TEKFAX 112

TV SCHEMATICS COVER OVER 15 MANUFACTURERS • HUNDREDS OF CHASSIS & MODEL NUMBERS • PUBLISHED BY ELECTRONIC TECHNICIAN/DEALER MAGAZINE, 1 EAST FIRST STREET, DULUTH, MINNESOTA 55802

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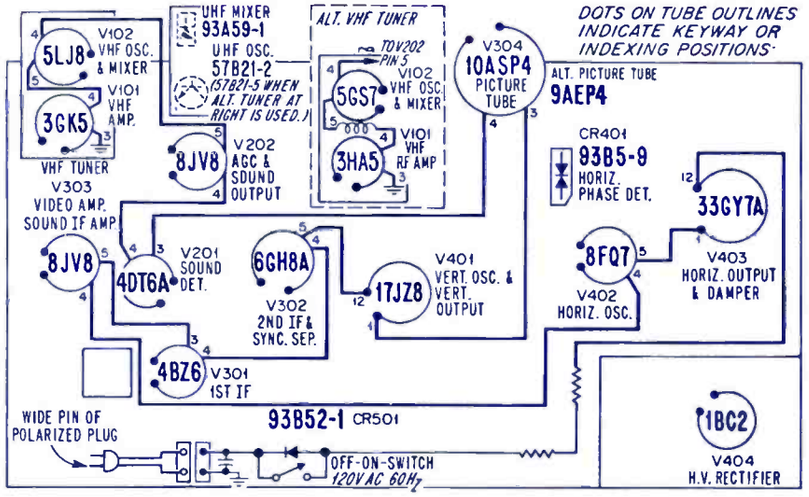
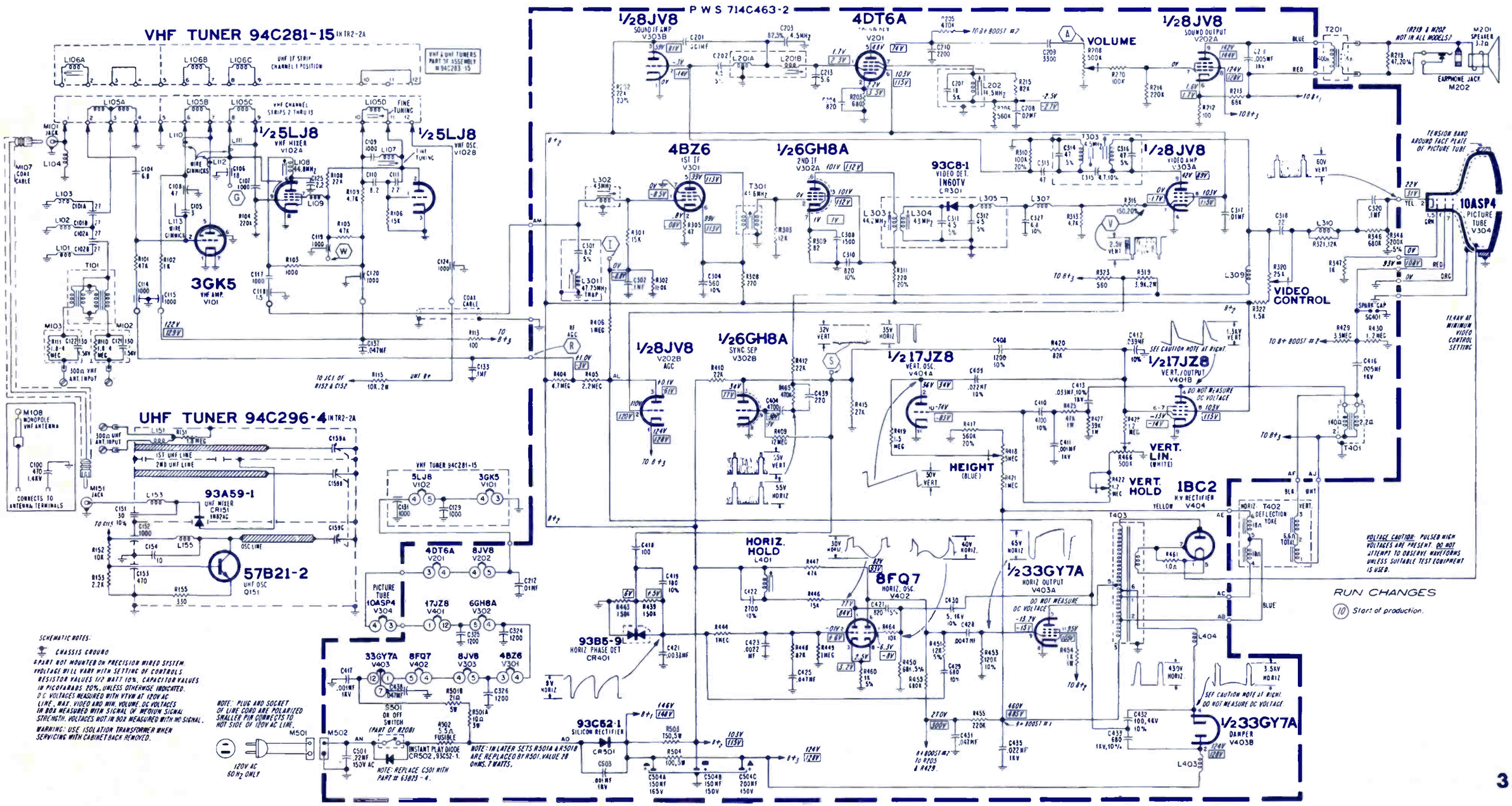
1 East First Street
Duluth, Minnesota 55802

ADMIRAL

TV Chassis TR2



SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R208	500K, volume control w/switch	75A148-2
R320	25K, video control w/switch	75A148-2
R418	height control	75A101-16
R422	1.2M, vert hold control	75A100-8
R466	vert lin control	75A101-17
R501	28Ω, 7w, late production	61A20-114
R502	5.5Ω, fuse type	61A48-1
C432	100pf, 4kv, cer disc	65A10-212
C504A	150μf, 165v electrolytic	67A30-10
C504B	150μf, 150v electrolytic	67A30-10
C504C	200μf, 150v electrolytic	67A30-10
L202	quad coil	72A132-77
L303, 304	IF xformer	72A296-7
L309	video peak coil	73A5-20
L401	horiz lock coil	94A17-19
T201	audio output xformer	79A124-5
T303	sound takeoff xformer	72A185-5
T401	vert output xformer	79A139-4
T402	deflect yoke assembly	94A372-1
T403	horiz output xformer	79A138-11

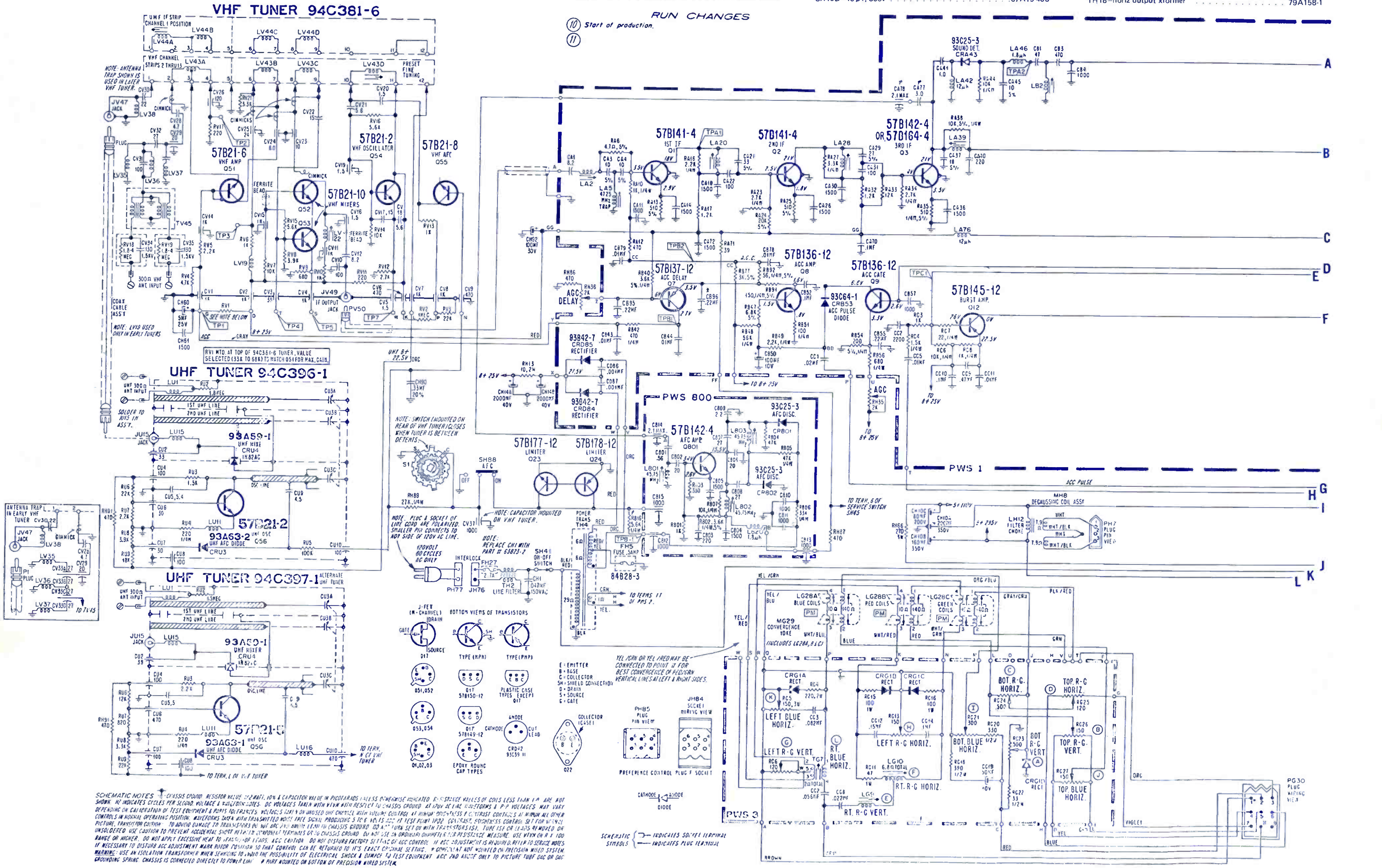


ADMIRAL

Color-TV Chassis
T11K10-1A

ELECTRONIC TECHNICIAN/DEALER TEKFAX

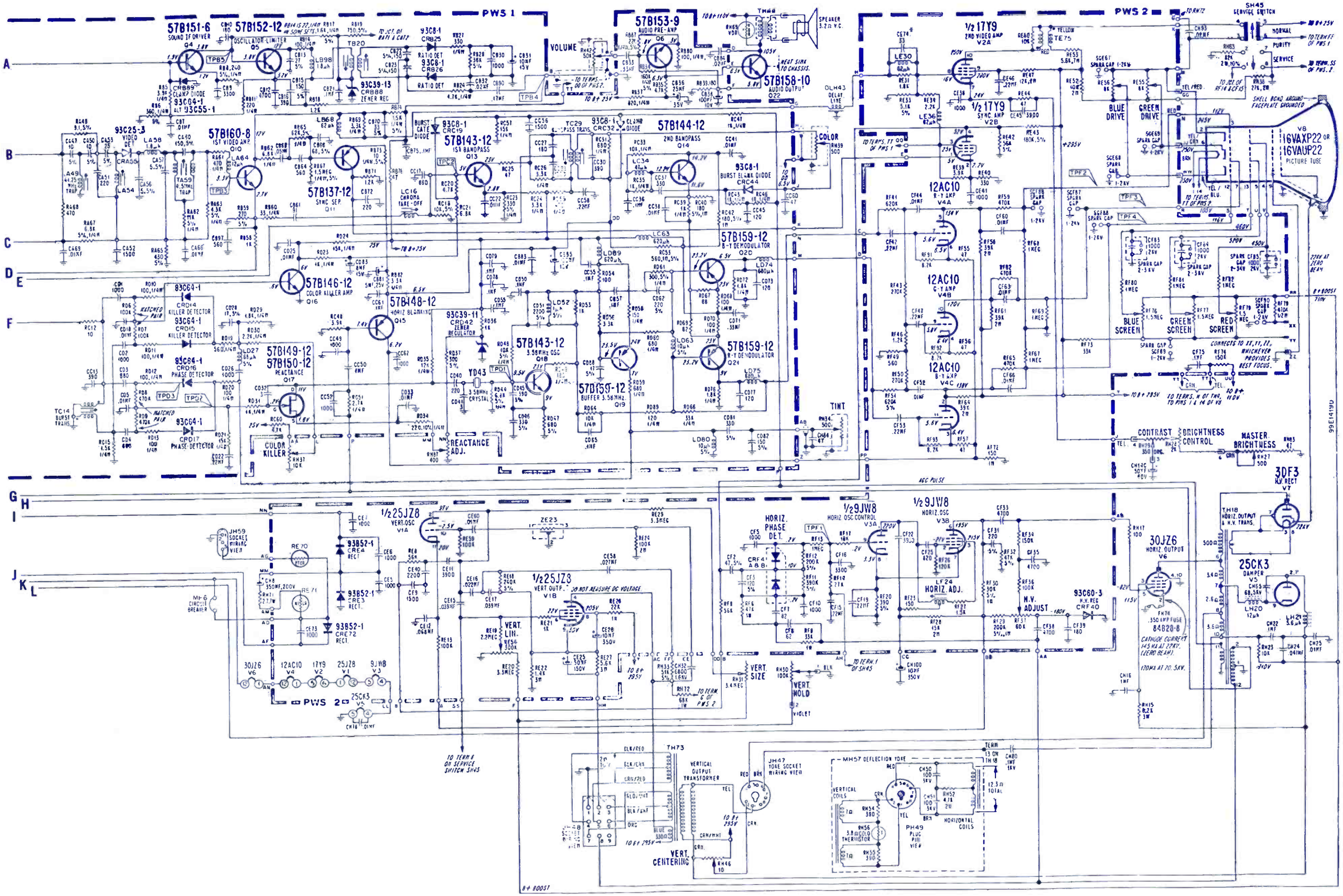
SYMBOL	DESCRIPTION	ADMIRAL PART NO.
RE54	vert lin	
RE55	green drive } triple control	75A95-12
RE56	blue drive	
RF37	60K, HV adjust control	75A101-9
RF76	blue screen	
RF77	green screen } triple control	75A95-13
RF78	red screen	
RH27	500Ω, master brite	75A135-11
RH28	2000Ω, brite control	75A140-1
RH29	350Ω, contrast control	75A140-3
RH30	100K, vert hold control	75A140-2
RH31	3.4M, vert size control	75A135-6
RH34	500Ω, slide tint control	75A149-1
RH35	2000Ω, AGC control	75A135-7
RH36	200Ω, AGC delay control	75A135-21
RH37	10K, color killer control	75A135-10
RH39	500Ω, color slide control	75A149-1
RH42	50K, volume slide control	75A149-2
RH56	thermistor	61A27-1
RH69	voltage dependent	61A46-7
RH87	400Ω, reactance control	75A135-19
ZE23	vert Integrator	63A6-29
CH10A	200μf, 350v } electrolytic	67A15-403
CH10B	160μf, 350v	
CH10C	80μf, 350v	
CH10D	10μf, 350v	67A15-403
CH14A	2000μf, 40v } electrolytic	67A15-401
CH14B	2000μf, 40v	
LA49	video detector	72A316-10
LA81	41.25MHz trap	72A316-12
LB2	4.5MHz coil	72A317-1
LC16	chroma input coil	72A329-1
LD52	1μh, 3.58MHz, output coil	73A55-37
LF24	horiz hold control	94A351-1
TA59	4.5MHz trap	72A216-7
TB20	ratio xformer	72A318-1
TC14	burst xformer	72A325-3
TC29	bandpass xformer	72A327-1
TH4	power xformer	80A108-6
TH18	horiz output xformer	79A158-1



SCHEMATIC NOTES: ⏚ CHASSIS GROUND. RESISTOR VALUE 1/2 WATT, 10% & CAPACITOR VALUE IN PICOFARADS UNLESS OTHERWISE INDICATED. RESISTANCE VALUES OF COILS LESS THAN 1Ω ARE NOT SHOWN. HZ INDICATES CYCLES PER SECOND. VOLTAGE & WAVEFORM NOTES: DC VOLTAGES TAKEN WITH VTVM WITH RESPECT TO CHASSIS GROUND AT 120V AC LINE. WAVEFORMS & P-P VOLTAGES MAY VARY DEPENDING ON CALIBRATION OF TEST EQUIPMENT & PARTS TOLERANCES. VOLTAGES TAKEN ON UNUSED UHF CHANNEL WITH VOLUME CONTROL AT MINIMUM. BRIGHTNESS & CONTRAST CONTROLS AT MINIMUM. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. WAVEFORMS TAKEN WITH TRANSMITTED NOISE FREE SIGNAL PRODUCING 5 TO 6 VOLTS AGC AT TEST POINT TP02. CONTRAST, BRIGHTNESS CONTROL SET FOR NORMAL PICTURE. TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTORS(S), TUBE(S) OR LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND. DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASURE. USE VTVM ON R X 100 RANGE OR HIGHER. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS. AGC CAUTION: DO NOT DISTURB FACTORY SETTING OF AGC CONTROL. IF AGC ADJUSTMENT IS REQUIRED, REFER TO SERVICE NOTES. IF NECESSARY TO DISTURB AGC ADJUSTMENT MARK ROTOR POSITION SO THAT CONTROL CAN BE RETURNED TO IT'S EXACT ORIGINAL SETTING. * COMPONENT NOT MOUNTED ON PRECISION WIRED SYSTEM. WARNING: USE AN ISOLATION TRANSFORMER WHEN SERVICING TO AVOID THE POSSIBILITY OF ELECTRICAL SHOCK & DAMAGE TO TEST EQUIPMENT. ARC 2ND ANODE ONLY TO PICTURE TUBE DAC OR DAG GROUNDING SPRING. CHASSIS IS CONNECTED DIRECTLY TO POWER LINE. # PART MOUNTED ON BOTTOM OF PRECISION WIRED SYSTEM.

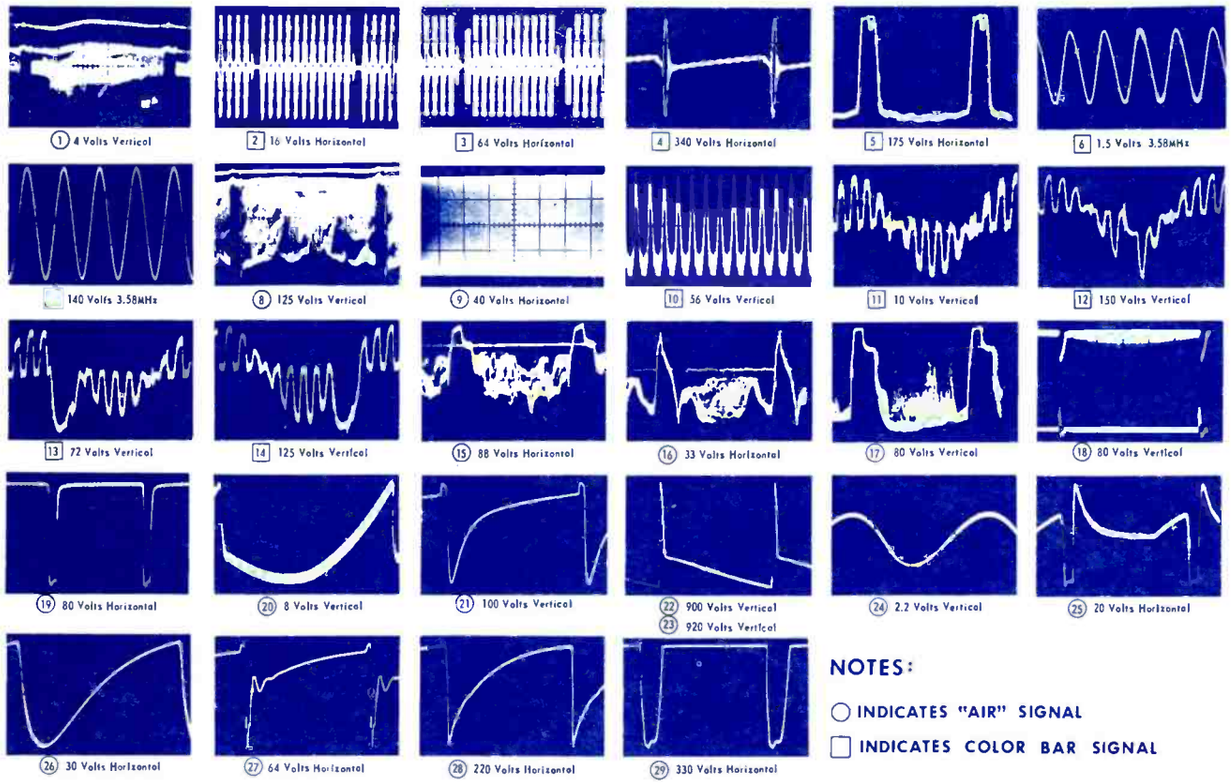
TH44—audio output xformer	79A141-3
TH73—vert output xformer	79A131-2
FH5—.5a fuse	84A28-3
FH27—2.7a fuse	84A28-9
FH74—.35a fuse	84A28-8
MH6—circuit breaker	84A17-13
SH41—on/off/switch	77A201-1
tuner, VHF, T11K10-1A	94A381-6
T12K 10-1B	94A344-2

ADMIRAL
Color-TV Chassis
T11K10-1A



ADMIRAL
Color TV Chassis
930 Series

ELECTRONIC TECHNICIAN/DEALER TEKFAX

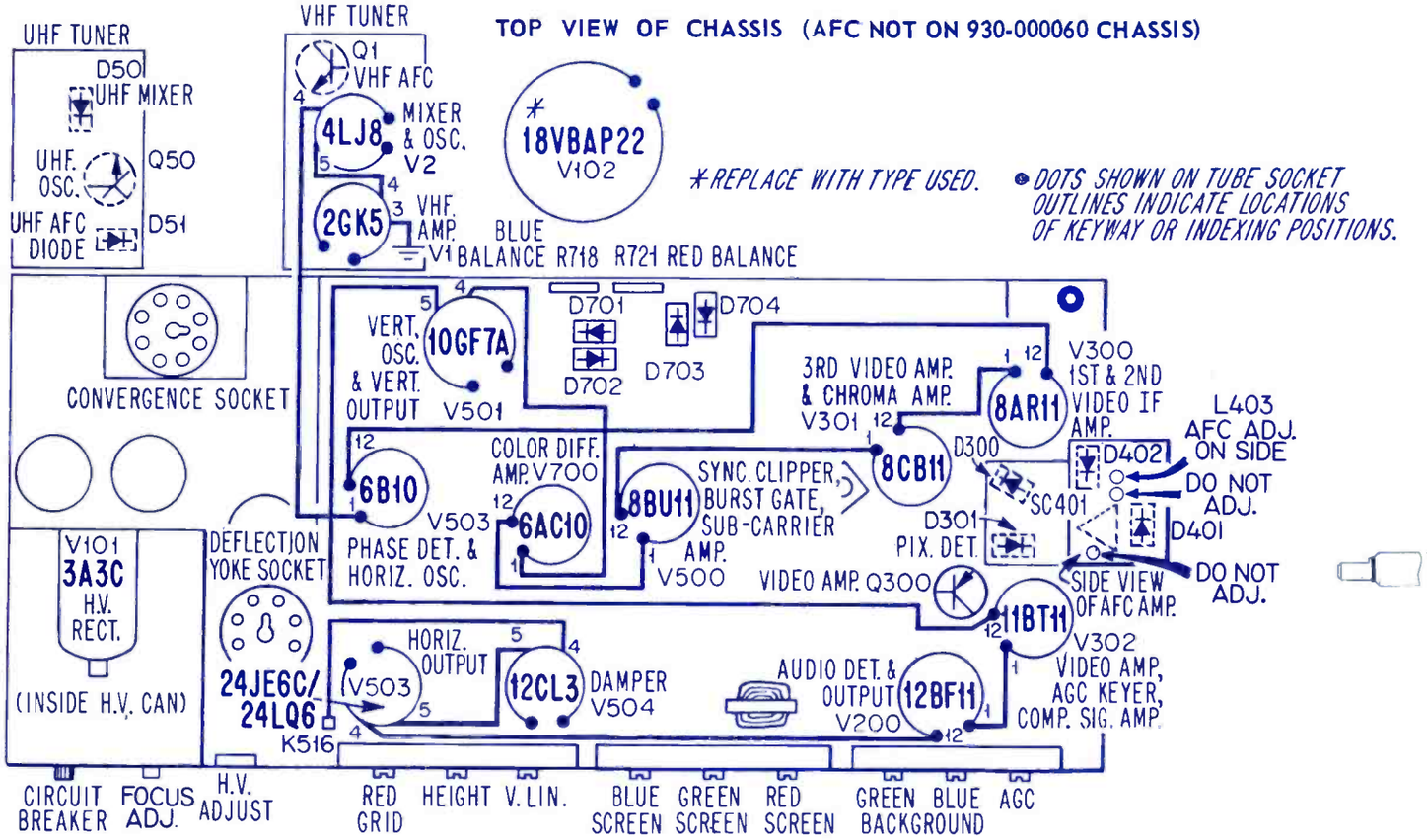


NOTES:

○ INDICATES "AIR" SIGNAL

□ INDICATES COLOR BAR SIGNAL

TOP VIEW OF CHASSIS (AFC NOT ON 930-000060 CHASSIS)



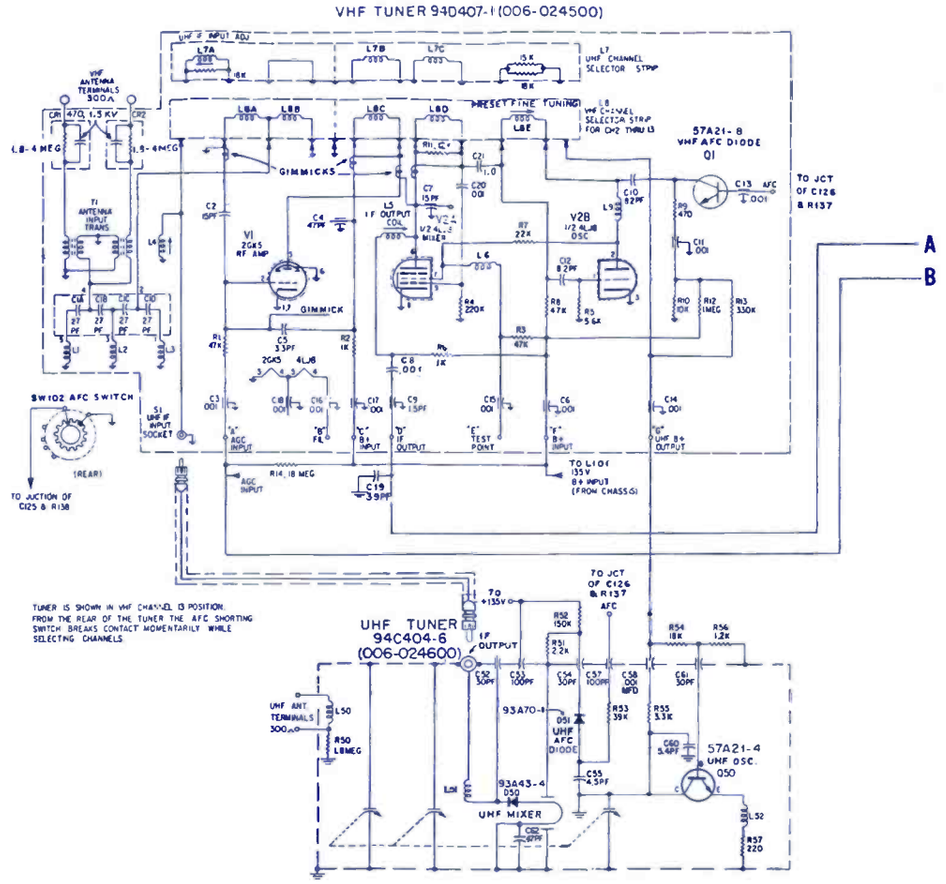
*REPLACE WITH TYPE USED.

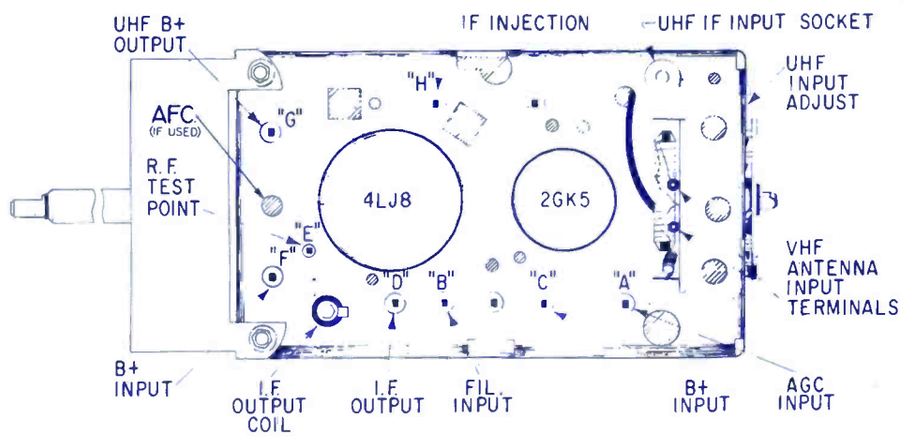
● DOTS SHOWN ON TUBE SOCKET OUTLINES INDICATE LOCATIONS OF KEYWAY OR INDEXING POSITIONS.

MODEL CHART				
MODEL	COLOR	SIZE	TUNER	CHASSIS
8T391C	Walnut	*18''	94A407-1 VHF 94A404-6 UHF	930-000030
8T760	Black		94A416-1VHF 94A402-1 UHF	930-000060
8T771C	Walnut			

*Picture diagonal measurement.

VHF TUNER 94D407-1 (006-024500)

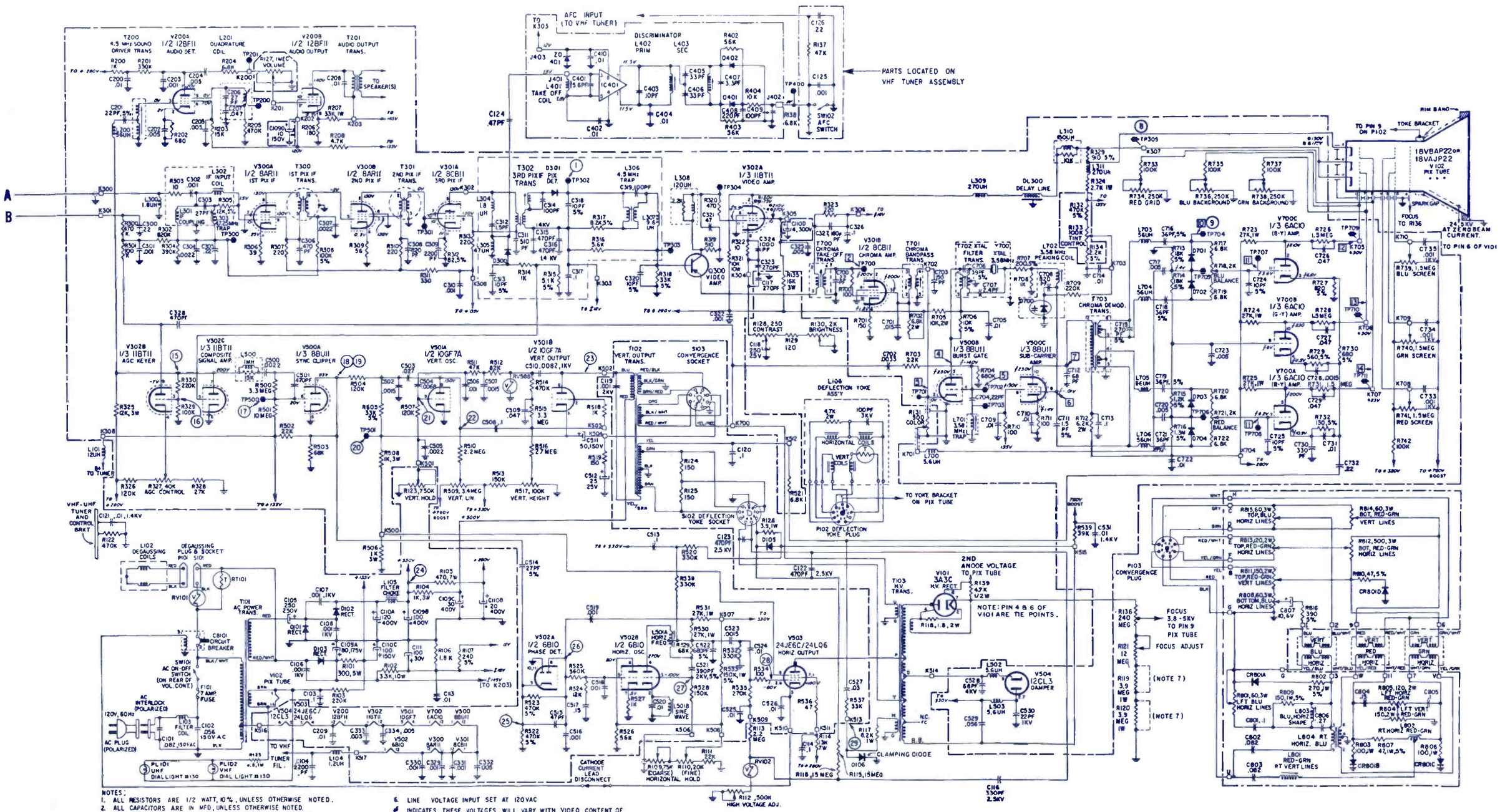




TOP VIEW OF 94A407-1 & 94A416-1 VHF TUNERS

ADMIRAL
Color TV Chassis
930 Series

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R109	75K horiz control, coarse	75A156-1
R110	20K horiz control, fine	75A156-1
R123	750K vert control	75A156-1
R121	12M focus adj control	75A157-14
R127	1M on/off volume control	75A152-1
R128	250Ω contrast control	75A158-1
R130	2K bright control	75A158-1
R131	500Ω color control	75A149-7
R133	100K tint control	75A149-6
R136	240M focus bleeder	61A63-1
R327	40K AGC control	75A155-6
R736	250K blue background control	75A155-6
R730	250K green background control	75A155-6
R509	3.4M vert lin control	75A155-5
R517	100K vert height control	75A155-5
R734	250K red background control	75A155-5
C109A	80 µf/175v electrolytic	67A76-1
C109B	100 µf/400v electrolytic	67A76-1
C109C	30 µf/400v electrolytic	67A76-1
C109D	10 µf/150v electrolytic	67A76-1
C110A	120 µf/400v electrolytic	67A75-1
C110B	20µf/400v electrolytic	67A75-1
C110C	100 µf/150v electrolytic	67A75-1
C110D	4 µf/400v electrolytic	67A75-1
IC401	integrated circuit	56A1-1
DL300	delay line coil	72A372-1
L106	deflection yoke	94A405-1
L201	quad coil	72A366-1
L303	47.25 MHz trap coil	72A359-3
L306	4.5MHz trap coil	72A367-1
L501A,B	horiz freq/sine wave coil	72A373-1
L701	3.58MHz trap coil	72A363-1
L702	3.58MHz peaking coil	72A364-1
T101	power xformer	80A113-2
T102	vert output xformer	79A153-1
T103	HV xformer	79A154-1
T200	4.5MHz sound driver xformer	72A361-1
T201	audio output xformer	79A151-1
T700	chroma take-off xformer	72A368-1
T701	chroma bandpass xformer	72A358-1
T703	chroma demodulator xformer	72A357-1
CB101	circuit breaker	84A31-1
F101	7a fuse	84A30-1



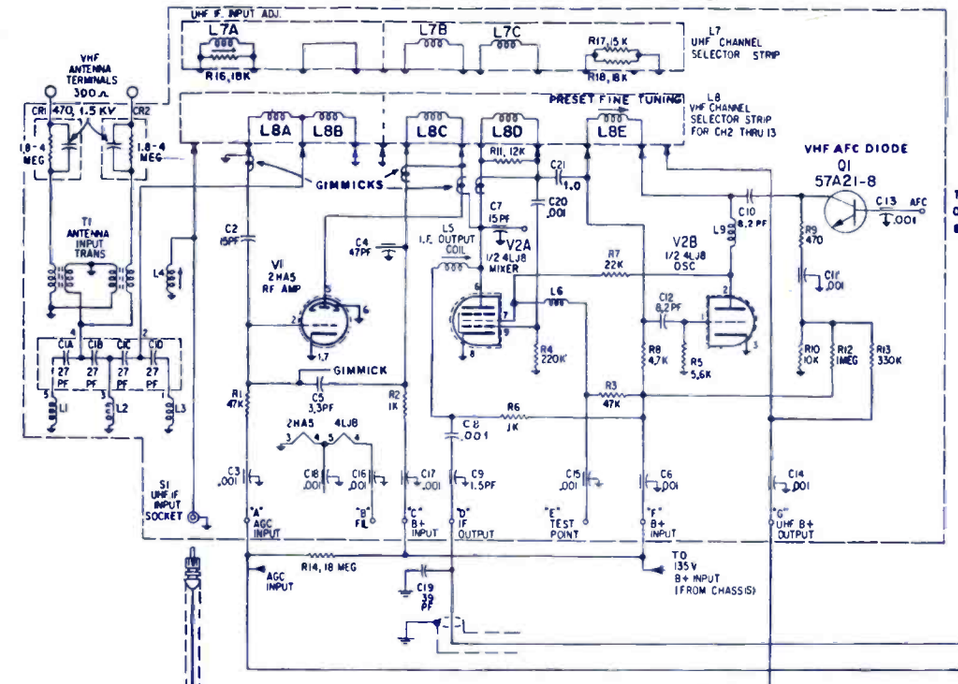
NOTES:
1. ALL RESISTORS ARE 1/2 WATT, 10%, UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE IN MFD, UNLESS OTHERWISE NOTED.
3. CAUTION: USE ISOLATION TRANS WHEN WORKING ON CHASSIS.
4. DC VOLTAGES MEASURED WITH "VTVM" PLACED BETWEEN POINTS INDICATED & CHASSIS GRN, WITH NORMAL SIGNAL INPUT.
(*) INDICATES VOLTAGE READING TAKEN WITH BRIGHTNESS CONT. AT MAXIMUM ROTATION (FULL CW).
(*)(*) INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONT AT MINIMUM ROTATION (FULL CCW).
† INDICATES VOLTAGE READING TAKEN WITH COLOR SIGNAL.
5. WAVEFORMS ARE TAKEN WITH NORMAL SIGNAL INPUT.
6. LINE VOLTAGE INPUT SET AT 120VAC
# INDICATES THESE VOLTAGES WILL VARY WITH VIDEO CONTENT OF THE PICTURE BEING RECEIVED AND ARE AVERAGE READINGS.
(O) INDICATES THESE VOLTAGES WILL VARY WITH BACKGROUND CONTROL SETTINGS.
7. JUMPER REMOVED AT FACTORY IF NECESSARY TO SET FOCUS CONTROL RANGE.
8. (/) INDICATES THE VOLTAGE WILL VARY WITH FINE TUNING SETTING FROM 0V TO ± 3V.
NUMBERS IN CIRCLES OR SQUARES IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.
⏚ CHASSIS GROUND.

ADMIRAL
Color TV Chassis
1K18-1A,-2A

ELECTRONIC TECHNICIAN/DEALER TEKFAX

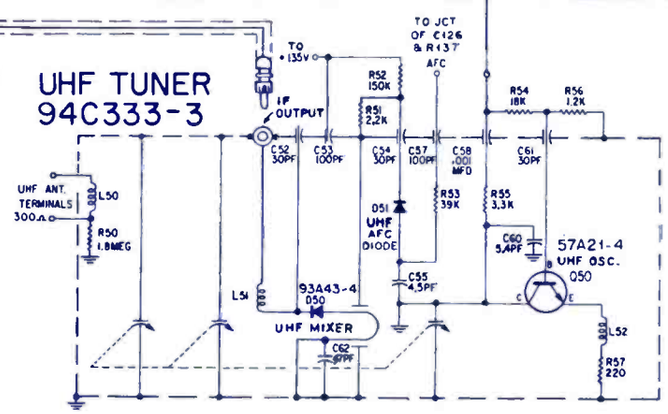
NOTES: VHF & UHF DIAL LIGHTS NOT IN 1K18-2A CHASSIS.
1. ALL RESISTORS ARE 1/2 WATT, 10%, UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE IN MFD, UNLESS OTHERWISE NOTED.
3. CAUTION: USE ISOLATION TRANS WHEN WORKING ON CHASSIS.
4. DC VOLTAGES MEASURED WITH "VTVM" PLACED BETWEEN POINTS INDICATED & CHASSIS GRN, WITH NORMAL SIGNAL INPUT.
(*) INDICATES VOLTAGE READING TAKEN WITH BRIGHTNESS CONT. AT MAXIMUM ROTATION (FULL CW).
(*)(*) INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONT AT MINIMUM ROTATION (FULL CCW).
≠ INDICATES VOLTAGE READING TAKEN WITH COLOR SIGNAL.
5. WAVEFORMS ARE TAKEN WITH NORMAL SIGNAL INPUT.
6. LINE VOLTAGE INPUT SET AT 120VAC
≠ INDICATES THESE VOLTAGES WILL VARY WITH VIDEO CONTENT OF THE PICTURE BEING RECEIVED AND ARE AVERAGE READINGS.
(◊) INDICATES THESE VOLTAGES WILL VARY WITH BACKGROUND CONTROL SETTINGS.
7. JUMPER REMOVED AT FACTORY IF NECESSARY TO SET FOCUS CONTROL RANGE.
8. (/) INDICATES THE VOLTAGE WILL VARY WITH FINE TUNING SETTING FROM 0V TO ± 3V
NUMBERS IN CIRCLES OR SQUARES IDENTIFY WAVEFORM OBSERVATION LOCATIONS.
CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.
⏚ CHASSIS GROUND.

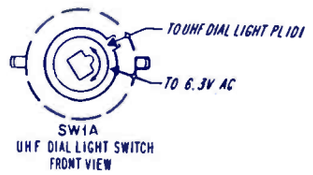
VHF TUNER 94C421-1

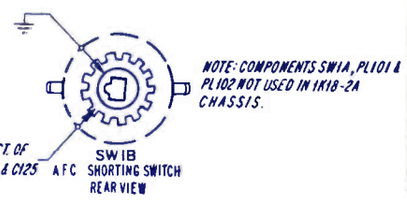


TUNER IS SHOWN IN VHF CHANNEL 13 POSITION. FROM THE REAR OF THE TUNER THE AFC SHORTING SWITCH BREAKS CONTACT MOMENTARILY WHILE SELECTING CHANNELS.

UHF TUNER 94C333-3

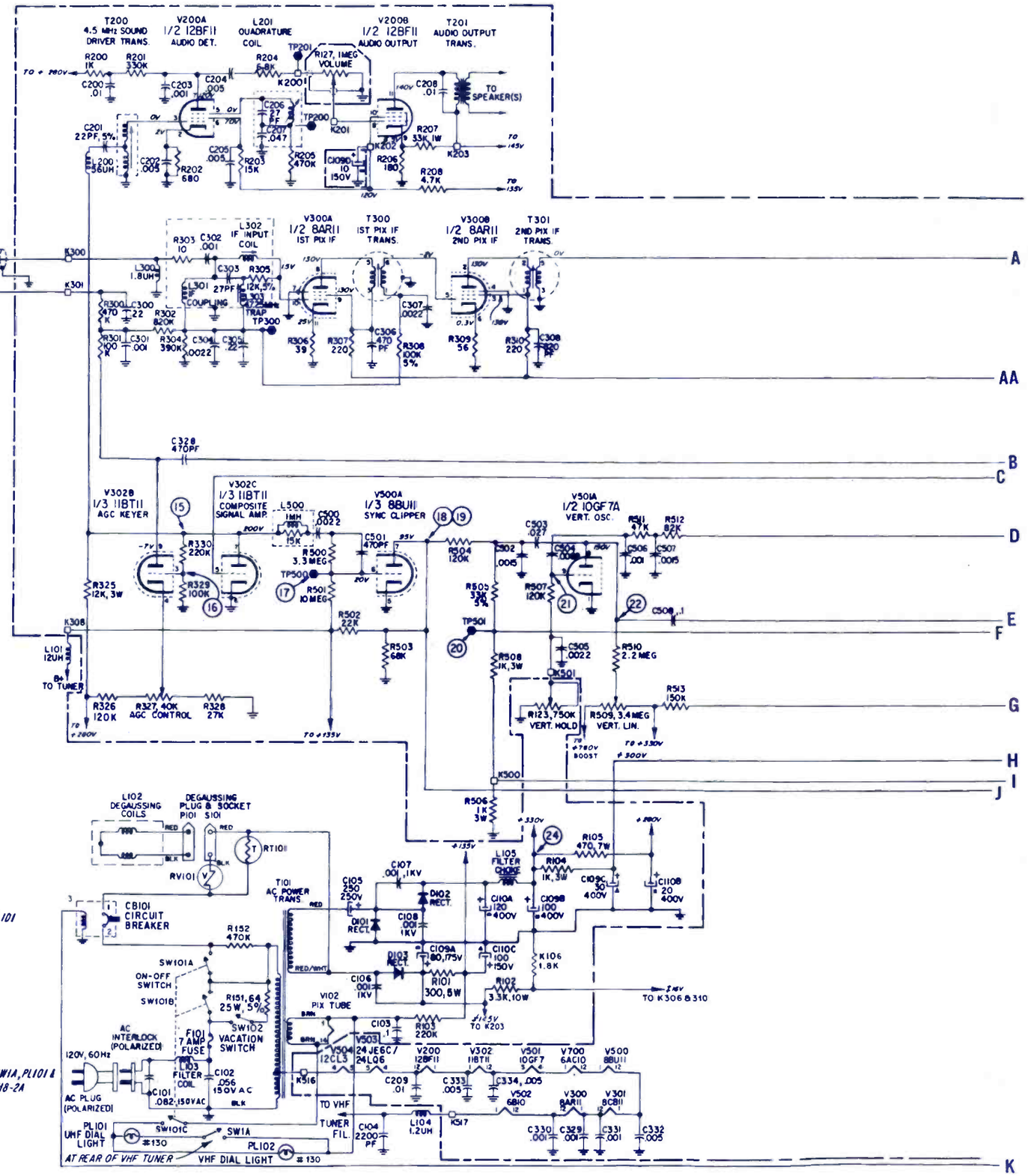


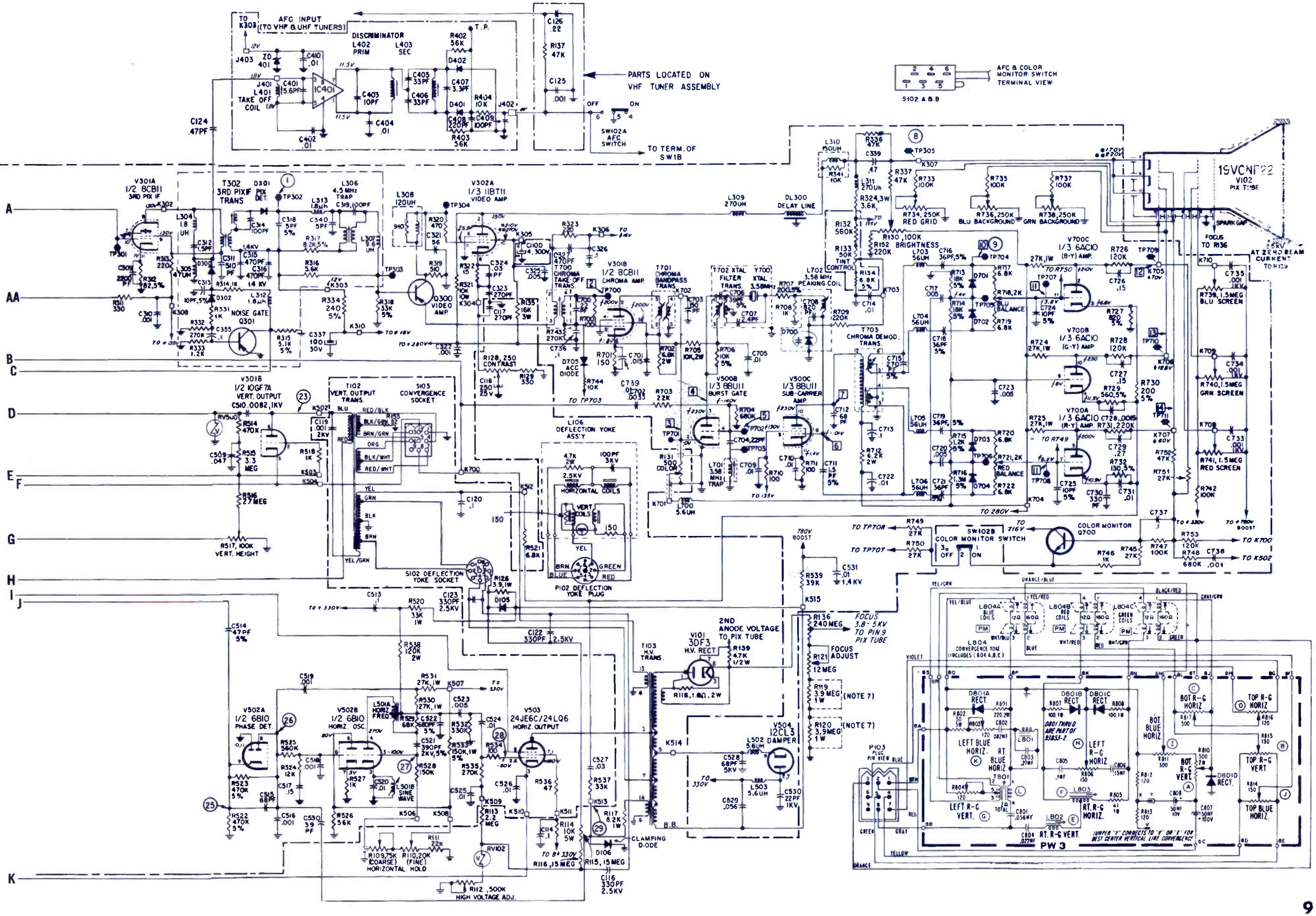




RUN CHANGES

(10) *Start of production.*




AFC INPUT (TO VHF & UHF TUNERS)
DISCRIMINATOR
L402 PRIM
L403 SEC
PARTS LOCATED ON VHF TUNER ASSEMBLY
SW102A AFC SWITCH
TO TERM. OF SW1B
AFC & COLOR MONITOR SWITCH TERMINAL VIEW
S102 A & B
V301A 1/2 8CB11 3RD PIX IF
T302 3RD PIX IF TRANS
D301 PIX DET.
L306 4.5 MHz TRAP
NOISE GATE Q301
V302A 1/3 11BT11 VIDEO AMP
Q300 VIDEO AMP.
L308 120UH
DL300 DELAY LINE
L309 270UH
V302B 1/2 8CB11 CHROMA AMP.
T700 CHROMA TAKE-OFF TRANS.
T701 CHROMA BANDPASS TRANS.
T702 XTAL FILTER TRANS.
Y700 XTAL 3.58MHz
L702 3.58 MHz PEAKING COIL
T703 CHROMA DEMOD. TRANS.
V5008 1/3 8BU11 BURST GATE
V5000 1/3 8BU11 SUB-CARRIER AMP
L310 150UH
R336 47K
R337 47K
R324,3W 3.6K
R341 10K
R132 560K TINT CONTROL
R133 50K
R130 ,100K BRIGHTNESS
R152 220K
R134 6.8K .5%
R733 100K
R734, 250K RED GRID
R735 100K
R736, 250K BLU BACKGROUND
R737 100K
R738, 250K GRN BACKGROUND
V700C 1/3 6AC10 (B-Y) AMP.
V700B 1/3 6AC10 (G-Y) AMP
V700A 1/3 6AC10 (R-Y) AMP
R726 120K
R727 620
R728 120K
R729 560,5%
R730 200 5%
R731, 220K
R724 27K,1W
R725 27K,1W
R723 27K,1W
R717 6.8K
R718,2K BLU BALANCE
R719 6.8K
R720 6.8K
R721,2K RED BALANCE
R722 6.8K
TP704
TP705
TP706
TP707
TP708
TP709
TP710
TP711
19VCNP22 V102 PIX TUBE
FOCUS TO R136
SPARK GAP
AT ZERO BEAM CURRENT TO R139
R739, 1.5MEG BLU SCREEN
R740, 1.5MEG GRN SCREEN
R741, 1.5MEG RED SCREEN
R742 100K
R743 27K
R744 27K
R745 27K
R746 1K
R747 100K
R748 680K
R749 27K
R750 27K
R751 27K
R752 47K
R753 120K
C735 .001 1KV
C734 .001 1KV
C733 .001 1KV
C737
C738 .001
SW102B COLOR MONITOR SWITCH
COLOR MONITOR Q700
TO TP708
TO TP707
TO K700
TO K502
TO +330V
TO +780V BOOST
V5018 1/2 10GF7A VERT. OUTPUT
T102 VERT. OUTPUT TRANS.
S103 CONVERGENCE SOCKET
R517, 100K VERT. HEIGHT
R514 470K
R515 3.3 MEG
R518 1K
R546 2.7 MEG
C509 .047
C510 .0082, 1KV
C119 .001 2KV
L106 DEFLECTION YOKE ASS'Y
P102 DEFLECTION YOKE PLUG
S102 DEFLECTION YOKE SOCKET
HORIZONTAL COILS
VERT. COILS
C120 .1
R521 6.8K
R126 3.9,1W
D105
C123 330PF 2.5KV
C122 330PF 2.5KV
C513 .1
R520 33K 1W
C514 47PF 5%
R538 120K 2W
C519 .001
V502A 1/2 6BH10 PHASE DET.
V502B 1/2 6BH10 HORIZ. OSC.
L501A HORIZ FREQ.
L501B SINE WAVE
V503 24JE6C/24LQ6 HORIZ. OUTPUT
R525 560K
R524 12K
R523 470K 5%
R522 470K 5%
R527 1K
R526 56K
R528 150K
R530 27K, 1W
R531 27K, 1W
R532 68K
R533 330
R533 150K, 1W 5%
R534 .00
R535 270K
R536 47
R537 33K
C521 390PF 2KV, 5%
C522 68PF 5%
C523 .005
C524 .01
C525 .01
C526 .01
C527 .03
C528 68PF 5KV
C529 .056
C530 22PF 1KV
C516 .001
C517 .15
C518 .001
C530 39 PF
C515 68PF
R113 2.2 MEG
R114 10K 5W
R115, 15 MEG
R116, 15 MEG
R117 8.2K 1W
R118, 1.8Ω, 2W
R111 22K
R109, 75K (COARSE)
R110, 20K (FINE) HORIZONTAL HOLD
R112, 500K HIGH VOLTAGE ADJ.
RV102
D106 CLAMPING DIODE
V101 3DF3 H.V. RECT
T103 H.V. TRANS.
2ND ANODE VOLTAGE TO PIX TUBE
R139 4.7K 1/2W
R121 FOCUS ADJUST 12 MEG
R136 240 MEG
FOCUS 3.8 - 5 KV TO PIN 9 PIX TUBE
R539 39K
C531 .01 1.4 KV
780V BOOST
V504 12CL3 DAMPER
L502 5.6UM
L503 5.6UM
R119 3.9 MEG 1W (NOTE 7)
R120 3.9MEG 1W (NOTE 7)
P103 PLUG PIN VIEW BLUE
L804A BLUE COILS
L804B RED COILS
L804C GREEN COILS
L804 CONVERGENCE YOKE (INCLUDES L804 A,B,C)
D801A RECT
D801B RECT
D801C RECT
D801 THRU D ARE PART OF S3853-2
LEFT BLUE HORIZ.
RT. BLUE HORIZ.
LEFT R-G HORIZ.
LEFT R-G VERT.
RT. R-G HORIZ.
RT. R-C VERT.
BOT BLUE HORIZ.
BOT R-G HORIZ.
BOT R-G VERT.
TOP R-G HORIZ.
TOP R-G VERT.
TOP BLUE HORIZ.
D801D RECT.
T801
L801
L802
L803
JUMPER "Y" CONNECTS TO "X" OR "Z" FOR BEST CENTER VERTICAL LINE CONVERGENCE
PW 3

ADMIRAL
Color-TV Chassis
K19

ELECTRONIC TECHNICIAN/DEALER TEKFAX

NOTES: UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT; CAPACITANCE VALUES 1 OR HIGHER ARE IN PF; CAPACITANCE VALUES LESS THAN 1 ARE IN UF; INDUCTANCE VALUES ARE IN UH. ⏚ INDICATES CHASSIS GROUND, ⏚ CABINET GROUND. Hz = CYCLES PER SECOND.

DC VOLTAGES ARE MEASURED WITH VTVM PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND, LINE VOLTAGE SET AT 120V AC & ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH VHF TUNER SET AT UNUSED CHANNEL. VOLTAGES SHOWN IN BRACKETS ( ) ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.
‡ INDICATES THESE VOLTAGES MAY VARY WITH VIDEO CONTENT OF THE PROGRAM BEING RECEIVED AND ARE AVERAGE READINGS.

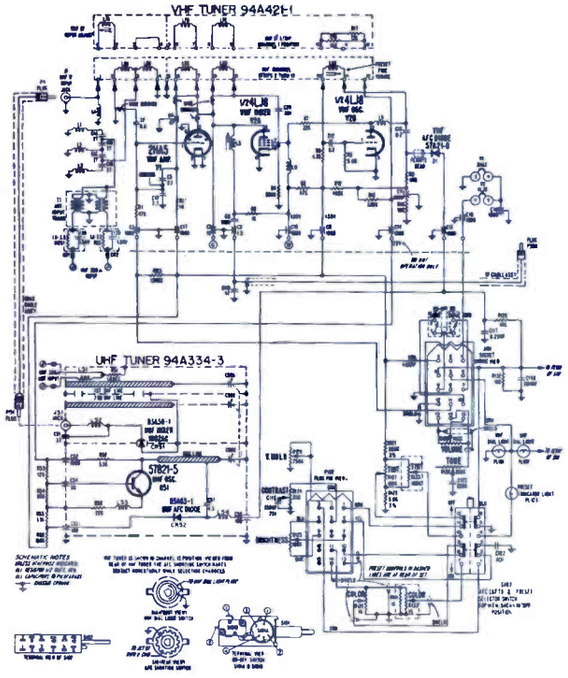
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE DAG DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR(S), TUBE(S) OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND. DISCHARGE 2ND ANODE ONLY TO PICTURE TUBE DAG OR DAG GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS. DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASUREMENT. USE VTVM ON R x 100 RANGE OR HIGHER.

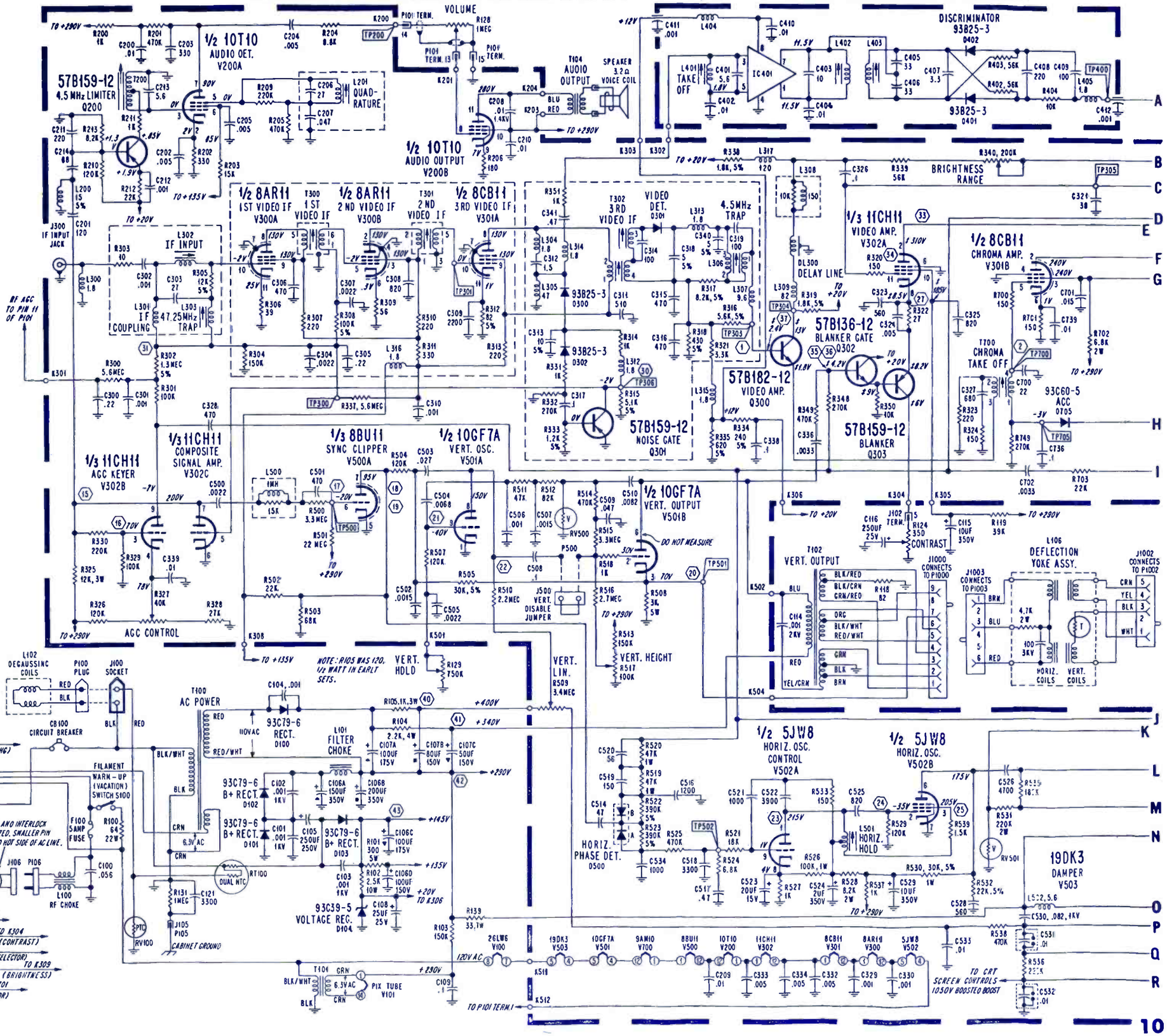
(10) RUN NUMBER INDICATES CHANGE(S) INCORPORATED AS GIVEN UNDER THAT RUN NUMBER, AS WELL AS ALL LOWER RUN CHANGES.

TP SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

(1) HEXAGONS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOS.

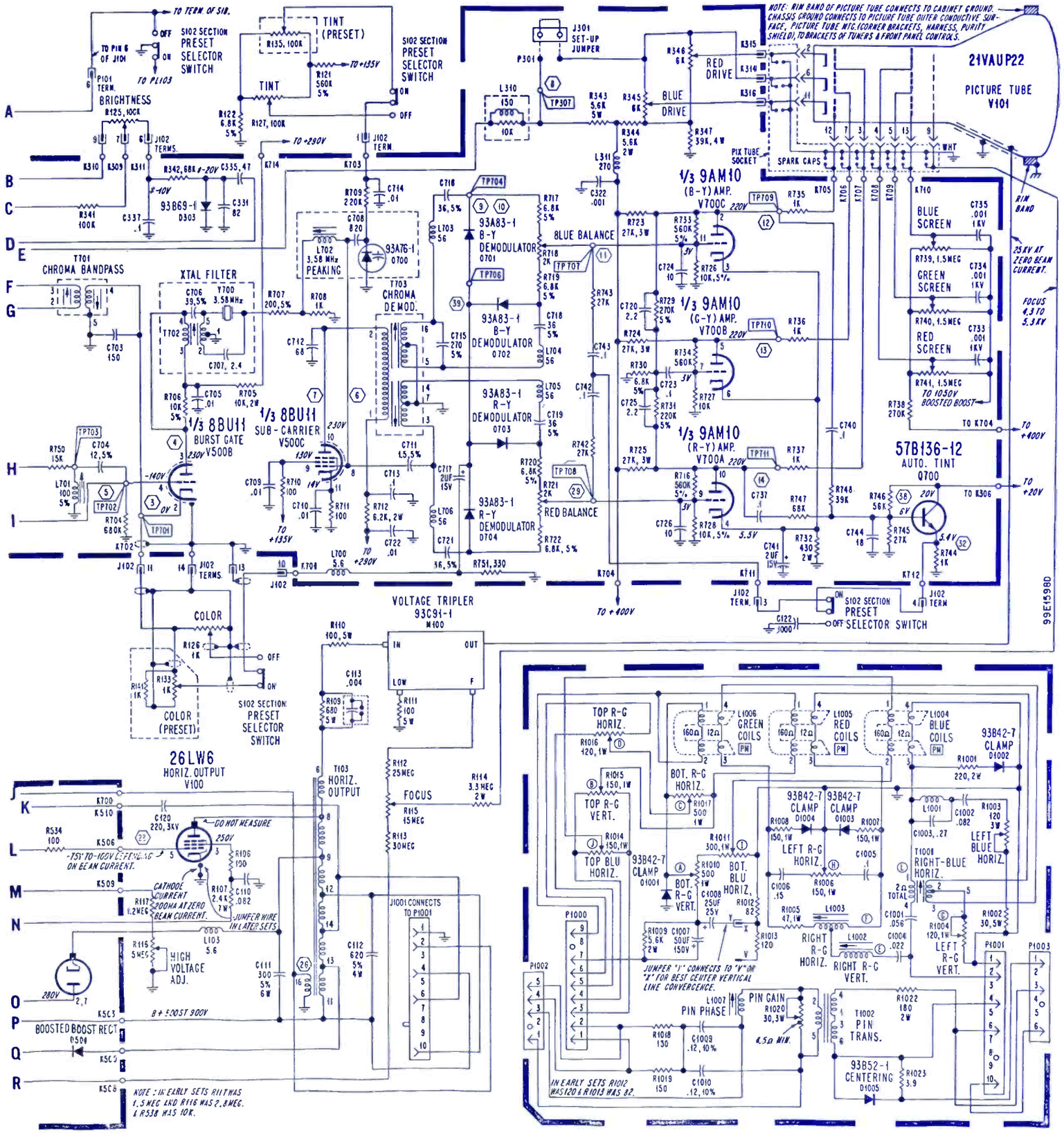
WARNING: CHASSIS IS CONNECTED DIRECTLY TO ONE SIDE OF AC POWER LINE. USE AN ISOLATION TRANSFORMER WHEN SERVICING TO AVOID THE POSSIBILITY OF ACCIDENTAL ELECTRICAL SHOCK & DAMAGE TO TEST EQUIPMENT.

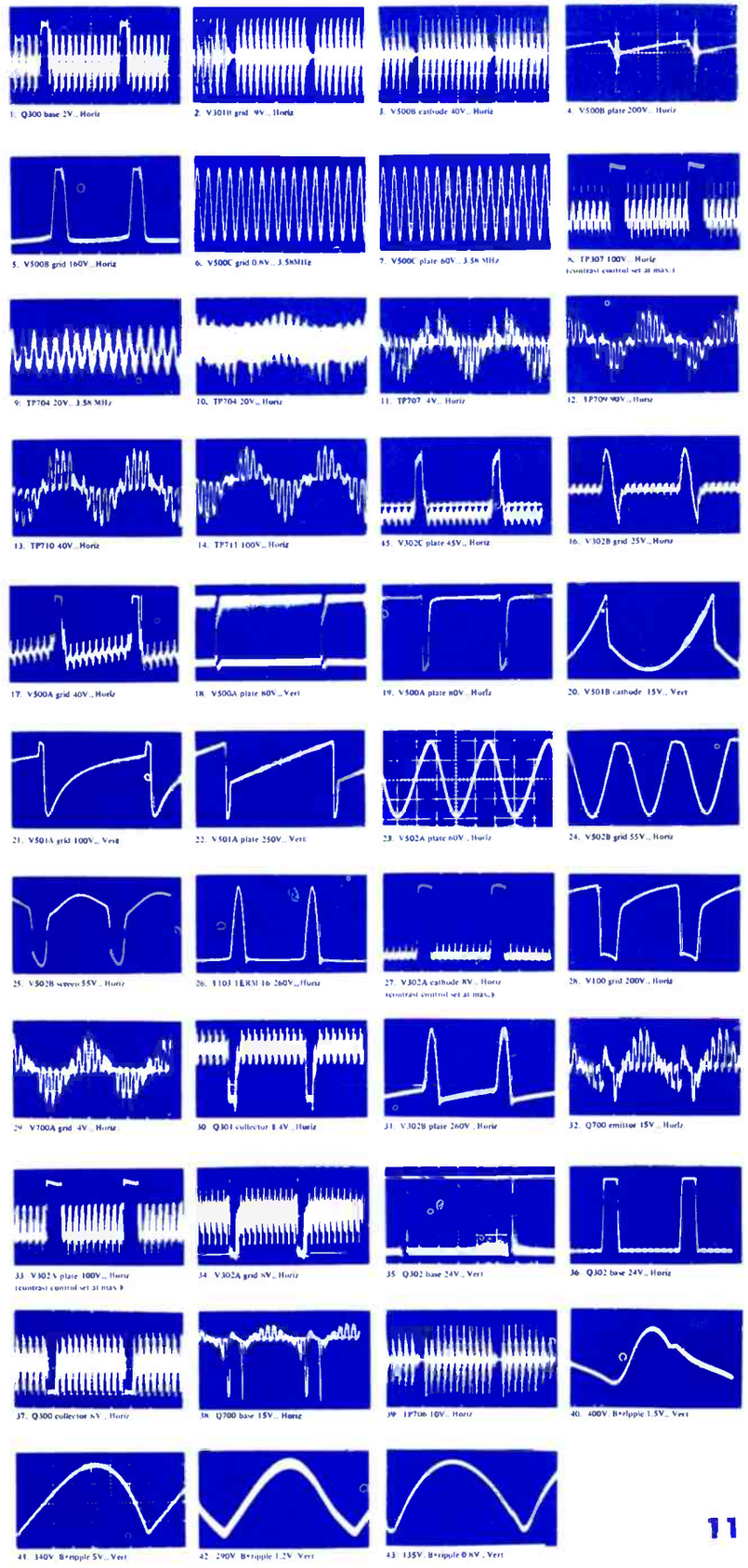




SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R115	15M focus cont	75A108-7
R116	5M high volt cont	75A135-48
R129	750K vert hold cont, K-19	75A186-1
R129	750K vert hold cont, 2K19	75A134-28
R327	40K AGC cont	75A155-9
R340	200K bright range cont	75A155-10
R718	2K blue balance cont	75A101-40
R739	1.5M blue screen cont	75A155-1
R740	1.5M green screen cont	75A155-1
R741	1.5M red screen cont	75A155-1
RT100	dual thermistor, NTC	61A53-3
RV500	varistor	61A65-1
C106A	150μf, 250v, electr	
C106B	200μf, 350v, electr	67A15-412
C106C, D	100μf, 175v, electr	
C107A	100μf, 175v, electr	
C107B	80μf, 150v, electr	67A15-511
C107C	60μf, 150v, electr	
L100	line choke	73A31-16
L201	quadrature coil	72A366-1
L303	47.25MHz trap	72A359-3
L306	4.5MHz trap	72A367-1
L501	horiz hold coil	94A351-1
L702	3.58MHz peaking coil	72A364-1
T100	power xformer	80A116-3
	deflection yoke	94A377-12
	VHF tuner	94A421-1
T101	CRT filament xformer	80A119-1
T102	vert output xformer	79A153-4
T103	horiz output xformer	79A164-1
T104	audio output xformer	79A88-7
T200	45MHz driver xformer	72A303-17
T700	chroma take-off xformer	72A368-1
T701	chroma bandpass xformer	72A358-1
T703	chroma demodulator xformer	72A357-1
M100	high volt tripler	93A91-1
F100	5a fuse	84A7-13

ADMIRAL
Color-TV Chassis
K19



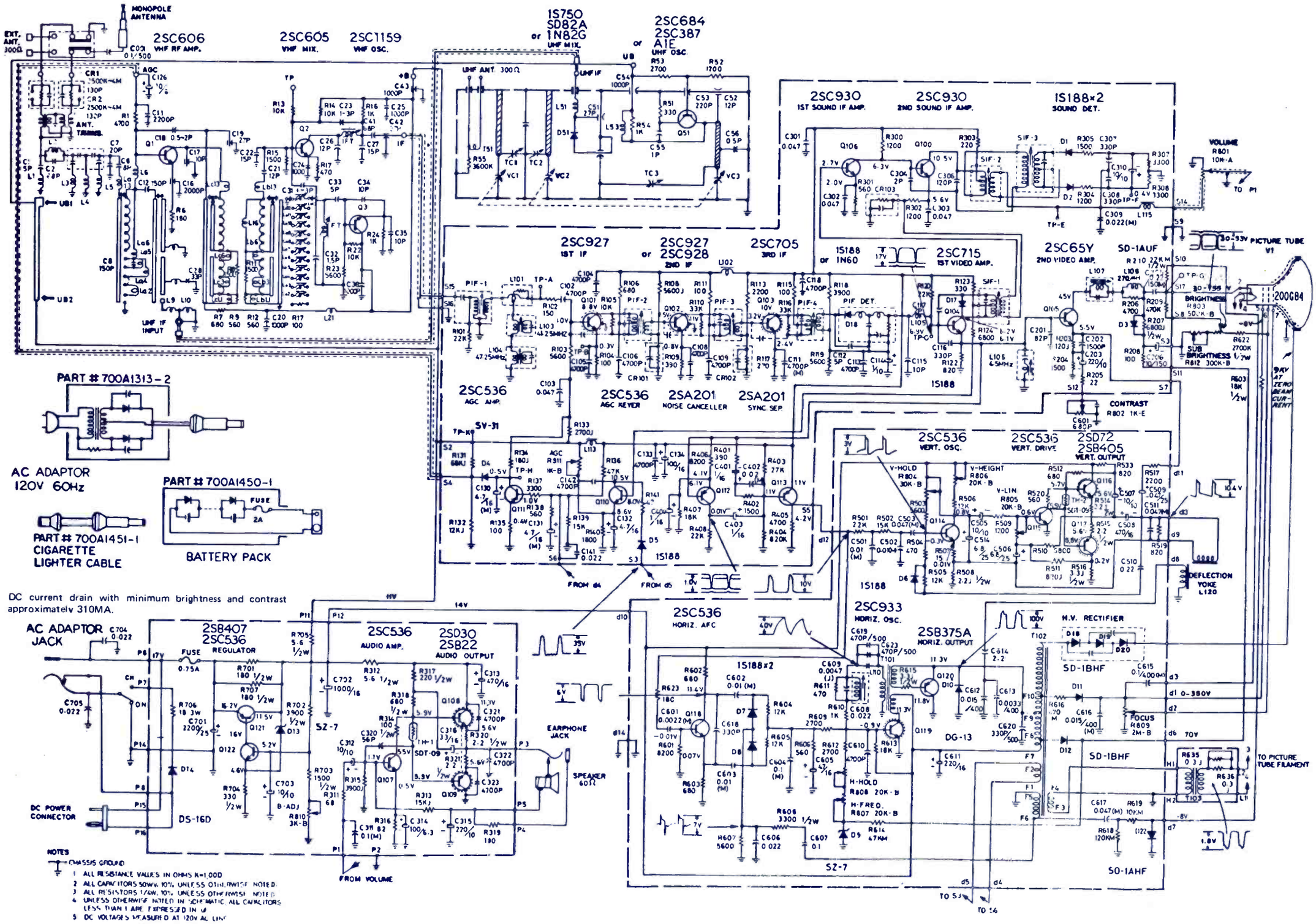


ADMIRAL
TV Chassis
NA10-1A

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R801	10K, volume control	2075A89-146
R802	1K, contrast control	2075A89-148
R803	500K, brite control	2075A89-147
R804	30K, vert hold control	2075A89-162
R805	20K, vert lin control	
R806	20K, vert height	triple control 2075A89-160
R807	20K, horiz frequency	
R808	20K, horiz hold control	2075A89-161
R809	2M, focus control	2075A89-163
R810	3K, bias control	2075A89-159
R811	1K, AGC control	2075A89-158
R812	300K, sub-brite control	2075A89-170

TH-1—thermistor	2061A45-63
TH-2—thermistor	2061A45-63
L101—bandpass coil	2073A72-131
L103—sound trap coil 41.25MHz	2072A254-298
L106—4.5MHz trap coil	2073A72-134
L107—trap coil	2073A72-131
L110—horiz stabilizer coil	2079A2-7
L120—deflection yoke	2073A3-2
S1F1—sound takeoff xformer	2072A254-306
T101—horiz osc xformer	2079A2-6
T102—horiz output xformer	2079A2-5
fuse 0.75	2084A1-2
UHF tuner	2094A2-3
VHF tuner	2094A1-3



PART # 700A1313-2

AC ADAPTOR
120V 60Hz

PART # 700A1450-1

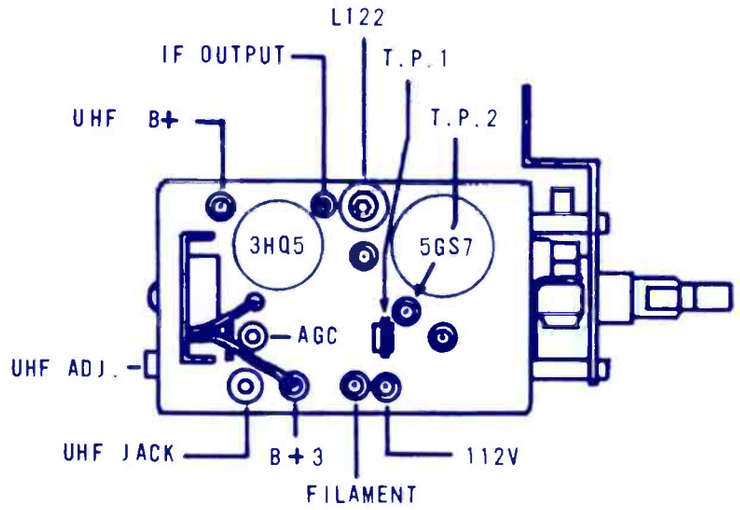
BATTERY PACK

PART # 700A1451-1
CIGARETTE
LIGHTER CABLE

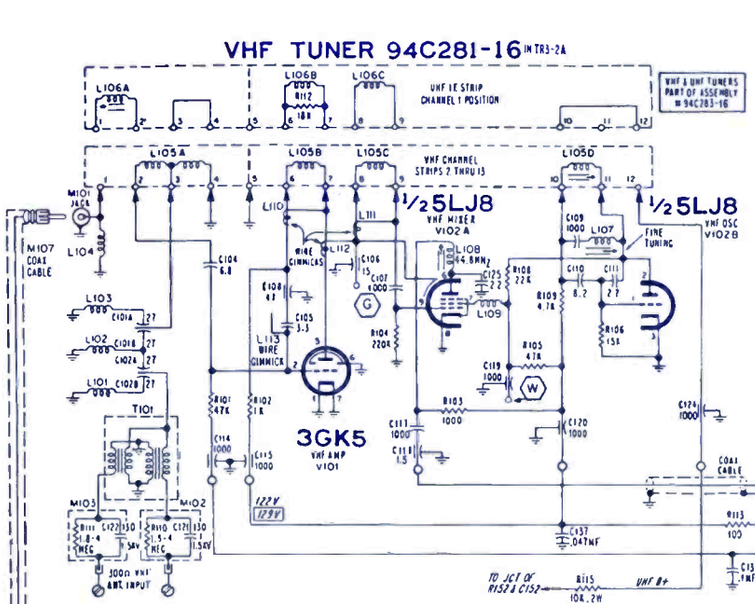
DC current drain with minimum brightness and contrast approximatelv 310MA.

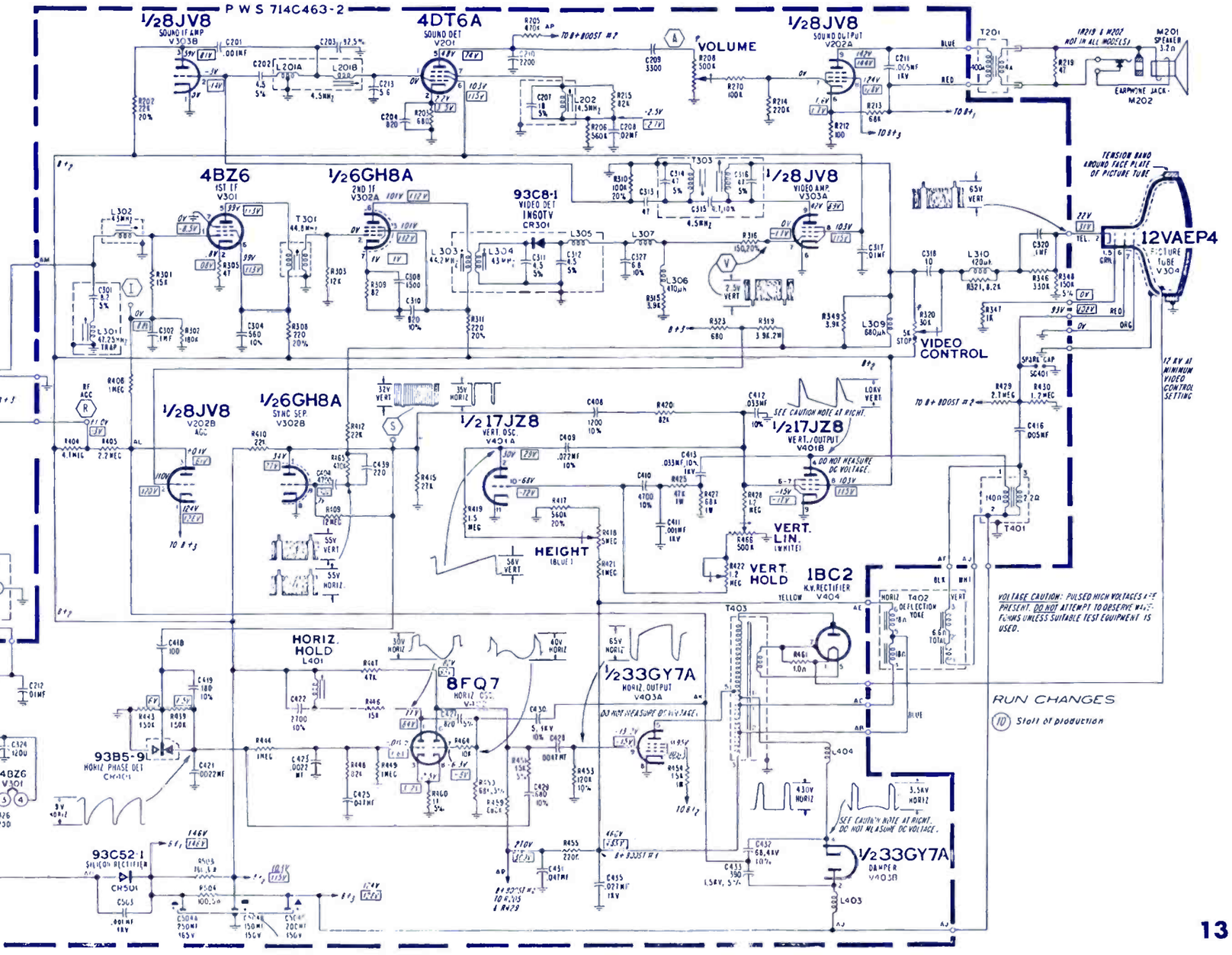
NOTES
- CHASSIS GROUND
1. ALL RESISTANCE VALUES IN OHMS K=1,000
2. ALL CAPACITORS 50WV, 10% UNLESS OTHERWISE NOTED.
3. ALL RESISTORS 1/4W, 10% UNLESS OTHERWISE NOTED.
4. UNLESS OTHERWISE NOTED IN SCHEMATIC, ALL CAPACITORS LESS THAN 1 ARE EXPRESSED IN uf
5. DC VOLTAGES MEASURED AT 120V AC LINE

ADMIRAL
TV Chassis TR3



SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R208	500K vol control w/switch	75A1-185
R320	30K, video control	75A112-13
R418	height control	75A101-16
R422	1.2M vert hold control	75A100-8
R466	vert lin control	75A101-17
R502	5.5Ω fuse type	61A48-1
C432	68pf, 4kv, cer. disc N1500	65A10-275
C504A	150 µf, 156v	
C504B	150 µf, 150v elect	67A30-11
C504C	200 µf, 150v	
L202	quad coil	72A132-77
L301	47.25MHz trap	72A296-4
L303,304	1F xformer	72A296-7
L401	horiz lock coil	94A17-19
T201	audio output xformer	79A124-5
T301	1st 1F xformer	72A132-76
T303	sound takeoff xformer	72A185-5
T401	vert output xformer	79A139-4
T402	deflection yoke assembly	94A372-2
T403	horiz output xformer	79A138-15
	tuner VHF	94A363-7
	tuner UHF	94A361-3





SCHEMATIC NOTES.
1 PART NOT MOUNTED ON PRECISION WIRED SYSTEM
2 VOLTAGE WILL VARY WITH SETTING OF CONTROLS. RESISTOR VALUES 1/2 WATT 10%, CAPACITOR VALUES IN PICOFARADS 20% UNLESS OTHERWISE INDICATED. DC VOLTAGES MEASURED WITH VTVM AT 120V AC LINE, MAX. CONTRAST & BRIGHTNESS AND MIN. VOLUME. DC VOLTAGES IN BOX MEASURED WITH SIGNAL OF MEDIUM SIGNAL STRENGTH. VOLTAGES NOT IN BOX MEASURED WITH NO SIGNAL.
⏚ CHASSIS GROUND.
WARNING: USE ISOLATION TRANSFORMER WHEN SERVICING WITH CABINET BACK REMOVED.

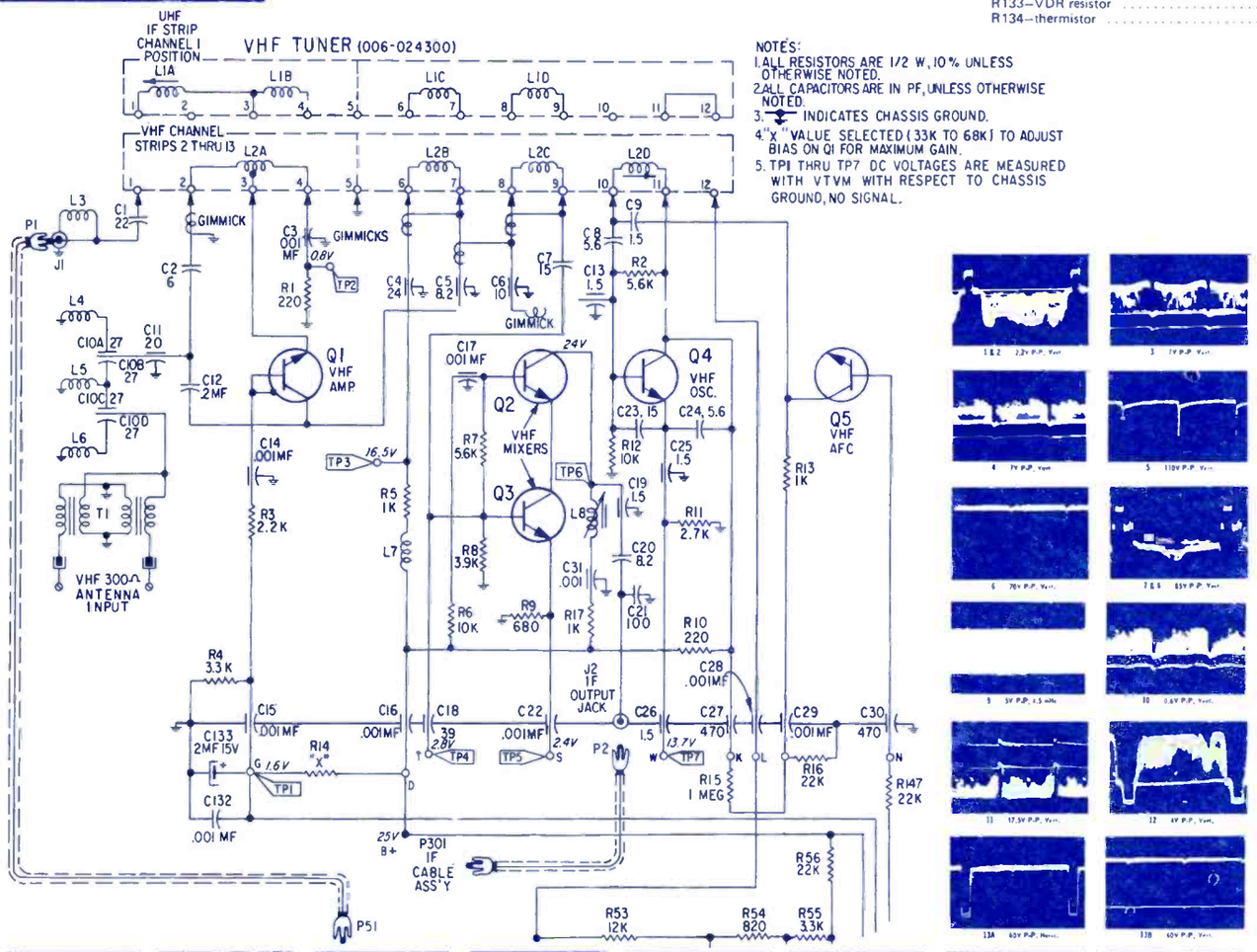
RUN CHANGES
(10) Start of production

AIRLINE

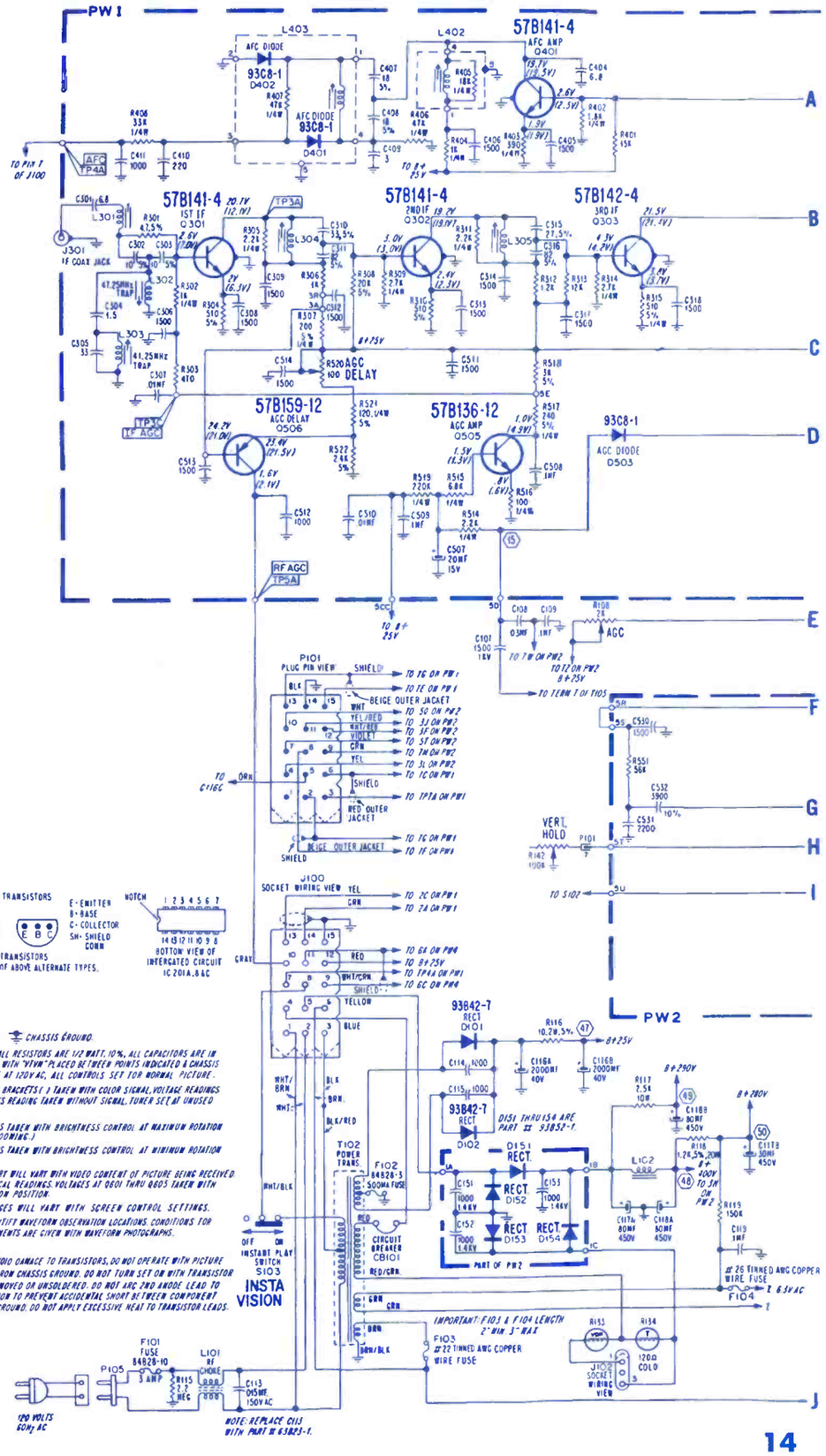
Color TV Models
GCI-17821A, 41A, 51A

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C117A	80 µf/450v elect	67A15-398
C117B	30 µf/450v elect	67A15-398
C117C	20 µf/450v elect	67A15-398
C118A	80 µf/450v elect	67A15-399
C118B	80 µf/450v elect	67A15-399
C118C	10 µf/450v elect	67A15-399
R131	200M/40M (focus module) resistor	750A871-4
R133	VDR resistor	61B46-8
R134	thermistor	61C49-3
R108	2K, AGC control	75A110-11
R110	3.4M, vert size control	75A96-20
R123	10Ω, vert centering control	75A64-37
R124	10Ω, hold centering control	75A64-30
R132	15M, focus control	75A108-2
R139	250K, bright control	055-071300
R140	500K, color control	055-067300
R141	1.1K, tint control	055-071800
R142	100K, vert hold control	055-072800
R143	350Ω, contrast control	055-071200
R144	50K, loudness control	055-071600
R145	100K, tone control	055-072900
R149	2K, preference control	055-072100
R330	200K, bright limiter control	75A95-15
R341	6K, blue drive	75A95-15
R342	5K, green drive	75A95-15
R520	100Ω, AGC delay	75A101-33
R549	8K, hi voltage adjust	75A64-41
R652	300K, vert lin	75A101-10
DL101	delay line	72A217-3
L101	coil, line choke	72A31-16
L102	coil, filter choke	74A27-4



NOTES:
1. ALL RESISTORS ARE 1/2 W, 10% UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE IN PF, UNLESS OTHERWISE NOTED.
3. ⏚ INDICATES CHASSIS GROUND.
4. "X" VALUE SELECTED (33K TO 68K) TO ADJUST BIAS ON Q1 FOR MAXIMUM GAIN.
5. TP1 THRU TP7 DC VOLTAGES ARE MEASURED WITH VTVM WITH RESPECT TO CHASSIS GROUND, NO SIGNAL.



SCHEMATIC NOTES: ⏚ CHASSIS GROUND.

UNLESS OTHERWISE NOTED: ALL RESISTORS ARE 1/2 WATT, 10%, ALL CAPACITORS ARE IN PF, DC VOLTAGES MEASURED WITH VTVM PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND, LINE VOLTAGE SET AT 120VAC, ALL CONTROLS SET FOR NORMAL PICTURE.

VOLTAGE READINGS SHOWN IN BRACKETS( ) TAKEN WITH COLOR SIGNAL, VOLTAGE READINGS WITHOUT BRACKETS, INDICATES READING TAKEN WITHOUT SIGNAL, TUNER SET AT UNUSED CHANNEL.

* INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONTROL AT MAXIMUM ROTATION (FULLY CW, BUT BELOW BLOOMING.)

§ INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONTROL AT MINIMUM ROTATION (FULLY CCW)

VOLTAGES IN VIDEO CIRCUITRY WILL VARY WITH VIDEO CONTENT OF PICTURE BEING RECEIVED. VOLTAGES SHOWN ARE TYPICAL READINGS. VOLTAGES AT Q601 THRU Q605 TAKEN WITH COLOR MONITOR IN "FULL-ON" POSITION.

# INDICATES THESE VOLTAGES WILL VARY WITH SCREEN CONTROL SETTINGS.

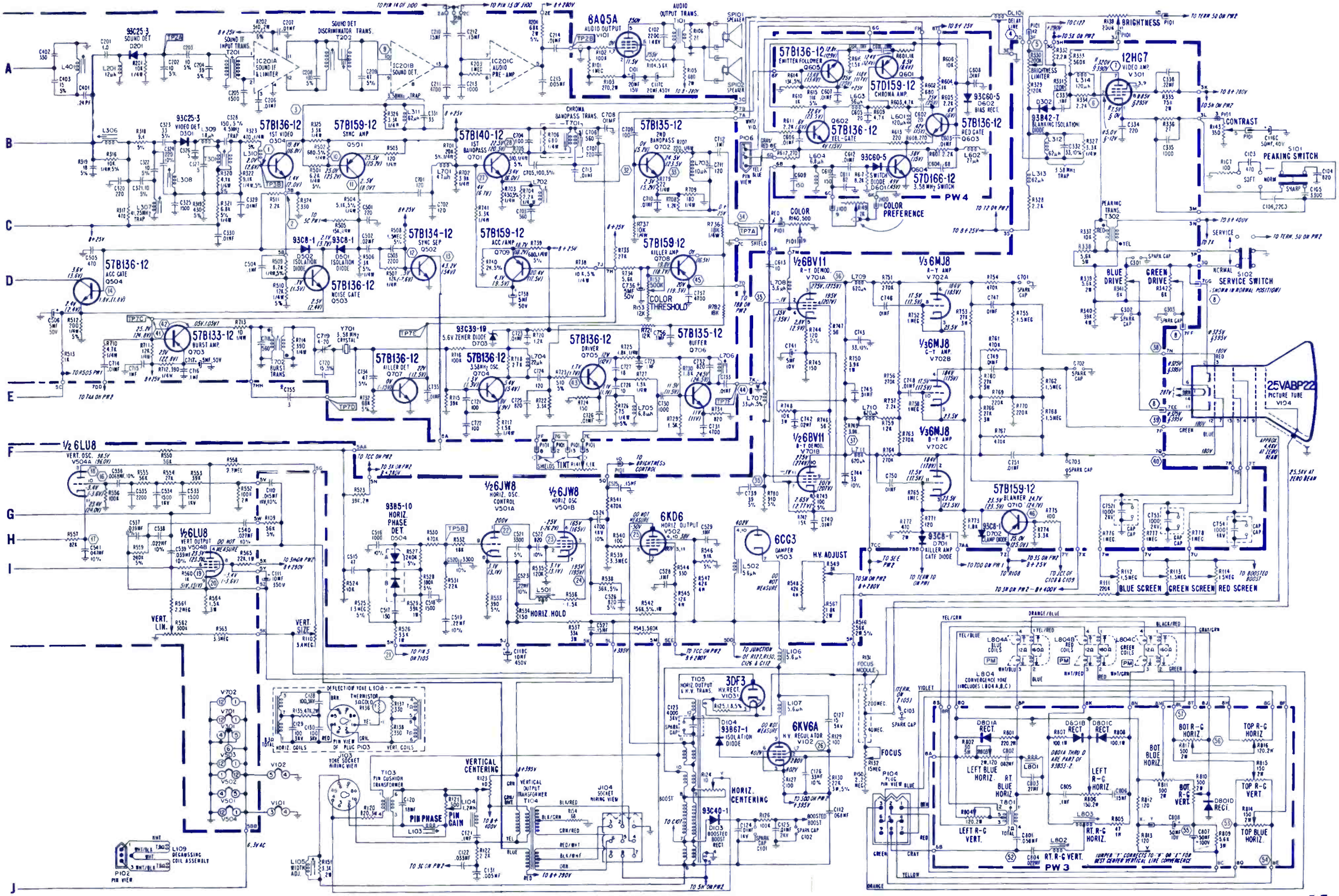
○ NUMBERS IN HEXAGONS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.

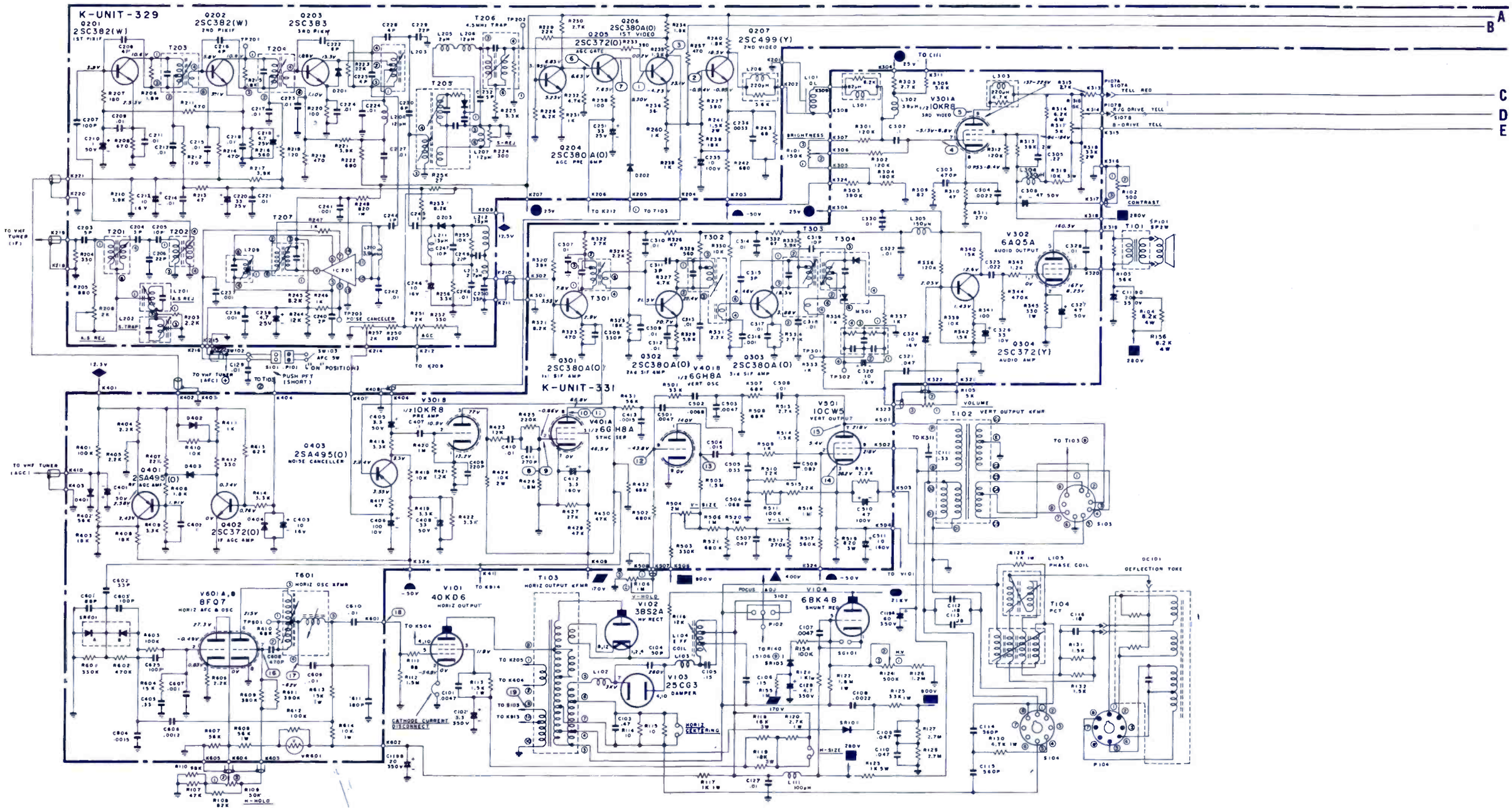
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE WITH PICTURE TUBE DAG DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON OR WITH TRANSISTOR (S) TUBE (S) OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS.

L105—coil width	94A279-3
L108—deflection yoke	94A377-1
L501—coil, horiz hold	94A351-1
T101—audio output xformer	79A142-1
T102—power xformer	80A106-1
T103—pin cushion xformer	79A143-2
T104—vert output xformer	79A134-2
T105—horiz output xformer	79A145-2
T201—4.5MHz xformer	72A317-4
T202—4.5MHz discriminator xformer	72A356-1
T701—bandpass xformer	72A333-2

T702—burst xformer	72A325-2
CB101—circuit breaker	84A17-14
S104—ON/OFF switch	146-013500
VHF tuner	006-024300
F101—3a (chemical) fuse	84A28-10
F102—0.5a (chemical) fuse	84A28-3

AIRLINE
Color TV Models
GCI-17821A, 41A, 51A





AIRLINE

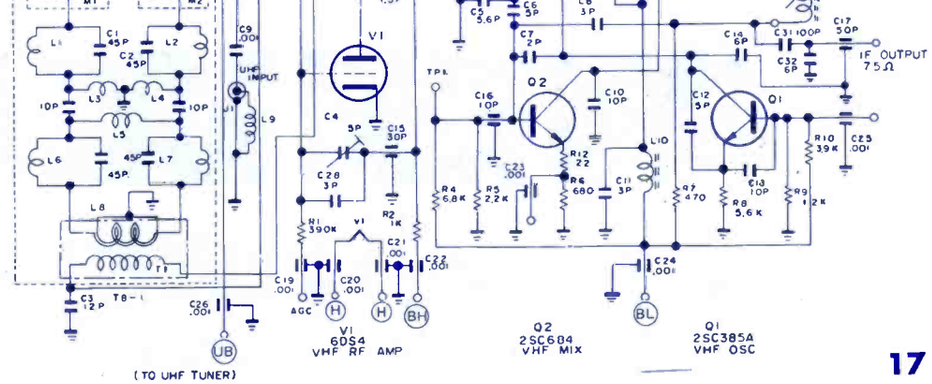
Color-TV Model
GEN-12442A

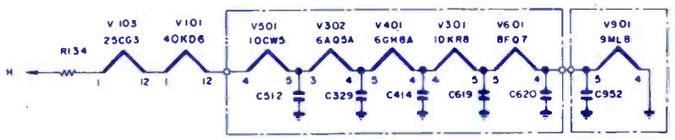
ELECTRONIC TECHNICIAN/DEALER TEKFAX

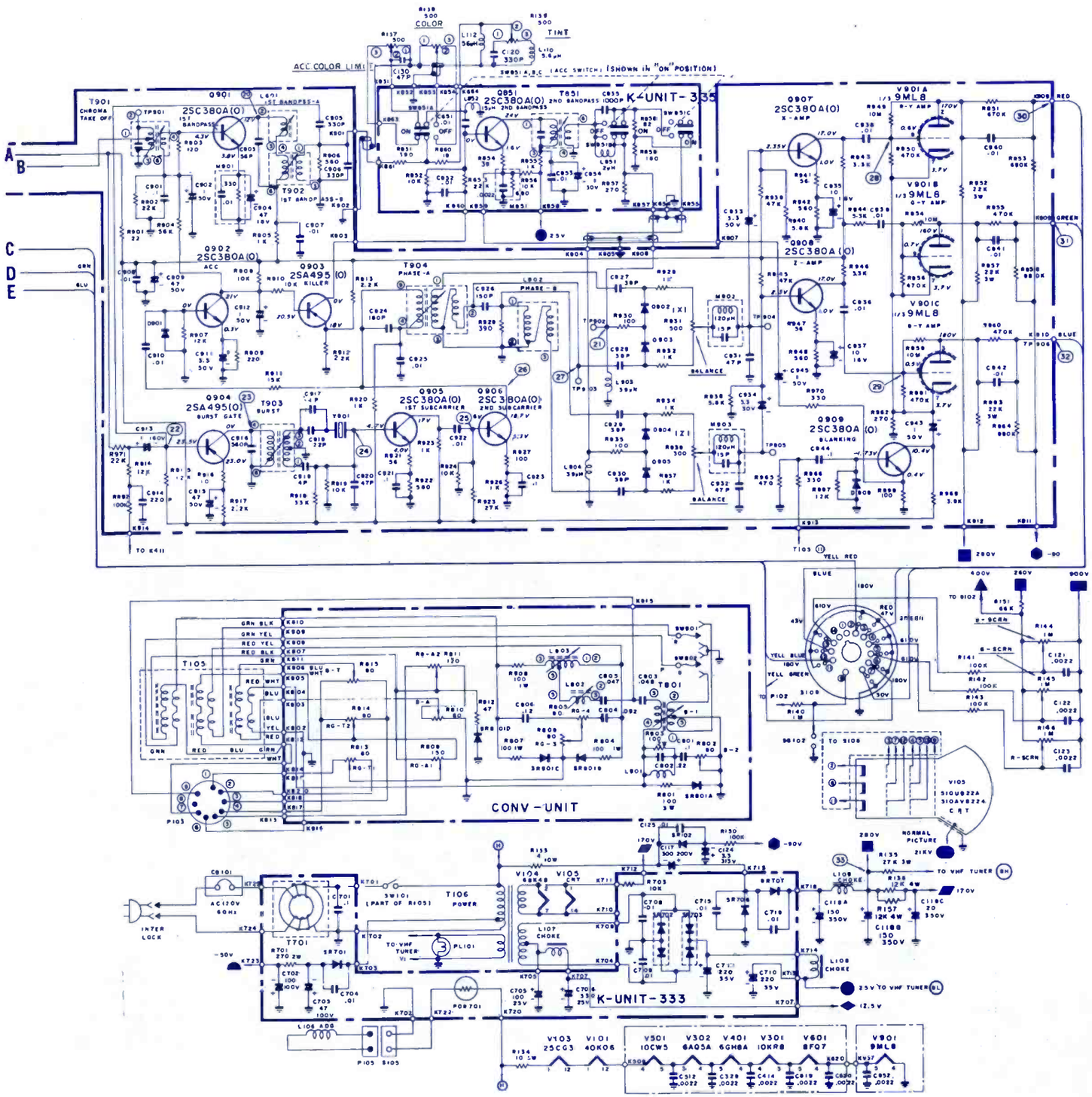
AIRLINE
Color-TV Model
GEN-12442A

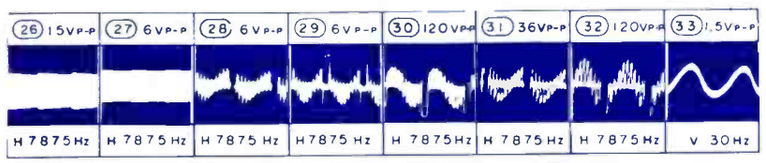
SYMBOL	DESCRIPTION	AIRLINE PART NO.
C119A,B	—60/20/20/20 µf, @350v	
C,D	—electrolytic	TV32452
R101	—150K, brite control	TV25264
R102	—500Ω, contrast control	TV25354
R105	—5K, volume control	TV25342
SW101	—w/on-off switch	
R106	—1M, vert hold control	TV25460
R109	—50K, horiz hold control	TV25363
R124	—500K, HV adjust	TV25269
R137	—500Ω, ACC color limit control	TV25461
R224	—500Ω, sound reject	TV25348
R316	—5K, green red drive	
R317	—5K, blue drive	TV25349
R504	—2M, vert size	
R511	—100K, vert lin	
R257	—2K, noise canceller control	TV25463
L104	—coil, horiz efficiency	TV61673
L202	—coil, sound trap	TV61658
L209	—coil, discriminator	TV61866
T101	—xformer, sound output	TV11239
T102	—xformer, vert output	TV11297
T103	—xformer, horiz output	TV11345
T106	—xformer, power	TV11275
T206	—xformer, 4.5MHz trap	TV62513
T301	—xformer, sound take off	TV62471
T601	—xformer, horiz osc	TV62334
T851	—xformer, 2nd bandpass	TV62620
T901	—xformer, chroma takeoff	TV62621
T903	—xformer, burst	TV62623
M101	—capristor	TV3465
M301	—capristor	TV34107
M851	—capristor	TV34121
M901	—capristor	TV34122
M902	—capristor	TV34123
M903	—capristor	TV34123
1C201	—integ circuit, AFC	TV24993
VR601	—varistor	TV24238
	tuner, VHF	TV35375
DC101	—yoke deflect (DC-115U)	TV61908

CHASSIS LAYOUT









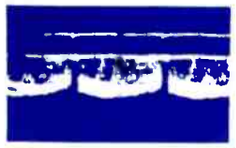
VOLTAGE SYMBOL LEGEND

B8	900v	B3	25V
B7	400v	B4	12.5V
B1	280v	B5	-50V
B2	170V	B6	-90V

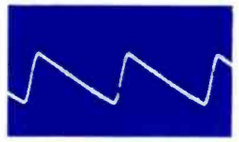
AIRLINE

Color-TV Model
GC1-12102A

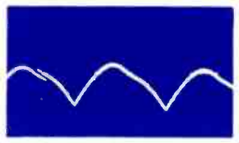
ELECTRONIC TECHNICIAN/DEALER TEKFAX



1. BASE, TPB3, 1st VIDEO AMPL. (Q10), 2V P-P, VERT. (PWS1)

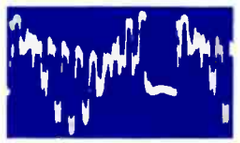


9. RIPPLE at "NN", 18V P-P, VERT. (PWS2)

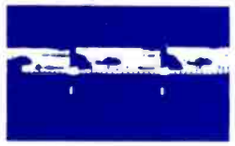


10. RIPPLE at "EE", 1.6V P-P, VERT. (PWS2)

11. RIPPLE at CH 10C, 0.1V P-P, VERT. UNDERSIDE CHASSIS NEAR TH73 (ON SCHEMATIC)



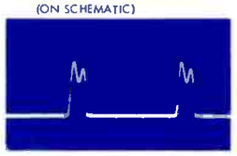
12. COLLECTOR, B-Y DEMODULATOR (Q20), "M", 8.2V P-P, HORIZ. (PWS1)



2. TPA2, SOUND DETECTOR 0.25V P-P, VERT. (PWS1)

13. AGC PULSE, BASE, AGC GATE, (Q9), HORIZ. (PWS1)

14. COLLECTOR, 1st BANDPASS AMPL., (Q13), BURST 8V P-P, CHROMA 4V P-P, HORIZ. (PWS1)

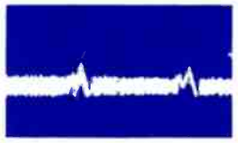


15. JUNCTION RC43 AND CRC 44, 8V P-P, HORIZ. (PWS1)

16. BASE, 2nd BANDPASS, (Q14), CHROMA 0.13V P-P, HORIZ. (PWS1)

3. COLLECTOR, 1st VIDEO AMPL., (Q10), 8V P-P VERT. (PWS1)

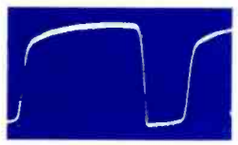
17. COLLECTOR, 2nd BANDPASS, (Q14), 0.22V P-P, HORIZ. (PWS1)



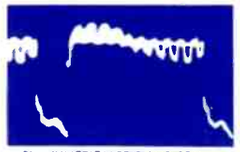
18. EMITTER, 2nd BANDPASS AMPL. (Q14), CHROMA 0.18V P-P, HORIZ. (PWS1)

19. EMITTER, B-Y DEMODULATOR (Q20), 0.7V P-P, HORIZ. EMITTER, R-Y DEMODULATOR (Q21), 0.9V P-P, HORIZ. (PWS1)

20. COLLECTOR, R-Y DEMODULATOR (Q21), "N", 1.5V P-P, HORIZ. (PWS1)

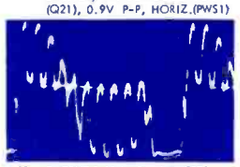


4. GRID, HORIZ OUTPUT, V6, "AB", 335V P-P HORIZ. (PWS2)

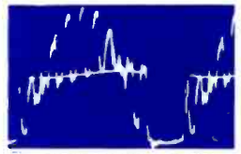


21. JUNCTION RF43 AND RF46, 2.2V P-P, OVERALL, HORIZ. (PWS2)

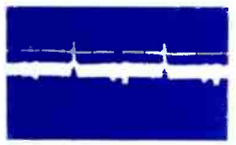
22. OUTPUT R-Y AMPL. V4, TPF2, NO COLOR, 90V P-P, HORIZ. (PWS2)



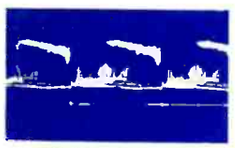
23. OUTPUT R-Y AMPL. V4, TPF2, WITH COLOR, 250V P-P, HORIZ. (PWS2)



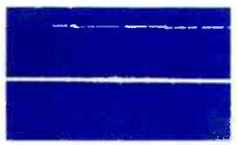
24. OUTPUT B-Y AMPL., V4, TPF4, WITH COLOR, 280V P-P, HORIZ. (PWS2)



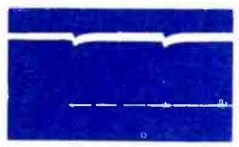
5. PLATE (PIN 10) 2nd VIDEO AMPL., 50% CONTRAST, 100V P-P VIDEO, 150V P-P BLANKING (PWS2)



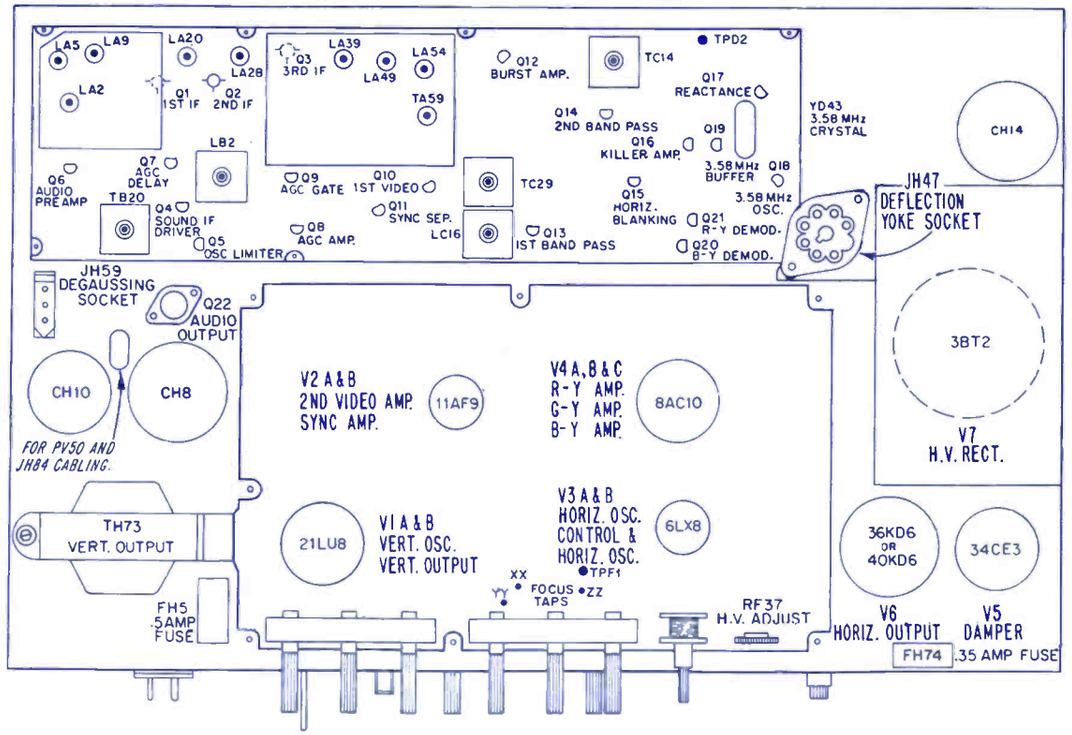
6. BASE, SYNC. SEPARATOR, (Q11), 7V P-P, VERT. (PWS1)



7. COLLECTOR, SYNC. SEPARATOR, (Q 11), 6V P-P, VERT. (PWS1)

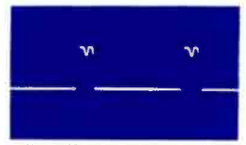


8. PLATE (PIN 4) SYNC. AMPL., (V2), 60V P-P, VERT. (PWS2)

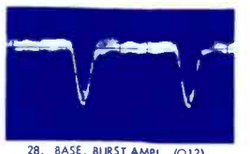


25. OUTPUT G-Y AMPL., V4, TPF3, WITH COLOR, 150V P-P, HORIZ. (PWS2)

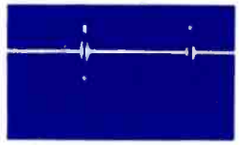
26. COLLECTOR, HORIZ., BLANKER, (Q15), "Z", 3.3V P-P, HORIZ. (PWS1)



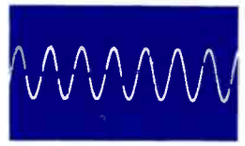
27. BASE, HORIZ. BLANKER, (Q15), 5.8V P-P, HORIZ. (PWS1)



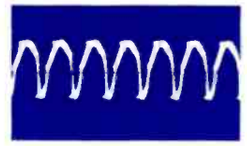
28. BASE, BURST AMPL. (Q12), 6V P-P, HORIZ. (PWS1)



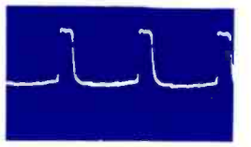
29. COLLECTOR, BURST AMPL. (Q12), 45V P-P, HORIZ. (PWS1)



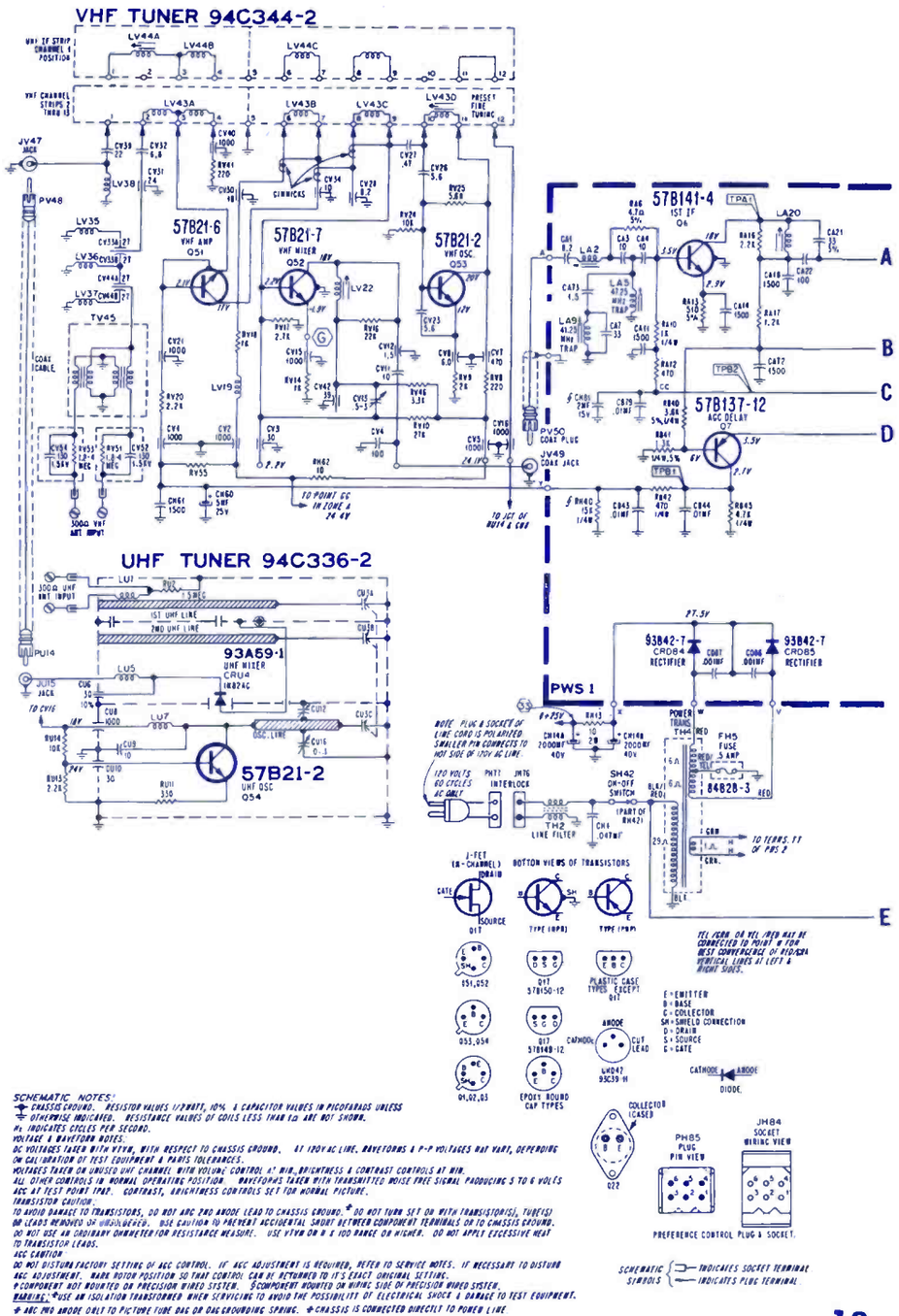
30. COLLECTOR, 3.58 MHz BUFFER, (Q 19), 22V P-P, BASE 2.3V P-P, EMITTER 2.2V P-P, BASE Q20 AND Q21 6V P-P (PWS1)



31. COLLECTOR, 3.58 MHz OSCILLATOR (Q18), 11V P-P (PWS1)

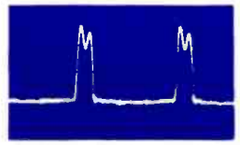


32. CATHODE, BURST GATE DIODE, (CRC 19) 12.5V P-P, HORIZ. (PWS1)

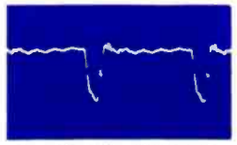


SCHEMATIC NOTES:
⏚ CHASSIS GROUND. RESISTOR VALUES 1/2WATT, 10%, & CAPACITOR VALUES IN PICOFARADS UNLESS ⏚ OTHERWISE INDICATED. RESISTANCE VALUES OF COILS LESS THAN 1Ω ARE NOT SHOWN.
Hz INDICATES CYCLES PER SECOND.
VOLTAGE & WAVEFORM NOTES:
DC VOLTAGES TAKEN WITH VTVM, WITH RESPECT TO CHASSIS GROUND. AT 120V AC LINE. WAVEFORMS & P-P VOLTAGES MAY VARY, DEPENDING ON CALIBRATION OF TEST EQUIPMENT & PARTS TOLERANCES.
VOLTAGES TAKEN ON UNUSED UHF CHANNEL WITH VOLUME CONTROL AT MIN., BRIGHTNESS & CONTRAST CONTROLS AT MIN.
ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. WAVEFORMS TAKEN WITH TRANSMITTED NOISE FREE SIGNAL PRODUCING 5 TO 6 VOLTS AGC AT TEST POINT TPAB. CONTRAST, BRIGHTNESS CONTROLS SET FOR NORMAL PICTURE.
TRANSISTOR CAUTION:
TO AVOID DAMAGE TO TRANSISTORS, DO NOT ARC PIN 9 ANODE LEAD TO CHASSIS GROUND. * DO NOT TURN SET ON WITH TRANSISTOR(S), TUBE(S) OR LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND.
DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASURE. USE VTVM OR V.O.M. 100 RANGE OR HIGHER. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS.
AGC CAUTION:
DO NOT DISTURB FACTORY SETTING OF AGC CONTROL. IF AGC ADJUSTMENT IS REQUIRED, REFER TO SERVICE NOTES. IF NECESSARY TO DISTURB AGC ADJUSTMENT, MARK ROTOR POSITION SO THAT CONTROL CAN BE RETURNED TO IT'S EXACT ORIGINAL SETTING.
▼COMPONENT NOT MOUNTED ON PRECISION WIRED SYSTEM. ▽COMPONENT MOUNTED ON WIRING SIDE OF PRECISION WIRED SYSTEM.
WARNING: *USE AN ISOLATION TRANSFORMER WHEN SERVICING TO AVOID THE POSSIBILITY OF ELECTRICAL SHOCK & DAMAGE TO TEST EQUIPMENT.
◆ ARC PIN 9 ANODE ONLY TO PICTURE TUBE BAC OR DAG GROUNDING SPRING. ◆CHASSIS IS CONNECTED DIRECTLY TO POWER LINE.

