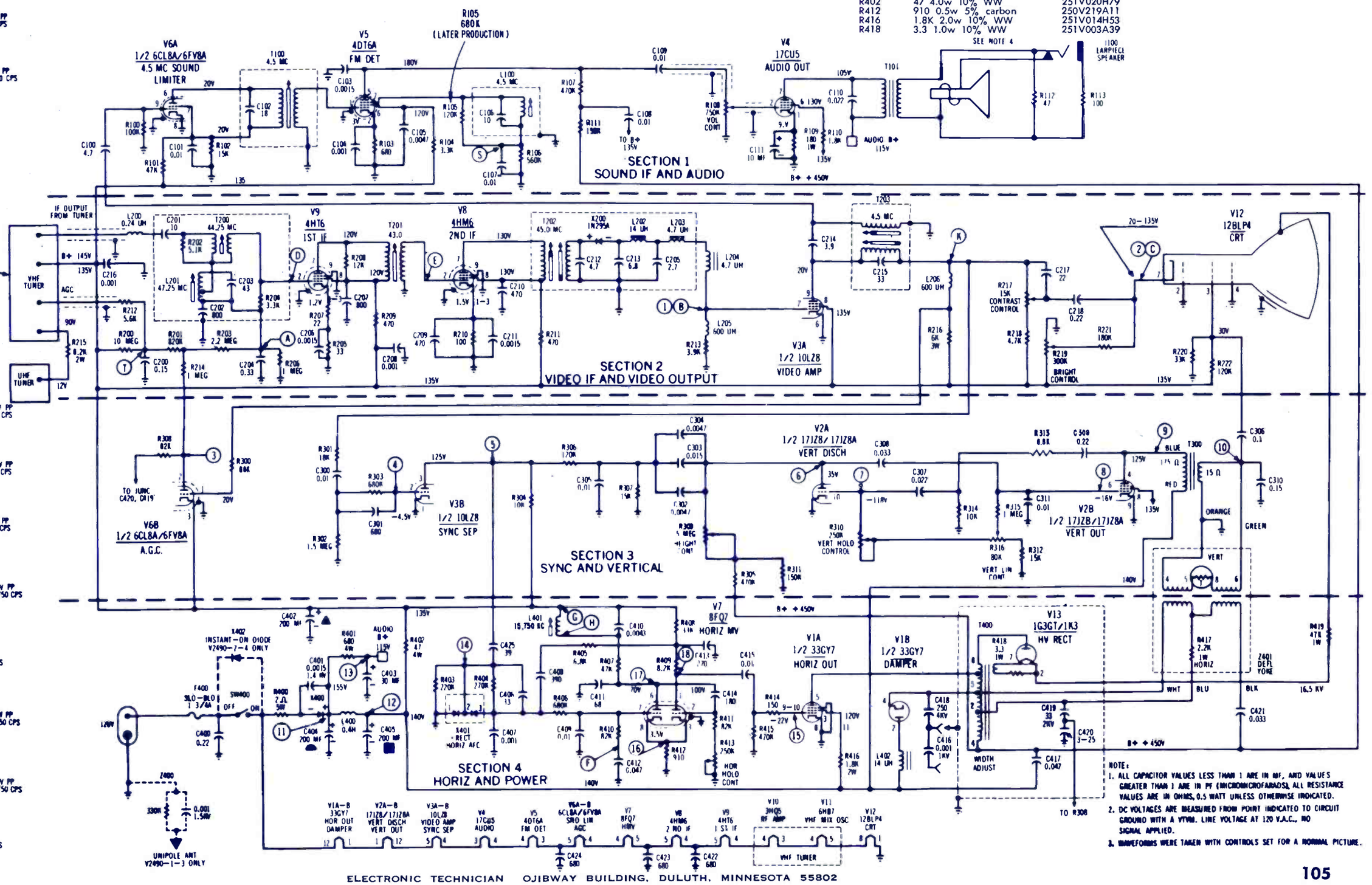


V-2486-1-2-3-4-6-7-9-13

WESTINGHOUSE TV Chassis V-2490 Series

SYMBOL	DESCRIPTION	WESTINGHOUSE PART NO.
C100	4.7pf 500v ceramic N750	215V300H56
C102	18pf 500v ceramic N750	215V121A80
C106	10pf 500v ceramic N750	215V300H47
C111	10µf 15v elect	218V012H06
C201	10pf 500v ceramic NPO	215V300H76
C203	43pf 500v ceramic NPO	215V134A30
C205	2.7pf 500v ceramic NPO	215V122A79
C212	4.7pf 500v ceramic N750	215V300H56
C213	6.8pf 500v ceramic NPO	215V126A89
C214	3.9pf 500v ceramic NPO	215V543A99
C215	33pf 500v ceramic NPO	215V123A30
C217	22pf 500v ceramic NPO	215V0`2A20
C302	.0047µf 500v ceramic N5600	215V318H14
C304	.0047µf 500v ceramic N5600	215V318H14
C401	.0015µf 1.4kv ceramic GMV	215V160A03
C402	200µf 175v	218V054H30
C403	30µf 175v	218V054H30
C404	200µf 175v	218V054H30
C405	200µf .175v	218V054H30
C406	33pf 500v ceramic NPO	215V123A30
C410	.0043µf 500v 5% polystyrene	215V290H12
C414	180pf 500v 5% polystyrene	210V290H09
C416	.001µf 1kv ceramic	215V318H13
C418	250pf 4kv ceramic	215V318H12
C419	33pf 2kv ceramic	215V318H10
L100	coil, adjustable 4.5MHz quadrature	230V031H01
L200	coil, .24µh IF link	230V065H06
L201	coil, adjustable 47.25Mc	230V076H01
L202	coil, 14µh	230V130H02
L203	coil, 4.7µh	230V130H01
L400	reactor, 4h filter choke	430V165B01
L401	coil, adjustable horiz hold less shaft	230V032H01
L402	coil, 14µh	230V130H02
T100	xformer, adjustable 4.5Mc snd limiter	235V046H01
T101	xformer, audio out part of speaker	570V156C01
T200	xformer, IF input 44.25Mc	235V049H02
T201	xformer, 1st IF 43Mc	235V048H04
T202	xformer, 2nd IF 45Mc	235V094H06
T203	xformer, snd input & 4.5Mc trap	235V076H04
T300	xformer, vert output	430V039H12
T400	xformer, horiz output	493V021C01
Z401	yoke, deflection	490V025C01
R108	500K vol incl SW400 (off-on)	270V159H13
R217	15K contrast	270V159H15
R219	300K brightness	270V159H14
R309	5M height incl R316 (vert lin)	270V178C01
R310	250K vert hold	270V179B01
R316	80K vert lin incl R309 (height)	270V178C01
R413	250K horiz hold	270V179B01
X200	crystal diode 1N295A	296V006H02
X400	rectifier, silicon low volt	295V006H03
X401	rectifier, dual selenium AFC	296V004H01
X402	rectifier, silicon instant-on	295V006H03
R202	5.1K 0.5w 5% carbon	259V003H28
R215	8.2K 2.0w 10% WW	251V014A55
R216	6K 3.0w 10% WW	251V014H41
R400	2 5.0w 10% WW	251V033H14
R401	680 4.0w 10% WW	251V020H78
R402	47 4.0w 10% WW	251V020H79
R412	910 0.5w 5% carbon	250V219A11
R416	1.8K 2.0w 10% WW	251V014H53
R418	3.3 1.0w 10% WW	251V003A39



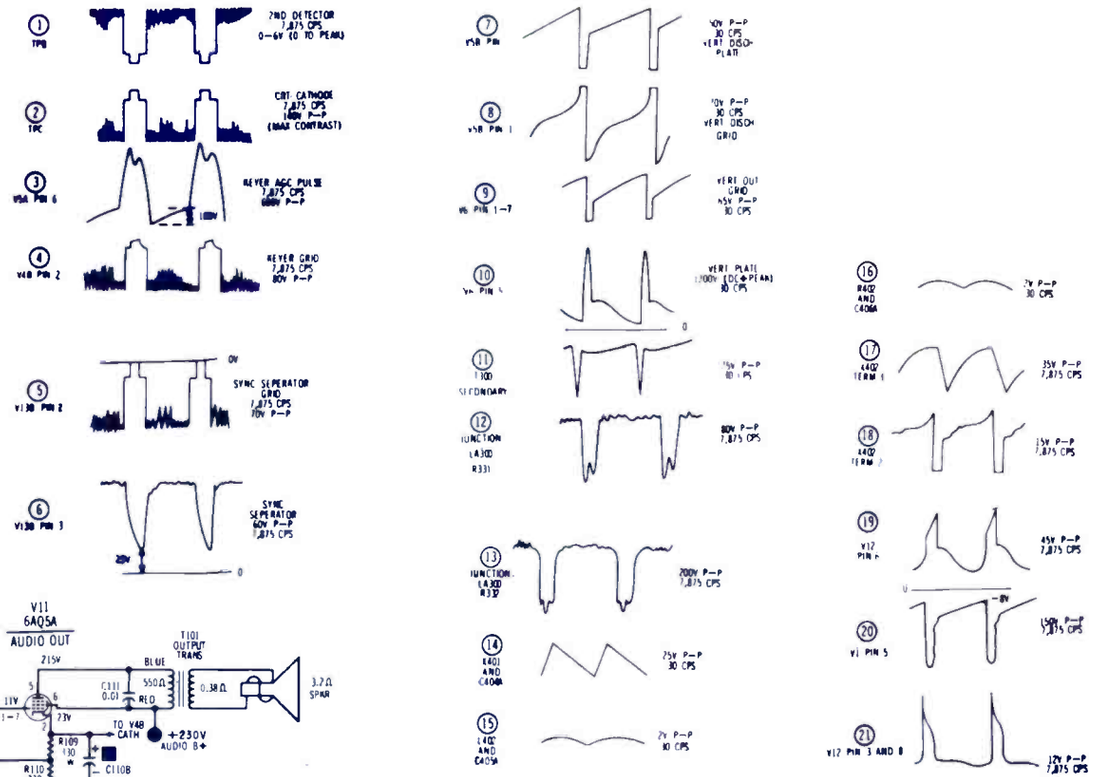


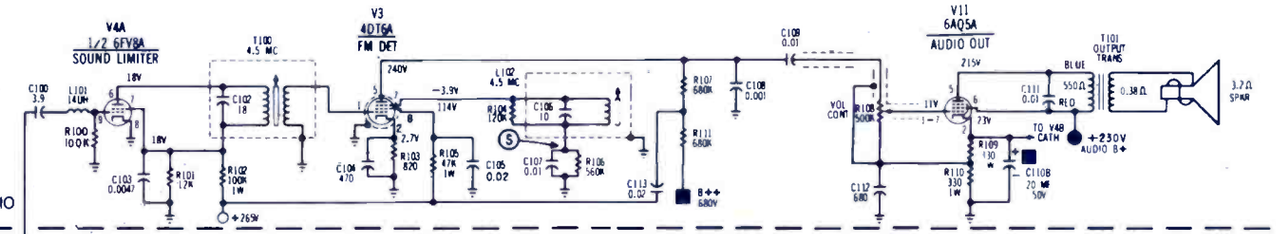
NOTE:
1. ALL CAPACITOR VALUES LESS THAN 1 ARE IN MF, AND VALUES GREATER THAN 1 ARE IN PF (MICROMICROFARADS). ALL RESISTANCE VALUES ARE IN OHMS, 0.5 WATT UNLESS OTHERWISE INDICATED.
2. DC VOLTAGES ARE MEASURED FROM POINT INDICATED TO CIRCUIT GROUND WITH A VTVM. LINE VOLTAGE AT 120 V.A.C., NO SIGNAL APPLIED.
3. WAVEFORMS WERE TAKEN WITH CONTROLS SET FOR A NORMAL PICTURE.

WESTING-HOUSE
TV Chassis
V2487 Series

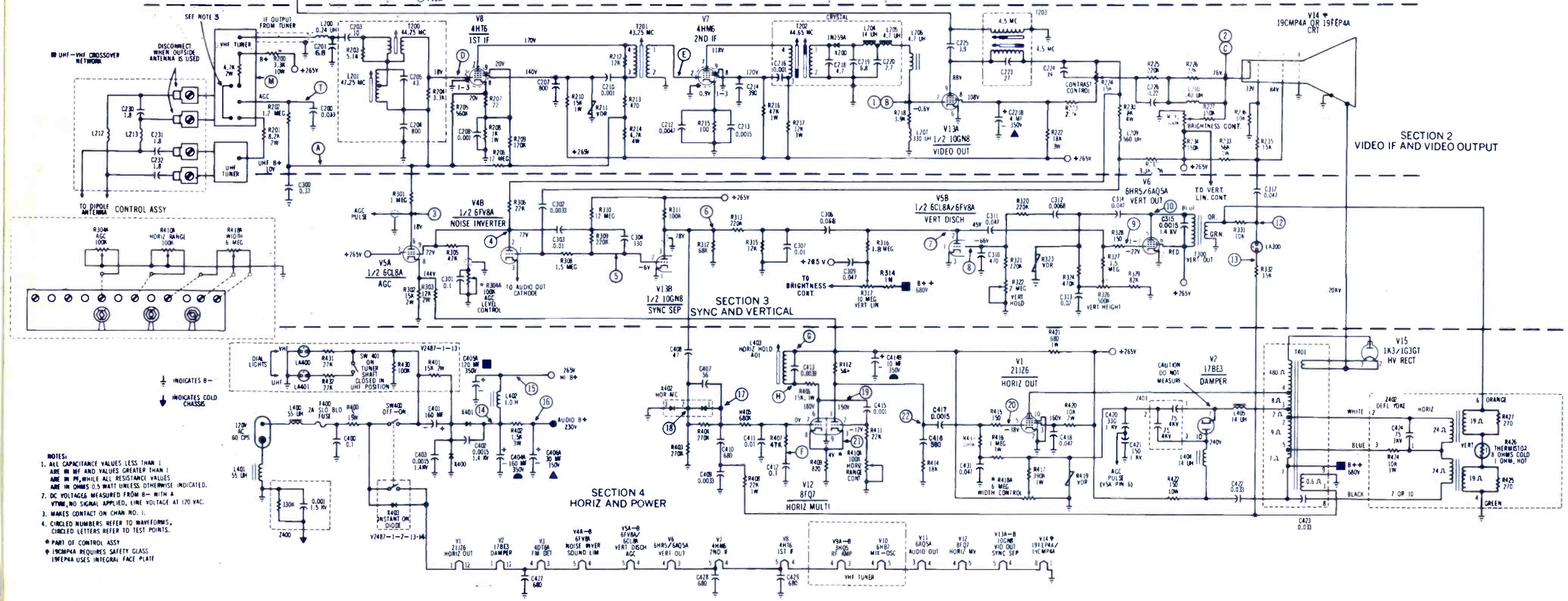
ELECTRONIC TECHNICIAN TEKFAX

WAVE FORMS TAKEN WITH CONTROLS SET FOR A NORMAL PICTURE





SECTION 1
SOUND IF AND AUDIO



SECTION 2
VIDEO IF AND VIDEO OUTPUT

SECTION 3
SYNC AND VERTICAL

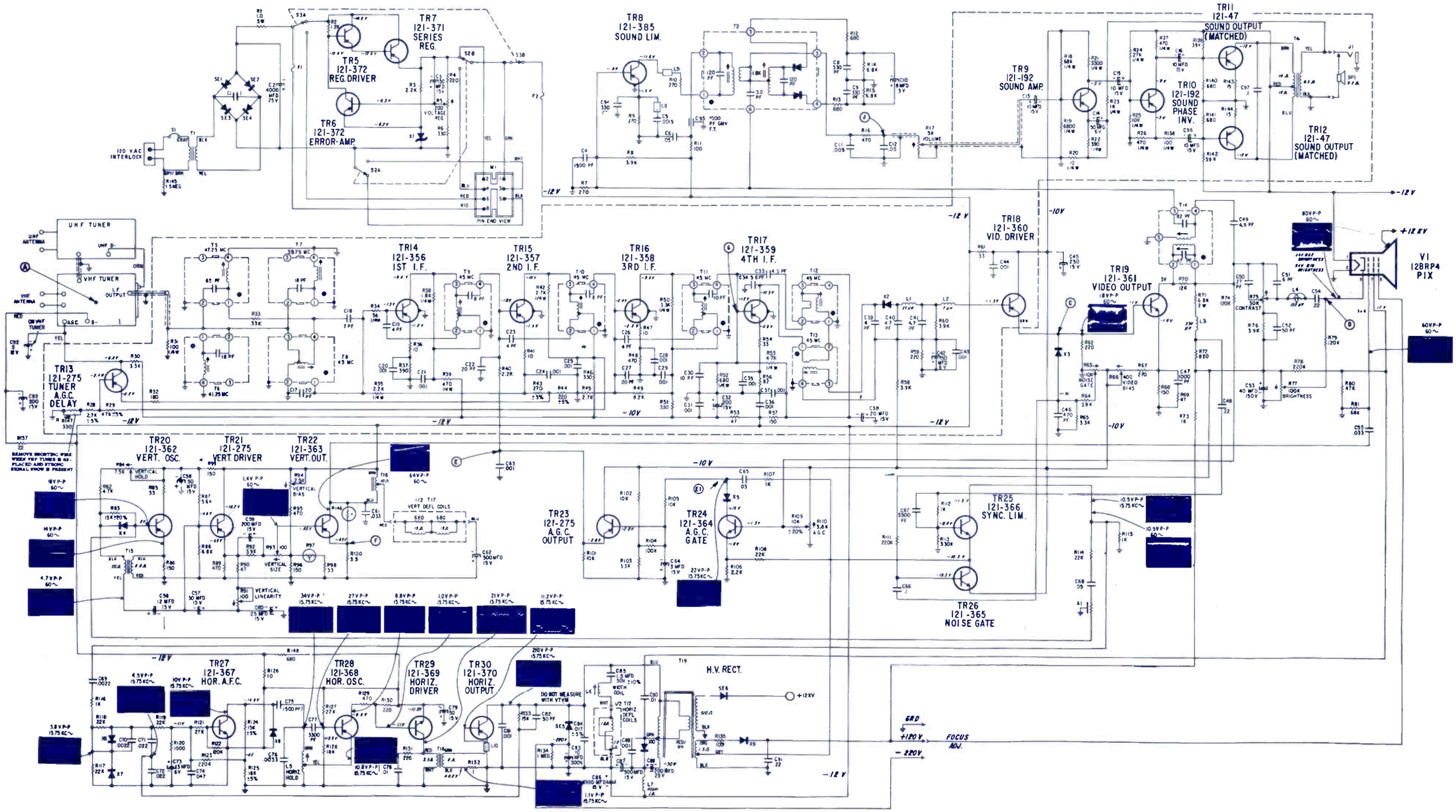
SECTION 4
HORIZ AND POWER

INDICATES B–
INDICATES COLD CHASSIS

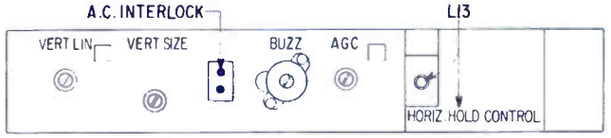
NOTES:
1. ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MF AND VALUES GREATER THAN 1 ARE IN PF, WHILE ALL RESISTANCE VALUES ARE IN OHMS 0.5 WATT UNLESS OTHERWISE INDICATED.
2. DC VOLTAGES MEASURED FROM B– WITH A VTVM, NO SIGNAL APPLIED, LINE VOLTAGE AT 120 VAC.
3. MAKES CONTACT ON CHAN NO. 1.
4. CIRCLED NUMBERS REFER TO WAVEFORMS, CIRCLED LETTERS REFER TO TEST POINTS.