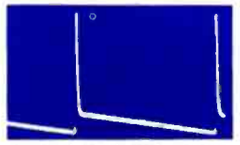
33. 25 VOLT B+RIPPLE at CH14A, 0.025V P-P, VERT. (SEE SCHEMATIC)



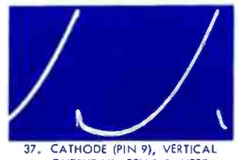
34. AGC PULSE, TERMINAL P, 28V P-P, HORIZ. (PWS1)



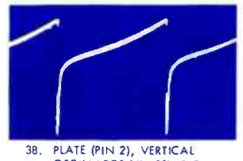
35. BURST. AMPL., KEYING PULSE, TERMINAL T (PWS1)



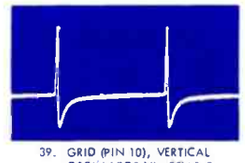
36. PLATE, (PIN 4) VERTICAL OUTPUT (V1)AC, 1150V P-P, VERT. (PWS2)



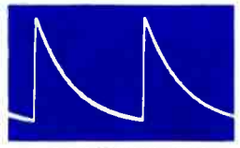
37. CATHODE (PIN 9), VERTICAL OUTPUT V1, 22V P-P, VERT. (PWS2)



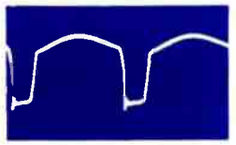
38. PLATE (PIN 2), VERTICAL OSCILLATOR V1, 80V P-P, VERT. (PWS2)



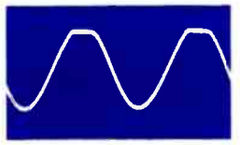
39. GRID (PIN 10), VERTICAL OSCILLATOR V1, 95V P-P, VERT. (PWS2)



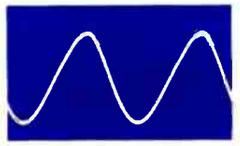
40. CATHODE (PIN 11), VERTICAL OSCILLATOR V1, 60V P-P, VERT. (PWS2)



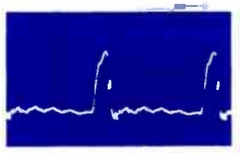
41. HORIZ. SCREEN, (PIN 3) V3, 40 P-P, HORIZ. (PWS2)



42. HORIZ. GRID, (PIN 2) V3, 2.2V P-P, HORIZ. (PWS2)

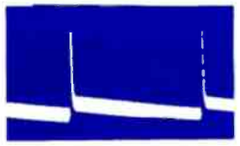


43. HORIZ. CONTROL PLATE, (PIN 1)V3, 57V P-P, HORIZ. (PWS2)

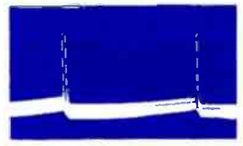


44. CONVERGENCE BOARD, TERMINAL B, 220V P-P, HORIZ. (PWS3)

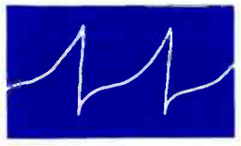
45. CONVERGENCE BOARD, TERMINAL E, 20V P-P, HORIZ. (PWS3)



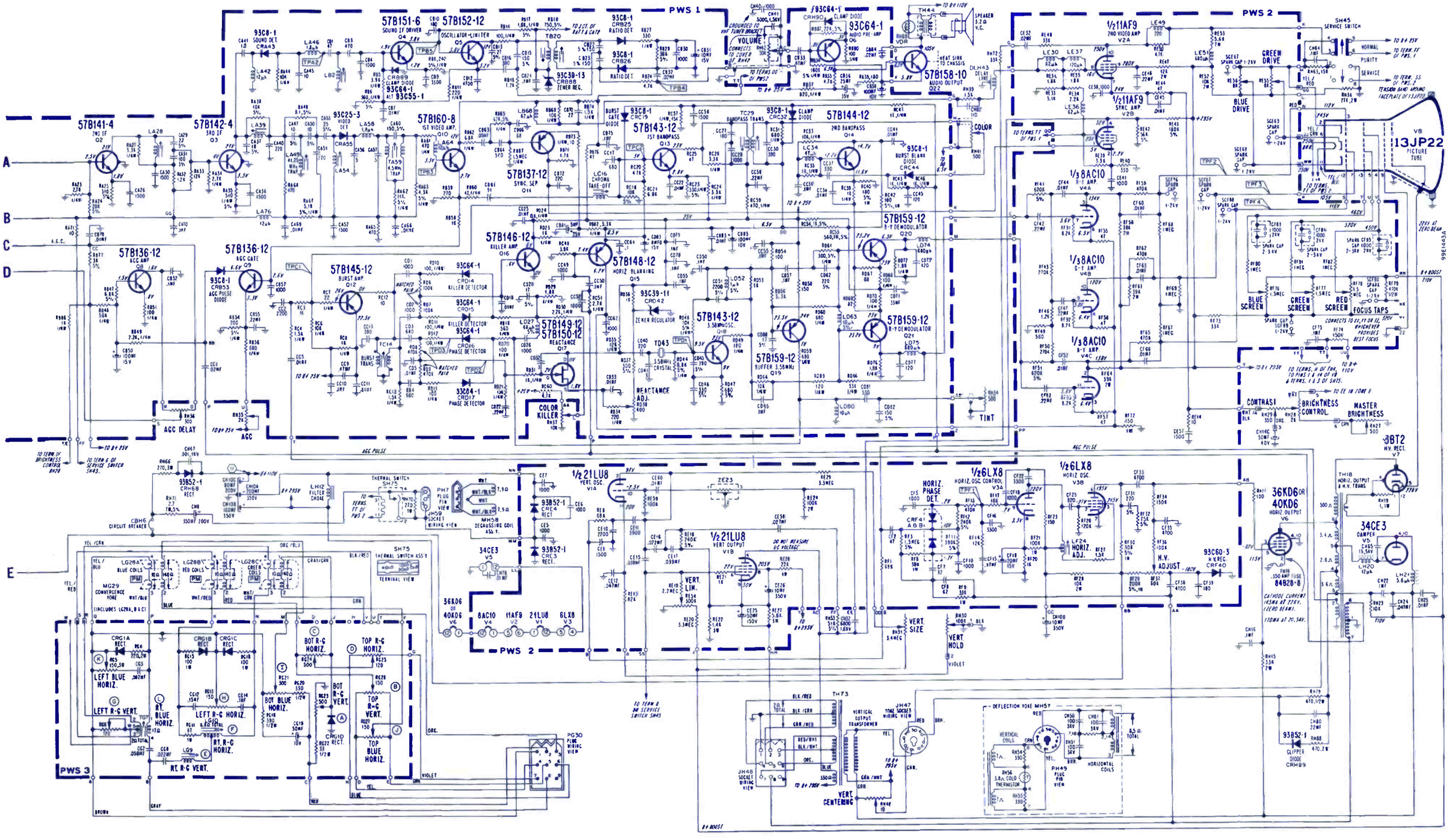
46. CONVERGENCE BOARD TERMINAL D, 10V P-P, HORIZ. (PWS3)



47. CONVERGENCE BOARD, TERMINAL H, 5.5V P-P, HORIZ. (PWS3)



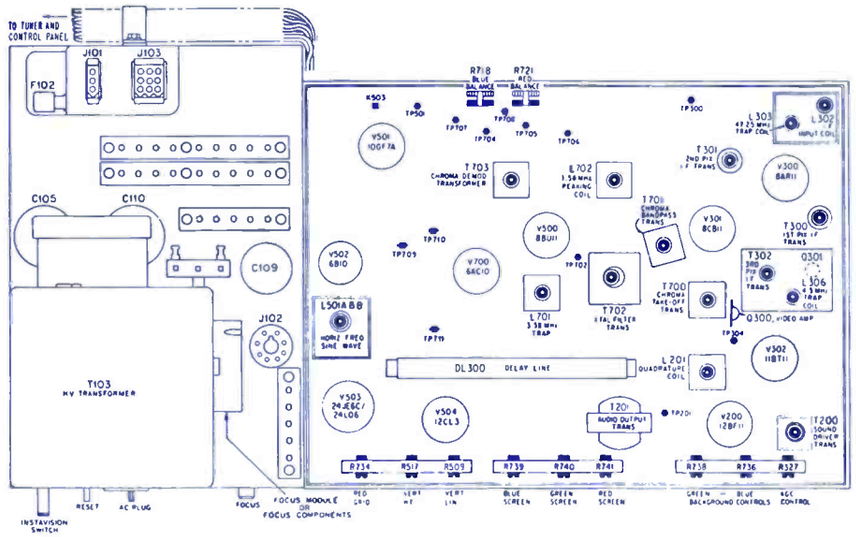
48. CONVERGENCE BOARD TERMINAL V, 4V P-P, HORIZ. (PWS3)



AIRLINE
Color-TV Chassis
20K17-2A

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C110A, B, C, D	120μf/400v/20μf/400v/100μf/150v/4μf/300v, Electrolytic	67A75-1
RV102	VDR	61A46-13
RV500	VDR	61A65-1
R109	control, horiz. hold (coarse), 75K	75A161-1
R110	control, horiz. hold (fine), 20K	
R123	control, vert. hold, 750K	
R121	control, focus, 3M	75A157-13
R127, 5101	control, vof, w/on-off switch 1M	75A179-4
R128	control, contrast, 250Ω	75A172-1
R130	control, bright, 100K	75A180-1
R131	control, color, 500Ω	75A181-2
R133	control, tint, 50K	75A155-7
R327	control, AGC, 40K	75A155-8
R736	control, blue background 100K	
R738	control, green background 100K	
R509	control, vert, lin, 3.4M	
R517	control, vert, height, 100K	
R734	control, red background, 100K	
L106	deflection yoke	94A379-4
L201	coil, quad	72A366-1
L501A, B	coil, horiz. freq/sine wave	72A373-1
T101	xformer, power	80A116-2
T102	xformer, vert output	79A153-2
T103	xformer, high voltage	79A162-1
T200	xformer, 4.5MHz sound driver	72A361-1
T201	xformer, audio output	79A151-1
T300	xformer, 1st pix IF	72A359-1
T301	xformer, 2nd pix IF	72A359-2
T302	xformer, 3rd pix IF w/C314	72A365-1
T700	xformer, chroma take-off	72A368-1
T703	xformer, chroma demodulator	72A357-1
CB101	circuit breaker, dual (GA1-12423A)	84A17-10
F101	fuse, 7a (slow blow)	84A30-1
F102	fuse, .35a (chemical) (GA1-12423B)	84A28-8
	tuner, UHF	94A451-1
	tuner, VHF	94A437-1



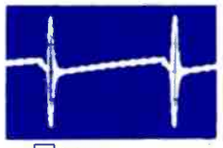
○ INDICATES "AIR" SIGNAL
2.5 VOLTS P TO P AT TP303

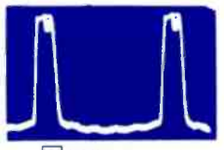
□ INDICATES COLOR BAR SIGNAL
3.0 VOLTS P TO P AT TP303

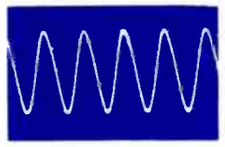

1 2 Volts Vertical At TP302
2.5 Volts Vertical At TP303

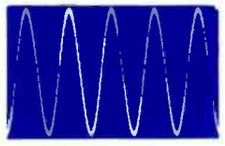

2 16 Volts Horizontal


3 64 Volts Horizontal

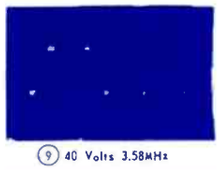

4 240 Volts Horizontal

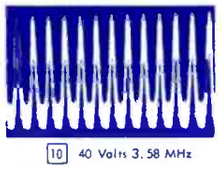

5 175 Volts Horizontal

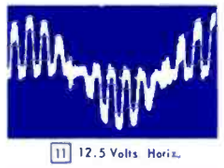

6 1.5 Volts 3.58MHz


7 45 Volts 3.58MHz

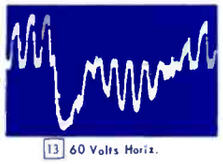

8 125 Volts Vertical

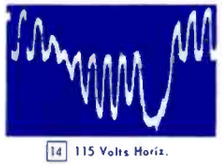

9 40 Volts 3.58MHz


10 40 Volts 3.58 MHz

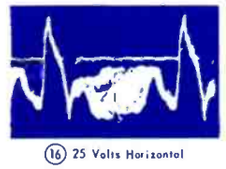

11 12.5 Volts Horiz.

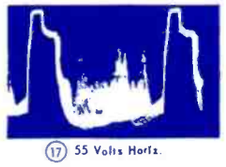

12 110 Volts Horiz.

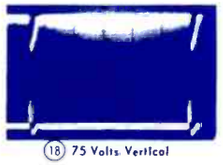

13 60 Volts Horiz.

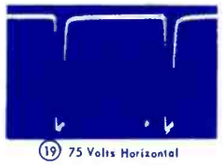

14 115 Volts Horiz.

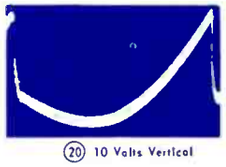

15 50 Volts Horizontal

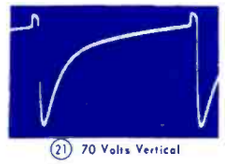

16 25 Volts Horizontal


17 55 Volts Horiz.

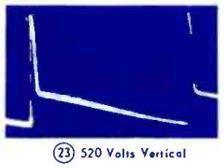

18 75 Volts Vertical

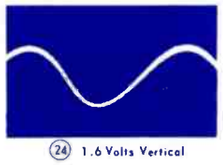

19 75 Volts Horizontal

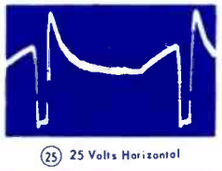

20 10 Volts Vertical


21 70 Volts Vertical


22 175 Volts Vertical


23 520 Volts Vertical

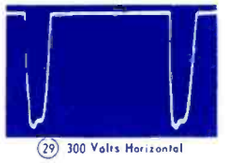

24 1.6 Volts Vertical


25 25 Volts Horizontal

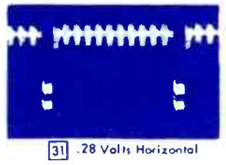

26 42 Volts Horizontal

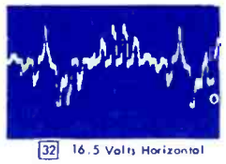

27 640 Volts Horizontal


28 240 Volts Horizontal

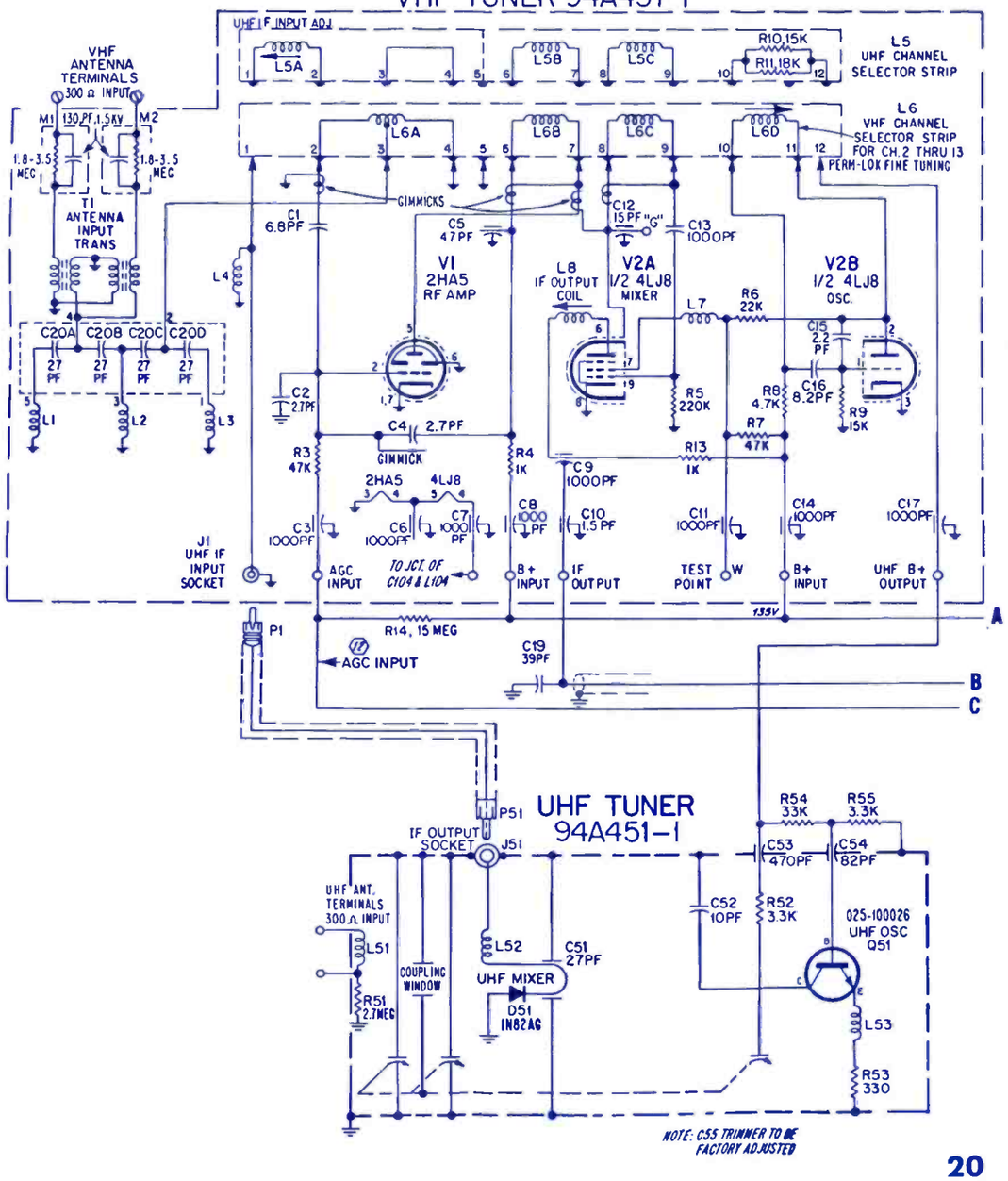

29 300 Volts Horizontal


30 6 Volts Vertical


31 .28 Volts Horizontal

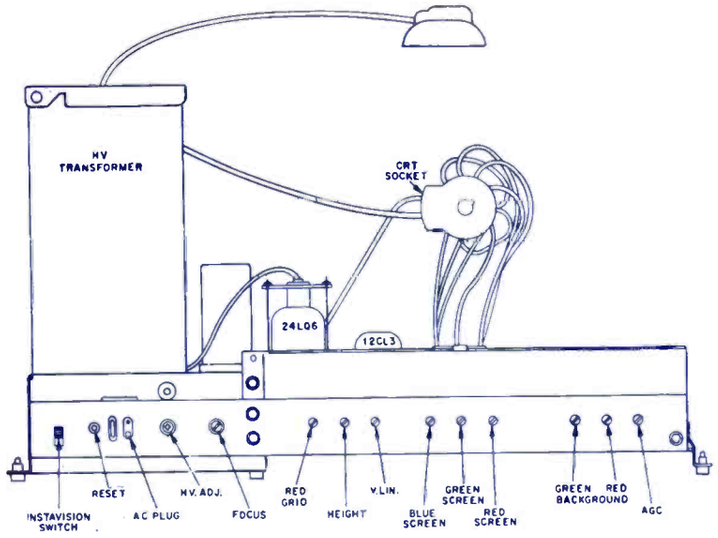

32 16.5 Volts Horizontal

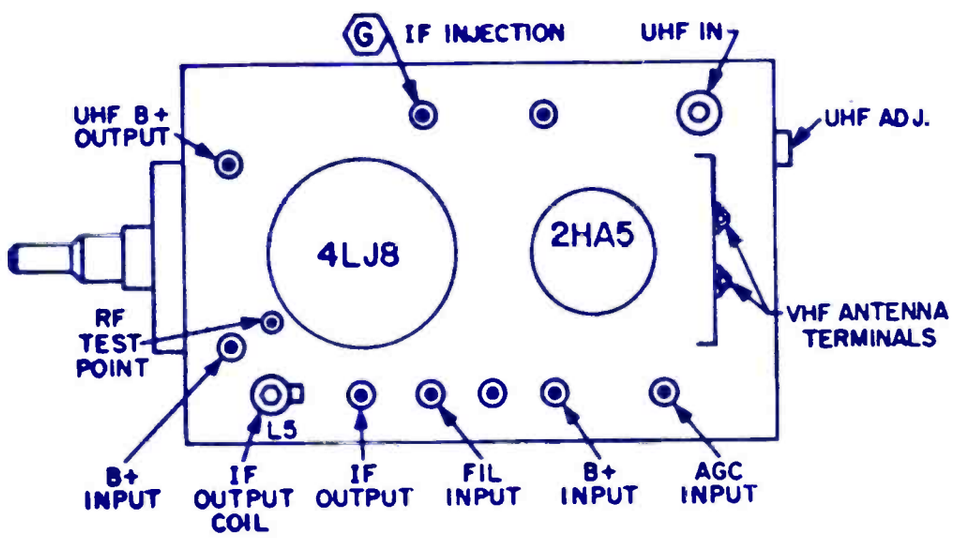
VHF TUNER 94A437-1

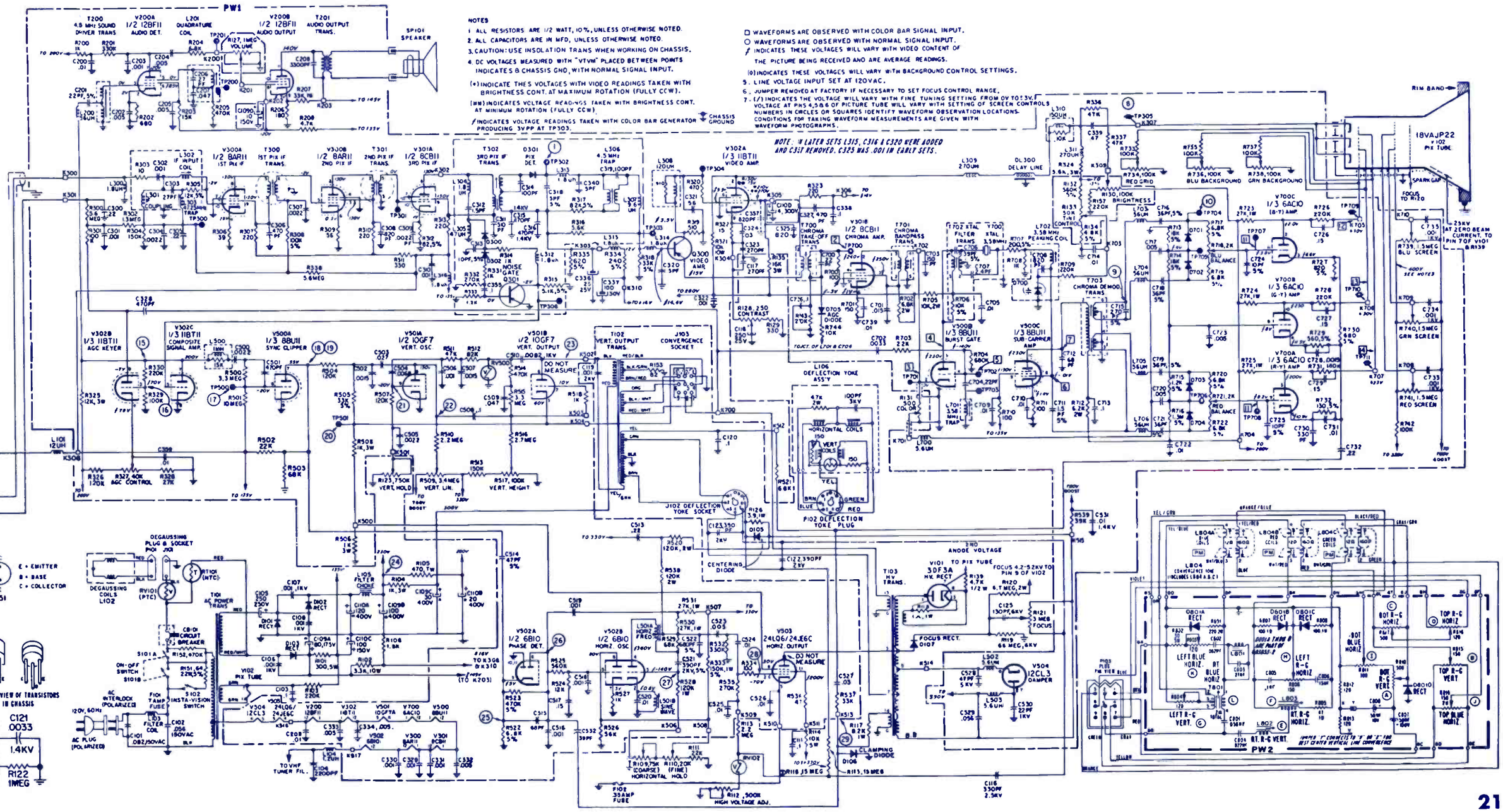


UHF TUNER 94A451-1

AIRLINE
Color-TV Chassis
20K17-2A







NOTES

1. ALL RESISTORS ARE 1/2 WATT, 10%, UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE IN MFD, UNLESS OTHERWISE NOTED.
3. CAUTION: USE INSOLATION TRANS WHEN WORKING ON CHASSIS.
4. DC VOLTAGES MEASURED WITH "VTVM" PLACED BETWEEN POINTS INDICATES & CHASSIS GND, WITH NORMAL SIGNAL INPUT.

(•) INDICATE THES VOLTAGES WITH VIDEO READINGS TAKEN WITH BRIGHTNESS CONT. AT MAXIMUM ROTATION (FULLY CCW).

(**) INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONT. AT MINIMUM ROTATION (FULLY CCW).

/ INDICATES VOLTAGE READINGS TAKEN WITH COLOR BAR GENERATOR PRODUCING 3VPP AT TP303.

⏚ CHASSIS GROUND

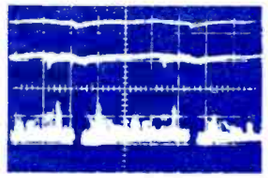
□ WAVEFORMS ARE OBSERVED WITH COLOR BAR SIGNAL INPUT.
○ WAVEFORMS ARE OBSERVED WITH NORMAL SIGNAL INPUT.
∫ INDICATES THESE VOLTAGES WILL VARY WITH VIDEO CONTENT OF THE PICTURE BEING RECEIVED AND ARE AVERAGE READINGS.
(0) INDICATES THESE VOLTAGES WILL VARY WITH BACKGROUND CONTROL SETTINGS.

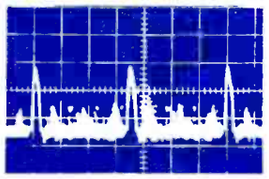
5. LINE VOLTAGE INPUT SET AT 120VAC.
6. JUMPER REMOVED AT FACTORY IF NECESSARY TO SET FOCUS CONTROL RANGE.
7. (/) INDICATES THE VOLTAGE WILL VARY WITH FINE TUNING SETTING FROM 0V TO ±3V. VOLTAGE AT PINS 4,5 & 6 OF PICTURE TUBE WILL VARY WITH SETTING OF SCREEN CONTROLS NUMBERS IN CIRCLES OR SQUARES IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.

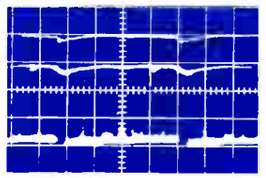
NOTE: IN LATER SETS L315, C316 & C320 WERE ADDED AND C357 REMOVED. C325 WAS .001 IN EARLY SETS.

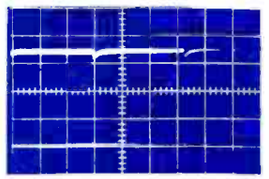
CHANNEL MASTER
Color-TV Chassis
T5001 Series

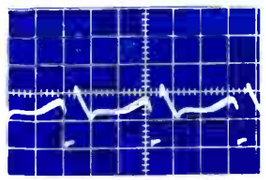
ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

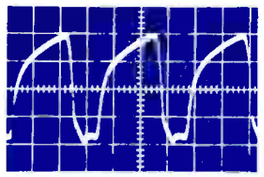

1. Vert. Rate 2.2V P-P

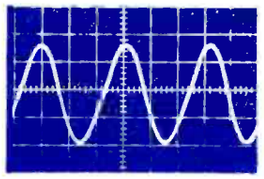

2. Horiz. Rate 14.8V P-P

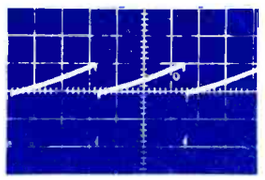

3. Vert. Rate 2.0V P-P

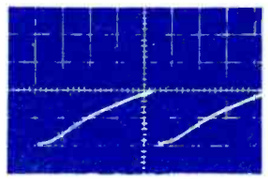

4. Horiz. Rate 34V P-P

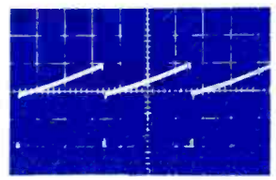

5. Horiz. Rate 11.5V P-P

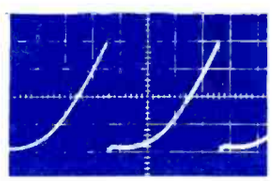

6. Horiz. Rate 20V P-P

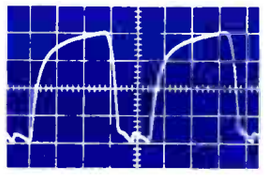

7. Horiz. Rate 180V P-P

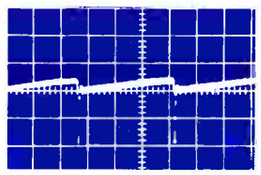

8. Vert. Rate 150V P-P

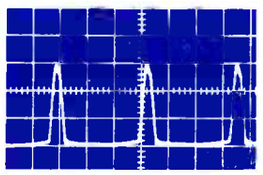

9. Vert. Rate 80V P-P

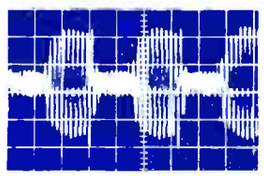

10. Vert. Rate 150V P-P

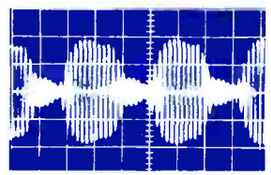

11. Vert. Rate 20V P-P

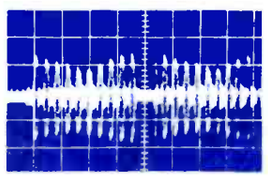

12. Horiz. Rate 205V P-P

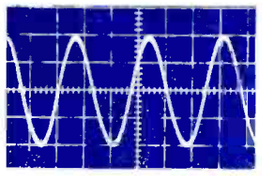

13. Vert. Rate 120V P-P

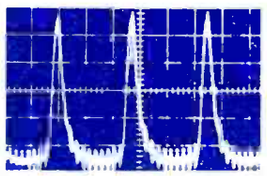

14. Horiz. Rate 300V P-P

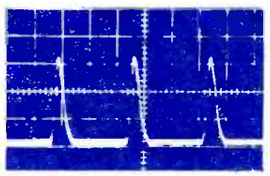

15. Horiz. Rate 2.4V P-P

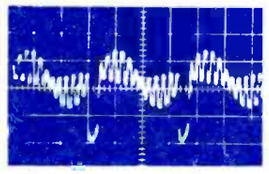

*16. Horiz. Rate 6.8V P-P

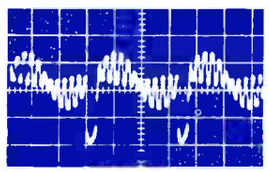

*17. Horiz. Rate 6.8V P-P

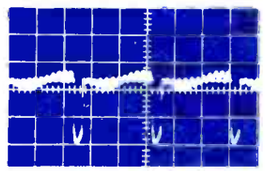

18. Horiz. Rate 8.0V P-P

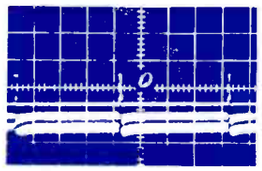

*19. Horiz. Rate 60V P-P

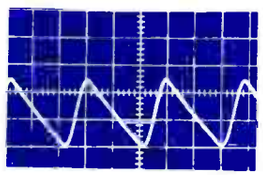

*20. Horiz. Rate 165V P-P

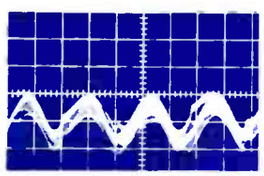

*21. Horiz. Rate 170V P-P

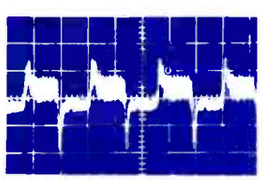

*22. Horiz. Rate 170V P-P

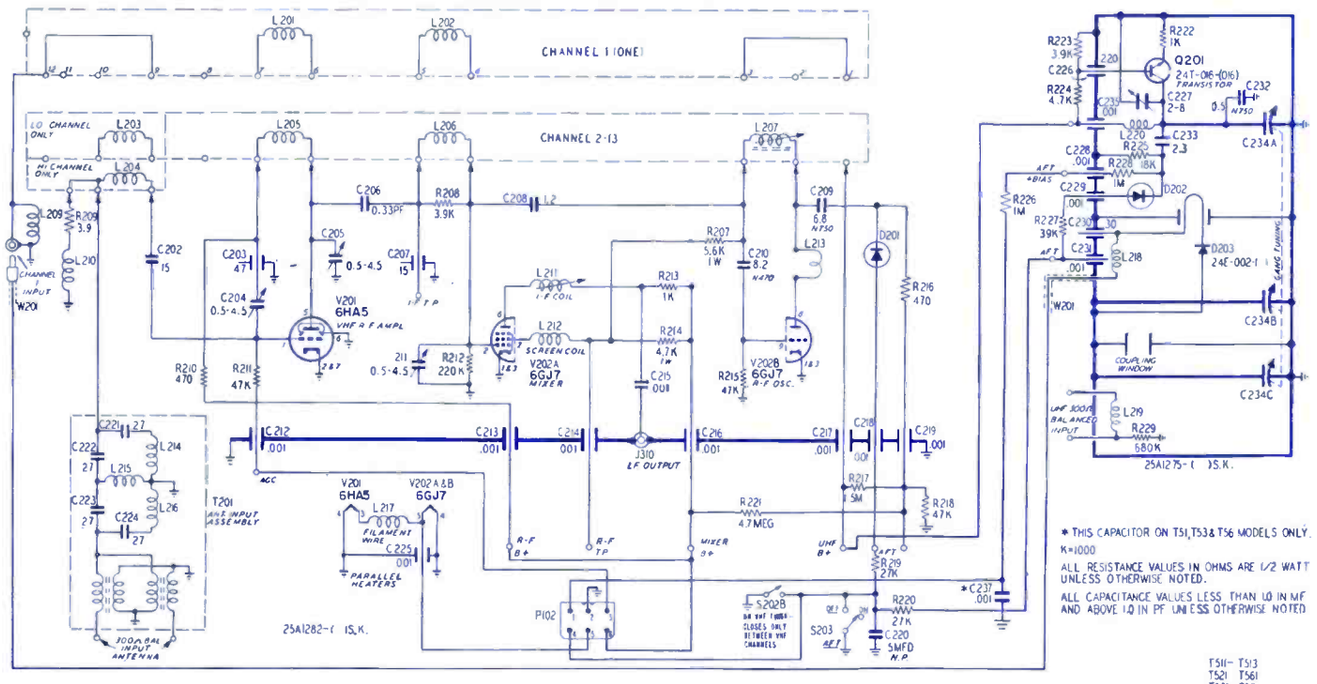

*23. Horiz. Rate 135V P-P

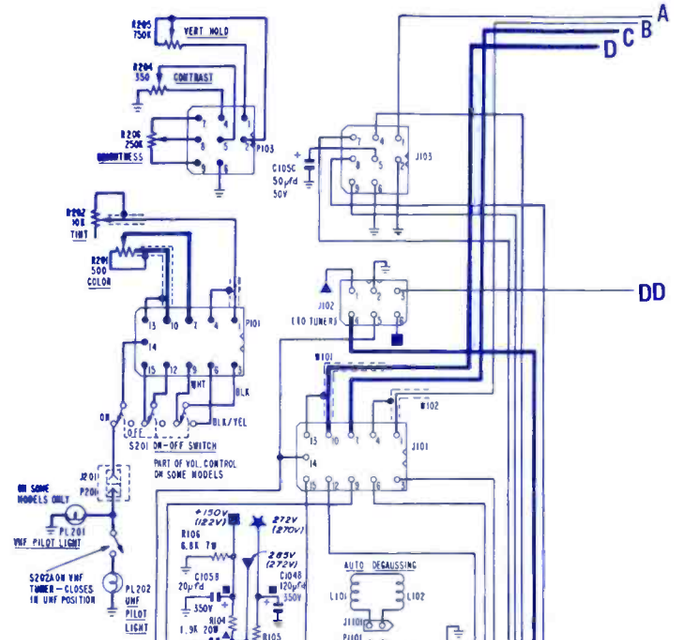

*24. Vert. Rate 125V P-P

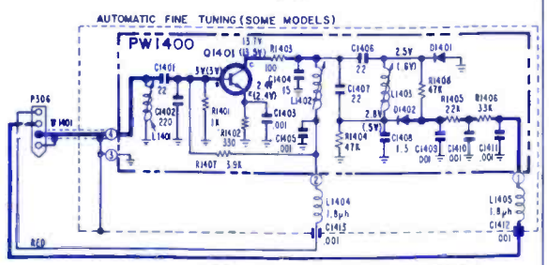

*25. Vert. Rate 13.0V P-P

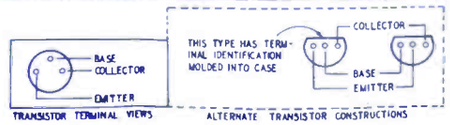

*26. Vert. Rate 0.4V P-P


*27. Horiz. Rate 10.6V P-P



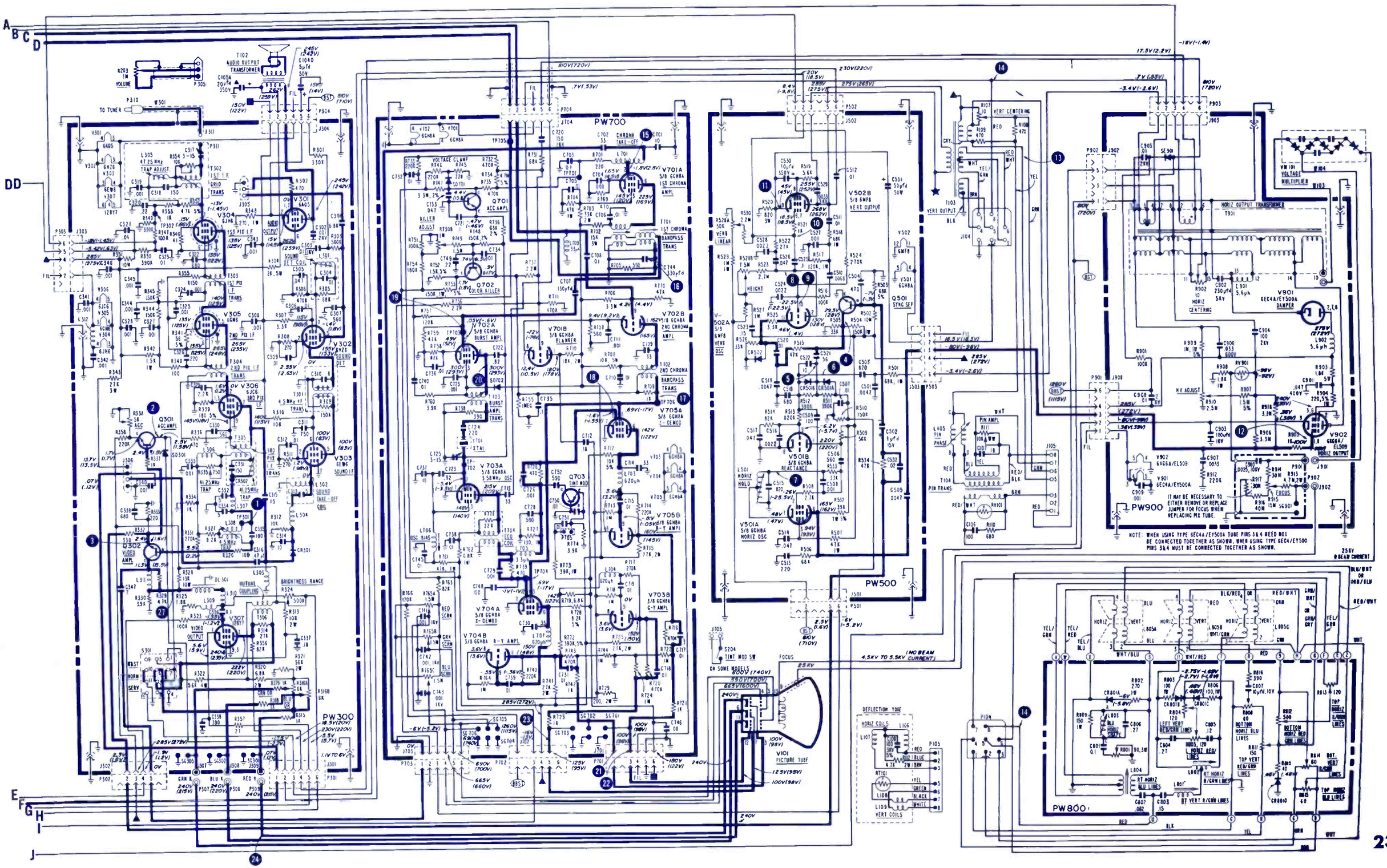






SYMBOL	DESCRIPTION	CHANNEL MASTER PART NO.
C104A	200 µf, 350v, electrolytic	45X0536-001
C104B	120 µf, 350v, electrolytic	45X0536-001
C104C	80 µf, 350v, electrolytic	45X0536-001
C104D	5 µf, 50v, electrolytic	45X0536-001
C105A	20 µf, 350v, electrolytic	45X0539-001
C105B	20 µf, 350v, electrolytic	45X0539-001
C105C	50 µf, 50v, electrolytic	45X0539-001
R107	10 Ω, vert centering	40X0608-001
R111	10K, pin amp control	40X0677-004
R204	350 Ω, contrast control	40X0594-003
R205	750K, vert hold control	40X0585-048
R206	250K, brite control	40X0585-063
R324	500K, brite range control	40X0590-009
R335	750 Ω, 41.25MHz trap control	40X0590-007
R338	5K, AGC control	40X0590-008
R528A	50K, vert lin control	40X0614-003
R528B	7.5M, height control	40X0614-003
R730B	1M, killer control	40X0614-004
R902	10 Ω, horiz centering control	40X0619-001
R915	15M, focus control	40X0618-001
R916	40M, HV film	43X0451-004
L302	sound takeoff coil	9A2697-001
L308	coil, 4.5MHz trap	9A2686-002
L501	coil, horiz osc	9A2708-001
T101	power xformer	53X0445-002
T102	audio output xformer	51X0249-001
T103	vert output xformer	51X0248-001
	vert output xformer	38A4145-000
T701	1st bandpass xformer	9A2661-003
T702	2nd bandpass xformer	9A2709-001
T704	ECO xformer	9A2660-002
T901	horiz output xformer	53X0453-001
CB-101	circuit breaker	2A0610-001
RV-101	varistor (white dot or band)	43X0456-001
RV-901	varistor (black & blue dot or bands)	43X0457-004
RV-1101	varistor	43X0454-001
RT-101	thermistor	43X0453-001
RT-1101	thermistor	43X0455-002

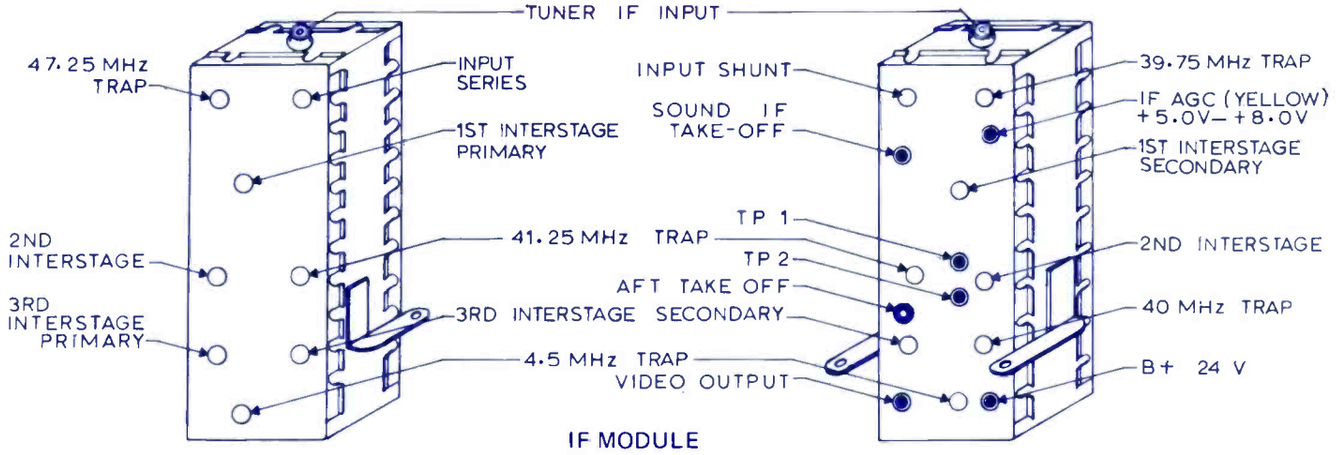
CHANNEL MASTER
Color-TV Chassis
T5001 Series



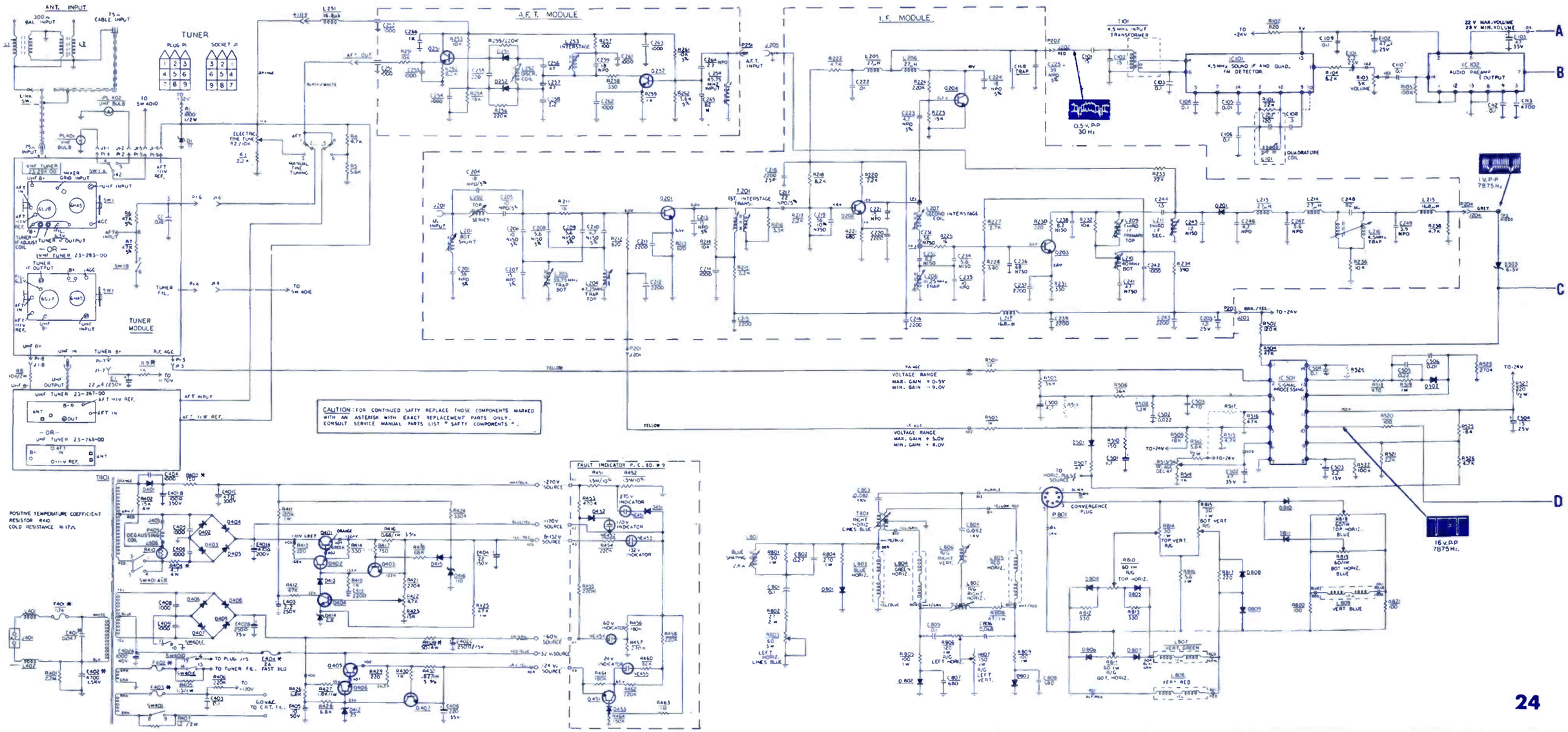
ELECTRO-HOME
Color-TV Chassis-C12

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	ELECTROHOME PART NO.
T101	xformer, sound Input	21-1121-01
L722	coil, chroma osc	21-1122-01
T721	xformer, chroma ref output	21-1123-01
R359	bright limiter cont 100K	41-265-15
L901	coil, horiz osc	21-1070-02
T901	xformer, horiz buffer	24-170002-01
R422	cont, HV adj	41-192-24
R316	cont, 470 contrast	41-263-03
R328	cont, 750 bright	41-263-04
R325	cont, 2K detail	41-263-02
R609	cont, 20K vert	41-263-05
R942	cont, horiz centering 470 Ω 3W	41-281-01
VT901	voltage tripler	28-32-01,02,03
T902	horiz output xformer	21-229-01
T401	power xformer	24-10157-01
R513	RF AGC delay 5K	41-227-65
R658	vert center 1K	41-228-33
R964	focus 10M	41-251-02
E401A	470μf 200v electr	44-203-19
E401B	100μf 250v 3 section	
E401C	47μf 300v	
E402A	1000μf 40v electr	44-203-20
E402B	250μf 75v 3 section	
E402C	250μf 75v	
F401	1.7 a chemically activated fuse	27-25-01



IF MODULE



ELECTROHOME
Color-TV Chassis
C12

TRANSISTOR CROSS REFERENCE CHART

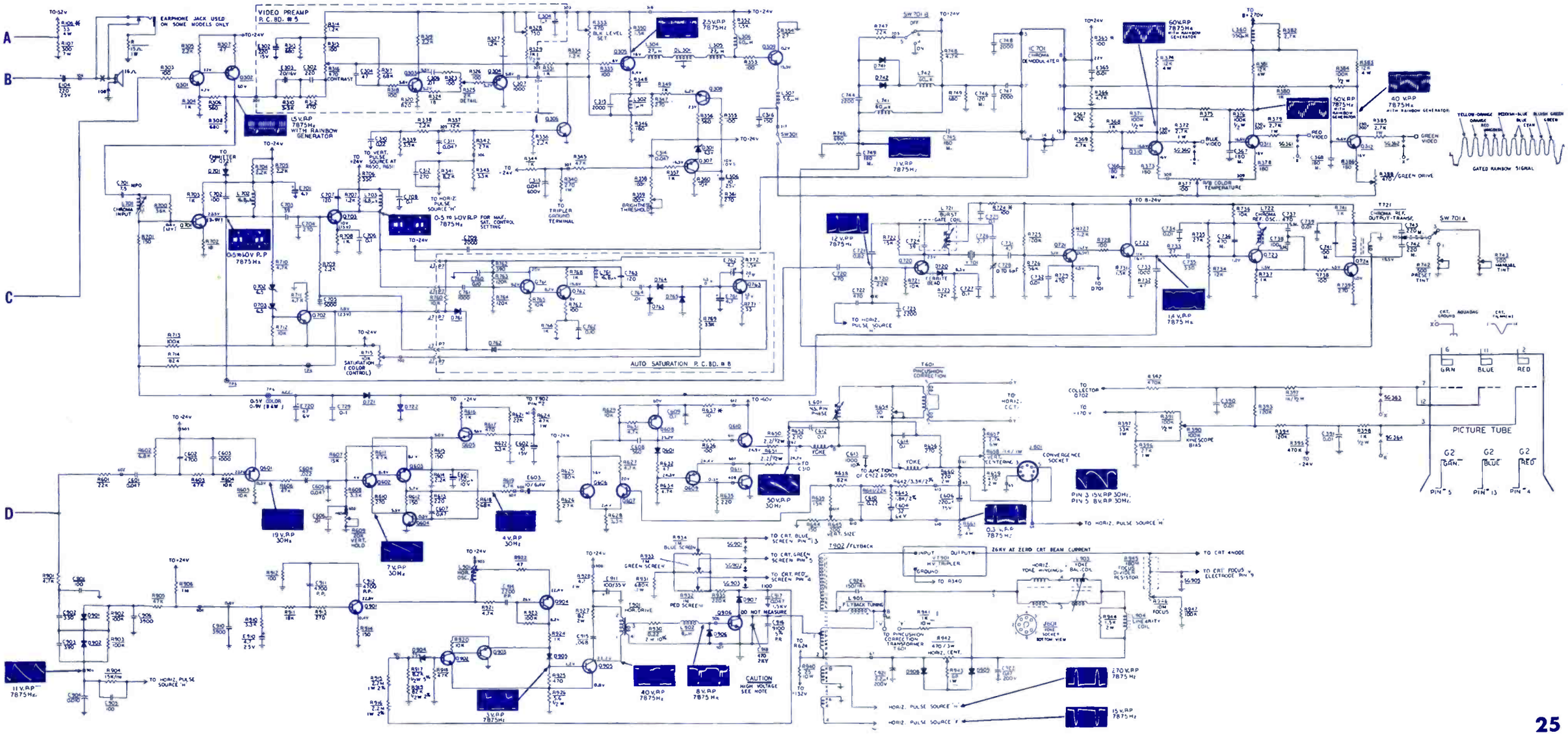
SYMBOL	ELECTROHOME LTD. PART NO.	BASING	FUNCTION
IC101	14-2008-01	INDEX DOT, 14	SOUND IF AND FM DETECTOR
IC102	14-2009-01	INDEX DOT, 14	POWER AUDIO OUTPUT
IC501	14-2011-01	INDEX DOT, 14	SIGNAL PROCESSING
IC701	14-2010-01	INDEX, 14	CHROMA DEMODULATOR
Q201	14-653-21	E B C, CASE	IST IF AMPLIFIER
Q202	14-654-21	E B C	2ND IF AMPLIFIER
Q203			3RD IF AMPLIFIER
Q252			AFT RF AMPLIFIER
Q703	14-660-12	B E C	CHROMA BANDPASS OUTPUT
Q204	14-661-21	E B C	SOUND DETECTOR
Q251			AFT DC AMPLIFIER
Q303			IST PEAKING AMP.

SYMBOL	ELECTROHOME LTD. PART NO.	BASING	FUNCTION
Q304	14-862-32	C B E	2ND PEAKING AMP.
Q307			BRIGHTNESS LIMIT THRESHOLD
Q301	14-809-23	B C E	IST VIDEO AMP.
Q302	14-856-23	B C E	2ND VIDEO AMP.
Q702			COLOR KILLER
Q309	14-857-12 OR 14-867-32	B E C, C B E	VIDEO DRIVER
Q310	14-901-12 OR 14-904-12	PART NO., C B E	BLUE VIDEO OUTPUT
Q311			RED VIDEO OUTPUT
Q312			GRN. VIDEO OUTPUT
Q402		C B E	+132V REG. DRIVER
Q404			+132V ERROR AMP.
Q601	14-803-12	B E C	VERT. SYNC INVERTER
Q903			HOLD DOWN DRIVER
Q602	14-805-12 OR 14-858-12	B E C	VERT. OSC.
Q403			+132V CURRENT LIMIT
Q604			VERT. OSC.
Q605			VERT. B+ REG.

Q305	14-802-12	B E C	DELAY LINE DRIVER
Q306			H & V BLANKER
Q308			BRIGHTNESS LIMIT DR.
Q406			+24V REG. DRIVER
Q407			+24V CURRENT LIMITER
Q451			+24V FAULT SWITCH
Q607			LINEARITY COMPARATOR
Q701			IST CHROMA AMP.
Q720			REF. BURST GATE
Q721			IST REF. BUFFER
Q722			ACC BUFFER
Q723			REF. OSCILLATOR
Q724			REF. OUTPUT
Q761			AUTO. SAT. RF BUFFER
Q762			AUTO. SAT. RF AMP.
Q763			AUTO. SAT. DC AMP.
Q901			REACTANCE CONTROL
Q606	14-805-12	B E C	LINEARITY COMPARITOR

Q608 Q609	14-807-12	B E C	VERT. OUTPUT DRIVERS
Q603 Q904	14-807-12 OR 14-861-12	B E C	VERT. OSC. HOR. OSC.
Q902	14-801-23	B C E	HOLD DOWN MULTIVIBRATOR
Q401	14-601-26	E B	+132 V REGULATOR
Q906	14-601-27	E B	HORIZONTAL OUTPUT
Q905	14-910-13	PART NO., B C E	HORIZONTAL DRIVER
Q610 Q611	14-905-23	PART NO., E B	VERTICAL OUTPUTS
Q405	14-909-23	PART NO., E B	+24V REGULATOR

THE DASH NO'S. OF NEW ELECTROHOME TRANSISTOR PART NO'S. RELATE TO LEAD IDENTIFICATION. EMITTER = 1, BASE = 2, COLLECTOR = 3. FIRST 2 LEADS READ FROM LEFT, WHILE LEADS ARE FACING YOU AND FLAT OR OPEN TRIANGLE POINT DOWNWARD, CONSTITUTE THE DASH NUMBERS.



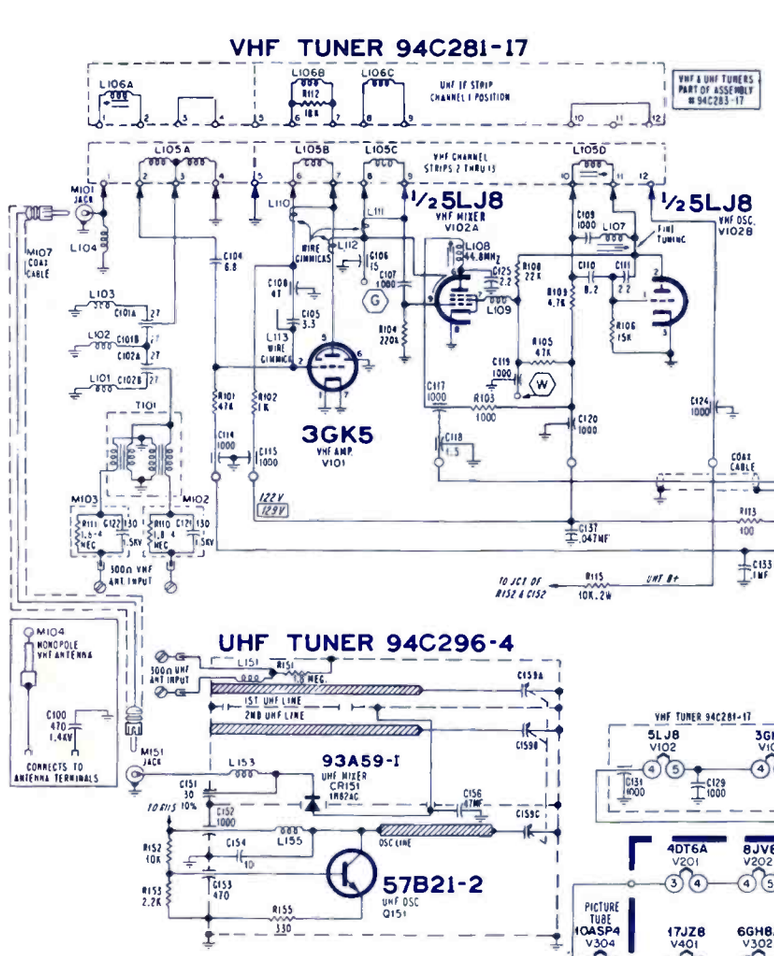
EMERSON
TV Chassis
T2R2-1A

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	EMERSON PART NO.
R208	500K volume control (includes R320 and S501)	970989
R320	25K video control	970989
R418	5M vert height control	970001
R422	1.2M vert hold control	75A100-8
R502	5.5Ω, fusible resistor	61A48-1
R503	750Ω, 5w, 10% resistor	970990
R504	100Ω, 5w, 10% resistor	61A20-76
C432	100 μf, 4kv, 10%, N1500, cer disc	970994
C504A	150 μf, 165v elect	970996
C504B	150 μf, 150v elect	970996
C504C	200 μf, 150v elect	970996
L201A	sound IF coil	72A301-2
L201B	sound IF coil	72A301-2
L202	quad coil (includes C207)	970383
L309	video peaking coil	73A5-20
L401	horiz hold coil	94A17-19
T201	audio output xformer	79A124-5
T303	sound take-off and 4.5MHz trap	72A185-5
T401	vert output xformer	79A139-4
T402	defleciton yoke	94A372-1
T403	horiz output xformer	970998

MODEL/CHASSIS CROSS-REFERENCE CHART

MODEL NO.	MODEL TYPE.	CHASSIS NO.	PICTURE TUBE	VHF TUNER	UHF TUNER
9FP02	(Plastic) Beige-White	T2R2-1A	10ASP4	971034	94A296-4
9FP03	(Plastic) Green-White	T2R2-1A	10ASP4	971034	94A296-4
9FP04W	(Plastic) Walnut-Black	T2R2-1A	10ASP4	971034	94A296-4

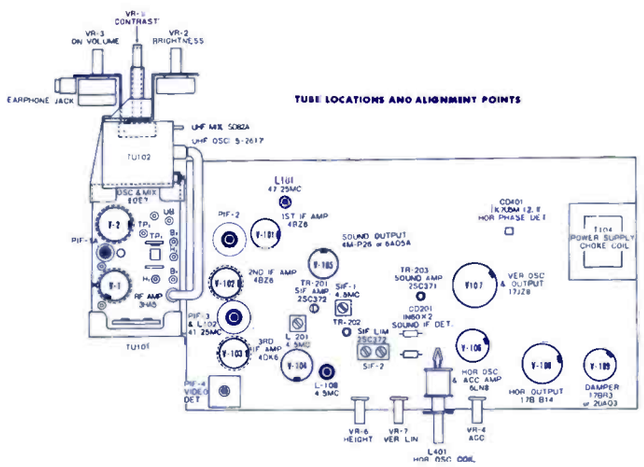


EMERSON

TV Model
12HP02

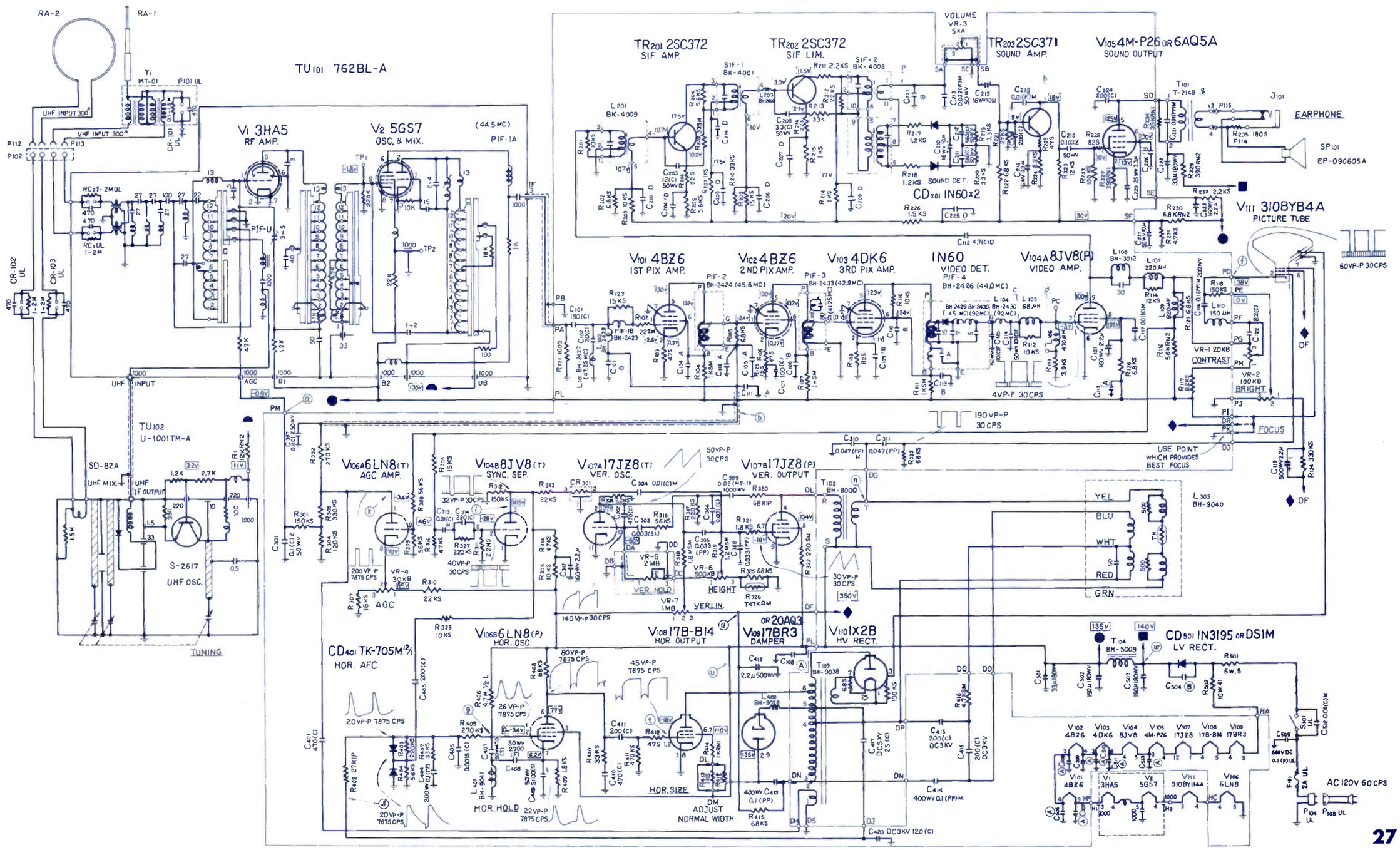
ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

SYMBOL	DESCRIPTION	EMERSON TV PART NO.
TR-201, 202	transistor	983742
TR-203	transistor	983743
SIF-2	sound detector xformer 4.5MHz	983750
L201	sound take off coil 4.5MHz	983759
L303	deflection yoke assembly	983760
L401	horiz osc coil with knob	983761
T101	sound output xformer	983762
T102	vert output xformer	BH-8000
T103	horiz output xformer	983763
T104	filter choke-power supply	983764
C417	ceramic capacitor-25pf ± 10% 5kv	983765
C222, 501, 502	electrolytic capacitor-150+150+33	
503	+33 µf at 180v	983771
CR301	couplate-vert integrator	03900
VR-1	control-cont	983778
VR-2	control-bright	983779
VR-3	control-on volume	983780
VR-4	control-AGC	983781
VR-5	control-vert hold	983782
VR-6	control-height	983783
VR-7	control-vert lin	983784
TU101	VHF tuner 762BL-A	983785
TU102	UHF tuner U-1001 TM-A	983786



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
V-1	3HA5	280K	0	(FILAMENT)		*1.2K	0	0	...	...	...
V-2	5GS7	10K	250K	0	(FILAMENT)		* 1K	0	0	220K	...
V-101	4BZ6	700K	47	(FILAMENT)		* 1K	* 1K	0	...	...	...
V-102	4BZ6	700K	47	(FILAMENT)		* 1K	* 1K	0	...	...	...
V-103	4DK6	0	82	(FILAMENT)		* 1K	* 1K	0	...	...	...
V-104	8JV8	0	3.9M	26K	(FILAMENT)		0	120	* 0	*4.7K	...
V-105	4M-P26 or 6AQ5A	100K	390	(FILAMENT)		*620	*2.2K	NC	...	...	...
V-106	6LN8	450K	330K	* 0	(FILAMENT)		* 68K	1.8K	18K to 48K	56K	...
V-107	17JZ8	(FIL)	1.8M to 2.8M	NC	*150	NC	1.2M to 1.7M	1.2M to 1.7M	*220	0	500K to 2.5M
V-108	17B-B14	470K	470K	0	(FILAMENT)		* 1K to 2K	* 1K to 2K	0	NC	...
V-109	17BR3	NC	* 0	NC	(FILAMENT)		NC	NC	NC	* 0	...
V-110	1X2B	INF	INF	INF	INF	INF	INF	NC	INF	INF	(CAP) 1.2M
V-111	CRT 310BYB4A	68K	180K to 280K	(FILAMENT)		67K	260K	...	...	...	...

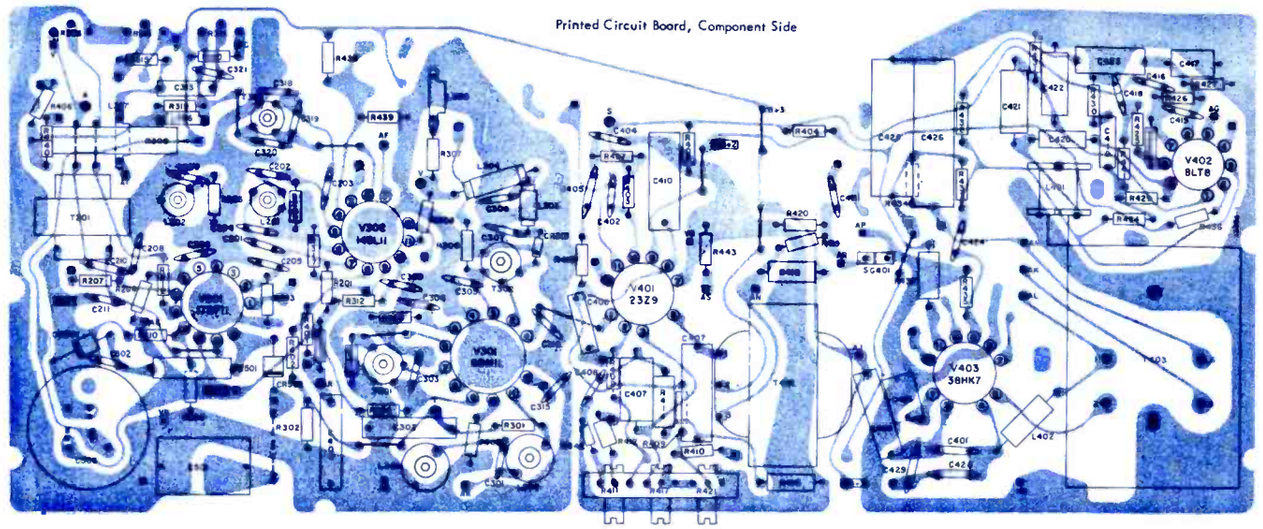


EMERSON
TV Chassis
T8K3-1B

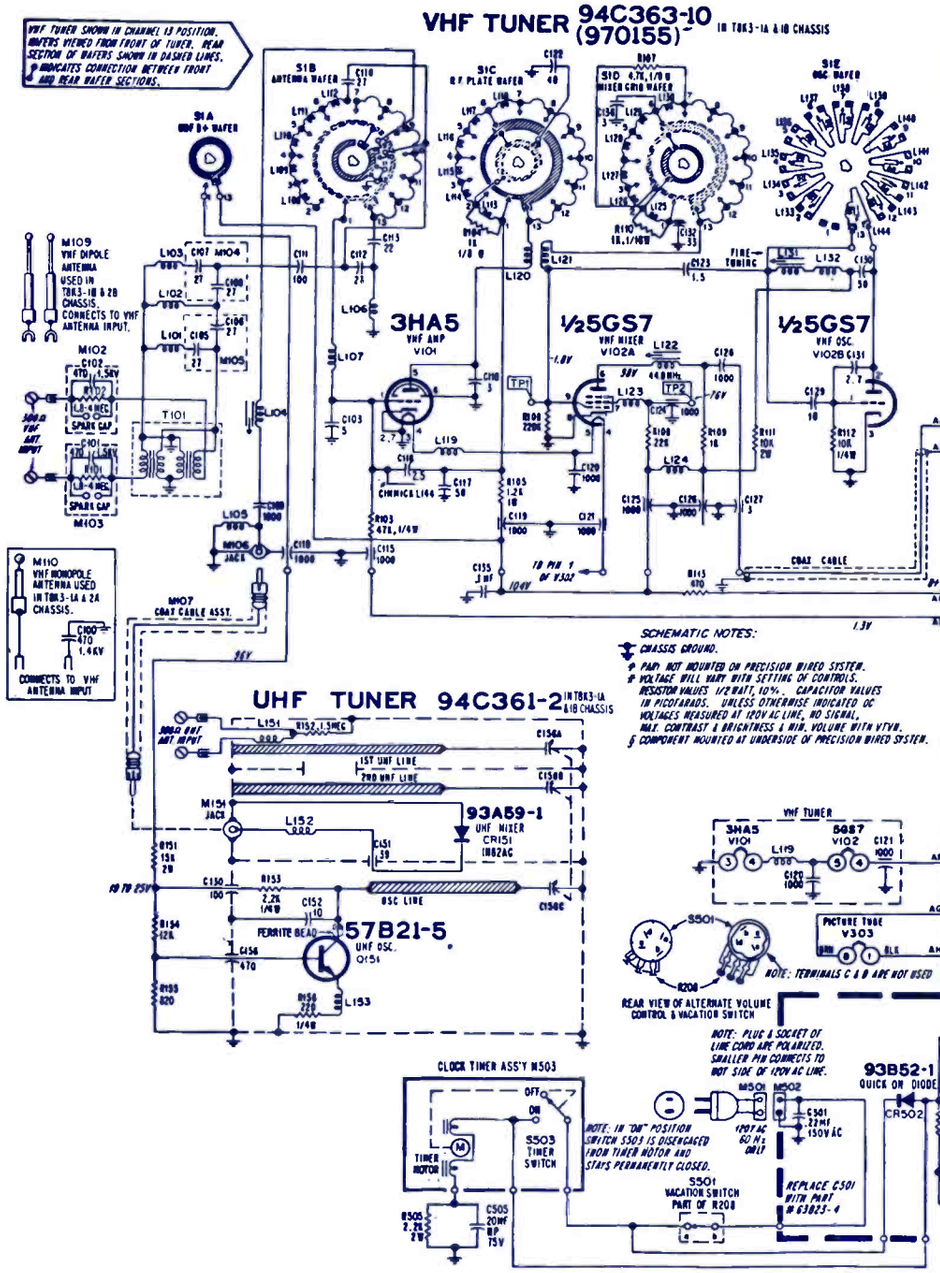
ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	EMERSON PART NO.
R208	1M volume control and on-off switch S501	75A1-176
R311	30K contrast control	970103
R313	100K brightness control	970104
R320	varistor	61A46-6
R411	3M height control	Part of 75A129-3
R417	1.2M vertical hold control	Part of 75A129-3
R421	500K vertical linearity control	Part of 75A129-3
R501	5.5 Ω fusible	61A48-1
L201	sound IF & phase shift coil (includes C213)	72A301-4
L202	quadrature coil (includes C207 & R205)	970013
L301	47.25MHz trap	72A308-8
L401	horiz lock coil	94A17-21
T201	audio output xformer	79A124-3
T303	sound take-off & 4.5MHz trap	72A185-7
T401	vertical output xformer	79A139-2
T402	deflection yoke assembly	970116
T403	horiz output	79A138-4
CR301	diode, video detector (IN541)	93A25-3

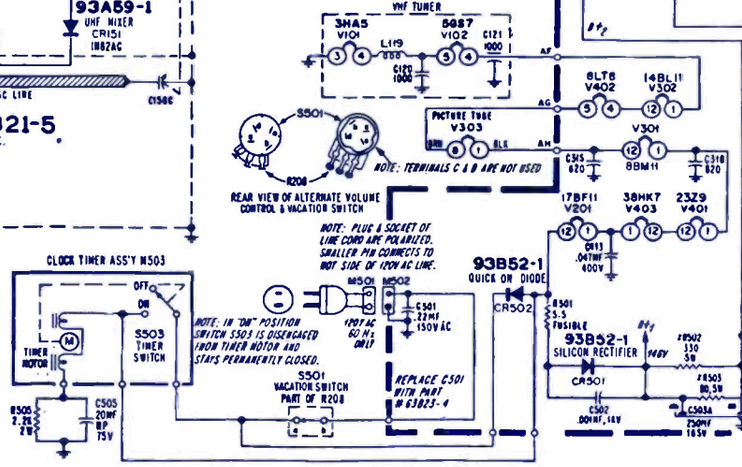
Printed Circuit Board, Component Side



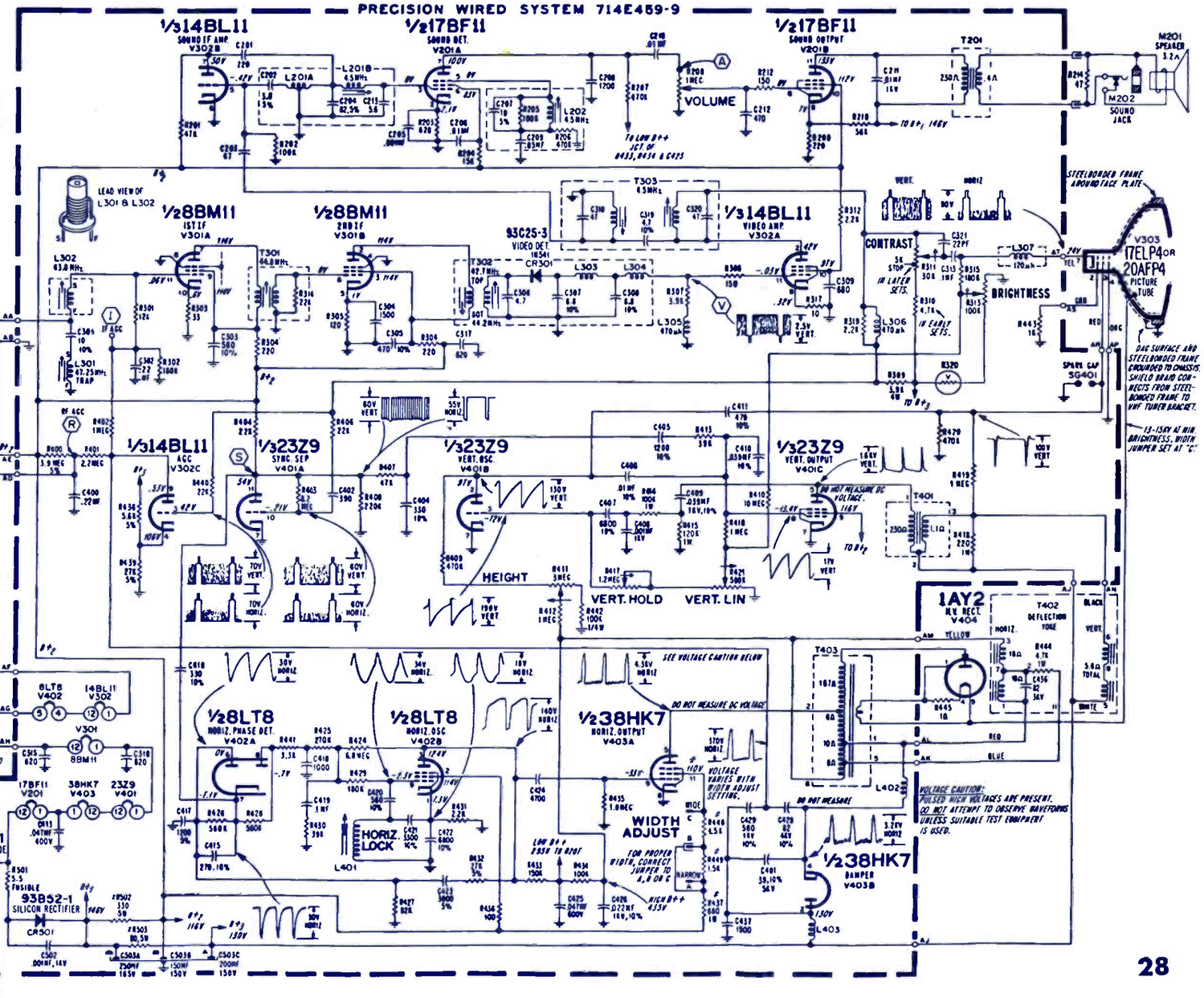
VHF TUNER 94C363-10 (970155) IN T8K3-1A & 1B CHASSIS



UHF TUNER 94C361-2 IN T8K3-1A & 1B CHASSIS



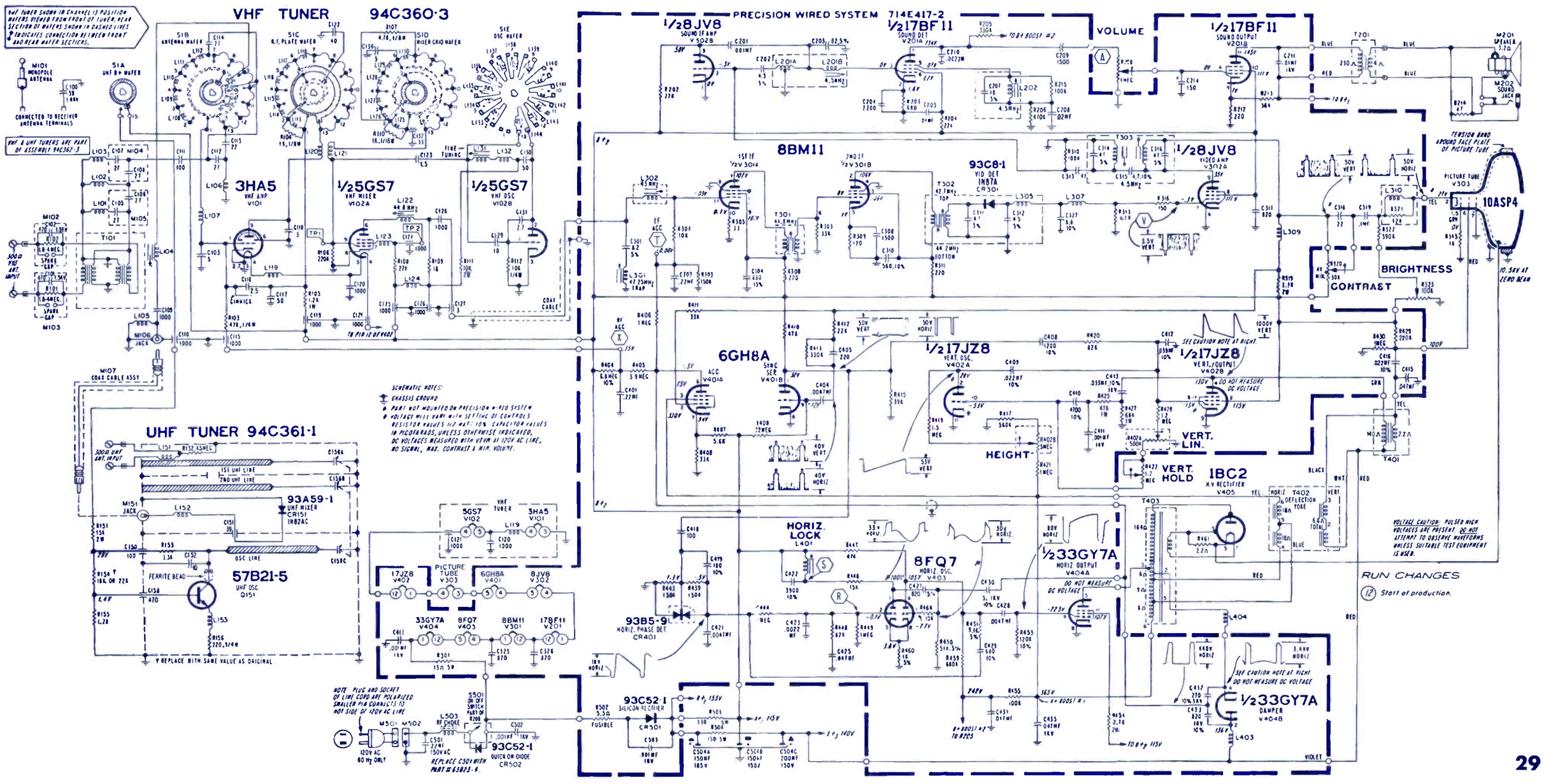
PRECISION WIRED SYSTEM 714E459-9



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.
§ COMPONENT MOUNTED AT UNDERSIDE OF PRECISION WIRED SYSTEM.

EMERSON
TV Chassis
T2L2-1A

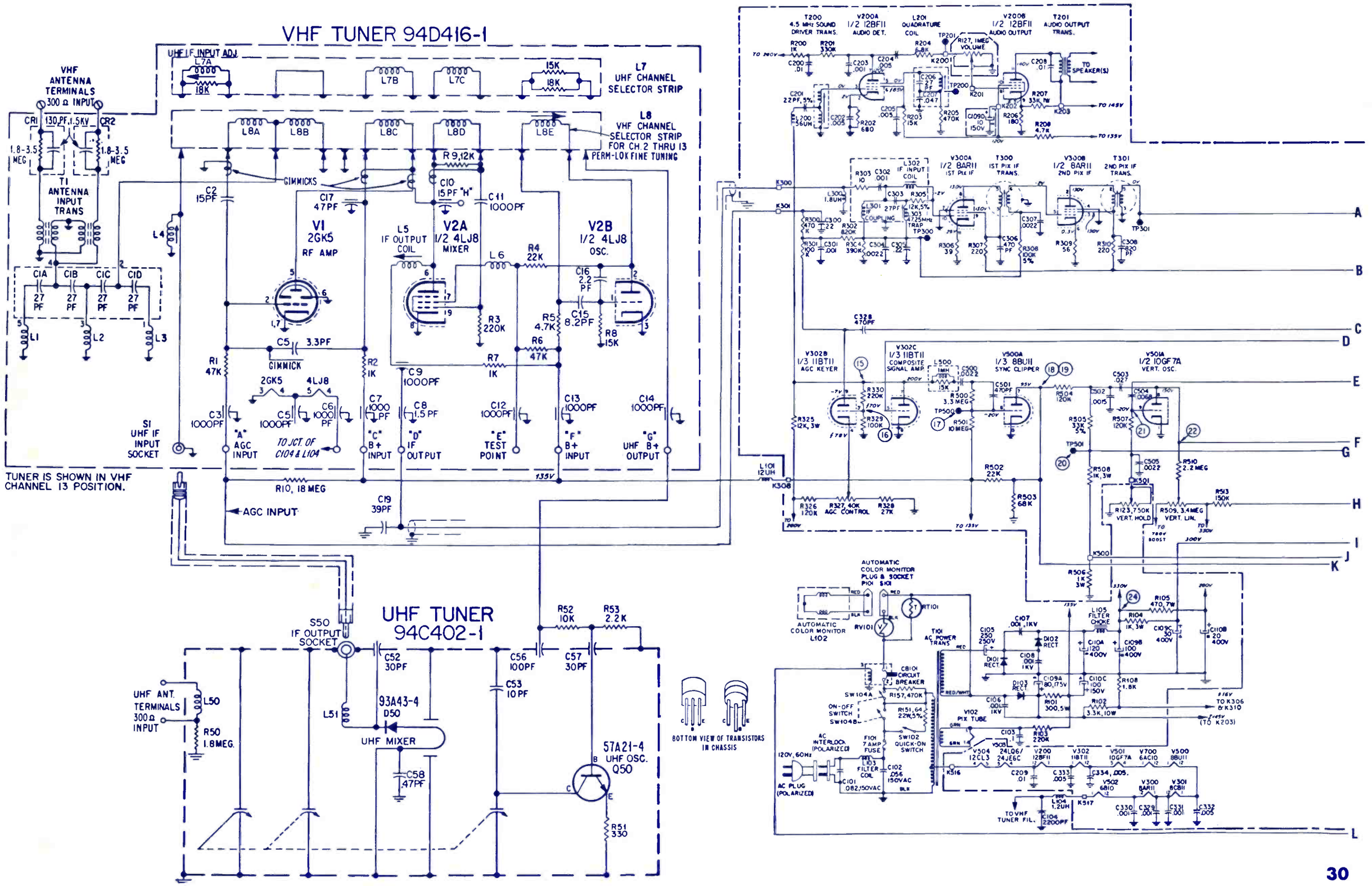
SYMBOL	DESCRIPTION	EMERSON PART NO.
R208	1M volume control	75A120-1
R320	30K contrast control	75A121-3
R323	100K bright control	75A121-2
R402A	500K, vert lin control	
R402B	5M height control	75A95-6
R422	1.2M, vert hold	75A121-1
C504A	150μf, 165v	
C504B	150μf, 150v Electrolytic	970382
C504C	200μf, 150v	
L201A L201B	Sound IF & phase shift coil	72A301-2
L202	quad coil (includes C207)	970383
L401	horiz lock coil	94A17-17
T201	audio output xformer	79A81-23
T301	1st IF xformer	970384
T302	2nd IF xformer	72A261-8
T303	sound take-off & 4.5 MHz trap	72A185-5
T401	vert output xformer	970385
T402	deflection yoke assembly	94A372-1
T403	horiz output xformer	79A138-5



EMERSON
Color TV Chassis
30K17

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	EMERSON PART NO.
R119	66M, 6kv	60A30-5
R121	3M, focus adjust control (K17)	.970807
R121	12M, focus adjust control	.970806
R123	750K, vert hold control	.971430
R127	1M, vol control on/off switch	75A179-6
R128	250 Ω, contrast control	.971432
R130	100K, bright control	.971433
R131	500Ω, color control	75A149-7
R133	50K, tint control	.971434
R509	3.4M, vert lin control	75A155-5
R517	100K, vert height control	part of R509
RT101	thermistor, degaussing	61A60-1
RV102	2ma@95v VDR	61A61-1
RV500	1ma@870v VDR	61A65-1
C109A	80 µf 175v elect	
C109B	100 µf 400v elect	
C109C	30 µf 400v elect	67A76-1
C109D	10 µf 150v	
C110A	120 µf 400v	
C110B	20 µf 400v	67A75-1
C110C	100 µf 150v	
C110D	4 µf 400v	
L105	filter choke	74A31-1
L201	quad coil	72A366-1
L501A	horiz osc coil	72A373-1
L501B	horiz osc coil	72A373-1
L700	5.6 µh RF choke	73A125-3
DL300	delay line	72A372-1
T101	power xformer	80A116-1
T102	vert output xformer	79A153-2
T103	horiz output xformer	79A162-1
T200	sound take off & 4.5HMz trap	72A361-1
T201	audio output xformer	79A151-1
T700	chroma take off	72A368-1
T701	chroma bandpass	72A35B-1
T702	Xtal filter xformer	72A362-1
CB101	circuit breaker	84A31-1
F101	fuse, 7a, 125v type	84A30-1



NOTES

1. ALL RESISTORS ARE 1/2 WATT, 10%, UNLESS OTHERWISE NOTED.
2. ALL CAPACITORS ARE IN MFD, UNLESS OTHERWISE NOTED.
3. CAUTION: USE ISOLATION TRANS WHEN WORKING ON CHASSIS.
4. DC VOLTAGES MEASURED WITH "VTVM" PLACED BETWEEN POINTS INDICATED & CHASSIS GND, WITH NORMAL SIGNAL INPUT

(*) INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONT. AT MAXIMUM ROTATION (FULLY CW).

(**) INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONT. AT MINIMUM ROTATION (FULLY CCW).

ƒ INDICATES VOLTAGE READINGS TAKEN WITH COLOR BAR GENERATOR PRODUCING 3VPP AT TP303.

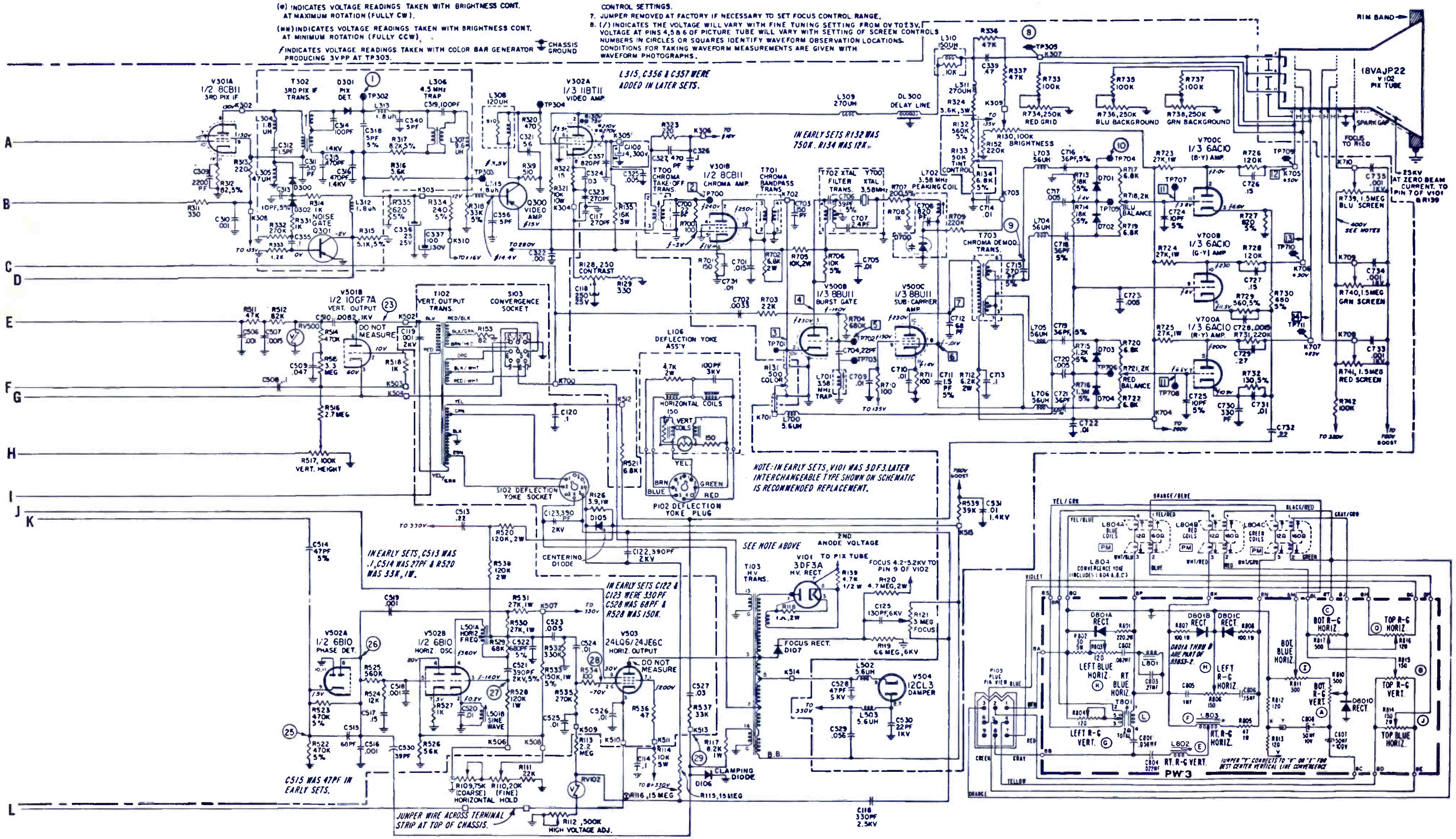
CHASSIS GROUND

5. WAVEFORMS ARE TAKEN WITH NORMAL SIGNAL INPUT.
6. LINE VOLTAGE INPUT SET AT 120 VAC.

ƒ INDICATES THESE VOLTAGES WILL VARY WITH VIDEO CONTENT OF THE PICTURE BEING RECEIVED AND ARE AVERAGE READINGS.

(0) INDICATES THESE VOLTAGES WILL VARY WITH BACKGROUND CONTROL SETTINGS.

7. JUMPER REMOVED AT FACTORY IF NECESSARY TO SET FOCUS CONTROL RANGE.
8. (/) INDICATES THE VOLTAGE WILL VARY WITH FINE TUNING SETTING FROM 0V TO ±3V. VOLTAGE AT PINS 4,5 & 6 OF PICTURE TUBE WILL VARY WITH SETTING OF SCREEN CONTROLS NUMBERS IN CIRCLES OR SQUARES IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.



EMERSON
Color-TV Chassis
32K1673-32, 1686-4,
1687-2

ELECTRONIC TEKFAX
TECHNICIAN/DEALER

SYMBOL	DESCRIPTION	EMERSON PART NO.
R258	1M, volume control	971571
R301	10K, adj, rej, control	75A101-8
R315	750Ω, sound rej. control	75A101-3
R321	8.2K, 3w	970432
R401	60K, AGC control	75A101-9
R468	300K, vert lin control	970435
R474	120Ω, thermistor	61A50-3
R475	67ma, 20v, VDR	61A51-1
R504	1M, color killer control	970436
R701	500Ω, color control	75A149-3
R703	100K, vert hold control in 25-in. picture tube sets	75A134-6
R703	100K, vert hold control in 21-in. picture tube sets	75A127-9
R704	3.4M, vert size control	75A96-20
R707	1.1K, tint control	75A149-4
R708	250K, bright control in 25-in. picture tube sets	75A134-5
R709	250K, bright control in 25-in. picture tube sets	75A127-8
R709	250Ω, contrast control in 25-in. picture tube sets	75A134-4
R709	250Ω, contrast control in 21-in. picture tube sets	970447
R710	3.4M, master bright control	970449
R724	VDR	61A46-13
R725	2.8M, high voltage adj.	970452
R728	10Ω, vert center control	75A64-17
R732	15M, focus control	75A108-2
R739	VDR	61A46-2
R745	3.8Ω, thermistor	61A27-1

RUN CHANGES

(13) Start of production.

(14) Component part numbers of HV housing assembly (except T704) changed to eliminate possibility of 15KHz buzz.

(15) Set-up switch S701 not in later sets.

(16) To limit high voltage range, R726 was changed from 820K to 1meg, C726 was changed from 15pf to 47pf.

(17) No service significance

SCHEMATIC NOTES

VOLTAGE READINGS SHOWN IN BRACKETS ( ) TAKEN WITH COLOR SIGNAL. VOLTAGE READINGS WITHOUT BRACKETS, INDICATES READING TAKEN WITHOUT SIGNAL, TUNER SET AT UNUSED CHANNEL.

TO PREVENT LOADING IN CRITICAL STAGES, USE A 47K, 1/2 W ISOLATING RESISTOR AT END OF TEST PROBE.

† INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONTROL AT MINIMUM ROTATION (FULLY CCW.) VOLTAGES IN VIDEO CIRCUITRY WILL VARY WITH VIDEO CONTENT OF PICTURE BEING RECEIVED. VOLTAGES SHOWN ARE TYPICAL READINGS.

△ INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONTROL AT MAXIMUM ROTATION (FULLY CW. BUT BELOW BLOOMING.)

§ INDICATES VOLTAGE WILL VARY WITH SETTING OF CONTROLS.

SCHEMATIC NOTES CONT'D

* PART MOUNTED ON CHASSIS OR OTHER ASSEMBLY.

⏚ CHASSIS GROUND.

PART MOUNTED ON BOTTOM OF 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.

VOLTAGES MEASURED WITH VTVM AT 120 VOLTS AC LINE. NO SIGNAL ON UNUSED UHF CHANNEL. ALL CONTROLS IN NORMAL OPERATING POSITION.

J707 SOCKET WIRING VIEW CONNECTS TO PTOT ON TUNER CLUSTER SCHEMATIC.

Q801 TRANSISTOR
E=EMITTER
B=BASE
C=COLLECTOR
S=SHIELD

J702 TUNER SOCKET WIRING VIEW

P706 PREF. CORD PLUG

CONNECTIONS TO P706 SHOWN ON THIS SCHEMATIC. P706 CONNECTS TO J706 SHOWN ON TUNER CLUSTER SCHEMATIC
⊃ INDICATES SOCKET TERM
— INDICATES PLUG TERM.

LINE CORD & INTERLOCK ARE POLARIZED. SMALLER PIN CONNECTS TO HOT SIDE OF AC LINE.

120V 60 Hz 285 WATTS

LINE CORD AND INTERLOCK

REPLACE C703 WITH PART NO. 63A23-1

C422 LOCATED INSIDE SHIELD CAN OF L401.

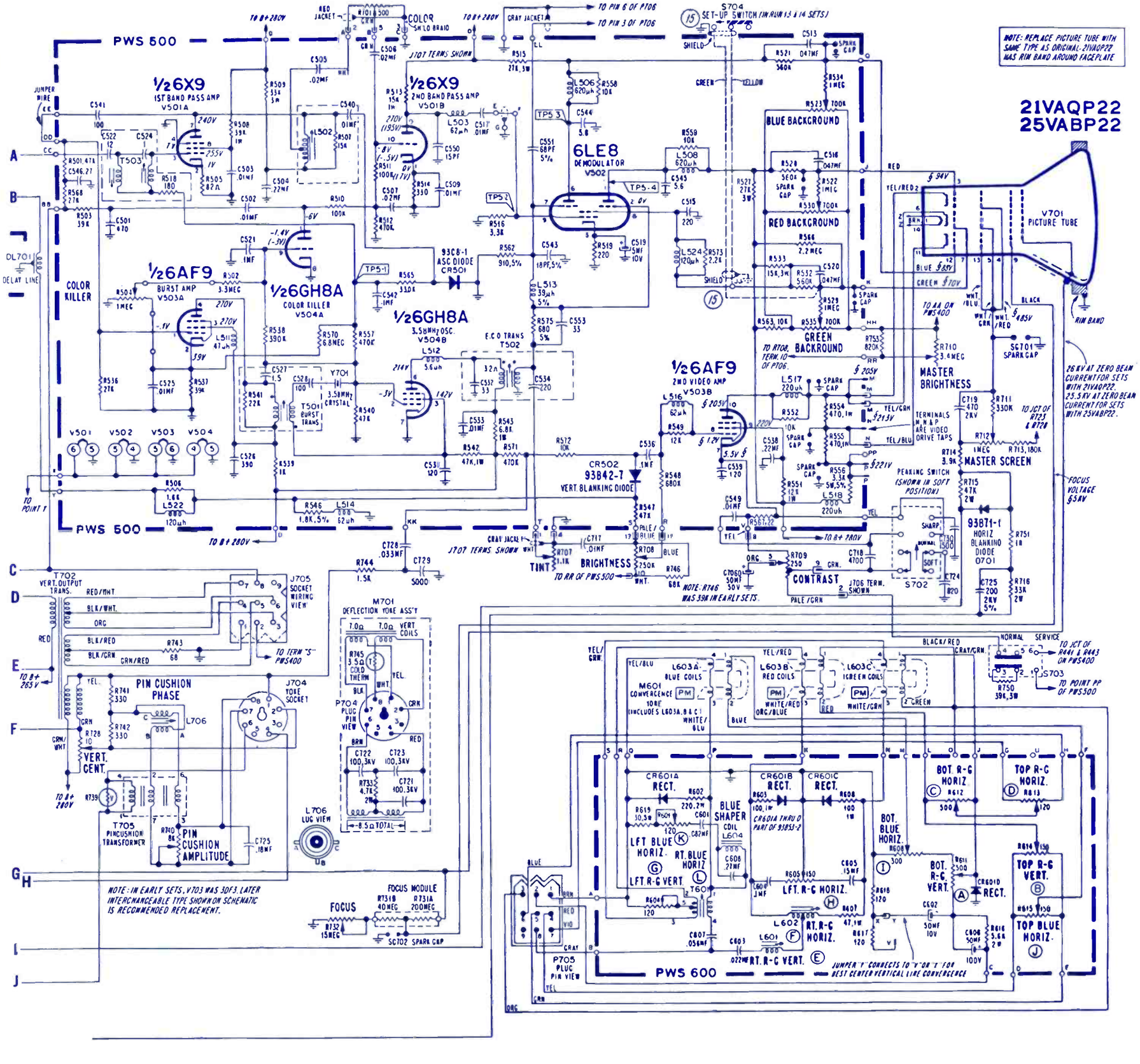
IMPORTANT: F701 & F702 LENGTH 2" MIN. 3" MAX.

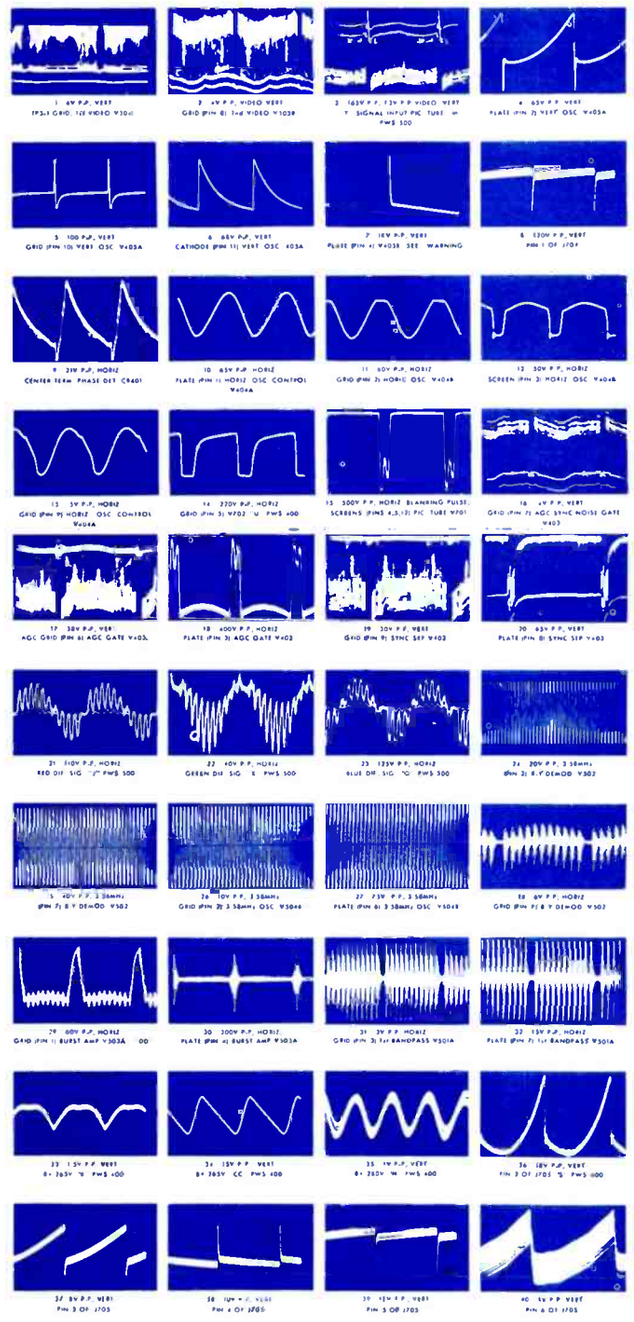
C705A—200 µf, 350v, multiple elect 970475
C705B—120 µf, 350v, multiple elect 970475
C705C—80 µf, 350v, multiple elect 970475
C706A—10 µf, 350v, multiple elect 970476
C706B—20 µf, 200v, multiple elect 970476
C706C—20 µf, 200v, multiple elect 970476
C706D—50 µf, 50v, multiple elect 970476
L401—sound takeoff coil 72A287-4
L402—quadrature coil 72A287-3

L502—bandpass coil 72A269-4
L702—filter choke 74A18-62
L703—horiz osc coil 94A268-4
T303—second IF xformer 72A251-8
T304—third IF xformer 72A220-2
T401—sound IF xformer 72A314-2
T501—burst xformer 72A284-4
T502—ECO xformer 72A285-2
T503—bandpass input coil 72A302-1

T701—audio output xformer 970485
T702—vert output xformer 79A106-5
T703—power xformer 80A104-4
T704—horiz output xformer 79A146-3
M701—deflect yoke for 21-in. picture tube sets 94A377-8
M701—deflect yoke for 25-in. picture tube sets 94A377-4
CB701—curcuit breaker 84A17-11
F703—fuse, 3a 84A28-11

EMERSON
Color-TV Chassis
32K1673-32, 1686-4, 1687-2





EMERSON
Color-TV Chassis
5K1675-2-3

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

RUN CHANGES

(17) PWS500 circuitry changed to standardize with other models. See other schematic for sets stamped RUN 16 or lower.

(18) V502 color demodulator circuit changed to increase color output.

(19) No service significance.

V502 CIRCUIT IN SETS STAMPED RUN 17

SCHEMATIC NOTES:

RESISTOR VALUES 1/2 WATT, 10% & CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE INDICATED. SEE SEPARATE SCHEMATIC FOR VHF-UHF TUNERS AND CONTROL CIRCUITRY.

VOLTAGES MEASURED WITH VTVM AT 120 VOLTS AC LINE. TO PREVENT LOADING IN CRITICAL STAGES, USE A 47K 1/2W ISOLATING RESISTOR AT END OF TEST PROBE.

( ) VOLTAGE READINGS SHOWN IN BRACKETS TAKEN WITH COLOR SIGNAL. VOLTAGE READING TAKEN WITHOUT SIGNAL, TUNER SET AT UNUSED CHANNEL.

† INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONTROL AT MINIMUM ROTATION (FULLY CCW.) VOLTAGES IN VIDEO CIRCUITRY WILL VARY WITH VIDEO CONTENT OF PICTURE BEING RECEIVED. VOLTAGES SHOWN ARE TYPICAL READING.

△ INDICATES VOLTAGE READINGS TAKEN WITH BRIGHTNESS CONTROL AT MAXIMUM ROTATION (FULLY CW, BUT BELOW BLOOMING).

$ INDICATES VOLTAGE WILL VARY WITH SETTING OF CONTROLS.

PARTS MOUNTED ON BOTTOM OF PRECISION WIRED SYSTEM.

? PART MOUNTED ON CHASSIS OR OTHER ASSEMBLY.

⏚ CHASSIS GROUND.

J707 SOCKET WIRING VIEW CONNECTS TO P707 ON TUNER CLUSTER SCHEMATIC.

Q801 TRANSISTOR
E=EMITTER
B=BASE
C=COLLECTOR
S=SHIELD

CONNECTIONS TO P706 SHOWN ON THIS SCHEMATIC. P706 CONNECTS TO J706 SHOWN ON TUNER CLUSTER SCHEMATIC.
⊃ INDICATES SOCKET TERM
→ INDICATES PLUG TERM.

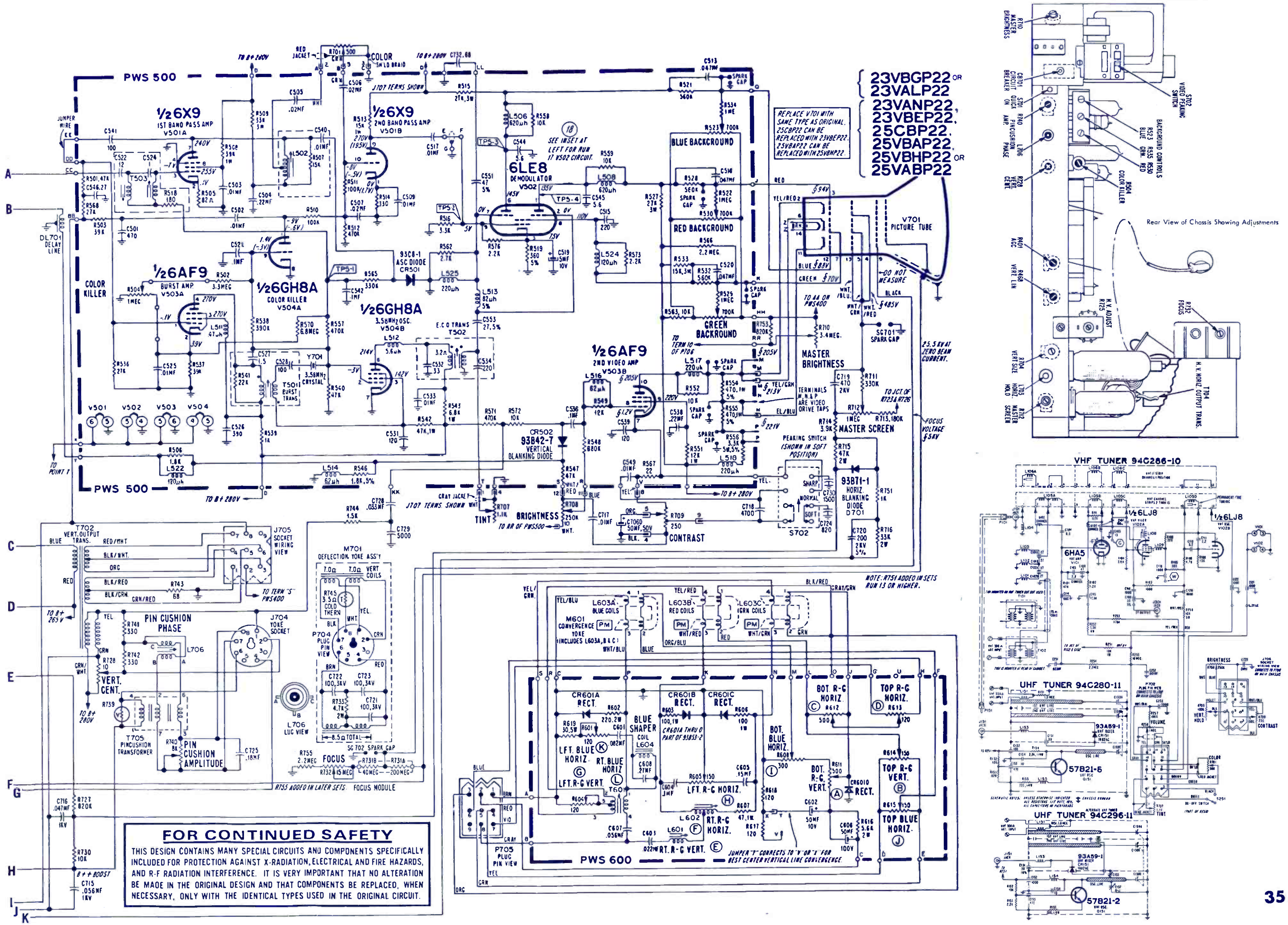
P706 PREF. CONT. PLUG

LINE CORD & INTERLOCK ARE POLARIZED. SMALLER PIN CONNECTS TO HOT SIDE OF AC LINE.

120V 60 Hz 285 WATTS LINE CORD AND INTERLOCK

REPLACE C703 WITH PART NO. 63A23-1

IMPORTANT: F701 & F702 LENGTH 2" MIN. 3" MAX.

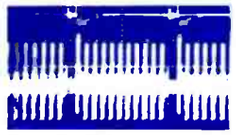

PWS 500
1/2 6X9
1ST BAND PASS AMP
V501A
1/2 6X9
2ND BAND PASS AMP
V501B
6LE8
DEMODULATOR
V502
SEE INSET AT LEFT FOR RUN 17 V502 CIRCUIT.
1/2 6AF9
BURST AMP
V503A
1/2 6GH8A
COLOR KILLER
V504A
1/2 6GH8A
3.58MHz OSC.
V504B
1/2 6AF9
2ND VIDEO AMP
V503B
COLOR KILLER
DL701
DELAY LINE
93C8-1
ASC DIODE
CR501
93B42-7
VERTICAL BLANKING DIODE
23VBGP22 OR
23VALP22
23VANP22,
23VBEP22,
25CBP22,
25VBAP22,
25VBHP22 OR
25VABP22
REPLACE V701 WITH SAME TYPE AS ORIGINAL. 25CBP22 CAN BE REPLACED WITH 23VBEP22. 25VBAP22 CAN BE REPLACED WITH 25VBHP22.
V701
PICTURE TUBE
BLUE BACKGROUND
RED BACKGROUND
GREEN BACKGROUND
MASTER BRIGHTNESS
MASTER SCREEN
PEAKING SWITCH (SHOWN IN SOFT POSITION)
SHARP
NORMAL
SOFT
S702
BRIGHTNESS
TINT
CONTRAST
93B71-1
HORIZ. BLANKING DIODE
D701
25.5 KV AT ZERO BEAM CURRENT.
FOCUS VOLTAGE
NOTE: R751 ADDED IN SETS RUN 13 OR HIGHER.
T702
VERT. OUTPUT TRANS.
J705
SOCKET WIRING VIEW
M701
DEFLECTION YOKE ASS'Y
PIN CUSHION PHASE
J704
YOKE SOCKET
L706
P704
PLUG PIN VIEW
VERT. CENT.
T705
PINCUSHION TRANSFORMER
PIN CUSHION AMPLITUDE
L706
LUG VIEW
FOCUS
SG702 SPARK GAP
R755 ADDED IN LATER SETS
FOCUS MODULE
M601
CONVERGENCE YOKE
(INCLUDES L603A, B & C)
L603A
BLUE COILS
L603B
RED COILS
L603C
GRN COILS
CR601A RECT.
CR601B RECT.
CR601C RECT.
BLUE SHAPER COIL
LFT. BLUE HORIZ.
RT. BLUE HORIZ.
LFT. R-G VERT.
LFT. R-G HORIZ.
RT. R-G HORIZ.
RT. R-G VERT.
BOT. R-G HORIZ.
TOP R-G HORIZ.
BOT. BLUE HORIZ.
BOT. R-G VERT.
CR601D RECT.
TOP R-G VERT.
TOP BLUE HORIZ.
PWS 600
JUMPER "Y" CONNECTS TO "V" OR "X" FOR BEST CENTER VERTICAL LINE CONVERGENCE.
P705
PLUG PIN VIEW
Rear View of Chassis Showing Adjustments
R710 MASTER BRIGHTNESS
S702 VIDEO PEAKING SWITCH
BACKGROUND CONTROLS
R523 BLUE
R535 GRN.
R530 RED
R504 COLOR KILLER
R728 VERT. CENT.
R701 AGC
R468 VERT LIN
R725 H.V. ADJUST
R732 FOCUS
R704 VERT SIZE
L703 HORIZ. HOLD
R712 MASTER SCREEN
T701 H.V. HORIZ OUTPUT TRANS.
VHF TUNER 94C286-10
1/2 6LJ8
6HA5
UHF TUNER 94C280-11
57B21-6
UHF TUNER 94C296-11
57B21-2

FOR CONTINUED SAFETY

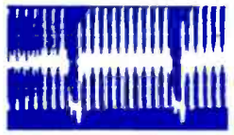
THIS DESIGN CONTAINS MANY SPECIAL CIRCUITS AND COMPONENTS SPECIFICALLY INCLUDED FOR PROTECTION AGAINST X-RADIATION, ELECTRICAL AND FIRE HAZARDS, AND R-F RADIATION INTERFERENCE. IT IS VERY IMPORTANT THAT NO ALTERATION BE MADE IN THE ORIGINAL DESIGN AND THAT COMPONENTS BE REPLACED, WHEN NECESSARY, ONLY WITH THE IDENTICAL TYPES USED IN THE ORIGINAL CIRCUIT.

EMERSON
Color-TV Chassis
30M20

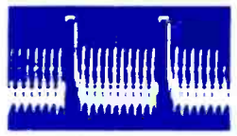
ELECTRONIC TECHNICIAN/DEALER TEKFAX



1. Q204 Base 2V., H.



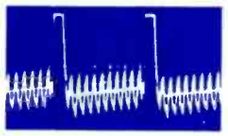
3. Q204 Collector 10V., H.



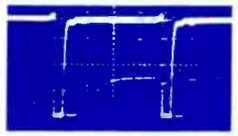
5. Q304 Collector 18V., H.

2. Q204 Emitter 2V., H.

4. Q304 Base 0.8V., H.

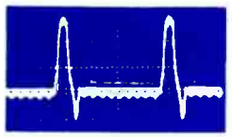


6. Q305 Base 4.3V., H.

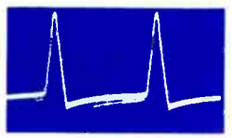


7A. Q305 Collector 62V., H.

7B. Q305 Collector 62V., V.

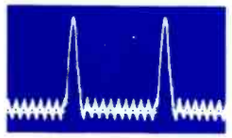


8. Q302 Base 1.8V., H.

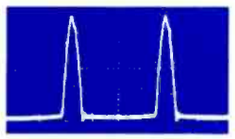


9. Q302 Collector 130V., H.

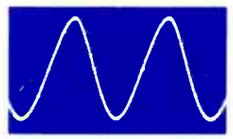
10. Q303 Base 1.8V., H.



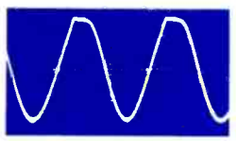
11. Q303 Collector 8V., H.



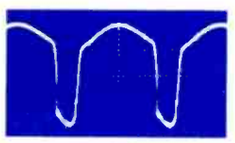
12. Pin 4 of PI02 300V., H.



13. Pin 1 of 6JW8 52V., H.

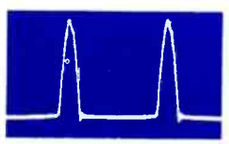


14. 6JW8 Pin 2. 42V., H.

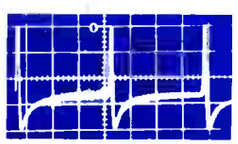


15. Pin 3 6JW8 40V., H.

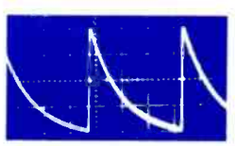
16. Pin 5 6LW6 250V., H.



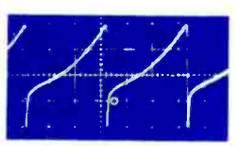
17. T104, Pin 1 HORIZ Output Pulse, 300 V. H.



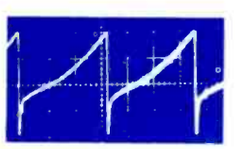
18. Pin 10 6LU8 60V., V.



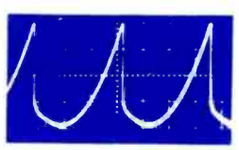
19. Pin 11 6LU8 60V., V.



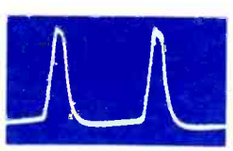
20. Pin 2 6LU8 65V., V.



21. Pin 6 6LU8 70 V., V.

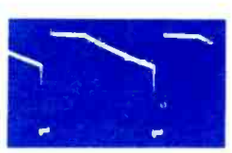


22. Pin 6LU8 15V., V.

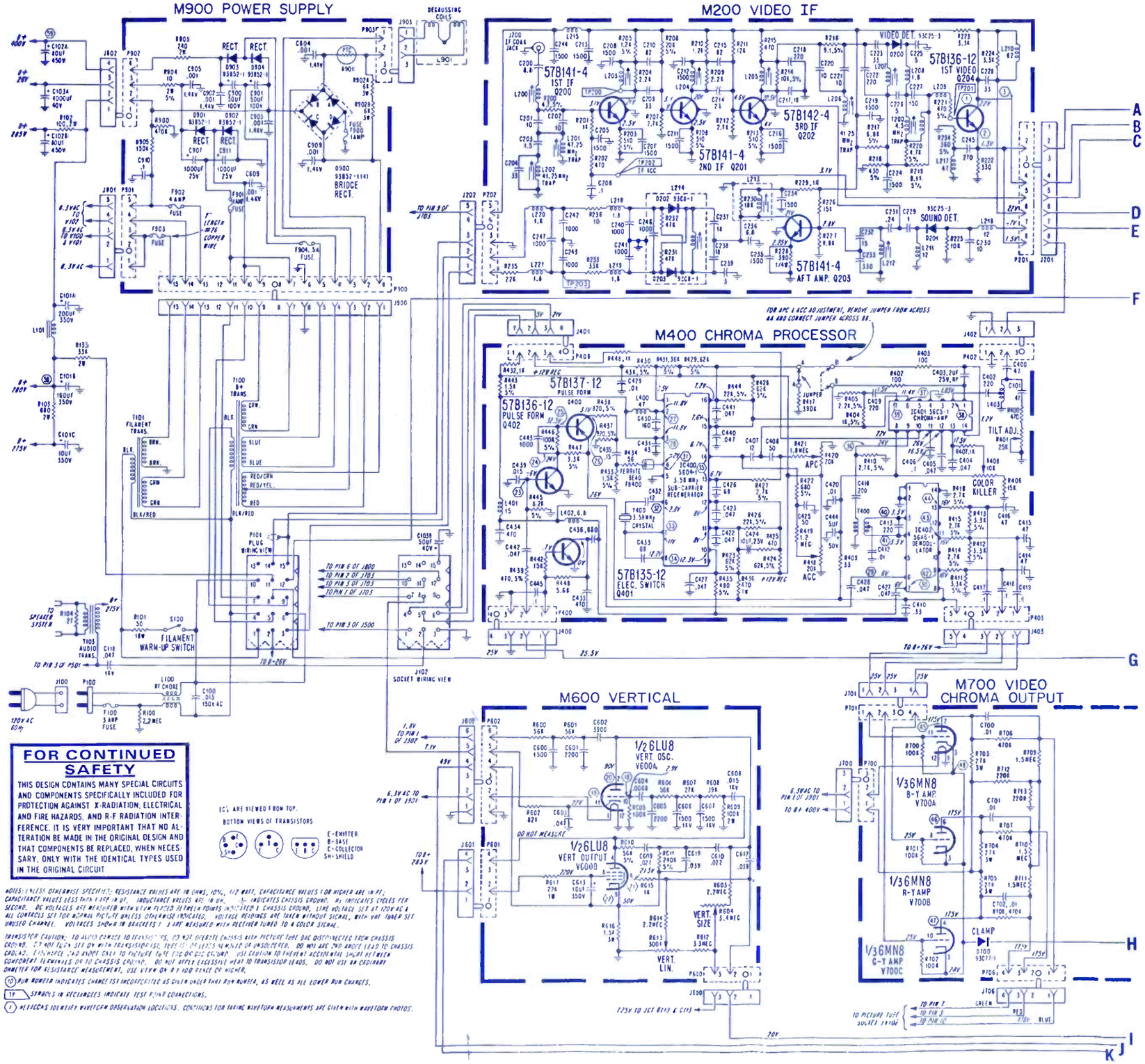


23. Q402 Base 2V., H.

24. Q402 Collector 25V., H.



25. Q400 Base 8V., H.



FOR CONTINUED SAFETY

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NOTES: UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT. CAPACITANCE VALUES 1 OR HIGHER ARE IN PF; CAPACITANCE VALUES LESS THAN 1 ARE IN UF. INDUCTANCE VALUES ARE IN UH. ⏚ INDICATES CHASSIS GROUND. ~ INDICATES CYCLES PER SECOND. DC VOLTAGES ARE MEASURED WITH VTVM PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND. LINE VOLTAGE SET AT 120V AC & ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH VHF TUNER SET UNUSED CHANNEL. VOLTAGES SHOWN IN BRACKETS ( ) ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.

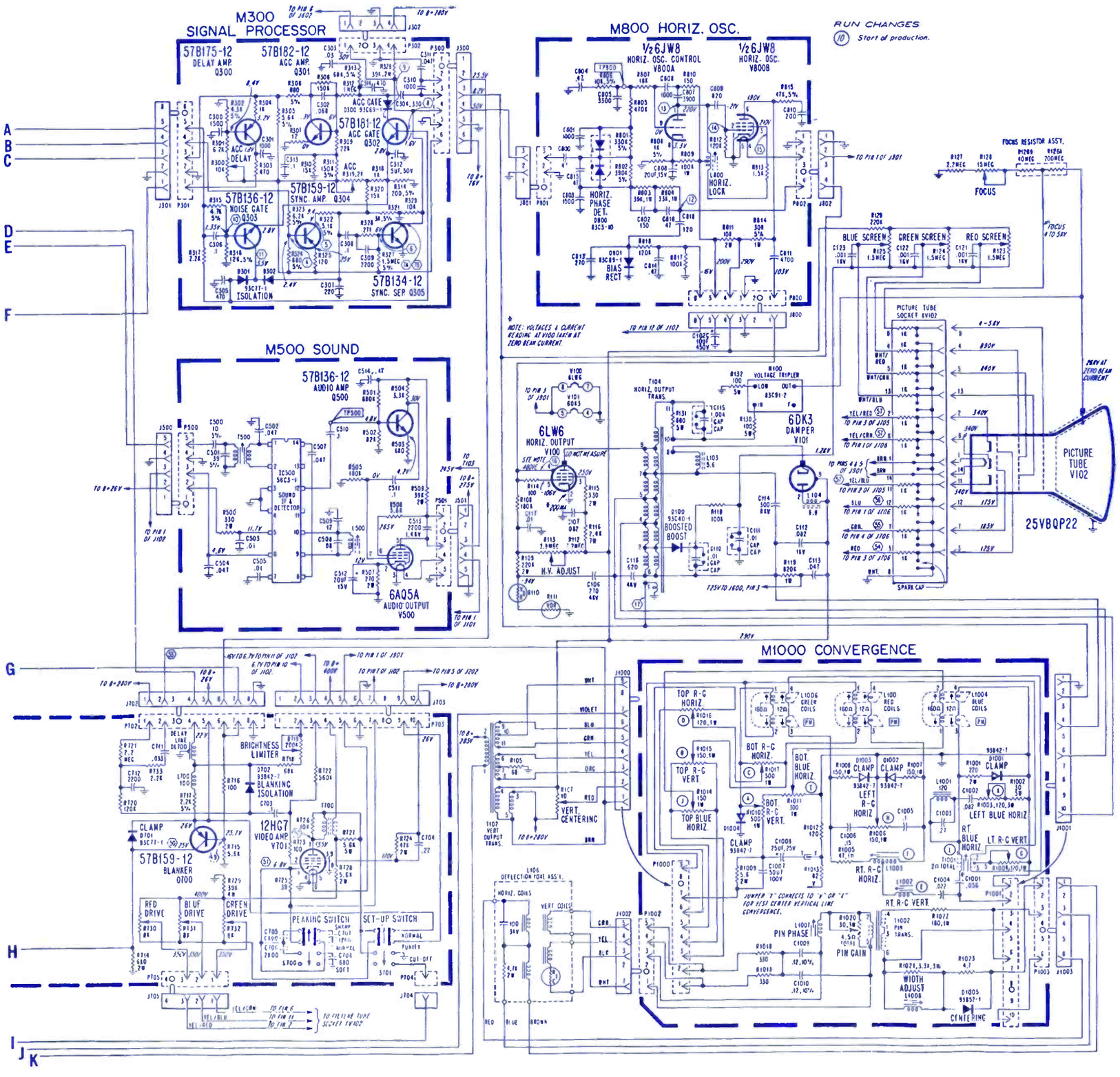
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE ANODE DISCONNECTED FROM CHASSIS GROUND. DO NOT TOUCH SET OR WITH TRANSISTOR LEAD, TEST PROBE LEADS WHILE SET IS OPERATED. DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND. DISCHARGE 2ND ANODE ONLY TO PICTURE TUBE CONDUCTIVE COATING. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN CONDUCTIVE ELEMENTS OR TO CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS. DO NOT USE AN OHMMETER FOR RESISTANCE MEASUREMENT. USE VTVM OR V-O-M 100 RANGE OR HIGHER.

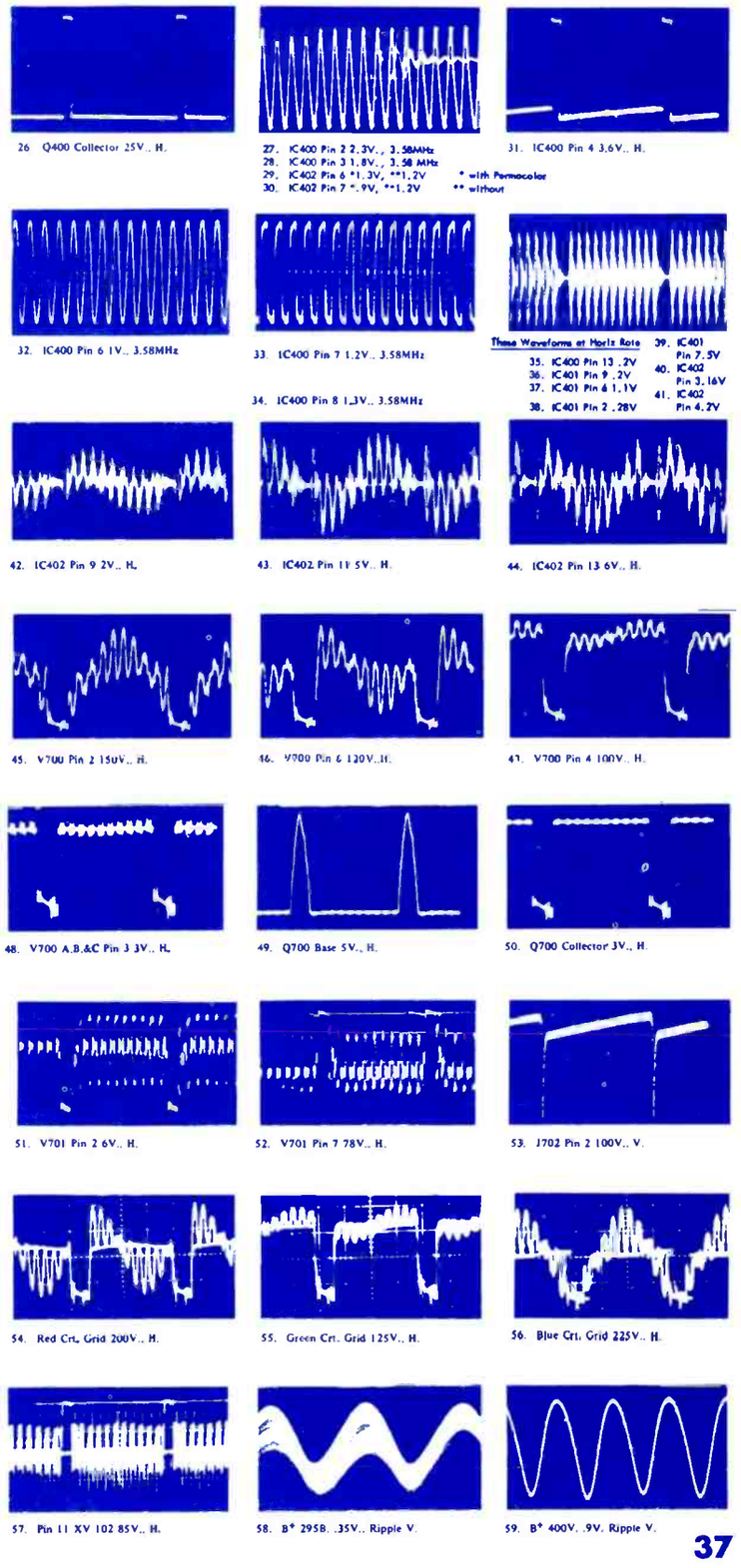
(10) RUN NUMBER INDICATES CHANGE IS INCORPORATED AS GIVEN UNDER THAT RUN NUMBER, AS WELL AS ALL LOWER RUN CHANGES.

TP SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

(1) INDICATES TROUBLE WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOS.

ADDITIONAL INFORMATION
NEXT PAGE





26 Q400 Collector 25V., H.

27. IC400 Pin 2 2.3V., 3.58MHz
28. IC400 Pin 3 1.8V., 3.58 MHz
29. IC402 Pin 6 *1.3V, **1.2V
30. IC402 Pin 7 *.9V, **1.2V

* with Permacolor
** without

31. IC400 Pin 4 3.6V., H.

32. IC400 Pin 6 1V., 3.58MHz

33. IC400 Pin 7 1.2V., 3.58MHz

34. IC400 Pin 8 1.3V., 3.58MHz

These Waveforms at Horiz Rate

35. IC400 Pin 13 .2V
36. IC401 Pin 9 .2V
37. IC401 Pin 4 1.1V
38. IC401 Pin 2 .28V
39. IC401 Pin 7.5V
40. IC402 Pin 3.16V
41. IC402 Pin 4.2V

42. IC402 Pin 9 2V., H.

43. IC402 Pin 11 5V., H.

44. IC402 Pin 13 6V., H.

45. V700 Pin 2 150V., H.

46. V700 Pin 6 120V., H.

47. V700 Pin 4 100V., H.

48. V700 A,B,&C Pin 3 3V., H.

49. Q700 Base 5V., H.

50. Q700 Collector 3V., H.

51. V701 Pin 2 6V., H.

52. V701 Pin 7 78V., H.

53. J702 Pin 2 100V., V.

54. Red Crt. Grid 200V., H.

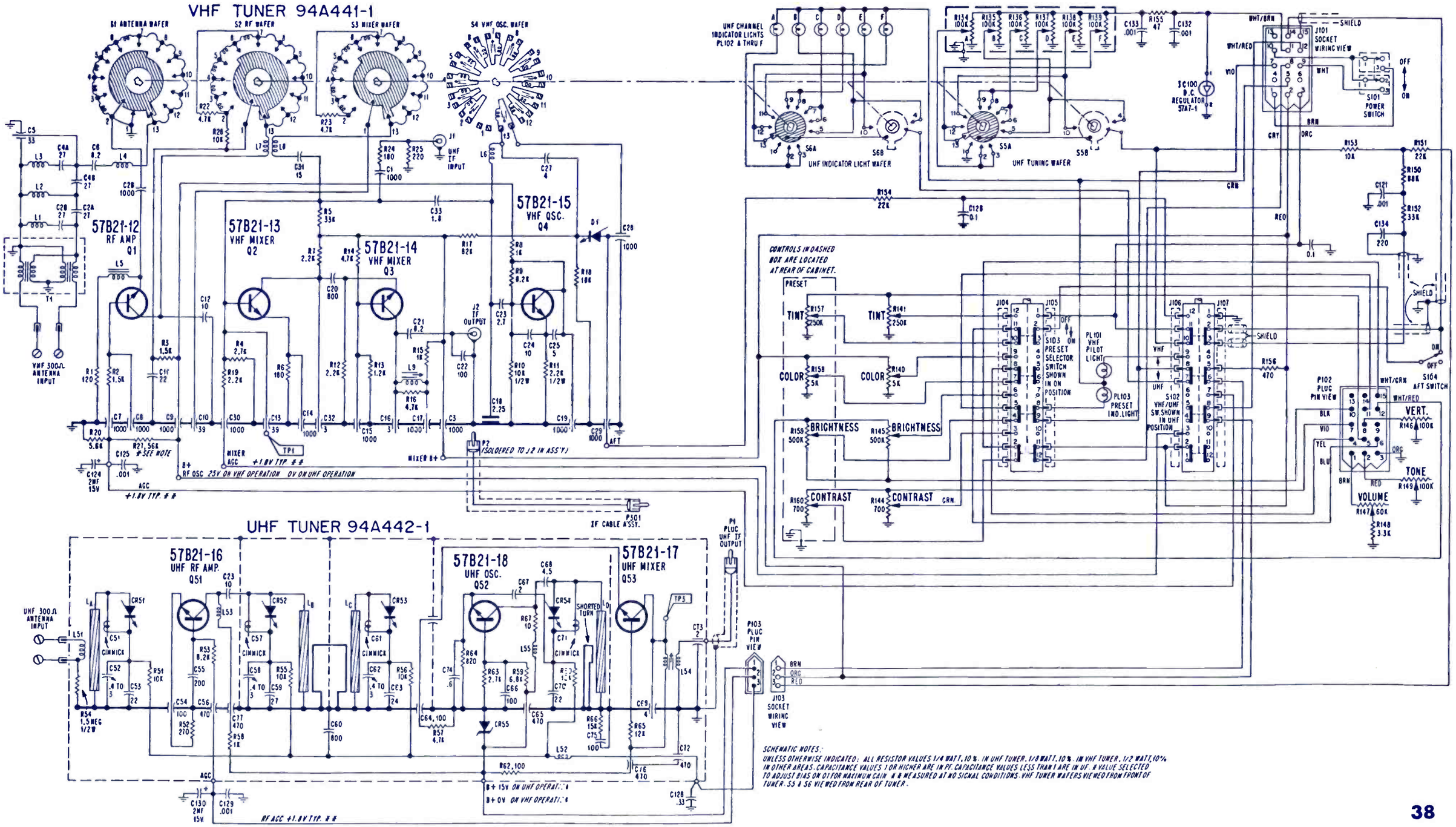
55. Green Crt. Grid 125V., H.

56. Blue Crt. Grid 225V., H.

57. Pin 11 XV 102 85V., H.

58. B+ 295B. .35V., Ripple V.

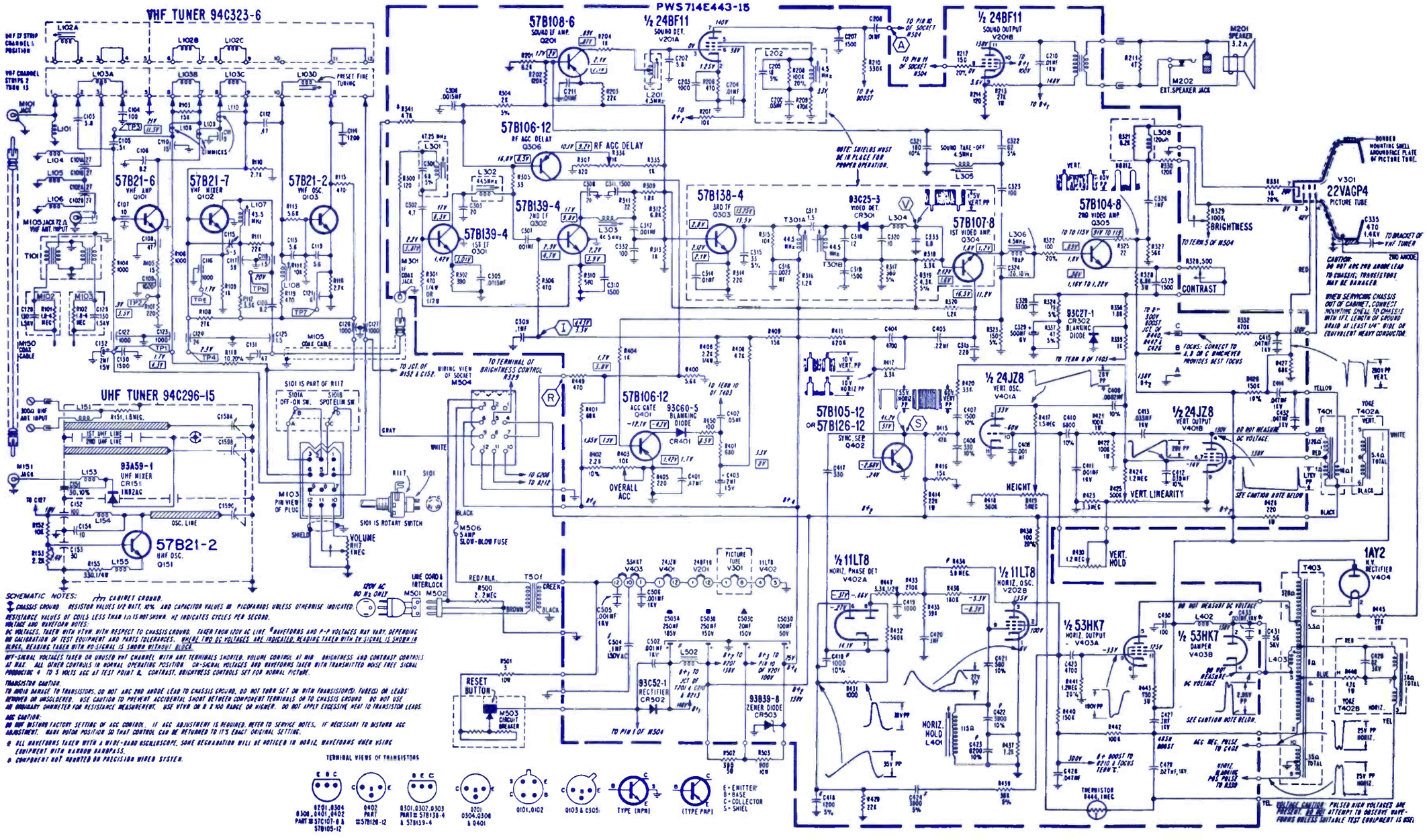
59. B+ 400V. .9V. Ripple V.



SCHEMATIC NOTES:
UNLESS OTHERWISE INDICATED: ALL RESISTOR VALUES 1/4 WATT, 10%. IN UHF TUNER, 1/8 WATT, 10%. IN VHF TUNER, 1/2 WATT, 10% IN OTHER AREAS. CAPACITANCE VALUES 1 OR HIGHER ARE IN PF. CAPACITANCE VALUES LESS THAN 1 ARE IN UF. ★ VALUE SELECTED TO ADJUST BIAS ON 01 FOR MAXIMUM GAIN. ★★ MEASURED AT NO SIGNAL CONDITIONS. VHF TUNER WAFERS VIEWED FROM FRONT OF TUNER. S5 & S6 VIEWED FROM REAR OF TUNER.

EMERSON
TV Chassis
11H5

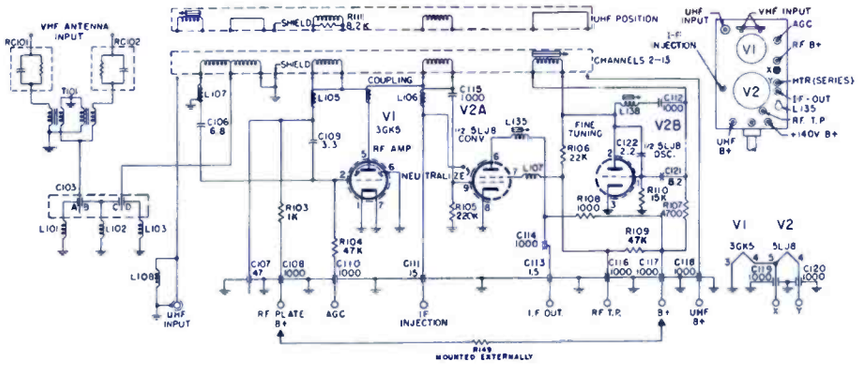
SYMBOL	DESCRIPTION	EMERSON PART NO.
R117	1M, volume control for Model 19FP05W	75A-182
R328	500Ω, contrast control	75A1-181
R329	100K, bright control	75A1-183
R336	1K, RF AGC delay control	970695
R342	voltage dependent resistor, 1ma @ 60v	61A46-6
R403	10K, overall AGC control	970696
R419	5M, height control	970001
R425	500K, vert hold control	970002
R430	1.2M, vert hold control	75A1-180
R444	1M, thermistor	61A41-2
C503A	elect, 250μf, 165v	67A30-14
C503B	elect, 250μf, 150v	67A30-14
C503C	elect, 20μf, 150v	67A30-14
C503D	elect, 100μf, 50v	67A30-14
L201	sound 1F coil (includes C202)	970705
L202	quad coil, (R208 and C205)	970013
L301	47.25MHz trap	72A316-4
L305	4.5MHz sound take off coil	72A303-9
L306	4.5MHz trap	72A303-9
L401	horiz lock coil	94A17-19
L502	filter choke	74A18-45
T201	audio output xformer	970917
T401	vert output xformer	970708
T402	deflect yoke assembly	970800
T403	horiz output xformer	970915
M503	circuit breaker (2.2a)	84A17-4



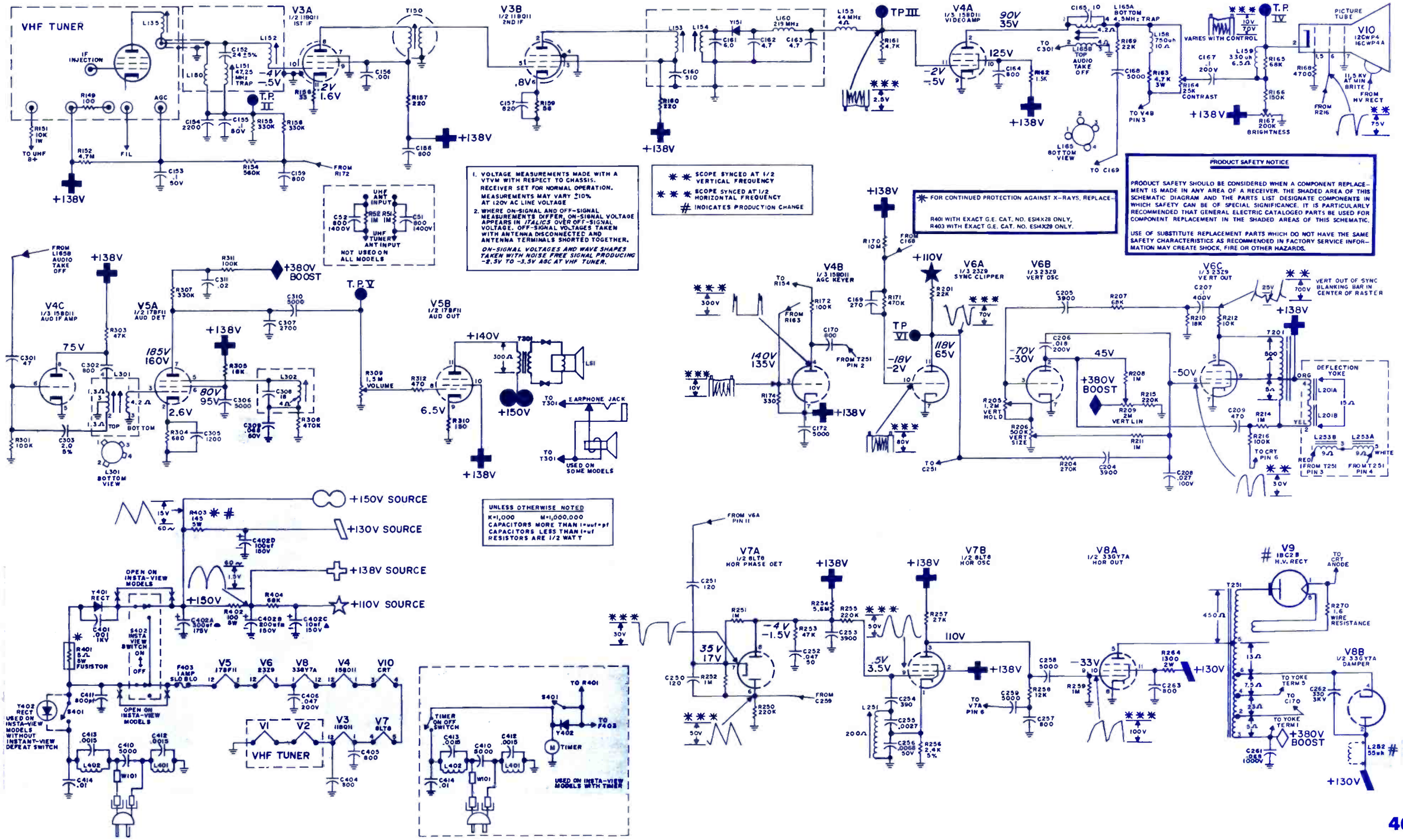
GENERAL ELECTRIC
TV Chassis S-3

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
	TRIPLE CONTROL	ES49X2
R205	1.2M, vert hold	
R206	500K, height	
R209	2M, vert lin (WM150, WM190, WM500 Series)	ES49X10
R164	25K, contrast	
R167	200K, bright	
R309	1.5M, volume w/S401 (WM160, WM520 Series)	ES49X4
R164	25K, contrast	
R167	200K, bright	
R309	1.5M, volume (w/S401)	
C402A	300 µf, 175v	ES31X254
C402B	200 µf, 150v	
C402C	10 µf, 150v	
C402D	100 µf, 150v	
L151	coil-47.25MHz trap	ES36X3
L165	coil-4.5MHz trap sound takeoff	ES36X4
L201A, B	yoke-deflection, 21mm, toroidal	ES76X48
L251	coil-horiz osc	EU35X1
L301	coil-4.5MHz audio interstage	ES61X1
L302	coil-quadrature	ES36X665
T201	xformer-vert output	ES64X6
T251	xformer-horiz output	ES77X1
T301	xformer-audio output	ES64X1
	fuse-4a, fast-blo	EP10X52
	pig tail, W101	
	fuse-1a, slo-blo, F403	ES10X7



VHF TUNER SCHEMATIC DIAGRAM (ET86X245)



1. VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS. RECEIVER SET FOR NORMAL OPERATION. MEASUREMENTS MAY VARY ±10% AT 120V AC 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 -2.5V TO -3.5V AGC AT VHF TUNER.

* * SCOPE SYNCED AT 1/2 VERTICAL FREQUENCY
* * * SCOPE SYNCED AT 1/2 HORIZONTAL FREQUENCY
# INDICATES PRODUCTION CHANGE

UNLESS OTHERWISE NOTED
K=1,000 M=1,000,000
CAPACITORS MORE THAN 1=uuf=pf
CAPACITORS LESS THAN 1=uf
RESISTORS ARE 1/2 WATT

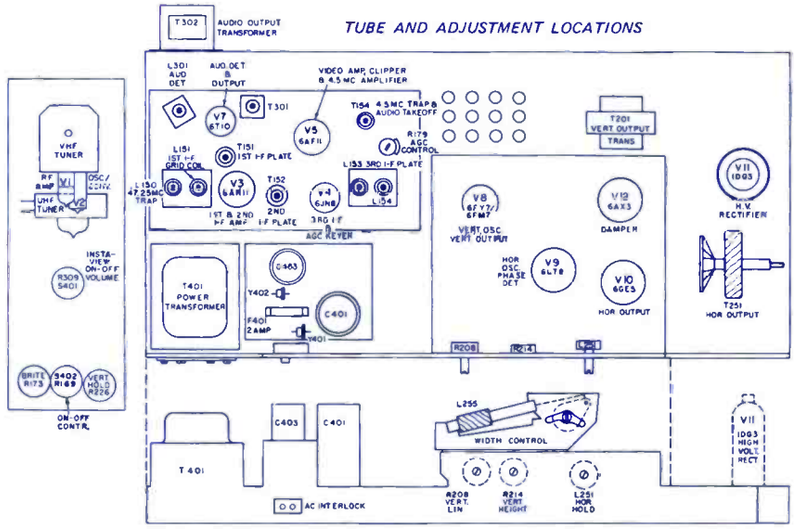
* FOR CONTINUED PROTECTION AGAINST X-RAYS, REPLACE-
R401 WITH EXACT G.E. CAT. NO. ES14X28 ONLY,
R403 WITH EXACT G.E. CAT. NO. ES14X29 ONLY.

PRODUCT SAFETY NOTICE

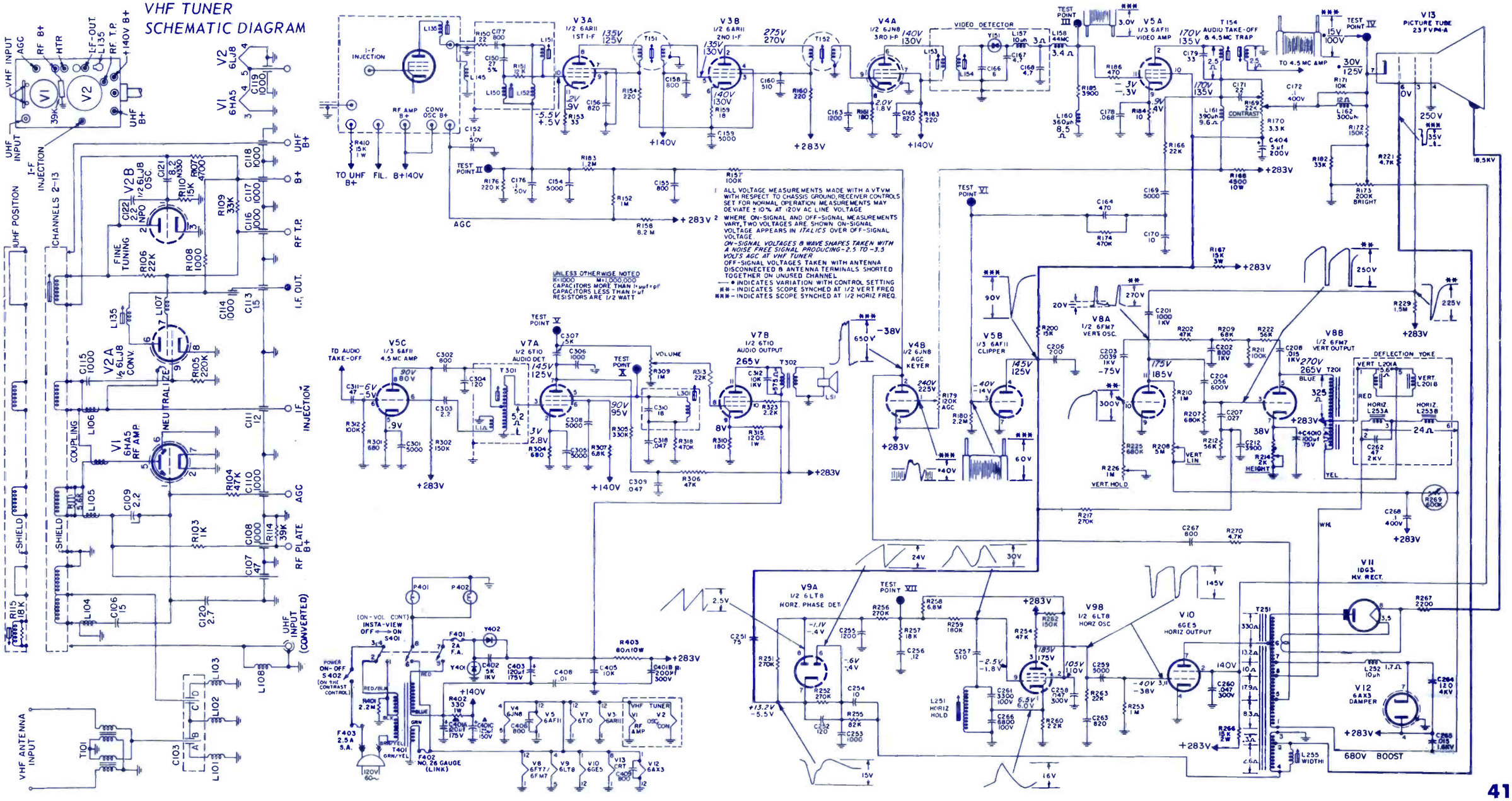
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE SHADED AREA OF THIS SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT GENERAL ELECTRIC CATALOGED PARTS BE USED FOR COMPONENT REPLACEMENT IN THE SHADED AREAS OF THIS SCHEMATIC.

USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS.

TUBE AND ADJUSTMENT LOCATIONS



VHF TUNER SCHEMATIC DIAGRAM



GENERAL ELECTRIC
TV Chassis U-1

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R139	control-IF AGC, 2.5K	ES49X60
R147	control-RF AGC, 2.5K triple	ES49X60 / ES49X61
R210	85K, height	
R215	16K, vert size	
R218	2K, vert lin	
R232	therm assembly	ES41X5
R233	therm, 650Ω, 10%	ES14X27
R307	VDR (180-200v)	ES13X3
C403A	300 µf, electro, 175v	ES31X38
C403B	30 µf, electro, 150v	
C403C	300 µf, electro, 150v	
C403D	200 µf, electro, 50v	
L102	coil-41.25MHz trap	ES36X83
L103	coil-47.25MHz trap	EP36X13
L106	coil-44MHz trap	ES36X84
L108	coil-sound take off	ES36X86
L109	coil-4.5MHz trap	ES36X87
L251	coil-horiz osc	ES36X88
	deflection yoke	ES76X6
T101	video detector xformer	ES57X6
T201	vert output xformer	ES64X11
T251	horiz buffer xformer	ES64X12
T252	horiz output xformer	ES77X12
T301	audio output xformer	ES64X13
T401	CRT filament xformer	ES64X10
	fuse 4a, fast blow, pigtail, 250v, (F401)	EP10X52

PRODUCT SAFETY NOTICE

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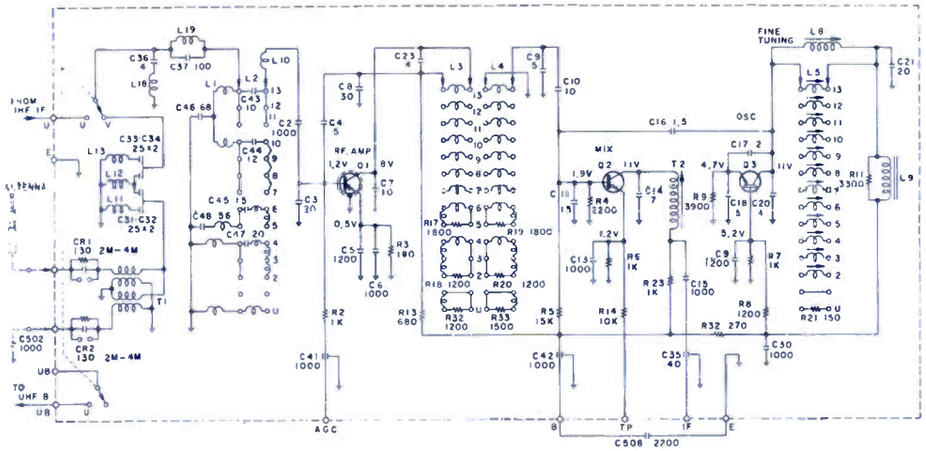
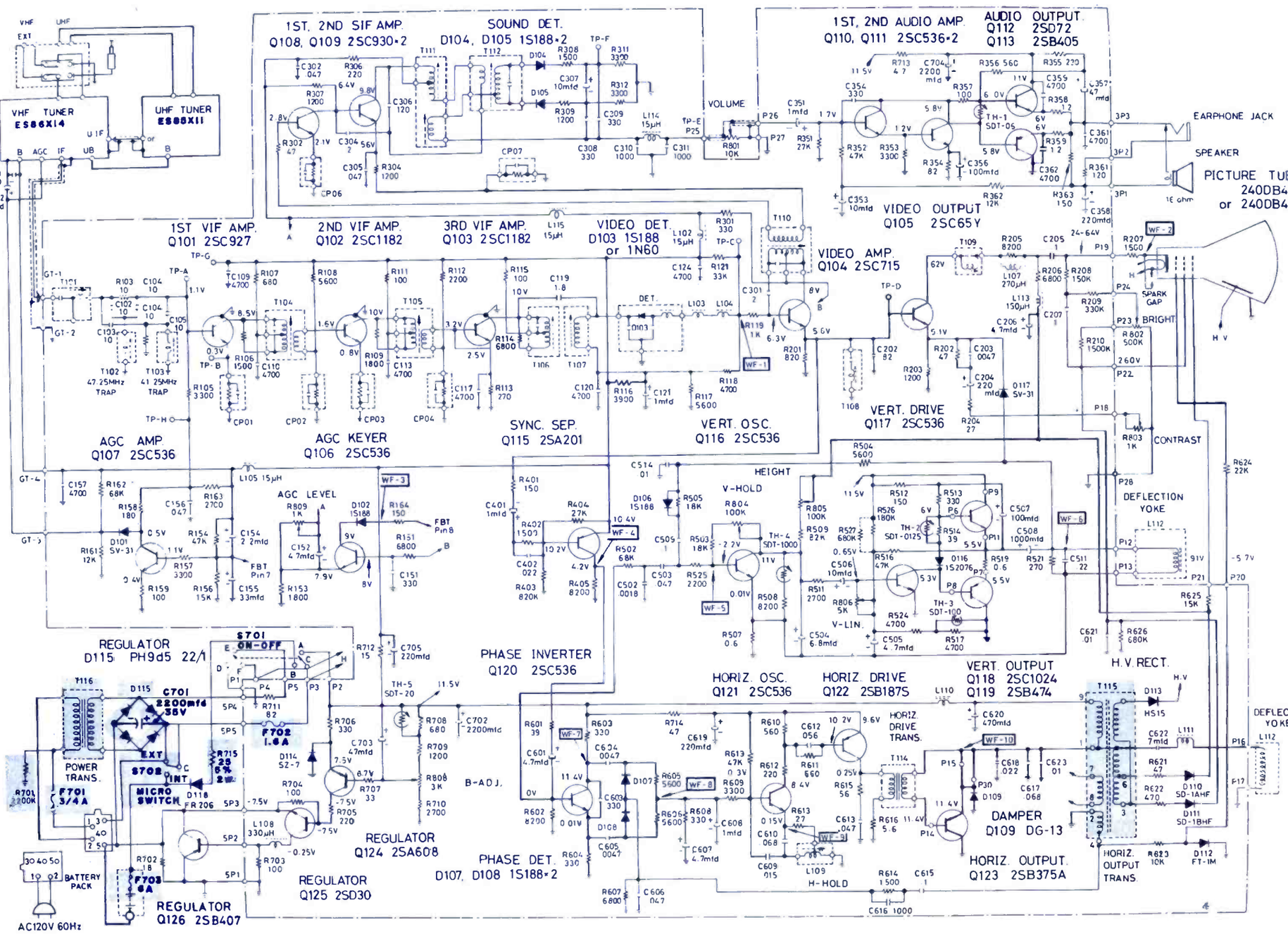
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS.

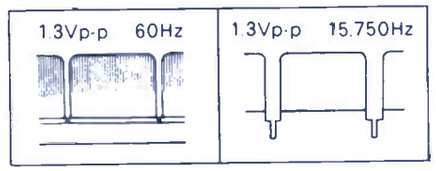
GENERAL ELECTRIC
TV Chassis R-2



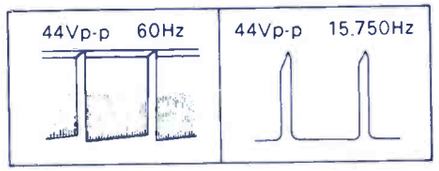
VHF TUNER



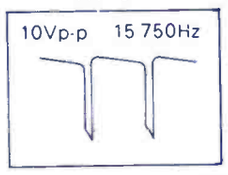
WF-1



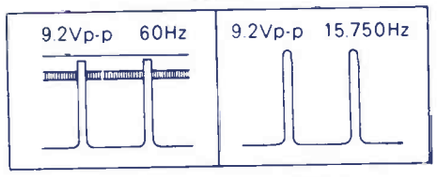
WF-2



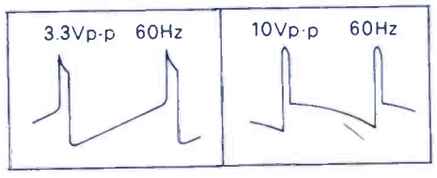
WF-3



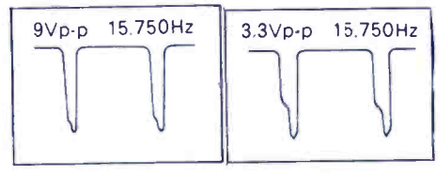
WF-4



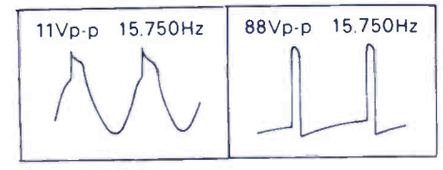
WF-5 WF-6

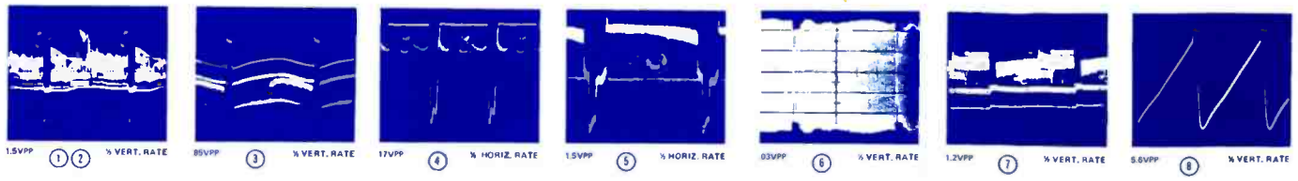


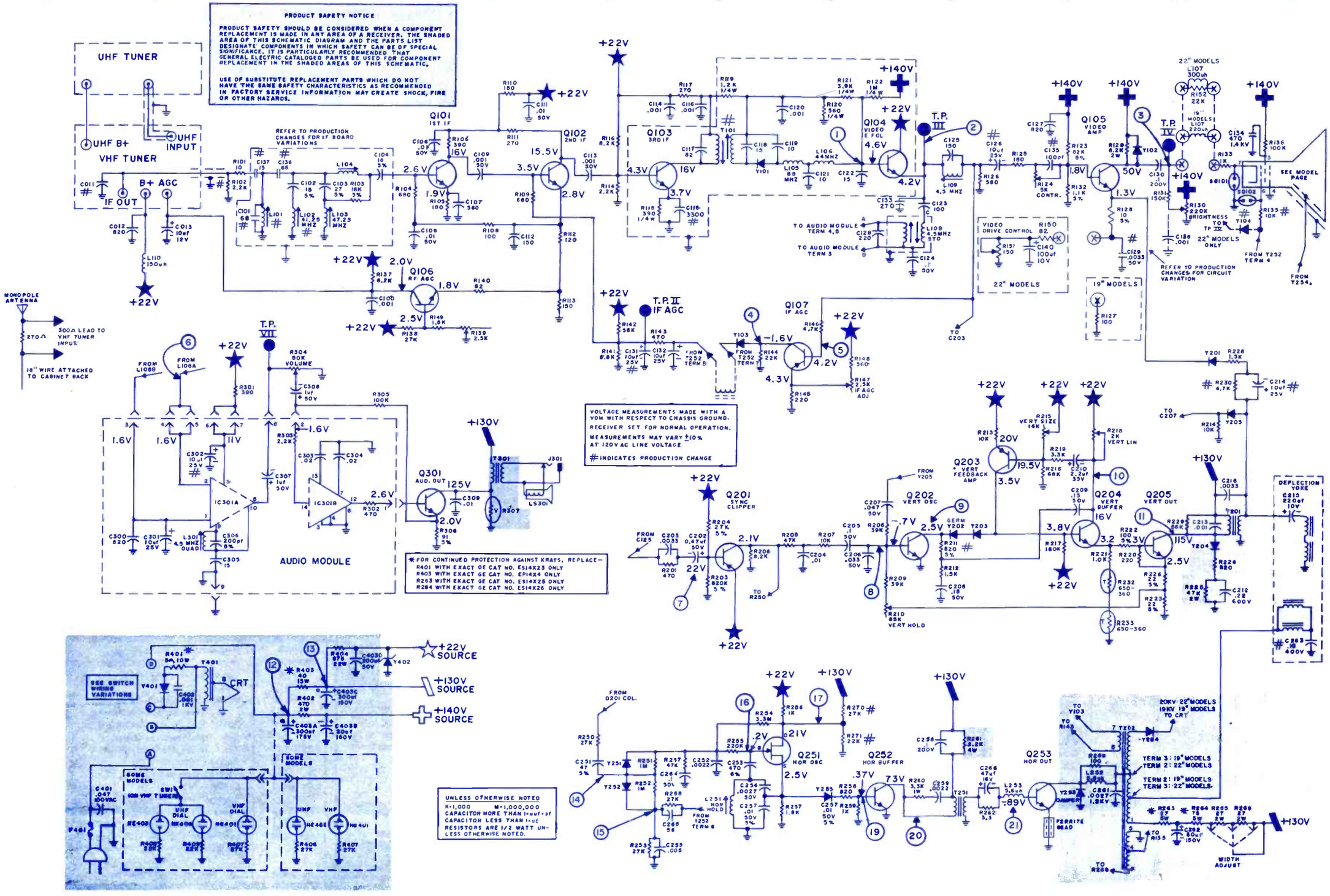
WF-7 WF-8



WF-9 WF-10







GENERAL ELECTRIC
TV Chassis U1/UA

ELECTRONIC TECHNICIAN/DEALER TEKFAX

1.5VPP ①② ½ VERT. RATE

85VPP ③ ½ VERT. RATE

17VPP ④ ½ HORIZ. RATE

1.5VPP ⑤ ½ HORIZ. RATE

03VPP ⑥ ½ VERT. RATE

1.2VPP ⑦ ½ VERT. RATE

5.6VPP ⑧ ½ VERT. RATE

9.6VPP ⑨ ½ VERT. RATE

11VPP ⑩ ½ VERT. RATE

370VPP ⑪ ½ VERT. RATE

15VPP ⑫ 60 HERTZ

2.8VPP ⑬ 60 HERTZ

17VPP ⑭ ½ HORIZ. RATE

6VPP ⑮ ½ HORIZ. RATE

23VPP ⑯ ½ HORIZ. RATE

12VPP ⑰ ½ HORIZ. RATE

10VPP ⑱ ½ HORIZ. RATE

.8VPP ⑲ ½ HORIZ. RATE

170VPP ⑳ ½ HORIZ. RATE

16VPP ㉑ ½ HORIZ. RATE.

PRODUCT SAFETY NOTICE

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USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS.

VOLTAGE MEASUREMENTS MADE WITH A VOM WITH RESPECT TO CHASSIS GROUND.

RECEIVER SET FOR NORMAL OPERATION.

MEASUREMENTS MAY VARY ±10%
AT 120V AC LINE VOLTAGE

# INDICATES PRODUCTION CHANGE

* FOR CONTINUED PROTECTION AGAINST XRATS, REPLACE—
R401 WITH EXACT GE CAT NO. ES14X23 ONLY
R403 WITH EXACT GE CAT NO. EP14X4 ONLY
R263 WITH EXACT GE CAT NO. ES14X25 ONLY
R264 WITH EXACT GE CAT NO. ES14X26 ONLY

UNLESS OTHERWISE NOTED
K=1,000 M=1,000,000
CAPACITOR MORE THAN 1=uuf=pf
CAPACITOR LESS THAN 1=uf
RESISTORS ARE 1/2 WATT UNLESS OTHERWISE NOTED.

GENERAL ELECTRIC
TV Chassis BA

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R801	on/off vol, 10K	ES49X74
R802	brite, 500K	ES49X75
R803	contrast, 1K	ES49X77
R804	AGC, 1K	ES49X45
R805	vert hold, 30K	ES49X79
R806	vert ht, 20K	ES49X78
R807	vert lin, 20K	ES49X78
R808	focus, 2M	ES49X42
L112	deflect yoke	ES76X9
L113	coil, horiz osc	ES35X6
T109	xformer, horiz output	ES77X15
T110	xformer, power	ES88X4
IC01	sound IF pre-amp	ES84X3
IC02	audio output	ES84X1
IC03	horiz phase det	ES84X2
TH01	thermistor	ES14X39
CP01		ES57X15
CP02		ES57X16
CP03		ES57X17
CP304		ES57X16
	fuse 1a, slo blo F701	ES10X7

WF 1 (TP-C) 1.3Vp-p 60 Hz

WF-2 3.4Vp-p 60 Hz

WF-3 23Vp-p 15.750 Hz

WF-4 7.5Vp-p 60 Hz

WF-5 1.7Vp-p 60 Hz

WF-6 0.3Vp-p 60 Hz

WF-7 9.8Vp-p 60 Hz

WF-8 9.5Vp-p 15.750 Hz

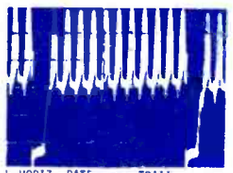
WF-9 2.6Vp-p 15.750 Hz

WF-10 72Vp-p 15.750 Hz

GENERAL ELECTRIC
Color TV Chassis
C-2/L-2

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**


½ VERT. RATE
2 VPP
(1) TPIII BROADCAST SIGNAL


½ HORIZ. RATE
2 VPP
(1) TPIII KEYED RAINBOW GENERATOR


½ HORIZ. RATE
3.2 VPP
(2) Q303-BASE KEYED RAINBOW GENERATOR


½ VERT. RATE
4.25 VPP
(2) Q303-BASE BROADCAST SIGNAL

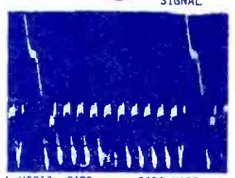

½ VERT. RATE
5 VPP
(3) V5, PIN 11 BROADCAST SIGNAL

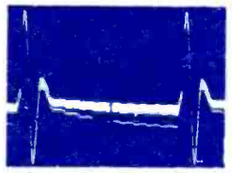

½ VERT. RATE
100 VPP
(4) TP IV BROADCAST SIGNAL

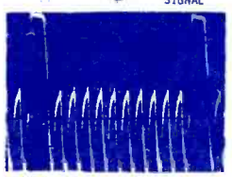

½ VERT. RATE
2.2 VPP
(5) TPXX BROADCAST SIGNAL


½ HORIZ. RATE
2.2 VPP
(5) TPXX BROADCAST SIGNAL

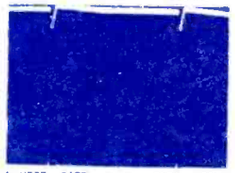

½ VERT. RATE
2.5 VPP
(6) TPIX BROADCAST SIGNAL

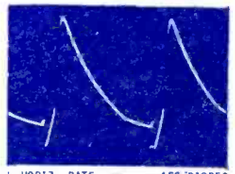

½ HORIZ. RATE
2.75 VPP
(7) Q302-BASE KEYED RAINBOW GENERATOR

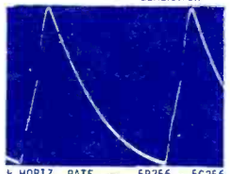

½ HORIZ. RATE
25 VPP
(8) Q302 - COL. KEYED RAINBOW GENERATOR

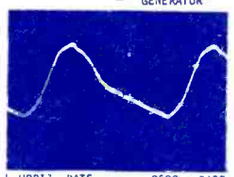

½ HORIZ. RATE
1.8 VPP
(9) TPXI KEYED RAINBOW GENERATOR

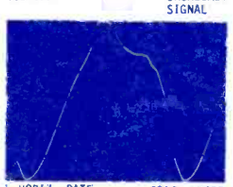

½ VERT. RATE
3.5 VPP
TPXI BROADCAST SIGNAL

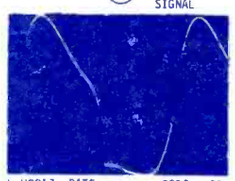

½ VERT. RATE
40 VPP
(10) Q501 - COL. BROADCAST SIGNAL

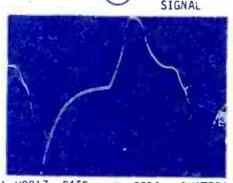

½ HORIZ. RATE
3 VPP
(11) AFC DIODES BROADCAST SIGNAL

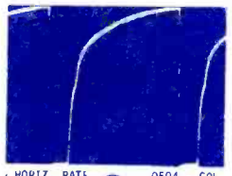

½ HORIZ. RATE
12 VPP
(12) 5R256 - 5C256

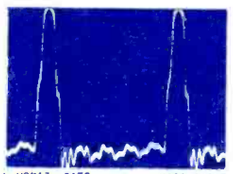

½ HORIZ. RATE
½ VPP
(13) Q502 - BASE

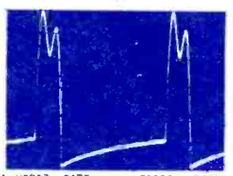

½ HORIZ. RATE
9 VPP
(14) Q503 - BASE

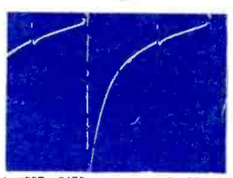

½ HORIZ. RATE
38 VPP
(15) Q503 - COL


½ HORIZ. RATE
6 VPP
(16) Q503 - EMITTER

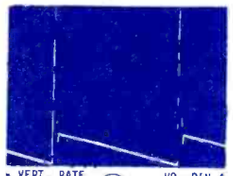

½ HORIZ. RATE
170 VPP
(17) Q504 - COL.

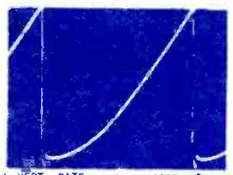

½ HORIZ. RATE
400 VPP
(18) Y252 ANODE

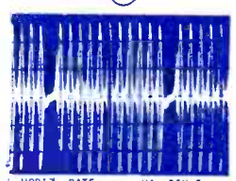

½ HORIZ. RATE
70 VPP
(19) 7C276 - 7C280

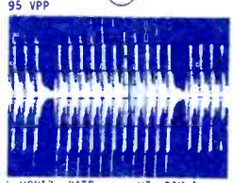

½ VERT. RATE
(OUT OF SYNC)
95 VPP
(20) V9, PIN 10

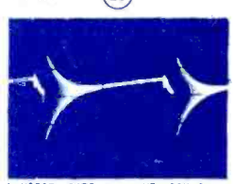

½ VERT. RATE
175 VPP
(21) TPXXVI

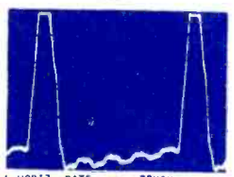

½ VERT. RATE
1300 VPP
(22) V9, PIN 4

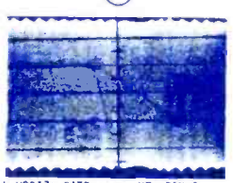

½ VERT. RATE
20 VPP
(23) J202, PIN 2

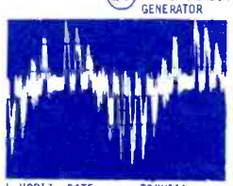

½ HORIZ. RATE
3 VPP
(24) V4 PIN 5 KEYED RAINBOW GENERATOR


½ HORIZ. RATE
38 VPP
(25) V7, PIN 1 KEYED RAINBOW GENERATOR

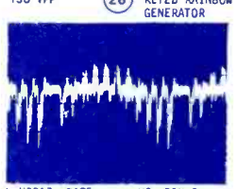

½ HORIZ. RATE
138 VPP
(26) V7, PIN 3 KEYED RAINBOW GENERATOR

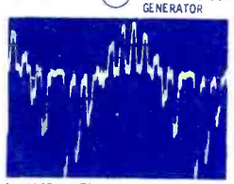

½ HORIZ. RATE
115 VPP
(27) TPXIV KEYED RAINBOW GENERATOR

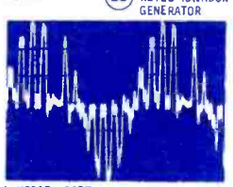

½ HORIZ. RATE
50 VPP
(28) V7, PIN 9 KEYED RAINBOW GENERATOR

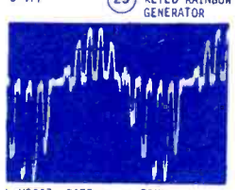

½ HORIZ. RATE
5 VPP
(29) TPXVIII KEYED RAINBOW GENERATOR

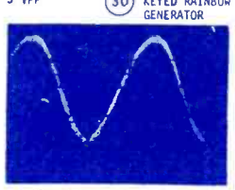

½ HORIZ. RATE
5 VPP
(30) TPXIX KEYED RAINBOW GENERATOR

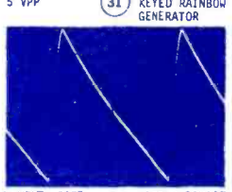

½ HORIZ. RATE
5 VPP
(31) V8, PIN 9 KEYED RAINBOW GENERATOR


½ HORIZ. RATE
108 VPP
(32) TPXXII KEYED RAINBOW GENERATOR

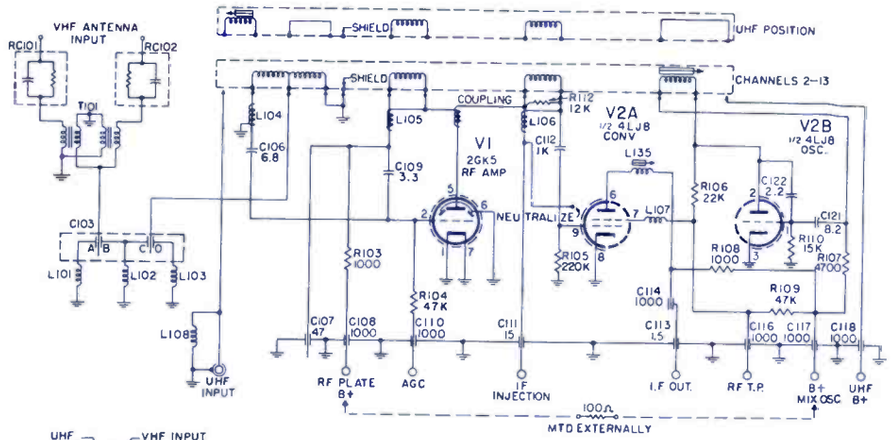

½ HORIZ. RATE
41 VPP
(33) TPXXI KEYED RAINBOW GENERATOR

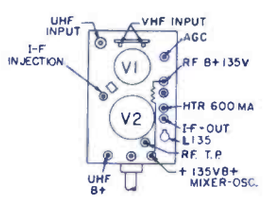

½ HORIZ. RATE
106 VPP
(34) TPXX KEYED RAINBOW GENERATOR

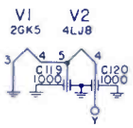

VERT. RATE
1.2 VPP
(35) TPXXIII +280V SOURCE


½ VERT. RATE
10 VPP
(36) +150 V SOURCE

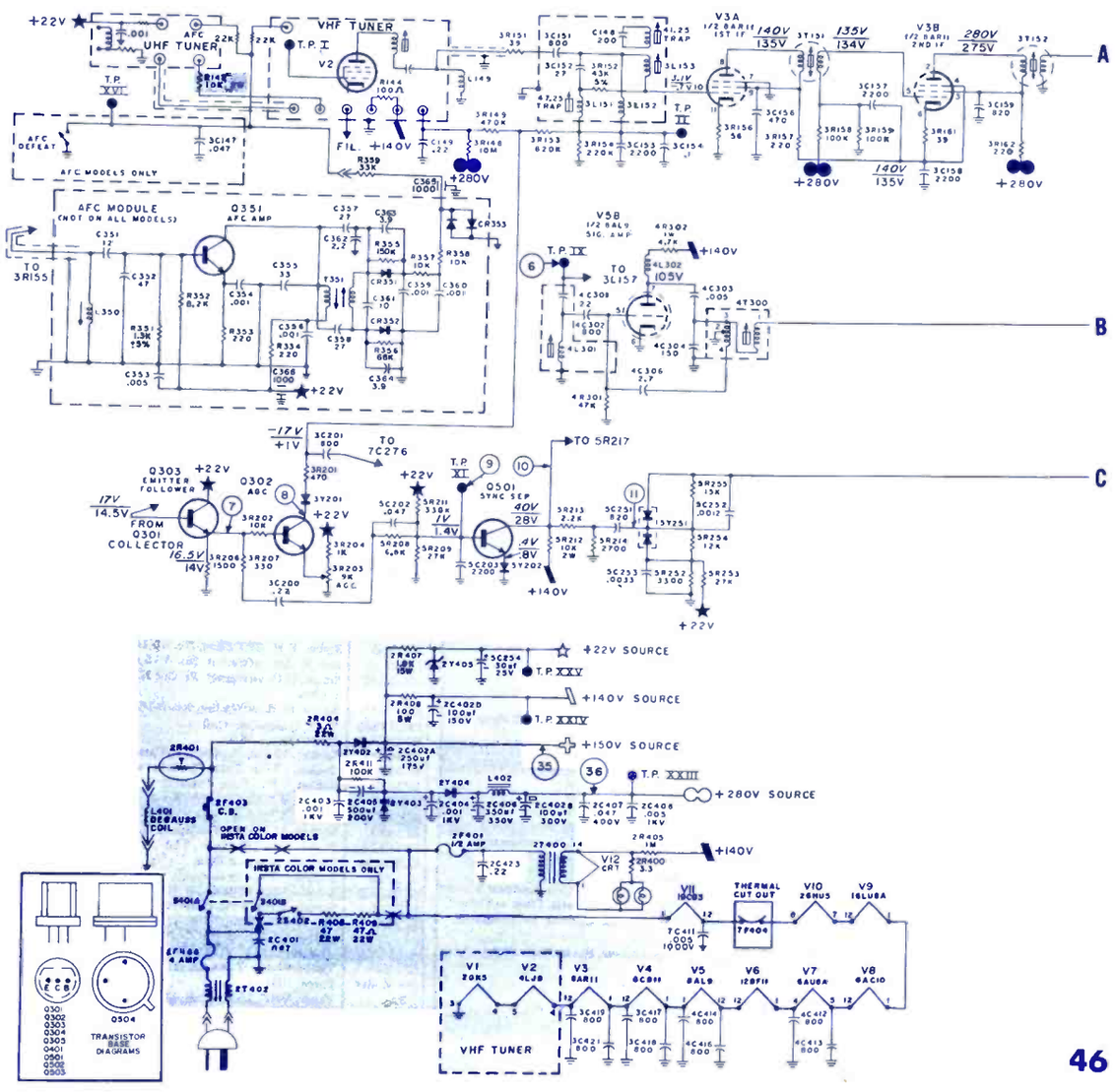
EP86X1 VHF TUNER

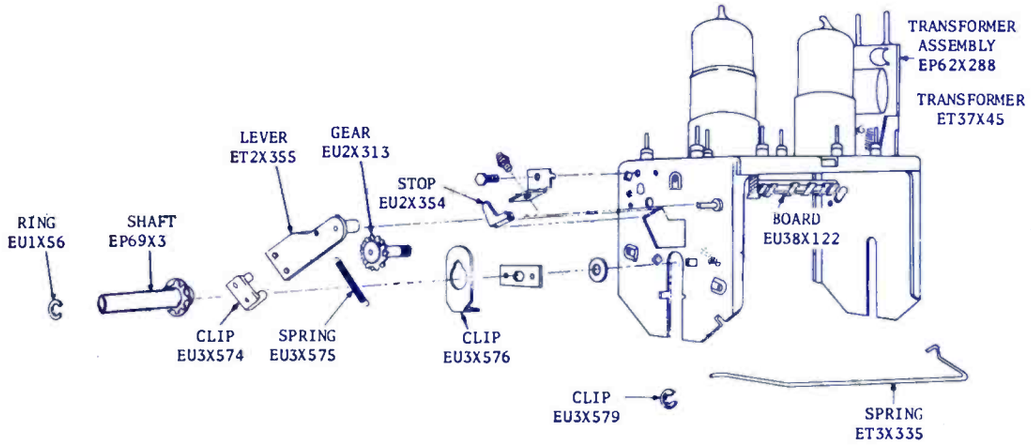




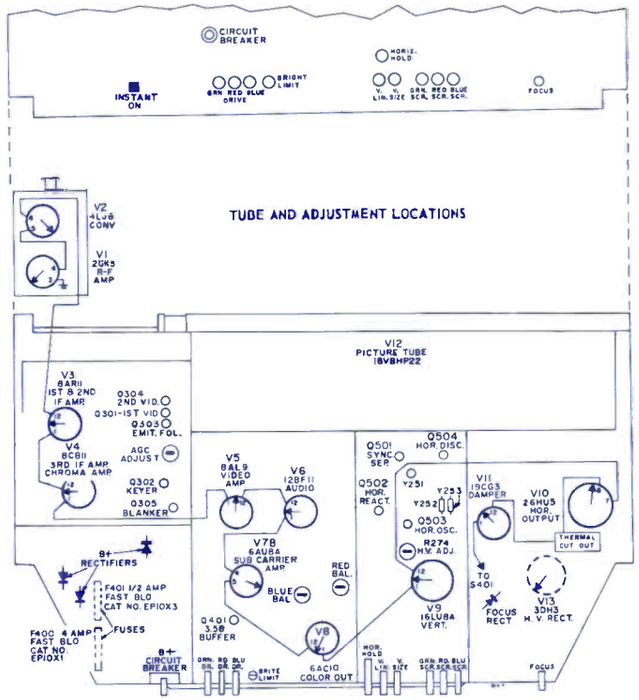


SCHEMATIC DIAGRAM

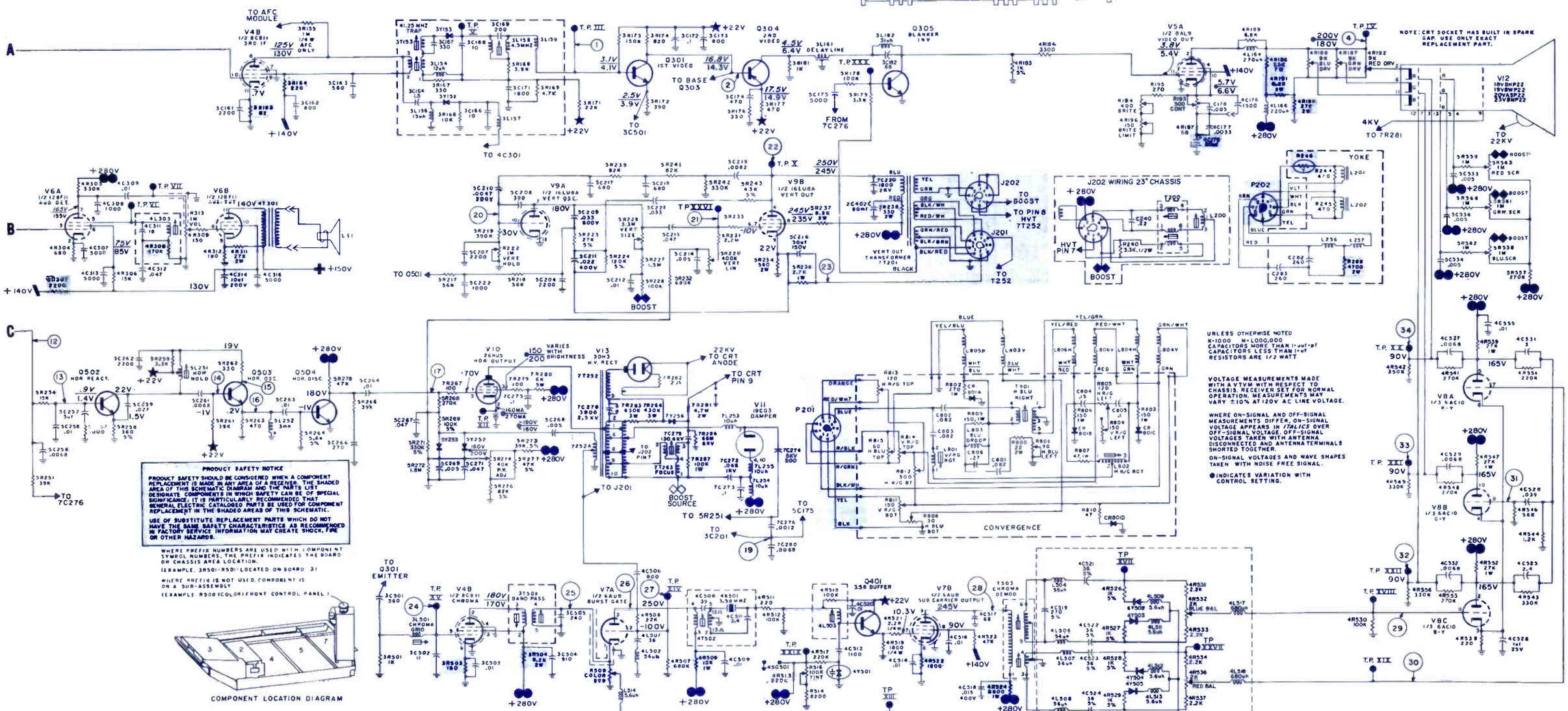




EXPLODED VIEW



SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R286	66M, 20%, 1.5w, composition, film	EP14X14
R401	PTCR less than 100Ω cold more than 4Khot	EP39X4
R403	thermistor, 100Ω, 25%/25°C	EP14X10
C402A	250 µf, 175v elect	EP31X1
C402B	100 µf, 300v elect	EP31X1
C402C	80 µf, 300v elect	EP31X1
C402D	100 µf, 150v elect	EP31X1
R187	9K, 30%, green drive	EP49X49
R188	9K, 30%, blue drive	EP49X49
R192	9K, 30%, red drive	EP49X49
R196	150Ω, 20%, bright limit	EP49X28
R203	9K, 20%, AGC adjust	EP49X27
R226	330,000Ω, 30%, vert lin	EP49X31
R229	3.3MΩ, 30%, height	EP49X31
R274	40K, 10%, hi volt adjust	EP49X32
R558	1MΩ, blue screen	EP49X33
R561	1MΩ, green screen	EP49X33
R563	1MΩ, red screen	EP49X33
Y256	3ma focus rectifier	EU57X32
L158	4.5MHz, trap coil w/core	EP61X3
L161	delay line	EP36X12
L251	horiz osc coil w/core	EP35X2
L301	audio take off coil w/core	EP36X28
L303	quad coil w/core	EP36X30
L511	choke coil, 5.6 µh	EP36X31
T201	vert output xformer	EP64X6
T252	horiz sweep xformer (HVT)	EP77X1
T263	focus coil w/knob	EP36X61
T301	audio output xformer	EP64X4
T400	filament xformer CRT	EP64X1
T501	chroma bandpass xformer, w/core	EP61X173
F401	0.5a fast blow fuse	EP10X3
	focus tracking assembly w/2-430K resistors 0.0039 cap	EP41X2



1. VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS, RECEIVER SET FOR NORMAL OPERATION.
   MEASUREMENTS MAY VARY 10% AT 120V AC 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 A NOISE FREE SIGNAL PRODUCING -2.5 TO -3.5V AGC AT VHF TUNER.

UNLESS OTHERWISE NOTED
K=1,000 M=1,000,000
CAPACITORS MORE THAN 1 are mf
CAPACITORS LESS THAN 1 are pf
RESISTORS ARE 1/2 W

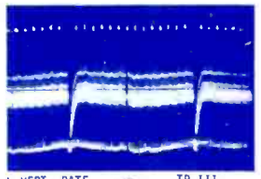
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE SHADED AREA OF THIS SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL significance. IT IS PARTICULARLY RECOMMENDED THAT GENERAL ELECTRIC CATALOGED PARTS BE USED FOR COMPONENT REPLACEMENT IN THE SHADED AREA OF THIS SCHEMATIC.

USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK FIRE OR OTHER HAZARDS.

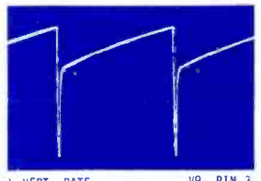
NOTE: CRT SOCKET HAS BUILT IN SPARK GAP, USE ONLY EXACT REPLACEMENT PART

WAVEFORMS FOR POINTS INDICATED

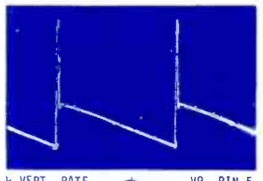
½ VERT. RATE
4 VOLTS PEAK
FROM GROUND
(1)
TP III
BROADCAST
SIGNAL



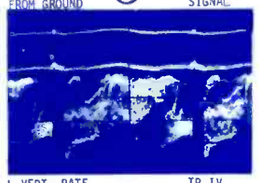
½ VERT. RATE
4 VOLTS PEAK
FROM GROUND
(1)
TP III
CROSSHATCH
GEN. SIGNAL



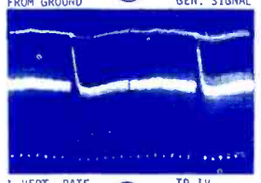
½ VERT. RATE
200 VPP
(11)
V9, PIN 3



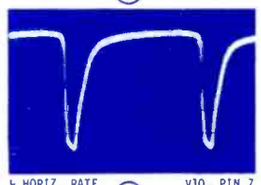
½ VERT. RATE
880 VPP
(12)
V9, PIN 5



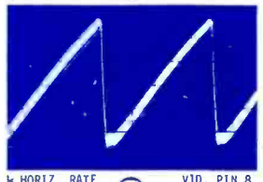
½ VERT. RATE
95 VPP
(2)
TP IV
BROADCAST
SIGNAL



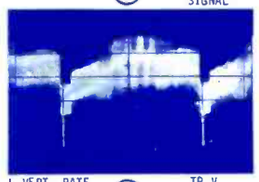
½ VERT. RATE
95 VPP
(2)
TP IV
CROSSHATCH
GEN. SIGNAL



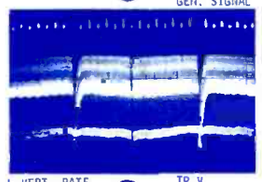
½ HORIZ. RATE
28 VPP
(13)
V10, PIN 7



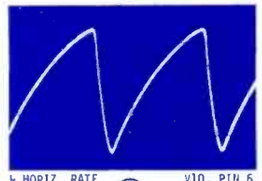
½ HORIZ. RATE
3 VPP
(14)
V10, PIN 8



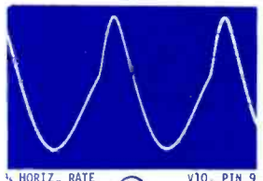
½ VERT. RATE
2 VPP
(3)
TP V
BROADCAST
SIGNAL



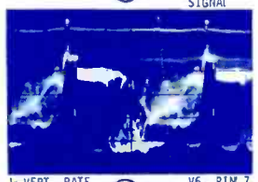
½ VERT. RATE
2 VPP
(3)
TP V
CROSSHATCH
GEN. SIGNAL



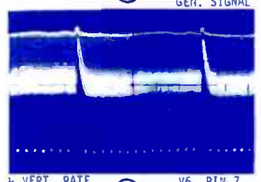
½ HORIZ. RATE
45 VPP
(15)
V10, PIN 6



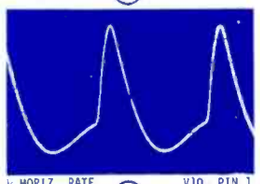
½ HORIZ. RATE
45 VPP
(16)
V10, PIN 9



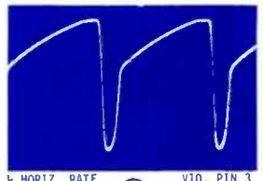
½ VERT. RATE
65 VPP
(4)
V6, PIN 7
BROADCAST
SIGNAL



½ VERT. RATE
65 VPP
(4)
V6, PIN 7
CROSSHATCH
GEN. SIGNAL



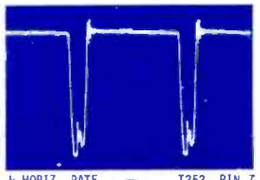
½ HORIZ. RATE
30 VPP
(17)
V10, PIN 1



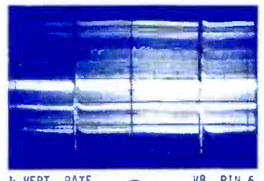
½ HORIZ. RATE
150 VPP
(18)
V10, PIN 3

½ VERT. RATE
50 VPP
(5)
TP VI
BROADCAST
SIGNAL

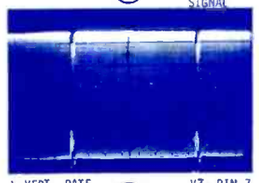
½ VERT. RATE
50 VPP
(5)
TP VI
CROSSHATCH
GEN. SIGNAL



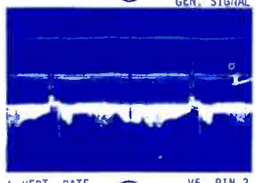
½ HORIZ. RATE
200 VPP
(19)
T252, PIN 7



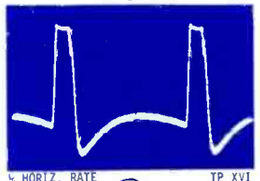
½ VERT. RATE
2 VPP
(20)
V8, PIN 6



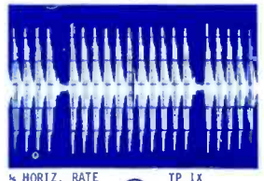
½ VERT. RATE
70 VPP
(6)
V7, PIN 7



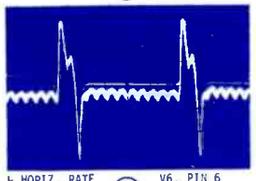
½ VERT. RATE
26 VPP
(7)
V6, PIN 3
BROADCAST
SIGNAL



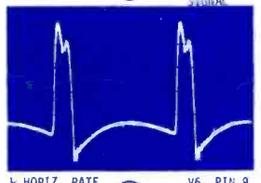
½ HORIZ. RATE
140 VPP
(21)
TP XVI



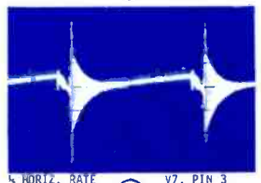
½ HORIZ. RATE
35 VPP
(22)
TP 1x
KEYED RAINBOW
GENERATOR



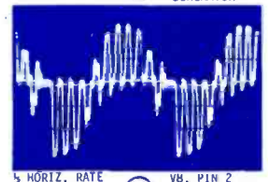
½ HORIZ. RATE
26 VPP
(7)
V6, PIN 6
KEYED RAINBOW
GENERATOR



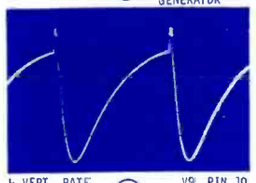
½ HORIZ. RATE
250 VPP
(8)
V6, PIN 9



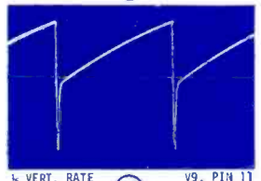
½ HORIZ. RATE
200 VPP
(23)
V7, PIN 3
KEYED RAINBOW
GENERATOR



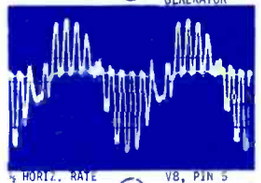
½ HORIZ. RATE
180 VPP
(24)
V8, PIN 2
KEYED RAINBOW
GENERATOR



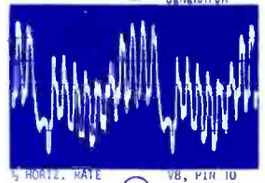
½ VERT. RATE
80 VPP
(9)
V9, PIN 10



½ VERT. RATE
240 VPP
(10)
V9, PIN 11



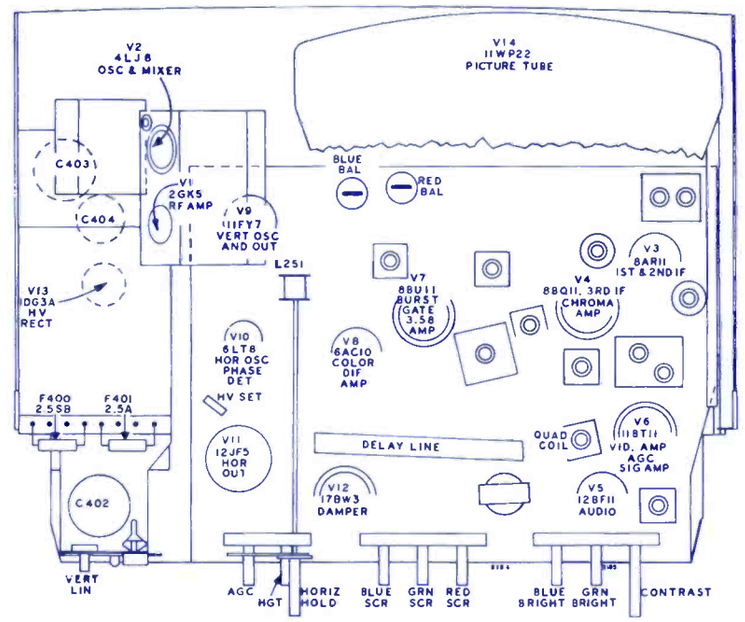
½ HORIZ. RATE
180 VPP
(25)
V8, PIN 5
KEYED RAINBOW
GENERATOR



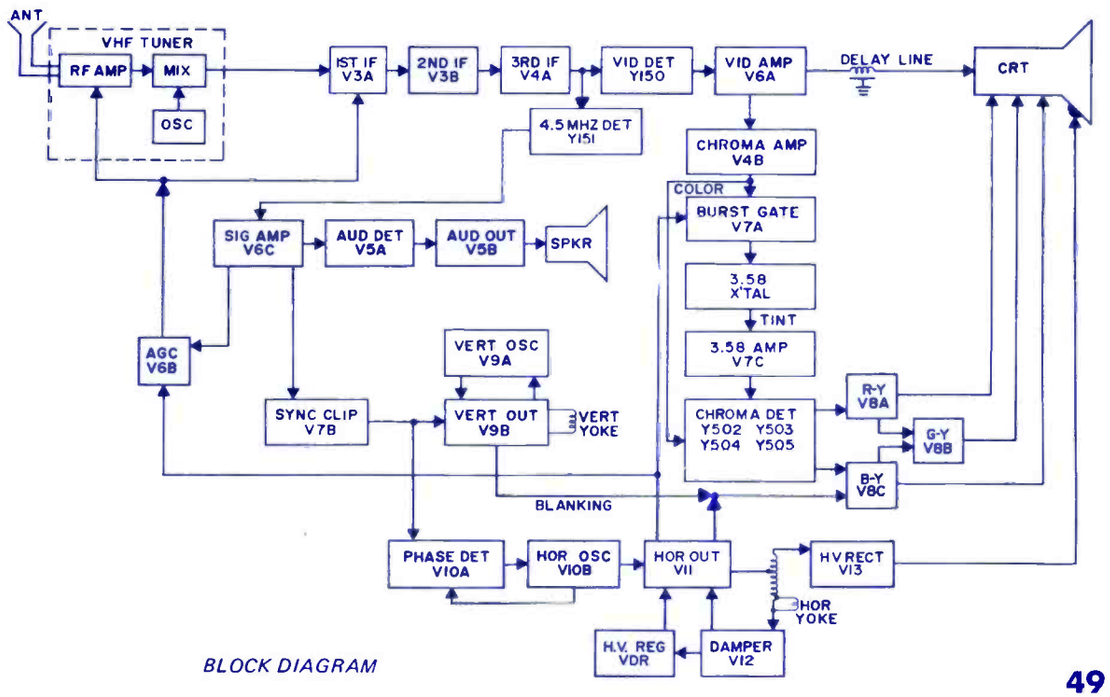
½ HORIZ. RATE
50 VPP
(26)
V8, PIN 10
KEYED RAINBOW
GENERATOR

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R212	thermistor 1.052M	EP14X206
R272	VDR, 1ma @850+-15%	EP13X2
R275	1.75Ω, 10%, 5WW	ET14X211
----	triple control	EP49X592
R183	250Ω, contrast	
R539	500K, green bright	
R545	500K, blue bright	
----	dual control	EP49X593
R195	40K, AGC	
R213	3.4M, vert height	
R218	2K, vert lin	EP49X590
R273	HV set., 500K	EP49X42
----	triple control	EP49X591
R546	blue screen	
R547	green screen	
R548	red screen	
C528	270pf, 5%, silver mica	ET19X94
C403A	120 μf, +100 -10%, 350v	EP31X265
C403B	100 μf, +100-10%, 300v	
C403C	100 μf, +100-10%, 150v	
C403D	100 μf, +150-10%, 75v	
C404A	80 μf, +100-10%, 175v	EP31X266
C404B	10 μf, +100-10%, 150v	
C404C	4 μf, +100-10%, 300v	
L155	coil—4.5MHz trap w/core	EU61X121
L162	coil, delay line	EP36X809
L201	deflect yoke, horiz and vert	EP76X4
L251	coil, horiz osc, w/core	ET35X52
L300	coil, audio detect w/core	EP36X814
L501	coil, 3.58MHz peaking w/core	EP36X20
T154	xformer, chroma take-off w/core	EP61X177
T200	xformer, vert output	EP64X14
T252	xformer, horiz output w/cap & lead assembly	EP77X4
T300	xformer, 4.5MHz interstage w/core	EP36X813
T301	xformer, audio output	ET64X105

GENERAL ELECTRIC
Color TV Chassis
H-4



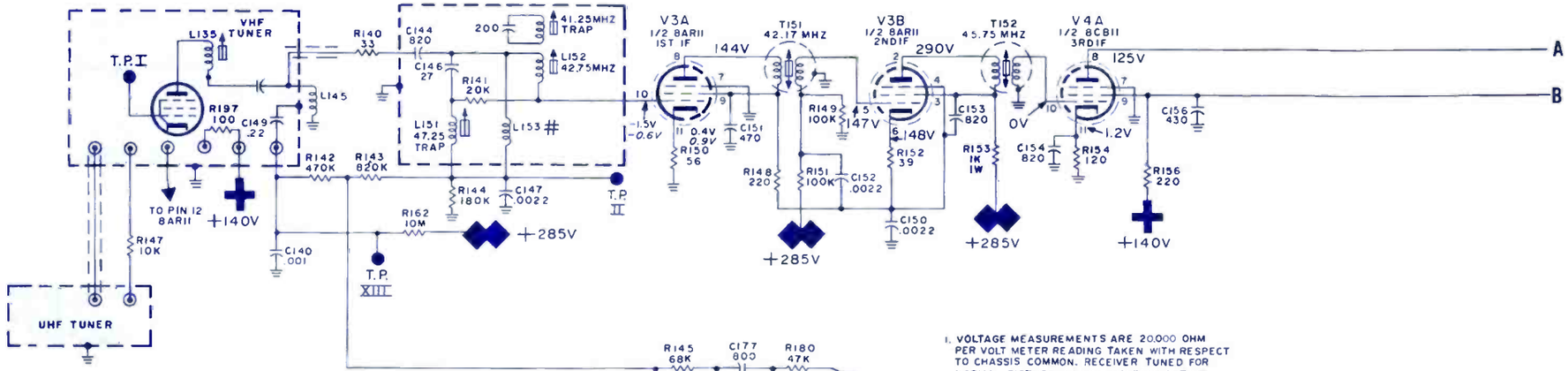
TUBE AND ADJUSTMENT LOCATOR



BLOCK DIAGRAM

GENERAL ELECTRIC
Color-TV Chassis
N-1

ELECTRONIC TECHNICIAN/DEALER TEKFAX



PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE SHADED AREA OF THIS SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT GENERAL ELECTRIC CATALOGED PARTS BE USED FOR COMPONENT REPLACEMENT IN THE SHADED AREAS OF THIS SCHEMATIC.

USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS.

1. VOLTAGE MEASUREMENTS ARE 20,000 OHM PER VOLT METER READING TAKEN WITH RESPECT TO CHASSIS COMMON. RECEIVER TUNED FOR NORMAL PICTURE. AC LINE VOLTAGE SET AT 120V. READINGS MAY VARY ±10% FROM THOSE SHOWN.
2. WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS DIFFER, OFF-SIGNAL VOLTAGE APPEARS IN *ITALICS* BELOW ON-SIGNAL VOLTAGE. OFF-SIGNAL VOLTAGES MEASURED WITH ANTENNA TERMINALS SHORTED TOGETHER.

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

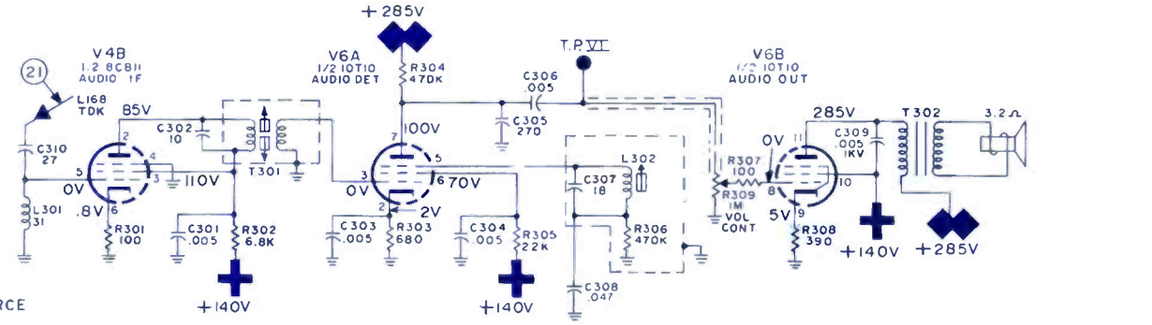
● VOLTAGE VARIES WITH CONTROL SETTING

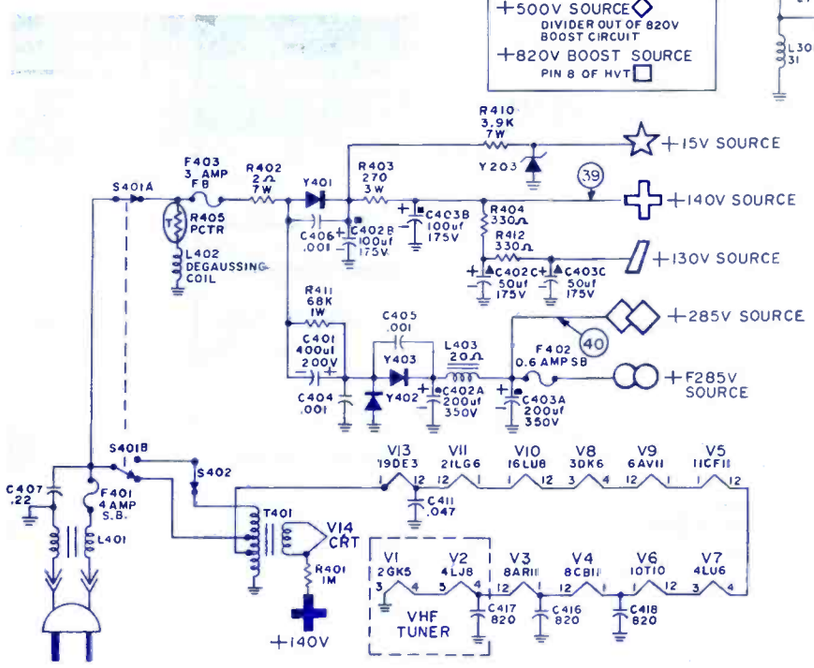
# INDICATES PRODUCTION CHANGE

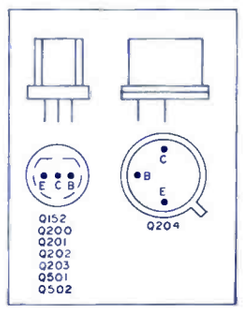
"X" TO "Y" FROM "X" "Y"

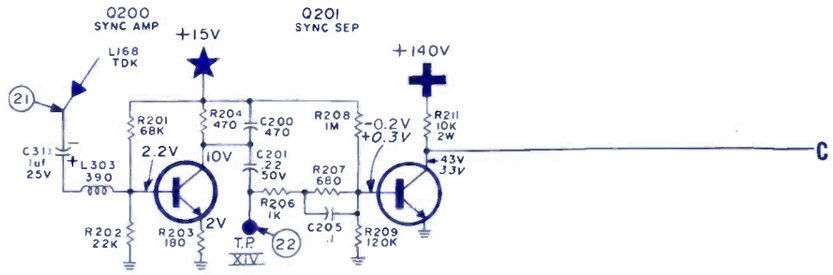
UNLESS OTHERWISE NOTED
K=1,000 M=1,000,000
CAPACITORS MORE THAN 1=uuf=uf
CAPACITORS LESS THAN 1=uf
RESISTORS ARE 1/2 WATT

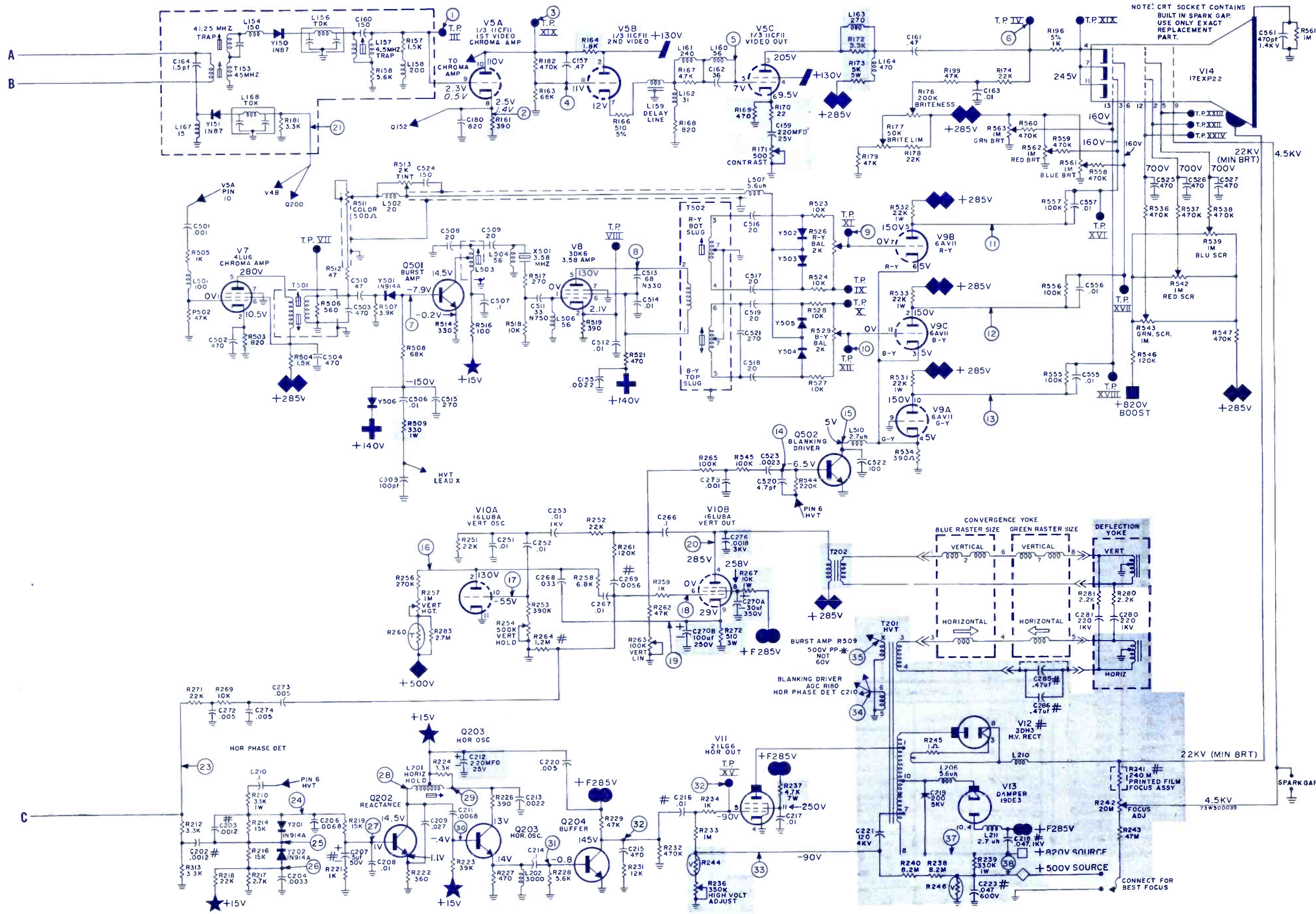
SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R244	varistor, 1ma, ±15%, @850v	EP13X2
R246	varistor, 1ma, ±15%, @575v	EP13X3
R260	thermistor, 500K, ±10%, @25°	EP14X20
R405	klixon, TDR 20Ω cold/5K hot	EP39X4
C402A	200 µf, +100%-10%, 350v, electro	EP31X18
C402B	100 µf, +100%-10%, 175v, electro	EP31X18
C402C	50 µf, +100%-10%, 175v, electro	EP31X18
C403A	200 µf, +100%-10%, 350v, electro	EP31X18
C403B	100 µf, +100%-10%, 175v, electro	EP31X18
C403C	50 µf, +100%-10%, 175v, electro	EP31X18
R165	control, AGC, 1K	EP49X44
R171	control, triple contrast 500K, 20%	EP49X50
R176	control, triple brite, 200K, 30%	EP49X50
R177	control, 50K, brite limit adjust	EP49X52
R236	control, H V adj, 350K	EP49X46
R242	control 20M, focus adj	EP49X51
R254	control, triple, vert hold, 500K, 30%	EP49X50
R257	control, dual vert height, 1M	EP49X45
R263	control, dual, vert lin, 100K	EP49X45
R309	control, on/off vol, 1M	EP49X3
R511	control, color, 500 Ω	EP49X54
R513	control, tint, 2K	EP49X55
R526	control, dual, red balance, 2K	EP49X594
R529	control, dual, blue balance, 2K	EP49X594
Q152	transistor, NPN, silicon AGC keyer	EP15X7
Q200	transistor, NPN, silicon, sync. amp	EP15X3
Q201	transistor, horiz, AFC	EP15X7
Q202	transistor, horiz react	EP15X9
Q203	transistor, horiz osc	EP15X9
Q204	transistor, horiz driver	EP15X10
Q501	transistor, NPN, silicon, burst amp	EP15X5
Q502	transistor, NPN, silicon, blanking driver	EP15X9
L157	coil, 4.5MHz trap w/core	EP61X3
L159	coil, delay line	EP36X50
L201	coil, horiz osc	EP36X55
L302	coil, quad	EP36X52
L401	line choke, 3.2–4.1MHz	EP36X57
T201	xformer, horiz output	EP77X7
T202	xformer, vert output	EP64X7
T301	xformer, audio interstage	EP36X34
T302	xformer, audio output	EP64X8
T401	xformer, filament	EP64X9
T501	coils, chroma bandpass	EP36X2
T502	xformer, chroma demod	EP36X65
	fuse, 4 amp slow-blo (F401)	EP10X7
	fuse, .6a slow-blo (F402)	EP10X5
	fuse, 3a fast-blo (F403)	EP10X4
	yoke, deflection	EP76X5
	yoke, convergence	EP62X18



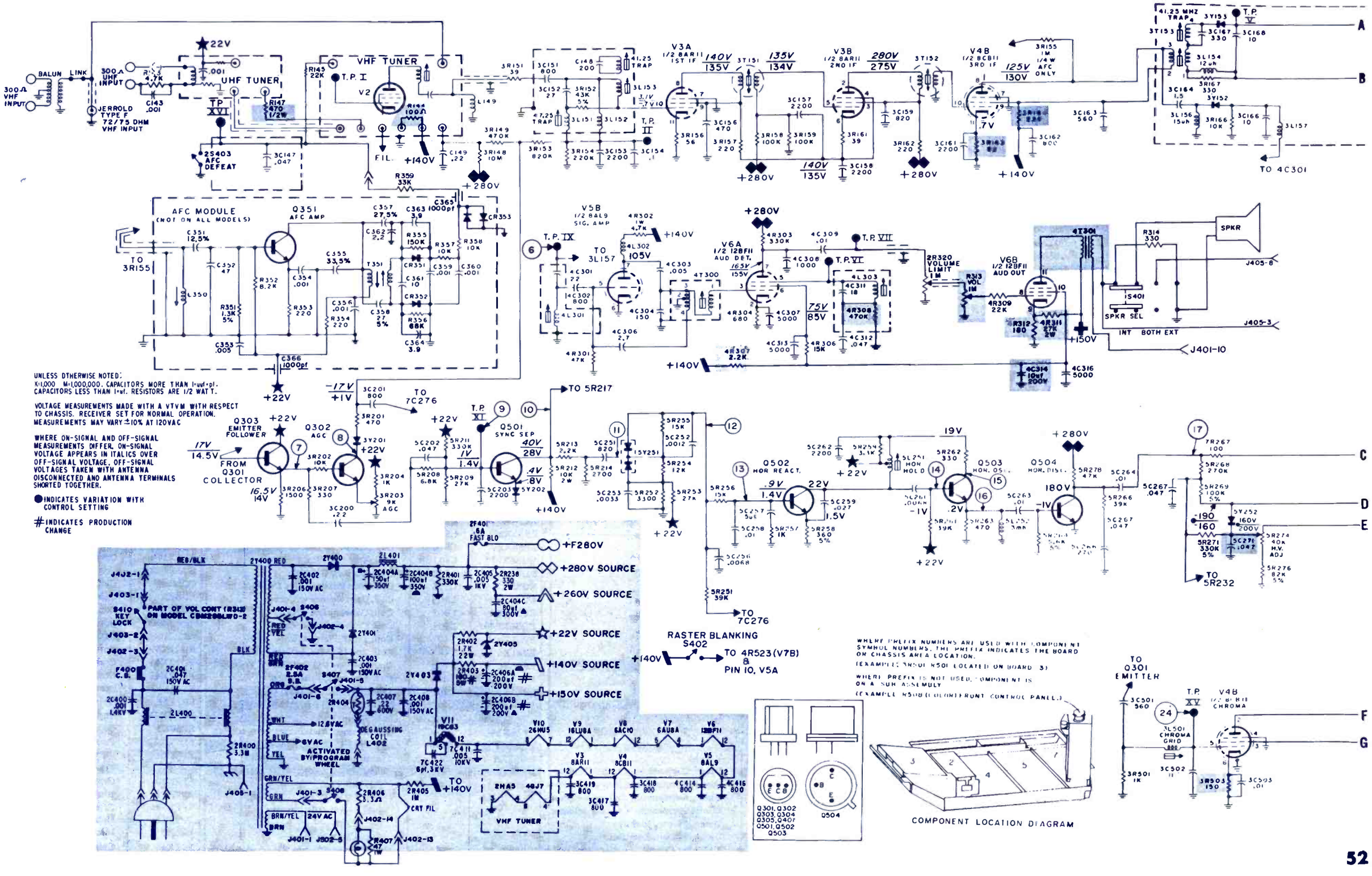






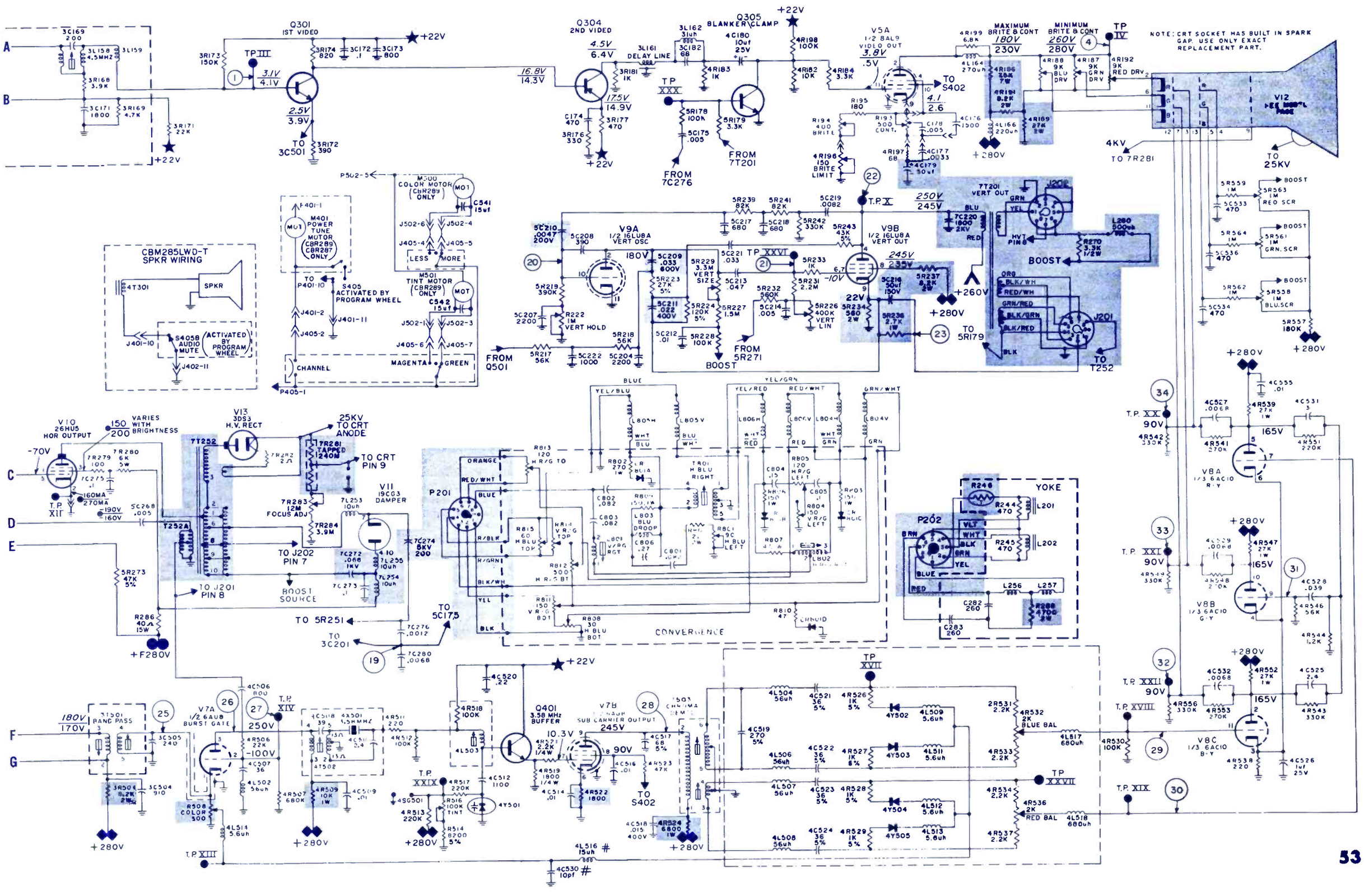

NOTE: CRT SOCKET CONTAINS BUILT IN SPARK GAP. USE ONLY EXACT REPLACEMENT PART.
V5A 1/3 11CF11 1ST VIDEO CHROMA AMP
V5B 1/3 11CF11 2ND VIDEO
V5C 1/3 11CF11 VIDEO OUT
V14 17EXP22
L159 DELAY LINE
R171 500 CONTRAST
R176 200K BRITENESS
R177 50K BRITE LIM
V7 4LU6 CHROMA AMP
Q501 BURST AMP
V8 3DK6 3.58 AMP
R513 2K TINT
R511 COLOR 500Ω
V9B 6AV11 R-Y
V9C 6AV11 B-Y
V9A 6AV11 G-Y
Q502 BLANKING DRIVER
R539 1M BLU SCR
R542 1M RED SCR
R543 GRN. SCR. 1M
+820V BOOST
V10A 16LU8A VERT OSC
V10B 16LU8A VERT OUT
R257 1M VERT HGT.
R254 500K VERT HOLD
R263 100K VERT LIN
CONVERGENCE YOKE
BLUE RASTER SIZE
GREEN RASTER SIZE
DEFLECTION YOKE
T201 HVT
V12 3DH3 H.V. RECT
V13 DAMPER 19DE3
V11 21LG6 HOR OUT
HOR PHASE DET
Q202 REACTANCE
Q203 HOR OSC
Q204 BUFFER
R236 350K HIGH VOLT ADJUST
R241 240 M PRINTED FILM FOCUS ASSY
R242 20M FOCUS ADJ
22KV (MIN BRT)
4.5KV
SPARK GAP
CONNECT FOR BEST FOCUS
+820V SOURCE
+500V SOURCE

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R246	thermistor, 3.8Ω at 25°C	EU14X147
R281	240M, tapped at 40M, focus	EP14X33
R404	PTCR, 100Ω cold, 4K hot	EP39X4
R187	triple control, 9K green drive	EP49X49
R188	9K, blue drive	
R192	9K, red drive	
R196	150Ω, bright limit dual control	EP49X28 EP49X31
R226	330K, vert lin	
R229	3.3M, height	
R274	40K, hi voltage adjust	EP49X32
R283	focus 12M	EP49X73
R558	triple control, 1M, blue screen	EP49X33
R561	1M, green screen	
R563	1M, red screen	
C404A	150 µf, 350v	EP31X26
C404B	100 µf, 350v	
C404C	80 µf, 300v	
C406A	200 µf, 200v	EP31X27
C406B	200 µf, 200v	
Y256	rectifier, focus 3ma	EU57X32
Y501	varicap	EU30X87
L151	coil, 47.25MHz, trap w/core	EP36X13
L153	xformer, 1st IF	EP61X1
L157	coil, choke	EP36X7
L158	coil, 4.5MHz, trap	EP61X3
L161	delay line	EP36X12
L251	coil, horiz osc	EP35X2
L301	coil, audio take off	EP36X28
L303	coil, quad	EP36X30
L400	coil, line choke	EP36X57
L501	coil, chroma input	EPX36X24
T201	xformer, vert out	EP64X6



T252—xformer, horiz sweep (HVT) EP77X9
T300—xformer, audio interstage EP36X34
T301—xformer, audio output EP64X16
T351—xformer, AFC discriminator EU61X6
T400—xformer, power EP88X3
T501—xformer, chroma bandpass EP61X173
T502—xformer, crystal, filter EP61X174
T503—xformer, chroma, demodulator EP61X175
circuit breaker (F400) EP10X9
fuse, .6a, fast blow, F401 ..... EP10X12
fuse, 2.5a, slow blow, F402 ..... EP10X13
yoke, deflection EP76X2

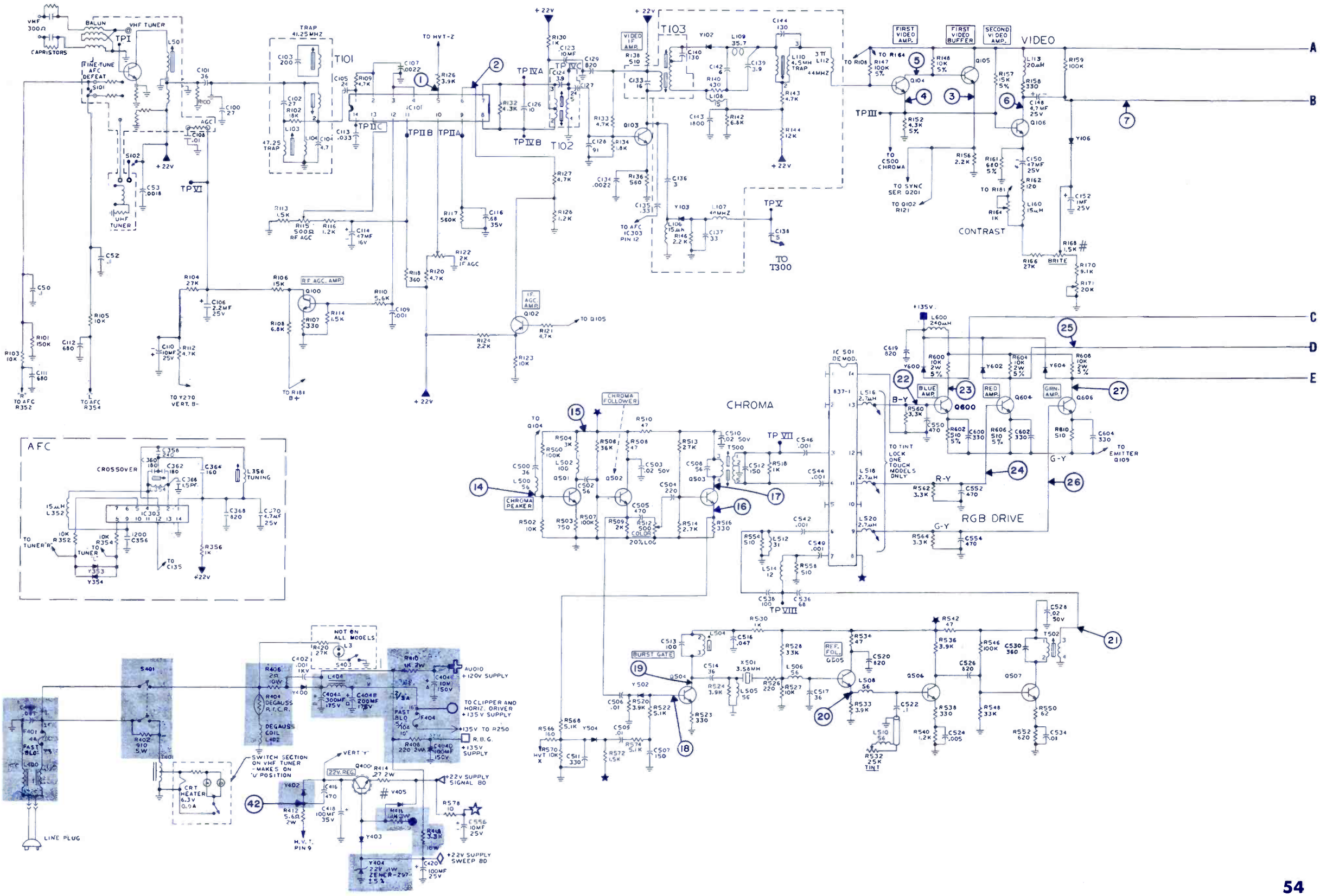
GENERAL ELECTRIC
Color-TV Chassis
L-T2



GENERAL ELECTRIC
Color-TV Chassis JA

ELECTRONIC TECHNICIAN/DEALER TEKFAX

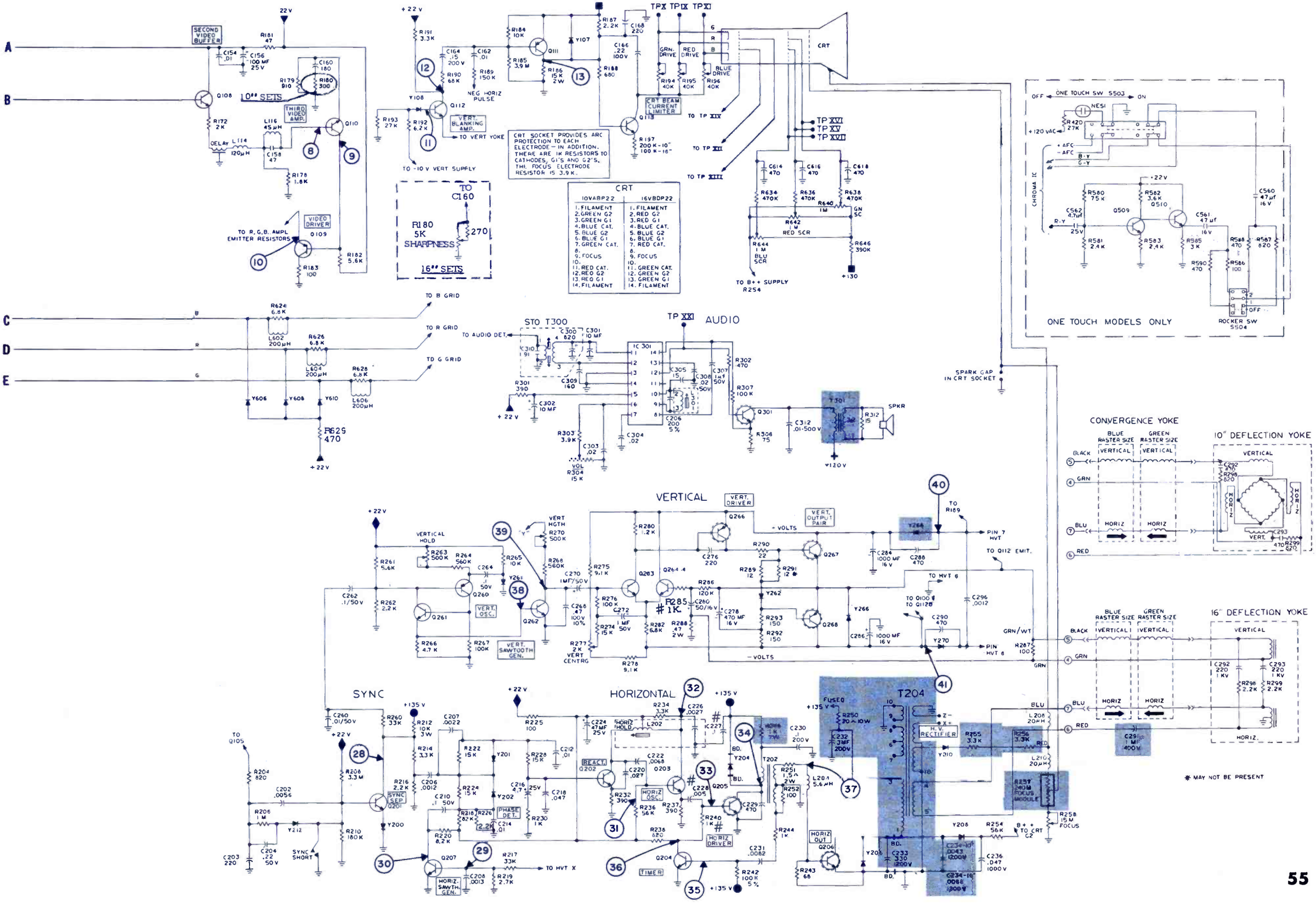
SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R248	1K, 10%, 7w, WW	EP14X43
R404	degaussing	EP39X4
R115	RF AGC, 500Ω, 20%	EP49X02
	dual control	EP49X94
R122	1F AGC, 2K	
R196	blue drive, 40K	
R171	brite centering, 20K	EP49X96
R258	focus, 15M, 20%	EP49X91
	dual control	EP49X95
R263	vert hold, 500K	
R270	vert height, 500K	
R277	vert centering, 2K	EP49X90
	triple control	EP49X93
R640	green screen, 1M	
R642	red screen, 1M	
R644	blue screen, 1M	
C404A	300μf, 175v	EP31X28
C404B	200μf, 175v	
C404C	10μf, 150v	
C404D	100μf, 150v	
L103	coil, 47.25MHz trap	EP36X86
L112	coil, 44MHz trap	EP36X4
	conv yoke assembly	EP62X32
	yoke & plug assembly, 10 in. set	EP76X9
	yoke & plug assembly, 16 in. set	EP76X8



L202—coil, horiz osc w/core EP36X55
L301—coil quad w/core EP36X83
T102—xformer, IF, 44MHz, w/core EP61X11
T202—xformer, horiz buffer EP64X19
T204—HV xformer, w/air gap, 10 in. sets EP77X11
T204—HV xformer, w/air gap, 16 in. sets EP77X12
T301—xformer, audio output ET64X105
T401—xformer, filament, 10 in. sets EP64X18
T401—xformer, filament, 16 in. sets EP64X20

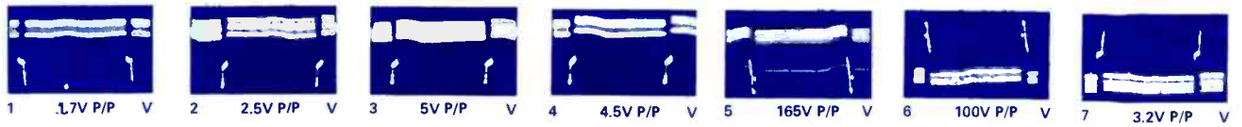
T500—xformer, chroma bandpass w/core EP61X14
T502—coil, 3.58MHz output xformer, w/core EP36X84
1C101—integ ckt, IF, AGC EP84X1
1C301—integ ckt, audio EP84X2
1C303—integ ckt., AFC module EP84X4
1C501—integ ckt., demod EP84X3
Y404—diode, zener, 22v, 5% ES16X29
fuse, 4a, fast blow, F401 . . . . . .EP10X52
fuse, 0.5a, fast blow, F404, 10 in. sets EP10X3
fuse, 0.67a, fast blow, F404, 16 in. sets EP10X16

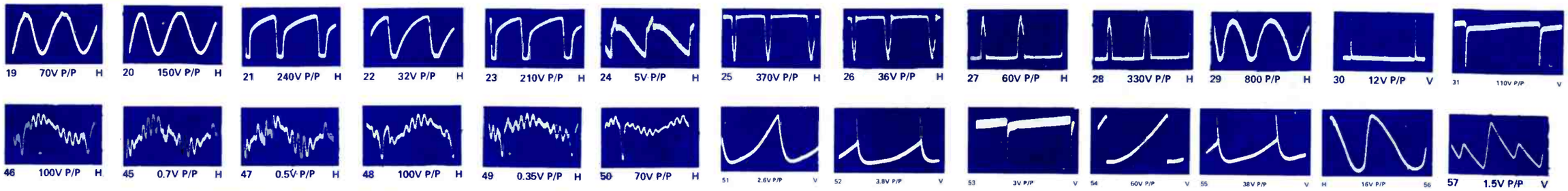
GENERAL ELECTRIC
Color-TV Chassis
JA

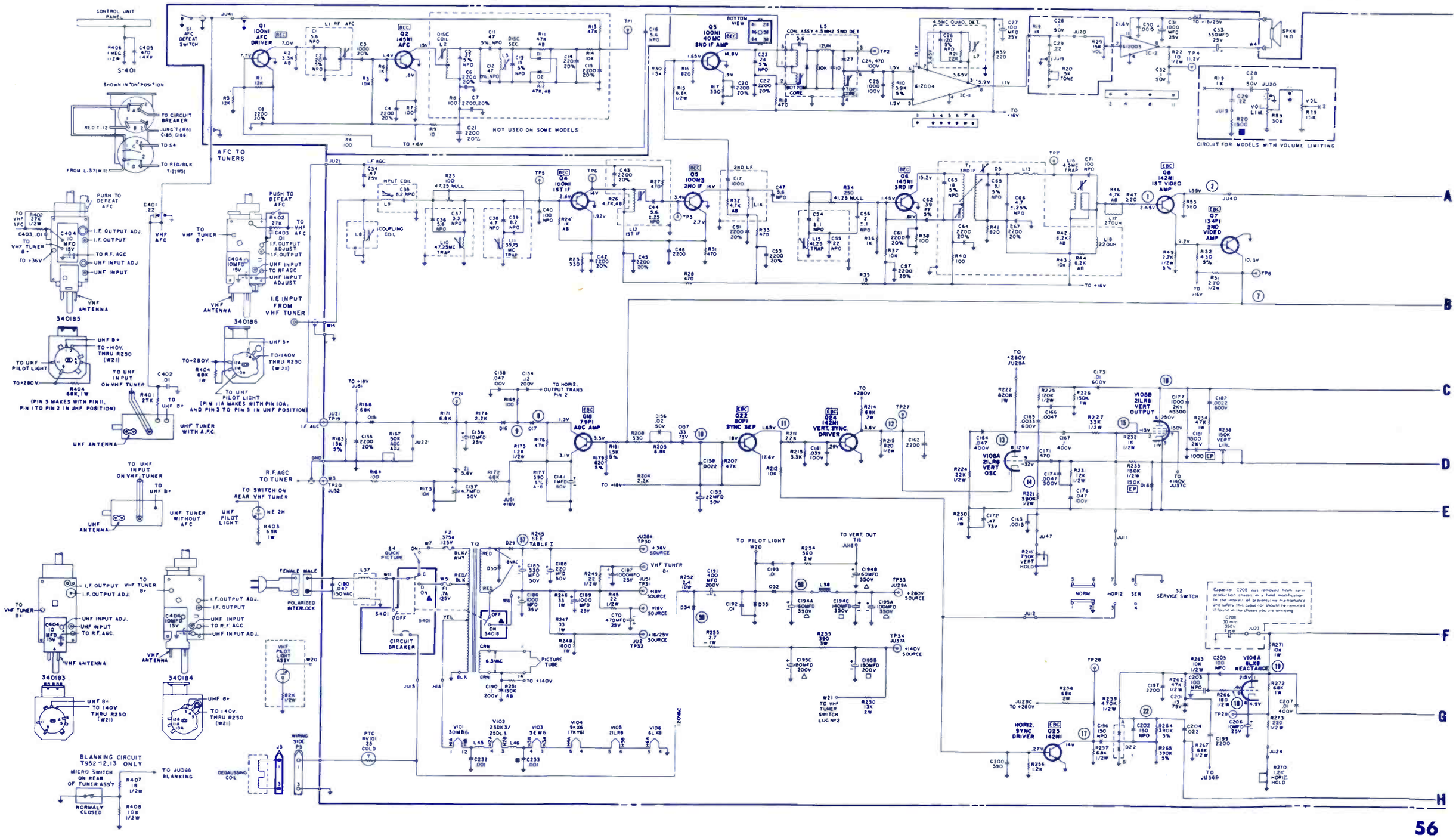


MAGNAVOX
Color-TV Chassis
T952

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**








8 19V P/P H

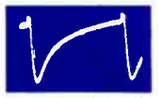

9 31V P/P H


10 2.2V P/P H

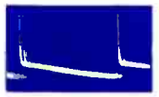

11 2.2V P/P V


12 4.2V P/P V

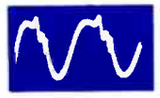

13 110V P/P V


14 65V P/P V

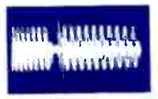

15 110V P/P V

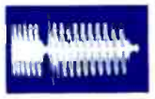

16 1300V P/P V

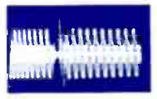

17 25V P/P H

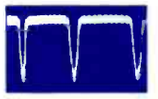

18 7V P/P H

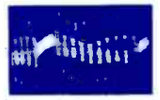
MAGNAVOX
Color-TV Chassis
T952

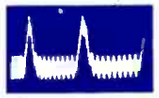

32 1.3V P/P H


33 0.9V P/P H


34 26V P/P H


35 6V P/P H

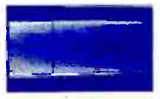

36 5V P/P H

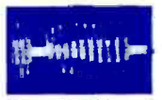

37 16V P/P H

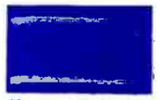

38 170V P/P H


39 17V P/P V

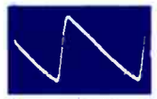

40 42V P/P V

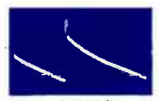

41 40V P/P H

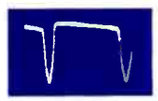

42 3.5V P/P H

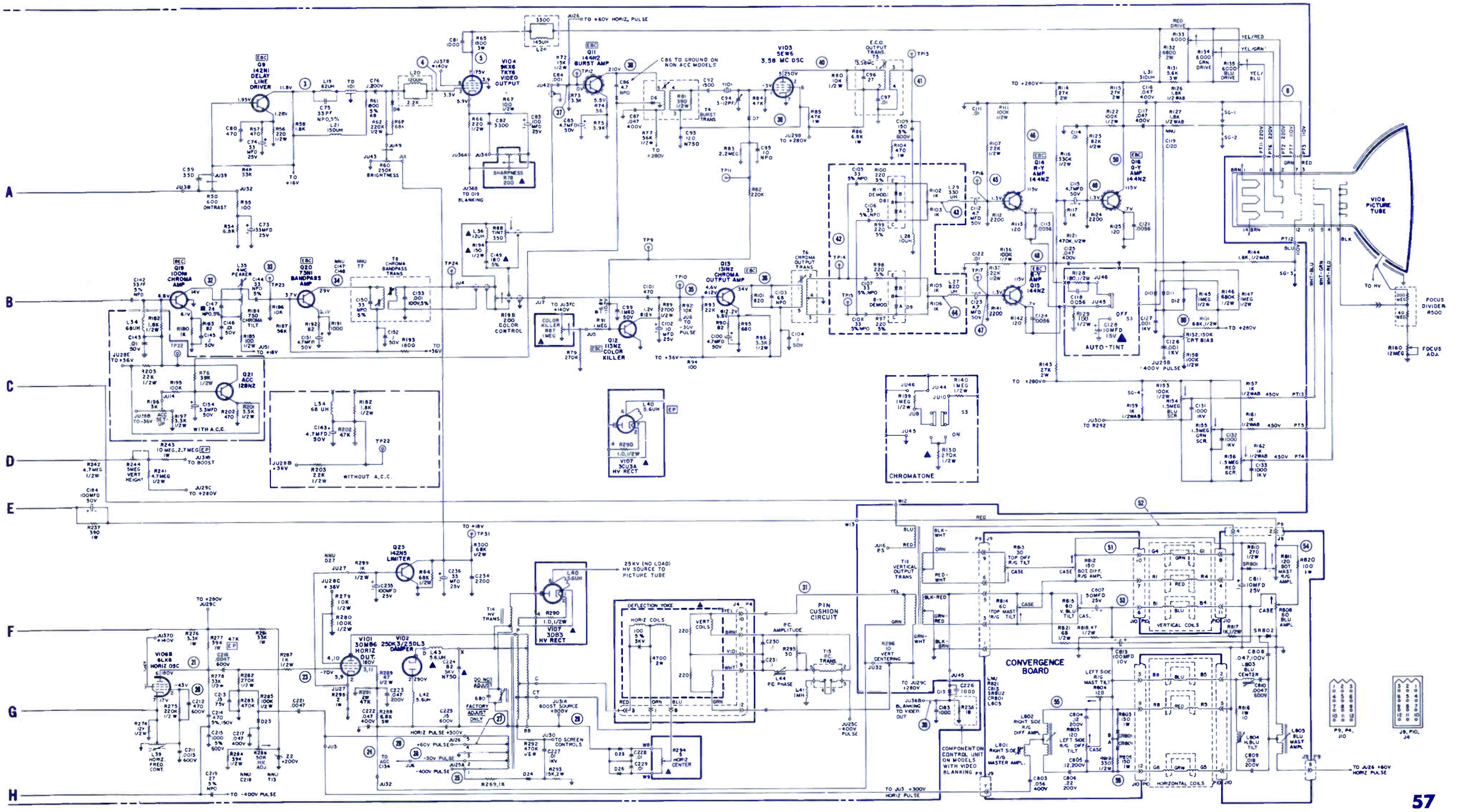

43 22V P/P H


44 22V P/P H


58 25V P/P V


59 2.9V P/P V


60 140V P/P H

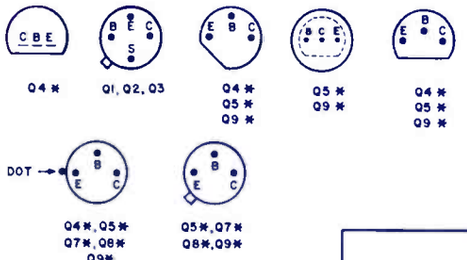


MAGNAVOX

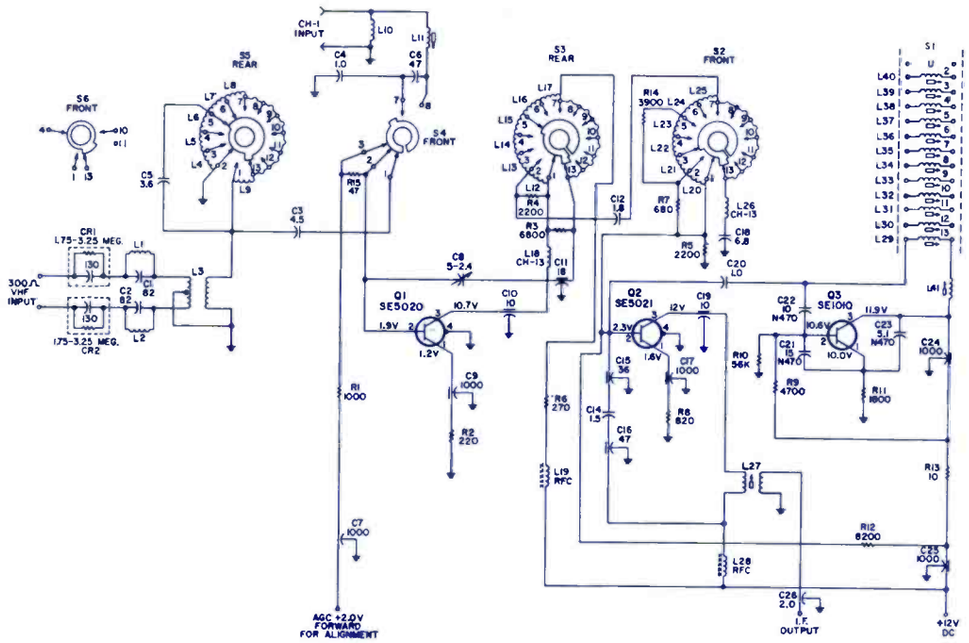
TV Chassis
T946 Series

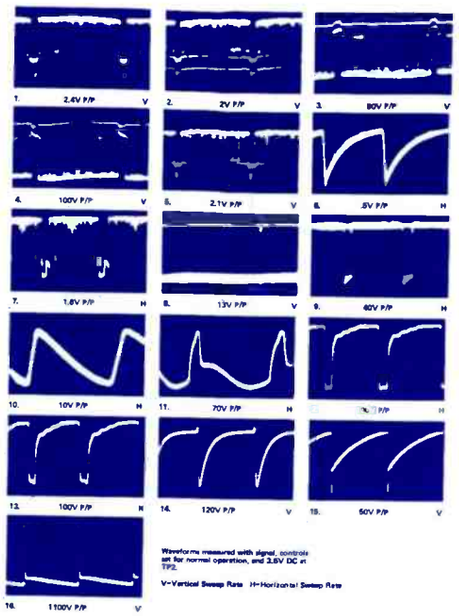
ELECTRONIC TECHNICIAN/DEALER TEKFAX

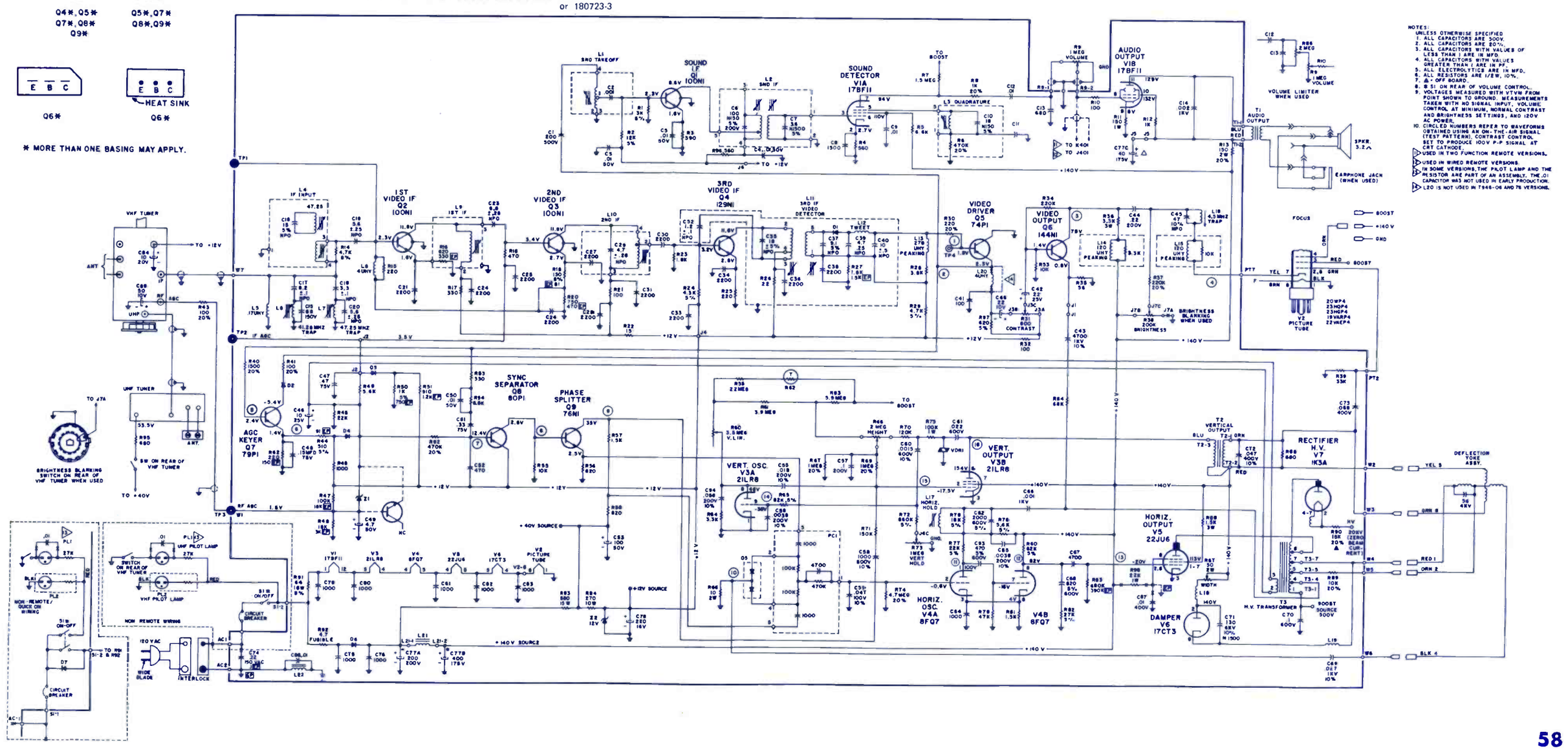
SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
L1	sound take-off coil	361344-1
L2	sound interstage xformer	361369-1
L3	quad coil	360847-2
L16	4.5MHz trap coil	360851-1
T1	audio output xformer	320368-2
T2	vert output xformer	320369-1
T3	horiz output xformer	361373-1
	deflection yoke (used with 19VA CRT's)	361377-1
	deflection yoke (used with 22VA CRT's)	361377-2
C1	silver mica, 200pf, 20%, 500v	250366-537
C77	200, 200v; 400/40, 150v elect	270099-12
R62	thermistor	230130-6
R91	64, 5%, 18w, WW	240088-10
R92	4.7, 10%, fusible	240098-1
R93	880, 5%, 12w, WW	240088-11
R94	270, 5%, 10w, WW	240082-159
R9	vol w/switch, 1M (used in T946-01, 04, 71)	220247-7008
R9	vol w/switch, 1M (used in T946-02, 03, 05, 06, 72, 73, 76)	220260-39
R31	contrast, 600 (used in T946-02, 03, 72, 73)	220255-8
R31	contrast, 600 (used in T946-06, 76)	220255-11
R38	bright, 200K (used in T946-01, 04, 05, 71)	220251-2
R38	bright, 200K (used In T946-02, 03, 72, 73)	220255-7
R38	bright, 200K (used in T946-06,76)	220255-10
R60	vert lin, 3.5M	220251-5
R68	height, 2M	220251-4
R73	vert hold, 1M (used in T946-01, 02, 03, 04, 05, 71, 72, 73)	220251-3
R73	vert hold, 1M (used in T946-06, 76)	220255-9
VDR1	varistor	230167-2
PC1	packaged circuit	250377-1
	circuit breaker	180723-7003 or 180723-3



* MORE THAN ONE BASING MAY APPLY.