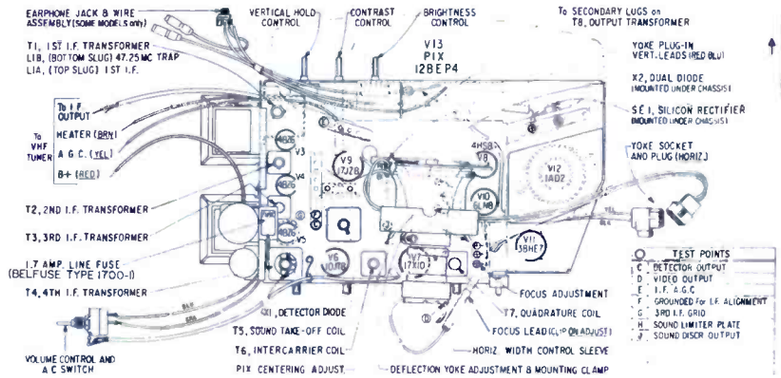
* PART OF CONTROL ASSY
♦ 19CMP4A REQUIRES SAFETY GLASS 19FEP4A USES INTEGRAL FACE PLATE

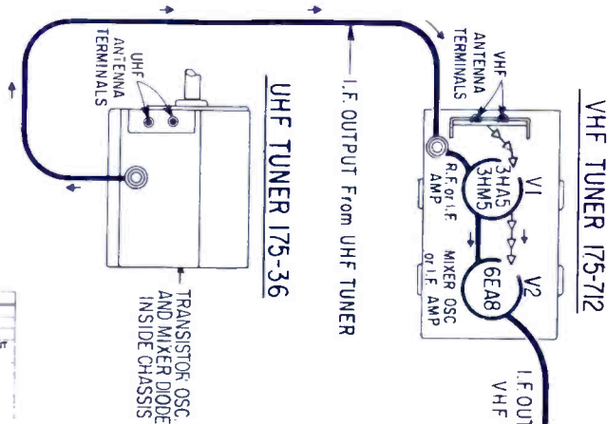
Symbol	Description	Zenith Part No.
C2	4000μf elect 25v	22-4598
C3	50μf elect 15v	22-4567
C4	1500pf mica 300v	22-3179
C10	8μf elect 3v	22-4563
C13	10μf elect 15v	22-3448
C14	50μf elect 6v	22-4566
C16	10μf elect 15v	22-3448
C18	7pf disc 10% 500v	22-5126
C30	10pf disc 10% 500v	22-5129
C32	200μf elect 15v	22-4571
C33	4.5pf disc 5% 500v	22-4587
C34	5.6pf disc .5pf 500v	22-5194
C38	20μf elect 15v	22-4565
C39	4pf disc .25pf 500v	22-5128
C40	4.7pf gimmick 10% 500v	22-3041
C41	4.7pf gimmick 10% 500v	22-3041
C42	50μf elect 6v	22-4566
C45	250μf elect 15v	22-4578
C46	470pf disc 10% 500v	22-3363
C47	.001μf disc 10% 1000v	22-17
C52	50pf disc 500v	22-3515
C53	40μf elect 150v	22-5121
C56	12μf elect +20-10% 15v	22-4575
C57	30μf elect +20-10% 15v	22-5189
C58	50μf elect 15v	22-4567
C59	200μf elect 15v	22-4571
C60	25μf elect +20-10% 15v	22-4576
C62	500μf elect 15v	22-4572
C64	3μf elect +30-20% 15v	22-5135
C73	3μf elect +20-10% 6v	22-4574
C79	50μf elect 15v	22-4567
C82	50pf disc 500v	22-3515
C83	10μf elect 300v	22-5120
C84	.017μf molded 5% 400v	22-4599
C86	1000μf elect 15v	22-4573
C87	500μf elect 15v	22-4572
C88	.001μf 1000v	22-3748
C89	200μf elect 25v	22-4643
C92	5μf elect 12v	22-2884
C93	200μf elect 15v	22-4571
C96	10μf elect 15v	22-3448
R1	1.0Ω 10% 5w	63-6424
R5	200Ω volt reg contr	63-5478
R17	5K vol & sw	63-5458
R33	33K 10% A B only ½w	63-4008
R63	10KΩ noise gate	63-4095
R66	400Ω video bias control	63-5485
R75	30K contrast	63-4997
R77	100K brightness	63-5484
R84	7.5K vert hold	63-6374
R91	100Ω vert lin	63-5480
R93	100Ω vert size	63-5480
R94	2.5K vert bias	63-5479
R97	thermistor	63-3663
R110	3.5K AGC	63-5481
SE1	rectifier	212-57
SE2	rectifier	212-57
SE3	rectifier	212-57
SE4	rectifier	212-57
SE5	focus rectifier	212-64
SE6	HV rectifier	103-66
T1	power xformer	95-2307
T2	ratio det	95-2318
T4	sound out xformer	95-2306
T5	47.25Mc trap coil assy	95-2293
T6	41.25Mc trap coil assy	95-2292
T7	39.75Mc trap coil assy	95-2292
T8	45Mc input IF xformer	95-2303
T9	45Mc 1st IF xformer	95-2350
T10	45Mc 2nd IF xformer	95-2350
T11	45Mc 3rd IF xformer	95-2291
T12	45Mc 4th IF xformer (prim)	95-2295
T13	45Mc 4th IF xformer (sec)	95-2296
T14	sound take-off xformer	95-2298
T15	vert osc xformer	95-2308
T16	vert out xformer	95-2349
T17	yoke	95-2310
T18	horiz driver xformer	95-2304
T19	horiz sweep xformer	S-71535
L5	horiz hold assy	S-68273
X1	zener diode	103-81
X2	diode	103-23
X3	diode	103-23
X4	diode	103-51
X5	diode	103-51
X6	diode	103-51
X7	diode	103-51
X8	diode	103-51
X9	diode	103-82
X10	diode, damper	103-92
F1	fuse (2 amp pigtail)	136-24
F2	fuse (2 amp type 3AG)	136-36
S1	circuit breaker .8 amp	85-881
S2A, S2B	ac dc switch	85-869
S3A	part of volume contr R17	
S3B	part of volume contr R17	

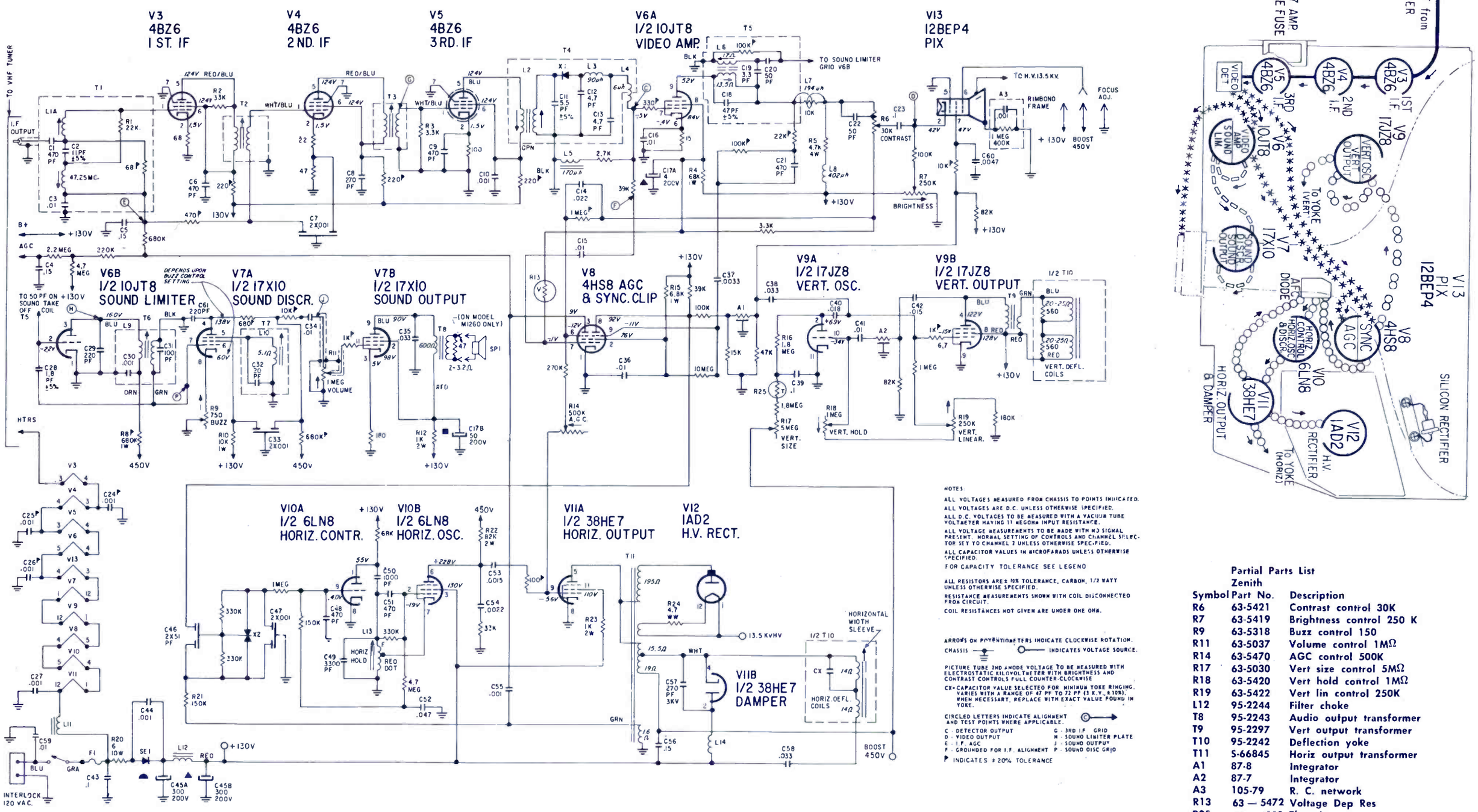


ZENITH
TV Chassis 13M15









NOTES

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.

ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITY TOLERANCE SEE LEGEND

ALL RESISTORS ARE ± 10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.

RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.

COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

CHASSIS ⏚ — ○ INDICATES VOLTAGE SOURCE.

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE

CX = CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V., ± 10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE. ⓒ→

C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - I.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
J - SOUND OUTPUT
P - SOUND DISC GRID

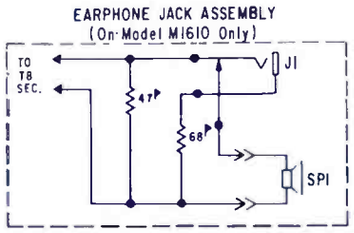
P INDICATES ± 20% TOLERANCE

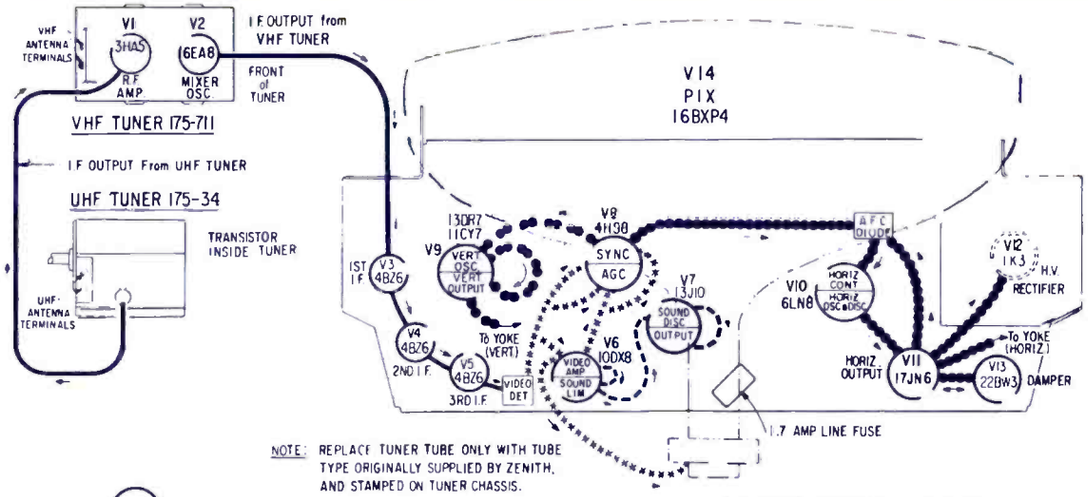
Partial Parts List
Zenith

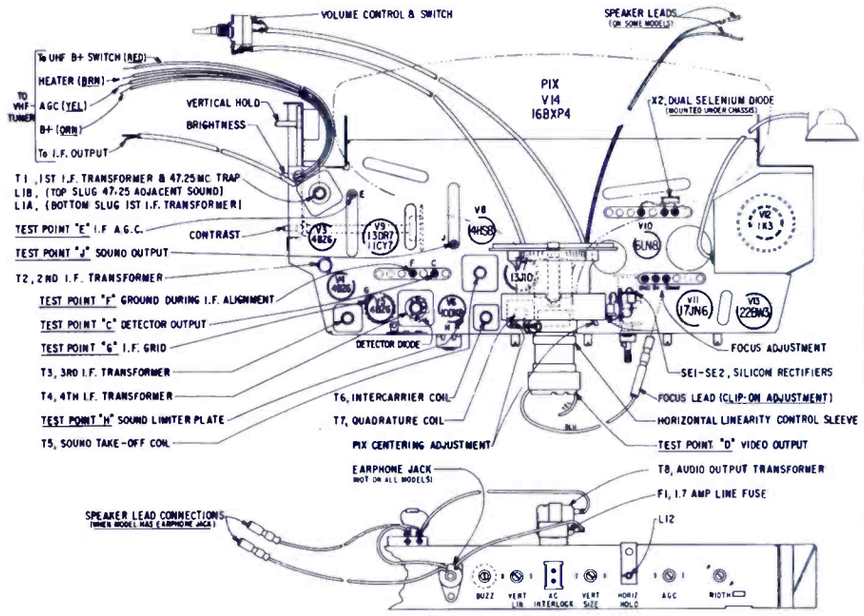
Symbol	Part No.	Description
R6	63-5421	Contrast control 30K
R7	63-5419	Brightness control 250 K
R9	63-5318	Buzz control 150
R11	63-5037	Volume control 1MΩ
R14	63-5470	AGC control 500K
R17	63-5030	Vert size control 5MΩ
R18	63-5420	Vert hold control 1MΩ
R19	63-5422	Vert lin control 250K
L12	95-2244	Filter choke
T8	95-2243	Audio output transformer
T9	95-2297	Vert output transformer
T10	95-2242	Deflection yoke
T11	5-66845	Horiz output transformer
A1	87-8	Integrator
A2	87-7	Integrator
A3	105-79	R. C. network
R13	63 — 5472	Voltage Dep Res
R25	63 — 6331	Thermistor