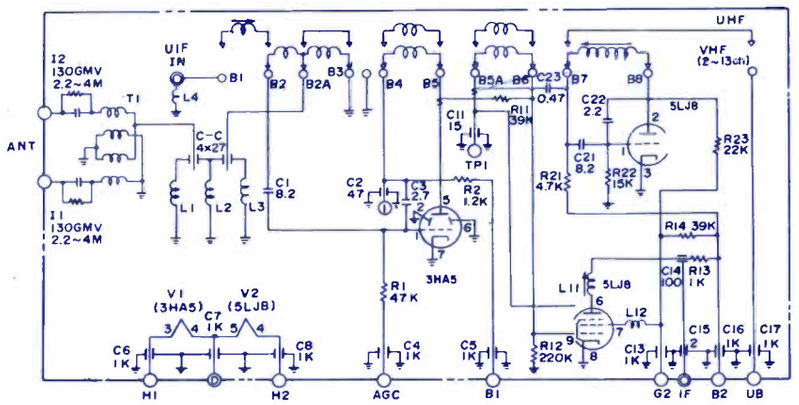


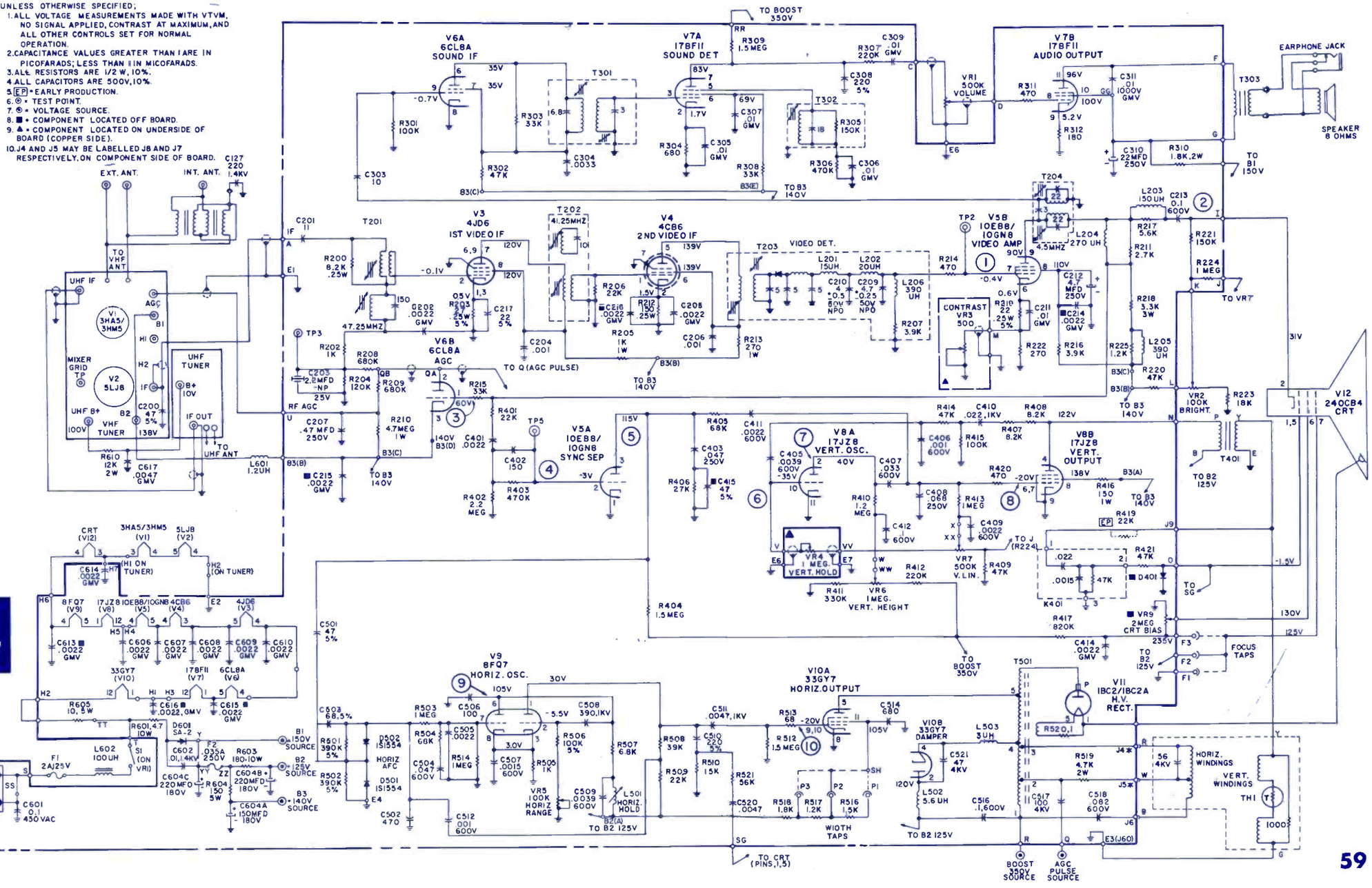




NOTES:
UNLESS OTHERWISE SPECIFIED
1. ALL CAPACITORS ARE 500V.
2. ALL CAPACITORS ARE 20%.
3. ALL CAPACITORS WITH VALUES OF LESS THAN 1 ARE IN MFD.
4. ALL CAPACITORS WITH VALUES GREATER THAN 1 ARE IN PF.
5. ALL ELECTROLYTICS ARE IN MFD.
6. ALL RESISTORS ARE 1/2W, 10%.
7. ⏚ - OFF BOARD.
8. S1 ON REAR OF VOLUME CONTROL.
9. VOLTAGES MEASURED WITH VTVM FROM POINT SHOWN TO GROUND. MEASUREMENTS TAKEN WITH NO SIGNAL INPUT, VOLUME CONTROL AT MINIMUM, NORMAL CONTRAST AND BRIGHTNESS SETTINGS, AND 120V AC POWER.
10. CIRCLED NUMBERS REFER TO WAVEFORMS OBTAINED USING AN ON-THE-AIR SIGNAL (TEST PATTERN), CONTRAST CONTROL SET TO PRODUCE 100V P-P SIGNAL AT CRT CATHODE.

△1 USED IN TWO FUNCTION REMOTE VERSIONS.
△2 USED IN WIRED REMOTE VERSIONS. IN SOME VERSIONS, THE PILOT LAMP AND THE RESISTOR ARE PART OF AN ASSEMBLY. THE .01 CAPACITOR WAS NOT USED IN EARLY PRODUCTION.
△3 L20 IS NOT USED IN T946-06 AND 76 VERSIONS.





MAGNAVOX
TV Chassis T959

1 TP-2 3V P/P V

2 Pin 2/CRT 60V P/P V

3 Pin 1/V6 57V P/P V

4 TP-5 38V P/P V

5 Pin 3/V5 32V P/P H

6 Pin 10/V8 100V P/P V

7 Pin 2/V8 65V P/P V

8 Pin 6/V8 30V P/P V

9 Pin 6/V9 18V P/P H

10 Pin 9/V10 80V P/P H

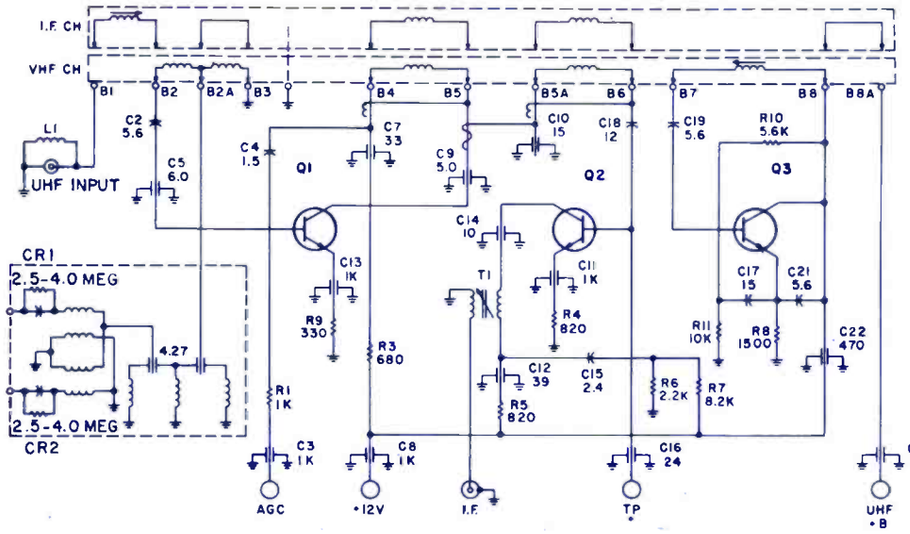
VHF TUNER SCHEMATIC

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
T204	sound take-off xformer & 4.5MHz trap	36A040-26
T301	sound IF xformer	36A040-27
T302	quad coil	36A023-8
T303	audio output xformer	32A021-7
T401	vert output xformer	32A022-1
T501	horiz output xformer	32A021-8
	deflection yoke	36A040-22
VR1	500K, volume on/off	22A012-10
VR2	100K, bright	22A012-9
VR3	500Ω, contrast	22A012-3
VR4	1M, vert hold	22A012-7
VR5	100K, horiz range	22A012-5
VR6	1M, vert height	22A012-5
VR7	500K, vert lin	22A012-5
VR9	2M, CRT bias	22A012-6
F1	fuse 2a, 125v	18A008-1
F2	fuse, 0.35a, 250v	18A019-12
K401	vert retrace pac	25A019-1
	UHF tuner	34A008-4
	VHF tuner	34A008-3

UNLESS OTHERWISE SPECIFIED;

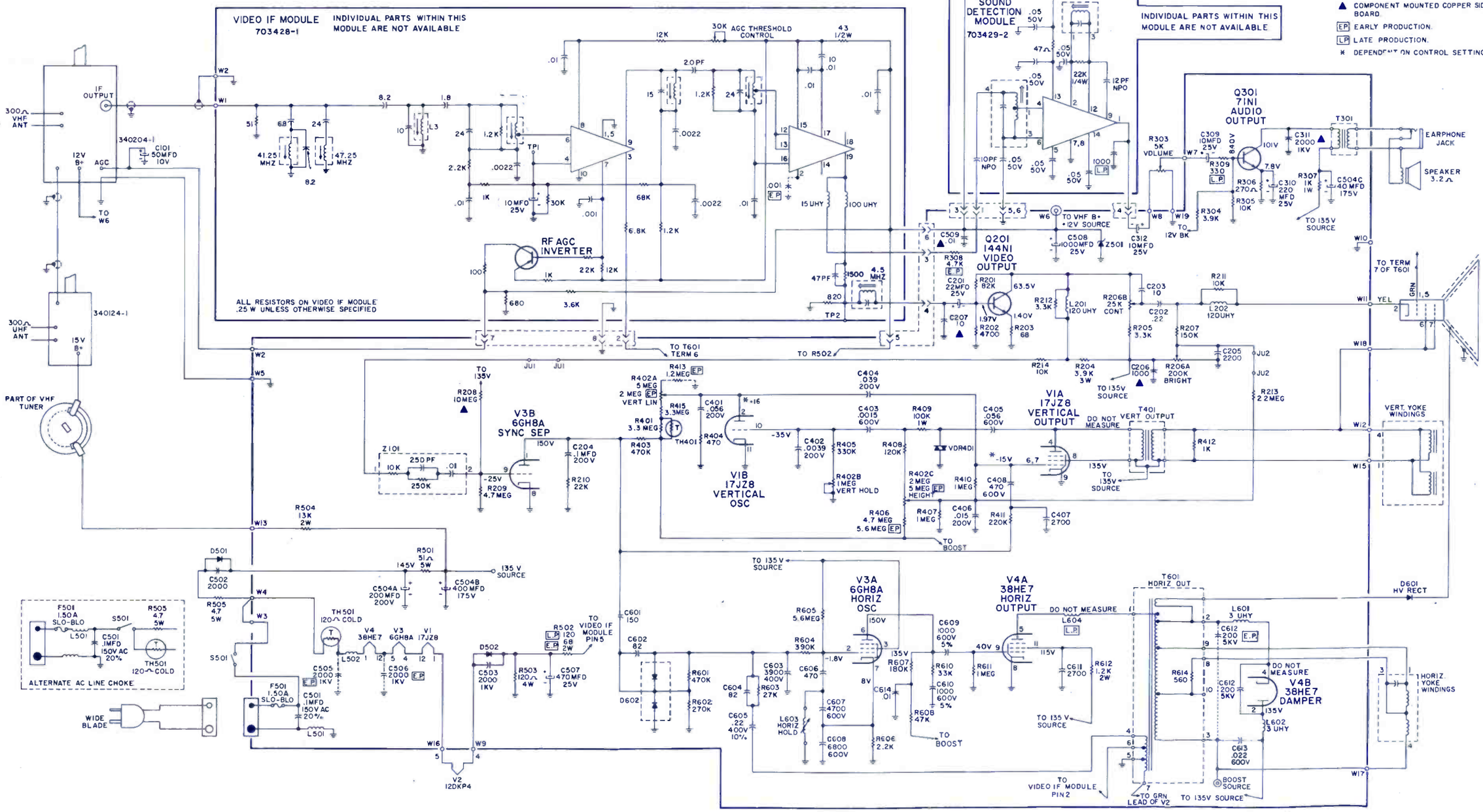
1. ALL VOLTAGE MEASUREMENTS MADE WITH VTVM, NO SIGNAL APPLIED, CONTRAST AT MAXIMUM, AND ALL OTHER CONTROLS SET FOR NORMAL OPERATION.
2. CAPACITANCE VALUES GREATER THAN 1 ARE IN PICOFARADS; LESS THAN 1 IN MICOFARADS.
3. ALL RESISTORS ARE 1/2 W, 10%.
4. ALL CAPACITORS ARE 500V, 10%.
5. EP = EARLY PRODUCTION.
6. ⊙ = TEST POINT.
7. ⦿ = VOLTAGE SOURCE.
8. ■ = COMPONENT LOCATED OFF BOARD.
9. ▲ = COMPONENT LOCATED ON UNDERSIDE OF BOARD (COPPER SIDE).
10. J4 AND J5 MAY BE LABELLED J8 AND J7 RESPECTIVELY, ON COMPONENT SIDE OF BOARD.

MAGNAVOX
TV Chassis
T960 Series



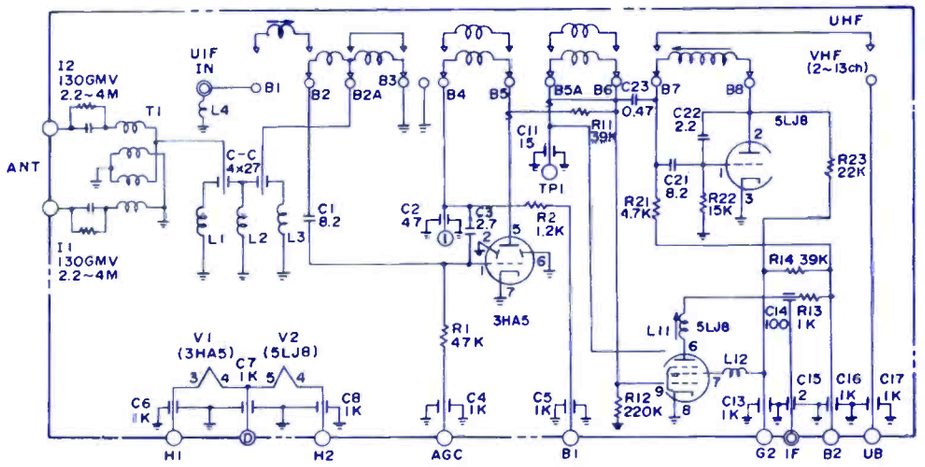
NOTES:
UNLESS OTHERWISE SPECIFIED
1. ALL CAPACITORS ARE 500V.
2. ALL CAPACITORS ARE 20%.
3. ALL CAPACITORS WITH VALUES OF LESS THAN 1 ARE IN MFD.
4. ALL CAPACITORS WITH VALUES GREATER THAN 1 ARE IN PF.
5. ALL ELECTROLYTICS ARE IN MFD.
6. ALL RESISTORS ARE 1/2 WATT, 10%.
7. VOLTAGES MEASURED WITH VTVM FROM POINT SHOWN TO GROUND. MEASUREMENTS TAKEN WITH NO SIGNAL INPUT, VOLUME CONTROL AT MINIMUM, NORMAL CONTRAST AND BRIGHTNESS SETTINGS, AND 120V AC POWER.

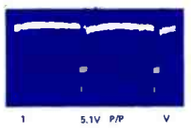
▲ COMPONENT MOUNTED COPPER SIDE OF BOARD.
[EP] EARLY PRODUCTION.
[LP] LATE PRODUCTION.
* DEPENDENT ON CONTROL SETTINGS.

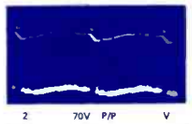


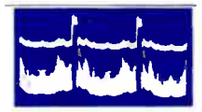
MAGNAVOX
TV Chassis
T961 Series

VHF TUNER SCHEMATIC



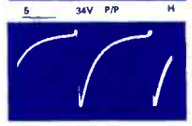

1 5.1V P/P V


2 70V P/P V


3 53V P/P V

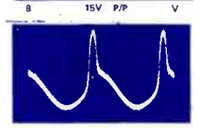

4 55V P/P V

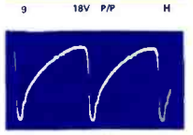

5 34V P/P H


6 100V P/P V


7 35V P/P V

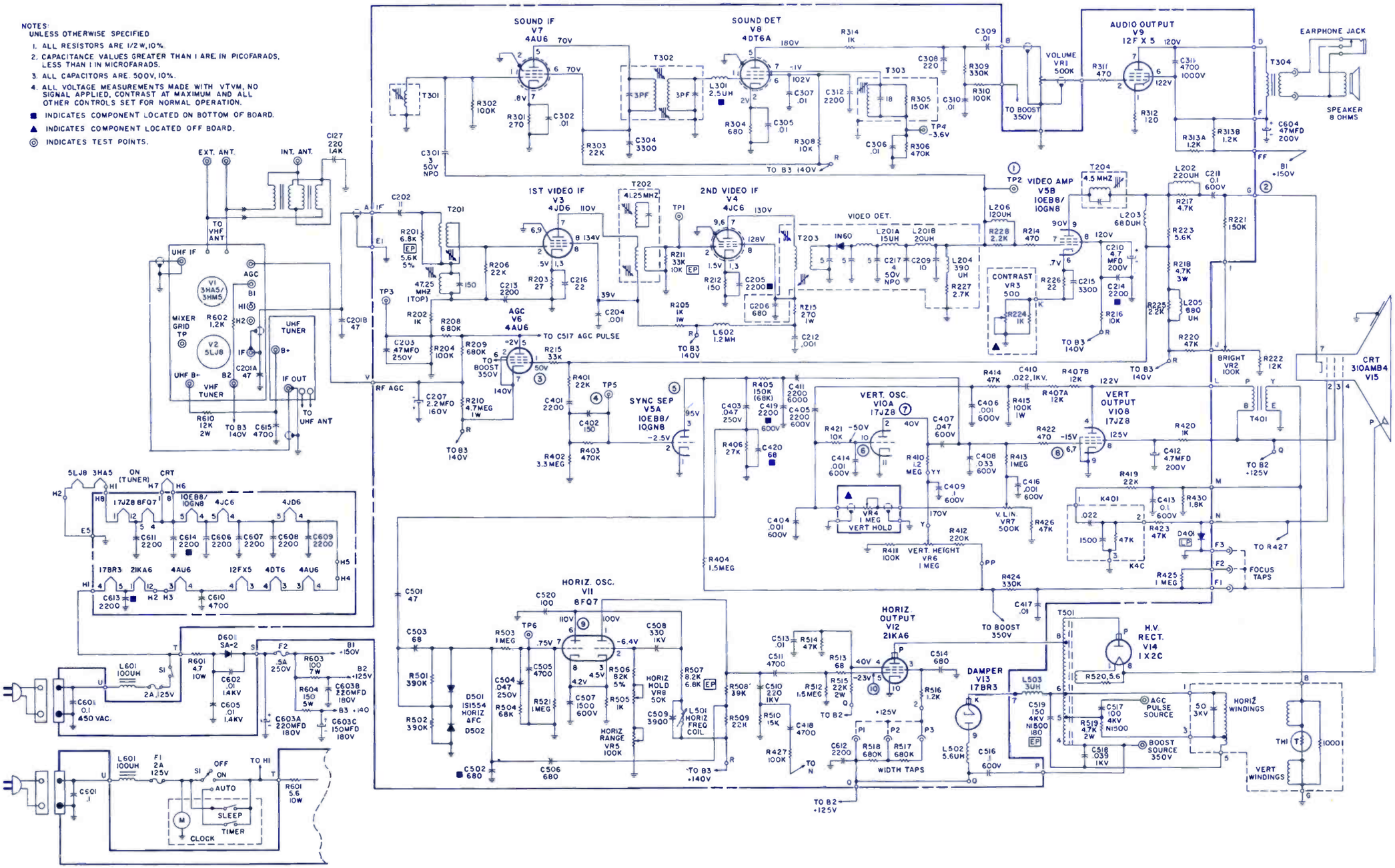

8 15V P/P V


9 18V P/P H


10 55V P/P

NOTES:
UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE 1/2 W, 10%.
2. CAPACITANCE VALUES GREATER THAN 1 ARE IN PICOFARADS, LESS THAN 1 IN MICROFARADS.
3. ALL CAPACITORS ARE 500V, 10%.
4. ALL VOLTAGE MEASUREMENTS MADE WITH VTVM, NO SIGNAL APPLIED, CONTRAST AT MAXIMUM AND ALL OTHER CONTROLS SET FOR NORMAL OPERATION.

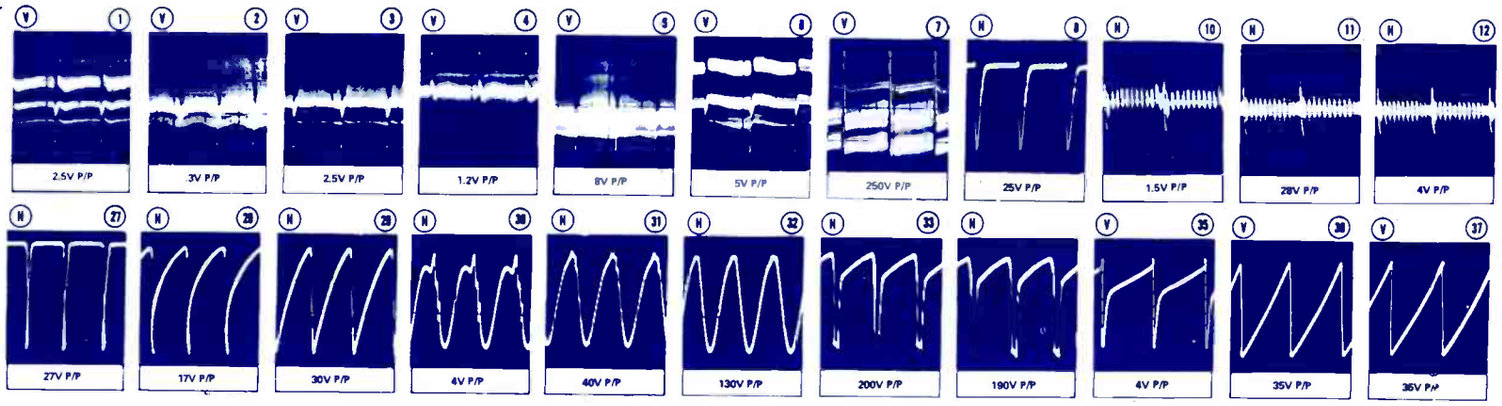
■ INDICATES COMPONENT LOCATED ON BOTTOM OF BOARD.
▲ INDICATES COMPONENT LOCATED OFF BOARD.
◎ INDICATES TEST POINTS.

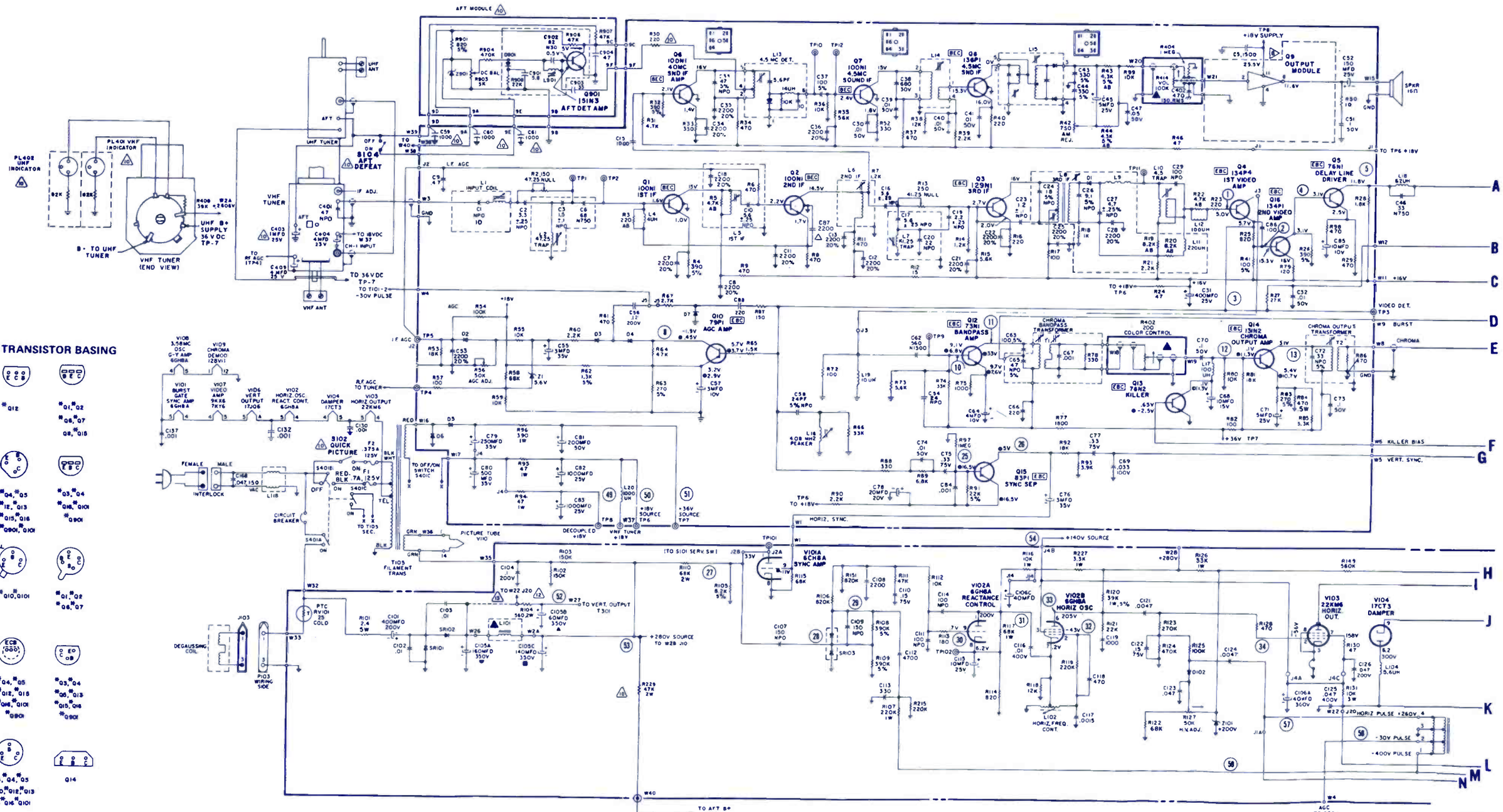


MAGNAVOX
Color TV Chassis
T956

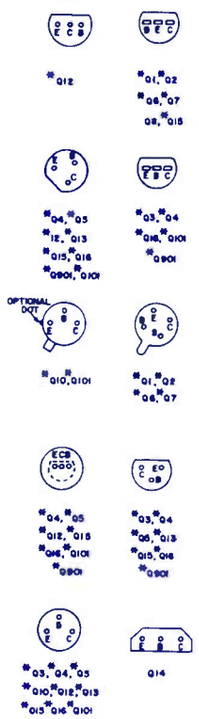
ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
L13	4.5MHz sound detector coil	361336-2
L14	4.5MHz sound IF coil	361331-1
L15	ratio detector	361338-1
L102	horiz frequency coil	361269-1
L104	5.6 µh RF choke	360676-5
L111	620 µh peaking coil	360853-11
L118	line filter	361400-1
L901	discriminator coil (T956-01)	361405-1
T1	chroma bandpass xformer	361339-1
T2	chroma output xformer	361343-1
T101	horiz output xformer	361342-5 or 361376-2
T103	burst xformer	361296-1
T105	filament power xformer w/fast on (T956-01)	320353-5
T105	filament power xformer (T956-02)	320354-5
	deflection yoke	361429-1
C105	electrolytic, 160/140/60 µf, 350v	270099-9
C106	electrolytic, 40/30/40 µf, 300v	270099-11
R56	50K, AGC threshold control	220220-18
R127	50K, high voltage adjust control	220220-20
R132	10, vert centering control	220246-1
R146	100K, vert lin (Part of R132)	220246-1
R148	5M, vert height control	220220-19
R172	1M, color killer control	220208-45
R192	200, CRT bias adjust control	220220-21
R202	6K, blue drive control	220220-22
R401	2.5K, tint control (T956-01)	220255-16
R401	2.5K, tint control (T956-02)	220263-4
R411	15K, vert hold control	220-146-77
R412	600, contrast control	220146-75
R413	250K, bright control	220-146-76
R414	100K, vol w/switch S401 (T956-02)	220260-34
R414	100K, vol w/switch S401 (T956-01)	220261-10
R903	5K, dc balance (T956-01)	220217-16
RV101	thermistor (PTC) 25 cold; 5K hot	230207-1
RV103	thermistor (NTC) 500K cold	230130-6
TD101	delay line	360949-6
FI	fuse, 0.75a, 125v, slo-blo	181021-5075
F2	fuse, 0.4a, 125v, slo-blo	181021-5040
	1.3a circuit breaker	180723-5



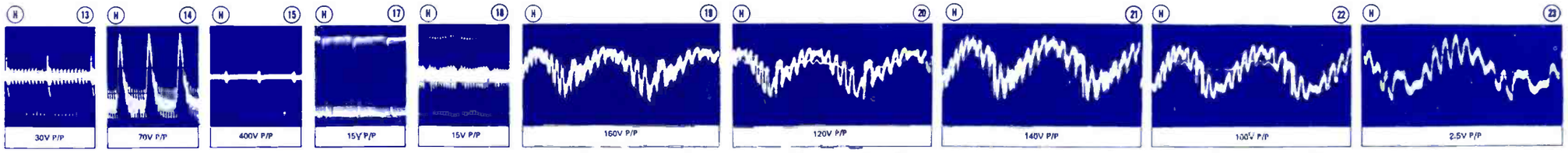


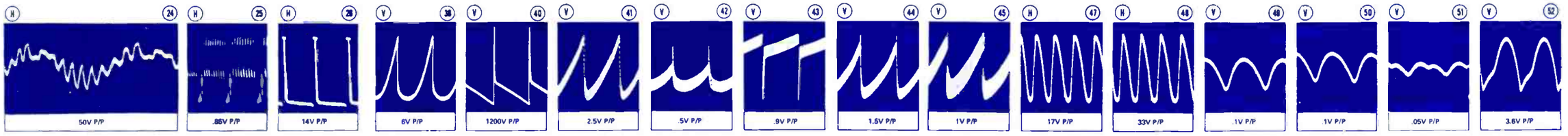
TRANSISTOR BASING

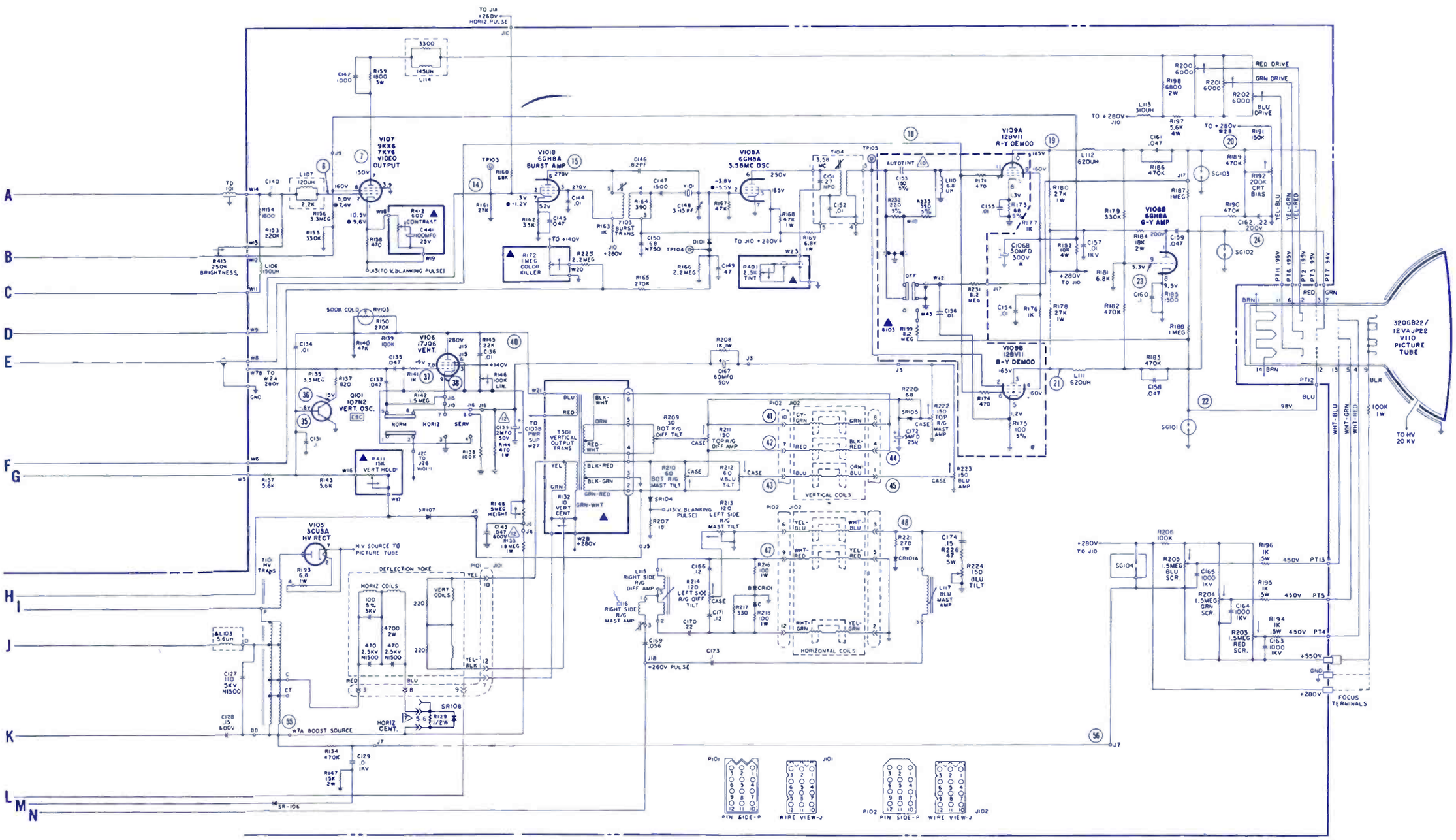


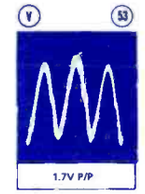
* INDICATES MORE THAN ONE BASING MAY APPLY.

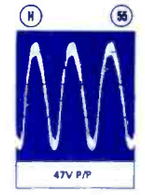
MAGNAVOX
Color TV Chassis
T956

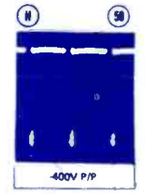






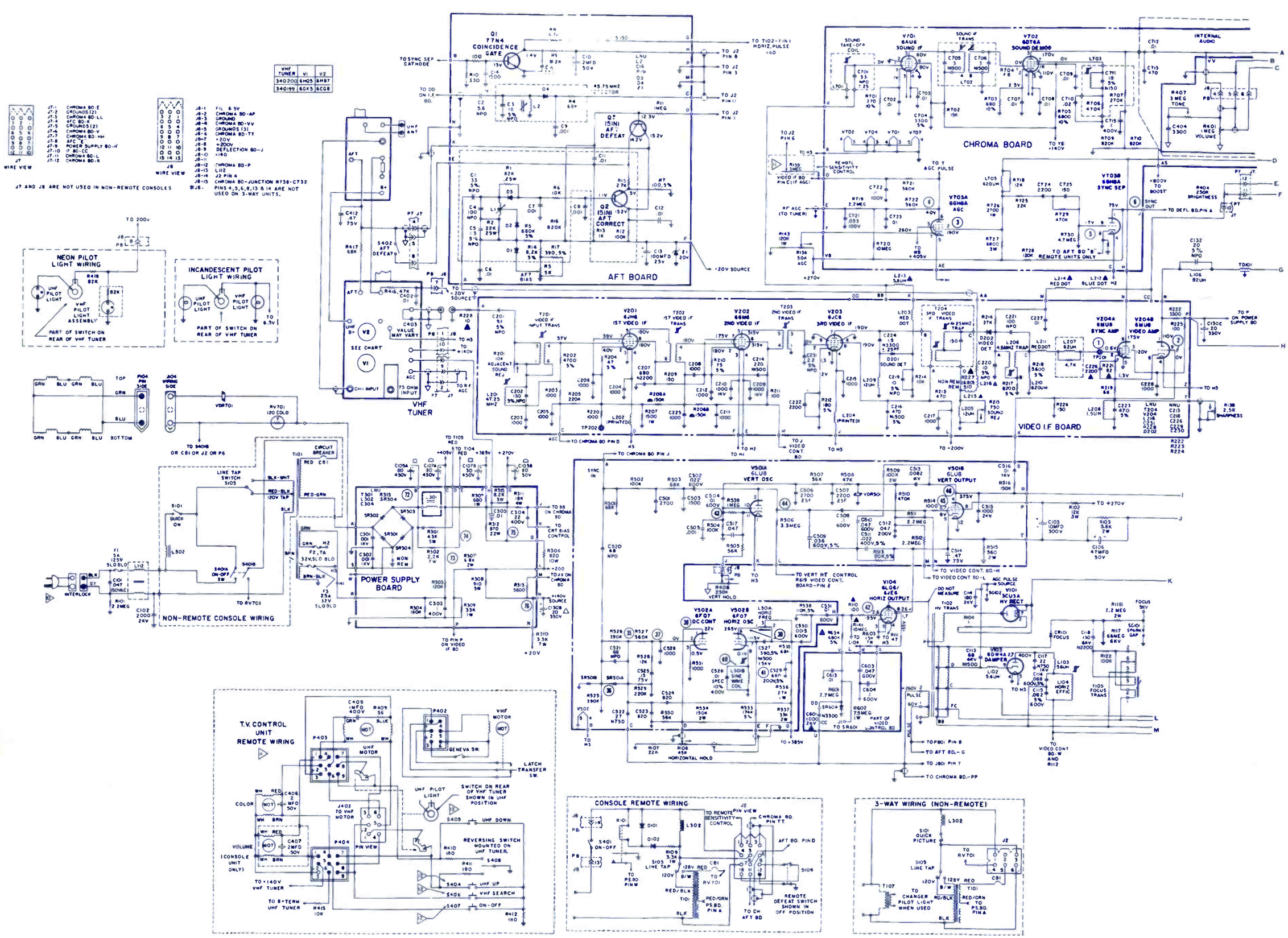


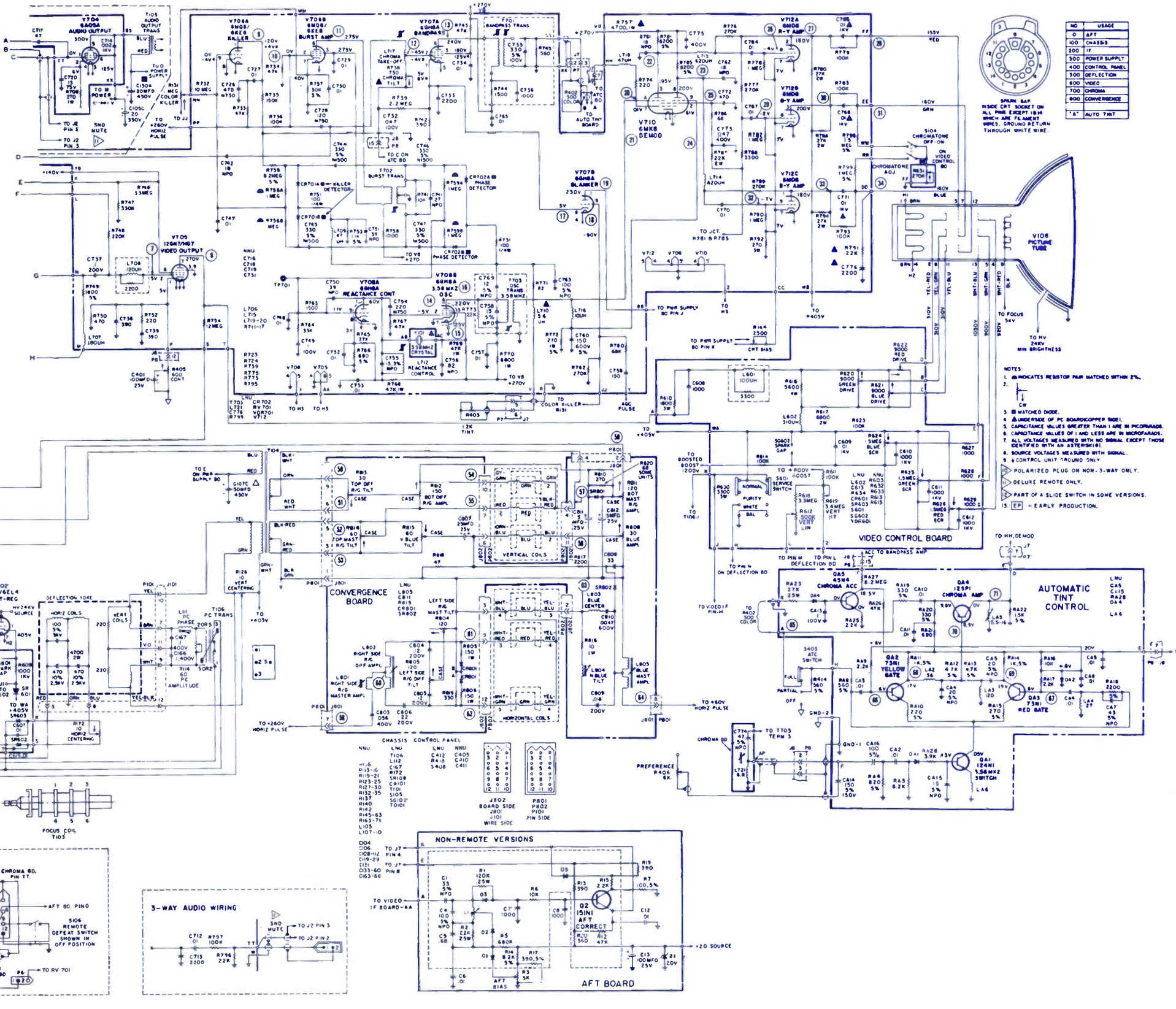




MAGNAVOX
Color TV Chassis
T962 Series

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

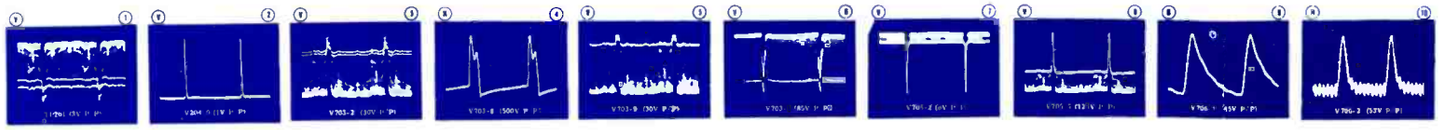


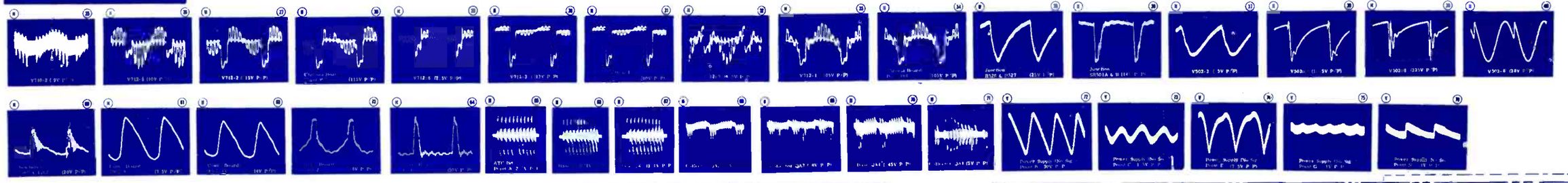


NOTES:
1. ⊕ INDICATES RESISTOR PAIR MATCHED WITHIN 2%.
2. CW
3. ■ MATCHED DIODE.
4. ▲ UNDERSIDE OF PC BOARD/COPPER SIDE).
5. CAPACITANCE VALUES GREATER THAN 1 ARE IN PICOFARADS.
6. CAPACITANCE VALUES OF 1 AND LESS ARE IN MICROFARADS.
7. ALL VOLTAGES MEASURED WITH NO SIGNAL EXCEPT THOSE IDENTIFIED WITH AN ASTERISK(*).
8. SOURCE VOLTAGES MEASURED WITH SIGNAL.
9. ◊ CONTROL UNIT GROUND ONLY
- POLARIZED PLUG ON NON-3-WAY ONLY.
- DELUXE REMOTE ONLY.
- PART OF A SLIDE SWITCH IN SOME VERSIONS.
- EP = EARLY PRODUCTION.

MAGNAVOX
Color TV Chassis
T958

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

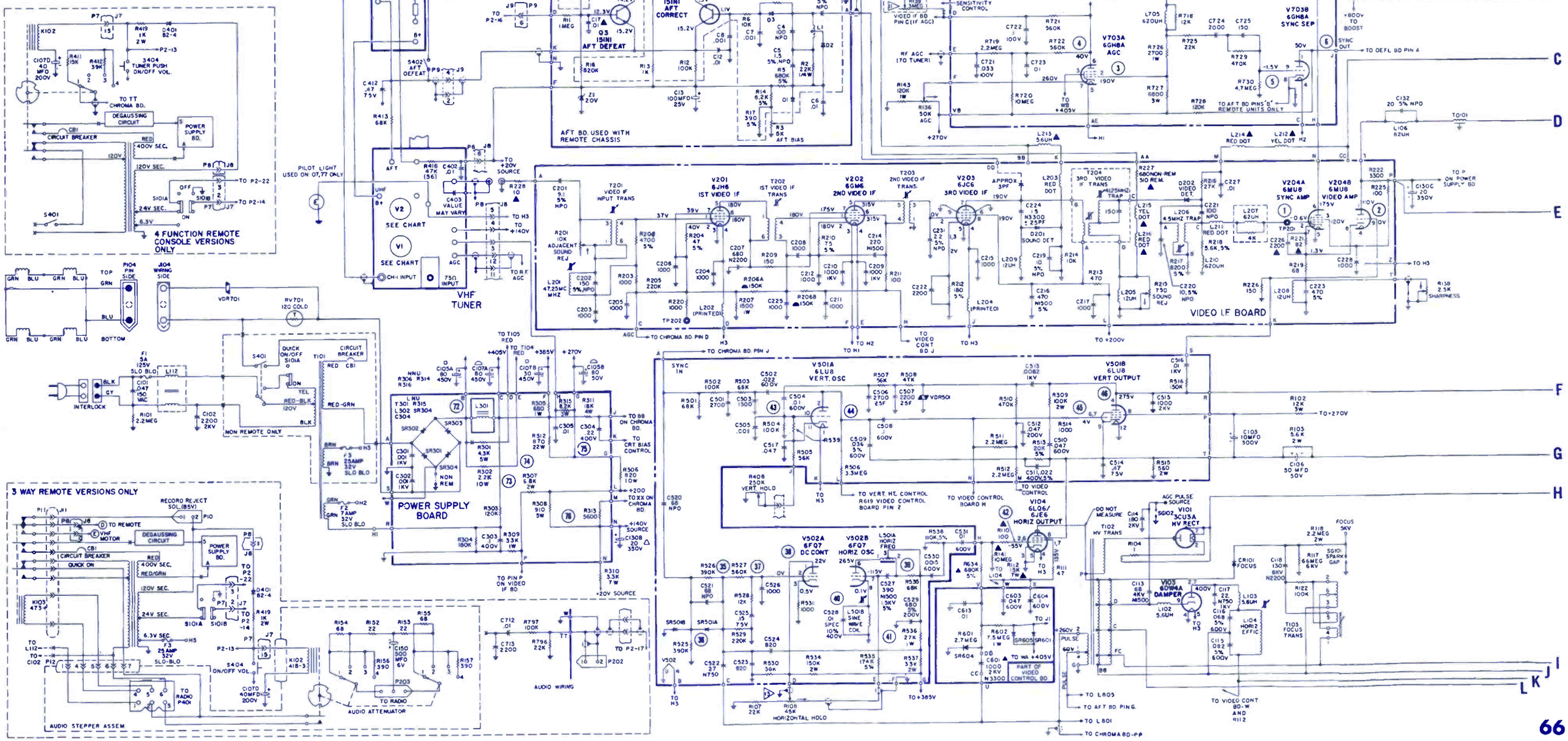




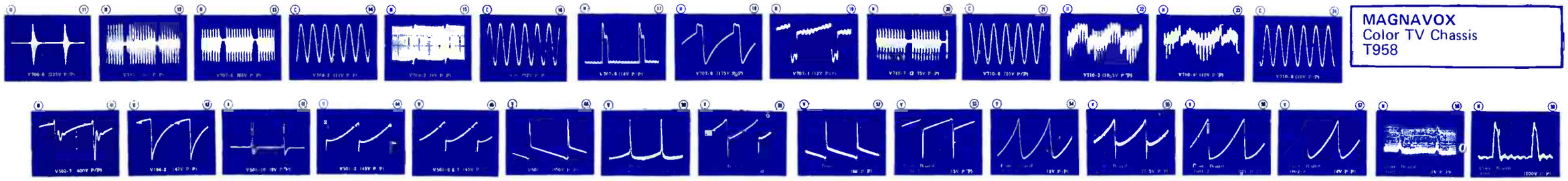
NOTES:

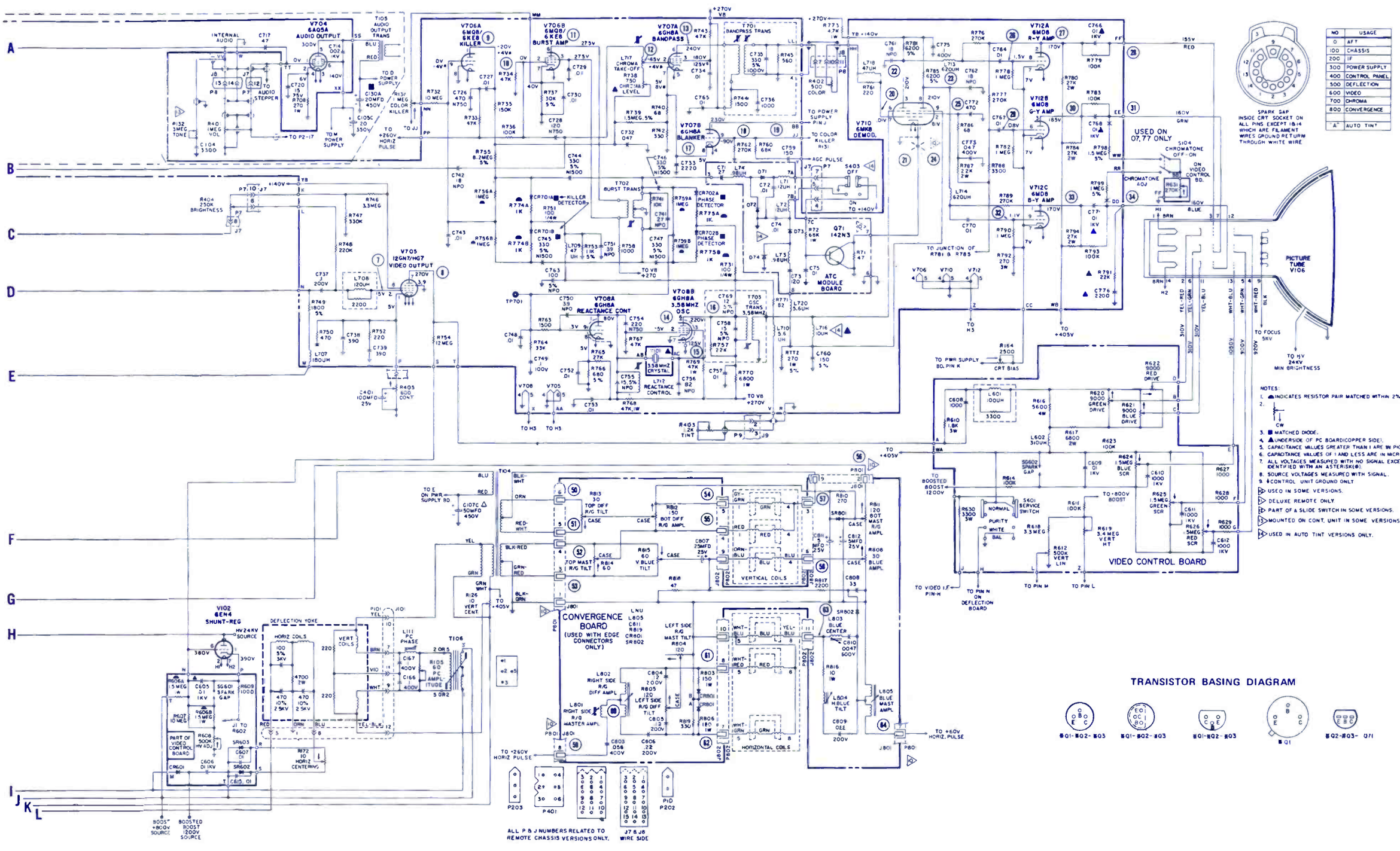
1. WAVEFORMS TAKEN USING 10 BAR COLOR GENERATOR WITH RECEIVER ADJUSTED TO PRODUCE A NORMAL PICTURE.
2. CONTRAST ADJUSTED TO PRODUCE 125V P/P AT V705-7.
3. ATC AND AFT SWITCHES ON.
4. P/P WAVEFORM VOLTAGES 65 THROUGH 71 ARE BASED ON ADJUSTMENT OF COLOR CONTROL TO PRODUCE 2.5V P/P AT POINT A OF ATC BOARD.
5. V=VERTICAL SWEEP RATE, H=HORIZONTAL SWEEP RATE, C=COLOR BURST SWEEP RATE.

VHF TUNER	V1	V2
340200	6HQ5	6HB7
340199	6QK5	6CQ8



MAGNAVOX
Color TV Chassis
T958





NO	USAGE
0	AFT
100	CHASSIS
200	IF
300	POWER SUPPLY
400	CONTROL PANEL
500	DEFLECTION
600	VIDEO
700	CHROMA
800	CONVERGENCE
"A"	AUTO TINT

NOTES:
1. ● INDICATES RESISTOR PAIR MATCHED WITHIN 2%.
2. CW
3. ■ MATCHED DIODE.
4. ▲ UNDERSIDE 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 THOSE IDENTIFIED WITH AN ASTERISK(*).
8. SOURCE VOLTAGES MEASURED WITH SIGNAL.
9. ⏚ CONTROL UNIT GROUND ONLY

▷10 USED IN SOME VERSIONS.
▷11 DELUXE REMOTE ONLY.
▷12 PART OF A SLIDE SWITCH IN SOME VERSIONS.
▷13 MOUNTED ON CONT. UNIT IN SOME VERSIONS.
▷14 USED IN AUTO TINT VERSIONS ONLY.

TRANSISTOR BASING DIAGRAM

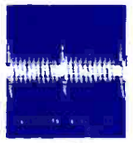
MAGNAVOX

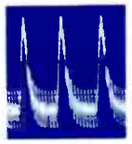
Color TV Chassis
T957 Series

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

V 1 — 2.5V P/P
V 2 — .3V P/P
V 3 — 2.5V P/P
V 4 — 1.2V P/P
V 5 — 8V P/P
V 6 — 5V P/P
V 7 — 250V P/P
H 8 — 25V P/P
H 10 — 1.5V P/P
H 11 — 28V P/P

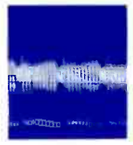

H 12 — 4V P/P

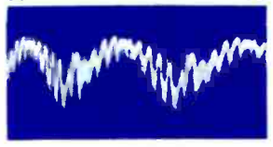

H 13 — 30V P/P

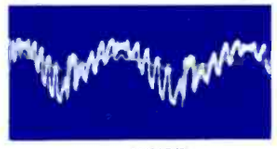

H 14 — 70V P/P

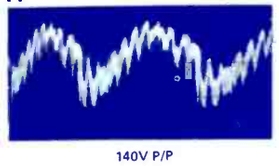

H 15 — 400V P/P

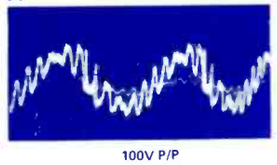

H 17 — 15V P/P

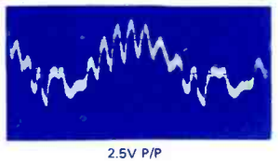

H 18 — 15V P/P

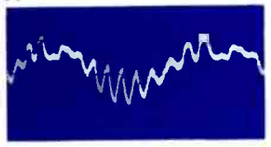

H 19 — 160V P/P

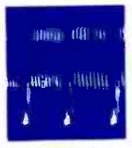

H 20 — 110V P/P


H 21 — 140V P/P


H 22 — 100V P/P


H 23 — 2.5V P/P


H 24 — 50V P/P

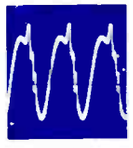

H 25 — .85V P/P

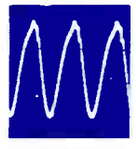

H 26 — 14V P/P

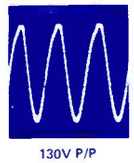

H 27 — 27V P/P


H 28 — 17V P/P


H 29 — 30V P/P

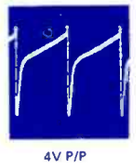

H 30 — 4V P/P

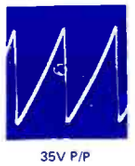

H 31 — 40V P/P


H 32 — 130V P/P

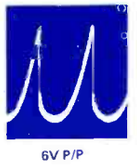

H 33 — 200V P/P


H 34 — 190V P/P

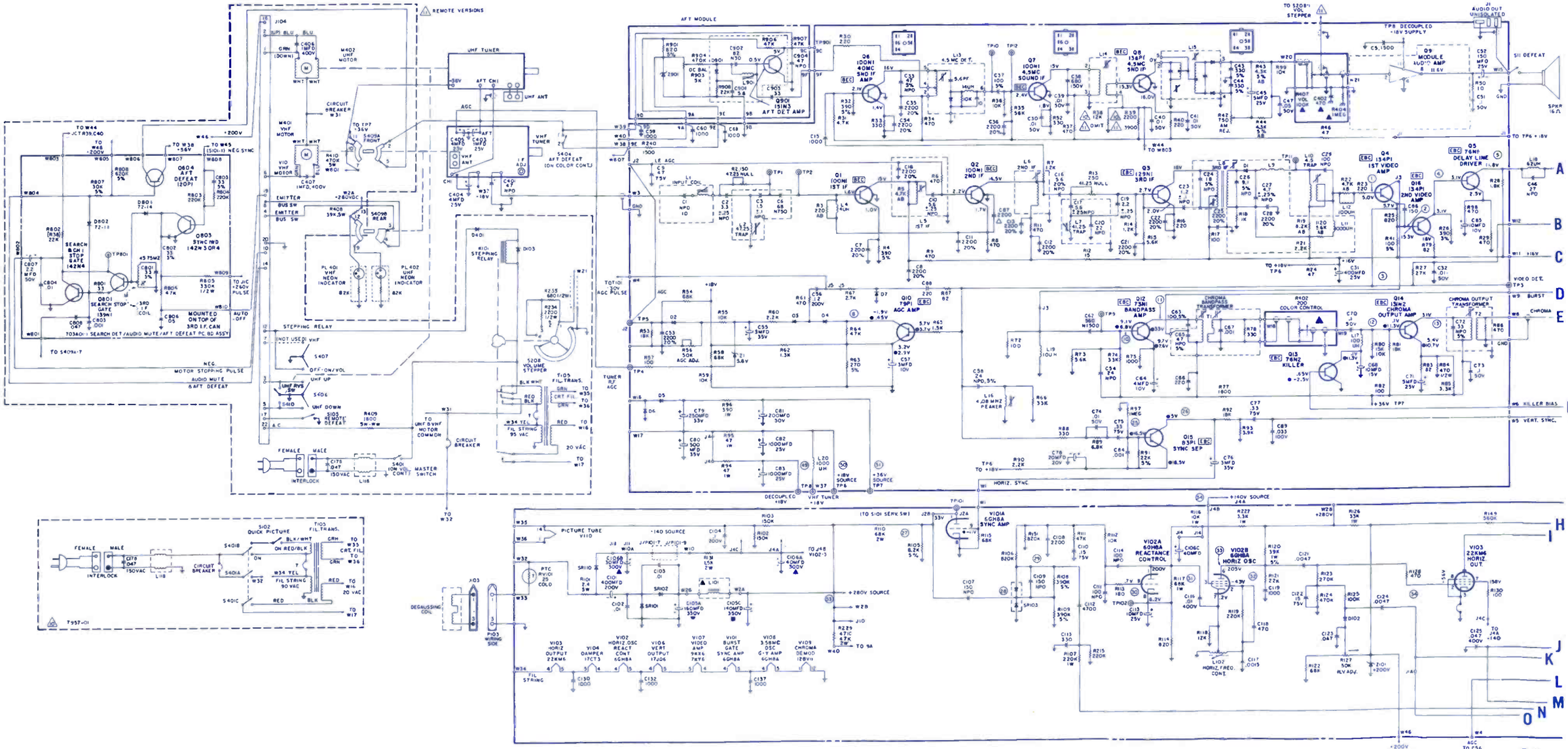

V 35 — 4V P/P

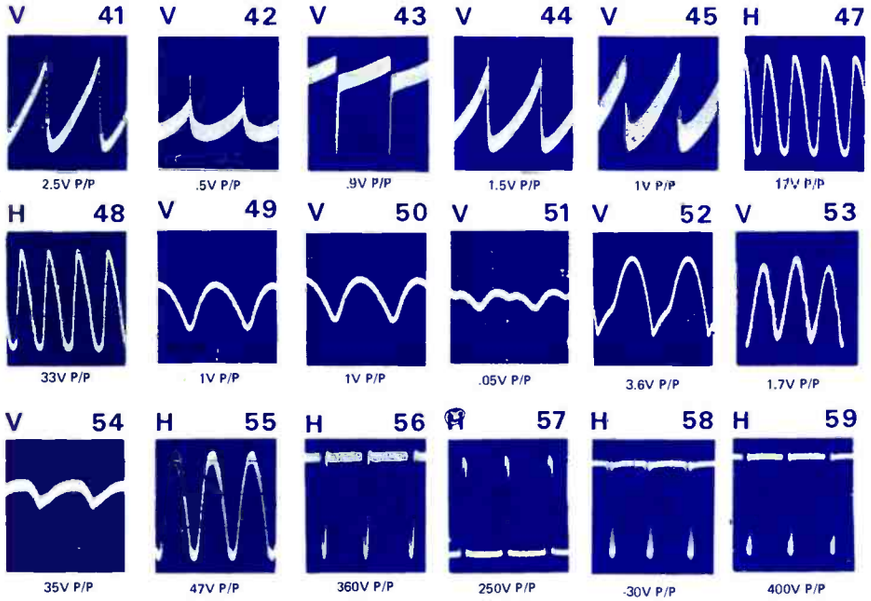

V 36 — 35V P/P


V 37 — 35V P/P

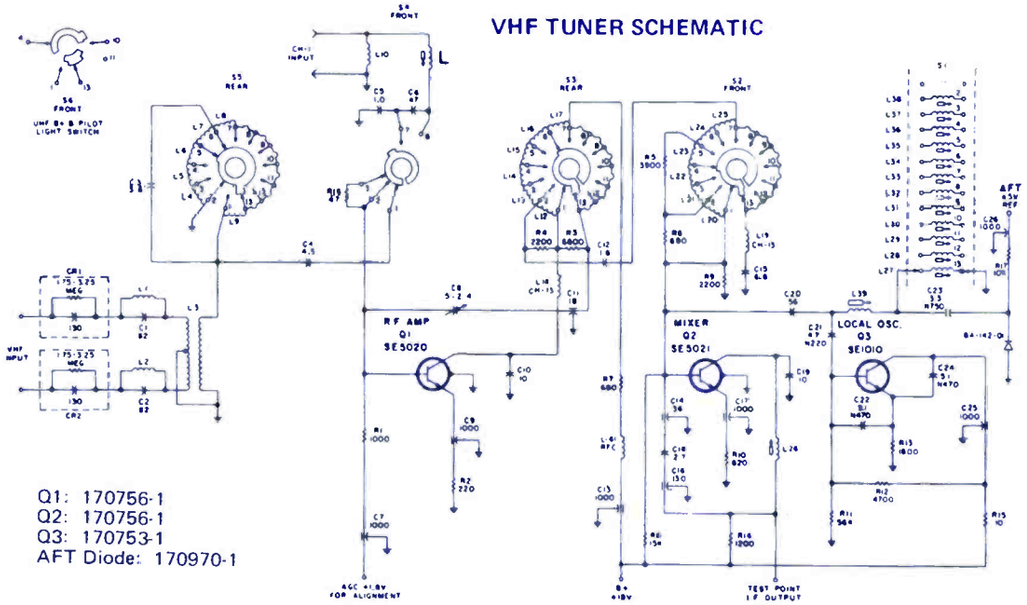

V 38 — 6V P/P


V 40 — 1200V P/P



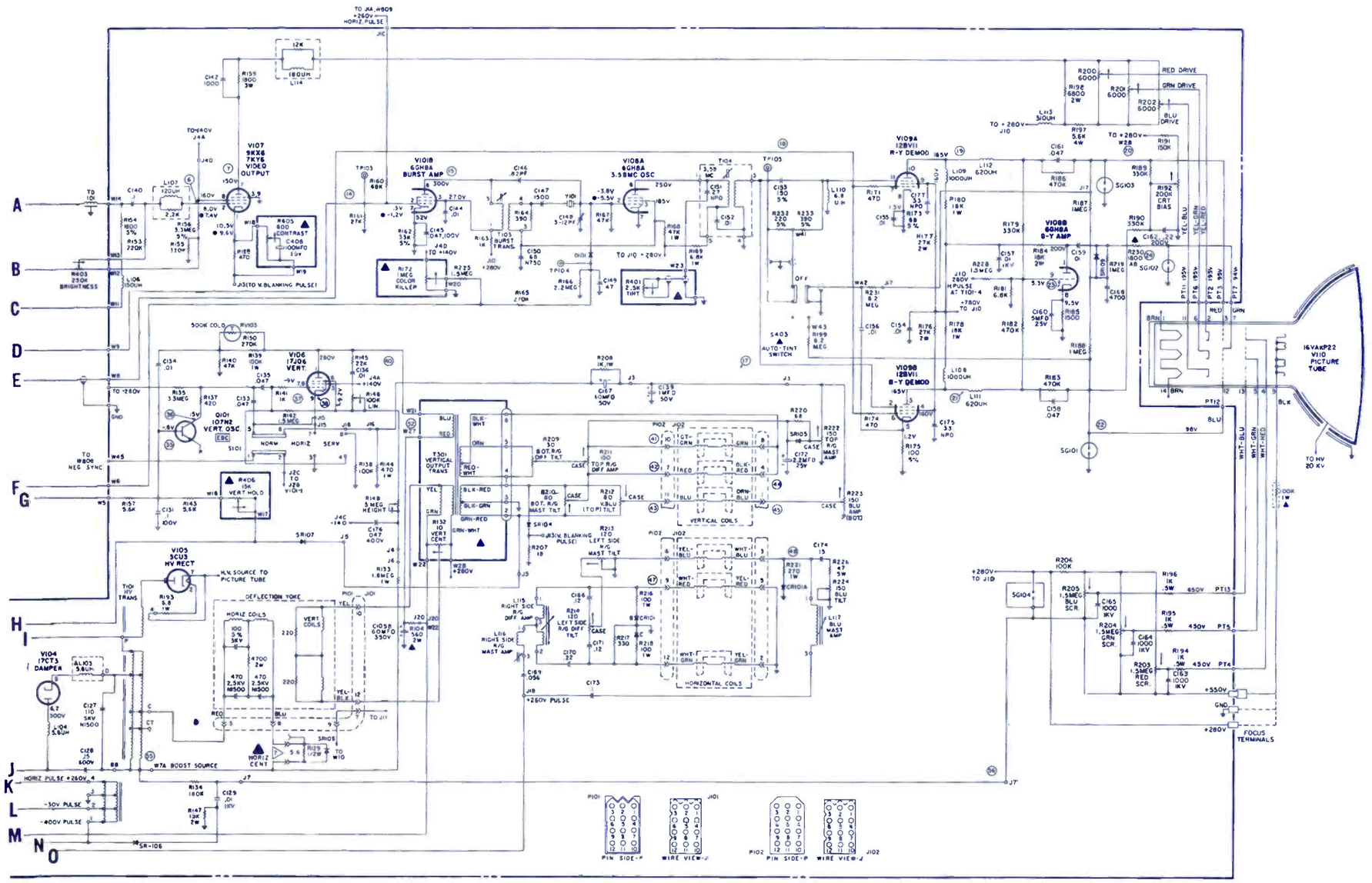


VHF TUNER SCHEMATIC

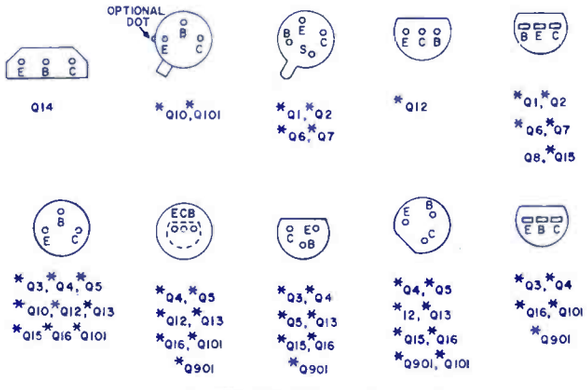


Q1: 170756-1
Q2: 170756-1
Q3: 170753-1
AFT Diode: 170970-1

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
L2	47.25MHz trap	361332-1
L10	4.5MHz trap	361298-1
L13	4.5MHz sound detect coil	361336-2
L14	4.5MHz sound IF coil	361331-1
L15	ratio detect xformer	361338-1
L101	filter choke	320355-2
L102	horiz freq coil	361269-1
L118	line filter	361400-1
L901	discriminator coil	361405-1
T1	chroma bandpass xformer	361339-1
T2	chroma output xformer	361343-1
T101	horiz output xformer	361342-5
T103	burst xformer	361296-1
T104	ECO xformer	361198-1
T301	vert output xformer	320377-1
	deflection yoke	361395-3
C105	electrolytic, 160/140/160 µf, 350v	270099-9
C106	electrolytic, 40/30/40 µf, 300v	270099-11
R226	47, 10%, 5w WW	240080-41
R2	150Ω, 47.25MHz trap adjust	220217-9
R13	250Ω, 41.25MHz trap adjust	220193-18
R42	750Ω, AM reject	220193-21
R56	50K, AGC threshold	220220-20
R127	50K, high voltage adjust	220220-20
R132	10Ω, vert centering	220246-1
R146	100K, vert lin	Part of R132
R148	5K, vert height	220220-19
R172	1M, color killer	220208-45
R922	200K, CRT bias adjust	220220-21
RV101	thermistor (PTC) 25 cold; 5K hot	230207-1
RV103	thermistor (NTC) 500K cold	230130-6
TD101	delay line	360949-6
	circuit breaker	180723-8



TRANSISTOR BASING



* INDICATES MORE THAN ONE BASING MAY APPLY.

NOTES: UNLESS OTHERWISE SPECIFIED,

1. ▲ = COMPONENT LOCATED OFF BOARD.
2. CAPACITANCE VALUES OF 1 OR MORE ARE IN PICOFARADS.
3. CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS.
4. SOURCE VOLTAGES MEASURED WITH SIGNAL. ALL OTHERS MEASURED WITH NO SIGNAL EXCEPT THOSE IDENTIFIED WITH A DOT (●).
5. CIRCLED NUMBERS REFER TO WAVEFORMS.
6. WAVEFORMS OBTAINED USING 10 BAR COLOR GENERATOR, CONTRAST MAXIMUM CLOCKWISE AND BRIGHTNESS SET TO PRODUCE 150V AT PLATE OF V107 (PIN 7). COLOR CONTROL SET TO PRODUCE 4V P/P AT BASE OF Q14 AND TINT CONTROL ADJUSTED TO PRODUCE A NORMAL COLOR BAR DISPLAY (4T= BAR MAGENTA).
7. PARTS MAY BE CONNECTED IN EITHER DIRECTION OR SHORTED AS REQUIRED FOR HORIZ CENTERING.
9. △ = UNDERSIDE OF P.C. BOARD (COPPER SIDE).
10. T957-01.
11. T957-02.

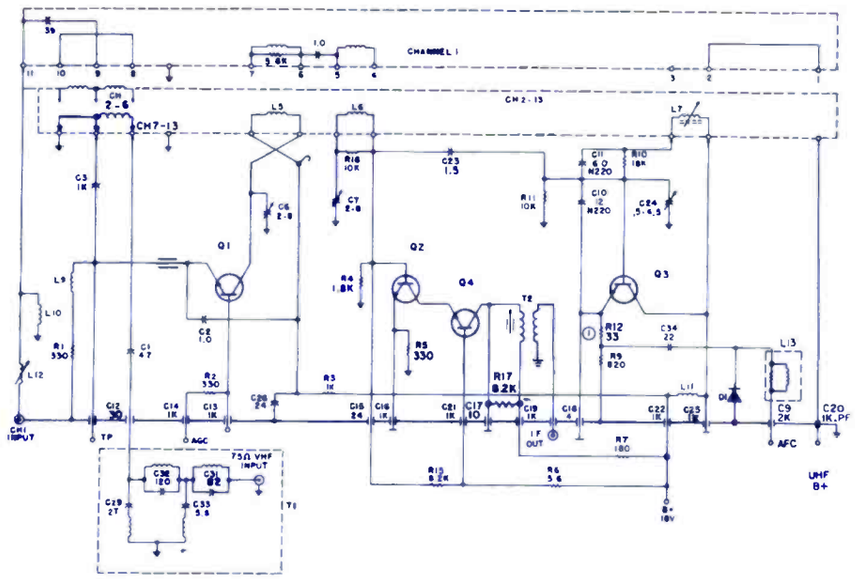
MAGNAVOX

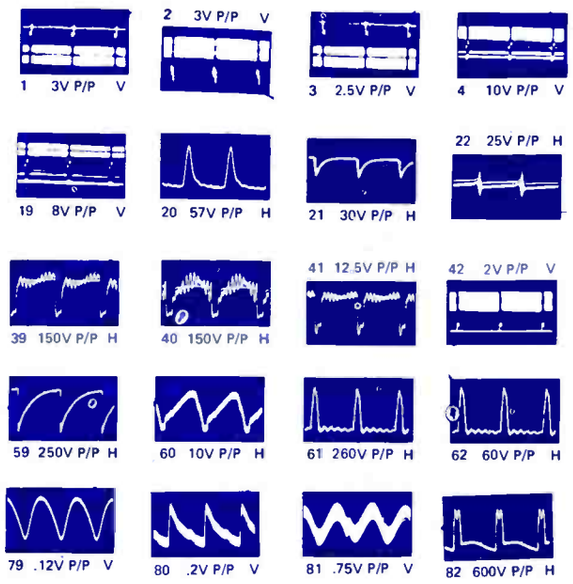
Color-TV
Chassis T974

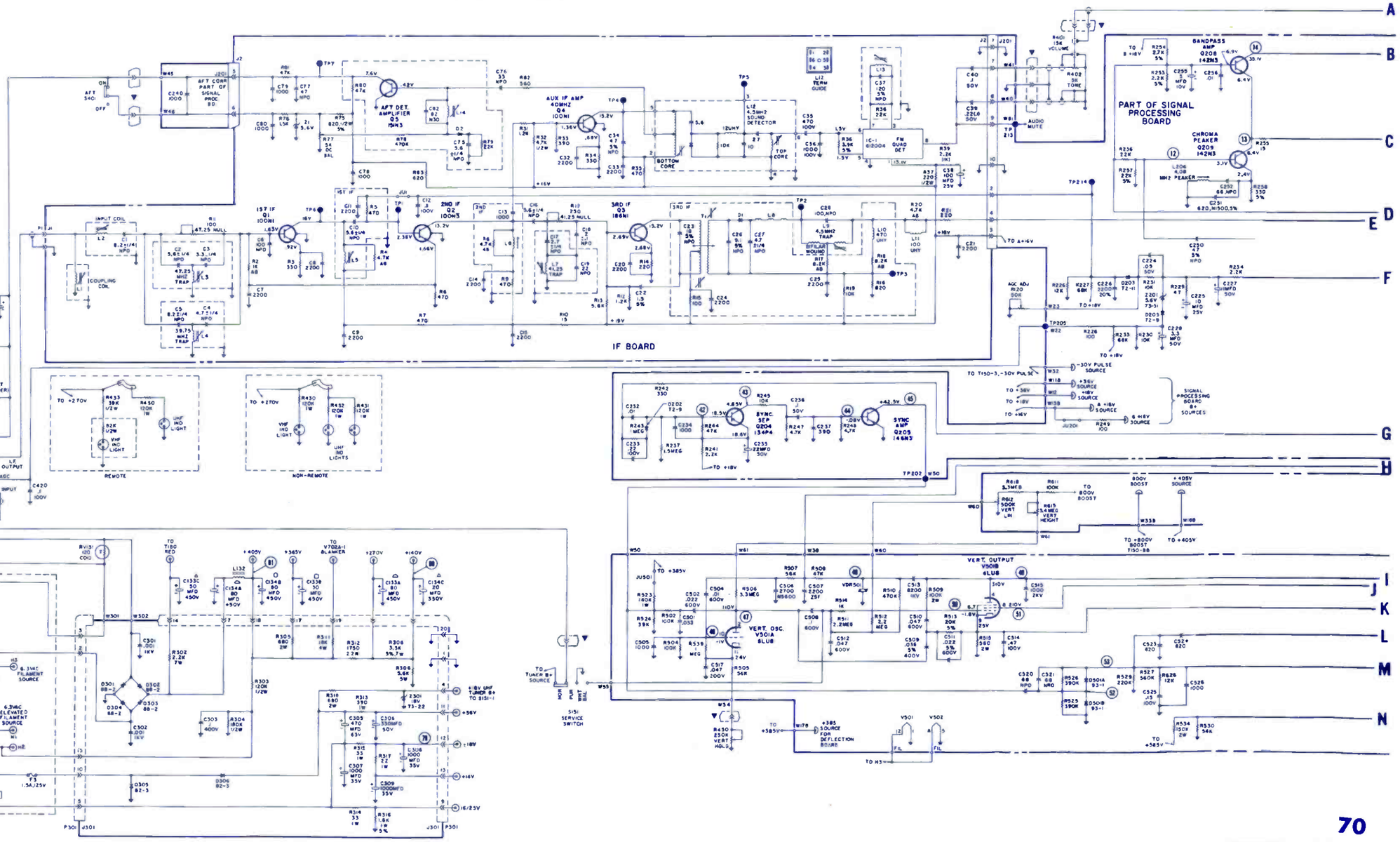
ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
L12	sound detector coil assy, 4.5 MHz	361422-3
L13	quad coil, 4.5 MHz	361389-2
L152	horiz efficiency coil	361022-5
L205	chroma xformer, ACC	360959-8
L501A,B	horiz frequency & sine wave	360960-3
L702	reactance coil	360963-3
T130	power xformer	300294-3
T150	high voltage xformer	361411-2
T151	focus coil	361306-1
T180	vert output xformer	320376-2
T201	chroma bandpass xformer	361339-1
T202	chroma output xformer	361343-1
T701	3.58MHz osc xformer	361198-2
T702	burst xformer	361094-2
	deflection yoke	361380-5
C133A,B,C	electrolytic 80, 30, 50µf,450v	270071-21
C134A,B,C	electrolytic 80-80µf,450v, 20, 350v	270071-24
R154	metal oxide, 15K, 10%, 7W	230197-1539
R156	metal oxide, 1K, 5%, 5W	230196-1095
R157	carbon 66K, 20%, 6KV	230161-3
R306	wire wound 3300Ω, 5%, 7W	240081-165
R308	metal oxide 5600Ω, 10%, 5W	230195-5629
R1	47.25 null control, 100Ω	220193-23
R11	41.25 null control, 250Ω	220193-18
R77	AFT DC balance control, 5K	220193-22
R120	AGC control, 50K	220208-33
R121	sharpness control, 2.5K	220146-84
R122	horiz centering control, 10Ω	220181-12
R161	vert centering control, 10Ω	220181-1
R163	high voltage adjust, 500K	220208-65
R166	hold down adjust, 1M	220208-34
R170	color killer control, 1M	220208-34
R171	CRT bias control, 2500Ω	220181-11
R150	horiz hold, 45K	220146-79
R246	detector level adjust, 500Ω	220193-11
R278	noise inverter threshold adjust, 1K	220193-13
R612	vert linearity, 500K	220220-31
R619	vert height, 3.4M	220220-33
RV131	thermistor	230170-5
VDR131	varistor	230175-1
VDR501	varistor	230167-7
F1	fuse, 5a, 125v, slo-blo	181021-5500
F2	fuse, 5a, 125v, slo-blo	181021-5500
F3	fuse, 1.5a, 125v, slo-blo	181021-5150
F4	fuse, 20a, 32v, slo-blo	181021-6020
	F1 fuse holder	180997-1
	F2 fuse holder	180947-2

VHF TUNER SCHEMATIC DIAGRAM







NOTES: UNLESS OTHERWISE SPECIFIED,

1. ⚠ INDICATES RESISTOR VALUES MATCHED WITHIN 2%.
2. ▲ COMPONENT LOCATED OFF BOARD.
3. ■ COMPONENT LOCATED ON BOTTOM OF BOARD.
4. CAPACITANCE VALUES GREATER THAN 1 ARE IN MICROFARADS; LESS THAN 1 ARE IN MICROFARADS.
5. CAPACITORS RATED 500VDC, 10%.
6. RESISTORS ARE 1/4 WATT OR IF AND SIG. PROC. BOARDS AND 1/2 WATT ELSEWHERE WITH 10% TOLERANCE.
7. DC VOLTAGES MEASURED WITH NO SIGNAL WITH CONTROLS SET FOR NORMAL OPERATION EXCEPT VOLTAGES MARKED WITH ● TAKEN WITH SIGNAL.
8. (EP) - EARLY PRODUCTION.
9. ▼ INDICATES NOT USED IN ALL VERSIONS.

MAGNAVOX
Color-TV
Chassis T974

5 3V P/P V

6 3V P/P V

7 .75V P/P H

8 3V P/P H

9 3V P/P H

10 27V P/P H

11 30V P/P H

12 3V P/P H

13 1.5V P/P H

14 35V P/P H

15 5V P/P H

16 .7V P/P H

17 3V P/P H

18 2V P/P H

23 5V P/P H

24 90V P/P H

25 8V P/P H

26 1.5V P/P H

27 10V P/P H

28 200V P/P H

29 23V P/P H

30 350V P/P H

31 70V P/P H

32 2.5V P/P H

33 17.5V P/P H

34 17.5V P/P H

35 10V P/P H

36 6V P/P H

37 12V P/P H

38 150V P/P H

43 20V P/P V

44 2V P/P V

45 70V P/P V

46 100V P/P V

47 60V P/P

48 100V P/P V

49 1200V P/P V

50 60V P/P V

51 11V P/P V

52 22V P/P H

53 35V P/P H

54 .5V P/P H

55 13V P/P H

56 7V P/P H

57 47V P/P H

58 400V P/P H

63 30V P/P H

64 810V P/P H

65 7V P/P V

66 3V P/P V

67 6V P/P V

68 10V P/P V

69 20V P/P V

70 40V P/P H

71 11V P/P V

72 80V P/P H

73 5V P/P

74 3V P/P V

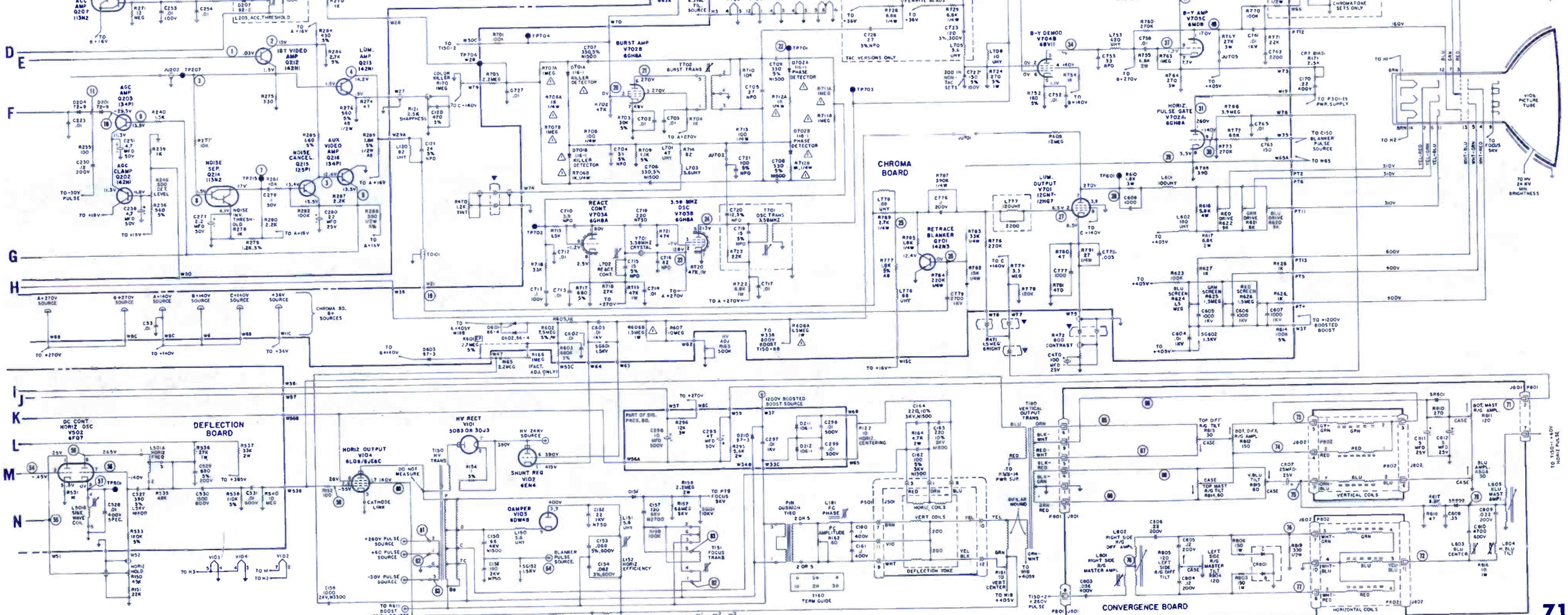
75 3V P/P V

76 22V P/P H

77 18V P/P H

78 35V P/P H

83 550V P/P H



MAGNAVOX
Color-TV Chassis
T979

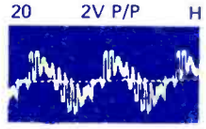
ELECTRONIC TECHNICIAN/DEALER **TEKFAX**


16 3.5V P/P H


17 3.5V P/P H

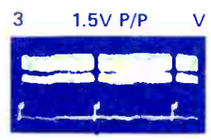

18 15V P/P H

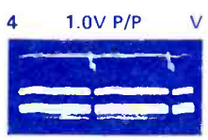

19 .8V P/P H

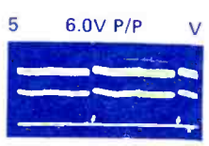

20 2V P/P H

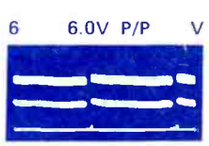

1 3V P/P

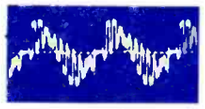

2 3V P/P

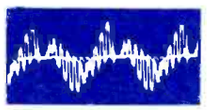

3 1.5V P/P V

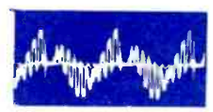

4 1.0V P/P V

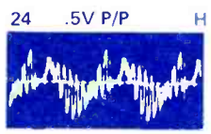

5 6.0V P/P V

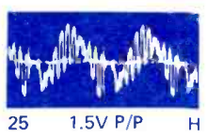

6 6.0V P/P V

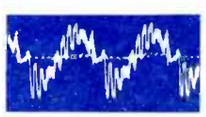

21 2V P/P H


22 1.5V P/P H

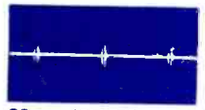

23 1.5V P/P H

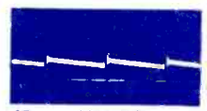

24 .5V P/P H

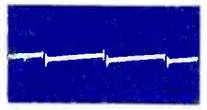

25 1.5V P/P H

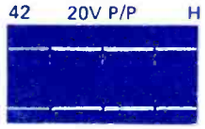

26 160V P/P H

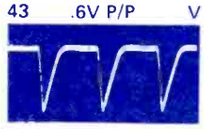

38 40V P/P H

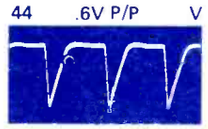

39 40V P/P H

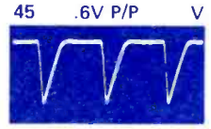

40 40V P/P H

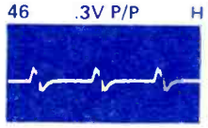

41 40V P/P H


42 20V P/P H

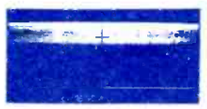

43 .6V P/P V


44 .6V P/P V


45 .6V P/P V


46 .3V P/P H

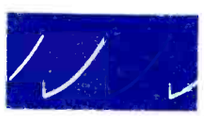

47 1V P/P H


48 4.5V P/P H

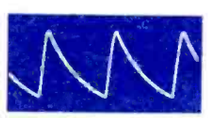

60 9V P/P V


61 18V P/P V


62 8V P/P V

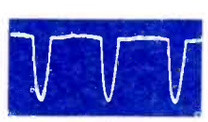

63 8V P/P V


64 8V P/P V

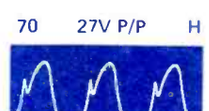

65 17V P/P H


66 15V P/P H


67 22V P/P H

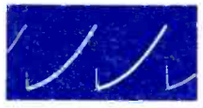

68 4.2V P/P H

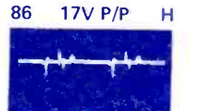

69 30V P/P H


70 27V P/P H

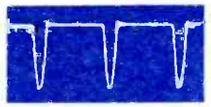

82 35V P/P V

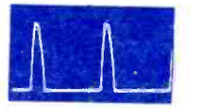

84 225V P/P V

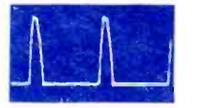

85 8V P/P V


86 17V P/P H


87 900V P/P H


90 40V P/P H


91 100V P/P H

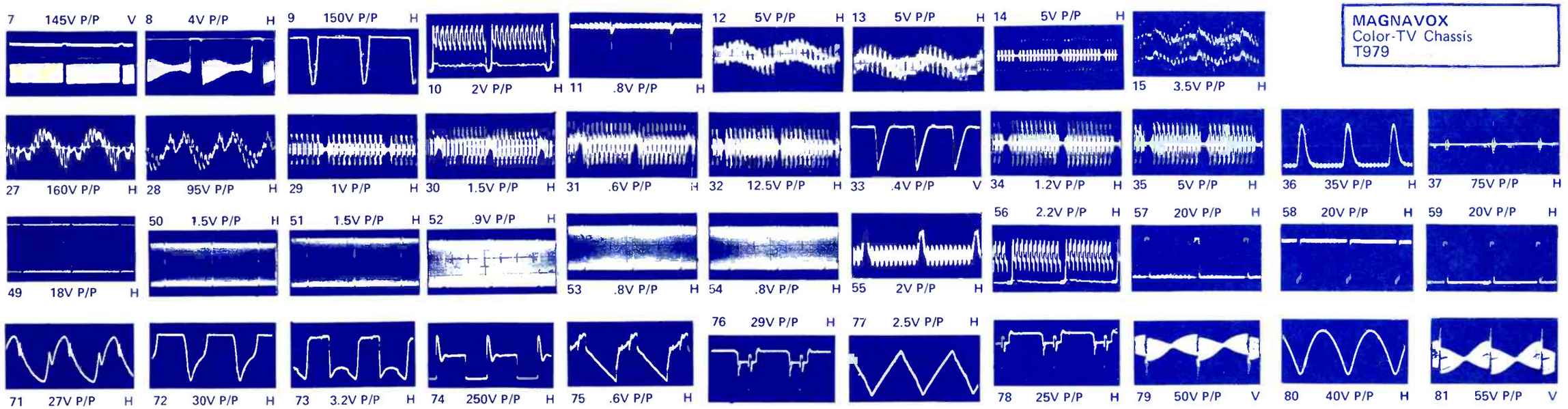

92 65V P/P H

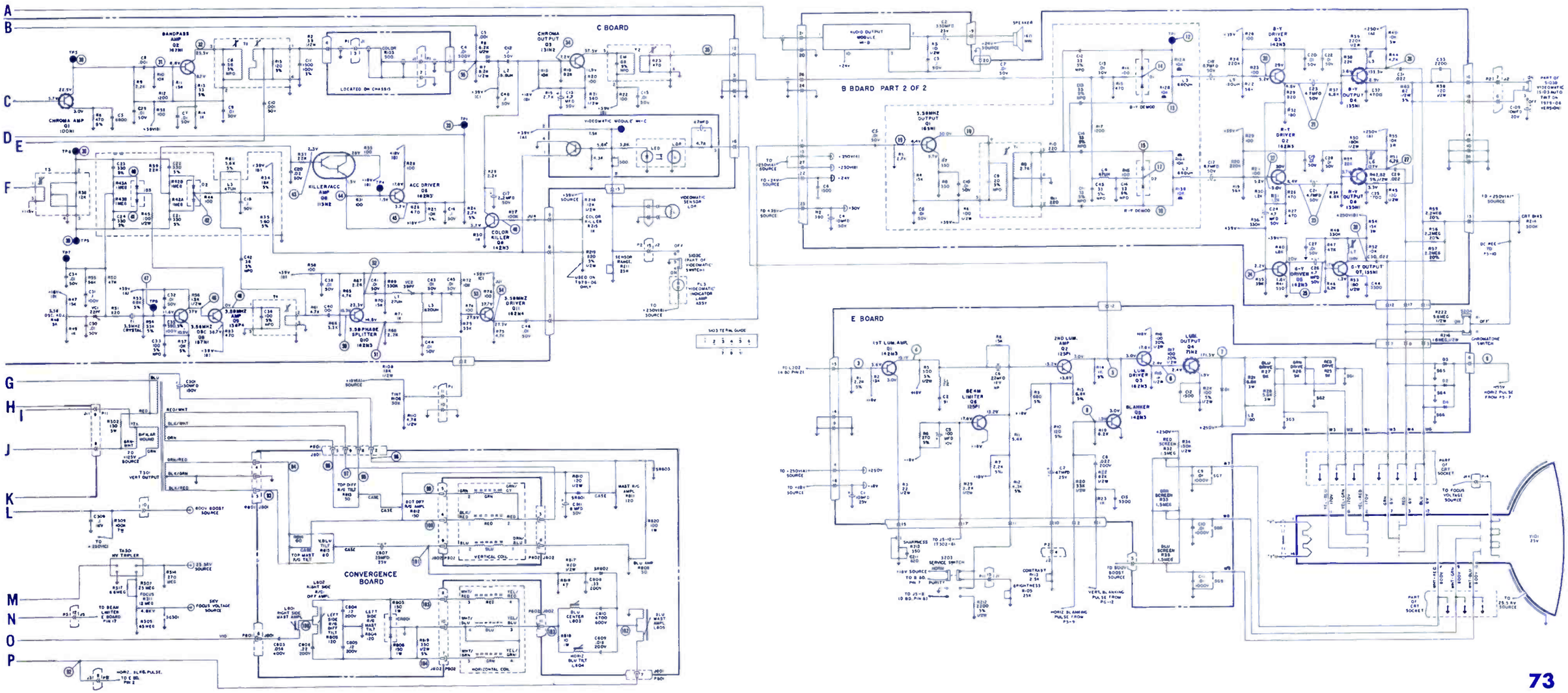
A BOARD

B BOARD-PART 1 OF 2

D BOARD

F BOARD

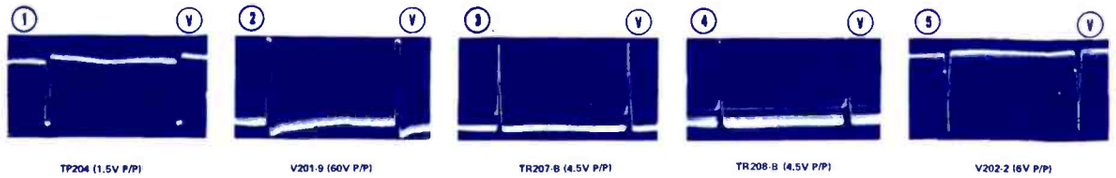

7 145V P/P V
8 4V P/P H
9 150V P/P H
10 2V P/P H
11 .8V P/P H
12 5V P/P H
13 5V P/P H
14 5V P/P H
15 3.5V P/P H
27 160V P/P H
28 95V P/P H
29 1V P/P H
30 1.5V P/P H
31 .6V P/P H
32 12.5V P/P H
33 .4V P/P V
34 1.2V P/P H
35 5V P/P H
36 35V P/P H
37 75V P/P H
49 18V P/P H
50 1.5V P/P H
51 1.5V P/P H
52 .9V P/P H
53 .8V P/P H
54 .8V P/P H
55 2V P/P H
56 2.2V P/P H
57 20V P/P H
58 20V P/P H
59 20V P/P H
71 27V P/P H
72 30V P/P H
73 3.2V P/P H
74 250V P/P H
75 .6V P/P H
76 29V P/P H
77 2.5V P/P H
78 25V P/P H
79 50V P/P V
80 40V P/P H
81 55V P/P V


C BOARD
B BOARD PART 2 OF 2
E BOARD
CONVERGENCE BOARD
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

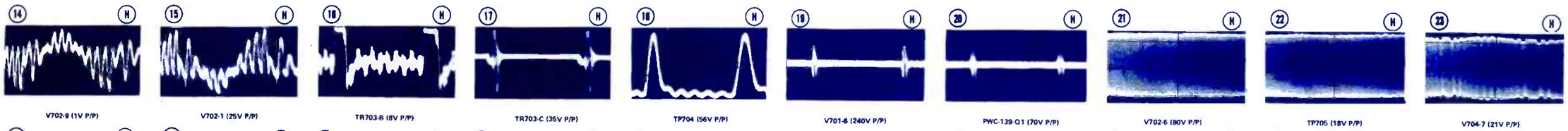
MAGNAVOX

Color-TV Chassis
T947

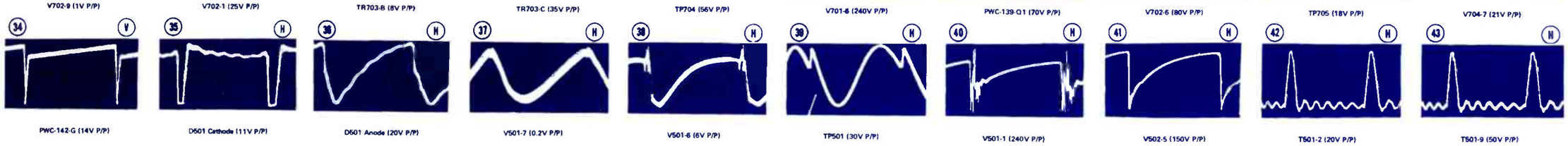
ELECTRONIC TECHNICIAN/DEALER TEKFAX



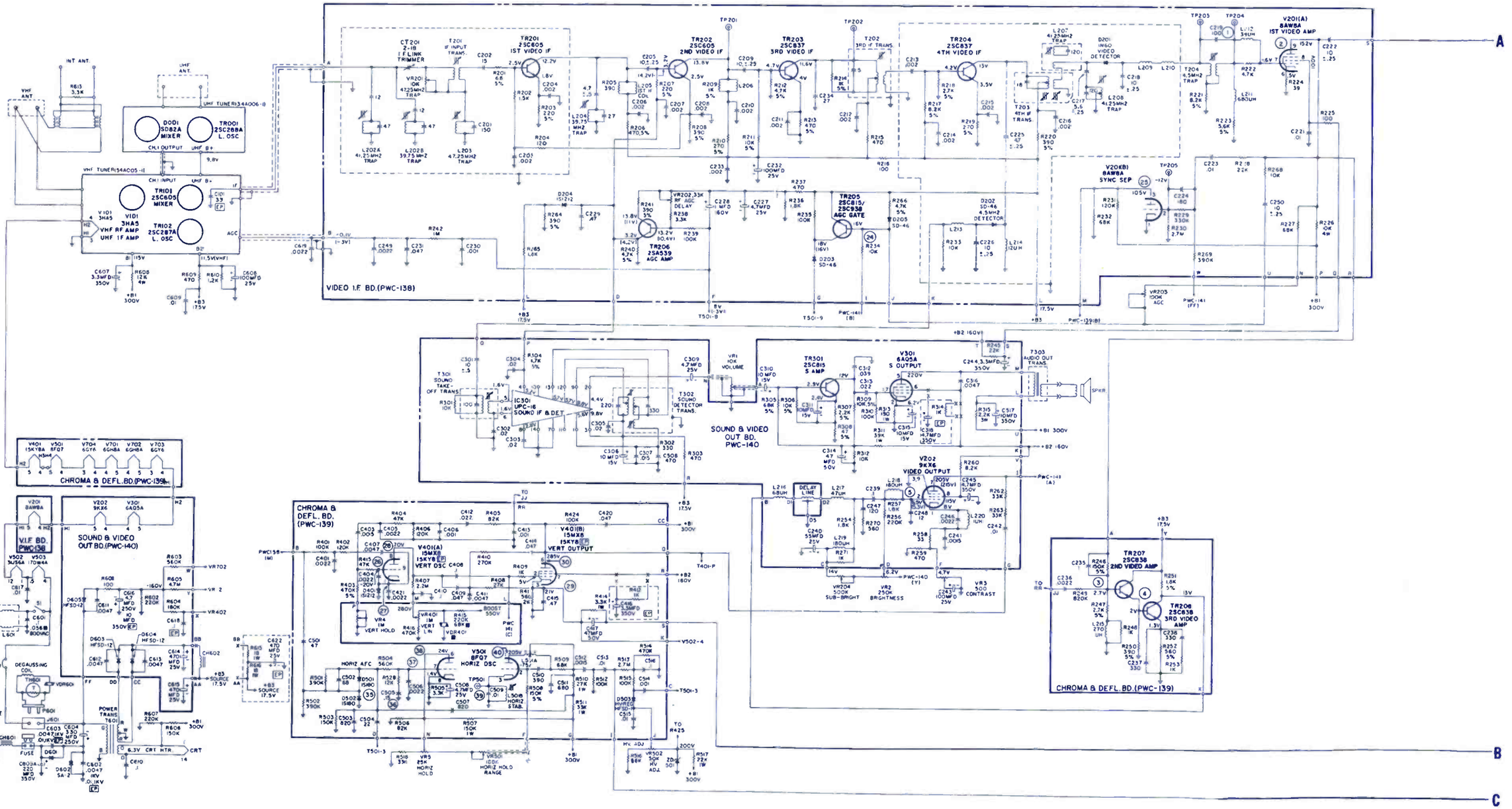
TP204 (1.5V P/P) | V201-9 (60V P/P) | TR207-B (4.5V P/P) | TR208-B (4.5V P/P) | V202-2 (6V P/P)

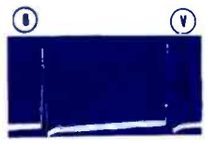


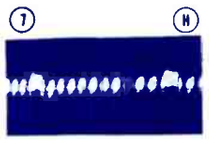
V702-9 (1V P/P) | V702-1 (25V P/P) | TR703-B (8V P/P) | TR703-C (35V P/P) | TP704 (56V P/P) | V701-6 (240V P/P) | PWC-139-Q1 (70V P/P) | V702-6 (80V P/P) | TP705 (18V P/P) | V704-7 (21V P/P)

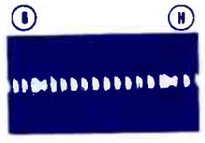


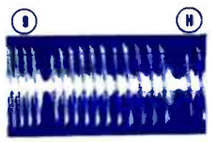
PWC-142-G (14V P/P) | D501 Cathode (11V P/P) | D501 Anode (20V P/P) | V501-7 (0.2V P/P) | V501-6 (6V P/P) | TP501 (30V P/P) | V501-1 (240V P/P) | V502-5 (150V P/P) | T501-2 (20V P/P) | T501-9 (50V P/P)

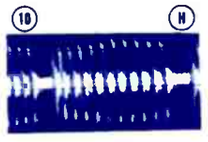


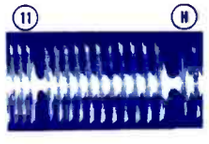

CRT-2 (100V P/P)

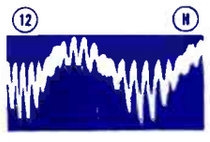

TP701 (1V P/P)

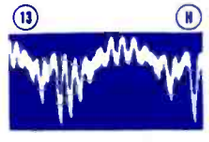

PWC-139-BB (1,5V P/P)

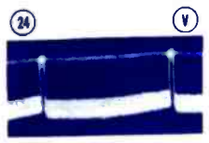

TR701-B (0.25V P/P)

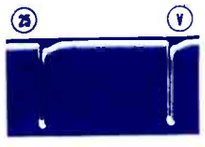

TR701-C (9V P/P)

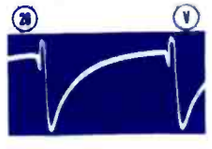

TP703 (5V P/P)

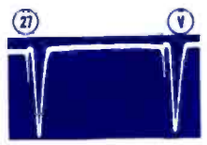

V703-5 (100V P/P)

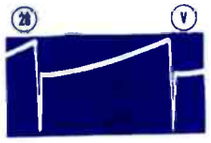

V704-5 (110V P/P)


TR206-B (2.8V P/P)

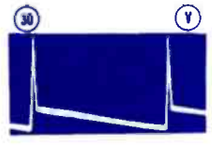

V201-3 (70V P/P)

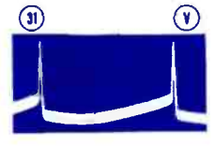

V401-9 (60V P/P)

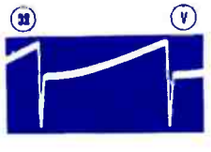

V401-1 (18V P/P)

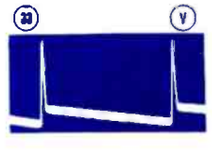

V401-8 (50V P/P)

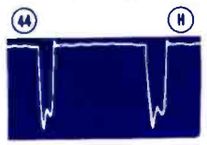

V401-3 (5V P/P)

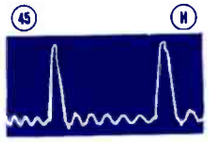

V401-6 (1000V P/P)

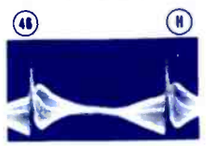

PWC-142-D (5V P/P)

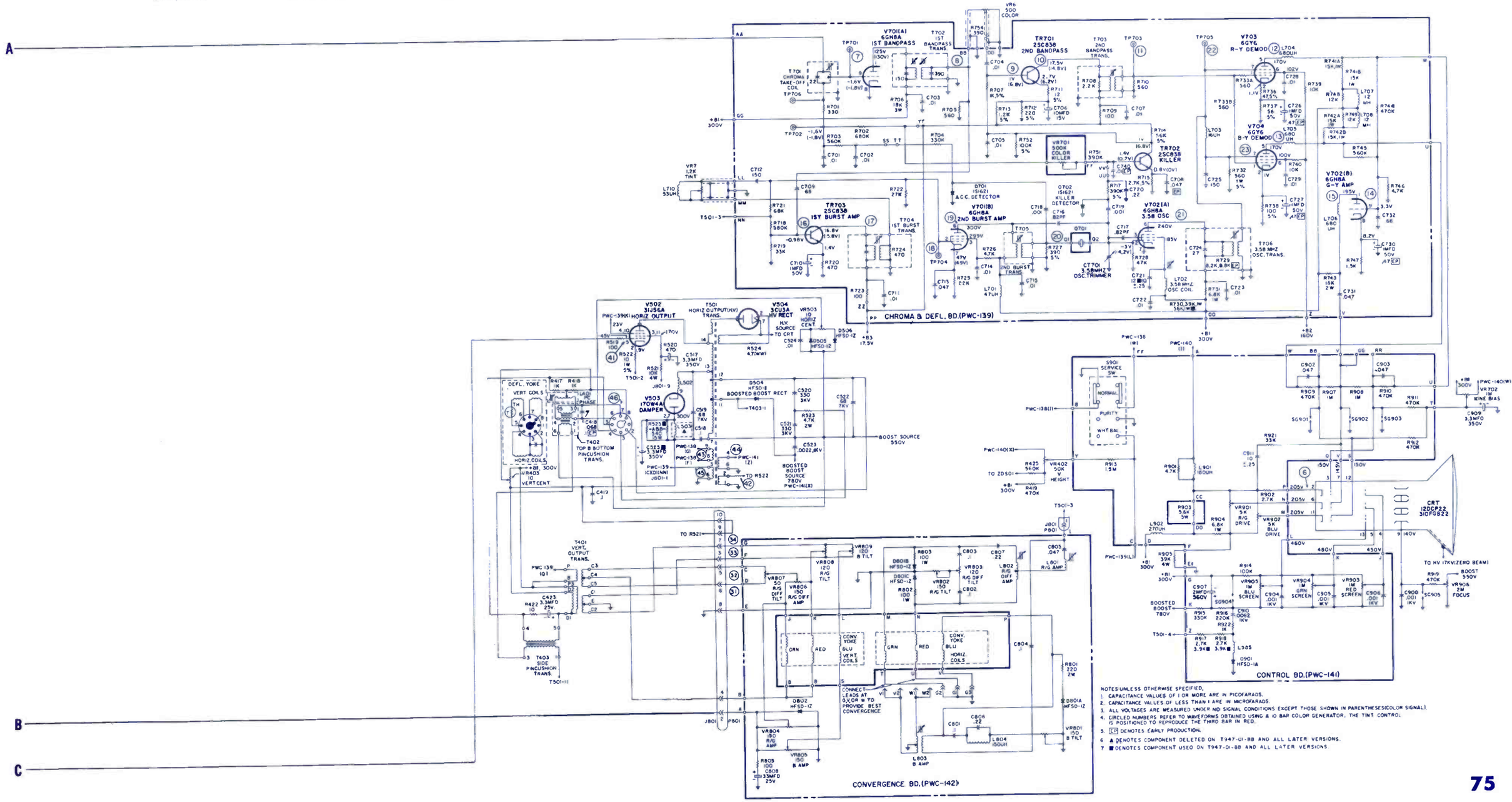

PWC-142-C (7V P/P)


PWC-142-F (15V P/P)


T501-4 (500V P/P)

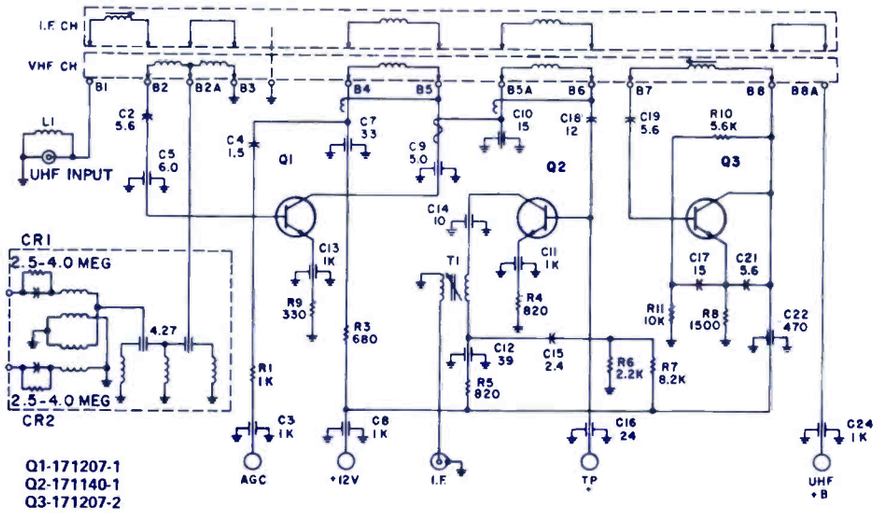

T501-3 (280V P/P)

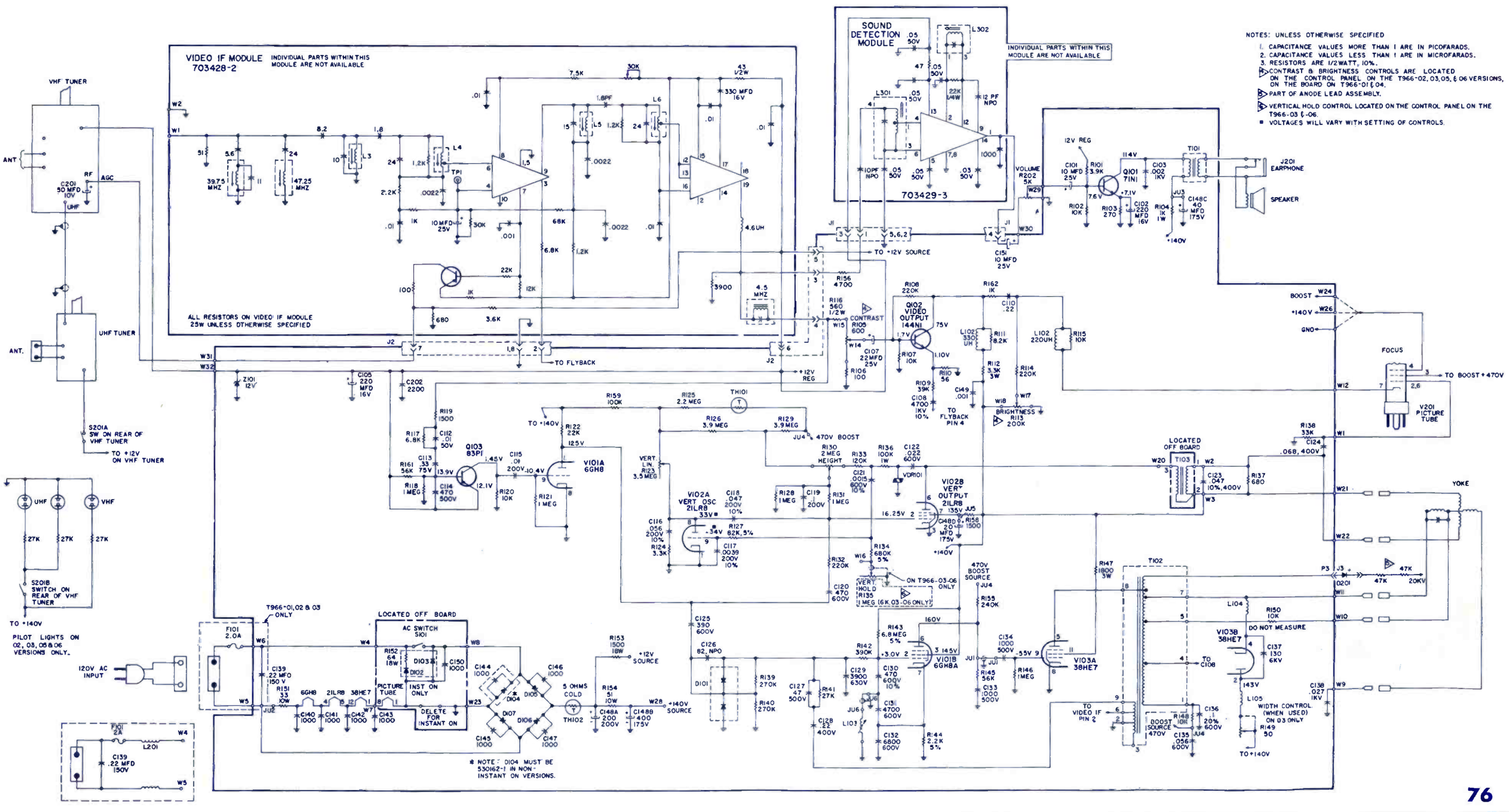

T402-5 (100V P/P)



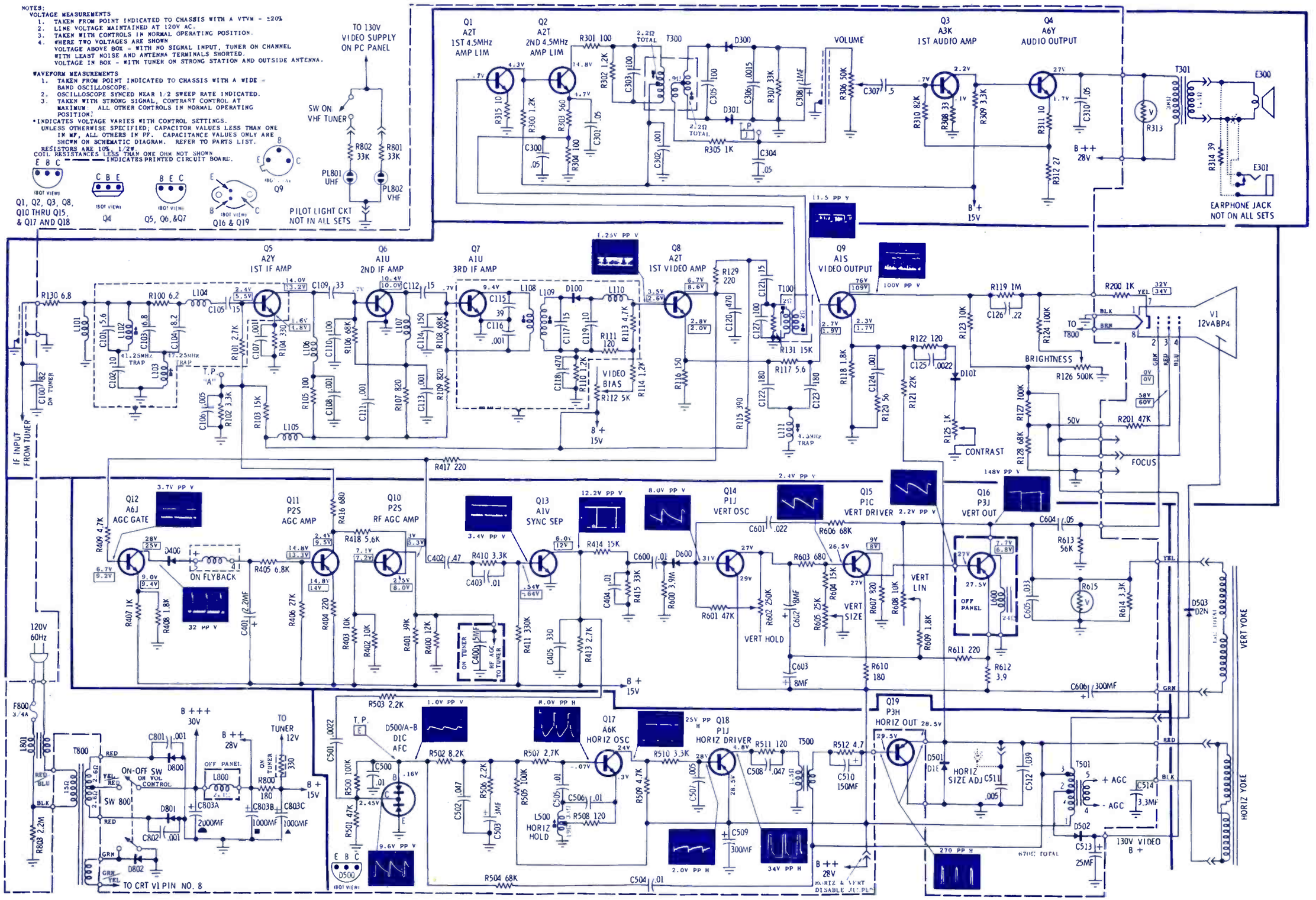
MAGNAVOX
TV Chassis
T966 Series

VHF TUNER SCHEMATIC



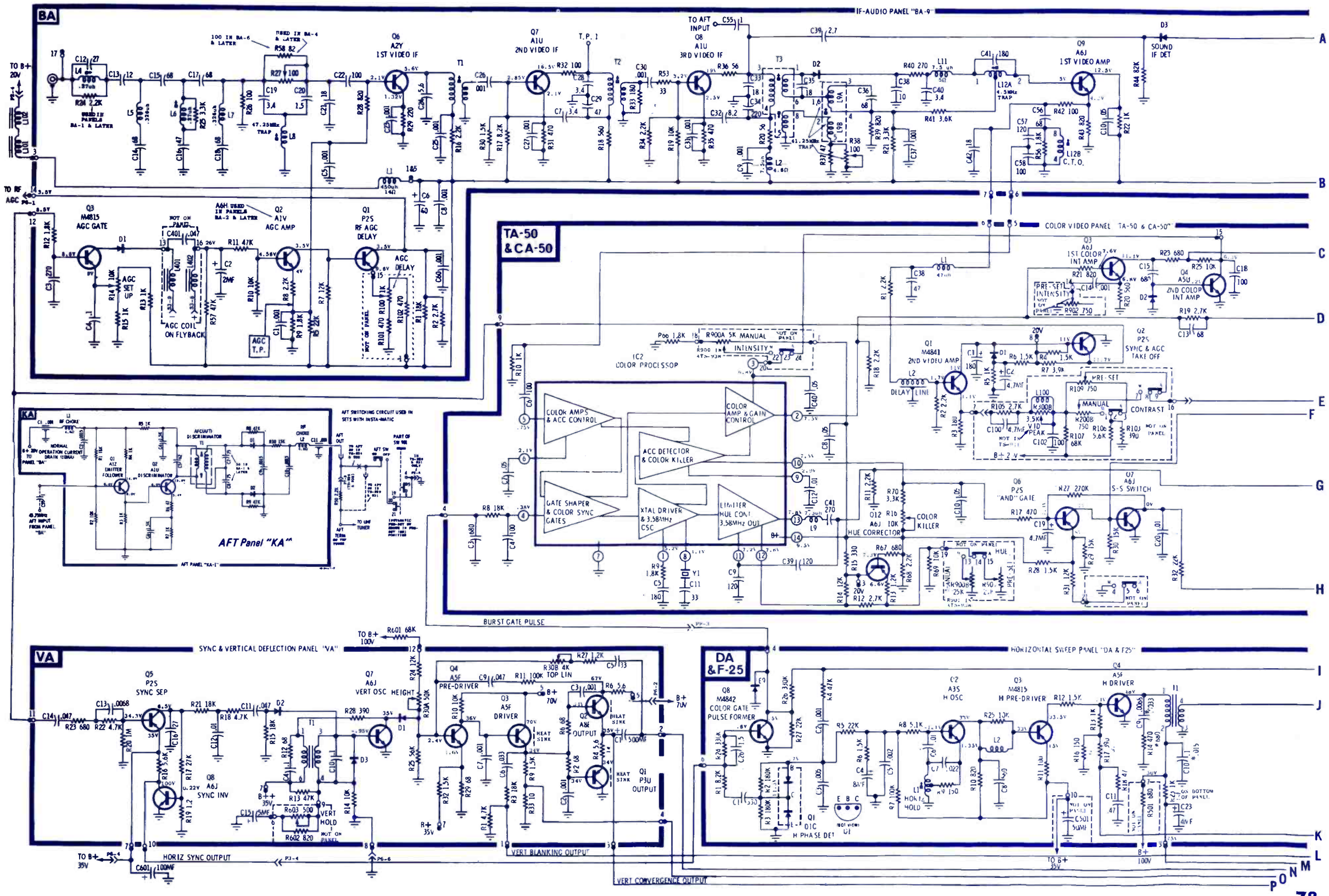


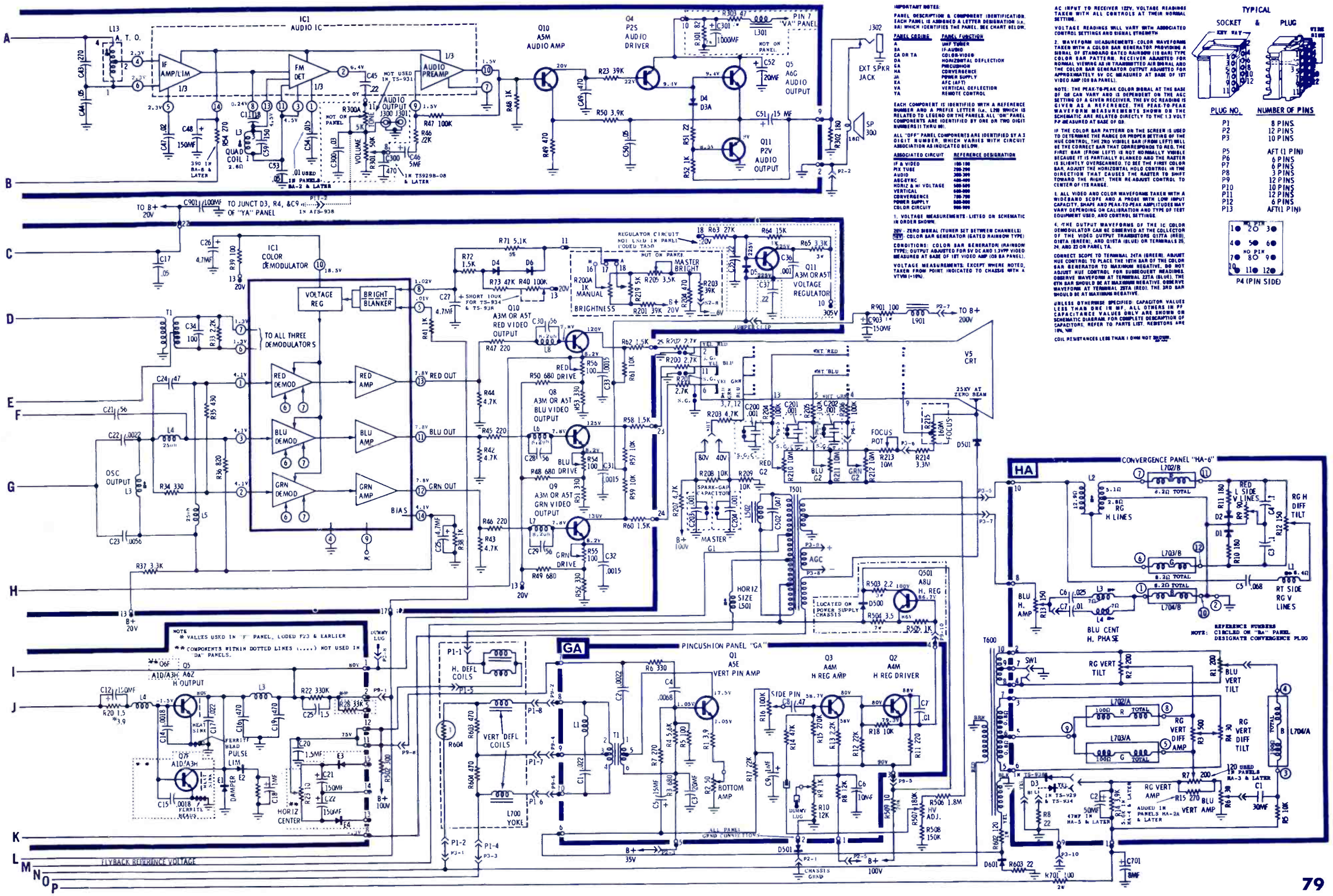
SYMBOL	DESCRIPTION	MOTOROLA PART NO.
C-803	2000 µf/40v, 1000 µf/35v 1000 µf/20v lytic	*23C69772A04
F-800	fuse, 3/4a - 125v	.65S136038
L-111	4.5MHz trap, incls core	*24D70374A01
L-500	horiz osc, incls core	*24D68130A05
L-700	yoke, deflect 114° (C12TS-467)	
L-801	choke, line	*24D69978A04
R-112	video bias, 50K	*18D66401A43
R125	contrast, 1K	*18D69773A02
R-126	brightness, 500K	18D69773A02
R-306	volume, 50K	18D69773A02
R-602	vert hold, 250K	*18D67678B12
R-605	vert size, 25K	18D67678B12
R-608	vert lin, 10K	18D67678B12
R-615	varistor	*6C66263A21
T-100	audio takeoff, incls cores	*24D68822A09
T-300	4.5MHz ratio detector	*24D68822A10
T-301	audio output	*25D67552A26
T-500	horiz driver	*25D67440A10
T-501	H.V. xformer, complete	*24D69828A04
T-800	power (C12TS-467)	*25D68499A05



MOTOROLA
Color TV Chassis
TS-938 Series

ELECTRONIC TECHNICIAN/DEALER TEKFAX





IMPORTANT NOTES:

PANEL DESCRIPTION & COMPONENT IDENTIFICATION. EACH PANEL IS ASSIGNED A LETTER DESIGNATION (i.e., BA) WHICH IDENTIFIES THE PANEL. SEE CHART BELOW.

PANEL CODING	PANEL FUNCTION
A	UHF TUNER
BA	IF-AUDIO
CA OR TA	COLOR-VIDEO
DA	HORIZONTAL DEFLECTION
GA	PINCUSHION
HA	CONVERGENCE
JA	POWER SUPPLY
KA	AFC (AFT)
VA	VERTICAL DEFLECTION
YA	REMOTE CONTROL

EACH COMPONENT IS IDENTIFIED WITH A REFERENCE NUMBER AND A PREFIX LETTER (i.e., L28 WHICH IS RELATED TO LEGEND ON THE PANELS. ALL "ON" PANEL COMPONENTS ARE IDENTIFIED BY ONE OR TWO DIGIT NUMBERS (1 THRU 99).

ALL "OFF" PANEL COMPONENTS ARE IDENTIFIED BY A 3 DIGIT NUMBER, WHICH VARIES WITH CIRCUIT ASSOCIATION AS INDICATED BELOW.

ASSOCIATED CIRCUIT	REFERENCE DESIGNATION
IF & VIDEO	100-199
PIX TUBE	200-299
AUDIO	300-399
ARC/SYNC	400-499
HORIZ & HI VOLTAGE	500-599
VERTICAL	600-699
CONVERGENCE	700-799
POWER SUPPLY	800-899
COLOR CIRCUIT	900-999

1. VOLTAGE MEASUREMENTS LISTED ON SCHEMATIC IN ORDER SHOWN.

20V - ZERO SIGNAL (TUNER SET BETWEEN CHANNELS)
18V - COLOR BAR GENERATOR (GATED RAINBOW TYPE)

CONDITIONS: COLOR BAR GENERATOR (RAINBOW TYPE) OUTPUT ADJUSTED FOR 5V DC AND 1.2VPP VIDEO MEASURED AT BASE OF 1ST VIDEO AMP (Q8 BA PANEL).

VOLTAGE MEASUREMENTS: EXCEPT WHERE NOTED, TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM (+10%).

AC INPUT TO RECEIVER 122V. VOLTAGE READINGS TAKEN WITH ALL CONTROLS AT THEIR NORMAL SETTING.

VOLTAGE READINGS WILL VARY WITH ASSOCIATED CONTROL SETTINGS AND SIGNAL STRENGTH.

2. WAVEFORM MEASUREMENTS: COLOR WAVEFORMS TAKEN WITH A COLOR BAR GENERATOR PROVIDING A SIGNAL OF STANDARD GATED RAINBOW (18 BAR) TYPE COLOR BAR PATTERN. RECEIVER ADJUSTED FOR NORMAL VIEWING OF AN ON TRANSMITTED AIR SIGNAL AND THE COLOR BAR GENERATOR OUTPUT ADJUSTED FOR APPROXIMATELY 5V DC MEASURED AT BASE OF 1ST VIDEO AMP (Q8 BA PANEL).

NOTE: THE PEAK-TO-PEAK COLOR SIGNAL AT THE BASE OF Q8 CAN VARY AND IS DEPENDENT ON THE AGC SETTING OF A GIVEN RECEIVER. THE 5V DC READING IS GIVEN AS A REFERENCE. THE PEAK-TO-PEAK WAVEFORM MEASUREMENTS SHOWN ON THE SCHEMATIC ARE RELATED DIRECTLY TO THE 1.2 VOLT P-P MEASURED AT BASE OF Q8.

IF THE COLOR BAR PATTERN ON THE SCREEN IS USED TO DETERMINE THE RANGE OR PROPER SETTING OF THE HUE CONTROL, THE 2ND VISIBLE BAR (FROM LEFT) WILL BE THE CORRECT BAR THAT CORRESPONDS TO REG. THE FIRST BAR (FROM LEFT) IS NOT NORMALLY VISIBLE BECAUSE IT IS PARTIALLY BLANKED AND THE RASTER IS SLIGHTLY OVERSCANNED. TO SEE THE FIRST COLOR BAR, ADJUST THE HORIZONTAL HOLD CONTROL IN THE DIRECTION THAT CAUSES THE RASTER TO SHIFT TOWARD THE RIGHT. THEN RE-ADJUST CONTROL TO CENTER OF ITS RANGE.

3. ALL VIDEO AND COLOR WAVEFORMS TAKEN WITH A WIDEBAND SCOPE AND A PROBE WITH LOW INPUT CAPACITY. SHAPE AND PEAK-TO-PEAK AMPLITUDES MAY VARY DEPENDING ON CALIBRATION AND TYPE OF TEST EQUIPMENT USED, AND CONTROL SETTINGS.

4. THE OUTPUT WAVEFORMS OF THE IC COLOR DEMODULATOR CAN BE OBSERVED AT THE COLLECTOR OF THE VIDEO OUTPUT TRANSISTORS Q17TA (RED), Q18TA (GREEN), AND Q19TA (BLUE) OR TERMINALS 26, 24, AND 23 ON PANEL TA.

CONNECT SCOPE TO TERMINAL 24TA (GREEN). ADJUST HUE CONTROL TO PLACE THE 18TH BAR OF THE COLOR BAR GENERATOR TO MAXIMUM NEGATIVE. DO NOT ADJUST HUE CONTROL FOR SUBSEQUENT READINGS. OBSERVE WAVEFORM AT TERMINAL 23TA (BLUE). THE 6TH BAR SHOULD BE AT MAXIMUM NEGATIVE. OBSERVE WAVEFORM AT TERMINAL 25TA (RED). THE 3RD BAR SHOULD BE AT MAXIMUM NEGATIVE.

UNLESS OTHERWISE SPECIFIED: CAPACITOR VALUES LESS THAN ONE IN MF, ALL OTHERS IN PF. CAPACITANCE VALUES ONLY ARE SHOWN ON SCHEMATIC DIAGRAM. FOR COMPLETE DESCRIPTION OF CAPACITORS, REFER TO PARTS LIST. RESISTORS ARE 10%, 1W.

COIL RESISTANCES LESS THAN 1 OHM NOT SHOWN.

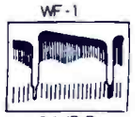
TYPICAL SOCKET & PLUG

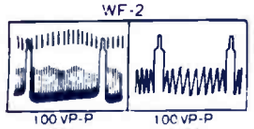
PLUG NO.	NUMBER OF PINS
P1	8 PINS
P2	12 PINS
P3	10 PINS
P5	AFT (1 PIN)
P6	6 PINS
P7	6 PINS
P8	3 PINS
P9	12 PINS
P10	10 PINS
P11	12 PINS
P12	6 PINS
P13	AFT(1 PIN)

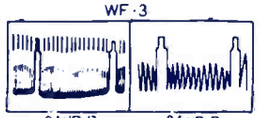
P4 (PIN SIDE)

OLYMPIC
TV Chassis
9P94 Series

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

WF-1

36 VP-P
60Hz

WF-2

100 VP-P
60Hz
100 VP-P
15750Hz

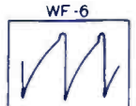
WF-3

84 VP-P
60Hz
84 VP-P
15750Hz

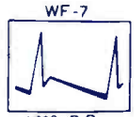
WF-4

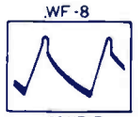
30 VP-P
60Hz
30 VP-P
15750Hz

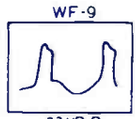
WF-5

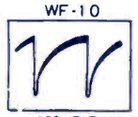
68 VP-P
60Hz

WF-6

360 VP-P
60Hz

WF-7

1700 VP-P
60Hz

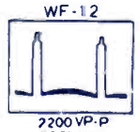
WF-8

20 VP-P
15750Hz

WF-9

23 VP-P
15750Hz

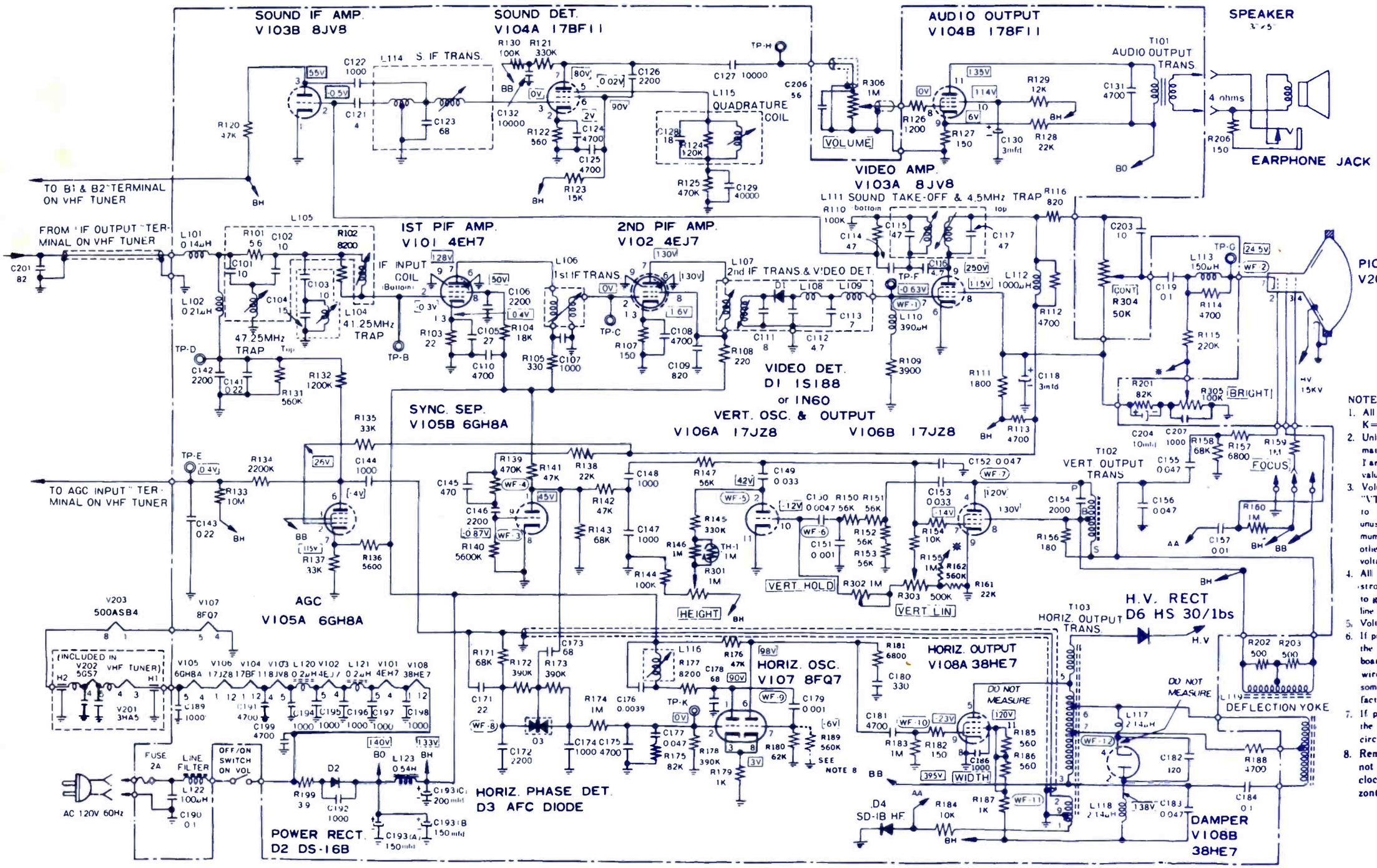
WF-10

100 VP-P
15750Hz

WF-11

420 VP-P
15750Hz

WF-12

2200 VP-P
15750Hz

SYMBOL	DESCRIPTION	OLYMPIC PART NO.
R301	1M, variable vert height control	PTJ70140
R302	1M, variable vert hold control	PTJ70140
R303	500K, variable vert lin control	PTJ70140
R304	50K, variable contrast control	PTJ70142
R305	100K, variable bright control	PTJ70143
R306	1M, variable volume, power On/Off control	PTJ70141
C193	150 µf, 180v/150 µf, 180v/200 µf, 180v elect	COJ70144
T101	audio output xformer	TRJ70119
T102	vert output xformer	TRJ70138
T103	horiz output w/diode (OPO4 only)	TRJ70165
L104	41.25MHz trap	CLJ70131
L111	sound take-off and 4.5MHz trap	TRJ70121
L114	sound IF xformer	TRJ70120
L115	quad coil	CLJ70122
L116	horiz hold stab	CLJ70126
L118	filter coil	CLJ70129
L119	deflection yoke	CLJ70139
D4	rectifier	RFJ70149
D6	high voltage selenium diode (9P94 only)	REJ70161
TH-1	thermistor	REJ70150
	2a fuse	FUJ70151
	complete P/C board less tubes	ASJ70098
	VHF tuner	CLJ70099
	UHF tuner	CLJ70100

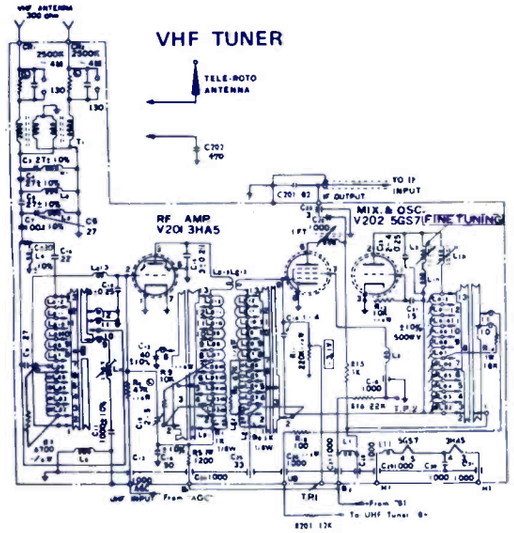


NOTES :

1. All resistance values in ohms K=1,000 M=1,000,000.
2. Unless otherwise noted in schematic, all capacitors less than 1 are expressed in mfd. and the values larger than 1 are in pF.
3. Voltage reading taken with "VTVM" from point indicated to chassis ground. Tuner on unused channel, contrast at maximum, AGC at fully clockwise, other controls at normal, line voltage 120 volts.
4. All waveforms measured with strong signal input, contrast set to give normal picture and AGC line operating normally.
5. Voltage reading may vary ± 20%.
6. If picture is found too wide, clip the wire near R185 on the circuit board by using a nipper. This wire may have been opened in some chassis as a result of factory adjustment.
7. If picture is still too wide, clip the wire near R186 on the circuit board.
8. Remove R189, if picture does not go out of sync by full clockwise rotation of Horizontal Hold control knob.

OLYMPIC

TV Chassis
3P70



SYMBOL	OESCRIPTION	OLYMPIC PART NO.
C155	1000pf, 2kv	COJ70926
C192A	150 µf, 180v	
C192B	100 µf, 180v	COJ70144
C192C	150 µf, 180v	
L104	41.25MHz trap coil	CLJ70131
L111	sound IF & trap coil	TRJ70120
L114	sound IF xformer	TRJ70121
L115	quad coil	TRJ70122
L116	horiz stabilizer coil	CLJ70126
L201	deflection yoke	CLJ70916
T101	audio output xformer	TRJ70119
T102	vert output xformer	TRJ70917
T103	horiz output xformer	TRJ70915
R147	1M, vert height	
R149	1M, vert hold	PTJ70140
R154	500K, vert lin	
R202	1M, volume	PTJ70921
SW-1	with off/on switch	
R203	30K, contrast	PTJ70922
R204	100K, brite	PTJ70142
D3	horiz AFC diode	REJ70148
TH1	thermistor	REJ70932
	tuner, VHF	CLJ70912
	tuner, UHF	CLJ70913

WF-1
2.7 VP-P 60Hz

WF-2
70 VP-P 60Hz
70 VP-P 15750Hz

WF-3
60 VP-P 60Hz
60 VP-P 15750Hz

WF-4
55 VP-P 60Hz
55 VP-P 15750Hz

WF-5
100 VP-P 60Hz

WF-6
250 VP-P 60Hz

WF-7
1300 VP-P 60Hz

WF-8
12 VP-P 15750Hz

WF-9
22 VP-P 15750Hz

WF-10
95 VP-P 15750Hz

WF-11
380 VP-P 15750Hz

WF-12
1700 VP-P 15750Hz

SOUND IF AMP. V103B 8JV8

SOUND DET. V104A 17BF11

SIF TRANS.

TO "B2" TERMINAL ON VHF TUNER

FROM IF OUTPUT TERMINAL ON VHF TUNER

IST PIF AMP. V101 4EH7

2ND PIF AMP. V102 4EJ7

L107 44.3MHz (Top) 42.5MHz (Bottom)

L106 44.0MHz 1st IF TRANS.

L107 2nd IF TRANS. & VIDEO DET

VIDEO DET DI 1S188 or 1N60

SYNC. SEP. V105B 6GH8A

AGC V105A 6GH8A

TO "AGC" TERMINAL ON VHF TUNER

VERT. OSC. & OUTPUT V106A 17JZ8 V106B 17JZ8

HORIZ. OSC. V107 8FQ7

HORIZ. PHASE DET. D3 AFC DIODE

HORIZ. OUTPUT V108A 33GY7

H.V. RECT. V109 1X2B

DAMPER V108B 33GY7

POWER RECT. D2 DS-16B or DS-1M

AUDIO OUTPUT V104B 17BF11

T101 AUDIO OUTPUT TRANS.

SPEAKER 3 1/2"

EARPHONE JACK

VIDEO AMP. V103A 8JV8

L111 SOUND TAKE-OFF & 4.5MHz TRAP

PICTURE TUBE V203 310ENB4 or 310ERB4 or 310EVB4

T102 VERT OUTPUT TRANS

T103 HORIZ OUTPUT TRANS

DEFLECTION YOKE

VOLUME

VERT LIN

VERT HOLD

HEIGHT

WIDTH

FOCUS

BRIGHT

CONT

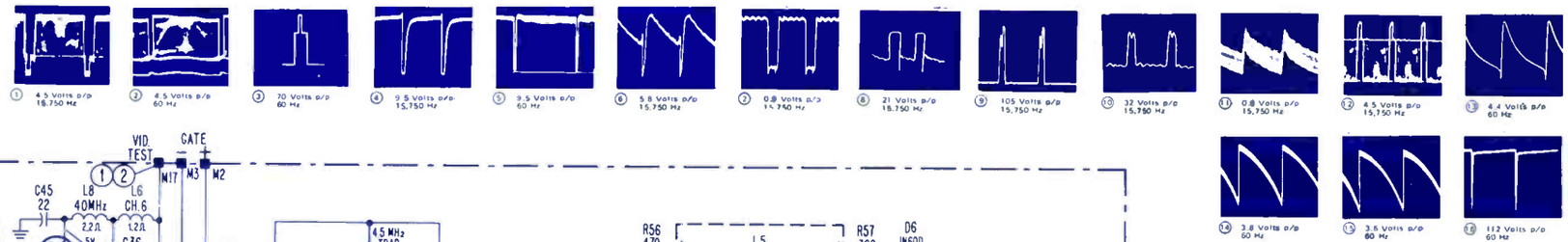
SEE NOTE 8

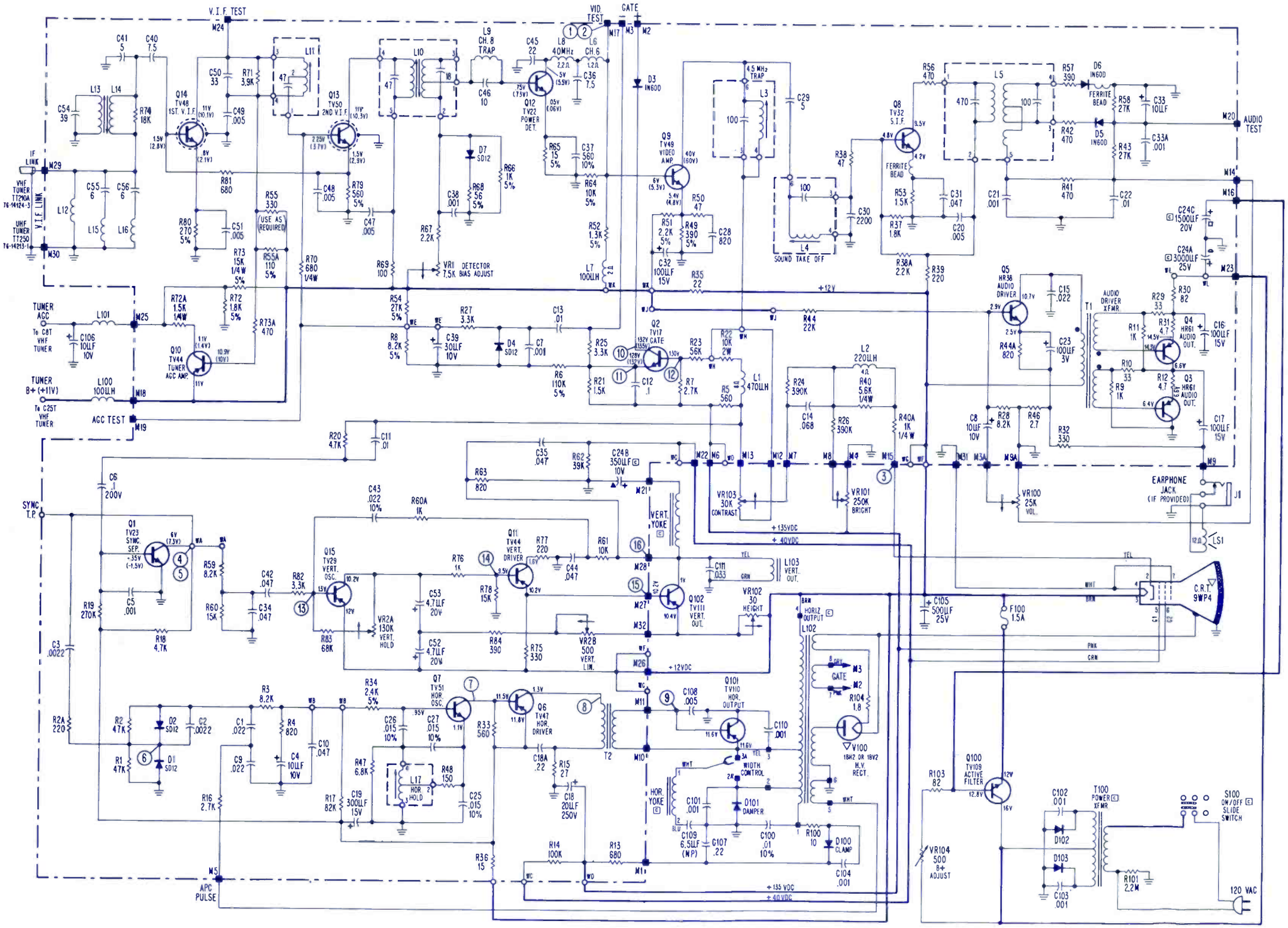
AC 120V 60Hz

PHILCO-FORD
TV Chassis 21HT15

ELECTRONIC TECHNICIAN / DEALER **TEKFAX**

SYMBOL	DESCRIPTION	PHILCO PART NO.
C24A, B—3000 µf/25v, 1500 µf/20v		
C—350 µf/10v, active filter		30-2585-34
F100—1.5a, fast blow, B+		45-2656-72
L3—4.5MHz trap		32-4901-1
L4—sound take-off		32-4901-1
L5—ratio det		32-4906-1
L17—coil, horiz osc		32-4938-2
LS1—speaker, 3M, 12 Ω		36-1722-1
tuner, VHF (TT210A)		76-14124-3
yoke		32-9748-2
S100—ac, on/off (slide)		42-2173-8
T1—audio driver		32-10108-1
T2—horiz drive		32-10104-1
T100—power		32-10159-1
VR2A/B—130K, vert hold, 500 Ω vert lin		33-5627-4
VR100—25K, volume		33-5624-16
VR101—250K, brite		33-5624-15
VR102—30 Ω, height		33-5620-9
VR103—30K, contrast		33-5624-14
VR104—500 Ω, B+ adjust		33-5624-17





NOTES:

- VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS, ANTENNA REMOVED AND TUNER OFF CHANNEL VOLTAGES IN PARENTHESIS ARE WITH A MODERATLEY STRONG SIGNAL DEVELOPING +L4V RF AGC AT TP M25
- VOLTAGES MEASURED WITH A V.T.V.M. (B&K MODEL 175) FROM POINT INDICATED TO CHASSIS GROUND.
- BALLOONS ⑩ ⑪ ETC. SHOWN ON SCHEMATIC INDICATE WAVEFORM TEST POINTS. (WITH RECEIVER ADJUSTED FOR SNOW-FREE PIX).
- CONTROL SETTINGS:
  VOLUME - MINIMUM
  CONTRAST - MAX
  BRIGHTNESS - NEAR MAX
  ALL OTHER CONTROLS SET FOR NORMAL OPERATION.
- Ⓒ CRITICAL SAFETY. (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST.)
- ▽ CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST) HIGH VOLTAGE COMPONENT.

TRANSISTOR BASINGS
BOTTOM VIEWS

TYPE 1 — TYPE 2 OR

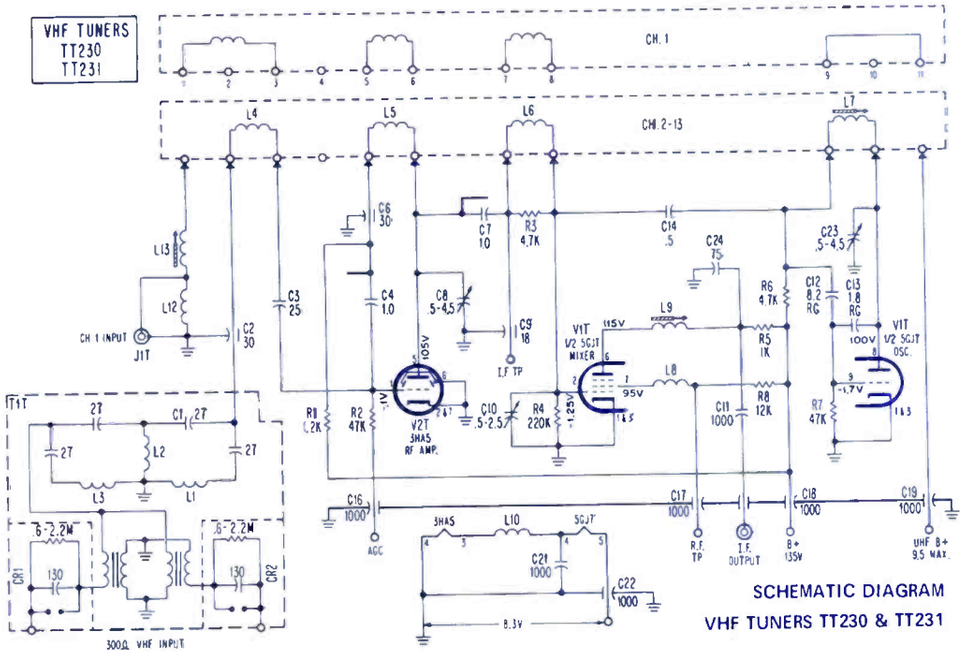
Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q15

NOTE: TYPE 2 LEADS ARE PREFORMED TO FIT TYPE 1 HOLE CONFIGURATION IN PW BOARD.

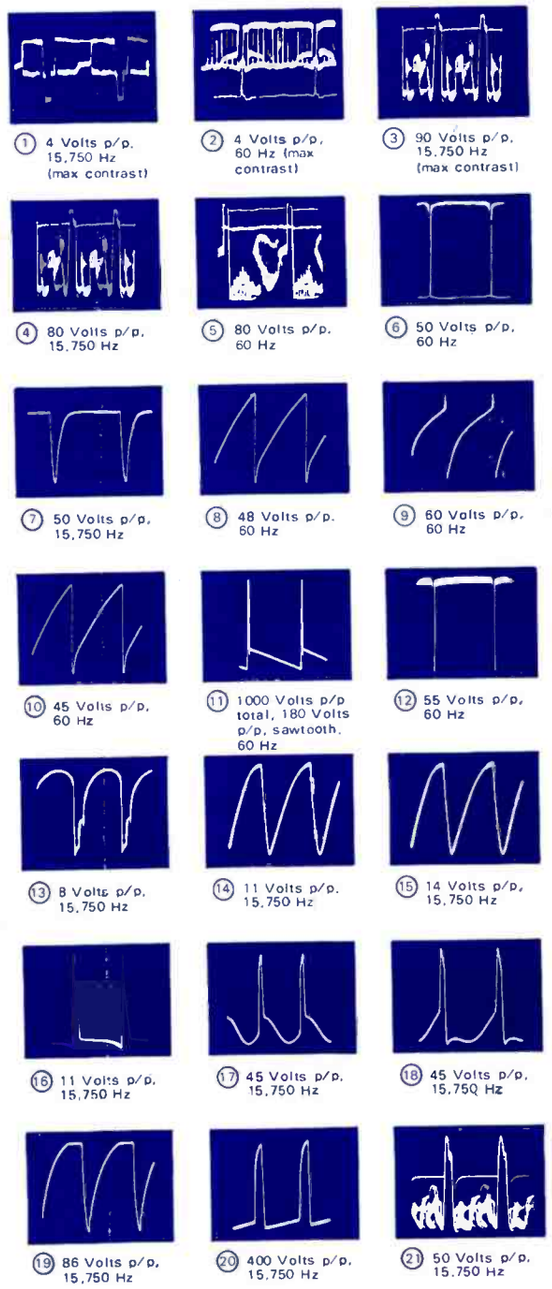
Q13, Q14

Q100

Q101, Q102



SCHEMATIC DIAGRAM
VHF TUNERS TT230 & TT231



PHILCO-FORD
Color TV Chassis
20QT75

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
IC1	act	46-5002-6
L2	47.25MHz trap	32-4959-2
L3	39.75MHz trap	32-4959-8
L17	4.5MHz trap	32-4869-3
L41	horiz hold	32-4891-2
L91	sound interstage	32-4936-2
L93	sound ratio det	32-4928-1
L94	tint control	32-4942-1
L96	chroma T.O.	32-4878-3
L99	chroma bandpass	32-4929-1
DL91	delay line	32-4839-3
RT200	degaussing thermistor	33-1376-6
RT201	vert damping thermistor	323-0292
RV55	horiz bias	33-1379-2
RV200	degaussing coil	33-1379-1
RV201	pincushion damping 33-1379-1	33-1379-7
SW202	ON/OFF switch	42-2167-1
T1	audio output xformer	32-10119-3
T2	filter choke xformer	32-10095-3
T3	vert output xformer	32-10080-4
T4	horiz output xformer	32-10130-2
T5	power xformer	32-10131-1
VR41	A-red screen, B-green screen, C-blue screen	33-5595-20
VR42	A-vert. height, B-lin, C-bias	33-5627-3
VR91	video drive	33-5632-1
VR92	color killer	33-5628-6
VR93	CRT bias	33-5628-12
VR201	12M, focus adjust control	33-5631-24
VR202	25K, vol control	33-5634-17
VR203	1.2K, tint control	33-5623-20
VR204A & B	500Ω, color, 750K vert hold control	33-5644-4

(1) 2 VOLTS P/P, 60 HZ (MAX. CONTRAST) M17

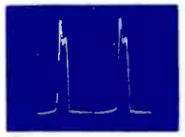
(2) 2 VOLTS P/P, 15,750 HZ (MAX. CONTRAST) M17

(3) 4.2 VOLTS P/P, 15,750 HZ Q93 COLL.

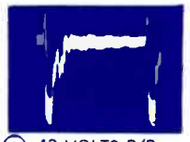
(4) 3.8 VOLTS P/P, 15,750 HZ PIN 2 V92

(5) 80V. P/P. (cont. at point of start of sync compression) 15,750 HZ Pin 7 V92

(6) 65V. P/P. (MIN. CON.) 15,750 HZ PIN 7 V92



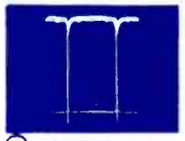
(7) 40 VOLTS P/P, 15,750 HZ M10



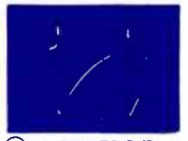
(8) 13 VOLTS P/P, 15,750 HZ M11

(9) 6.6 VOLTS P/P, 15,750 HZ BASE OF Q41

(10) 50 VOLTS P/P. 15,750 HZ M49



(11) 50 VOLTS P/P. 60 HZ M49



(12) 85 VOLTS P/P, 60 HZ PIN 10 V41

(13) 110 VOLTS P/P, 60 HZ PIN 2, 6, 7

(14) 10 VOLTS P/P, 60 HZ PIN 9 V41

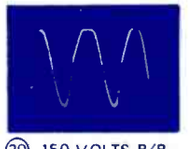
(15) 1KV VOLTS P/P, 60 HZ (SPIKE) 200 VOLTS P/P. 60 HZ (SAWTOOTH) M46 OR PIN 4 V41

(16) 12 VOLTS P/P, 15,750 HZ D41, D42

(17) 16 VOLTS P/P, 15,750 HZ D41 TOP END

(18) 6 VOLTS P/P, 15,750 HZ PIN 9 V42

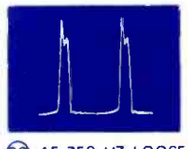
(19) 45 VOLTS P/P. 15,750 HZ PIN 1 V42



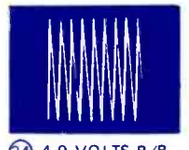
(20) 150 VOLTS P/P, 15,750 HZ PIN 2 V42

(21) 200 VOLTS P/P, 15,750 HZ PIN 6 V42

(22) 200 VOLTS P/P. 15,750 HZ M61

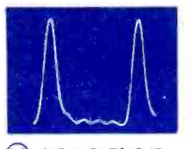


(23) 15,750 HZ LOOSE COUPLED V200 PLATE



(24) 4.0 VOLTS P/P, 3.58 MHZ CR91, D98 & C124

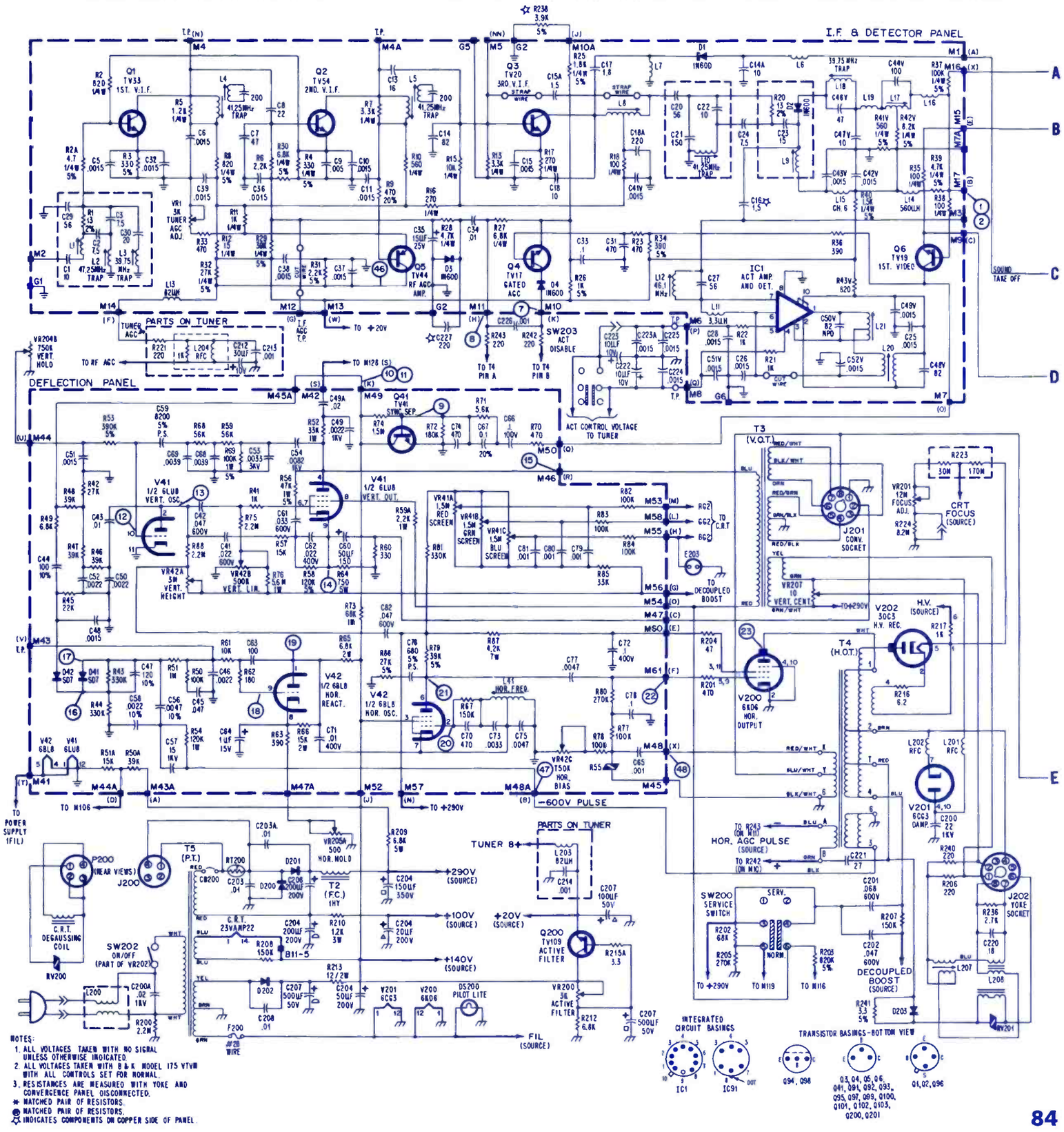
(25) 0.1 VOLTS P/P, ± .05 15,750 HZ Q96 BASE



(26) 5.5 VOLTS P/P. 15,750 HZ M103

(27) .3 VOLTS P/P, 15,750 HZ Q102 BASE R150, R151

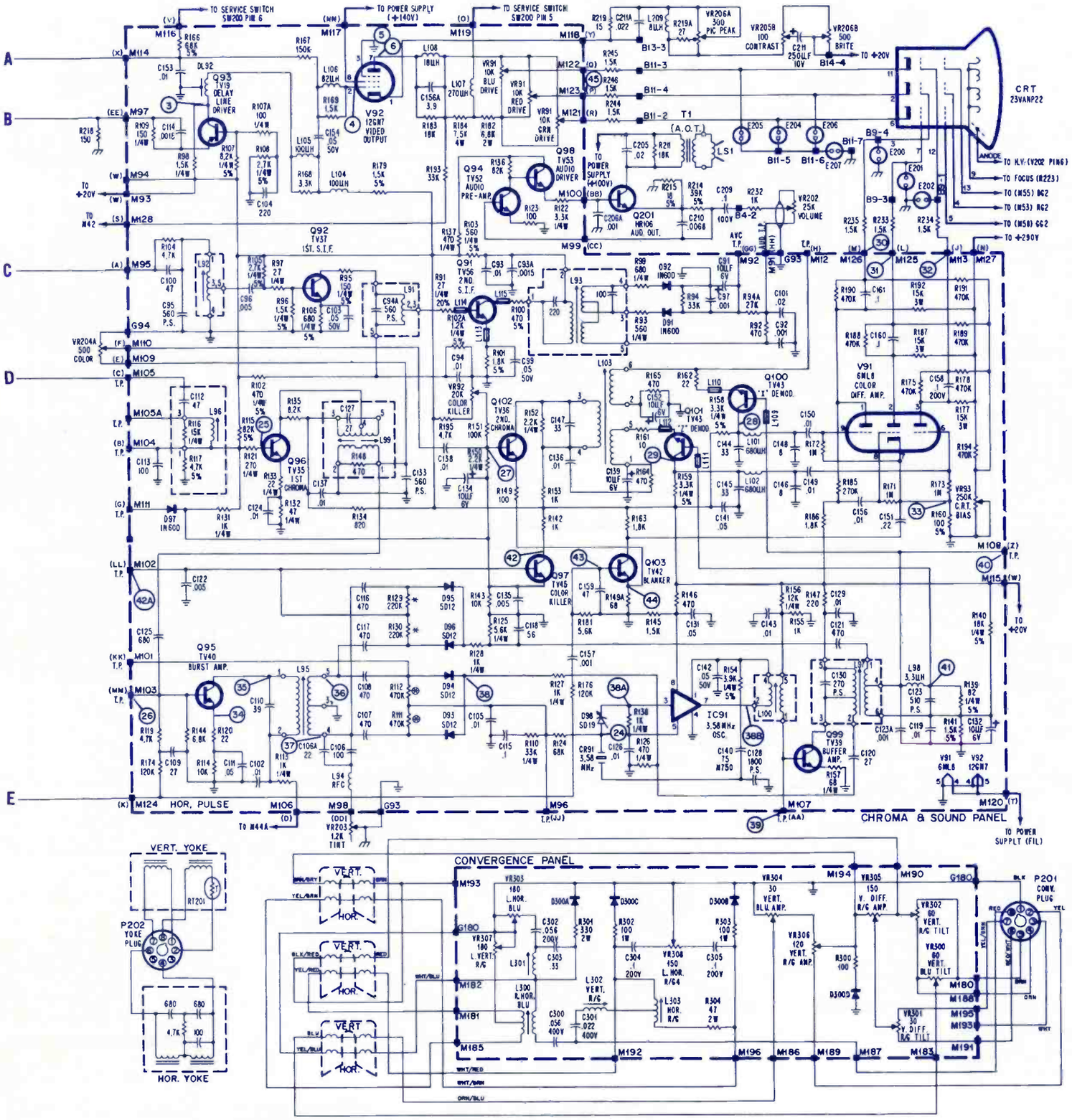
(28) 7 VOLTS P/P, 15,750 HZ Q100 COLL.

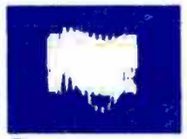


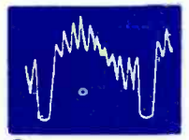
NOTES:
1. ALL VOLTAGES TAKEN WITH NO SIGNAL UNLESS OTHERWISE INDICATED.
2. ALL VOLTAGES TAKEN WITH B & K MODEL 175 VTVM WITH ALL CONTROLS SET FOR NORMAL.
3. RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
* MATCHED PAIR OF RESISTORS.
● MATCHED PAIR OF RESISTORS.
△ INDICATES COMPONENTS ON COPPER SIDE OF PANEL.

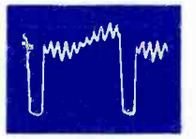
VR205A & B 500Ω, horiz hold, 100Ω contrast control ..33-5636-16
VR206A & B 300Ω, pix quality, 500Ω bright control ..33-5636-20
VR207--vert centering control 33-5609-1
VHF tuner 76-14099-5V
UHF tuner 76-14099-6U
Yoke assembly 76-14236-1

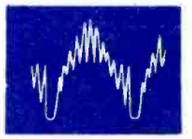
PHILCO-FORD
Color TV Chassis
20QT75

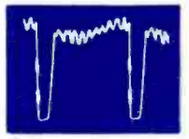



29 8.5 VOLTS P/P. 15,750 HZ Q101 COLL.

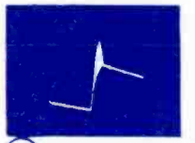

30 45 VOLTS P/P. (CHROMA) 70 V P/P. (SYNC) 15,750 HZ M126

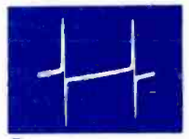

31 17 VOLTS P/P. (CHROMA) 70 V. P/P. (SYNC) M125

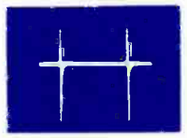

32 50 VOLTS P/P. (CHROMA) 70 V. P/P. (SYNC) M113

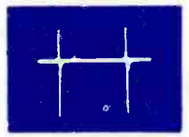

33 2 VOLTS P/P. (CHROMA) 25 V. P/P. (SYNC) R160, R173 PIN 7 V91

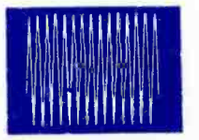

34 0.7 VOLTS P/P. 15,750 HZ Q95 EMIT

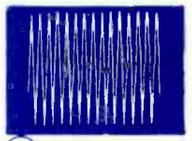

34A EXPLODED VIEW OF BURST OF VIEW 34

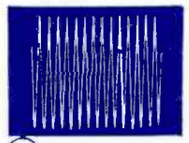

35 70 VOLTS P/P. 15,750 HZ Q95 COLL.

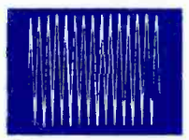

36 12 VOLTS P/P. 15,750 HZ PIN 5 L95

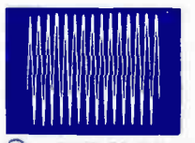

37 12 VOLTS P/P. 15,750 HZ PIN 4 L95

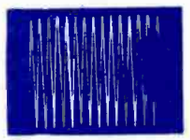

38 6 VOLTS P/P. 3.58 MHZ D93, D94


38A 0.8 VOLTS P/P. 3.58 MHZ PIN 3 IC91


38B 16 VOLTS P/P. 3.58 MHZ PIN 7 IC91

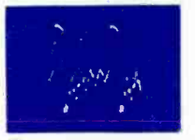

39 1.6 VOLTS P/P. 3.58 MHZ M107

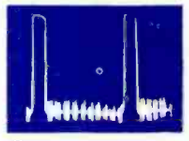

40 1.0 VOLTS P/P. 3.58 MHZ PIN 4 L97 OR M108


41 1.0 VOLTS P/P. 3.58 MHZ L98-R139

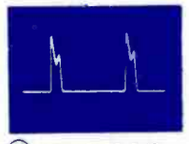

42 .55 VOLTS P/P. 60 HZ Q97 COLL.


42A 0.85 VOLTS P/P 60 HZ M102


43 12 VOLTS P/P. 15,750 HZ Q103 BASE


44 3.5 VOLTS P/P. 17,500 HZ Q103 EMIT.


45 90 VOLTS P/P. 15,750 HZ, CONT SET JUST BELOW POINT OF SYNC COMPRESSION M123


46 30 VOLTS P/P. 15,750 HZ Q5 COLL.


47 660 VOLTS P/P. 15,750 HZ M45


48 420 VOLTS P/P. 15,750 HZ M48

LINE VOLTAGE - 120 VAC
AIR SIGNAL - FOR MONOCHROME SIGNALS
COLOR BAR GEN. - B&K 1245 - FOR COLOR SIGNALS
ACTIVE FILTER AT 20 VDC

PHILCO-FORD

Color TV Chassis
22QT79

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
CB200	power, ac	42-2136-10
F201	4a	45-2656-36
CR91	3.58MHz osc	34-8043-5
1C1	Act	46-5002-6
1C91	3.58MHz osc	46-5002-7
L4	1st IF	32-4957-3
L5	2nd IF	32-4957-2
L10	41.25MHz trap	32-4959-8
L41	horiz hold	32-4891-2
L92	sound TO	32-4936-1
L93	sound ratio det	32-4928-1
L94	tint control	32-4112-63
L99	chroma bandpass	32-4929-1
T200	degaussing	33-1376-6
RV55	horiz bias	33-1379-2
SW200	normal service	42-2163-4
T1	audio output xformer	32-10174-1
T2	filter choke xformer	32-10155-1
T3	vert output xformer	32-10157-1
T4	horiz output xformer	32-10130-5
T5	power xformer	32-10154-1
VR1	3K, RF AGC amp emit	33-5628-14
VR91	video drive	33-5632-1
VR92	color killer	33-5628-6
VR93	CRT bias	33-5628-12
VR201	12M, focus adj	33-5631-24
VR202	25K, volume (20QT80)	33-5648-11
VR203	500Ω, color	33-5648-8
VR204	500Ω, horiz hold	33-5642-23
VR205	750K, vert hold	33-5642-22
VR207	10Ω, vert control	33-5609-1
VR208	500Ω, brightness	33-5642-25
VR209	100Ω, contrast	33-5642-24
VR211	100K, tone (20QT80)	33-5648-2
	tuner, VHF (22QT79/80 LP)	76-14293-1
	yoke assy.	76-14236-1

TRANSISTOR VOLTAGES

W/COLOR BAR GEN.

TRANSISTOR	FUNCTION	E	B	C
Q95	BURST AMP	48	0	38
Q96	1ST CHROMA	.17	.90	16.5
Q97	COLOR KILLER	1	1.5	19.5
Q99	BUFF AMP	.65	1.3	17.5
Q100	X DEMOD	1.8	1.44	13
Q101	Z DEMOD	1.8	1.44	12
Q102	2ND CHROMA	.80	1.0	18.5
Q103	BLANKER	.68	-1.6	16.5

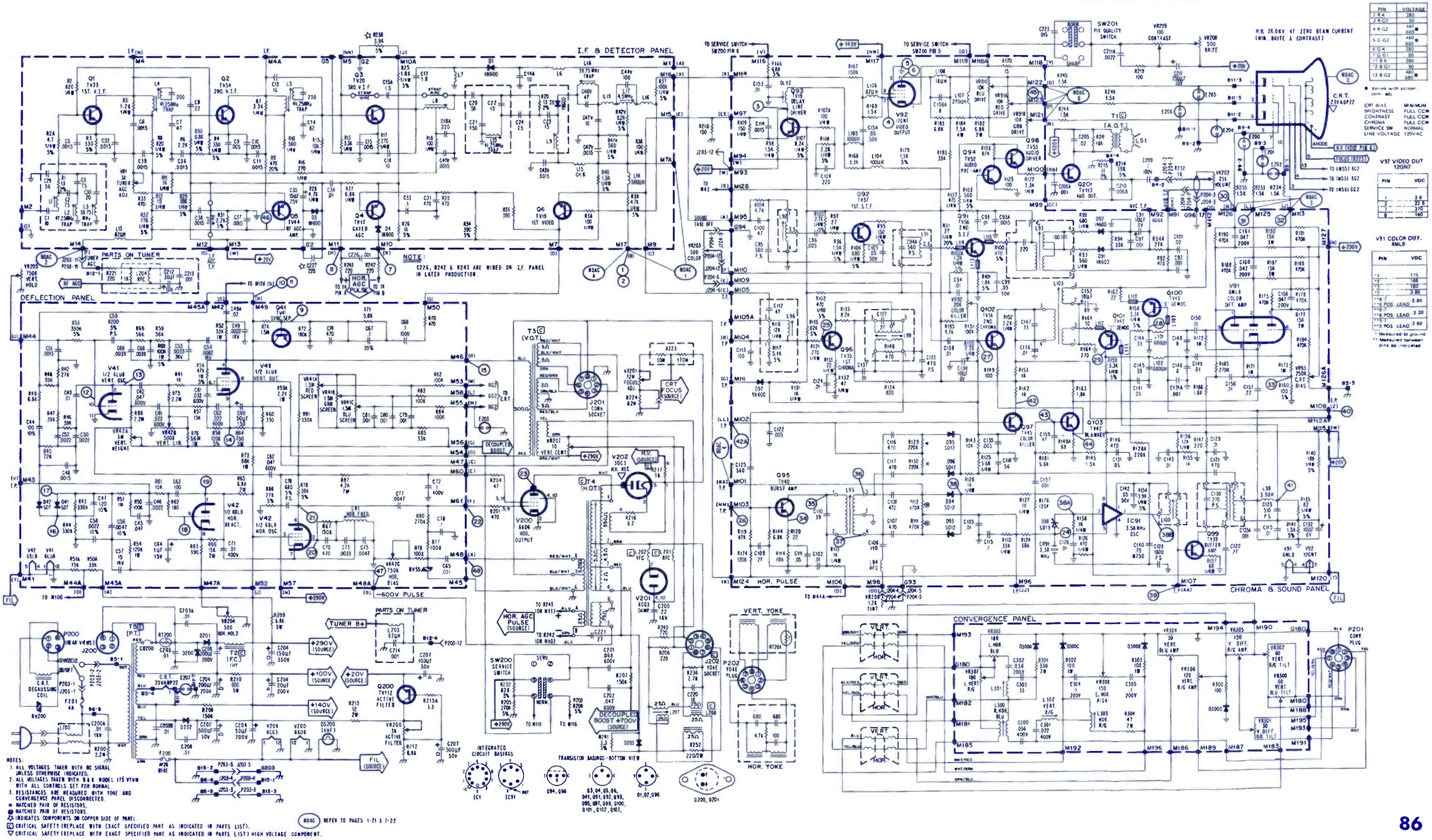
B & K 1245 GEN. set at ch. 4
IF AGC set at mid-range
Approx. 1.6VDC at tuner AGC
SEC. controls set for normal color bar pattern
Color bar gen. color amplitude set for 1.5VDC at M102
B & K meter 175
Line voltage 120VAC
Active filter 20VDC at M13

IC91 3.58 OSC.

W/COLOR BAR GEN.

PIN	VDC
1	11.4
2	-
3	1.5
4	0
5	1.55
6	-
7	11.4
8	12.0

NOTES
CRT BIAS - MIN.
BRIGHTNESS - FULL CCW
CONTRAST - FULL CCW
CHROMA - FULL CCW
SERVICE SW. - NORMAL



PIN	VOLTAGE
2 R-K	280
3 R-G1	90
4 R-G2	480 / 680
5 G-G2	460 / 680
6 G-K	280
7 G-G1	86
11 B-K	280
12 B-G1	90
13 B-G2	480 / 680

* Varies with screen cont. adj.

CRT BIAS	MINIMUM
BRIGHTNESS	FULL CCW
CONTRAST	FULL CCW
CHROMA	FULL CCW
SERVICE SW.	NORMAL
LINE VOLTAGE	120VAC

V92 VIDEO OUT 12GN7

PIN	VDC
1	2.6
2	22.8
3	2.75
8	180

V91 COLOR DIFF. 6ML8

PIN	VDC
1	175
2	188
3	180
4	3.86
6-7	0
6 POS LEAD	2.80
8-7	0
9 POS LEAD	2.20
9-7	0
9 POS LEAD	2.60

* Measured to ground
** Measured between pins as indicated

NOTES:
1. ALL VOLTAGES TAKEN WITH NO SIGNAL UNLESS OTHERWISE INDICATED.
2. ALL VOLTAGES TAKEN WITH B & K MODEL 175 VTVM WITH ALL CONTROLS SET FOR NORMAL.
3. RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
* MATCHED PAIR OF RESISTORS.
● MATCHED PAIR OF RESISTORS.
⚠ INDICATES COMPONENTS ON COPPER SIDE OF PANEL.
[C] CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST).
▽ CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST.) HIGH VOLTAGE COMPONENT.

OSCILLOSCOPE WAVEFORM PATTERNS

These waveforms were taken with the receiver AGC control adjusted for an approximate peak-to-peak output of two volts at the video detector, using an air signal. Do not reset AGC control when using color bar generator. All monochrome voltages taken with average air signal and all chroma voltages taken with a color bar generator connected to the antenna input terminals. The chroma peak-to-peak voltages were taken with the chroma control set for 0.3V peak-to-peak at center tap of chrome control or M110 and the tint control set for proper color bars (approximately mid-range), all other controls set for normal viewing. The frequencies shown are those of the waveforms.....not the sweep rate of the oscilloscope. All voltages taken with a wide band scope having a 5 MHz bandwidth similar to B&K Model 1450. Line voltage, 120V.

LINE VOLTAGE - 120 VAC
AIR SIGNAL - FOR MONOCHROME SIGNALS
COLOR BAR GEN. - B&K 1245 - FOR COLOR SIGNALS
ACTIVE FILTER AT 20 VDC

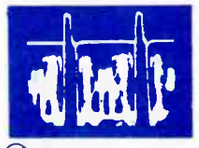

1. 2 VOLTS P/P, 60 HZ (MAX. CONTRAST) M17

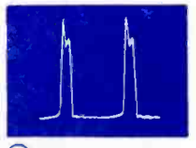

2. 2 VOLTS P/P, 15,750 HZ (MAX. CONTRAST) M17

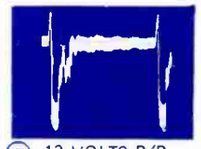

3. 4.2 VOLTS P/P, 15,750 HZ Q93 COLL.


4. 3.8 VOLTS P/P, 15,750 HZ PIN 2 V92


5. 80V. P/P. (cont. at point of start of sync compression) 15,750 HZ Pin 7 V92


6. 65V. P/P. (MIN. CON.) 15,750 HZ PIN 7 V92

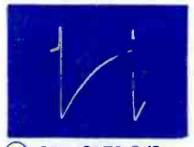

7. 40 VOLTS P/P, 15,750 HZ M10


8. 13 VOLTS P/P, 15,750 HZ M11

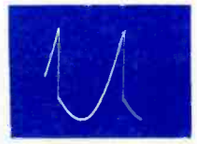

9. 6.6 VOLTS P/P, 15,750 HZ BASE OF Q41

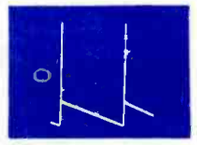

10. 50 VOLTS P/P, 15,750 HZ M49


11. 50 VOLTS P/P 60 HZ M49


12. 85 VOLTS P/P, 60 HZ PIN 10 V41

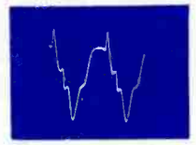

13. 110 VOLTS P/P, 60 HZ PIN 2, 6, 7

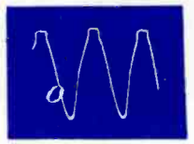

14. 10 VOLTS P/P, 60 HZ PIN 9 V41

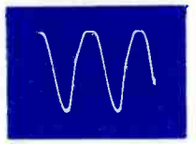

15. 1KV VOLTS P/P, 60 HZ (SPIKE) 200 VOLTS P/P, 60 HZ (SAWTOOTH) M46, OR PIN 4 V41

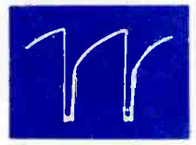

16. 12 VOLTS P/P, 15,750 HZ D41, D42

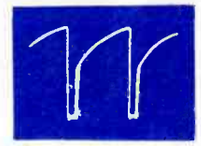

17. 16 VOLTS P/P, 15,750 HZ D41 TOP END

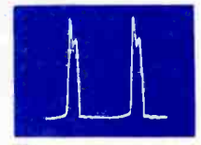

18. 6 VOLTS P/P, 15,750 HZ PIN 9 V42

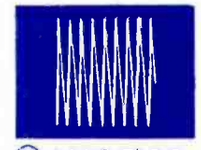

19. 45 VOLTS P/P, 15,750 HZ PIN 1 V42


20. 150 VOLTS P/P, 15,750 HZ PIN 2 V42

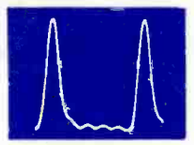

21. 200 VOLTS P/P. 15,750 HZ PIN 6 V42


22. 200 VOLTS P/P. 15,750 HZ M61


23. 15,750 HZ LOOSE COUPLED V200 PLATE

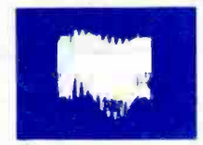

24. 4.0 VOLTS P/P, 3.58 MHZ CR91, D98 & C124

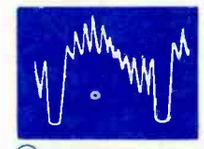

25. 0.1 VOLTS P/P, ± .05 15,750 HZ Q96 BASE

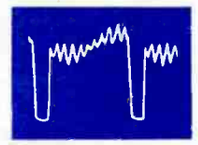

26. 5.5 VOLTS P/P, 15,750 HZ M103

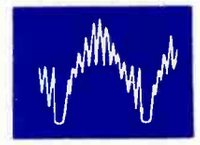

27. .3 VOLTS P/P, 15,750 HZ Q102 BASE R150, R151

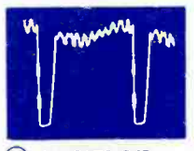

28. 7 VOLTS P/P, 15,750 HZ Q100 COLL.


29. 8.5 VOLTS P/P, 15,750 HZ Q101 COLL.

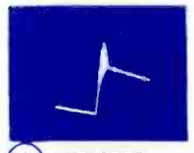

30. 45 VOLTS P/P, (CHROMA) 70V P/P, (SYNC) 15,750 HZ M126


31. 17 VOLTS P/P, (CHROMA) 70 V. P/P. (SYNC) M125

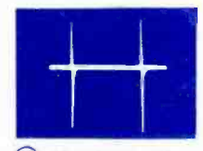

32. 50 VOLTS P/P, (CHROMA) 70 V. P/P. (SYNC) M113

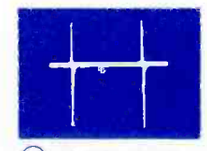

33. 2 VOLTS P/P, (CHROMA) 25 V. P/P. (SYNC) R160, R173 PIN 7 V91

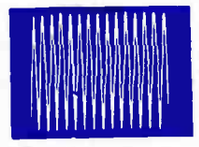

34. 0.7 VOLTS P/P, 15,750 HZ Q95 EMIT

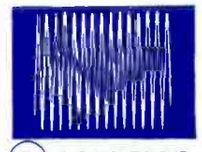

34A. EXPLODED VIEW OF BURST OF VIEW 34

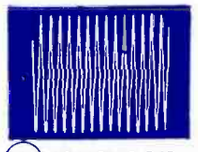

35. 70 VOLTS P/P, 15,750 HZ Q95 COLL.

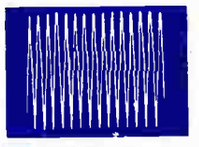

36. 12 VOLTS P/P, 15,750 HZ PIN 5 L95

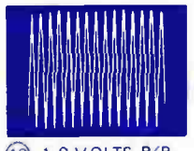

37. 12 VOLTS P/P, 15,750 HZ PIN 4 L95

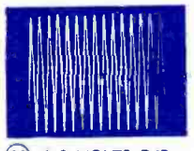

38. 6 VOLTS P/P. 3.58 MHZ D93, D94


38A. 0.8 VOLTS P/P. 3.58 MHZ PIN 3 IC91

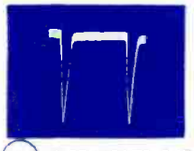

38B. 16 VOLTS P/P. 3.58 MHZ PIN 7 IC91

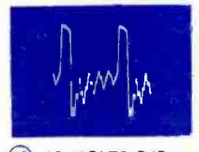

1.6 VOLTS P/P, 3.58 MHZ M107

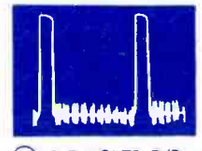

40. 1.0 VOLTS P/P, 3.58 MHZ PIN 4 L97 OR M108


41. 1.0 VOLTS P/P, 3.58 MHZ L98-R139


42. 55 VOLTS P/P, 60 HZ Q97 COLL.

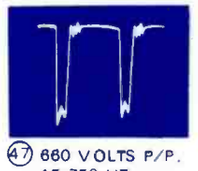

42A. 0.85 VOLTS P/P 60 HZ M102

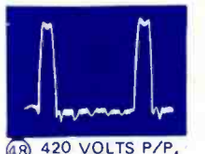

43. 12 VOLTS P/P, 15,750 HZ Q103 BASE


44. 3.5 VOLTS P/P, 17,500 HZ Q103 EMIT.


45. 90 VOLTS P/P, 15,750 HZ, CONT SET JUST BELOW POINT OF SYNC COMPRESSION M123


46. 30 VOLTS P/P, 15,750 HZ Q5 COLL.


47. 660 VOLTS P/P, 15,750 HZ M45


48. 420 VOLTS P/P, 15,750 HZ M48

TRANSISTOR RESISTANCES

Resistance measurements of transistors in circuit (power off) yoke & convergence not connected. All measurements are in ohms and taken with B & K Model 120 VOM with allowable tolerance ±20%. DC polarity switch in "REV" position. Transistor measurements (use X100 scale).

TRANS.	FUNCTION	E TO GRD.	B TO GRD.	C TO GRD.	C TO E + − (− +)	C TO B + − (− +)	B TO E + − (− +)
Q1	1ST V.I.F.	330	1150	1100	1450 (1250)	2300 (1500)	1500 (1500)
Q2	2ND V.I.F.	330	2100	1050	1400 (1350)	6.5K (1785)	1.8K (5.6K)
Q3	3RD V.I.F.	270	1700	675	960 (950)	3.1K (1.5K)	1.6K (3K)
Q4	GATED AGC	1100	1175	35K	35K (2K)	39K (1.4K)	1.4K (1.9K)
Q5	RF AGC	350	1500	1530	1875 (2.5K)	1.7K (3.6K)	1650 (1450)
Q6	1ST VIDEO	250	1K	1050	1.3K (1.3K)	4.5K (1.3K)	1.2K (6K)
Q41	SYNC SEP.	0	1475	25K	25K (22K)	190K (1350)	1450 *(170K)
Q81	2ND B.I.F.	1.8K	450	1350	3.1K (3.3K)	1.5K (1.3K)	1.5K (2.4K)
Q82	1ST B.I.F.	880	1K	800	1375 (1375)	1575 (1375)	1560 (1.8K)
Q83	DELAY & DRIVER	300	1475	1030	1350 (1350)	3K (1.4K)	1425 (2.3K)
Q84	AUD. PRE AMP	100	1725	2800	3k (18K)	*50K (1.5K)	1550 (42K)
Q85	BURST AMP	10K	4.5K	13K	9K (16K)	20K (1450)	1.5K (18K)
Q86	1ST CHROMA	88	1.9K	1050	1125 (1100)	4.6K (1725)	1825 (3.6K)
Q87	COLOR KILLER	2.9K	3.2K	1350	6K (6.4K)	*220K (1.4K)	1.5K *20K
Q88	AUD. DRIVER	6K	2.8K	780	3.2K (7K)	19K (1.5K)	1550 (20K)
Q89	BUFF AMP	75	1175	450	550 (550)	1.4K (1350)	1125 (1125)
Q100	X DEMOD	470	1.2K	1450	4K (1.8K)	5K (1.3K)	1.3K (1960)
Q101	Z DEMOD	480	1.2K	3.6K	4K (2K)	4.8K (1.3K)	1375 (1950)
Q102	2ND CHROMA	182	2K	1350	1580 (1560)	10K (1725)	1750 (8.2K)
Q103	BLANK	82	1800	2750	2.8K (2K)	8K (1650)	1.7K (5.5K)
Q201	AUD. OUTPUT	18	1.3K	28K	28K (3.4K)	*40K (1.1K)	1250 (10K)
Q200	ACTIVE FILTER	245	1350	3.4K	3K (1450)	3.3K (1050)	1100 (3.4K)

*RX10000
RX100

TUBE RESISTANCES

TUBE	FUNCTION	1	2	3	4	5	6	7	8	9	10	11	12
V41	VERT. OUT/OSC.	F	*3.75M	—	17K	—	*2.5M	*2.5M	20K	1.6K	*800K	0	F
V42	HORZ. OSC/REACT.	10K	*1.85M	12K	F	F	50K	0	580	*1.4M			
V81	COLOR DIFF. AMP.	30K	20K	30K	F	F	1.1M	150	*1.1M	@ 950K			
V92	VIDEO OUTPUT	700	*28K	700	F	F	F	22K	12K	725			
V200	HORZ. OUTPUT	0	0	20K	0	*900K	—	—	—	*900K	0	20K	0
V201	DAMPER	0	—	—	15K	—	—	*800K	—	—	15K	—	0

*RX1000

METER B&K 120
SCALE = RX100
RX10000

PHILCO-FORD
Color TV Chassis
22LT45/R

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
C204A, B, C, D	200μf/200, 150μf/350, 50μf/200, 20μf/200, B+ filter	30-2616-11
C207	500μf/50, 500μf/50, 100μf/50, B+ filter	
CB200	power ac	42-2136-6
1C91–1C8	4.5MHz amp/demod	46-5002-8
1C92–1C5	color osc/react/demod	46-5002-5
L4	1st video IF	32-4957-2
L10	41.25MHz trap	32-4959-18
L17	4.5MHz trap	32-4869-3
L18	39.75MHz trap	32-4959-9
L41	horiz hold	32-4891-2
L92	quad	32-4876-1
L93	sound take off	32-4936-3
L94	burst trans	32-4931-1
L95	chroma take off	32-4878-3
L100	3.58MHz osc	32-4932-2
L101	chroma bandpass	32-4928-1
RT200	degaussing	33-1376-6
RT201	vert damping	323-0292
RV55	horiz bias	33-1379-21
RV200	degaussing	33-1379-8
T1	audio output xformer	32-10156-1
T2	filter choke xformer	32-10155-3
T3	vert output xformer	32-10167-1
T4	horiz output xformer	32-10111-6
T5	power xformer	32-10171-1
VR1	3K, tuner AGC adjust	33-5628-14
VR42	A-height 8-lin C-horiz bias	33-5627-3
VR92	color killer	33-5628-8
VR93	CRT bias	33-5628-12
VR201	2.5K, tint	33-5648-18
VR202	500Ω color	33-5648-8
VR203	500Ω bright	33-5648-6
VR204	100Ω contrast	33-5648-5
VR205	750K, vert hold	33-5648-7
VR206	2.5K, vol	33-5648-10
VR207	12M focus	33-5631-24
	tuner VHF (TT191 22LT45R)	76-14296-1
	yoke	76-14303-3

TUBE & TRANSISTOR RESISTANCES
22LT45/R

TRANSISTOR	FUNCTION	E	B	C
Q1	1ST VIF	330	1150	1.2K
Q2	2ND VID	330	2K	950
Q3	3RD VID	270	1750	750
Q4	AGC GATE	1150	1300	25K
Q5	RF AGC	700	1350	1400
Q6	1ST VID.	225	900	1100
Q41	SYNC SEP.	0	1300	25K
Q91	DELAY LINE DRIVER	300	1300	1300
Q92	COLOR KILLER	2.9K	4K	1.6K
Q93	BURST AMP	47K	4.7K	13K
Q94	2ND CHROMA	125	2.1K	1.5K
Q95	1ST CHROMA	69	1.7K	1.4K
Q96	BLANKER	68	5.6K	2.8K
Q97	DEMOD DRIVER	450	1650	425
Q200	ACTIVE FILTER	245	1350	3.4K
Q201	AUD. OUTPUT	18	1.3K	28K

These waveforms were taken with the receiver AGC control adjusted for an approximate peak-to-peak output of two volts at the video detector, using an air signal. Do not reset AGC control when using color bar generator. All monochrome voltages taken with average air signal and all chroma voltages taken with a color bar generator connected to the antenna input terminals. The chroma peak-to-peak voltages were taken with the chroma control set for 0.3V peak-to-peak at center tap of chroma control or M102 and the tint control set for proper color bars (approximately mid-range), color bar generator output set for +1.5 VDC at M109, all other controls set for normal viewing. The frequencies shown are those of the waveforms. . . . .not the sweep rate of the oscilloscope. All voltages taken with a wide band scope having a 5 MHz bandwidth similar to B&K Model 1450. Line voltage 120V.


1 2 VOLTS P/P, 60 HZ (MAX. CONTRAST) M17


2 2 VOLTS P/P, 15,750 HZ (MAX. CONTRAST) M17


3 4.2 VOLTS P/P, 15.750 HZ Q91 COLL.

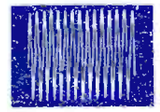

4 3.8 VOLTS P/P, 15,750 HZ PIN 2 V92

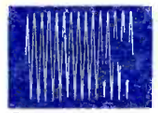

5 80V. P/P, (cont. at point of start of sync compression) 15,750 HZ Pin 7 V92

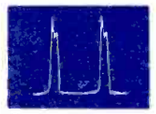

6 65V. P/P, (MIN. CON.) 15,750 HZ PIN 7 V92

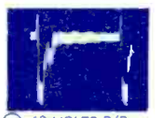

36 12 VOLTS P/P. 15,750 HZ PIN 5 L94


37 12 VOLTS P/P. 15,750 HZ PIN 4 L94


38 6 VOLTS P/P. 3.58 MHZ D94, R118


39 3.0 VOLTS P/P. 3.58 MHZ PIN 12 IC92

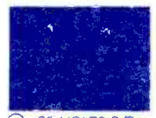

7 40 VOLTS P/P. 15,750 HZ M10

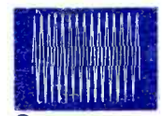

8 13 VOLTS P/P. 15,750 HZ M11


9 6.6 VOLTS P/P. 15,750 HZ BASE OF Q41

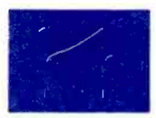

10 50 VOLTS P/P. 15,750 HZ M49


11 50 VOLTS P/P. 60 HZ M49

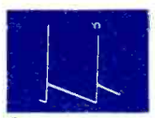

12 85 VOLTS P/P. 60 HZ PIN 10 V41


40 2.0 VOLTS P/P. 3.58 MHZ PIN 13 IC92


41 .55 VOLTS P/P. 60 HZ Q92 COLL.

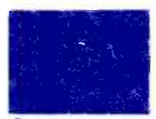

13 110 VOLTS P/P. 60 HZ PIN 2 V41


14 10 VOLTS P/P. 60 HZ PIN 9 V41

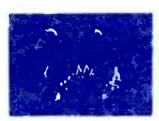

15 1KV VOLTS P/P. 60 HZ (SPIKE) 200 VOLTS P/P. 60 HZ (SAWTOOTH) M46, OR PIN 4 V41

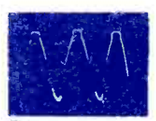

16 12 VOLTS P/P. 15,750 HZ D41, D42

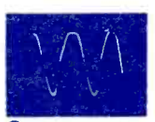

17 16 VOLTS P/P. 15,750 HZ D41 TOP END


18 6 VOLTS P/P. 15,750 HZ PIN 9 V42


42 0.85 VOLTS P/P. 60 HZ M104


43 9 VOLTS P/P. 15,750 HZ Q96 BASE


19 45 VOLTS P/P. 15,750 HZ PIN 1 V42

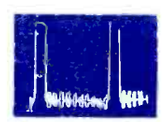

20 150 VOLTS P/P. 15,750 HZ PIN 2 V42


21 200 VOLTS P/P. 15,750 HZ PIN 6 V42


22 200 VOLTS P/P. 15,750 HZ M61

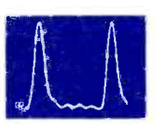

23 15,750 HZ LOOSE COUPLED V200 PLATE


24 6.0 VOLTS P/P. 3.58 MHZ PIN 7 IC92

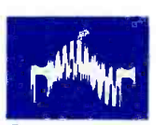

44 3.5 VOLTS P/P. 17,500 HZ Q96 EMIT.


45 90 VOLTS P/P, 15,750 HZ. CONT SET JUST BELOW POINT OF SYNC COMPRESSION M130

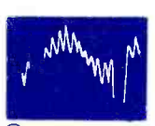

25 0.1 VOLTS P/P, ± .05 15,750 HZ Q95 BASE

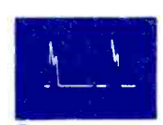

26 5.5 VOLTS P/P, 15,750 HZ M108

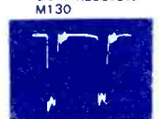

27 .3 VOLTS P/P, 15,750 HZ Q94 BASE

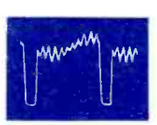

28 8 VOLTS P/P. 3.58 MHZ Q100 COLL. PIN 9 IC92

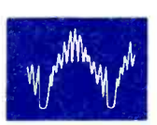

29 8.0 VOLTS P/P. 3.58 MHZ Q101 COLL. PIN 10 IC92

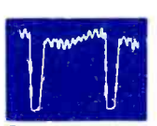

30 45 VOLTS P/P. (CHROMA) 70V P/P. (SYNC) 15,750 HZ M124


46 30 VOLTS P/P, 15,750 HZ Q5 COLL.

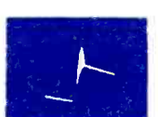

47 660 VOLTS P/P, 15,750 HZ M45


31 17 VOLTS P/P, (CHROMA) 70V. P/P. (SYNC) M133

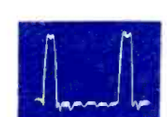

32 50 VOLTS P/P. (CHROMA) 70V. P/P. (SYNC) M134

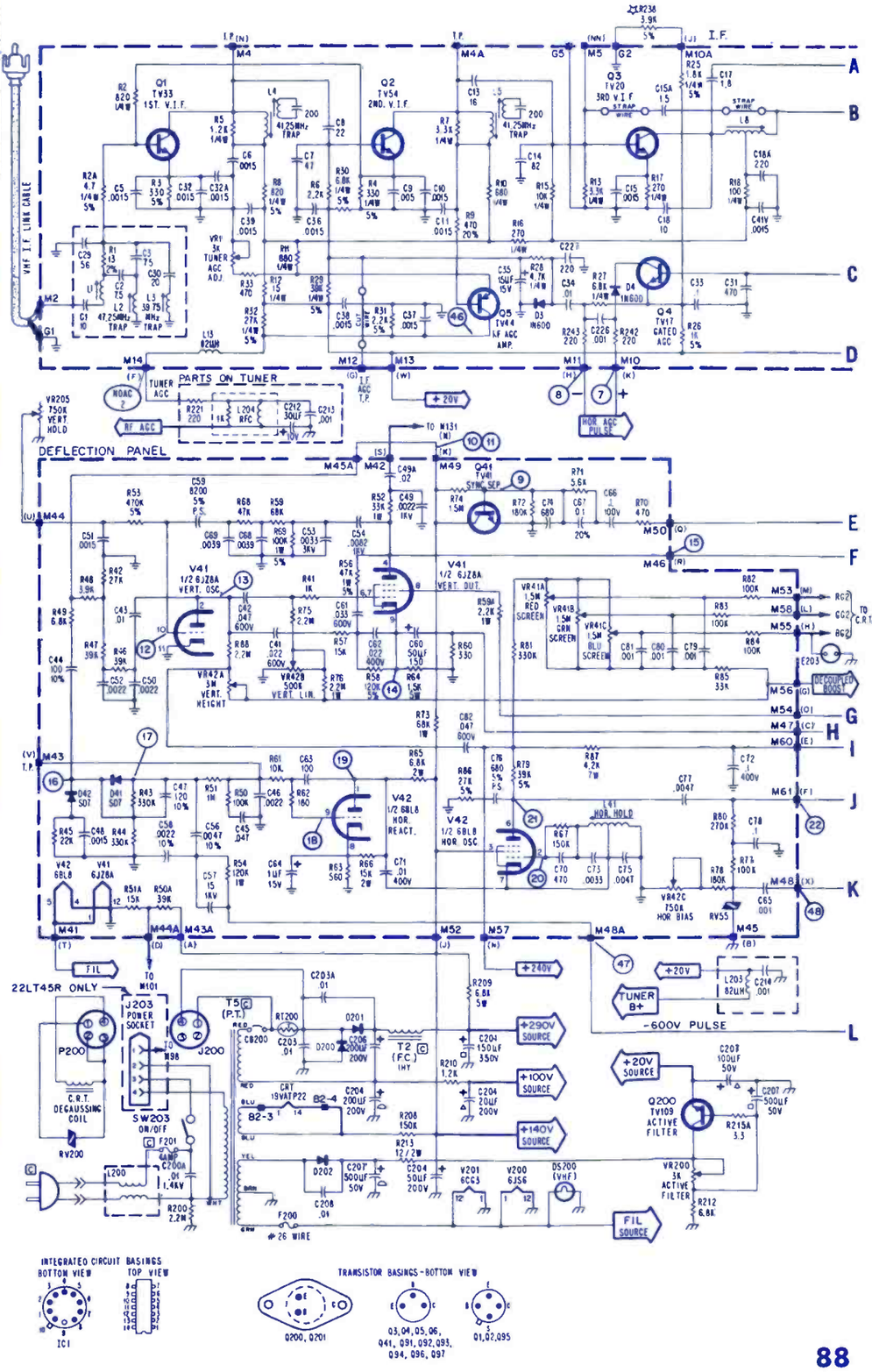

33 2 VOLTS P/P. (CHROMA) 25V. P/P. (SYNC) B159 PIN 6 V91


34 0.4 VOLTS P/P. 15,750 HZ Q93 EMIT.


34A EXPLODED VIEW OF BURST OF VIEW 34


35 70 VOLTS P/P. 15,750 HZ Q93 COLL.

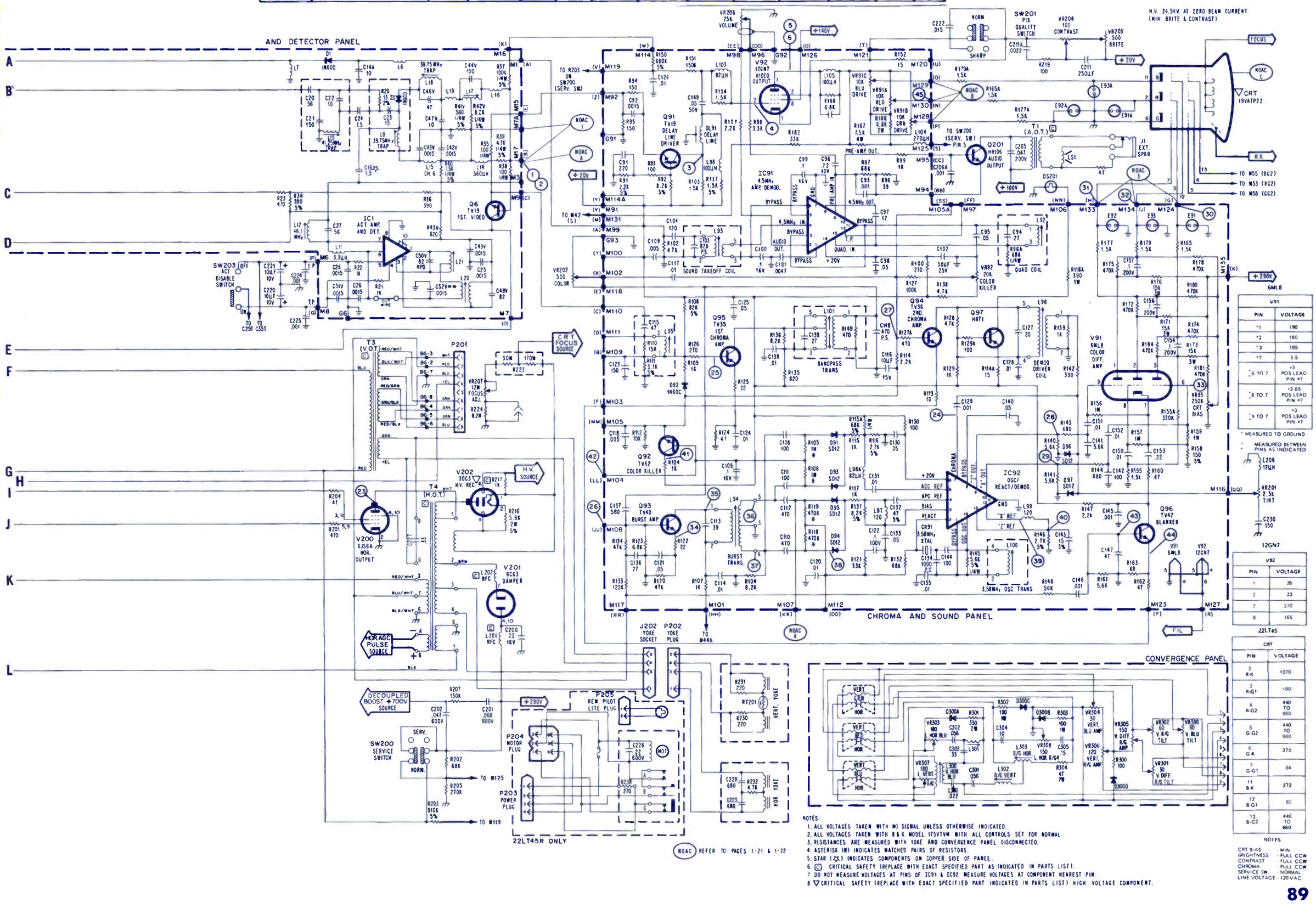

48 420 VOLTS P/P. 15,750 HZ M48



TUBE	FUNCTION	1	2	3	4	5	6	7	8	9	10	11	12
V41	VERT. OUT/OSC.	F	*3.75M	–	17K	–	*2.5M	*2.5M	20K	1.6K	*800K	0	F
V42	HORZ. OSC/REACT.	10K	*1.65M	12K	F	F	50K	0	580	*1.4M			
V91	COLOR DIFF. AMP.	30K	30K	30K	F	F	1.1M	150	*1.1M	*950K			
V92	VIDEO OUTPUT	700	*28K	700	F	F	F	22K	12K	725			
V200	HORZ. OUTPUT	0	0	20K	0	*900K	–	–	–	*900K	0	20K	0
V201	DAMPER	0	–	–	16K	–	–	*800K	–	–	16K	–	0

TUBE RESISTANCES

PHILCO-FORD
Color TV Chassis
22LT45/R



V91	
PIN	VOLTAGE
*1	190
*2	180
*3	185
*7	3.5
*6 TO 7	+3 POS LEAD PIN #7
*8 TO 7	+2.65 POS LEAD PIN #7
*9 TO 7	+3 POS LEAD PIN #7

* MEASURED TO GROUND
* MEASURED BETWEEN PINS AS INDICATED

12GN7

V92	
PIN	VOLTAGE
1	26
2	23
7	270
8	165

22LT45

CRT	
PIN	VOLTAGE
2 R-K	+270
3 R-G1	+90
4 R-G2	440 TO 660
5 G-G2	440 TO 660
6 G-K	270
7 G-G1	84
11 B-K	272
12 B-G1	82
13 B-G2	440 TO 660

NOTES

CRT BIAS - MIN.
BRIGHTNESS - FULL CCW
CONTRAST - FULL CCW
CHROMA - FULL CCW
SERVICE SW. - NORMAL
LINE VOLTAGE - 120 VAC

NOTES:
1. ALL VOLTAGES TAKEN WITH NO SIGNAL UNLESS OTHERWISE INDICATED.
2. ALL VOLTAGES TAKEN WITH B & K MODEL 175VTVM WITH ALL CONTROLS SET FOR NORMAL.
3. RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
4. ASTERISK (*) INDICATES MATCHED PAIRS OF RESISTORS.
5. STAR (☆) INDICATES COMPONENTS ON COPPER SIDE OF PANEL.
6. Ⓒ CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST).
7. DO NOT MEASURE VOLTAGES AT PINS OF IC91 & IC92. MEASURE VOLTAGES AT COMPONENT NEAREST PIN.
8. ▽ CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART INDICATED IN PARTS LIST) HIGH VOLTAGE COMPONENT.

PHILCO-FORD
Color-TV Chassis
20ST30AV

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	PART NO.
C101-240/240/5/160µf, @200v, B+ & video output G2		30-2601-33
L2	ratio det coil	32-4906-1
L3	sound take-off & 4.5MHz trap coil	32-4955-2
L13	horiz stabilizer	32-4754-3
N1	CRT network	30-6058-2
R93	varistor, 560v @ 10ma, vert bias	33-1373-6
R103	3Ω, fusistor	33-1381-5
AOT	audio output xformer	32-10161-2
HOT	horiz output xformer	32-10152-1
VOT	vert output xformer	32-10160-3
VR2	2K, tuner delay	33-5628-13
VR3A-B	60K, horiz hold aux 25K contrast	33-5637-4
VR4A-B-C	150K, vert hold, 2.5M, vert lin, 500K, vert size	33-5645-1
VR101	25K, on/off volume, sw	33-5646-8
VR102	250K, bright	33-5445-1
	tuner, VHF, TT211	76-14124-2
	yoke assembly	76-14309-1

TRANSISTOR BASINGS - BOTTOM VIEW

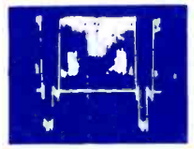
(Q1,Q8,OPT.) (Q2,Q3, Q9,OPT.) Q6(Q1,Q2,Q3, Q8,Q9,OPT.) KEY Q4,Q5,Q7

NOTES:
1. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITIONS, ANTENNA REMOVED, AND TUNER OFF CHANNEL. VOLTAGES IN PARENTHESIS ARE WITH A MODERATELY STRONG SIGNAL DEVELOPING 1.6V R.F. AGC AT M24.
2. VOLTAGES MEASURED WITH B&K 175 V.T.V.M. FROM POINT INDICATED TO CHASSIS GROUND.
3. BALLOONS (1) (2) ETC. SHOWN ON SCHEMATIC INDICATE WAVEFORM TEST POINTS.
4. CONTROLS SET FOR NORMAL OPERATION.
5. [C] CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST.)

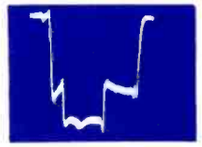
* THE FILAMENT VOLTAGE IS HALF-WAVE RECTIFICATION OF 60Hz. SINCE THIS IS NOT A PURE D.C. VOLTAGE OR AN RMS SINE WAVE, NEITHER A D.C. METER NOR AN A.C. METER WILL INDICATE TRUE VOLTAGE. VOLTAGE READINGS ARE GIVEN FOR THE PURPOSE OF DETERMINING CONTINUITY.

★ 150PF USED WITH 19DUP4
120PF USED WITH 20RP4
AND 19VCGP4

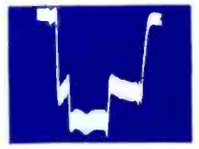
① 2V P/P, 15,750Hz



② 1.9V P/P, 15,750Hz



③ 1.9V P/P, 15,750Hz Expanded View of Hor. Sync Pulse

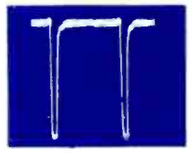


④ 1.9V P/P, 15,750Hz Hor. Sync. Pulse Showing 4.5MHz Trap out of Adj.

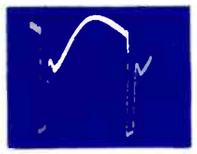
⑤ 95V P/P, 15,750Hz

⑥ 14V P/P (min. contrast) 90V P/P (max. contrast) 15,750Hz

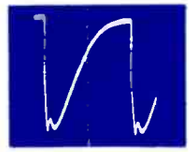
⑦ 75V P/P, 15,750Hz



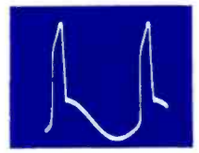
⑧ 50V P/P, 15,750Hz



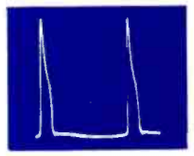
⑨ 12.5V P/P, 15,750Hz



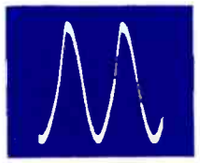
⑩ 17V P/P, 15,750Hz



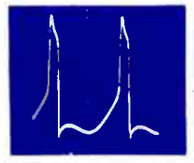
⑪ 36V P/P, 15,750Hz



⑫ 9V P/P, 15,750Hz

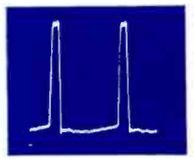


⑬ 17V P/P, 15,750 Hz



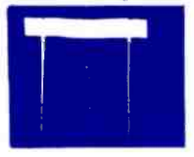
⑭ 30V P/P, 15,750Hz

⑮ 130V P/P, 15,750Hz

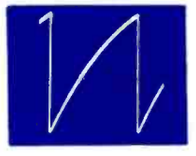


⑯ 15,750Hz, Loose coupled to plate lead of 22JR6

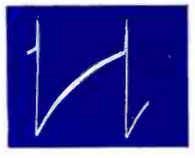
⑰ 50V P/P, 60Hz



⑱ 16V P/P, 60Hz

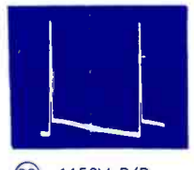


⑲ 30V P/P, 60Hz

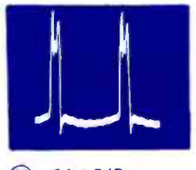


⑳ 55V Sawtooth, 80V P/P, 60Hz

㉑ 30V P/P, 60Hz

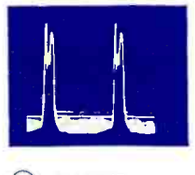


㉒ 1150V P/P, 60Hz



㉓ 34V P/P, 15,750Hz

㉔ 11V P/P, 15,750Hz



㉕ 34V P/P, 15,750Hz

㉖ 7.5V P/P, 15,750Hz

TRANSISTOR & TUBE RESISTANCE CHARTS

All measurements are in ohms and taken with a B & K Model 120 volt-ohm-meter with an allowable tolerance of ±20%. DC polarity switch set in "REV" position. Resistance measurements of transistors and tubes taken in circuit with power off.

TRANSISTOR RESISTANCE CHART (USE X100 SCALE)

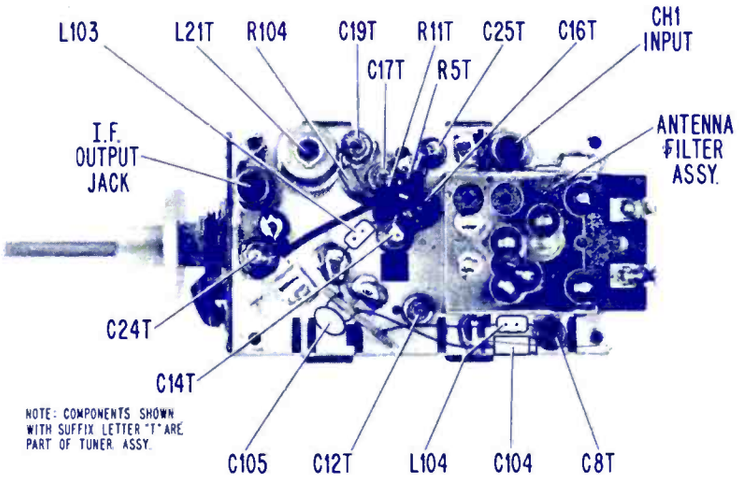
OHMMETER CONNECTION (NOTE POLARITY)	Q1 AUD. DR. TV17	Q2 2nd SIF TV32	Q3 3rd SIF TV32	Q4 3rd VIF TV54	Q5 2nd VIF TV50	Q6 RF AGC TV44	Q7 1st VIF TV50	Q8 GATE TV17	Q9 1st SIF TV32
Coll. - Gnd. + −	*22K	3.2K	5.5K	1.2K	800Ω	2.1K	1.2K	*400K	700Ω
Emit. - Gnd. + −	100Ω	1K	1.8K	220Ω	560Ω	750Ω	270Ω	3.1K	4.7K
Base - Gnd. + −	1.9K	2.6K	2.6K	1.7K	2.4K	1.2K	1.2K	3.4K	2.7K
Coll. - Emit. (−) (+) + −	17K 22K	*3.5K *2.3K	5.5K 7K	1.3K 1.3K	1.3K 1.4K	3.7K 2K	1.3K 1.4K	2.5K *400K	5K 2.8K
Coll. - Base (−) (+) + −	1.7K *70K	1.6K *7K	1.7K *7K	1.6K 2.8K	1.9K 5.5K	4K 1.7K	1.6K 2.4K	1.5K *400K	1.6K *20K
Base - Emit. (−) (+) + −	*27K 1.7K	8.5K 1.7K	4K 1.8K	2K 1.7K	5.5K 2K	**750 **750	*1.6K *1.2K	2.4K 1.5K	*13K 1.6K

*Use X1000 scale
**VR2 max. clockwise.

TUBE RESISTANCE CHART

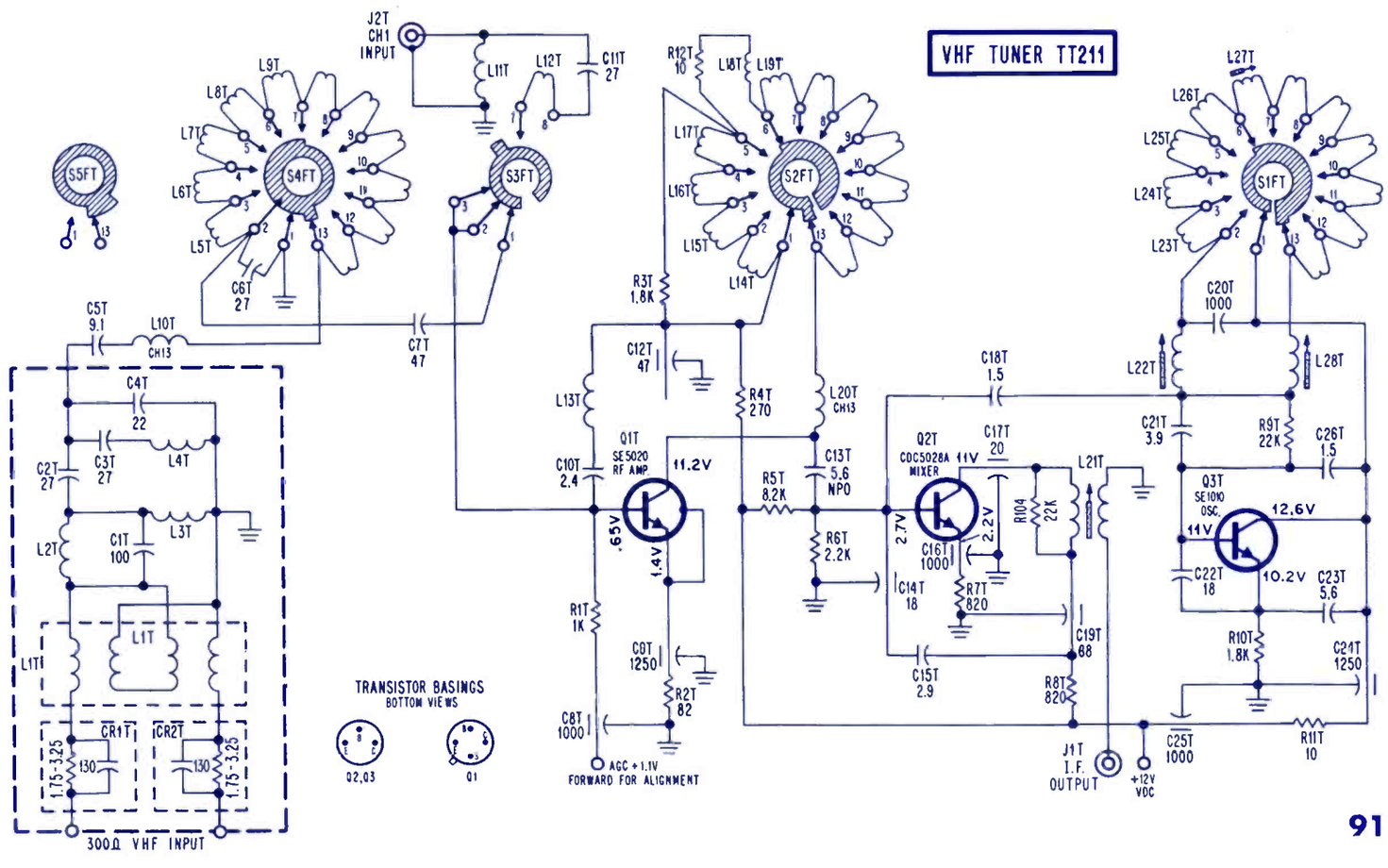
SYMBOL	TUBE	FUNCTION	PIN NUMBERS 1	2	3	4	5	6	7	8	9	10	11	12
V1	6AQ5A	Audio Output	470K	150Ω	19Ω	17Ω	2.5K	4.2K	470K	–	–	–	–	–
V2	17BZ3	Damper	25Ω	25Ω	25Ω	2.1K	INF.	INF.	230K	INF.	INF.	2K	INF.	19Ω
V3	8FQ7A	Horiz. Osc.	14K	1.3M	910Ω	10Ω	7Ω	50K	110K	910Ω	INF.	–	–	–
V4	17JZ8	Vert. Osc. & Out.	17Ω	3M	INF.	2.2K	INF.	1.2M	1.2M	2.1K	0Ω	150K	0Ω	10Ω
V5	10KR8	Sync Sep.	0Ω	2.5M	9.5K	3Ω	7Ω	15Ω	3K*	12K	6K	–	–	–
V6	22JR6	Horiz. Out.	3K	680K	0Ω	25Ω	36Ω	21K	3K	INF.	260K	–	–	–

*Depends on meter polarity



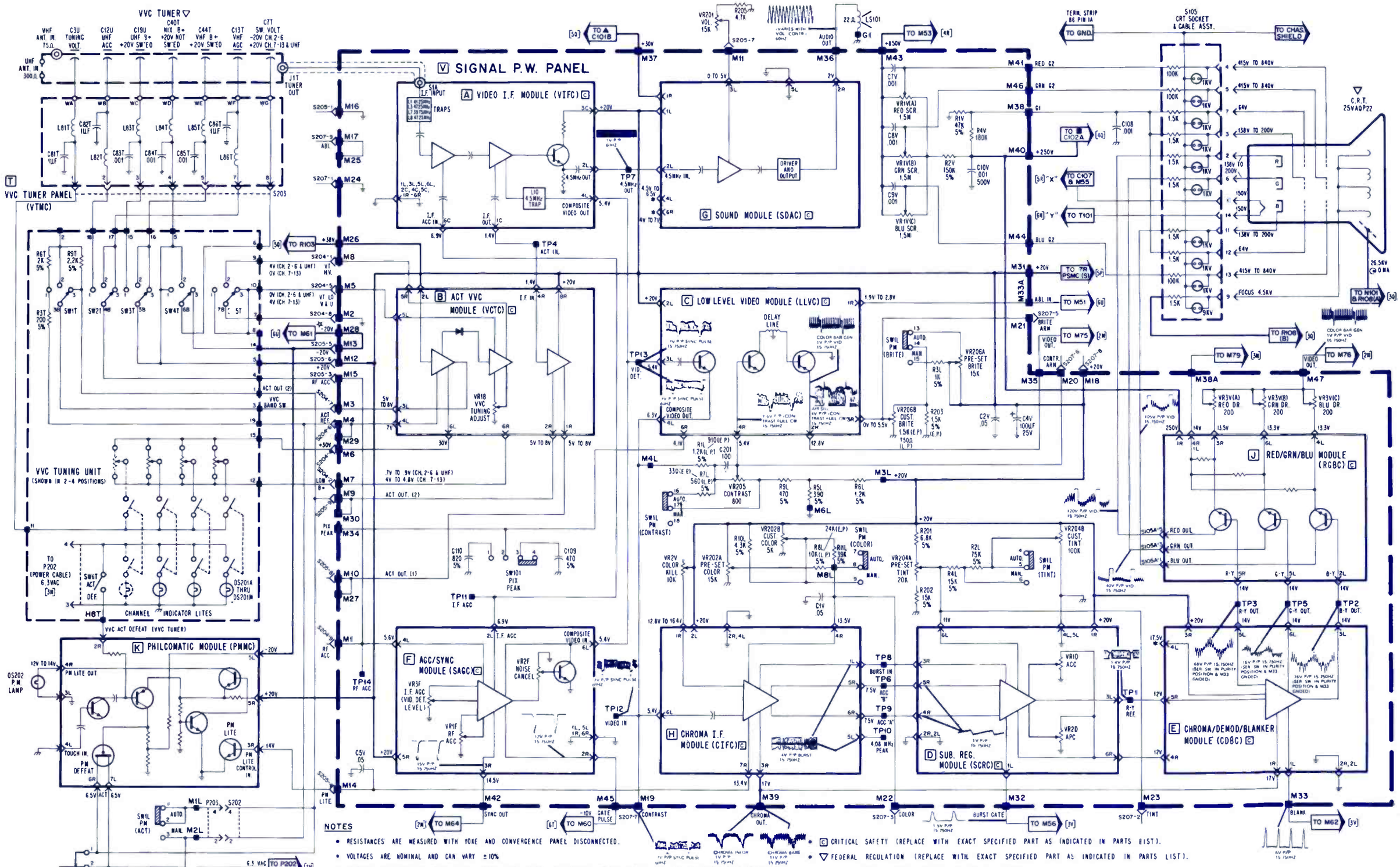
NOTE: COMPONENTS SHOWN WITH SUFFIX LETTER "T" ARE PART OF TUNER ASSY.

COMPONENT LAYOUT-TOP VIEW-VHF TUNER



PHILCO-FORD
Color-TV Chassis
3CY91

ELECTRONIC TECHNICIAN/DEALER TEKFAX

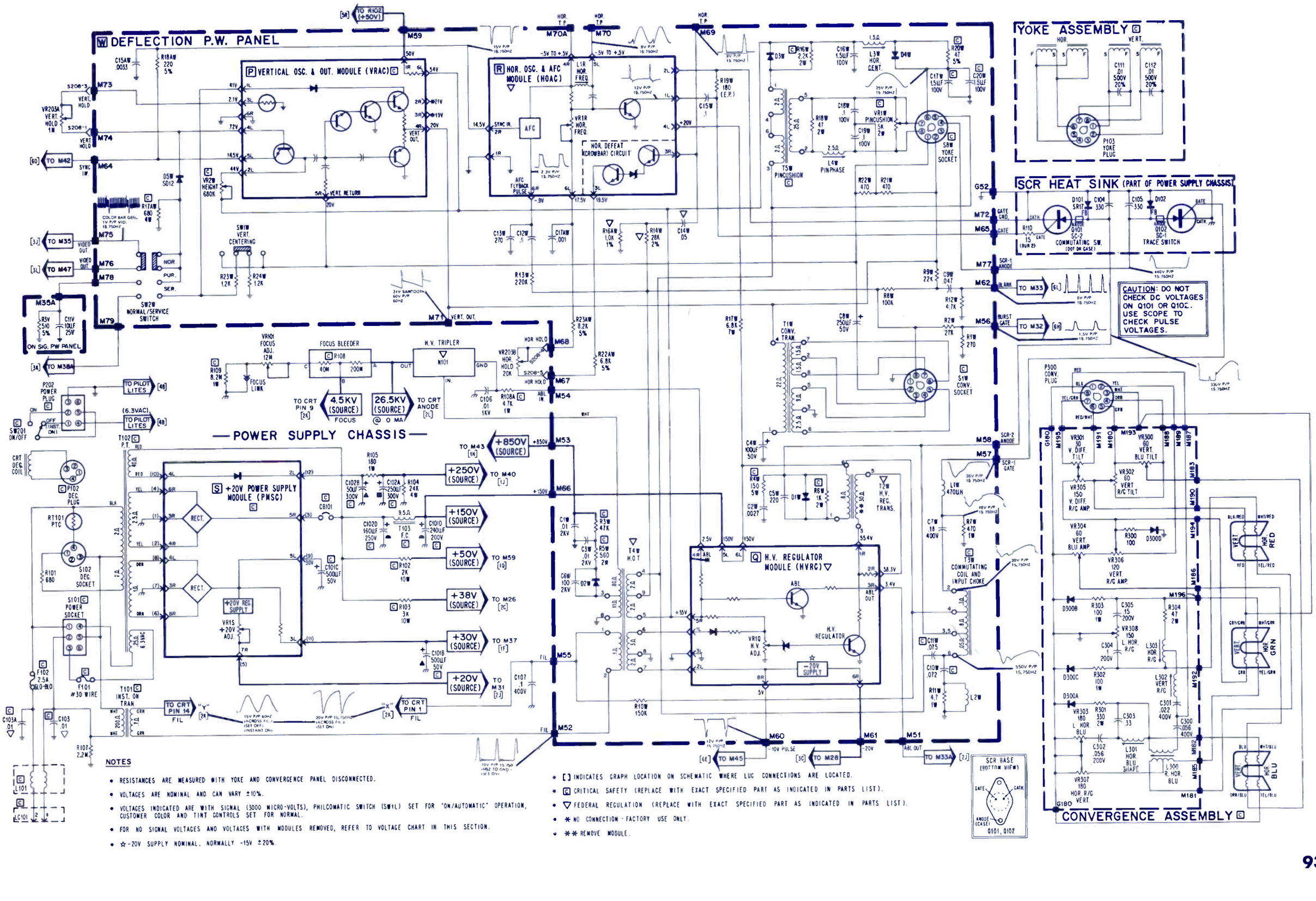


NOTES

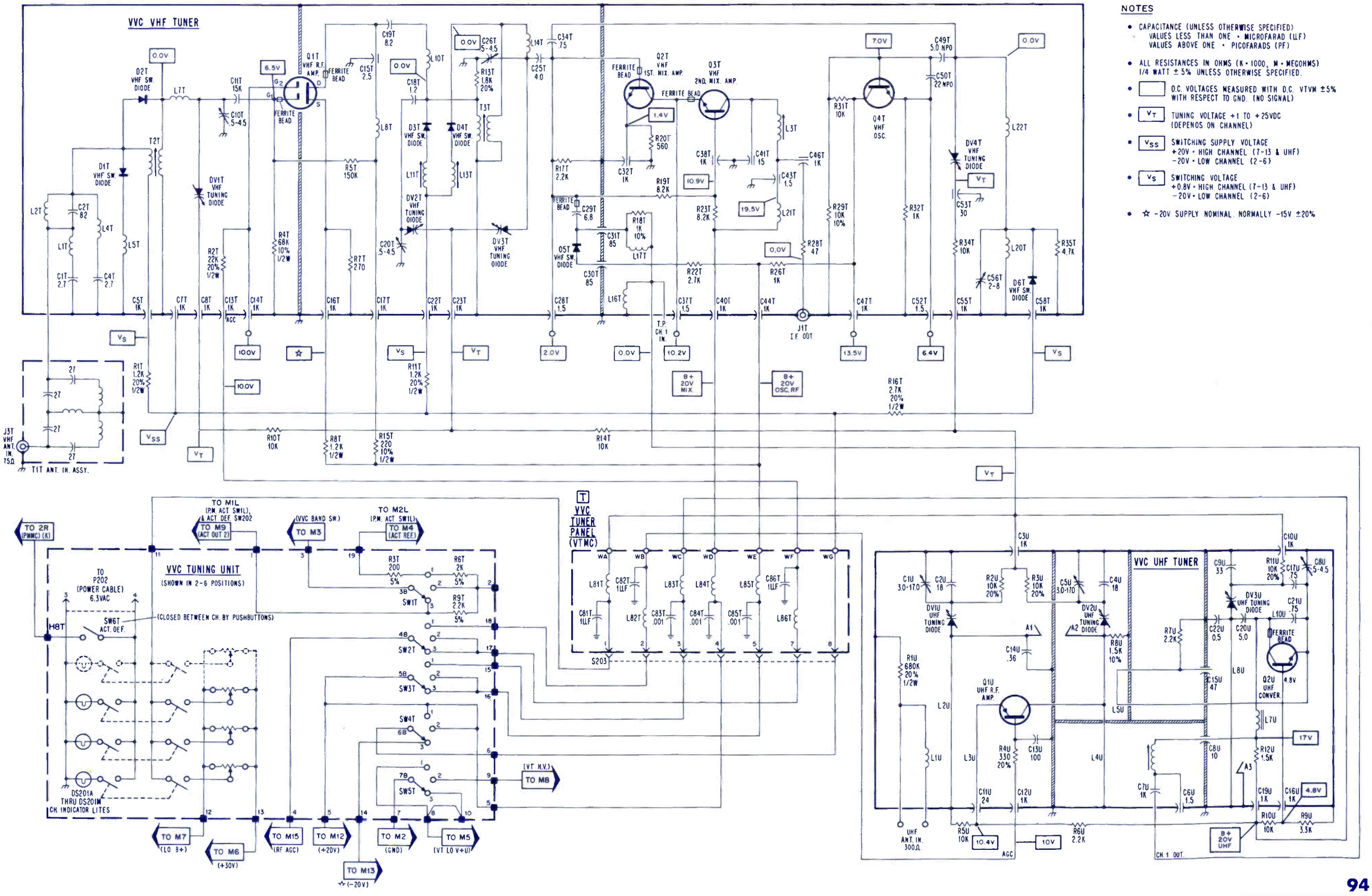
- RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
- VOLTAGES ARE NOMINAL AND CAN VARY ±10%
- VOLTAGES INDICATED ARE WITH SIGNAL (3000 MICRO-VOLTS), PHILCOMATIC SWITCH (SW1L) SET FOR "ON/AUTOMATIC" OPERATION, CUSTOMER COLOR AND TINT CONTROLS SET FOR NORMAL.
- FOR NO SIGNAL VOLTAGES AND VOLTAGES WITH MODULES REMOVED, REFER TO VOLTAGE CHART IN THIS SECTION.
- [ ] INDICATES GRAPH LOCATION ON SCHEMATIC WHERE LUG CONNECTIONS ARE LOCATED.
- COMPONENTS AND LUGS ON SCHEMATIC WHICH END IN "L", SUCH AS R1L, M1L, ETC., ARE LOCATED ON THE PHILCOMATIC SWITCH PANEL.

- C CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST).
- ▽ FEDERAL REGULATION (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST).
- ⊕ VVC DOOR CLOSED - SW202 CONTACTS 4 AND 5 CLOSED.
- ⊖ VVC DOOR OPEN - SW202 CONTACTS 1 AND 2 CLOSED, CONTACTS 3 AND 4 CLOSED.
- PHILCOMATIC SWITCH (SW1L) SHOWN IN "ON/AUTOMATIC" POSITION.
- * NO CONNECTION - FACTORY USE ONLY.
- ☆ -20V NOMINAL. NORMALLY -15V ±20%.