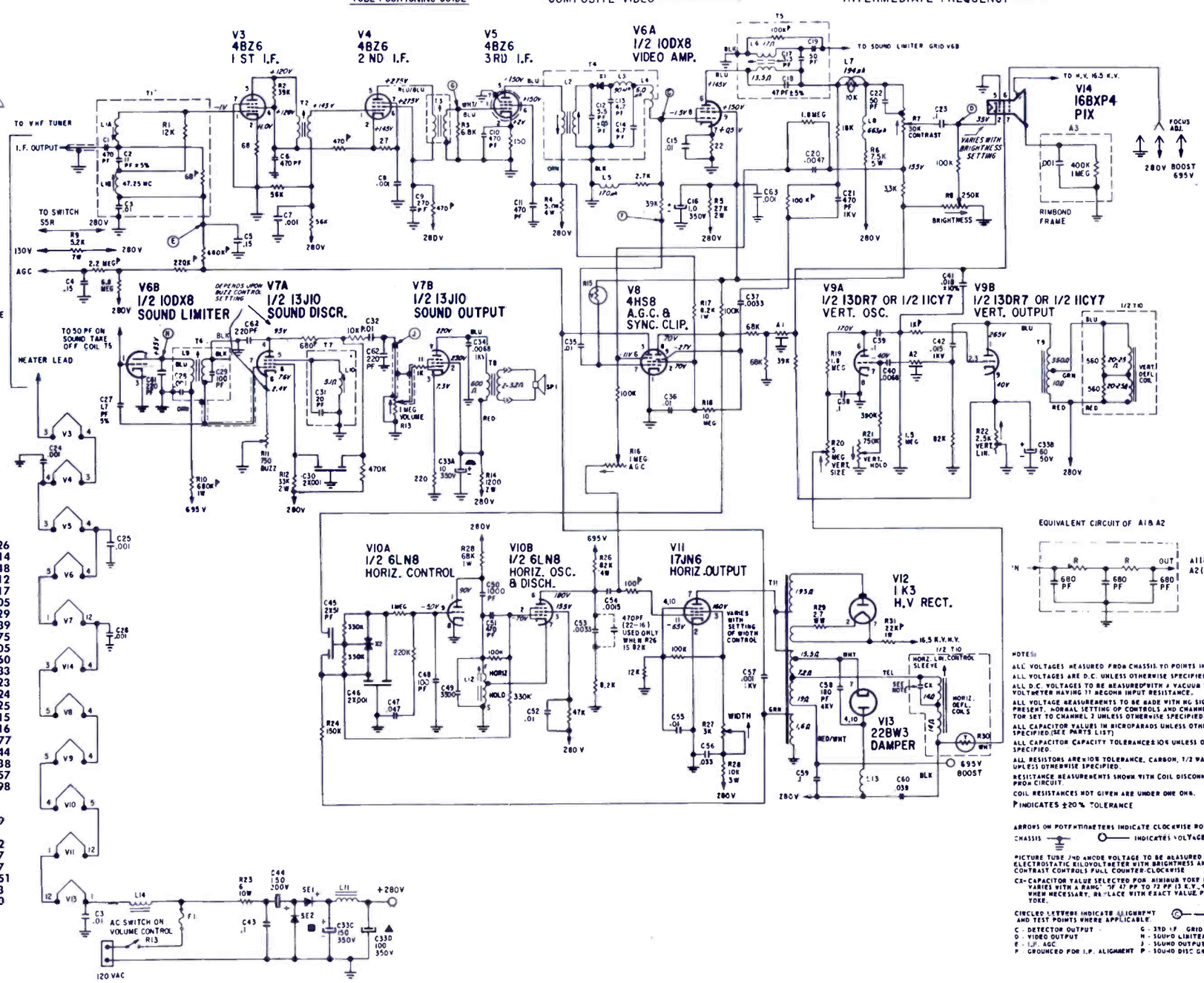
ELECTRONIC TECHNICIAN TEKFAX

ZENITH
TV Chassis 14M21







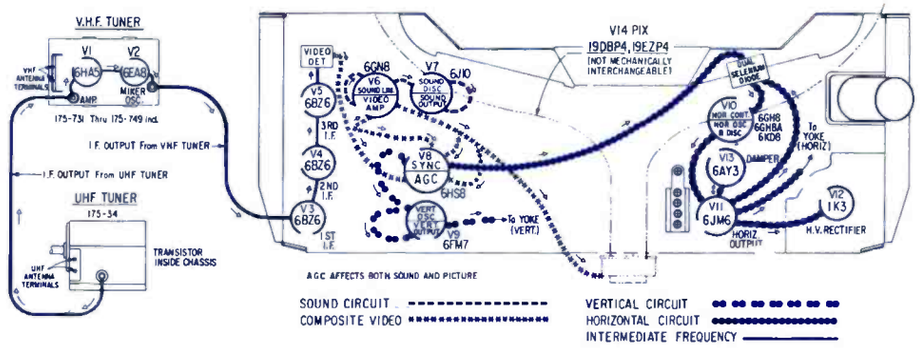


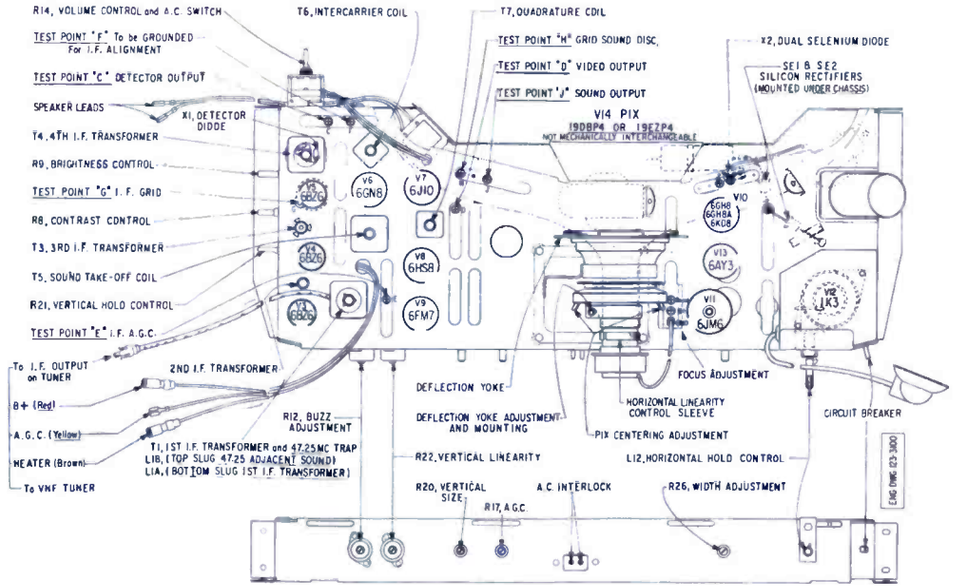
Symbol	Description	Zenith Part No.
C6	470 pf disc. 10% 500v	22-3363
C8	.001 µfd disc. 10% 1000v	22-17
C13	4.7 pf gimmick 500v	22-1516
C14	4.7 pf gimmick 500v	22-1516
C16	1 µfd electrolytic 350v	22-3496
C17	3.3 pf gimmick 500v	22-2343
C22	50 pf gimmick 500v	22-2460
C23	.1 µfd molded 400v	22-3239
C29	100 pf mica 10% 500v	22-5106
C33A	10 µfd electrolytic 350v	
C33B	60 µfd electrolytic 50v	
C33C	150 µfd electrolytic 350v	22-4503
C33D	100 µfd electrolytic 350v	
C44	150 µfd electrolytic 200v	22-5102
C45	2x51 pf disc. 500v	22-25
C46	2x.001 µfd disc. 500v	22 21
C49	3300 pf mica 300v	22-3471
C57	.001 µfd disc. 10% 1000v	22-17
C63	.001 µfd disc. 1000v	22-17
R7	30K contrast contr.	63-4997
R8	250K bright. contr.	63-5033
R9	5.2K resistor 10% 7w	63-4754
R11	750 Ω buzz contr.	63-5408
R13	1M volume contr.	63-5037
R14	1200 Ω 2w	63-5673
R15	volt. dependent resistor	63-5378
R16	1M AGC contr.	63-4833
R20	5M vert. size contr.	63-5030
R21	750K vert. hold contr.	63-5032
R22	2.5K vert. lin. contr.	63-5029
R23	6 Ω 10% 10w	63-4450
R27	3K width contr.	63-5031
R30	thermistor	63-4726
L5	Detector shunt peak. coil	20-2014
L6	sound take-off assem.	S-58348
L7	video series peak. coil	20-2512
L8	video shunt peak. coil	20-2017
L9	intercarrier coil assem.	S-66705
L10	quadrature coil assem.	S-45229
L11	filter choke	95-2039
L12	horiz. osc. coil assem.	S-56875
L13	spook coil	20-2005
L14	choke coil	20-1260
T1	1st IF & trap coil assem.	S-63533
T2	2nd IF trans. assem.	S-57623
T3	3rd IF trans. assem.	S-57624
T4	4th IF trans. assem.	S-57625
T5	sound take-off coil assem.	S-66715
T6	intercarrier coil assem.	S-67716
T7	quadrature coil assem.	S-58377
T8	sound output trans.	95-2144
T9	vert. output trans.	95-2038
T10	yoke	95-2157
T11	horiz. sweep trans.	S-68398
A1	integrator	87-8
A2	integrator	87-7
A3	R/C network	105-79
F1	fuse 1.7 amp (belfuse type 1700-1)	136-62
SE1	silicon rectifier	212-27
SE2	silicon rectifier	212-27
SP1	speaker	49-1051
X1	picture det. diode	103-23
X2	selenium dual diode	103-20

NOTES:
ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT, NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED. (SEE PARTS LIST)
ALL CAPACITOR CAPACITY TOLERANCES 10% UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.
COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
* INDICATES ±20% TOLERANCE

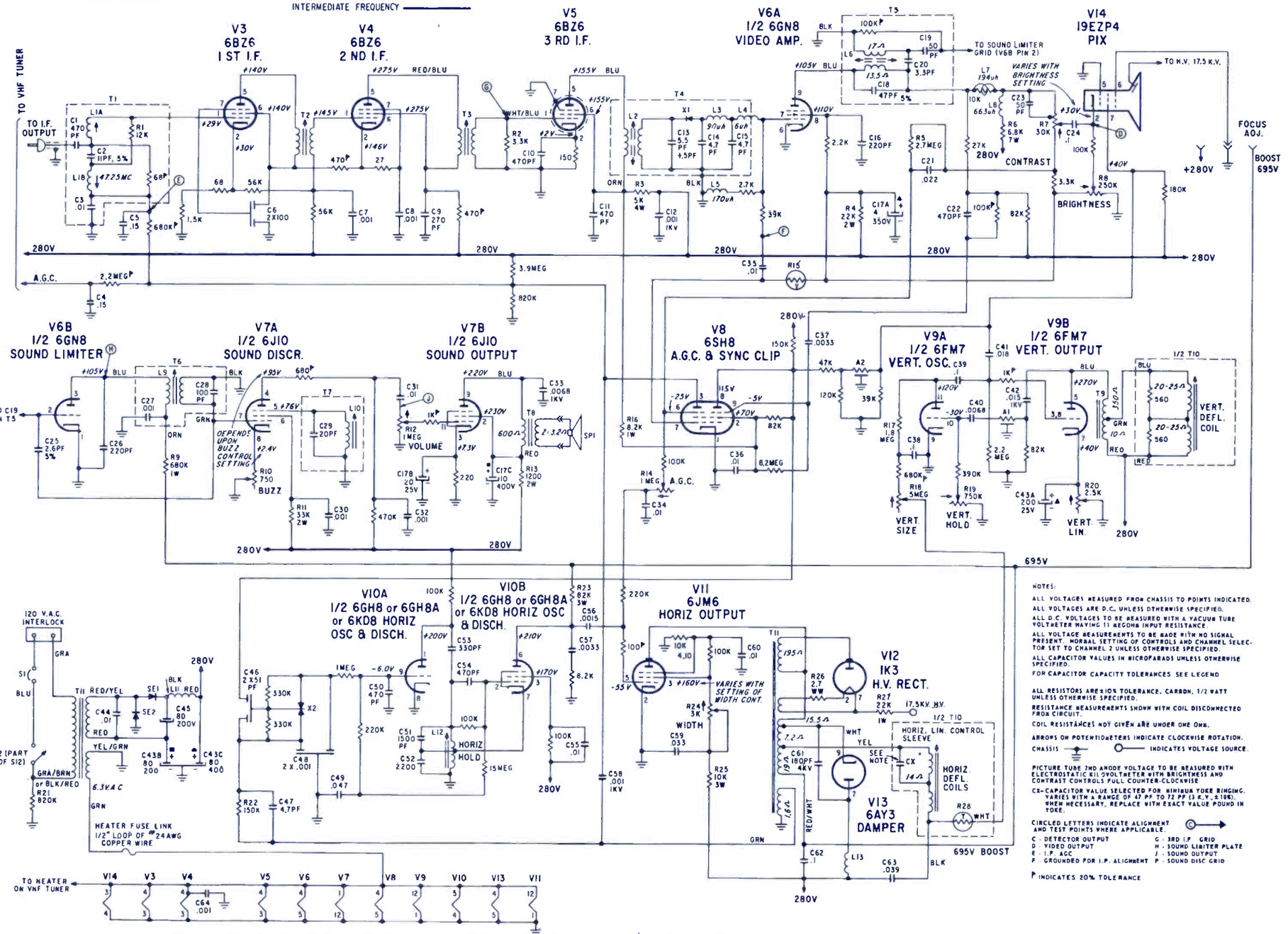
ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
CHASSIS — INDICATES VOLTAGE SOURCE
PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE
CX - CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V. - 4.19K). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.
C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - I.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
J - SOUND OUTPUT
P - SOUND DISC GRID

ZENITH
TV Chassis 14M32





Symbol	Description	Zenith Part No.
C7	.001 Mfd disc 10% 1000v	22-17
C8	.001 Mfd disc 10% 1000v	22-17
C12	.001 Mfd disc 10% 1000v	22-17
C17A	4 Mfd electrolytic 350v	
C17B	20 Mfd electrolytic 25v	22-2744
C17C	10 Mfd electrolytic 400v	
C22	470 PF disc 1000v	22-6
C27	.001 Mfd disc 10% 1000v	22-3748
C30	.001 Mfd disc 10% 1000v	22-17
C32	.001 Mfd disc 10% 1000v	22-17
C33	.0068 Mfd disc 10% 1000v	22-5021
C42	.015 Mfd Molded 1000v	22-3040
C43A	200 Mfd electrolytic 25v	
C43B	80 Mfd electrolytic 200v	22-3863
C43C	80 Mfd electrolytic 400v	
C45	80 Mfd electrolytic 200v	22-3965
C48	2X.001 Mfd disc 10% 500v	22-21
C50	.470 PF disc 1000v	22-6
R1	12KΩA.B. only 10% ½w	63-2845
R2	3.3KΩA.B. only 10% ½w	63-5384
R7	30KΩ contrast contr.	63-4997
R8	250KΩB right. contr.	63-5380
R10	750Ω buzz contr.	63-3284
R12	1 meg. vol. contr. (acsw.)	63-5395
R14	1 meg. Ω A.G.C. contr.	63-4833
R15	voltage dependent res.	63-5314
R18	5 meg vert. size contr.	63-5030
R19	750K vert. Hold contr.	63-5379
R20	2.5K Ω vert. Lin. contr.	63-4815
R24	3K width contr.	63-5031
R26	2.7 Ω W.W. ½w	63-3631
R28	Thermal Res. supplied w/yoke	63-5187
L4	Choke coil	20-2004
L6	sound take off coil assem.	S-54785
L10	quadature coil assem.	S-45229
L11	Filter choke	95-1805
L12	horiz. osc. coil assem.	S-56876
L13	spook choke coil	20-2005
T7	quadrature coil assem.	S-45831
T8	sound output trans.	95-2185
T9	vert. output trans.	95-2186
T10	yoke	95-2290
T11	power trans.	95-2311
T12	horiz. sweep trans.	S-65092
X1	diode crystal	103-23
X2	dual selenium diode	103-20
A1	integrator	87-8
A2	integrator	87-7
SE1	silicon rectifier	212-27
SE2	silicon rectifier	212-27
S1	circuit breaker	85-763
S2	part of R14 vol. contr.	
SP1	speaker	



NOTES:

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.

ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT, NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR CAPACITY TOLERANCES SEE LEGEND

ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.

RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.

COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

CHASSIS — INDICATES VOLTAGE SOURCE.

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE

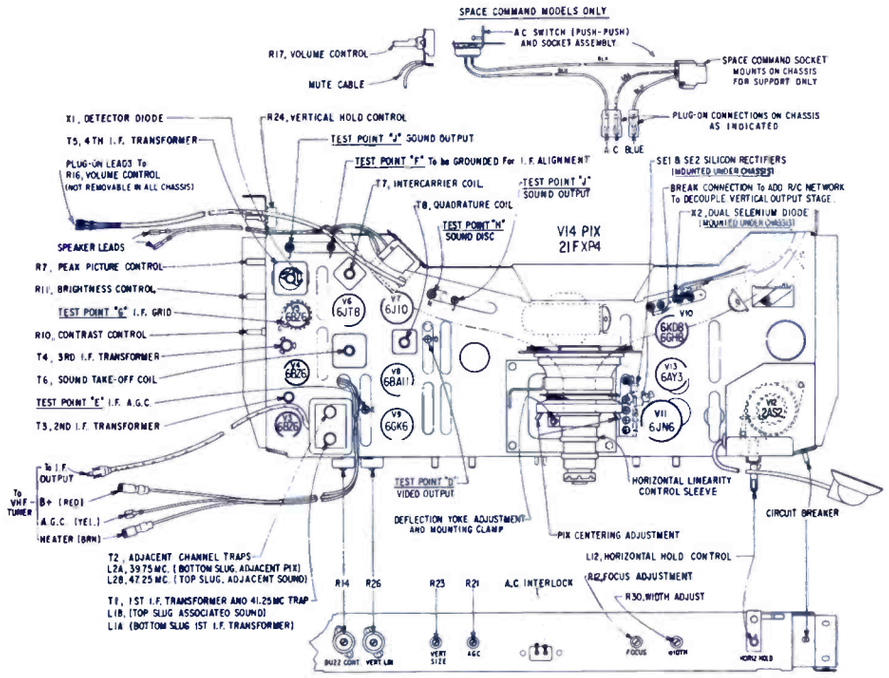
CX-CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V. ± 10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

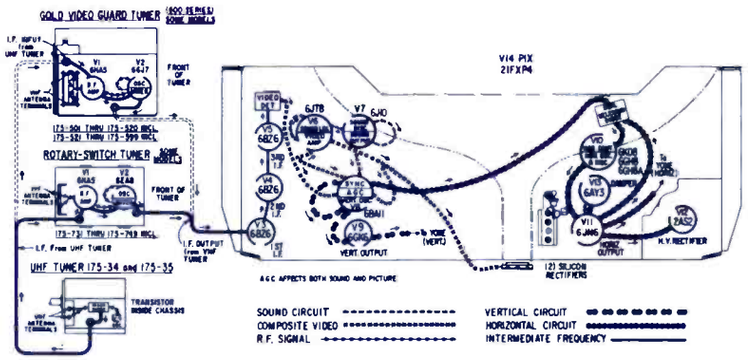
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.