ADDITIONAL INFORMATION NEXT PAGE



PHILCO-FORD
Color-TV Chassis
3CY91



NOTES

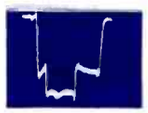
- CAPACITANCE (UNLESS OTHERWISE SPECIFIED)
  VALUES LESS THAN ONE • MICROFARAD (UF)
  VALUES ABOVE ONE • PICOFARADS (PF)
- ALL RESISTANCES IN OHMS (K • 1000, M • MEGOHMS)
  1/4 WATT ±5% UNLESS OTHERWISE SPECIFIED.
- ☐ D.C. VOLTAGES MEASURED WITH D.C. VTVM ±5% WITH RESPECT TO GND. (NO SIGNAL)
- V_T TUNING VOLTAGE +1 TO +25VDC (DEPENDS ON CHANNEL)
- V_{SS} SWITCHING SUPPLY VOLTAGE
  +20V • HIGH CHANNEL (7-13 & UHF)
  −20V • LOW CHANNEL (2-6)
- V_S SWITCHING VOLTAGE
  +0.8V • HIGH CHANNEL (7-13 & UHF)
  −20V • LOW CHANNEL (2-6)
- ☆ −20V SUPPLY NOMINAL. NORMALLY −15V ±20%

PHILCO-FORD

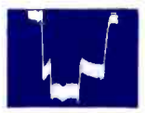
TV Chassis
21ST31V

① 2V P/P, 15,750Hz

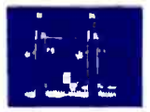
② 1.9V P/P, 15,750Hz



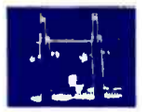
③ 1.9V P/P, 15,750Hz Expanded View of Hor. Sync. Pulse



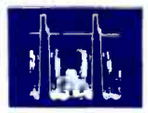
④ 1.9V P/P, 15,750Hz Hor. Sync. Pulse Showing 4.5MHz Trap out of Adj.



⑤ 95V P/P, 15,750Hz

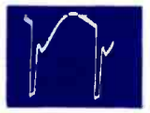


⑥ 14V P/P (min. contrast) 90V P/P (max. contrast) 15,750Hz

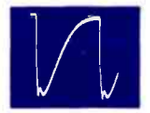


⑦ 75V P/P, 15,750Hz

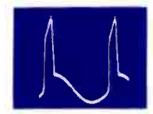
⑧ 50V P/P, 15,750Hz



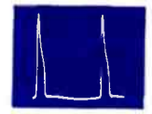
⑨ 12.5V P/P, 15,750Hz



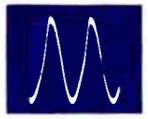
⑩ 17V P/P, 15,750Hz



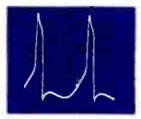
⑪ 36V P/P, 15,750Hz



⑫ 9V P/P, 15,750Hz

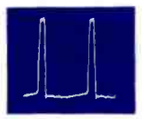


⑬ 17V P/P, 15,750 Hz

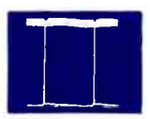


⑭ 30V P/P, 15,750Hz

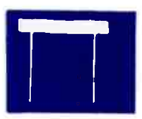
⑮ 130V P/P, 15,750Hz



⑯ 15,750Hz, Loose coupled to plate lead of 22JR6

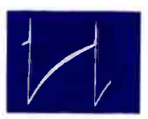


⑰ 50V P/P, 60Hz



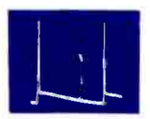
⑱ 16V P/P, 60Hz

⑲ 30V P/P, 60Hz

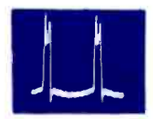


⑳ 55V Sawtooth, 80V P/P, 60Hz

㉑ 30V P/P, 60Hz

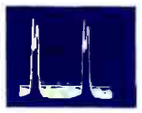


㉒ 1150V P/P, 60Hz

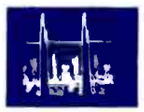


㉓ 34V P/P, 15,750Hz

㉔ 11V P/P, 15,750Hz



㉕ 34V P/P, 15,750 Hz

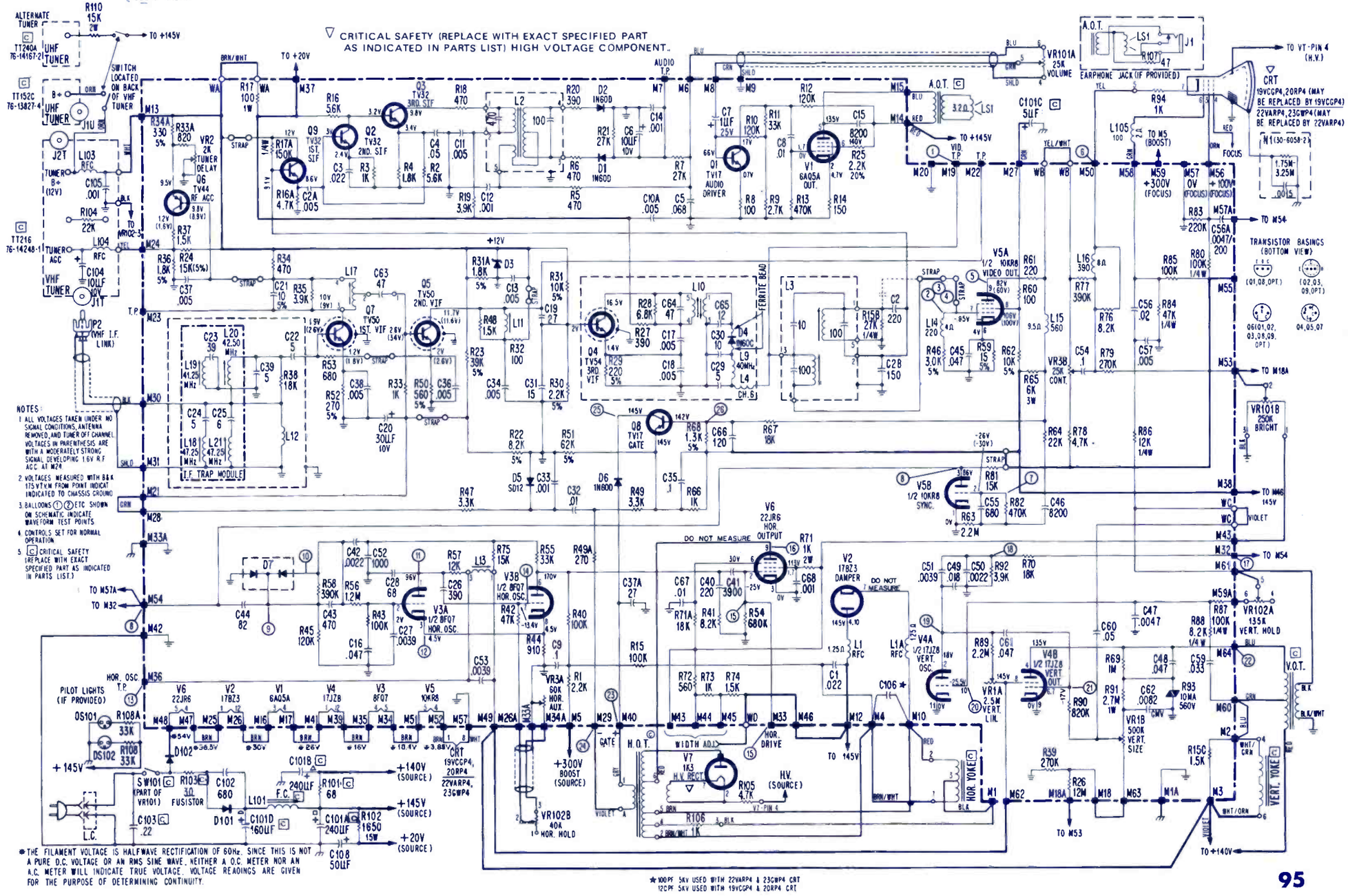


㉖ 7.5V P/P, 15,750Hz

PANEL INTERCONNECTING LEADS

WA TO WA
WB TO WB
WC TO WC
WD (WIDTH ADJ. LINK)

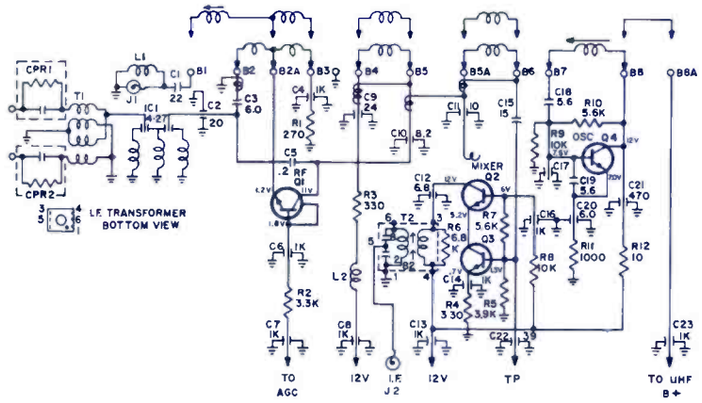
SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
C101–240/240/5/160μ f, @200v, filter		30-2601-33
L3	sound take off, 4.5MHz trap coil	32-4955-2
L13	horiz stabilizer coil	32-4754-3
L18	47.25MHz trap	32-4652-78
L19	42.5MHz trap	32-4652-80
L101	filter choke	32-10162-1
N1	CRT network	30-6058-2
Q1	TV17, audio driver	34-6001-63
Q2	TV32, 2nd S1F	34-6015-12
Q3	TV32, 3rd S1F	34-6015-12
Q4	TV54, 3rd V1F	34-6015-37
Q5	TV50, 2nd V1F	34-6015-29
Q6	TV44, RF AGC	34-6016-15
Q7	TV50, 1st V1F	34-6015-29
Q8	TV17, gate	34-6001-63
Q9	TV32, 1st S1F	34-6015-12
R73	1K, width adj	
R74	1.5K, width adj	
R78	4.7K, contrast control	
R93	varistor, 560v @10ma., vert bias	33-1373-6
R103	3Ω fusistor	33-1381-5
AOT	audio output xformer	32-10161-2
HOT	horiz output xformer	32-10152-1
VOT	vert output xformer	32-10160-3
VR1A-B	2.5M, vert lin, 500K, vert size	33-5645-2
VR3A-B	60K, horiz hold aux 25K contrast	33-5637-4
VR101A-B	25K, on-off volume, 250K, brite	33-5644-5
VR102A-B	40K, horiz hold, 150K, vert hold	33-5644-2
	tuner, VHF TT216	76-14248-1
	yoke assembly	76-14309-1

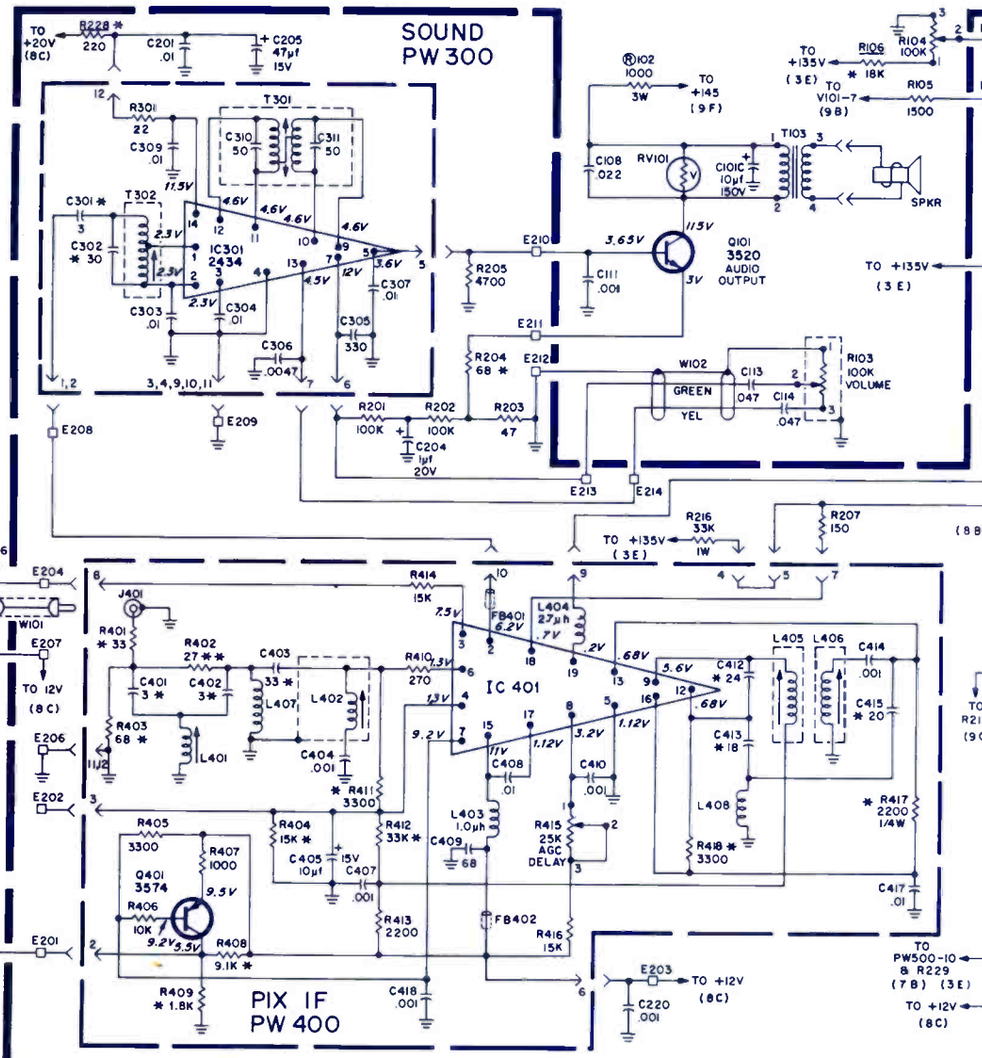


RCA SALES CORP.
TV Chassis
KCS 186 Series

ELECTRONIC TECHNICIAN/DEALER TEKFAX

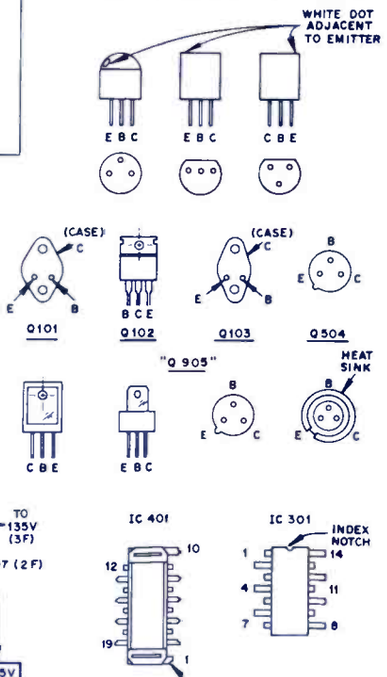
SYMBOL	DESCRIPTION	RCA PART NO.
	KRK161A	130777
R103	vol control	133514
R104	bright control	133515
C101	4 section elect	134822
C101A	250 µf, 200v	
C101B	650 µf, 175v	
C101C	10 µf, 150v	
C101D	10 µf, 150v	
F101	fuse 1.5a, 125v	133466
L101	coil line choke	117526
RT101	thermistor 32 Ω cold	134012
RV101	varistor 80v, 1ma	131652
RV102	varistor 730v, 1.5ma	133754
T101	xformer filament	134742
T102	xformer horiz output	134758
T103	xformer audio output	133046
T104	xformer vert output	134826
R213	control contrast vert hold horiz hold	133428
IC301	circuit integ sound	126871
T301	xformer discriminator	126738
T302	xformer sound take off	129707
	tuner yoke deflection	134955





NOTES:
1. K=1000
2. ALL RESISTANCE VALUES ARE IN OHMS.
3. ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN µf, 1.0 AND ABOVE ARE IN pf, EXCEPT AS INDICATED.
4. ALL RESISTORS ARE 1/2 WATT, EXCEPT AS INDICATED.
5. * INDICATES 5% ** INDICATES 2 %
6. FOR CONTINUED SAFETY, REPLACE THE FOLLOWING "SHELF TYPE" COMPONENTS WITH ORIGINAL TYPE OR RCA APPROVED TYPE ONLY.
   ® XXX IDENTIFIES SPECIAL WIREWOUND RESISTORS.
   RXXX IDENTIFIES SPECIAL FILM RESISTORS.
   CXXX IDENTIFIES SPECIAL CAPACITORS.
   SEE PARTS LIST FOR REPLACEMENT PARTS.
7. FOR CONTINUED X-RADIATION PROTECTION, REPLACE PICTURE TUBE AND HIGH VOLTAGE RECTIFIER WITH ORIGINAL TYPE OR RCA APPROVED TYPE ONLY.
8. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.

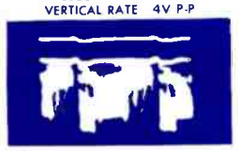
NOTE: TRANSISTOR BASINGS FOR ALL EXCEPT, Q101 THRU Q103 - Q504 AND Q905 .



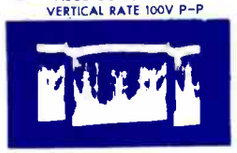
RCA SALES CORP.

TV Chassis
KCS172 Series

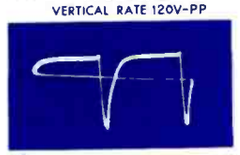
① TP-3
SECOND DETECTOR
VERTICAL RATE 4V P-P



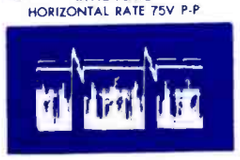
② V205 PIN 9
VIDEO OUTPUT PLATE
VERTICAL RATE 100V P-P



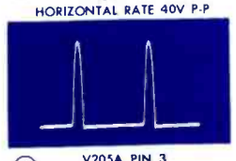
③ C246 & C235 JUNCTION
INPUT V201B
VERTICAL RATE 120V-PP



④ V201 PIN 1
SYNC PLATE
HORIZONTAL RATE 75V P-P



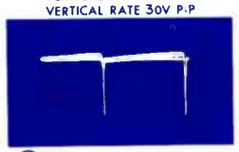
⑤ V205 PIN 2
AGC GRID
HORIZONTAL RATE 40V P-P



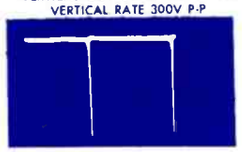
⑥ V205A PIN 3
AGC PLATE
HORIZONTAL RATE 900V P-P

⑦ V206 PIN 9
VERTICAL OSCILLATOR GRID
VERTICAL RATE 200V P-P

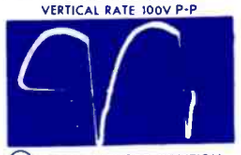
⑧ V206 PIN 2
VERTICAL OUTPUT GRID
VERTICAL RATE 30V P-P



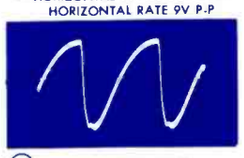
⑨ PW-200, TERMINAL "L"
VERTICAL OUTPUT TRANSFORMER
VERTICAL RATE 300V P-P



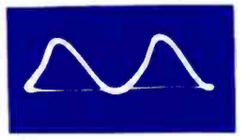
⑩ V105 PIN 2
PICTURE TUBE GRID
VERTICAL RATE 100V P-P



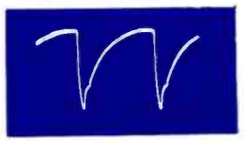
⑪ SR201 CATHODE JUNCTION
HORIZONTAL PHASE DETECTOR
HORIZONTAL RATE 9V P-P



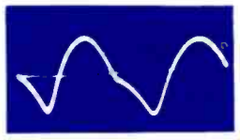
⑫ SR201 ANODE
HORIZONTAL PHASE DETECTOR
HORIZONTAL RATE 20V P-P



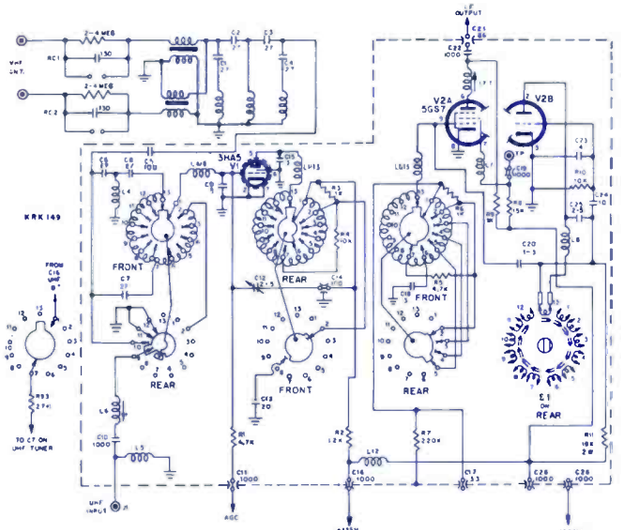
⑬ TP-4
HORIZONTAL SINE WAVE
HORIZONTAL RATE 16V P-P



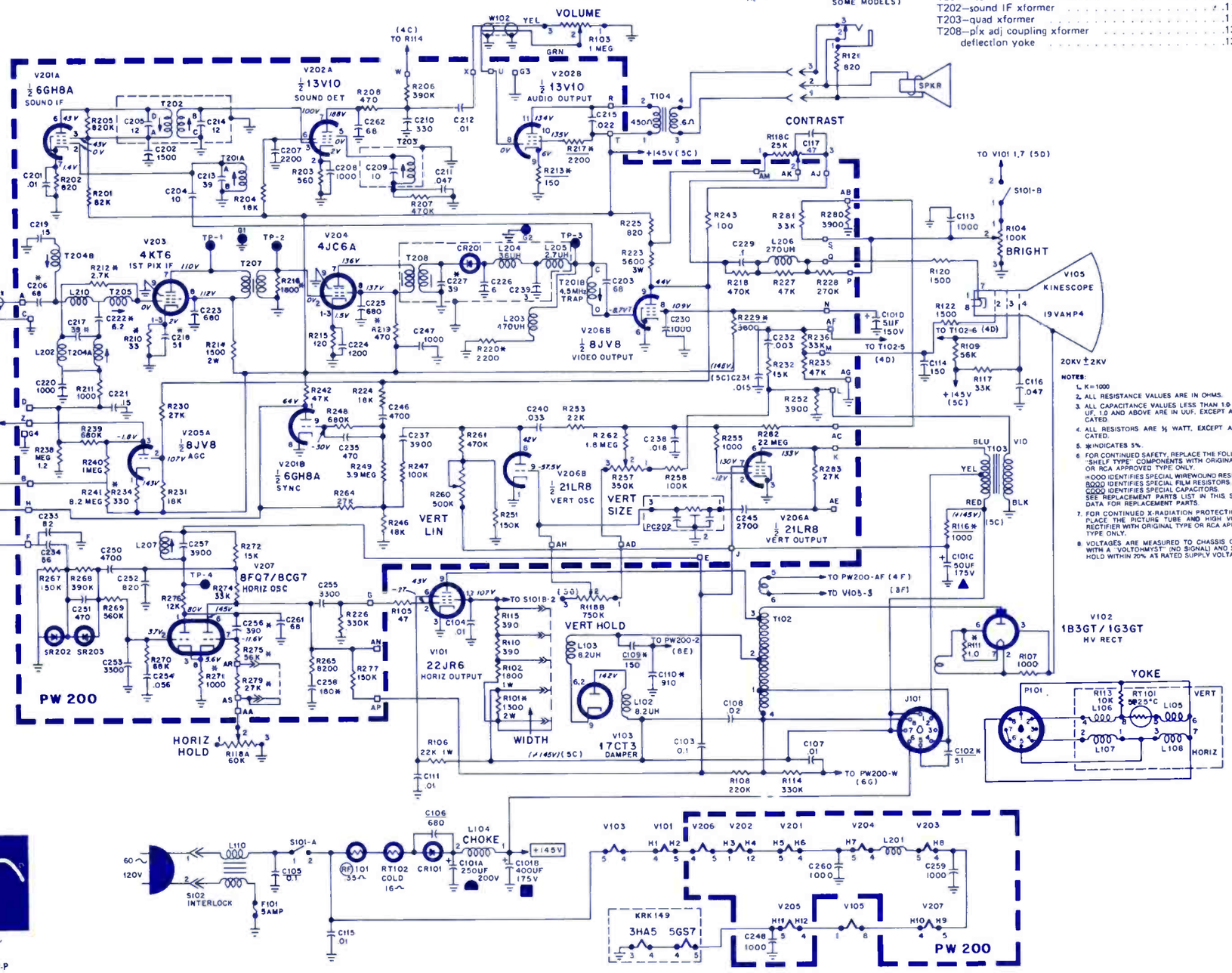
⑭ V101 PIN 2
HORIZONTAL OUTPUT GRID
HORIZONTAL RATE 150V P-P



⑮ PW-200 TERMINAL "T"
145V B+ RIPPLE
VERTICAL RATE 3V P-P



SYMBOL	DESCRIPTION	RCA PART NO.
C101A	250 µf, 200v electrolytic	114845
C101B	400 µf, 175v electrolytic	114845
C101C	50 µf, 175v electrolytic	114845
C101D	5 µf, 150v electrolytic	114845
C258	180pf 5%, 500v mica	330186
CR201	video det diode	112524
F101	5a, 250v fuse	118969
L102	8.2 µh coil	107385
L110	line choke	114293
L202	AGC	114315
L205	2.7 µh coil	107466
L206	270 µh coil	115427
L207	stabilizer coil	114486
PC202	circuit-R/C comb	114916
PW200	circuit-printed video, defl	133341
R118	contrast, vert, horiz hold control	130871
R257	vert size control	121223
R260	vert lin control	121944
RF101	0.35Ω fuse resistor	124263
RT102	16Ω cold thermistor	114480
T102	horiz output xformer	131972
T103	vert output xformer	124274
T104	audio output xformer	124275
T201	4.5MHz xformer	114489
T202	sound IF xformer	118411
T203	quad xformer	118410
T208	p/x adj coupling xformer	133170
	deflection yoke	133338



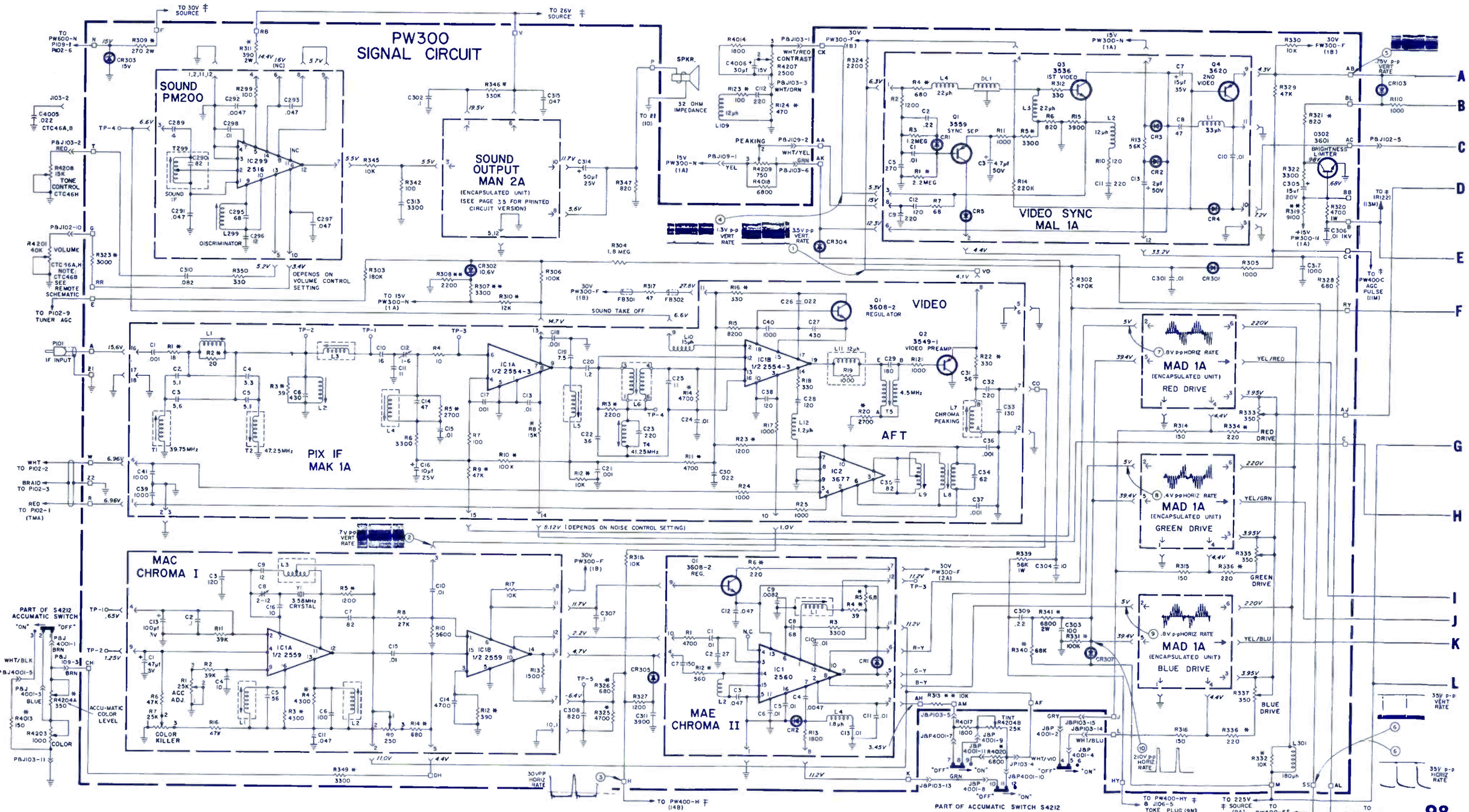
NOTES:

1. K = 1000
2. ALL RESISTANCE VALUES ARE IN OHMS.
3. ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN UF. 1.0 AND ABOVE ARE IN UUF. EXCEPT AS INDICATED.
4. ALL RESISTORS ARE ½ WATT, EXCEPT AS INDICATED.
5. ✱INDICATES 5%.
6. FOR CONTINUED SAFETY, REPLACE THE FOLLOWING "SHELF TYPE" COMPONENTS WITH ORIGINAL TYPE OR RCA APPROVED TYPE ONLY.
   ✱000 IDENTIFIES SPECIAL WIREWOUND RESISTORS.
   R000 IDENTIFIES SPECIAL FILM RESISTORS.
   C000 IDENTIFIES SPECIAL CAPACITORS.
   SEE REPLACEMENT PARTS LIST IN THIS SERVICE DATA FOR REPLACEMENT PARTS.
7. FOR CONTINUED X-RADIATION PROTECTION, REPLACE THE PICTURE TUBE AND HIGH VOLTAGE RECTIFIER WITH ORIGINAL TYPE OR RCA APPROVED TYPE ONLY.
8. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.

RCA SALES CORP.
Color TV Chassis
CTC46 Series

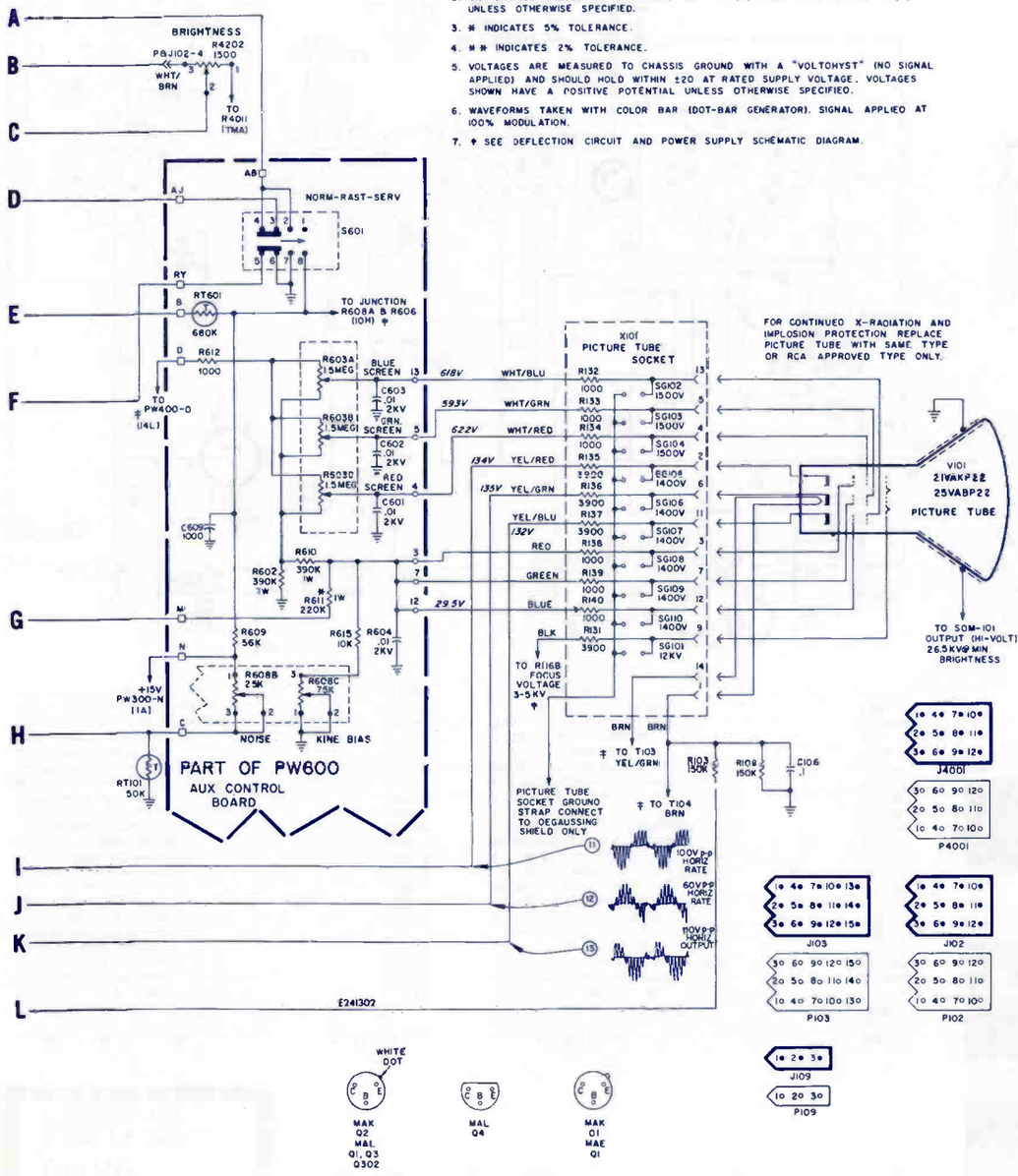
ELECTRONIC TECHNICIAN/DEALER TEKFAX

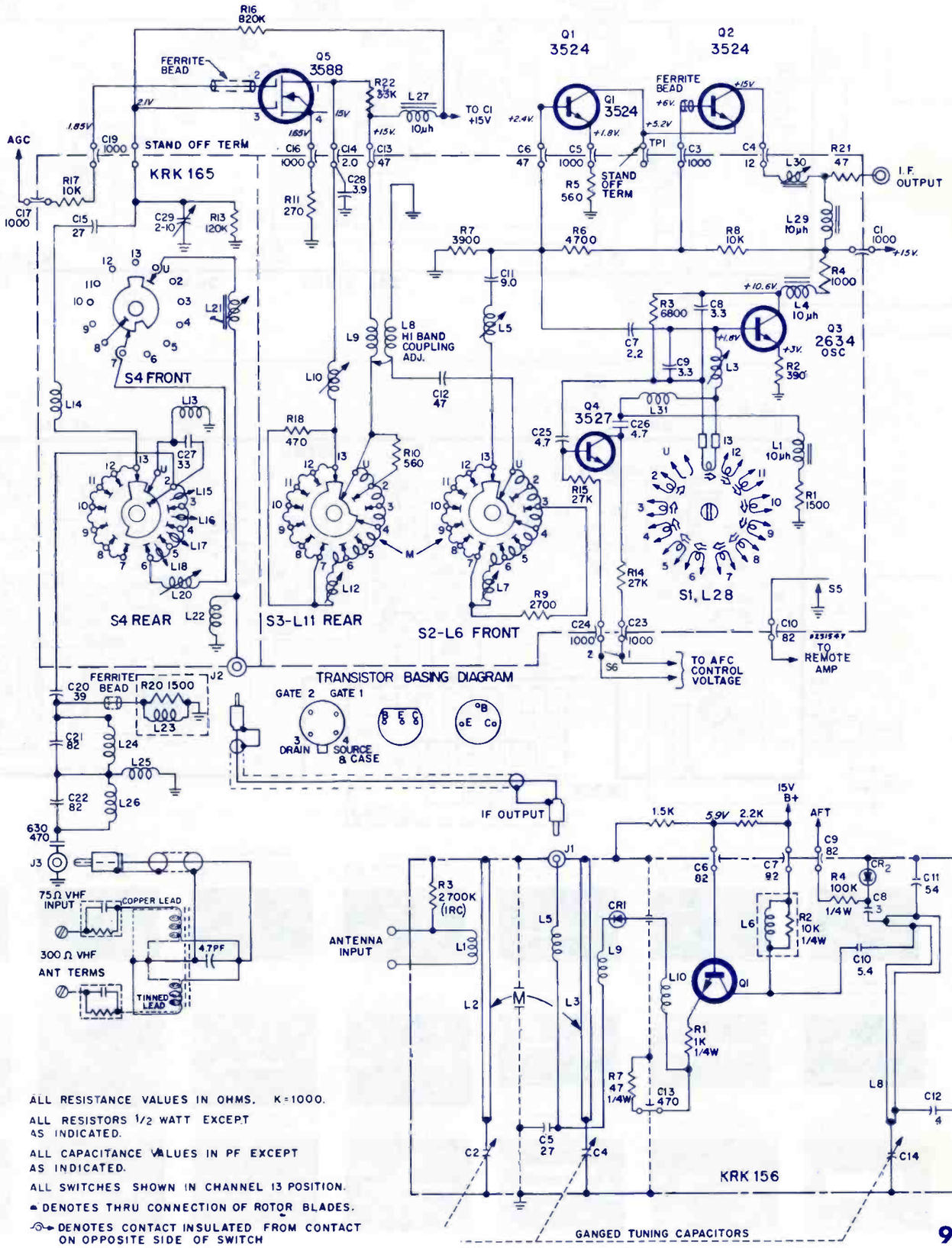
SYMBOL	DESCRIPTION	RCA PART NO.
C103A	600 µf, 100v elect	133446
C103B	100 µf, 250v elect	133446
C103C	100 µf, 250v elect	133446
C104A	300 µf, 175v elect	133447
C104B	250 µf, 175v elect	133447
C105A	750 µf, 50v elect	133449
C105B	500 µf, 40v elect	133449
C105C	500 µf, 40v elect	133449
R116	control, focus	129925
R1	ACC adjust resistor	132170
R7	color killer resistor	132170
R9	250Ω variable resistor	133403
R15	variable, horiz freq resistor	132170
R412	control, hi voltage adjust resistor	133355
R608A	resistor—control, vert height/noise/kinescope bias	132381
RT101	thermistor—temp comp	116109
RT1	thermistor—temp comp	132503
IC1	circuit—integrated	132314
RT1	thermistor—50K cold	116109
DL1	line—delay	132840
IC299	circuit—integrated	130751
CR401	trace diode	131475
CR402	commutating diode	131476
RT601	thermistor—temp comp	134099
T103	xformer power	133443
T104	standby xformer, CTC46A,H	132595
T1	horiz, osc xformer	126729
T2	47.25MHz trap	132157
T4	41.25MHz trap	132150
T5	4.5MHz trap	132135
T299	input xformer	130120
T402	regulator xformer	132622
T403	flyback xformer	134563
L1	34 µh coil	132137
L2	47 µh coil	132821
L2	coil 330 µh	126834
L3	1000 µh coil	126839
L1	47.25MHz, null adjust coil	132159
L6	IF xformer	132146
L1	33 µh coil	130023
L2	12 µh coil	126832
L299	discriminator coil	130121



NOTES:

1. RESISTANCE VALUES ARE IN OHMS, K=1000.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pf, LESS THAN 1.0 ARE IN µf, UNLESS OTHERWISE SPECIFIED.
3. * INDICATES 5% TOLERANCE.
4. ** INDICATES 2% TOLERANCE.
5. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHYST" (NO SIGNAL APPLIED) AND SHOULD HOLD WITHIN ±20 AT RATED SUPPLY VOLTAGE. VOLTAGES SHOWN HAVE A POSITIVE POTENTIAL UNLESS OTHERWISE SPECIFIED.
6. WAVEFORMS TAKEN WITH COLOR BAR (DOT-BAR GENERATOR). SIGNAL APPLIED AT 100% MODULATION.
7. ◆ SEE DEFLECTION CIRCUIT AND POWER SUPPLY SCHEMATIC DIAGRAM.





ALL RESISTANCE VALUES IN OHMS. K=1000.

ALL RESISTORS 1/2 WATT EXCEPT AS INDICATED.

ALL CAPACITANCE VALUES IN PF EXCEPT AS INDICATED.

ALL SWITCHES SHOWN IN CHANNEL 13 POSITION.

● DENOTES THRU CONNECTION OF ROTOR BLADES.

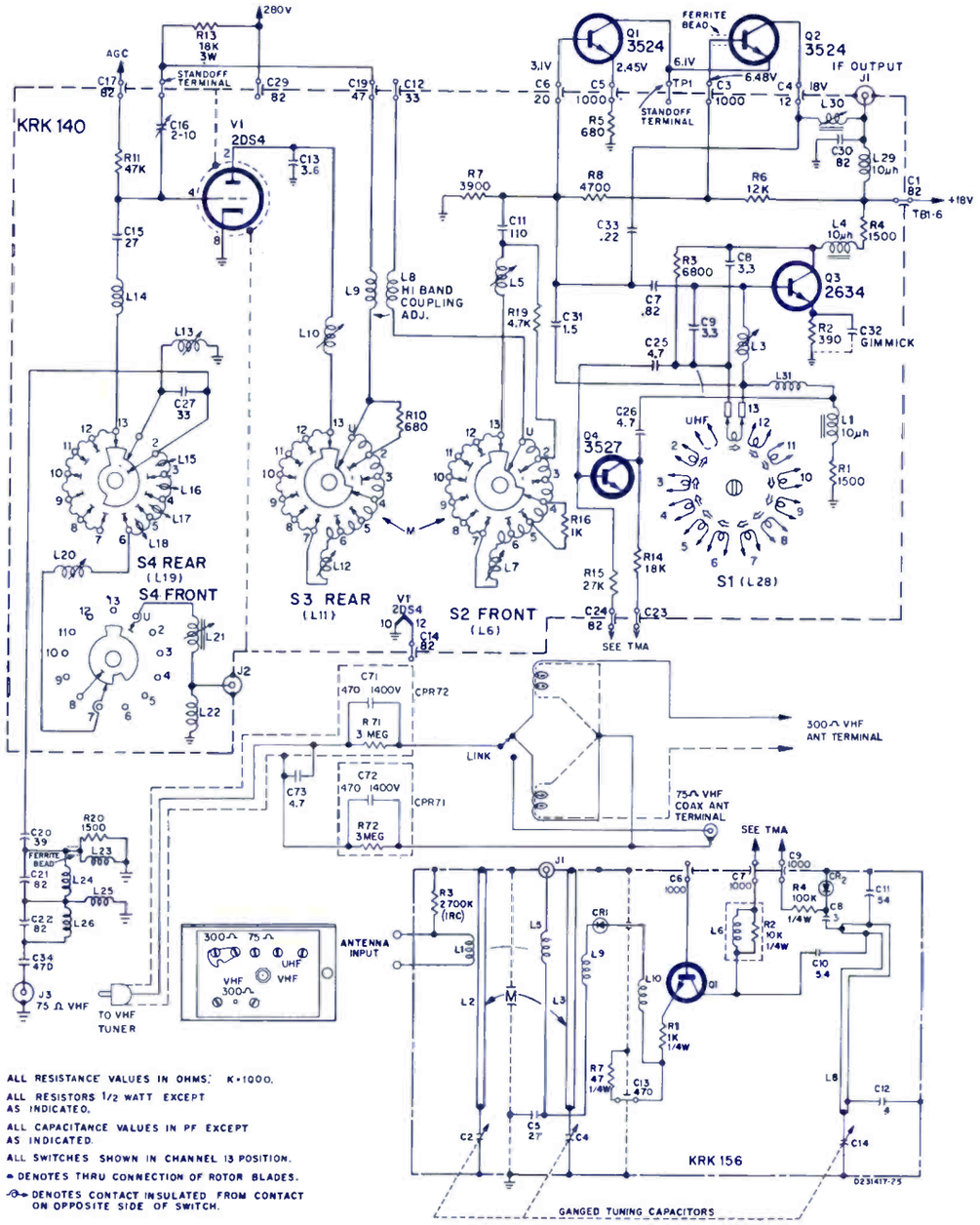
⊸ DENOTES CONTACT INSULATED FROM CONTACT ON OPPOSITE SIDE OF SWITCH

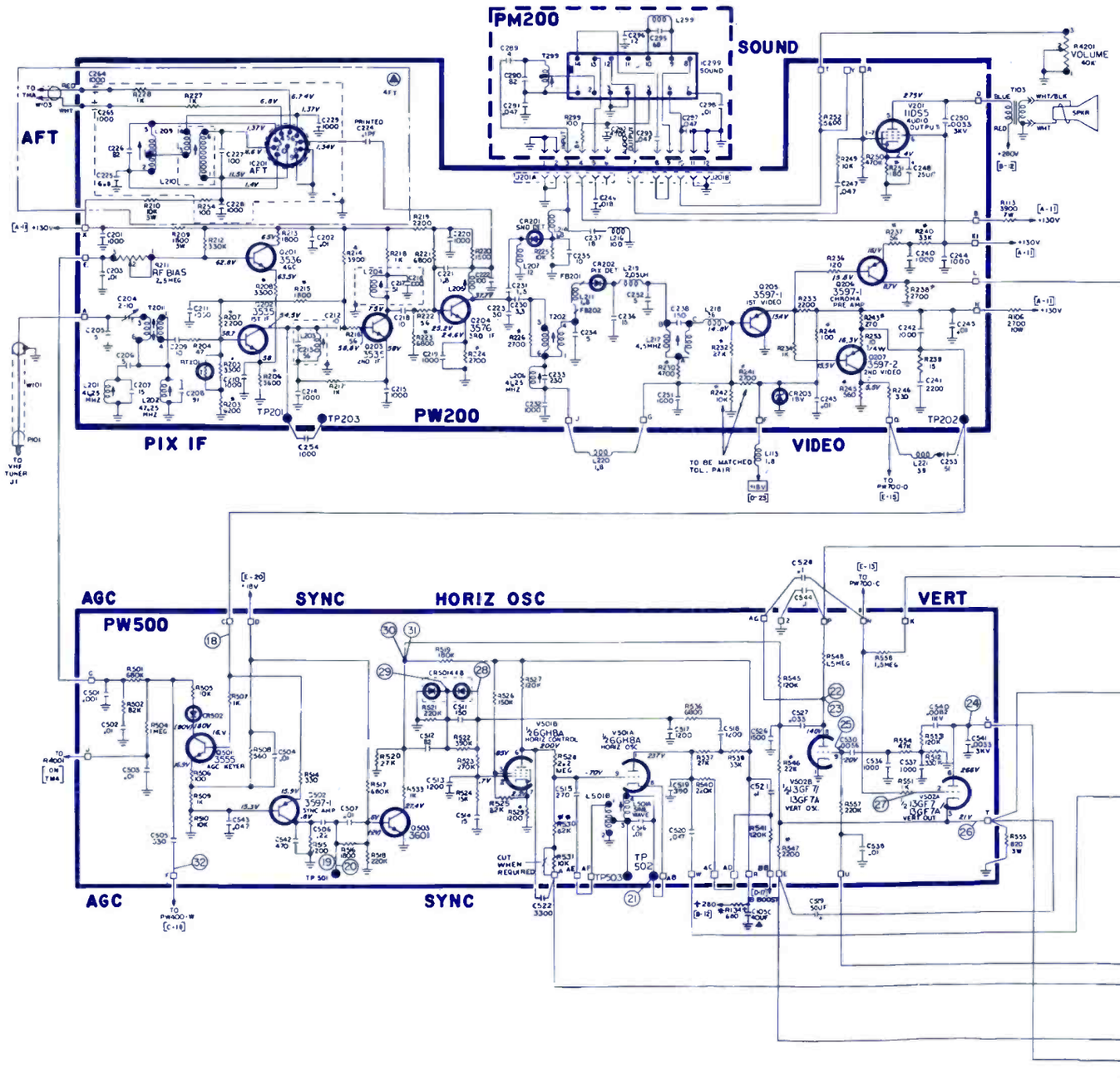
RCA SALES CORP.

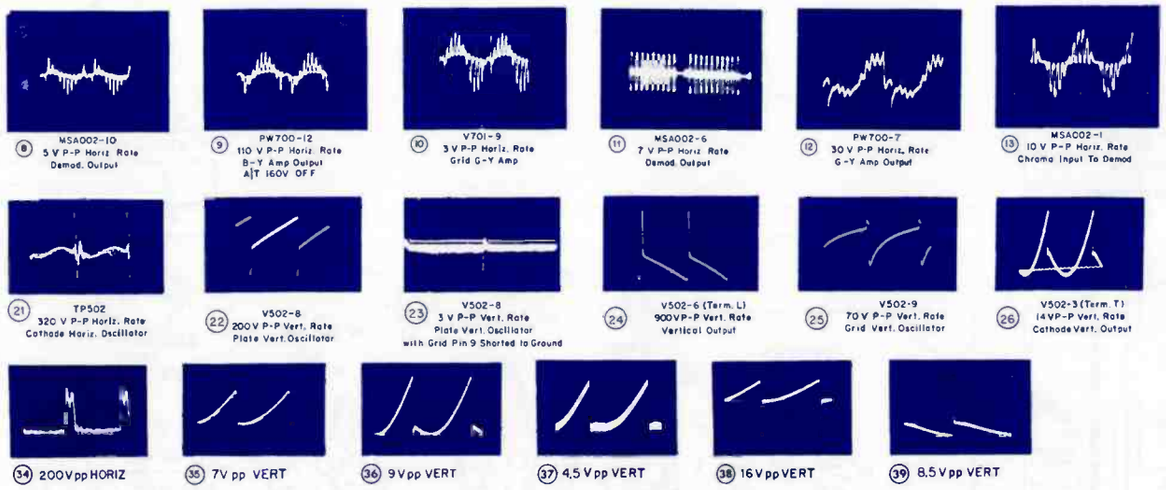
Color TV Chassis
CTC 55 Series

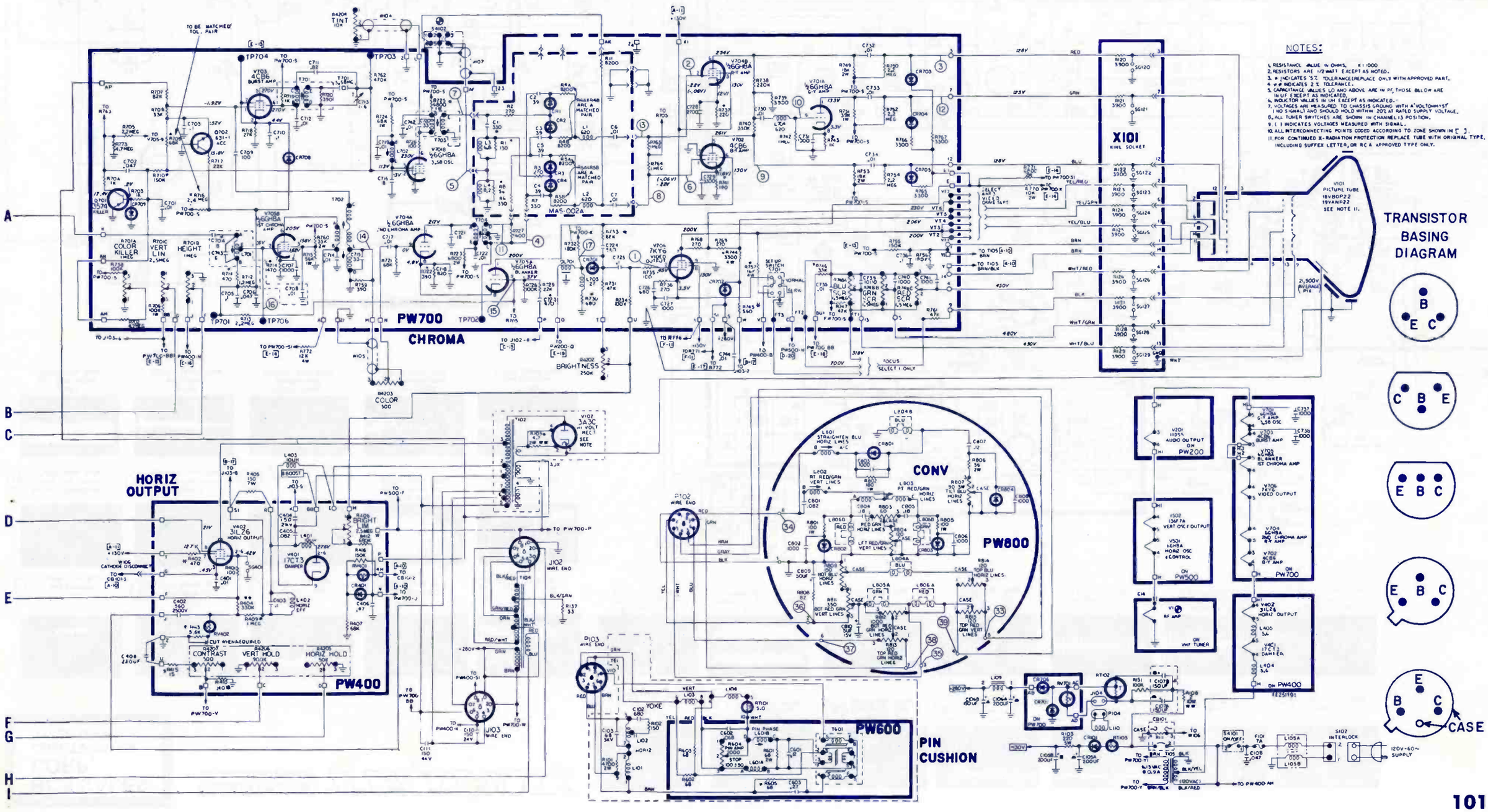
ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

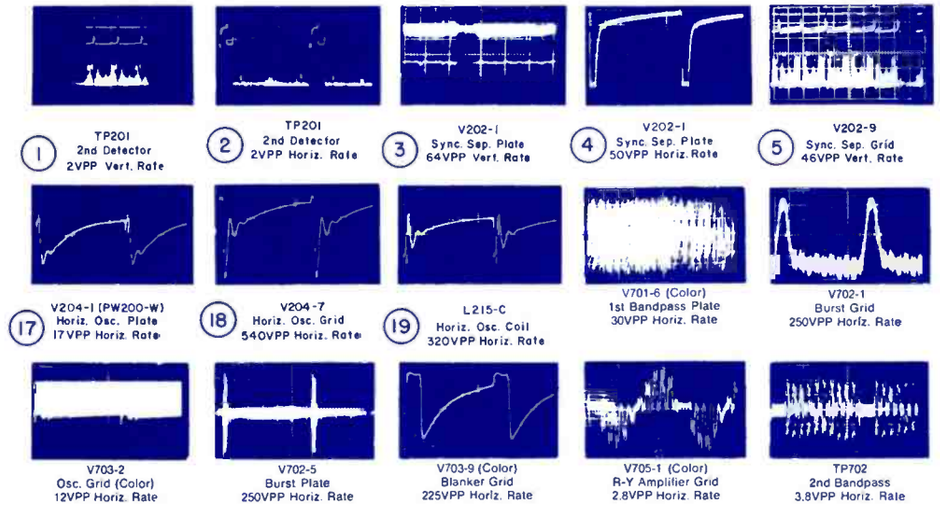
SYMBOL	DESCRIPTION	RCA PART NO.
C105A	200 µf, 500v elect	133128
C105B	200 µf, 500v elect	133128
C105C	50 µf, 500v elect	133128
C106A	200 µf, 350v elect	126340
C106B	150 µf, 350v elect	126340
C107A	150 µf, 175v elect	130769
C107B	150 µf, 175v elect	130769
CB101	circuit-breaker	133068
F101	7a fuse	120785
RT101	5Ω cold thermistor	114742
RT102	240Ω cold thermistor	127227
T102	horiz output xformer	133136
T103	audio xformer	120822
T104	vert output xformer	130092
T105	power xformer	133245
MAS2A	module-accutint, complete	133144
PM200	module-sound, complete	130753
IC299	integrated circuit	130751
L299	discriminator coil	130121
PW200	circuit-pix AFT, complete	133147
IC201	integrated, AFT circuit	130130
L201	47.25MHz coil	121564
L202	41.25MHz coil	124803
L214	1.8 µh	109248
RT201	4300Ω cold thermistor	124813
T201	pix IF input xformer	127244
T202	pix IF output xformer	124708
PW400	horiz output circuit, complete	133143
L402	horiz efficiency coil	133177
L404	5.6 µh coil	109171
R406	bright limiter control	125076
RV401	vert bias varistor	133181
RV402	regulator varistor	133137
PW500	deflection circuit, complete	133146
L501A/B	horiz coil	109947
PW600	pin amp assy, complete	132512
PW700	chroma circuit, complete	133145
DL701	delay line	130109
R701A	killer control	130107
R748A/B	blue/green screen control	126763
RV701	54v varistor, maximum	126424
T701	burst xformer	130104
T702	1st chroma xformer	130100
T703	oscillator xformer	121559
T704	2nd chroma xformer	130101
	deflection yoke	133102

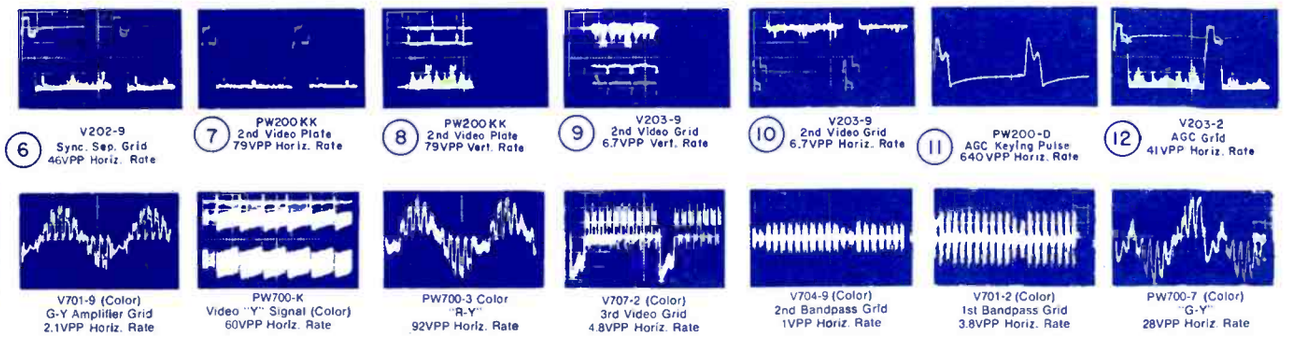


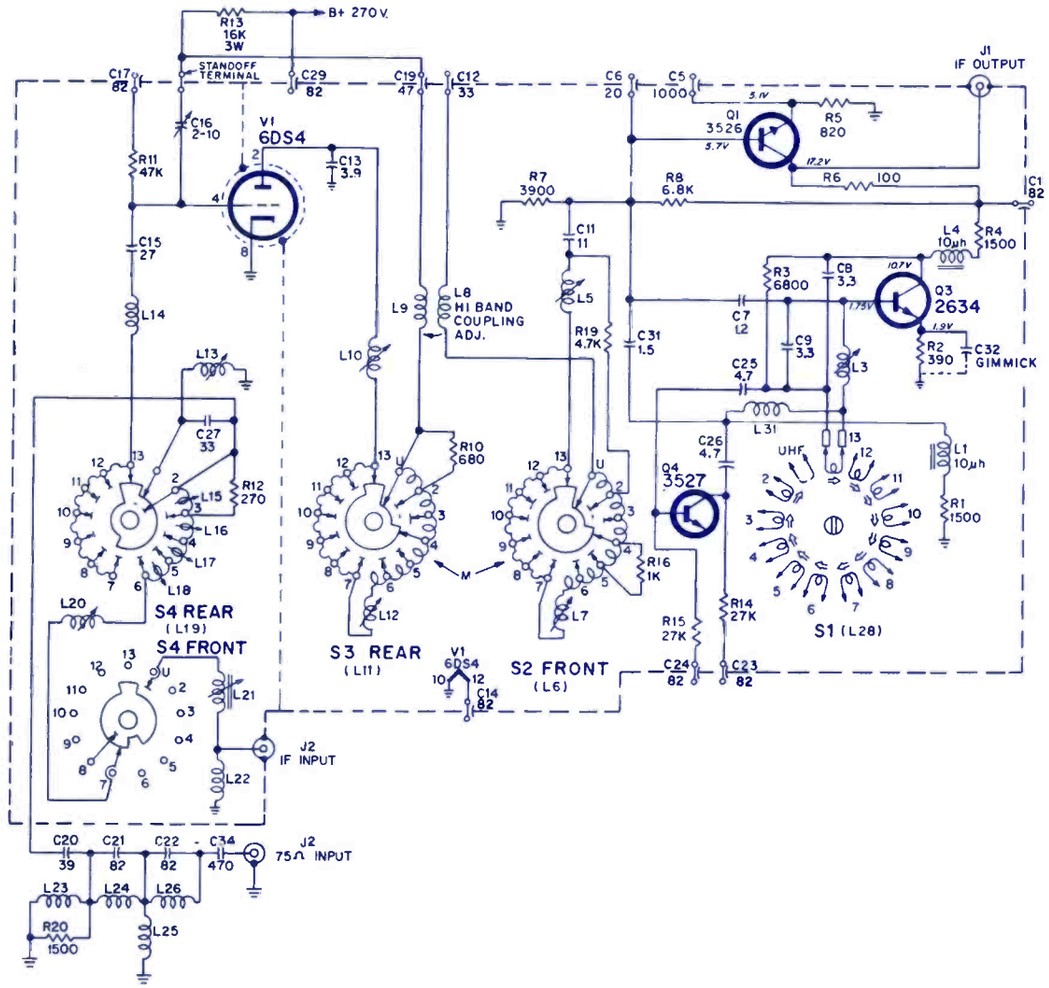


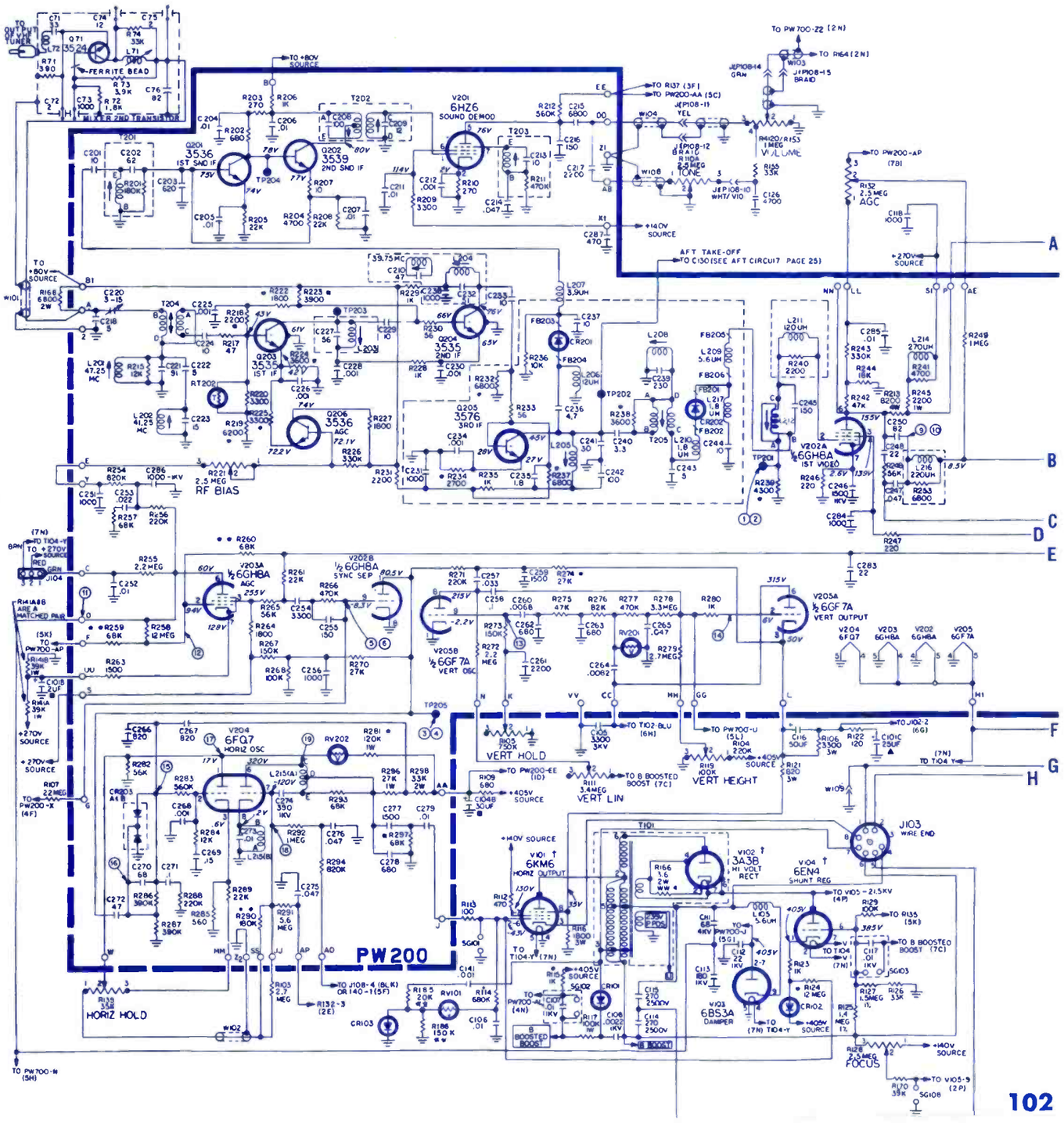

(8) MSA002-10 5 V P-P Horiz. Rate Demod. Output
(9) PW700-12 110 V P-P Horiz. Rate B-Y Amp Output AT 160V OFF
(10) V701-9 3 V P-P Horiz. Rate Grid G-Y Amp
(11) MSA002-6 7 V P-P Horiz. Rate Demod. Output
(12) PW700-7 30 V P-P Horiz. Rate G-Y Amp Output
(13) MSA002-1 10 V P-P Horiz. Rate Chroma Input To Demod
(21) TP502 320 V P-P Horiz. Rate Cathode Horiz. Oscillator
(22) V502-8 200 V P-P Vert. Rate Plate Vert. Oscillator
(23) V502-8 3 V P-P Vert. Rate Plate Vert. Oscillator with Grid Pin 9 Shorted to Ground
(24) V502-6 (Term. L) 900 V P-P Vert. Rate Vertical Output
(25) V502-9 70 V P-P Vert. Rate Grid Vert. Oscillator
(26) V502-3 (Term. T) 14 VP-P Vert. Rate Cathode Vert. Output
(34) 200 V pp HORIZ
(35) 7V pp VERT
(36) 9 V pp VERT
(37) 4.5 V pp VERT
(38) 16 V pp VERT
(39) 8.5 V pp VERT


PW700
CHROMA
PW400
HORIZ OUTPUT
PW800
CONV
PW600
PIN CUSHION
X101
KINE SOCKET
TRANSISTOR BASING DIAGRAM
B E C
C B E
E B C
E B C
E B C
CASE
NOTES:
1. RESISTANCE VALUE IN OHMS, K=1000.
2. RESISTORS ARE 1/2 WATT EXCEPT AS NOTED.
3. * INDICATES 5% TOLERANCE (REPLACE ONLY WITH APPROVED PART.
4. ** INDICATES 2 % TOLERANCE.
5. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN PF, THOSE BELOW ARE IN UF EXCEPT AS INDICATED.
6. INDUCTOR VALUES IN UH EXCEPT AS INDICATED.
7. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A VOLTOHMYST (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.
8. ALL TUNER SWITCHES ARE SHOWN IN CHANNEL 13 POSITION.
9. ( ) INDICATES VOLTAGES MEASURED WITH SIGNAL.
10. ALL INTERCONNECTING POINTS CODED ACCORDING TO ZONE SHOWN IN [ ].
11. FOR CONTINUED X-RADIATION PROTECTION REPLACE TUBE WITH ORIGINAL TYPE, INCLUDING SUFFIX LETTER, OR RCA APPROVED TYPE ONLY.









RCA SALES CORP.
Color TV Chassis
CTC50 Series

ELECTRONIC TECHNICIAN/DEALER TEKFAX

⑥ V202-9 Sync. Sep. Grid 46VPP Horiz. Rate

⑦ PW200KK 2nd Video Plate 79VPP Horiz. Rate

⑧ PW200KK 2nd Video Plate 79VPP Vert. Rate

⑨ V203-9 2nd Video Grid 6.7VPP Vert. Rate

⑩ V203-9 2nd Video Grid 6.7VPP Horiz. Rate

⑪ PW200-D AGC Keying Pulse 640VPP Horiz. Rate

⑫ V203-2 AGC Grid 41VPP Horiz. Rate

① TP201 2nd Detector 2VPP Vert. Rate

② TP201 2nd Detector 2VPP Horiz. Rate

③ V202-1 Sync. Sep. Plate 64VPP Vert. Rate

④ V202-1 Sync. Sep. Plate 50VPP Horiz. Rate

⑤ V202-9 Sync. Sep. Grid 46VPP Vert. Rate

V701-9 (Color) G-Y Amplifier Grid 2.1VPP Horiz. Rate

PW700-K Video "Y" Signal (Color) 60VPP Horiz. Rate

PW700-3 Color "R-Y" 92VPP Horiz. Rate

V707-2 (Color) 3rd Video Grid 4.8VPP Horiz. Rate

V704-9 (Color) 2nd Bandpass Grid 1VPP Horiz. Rate

V701-2 (Color) 1st Bandpass Grid 3.8VPP Horiz. Rate

PW700-7 (Color) "G-Y" 28VPP Horiz. Rate

⑰ V204-1 (PW200-W) Horiz. Osc. Plate 17VPP Horiz. Rate

⑱ V204-7 Horiz. Osc. Grid 540VPP Horiz. Rate

⑲ L215-C Horiz. Osc. Coil 320VPP Horiz. Rate

V701-6 (Color) 1st Bandpass Plate 30VPP Horiz. Rate

V702-1 Burst Grid 250VPP Horiz. Rate

V703-2 Osc. Grid (Color) 12VPP Horiz. Rate

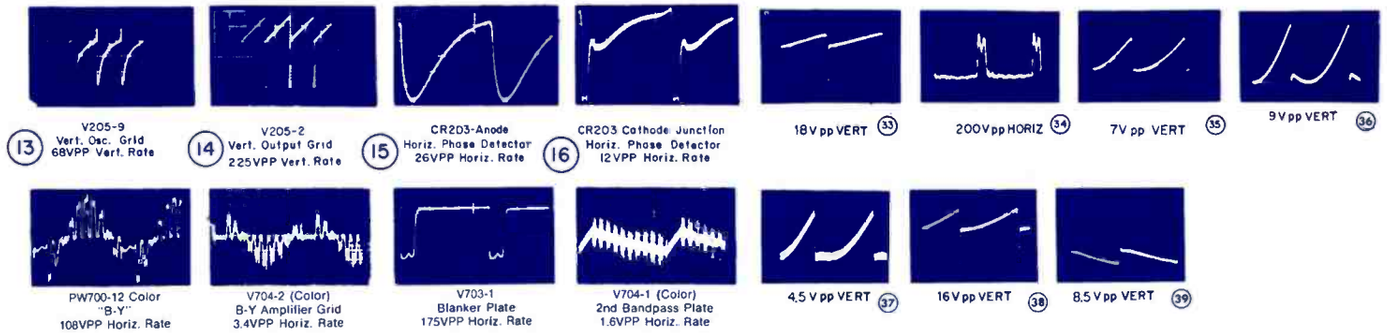
V702-5 Burst Plate 250VPP Horiz. Rate

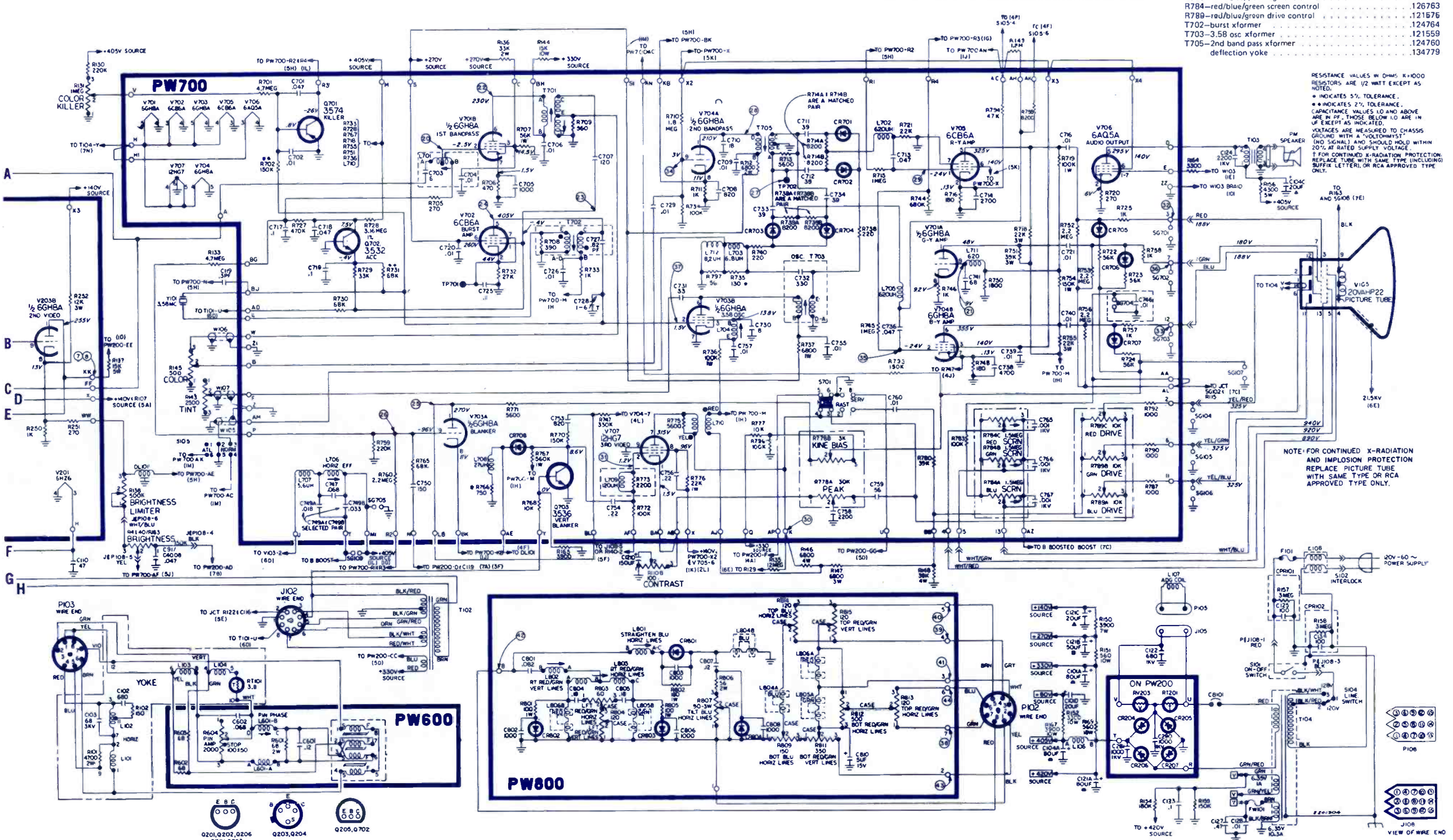
V703-9 (Color) Blanker Grid 225VPP Horiz. Rate

V705-1 (Color) R-Y Amplifier Grid 2.8VPP Horiz. Rate

TP702 2nd Bandpass 3.8VPP Horiz. Rate

TUNER SCHEMATIC DIAGRAM





⑬ V205-9
Vert. Osc. Grid
68VPP Vert. Rate

⑭ V205-2
Vert. Output Grid
225VPP Vert. Rate

⑮ CR203-Anode
Horiz. Phase Detector
26VPP Horiz. Rate

⑯ CR203 Cathode Junction
Horiz. Phase Detector
12VPP Horiz. Rate

18V pp VERT ㉝

200V pp HORIZ ㉞

7V pp VERT ㉟

9V pp VERT ㊱

PW700-12 Color
"B-Y"
108VPP Horiz. Rate

V704-2 (Color)
B-Y Amplifier Grid
3.4VPP Horiz. Rate

V703-1
Blanker Plate
175VPP Horiz. Rate

V704-1 (Color)
2nd Bandpass Plate
1.6VPP Horiz. Rate

4.5 V pp VERT ㊲

16 V pp VERT ㊳

8.5 V pp VERT ㊴

RCA SALES CORP.
Color TV Chassis
CTC50 Series

SYMBOL	DESCRIPTION	RCA PART NO.
C101A	80 µf/450v elect	124665
C101B	2 µf/350v elect	124665
C101C	25 µf/25v elect	124665
C101D	20 µf/150v elect	124665
C104A	80 µf/450v elect	116503
C104B	30 µf/450v elect	116503
C104C	20 µf/450v elect	116503
C121A	80 µf/450v elect	123491
C121B	50 µf/450v elect	123491
C121C	20 µf/250v elect	123491
C121D	150 µf/25v elect	123491
CB101	1.75a circuit breaker	133066
DL101	delay line	128250
R105	750K vert hold control	127881
R110A	2.5M tone control	127879
R110B	100Ω contrast control	127879
R111	3.4M vert lin control	114020
R119	100K vert height control	122176
R128	2.5M focus control	131634
R131	1M color killer control	112841
R132	2.5M AGC control	124669
R138	500K bright limiter control	112842
R139	35K horiz hold control	127880
R143	2500Ω tint control	131061
R145	500Ω color control	115781
RV101	320, 10% varistor	118742
T101	HV xformer	132375
T102	vert output xformer	130092
T103	audio xformer	131370
T104	power xformer	126489
L201	47.25MHz coil	124803
L202	41.25MHz coil	121564
L208	41.25MHz trap	124804
L212	4.5MHz trap	124810
L215	horiz sine wave	116506
R221	2.5M R.F. bias control	126667
RT201	102Ω cold thermistor	107191
RT202	4300Ω/25° cold thermistor	124813
RV201	635v, 15% varistor	130147
RV202	110v/6ma varistor	114862
RV203	8v/15ma varistor	126424
T203	quad xformer	124709
L706	horiz eff coil	122918
R778	kine bias, peaking control	121588
R784	red/blue/green screen control	126763
R789	red/blue/green drive control	121576
T702	burst xformer	124764
T703	3.58 osc xformer	121559
T705	2nd band pass xformer	124760
	deflection yoke	134779

RESISTANCE VALUES IN OHMS K=1000
RESISTORS ARE 1/2 WATT EXCEPT AS NOTED.
● INDICATES 5% TOLERANCE.
●● INDICATES 2% TOLERANCE.
CAPACITANCE VALUES 1.0 AND ABOVE ARE IN PF. THOSE BELOW 1.0 ARE IN UF EXCEPT AS INDICATED.
VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.
† FOR CONTINUED X-RADIATION PROTECTION REPLACE TUBE WITH SAME TYPE (INCLUDING SUFFIX LETTER), OR RCA APPROVED TYPE ONLY.

NOTE: FOR CONTINUED X-RADIATION AND IMPLOSION PROTECTION REPLACE PICTURE TUBE WITH SAME TYPE OR RCA APPROVED TYPE ONLY.

RCA SALES CORP.

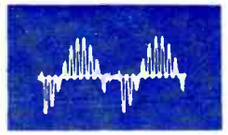
Color TV Chassis
CTC59 Series

ELECTRONIC TECHNICIAN/DEALER TEKFAX

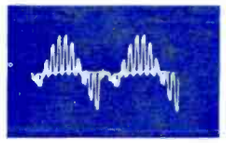
1 3.5V P-P VERT. RATE

4 1.3V P-P VERT. RATE

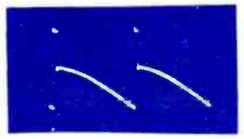
6 35V P-P HORIZ. RATE



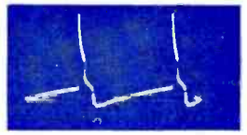
9 .8V P-P HORIZ. RATE



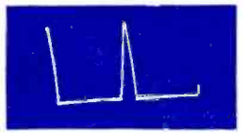
12 60V P-P HORIZ. RATE GREEN OUTPUT



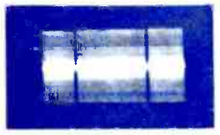
15 55V P-P VERT. RATE



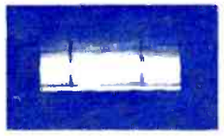
18 12.5V P-P HORIZ. RATE



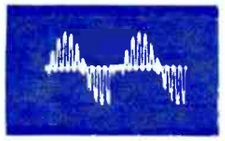
21 490V P-P HORIZ. RATE



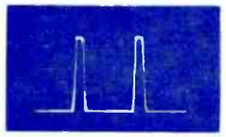
2 7V P-P VERT. RATE



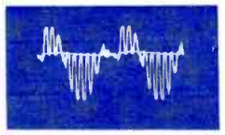
5 .75V P-P VERT. RATE



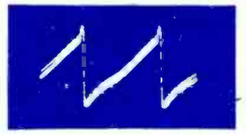
7 .8V P-P HORIZ. RATE



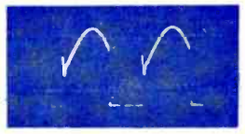
10 210V P-P HORIZ. RATE



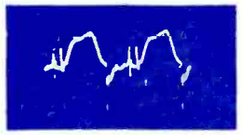
110V P-P HORIZ. RATE BLUE OUTPUT 13



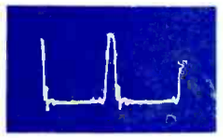
3V P-P VERT. RATE 16



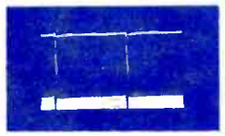
19 350V P-P HORIZ. RATE



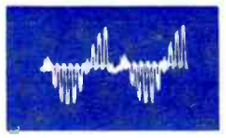
22 1.2V P-P HORIZ. RATE



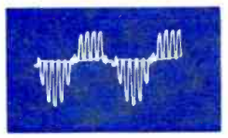
3 30V P-P HORIZ. RATE



35V P-P VERT. RATE 6

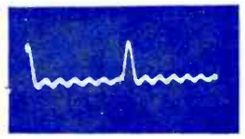


8 .4V P-P HORIZ. RATE



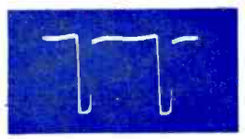
11 110V P-P HORIZ. RATE

14 55V P-P VERT. RATE



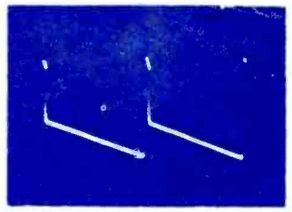
17 850V P-P HORIZ. RATE

20 28V P-P HORIZ. RATE

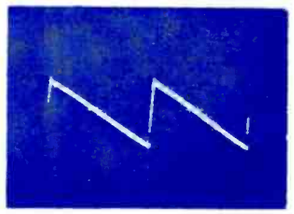


23 45V P-P HORIZ. RATE

24 28V P-P HORIZ. RATE

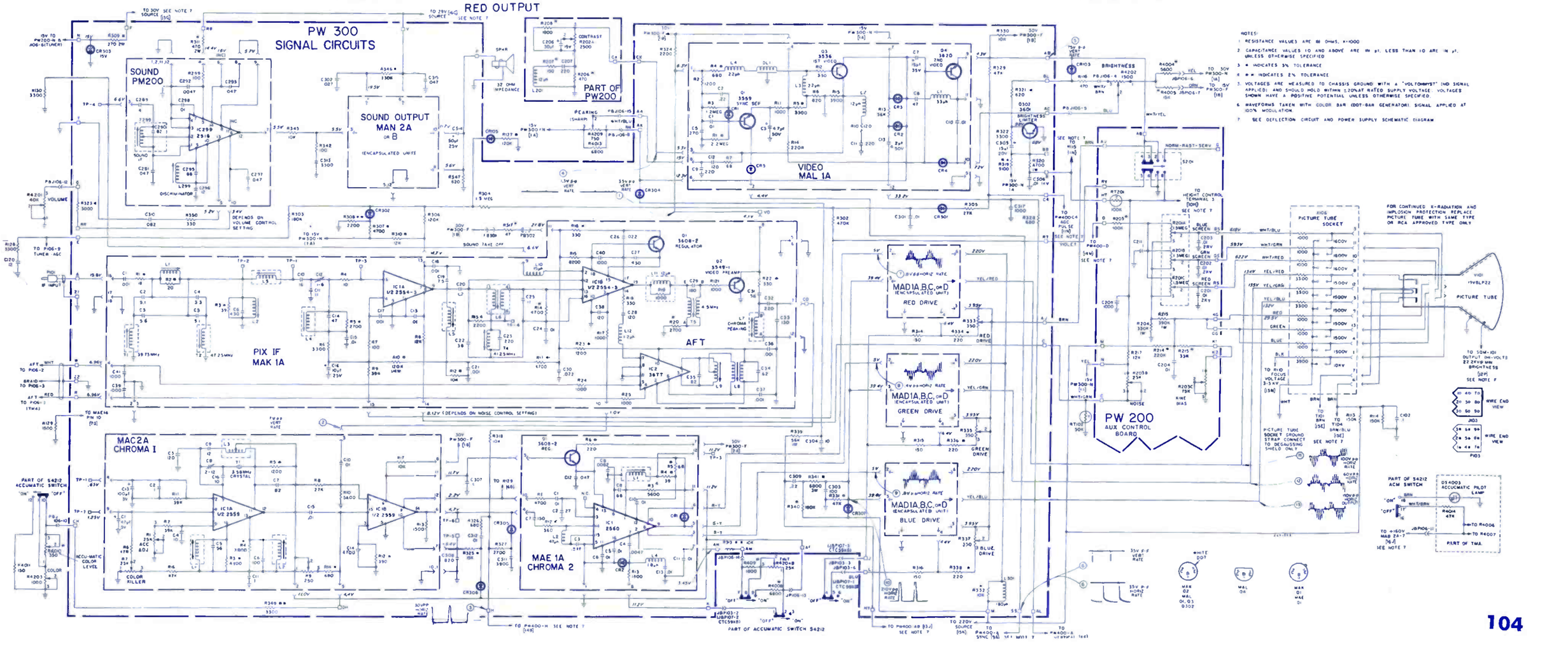


25 55 VPP VERTICAL RATE

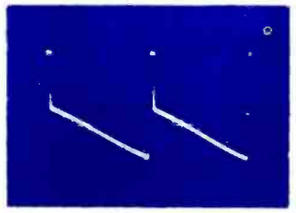


26 4 VPP VERTICAL RATE

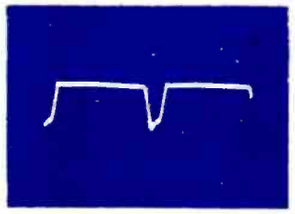
RED OUTPUT



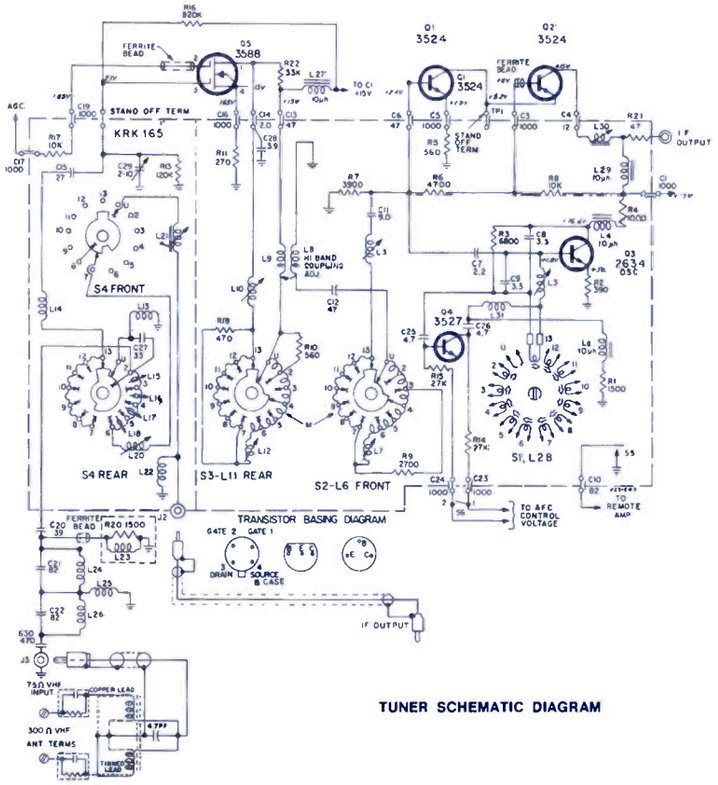
RCA SALES CORP.
Color TV Chassis
CTC59 Series



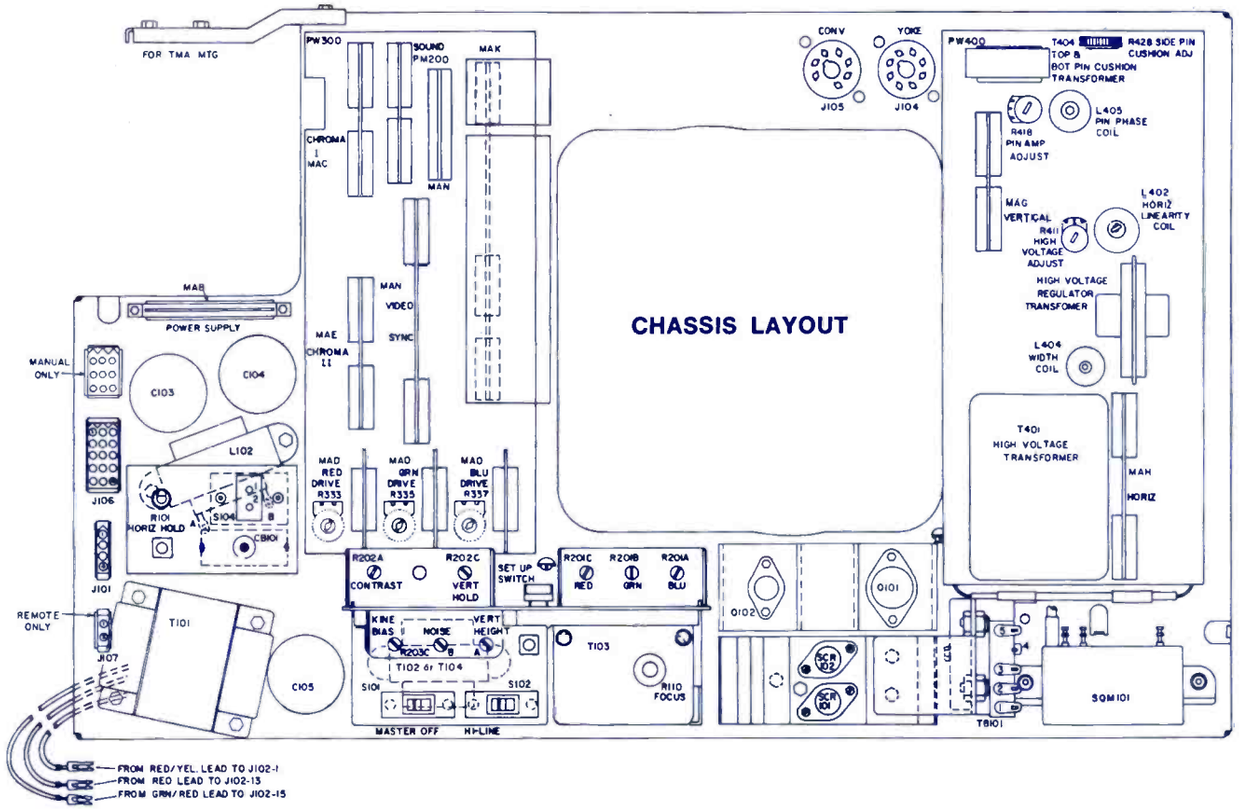
(27) 60 VPP VERTICAL RATE

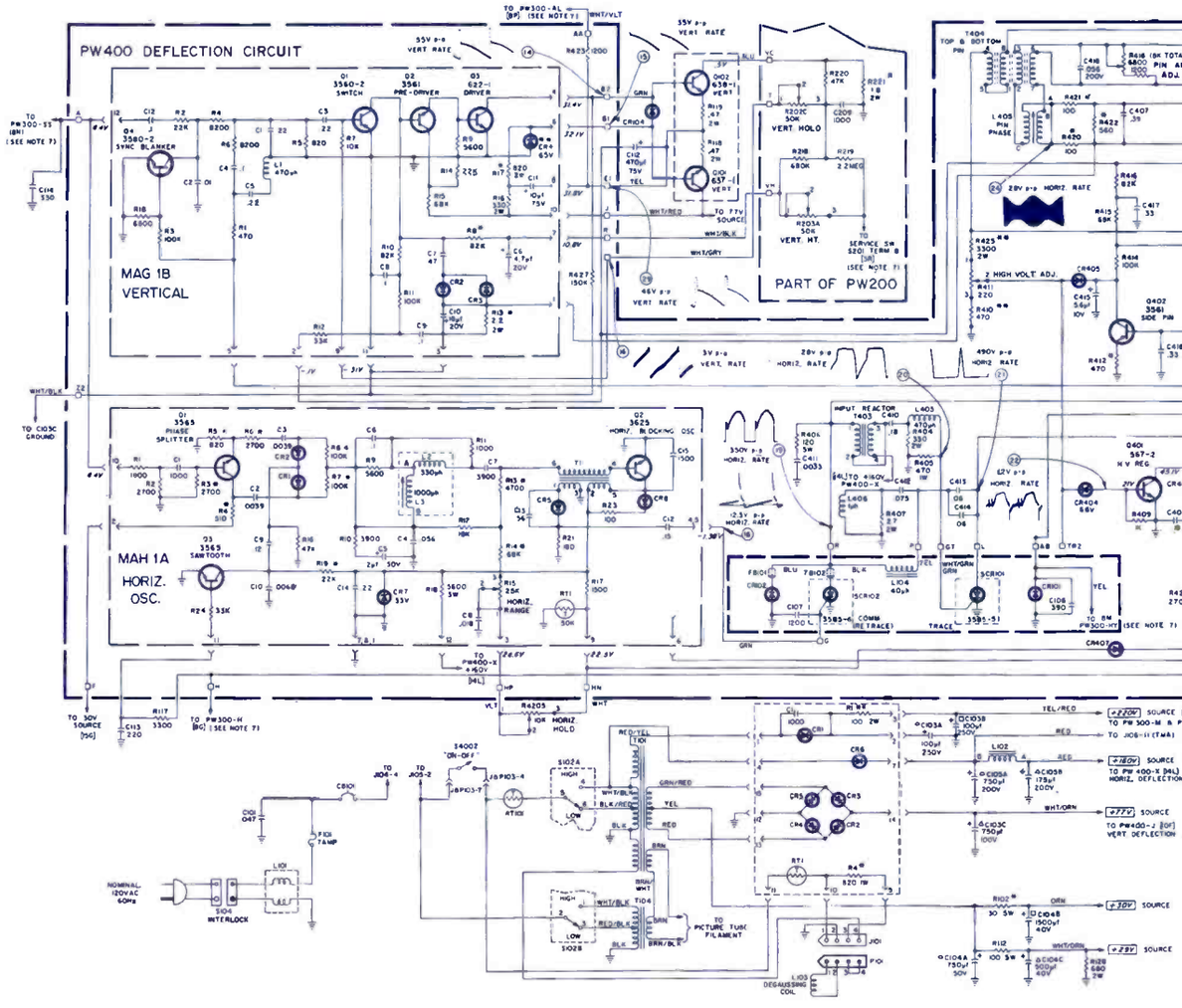


(28) 250 VPP HORIZONTAL RATE



TUNER SCHEMATIC DIAGRAM

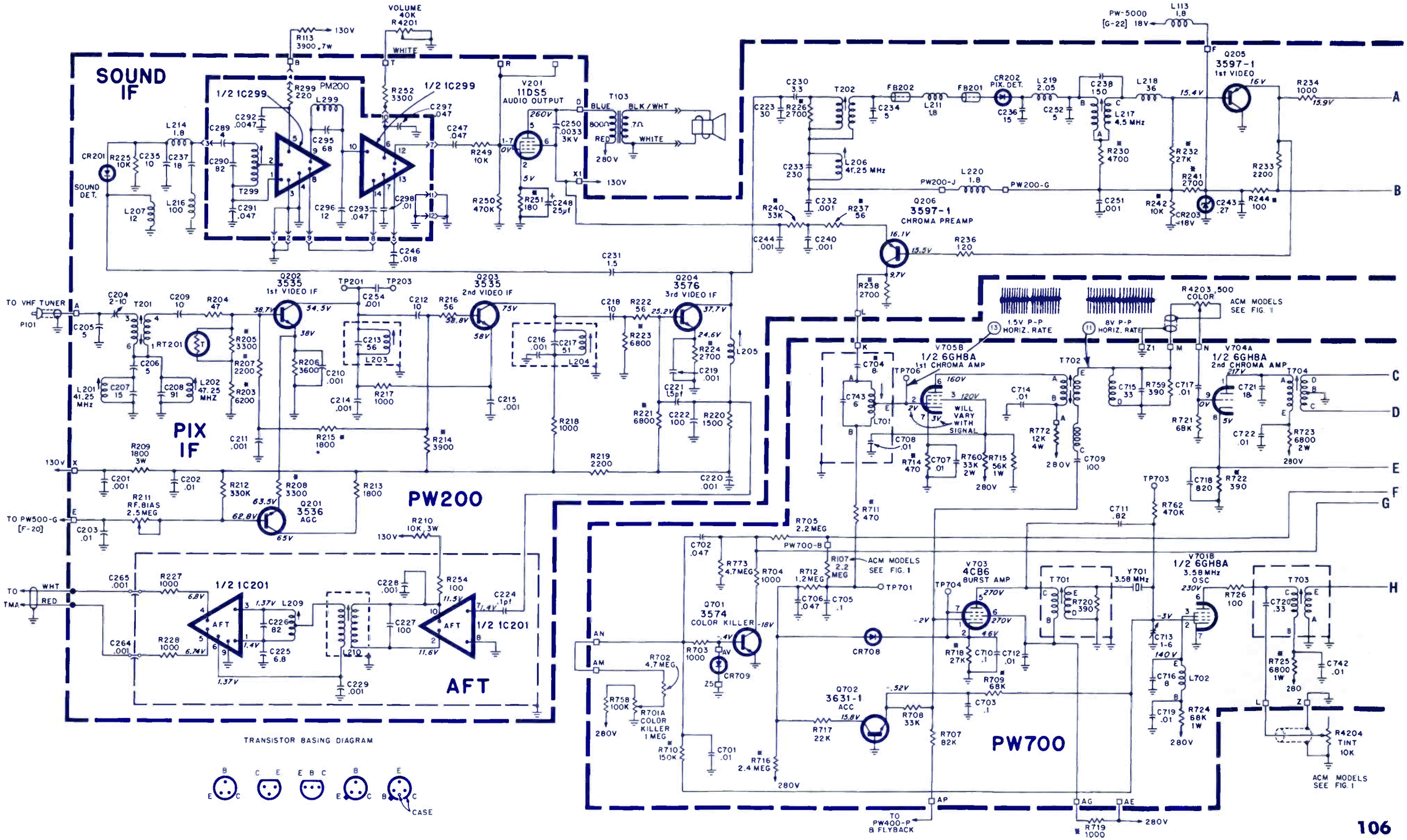




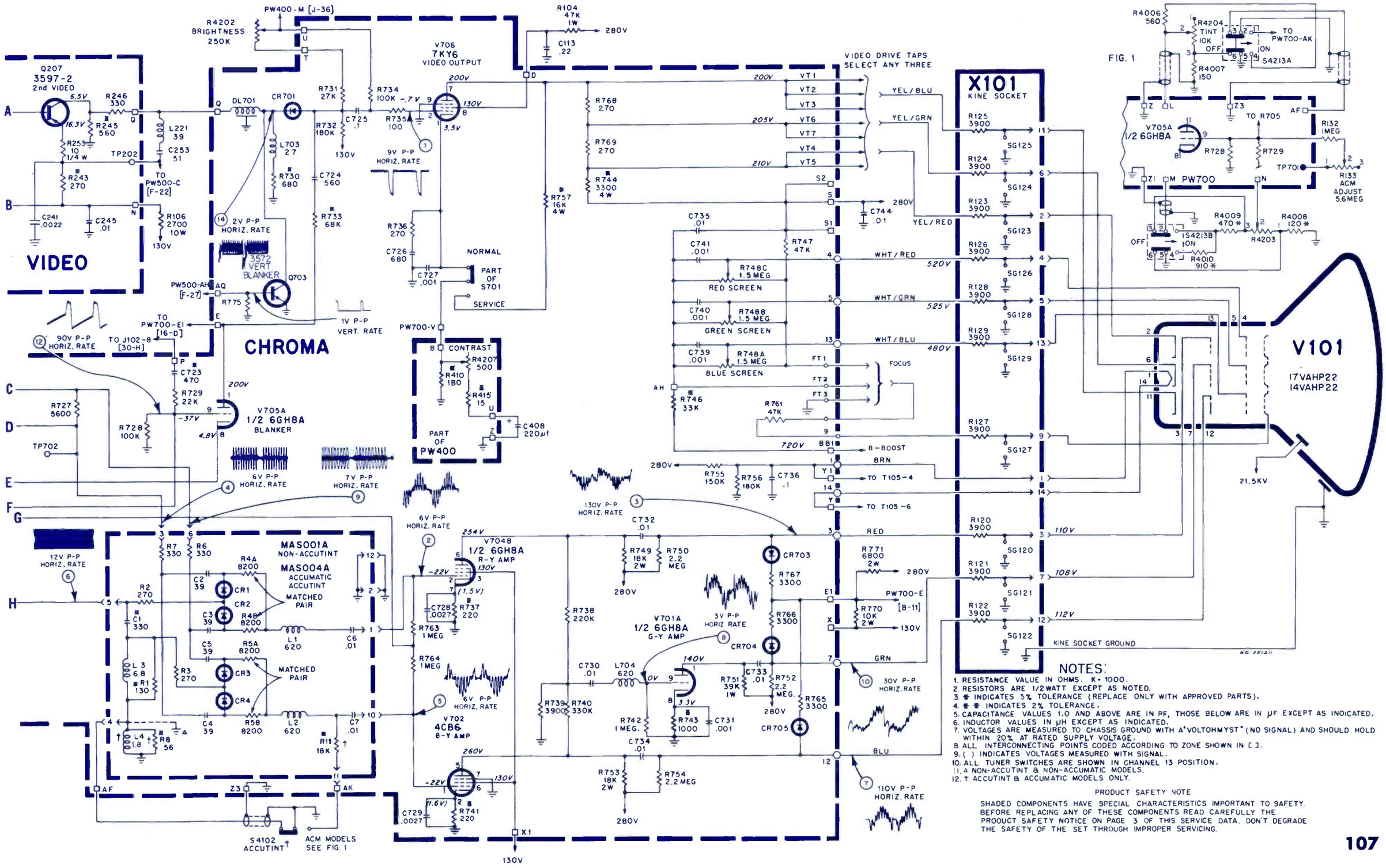
RCA SALES
Color-TV Chassis
CTC51

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	RCA PART NO.
C105A	special capacitor	132993
C105B	special capacitor	132993
C105C	special capacitor	132993
C106A	special capacitor	126340
C106B	special capacitor	126340
CB101	circuit breaker	135700
F101	fuse-5a	118969
R4202	var comp, tint CTC 51E	130621
R4202	var comp, tint CTC 51XU	133742
R4203	var comp, brite CTC 51E	130621
R4203	var comp, brite CTC 51XU	133742
R4204	var comp, color CTC 51E	130621
R4204	var comp, color CTC 51XU	133742
RT102	thermistor	127227
RT103	thermistor	136226
T102	xformer, CTC 52 series	133747
T102	xformer, CTC 51 series	133739
T104	xformer	130092
T105	xformer	135773
1C299	circuit, integrated	130751
L299	coil, discriminator	130121
T299	xformer, input	130120
1C201	circuit, integ aft	130130
R211	var comp	130137
RT201	thermistor, 4300Ω, cold	124813
T201	xformer	127244
T202	xformer	124708
R4207	var comp	133180
RV401	varistor	133181
RV402	varistor	133137
TF401	fuse	135930
L501	coil	109947
R604	var comp	130995
T601	xformer	130559
DL701	delay line	133952
R701	var comp	130107
R701A	var comp killer	130107
R701B	var comp height	130107
R701C	var comp lin	130107
RV701	varistor	126424
T701	xformer	130104
T702	xformer	130100
T703	xformer	121559
T704	xformer	130101
	yoke, deflect assembly, CTC 52	135852
	yoke, deflect assembly CTC 51	136425
RT101	thermistor	114742



RCA CONTINUED NEXT PAGE



NOTES:

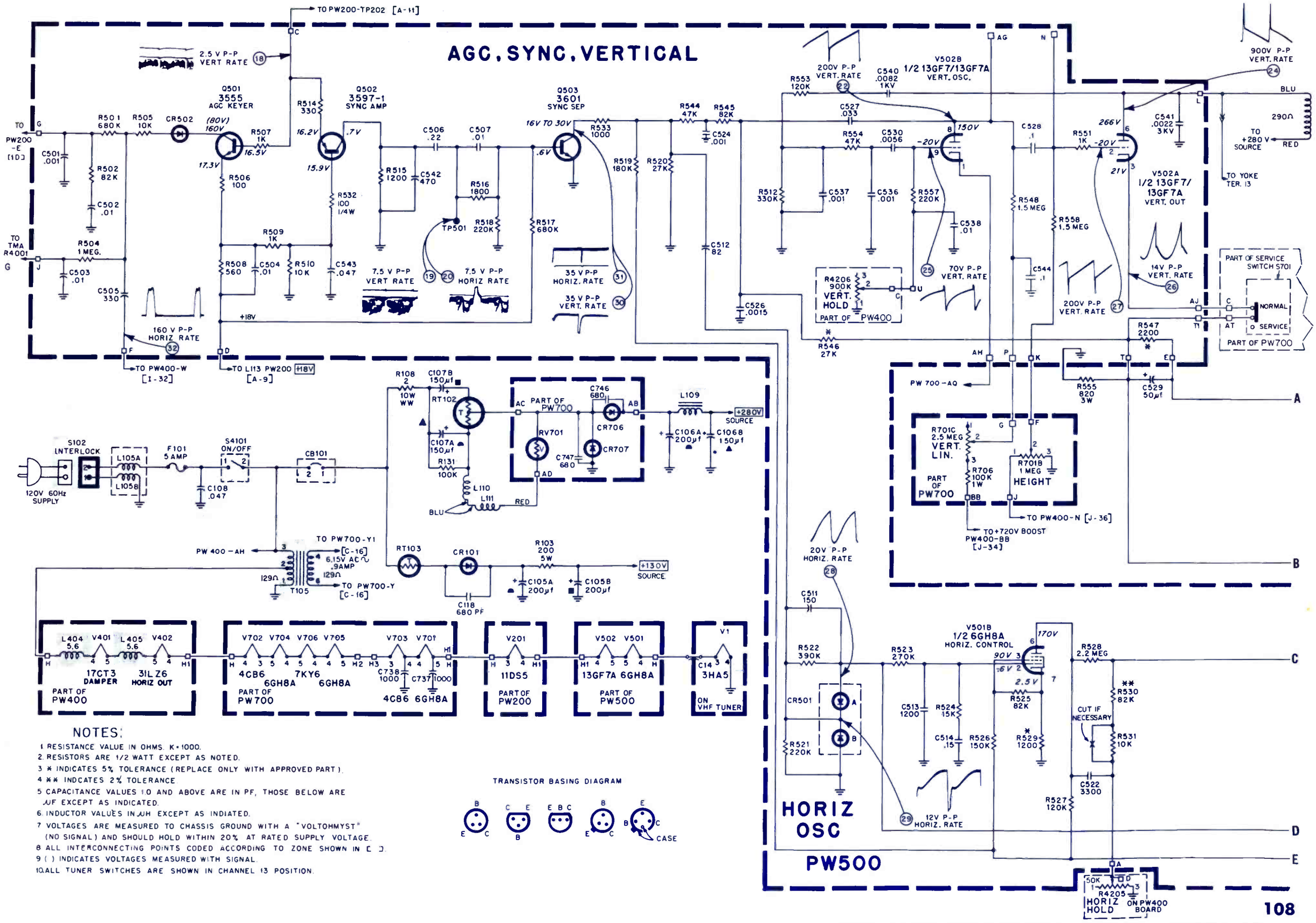
1. RESISTANCE VALUE IN OHMS. K = 1000.
2. RESISTORS ARE 1/2 WATT EXCEPT AS NOTED.
3. * INDICATES 5% TOLERANCE (REPLACE ONLY WITH APPROVED PARTS).
4. * * INDICATES 2% TOLERANCE.
5. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN PF, THOSE BELOW ARE IN µF EXCEPT AS INDICATED.
6. INDUCTOR VALUES IN µH EXCEPT AS INDICATED.
7. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.
8. ALL INTERCONNECTING POINTS CODED ACCORDING TO ZONE SHOWN IN [ ].
9. ( ) INDICATES VOLTAGES MEASURED WITH SIGNAL.
10. ALL TUNER SWITCHES ARE SHOWN IN CHANNEL 13 POSITION.
11. Δ NON-ACCUTINT & NON-ACCUMATIC MODELS.
12. † ACCUTINT & ACCUMATIC MODELS ONLY.

PRODUCT SAFETY NOTE

SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE ON PAGE 3 OF THIS SERVICE DATA. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

RCA SALES
Color-TV Chassis
CTC51

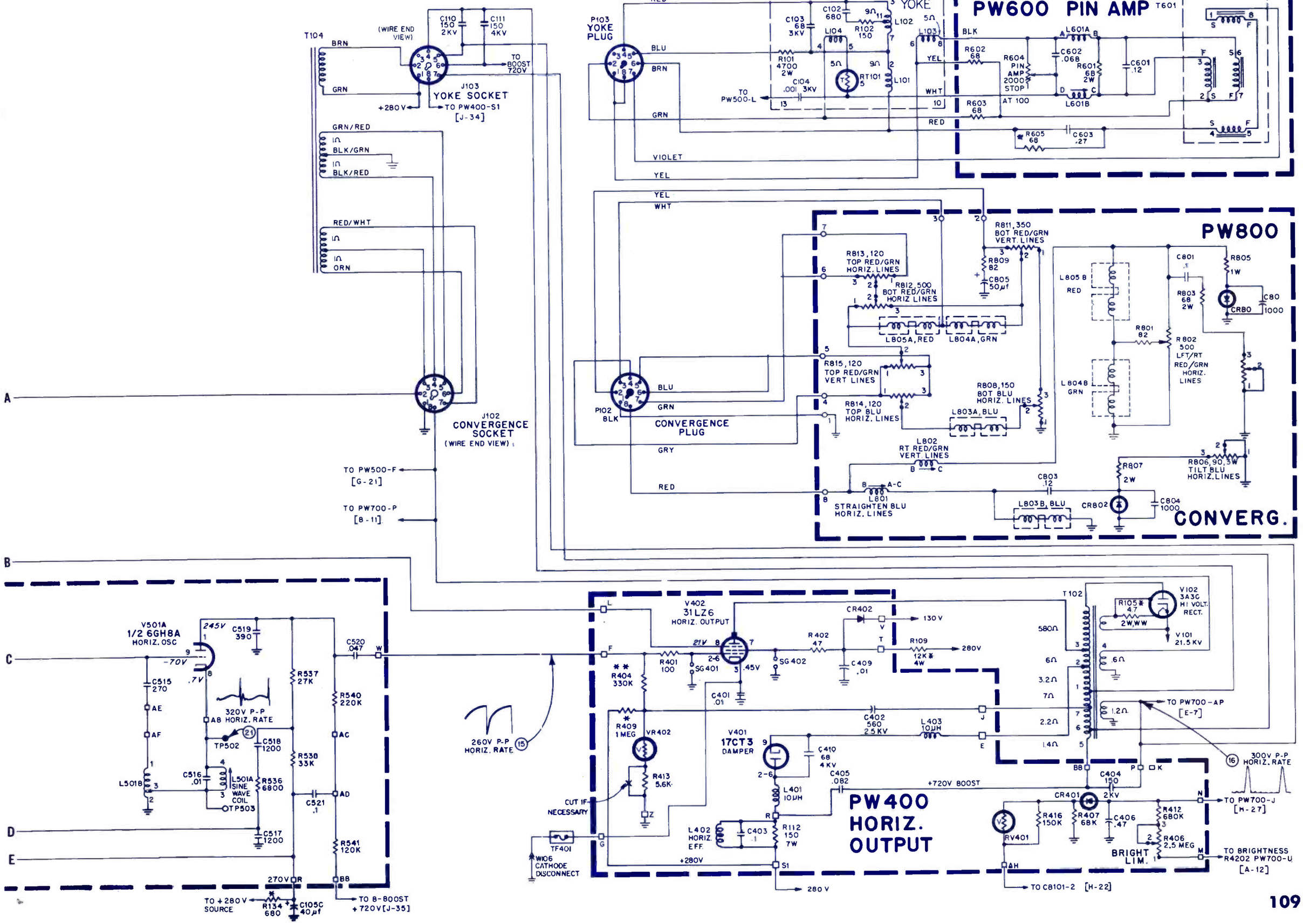
AGC, SYNC, VERTICAL



NOTES:

1. RESISTANCE VALUE IN OHMS. K = 1000.
2. RESISTORS ARE 1/2 WATT EXCEPT AS NOTED.
3. * INDICATES 5% TOLERANCE (REPLACE ONLY WITH APPROVED PART).
4. ** INDCATES 2% TOLERANCE
5. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN PF, THOSE BELOW ARE MF EXCEPT AS INDICATED.
6. INDUCTOR VALUES IN MH EXCEPT AS INDIATED.
7. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.
8. ALL INTERCONNECTING POINTS CODED ACCORDING TO ZONE SHOWN IN C D.
9. ( ) INDICATES VOLTAGES MEASURED WITH SIGNAL.
10. ALL TUNER SWITCHES ARE SHOWN IN CHANNEL 13 POSITION.