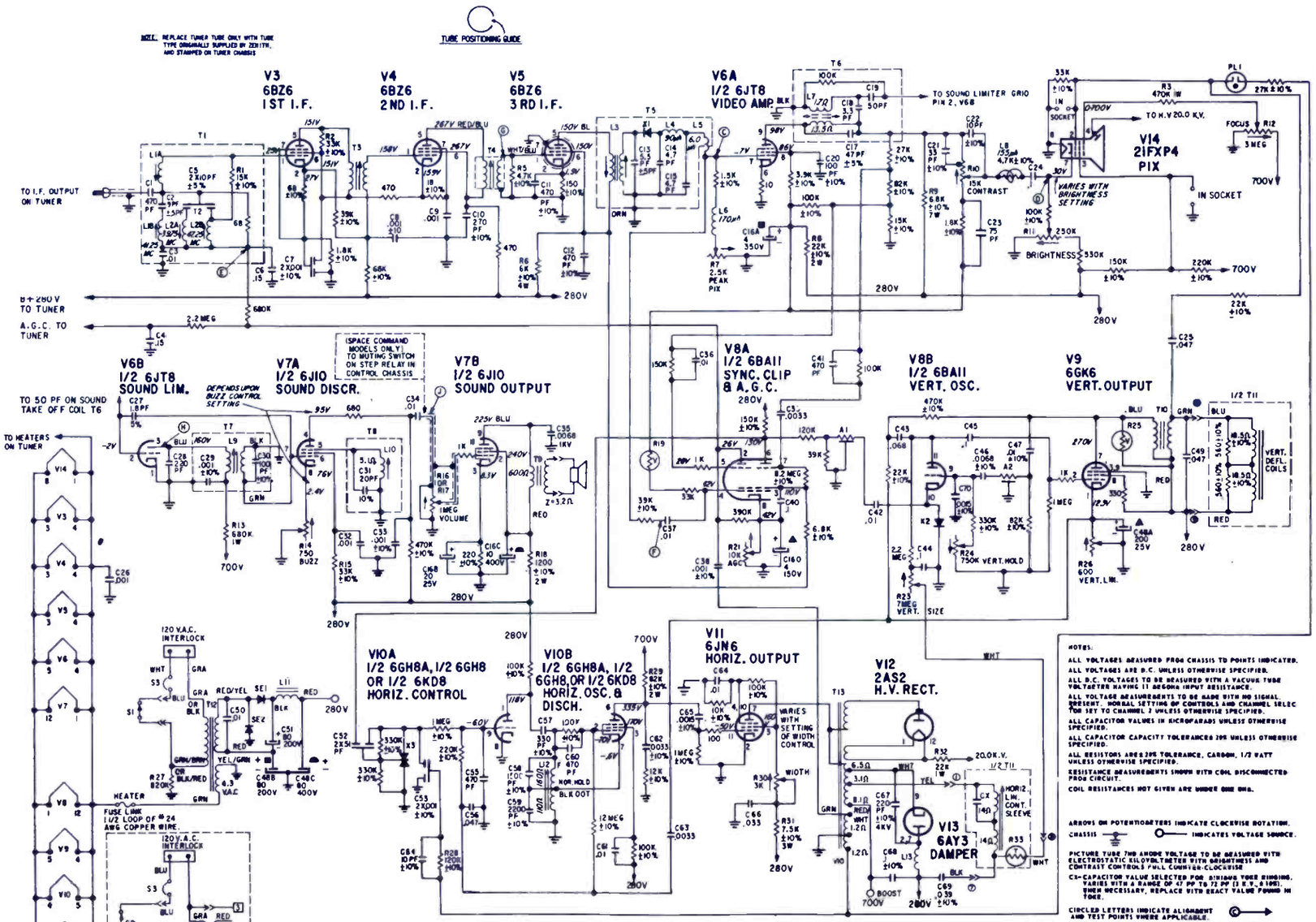
C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - I.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
J - SOUND OUTPUT
P - SOUND DISC GRID

▶ INDICATES 20% TOLERANCE

ZENITH
TV Chassis 14N26







Symbol	Description	Zenith Part No.
C7	2 x .001 µfd disc. +10% 500v	22-21
C8	.001 µfd disc. +10% 1000v	22-17
C9	.001 µfd disc. 500v	22-7
C10	270 pf disc. +10% 500v	22-3140
C11	470 pf disc. +10% 500v	22-16
C14	4.7 pf Gimmick 500v	22-1516
C15	4.7 pf Gimmick 500v	22-1516
C16A	4 µfd electrolytic 350v	
C16B	20 µfd electrolytic 25v	
C16C	10 µfd electrolytic 400v	22-3457
C17	47 pf disc. +5% 500v	22-2467
C28	220 pf mica +10% 500v	22-2926
C30	100 pf mica + 10% 500v	22-5106
C33	.001 µfd disc. +10% 1000v	22-17
C39	.0033 µfd disc. 400v	22-11
C41	470 pf disc. 1000v	22-6
C48B	80 µfd electrolytic 200v	22-3863
C51	80 µfd electrolytic 200v	22-3965
R7	2.5kΩ video peak picture control	63-5381
R10	15kΩ contrast control	63-6356
R11	250Ω brightness control	63-5380
R12	3 M focus control	63-4455
R14	750Ω buzz control	63-3204
R16	1 M volume control & switch on non-space command model	63-5449
R17	volume control on space command model	63-5156
R19	voltage dependent resistor	63-5327
R20	10kΩ AGC control	63-6432
R23	7 M vertical size control	3-6433
R24	750Ω vertical hold control	63-5379
R25	voltage dependent resistor	63-6445
R26	600Ω vertical linearity control	63-5312
R33	thermal resistor mounted in yoke	63-5187
L1A	1st IF & Trap Coil Winding Assembly	S-58821
L2A	Adj. channel trap coil winding assembly	S-53072
L2B	4th IF winding assembly	S-47968
L3	detector series peaking coil	20-2013
L4	choke coil assembly	20-2004
L6	detector shunt peaking coil assembly	20-2014
L7	sound take-off winding assembly	S-65476
L8	video series peaking coil assembly	20-2501
L9	intercarrier coil winding assembly	S-66705
L10	quadrature coil winding assembly	S-45229
L11	filter choke	95-2189
L12	horizontal oscillator coil assembly	S56376
L13	spook coil assembly	20-2005
T1	1st IF & 41.25 Mc trap coil assembly	S-58822
T2	Adj. channel trap coil assembly	S-65378
T3	2nd IF trans. assembly	S65172
T4	3rd IF transformer assembly	S-57624
T5	4th IF transformer assembly	S-58824
T6	sound take-off assembly	S-65529
T7	intercarrier coil assembly	S-67031
T8	quadrature coil assembly	S-45831
T9	audio output transformer	95-2185
T10	vertical output transformer	95-2333
T11	yoke	95-2334
T12	power transformer	95-2200
T13	horizontal sweep transformer	S-69760
A1	integrator	87-10
A2	integrator	87-7
PL1	neon bulb (NE2H)	100-251
S2	ac switch on space command models only	85-835
SE1	silicon rectifier	212-27
SE2	silicon rectifier	212-27
SP1	speaker	
X1	diode crystal	103-23
X2	germanium diode	103-79
X3	dual selenium diode	103-20

ZENITH
TV Chassis 14N22

ELECTRONIC TECHNICIAN TEKFAX

NOTES:

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED
FOR CAPACITOR CAPACITY TOLERANCE SEE LEGEND

ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.
COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM. INDICATES ± 20% TOLERANCE

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
CHASSIS — INDICATES VOLTAGE SOURCE.

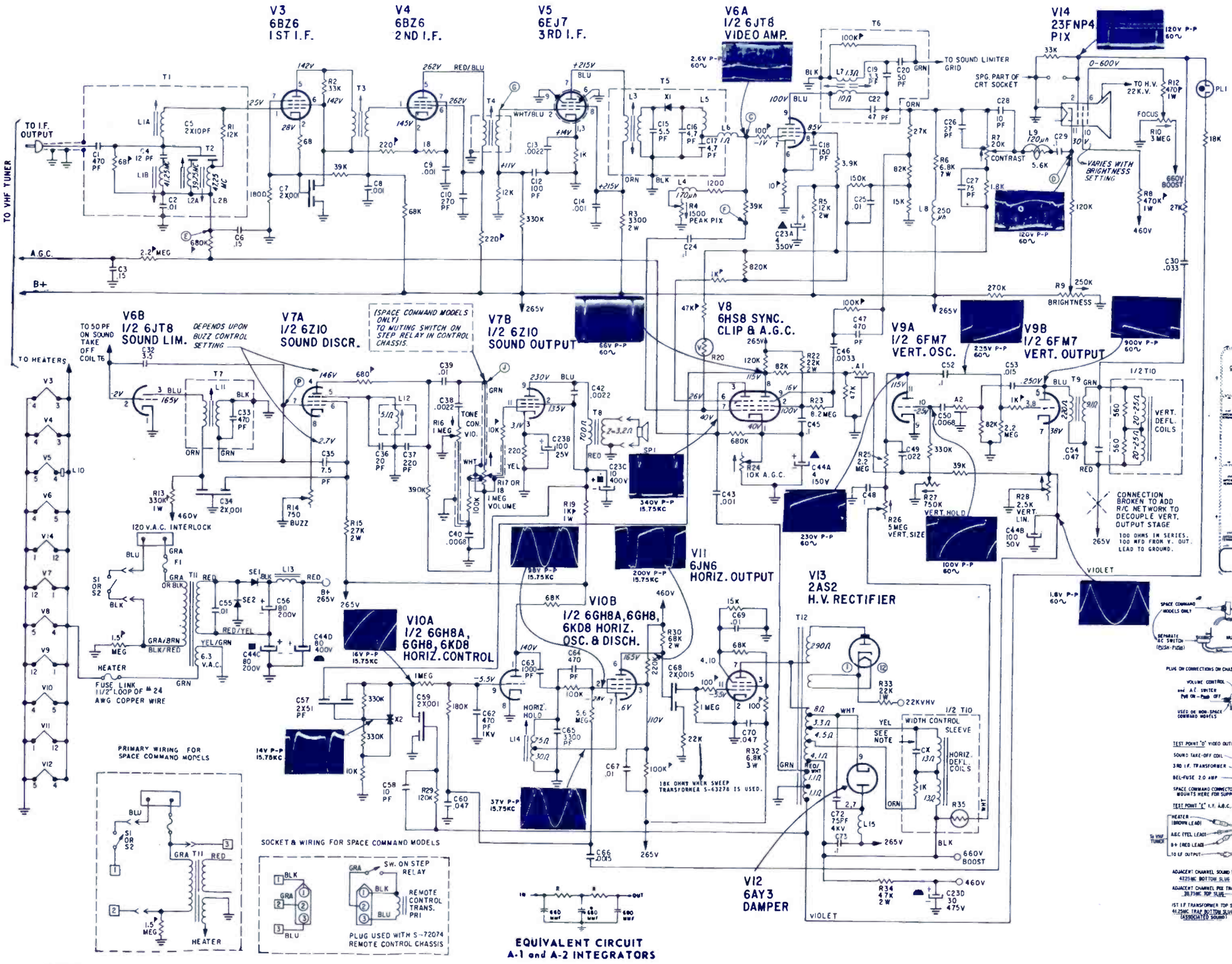
PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE

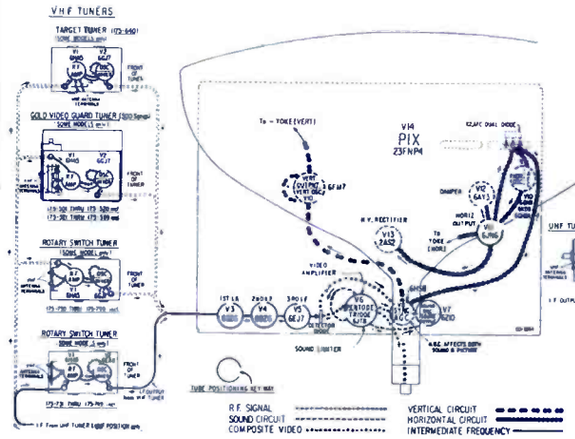
CX- CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V. & 10K). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

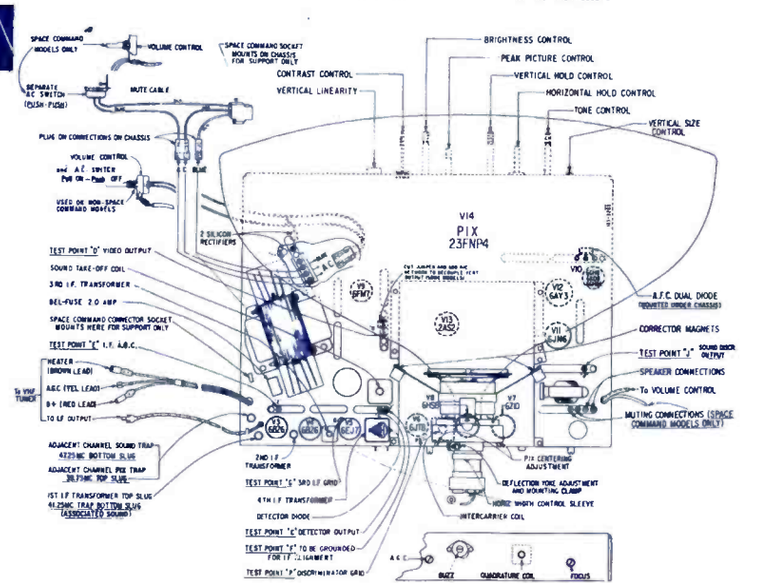
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.

C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - I.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
J - SOUND OUTPUT
P - SOUND DISC GRID

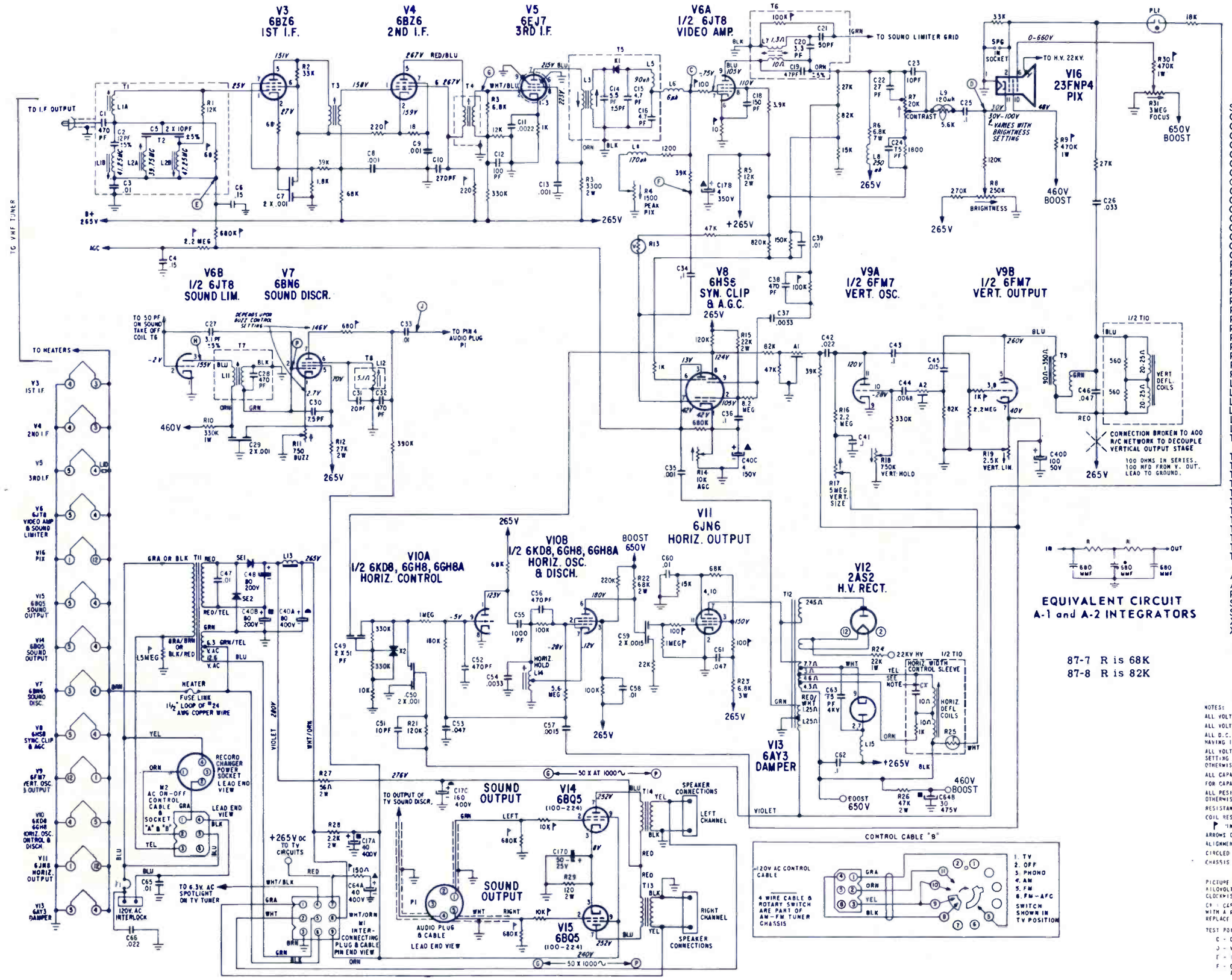
Symbol	Description	Zenith Part No.
C5	2x10pf 5% 500v	22-3540
C7	2x.001μf disc 10% 500v	22-21
C14	.001μf disc 10% 1000v	22-17
C23A	4μf elect 350v	
C23B	100μf elect 25v	22-3898
C23C	10μf elect 400v	
C23D	30μf elect 475v	
C38	.0022μf disc 1000v	22-8
C42	.0022μf disc 20% 1000v	22-8
C44A	4μf elect 150v	
C44B	100μf elect 50v	22-3899
C44C	80μf elect 200v	
C44D	80μf elect 400v	
C47	470pf disc 20% 1000v	22-6
C53	.015μf molded 10% 1000v	22-3040
C56	80μf elect 200v	22-3957
C57	2x51pf disc 5% 500v	22-25
C68	2x.0015μf disc 10% 500v	22-26
R1	12K 10% AB only ½w	63-2845
R2	33K 10% AB only ½w	63-4008
R4	1.5K peak pix	63-5159
R6	6.8K 10% 7w	63-5338
R7	20K contrast	63-6795
R9	250K brightness	63-5150
R10	3M focus	63-6467
R14	750Ω buzz	63-3284
R16	1M tone control 2w	63-6794
R17	1M vol control & switch (non-space command models)	63-5330
R18	vol control (space command models)	63-5371
R20	voltage dependent resistor	63-5472
R23	8.2M 10% AB only ½w	63-4389
R25	2.2M 10% AB only ½w	63-5158
R26	5M vert size	63-4660
R27	750K vert hold	63-5149
R28	2.5K vert lin	63-4815
R29	120K 10% IRC only ½w	63-5315
R33	22K AB or stkpl. only 1w	63-4693
R35	thermal resistor supplied with yoke	63-4726
L2A	adj channel trap coil	S-53072
L3	4th IF coil	S-47968
L6	choke coil	20-2004
L11	intercarrier coil	S-41899
L12	quad coil	S-66427
L13	filter choke	95-1682
L14	horiz oscillator coil	S-56875
L15	choke coil	20-2005
T1	1st IF & trap coil	S-72701
T2	adjacent channel trap	S-72709
T3	2nd IF coil	S-65172
T4	3rd IF xformer	S-58613
T5	4th IF xformer	S-58824
T6	sound take-off coil	S-71978
T7	intercarrier coil	S-71979
T8	sound output xformer	95-2385
T9	vert output xformer	95-2384
T10	deflection yoke	95-2383
T11	power xformer	95-2105
T12	horiz sweep xformer	S-63279
X1	crystal diode	103-23
X2	dual selenium diode	103-20
A1	integrator unit	87-8
A2	integrator unit	87-7
SE1	silicon diode rectifier	212-27
SE2	silicon diode rectifier	212-27
SP1	speaker	