TRANSISTOR BASING DIAGRAM


T104
(WIRE END VIEW)
C110 150 2KV
C111 150 4KV
TO BOOST 720V
BRN
GRN
+280V
J103
YOKE SOCKET
TO PW400-S1 [J-34]
GRN/RED
BLK/GRN
BLK/RED
RED/WHT
ORN
A
J102
CONVERGENCE SOCKET
(WIRE END VIEW)
TO PW500-F [G-21]
TO PW700-P [B-11]
P103 YOKE PLUG
RED
BLU
BRN
GRN
VIOLET
YEL
YOKE
C102 680
9Ω
L102
5Ω
L103
C103 68 3KV
L104
R102 150
R101 4700 2W
C104 .001 3KV
RT101 5
L101
TO PW500-L
PW600 PIN AMP T601
BLK
YEL
WHT
R602 68
R604 PIN AMP 2000 STOP AT 100
L601A
C602 .068
R601 6B 2W
C601 .12
L601B
R603 68
R605 68
C603 .27
WHT
YEL
P102 BLK
CONVERGENCE PLUG
BLU
GRN
GRY
RED
PW800
R811, 350 BOT RED/GRN VERT. LINES
R809 82
C805 50µf
R813, 120 TOP RED/GRN HORIZ. LINES
R812, 500 BOT RED/GRN HORIZ LINES
L805A, RED
L804A, GRN
R815, 120 TOP RED/GRN VERT LINES
R814, 120 TOP BLU HORIZ. LINES
R808, 150 BOT BLU HORIZ. LINES
L803A, BLU
L802 RT RED/GRN VERT. LINES
L801 STRAIGHTEN BLU HORIZ. LINES
C801
R805 1W
L805 B RED
R803 68 2W
CR80
C80 1000
R801 82
R802 500 LFT/RT RED/GRN HORIZ. LINES
L804B GRN
R807 2W
R806, 90, 3W TILT BLU HORIZ. LINES
C803 .12
L803 B, BLU
CR802
C804 1000
CONVERG.
B
C
D
E
V501A 1/2 6GH8A HORIZ. OSC
245V
-70V
.7V
C519 390
C520 .047
R537 27K
R540 220K
C515 270
AE
AF
320V P-P AB HORIZ. RATE
TP502
C518 1200
R530 33K
L5018
C516 .01
L501A SINE WAVE COIL
R536 6800
TP503
C521 .1
C517 1200
R541 120K
270V
AA
AB
AC
AD
BB
TO +280V SOURCE
R134 680
C105C 40µf
TO B-BOOST +720V [J-35]
260V P-P HORIZ. RATE (15)
V402 31LZ6 HORIZ. OUTPUT
21V
.45V
R404 330K
R401 100
SG401
SG402
R402 47
CR402
130V
R109 12K 4W
280V
C409 .01
C401 .01
R409 1MEG
VR402
R413 5.6K
CUT IF NECESSARY
TF401
W106 CATHODE DISCONNECT
V401 17CT3 DAMPER
C402 560 2.5KV
L403 10µH
C410 68 4KV
C405 .082
+720V BOOST
L401 10µH
L402 HORIZ. EFF.
C403 .1
R112 150 7W
+280V
280V
PW400 HORIZ. OUTPUT
T102
R105 4.7 2W,WW
V102 3A3G HI VOLT. RECT.
V101 21.5KV
580Ω
6Ω
3.2Ω
7Ω
2.2Ω
1.4Ω
1.2Ω
TO PW700-AP [E-7]
16 300V P-P HORIZ. RATE
C404 150 2KV
CR401
TO PW700-J [H-27]
R416 150K
R407 68K
C406 .47
R412 680K
R406 2.5 MEG
BRIGHT LIM.
TO BRIGHTNESS R4202 PW700-U [A-12]
RV401
TO C8101-2 [H-22]

PW300 SIGNAL CIRCUIT

PM200 SOUND

MAN 2A SOUND OUTPUT

SYNC

VIDEO

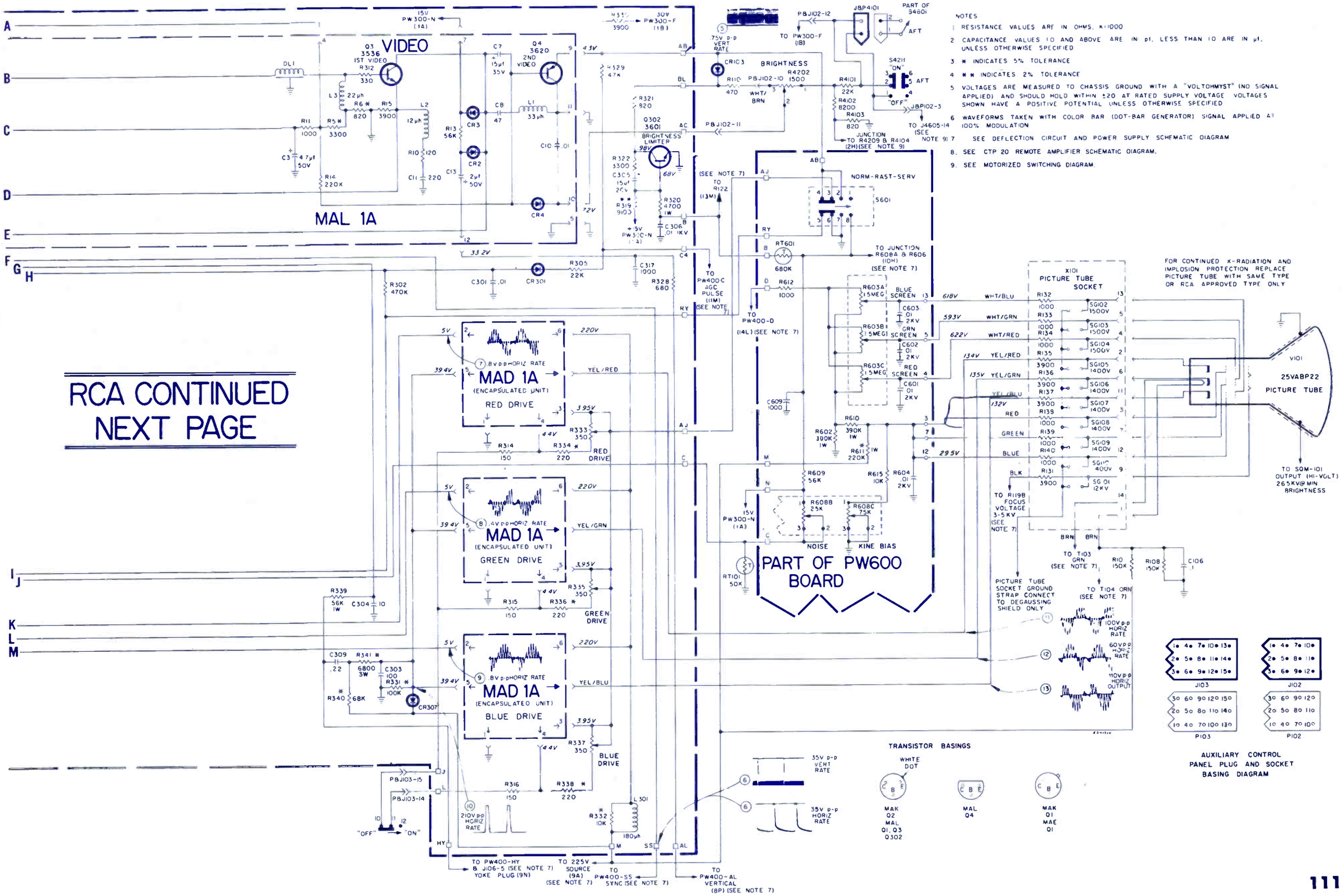
AFT

MAK 1A PIX IF

MAC 2A CHROMA I

MAE 1A CHROMA II

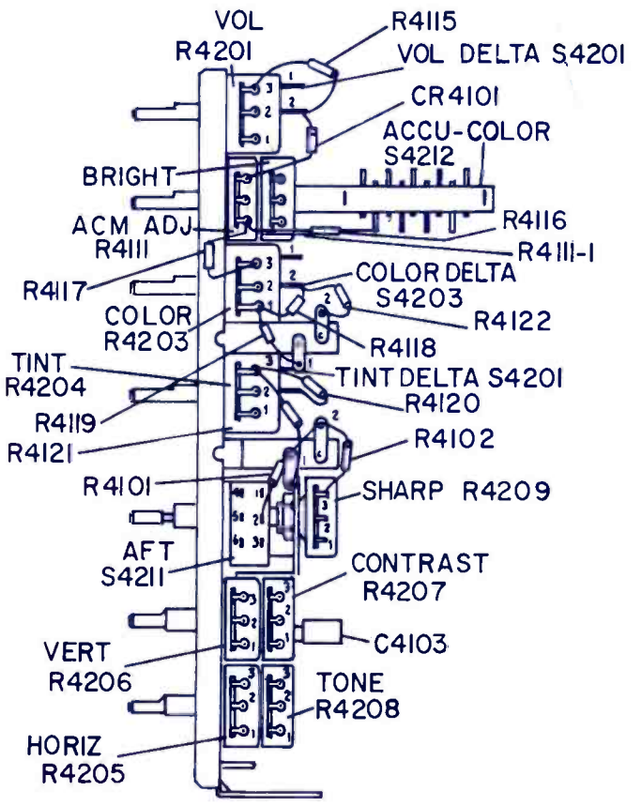
PART OF ACCUMATIC SWITCH S4212



RCA CONTINUED NEXT PAGE

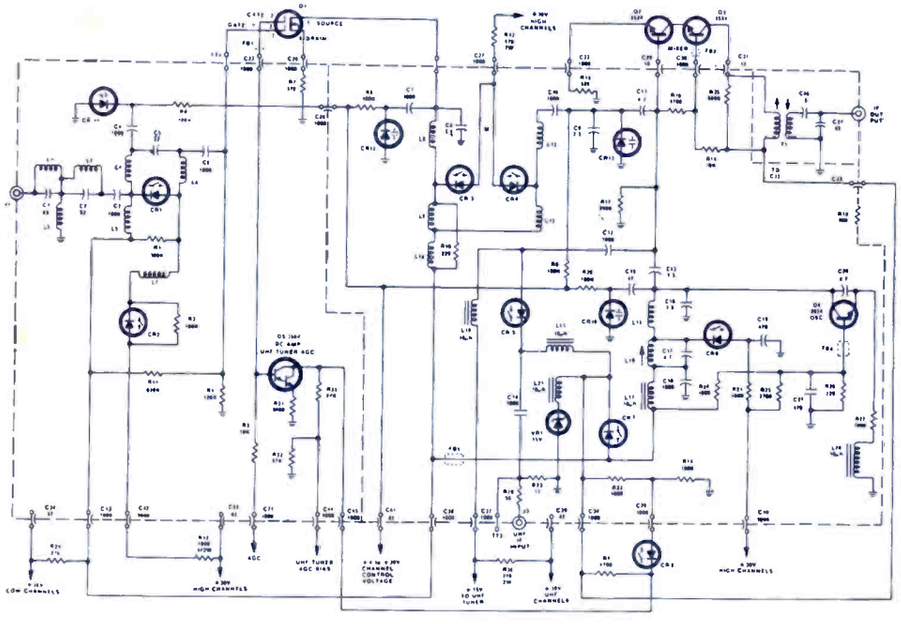
RCA SALES CORP.
Color-TV Chassis
CTC54 Series

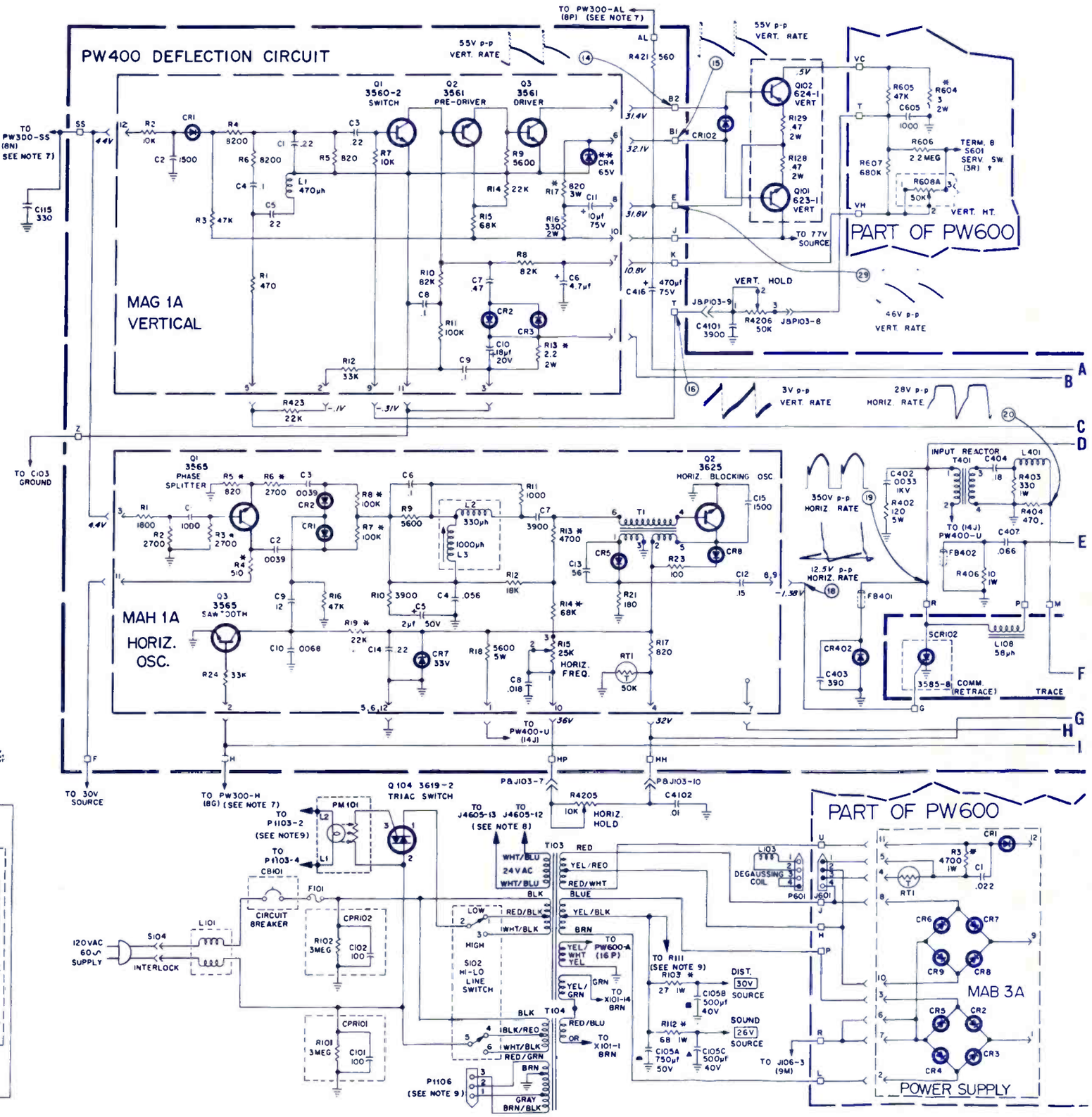
Auxilliary Control Panel

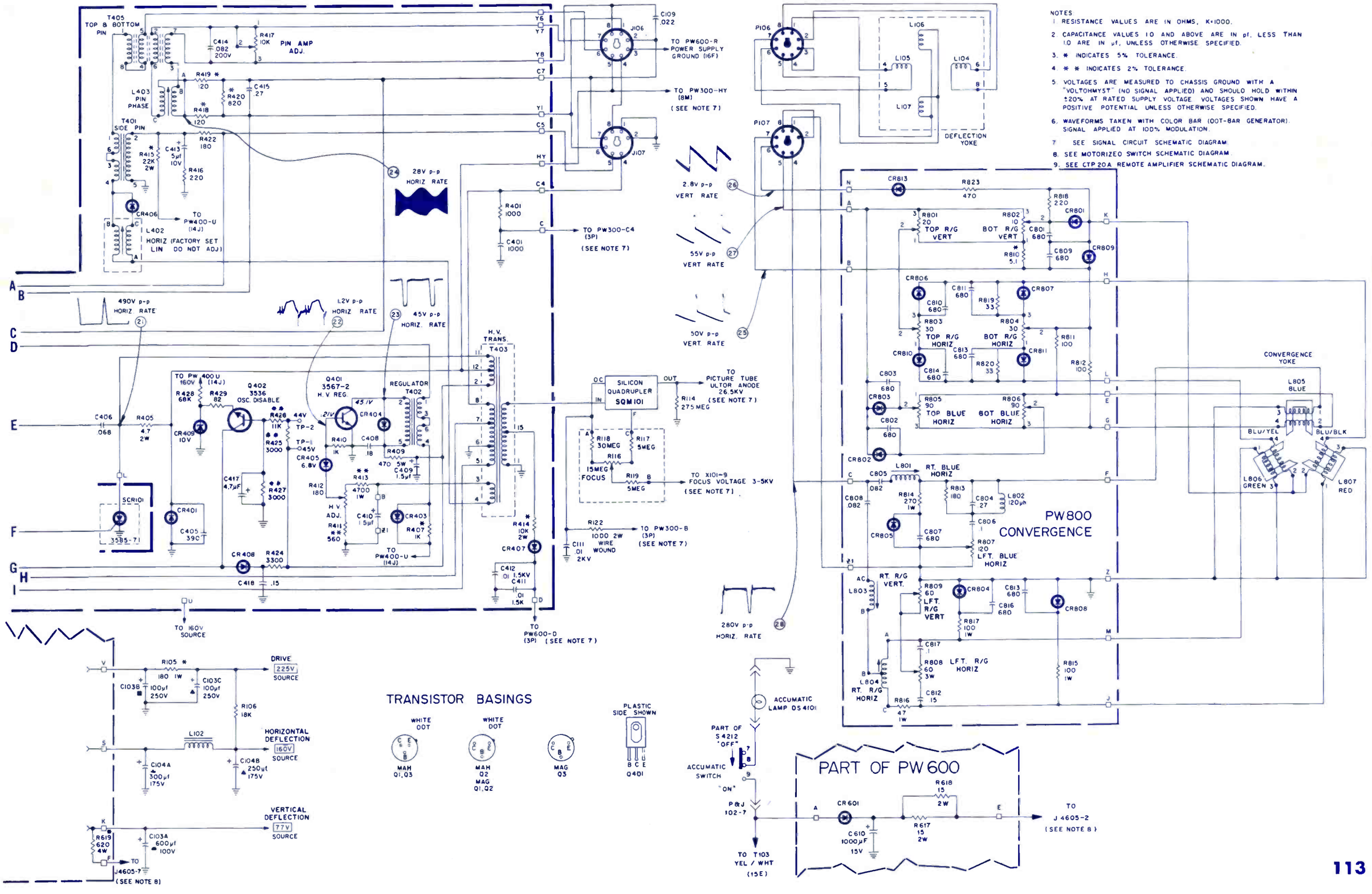


SYMBOL	DESCRIPTION	RCA PART NO.
C103	3 section electrolytic	133446
C103A	600 µf, 100v	133446
C103B	100 µf, 250v	133446
C103C	100 µf, 250v	133446
C105	3 section electrolytic	133449
C105A	750 µf, 50v	133449
C105B	500 µf, 40v	133449
C105C	500 µf, 40v	133449
F101	fuse	120785
R116	control focus includes R119, R118, R117	129925
SQM101	quadrupler-hi-voltage	130026
T103	xformer-power	133443
RT1	thermistor-temp comp	132503
IC1	circuit-integrated	132314
R1	control, ACC adj	132170
R7	color killer	132170
IC1	circuit-integrated	132315
R15	variable, horiz freq	132170
RT1	thermistor-50K cold	116109
T1	xformer-horiz osc	126729
IC1	circuit-integrated pix IF	132313
IC2	circuit-integrated AFT	130130
T5	4.5MHz trap	132135
IC299	circuit-integrated	130751
L299	coil-discriminator	130121
T299	xformer-input	130120
R412	control, hi voltage adj	133355
T402	xformer-regulator	132622
T403	xformer-flyback	135363
R4201	volume	134344
R4202	bright	135067
R4203	color	134344
R4204	sine	134344
R4205	horiz	133261
R4206	vert	133252
R4207	contrast	133252
R4208	tone	133261
R4209	sharp	134937

TUNER SCHEMATIC DIAGRAM






T405 TOP & BOTTOM PIN
C414 .082 200v
R417 10K PIN AMP ADJ.
L403 PIN PHASE
R419 * 120
R418 * 120
R420 * 820
C415 .27
T401 SIDE PIN
R422 180
R415 * 22K 2W
C413 5µf 10V
R416 220
CR406
TO PW400-U (14J)
L402 HORIZ (FACTORY SET LIN DO NOT ADJ)
C109 .022
TO PW600-R POWER SUPPLY GROUND (16F)
TO PW300-HY (8M)
(SEE NOTE 7)
TO PW300-C4 (3P)
(SEE NOTE 7)
R401 1000
C401 1000
28V p-p HORIZ RATE
490V p-p HORIZ RATE
42V p-p HORIZ RATE
45V p-p HORIZ. RATE
H.V. TRANS. T403
TO PW 400 U (14J) 160V
R428 68K
R429 82
Q402 3536 OSC. DISABLE
R426 11K
R425 3000
R427 3000
C417 4.7µF
CR409 10V
CR401
C405 39C
SCR101 3585-71
C406 .068
R405 4.7 2W
CR408
R424 3300
C418 .15
Q401 3567-2 H.V. REG.
REGULATOR T402
CR404
R410 1K
C408 18
R409 470 5W
C409 1.5µf
R412 180
R413 4700 1W
H.V. ADJ. R411 560
C410 1.5µf
CR403
R407 1K
TO PW400-U (14J)
R414 10K 2W
CR407
C412 .01 1.5KV
C411 .01 1.5K
TO PW600-D (3P) (SEE NOTE 7)
TO 160V SOURCE
SILICON QUADRUPLER SQM101
R114 275 MEG
TO PICTURE TUBE ULTOR ANODE 26.5KV (SEE NOTE 7)
R118 30MEG
R116 15MEG FOCUS
R117 5MEG
R119 5MEG
TO X101-9 FOCUS VOLTAGE 3-5KV (SEE NOTE 7)
R122 1000 2W WIRE WOUND
C111 .01 2KV
TO PW300-B (3P) (SEE NOTE 7)
2.8V p-p VERT RATE
55V p-p VERT RATE
50V p-p VERT. RATE
280V p-p HORIZ. RATE
P106
P107
L106
L105
L104
L107
DEFLECTION YOKE
CR813
R823 470
R818 220
CR801
R801 20 TOP R/G VERT
R802 10 BOT R/G VERT
C801 680
R810 * 5.1
C809 680
CR809
CR806
C811 680
R819 33
CR807
C810 680
R803 30 TOP R/G HORIZ
R804 30 BOT R/G HORIZ
R811 100
CR810
C813 680
R820 33
CR811
R812 100
C814 680
C803 680
CR803
R805 90 TOP BLUE HORIZ
R806 90 BOT BLUE HORIZ
C802 680
CR802
L801 RT. BLUE HORIZ
C805 .082
C808 .082
R814 270 1W
R813 180
C804 27
L802 120µh
C806 1
CR805
C807 680
R807 120 LFT. BLUE HORIZ
PW800 CONVERGENCE
L803 RT. R/G VERT.
R809 60 LFT. R/G VERT
CR804
C816 680
C813 680
CR808
R817 100 1W
C817 1
R808 60 3W LFT. R/G HORIZ
R815 100 1W
L804 RT. R/G HORIZ
R816 47 1W
C812 15
CONVERGENCE YOKE
L805 BLUE
BLU/YEL
BLU/BLK
L806 GREEN 3
L807 RED
NOTES.
1. RESISTANCE VALUES ARE IN OHMS, K=1000.
2. CAPACITANCE VALUES 10 AND ABOVE ARE IN pf. LESS THAN 10 ARE IN µf, UNLESS OTHERWISE SPECIFIED.
3. * INDICATES 5% TOLERANCE.
4. * * INDICATES 2% TOLERANCE.
5. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL APPLIED) AND SHOULD HOLD WITHIN ±20% AT RATED SUPPLY VOLTAGE. VOLTAGES SHOWN HAVE A POSITIVE POTENTIAL UNLESS OTHERWISE SPECIFIED.
6. WAVEFORMS TAKEN WITH COLOR BAR (DOT-BAR GENERATOR) SIGNAL APPLIED AT 100% MODULATION.
7. SEE SIGNAL CIRCUIT SCHEMATIC DIAGRAM.
8. SEE MOTORIZED SWITCH SCHEMATIC DIAGRAM.
9. SEE CTP 20A REMOTE AMPLIFIER SCHEMATIC DIAGRAM.
R105 * 180 1W
DRIVE 225V SOURCE
C103B 100µf 250V
C103C 100µf 250V
R106 18K
L102
HORIZONTAL DEFLECTION 160V SOURCE
C104A 300µf 175V
C104B 250µf 175V
VERTICAL DEFLECTION 77V SOURCE
R619 620 4W
C103A 600µf 100V
TO J4605-7
(SEE NOTE 8)
TRANSISTOR BASINGS
WHITE DOT
MAH Q1, Q3
WHITE DOT
MAH Q2
MAG Q1, Q2
MAG Q3
PLASTIC SIDE SHOWN
B C E
Q401
ACCUMATIC LAMP DS4101
PART OF S4212 "OFF"
ACCUMATIC SWITCH
"ON"
P&J 102-7
TO T103 YEL / WHT (15E)
PART OF PW600
CR601
R618 15 2W
R617 15 2W
C610 1000µF 15V
TO J4605-2 (SEE NOTE 8)

RCA SALES CORP.
Color-TV Chassis
CTC48 Series

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

PW300 SIGNAL CIRCUIT

SOUND MAA001A (PM200)

SOUND OUTPUT MAN002A

3.5 MH7 OSC. COLOR KILLER

CHROMA 1 MAC002A

PIX IF MAK001A/B

BANDPASS

PRODUCT SAFETY NOTE

SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE ON PAGE 3 OF THIS SERVICE DATA. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

RCA CONTINUED NEXT PAGE

CHROMA 2
MAE001

IC1
2560

RED DRIVE
MAD001A-G

GREEN DRIVE
MAD001A-G

BLUE DRIVE
MAD001A-G

VIDEO/SYNC.
MAL001A/B
(SEE PAGE 33)

X101
KINE
SOCKET

V101
21VAKP22
25VABP22
PICTURE TUBE

PW600
AUX. CONTROL BOARD

ACM
S-4213

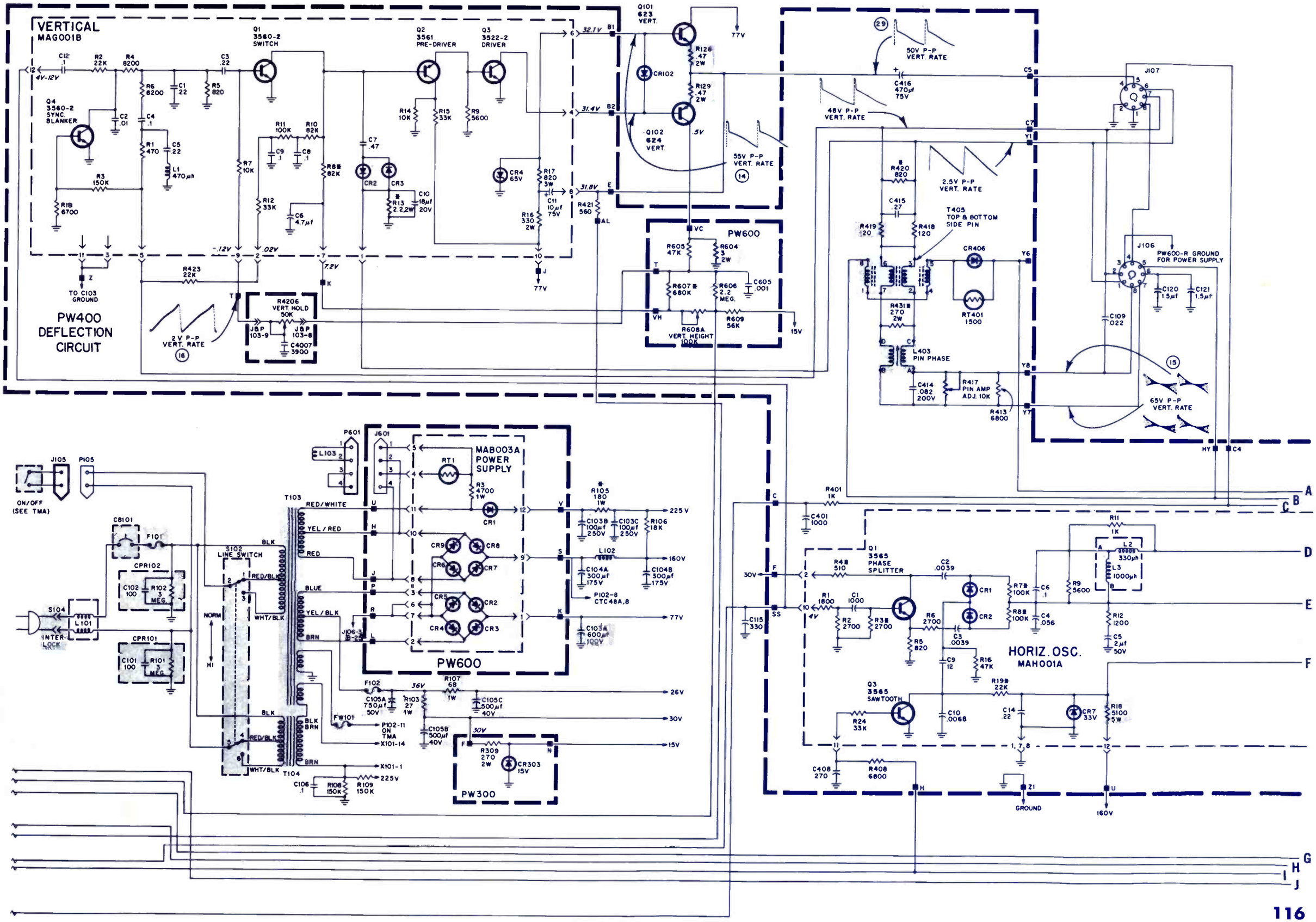
Q1
3608-2
REGULATOR

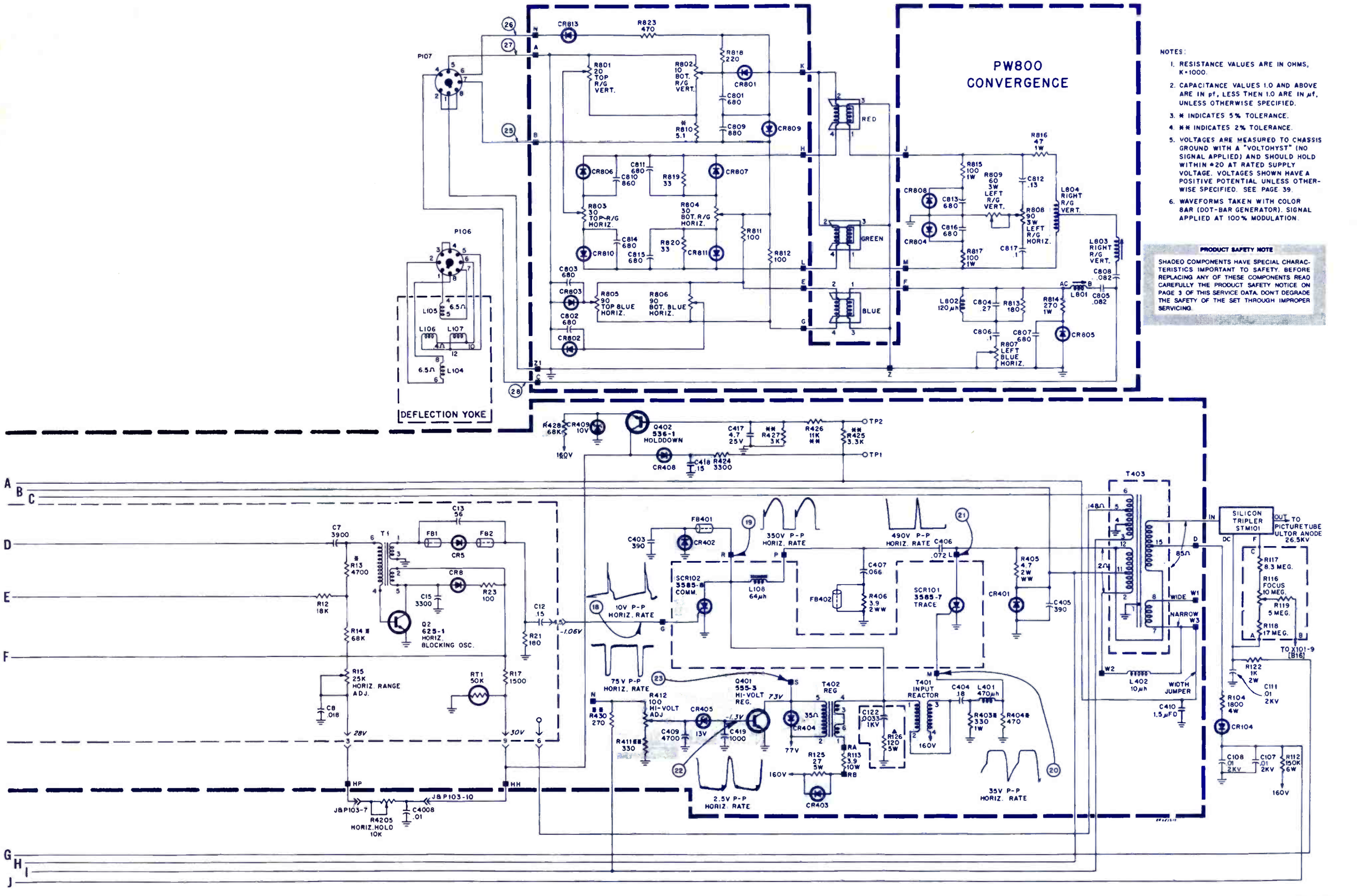
Q3
3536
1ST VIDEO

Q4
3620
2nd VIDEO

Q1
3559
SYNC. SEP.

Q302
3601
BRIGHTNESS
LIMITER


VERTICAL
MAG001B
PW400
DEFLECTION
CIRCUIT
Q1 3560-2 SWITCH
Q2 3561 PRE-DRIVER
Q3 3522-2 DRIVER
Q4 3560-2 SYNC. BLANKER
Q101 623 VERT.
Q102 624 VERT.
C12 .1
R2 22K
R4 8200
C3 .22
R6 8200
C1 .22
R5 820
C2 .01
C4 .1
R1 470
C5 .22
L1 470µh
R3 150K
R18 6700
R7 10K
R11 100K
R10 82K
C9 .1
C8 .1
R8 82K
R12 33K
C6 4.7µf
C7 .47
CR2
CR3
R13 2.2 2W
C10 18µf 20V
R14 10K
R15 33K
R9 5600
CR4 65V
R17 820 3W
C11 10µf 75V
R16 330 2W
R421 560
TO C103 GROUND
R423 22K
2 V P-P VERT. RATE
R4206 VERT. HOLD 50K
J&P 103-9
J&P 103-8
C4007 3900
CR102
R128 .47 2W
R129 .47 2W
77V
55V P-P VERT. RATE
50V P-P VERT. RATE
48V P-P VERT. RATE
C416 470µf 75V
J107
PW600
R605 47K
R604 3 2W
R607 680K
R606 2.2 MEG.
C605 .001
R608A VERT. HEIGHT 100K
R609 56K
15V
R420 820
C415 .27
R419 120
R418 120
2.5V P-P VERT. RATE
T405 TOP & BOTTOM SIDE PIN
CR406
RT401 1500
R431 270 2W
L403 PIN PHASE
C414 .082 200V
R417 PIN AMP ADJ. 10K
R413 6800
J106
PW600-R GROUND FOR POWER SUPPLY
C120 1.5µf
C121 1.5µf
C109 .022
65V P-P VERT. RATE
HY
C4
ON/OFF (SEE TMA)
J105
P105
C8101
F101
CPR102
C102 100
R102 3 MEG.
CPR101
C101 100
R101 3 MEG.
S104
L101
INTER-LOCK
S102 LINE SWITCH
NORM
HI
T103
T104
RED/WHITE
YEL/RED
RED
BLUE
YEL/BLK
BRN
BLK
RED/BLK
WHT/BLK
P601
J601
L103
MAB003A POWER SUPPLY
RT1
R3 4700 1W
CR1
CR9
CR8
CR6
CR7
CR5
CR2
CR4
CR3
PW600
J106-3 B-2
R105 180 1W
225V
C103B 100µf 250V
C103C 100µf 250V
R106 18K
L102
160V
C104A 300µf 175V
C104B 300µf 175V
P102-8 CTC48A,8
77V
C103A 600µf 100V
F102
36V
R107 68 1W
26V
C105A 750µf 50V
R103 27 1W
C105C 500µf 40V
30V
FW101
P102-11 ON TMA
X101-14
C105B 500µf 40V
R309 270 2W
CR303 15V
PW300
X101-1
C106 .1
R108 150K
R109 150K
R401 1K
C401 1000
C115 330
HORIZ. OSC. MAH001A
Q1 3565 PHASE SPLITTER
Q3 3565 SAWTOOTH
R4 510
C2 .0039
R1 1800
C1 1000
R2 2700
R3 2700
R6 2700
R5 820
C3 .0039
CR1
CR2
R7 100K
R8 100K
C6 .1
C4 .056
R9 5600
R11 1K
L2 330µh
L3 1000µh
R12 1200
C5 2µf 50V
C9 12
R16 47K
R19 22K
C10 .0068
C14 .22
CR7 33V
R18 5100 5W
R24 33K
C408 270
R408 6800
GROUND
160V
A B C D E F G H I J



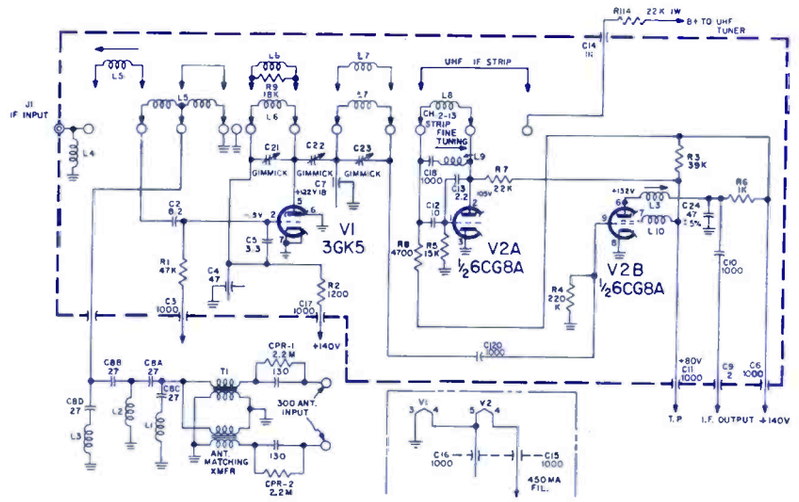
NOTES:

1. RESISTANCE VALUES ARE IN OHMS, K=1000.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pf, LESS THEN 1.0 ARE IN µf, UNLESS OTHERWISE SPECIFIED.
3. * INDICATES 5% TOLERANCE.
4. ** INDICATES 2% TOLERANCE.
5. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHYST" (NO SIGNAL APPLIED) AND SHOULD HOLD WITHIN ±20 AT RATED SUPPLY VOLTAGE. VOLTAGES SHOWN HAVE A POSITIVE POTENTIAL UNLESS OTHERWISE SPECIFIED. SEE PAGE 39.
6. WAVEFORMS TAKEN WITH COLOR BAR (DOT-BAR GENERATOR). SIGNAL APPLIED AT 100% MODULATION.

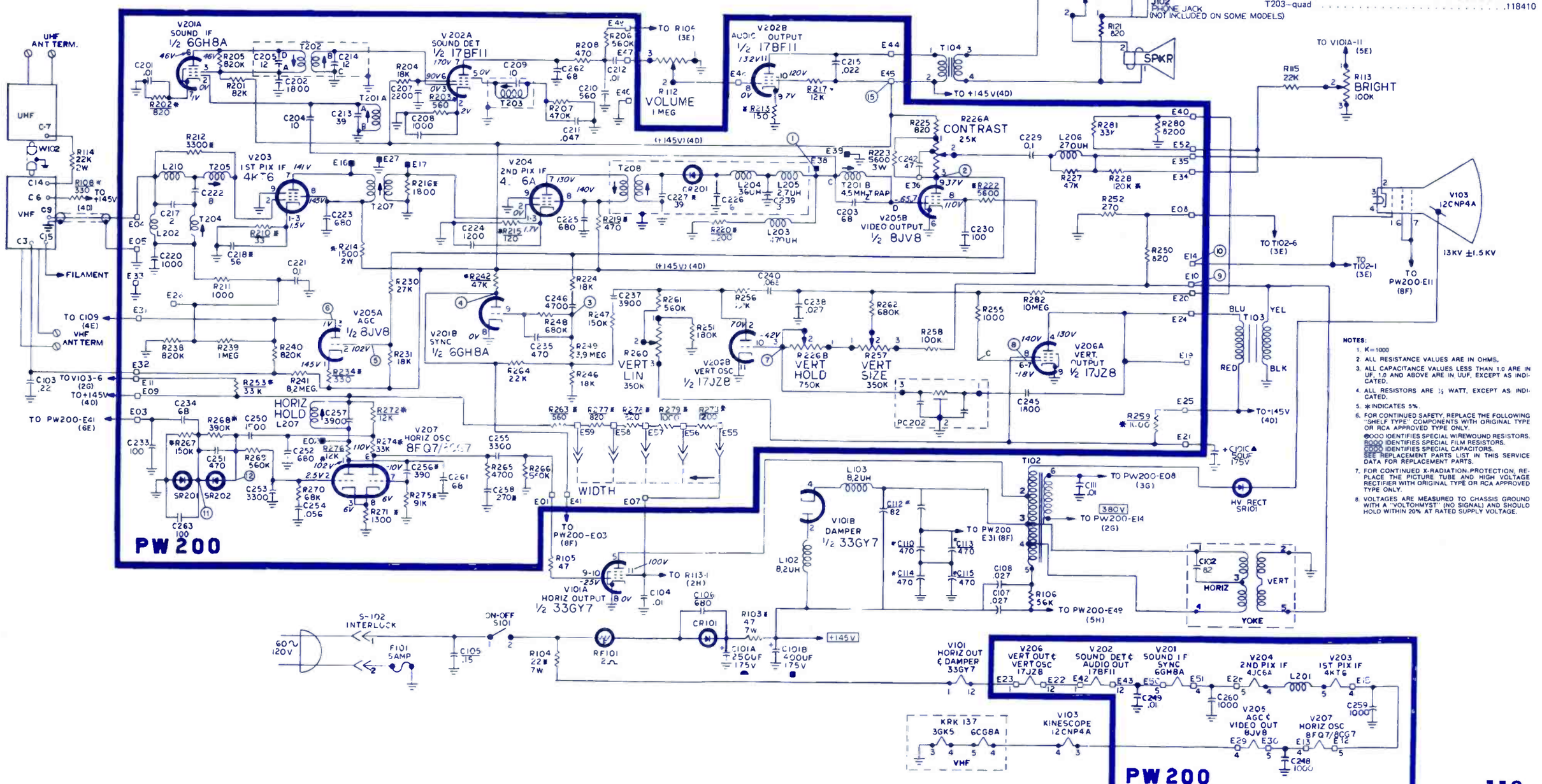
PRODUCT SAFETY NOTE

SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE ON PAGE 3 OF THIS SERVICE DATA. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

RCA SALES CORP.
TV Chassis
KCS188 Series



SYMBOL	DESCRIPTION	RCA PART NO.
C101–3 section elec		133082
C101A–250 µf/175v		
C101B–400 µf/175v		
C101C–50 µf/175v		
F101–fuse–5a, 150v		118969
R112–control volume		132956
R113–control bright		132957
RF101–fuse resistor, 2K		121086
S101–control, on/off		132956
T102–xformer, high voltage, horiz		132962
T103–xformer, vert output		132970
T104–xformer, audio output		124275
	yoke deflection	132971
L207–horiz hold		125129
R226A–control contrast/vert hold		133081
R226B–control contrast/vert hold		133081
R257–control vert size		121223
R260–control vert lin		121223
RV201–varistor		
T201A–4.5MHz		114489
T201B–4.5MHz		114489
T202–sound IF		118411
T203–quad		118410



NOTES:

1. K = 1000
2. ALL RESISTANCE VALUES ARE IN OHMS.
3. ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN UF, 1.0 AND ABOVE ARE IN UUF, EXCEPT AS INDICATED.
4. ALL RESISTORS ARE ½ WATT, EXCEPT AS INDICATED.
5. * INDICATES 5%.
6. FOR CONTINUED SAFETY, REPLACE THE FOLLOWING "SHELF TYPE" COMPONENTS WITH ORIGINAL TYPE OR RCA APPROVED TYPE ONLY.
   ◎000 IDENTIFIES SPECIAL WIREWOUND RESISTORS.
   R000 IDENTIFIES SPECIAL FILM RESISTORS.
   C000 IDENTIFIES SPECIAL CAPACITORS.
   SEE REPLACEMENT PARTS LIST IN THIS SERVICE DATA FOR REPLACEMENT PARTS.
7. FOR CONTINUED X-RADIATION PROTECTION, REPLACE THE PICTURE TUBE AND HIGH VOLTAGE RECTIFIER WITH ORIGINAL TYPE OR RCA APPROVED TYPE ONLY.
8. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.

SYLVANIA

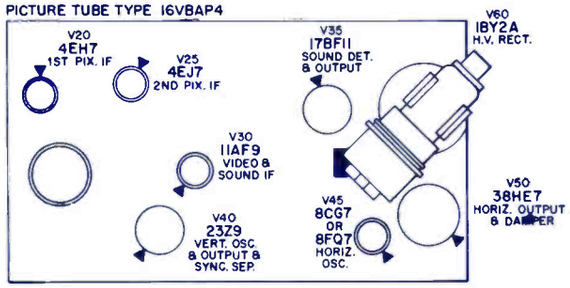
TV Chassis
B15-1-2

SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C105	4 section elect A—400/185v B—600/185v C—4/150v D—20/150v	41-31041-3
L100	choke-line radiation	50-31050-32
L200	45.25MHz trap	50-31050-7
L350	quadrature	50-31050-12
L450	horiz stabilizer (horiz hold)	50-31050-14
L550	deflection yoke	51-31051-1
T200	IF input	50-31050-8
T201	1st IF	50-31050-9
T250	video output	50-31050-10
T300	sound take-off/4.5 MHz trap	50-31050-30
T350	sound IF	50-31050-13
T351	audio output	56-31056-5
T400	vert output	56-31056-7
T500	horiz output	50-31050-31
R300	450 Ω a contrast	37-31037-11
R350	1M, volume	37-31037-13
R400	3M, vert height	37-31037-1
R450	50K, horiz frequency	37-31037-2
R550	200K, brightness	37-31037-12
R600	50K · AGC	37-31037-2
CB100	circuit breaker	29-31029-3
F101	fuse link-No. 31, copper nickel, 1-¼ In. long	
	capristor	38-31038-2
	VHF (-1 CH.)	54-31054-6
	VHF (-2 CH.)	54-31054-4

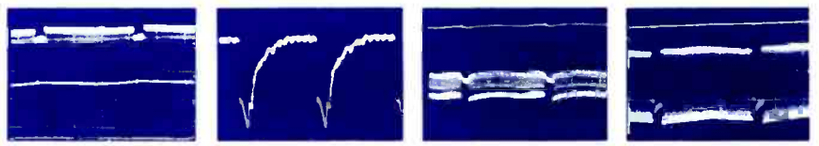
UHF TUNER TRANSISTORIZED

TUBE LAYOUT

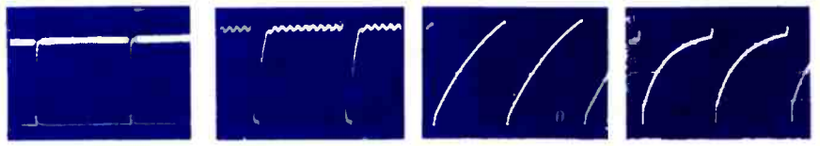
PICTURE TUBE TYPE I6VBAP4



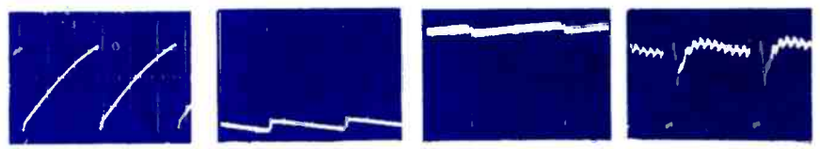
▲ TUBE INDEX POSITION



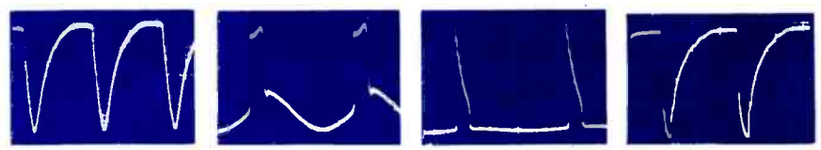
1 3 VPP Vert. 2 1.8 VPP Horiz. 3 60 VPP Horiz. 4 38 VPP Vert.



5 60 VPP Vert. 6 60 VPP Horiz. 7 140 VPP Vert. 8 320 VPP Vert.

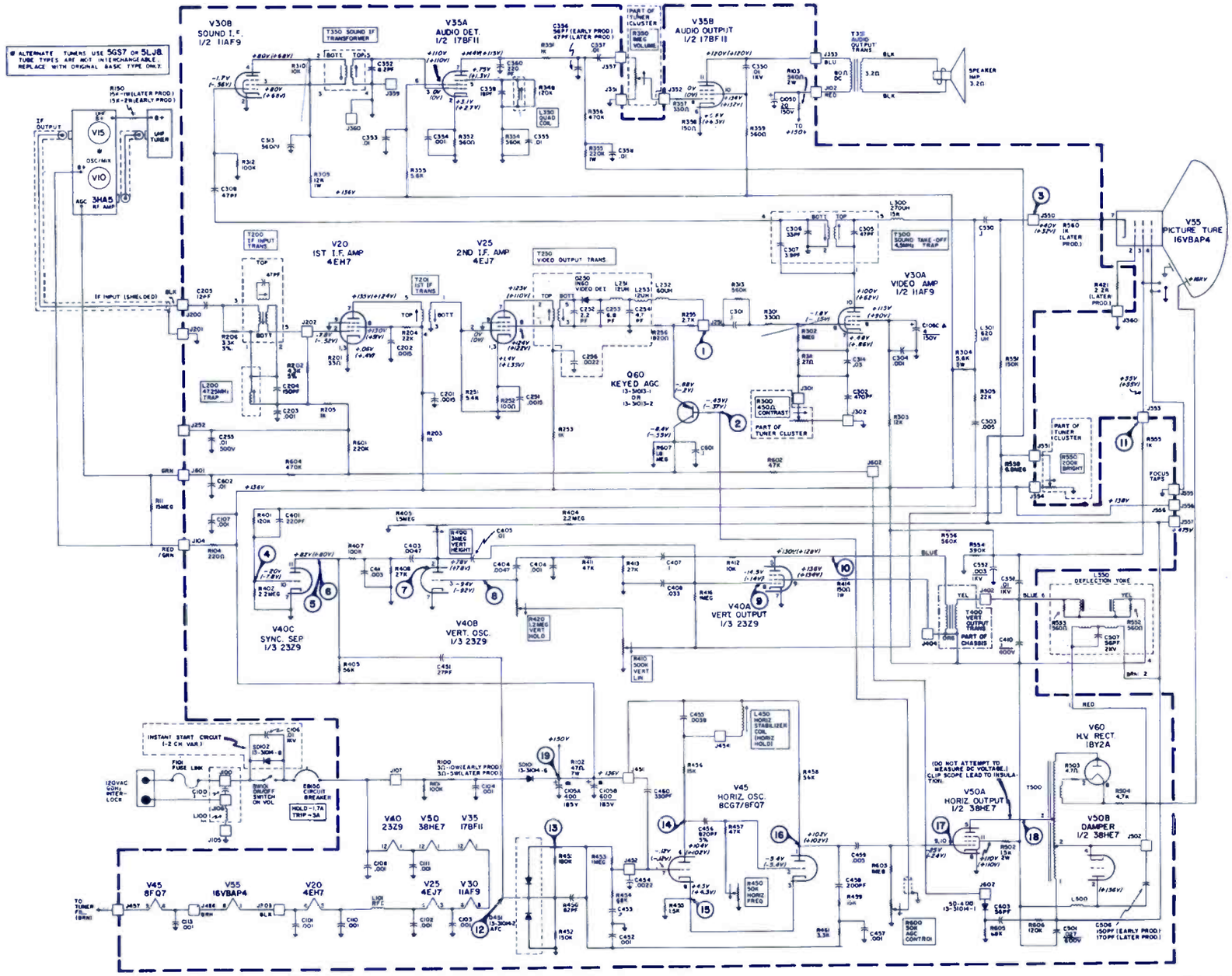


9 30 VPP Vert. 10 1600 VPP Vert. 11 160 VPP Vert. 12 7 VPP Horiz.



13 7 VPP Horiz. 14 20 VPP Horiz. 15 10 VPP Horiz. 16 110 VPP Horiz.

17 100 VPP Horiz. 18 VPP Depends on amount of coupling Horiz. 19 10 VPP Vert.

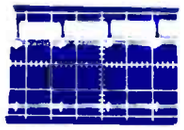


SYLVANIA

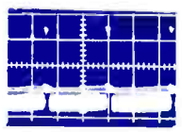
Color TV Chassis
D15-3, -5

ELECTRONIC TECHNICIAN/DEALER TEKFAX

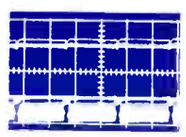
SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C300A	1000/40v elect	41-29788-1
C300B	100/40v elect	41-29788-1
C300C	50/400v elect	41-29788-1
C342A	10/400v elect	41-27344-1
C342B	50/100v elect	41-27344-1
C509A	250/350v elect	41-33341-1
C509B	100/350v elect	41-33341-1
R122	4.7K, 10w resistor	36-92898-54
R446	VDR, 1050v @ 1ma resistor (early production)	38-29959-1
R446	VRD, 775v @ 1ma resistor (later production)	38-29959-4
R504	VDR, 67ma @ 20v resistor	38-17072-2
R506	thermistor, 120 Ω, cold-1.25Ω hot	38-17071-4
L102	sound input coil	57-23832-2
L204	47.25MHz trap	57-23827-2
L206	44.5MHz	57-23827-3
L210	41.25MHz trap	57-23832-1
L216	4.5MHz	50-16238-5
L217	82 μh peaking	50-15318-7
L400	horiz freq	50-23508-1
L500	choke, power line	50-29833-1
T100	ratio detector xformer	57-23857-1
T102	audio output xformer	56-16018-11
T200	44.5MHz output xformer	57-23831-1
T300	vert output xformer	56-29826-1
T400	horiz output xformer	50-33636-1
T500	power xformer	55-33165-2
T600	bandpass xformer	50-27405-1
T602	chroma output xformer	50-29658-1
T604	burst xformer	50-27406-1
T606	3.58MHz output xformer	50-29784-1
IC100	sound IF/detector	32-23555-2
R106	30K, volume ON/OFF control	37-29779-5
R120	10K, tone/perma-tint switch (3 CH.)	37-33716-4
R120	10K, tone (5 CH.)	37-27242-23
R256	1K, contrast control	37-27242-17
R262	25K, bright control	37-29783-2
R270	300K, bright range control	37-29755-7
R323	750 AGC control	37-29755-2
R342	5M, vert lin control	37-29832-1
R354	250K, vert height control	37-29832-1
R364	750K, vert hold control	37-27242-2
R382	10Ω, vert control	37-29831-1
R424	1K, horiz hold control	37-27242-1
R438	750K, H.V. adjust control	37-29755-2
R452	10M, focus control	37-17320-5
R628	500 Ω, color killer control	37-29755-2
R750	120K, reactance control	37-23063-5
R1122	4K, AGC balance control	37-14576-1
	UHF tuner (early production)	54-29331-8
	VHF tuner (later production)	54-29331-9
CB500	circuit breaker	2923918-1
DL200	delay line	32-16108-2
FS500	fuse, 1a pigtail	29-91256-13
FS502	No. 26 wire	
FS504	No. 36 wire	
	tripler, high voltage	32-33057-3
	deflection yoke	51-29986-2



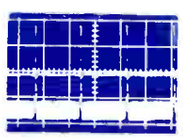
1 — 1.5 VPP Vert.



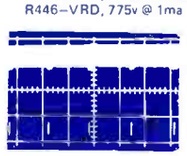
2 — 8 VPP Vert.



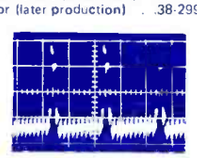
3 — 8 VPP Vert.



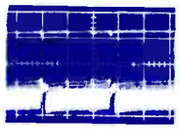
4 — 120 VPP Vert.



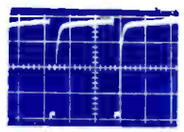
5 — 43 VPP Vert.



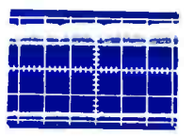
6 — 10 VPP Horiz.



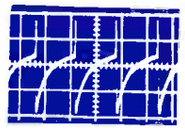
7 — 8 VPP Vert.



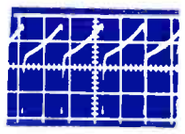
8 — 55 VPP Horiz.



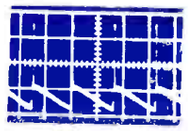
9 — 55 VPP Vert.



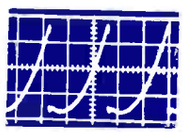
10 — 40 VPP Vert.



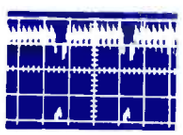
11 — 120 VPP Vert.



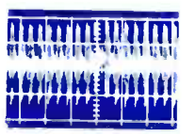
12 — 1000 VPP Vert.



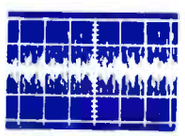
13 — 20 VPP Vert.



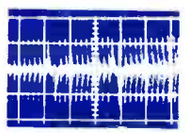
14 — 1.5 VPP Horiz.



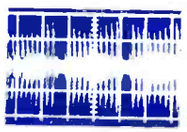
15 — 1.5 VPP Horiz.



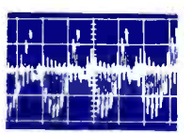
16 — 8 VPP Horiz.



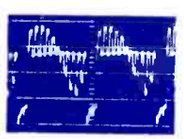
17 — 2 VPP Horiz.



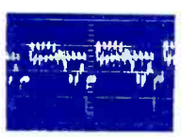
18 — 3.5 VPP Horiz.



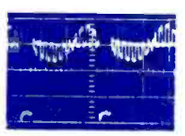
19 — 20 VPP Horiz.



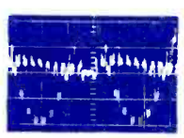
20 — 150 VPP Horiz.



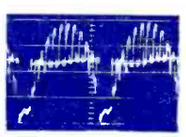
21 — 4.5 VPP Horiz.



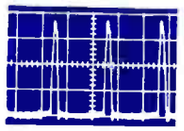
22 — 120 VPP Horiz.



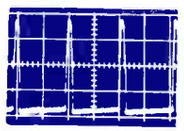
23 — 18 VPP Horiz.



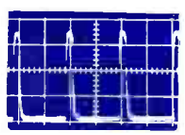
24 — 160 VPP Horiz.



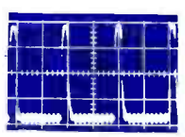
25 — 400 VPP Horiz.



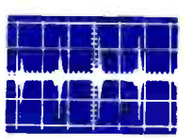
26 — 8 VPP Horiz.



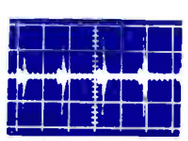
27 — 8 VPP Horiz.



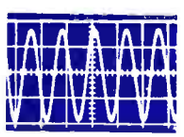
28 — 4.5 VPP Horiz.



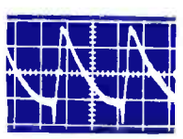
29 — 22 VPP Horiz.



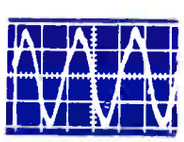
30 — 25 VPP Horiz.



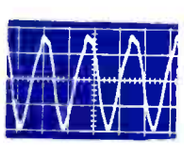
31 — 19 VPP 3.58MHz



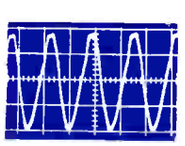
32 — 45 VPP Horiz.



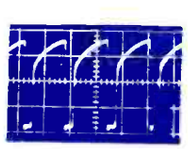
33 — 3 VPP Horiz.



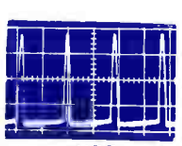
34 — 60 VPP Horiz.



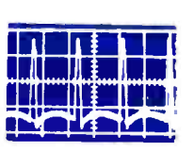
35 — 70 VPP Horiz.



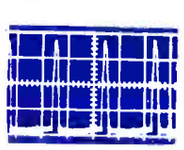
36 — 225 VPP Horiz.



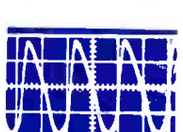
37 — VPP Depends on amount of coupling. Horiz.



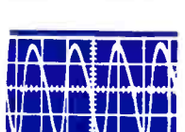
38 — 1120 VPP Horiz.



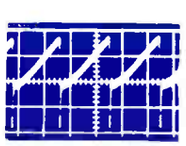
39 — 320 VPP Horiz.



40 — 13 VPP Horiz.

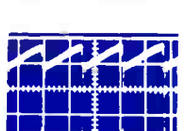


41 — 22 VPP Horiz.



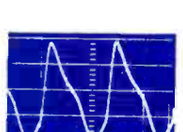
42 — 17 VPP Vert.

43 — 12 VPP Horiz.

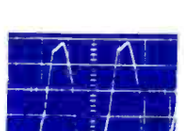


44 — 14 VPP Vert.

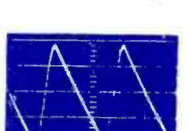
45 — 7.5 VPP Vert.



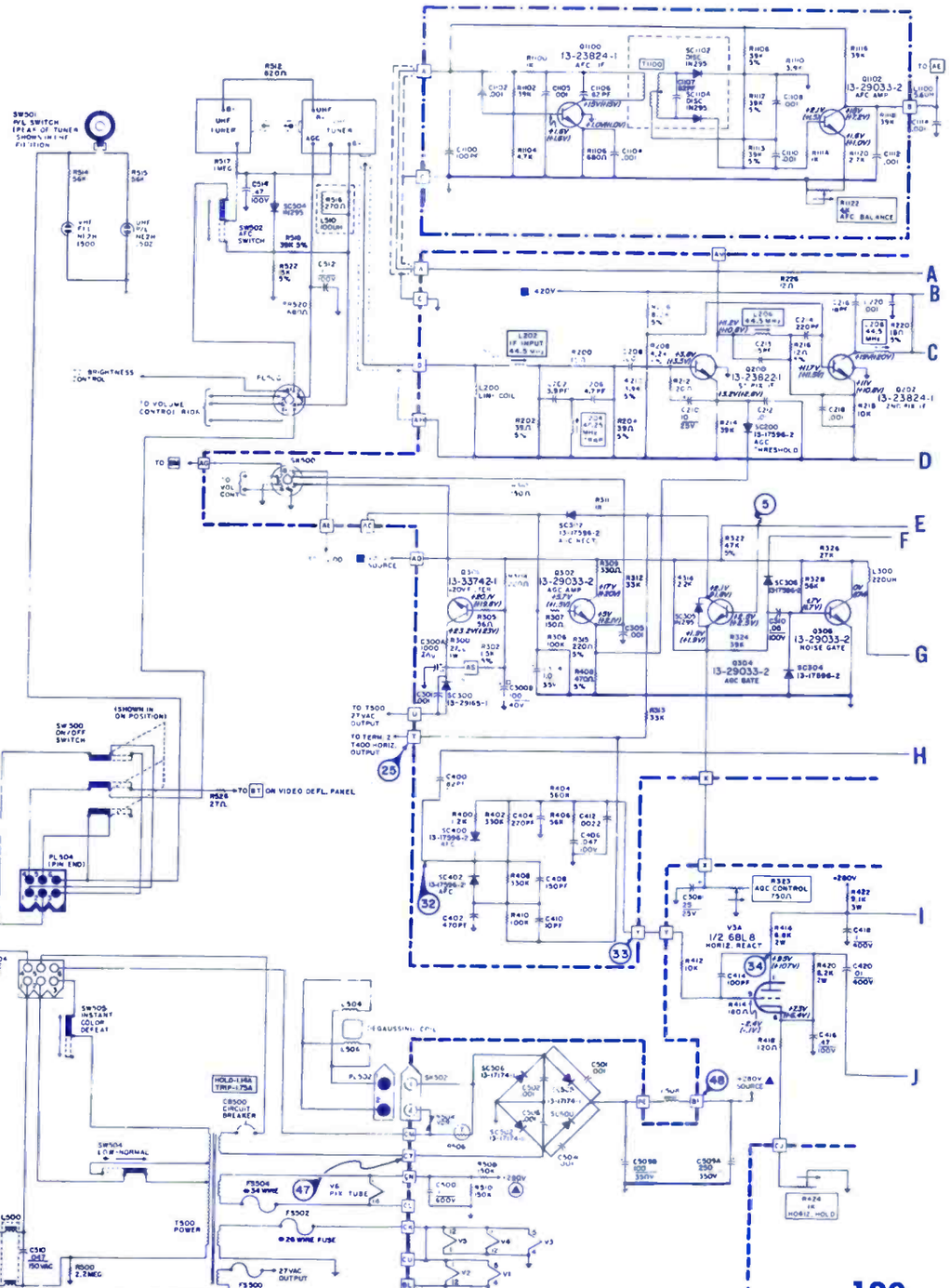
46 — 50 VPP Horiz.

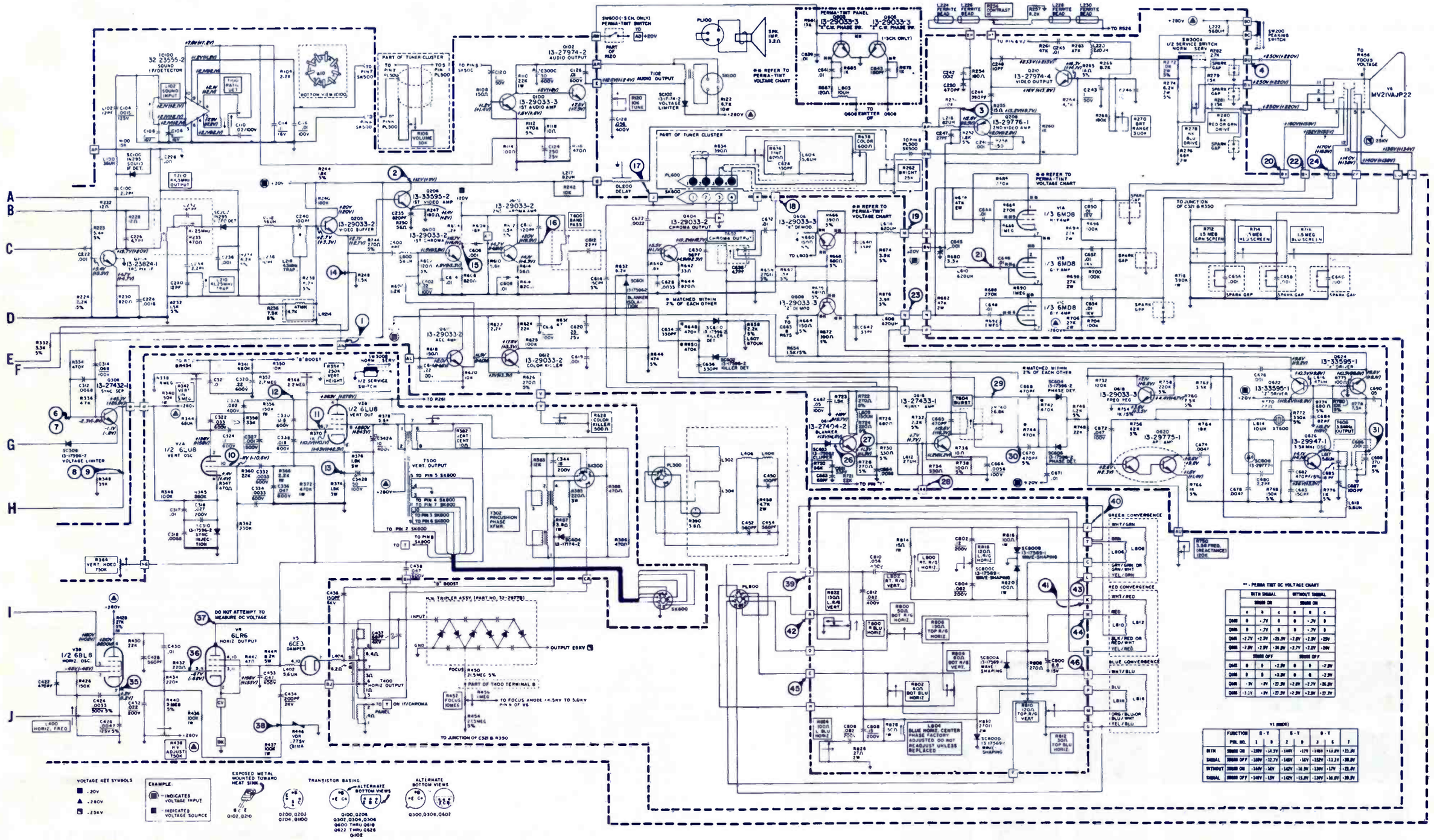


47 — 300 VPP Vert.



48 — 12.5 VPP Vert.




VOLTAGE KEY SYMBOLS
.20V
.280V
.25KV
EXAMPLE:
INDICATES VOLTAGE INPUT
INDICATES VOLTAGE SOURCE
EXPOSED METAL MOUNTED TOWARD HEAT SINK
TRANSISTOR BASING
ALTERNATE BOTTOM VIEWS
ALTERNATE BOTTOM VIEWS
DO NOT ATTEMPT TO MEASURE DC VOLTAGE
"B" BOOST
H.V. TRIPLER ASSY. (PART NO. 52-29778)
OUTPUT 25KV
FOCUS R450 2.5 MEG 5%
TO FOCUS ANODE +6.5KV TO 5.0KV PIN 6 OF V6
TO JUNCTION OF C321 & R350
** - PERMA TINT DC VOLTAGE CHART
V1 (6HD8)
BLUE HORIZ. CENTER PHASE FACTORY ADJUSTED DO NOT READJUST UNLESS REPLACED
GREEN CONVERGENCE
RED CONVERGENCE
BLUE CONVERGENCE
TO PIN 7 V2
TO R526
TO R456 FOCUS VOLTAGE
TO JUNCTION OF C321 & R330
TO PIN 7 V1
TO PIN 2 SK800
TO PIN 3 SK800
TO PIN 4 SK800
TO PIN 6 SK800
TO PIN 8 SK800
TO PIN 5 SK800
TO R261
TO R826
TO R826 EMITTER OF Q606
TO T600 PIN 1
TO L803
TO IF/CHROMA PANEL
TO PIN 7 SK800
TO PIN 2 SK800
TO PIN 5 SK500
TO PIN 6 SK500
TO PIN 7 SK500
TO PIN 8 SK500
TO PIN 9 SK500
TO PIN 10 SK500
TO PIN 11 SK500
TO PIN 12 SK500
TO PIN 13 SK500
TO PIN 14 SK500
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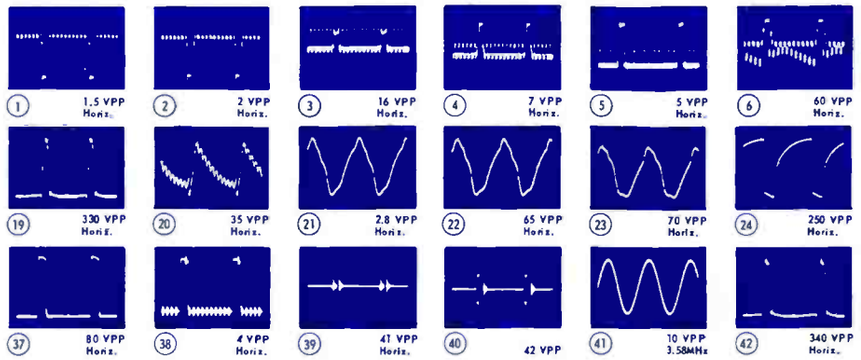
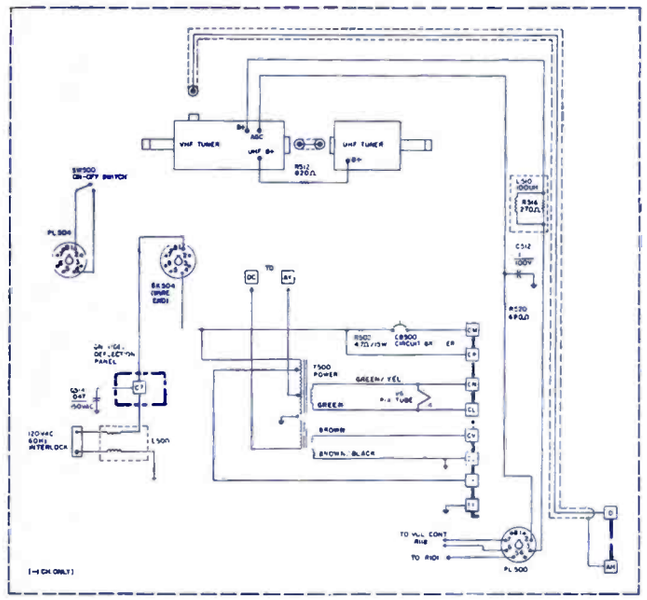
TO PIN 40 SK500
TO PIN 41 SK500
TO PIN 42 SK500
TO PIN 43 SK500
TO PIN 44 SK500
TO PIN 45 SK500
TO PIN 46 SK500

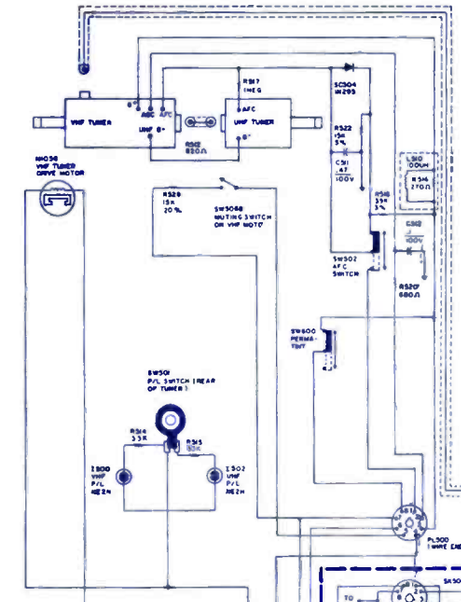
SYLVANIA

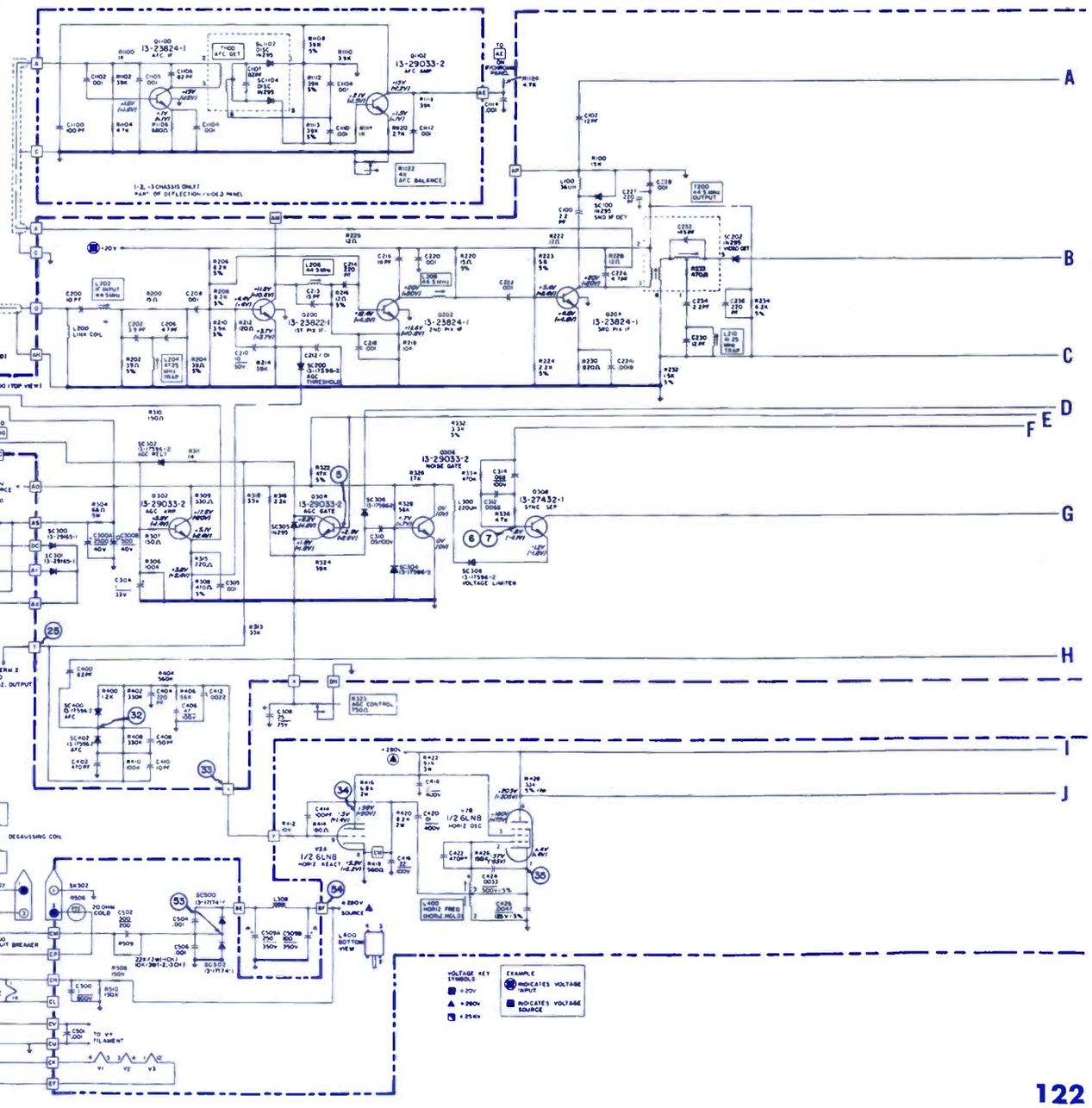
Color TV Chassis
D19-1, -2, -3

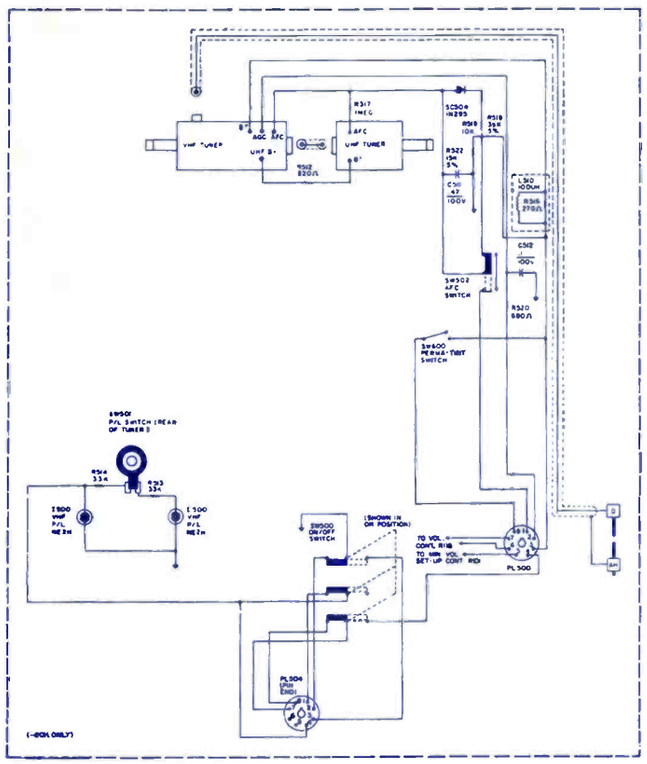
SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C300A	2500/40v electrolytic	41-33942-1
C300B	500/40v electrolytic	41-33942-1
C300C	50/250v electrolytic	41-33942-1
C509A	250/350v electrolytic	41-33943-1
C509B	100/350v electrolytic	41-33943-1
R506	20Ω cold thermistor	38-33206-1
L104	sound detector coil	50-33195-1
L400	horiz freq hold coil	50-33955-1
T100	audio output xformer	56-27824-2
T400	horiz output xformer	50-33927-1
T500	power xformer	50-33937-2
T600	bandpass xformer	50-27405-1
T602	chroma output xformer	50-29658-1
T604	burst phase xformer	50-27406-2
T606	3.58MHz output xformer	50-29784-1
T800	pincushion phase xformer	50-33900-1
R118	1K volume control (-1)	37-27243-17
R118	1K volume control (-2)	37-27243-10
R256	1K contrast control	37-29783-14
R262	25K bright control	37-29783-13
R270	300K bright range control	37-29755-9
R323	750Ω AGC control	37-17931-2
R337	100K vert hold control	37-33036-5
R355	2K vert peaking control	37-14576-14
R370	500K vert lin control	37-14576-12
R378	2.5M vert height control	37-33036-5
R438	2M HV adjust control	37-14576-9
R452	10M focus control	37-17320-6
R628	500Ω color killer control	37-33036-5
R636	600Ω color control	37-33097-3
R638	600Ω tint control	37-33097-3
R848	20Ω pincushion amplitude control	37-29831-2
R1122	4.7K AFC balance control	37-33717-3
CB500	circuit breaker	29-33346-5
I500,I502	pilot lamp, NE2H	30-33062-3
	HV tripler	32-33057-3
	defleciton yoke	51-33657-2

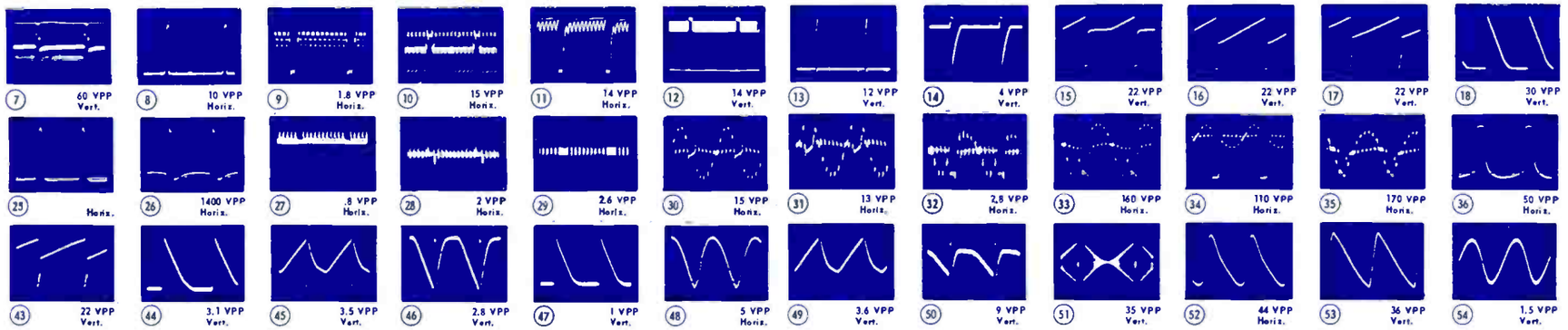












SYLVANIA
Color TV Chassis
D19-1, -2, -3

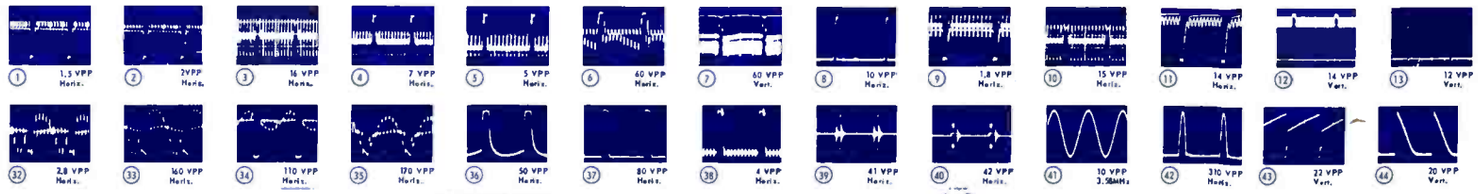
TRANSISTOR FUNCTION CHART

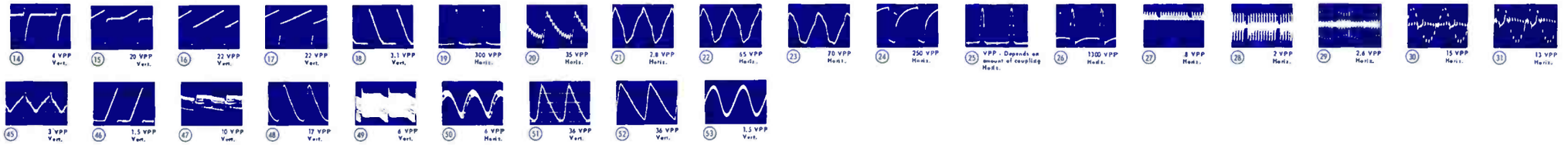
CODING	SYL. PART NO.	DESCRIPTION	CODING	SYL. PART NO.	DESCRIPTION
IC100	15-35059-1	SOUND IF/DETECTOR	Q605	13-29033-3	"Z" CW PHASE SW
Q100	13-35089-2	AUDIO OUTPUT	Q606	13-29033-3	"X" DEMODULATOR
Q200	13-23822-1	1ST PIX IF	Q608	13-29033-3	"Z" DEMODULATOR
Q202	13-23824-1	2ND PIX IF	Q610	13-29033-2	ACC AMP
Q204	15-25824-1	3RD PIX IF	Q612	13-29033-2	COLOR KILLER
Q205	13-29033-2	VIDEO BUFFER	Q614	13-35226-1	BLANKER
Q206	13-33898-2	1ST VIDEO AMP	Q616	13-27433-1	BURST AMP
Q208	13-29776-1	2ND VIDEO AMP	Q618	13-29033-3	FREQ REG
Q210	13-35089-4	VIDEO OUTPUT	Q620	13-29775-1	APC AMP
Q302	13-29033-2	AGC AMP	Q622	13-33595-1	"Z" DRIVER
Q304	13-29033-2	AGC GATE	Q624	13-33595-1	"X" DRIVER
Q306	13-29033-2	NOISE GATE	Q626	13-29947-1	3.58 MHz OSC
Q308	13-27432-1	SYNC SEP	Q1052	13-29033-3	INPUT BUFFER
Q310	13-29033-2	VERT OSC	Q1054	13-29033-3	1ST AMPLIFIER
Q312	13-29033-2	VERT OSC	Q1056	13-29033-3	2ND AMPLIFIER
Q314	13-29033-2	VERT BLANKER	Q1058	13-33595-2	CLIPPER
Q316	13-29775-2	VERT DRIVER-TOP	Q1060	13-29033-3	VOL. UP DRIVER
Q318	13-34046-1	VERT OUTPUT-TOP	Q1062	13-29033-3	VOL. DOWN DRIVER
Q320	13-29776-1	VERT DRIVE - BOTTOM	Q1064	13-29033-3	CH. DRIVER
Q322	13-34046-1	VERT OUTPUT-BOTTOM	Q1066	13-33173-1	VOL. CONTROL
Q600	13-29033-2	1ST CHROMA AMP	Q1068	13-29033-3	ON/OFF RELAY PREAMP
Q602	13-29033-2	2ND CHROMA AMP	Q1070	13-26386-1	ON/OFF RELAY DRIVER
Q603	13-29033-3	"X" CW PHASE SW	Q1100	13-23824-1	AFC IF
Q604	13-29033-2	CHROMA OUTPUT	Q1102	13-29033-2	AFC AMP

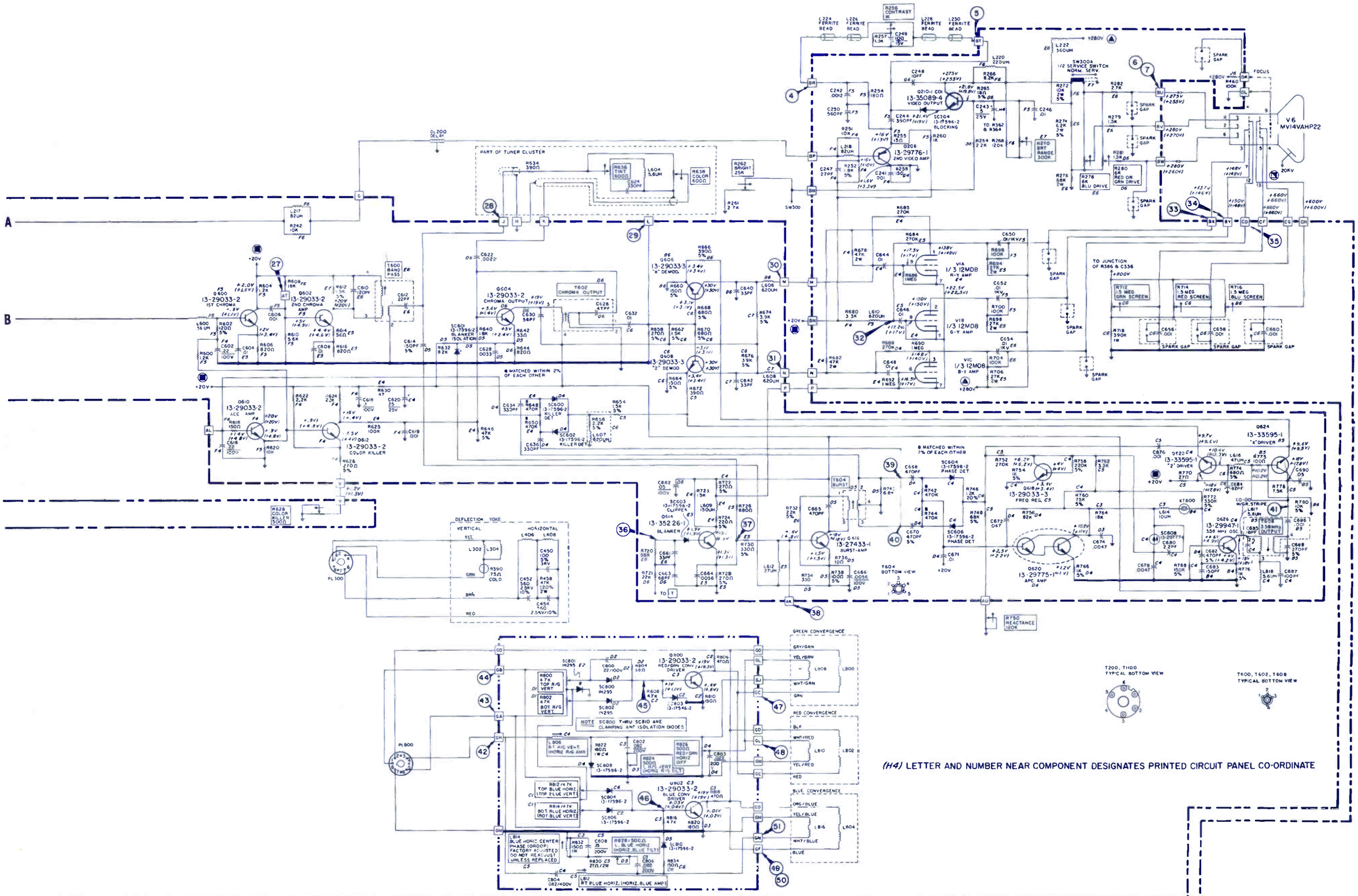
SYLVANIA

Color-TV Chassis
D17-1-2

ELECTRONIC TECHNICIAN/DEALER TEKFAX



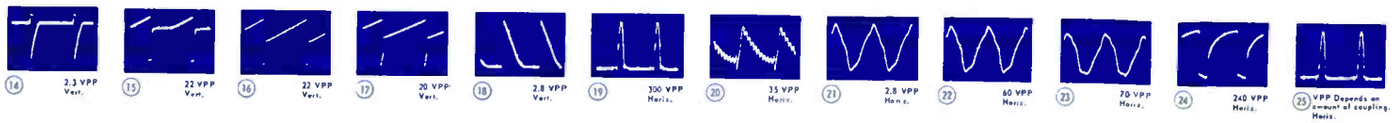


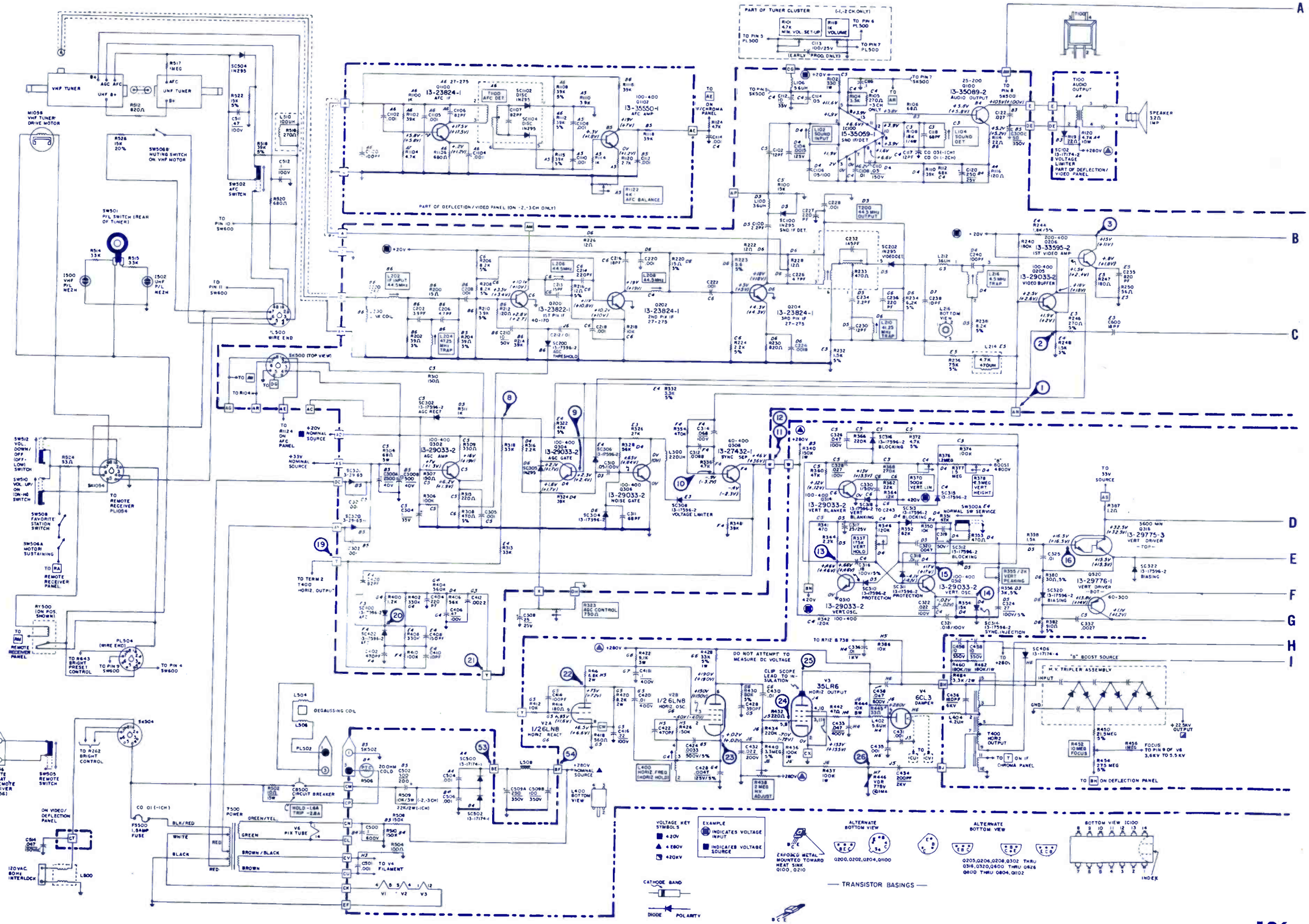


(H4) LETTER AND NUMBER NEAR COMPONENT DESIGNATES PRINTED CIRCUIT PANEL CO-ORDINATE

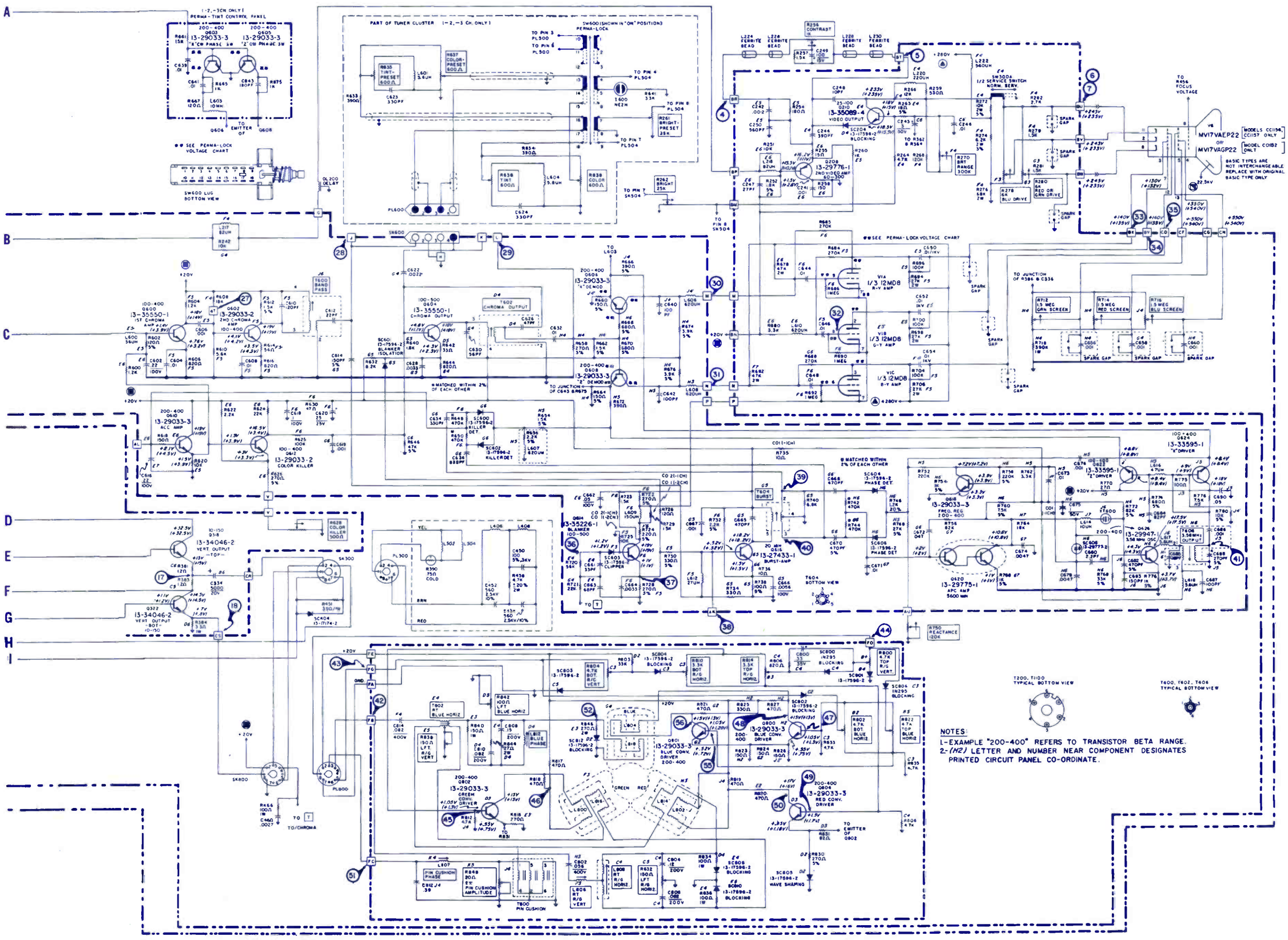
SYLVANIA
Color-TV Chassis
D18-1, -2, -3

ELECTRONIC TECHNICIAN/DEALER TEKFAX






26 1300 VPP Horiz.
27 .5 VPP Horiz.
28 1.4 VPP Horiz.
29 2.6 VPP Horiz.
30 14 VPP Horiz.
31 15 VPP Horiz.
32 2.8 VPP Horiz.
33 145 VPP Horiz.
34 110 VPP Horiz.
35 170 VPP Horiz.
36 45 VPP Horiz.
37 7 VPP Horiz.
38 4 VPP Horiz.
39 23 VPP Horiz.
40 25 VPP Horiz.
41 15 VPP 3.58MHz
42 300 VPP Horiz.

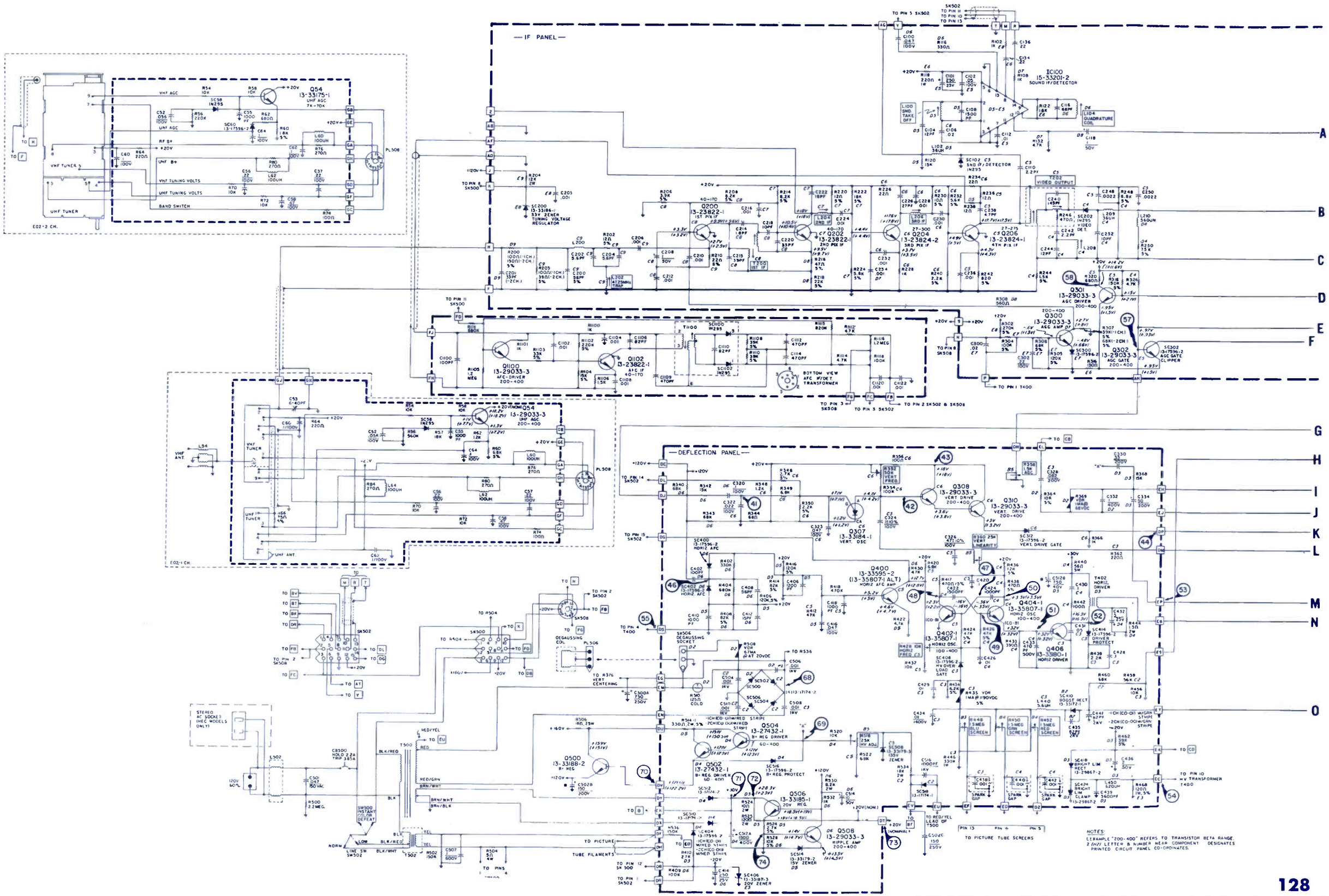

PART OF TUNER CLUSTER (-2,-3 CH. ONLY)
SW600 SHOWN IN "ON" POSITION
PERMA-LOCK
SW600 LUG BOTTOM VIEW
SEE PERMA-LOCK VOLTAGE CHART
MATCHED WITHIN 2% OF EACH OTHER
13-29033-3 "R" DEMOD
13-29033-3 "B" DEMOD
13-29033-3 "G" DEMOD
13-29033-2 2ND CHROMA AMP
13-35550-1 1ST CHROMA AMP
13-35550-1 CHROMA OUTPUT
13-29033-2 COLOR KILLER
13-29033-3 ACC AMP
13-34046-2 VERT OUTPUT - TOP -
13-34046-2 VERT OUTPUT - BOT -
13-35089-4 VIDEO OUTPUT
13-29776-1 2ND VIDEO AMP
13-27633-1 BURST AMP
13-29033-3 BLANKER
13-29033-3 APC AMP
13-29033-3 FREQ. REG
13-33595-1 "B" DRIVER
13-33595-1 "R" DRIVER
13-29947-1 OSC
13-29775-1 APC AMP
SW300A 1/2 SERVICE SWITCH NORM. SERV.
MV17VAEP22 MODELS CCI134, CCI157 ONLY
MV17VAGP22 MODEL CCI182 ONLY
BASIC TYPES ARE NOT INTERCHANGEABLE. REPLACE WITH ORIGINAL BASIC TYPE ONLY
VIA 1/3 12MD8 R-Y AMP
VIB 1/3 12MD8 G-Y AMP
VIC 1/3 12MD8 B-Y AMP
T200, T1100 TYPICAL BOTTOM VIEW
T600, T602, T606 TYPICAL BOTTOM VIEW
NOTES:
1-EXAMPLE "200-400" REFERS TO TRANSISTOR BETA RANGE.
2-(H2) LETTER AND NUMBER NEAR COMPONENT DESIGNATES PRINTED CIRCUIT PANEL CO-ORDINATE.


43 20 VPP Vert.
44 3 VPP Vert.
45 2.4 VPP
46 2.3 VPP Vert.
47 2.4 VPP Vert.
48 4.2 VPP Horiz.
49 3 VPP Vert.
50 8 VPP Vert.
51 22 VPP Vert.
52 28 VPP Horiz.
53 15 VPP Vert.
54 7.5 VPP Vert.
55 2.8 VPP Vert.
56 16 VPP Vert.

SYLVANIA
Color-TV Chassis
E02-1, -2

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL DESCRIPTION	SYLVANIA PART NO.
C502–elect.-3 section	41-35568-1
A–80/200v	
B–150/200v	
C–150/250v	
C512–elect.-2 section	41-33054-1
A–1500/40v	
B– 750/40v	
R508–VDR, 67 ma @ 20vdc	38-17072-2
R510–thermistor, Ω, cold	38-17071-4
L100–sound take-off	57-23832-2
L104–quadrature	50-33195-1
L200–link	50-23828-1
L202–47.25MHz trap	57-23827-6
L204–2nd IF	57-23832-4
L206–3rd IF	57-23832-5
R18–100K, volume	37-33097-2
R20–10K, color	37-33035-4
R22–10K, tint	37-33035-4
R24–2K, vert hold	37-33098-2
R26–200K, bright	37-33035-8
R28–2K, horiz hold	37-33098-2
R30–1K, contrast	37-33035-3
R32–20K, tone	37-33035-2
R34–500Ω, sharpness	37-33035-7
R294–50K, brightness limiter	37-33036-6
R352–50K, vert freq	37-23063-3
R360–25K, vert lin	part of R358

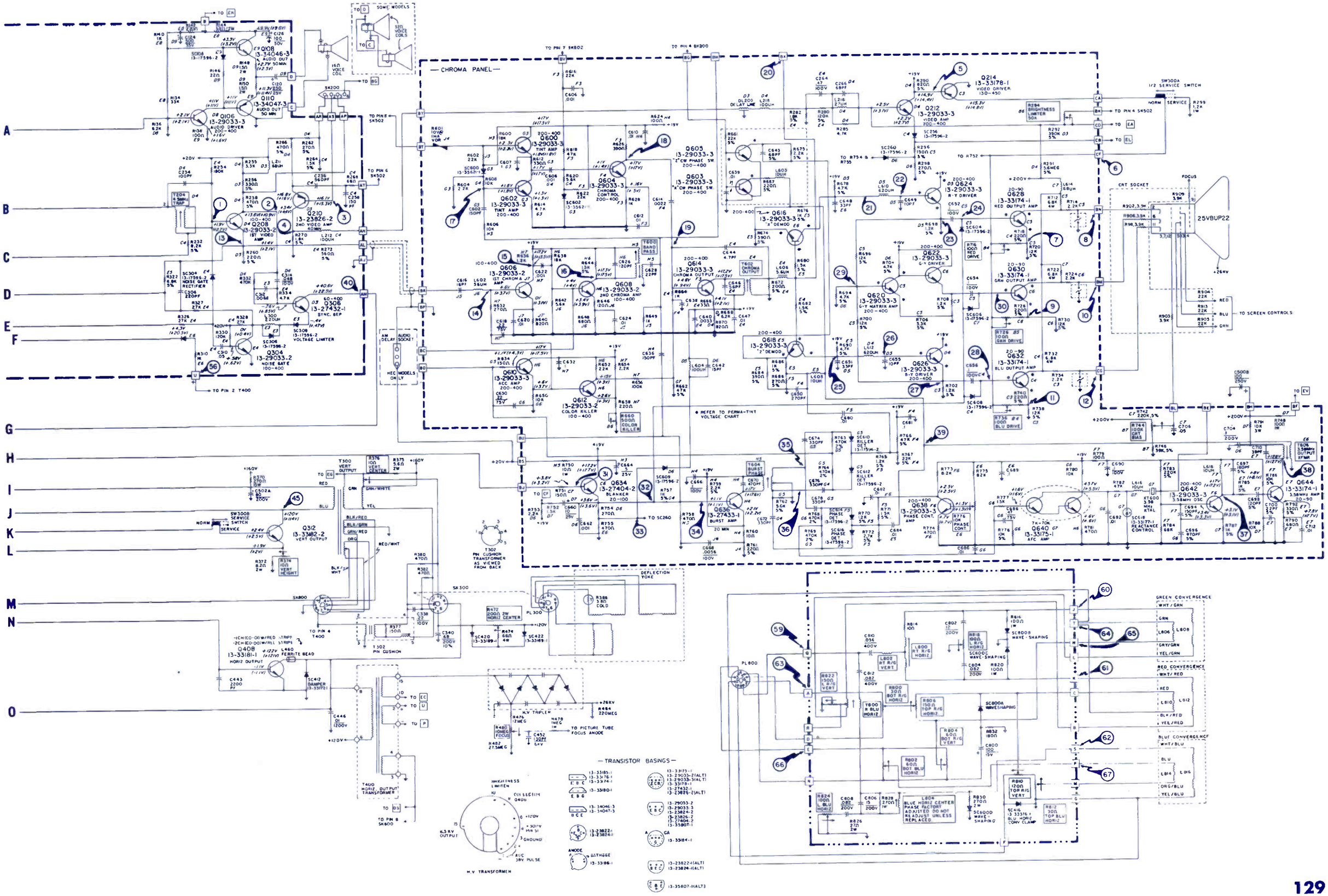


NOTES:
1.EXAMPLE "200-400" REFERS TO TRANSISTOR BETA RANGE.
2 (H7) LETTER & NUMBER NEAR COMPONENT DESIGNATES PRINTED CIRCUIT PANEL CO-ORDINATES.

R374—10Ω, vert height	37-16021-26
R376—10Ω, vert cent	37-16021-26
R428—10K, horiz freq	37-23063-4
R480—10M, focus	37-17320-7
R518—25K, HV adjust	part of R358
R660—500Ω, color killer	part of R294
R744—100K, CRT bias	part of R294
R776—10K, phase control	37-23063-4
SC410—boost rectifier	13-33172-1
SC618—varactor, reactance cont.	13-33177-1

T300—vert output	56-33088-2
T400—horiz output	50-33628-1
T402—horiz drive	56-33038-1
T500—power	55-35577-1
T600—bandpass	50-27405-1
T602—chroma output	50-29658-1
T604—burst phase	50-27406-2
T606—3.58MHz output	50-33194-1
CB500—circuit breaker	29-33346-4
DL200—delay line	32-33673-1

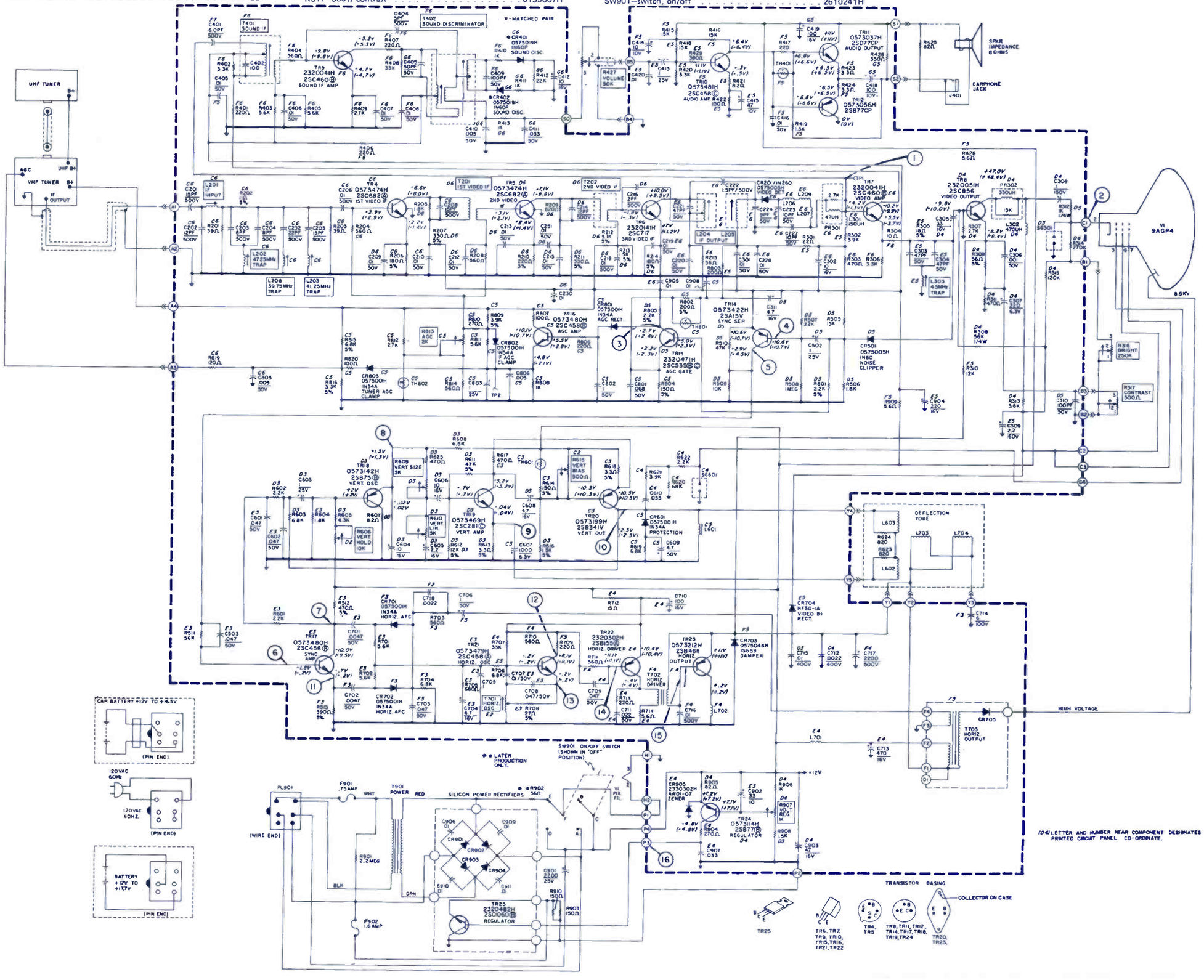
SYLVANIA
Color-TV Chassis
E02-1, -2

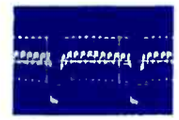


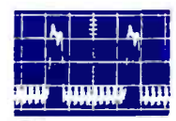
SYLVANIA
TV Chassis
A10-1

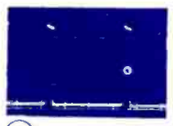
ELECTRONIC TECHNICIAN/DEALER TEKFAX

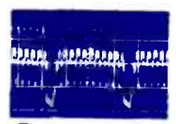
SYMBOL	DESCRIPTION	SYLVANIA PART NO.
T201	1st video IF	2140651H
T202	2nd video IF	2140652H
T401	sound IF	0322315H
T402	sound disc	0326022H
T701	horiz osc	2160232H
T702	horiz driver	0390018H
T703	horiz output	2430271H
T901	power	2210023H
R316	250K, brightness	0153668H
R317	500Ω contrast	0153667H
R427	50K volume	0166613H
R606	10K vert hold	0153666H
R609	5K vert size	0151245H
R610	5K vert lin	0151245H
R615	500Ω, vert bias	0151248H
R813	2K AGC	0151246H
R907	1K voltage regulator	0151249H
L202	47.25MHz trap	2120197H
L203	41.25MHz trap	2120095H
L208	39.75MHz trap	2120197H
L303	4.5MHz trap	2120194H
L601	choke	2220031H
F901	fuse 75a	
F902	fuse 1.6a	059120711
DY	yoke deflect	2440152H
SW901	switch, on/off	2610241H
TH401	thermistor	0576038H
TH601	thermistor	0576038H
TH801	thermistor	0576057H
	tuner UHF	2420154H
	tuner VHF	2420611H

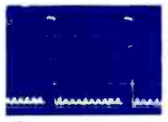



① 1.5VPP Horiz.


② 40VPP Horiz.


③ 3.5VPP Horiz.


④ .5VPP Horiz.


⑤ 9.0 VPP Horiz.

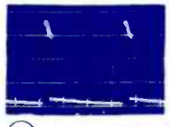

⑥ 9.5VPP Horiz.

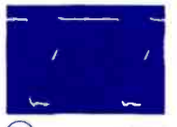

⑦ 6VPP Vert.

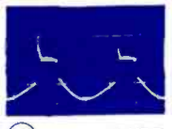

⑧ 2.2VPP Vert.

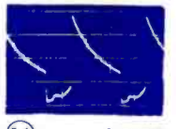

⑨ 1 VPP Vert.


⑩ 50 VPP Vert.

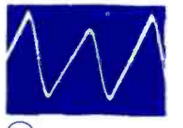

⑪ 6 VPP Horiz.


⑫ 7 VPP Horiz.

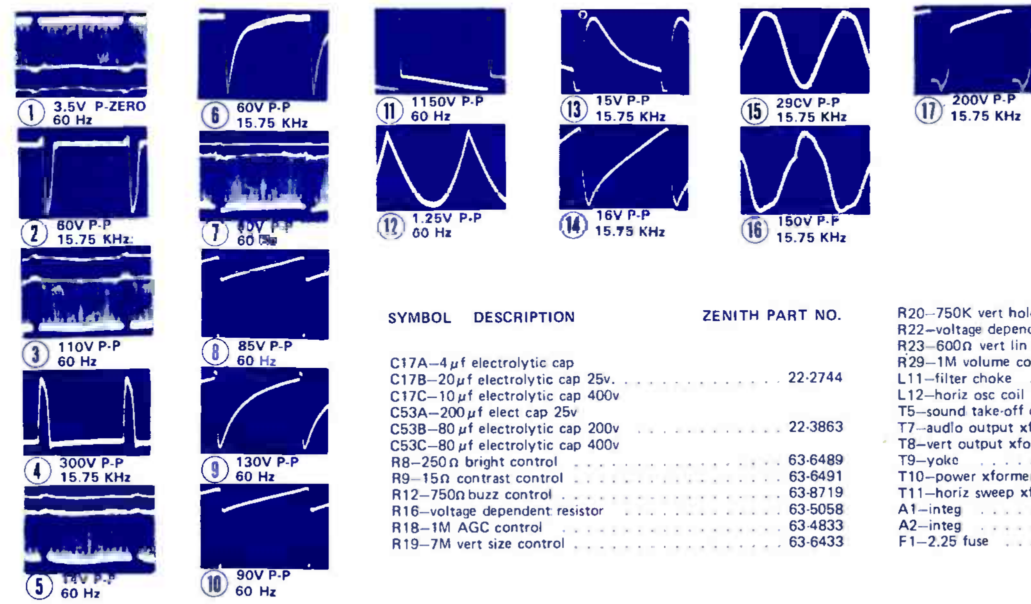

⑬ 9 VPP Horiz.


⑭ 3.5VPP Horiz.

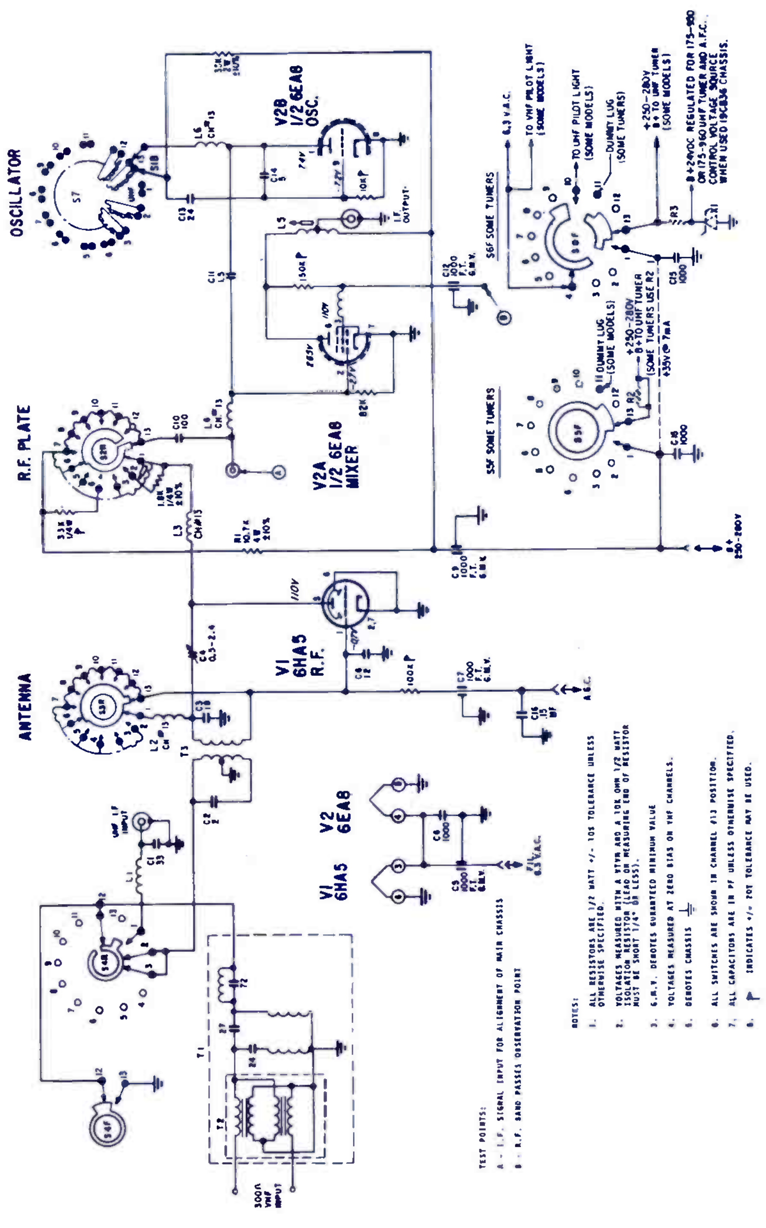

⑮ 80VPP Horiz.


⑯ 1.5 VPP Vert.

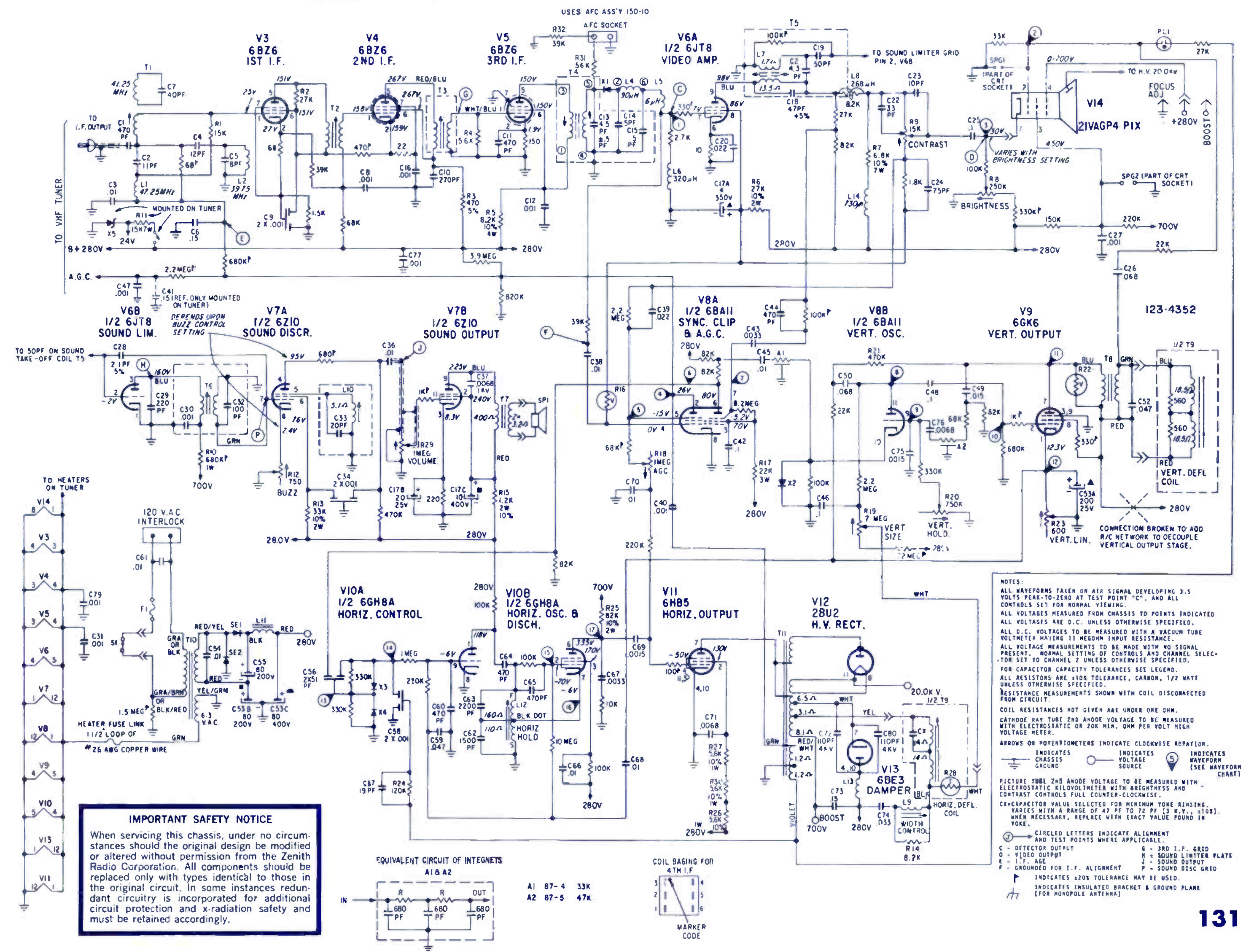
ZENITH
TV Chassis
19CB36



SYMBOL DESCRIPTION	ZENITH PART NO.
C17A—4 µf electrolytic cap	
C17B—20 µf electrolytic cap 25v.	22-2744
C17C—10 µf electrolytic cap 400v	
C53A—200 µf elect cap 25v	
C53B—80 µf electrolytic cap 200v	22-3863
C53C—80 µf electrolytic cap 400v	
R8—250 Ω bright control	63-6489
R9—15 Ω contrast control	63-6491
R12—750 Ω buzz control	63-8719
R16—voltage dependent resistor	63-5058
R18—1M AGC control	63-4833
R19—7M vert size control	63-6433
R20—750K vert hold control	63-7185
R22—voltage dependent resistor	63-7447
R23—600 Ω vert lin control	63-8720
R29—1M volume control	63-6349
L11—filter choke	95-2189
L12—horiz osc coil	S-56877
T5—sound take-off coil	S-86248
T7—audio output xformer	95-2893
T8—vert output xformer	95-2333
T9—yoke	95-2874
T10—power xformer	95-2975
T11—horiz sweep xformer	S-89958
A1—integ	87-4
A2—integ	87-5
F1—2.25 fuse	136-78



Schematic Diagram and Top View of VHF Tuner



NOTES:

ALL WAVEFORMS TAKEN ON AIR SIGNAL DEVELOPING 3.5 VOLTS PEAK-TO-ZERO AT TEST POINT "C", AND ALL CONTROLS SET FOR NORMAL VIEWING.

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.

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.

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 CHASSIS GROUND — INDICATES VOLTAGE SOURCE — INDICATES WAVEFORM (SEE WAVEFORM CHART)

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 MAY BE USED.

INDICATES INSULATED BRACKET & GROUND PLANE (FOR MONOPOLE ANTENNA)

IMPORTANT SAFETY NOTICE

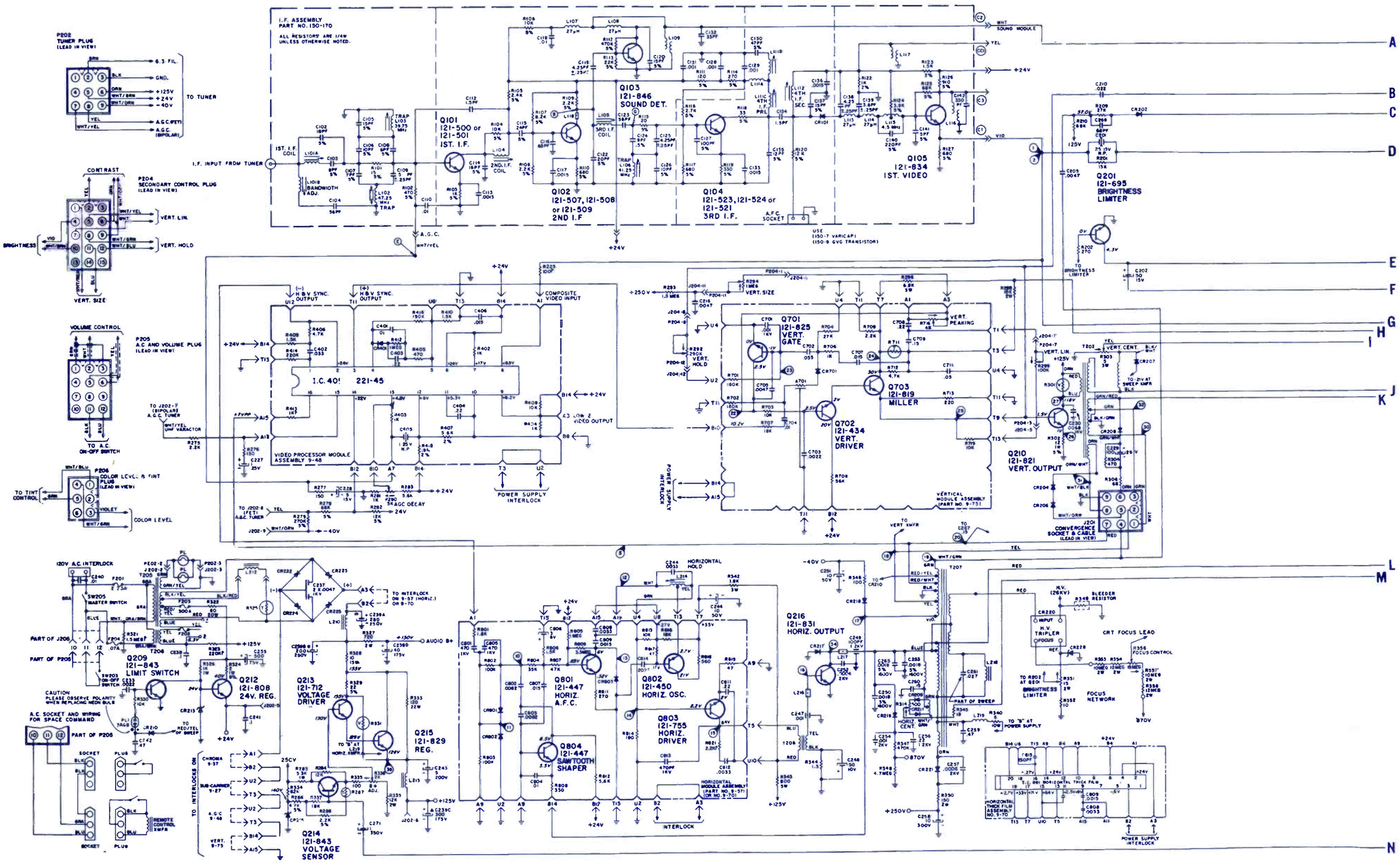
When servicing this chassis, under no circumstances should the original design be modified or altered without permission from the Zenith Radio Corporation. All components should be replaced only with types identical to those in the original circuit. In some instances redundant circuitry is incorporated for additional circuit protection and x-radiation safety and must be retained accordingly.

ZENITH

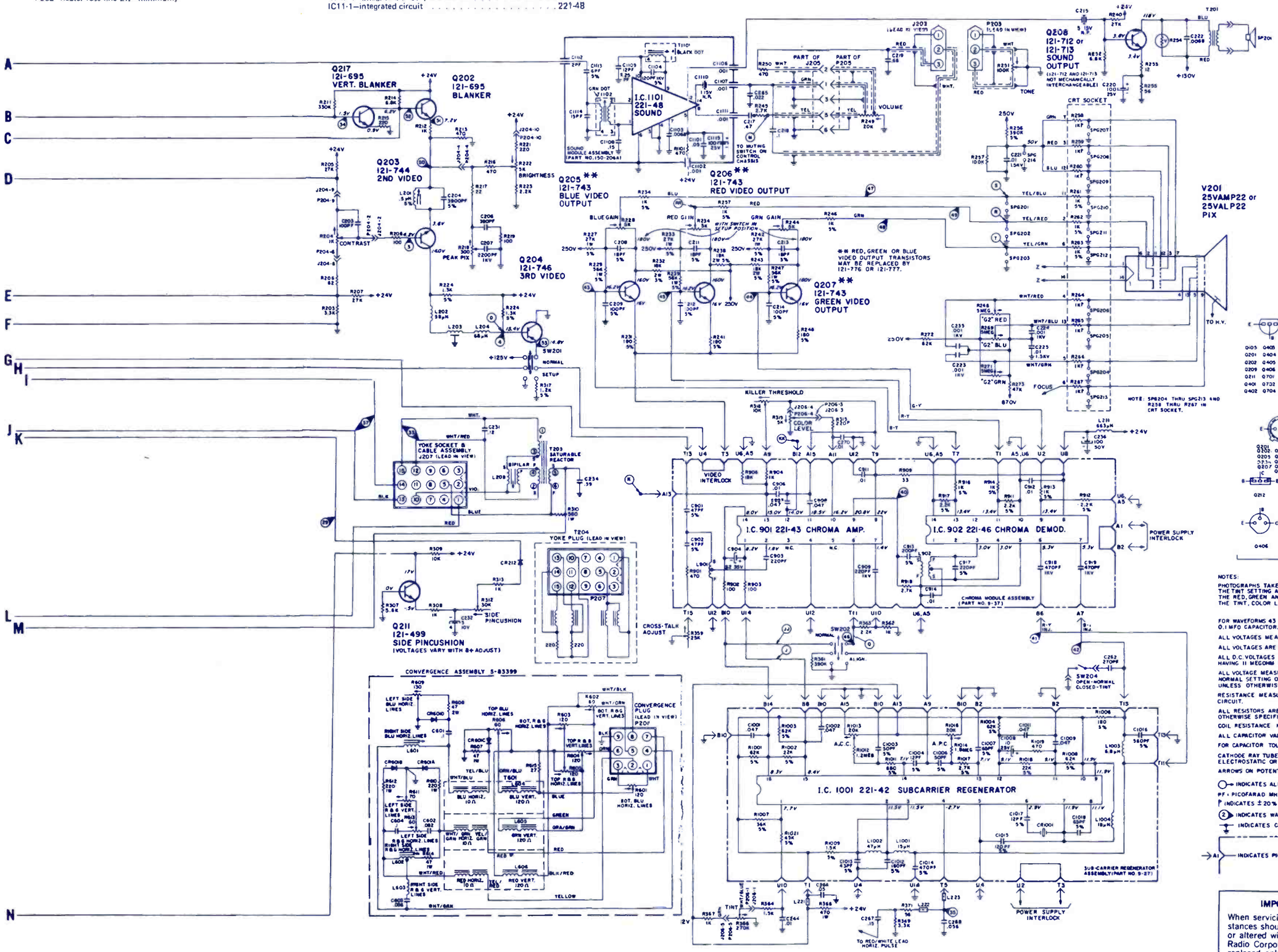
Color TV Chassis
25CC55

ELECTRONIC TECHNICIAN/DEALER TEKFAX

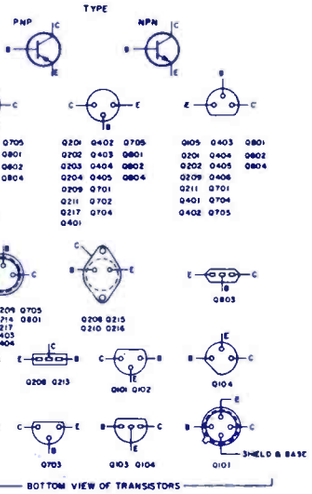
SYMBOL	DESCRIPTION	ZENITH PART NO.
C239A	—280 µf/250v elect	22-6346
C239B	—200 µf/250v elect	22-6346
C239C	—300 µf/175v elect	22-6346
C239D	—40 µf/175v elect	22-6346
R204	—1K contrast control	63-9006
R218	—300Ω peak picture control	63-8204
R222	—5K bright control	63-8201
R251	—100K tone control	63-8468
R280	—3K AGC delay control	63-8493
R287	—thermistor	63-9109
R294	—1M vert size control	63-8699
R299	—100K vert lin control	63-8700
R301	—VDR	63-5472
R303	—5Ω vert center control	63-8475
R312	—30K side pincushion control	63-8495
R314	—500Ω horiz centering control	63-8956
R318	—10K killer threshold control	63-8491
R319	—5K color level control	
R331	—VDR	63-5440
R338	—2K B+ adjust control	63-8498
R351	—15Ω bright limiter control	63-8706
R356	—15M focus control	63-8703
R359	—25K cross talk control	63-8490
R711	—thermistor	63-8788
R716	—4K vert peaking control	63-8962
R1013	—20K ACC control	63-8576
L102	—47.25MHz trap	95-3409
L104	—2nd IF coil	95-3147
L106	—41.25MHz trap	20-3144
L203	—delay line	S-85998
L210	—filter choke	95-2925
L214	—horiz osc coil	S-56875



L901—chroma take-off coil	S-85761
PL1—neon bulb (3AG-B)	100-571
T201—audio output xformer	95-2883
T202—vert output xformer	95-2915
T203—saturable reactor xformer	95-2881
T204—deflection yoke	95-2880
T205—power xformer	95-2954
T206—horiz driver xformer	95-2895
T207—horiz sweep xformer	S-89430
T208—filament xformer	95-2953
F202—heater fuse line 2½" minimum, loop of No.24 aug. copper wire	91-2061
F203—0.5a bel-fuse	136-84
F204—0.07a bel-fuse	136-90
SW205—master off switch	85-1260
CR220—HV tripler	212-104
CR1001—3.58MHz osc crystal	013-89
IC401—integrated circuit	221-45
IC901—integrated circuit	221-43
IC902—integrated circuit	221-46
IC801—horiz thick film (use on 9-70 only)	223-4
IC1001—integrated circuit	221-42
IC11-1—integrated circuit	221-48



TEST POINTS	
B	BY-PASS WITH 470PF DURING 4TH I.F. ALIGNMENT.
C1	PICTURE DETECTOR OUTPUT
CC1	BIAS POINT FOR C1 ADJUST
C2	SOUND DETECTOR OUTPUT
D	BY-PASS WITH 25μF 25V ELECTROLYTIC DURING COLOR ALIGNMENT
E	I.F. A.G.C.
G	INPUT TEST POINT FOR 4TH I.F. ALIGNMENT
J JJ	A.C.C.
K KK	TURN COLOR THRESHOLD CONTROL TO MAX. CLOCKWISE POSITION TO OPEN COLOR CHANNEL.
M	SOUND OUTPUT
Q	A.C.C. VOLTAGE
R	R-Y COLOR AMP. PLATE
S	B-Y COLOR AMP. PLATE
T	G-Y COLOR AMP. PLATE
R RR	BRIGHTNESS LIMITER SET-UP POINTS



NOTES:

PHOTOGRAPHS TAKEN ON A STANDARD GATED RAINBOW COLOR BAR SIGNAL. THE TINT SETTING ADJUSTED FOR PROPER COLOR. THE WAVE SHAPES AT THE RED, GREEN AND BLUE CATHODES OF THE PICTURE TUBE DEPEND ON THE TINT, COLOR LEVEL, CONTRAST AND PICTURE PEAKING CONTROLS

FOR WAVEFORMS 43 THRU 49, TEST POINT "G" MUST BE BY-PASSED WITH A 0.1 MFD CAPACITOR.

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 MEGOHMS 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.

RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.

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

COIL RESISTANCE NOT GIVEN UNDER ONE OHM.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR TOLERANCE, SEE LEGEND.

CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHMS PER VOLT MIN. HIGH VOLTAGE METER.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

○→ INDICATES ALIGNMENT AND TEST POINT.

PF = PICOFARAD MH = MEGAHERTZ μH = MICROHENRY

INDICATES ±20% MAY BE USED. ○— INDICATES VOLTAGE SOURCE.

(2) INDICATES WAVEFORM CHECK POINTS. (SEE WAVEFORM CHART)

INDICATES CHASSIS GROUND.

INDICATES MODULE BOARD

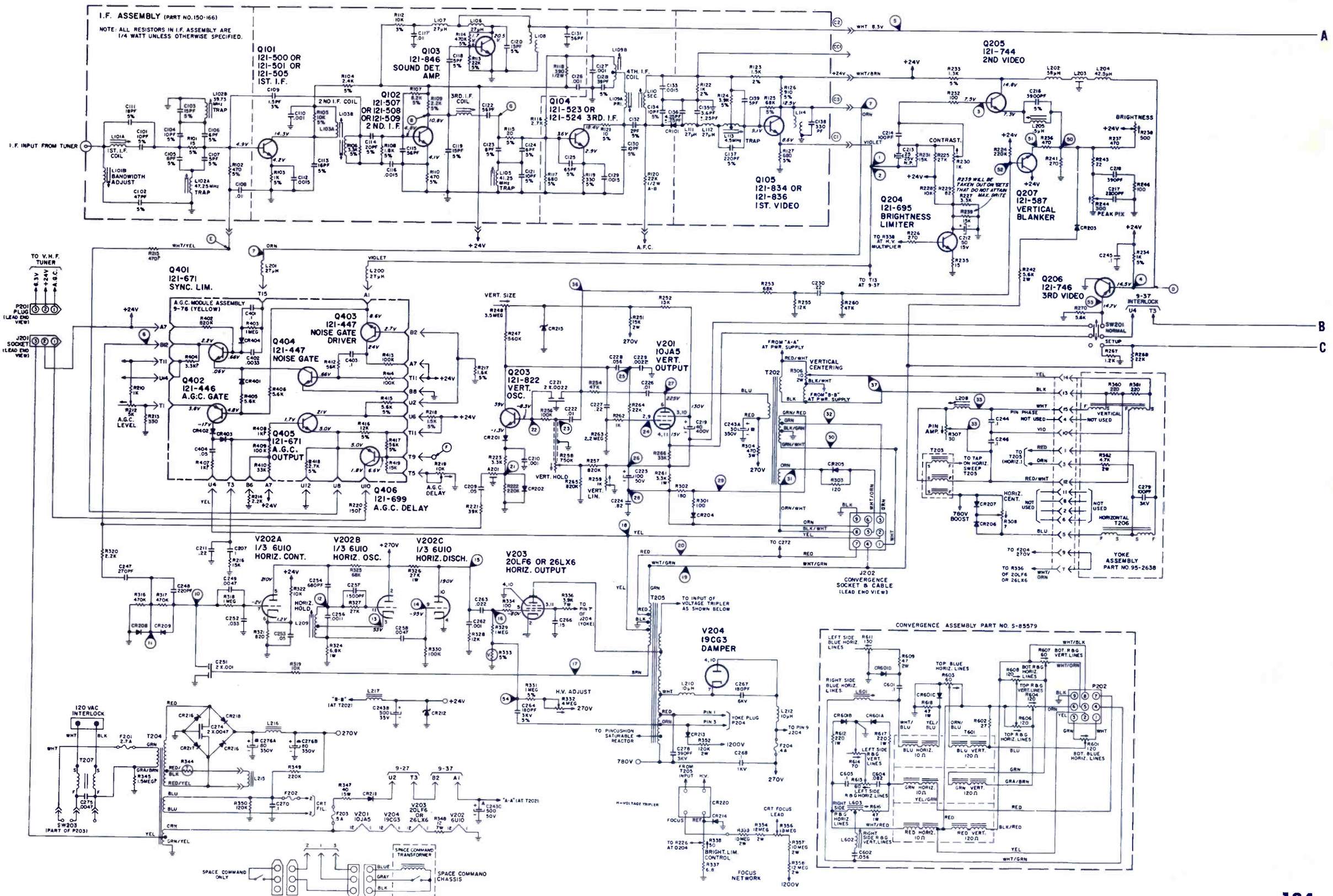
A1 INDICATES PIN NUMBER ON MODULE BOARD

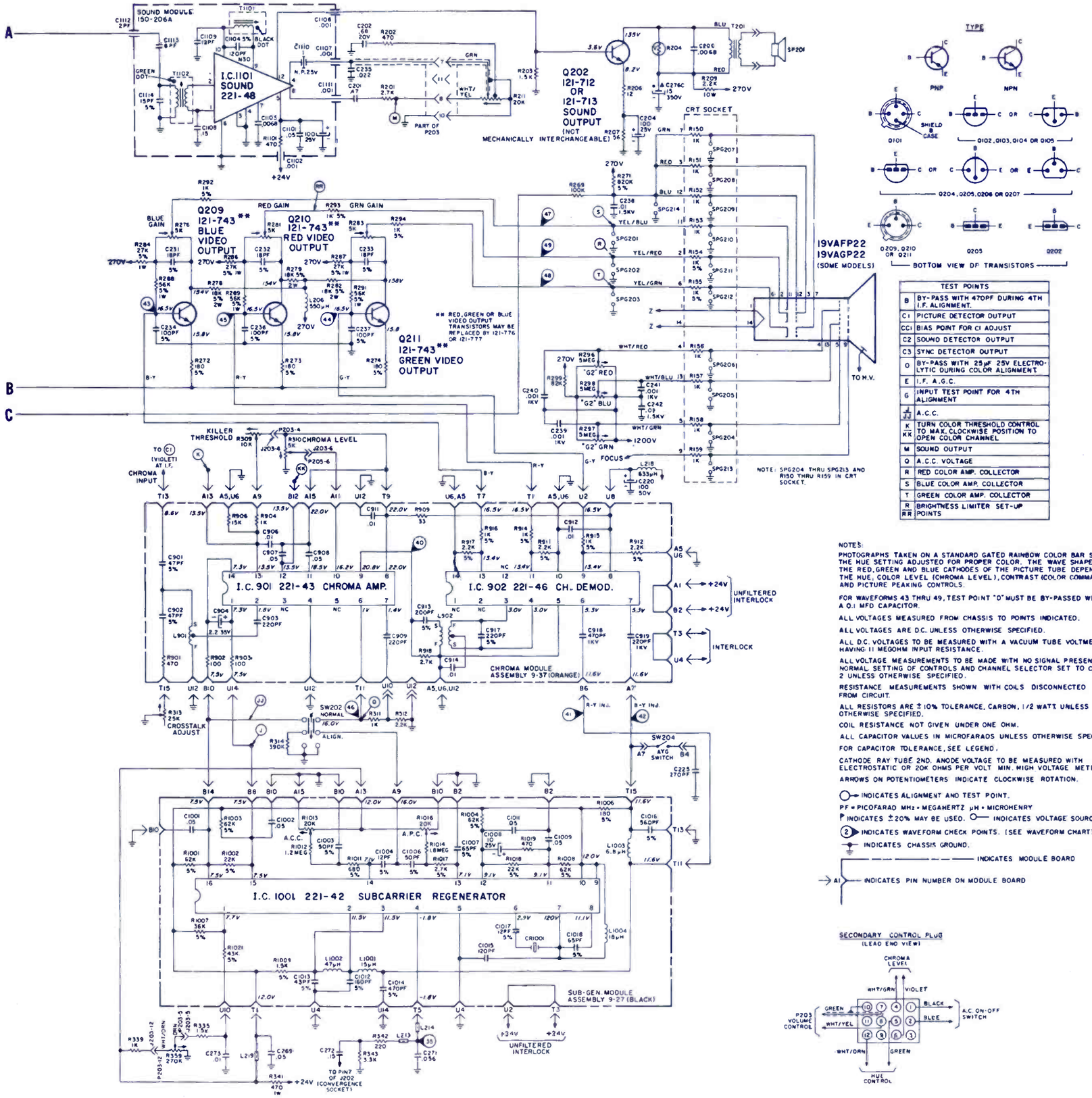
IMPORTANT SAFETY NOTICE

When servicing this chassis, under no circumstances should the original design be modified or altered without permission from the Zenith Radio Corporation. All components should be replaced only with types identical to those in the original circuit. In some instances redundant circuitry is incorporated for additional circuit protection and x-radiation safety and must be retained accordingly.

ZENITH
Color TV Chassis
19CC19

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**





TEST POINTS	
B	BY-PASS WITH 470PF DURING 4TH I.F. ALIGNMENT.
C1	PICTURE DETECTOR OUTPUT
CC1	BIAS POINT FOR C1 ADJUST
C2	SOUND DETECTOR OUTPUT
C3	SYNC DETECTOR OUTPUT
D	BY-PASS WITH 25μF 25V ELECTROLYTIC DURING COLOR ALIGNMENT
E	I.F. A.G.C.
G	INPUT TEST POINT FOR 4TH ALIGNMENT
J/JJ	A.C.C.
K/KK	TURN COLOR THRESHOLD CONTROL TO MAX. CLOCKWISE POSITION TO OPEN COLOR CHANNEL
M	SOUND OUTPUT
Q	A.C.C. VOLTAGE
R	RED COLOR AMP. COLLECTOR
S	BLUE COLOR AMP. COLLECTOR
T	GREEN COLOR AMP. COLLECTOR
R/RR	BRIGHTNESS LIMITER SET-UP POINTS

NOTES:

PHOTOGRAPHS TAKEN ON A STANDARD GATED RAINBOW COLOR BAR SIGNAL. THE HUE SETTING ADJUSTED FOR PROPER COLOR. THE WAVE SHAPES AT THE RED, GREEN AND BLUE CATHODES OF THE PICTURE TUBE DEPEND ON THE HUE, COLOR LEVEL (CHROMA LEVEL), CONTRAST (COLOR COMMANDER) AND PICTURE PEAKING CONTROLS.

FOR WAVEFORMS 43 THRU 49, TEST POINT "D" MUST BE BY-PASSED WITH A 0.1 MFD CAPACITOR.

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.

RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.

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

COIL RESISTANCE NOT GIVEN UNDER ONE OHM.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR TOLERANCE, SEE LEGEND.

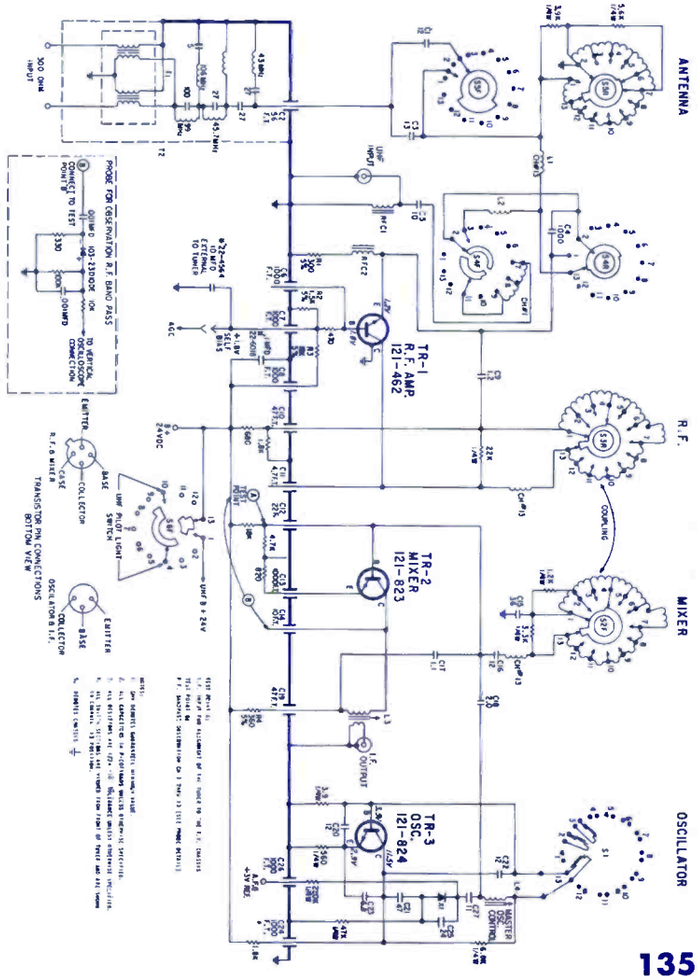
CATHODE RAY TUBE 2ND. ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHMS PER VOLT MIN. HIGH VOLTAGE METER.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

○— INDICATES ALIGNMENT AND TEST POINT.
PF = PICOFARAD MHz = MEGAHERTZ μH = MICROHENRY
P INDICATES ±20% MAY BE USED. ○— INDICATES VOLTAGE SOURCE.
(2) INDICATES WAVEFORM CHECK POINTS. (SEE WAVEFORM CHART)
INDICATES CHASSIS GROUND.
INDICATES MODULE BOARD
A1 INDICATES PIN NUMBER ON MODULE BOARD

SECONDARY CONTROL PLUG
(LEAD END VIEW)

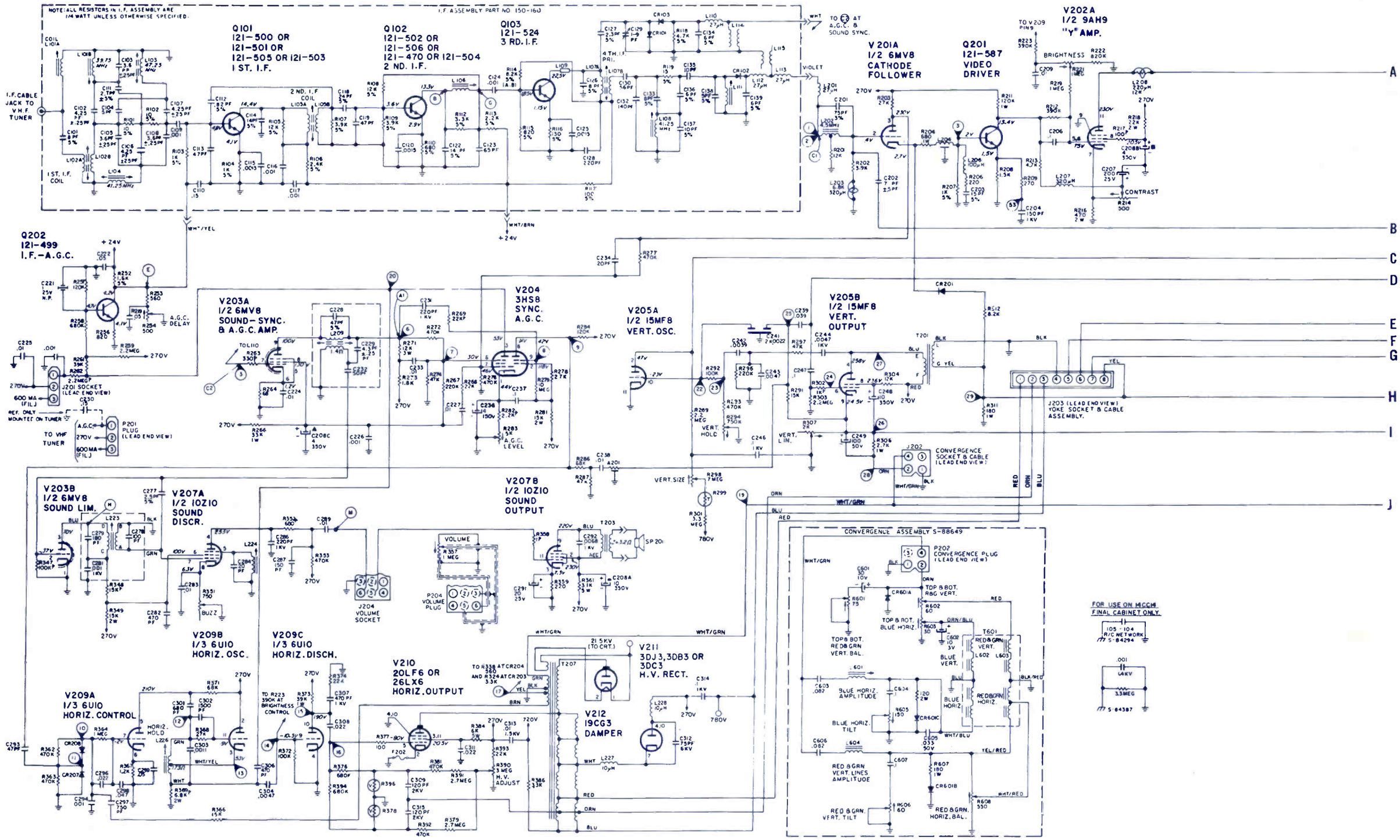
SYMBOL	DESCRIPTION	ZENITH PART NO.
C243A	30 μf electro cap 350v	
C243B	500 μf electro cap 35v	22-6071
C243C	500 μf electro cap 50v	
C276A	80 μf electro cap 350v	
C276B	80 μf electro cap 350v	22-6073
C276C	15 μf electro 350v	
R204	voltage dependent resistor	63-5440
R212	5K AGC level control	63-8492
R219	10K AGC delay control	63-8491
R230	contrast control	63-8979
R238	500Ω bright control	63-8785
R244	300Ω peak picture control	63-8496
R248	3.5M vert size control	63-8497
R258	750K vert hold control	63-8963
R259	1K vert lin control	63-8529
R306	10Ω vert cent control 2W	63-7009
R308	7Ω horiz center control	63-8474
R309	10K killer threshold control	63-8491
R333	voltage dependent resistor 5%	63-8688
R338	50Ω bright limit control	63-8989
R344	thermistor	63-8687
R1013	20K ACC control	63-8576
R1016	20K APC control	63-8576
L102	39.75MHz & 47.25MHz traps	20-3396
L113	4.5MHz trap	20-3289
L203	delay line	S-85998
L209	horiz osc coil	S-56877
L901	chroma take-off coil	S-85761
L902	2nd chroma coil	S-86109
T201	sound output xformer	95-2854
T202	vert output xformer	95-2850
T203	saturable reactor	95-2867
T204	power xformer	95-2912
T205	horiz sweep xformer	S-86159
T206	deflection yoke	95-2638
T207	ac line choke	95-2920
T1102	4.5MHz input coil (part of 150-206)	95-2620
A201	integrator unit	87-4
F201	2.7a bel-fuse	136-76
F202	heater fuse link	91-2061
F203	.5a bel-fuse	136-84
F204	.5a slow blow fuse	136-89

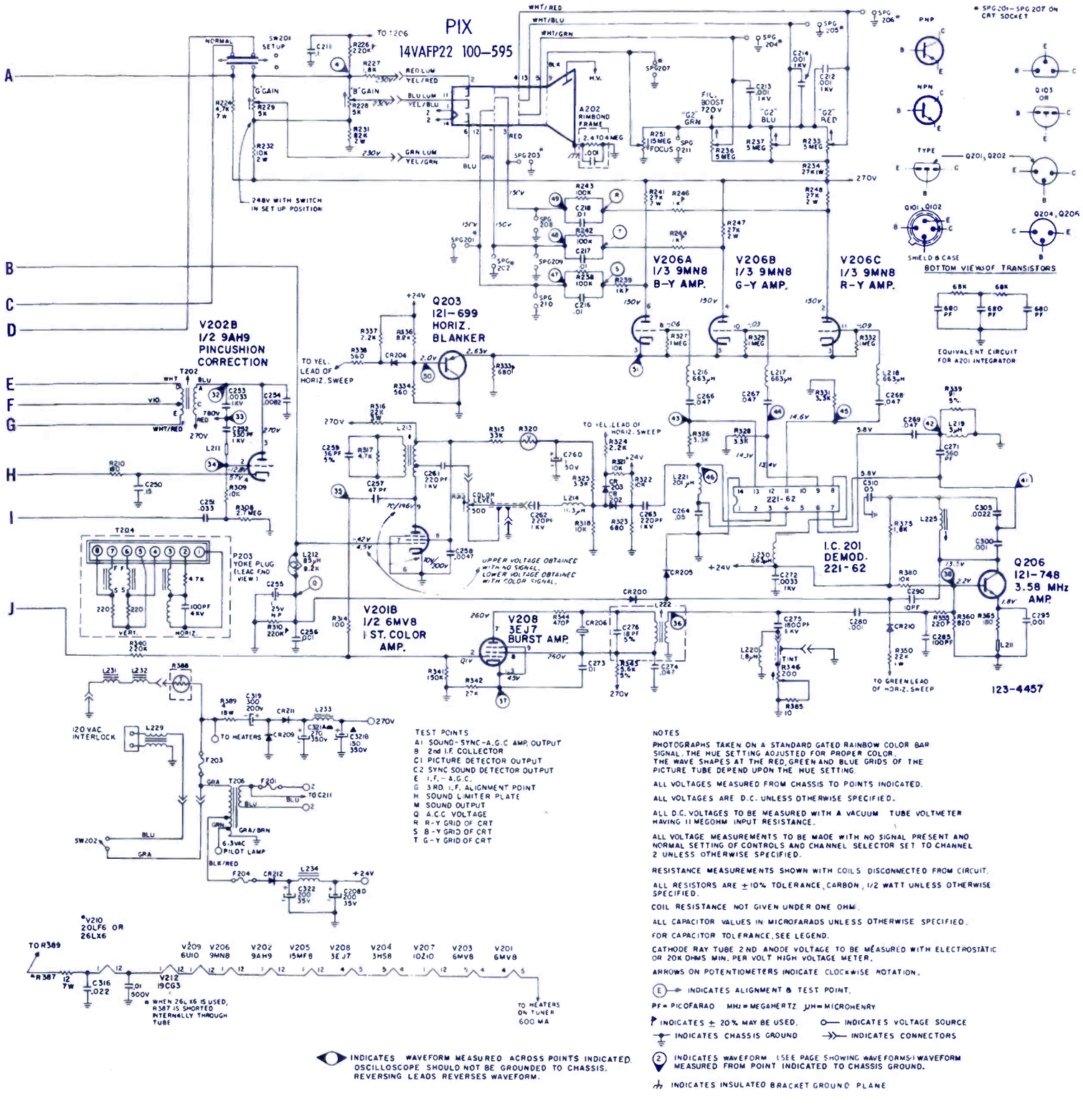


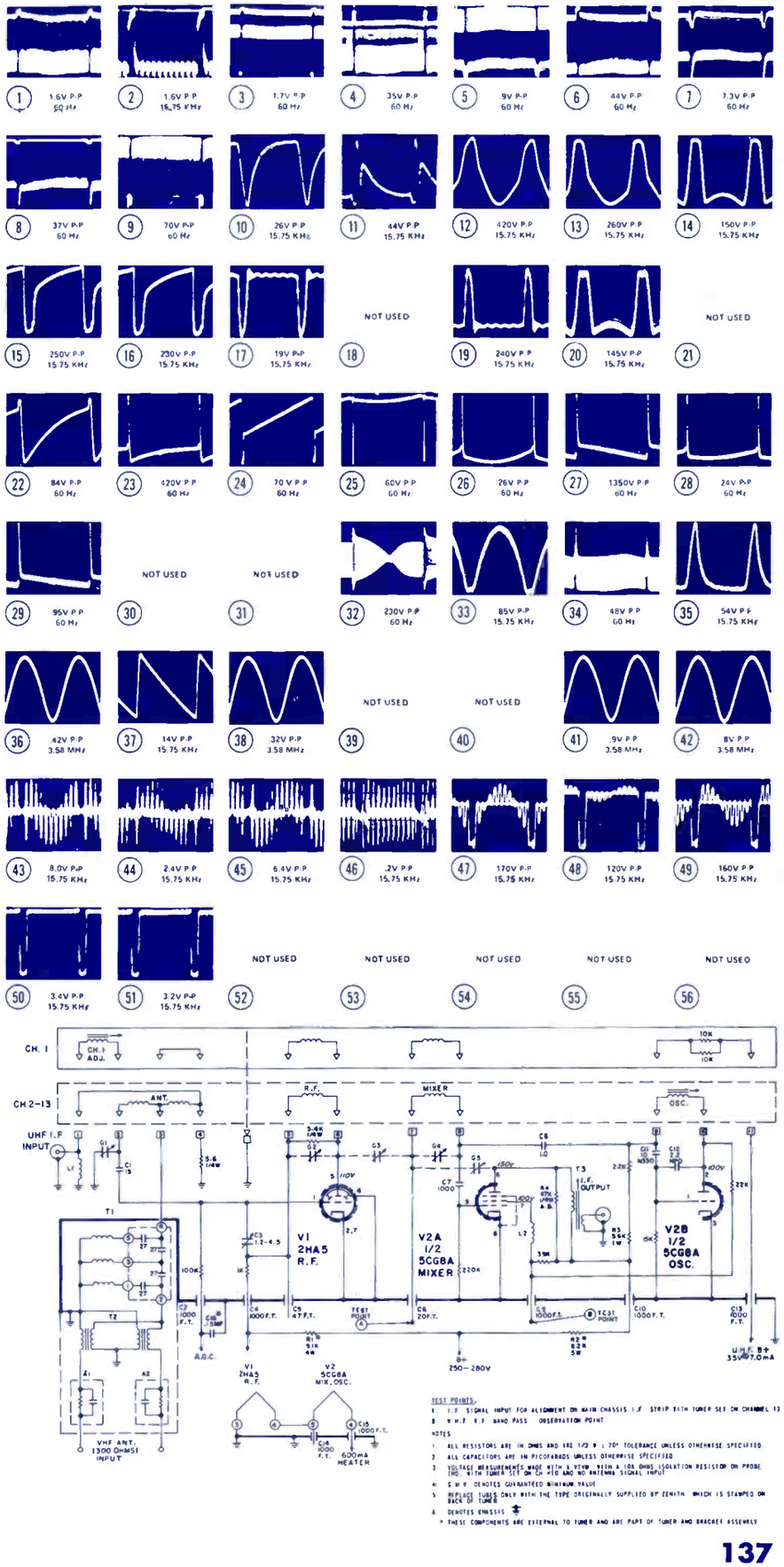
ZENITH
Color-TV Chassis
14CC14Z

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	ZENITH PART NO.
C208A	10 µf electrolytic cap 350v	
C208B	4 µf electrolytic cap 350v	22-6312
C208C	4 µf electrolytic cap 350v	
C208D	200 µf electrolytic cap 35v	
C319	300 µf electrolytic cap 300v	22-5748
C321A	270 µf electrolytic cap 350v	
C321B	150 µf electrolytic cap 350v	22-5746
R221	1M bright control	63-7974
R251	15M focus control	63-9013
R254	500 Ω, AGC delay control	63-8543
R283	5K, AGC level control	63-7976
R294	750K, vert hold control	63-7973
R298	7M, vert size control	63-6433
R299	thermistor	63-6824
R307	2K, vert line control	63-7983
R320	voltage dependent resistor	63-7143
R351	750 Ω, buzz control	63-6487
R378	voltage dependent resistor	63-7658
R388	thermistor	63-8687
R390	3M, HV control	63-8460
R396	voltage dependent resistor	63-7658
L103	47.25MHz trap coil assembly	20-1669
L204	delay line	S-80475
L209	sound take off coil	S-77414
L224	quad coil	S-80480
L226	horiz osc coil	S56877
L234	filter choke	95-2733
T201	vert output xformer	95-2924
T203	sound output xformer	95-2688
T204	deflect yoke	95-2781
T206	fllament xformer	95-2944
T207	horiz sweep xformer	S-85571
A201	integrator unit	87-7
A202	R/C network	105-104
F201	heater fuse llnk 2½ in. min. loop of 24 lb AWG copper wire	91-2061
F202	.50a bel-fuse	136-84
F203	2.7a bel-fuse	136-76
F204	.35 bel-fuse	136-75
	VHF Tuner used in Model C351066	175-1402



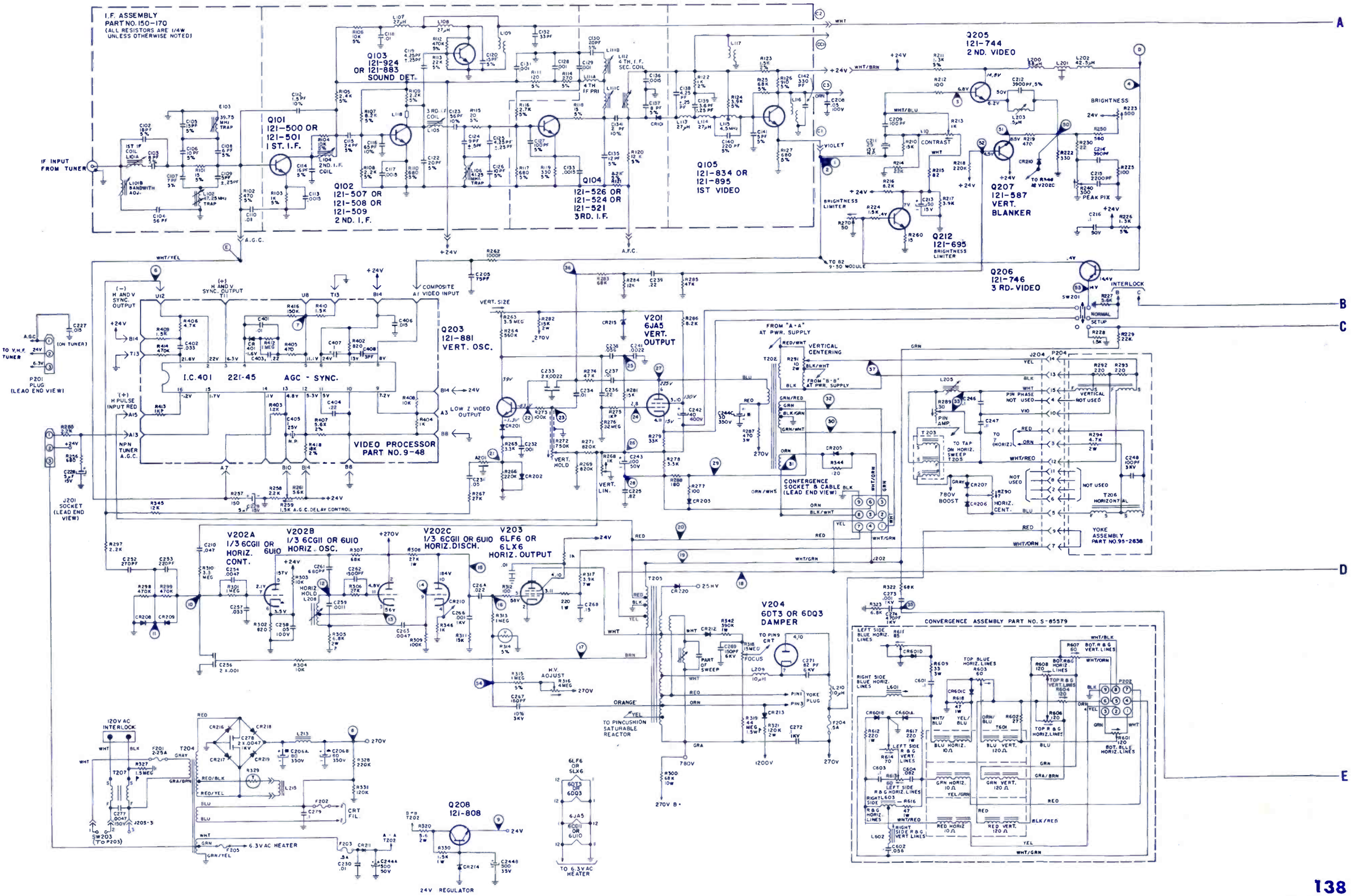

PIX
14VAFP22 100–595
A202 RIMBOND FRAME
V206A 1/3 9MN8 B–Y AMP.
V206B 1/3 9MN8 G–Y AMP.
V206C 1/3 9MN8 R–Y AMP.
Q203 121–699 HORIZ. BLANKER
V202B 1/2 9AH9 PINCUSHION CORRECTION
V201B 1/2 6MV8 1 ST. COLOR AMP.
V208 3EJ7 BURST AMP.
I.C. 201 DEMOD. 221–62
Q206 121–748 3.58 MHz AMP.
PNP
NPN
TYPE Q201, Q202
Q101, Q102
Q103 OR
Q204, Q205
SHIELD & CASE
BOTTOM VIEWS OF TRANSISTORS
EQUIVALENT CIRCUIT FOR A201 INTEGRATOR
120 VAC INTERLOCK
TEST POINTS
A1 SOUND-SYNC-A.G.C AMP. OUTPUT
B 2nd I.F. COLLECTOR
C1 PICTURE DETECTOR OUTPUT
C2 SYNC SOUND DETECTOR OUTPUT
E I.F.–A.G.C.
G 3RD. I.F. ALIGNMENT POINT
H SOUND LIMITER PLATE
M SOUND OUTPUT
Q A.C.C VOLTAGE
R R-Y GRID OF CRT
S B-Y GRID OF CRT
T G-Y GRID OF CRT
NOTES
PHOTOGRAPHS TAKEN ON A STANDARD GATED RAINBOW COLOR BAR SIGNAL. THE HUE SETTING ADJUSTED FOR PROPER COLOR. THE WAVE SHAPES AT THE RED, GREEN AND BLUE GRIDS OF THE PICTURE TUBE DEPEND UPON 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.
RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
ALL RESISTORS ARE ±10% TOLERANCE, CARBON, 1/2 WATT UNLESS OTHERWISE SPECIFIED.
COIL RESISTANCE NOT GIVEN UNDER ONE OHM.
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
FOR CAPACITOR TOLERANCE, SEE LEGEND.
CATHODE RAY TUBE 2 ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHMS MIN. PER VOLT HIGH VOLTAGE METER.
ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
(E) INDICATES ALIGNMENT & TEST POINT.
PF = PICOFARAD MHz = MEGAHERTZ µH = MICROHENRY
INDICATES ± 20% MAY BE USED.
INDICATES VOLTAGE SOURCE
INDICATES CHASSIS GROUND
INDICATES CONNECTORS
(2) INDICATES WAVEFORM (SEE PAGE SHOWING WAVEFORMS) WAVEFORM MEASURED FROM POINT INDICATED TO CHASSIS GROUND.
INDICATES INSULATED BRACKET GROUND PLANE
INDICATES WAVEFORM MEASURED ACROSS POINTS INDICATED. OSCILLOSCOPE SHOULD NOT BE GROUNDED TO CHASSIS. REVERSING LEADS REVERSES WAVEFORM.
*V210 20LF6 OR 26LX6
V209 6UI0 V206 9MN8 V202 9AH9 V205 15MF8 V208 3EJ7 V204 3HS8 V207 10ZI0 V203 6MV8 V201 6MV8
V212 19GG3
* WHEN 26LX6 IS USED, R387 IS SHORTED INTERNALLY THROUGH TUBE
123-4457


1 1.6V P-P 60 Hz
2 1.6V P-P 15.75 KHz
3 7.7V P-P 60 Hz
4 35V P-P 60 Hz
5 9V P-P 60 Hz
6 44V P-P 60 Hz
7 7.3V P-P 60 Hz
8 37V P-P 60 Hz
9 70V P-P 60 Hz
10 26V P-P 15.75 KHz
11 44V P-P 15.75 KHz
12 420V P-P 15.75 KHz
13 260V P-P 15.75 KHz
14 150V P-P 15.75 KHz
15 250V P-P 15.75 KHz
16 230V P-P 15.75 KHz
17 19V P-P 15.75 KHz
18 NOT USED
19 240V P-P 15.75 KHz
20 145V P-P 15.75 KHz
21 NOT USED
22 84V P-P 60 Hz
23 420V P-P 60 Hz
24 70 V P-P 60 Hz
25 60V P-P 60 Hz
26 26V P-P 60 Hz
27 1350V P-P 60 Hz
28 24V P-P 60 Hz
29 95V P-P 60 Hz
30 NOT USED
31 NOT USED
32 230V P-P 60 Hz
33 85V P-P 15.75 KHz
34 48V P-P 60 Hz
35 54V P-P 15.75 KHz
36 42V P-P 3.58 MHz
37 14V P-P 15.75 KHz
38 32V P-P 3.58 MHz
39 NOT USED
40 NOT USED
41 9V P-P 3.58 MHz
42 8V P-P 3.58 MHz
43 8.0V P-P 15.75 KHz
44 2.4V P-P 15.75 KHz
45 6.4V P-P 15.75 KHz
46 .2V P-P 15.75 KHz
47 170V P-P 15.75 KHz
48 120V P-P 15.75 KHz
49 160V P-P 15.75 KHz
50 3.4V P-P 15.75 KHz
51 3.2V P-P 15.75 KHz
52 NOT USED
53 NOT USED
54 NOT USED
55 NOT USED
56 NOT USED

CH. 1
CH 2-13
UHF I.F INPUT
ANT.
R.F.
MIXER
OSC.
V1 2HA5 R.F.
V2A 1/2 5CG8A MIXER
V2B 1/2 5CG8A OSC.
I.F. OUTPUT
A.G.C.
250–280V
VHF ANT. 300 OHMS INPUT
600mA HEATER
TEST POINTS.
A I.F. SIGNAL INPUT FOR ALIGNMENT ON MAIN CHASSIS I.F. STRIP WITH TUNER SET ON CHANNEL 13
B V.H.F. R.F. BAND PASS OBSERVATION POINT
NOTES
1 ALL RESISTORS ARE IN OHMS AND ARE 1/2 W ± 10% TOLERANCE UNLESS OTHERWISE SPECIFIED
2 ALL CAPACITORS ARE IN PICOFARADS UNLESS OTHERWISE SPECIFIED
3 VOLTAGE MEASUREMENTS MADE WITH A VTVM, WITH A 10K OHMS ISOLATION RESISTOR ON PROBE END, WITH TUNER SET ON CH #10 AND NO ANTENNA SIGNAL INPUT
4 G.M.V. DENOTES GUARANTEED MINIMUM VALUE
5 REPLACE TUBES ONLY WITH THE TYPE ORIGINALLY SUPPLIED BY ZENITH WHICH IS STAMPED ON BACK OF TUNER
6 DENOTES CHASSIS
* THESE COMPONENTS ARE EXTERNAL TO TUNER AND ARE PART OF TUNER AND BRACKET ASSEMBLY

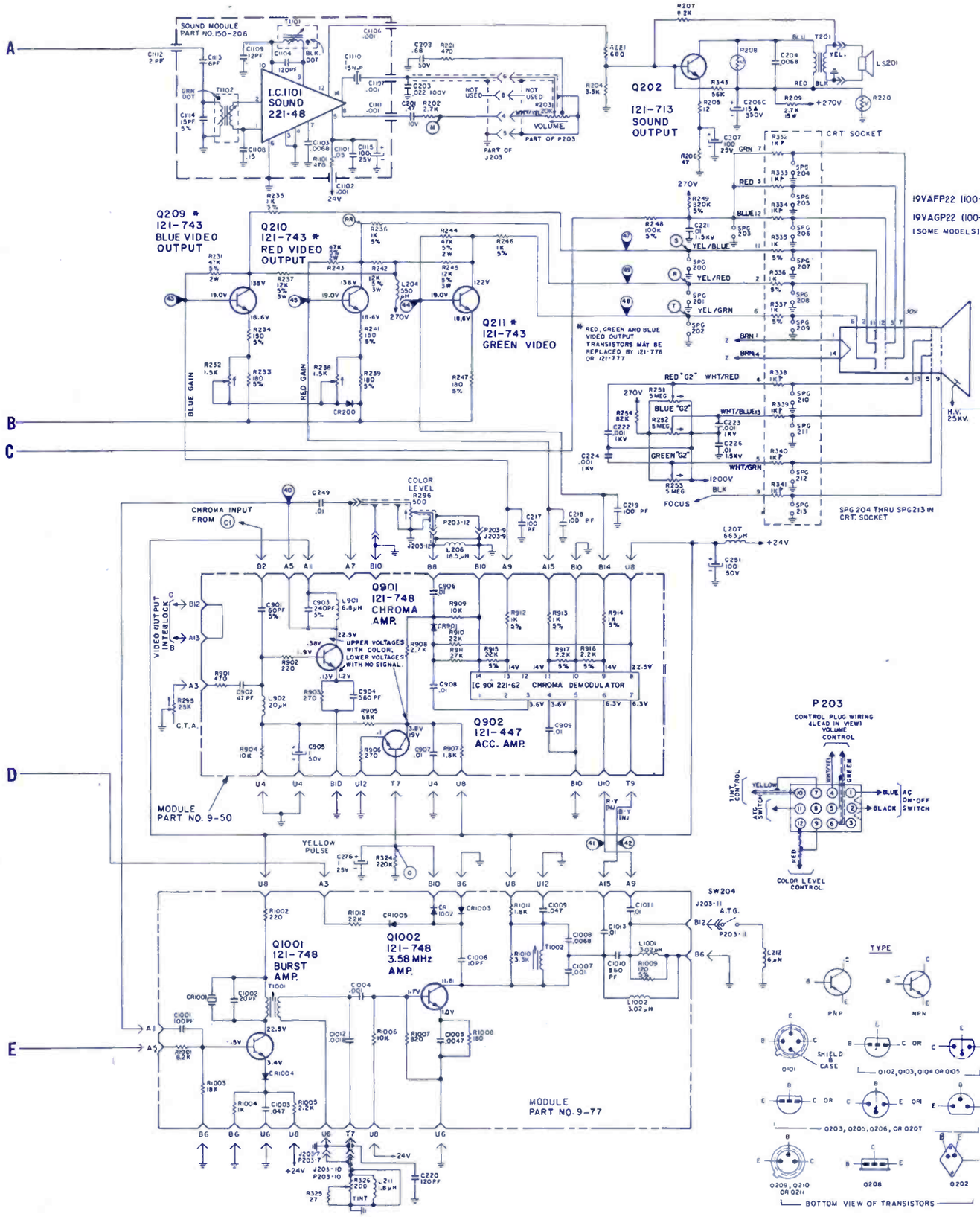
ZENITH

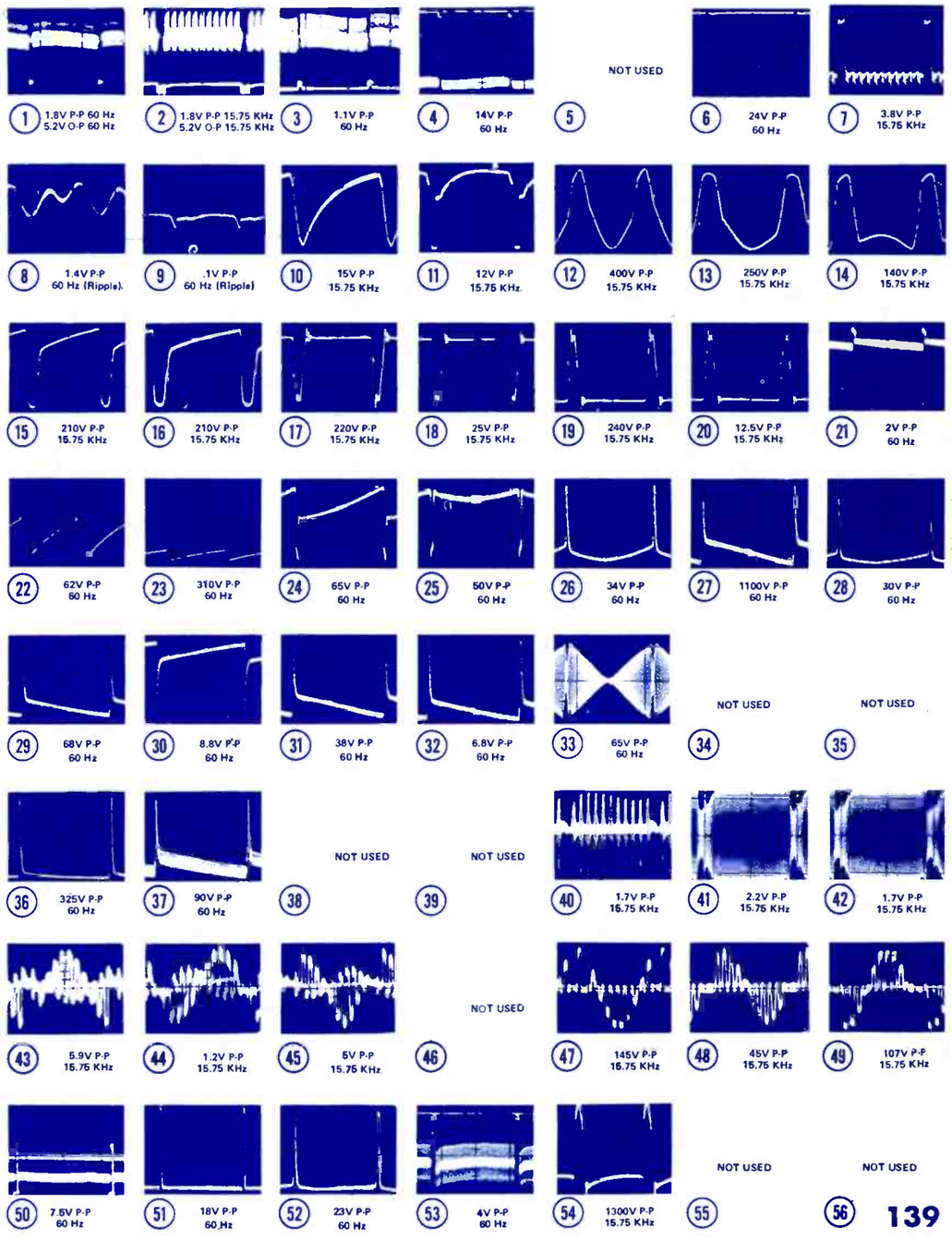
Color-TV Chassis
19DC20



ZENITH
Color-TV Chassis
19DC20

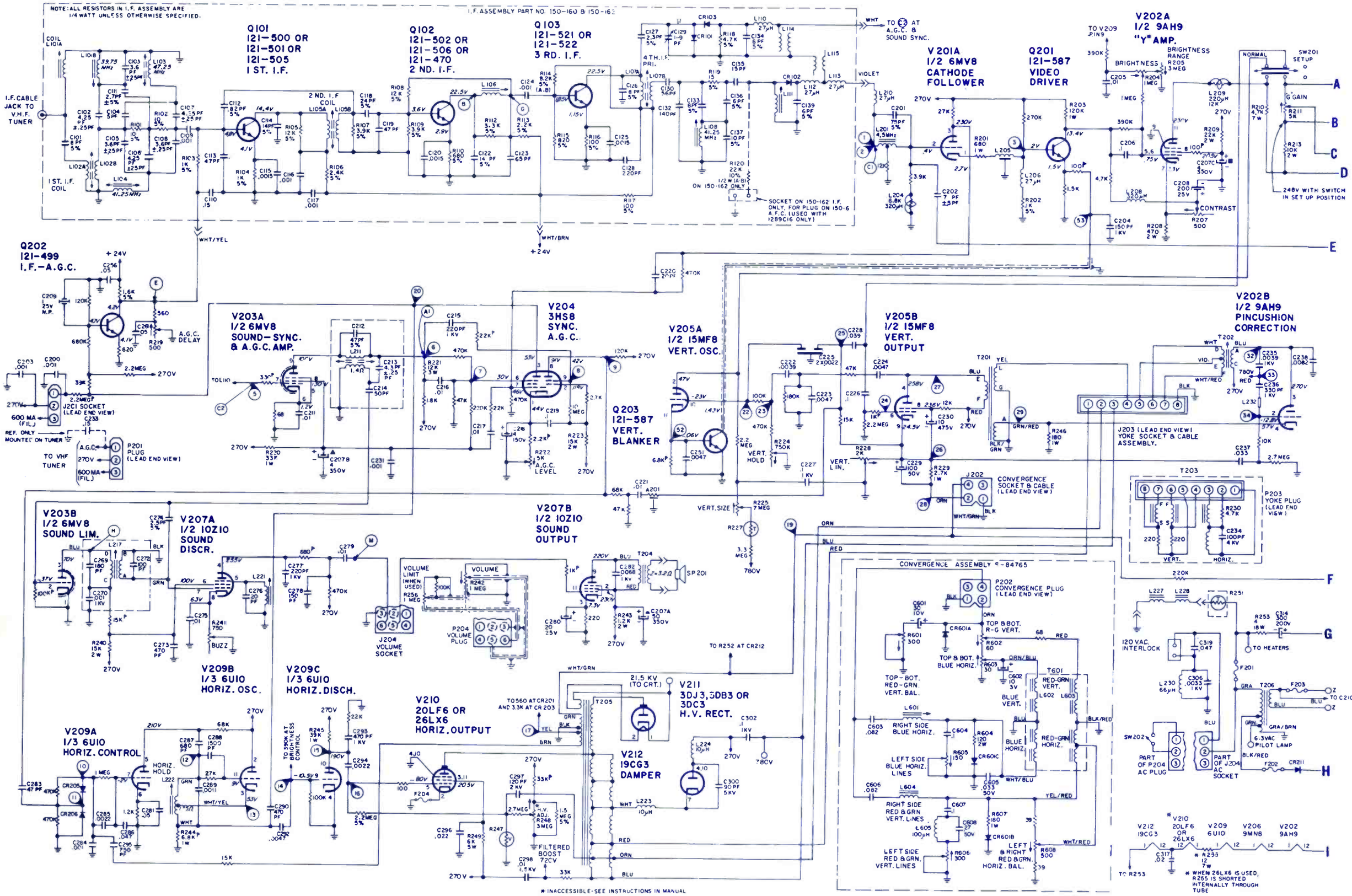
SYMBOL	DESCRIPTION	ZENITH PART NO.
C206A	80 µf, electrolytic cap, 350v	
C206B	80 µf, electrolytic cap, 350v	22-6073
C206C	15 µf, electrolytic cap, 350v	
R203	20K, volume control	63-8609
R208	voltage dependent resistor	63-5440
R213	1K, contrast control	63-9193
R220	voltage dependent resistor	63-9184
R223	500Ω, brightness control	63-9192
R240	300Ω, peak pix control	63-9119
R259	1.5K, AGC delay control	63-9177
R263	3.5M, vert dist control	63-9115
R268	1K, vert lin control	63-9066
R270	50Ω, brightness limiter	63-8989
R272	750K, vert hold control	63-9194
R290	70Ω, horiz centering	63-8474
R291	10Ω, vert center control 2w	63-7009
R295	25K, CTA control	63-9117
R296	500Ω, color level control	63-9308
R314	volt dependent resistor	63-8688
R316	4M, high volt adjust	63-9004
R318	15M, focus control	63-8709
R326	200Ω, tint control	63-9133
R329	thermistor	63-8687
L101A	1st IF coil	95-2941
L102	47.25MHz, trap coil	20-3409
L103	39.75MHz, trap coil	20-3145
L115	4.5MHz trap coil	95-2947
L201	delay line	S-91505
L203	3.58MHz trap coil	20-1800
L208	horiz osc coil	S-56877
L213	filter choke	95-2917
T201	audio output xformer	95-2854
T202	vert output xformer	95-2983
T203	saturable reactor	95-3004
T204	power xformer	95-2970
T206	deflect yoke assembly	95-2638
A201	integrator unit	87-4
F201	2.25a, bel-fuse	136-92
F202	heater fuse link	91-2061
F203	.5a, bel-fuse	136-84
F204	.5a, bel-fuse	136-84
F205	heater fuse link	91-2061
CR212	focus diode	212-85



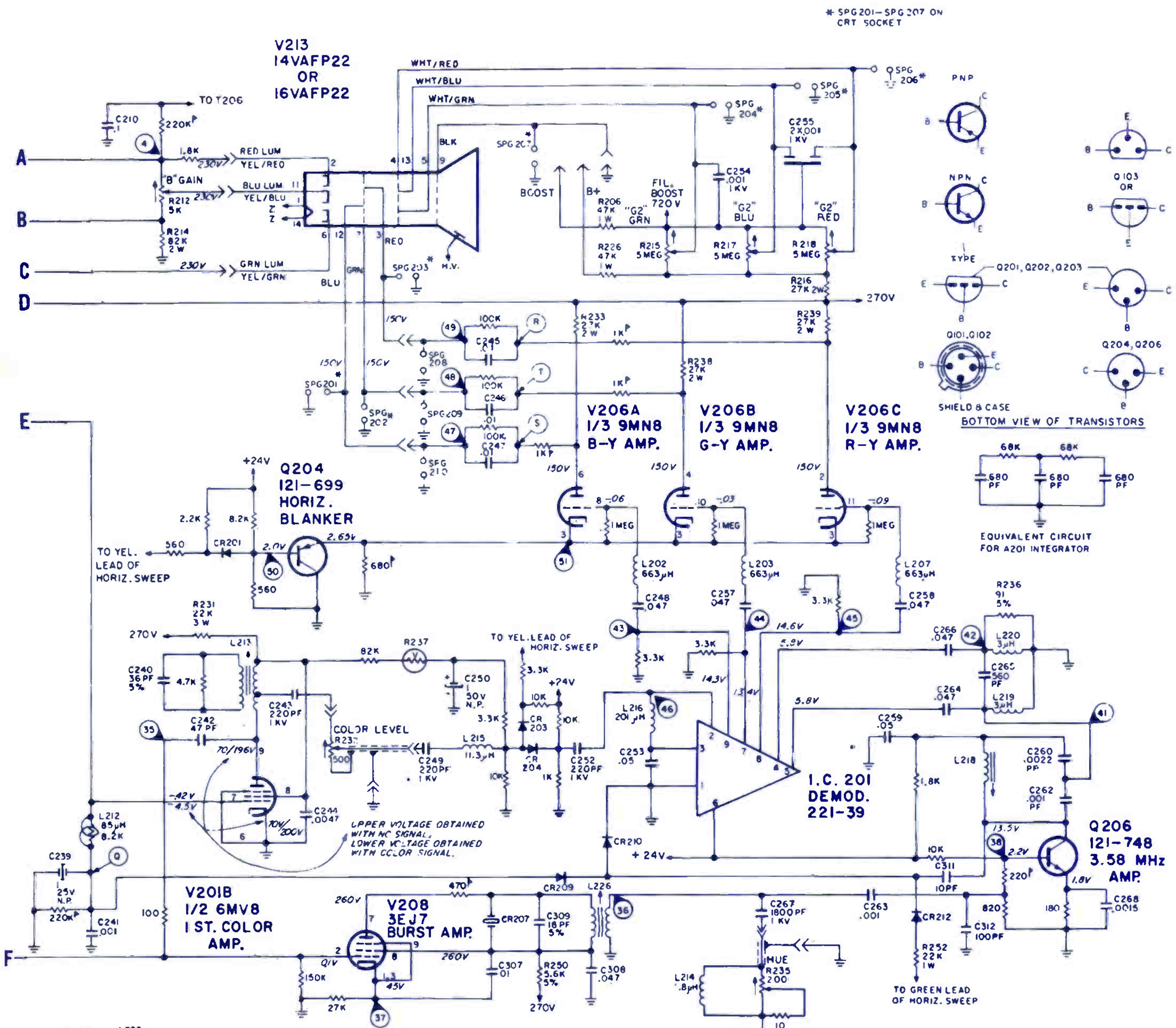


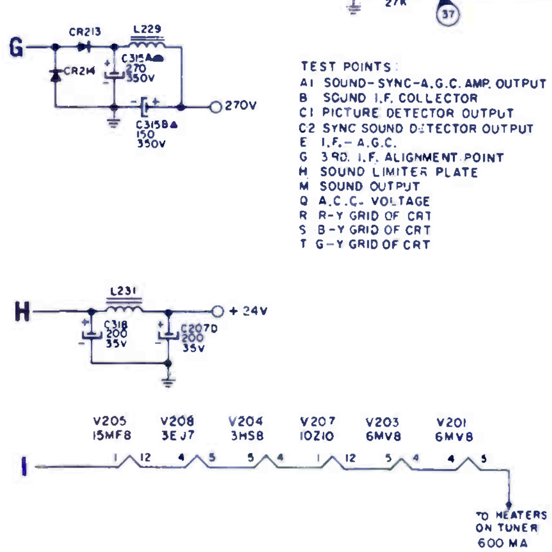
ZENITH
Color-TV Chassis
12B8C15, 12B9C16

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**



ZENITH
Color-TV Chassis
12B8C15, 12B9C16





TEST POINTS:
A1 SOUND-SYNC-A.G.C. AMP. OUTPUT
B SOUND I.F. COLLECTOR
C1 PICTURE DETECTOR OUTPUT
C2 SYNC SOUND DETECTOR OUTPUT
E I.F.-A.G.C.
G 3.9D. I.F. ALIGNMENT POINT
H SOUND LIMITER PLATE
M SOUND OUTPUT
Q A.G.C. VOLTAGE
R R-Y GRID OF CRT
S B-Y GRID OF CRT
T G-Y GRID OF CRT

NOTES:

PHOTOGRAPHS TAKEN ON A STANDARD GATED RAINBOW COLOR BAR SIGNAL. THE HUE SETTING ADJUSTED FOR PROPER COLOR. THE WAVE SHAPES AT THE RED, GREEN AND BLUE GRIDS OF THE PICTURE TUBE DEPEND UPON 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.

RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.

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

COIL RESISTANCE NOT GIVEN UNDER ONE OHM.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR TOLERANCE, SEE LEGEND.

CATHODE RAY TUBE 2ND. ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHMS MIN. PER VOLT HIGH VOLTAGE METER.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

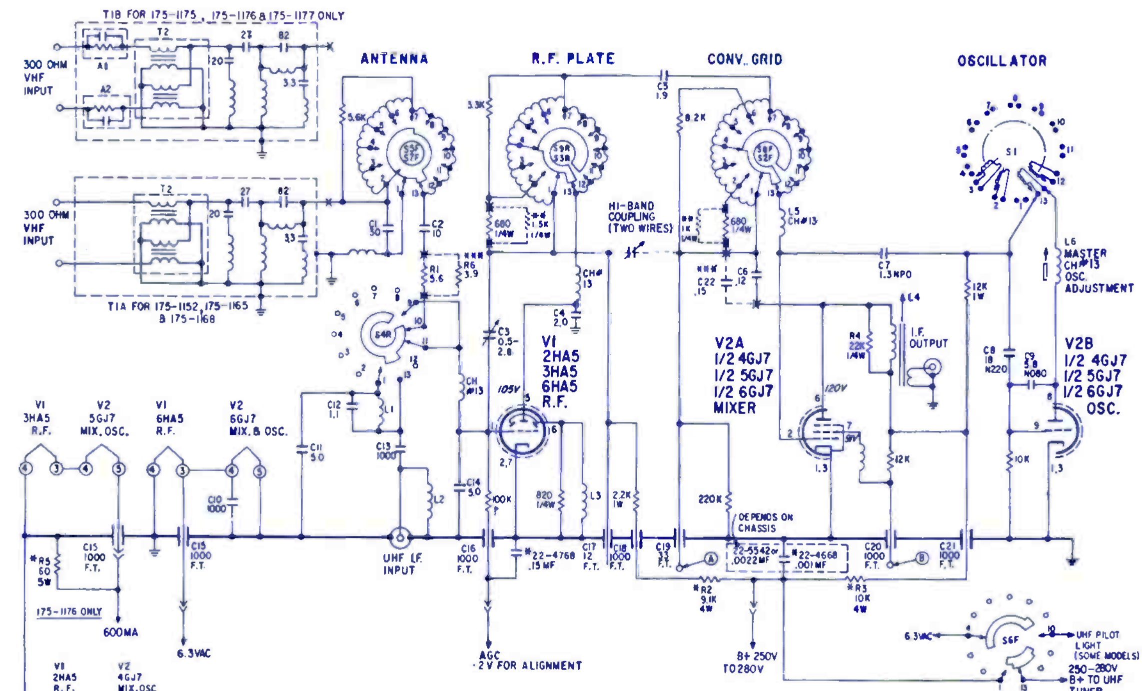
(E)→ INDICATES ALIGNMENT & TEST POINT.

PF = PICOFARAD MHz = MEGAHERTZ μH = MICROHENRY

INDICATES ±20% MAY BE USED. O— INDICATES VOLTAGE SOURCE

INDICATES CHASSIS GROUND →>— INDICATES CONNECTORS

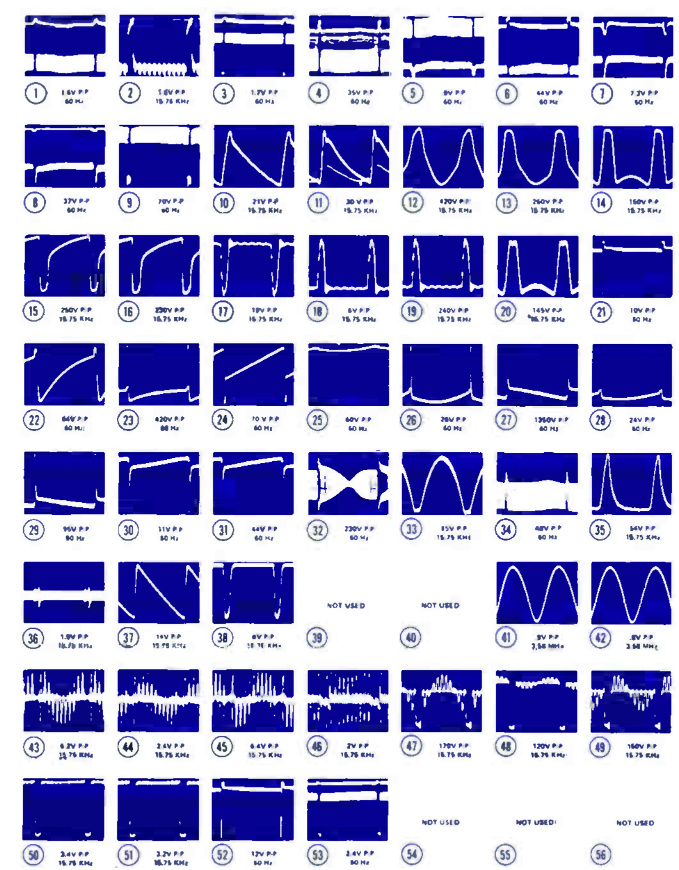
(2) INDICATES WAVEFORM (SEE PAGE SHOWING WAVEFORMS)



TEST POINTS:
A-I.F. SIGNAL INPUT FOR ALIGNMENT OF MAIN CHASSIS
B-R.F. BAND PASSES OBSERVATION POINT

* THESE COMPONENTS ARE EXTERNAL TO TUNER & ARE PART OF TUNER & BRACKET ASSEMBLY.

** THESE RESISTOR VALUES USED ON 175-1175 ONLY.
*** THESE COMPONENTS ARE USED ON 175-1177 ONLY.



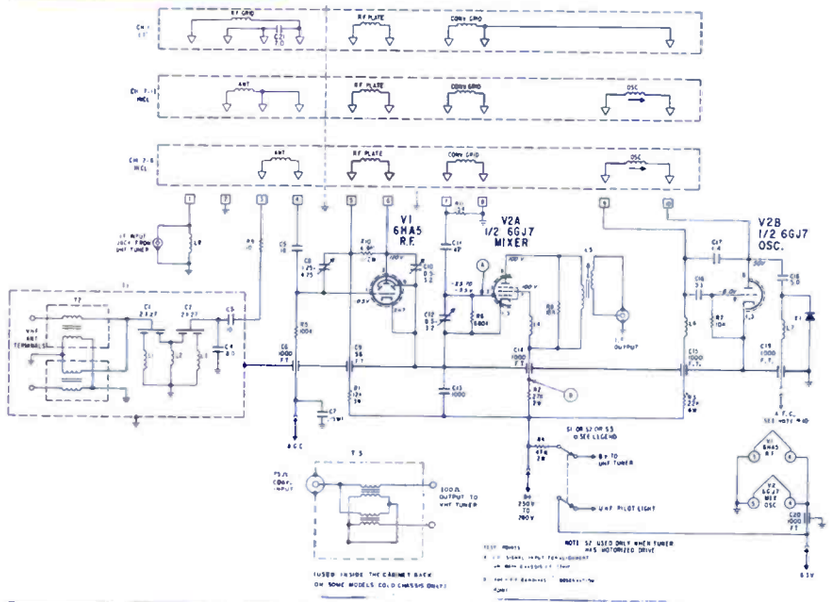
SYMBOL DESCRIPTION	ZENITH PART NO.
C207A—50μf, electrolytic cap, 350v	
C207B—4μf, electrolytic cap, 350v	
C207C—4μf, electrolytic cap, 350v	22-5910
C207D—200μf, electrolytic cap, 35v	
C315A—270μf, electrolytic cap, 200v	
C315B—150μf, electrolytic cap, 350v	22-5746
R204—1M, brite control	63-7974
R205—3M, brite range control	63-7977
R207—500Ω, contrast control	63-7975
R219—500Ω, AGC delay control	63-8543
R224—750K, vert hold control	63-7973
R225—7M, vert size control	63-6433
R227—thermistor	63-6824
R228—2K, vert lin control	63-7983
R232—color level control (14-in. only)	63-8461
R232—color level control (16-in. only)	63-7991
R235—hue control (14-in.)	63-7980
R235—hue control (16-in.)	63-7990
R237—voltage dependent resistor	63-7143
R241—750Ω, buzz control	63-6487
R242—volume control & ac switch (14-in. only)	63-7979
R242—volume control (16-in. only)	63-7993
R247—voltage dependent resistor	63-7658
R248—3M, high voltage control	63-8460
L103—47.25MHz trap coil	20-1659
L211—sound take-off coil	S-77414
L221—quadrature coil	S-86212
L222—horiz osc coil	S-56877
T201—vert output xformer	95-2764
T203—deflection yoke	95-2781
T204—sound output xformer	95-2688
T205—horiz sweep xformer	S-85571
T206—filament xformer	95-2763
A201—integ unit	87-7
F201—2.7a, bel-fuse	136-76
F202—.35a, bel-fuse	136-75
F204—.50a, fuse	136-83

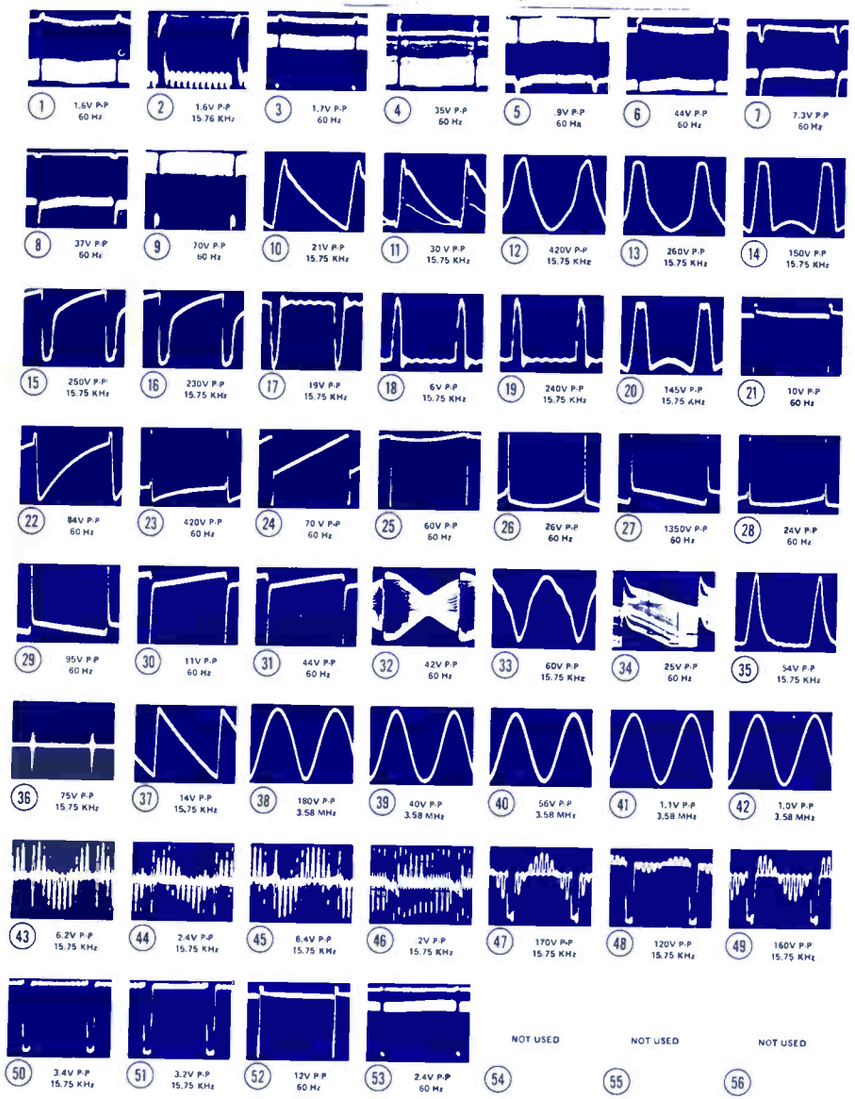
ZENITH

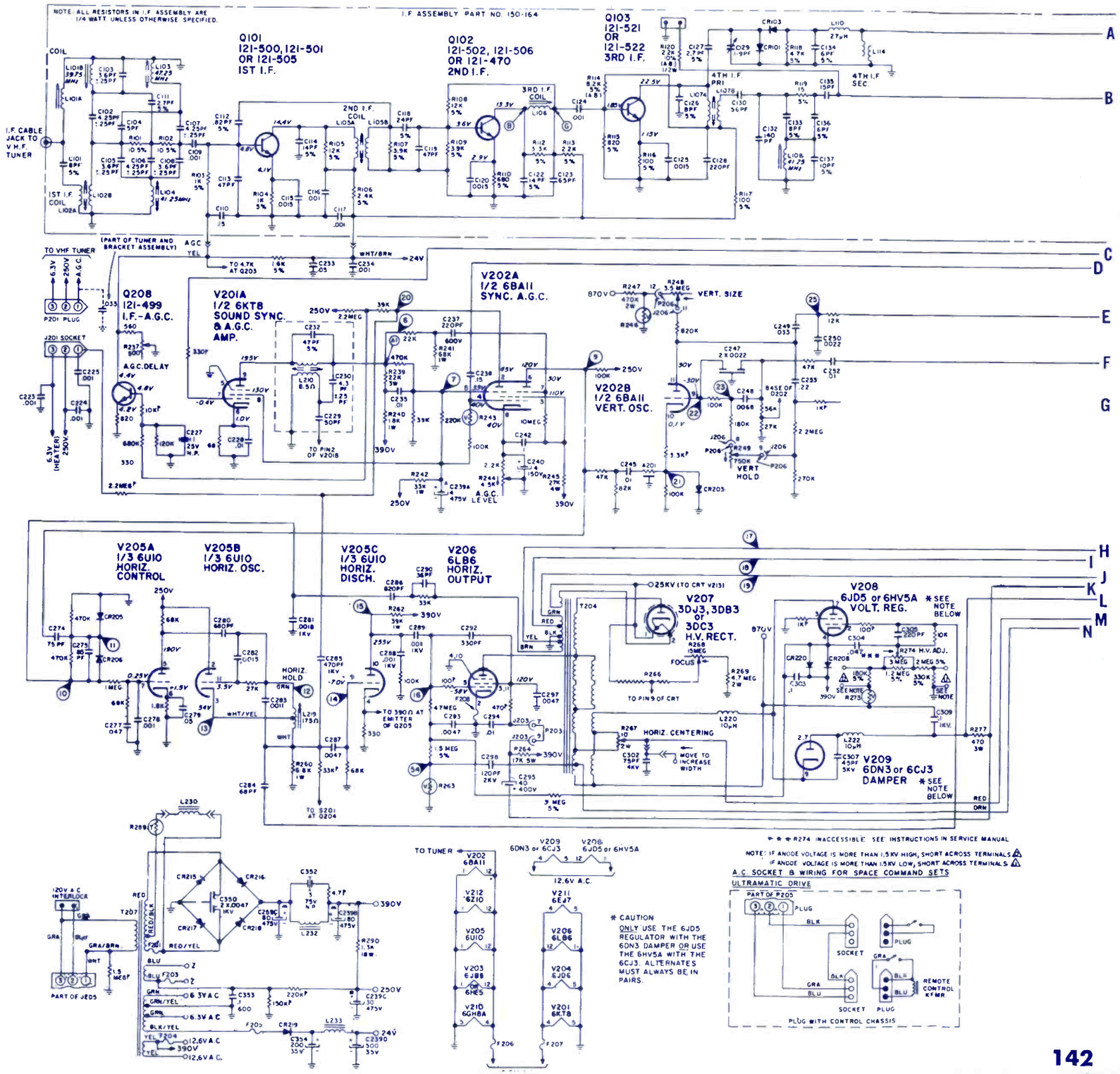
Color-TV Chassis
12B14C50

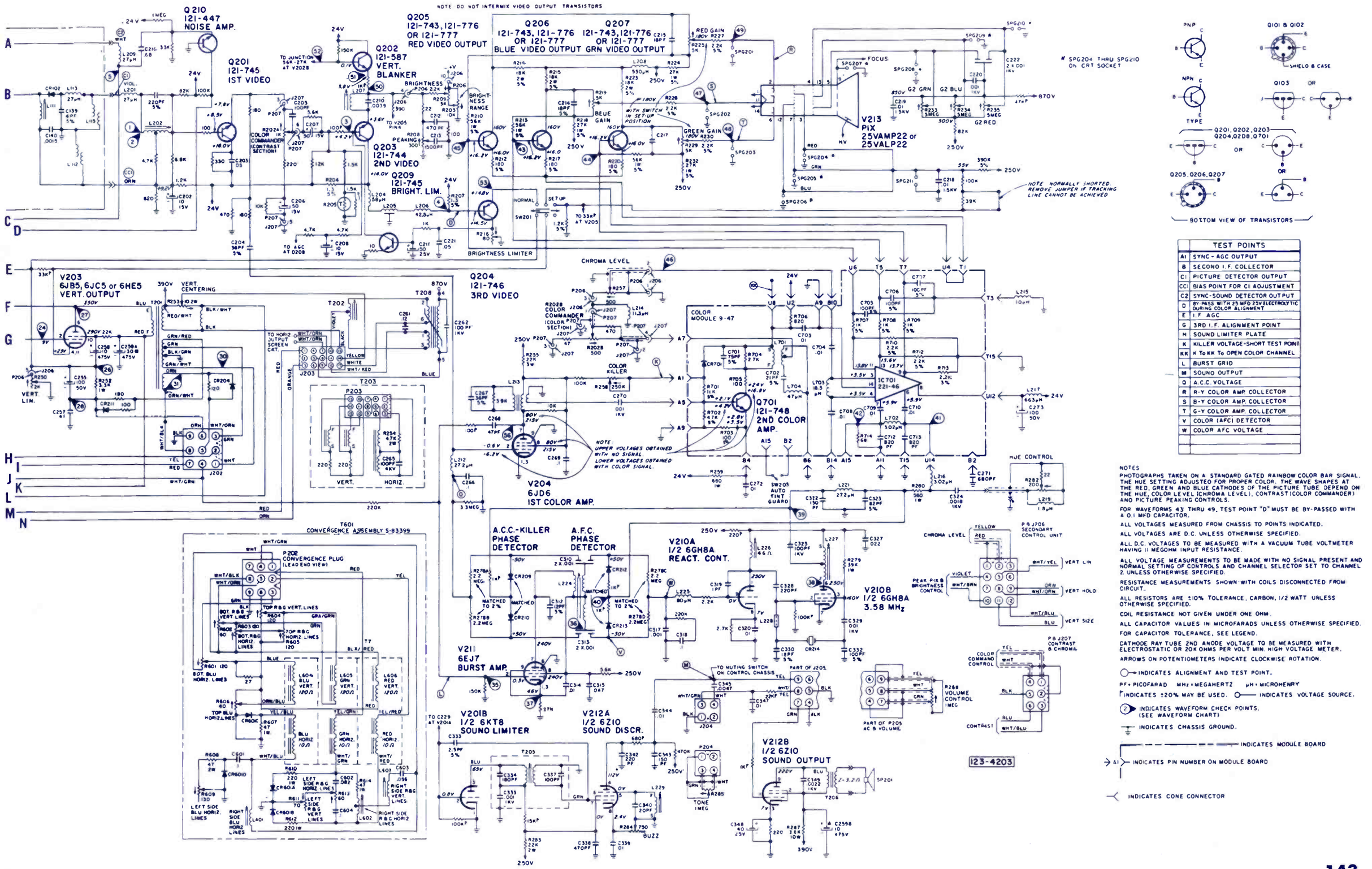
ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	ZENITH PART NO.
C239A	—4 μf electrolytic cap 475v	
C239B	-80 μf electrolytic cap 475v	22-5360
C239C	—30 μf electrolytic cap 475v	
C259A	—30 μf electrolytic cap 475v	
C259B	—10 μf electrolytic cap 475v	22-5513
C259C	—80 μf electrolytic cap 475v	
R203	—10K brightness range control	63-8335
R205	—thermistor	63-6848
R209	—5K brightness control	63-8201
R216	—80 Ω brightness limiter control	63-8707
R243	—voltage dependent resistor	65-5327
R244	—4.5K AGC level control	63-8682
R246	—voltage dependent resistor	63-5314
R249	—750K vertical hold control	63-8202
R250	—2K vertical linearity control	63-8208
R253	—10 Ω vertical centering control 2W	63-7009
R257	—500 Ω color level control	63-8205
R258	—250K color killer control	63-8449
R263	—voltage dependent resistor	63-7658
R266	—HV divider resistor	63-8676
R267	—10 Ω horiz centering control 2W	63-7211
R268	—15M focus control	63-7210
R273	—voltage dependent resistor	63-8214
R274	—3M high voltage adjust control	63-8460
R284	—750K buzz control	63-6950
R285	—1M tone control	63-8203
R289	—thermistor	63-8687
L202	—4.5MHz trap coil	S-83086
L207	—3.58MHz trap coil	20-1838
L210	—sound take-off coil	S-77414
L219	—horiz osc coil	S56877
L226	—color frequency adjust coil	S-83168
L229	—quad coil	S-80480
T201	—vertical output xformer	95-2730
T203	—deflection yoke	95-2887
T204	—horiz sweep xformer	S-86950
T206	—audio output xformer	95-2797
T207	—power xformer	95-2847
A201	—integrator unit	87-4
F201	—1.2a bel-fuse	136-63
F205	—.35a bel-fuse	136-75
F208	—.5a fuse (pigtail)	136-83
1C701	—integrated circuit unit	221-46









	TEST POINTS
A1	SYNC - AGC OUTPUT
B	SECOND I.F. COLLECTOR
C1	PICTURE DETECTOR OUTPUT
CC1	BIAS POINT FOR C1 ADJUSTMENT
C2	SYNC-SOUND DETECTOR OUTPUT
D	BY-PASS WITH 25 MFD 25V ELECTROLYTIC DURING COLOR ALIGNMENT
E	I.F. AGC
G	3RD I.F. ALIGNMENT POINT
H	SOUND LIMITER PLATE
K	KILLER VOLTAGE-SHORT TEST POINT
KK	K To KK To OPEN COLOR CHANNEL
L	BURST GRID
M	SOUND OUTPUT
Q	A.C.C. VOLTAGE
R	R-Y COLOR AMP. COLLECTOR
S	B-Y COLOR AMP. COLLECTOR
T	G-Y COLOR AMP. COLLECTOR
V	COLOR (AFC) DETECTOR
W	COLOR AFC VOLTAGE

NOTES

PHOTOGRAPHS TAKEN ON A STANDARD GATED RAINBOW COLOR BAR SIGNAL. THE HUE SETTING ADJUSTED FOR PROPER COLOR. THE WAVE SHAPES AT THE RED, GREEN AND BLUE CATHODES OF THE PICTURE TUBE DEPEND ON THE HUE, COLOR LEVEL (CHROMA LEVEL), CONTRAST (COLOR COMMANDER) AND PICTURE PEAKING CONTROLS.

FOR WAVEFORMS 43 THRU 49, TEST POINT "D" MUST BE BY-PASSED WITH A 0.1 MFD CAPACITOR.

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.

RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.

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

COIL RESISTANCE NOT GIVEN UNDER ONE OHM.

ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITOR TOLERANCE, SEE LEGEND.

CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHMS PER VOLT MIN. HIGH VOLTAGE METER.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

○→ INDICATES ALIGNMENT AND TEST POINT.

PF = PICOFARAD MHz = MEGAHERTZ µH = MICROHENRY

INDICATES ±20% MAY BE USED. ○— INDICATES VOLTAGE SOURCE.

② INDICATES WAVEFORM CHECK POINTS. (SEE WAVEFORM CHART)

INDICATES CHASSIS GROUND.

INDICATES MODULE BOARD

A1 INDICATES PIN NUMBER ON MODULE BOARD

INDICATES CONE CONNECTOR

ZENITH

Color-TV Chassis
14DC15, 16

ELECTRONIC TECHNICIAN/DEALER **TEKFAX**

NOTE: ALL RESISTORS IN I.F. ASSEMBLY ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.

I.F. ASSEMBLY PART NO 150-182

Q101
121-501 OR 121-505 OR
121-500 OR 121-503
1 ST. I.F.

Q102
121-502 OR 121-506 OR
121-470 OR 121-504
2 ND. I.F.

Q103
121-526 OR
121-524
3 RD. I.F.

I.F. CABLE JACK TO V.H.F. TUNER

1 ST. I.F. COIL

2 ND. I.F. COIL

3RD. I.F. COIL

4TH. I.F. PRI.

4TH. I.F. SEC.

FOR PLUG ON 150-6 A.F.C.

TO ⑧ AT A.G.C. & SOUND SYNC.

WHT/YEL

WHT/BRN

+24V

Q201
121-587
VIDEO
DRIVER

V201A
1/2 6MV8
CATHODE
FOLLOWER

V202A
1/2 9AH9 'Y' AMPLIFIER

BRIGHTNESS

TO V209 PIN 9

PEAK PIX

CONTRAST

270V

A
B
C
D
E
F
G
H
I
J

Q202
121-499
I.F.-A.G.C.

A.G.C. DELAY

J201 SOCKET (LEAD END VIEW)

600 MA (FIL.)

REF. ONLY MOUNTED ON TUNER

P201 PLUG (LEAD END VIEW)

TO VHF TUNER

V203A
1/2 6MV8
SOUND-SYNC.
& A.G.C. AMP.

V204
3HS8
SYNC.
A.G.C.

V205A
1/2 15MF8
VERT. OSC.

VERT. HOLD

VERT. LIN.

VERT. SIZE

V205B
1/2 15MF8
VERT.
OUTPUT

J202 CONVERGENCE SOCKET & CABLE (LEAD END VIEW)

J203 (LEAD END VIEW) YOKE SOCKET & CABLE ASSEMBLY.

V203B
1/2 6MV8
SOUND LIM.

V207A
1/2 10Z10
SOUND
DISCR.

V207B
1/2 10Z10
SOUND
OUTPUT

VOLUME

P204 VOLUME PLUG

J204 VOLUME SOCKET

SP 201

V209B
1/3 6U10
HORIZ. OSC.

V209C
1/3 6U10
HORIZ. DISCH.

V209A
1/3 6U10
HORIZ. CONTROL

HORIZ HOLD

V210
20LF6 OR
26LX6
HORIZ. OUTPUT

V211
3DJ3, 3DB3 OR
3DC3
H.V. RECT.

21.5 KV (TO CRT.)

V212
19CG3
DAMPER

H.V. ADJ.

CONVERGENCE ASSEMBLY S-89834

P202 CONVERGENCE PLUG (LEAD END VIEW)

TOP & BOT. R&G VERT.

TOP & BOT. BLUE HORIZ.

TOP & BOT. R&G VERT. BAL.

BLUE HORIZ. AMPLITUDE

BLUE VERT.

BLUE HORIZ.

BLUE HORIZ. TILT

R&G VERT. LINES AMPLITUDE

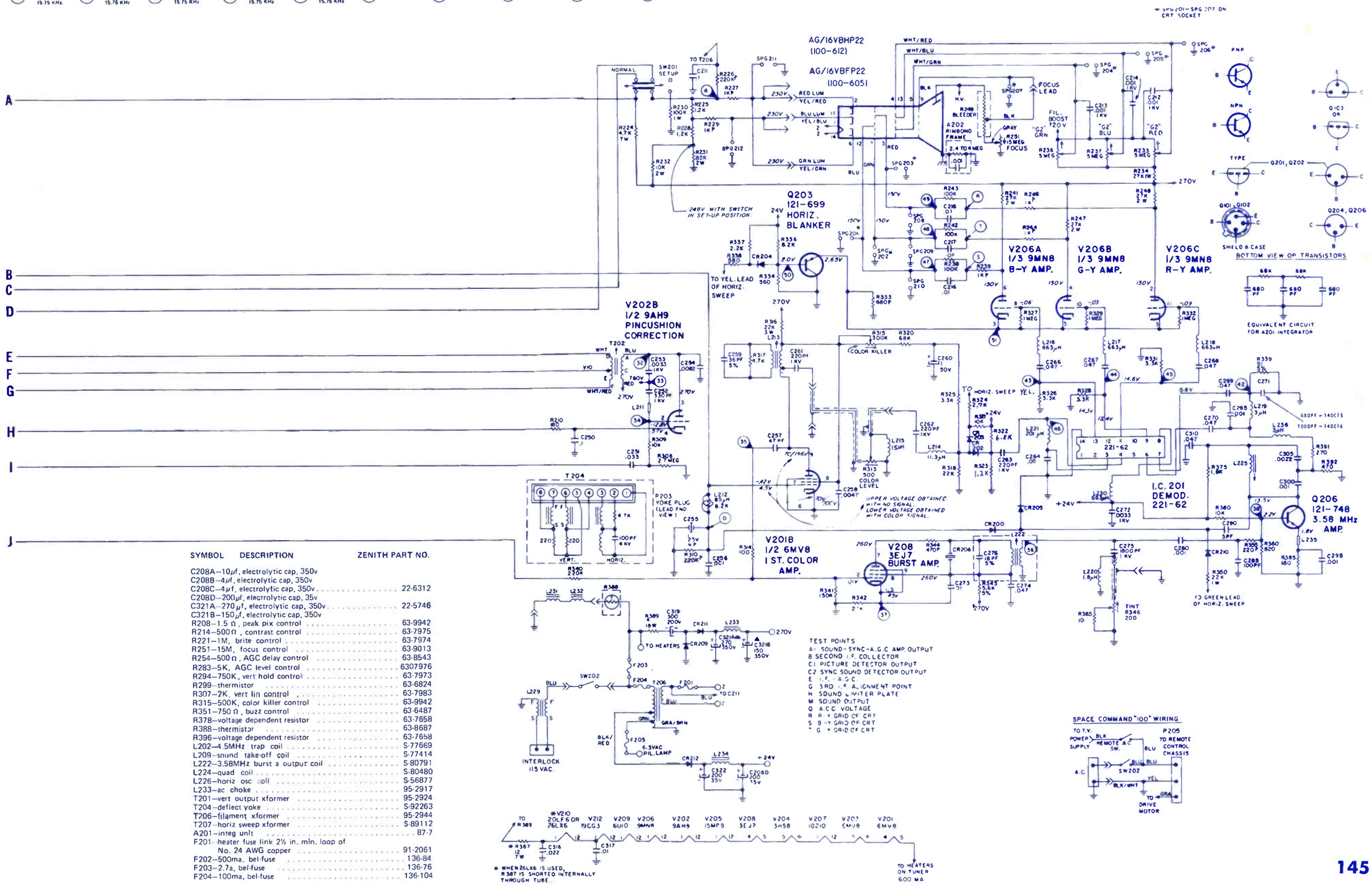
R&G VERT. TILT

R&G HORIZ. BAL.

R&G HORIZ.

FOR USE ON 14DC16 FINAL CABINET ONLY

R/C NETWORK S FOR USE ON 14DC15 FINAL CABINET ONLY.

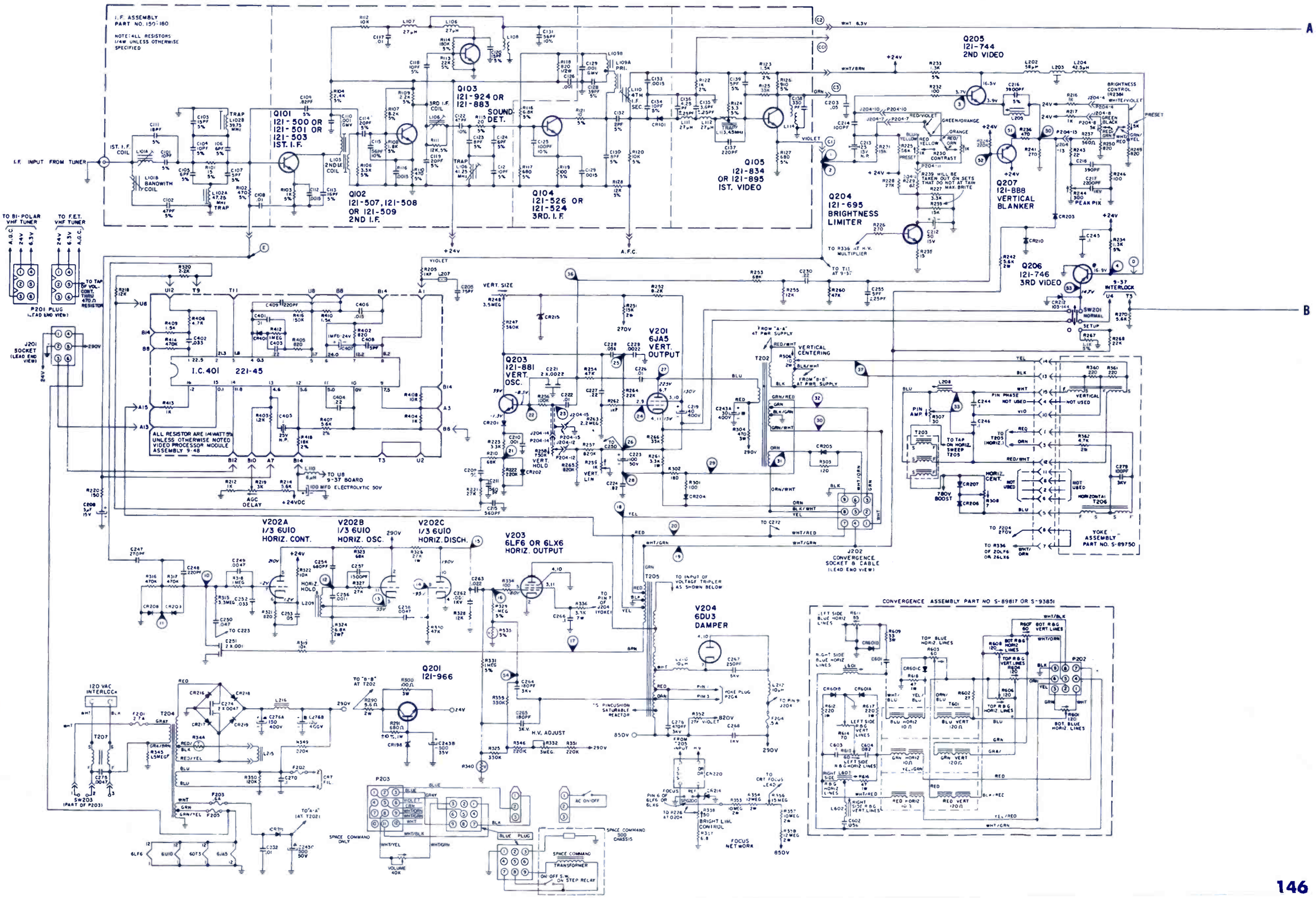


SYMBOL	DESCRIPTION	ZENITH PART NO.
C208A	10μf, electrolytic cap, 350v	
C208B	4μf, electrolytic cap, 350v	
C208C	4μf, electrolytic cap, 350v	22-6312
C208D	200μf, electrolytic cap, 35v	
C321A	270μf, electrolytic cap, 350v	22-5746
C321B	150μf, electrolytic cap, 350v	
R208	1.5 Ω, peak pix control	63-9942
R214	500 Ω, contrast control	63-7975
R221	1M, brite control	63-7974
R251	15M, focus control	63-9013
R254	500 Ω, AGC delay control	63-8543
R283	5K, AGC level control	6307976
R294	750K, vert hold control	63-7973
R299	thermistor	63-6824
R307	2K, vert lin control	63-7983
R315	500K, color killer control	63-9942
R351	750 Ω, buzz control	63-6487
R378	voltage dependent resistor	63-7658
R388	thermistor	63-8687
R396	voltage dependent resistor	63-7658
L202	4.5MHz trap coil	S-77669
L209	sound take-off coil	S-77414
L222	3.58MHz burst a output coil	S-80791
L224	quad coil	S-80480
L226	horiz osc coil	S-56877
L233	ac choke	95-2917
T201	vert output xformer	95-2924
T204	deflect yoke	S-92263
T206	filament xformer	95-2944
T207	horiz sweep xformer	S-89112
A201	integ unit	87-7
F201	heater fuse link 2½ in. min. loop of No. 24 AWG copper	91-2061
F202	500ma. bel-fuse	136-84
F203	2.7a, bel-fuse	136-76
F204	100ma, bel-fuse	136-104

ZENITH
Color-TV Chassis
23DC14

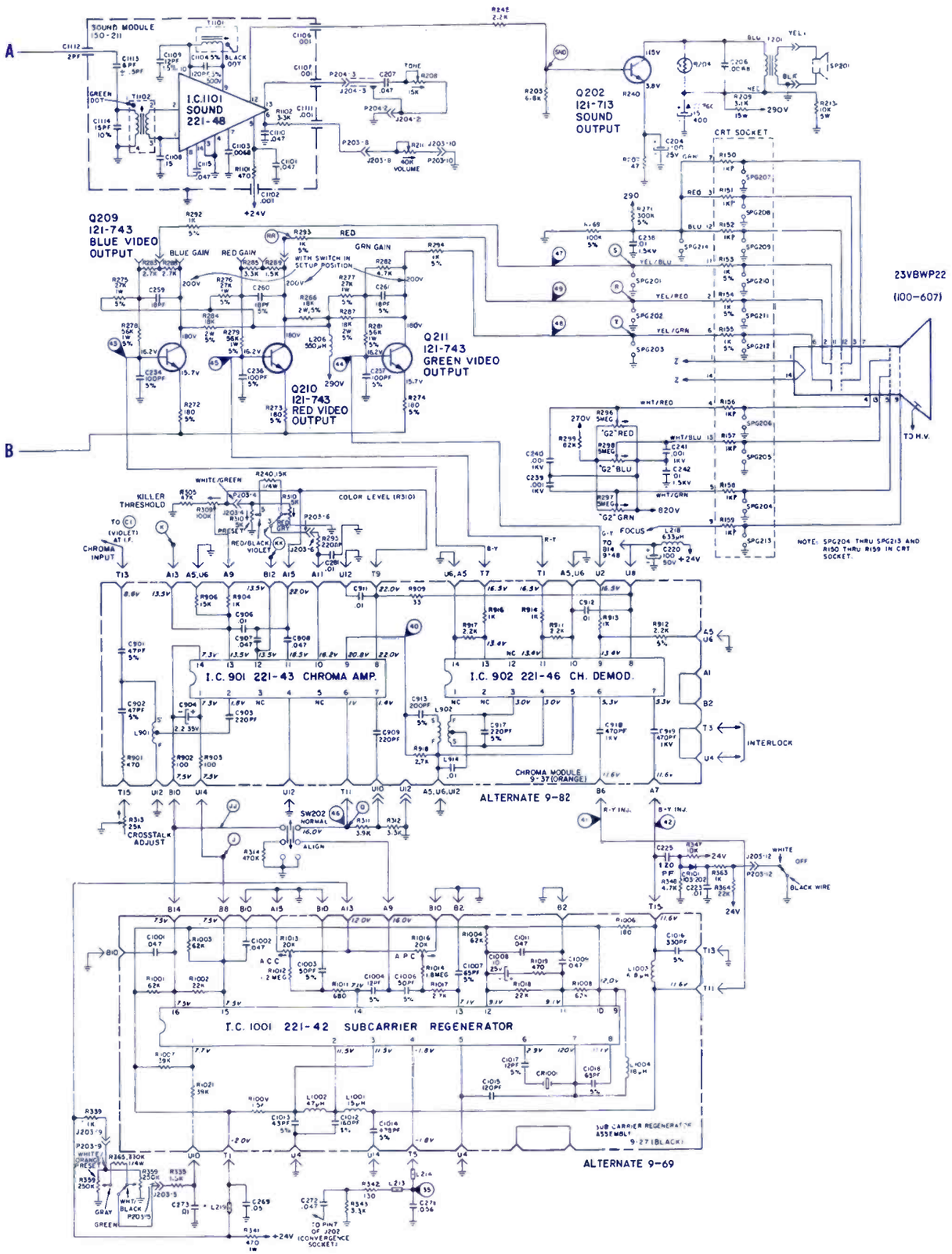
ELECTRONIC TECHNICIAN/DEALER TEKFAX

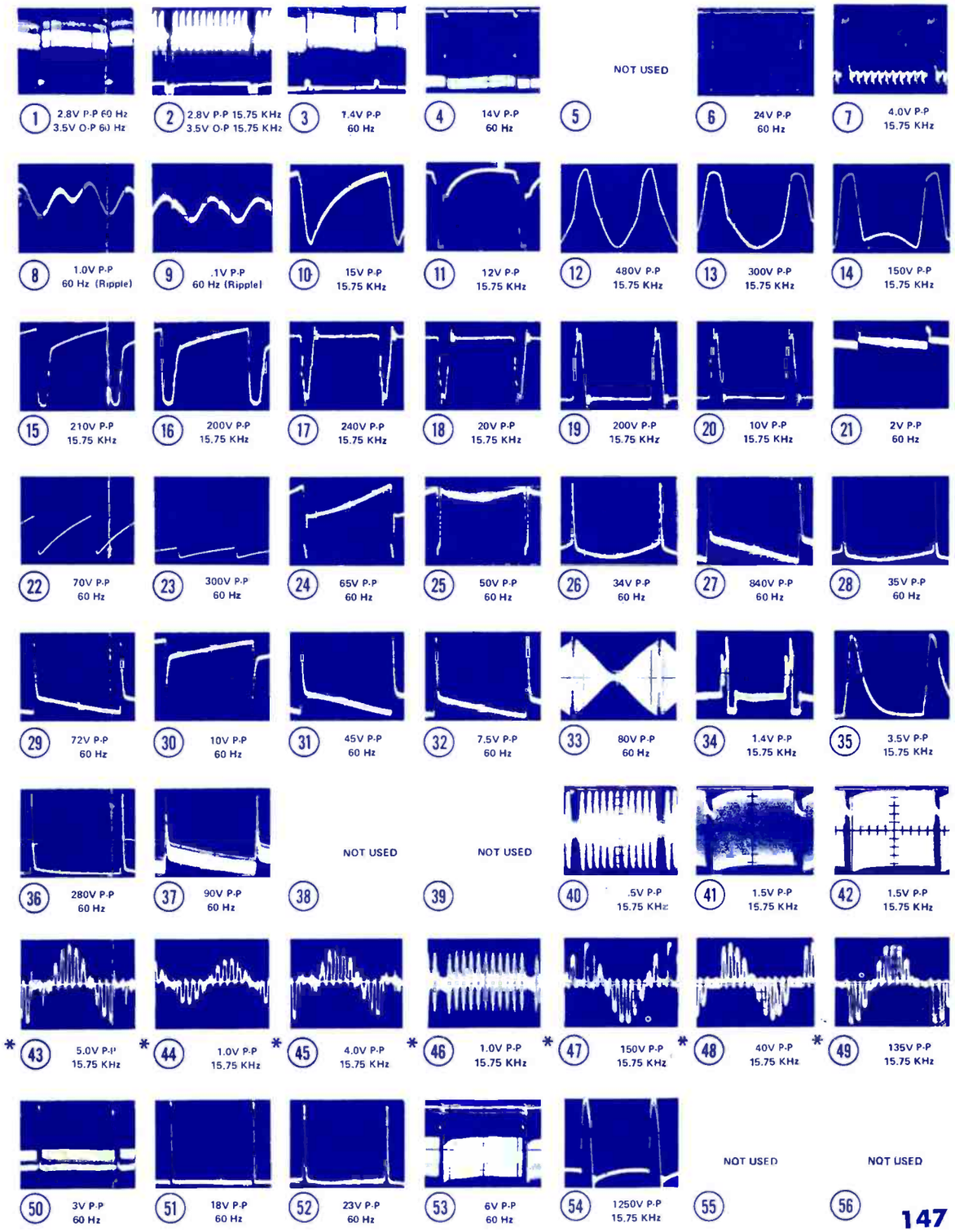
SYMBOL	DESCRIPTION	ZENITH PART NO.
C243A	30 µf elect. cap 400v	
C243B	500 µf elect. cap 35v	22-7066
C243C	500µf elect. cap 50v	
C276A	150µf elect. cap 400v	
C276B	100µf elect. cap 400v	22-6903
C276C	15µf elect cap 400v	
R204	voltage dependent resistor	63-5440
R219	3K, AGC delay control	63-9116
R248	3.5M vert size control	63-9115
R259	1K vert lin control	63-9066
R308	7Ω horiz centering control	63-8474
R309	100K, killer threshold control	63-8499
R310	5K, color level control	
R332	3M high voltage adjust	63-9882
R338	50Ω, bright limiter control	63-8989
R340	voltage dependent resistor	63-8688
R344	thermistor	63-8687
R356	15MΩ, focus control	63-8709
R359	250K, tint control	
R1013	20K, ACC control	63-8576



R1016—20K, APC control	63-8576
L113—4.5MHz trap coil	20-3289
L209—horiz ocs coil	S56877
T204—power xformer	93-3039
T205—horiz tweet xformer	S-92510
T206—deflection yoke	S89750
T1101—detector xformer	95-2789
F203—.6 a bel-fuse	136-100
F204—.5 a bel-fuse (pigtail)	136-89

ZENITH
Color-TV Chassis
23DC14



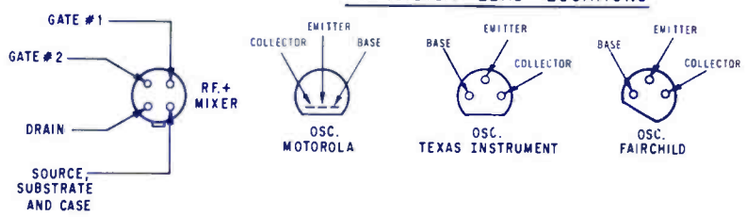


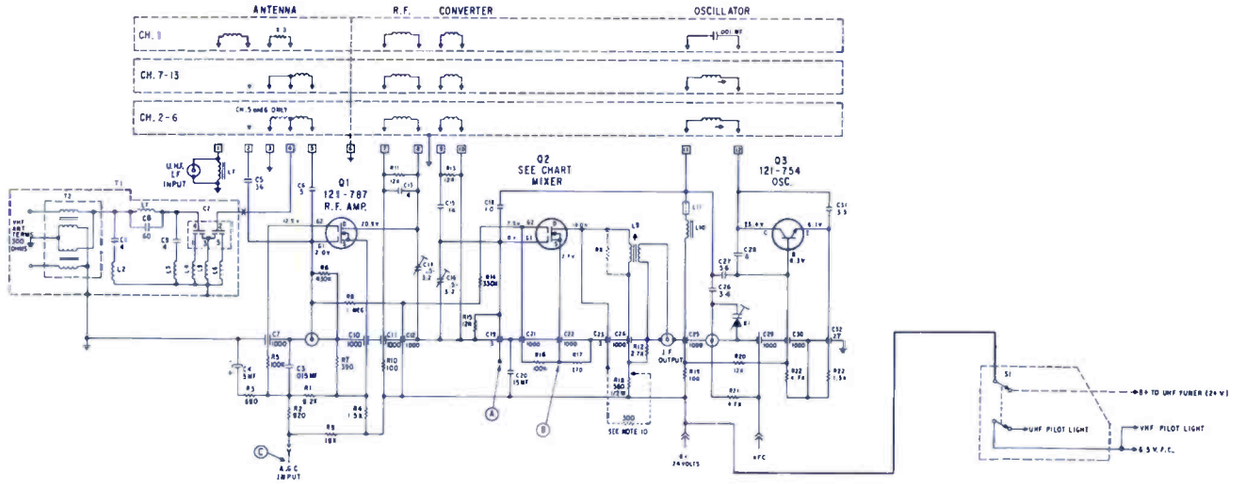
ZENITH

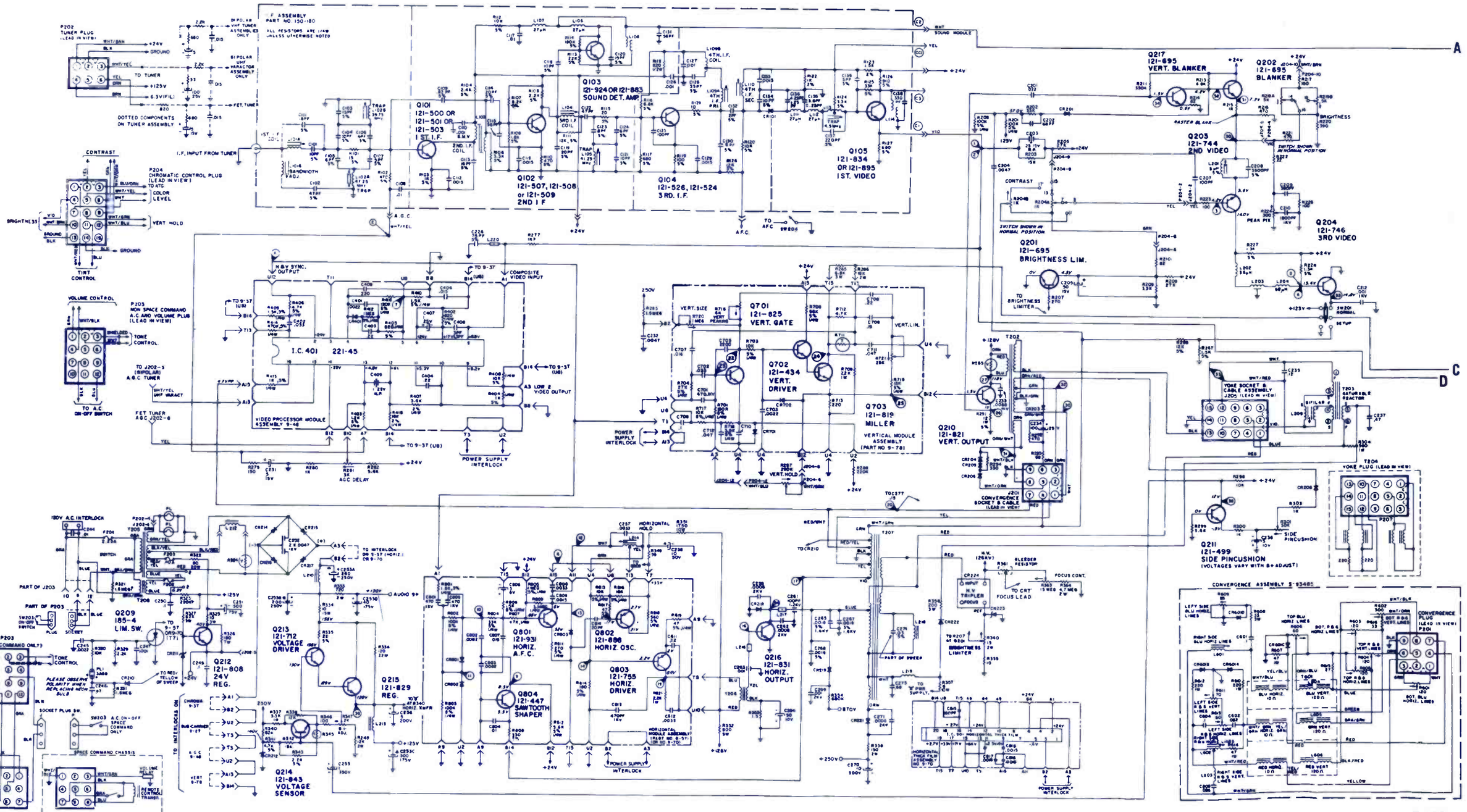
Color-TV Chassis
25DC57

ELECTRONIC TECHNICIAN/DEALER TEKFAX

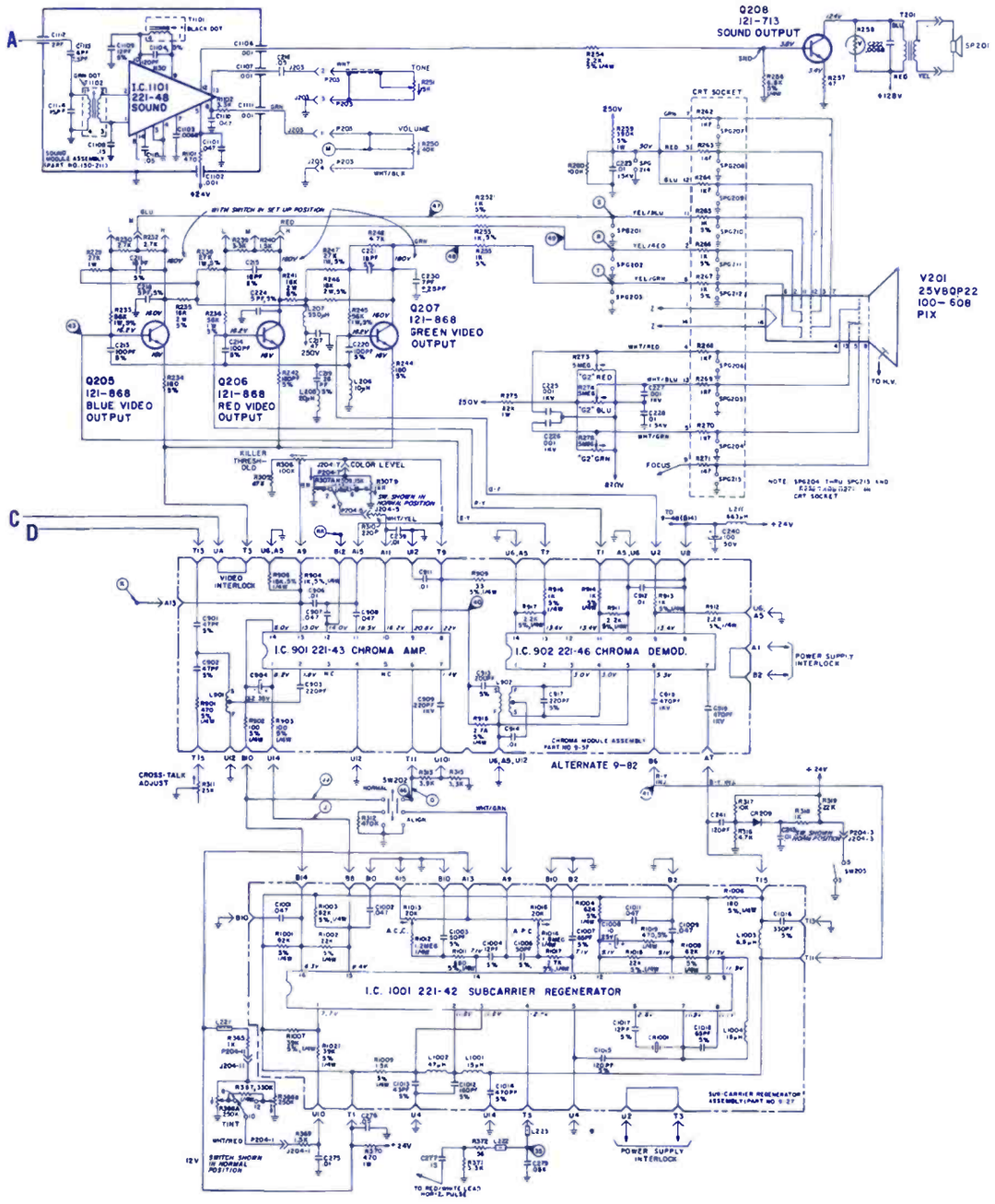
TRANSISTOR LEAD LOCATIONS



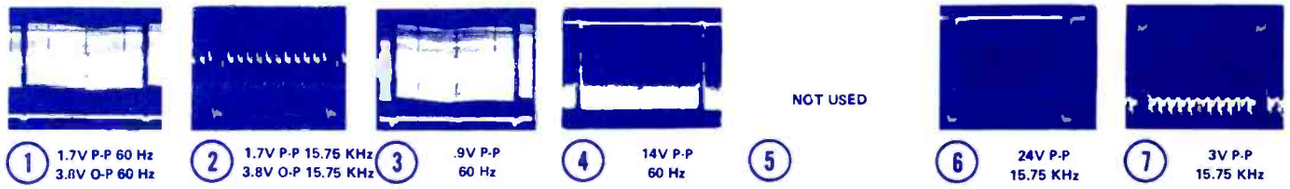




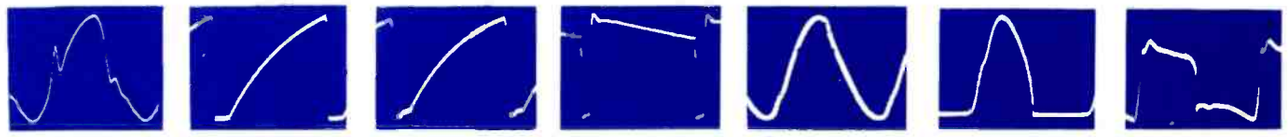
SYMBOL	DESCRIPTION	ZENITH PART NO.
C263A	280 µf electr cap 250 v	22-6346
C263B	200 µf electr cap 250v	
C263C	300 µf electr cap 175v	
C263D	40 µf electr cap 175v	
R324	thermistor	63-8687
R363	15M, focus control	63-9967
R711	thermistor	63-8788
R1013	20K, A.C.C. control	63-8576
L105	41.25MHz trap	20-3287
L113	4.5MHz trap	20-3289
L201	3.58MHz trap coil	20-1838
L213	filter choke (125v)	95-2894
L214	horiz osc coil	S-56875
L901	chroma take-off coil	95-2982
T201	audio output xformer	95-2883
T202	vert output xformer	95-3072
T204	deflection yoke (not interchangeable)	95-2880 or S-93256
T205	power xformer	95-2954
T207	horiz sweep xformer	S-93297
T208	filament xformer	95-2953-01
A701	integrator unit	87-11
F201	2.25 a bel-fuse	13892
F202	heater fuse link 2½ min. loop of No. 24 AWG copper wire	91-2061
F203	400 ma bel-fuse	138-99
	VHF tuner	175-1810



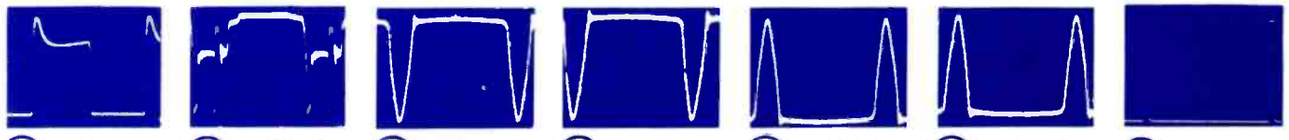
*** FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.**



1 1.7V P-P 60 Hz 3.8V O-P 60 Hz
2 1.7V P-P 15.75 KHz 3.8V O-P 15.75 KHz
3 .9V P-P 60 Hz
4 14V P-P 60 Hz
5 NOT USED
6 24V P-P 15.75 KHz
7 3V P-P 15.75 KHz

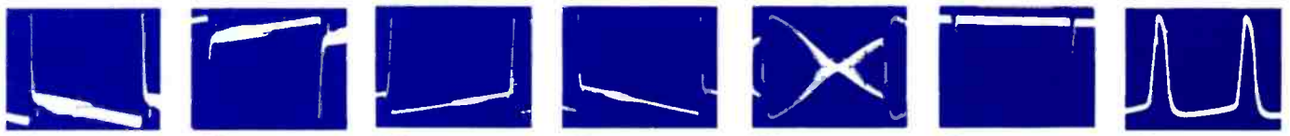


8 29V P-P 15.75 KHz
9 18V P-P 15.75 KHz
10 18V P-P 15.75 KHz
11 11V P-P 15.75 KHz
12 76V P-P 15.75 KHz
13 27V P-P 15.75 KHz
14 3.5V P-P 15.75 KHz



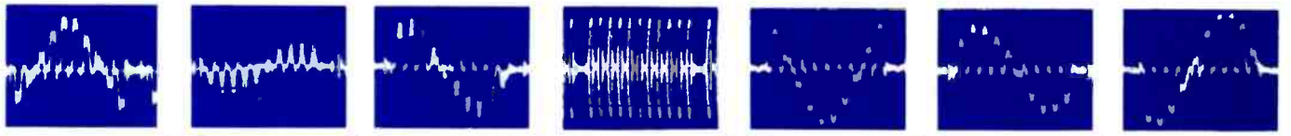
15 155V P-P 15.75 KHz
16 12V P-P 15.75 KHz
17 50V P-P 15.75 KHz
18 22V P-P 15.75 KHz
19 215V P-P 15.75 KHz
20 7V P-P 15.75 KHz
21 22V P-P 60 Hz

22 5V P-P 60 Hz
23 2V P-P 60 Hz
24 27V P-P 60 Hz
25 5V P-P 60 Hz
26 3V P-P 60 Hz
27 500V P-P 60 Hz
28 NOT USED



29 75V P-P 60 Hz
30 10V P-P 60 Hz
31 64V P-P 60 Hz
32 8.4V P-P 60 Hz
33 68V P-P 60 Hz
34 2.4V P-P 60 Hz
35 4.2V P-P 15.75 KHz

36 NOT USED
37 90V P-P 60 Hz
38 NOT USED
39 NOT USED
40 .5V P-P 15.75 KHz
41 1.5V P-P 15.75 KHz
42 1.5V P-P 15.75 KHz



* 43 4V P-P 15.75 KHz
* 44 2V P-P 15.75 KHz
* 45 4V P-P 15.75 KHz
* 46 1.2V P-P 15.75 KHz
* 47 120V P-P 15.75 KHz
* 48 60V P-P 15.75 KHz
* 49 130V P-P 15.75 KHz

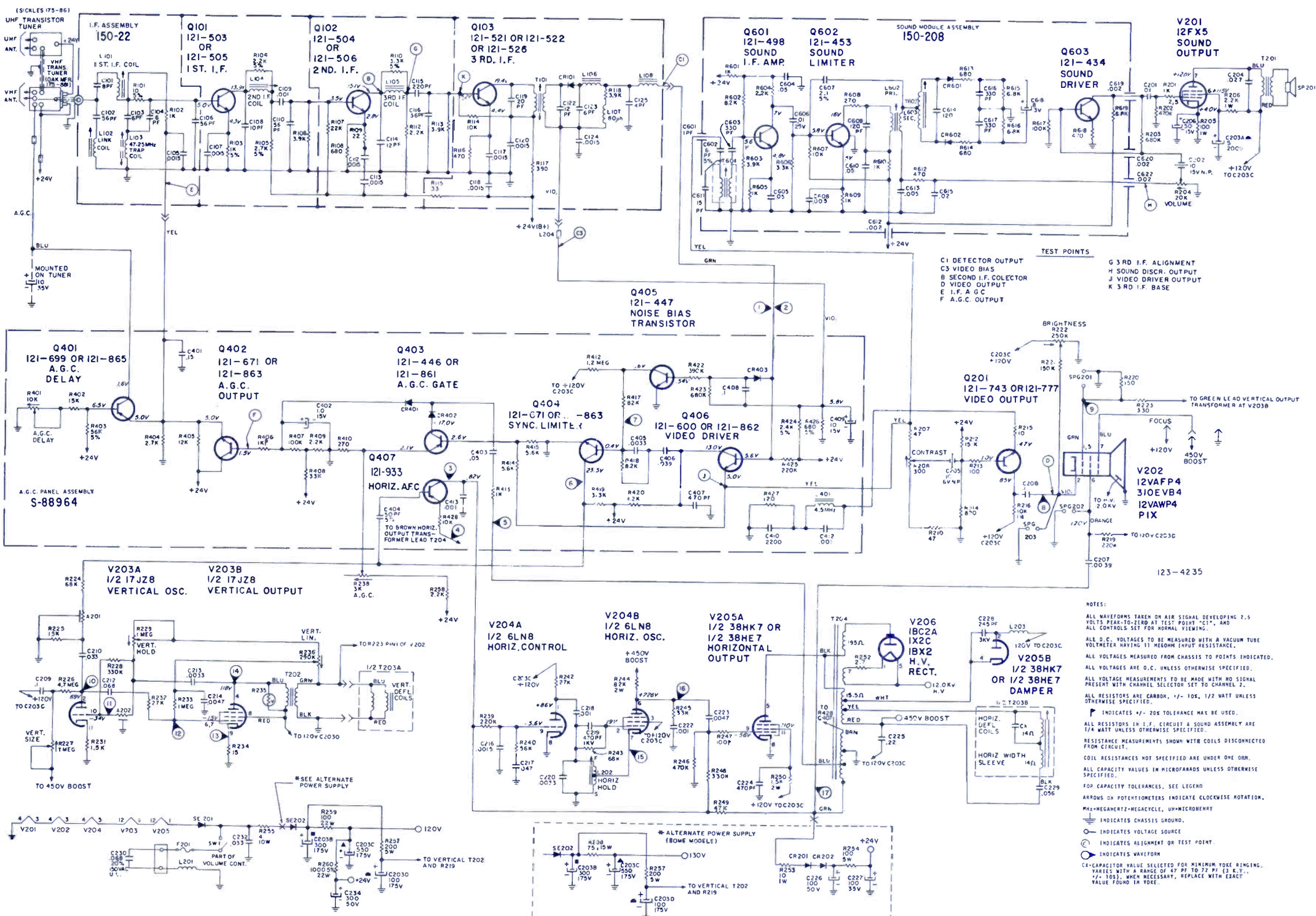
50 1.5V P-P 60 Hz
51 20V P-P 60 Hz
52 24V P-P 60 Hz
53 5V P-P 60 Hz
54 1030V P-P 15.75 KHz
55 NOT USED
56 NOT USED

ZENITH
TV Chassis
12CB12X

ELECTRONIC TECHNICIAN/DEALER TEKFAX

SYMBOL	DESCRIPTION	ZENITH PART NO.
C203	A-5 μf, electrolytic cap, 200v B-300 μf electrolytic cap 175v C-550 μf electrolytic cap 175v D-100 μf, electrolytic cap, 175v	22-6322
R204	20K, volume control	63-8892
R208	300Ω, contrast control	63-8898
R222	250K, bright control	63-8896
R227	7M, vert size control	63-8897
R229	1M vert hold control	63-8895
R235	voltage dependent resistor	63-7447
R236	290K, vert lin control	63-8894
R238	3K, AGC control	63-8893
R401	10K, AGC delay control	63-8791
L103	47.25MHz trap coil	20-3100
L202	horiz hold	389283
T201	audio output xformer	95-3024
T202	vert output xformer	95-2906
T203	yoke	S-87921
T204	horiz sweep xformer	S-88066
F201	fuse 1.25a (pigtail)	136-79
	or fuse 1.0a (belfuse)	136-95
A201	Integrator	87-11
A202	integrator	87-4

(1) 2.5V P-ZERO 60 Hz
(2) 2.5V P-ZERO 15.75 KHz
(3) 34V P-P 15.75 KHz
(4) 12V P-P 15.75 KHz
(5) 30V P-P 15.75 KHz
(6) 24V P-P 60 Hz
(7) 7.0V P-P 60 Hz
(8) 75V P-P 15.75 KHz
(9) 46V P-P 60 Hz
(10) 55V P-P 60 Hz
(11) 110V P-P 60 Hz
(12) 60V P-P 60 Hz
(13) 2.3V P-P 60 Hz
(14) 1500V P-P 60 Hz
(15) 30V P-P 15.75 KHz
(16) 220V P-P 15.75 KHz
(17) 260V P-P 15.75 KHz



NOTES:

ALL WAVEFORMS TAKEN ON AIR SIGNAL DEVELOPING 2.5 VOLTS PEAK-TO-ZERO AT TEST POINT "C1", AND ALL CONTROLS SET FOR NORMAL VIEWING.

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

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.

ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT WITH CHANNEL SELECTOR SET TO CHANNEL 2.

ALL RESISTORS ARE CARBON, +/- 10%, 1/2 WATT UNLESS OTHERWISE SPECIFIED.

▶ INDICATES +/- 20% TOLERANCE MAY BE USED.

ALL RESISTORS IN I.F. CIRCUIT & SOUND ASSEMBLY ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.

RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.

COIL RESISTANCES NOT SPECIFIED ARE UNDER ONE OHM.

ALL CAPACITY VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.

FOR CAPACITY TOLERANCES, SEE LEGEND

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

MH=MEGAHERTZ-MEGACYCLE, UH=MICROHENRY

⏚ INDICATES CHASSIS GROUND.

INDICATES VOLTAGE SOURCE

INDICATES ALIGNMENT OR TEST POINT.

INDICATES WAVEFORM

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.