ZENITH
TV Chassis 16N24



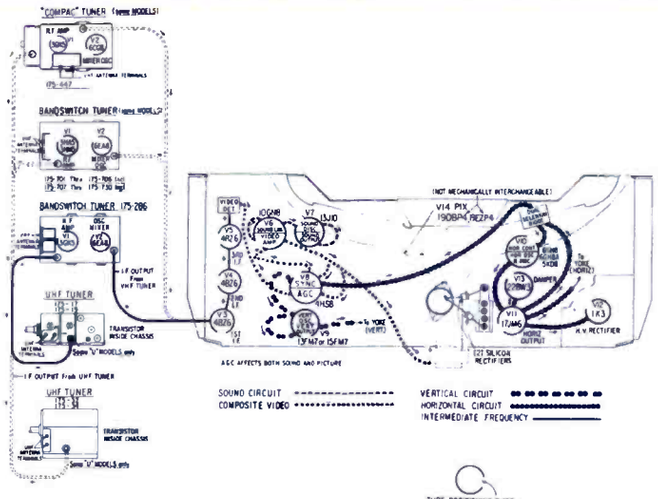
Symbol	Description	Zenith Part No.
C5	2 x 10pf disc 5% 500v	22-3540
C7	2 x .001μf disc 10% 500v	22-21
C8	.001μf disc 10% 1000v	22-17
C13	.001μf disc 10% 1000v	22-17
C17A	40μf elect 400v	
C17B	4μf elect 350v	22-3995
C17C	160μf elect 400v	
C17D	50μf elect 25v	
C40A	80μf elect 400v	
C40B	80μf elect 200v	
C40C	4μf elect 150v	22-3899
C40D	100μf elect 50v	
C48	80μf elect 200v	22-3957
C59	2 x .0015μf disc 10% 500v	22-26
C64A	40μf elect 400v	
C64B	30μf elect 475v	22-4662
R1	15K 10% A.B. only ½w	63-2372
R2	33K 10% A.B. only ½w	63-4008
R4	1500Ω peak pix control	63-5159
R7	20K contrast control	63-6795
R8	250K brightness control	63-5150
R11	750Ω buzz control	63-3284
R15	22K 10% 2w	63-5726
R16	2.2M 10% A.B. only ½w	63-5158
R17	5M vert size control	63-4660
R18	750K vert hold control	63-5149
R19	2.5K vert lin control	63-4815
R25	thermistor in yoke	63-4726
R31	3M focus control	63-6467
L3	4th IF coil	S-47968
L7	sound take-off coil	S-50341
L9	series peaking coil	20-2504
L10	ferrite sleeve	149-333
L11	intercarrier coil	S-41899
L12	quad coil	S-47702
T1	1st IF & 41.25Mc trap coil assy	S-72701
T2	adj ch trap coil assem	S-72709
T3	2nd IF xformer	S-65172
T4	3rd IF xformer	S-68613
T5	4th IF xformer	S-58824
T6	sound take-off transformer	S-60985
T7	intercarrier xformer	S-56508
T8	quad coil assy	S-66427
T9	vert output xformer	95-2384
T10	deflection yoke	95-2383
T11	power xformer	95-2416
T12	horiz sweep xformer	S-63279
T13	sound output xformer (right)	95-2417
A1	integrator unit	87-8
A2	inegtrator unit	87-7
PL1	ne2h neon bulb	100-251
SE1	silicon rectifier	212-27
SE2	silicon rectifier	212-27
X1	crystal diode	103-23
X2	dual selenium diode	103-20

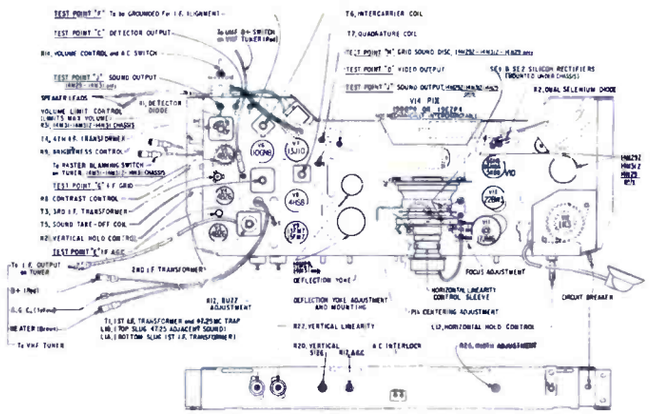
NOTES:
ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
FOR CAPACITOR TOLERANCE SEE LEGEND.
ALL RESISTORS ARE ± 10% TOLERANCE. CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.
COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.
▶ INDICATES ± 20% TOLERANCE.
ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
ALIGNMENT POINTS Ⓒ
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS.
CHASSIS ⏚ ○— INDICATES VOLTAGE SOURCE

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE.
C9 : CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 67 PF TO 72 PF (3 K.V., ± 10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

TEST POINTS:
C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - T.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
J - SOUND OUTPUT
P - SOUND DISC GRID

ZENITH
TV Chassis 14N29

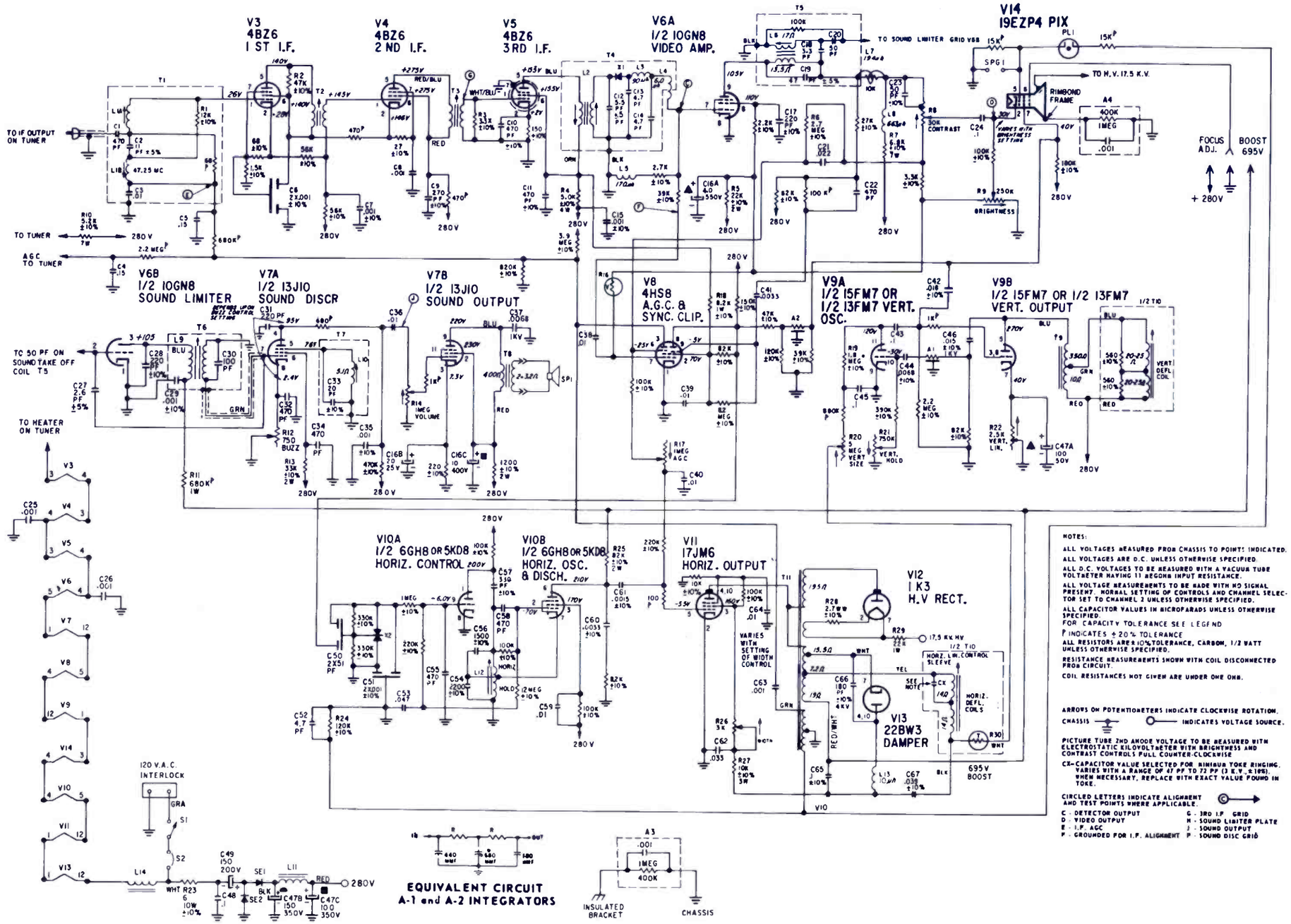




TUBE POSITIONING GUIDE

NOTE: REPLACE TUNER TUBE ONLY WITH TUBE TYPE ORIGINALLY SUPPLIED BY ZENITH, AND STAMPED ON TUNER CHASSIS

Symbol	Description	Zenith Part No.
C7	.001 μfd disc ±10% 1000v	22-17
C15	.001 μfd dics ±10% 1000v	22-17
C16A	4 μfd electrolytic 350v	22-2744
C16B	20 μfd electrolytic 25v	
C16C	10 μfd electrolytic 400v	
C22	470 pf disc ±20% 1000v	22-6
C29	.001 μfd disc ±10% 1000v	22-3748
C32	470 pf ±20% 1000v	22-6
C35	.001 μfd disc ±10% 1000v	22-17
C37	.0068 μfd disc ±10% 1000v	22-5021
C46	.015 μfd molded ±10% 1000v	22-3040
C47A	100 μfd electrolytic 50v	
C47B	150 μfd electrolytic 350v	22-5022
C47C	100 μfd electrolytic 350v	
C49	150 μfd electrolytic 200v	22-4611
C53	.047 μfd molded ±20% 100v	22-3627
C65	.1 μfd molded ±10% 600v	22-3178
R1	12kΩ a.b. only ½w	63-2845
R2	47kΩ a.b. only ½w	63-2872
R3	3.3kΩ a.b. only ½w	63-5384
R6	2.7 M a.b. only ½w	63-5240
R7	6.8kΩ 7w	63-5338
R8	30kΩ contrast control	63-4997
R9	250kΩ brightness control	63-5380
R10	5.2kΩ resistor 7w	63-4754
R12	750Ω buzz control	63-5318
R14	1 M vol control (ac switch)	63-6349
R16	voltage dependent resistor	63-5314
R20	5 M vert size control	63-5030
R21	750kΩ vert hold control	63-5379
R22	2.5kΩ vert lin control	63-5309
R23	6Ω 10w	63-4450
R24	120kΩ IRC only ½w	63-5315
R27	10kΩ 3	63-3631
R30	thermal resistor supplied with yoke	1N yoke
L1A	1st IF & trap coil winding assembly	S-57621
L1B	4th IF winding assembly	S-55140
L2	choke coil	20-2004
L5	detector shunt peaking coil	20-2014
L6	sound take-off winding assembly	S-54785
L7	video series peaking coil	20-25121
L9	intercarrier coil winding assembly	S-66705
L10	quadrature coil winding assembly	S-45229
L11	filter choke	95-1805
L12	horizontal osc. coil winding assembly	S-56876
L13	spook coil	20-2005
L14	choke coil	20-1260
T5	sound take-off coil assembly	S-65131
T6	intercarrier coil assembly	S-71145
T7	quadrature coil assembly	S-45831
T8	audio output transformer	95-2185
T9	vertical output transformer	95-2186
T10	yoke	95-2290
T11	rorizontal sweep transformer	S-71286
A1	integrator	87-7
A2	integrator	87-8
A3	R/C network	105-79
A4	R/C network	105-79
PL1	NE2H neon bulb	100-251
S1 & S2	part of R14 circuit breaker	85-763
SE1	silicon rectifier	212-27
SE2	silicon rectifier	212-27
SP1	speaker	
SPG1	spark gap	52-957
X1	diode crystal	103-23
X2	dual selenium diode	103-20



NOTES:

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.

ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT. NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
FOR CAPACITY TOLERANCE SEE LEGEND

P INDICATES ±20% TOLERANCE

ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.

RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.

COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

CHASSIS — INDICATES VOLTAGE SOURCE.

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE

CX- CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V., ±10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

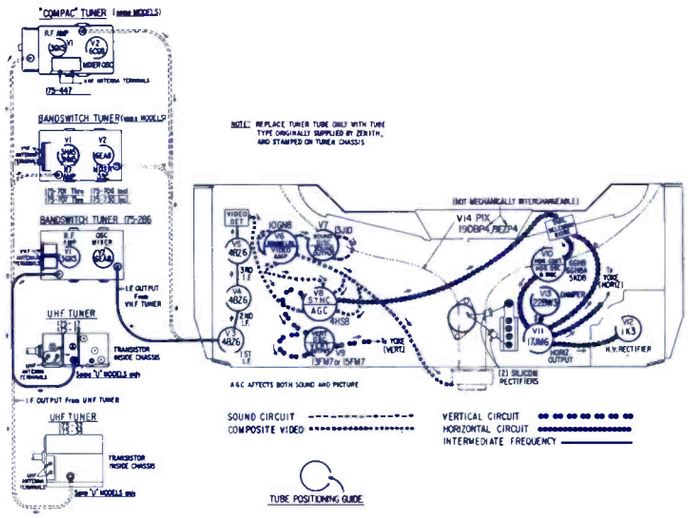
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.

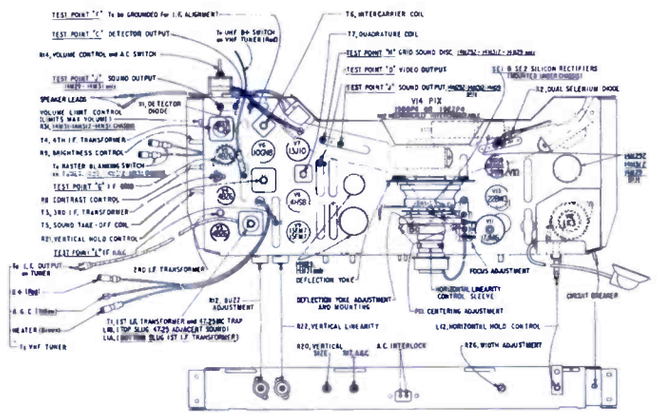
C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - I.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
J - SOUND OUTPUT
P - SOUND DISC GRID

87-7 R is 68K
87-8 R is 82K

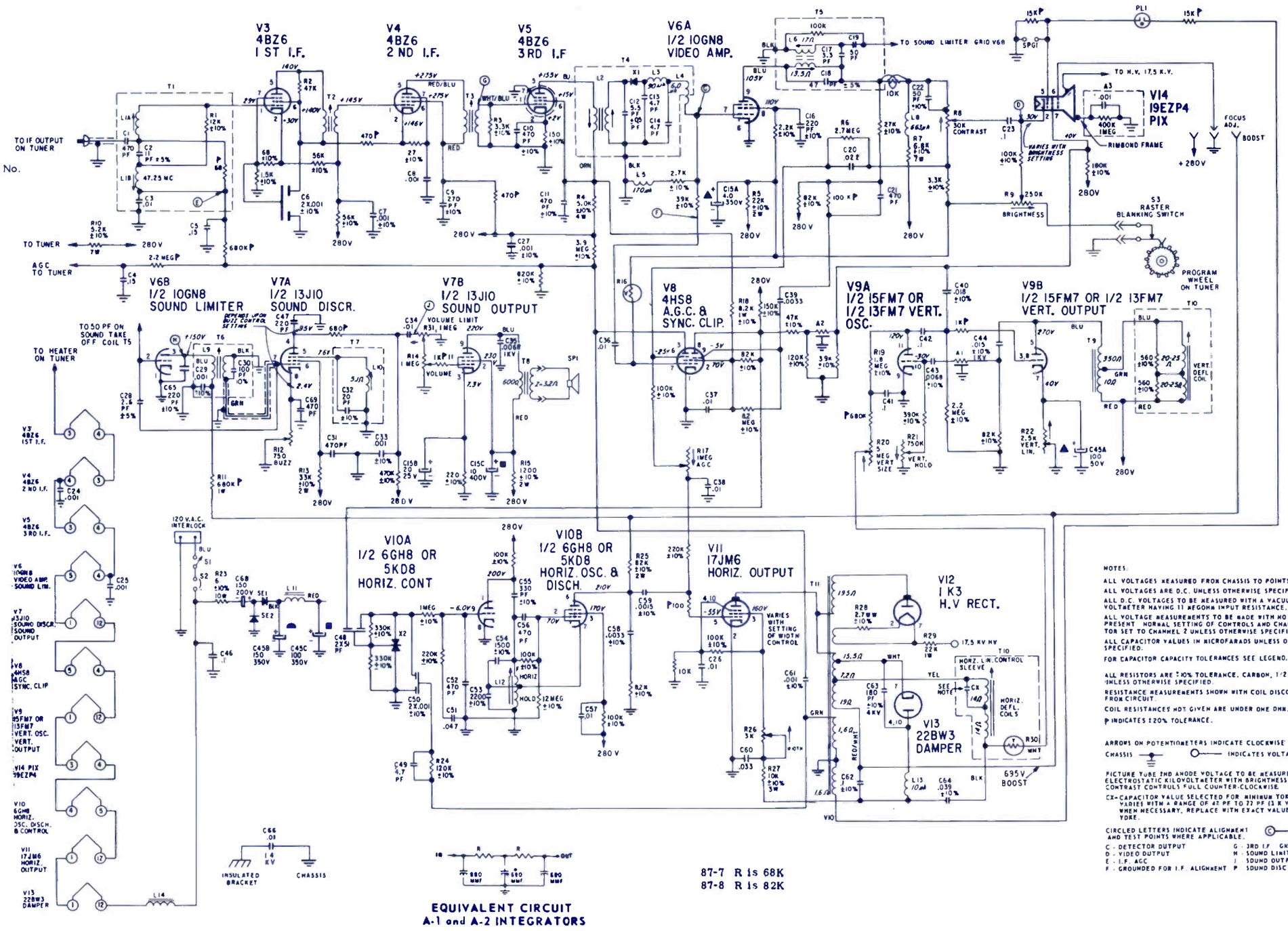
ZENITH

TV Chassis 14N31





Symbol	Description	Zenith Part No.
C7	.001µf disc 10% 1000v	22-17
C15A	4µf elect 350v	22-2744
C15B	20µf elect 25v	
C15C	10µf elect 400v	
C21	470pf disc 20% 1000v	22-6
C27	.001µf disc 10% 1000v	22-17
C29	.001µf disc 10% 1000v	22-3748
C30	100pf mica 10% 500v	22-9106
C35	.0068µf disc 10% 1000v	22-5021
C44	.015µf molded 10% 1000v	22-3040
C52	470pf disc 20% 1000v	22-6
C61	.001µf disc 10% 1000v	22-17
R1	12K A B only ½w	63-2845
R2	47K A B only ½w	63-2872
R3	3.3K A B only ½w	63-5384
R6	2.7M A B only ½w	63-5240
R7	6.8K 7w	63-5338
R8	30K contrast control	63-4997
R9	250K brightness control	63-5380
R10	5.2K resistor 7w	63-4754
R12	750Ω buzz control	63-5318
R14	1M volume control (AC switch)	63-6349
R16	VDR	63-5314
R17	1M AGC control	63-4833
R19	1.8M 10% A B only	63-4905
R20	5M vert size control	63-5030
R21	750K vert hold control	63-5379
R22	2.5K vert lin control	63-5309
R23	6Ω 10w	63-4450
R24	120K IRC only ½w	63-5314
R26	3K width control	63-5031
R28	2.7Ω WW ½w	63-3631
R30	thermal resistor supplied with yoke	in yoke
R31	1M volume limit control	63-4833
L1A, L1B	1st IF & trap coil winding assy	S-57621
L4	choke coil	20-2004
L5	det shunt peaking coil	20-2014
L6	sound take-off winding assy	S-54785
L7	video series peaking coil	20-2512
L8	video shunt peaking coil	20-2017
L10	quad coil winding assy	S-45229
L11	filter choke	95-1805
L12	horiz osc coil winding assy	S-56876
T5	sound take-off coil assy	S-65131
T6	intercarrier coil assy	S-71145
T7	quad coil assy	S-45831
T8	sound output xformer	95-2185
T9	vert output xformer	95-2186
T10	yoke	95-2290
T11	Horiz sweep xformer	S-71286
X1	diode crystal	103-23
X2	dual selenium diode	103-20
PL1	NE2H neon bulb	100-251
A1	integrator	87-7
A2	integrator	87-8
A3	R/C network	105-79
SE1	silicon rectifier	212-27
SE2	silicon rectifier	212-27
SPG1	spark gap	52-957
SP1	speaker	
S1	part of R14	
S2	circuit breaker	85-763
S2	raster blanking switch	85-822



EQUIVALENT CIRCUIT
A-1 and A-2 INTEGRATORS

87-7 R is 68K
87-8 R is 82K

NOTES.

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.

ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR CAPACITY TOLERANCES SEE LEGEND.

ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.

RESISTANCE MEASUREMENTS SHOWN WITH COIL DISCONNECTED FROM CIRCUIT.

COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

P INDICATES ±20% TOLERANCE.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

CHASSIS ⏚ — ○ INDICATES VOLTAGE SOURCE.

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE.

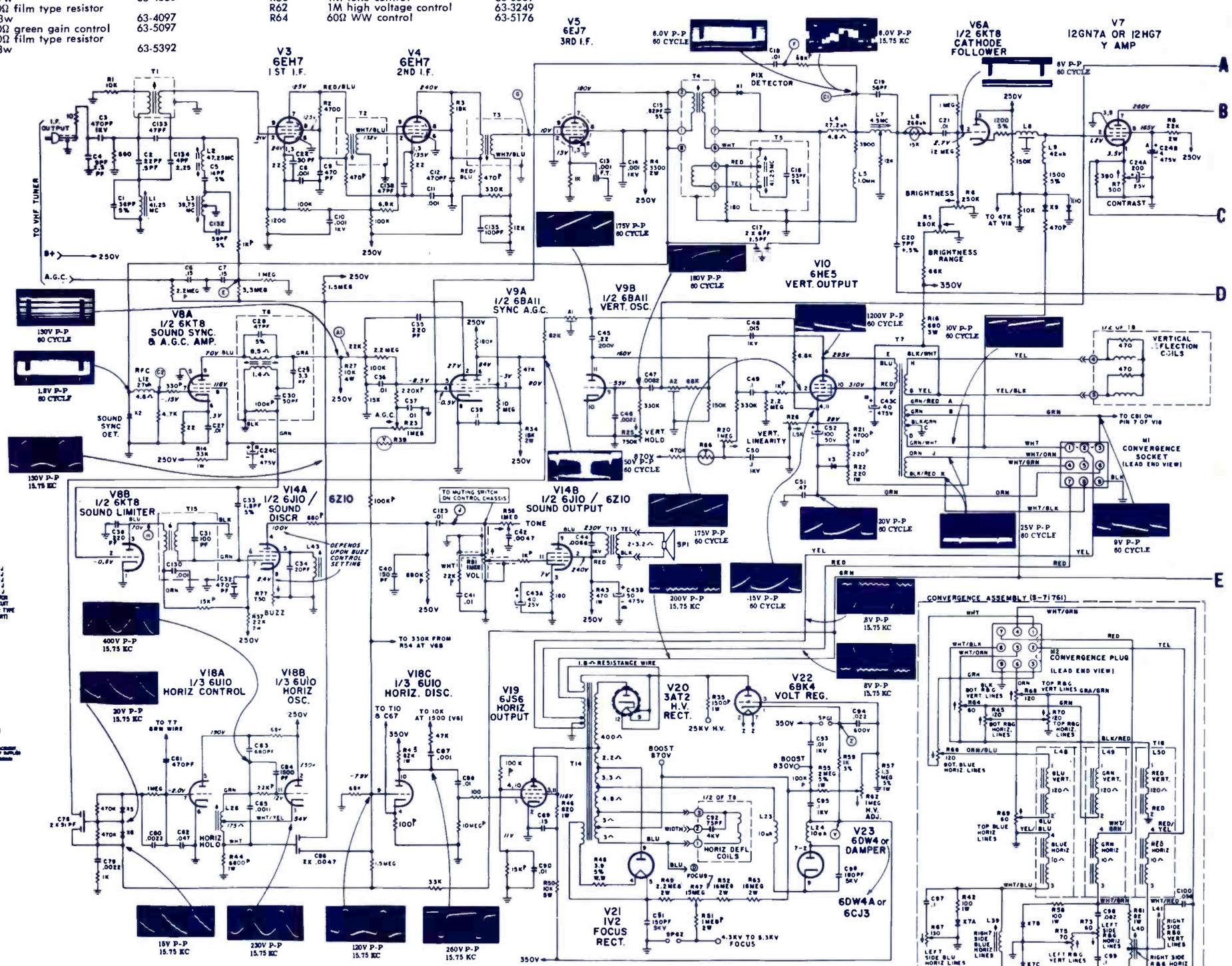
CX-CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING, VARIES WITH A RANGE OF AT PF TO 72 PF (3 K V ±10%). WHEN NECESSARY, REPLACE WITH EXACT VALUE FOUND IN YOKE.

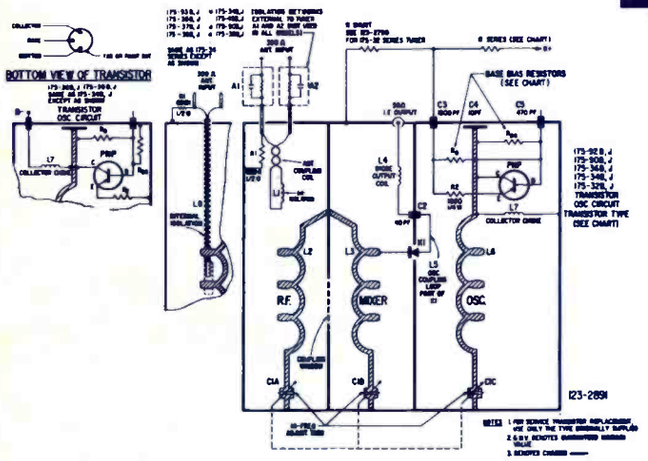
CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE. ⓒ→

C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - I.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
I - SOUND OUTPUT
P - SOUND DISC GRID

ZENITH
Color TV Chassis 24NC31

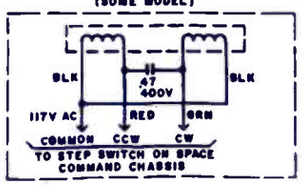
Symbol	Description	Zenith Part No.
C1	36pf disc cap 5% 500v	22-3921
C2	22pf disc cap 5% 500v	22-3919
C3	470pf disc cap 20% 1kv	22-6
C10	.001µfd disc cap 10% 1kv	22-17
C13	.001µf GMV F.T. cap 10% 500v	22-3029
C15	.82pf gimmick cap 5% 500v	22-3724
C17	2 x 6pf disc cap ±.5pf 500v	22-4552
C19	56pf disc cap 10% 500v	22-2927
C24A	200µfd 25v	
C24B	4µfd electrolytic cap 475v	22-4500
C24C	4µfd 475v	
C24D	100µfd 475v	
C25	20pf gimmick cap 20% 500v	22-3959
C26	20pf gimmick cap 20% 500v	22-3959
C29	3.3pf gimmick cap 20% 500v	22-2343
C33	1.8pf gimmick cap 5% 500v	22-4515
C41	.0022µfd disc cap 20% 1kv	22-8
C43A	40µfd 25v	
C43B	50µfd electrolytic cap 475v	22-5113
C43C	40µfd 475v	
C44	.0068µfd disc cap 10% 1kv	22-5021
C48	.015µfd molded cap 10% 1kv	22-3040
C50	.1µfd molded cap 20% 1kv	22-5028
C52	100µfd electrolytic cap 50v	22-3171
C87	.001µfd disc cap 10% 1kv	22-17
C91	150pf disc cap 5kv	22-4630
C92	75pf disc cap (in yoke) 20% 4kv	22-3953
C93	.01µfd molded cap 10% 1kv	22-4601
C95	.1µfd molded cap 10% 1kv	22-5196
C96	150pf disc cap 10% 5kv	22-4630
C116	2 X .001µfd disc cap 10% 500v	22-21
C117B	80µfd electrolytic cap 475v	22-3895
C118	160µfd electrolytic cap 250v	22-3901
C121	.01µfd disc cap 1kv	22-3512
C130	.001µfd disc cap 1kv	22-3748
C137	.22pf gimmick cap 500v	22-3401
R1	12,000Ω carbon resistor A-B 10% 1/2w	63-2845
R2	4.7kΩ carbon resistor A-B 10% 1/2w	63-5026
R3	27kΩ carbon resistor A-B 10% 1/2w	63-2849
R4	3300Ω film type 10% 2w	63-5313
R5	250k brightness range control	63-6411
R6	250k brightness control	63-6440
R7	500Ω contrast control	63-6439
R9	47000Ω film type resistor 10% 7w	63-4686
R10	10,000Ω film type resistor 10% 3w	63-4097
R11	10,000Ω green gain control	63-5097
R12	39,000Ω film type resistor 10% 3w	63-5392
R13	10,000Ω blue gain control	63-5096
R15	1M CRT bias control	63-3249
R16	680Ω film type resistor 10% 3w	63-5085
R17	1M green G2 control	63-5385
R18	1M blue G2 control	63-5386
R19	1M red G2 control	63-5387
R20	1M vert. size control	63-5468
R23	1M AGC control	63-3249
R24	22,000Ω film type resistor 10% 3w	63-5025
R25	750k vert hold control	63-6438
R26	1500Ω vert. linearity control	63-5051
R27	10,000Ω film type resistor 10% 4w	63-3623
R39	voltage dependent resistor	63-5494
R47	15M focus control	63-6444
R50	12,000Ω film type resistor 10% 5w	63-6464
R53	1000Ω hue control	63-6351
R58	1M tone control	63-6369
R62	1M high voltage control	63-3249
R64	60Ω WW control	63-5176
R65	120Ω WW control	63-5175
R66	120Ω WW control	63-5175
R67	130Ω WW control	63-6431
R68	120Ω WW control	63-5175
R69	60Ω WW control	63-5176
R70	120Ω WW control	63-5175
R75	70Ω WW control	63-6430
R77	750Ω buzz control	63-3284
R78	450Ω WW resistor 10% 15w	63-6325
R79	300Ω WW resistor 10% 10w	63-5238
R81	vol control without ac switch (used on space command model)	63-6368
R82	mortorized hue control assem.	63-6383
R83	thermistor	63-5444
R84	varistor	63-5445
R85	500Ω color level control	63-6359
L1	41.25Mc input trap coil	S-66767
L2	47.25Mc trap coil assembly	S-58047
L3	39.75Mc trap coil assembly	S-66316
L8	delay line assembly	S-65296
L9	delay line reactive termination coil	20-2008
L11	video shunt peaking coil	20-2024
L12	sound detector choke coil	20-2007
L14	chroma take-off peaking coil	20-2518
L16	B-Y demodulator choke	20-2006
L20	R-Y demodulator choke	20-2006
L21	R-Y demodulator choke	20-2006
L28	horiz osc. coil winding assem.	S-56877
L29	3.58Mc AFC isolation choke coil	20-2008
L30	phase det. & burst ampl coil winding assy.	S-65558
L31	filter choke	95-2239





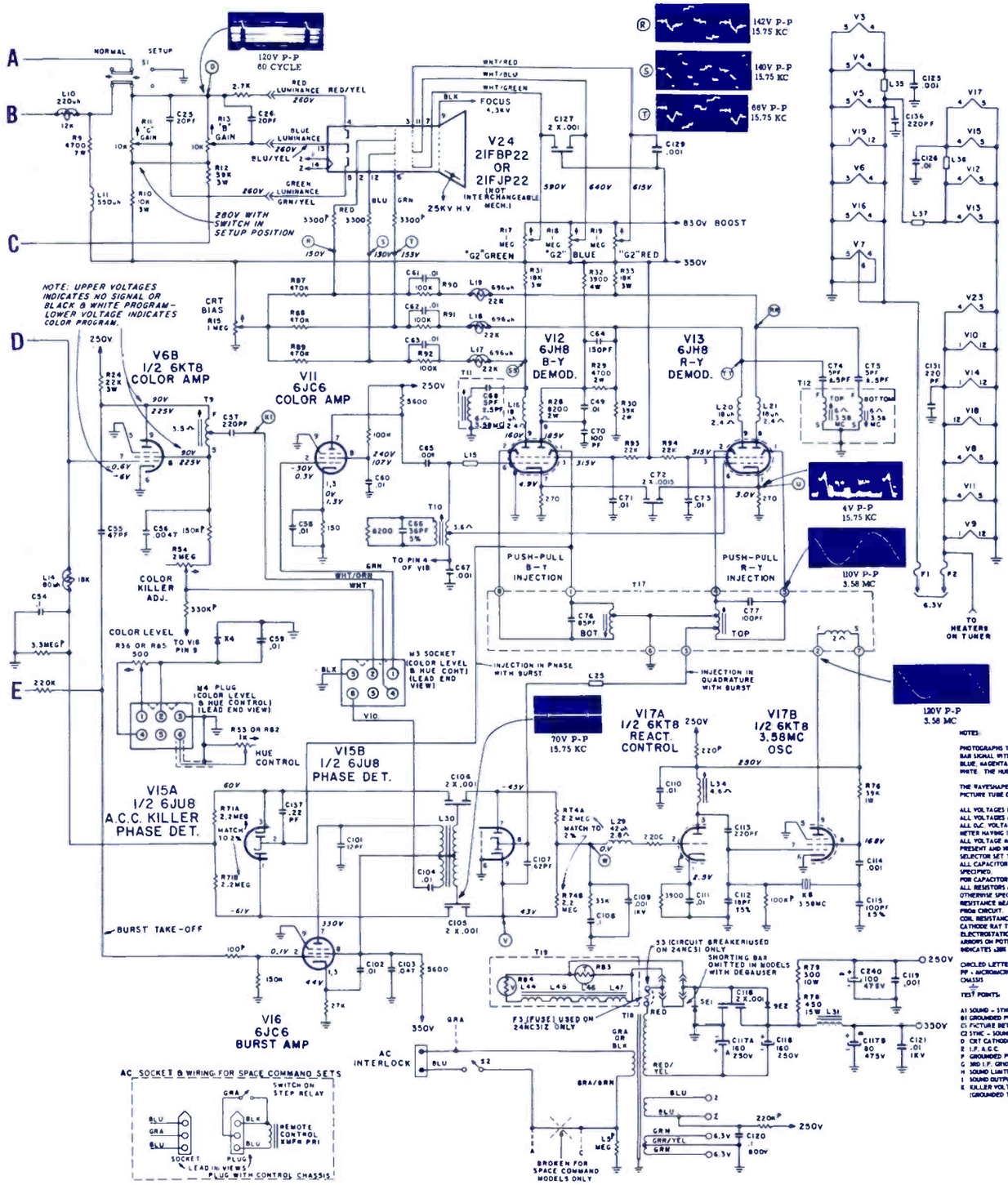
CIRCLED LETTERS INDICATE ALIGNMENT & TEST POINT

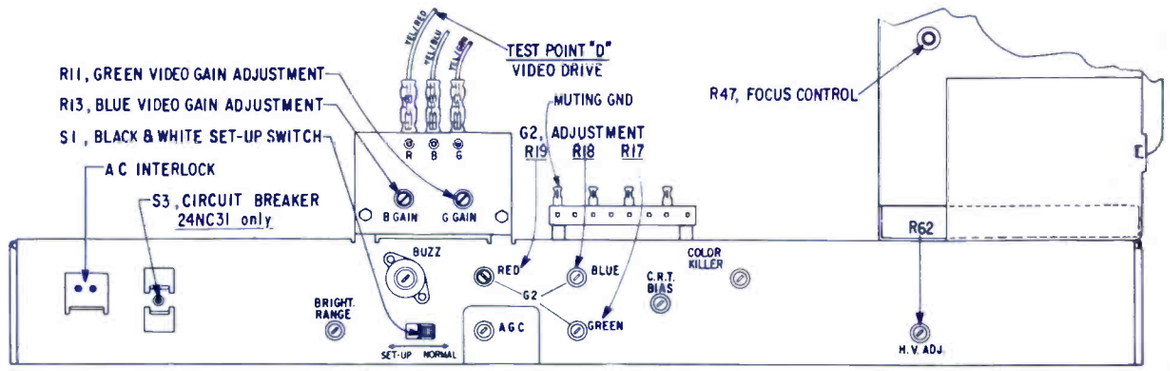
WIRING FOR MOTORIZED HUE CONTROL (SOME MODEL)

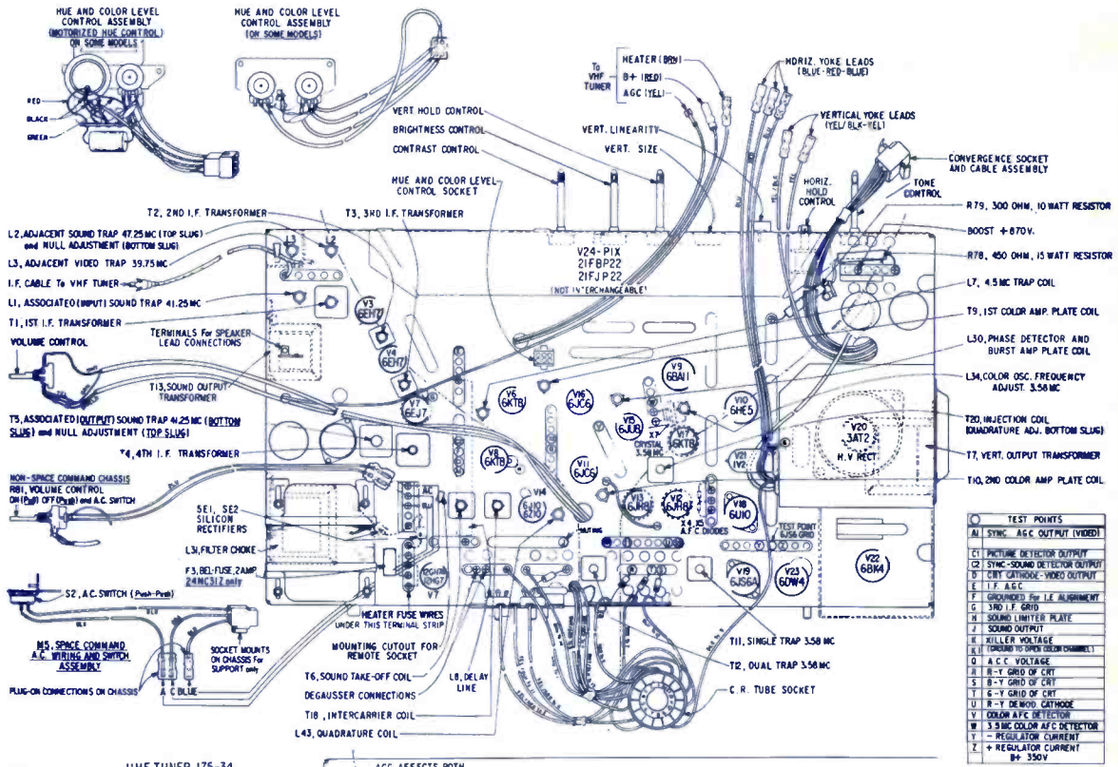


L34	color frequency adjustment coil winding assembly	S-66627	T4	4th IF transformer assembly	95-2372	T18	convergence coil assembly	S-71167
L39	right side blue horizontal lines	S-58038	T5	1.25MC output trap assembly wiring	S-66302	A1	integrator	87-4
L40	right side R and G horizontal lines	S-58041	T6	sound take-off coil assembly wiring	S-66303	A2	integrator	87-5
L41	right side R and G vertical lines	S-58038	T7	vertical output transformer	95-2281	F1	heater fuse link 2½" minimum loop of #24 A.W.G. copper wire	91-2061-205
L43	quadrature coil winding assembly	S-66699	T8.	deflection yoke	95-2280	F2	same as F1	
L44	degausing coil	S-67409	T9	1st color amplifier plate coil assembly wiring	S-68155	SE1	silicon rectifier	212-37
L45	degausing coil	S-67409	T10	2nd color amplifier plate coil assembly wiring	S-71218	SE2	silicon rectifier	212-37
L46	degausing coil	S-67409	T11	3.58MC single trap coil assembly wiring	S-55294	SPG1	spark gap (two conductor cable, made from 91-16811)	52-957
L47	degausing coil	S-67409	T12	3.58MC dual trap coil assembly wiring	S-66305	X1	picture detector	103-23
L48	convergence yoke coil assembly (blue)	S-71166	T13	sound output transformer	95-2282	X2	sound sync detector	103-23
L49	convergence yoke coil assembly (green)	S-71165	T14	horizontal sweep transformer	S-71144	X3	silicon rectifier	212-50
L50	convergence yoke coil assembly (red)	S-71164	T15	intercarrier coil assembly wiring	S-69428	X4	germanium diode	103-87
T1	1st IF transformer assembly	S-66311	T16	power transformer	95-2264	X5	silicon diode	103-51
T2	2nd IF transformer assembly	S-61622	T17	injection coil transformer assembly	95-2263	X6	silicon diode	103-51
T3	3rd IF transformer assembly	S-61623				X7A, X7B, X7C	selenium rectifier	212-25
						X8	3.58Mc quartz crystal (preferred)	103-89
						X9	germanium diode	103-79
						X10	germanium diode	103-79

ZENITH
Color TV Chassis 24NC31







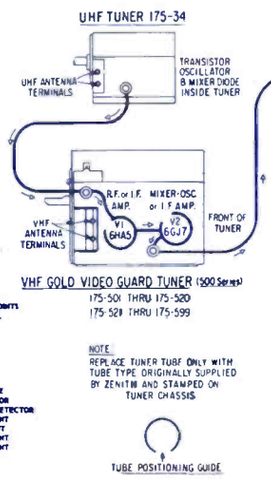
NOTES:
PHOTOGRAPHS TAKEN ON A 90% MODULATED STANDARD COLOR BAR SIGNAL WITH THE COLORS, READING FROM LEFT TO RIGHT, OF BLUE, MAGENTA, RED, YELLOW, WHITE CYAN, GREEN, BLACK AND WHITE. THE HUE SETTING WAS ADJUSTED FOR PROPER COLOR.

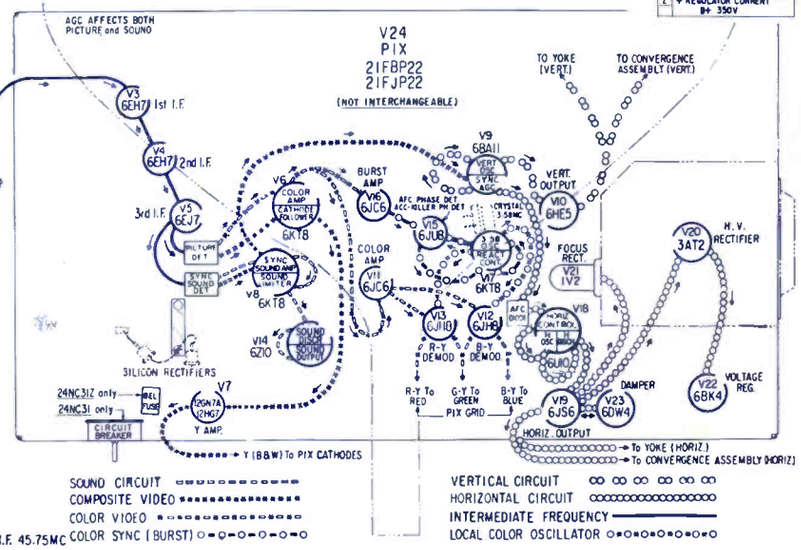
THE WAVESHAPES AT THE RED, GREEN AND BLUE GRIDS OF THE PICTURE TUBE DEPEND ON THE HUE SETTING.

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
ALL D.C. VOLTAGES TO BE MEASURED WITH A VACUUM TUBE VOLTMETER HAVING 11 MEGOHM INPUT RESISTANCE.
ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT AND NORMAL SETTING OF CONTROLS AND CHANNEL SELECTOR SET TO CHANNEL 2 UNLESS OTHERWISE SPECIFIED.
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
FOR CAPACITOR CAPACITY TOLERANCE'S SEE LEGEND.
ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT, UNLESS OTHERWISE SPECIFIED.
RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
COIL RESISTANCES NOT GIVEN UNDER ONE OHM.
CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K MIN. OHM PER VOLT HIGH VOLTAGE METER ACROSS ON POTENTIOMETERS INDICATES CLOCKWISE ROTATION.
INDICATES ±20% TOLERANCE.

CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS.
PF = MICROMICROFARAD
CHASSIS VOLTAGE SOURCE
ALIGNMENT POINTS
TEST POINTS:

A1 SOUND - SYNC - AGC AMP OUTPUT
B1 GROUNDED FOR I.F. ALIGNMENT
C1 PICTURE DETECTING OUTPUT
C2 SYNC - SOUND DETECTOR OUTPUT
D CRT CATHODE - VIDEO OUTPUT
E I.F. A.G.C.
F GROUNDED FOR I.F. ALIGNMENT
G 3RD I.F. GRID
H SOUND LIMITER PLATE
I SOUND OUTPUT
K KILLER VOLTAGE (GROUNDED TO OPEN COLOR CHANNEL)
L GATED BURST
Q AGC VOLTAGE
R R-Y GRID OF CRT
S B-Y GRID OF CRT
T G-Y GRID OF CRT
U R-Y DEMOD. CATHODE
V COLOR AFC DETECTOR
W 3.5 MC COLOR AFC DETECTOR
X -SWEEP FUSE CURRENT
Y SWEEP FUSE CURRENT
Z -REGULATOR CURRENT
Z +REGULATOR CURRENT



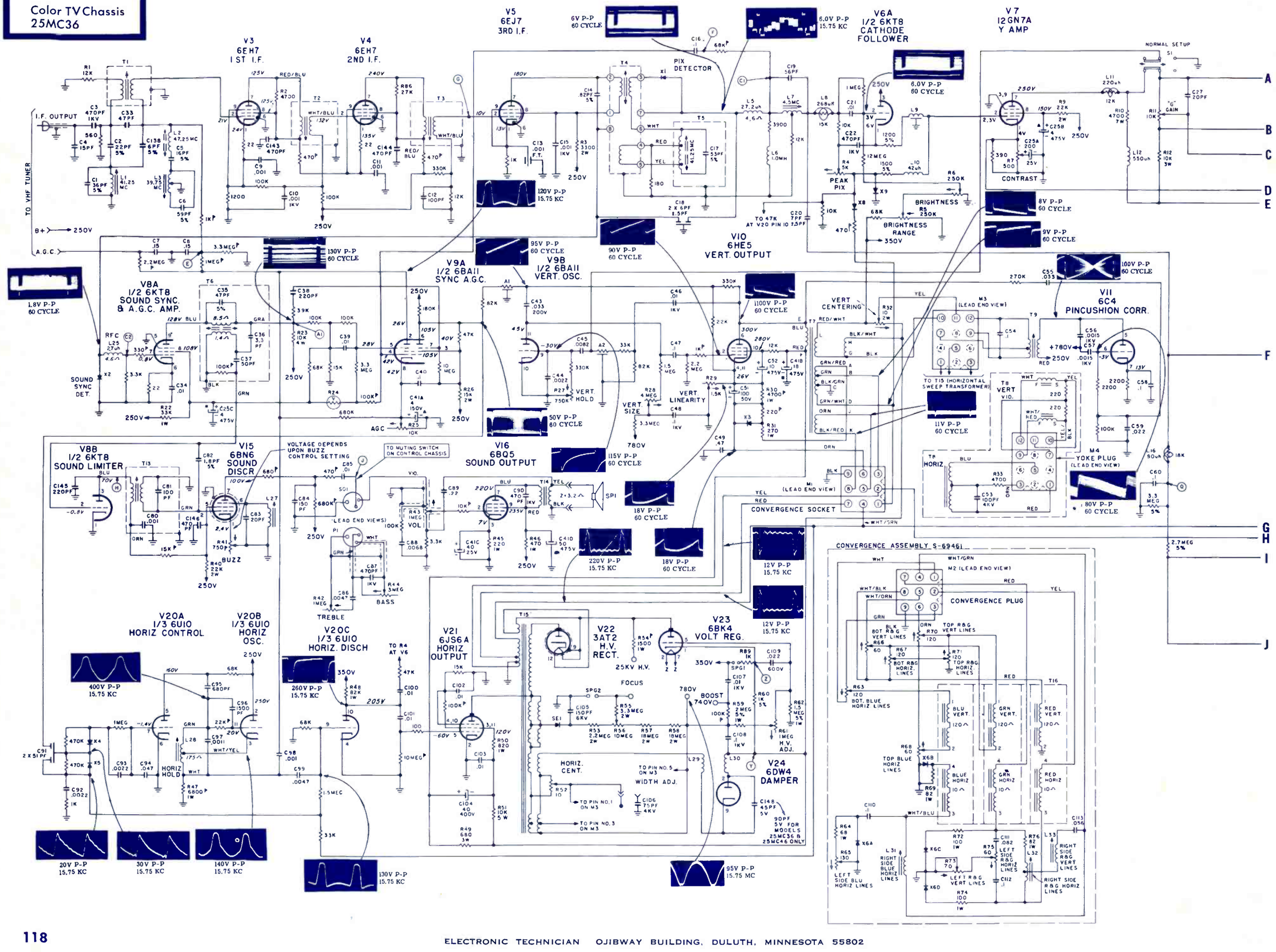


CHASSIS 24NC31 and 24NC31Z — 120 VOLTS AC 60 CYCLES 360 WATTS 3.35 AMPS I.F. 45.75MC

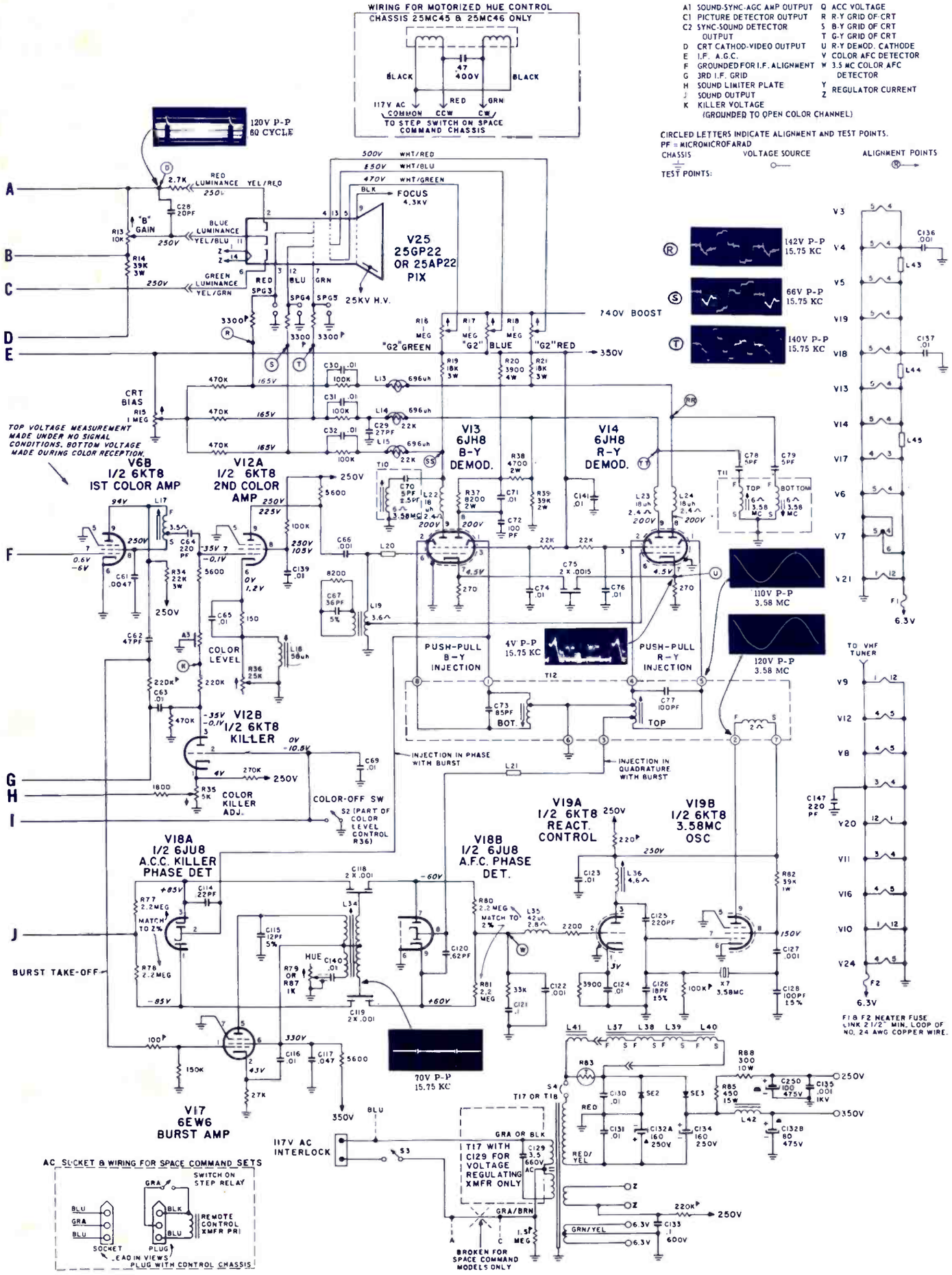
ZENITH

Color TV Chassis
25MC36

ELECTRONIC TECHNICIAN TEKFAX



ZENITH
Color TV Chassis 25MC36



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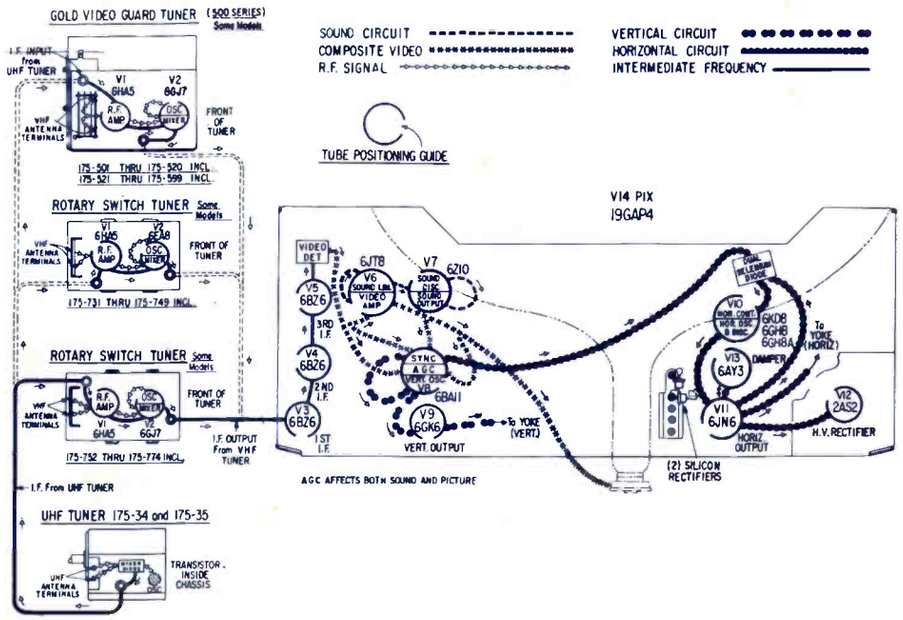
CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K MIN. OHM PER VOLT HIGH VOLTAGE METER.
ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
INDICATES ±20% TOLERANCE

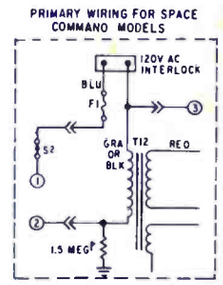
Symbol	Description	Zenith Part No.
C1	36pf 5% disc 500v	22-3921
C2	22pf 5% disc 500v	22-3919
C4	15pf 5% disc 500v	22-3482
C5	16pf 5% disc 500v	22-3558
C6	59pf 5% disc 500v	22-5031
C18	2 X 6pf ±.5pf disc 500v	22-4552
C20	7pf ±.5pf disc 500v	22-2513
C25A	200μf elect 25v	
B	4μf elect 475v	22-4500
C	4μf elect 475v	
D	100μf elect 475v	
C35	47pf 5% disc 500v	22-2467
C41A	4μf elect 150v	
B	18μf elect 475v	22-3831
C	40μf elect 25v	
D	50μf elect 475v	
C51	100μf elect 50v	22-3171
C52	10μf elect 475v	22-3974
C70	5pf ±.5pf (in T10) disc 500v	22-2380
C75	2 X .0015μf disc 10% 500v	22-26
C80	2 X .001μf disc 10% 500v	22-21
C82	3.5pf 5% gimmick 500v	22-3990
C98	.001μf 10% disc 1000v	22-17
C100	.001μf 10% disc 1000v	22-17
C104	40μf elect 400v	22-3975
C105	150pf disc 20% 6kv	22-3578
C106	75pf 20% disc 4kv	22-3953
C122	.001μf 10% disc 1000v	22-17
C129	3.5μf special AC 660 vac	22-5078
C134	160μf elect 250v	22-3901
C135	.001μf 10% disc 1000v	22-17
C141	.01μf disc 1000v	22-3512
C142	45pf disc 10% 4kv	22-2858
R2	4.7K A B only 1/2w	63-5026
R4	5KΩ peak pix control	63-5401
R5	100K brightness range control	63-5323
R6	70K brightness control	63-5388
R7	500Ω contrast control	63-5400
R11	10K green gain control	63-5097
R13	10K blue gain control	63-5096
R15	1M CRT bias control	63-3249
R16	1M G2 green control	63-5385
R17	1M G2 blue control	63-5386
R18	1M G2 red control	63-5387
R24	VDR	63-4906
R25	10K AGC control	63-5192
R27	750K vert hold control	63-5399
R28	4M vert size control	63-5389
R29	1.5K vert lin control	63-5051
R32	10Ω vert cent control 2w	63-5247
R35	5K color killer control	63-5165
R36	25XΩ color level control	63-5236
R41	750Ω buzz control	63-3284
R42	1M treble tone control	63-4741
R43	1M volume control	63-5336
R44	3M bass tone control	63-4742
R52	10Ω horiz cent control	63-5086
R56	10M focus control	63-5431
R59	1.5M 5% 1w	63-6204
R60	1000Ω 5% A B only 1/2w	63-4965
R61	1M HV adj control	63-3249
R63	120Ω bot. blue horiz lines control	63-5175
R65	130Ω left side blue horiz lines control	63-5177
R66	60Ω bot R and G vert lines control	63-5176
R67	120Ω bot R & G horiz lines control	63-5175
R68	60Ω top blue horiz lines control	63-5176
R70	120Ω top R & G vert lines control	63-5175
R71	120Ω top R & G horiz lines control	63-5175
R73	60Ω left side R & G vert lines control	63-5176
R75	70Ω left side R & G horiz lines control	63-5178
R77	2.2M 2% matched pair	63-4607
R79	1K hue control (25Mc35 & 25Mc36 only)	63-5393
R80, R81	2.2M 2% matched pair	63-4607
R83	thermistor	63-5444
R84	230K IRC only 1/2w	63-3607
R86	47K 10% A B only 1/2w	63-2872
L1	41.25Mc input trap coil assy	S-66767
L2	47.25Mc input trap coil assy	S-58047
L3	39.75Mc input trap coil assy	S-66316
L5	det series choke 27.2μh	20-2007
L6	det shunt choke 1.0μh	20-2026
L7	4.5Mc trap coil assy	S-65539
L8	det series peaking coil 268μh	20-2515
L9	delay line	S-65296
L10	luminance grid series peaking coil 42μh	20-2008
L11	luminance plate series peaking coil 220μh	20-2517
L12	luminance shunt peaking coil 550μh	20-2024
L13	3.58Mc self-resonant choke coil	20-2506
L14	3.58Mc self-resonant choke coil	20-2506
L15	3.58Mc self-resonant choke coil	20-2506
L16	chroma take off peaking coil	20-2518
L17	1st color amp plate coil	S-66330
L18	color level coil 58μh	S-62583
L19	2nd color amp output coil	S-66315
L20	ferrite sleeve	149-333
L21	ferrite sleeve	149-333
L22	B-Y demodulator choke 18μh	20-2006
L23	R-Y demodulator choke 18μh	20-2006
L24	R-Y demodulator choke 18μh	20-2006
L25	rec choke 27μh	20-2007
L27	quad coil assy	S-66788
L28	horiz osc coil assy	S56877
L29	spook coil	20-2005
L30	spook coil	20-2005
L31	convergence, right side blue horiz lines	S-58038
L32	convergence, right side R & G horiz lines adj	S-58041
L33	convergence, right side R & G vert lines adj	S-68084
L34	phase det coil	S-65558
L35	3.58Mc AFC choke 42μh	20-2008
L36	color osc freq adj coil assy	S-66627
L38		S-67773
L39	parts of degaussing assy	S-67811
L40		S-67810
L41	choke coil degaussing	95-2287
L42	filter choke	95-2239
L43	ferrite sleeve	149-333
L44	ferrite sleeve	149-333
L45	ferrite sleeve	149-333
T1	1st IF xformer assy	S-66311
T2	2nd IF xformer assy	S-61622
T3	3rd IF xformer assy	S-61623
T4	4th IF xformer assy	95-2175
T5	41.25Mc trap coil assy	S-66302
T6	sound take off coil assy	S-66303
T7	vert output xformer	95-2222
T8	deflection yoke assy (incl plug M4)	95-2236
T9	pincushion xformer	S-59518
T10	3.58Mc single trap coil assy	S-55294
T11	3.58Mc dual trap coil assy	S-66305
T12	injection xformer	95-2263
T13	sound intercarrier coil assy	S-66304
T14	sound output xformer	95-2224
T15	horiz sweep xformer assy	S-67915
T16	convergence yoke assy	S-66625
T18	power xformer	95-2264
A1	integnet (vert)	87-4
A2	integnet (vert)	87-5
A3	integnet (color amp)	87-9
F1	2½" no. 24 AWG copper	fuse line
F2	2½" no. 24 AWG copper	fuse line
M1	convergence socket & cable assy	S-66322
M2	convergence plug & cable assy	S-66621
M3	yoke plug & cable assy (chassis)	S-67993
M4	yoke socket and cable assy (part of T8 yoke)	
S1	B & W set up switch	85-754
S2	color off switch (part of R36)	
S3	AC switch	85-817
S4	circuit breaker switch	85-763
SE1	selenium diode (focus rectifier)	212-48
SE2	silicon diode (rectifier)	212-37
SE3	silicon diode (rectifier)	212-37
SPG1	spark gap (special wire)	52-957
SPG2	part of horiz sweep xformer	
X1	crystal diode (pix det)	103-23
X2	crystal diode (sound-sync det)	103-23
X3	silicon diode (vert output)	212-50
X4	silicon diode (horiz AFC)	103-51
X5	silicon diode (horiz AFC)	103-51
X6A		
X6B	selenium diode	
X6C	(convergence assy)	212-46
X6D		
X7	crystal (3.58Mc osc)	103-71

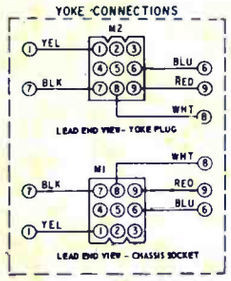
ZENITH
TV Chassis 14N28

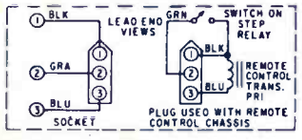
Signal Path Diagram

SOUND CIRCUIT
COMPOSITE VIDEO
R.F. SIGNAL
VERTICAL CIRCUIT
HORIZONTAL CIRCUIT
INTERMEDIATE FREQUENCY

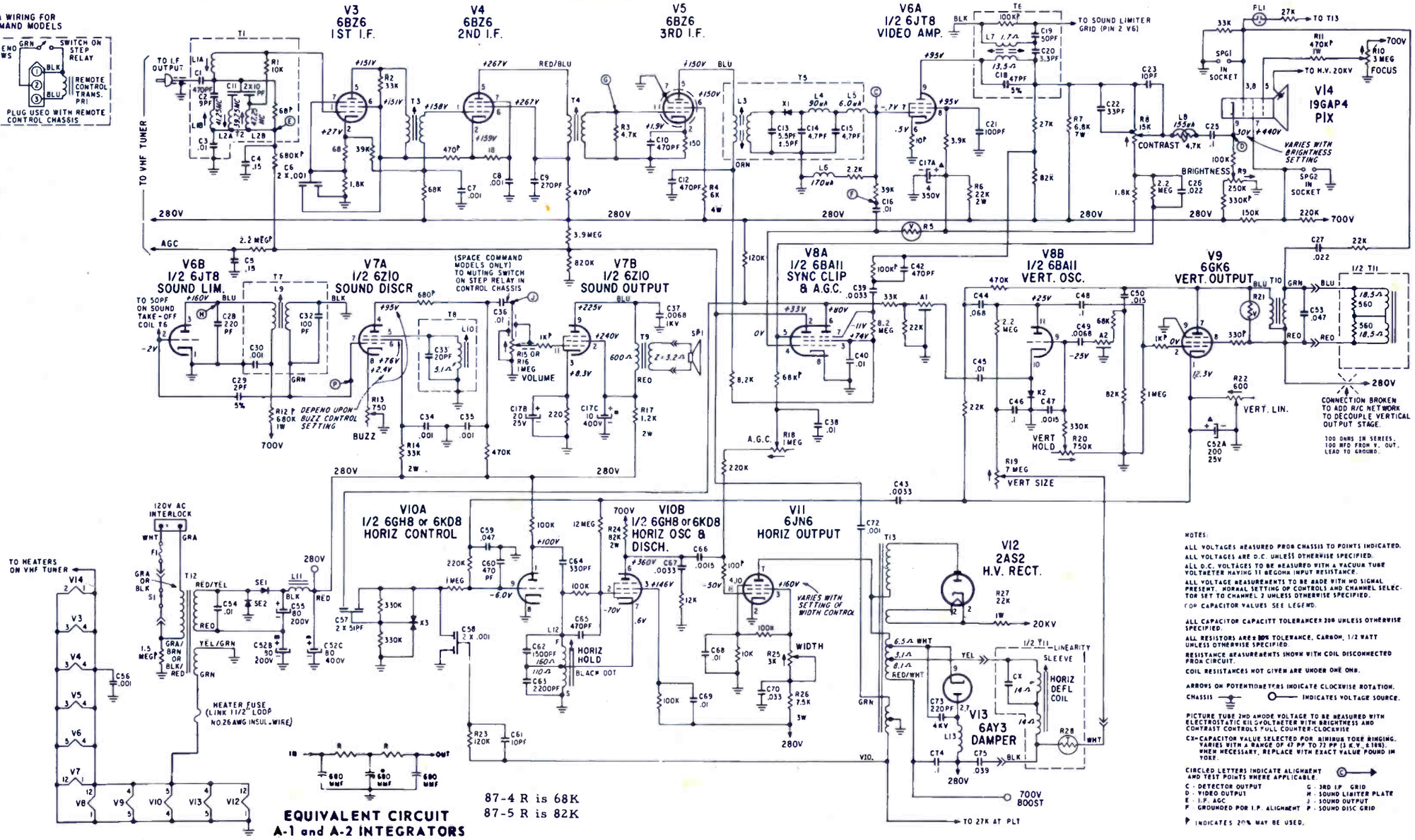








SYMBOL	DESCRIPTION	ZENITH PART NO.
C7	.001μf disc 10% 1kv	22-17
C17A	4μf elect 350v	
C17B	20μf elect 25v	22-2744
C17C	10μf elect 400v	
C18	47pf disc 5% 500v	22-2467
C29	2.0pf gimmick 5% 500v	22-2461
C35	.001μf disc 10% 1kv	22-17
C42	470pf disc 10% 1kv	22-6
C52A	200μf elect 25v	
C52B	80μf elect 200v	2-3863
C52C	80μf elect 400v	
C60	470pf disc 20% 1kv	22-6
R1	10K AB only 10% ½w	63-2834
R2	33K AB only 10% ½w	63-4008
R3	4.7K AB only 10% ½w	63-5026
R5	volt dependent resistor	63-5314
R8	15K contrast control	63-6356
R9	250K brightness control	63-5380
R10	3M focus control	63-6467
R13	750 buzz control	63-3284
R15	1M vol control & switch on non-space command models	63-6429
R18	1M AGC delay control	63-4833
R19	7M vert size control	63-6433
R20	750K vert hold control	63-5379
R21	volt dependent resistor	63-6445
R22	600Ω vert lin control	63-5312
R23	120K IRC only 10% ½w	63-5315
R25	3K width adj	63-5031
R26	7.5K 10% 3w	63-4904
R28	thermal resistor mounted in yoke	63-6472
L2A	adj channel trap coil	S-53072
L7	sound take-off coil	S-65476
L10	quadrature coil	S-66699
L11	filter choke	95-2189
L12	horiz osc coil	S-56876
L13	spook choke coil	20-2005
T3	2nd IF xformer	S-65172
T4	3rd IF xformer	S-57624
T5	4th IF xformer	S-58824
T6	sound take-off xformer	S-65529
T7	intercarrier xformer	S-67031
T9	sound out xformer	95-2185
T10	vert out xformer	95-2333
T11	yoke	95-2334
T12	power xformer	95-2200
T13	horiz sweep xformer	S-69760
A1	integrator unit	87-4
A2	integrator unit	87-5
S2	ac switch (space command models only)	85-835
SE1	silicon rectifier	212-27
SE2	silicon rectifier	212-27
X1	crystal diode	103-23
X2	crystal diode	103-79
X3	dual selenium diode	103-20



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COIL RESISTANCES NOT GIVEN ARE UNDER ONE OHM.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

CHASSIS — INDICATES VOLTAGE SOURCE.

PICTURE TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC KILOVOLTMETER WITH BRIGHTNESS AND CONTRAST CONTROLS FULL COUNTER-CLOCKWISE

CX-CAPACITOR VALUE SELECTED FOR MINIMUM YOKE RINGING. VARIES WITH A RANGE OF 47 PF TO 72 PF (3 K.V., 6 MHz). WHEN NECESSARY, REPLACE WITH EXACT VALUE POUND IN YOKE.

CIRCLED LETTERS INDICATE ALIGNMENT AND TEST POINTS WHERE APPLICABLE.

C - DETECTOR OUTPUT
D - VIDEO OUTPUT
E - I.F. AGC
F - GROUNDED FOR I.F. ALIGNMENT
G - 3RD I.F. GRID
H - SOUND LIMITER PLATE
J - SOUND OUTPUT
P - SOUND DISC GRID

▶ INDICATES 20% MAY BE USED.